

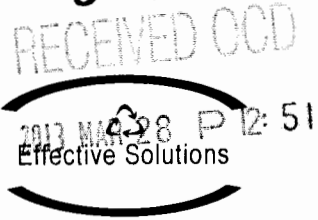
NM2 - ____19____

**MONITORING
REPORTS
YEAR(S):**

____2012____

Basin Environmental Service Technologies, LLC

3100 Plains Highway
P. O. Box 301
Lovington, New Mexico 88260
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SOUTHERN UNION GAS SERVICES

**LANDFARM
ANNUAL REPORT - 2012
Lea County, New Mexico
Unit Letter "F" (SE/NW), Section 36, Township 23 South, Range 36 East
Permit #NM-02-0019**

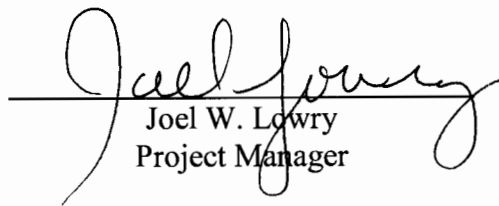
Prepared For:

Southern Union Gas Services
801 S. Loop 464
Monahans, TX 79756

Prepared By:

Basin Environmental Service Technologies, LLC
3100 Plains Highway
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March 2013


Joel W. Lowry
Project Manager

Basin Environmental Service Technologies, LLC

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2013 MAR 28 P 12: 51



March 14, 2013

Mr. Brad Jones
New Mexico Energy, Minerals and Natural Resources Department
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Annual Report – 2012
Southern Union Gas Services
Southern Union Landfarm – Permit #NM-02-0019
SE ¼ of the NW ¼ of Section 36, Township 23 South, Range 36 East
Lea County, New Mexico

Dear Mr. Jones:

Basin Environmental Service Technologies, LLC (Basin), at the request of Southern Union Gas Services (Southern Union), assumed maintenance and reporting responsibilities of the Southern Union Landfarm in December 2009. Basin, on behalf of Southern Union, is submitting the *2012 Annual Report* for the Southern Union Landfarm. The Southern Union Landfarm is operated and maintained in accordance with New Mexico Oil Conservation Division (NMOCD), Natural Resources and Wildlife, Oil and Gas Surface Waste Management Facilities (Title 19 Chapter 15 Part 36). The Landfarm is operated by Southern Union as a “centralized” facility for Southern Union use only. Sample location maps of the Southern Union Landfarm are provided as Figure 1, “Sample Location Map – June 2012”, and Figure 2, “Sample Location Map – October 2012”.

DISPOSAL VOLUME

Receipt of impacted soil began in January 2002. As of December 31, 2012, a total of approximately 65,815 cubic yards (cy) of impacted soil from within the Southern Union gas gathering system have been emplaced in Cell 1 through Cell 15. No impacted soil was transported to the Southern Union Landfarm during the 2011 or 2012 reporting periods.

MAINTENANCE

Mechanical plowing of the soil contained in the treatment cells occurred every two weeks.

TREATMENT ZONE MONITORING

On June 14, 2012, Basin collected one (1) to five (5) four-point composite treatment zone soil samples from each of the treatment cells (Cells 1 through 15) being utilized, with the exception of Cell 8 – Grid 1. Soil located in Cell 8 - Grid 1 was removed and transported to Sundance Services, Inc. (NMOCD Permit # NM-01003), for disposal during the 2010 reporting period. The soil samples were analyzed for concentrations of Total Petroleum Hydrocarbons (TPH) and chloride, using EPA Method SW-846 8015M and EPA Method 300.1, respectively. Analytical results indicated TPH concentrations ranged from 100 mg/Kg for soil sample TZ Cell 5 G-1 to 5,810 mg/Kg for soil sample TZ Cell 3 G-2. Chloride concentrations ranged from 6.29 mg/Kg for soil sample TZ Cell 5 G-1 to 93.5 mg/Kg for soil sample TZ Cell 13 G-1. Please reference Table 1, “Concentrations of TPH & Chloride in the Treatment Zone”, for additional information.

On October 30, 2012, Basin collected one (1) to five (5) four-point composite treatment zone soil samples from each of the treatment cells (Cells 1 through 15) being utilized, with the exception of Cell 8 – Grid 1. The soil samples were analyzed for concentrations of TPH and chloride. Analytical results indicated TPH concentrations ranged from 56.1mg/Kg for soil sample TZ Cell 11 G-2 to 4,210 mg/Kg for soil sample TZ Cell 3 G-2. Chloride concentrations ranged from less than the appropriate laboratory MDL for soil samples TZ Cell 5 G-1, TZ Cell 11 G-2 and TZ Cell 12 G-1 to 90.0 mg/Kg for soil sample TZ Cell 1 G-4.

The locations of soil samples collected from the treatment zone of Cells 1 through 15 during the June 2012 and October 2012 sampling events are depicted in Figure 1, “Sample Location Map – June 2012”, and Figure 2, “Sample Location Map – October 2012”, respectively.

VADOSE ZONE MONITORING

A single soil sample (Landfarm Background) was collected on April 11, 2001, from the vadose zone in an undisturbed location within the Landfarm area to establish background concentrations of NMOCD constituents of concern (COCs) as listed below:

- Total petroleum hydrocarbons (TPH);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX);
- Anions and cations; and
- RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver).

Analytical results of the background sample indicated the TPH concentration was 134 mg/Kg. Anions, cations, and RCRA metals concentrations of background samples were typical of native undisturbed soil. Please reference Table 2, “Historic Concentrations of Hydrocarbons, Chlorides, Sulfates & Alkalinity in the Vadose Zone”, and Table 3, “Historic Concentrations of Metals in the Vadose Zone”, for additional information.

On June 14 and 15, 2012, Basin collected one (1) to five (5) grab samples from the vadose zone of Cells 1 through 15 at a depth of approximately three (3) to four (4) feet below ground surface (bgs). The soil samples were analyzed for concentrations of BTEX using EPA Method SW-846 8021b, TPH using EPA Method SW-846 8015M, and chloride using EPA Method 300.1. Analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for each soil sample submitted. Chloride concentrations ranged from 4.80 mg/Kg for soil sample VZ Cell 3 G-2 to 50.0 mg/Kg for soil sample VZ Cell 1 G-3. Please reference Table 4, “2012 Concentrations of Benzene, BTEX, TPH & Chloride in the Vadose Zone”, for additional information.

On October 30 through 31, 2012, Basin collected one (1) to five (5) grab samples from the vadose zone of Cells 1 through 15 at a depth of approximately three (3) to four (4) feet bgs. The soil samples were analyzed for concentrations of BTEX, TPH, and chloride. Analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for each soil sample submitted. Chloride concentrations ranged from less than the appropriate laboratory MDL for soil samples VZ Cell 1 G-4, VZ Cell 5 G-1, VZ Cell 7 G-1, VZ Cell 11 to 240 mg/Kg for soil sample VZ Cell 10 G-1.

The locations of soil samples collected in the vadose zone of Cells 1 through 15 during the June 2012 and October 2012 sampling events are depicted in Figure 1, "Sample Location Map – June 2012", and Figure 2, "Sample Location Map – October 2012", respectively.

CONCLUSIONS

Laboratory analytical results of vadose zone soil sampling indicate soil beneath the Southern Union Landfarm has not been significantly affected above background levels established prior to the construction of the landfarm treatment cells.

Laboratory analytical results indicate hydrocarbon-impacted soil placed in the treatment cells is naturally attenuating within the lifts. Laboratory analytical results from soil samples collected on October 30, 2012, indicated soil samples TZ Cell 1 G-2, TZ Cell 5 G-1, TZ Cell 6 G-1, TZ Cell 6 G-2, TZ Cell 7 G-1, TZ Cell 8 G-2, TZ Cell 9 G-1, TZ Cell 9 G-2, TZ Cell 9 G-3, TZ Cell 9 G-4, TZ Cell 9 G-5, TZ Cell 10 G-1, TZ Cell 10 G-2, TZ Cell 10 G-3, TZ Cell 11 G-1, TZ Cell 11 G-2, TZ Cell 12 G-1, TZ Cell 13 G-1, TZ Cell 14 G-1, and TZ Cell 15 G-1 exhibited TPH concentrations less than NMOCD remedial goals (500 mg/Kg).

RECOMMENDATIONS

Based on the analytical results of soil samples collected from Treatment Cells #1, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, and #15 Basin recommends Southern Union request NMOCD approval to commence activities outlined in Subsection F of 19.15.36.15 New Mexico Administrative code (NMAC), "Treatment Zone Closure Performance Standards". The activities outlined in Subsection F of 19.15.36.15 NMAC are required to demonstrate compliance with the closure performance standards, cease further remediation activities within the individual treatment cell(s), and leave the above referenced soils in place.

Basin, on behalf of Southern Union, proposes to collect one (1) composite soil sample, consisting of four (4) discreet samples from each of the twenty (20) treatment zones exhibiting benzene, BTEX, TPH, and chloride concentrations less than the treatment zone closure performance standards. The collected soil samples will be submitted to the laboratory and analyzed for concentrations of constituents listed in Subsection F of 19.15.36.15 NMAC. In addition, the soil samples will be analyzed for the concentrations of constituents listed in Subsections A and B of 20.6.2.3103 NMAC.

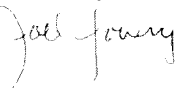
On receipt and evaluation of the analytical results, Southern Union will forward the analytical results to the New Mexico Energy, Minerals and Natural Resources Department and may request approval to cease remediation activities within individual treatment cells which demonstrate compliance with Subsection F of 19.15.36.15 NMAC and Subsections A and B of 20.6.2.3103 NMAC.

Until otherwise instructed by the Mexico Energy, Minerals and Natural Resources Department, bi-monthly plowing of the treatment zones will continue throughout the 2013 reporting period. Soil samples from the vadose and treatment zones will be collected and submitted to the laboratory for determination of constituent concentrations on a bi-annual schedule. Vadose zone soil samples will be analyzed using EPA Method SW-846 8021b (BTEX), EPA Method SW-846 8015M (TPH), and EPA Method 300.1

(chloride). Treatment zone soil samples will be analyzed using EPA Method SW-846 8015M (TPH) and EPA Method 300.1 (chloride). An Annual Report will be submitted in 2013, documenting the analytical results of the 2012 treatment cell and vadose zone sampling events.

Should you have any questions or concerns, please contact Rose Slade at (432) 940-5147 or myself at (432) 466-4450.

Respectfully,



Joel W. Lowry
Basin Environmental Service Technologies, LLC

Cc: Ed Hansen, NMOCD-Santa Fe, New Mexico (edwardj.hansen@state.nm.us)
Rose Slade, Southern Union Gas Services, Monahans, Texas (rose.slade@sug.com)

Enclosures:

Figures

Figure 1: Sample Location Map – June 2012

Figure 2: Sample Location Map – October 2012

Tables

Table 1: 2012 Concentrations of Benzene, BTEX, TPH & Chloride in the Treatment Zone.

Table 2: Historic Concentrations of Hydrocarbons, Chlorides, Sulfates & Alkalinity in the Vadose Zone.

Table 3: Historic Concentrations of Metals in the Vadose Zone

Table 4: 2012 Concentrations of Benzene, BTEX, TPH & Chloride in the Vadose Zone

Laboratory Analytical Reports

Photographs

LIMITATIONS

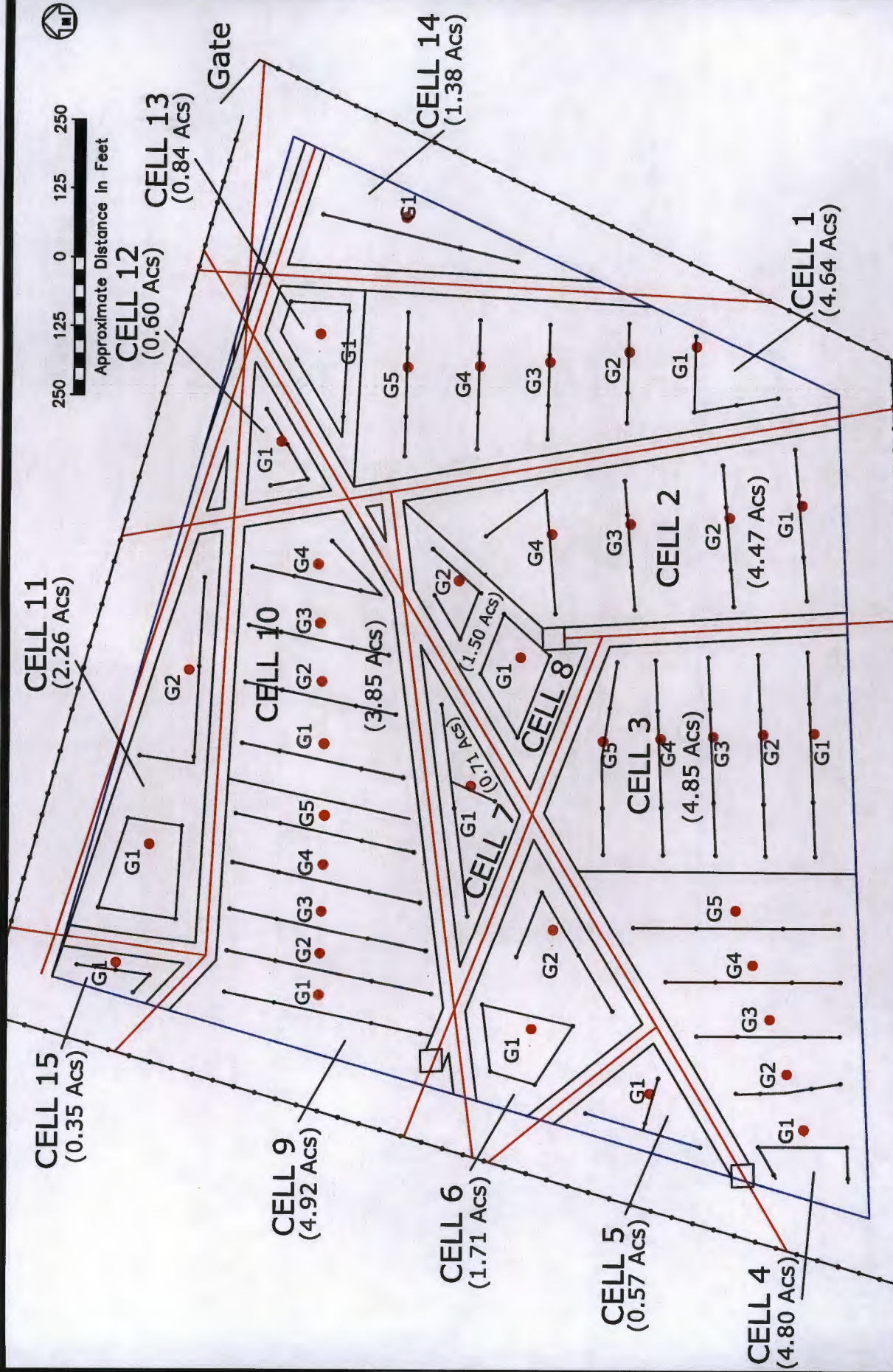
Basin Environmental Service Technologies, LLC has prepared this Southern Union Landfarm Annual Report to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin has not conducted an independent examination of the facts contained in referenced materials and statements. Basin has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Southern Union Gas Services. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Southern Union Gas Services.

FIGURES



250 125 0 125 250
Approximate Distance in Feet



Legend:

- Pipeline
- Fence
- Landfarm Extent
- Individual Cell Extent
- Vadose Zone Sample Location

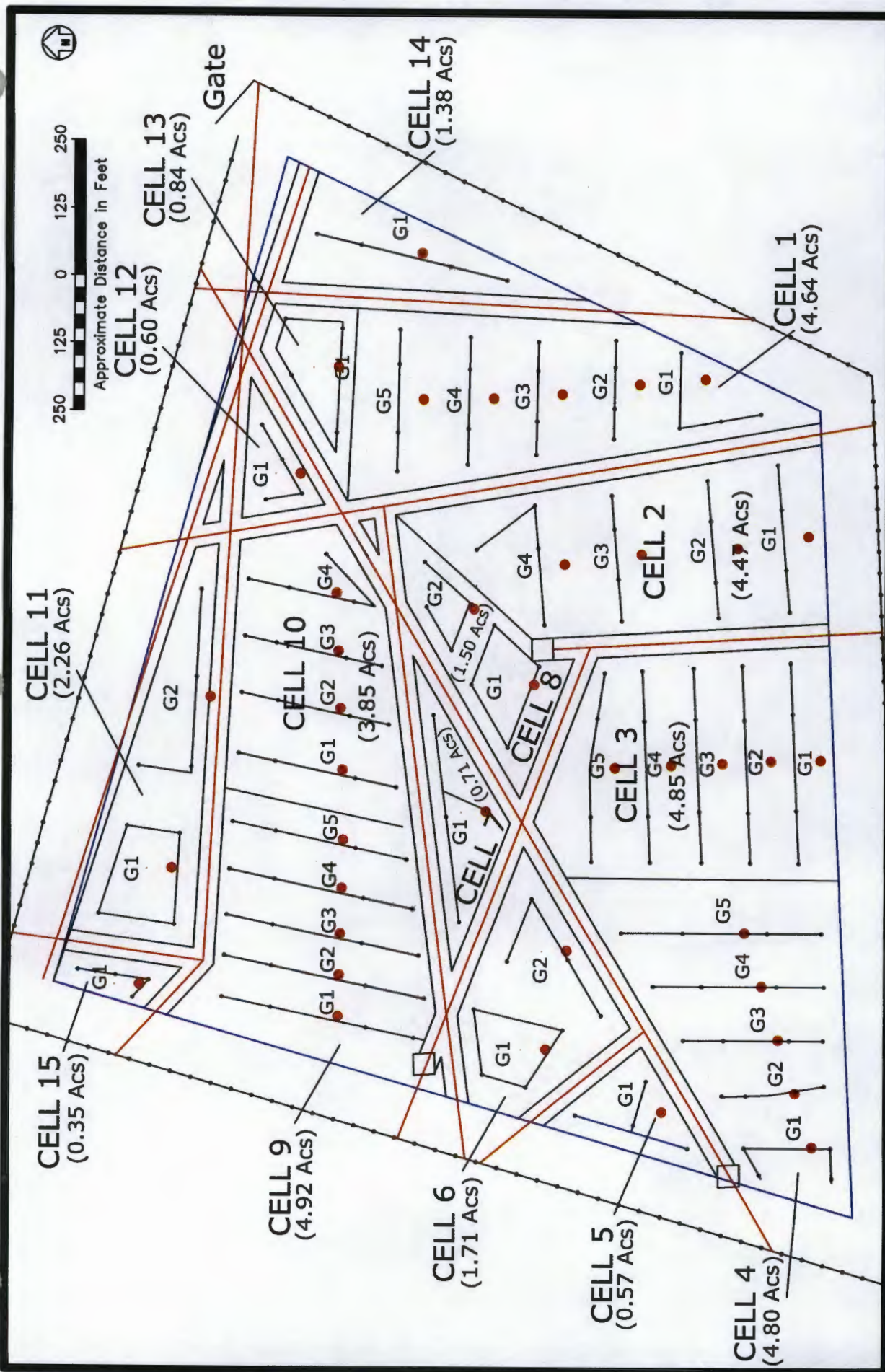
Figure 1

Sample Location Map
June 2012
Southern Union Gas Services
Landfarm

Basin Environmental Service Technologies, LLC

Prep By: BJA
February 16, 2011

Checked By: BRB
Scale: Approximately 1"=100'



Legend:

- Pipeline
- Fenceline
- Landfarm Extent
- Individual Cell Extent
- Vadose Zone Sample Location

Figure 2

Sample Location Map

October 2012

Southern Union Gas Services

Landfarm

Lea County, New Mexico

NMOCD Permit # NIM02-0019

Basin Environmental Service Technologies, LLC

Prep By: BJA	Checked By: BRB
February 18, 2011	
Scale: Approximately 1"=100'	

TABLES

TABLE 1

2012 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN THE TREATMENT ZONE

SOUTHERN UNION GAS SERVICES
SOUTHERN UNION LANDFARM
LEA COUNTY, NEW MEXICO
NMOCD PERMIT #NM-02-0019

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: 8015M			TOTAL TPH C ₆ -C ₃₅ (mg/Kg)	E 300 CHLORIDE (mg/Kg)
				GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)		
TZ Cell 1 G-1	-	6/14/2012	In-Situ	<15.2	638	78.5	717	20.7
TZ Cell 1 G-2	-	6/14/2012	In-Situ	<15.2	472	87.8	560	16.2
TZ Cell 1 G-3	-	6/14/2012	In-Situ	<15.2	1,390	88.7	1,480	75.9
TZ Cell 1 G-4	-	6/14/2012	In-Situ	<15.1	419	85.0	504	36.4
TZ Cell 1 G-5	-	6/14/2012	In-Situ	<15.1	678	95.5	774	52.2
TZ Cell 2 G-1	-	6/14/2012	In-Situ	<15.3	906	100	1,010	12.5
TZ Cell 2 G-2	-	6/14/2012	In-Situ	<15.3	556	89.2	645	28.8
TZ Cell 2 G-3	-	6/14/2012	In-Situ	<15.2	649	98.4	747	21.2
TZ Cell 2 G-4	-	6/14/2012	In-Situ	<15.2	423	100	523	21.2
TZ Cell 3 G-1	-	6/14/2012	In-Situ	<77.3	4,050	468	4,520	12.3
TZ Cell 3 G-2	-	6/14/2012	In-Situ	<75.8	5,410	398	5,810	12.5
TZ Cell 3 G-3	-	6/14/2012	In-Situ	<75.5	3,720	411	4,130	9.49
TZ Cell 3 G-4	-	6/14/2012	In-Situ	<75.4	4,800	448	5,250	10.8
TZ Cell 3 G-5	-	6/14/2012	In-Situ	<75.8	3,780	414	4,190	11.8
TZ Cell 4 G-1	-	6/14/2012	In-Situ	<75.8	4,100	410	4,510	19.8
TZ Cell 4 G-2	-	6/14/2012	In-Situ	<76.1	3,860	422	4,280	25.2
TZ Cell 4 G-3	-	6/14/2012	In-Situ	<15.1	2,930	75.3	3,010	24.0
TZ Cell 4 G-4	-	6/14/2012	In-Situ	<15.2	2,600	82.5	2,680	52.8
TZ Cell 4 G-5	-	6/14/2012	In-Situ	<15.2	2,580	82.2	2,660	25.7
TZ Cell 5 G-1	-	6/14/2012	In-Situ	<15.2	46.2	53.8	100	6.29
TZ Cell 6 G-1	-	6/14/2012	In-Situ	<15.4	206	82.3	288	10.9
TZ Cell 6 G-2	-	6/14/2012	In-Situ	<15.2	330	89.8	420	31.5
TZ Cell 7 G-1	-	6/14/2012	In-Situ	<15.1	429	105	534	9.11
TZ Cell 8 G-2	-	6/14/2012	In-Situ	<15.1	382	97.2	479	48.2
TZ Cell 9 G-1	-	6/14/2012	In-Situ	<15.1	341	97.2	438	40.0
TZ Cell 9 G-2	-	6/14/2012	In-Situ	<15.1	348	117	465	34.1
TZ Cell 9 G-3	-	6/14/2012	In-Situ	<15.1	193	105	298	22.2
TZ Cell 9 G-4	-	6/14/2012	In-Situ	<15.1	441	113	554	38.9
TZ Cell 9 G-5	-	6/14/2012	In-Situ	<15.1	182	72.1	254	19.2
TZ Cell 10 G-1	-	6/14/2012	In-Situ	<15.1	423	89.6	513	11.7
TZ Cell 10 G-2	-	6/14/2012	In-Situ	<15.0	222	82.1	304	8.87
TZ Cell 10 G-3	-	6/14/2012	In-Situ	<15.1	226	88.5	315	14.7
TZ Cell 10 G-4	-	6/14/2012	In-Situ	<15.1	756	129	885	11.5
TZ Cell 11 G-1	-	6/14/2012	In-Situ	<15.1	260	61.6	322	113
TZ Cell 11 G-2	-	6/14/2012	In-Situ	<15.1	118	41.8	160	22.3
TZ Cell 12 G-1	-	6/14/2012	In-Situ	<15.2	319	89.4	408	11.7
TZ Cell 13 G-1	-	6/14/2012	In-Situ	<15.4	395	89.1	484	93.5
TZ Cell 14 G-1	-	6/14/2012	In-Situ	<15.1	93.2	44.4	138	7.02
TZ Cell 15 G-1	-	6/14/2012	In-Situ	<15.5	291	113	404	16.5

TABLE 1

2012 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN THE TREATMENT ZONE

SOUTHERN UNION GAS SERVICES
SOUTHERN UNION LANDFARM
LEA COUNTY, NEW MEXICO
NMOCD PERMIT #NM-02-0019

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: 8015M			TOTAL TPH C ₈ -C ₃₅ (mg/Kg)	E 300 CHLORIDE (mg/Kg)
				GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)		
TZ Cell 1 G-1	-	10/30/2012	In-Situ	<15.4	514	63.5	578	21.0
TZ Cell 1 G-2	-	10/30/2012	In-Situ	<15.5	438	47.2	485	18.3
TZ Cell 1 G-3	-	10/30/2012	In-Situ	<15.5	1,100	124	1,220	82.4
TZ Cell 1 G-4	-	10/30/2012	In-Situ	<15.5	1,220	148	1,220	90.0
TZ Cell 1 G-5	-	10/30/2012	In-Situ	<15.3	961	140	1,100	62.1
TZ Cell 2 G-1	-	10/30/2012	In-Situ	<15.3	669	63.5	733	16.3
TZ Cell 2 G-2	-	10/30/2012	In-Situ	<15.4	467	52.7	520	50.6
TZ Cell 2 G-3	-	10/30/2012	In-Situ	<15.2	523	78.0	601	35.9
TZ Cell 2 G-4	-	10/30/2012	In-Situ	<15.3	430	79.0	509	88.3
TZ Cell 3 G-1	-	10/30/2012	In-Situ	<15.3	3,590	319	3,910	3.87
TZ Cell 3 G-2	-	10/30/2012	In-Situ	<15.4	3,900	311	4,210	16.8
TZ Cell 3 G-3	-	10/30/2012	In-Situ	<15.2	3,380	276	3,660	6.02
TZ Cell 3 G-4	-	10/30/2012	In-Situ	<15.4	2,810	226	3,040	6.05
TZ Cell 3 G-5	-	10/30/2012	In-Situ	<15.3	3,030	246	3,280	6.11
TZ Cell 4 G-1	-	10/30/2012	In-Situ	<15.5	2,650	265	2,920	18.0
TZ Cell 4 G-2	-	10/30/2012	In-Situ	<15.6	2,340	228	2,570	27.2
TZ Cell 4 G-3	-	10/30/2012	In-Situ	<15.5	2,800	258	3,060	18.0
TZ Cell 4 G-4	-	10/30/2012	In-Situ	<15.4	1,910	183	2,090	35.7
TZ Cell 4 G-5	-	10/30/2012	In-Situ	<15.5	1,920	170	2,090	33.6
TZ Cell 5 G-1	-	10/30/2012	In-Situ	<15.1	60.6	31.1	91.7	<1.01
TZ Cell 6 G-1	-	10/30/2012	In-Situ	<15.4	176	23.6	200	7.22
TZ Cell 6 G-2	-	10/30/2012	In-Situ	<15.3	246	27.0	273	27.6
TZ Cell 7 G-1	-	10/30/2012	In-Situ	<15.7	204	36.5	241	5.67
TZ Cell 8 G-2	-	10/30/2012	In-Situ	<15.4	161	27.0	188	25.3
TZ Cell 9 G-1	-	10/30/2012	In-Situ	<15.3	194	34.8	229	40.3
TZ Cell 9 G-2	-	10/30/2012	In-Situ	<15.5	142	30.4	172	37.7
TZ Cell 9 G-3	-	10/30/2012	In-Situ	<15.4	133	35.7	169	81.3
TZ Cell 9 G-4	-	10/30/2012	In-Situ	<15.3	184	41.5	226	22.4
TZ Cell 9 G-5	-	10/30/2012	In-Situ	<15.2	107	22.9	130	35.9
TZ Cell 10 G-1	-	10/30/2012	In-Situ	<15.2	288	66.9	355	3.69
TZ Cell 10 G-2	-	10/30/2012	In-Situ	<15.1	132	41.0	173	3.30
TZ Cell 10 G-3	-	10/30/2012	In-Situ	<15.1	150	39.6	190	3.91
TZ Cell 10 G-4	-	10/30/2012	In-Situ	<15.2	521	110	631	9.29
TZ Cell 11 G-1	-	10/30/2012	In-Situ	<15.2	132	15.4	147	49.9
TZ Cell 11 G-2	-	10/30/2012	In-Situ	<15.1	56.1	<15.2	56.1	<1.01
TZ Cell 12 G-1	-	10/30/2012	In-Situ	<15.3	209	35.3	244	<1.02
TZ Cell 13 G-1	-	10/30/2012	In-Situ	<15.6	133	29.4	162	131
TZ Cell 14 G-1	-	10/30/2012	In-Situ	<15.3	80.0	16.5	96.5	3.70
TZ Cell 15 G-1	-	10/30/2012	In-Situ	<16.0	164	64.6	229	13.8
NMOCD Regulatory Standard							5,000	1,000

- = Not analyzed.

TABLE 2

HISTORIC CONCENTRATIONS OF HYDROCARBONS, CHLORIDES, SULFATES & ALKALINITY IN THE VADOSE ZONE

SOUTHERN UNION GAS SERVICES
SOUTHERN UNION LANDFARM
LEA COUNTY, NEW MEXICO
NMOCD PERMIT #NM-02-0019

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030						METHOD: 8015M				TOTAL TPH C ₆ -C ₃₅ (mg/Kg)
			BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M.P. - XYLENES (mg/Kg)	O-XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)		
Landfarm Background	2'	4/11/2001	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	-	-	-	134.0	

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SODIUM (mg/Kg)	CALCIUM (mg/Kg)	MAGNESIUM (mg/Kg)	POTASSIUM (mg/Kg)	CHLORIDE (mg/Kg)	SULFATE (mg/Kg)	CARBONATE (mg/Kg)	BICARBONATE (mg/Kg)
Landfarm Background	2'	4/11/2001	14.4	73.54	8.54	11.24	<10	35.2	<1.0	140

TABLE 3

HISTORIC CONCENTRATIONS OF METALS IN THE VADOSE ZONE

SOUTHERN UNION GAS SERVICES
SOUTHERN UNION LANDFARM
LEA COUNTY, NEW MEXICO
NMOCD PERMIT #NM-02-0019

SAMPLE LOCATION	SAMPLE DEPTH (bgs)	SAMPLE DATE	SILVER (mg/Kg)	ARSENIC (mg/Kg)	BARIUM (mg/Kg)	CADMIUM (mg/Kg)	CHROMIUM (mg/Kg)	MERCURY (mg/Kg)	LEAD (mg/Kg)	SELENIUM (mg/Kg)
Landfarm Background	2' bgs	4/11/2001	ND	0.923	47.92	0.3605	4.21	ND	ND	1.959

TABLE 4

2012 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN THE VADOSE ZONE

SOUTHERN UNION GAS SERVICES
SOUTHERN UNION LANDFARM
LEA COUNTY, NEW MEXICO
NMOC D PERMIT #NM-02-0019

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030										METHOD: 8015M					TOTAL TPH C ₆ -C ₃₄ (mg/Kg)	E 300 CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M.P. - XYLENES (mg/Kg)	O-XYLENES (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₄ (mg/Kg)							
VZ Cell 1 G-1	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.7	<16.7	<16.7	<16.7	<16.7	<16.7	6.71			
VZ Cell 1 G-2	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.5	<16.5	<16.5	<16.5	<16.5	<16.5	11.3			
VZ Cell 1 G-3	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<17.3	<17.3	<17.3	<17.3	<17.3	<17.3	50.0			
VZ Cell 1 G-4	3' - 4'	6/14/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.9	<15.9	<15.9	<15.9	<15.9	<15.9	4.44			
VZ Cell 1 G-5	3' - 4'	6/14/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<16.2	<16.2	<16.2	<16.2	<16.2	<16.2	17.8			
VZ Cell 2 G-1	3' - 4'	6/15/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.9	<15.9	<15.9	<15.9	<15.9	<15.9	9.97			
VZ Cell 2 G-2	3' - 4'	6/15/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<16.1	<16.1	<16.1	<16.1	<16.1	<16.1	39.4			
VZ Cell 2 G-3	3' - 4'	6/15/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<16.3	<16.3	<16.3	<16.3	<16.3	<16.3	11.4			
VZ Cell 2 G-4	3' - 4'	6/15/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<15.9	<15.9	<15.9	<15.9	<15.9	<15.9	8.49			
VZ Cell 3 G-1	3' - 4'	6/15/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.4	<16.4	<16.4	<16.4	<16.4	<16.4	4.90			
VZ Cell 3 G-2	3' - 4'	6/15/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<15.9	<15.9	<15.9	<15.9	<15.9	<15.9	4.80			
VZ Cell 3 G-3	3' - 4'	6/15/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.0	<16.0	<16.0	<16.0	<16.0	<16.0	8.40			
VZ Cell 3 G-4	3' - 4'	6/15/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.1	<16.1	<16.1	<16.1	<16.1	<16.1	8.98			
VZ Cell 3 G-5	3' - 4'	6/15/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.5	<16.5	<16.5	<16.5	<16.5	<16.5	5.23			
VZ Cell 4 G-1	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.5	<16.5	<16.5	<16.5	<16.5	<16.5	6.89			
VZ Cell 4 G-2	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.9	<16.9	<16.9	<16.9	<16.9	<16.9	8.02			
VZ Cell 4 G-3	3' - 4'	6/14/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<17.3	<17.3	<17.3	<17.3	<17.3	<17.3	6.72			
VZ Cell 4 G-4	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.6	<16.6	<16.6	<16.6	<16.6	<16.6	5.53			
VZ Cell 4 G-5	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.7	<16.7	<16.7	<16.7	<16.7	<16.7	6.45			
VZ Cell 5 G-1	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.3	<16.3	<16.3	<16.3	<16.3	<16.3	6.46			
VZ Cell 6 G-1	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.3	<16.3	<16.3	<16.3	<16.3	<16.3	11.7			
VZ Cell 6 G-2	3' - 4'	6/14/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<16.0	<16.0	<16.0	<16.0	<16.0	<16.0	11.2			
VZ Cell 7 G-1	3' - 4'	6/14/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<16.2	<16.2	<16.2	<16.2	<16.2	<16.2	6.84			
VZ Cell 8 G-1	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.2	<16.2	<16.2	<16.2	<16.2	<16.2	23.8			
VZ Cell 8 G-2	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<16.0	<16.0	<16.0	<16.0	<16.0	<16.0	7.87			
VZ Cell 9 G-1	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.5	<16.5	<16.5	<16.5	<16.5	<16.5	9.65			
VZ Cell 9 G-2	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.4	<16.4	<16.4	<16.4	<16.4	<16.4	7.42			
VZ Cell 9 G-3	3' - 4'	6/14/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<17.7	<17.7	<17.7	<17.7	<17.7	<17.7	23.5			
VZ Cell 9 G-4	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.9	<16.9	<16.9	<16.9	<16.9	<16.9	10.7			
VZ Cell 9 G-5	3' - 4'	6/14/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<16.0	<16.0	<16.0	<16.0	<16.0	<16.0	9.32			
VZ Cell 10 G-1	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.5	<16.5	<16.5	<16.5	<16.5	<16.5	26.9			
VZ Cell 10 G-2	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<15.9	<15.9	<15.9	<15.9	<15.9	<15.9	61.3			
VZ Cell 10 G-3	3' - 4'	6/14/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<16.9	<16.9	<16.9	<16.9	<16.9	<16.9	21.6			
VZ Cell 10 G-4	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<17.0	<17.0	<17.0	<17.0	<17.0	<17.0	20.3			
VZ Cell 11 G-1	3' - 4'	6/14/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<16.0	<16.0	<16.0	<16.0	<16.0	<16.0	11.9			
VZ Cell 11 G-2	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<16.3	<16.3	<16.3	<16.3	<16.3	<16.3	50.5			
VZ Cell 12 G-1	3' - 4'	6/14/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<16.0	<16.0	<16.0	<16.0	<16.0	<16.0	6.21			
VZ Cell 13 G-1	3' - 4'	6/14/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<15.5	<15.5	<15.5	<15.5	<15.5	<15.5	43.3			
VZ Cell 14 G-1	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.7	<16.7	<16.7	<16.7	<16.7	<16.7	12.4			
VZ Cell 15 G-1	3' - 4'	6/14/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.2	<16.2	<16.2	<16.2	<16.2	<16.2	18.7			

TABLE 4

2012 CONCENTRATIONS OF BENZENE, BTX, TPH & CHLORIDE IN THE VADOSE ZONE

SOUTHERN UNION GAS SERVICES
SOUTHERN UNION LANDFARM
LEA COUNTY, NEW MEXICO
NMOC PERMIT #NN-02-0019

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M					TOTAL TPH (mg/Kg)	E 300 CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M.P. - XYLENES (mg/Kg)	O-XYLENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTX (mg/Kg)	GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₈ (mg/Kg)		
VZ Cell 1 G-1	3' - 4'	10/31/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<16.9	<16.9	<16.9	<16.9	8.85
VZ Cell 1 G-2	3' - 4'	10/31/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<17.1	<17.1	<17.1	<17.1	37.0
VZ Cell 1 G-3	3' - 4'	10/31/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.8	<16.8	<16.8	<16.8	20.6
VZ Cell 1 G-4	3' - 4'	10/31/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<15.8	<15.8	<15.8	<15.8	<0.99
VZ Cell 1 G-5	3' - 4'	10/31/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<16.3	<16.3	<16.3	<16.3	2.63
VZ Cell 2 G-1	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.4	<16.4	<16.4	<16.4	2.79
VZ Cell 2 G-2	3' - 4'	10/30/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<17.4	<17.4	<17.4	<17.4	2.27
VZ Cell 2 G-3	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.5	<16.5	<16.5	<16.5	13.5
VZ Cell 2 G-4	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.8	<16.8	<16.8	<16.8	8.03
VZ Cell 3 G-1	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.5	<16.5	<16.5	<16.5	8.53
VZ Cell 3 G-2	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.4	<16.4	<16.4	<16.4	5.46
VZ Cell 3 G-3	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.6	<16.6	<16.6	<16.6	6.19
VZ Cell 3 G-4	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.7	<16.7	<16.7	<16.7	9.42
VZ Cell 3 G-5	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.5	<16.5	<16.5	<16.5	4.77
VZ Cell 4 G-1	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<17.1	<17.1	<17.1	<17.1	<1.12
VZ Cell 4 G-2	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.8	<16.8	<16.8	<16.8	<1.12
VZ Cell 4 G-3	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.5	<16.5	<16.5	<16.5	<1.10
VZ Cell 4 G-4	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.6	<16.6	<16.6	<16.6	18.1
VZ Cell 4 G-5	3' - 4'	10/30/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<17.4	<17.4	<17.4	<17.4	<1.16
VZ Cell 5 G-1	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.7	<16.7	<16.7	<16.7	<1.10
VZ Cell 6 G-1	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<16.3	<16.3	<16.3	<16.3	12.9
VZ Cell 6 G-2	3' - 4'	10/30/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<16.3	<16.3	<16.3	<16.3	29.6
VZ Cell 7 G-1	3' - 4'	10/30/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<16.4	<16.4	<16.4	<16.4	<1.09
VZ Cell 8 G-1	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.4	<16.4	<16.4	<16.4	6.76
VZ Cell 8 G-2	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.3	<16.3	<16.3	<16.3	25.4
VZ Cell 9 G-1	3' - 4'	10/31/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<17.6	<17.6	<17.6	<17.6	6.64
VZ Cell 9 G-2	3' - 4'	10/31/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0024	<0.0012	<0.0024	<0.0024	<18.0	<18.0	<18.0	<18.0	13.0
VZ Cell 9 G-3	3' - 4'	10/31/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<17.5	<17.5	<17.5	<17.5	20.8
VZ Cell 9 G-4	3' - 4'	10/31/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<17.4	<17.4	<17.4	<17.4	15.0
VZ Cell 9 G-5	3' - 4'	10/31/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.6	<16.6	<16.6	<16.6	9.63
VZ Cell 10 G-1	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.6	<16.6	<16.6	<16.6	240
VZ Cell 10 G-2	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<16.1	<16.1	<16.1	<16.1	70.4
VZ Cell 10 G-3	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.9	<16.9	<16.9	<16.9	48.2
VZ Cell 10 G-4	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.9	<16.9	<16.9	<16.9	51.1
VZ Cell 11 G-1	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.6	<16.6	<16.6	<16.6	<1.10
VZ Cell 11 G-2	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<16.1	<16.1	<16.1	<16.1	8.84
VZ Cell 12 G-1	3' - 4'	10/30/2012	In-Situ	<0.0012	<0.0012	<0.0012	<0.0023	<0.0012	<0.0023	<0.0023	<17.0	<17.0	<17.0	<17.0	<1.16
VZ Cell 13 G-1	3' - 4'	10/30/2012	In-Situ	<0.0010	<0.0010	<0.0010	<0.0021	<0.0010	<0.0021	<0.0021	<15.8	<15.8	<15.8	<15.8	30.9
VZ Cell 14 G-1	3' - 4'	10/31/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0023	<0.0011	<0.0023	<0.0023	<16.9	<16.9	<16.9	<16.9	27.2
VZ Cell 15 G-1	3' - 4'	10/30/2012	In-Situ	<0.0011	<0.0011	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.4	<16.4	<16.4	<16.4	8.25

ANALYTICAL REPORTS

Analytical Report 444219
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)



11-JUL-12

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

Reference: XENCO Report No: **444219**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444219. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444219 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 444219



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 1 G-1	S	06-14-12 08:00		444219-001
TZ Cell 1 G-2	S	06-14-12 08:10		444219-002
TZ Cell 1 G-3	S	06-14-12 08:20		444219-003
TZ Cell 1 G-4	S	06-14-12 08:30		444219-004
TZ Cell 1 G-5	S	06-14-12 08:40		444219-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444219

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonconformances and comments:

Batch: LBA-890842 TPH By SW8015 Mod
SW8015MOD_NM

Batch 890842, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 444219-001, -004, -005, -002, -003.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits

SW8015MOD_NM

Batch 890842, 1-Chlorooctane, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 444219-003 S.

Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444219-001, -002, -003.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444219



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 1 G-1		Matrix: Soil		% Moisture: 1.2		
Lab Sample Id: 444219-001		Date Collected: Jun-14-12 08:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580		16887-00-6		Date Prep: Jul-04-12 11:08		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.7	mg/kg	07/04/12 11:08		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	638	mg/kg	06/24/12 01:46		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	78.5	mg/kg	06/24/12 01:46		1
Total TPH	PHC635	717	mg/kg	06/24/12 01:46		1



Hits Summary

444219



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 1 G-1	Matrix: Soil	% Moisture:
Lab Sample Id: 444219-001	Date Collected: Jun-14-12 08:00	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890635

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.20	%	06/20/12 14:35		1



Hits Summary

444219



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 1 G-2		Matrix: Soil		% Moisture: 1.38		
Lab Sample Id: 444219-002		Date Collected: Jun-14-12 08:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580		70071224		Date Prep: Jul-04-12 11:24		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.2	mg/kg	07/04/12 11:24		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	472	mg/kg	06/24/12 02:18		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	87.8	mg/kg	06/24/12 02:18		1
Total TPH	PHC635	560	mg/kg	06/24/12 02:18		1



Hits Summary

444219



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 1 G-2	Matrix: Soil	% Moisture:
Lab Sample Id: 444219-002	Date Collected: Jun-14-12 08:10	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890635

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.38	%	06/20/12 14:35		1



Hits Summary

444219



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 1 G-3		Matrix: Soil		% Moisture: 1.37		
Lab Sample Id: 444219-003		Date Collected: Jun-14-12 08:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580				Date Prep: Jul-04-12 11:40		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	75.9	mg/kg	07/04/12 11:40		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	1390	mg/kg	06/24/12 02:49		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	88.7	mg/kg	06/24/12 02:49		1
Total TPH	PHC635	1480	mg/kg	06/24/12 02:49		1



Hits Summary

444219



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 1 G-3	Matrix: Soil	% Moisture:
Lab Sample Id: 444219-003	Date Collected: Jun-14-12 08:20	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890635

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.37	%	06/20/12 14:35		1



Hits Summary

444219



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 1 G-4		Matrix: Soil		% Moisture: .99		
Lab Sample Id: 444219-004		Date Collected: Jun-14-12 08:30		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560				Date Prep: Jul-04-12 14:09		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	36.4	mg/kg	07/04/12 14:09		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	419	mg/kg	06/24/12 03:25		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	85.0	mg/kg	06/24/12 03:25		1
Total TPH	PHC635	504	mg/kg	06/24/12 03:25		1



Hits Summary

444219



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

Sample Id: TZ Cell 1 G-5		Matrix: Soil		% Moisture: .99		
Lab Sample Id: 444219-005		Date Collected: Jun-14-12 08:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560		70018001		Date Prep: Jul-04-12 14:41		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	52.2	mg/kg	07/04/12 14:41		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	678	mg/kg	06/24/12 03:58		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	95.5	mg/kg	06/24/12 03:58		1
Total TPH	PHC635	774	mg/kg	06/24/12 03:58		1



Certificate of Analysis Summary 444219
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested		Lab Id:	444219-001	444219-002	444219-003	444219-004	444219-005
		Field Id:	TZ Cell 1 G-1	TZ Cell 1 G-2	TZ Cell 1 G-3	TZ Cell 1 G-4	TZ Cell 1 G-5
		Depth:					
		Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled:	Jun-14-12 08:00	Jun-14-12 08:10	Jun-14-12 08:20	Jun-14-12 08:30	Jun-14-12 08:40
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 11:08	Jul-04-12 11:24	Jul-04-12 11:40	Jul-04-12 14:09	Jul-04-12 14:41	
	Analyzed:	Jul-04-12 11:08	Jul-04-12 11:24	Jul-04-12 11:40	Jul-04-12 14:09	Jul-04-12 14:41	
	Units/RL:	mg/kg RL 20.7 0.506	mg/kg RL 16.2 0.507	mg/kg RL 75.9 0.507	mg/kg RL 36.4 0.505	mg/kg RL 52.2 0.505	
Percent Moisture	Extracted:						
	Analyzed:	Jun-20-12 14:35	Jun-20-12 14:35	Jun-20-12 14:35	Jun-20-12 14:35	Jun-20-12 14:35	
	Units/RL:	% RL 1.20 1.00	% RL 1.38 1.00	% RL 1.37 1.00	% RL ND 1.00	% RL ND 1.00	
TPH By SW8015 Mod	Extracted:	Jun-22-12 15:45	Jun-22-12 15:45	Jun-22-12 15:45	Jun-22-12 15:45	Jun-22-12 15:45	
	Analyzed:	Jun-24-12 01:46	Jun-24-12 02:18	Jun-24-12 02:49	Jun-24-12 03:25	Jun-24-12 03:58	
	Units/RL:	mg/kg RL ND 15.2	mg/kg RL ND 15.2	mg/kg RL ND 15.2	mg/kg RL ND 15.1	mg/kg RL ND 15.1	
C6-C12 Gasoline Range Hydrocarbons		638 15.2	472 15.2	1390 15.2	419 15.1	678 15.1	
C12-C28 Diesel Range Hydrocarbons		78.5 15.2	87.8 15.2	88.7 15.2	85.0 15.1	95.5 15.1	
C28-C35 Oil Range Hydrocarbons		717 15.2	560 15.2	1480 15.2	504 15.1	774 15.1	
Total TPH							

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444219,

Lab Batch #: 890842

Sample: 444219-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:46

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.8	100	82	70-135	
o-Terphenyl	42.5	50.0	85	70-135	

Lab Batch #: 890842

Sample: 444219-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 02:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.8	100	96	70-135	
o-Terphenyl	51.2	50.0	102	70-135	

Lab Batch #: 890842

Sample: 444219-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 02:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	64.2	50.0	128	70-135	

Lab Batch #: 890842

Sample: 444219-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 03:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	62.3	50.0	125	70-135	

Lab Batch #: 890842

Sample: 444219-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 03:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.1	100	92	70-135	
o-Terphenyl	48.2	50.0	96	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444219,

Project ID:

Lab Batch #: 890842

Sample: 623674-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 01:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	65.2	50.0	130	70-135	

Lab Batch #: 890842

Sample: 623674-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 00:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 890842

Sample: 623674-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 00:38

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 890842

Sample: 444219-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 13:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	151	100	151	70-135	**
o-Terphenyl	69.8	50.0	140	70-135	**

Lab Batch #: 890842

Sample: 444219-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 14:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444219

Analyst: TTE

Lab Batch ID: 891560

Sample: 624144-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

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 [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.2	104	50.0	52.8	106	1	80-120	20	

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Date Analyzed: 07/04/2012

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 [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890842

Sample: 623674-1-BKS

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/24/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1150	115	1000	1130	113	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1100	110	1000	1090	109	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444219

Lab Batch #: 891560

Date Analyzed: 07/04/2012

QC- Sample ID: 444219-004 S

Reporting Units: mg/kg

Project ID:

Analyst: TTE

Date Prepared: 07/04/2012

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	36.4	50.5	82.6	91	80-120	

Lab Batch #: 891560

Date Analyzed: 07/04/2012

QC- Sample ID: 444230-001 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Analyst: TTE

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.21	53.5	62.7	106	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444209-001 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Analyst: TTE

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444219-003 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Analyst: TTE

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

BRL - Below Reporting Limit



Form 3 - MS MSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444219

Lab Batch ID: 890842

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444219-003 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

Reporting Units: mg/kg												
TPH By SW8015 Mod		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
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		<15.2	1010	1200	119	1010	1110	110	8	70-135	35	
C12-C28 Diesel Range Hydrocarbons		1390	1010	1730	34	1010	1560	17	10	70-135	35	X

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444219

Lab Batch #: 890635

Date Analyzed: 06/20/2012 14:35

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444215-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.23	1.23	0	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444219

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguljo

Project Name: Southern Union Gas Landfarm

Company Name **Basin Environmental Service Technologies, LLC**

Project #:

Company Address: P.O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

社

Telephone No: (575)396-2378

Fax No: (575)396-1429

Report Format:-

Sampler Signature: *SGP* *1/14/10*

bjarguljo@basineny.com; Rose.Slade@SUG.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

TRRP

TRRP

NPDES

Sampler Signature: Scott Lowrey

[illegible]



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUAS
Date/Time: 6/18/12 15:30
Lab ID #: 444219
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	<u>Yes</u>	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444217
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444217**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444217. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444217 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 444217



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 2 G-1	S	06-14-12 08:50		444217-001
TZ Cell 2 G-2	S	06-14-12 09:00		444217-002
TZ Cell 2 G-3	S	06-14-12 09:10		444217-003
TZ Cell 2 G-4	S	06-14-12 09:20		444217-004



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444217

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300*

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444217-001, -004, -003, -002.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444217



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 2 G-1		Matrix: Soil		% Moisture: 1.81		
Lab Sample Id: 444217-001		Date Collected: Jun-14-12 08:50		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580		Revised		Date Prep: Jul-04-12 08:11		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.5	mg/kg	07/04/12 08:11		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748		Date Prep: Jun-21-12 08:00				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	906	mg/kg	06/22/12 05:14		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	100	mg/kg	06/22/12 05:14		1
Total TPH	PHC635	1010	mg/kg	06/22/12 05:14		1



Hits Summary

444217



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 2 G-1	Matrix: Soil	% Moisture:				
Lab Sample Id: 444217-001	Date Collected: Jun-14-12 08:50	Basis: Wet Weight				
Date Received: Jun-18-12 15:30						
Analytical Method: Percent Moisture						
Seq Number: 890635						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.81	%	06/20/12 14:35		1



Hits Summary

444217



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 2 G-2		Matrix: Soil		% Moisture: 1.66		
Lab Sample Id: 444217-002		Date Collected: Jun-14-12 09:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580				Date Prep: Jul-04-12 08:27		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.8	mg/kg	07/04/12 08:27		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748				Date Prep: Jun-21-12 08:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	556	mg/kg	06/22/12 05:48		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	89.2	mg/kg	06/22/12 05:48		1
Total TPH	PHC635	645	mg/kg	06/22/12 05:48		1



Hits Summary

444217



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 2 G-2	Matrix: Soil	% Moisture:				
Lab Sample Id: 444217-002	Date Collected: Jun-14-12 09:00	Basis: Wet Weight				
Date Received: Jun-18-12 15:30						
Analytical Method: Percent Moisture						
Seq Number: 890635						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.66	%	06/20/12 14:35		1



Hits Summary

444217



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 2 G-3		Matrix: Soil		% Moisture: 1.13		
Lab Sample Id: 444217-003		Date Collected: Jun-14-12 09:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580				Date Prep: Jul-04-12 08:43		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.2	mg/kg	07/04/12 08:43		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748				Date Prep: Jun-21-12 08:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	649	mg/kg	06/22/12 06:22		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	98.4	mg/kg	06/22/12 06:22		1
Total TPH	PHC635	747	mg/kg	06/22/12 06:22		1



Hits Summary

444217



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 2 G-3	Matrix: Soil	% Moisture:
Lab Sample Id: 444217-003	Date Collected: Jun-14-12 09:10	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890635

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.13	%	06/20/12 14:35		1



Hits Summary

444217



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 2 G-4		Matrix: Soil		% Moisture: 1.27		
Lab Sample Id: 444217-004		Date Collected: Jun-14-12 09:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580				Date Prep: Jul-04-12 08:59		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.2	mg/kg	07/04/12 08:59		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748				Date Prep: Jun-21-12 08:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	423	mg/kg	06/22/12 06:54		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	100	mg/kg	06/22/12 06:54		1
Total TPH	PHC635	523	mg/kg	06/22/12 06:54		1



Hits Summary

444217



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 2 G-4		Matrix: Soil		% Moisture:		
Lab Sample Id: 444217-004		Date Collected: Jun-14-12 09:20		Basis: Wet Weight		
Date Received: Jun-18-12 15:30						
Analytical Method: Percent Moisture						
Seq Number: 890635						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.27	%	06/20/12 14:35		1



Certificate of Analysis Summary 444217

Southern Union Gas Services- Monahans, Monahans, TX



Project Name: Southern Union Gas Landfarm

Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444217-001	444217-002	444217-003	444217-004
	Field Id:	TZ Cell 2 G-1	TZ Cell 2 G-2	TZ Cell 2 G-3	TZ Cell 2 G-4
	Depth:				
	Matrix:	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jun-14-12 08:50	Jun-14-12 09:00	Jun-14-12 09:10	Jun-14-12 09:20
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 08:11	Jul-04-12 08:27	Jul-04-12 08:43	Jul-04-12 08:59
	Analyzed:	Jul-04-12 08:11	Jul-04-12 08:27	Jul-04-12 08:43	Jul-04-12 08:59
	Units/RL:	mg/kg RL 12.5 0.509	mg/kg RL 28.8 0.508	mg/kg RL 21.2 0.506	mg/kg RL 21.2 0.506
Percent Moisture	Extracted:				
	Analyzed:	Jun-20-12 14:35	Jun-20-12 14:35	Jun-20-12 14:35	Jun-20-12 14:35
	Units/RL:	% RL 1.81 1.00	% RL 1.66 1.00	% RL 1.13 1.00	% RL 1.27 1.00
TPH By SW8015 Mod	Extracted:	Jun-21-12 08:00	Jun-21-12 08:00	Jun-21-12 08:00	Jun-21-12 08:00
	Analyzed:	Jun-22-12 05:14	Jun-22-12 05:48	Jun-22-12 06:22	Jun-22-12 06:54
	Units/RL:	mg/kg RL ND 15.3	mg/kg RL ND 15.3	mg/kg RL ND 15.2	mg/kg RL ND 15.2
C6-C12 Gasoline Range Hydrocarbons		906 15.3	556 15.3	649 15.2	423 15.2
C12-C28 Diesel Range Hydrocarbons		100 15.3	89.2 15.3	98.4 15.2	100 15.2
C28-C35 Oil Range Hydrocarbons		1010 15.3	645 15.3	747 15.2	523 15.2
Total TPH					

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
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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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444217,

Lab Batch #: 890748

Sample: 444217-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 05:14

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	63.0	50.0	126	70-135	

Lab Batch #: 890748

Sample: 444217-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 05:48

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 890748

Sample: 444217-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 06:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	53.1	50.0	106	70-135	

Lab Batch #: 890748

Sample: 444217-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 06:54

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	58.4	50.0	117	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444217,

Project ID:

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 444217

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Units: mg/kg

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890748

Sample: 623606-1-BKS

Date Prepared: 06/21/2012

Batch #: 1

Date Analyzed: 06/21/2012

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	1170	117	1000	1220	122	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

rk Order #: 444217

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444209-001 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444219-003 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

Below Reporting Limit

Work Order # : 444217

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	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	<15.1	1010	1270	126	1010	1190	118	7	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	429	1010	1220	78	1010	1140	70	7	70-135	35	

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

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

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

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444217

Lab Batch #: 890635

Date Analyzed: 06/20/2012 14:35

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444215-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.23	1.23	0	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444217

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444217
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444220
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444220**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444220. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444220 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

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Sample Cross Reference 444220



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 3 G-1	S	06-14-12 09:30		444220-001
TZ Cell 3 G-2	S	06-14-12 09:40		444220-002
TZ Cell 3 G-3	S	06-14-12 09:50		444220-003
TZ Cell 3 G-4	S	06-14-12 10:00		444220-004
TZ Cell 3 G-5	S	06-14-12 10:10		444220-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444220

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890842 TPH By SW8015 Mod
SW8015MOD_NM

Batch 890842, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 444219-003 S.

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

Samples affected are: 444219-003 S, 444220-001.

SW8015MOD_NM

Batch 890842, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 444220-002, -003, -001, -005, -004.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits



Hits Summary

444220



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 3 G-1		Matrix: Soil		% Moisture: 2.94		
Lab Sample Id: 444220-001		Date Collected: Jun-14-12 09:30		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560				Date Prep: Jul-04-12 14:57		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.3	mg/kg	07/04/12 14:57		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	4050	mg/kg	06/24/12 04:29		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	468	mg/kg	06/24/12 04:29		5
Total TPH	PHC635	4520	mg/kg	06/24/12 04:29		5



Hits Summary

444220



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 3 G-1		Matrix: Soil		% Moisture:	
Lab Sample Id: 444220-001		Date Collected: Jun-14-12 09:30		Basis: Wet Weight	
		Date Received: Jun-18-12 15:30			
Analytical Method: Percent Moisture					
Seq Number: 890635					
Parameter	Cas Number	Result	Units	Analysis Date	Flag
Percent Moisture	TMOIST	2.94	%	06/20/12 14:35	Dil
					1



Hits Summary

444220



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 3 G-2	Matrix: Soil	% Moisture: 1.06
Lab Sample Id: 444220-002	Date Collected: Jun-14-12 09:40	Basis: Dry Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891560	Date Prep: Jul-04-12 15:13

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.5	mg/kg	07/04/12 15:13		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890842	Date Prep: Jun-22-12 15:45

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	5410	mg/kg	06/24/12 05:03		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	398	mg/kg	06/24/12 05:03		5
Total TPH	PHC635	5810	mg/kg	06/24/12 05:03		5



Hits Summary

444220



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 3 G-2	Matrix: Soil	% Moisture:
Lab Sample Id: 444220-002	Date Collected: Jun-14-12 09:40	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890635

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.06	%	06/20/12 14:35		1



Hits Summary

444220



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 3 G-3	Matrix: Soil	% Moisture: .68
Lab Sample Id: 444220-003	Date Collected: Jun-14-12 09:50	Basis: Dry Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891560	Date Prep: Jul-04-12 15:29

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.49	mg/kg	07/04/12 15:29		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890842	Date Prep: Jun-22-12 15:45

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	3720	mg/kg	06/24/12 05:40		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	411	mg/kg	06/24/12 05:40		5
Total TPH	PHC635	4130	mg/kg	06/24/12 05:40		5



Hits Summary

444220



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 3 G-4		Matrix: Soil		% Moisture: .53		
Lab Sample Id: 444220-004		Date Collected: Jun-14-12 10:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560		Date Prep: Jul-04-12 15:46				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.8	mg/kg	07/04/12 15:46		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842		Date Prep: Jun-22-12 15:45				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	4800	mg/kg	06/24/12 06:12		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	448	mg/kg	06/24/12 06:12		5
Total TPH	PHC635	5250	mg/kg	06/24/12 06:12		5



Hits Summary

444220



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 3 G-5	Matrix: Soil	% Moisture: 1.05
Lab Sample Id: 444220-005	Date Collected: Jun-14-12 10:10	Basis: Dry Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891560	Date Prep: Jul-04-12 16:34

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.8	mg/kg	07/04/12 16:34		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890842	Date Prep: Jun-22-12 15:45

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	3780	mg/kg	06/24/12 06:44		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	414	mg/kg	06/24/12 06:44		5
Total TPH	PHC635	4190	mg/kg	06/24/12 06:44		5



Hits Summary

444220



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 3 G-5		Matrix: Soil		% Moisture:		
Lab Sample Id: 444220-005		Date Collected: Jun-14-12 10:10		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890636		06/20/12 15:00				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.05	%	06/20/12 15:00		1



Certificate of Analysis **Immary 444220**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested										Project Manager:									
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Lab Id:	444220-001	TZ Cell 3 G-1	SOIL	Jun-14-12 09:30	TZ Cell 3 G-2	444220-002	SOIL	Jun-14-12 09:40	TZ Cell 3 G-3	444220-003	SOIL	Jun-14-12 10:00	TZ Cell 3 G-4	444220-004	SOIL	Jun-14-12 10:10	TZ Cell 3 G-5	444220-005
	Field Id:																		
	Depth:																		
	Matrix:																		
	Sampled:																		
Chloride	Extracted:	Jul-04-12 14:57	Jul-04-12 15:13	Jul-04-12 15:29	Jul-04-12 15:46	Jul-04-12 16:34													
	Analyzed:	Jul-04-12 14:57	Jul-04-12 15:13	Jul-04-12 15:29	Jul-04-12 15:46	Jul-04-12 16:34													
	Units/RL:	mg/kg RL	12.3 0.515	12.5 0.505	9.49 0.503	10.8 0.503	11.8 0.505												
Percent Moisture	Extracted:																		
	Analyzed:	Jun-20-12 14:35	Jun-20-12 14:35	Jun-20-12 14:35	Jun-20-12 14:35	Jun-20-12 15:00													
	Units/RL:	% RL	2.94 1.00	1.06 1.00	ND 1.00	ND 1.00	% RL	1.05 1.00											
TPH By SW8015 Mod	Extracted:	Jun-22-12 15:45	Jun-22-12 15:45	Jun-22-12 15:45	Jun-22-12 15:45	Jun-22-12 15:45													
	Analyzed:	Jun-24-12 04:29	Jun-24-12 05:03	Jun-24-12 05:40	Jun-24-12 06:12	Jun-24-12 06:44													
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	ND 75.8	3780 75.8	414 75.8									
C6-C12 Gasoline Range Hydrocarbons		ND 77.3	ND 75.8	ND 75.5	ND 75.4	ND 75.8													
C12-C28 Diesel Range Hydrocarbons		4050 77.3	5410 75.8	3720 75.5	4800 75.4	3780 75.8													
C28-C35 Oil Range Hydrocarbons		468 77.3	398 75.8	411 75.5	448 75.4	414 75.8													
Total TPH		4520 77.3	5810 75.8	4130 75.5	5250 75.4	4190 75.8													

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444220,

Project ID:

Lab Batch #: 890842

Sample: 444220-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 04:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	72.4	50.0	145	70-135	**

Lab Batch #: 890842

Sample: 444220-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 05:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	63.4	50.0	127	70-135	

Lab Batch #: 890842

Sample: 444220-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 05:40

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.2	100	94	70-135	
o-Terphenyl	49.3	50.0	99	70-135	

Lab Batch #: 890842

Sample: 444220-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 06:12

SURROGATE RECOVERY STUDY

TPH 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	51.1	50.0	102	70-135	

Lab Batch #: 890842

Sample: 444220-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 06:44

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	100	91	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444220,

Lab Batch #: 890842

Sample: 623674-1-BLK / BLK

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 01:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	65.2	50.0	130	70-135	

Lab Batch #: 890842

Sample: 623674-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 00:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 890842

Sample: 623674-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 00:38

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 890842

Sample: 444219-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 13:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	151	100	151	70-135	**
o-Terphenyl	69.8	50.0	140	70-135	**

Lab Batch #: 890842

Sample: 444219-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 14:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444220

Analyst: TTE

Lab Batch ID: 891560

Sample: 624144-1-BKS

Batch #: 1

Date Prepared: 07/04/2012

Project ID:

Date Analyzed: 07/04/2012

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 [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	<0.500	50.0	52.2	104	50.0	52.8	106	1	80-120	20

Analyst: ASA

Lab Batch ID: 890842

Sample: 623674-1-BKS

Batch #: 1

Date Prepared: 06/22/2012

Date Analyzed: 06/24/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1150	115	1000	1130	113	2	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1100	110	1000	1090	109	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444220

Lab Batch #: 891560

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444219-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	36.4	50.5	82.6	91	80-120	

Lab Batch #: 891560

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444230-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.21	53.5	62.7	106	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444220

Lab Batch ID: 890842

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444219-003 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.2	1010	1200	119	1010	1110	110	8	70-135	35	
C12-C28 Diesel Range Hydrocarbons	1390	1010	1730	34	1010	1560	17	10	70-135	35	X

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

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

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

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444220

Lab Batch #: 890635

Date Analyzed: 06/20/2012 14:35

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444215-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.23	1.23	0	20	

Lab Batch #: 890636

Date Analyzed: 06/20/2012 15:00

Date Prepared: 06/20/2012

Analyst: WRU

QC- Sample ID: 444220-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.05	<1.00	NC	20	U

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |

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

BRL - Below Reporting Limit



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444220

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Sampler Signature: 3051 Cowley

(lab use only)

Laboratory Comments:

Received by ELPT:



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444220
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444221
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)

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

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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)



11-JUL-12

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

Reference: XENCO Report No: **444221**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444221. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444221 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 444221



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 4 G-1	S	06-14-12 10:20		444221-001
TZ Cell 4 G-2	S	06-14-12 10:30		444221-002
TZ Cell 4 G-3	S	06-14-12 10:40		444221-003
TZ Cell 4 G-4	S	06-14-12 10:50		444221-004
TZ Cell 4 G-5	S	06-14-12 11:00		444221-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444221

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890842 TPH By SW8015 Mod
SW8015MOD_NM

Batch 890842, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 444221-005, -003, -001, -002, -004.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits

SW8015MOD_NM

Batch 890842, 1-Chlorooctane, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 444219-003 S.



Hits Summary

444221



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 4 G-1		Matrix: Soil		% Moisture: 1.07		
Lab Sample Id: 444221-001		Date Collected: Jun-14-12 10:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560		<i>Reviewed</i>		Date Prep: Jul-04-12 16:50		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.8	mg/kg	07/04/12 16:50		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	4100	mg/kg	06/24/12 08:24		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	410	mg/kg	06/24/12 08:24		5
Total TPH	PHC635	4510	mg/kg	06/24/12 08:24		5



Hits Summary

444221



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 4 G-1	Matrix: Soil	% Moisture:
Lab Sample Id: 444221-001	Date Collected: Jun-14-12 10:20	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890636

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.07	%	06/20/12 15:00		1



Hits Summary

444221



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 4 G-2		Matrix: Soil		% Moisture: 1.46		
Lab Sample Id: 444221-002		Date Collected: Jun-14-12 10:30		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560				Date Prep: Jul-04-12 17:06		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.2	mg/kg	07/04/12 17:06		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	3860	mg/kg	06/24/12 08:57		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	422	mg/kg	06/24/12 08:57		5
Total TPH	PHC635	4280	mg/kg	06/24/12 08:57		5



Hits Summary

444221



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 4 G-2		Matrix: Soil		% Moisture:		
Lab Sample Id: 444221-002		Date Collected: Jun-14-12 10:30		Basis: Wet Weight		
Date Received: Jun-18-12 15:30						
Analytical Method: Percent Moisture						
Seq Number: 890636						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.46	%	06/20/12 15:00		1



Hits Summary

444221



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 4 G-3		Matrix: Soil		% Moisture: .87		
Lab Sample Id: 444221-003		Date Collected: Jun-14-12 10:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560				Date Prep: Jul-04-12 17:22		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.0	mg/kg	07/04/12 17:22		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	2930	mg/kg	06/24/12 09:29		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	75.3	mg/kg	06/24/12 09:29		1
Total TPH	PHC635	3010	mg/kg	06/24/12 09:29		1



Hits Summary

444221



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 4 G-4	Matrix: Soil	% Moisture: 1.01
Lab Sample Id: 444221-004	Date Collected: Jun-14-12 10:50	Basis: Dry Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891560	Date Prep: Jul-04-12 17:38

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	52.8	mg/kg	07/04/12 17:38		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890842	Date Prep: Jun-22-12 15:45

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	2600	mg/kg	06/24/12 10:02		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	82.5	mg/kg	06/24/12 10:02		1
Total TPH	PHC635	2680	mg/kg	06/24/12 10:02		1



Hits Summary

444221



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 4 G-4		Matrix: Soil		% Moisture:		
Lab Sample Id: 444221-004		Date Collected: Jun-14-12 10:50		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890636						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.01	%	06/20/12 15:00		1



Hits Summary

444221



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 4 G-5	Matrix: Soil	% Moisture: 1.27
Lab Sample Id: 444221-005	Date Collected: Jun-14-12 11:00	Basis: Dry Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891560	Date Prep: Jul-04-12 17:54

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.7	mg/kg	07/04/12 17:54		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890842	Date Prep: Jun-22-12 15:45

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	2580	mg/kg	06/24/12 10:35		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	82.2	mg/kg	06/24/12 10:35		1
Total TPH	PHC635	2660	mg/kg	06/24/12 10:35		1



Hits Summary

444221



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 4 G-5	Matrix: Soil	% Moisture:
Lab Sample Id: 444221-005	Date Collected: Jun-14-12 11:00	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890636

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.27	%	06/20/12 15:00		1



Certificate of Analysis **Immmary 444221**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested										Regulatory Parameters									
Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:	444221-001	444221-002	444221-003	444221-004	444221-005							
								TZ Cell 4 G-1	TZ Cell 4 G-2	TZ Cell 4 G-3	TZ Cell 4 G-4	TZ Cell 4 G-5							
								SOIL	SOIL	SOIL	SOIL	SOIL							
								Jun-14-12 10:20	Jun-14-12 10:30	Jun-14-12 10:40	Jun-14-12 10:50	Jun-14-12 11:00							
Inorganic Anions by EPA 300/300.1 SUB: TX104704215								Jul-04-12 16:50	Jul-04-12 17:06	Jul-04-12 17:22	Jul-04-12 17:38	Jul-04-12 17:54							
								Jul-04-12 16:50	Jul-04-12 17:06	Jul-04-12 17:22	Jul-04-12 17:38	Jul-04-12 17:54							
								mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL							
Chloride								19.8 0.505	25.2 0.507	24.0 0.504	52.8 0.505	25.7 0.506							
Percent Moisture																			
								Jun-20-12 15:00	Jun-20-12 15:00	Jun-20-12 15:00	Jun-20-12 15:00	Jun-20-12 15:00							
								% RL	% RL	% RL	% RL	% RL							
Percent Moisture								1.07 1.00	1.46 1.00	ND 1.00	1.01 1.00	1.27 1.00							
TPH By SW8015 Mod								Jun-22-12 15:45	Jun-22-12 15:45	Jun-22-12 15:45	Jun-22-12 15:45	Jun-22-12 15:45							
								Jun-24-12 08:24	Jun-24-12 08:57	Jun-24-12 09:29	Jun-24-12 10:02	Jun-24-12 10:35							
								mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL							
C6-C12 Gasoline Range Hydrocarbons								ND 75.8	ND 76.1	ND 15.1	ND 15.2	ND 15.2							
C12-C28 Diesel Range Hydrocarbons								4100 75.8	3860 76.1	2930 15.1	2600 15.2	2580 15.2							
C28-C35 Oil Range Hydrocarbons								410 75.8	422 76.1	75.3 15.1	82.5 15.2	82.2 15.2							
Total TPH								4510 75.8	4280 76.1	3010 15.1	2680 15.2	2660 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.

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444221,

Project ID:

Lab Batch #: 890842

Sample: 444221-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 08:24

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	61.2	50.0	122	70-135	

Lab Batch #: 890842

Sample: 444221-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 08:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	54.9	50.0	110	70-135	

Lab Batch #: 890842

Sample: 444221-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 09:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	64.6	50.0	129	70-135	

Lab Batch #: 890842

Sample: 444221-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 10:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	62.7	50.0	125	70-135	

Lab Batch #: 890842

Sample: 444221-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 10:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	100	96	70-135	
o-Terphenyl	54.4	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444221,

Project ID:

Lab Batch #: 890842

Sample: 623674-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 01:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	65.2	50.0	130	70-135	

Lab Batch #: 890842

Sample: 623674-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 00:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 890842

Sample: 623674-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 00:38

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 890842

Sample: 444219-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 13:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	151	100	151	70-135	**
o-Terphenyl	69.8	50.0	140	70-135	**

Lab Batch #: 890842

Sample: 444219-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 14:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 444221

Analyst: TTE

Lab Batch ID: 891560

Sample: 624144-1-BKS

Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.2	104	50.0	52.8	106	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890842

Sample: 623674-1-BKS

Units: mg/kg

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/24/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1150	115	1000	1130	113	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1100	110	1000	1090	109	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444221

Lab Batch #: 891560

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444219-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	36.4	50.5	82.6	91	80-120	

Lab Batch #: 891560

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444230-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.21	53.5	62.7	106	80-120	

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

Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444221

Lab Batch ID: 890842

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444219-003 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

Reporting Units: mg/kg												
TPH By SW8015 Mod		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
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		<15.2	1010	1200	119	1010	1110	110	8	70-135	35	
C12-C28 Diesel Range Hydrocarbons		1390	1010	1730	34	1010	1560	17	10	70-135	35	X

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

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

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

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444221

Lab Batch #: 890636

Date Analyzed: 06/20/2012 15:00

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444220-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.05	<1.00	NC	20	U

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$

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

BRL - Below Reporting Limit



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444221

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____



XENCO Laboratories
 Atlanta, Boca Raton, Corpus Christi, Dallas
 Houston, Miami, Odessa, Philadelphia
 Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
 Document No.: SYS-SRC
 Revision/Date: No. 01, 5/27/2010
 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
 Date/Time: 6/18/12 15:30
 Lab ID #: 444221
 Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No
2. Shipping container in good condition?	Yes	No	None
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A
4. Chain of Custody present?	Yes	No	
5. Sample instructions complete on chain of custody?	Yes	No	
6. Any missing / extra samples?	Yes	No	
7. Chain of custody signed when relinquished / received?	Yes	No	
8. Chain of custody agrees with sample label(s)?	Yes	No	
9. Container labels legible and intact?	Yes	No	
10. Sample matrix / properties agree with chain of custody?	Yes	No	
11. Samples in proper container / bottle?	Yes	No	
12. Samples properly preserved?	Yes	No	N/A
13. Sample container intact?	Yes	No	
14. Sufficient sample amount for indicated test(s)?	Yes	No	
15. All samples received within sufficient hold time?	Yes	No	
16. Subcontract of sample(s)?	Yes	No	N/A
17. VOC sample have zero head space?	Yes	No	N/A
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.
lbs 35 °C	lbs °C	lbs °C	lbs °C
			Cooler 5 No.
			lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444204
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)



11-JUL-12

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

Reference: XENCO Report No: **444204**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444204. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444204 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 444204



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 5 G-1	S	06-14-12 11:10		444204-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444204

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None



Hits Summary

444204



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 5 G-1		Matrix: Soil		% Moisture: 1.21		
Lab Sample Id: 444204-001		Date Collected: Jun-14-12 11:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891579				Date Prep: Jul-04-12 02:49		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.29	mg/kg	07/04/12 02:49		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748				Date Prep: Jun-21-12 08:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	46.2	mg/kg	06/21/12 22:15		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	53.8	mg/kg	06/21/12 22:15		1
Total TPH	PHC635	100	mg/kg	06/21/12 22:15		1



Hits Summary

444204



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

Sample Id: TZ Cell 5 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444204-001		Date Collected: Jun-14-12 11:10		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890634						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.21	%	06/20/12 14:00		1



Certificate of Analysis Summary 444204
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id: **Contact:** Rose Slade
Project Location: Lea County, NM
Date Received in Lab: Mon Jun-18-12 03:30 pm
Report Date: 11-JUL-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444204-001			
	Field Id:	TZ Cell 5 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-14-12 11:10			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 02:49			
	Analyzed:	Jul-04-12 02:49			
	Units/RL:	mg/kg RL			
Chloride		6.29 0.506			
Percent Moisture	Extracted:				
	Analyzed:	Jun-20-12 14:00			
	Units/RL:	% RL			
Percent Moisture		1.21 1.00			
TPH By SW8015 Mod	Extracted:	Jun-21-12 08:00			
	Analyzed:	Jun-21-12 22:15			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.2			
C12-C28 Diesel Range Hydrocarbons		46.2 15.2			
C28-C35 Oil Range Hydrocarbons		53.8 15.2			
Total TPH		100 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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- * Surrogate recovered outside laboratory control limit.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- MDL** Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection
- PQL** Practical Quantitation Limit **SQL** Sample Quantitation Limit **LOQ** Limit of Quantitation
- DL** Method Detection Limit
- NC** Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 5332 Blackberry Drive, San Antonio TX 78238
 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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444204,

Project ID:

Lab Batch #: 890748

Sample: 444204-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/12 22:15

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	59.1	50.0	118	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444204,

Project ID:

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 444204

Analyst: TTE

Lab Batch ID: 891579

Sample: 624159-1-BKS

Date Prepared: 07/03/2012

Batch #: 1

Project ID:

Date Analyzed: 07/03/2012

Matrix: Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	<0.500	50.0	53.4	107	50.0	54.3	109	2	80-120	20

Analyst: ASA

Lab Batch ID: 890748

Sample: 623606-1-BKS

Date Prepared: 06/21/2012

Batch #: 1

Date Analyzed: 06/21/2012

Matrix: Solid

Units: mg/kg

TPH By SW8015 Mod

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1170	117	1000	1220	122	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444204

Lab Batch #: 891579

Date Analyzed: 07/03/2012

Date Prepared: 07/03/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444061-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	23.6	51.8	72.1	94	80-120	

Lab Batch #: 891579

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444208-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	9.11	50.5	58.3	97	80-120	

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

Below Reporting Limit



Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444204

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012

Analyst: ASA

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	TPH By SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
	C6-C12 Gasoline Range Hydrocarbons	<15.1	1010	1270	126	1010	1190	118	7	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	429	1010	1220	78	1010	1140	70	7	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444204

Lab Batch #: 890634

Project ID:

Date Analyzed: 06/20/2012 14:00

Date Prepared: 06/20/2012

Analyst: WRU

QC- Sample ID: 444248-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.07	1.96	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 06/18/2012 03:30:00 PM

Work Order #: 444204

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.5
#2 *Shipping container in good condition?	—
#3 *Samples received on ice?	—
#4 *Custody Seals intact on shipping container/ cooler?	—
#5 Custody Seals intact on sample bottles/ container?	—
#6 *Custody Seals Signed and dated for Containers/coolers	—
#7 *Chain of Custody present?	—
#8 Sample instructions complete on Chain of Custody?	—
#9 Any missing/extra samples?	—
#10 Chain of Custody signed when relinquished/ received?	—
#11 Chain of Custody agrees with sample label(s)?	—
#12 Container label(s) legible and intact?	—
#13 Sample matrix/ properties agree with Chain of Custody?	—
#14 Samples in proper container/ bottle?	—
#15 Samples properly preserved?	—
#16 Sample container(s) intact?	—
#17 Sufficient sample amount for indicated test(s)?	—
#18 All samples received within hold time?	—
#19 Subcontract of sample(s)?	—
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	—
#21 <2 for all samples preserved with HNO ₃ ,HCL, H ₂ SO ₄ ?	—
#22 >10 for all samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH?	—

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

Analyst:	PH Device/Lot#:

Checklist completed by: _____

Date: 06/19/2012 _____

Checklist reviewed by: _____

Date: 06/19/2012 _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguljo

Project Name: Southern Union Gas Landfarm

Company Name **Basin Environmental Service Technologies, LLC**

Project #:

Company-Address: P.O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO#:

Telephone No: (575) 396-2378

Fax No: (575)396-1429

Report Format:

NPDES

Sampler Signature: 3007 lowry

e-mail: blarguljo@basinenv.com; Rose.Slade@SUG.com

blarguilo@basinenv.com; Rose.Slade@SUG.com

(lab use only)

ORDER #:

for 2024

FIELD CODE

TZ Cell 5 G-1

(A) $\frac{1}{2}$

Page 16 of 17

Revised 1.002

[illegible]



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444204
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444215
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)



11-JUL-12

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

Reference: XENCO Report No: **444215**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444215. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444215 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 444215



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 6 G-1	S	06-14-12 11:20		444215-001
TZ Cell 6 G-2	S	06-14-12 11:30		444215-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444215

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300*

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444215-001, -002.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444215



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 6 G-1	Matrix: Soil	% Moisture: 2.66
Lab Sample Id: 444215-001	Date Collected: Jun-14-12 11:20	Basis: Dry Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891580	Date Prep: Jul-04-12 06:34

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.9	mg/kg	07/04/12 06:34		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890748	Date Prep: Jun-21-12 08:00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	206	mg/kg	06/22/12 02:02		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	82.3	mg/kg	06/22/12 02:02		1
Total TPH	PHC635	288	mg/kg	06/22/12 02:02		1



Hits Summary

444215



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 6 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444215-001		Date Collected: Jun-14-12 11:20		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890634						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	2.66	%	06/20/12 14:00		1



Hits Summary

444215



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 6 G-2	Matrix: Soil	% Moisture: 1.23
Lab Sample Id: 444215-002	Date Collected: Jun-14-12 11:30	Basis: Dry Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891580	Date Prep: Jul-04-12 07:22

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.5	mg/kg	07/04/12 07:22		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890748	Date Prep: Jun-21-12 08:00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	330	mg/kg	06/22/12 02:34		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	89.8	mg/kg	06/22/12 02:34		1
Total TPH	PHC635	420	mg/kg	06/22/12 02:34		1



Hits Summary

444215



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 6 G-2		Matrix: Soil		% Moisture:		
Lab Sample Id: 444215-002		Date Collected: Jun-14-12 11:30		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890635						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.23	%	06/20/12 14:35		1



Certificate of Analysis Summary 444215
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444215-001	444215-002		
	Field Id: Depth: Matrix: Sampled:	TZ Cell 6 G-1 SOIL Jun-14-12 11:20	TZ Cell 6 G-2 SOIL Jun-14-12 11:30		
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 06:34	Jul-04-12 07:22		
	Analyzed:	Jul-04-12 06:34	Jul-04-12 07:22		
	Units/RL:	mg/kg RL 10.9 0.514	mg/kg RL 31.5 0.506		
Percent Moisture	Extracted:				
	Analyzed:	Jun-20-12 14:00	Jun-20-12 14:35		
	Units/RL:	% RL 2.66 1.00	% RL 1.23 1.00		
TPH By SW8015 Mod	Extracted:	Jun-21-12 08:00	Jun-21-12 08:00		
	Analyzed:	Jun-22-12 02:02	Jun-22-12 02:34		
	Units/RL:	mg/kg RL ND 15.4	mg/kg RL ND 15.2		
C6-Cl2 Gasoline Range Hydrocarbons		ND 15.4	ND 15.2		
Cl2-C28 Diesel Range Hydrocarbons		206 15.4	330 15.2		
C28-C35 Oil Range Hydrocarbons		82.3 15.4	89.8 15.2		
Total TPH		288 15.4	420 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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444215,

Project ID:

Lab Batch #: 890748

Sample: 444215-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 02:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	59.4	50.0	119	70-135	

Lab Batch #: 890748

Sample: 444215-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 02:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444215,

Lab Batch #: 890748

Sample: 444208-001 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444215

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Date Prepared: 07/04/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20

Analyst: ASA

Lab Batch ID: 890748

Sample: 623606-1-BKS

Units: mg/kg

Date Prepared: 06/21/2012

Batch #: 1

Date Analyzed: 06/21/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1170	117	1000	1220	122	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444215

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444209-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444219-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order # : 444215

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012 Analyst: ASA

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Analytes	TPH By SW8015 Mod											
	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	Control Flag	
C6-C12 Gasoline Range Hydrocarbons	<15.1	1010	1270	126	1010	1190	118	7	70-135	35		
C12-C28 Diesel Range Hydrocarbons	429	1010	1220	78	1010	1140	70	7	70-135	35		

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$
ND = Not Detected, I = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444215

Lab Batch #: 890634

Date Analyzed: 06/20/2012 14:00

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444248-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.07	1.96	5	20	

Lab Batch #: 890635

Date Analyzed: 06/20/2012 14:35

Date Prepared: 06/20/2012

Analyst: WRU

QC- Sample ID: 444215-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.23	1.23	0	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444215

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Project #:

Project Loc: Lea County, NM

PO#:

Fax No: (575)396-1429

Report Format:

bjarguljo@basinenv.com; Rose.Slade@SUG.com

bjarguljo@basinenv.com; Rose.Slade@SUG.com

Revised 1.002



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444215
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444208
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)



11-JUL-12

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

Reference: XENCO Report No: **444208**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444208. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444208 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 444208



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 7 G-1	S	06-14-12 11:40		444208-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444208

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None



Hits Summary

444208



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

Sample Id: TZ Cell 7 G-1		Matrix: Soil		% Moisture: .98		
Lab Sample Id: 444208-001		Date Collected: Jun-14-12 11:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891579		Residual		Date Prep: Jul-04-12 03:05		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.11	mg/kg	07/04/12 03:05		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748				Date Prep: Jun-21-12 08:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	429	mg/kg	06/21/12 22:48		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	105	mg/kg	06/21/12 22:48		1
Total TPH	PHC635	534	mg/kg	06/21/12 22:48		1



Certificate of Analysis **Immary 444208**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	444208-001 TZ Cell 7 G-1 SOIL Jun-14-12 11:40			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>	Jul-04-12 03:05			
	<i>Analyzed:</i>	Jul-04-12 03:05			
	<i>Units/RL:</i>	mg/kg RL			
Chloride		9.11 0.505			
Percent Moisture	<i>Extracted:</i>				
	<i>Analyzed:</i>	Jun-20-12 14:00			
	<i>Units/RL:</i>	% RL			
Percent Moisture		ND 1.00			
TPH By SW8015 Mod	<i>Extracted:</i>	Jun-21-12 08:00			
	<i>Analyzed:</i>	Jun-21-12 22:48			
	<i>Units/RL:</i>	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.1			
C12-C28 Diesel Range Hydrocarbons		429 15.1			
C28-C35 Oil Range Hydrocarbons		105 15.1			
Total TPH		534 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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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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444208,

Project ID:

Lab Batch #: 890748

Sample: 444208-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/12 22:48

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	59.7	50.0	119	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444208,

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444208

Analyst: TTE

Lab Batch ID: 891579

Sample: 624159-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 07/03/2012

Matrix: Solid

Date Prepared: 07/03/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Inorganic Anions by EPA 300/300.1		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		<0.500	50.0	53.4	107	50.0	54.3	109	2	80-120	20	

Analyst: ASA

Lab Batch ID: 890748

Sample: 623606-1-BKS

Units: mg/kg

Date Prepared: 06/21/2012

Batch #: 1

Date Analyzed: 06/21/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Analytes		C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1170	117	1000	1220	122	4	70-135	35	
		C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444208

Lab Batch #: 891579

Date Analyzed: 07/03/2012

Date Prepared: 07/03/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444061-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	23.6	51.8	72.1	94	80-120	

Lab Batch #: 891579

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444208-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	9.11	50.5	58.3	97	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444208

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S

Batch #: 1

Matrix: Soil

Date Prepared: 06/21/2012

Analyst: ASA

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons		<15.1	1010	1270	126	1010	1190	118	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons		429	1010	1220	78	1010	1140	70	7	70-135	35	

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

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

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

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444208

Lab Batch #: 890634

Date Analyzed: 06/20/2012 14:00

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444248-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.07	1.96	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444208

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

bjarguijo@basinenv.com; Rose.Slade@SUG.com

Revised 1.002



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444708
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444209
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444209**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444209. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444209 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 444209



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 8 G-2	S	06-14-12 11:50		444209-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444209

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300*

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444209-001.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444209



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 8 G-2		Matrix: Soil		% Moisture: .79		
Lab Sample Id: 444209-001		Date Collected: Jun-14-12 11:50		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580		Date Prep: Jul-04-12 04:58				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	48.2	mg/kg	07/04/12 04:58		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748		Date Prep: Jun-21-12 08:00				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	382	mg/kg	06/21/12 23:21		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	97.2	mg/kg	06/21/12 23:21		1
Total TPH	PHC635	479	mg/kg	06/21/12 23:21		1



Certificate of Analysis **Immary 444209**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Rose Slade
Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm
Report Date: 11-JUL-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	444209-001 TZ Cell 8 G-2 SOIL Jun-14-12 11:50			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>	Jul-04-12 04:58			
	<i>Analyzed:</i>	Jul-04-12 04:58			
	<i>Units/RL:</i>	mg/kg RL			
Chloride		48.2 0.504			
Percent Moisture	<i>Extracted:</i>				
	<i>Analyzed:</i>	Jun-20-12 14:00			
	<i>Units/RL:</i>	% RL			
Percent Moisture		ND 1.00			
TPH By SW8015 Mod	<i>Extracted:</i>	Jun-21-12 08:00			
	<i>Analyzed:</i>	Jun-21-12 23:21			
	<i>Units/RL:</i>	mg/kg RL			
C6-Cl2 Gasoline Range Hydrocarbons		ND 15.1			
Cl2-C28 Diesel Range Hydrocarbons		382 15.1			
C28-C35 Oil Range Hydrocarbons		97.2 15.1			
Total TPH		479 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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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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444209,

Project ID:

Lab Batch #: 890748

Sample: 444209-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/12 23:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	57.8	50.0	116	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444209,

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444209

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890748

Sample: 623606-1-BKS

Date Prepared: 06/21/2012

Batch #: 1

Date Analyzed: 06/21/2012

Matrix: Solid

Units: mg/kg

TPH By SW8015 Mod

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
Analytes	TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	1170	117	1000	1220	122	4	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444209

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444209-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444219-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444209

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012 Analyst: ASA

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons		<15.1	1010	1270	126	1010	1190	118	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons		429	1010	1220	78	1010	1140	70	7	70-135	35	

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

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

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

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444209

Lab Batch #: 890634

Date Analyzed: 06/20/2012 14:00

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444248-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.07	1.96	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444209

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-InClient: SUGSDate/Time: 6/18/12 15:30Lab ID #: 444209Initials: AH**Sample Receipt Checklist**

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444222
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444222**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444222. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444222 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

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Sample Cross Reference 444222



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 9 G-1	S	06-14-12 12:00		444222-001
TZ Cell 9 G-2	S	06-14-12 12:10		444222-002
TZ Cell 9 G-3	S	06-14-12 12:20		444222-003
TZ Cell 9 G-4	S	06-14-12 12:30		444222-004
TZ Cell 9 G-5	S	06-14-12 12:40		444222-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444222

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-890842 TPH By SW8015 Mod
SW8015MOD_NM*

Batch 890842, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 444222-005, -003, -002, -004, -001.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits

SW8015MOD_NM

Batch 890842, 1-Chlorooctane, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 444219-003 S.



Hits Summary

444222



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 9 G-1		Matrix: Soil		% Moisture: .58		
Lab Sample Id: 444222-001		Date Collected: Jun-14-12 12:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560		891560		Date Prep: Jul-04-12 18:10		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	40.0	mg/kg	07/04/12 18:10		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842		890842		Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	341	mg/kg	06/24/12 11:08		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	97.2	mg/kg	06/24/12 11:08		1
Total TPH	PHC635	438	mg/kg	06/24/12 11:08		1



Hits Summary

444222



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 9 G-2	Matrix: Soil	% Moisture: .66
Lab Sample Id: 444222-002	Date Collected: Jun-14-12 12:10	Basis: Dry Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891560	Date Prep: Jul-04-12 18:27

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	34.1	mg/kg	07/04/12 18:27		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890842	Date Prep: Jun-22-12 15:45

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	348	mg/kg	06/24/12 11:41		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	117	mg/kg	06/24/12 11:41		1
Total TPH	PHC635	465	mg/kg	06/24/12 11:41		1



Hits Summary

444222



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

Sample Id: TZ Cell 9 G-3		Matrix: Soil		% Moisture: .61		
Lab Sample Id: 444222-003		Date Collected: Jun-14-12 12:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560				Date Prep: Jul-04-12 18:43		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.2	mg/kg	07/04/12 18:43		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	193	mg/kg	06/24/12 12:15		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	105	mg/kg	06/24/12 12:15		1
Total TPH	PHC635	298	mg/kg	06/24/12 12:15		1



Hits Summary

444222



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 9 G-4		Matrix: Soil		% Moisture: .41		
Lab Sample Id: 444222-004		Date Collected: Jun-14-12 12:30		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560				Date Prep: Jul-04-12 18:59		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	38.9	mg/kg	07/04/12 18:59		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	441	mg/kg	06/24/12 12:48		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	113	mg/kg	06/24/12 12:48		1
Total TPH	PHC635	554	mg/kg	06/24/12 12:48		1



Hits Summary

444222



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 9 G-5		Matrix: Soil		% Moisture: .51		
Lab Sample Id: 444222-005		Date Collected: Jun-14-12 12:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560				Date Prep: Jul-04-12 19:47		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.2	mg/kg	07/04/12 19:47		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890842				Date Prep: Jun-22-12 15:45		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	182	mg/kg	06/24/12 13:22		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	72.1	mg/kg	06/24/12 13:22		1
Total TPH	PHC635	254	mg/kg	06/24/12 13:22		1



Certificate of Analysis immary 444222
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	444222-001	444222-002	444222-003	444222-004	444222-005
	Field Id:	Depth:	Matrix:	Sampled:	Sampled:	Sampled:	Sampled:	Sampled:	Sampled:	Sampled:
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	444222-001	TZ Cell 9 G-1	SOIL	Jun-14-12 12:00	Jun-14-12 12:10	Jun-14-12 12:20	Jun-14-12 12:30	Jun-14-12 12:40	Jun-14-12 12:50	Jun-14-12 13:00
	444222-002	TZ Cell 9 G-2	SOIL	Jun-14-12 12:10	Jun-14-12 12:20	Jun-14-12 12:30	Jun-14-12 12:40	Jun-14-12 12:50	Jun-14-12 13:00	Jun-14-12 13:10
	444222-003	TZ Cell 9 G-3	SOIL	Jun-14-12 12:20	Jun-14-12 12:30	Jun-14-12 12:40	Jun-14-12 12:50	Jun-14-12 13:00	Jun-14-12 13:10	Jun-14-12 13:20
Chloride	444222-004	TZ Cell 9 G-4	SOIL	Jun-14-12 12:30	Jun-14-12 12:40	Jun-14-12 12:50	Jun-14-12 13:00	Jun-14-12 13:10	Jun-14-12 13:20	Jun-14-12 13:30
	444222-005	TZ Cell 9 G-5	SOIL	Jun-14-12 12:40	Jun-14-12 12:50	Jun-14-12 13:00	Jun-14-12 13:10	Jun-14-12 13:20	Jun-14-12 13:30	Jun-14-12 13:40
	444222-006	TZ Cell 9 G-6	SOIL	Jun-14-12 12:50	Jun-14-12 13:00	Jun-14-12 13:10	Jun-14-12 13:20	Jun-14-12 13:30	Jun-14-12 13:40	Jun-14-12 13:50
Percent Moisture	444222-007	TZ Cell 9 G-7	SOIL	Jun-14-12 13:00	Jun-14-12 13:10	Jun-14-12 13:20	Jun-14-12 13:30	Jun-14-12 13:40	Jun-14-12 13:50	Jun-14-12 14:00
	444222-008	TZ Cell 9 G-8	SOIL	Jun-14-12 13:10	Jun-14-12 13:20	Jun-14-12 13:30	Jun-14-12 13:40	Jun-14-12 13:50	Jun-14-12 14:00	Jun-14-12 14:10
	444222-009	TZ Cell 9 G-9	SOIL	Jun-14-12 13:20	Jun-14-12 13:30	Jun-14-12 13:40	Jun-14-12 13:50	Jun-14-12 14:00	Jun-14-12 14:10	Jun-14-12 14:20
TPH By SW8015 Mod	444222-010	TZ Cell 9 G-10	SOIL	Jun-14-12 13:30	Jun-14-12 13:40	Jun-14-12 13:50	Jun-14-12 14:00	Jun-14-12 14:10	Jun-14-12 14:20	Jun-14-12 14:30
	444222-011	TZ Cell 9 G-11	SOIL	Jun-14-12 13:40	Jun-14-12 13:50	Jun-14-12 14:00	Jun-14-12 14:10	Jun-14-12 14:20	Jun-14-12 14:30	Jun-14-12 14:40
	444222-012	TZ Cell 9 G-12	SOIL	Jun-14-12 13:50	Jun-14-12 14:00	Jun-14-12 14:10	Jun-14-12 14:20	Jun-14-12 14:30	Jun-14-12 14:40	Jun-14-12 14:50
C6-C12 Gasoline Range Hydrocarbons	444222-013	TZ Cell 9 G-13	SOIL	Jun-14-12 14:00	Jun-14-12 14:10	Jun-14-12 14:20	Jun-14-12 14:30	Jun-14-12 14:40	Jun-14-12 14:50	Jun-14-12 15:00
	444222-014	TZ Cell 9 G-14	SOIL	Jun-14-12 14:10	Jun-14-12 14:20	Jun-14-12 14:30	Jun-14-12 14:40	Jun-14-12 14:50	Jun-14-12 15:00	Jun-14-12 15:10
	444222-015	TZ Cell 9 G-15	SOIL	Jun-14-12 14:20	Jun-14-12 14:30	Jun-14-12 14:40	Jun-14-12 14:50	Jun-14-12 15:00	Jun-14-12 15:10	Jun-14-12 15:20
C12-C28 Diesel Range Hydrocarbons	444222-016	TZ Cell 9 G-16	SOIL	Jun-14-12 14:30	Jun-14-12 14:40	Jun-14-12 14:50	Jun-14-12 15:00	Jun-14-12 15:10	Jun-14-12 15:20	Jun-14-12 15:30
	444222-017	TZ Cell 9 G-17	SOIL	Jun-14-12 14:40	Jun-14-12 14:50	Jun-14-12 15:00	Jun-14-12 15:10	Jun-14-12 15:20	Jun-14-12 15:30	Jun-14-12 15:40
	444222-018	TZ Cell 9 G-18	SOIL	Jun-14-12 14:50	Jun-14-12 15:00	Jun-14-12 15:10	Jun-14-12 15:20	Jun-14-12 15:30	Jun-14-12 15:40	Jun-14-12 15:50
C28-C35 Oil Range Hydrocarbons	444222-019	TZ Cell 9 G-19	SOIL	Jun-14-12 15:00	Jun-14-12 15:10	Jun-14-12 15:20	Jun-14-12 15:30	Jun-14-12 15:40	Jun-14-12 15:50	Jun-14-12 16:00
	444222-020	TZ Cell 9 G-20	SOIL	Jun-14-12 15:10	Jun-14-12 15:20	Jun-14-12 15:30	Jun-14-12 15:40	Jun-14-12 15:50	Jun-14-12 16:00	Jun-14-12 16:10
	444222-021	TZ Cell 9 G-21	SOIL	Jun-14-12 15:20	Jun-14-12 15:30	Jun-14-12 15:40	Jun-14-12 15:50	Jun-14-12 16:00	Jun-14-12 16:10	Jun-14-12 16:20
Total TPH	444222-022	TZ Cell 9 G-22	SOIL	Jun-14-12 15:30	Jun-14-12 15:40	Jun-14-12 15:50	Jun-14-12 16:00	Jun-14-12 16:10	Jun-14-12 16:20	Jun-14-12 16:30
	444222-023	TZ Cell 9 G-23	SOIL	Jun-14-12 15:40	Jun-14-12 15:50	Jun-14-12 16:00	Jun-14-12 16:10	Jun-14-12 16:20	Jun-14-12 16:30	Jun-14-12 16:40
	444222-024	TZ Cell 9 G-24	SOIL	Jun-14-12 15:50	Jun-14-12 16:00	Jun-14-12 16:10	Jun-14-12 16:20	Jun-14-12 16:30	Jun-14-12 16:40	Jun-14-12 16:50

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444222,

Project ID:

Lab Batch #: 890842

Sample: 444222-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 11:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	59.0	50.0	118	70-135	

Lab Batch #: 890842

Sample: 444222-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 11:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	63.7	50.0	127	70-135	

Lab Batch #: 890842

Sample: 444222-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 12:15

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	59.2	50.0	118	70-135	

Lab Batch #: 890842

Sample: 444222-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 12:48

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	62.0	50.0	124	70-135	

Lab Batch #: 890842

Sample: 444222-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 13:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.3	100	93	70-135	
o-Terphenyl	48.4	50.0	97	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444222,

Project ID:

Lab Batch #: 890842

Sample: 623674-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 01:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	65.2	50.0	130	70-135	

Lab Batch #: 890842

Sample: 623674-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 00:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 890842

Sample: 623674-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/24/12 00:38

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 890842

Sample: 444219-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 13:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	151	100	151	70-135	**
o-Terphenyl	69.8	50.0	140	70-135	**

Lab Batch #: 890842

Sample: 444219-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 14:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 444222

Analyst: TTE

Lab Batch ID: 891560

Sample: 624144-1-BKS

Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Chloride	<0.500	50.0	52.2	104	50.0	52.8	106	1	80-120	20

Analyst: ASA

Lab Batch ID: 890842

Sample: 623674-1-BKS

Units: mg/kg

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/24/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1150	115	1000	1130	113	2	70-135	35
		C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1100	110	1000	1090	109	1	70-135	35

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444222

Lab Batch #: 891560

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444219-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	36.4	50.5	82.6	91	80-120	

Lab Batch #: 891560

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444230-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.21	53.5	62.7	106	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444222

Lab Batch ID: 890842

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444219-003 S

Date Prepared: 06/22/2012

Batch #: 1

Analyst: ASA

Matrix: Soil

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
C6-C12 Gasoline Range Hydrocarbons	<15.2	1010	1200	119	1010	1110	110	8	70-135	35		
C12-C28 Diesel Range Hydrocarbons	1390	1010	1730	34	1010	1560	17	10	70-135	35	X	

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

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

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

N/D = 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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444222

Lab Batch #: 890636

Date Analyzed: 06/20/2012 15:00

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444220-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.05	<1.00	NC	20	U

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$

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

BRL - Below Reporting Limit



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444222

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444222
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444218
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)
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Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

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

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



11-JUL-12

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

Reference: XENCO Report No: **444218**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444218. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444218 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 444218



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 10 G-1	S	06-14-12 13:40		444218-001
TZ Cell 10 G-2	S	06-14-12 13:50		444218-002
TZ Cell 10 G-3	S	06-14-12 14:00		444218-003
TZ Cell 10 G-4	S	06-14-12 14:10		444218-004



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444218

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300*

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444218-003, -001, -002, -004.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444218



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 10 G-1		Matrix: Soil		% Moisture: .36		
Lab Sample Id: 444218-001		Date Collected: Jun-14-12 13:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580		Date Prep: Jul-04-12 09:15				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.7	mg/kg	07/04/12 09:15		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748		Date Prep: Jun-21-12 08:00				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	423	mg/kg	06/22/12 07:25		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	89.6	mg/kg	06/22/12 07:25		1
Total TPH	PHC635	513	mg/kg	06/22/12 07:25		1



Hits Summary

444218



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 10 G-2	Matrix: Soil	% Moisture: .31
Lab Sample Id: 444218-002	Date Collected: Jun-14-12 13:50	Basis: Dry Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891580	Date Prep: Jul-04-12 09:31

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.87	mg/kg	07/04/12 09:31		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890748	Date Prep: Jun-21-12 08:00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	222	mg/kg	06/22/12 08:00		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	82.1	mg/kg	06/22/12 08:00		1
Total TPH	PHC635	304	mg/kg	06/22/12 08:00		1



Hits Summary

444218



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 10 G-3		Matrix: Soil		% Moisture: .41		
Lab Sample Id: 444218-003		Date Collected: Jun-14-12 14:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580				Date Prep: Jul-04-12 09:47		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.7	mg/kg	07/04/12 09:47		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748				Date Prep: Jun-21-12 08:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	226	mg/kg	06/22/12 08:32		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	88.5	mg/kg	06/22/12 08:32		1
Total TPH	PHC635	315	mg/kg	06/22/12 08:32		1



Hits Summary

444218



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 10 G-4	Matrix: Soil	% Moisture: .61
Lab Sample Id: 444218-004	Date Collected: Jun-14-12 14:10	Basis: Dry Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891580	Date Prep: Jul-04-12 10:52

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.5	mg/kg	07/04/12 10:52		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890748	Date Prep: Jun-21-12 08:00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	756	mg/kg	06/22/12 09:05		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	129	mg/kg	06/22/12 09:05		1
Total TPH	PHC635	885	mg/kg	06/22/12 09:05		1



Certificate of Analysis Summary 444218

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	444218-001	<i>Field Id:</i>	444218-002	<i>Depth:</i>	444218-003	<i>Matrix:</i>	444218-004
	<i>Sampled:</i>	TZ Cell 10 G-1	<i>Sampled:</i>	TZ Cell 10 G-2	<i>Sampled:</i>	TZ Cell 10 G-3	<i>Sampled:</i>	TZ Cell 10 G-4
	<i>Extracted:</i>	Jun-14-12 13:40	<i>Extracted:</i>	Jun-14-12 13:50	<i>Extracted:</i>	Jun-14-12 14:00	<i>Extracted:</i>	Jun-14-12 14:10
	<i>Analyzed:</i>	Jul-04-12 09:15	<i>Analyzed:</i>	Jul-04-12 09:31	<i>Analyzed:</i>	Jul-04-12 09:47	<i>Analyzed:</i>	Jul-04-12 10:52
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
Inorganic Anions by EPA 300/300.1 SUB: TX104704215		11.7	0.502	8.87	0.502	14.7	0.502	11.5
Chloride								0.503
Percent Moisture								
	<i>Extracted:</i>	Jun-20-12 14:35	<i>Extracted:</i>	Jun-20-12 14:35	<i>Extracted:</i>	Jun-20-12 14:35	<i>Extracted:</i>	Jun-20-12 14:35
	<i>Analyzed:</i>	% RL	<i>Analyzed:</i>	% RL	<i>Analyzed:</i>	% RL	<i>Analyzed:</i>	% RL
	<i>Units/RL:</i>	ND	<i>Units/RL:</i>	ND	<i>Units/RL:</i>	ND	<i>Units/RL:</i>	ND
TPH By SW8015 Mod								
	<i>Extracted:</i>	Jun-21-12 08:00	<i>Extracted:</i>	Jun-21-12 08:00	<i>Extracted:</i>	Jun-21-12 08:00	<i>Extracted:</i>	Jun-21-12 08:00
	<i>Analyzed:</i>	Jun-22-12 07:25	<i>Analyzed:</i>	Jun-22-12 08:00	<i>Analyzed:</i>	Jun-22-12 08:32	<i>Analyzed:</i>	Jun-22-12 09:05
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.1	ND	15.0	ND	15.1	ND
C12-C28 Diesel Range Hydrocarbons		423	15.1	222	15.0	226	15.1	756
C28-C35 Oil Range Hydrocarbons		89.6	15.1	82.1	15.0	88.5	15.1	129
Total TPH		513	15.1	304	15.0	315	15.1	885

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444218,

Project ID:

Lab Batch #: 890748

Sample: 444218-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 07:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	60.3	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444218-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 08:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	55.8	50.0	112	70-135	

Lab Batch #: 890748

Sample: 444218-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 08:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	59.3	50.0	119	70-135	

Lab Batch #: 890748

Sample: 444218-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444218,

Project ID:

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 444218

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	Inorganic Anions by EPA 300/300.1	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]				
		Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20	

Analyst: ASA

Date Prepared: 06/21/2012

Date Analyzed: 06/21/2012

Lab Batch ID: 890748

Sample: 623606-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

TPH By SW8015 Mod

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
Analytes	TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	1170	117	1000	1220	122	4	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444218

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444209-001 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444219-003 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

Below Reporting Limit



Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order # : 444218

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	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	<15.1	1010	1270	126	1010	1190	118	7	70-135	35		
	C12-C28 Diesel Range Hydrocarbons	429	1010	1220	78	1010	1140	70	7	70-135	35		

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

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

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

ApplicableN = See Narrative, EQI = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444218

Lab Batch #: 890635

Project ID:

Date Analyzed: 06/20/2012 14:35

Date Prepared: 06/20/2012

Analyst: WRU

QC- Sample ID: 444215-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	1.23	1.23	0	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444218

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Project #:

Project Loc: Lea County, NM

PO#:

Report Format:

bjarguilo@basinenv.com; Rose.Slade@SUG.com

[illegible]



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUAS
Date/Time: 6/18/12 15:30
Lab ID #: 444218
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444216
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)



11-JUL-12

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

Reference: XENCO Report No: **444216**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444216. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444216 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 444216



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 11 G-1	S	06-14-12 14:20		444216-001
TZ Cell 11 G-2	S	06-14-12 14:30		444216-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444216

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300*

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444216-002, -001.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444216



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 11 G-1	Matrix: Soil	% Moisture: .85
Lab Sample Id: 444216-001	Date Collected: Jun-14-12 14:20	Basis: Dry Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891580	Date Prep: Jul-04-12 07:39

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	113	mg/kg	07/04/12 07:39		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890748	Date Prep: Jun-21-12 08:00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	260	mg/kg	06/22/12 04:10		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	61.6	mg/kg	06/22/12 04:10		1
Total TPH	PHC635	322	mg/kg	06/22/12 04:10		1



Hits Summary

444216



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 11 G-2		Matrix: Soil		% Moisture: .53		
Lab Sample Id: 444216-002		Date Collected: Jun-14-12 14:30		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580				Date Prep: Jul-04-12 07:55		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.3	mg/kg	07/04/12 07:55		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748				Date Prep: Jun-21-12 08:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	118	mg/kg	06/22/12 04:42		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	41.8	mg/kg	06/22/12 04:42		1
Total TPH	PHC635	160	mg/kg	06/22/12 04:42		1



Certificate of Analysis immary 444216
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444216-001	444216-002		
	Field Id:	TZ Cell 11 G-1	TZ Cell 11 G-2		
	Depth:				
	Matrix:	SOIL	SOIL		
	Sampled:	Jun-14-12 14:20	Jun-14-12 14:30		
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 07:39	Jul-04-12 07:55		
	Analyzed:	Jul-04-12 07:39	Jul-04-12 07:55		
	Units/RL:	mg/kg RL 113 0.504	mg/kg RL 22.3 0.503		
Chloride					
Percent Moisture	Extracted:				
	Analyzed:	Jun-20-12 14:35	Jun-20-12 14:35		
	Units/RL:	% RL ND 1.00	% RL ND 1.00		
Percent Moisture					
TPH By SW8015 Mod	Extracted:	Jun-21-12 08:00	Jun-21-12 08:00		
	Analyzed:	Jun-22-12 04:10	Jun-22-12 04:42		
	Units/RL:	mg/kg RL ND 15.1	mg/kg RL ND 15.1		
C6-C12 Gasoline Range Hydrocarbons		ND 15.1	ND 15.1		
C12-C28 Diesel Range Hydrocarbons		260 15.1	118 15.1		
C28-C35 Oil Range Hydrocarbons		61.6 15.1	41.8 15.1		
Total TPH		322 15.1	160 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.

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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2505 North Falkenburg Rd, Tampa, FL 33619
12600 West I-20 East, Odessa, TX 79765
6017 Financial Drive, Norcross, GA 30071
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(281) 240-4200	(281) 240-4280
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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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444216,

Project ID:

Lab Batch #: 890748

Sample: 444216-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 04:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	191	200	96	70-135	
o-Terphenyl	101	100	101	70-135	

Lab Batch #: 890748

Sample: 444216-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 04:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	53.0	50.0	106	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444216,

Project ID:

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444216

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Units: mg/kg

Project ID:

Date Prepared: 07/04/2012

Date Analyzed: 07/04/2012

Batch #: 1

Matrix: Solid

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20	

Analyst: ASA

Date Prepared: 06/21/2012

Date Analyzed: 06/21/2012

Lab Batch ID: 890748

Sample: 623606-1-BKS

Batch #: 1

Matrix: Solid

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1170	117	1000	1220	122	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444216

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444209-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444219-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444216

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012 Analyst: ASA

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.1	1010	1270	126	1010	1190	118	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons		429	1010	1220	78	1010	1140	70	7	70-135	35	

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

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

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

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444216

Lab Batch #: 890635

Project ID:

Date Analyzed: 06/20/2012 14:35

Date Prepared: 06/20/2012

Analyst: WRU

QC- Sample ID: 444215-002 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.23	1.23	0	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444216

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST
12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguljo
Company Name: Basin Environmental Service Technologies, LLC
Company Address: P.O. Box 301
City/State/Zip: Lovington, NM 88260
Telephone No: (575)396-2378
Sampler Signature: [Signature]
Project Name: Southern Union Gas Landfarm
Project #: _____
Project Loc: Lea County, NM
PO #: _____
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

ORDER #: 444214
LAB # (lab use only) _____
FIELD CODE
TZ Cell 11 G-1
TZ Cell 11 G-2
Beginning Depth
Ending Depth
Date Sampled
Time Sampled
Field Filled
Total # of Containers
Ice
HNO₃
HCl
H₂SO₄
NaOH
Na₂S₂O₃
None
Other (Specify)
Matrix
DW = Drinking Water SL = Sludge
GW = Groundwater SP = Soil/Sediment
NP = Non-Petroleum Specify Other
TPH: 418.1 8015M 8015B
TPH: TX 1005 TX 1006
Cations (Ca, Mg, Na, K)
Anions (Cl, SO₄, Alkalinity)
SAR / ESP / CEC
Metals: As Ag Ba Cd Cr Pb Hg Se
Volatiles
Semi-volatiles
BTEX 8021B/6030 or BTEX 8260
RCL
N.O.R.M.
CHLORIDES
RUSH TAT (Pre-Schedule) 24, 48, 72 hrs
Standard TAT 4 DAY

Special Instructions:
Relinquished by: [Signature] Date: 6/14/12 Time: 1530
Relinquished by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____
Received by: [Signature] Date: 6/18/12 Time: 1530
Received by: _____ Date: _____ Time: _____
Received by: _____ Date: _____ Time: _____
Laboratory Comments:
Sample Containers Intact? Y
VOCs Free of Headspace? Y
Labels on container(s) Y
Custody seals on container(s) Y
Custody seals on cooler(s) Y
Sample Hand Delivered Y
by Sampler/Client Rep. ? Y
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: 50/35 °C



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444216
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 35 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.2.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444210
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444210**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444210. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444210 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 444210



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 12 G-1	S	06-14-12 14:40		444210-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444210

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300*

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444210-001.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444210



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

Sample Id: TZ Cell 12 G-1		Matrix: Soil		% Moisture: 1.38		
Lab Sample Id: 444210-001		Date Collected: Jun-14-12 14:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580		Date Prep: Jul-04-12 05:30				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.7	mg/kg	07/04/12 05:30		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748		Date Prep: Jun-21-12 08:00				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	319	mg/kg	06/21/12 23:53		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	89.4	mg/kg	06/21/12 23:53		1
Total TPH	PHC635	408	mg/kg	06/21/12 23:53		1



Hits Summary

444210



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 12 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444210-001		Date Collected: Jun-14-12 14:40		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890634						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	1.38	%	06/20/12 14:00		1



Certificate of Analysis Summary 444210
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Rose Slade
Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm
Report Date: 11-JUL-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	444210-001				
	<i>Field Id:</i>	TZ Cell 12 G-1				
	<i>Depth:</i>					
	<i>Matrix:</i>	SOIL				
	<i>Sampled:</i>	Jun-14-12 14:40				
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>	Jul-04-12 05:30				
	<i>Analyzed:</i>	Jul-04-12 05:30				
	<i>Units/RL:</i>	mg/kg RL				
Chloride		11.7 0.507				
Percent Moisture	<i>Extracted:</i>					
	<i>Analyzed:</i>	Jun-20-12 14:00				
	<i>Units/RL:</i>	% RL				
Percent Moisture		1.38 1.00				
TPH By SW8015 Mod	<i>Extracted:</i>	Jun-21-12 08:00				
	<i>Analyzed:</i>	Jun-21-12 23:53				
	<i>Units/RL:</i>	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		ND 15.2				
C12-C28 Diesel Range Hydrocarbons		319 15.2				
C28-C35 Oil Range Hydrocarbons		89.4 15.2				
Total TPH		408 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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 5332 Blackberry Drive, San Antonio TX 78238
 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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(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444210,

Project ID:

Lab Batch #: 890748

Sample: 444210-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/12 23:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	63.6	50.0	127	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444210,

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 444210

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890748

Sample: 623606-1-BKS

Date Prepared: 06/21/2012

Batch #: 1

Date Analyzed: 06/21/2012

Matrix: Solid

Units: mg/kg

TPH By SW8015 Mod

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	1170	117	1000	1220	122	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

rk Order #: 444210

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444209-001 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444219-003 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

1 Below Reporting Limit



Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Project ID:

OC-Sample ID: 444208-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012 **Analyst:** ASA

ATRIX SPIKE I

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.1	1010	1270	126	1010	1190	118	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons		429	1010	1220	78	1010	1140	70	7	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \cdot (C-A)/B$
 Relative Percent Difference $RPD = 200 \cdot |(C-F)/(C+F)|$
 ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not
 Applicable/N = See Narrative, FOL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444210

Lab Batch #: 890634

Date Analyzed: 06/20/2012 14:00

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444248-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.07	1.96	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444210

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Project #:

Project Loc: Lea County, NM

PO#:

Fax No: (575)396-1429

Report-Format:-

Standard	TRRP	NPDES
☒	☐	☐

e-mail: bjanguijo@basinemv.com; Rose.Slade@SUG.com

[illegible]

Special Instructions:

Laboratory Comments:

Relinquished by:	Date	Time	Received by:	Date	Time	Sample Containers Intact? Y N VOCs Free of Headspace? Y N Labels on container(s) Y N Custody seals on container(s) Y N Custody seals on cooler(s) Y N Sample Hand Delivered by Sampler/Client Rep. ? Y N by Courier? UPS DHL FedEx Lone Star
<i>Eric Brown</i>	6/18/12	3:30				
Relinquished by:	Date	Time	Received by:	Date	Time	
Relinquished by:	Date	Time	Received by: <i>A. Hernandez</i>	6/18/12	15:30	Temperature Upon Receipt: 5.0/3.5°C



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444210
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.2.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444211
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)



11-JUL-12

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

Reference: XENCO Report No: **444211**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444211. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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.

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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 444211



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 13 G-1	S	06-14-12 14:50		444211-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444211

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300*

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444211-001.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444211



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 13 G-1	Matrix: Soil	% Moisture: 2.78
Lab Sample Id: 444211-001	Date Collected: Jun-14-12 14:50	Basis: Dry Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891580	Date Prep: Jul-04-12 05:46

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	93.5	mg/kg	07/04/12 05:46		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Seq Number: 890748	Date Prep: Jun-21-12 08:00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	395	mg/kg	06/22/12 00:25		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	89.1	mg/kg	06/22/12 00:25		1
Total TPH	PHC635	484	mg/kg	06/22/12 00:25		1



Hits Summary

444211



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 13 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444211-001		Date Collected: Jun-14-12 14:50		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890634						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	2.78	%	06/20/12 14:00		1



Certificate of Analysis Summary 444211
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444211-001			
	Field Id:	TZ Cell 13 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-14-12 14:50			
	Extracted:	Jul-04-12 05:46			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Analyzed:	Jul-04-12 05:46			
	Units/RL:	mg/kg RL			
Chloride		93.5 0.514			
Percent Moisture	Extracted:				
	Analyzed:	Jun-20-12 14:00			
	Units/RL:	% RL			
		2.78 1.00			
TPH By SW8015 Mod	Extracted:	Jun-21-12 08:00			
	Analyzed:	Jun-22-12 00:25			
	Units/RL:	mg/kg RL			
		ND 15.4			
C6-C12 Gasoline Range Hydrocarbons		395 15.4			
C12-C28 Diesel Range Hydrocarbons		89.1 15.4			
C28-C35 Oil Range Hydrocarbons		484 15.4			
Total TPH					

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- * Surrogate recovered outside laboratory control limit.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- MDL** Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection
- PQL** Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation
- DL** Method Detection Limit
- NC** Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444211,

Project ID:

Lab Batch #: 890748

Sample: 444211-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 00:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444211,

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444211

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Date Prepared: 07/04/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20

Analyst: ASA

Lab Batch ID: 890748

Sample: 623606-1-BKS

Units: mg/kg

Date Prepared: 06/21/2012

Batch #: 1

Date Analyzed: 06/21/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1170	117	1000	1220	122	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444211

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444209-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444219-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order # : 444211

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	TPH By SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes											
	C6-C12 Gasoline Range Hydrocarbons	<15.1	1010	1270	126	1010	1190	118	7	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	429	1010	1220	78	1010	1140	70	7	70-135	35	

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444211

Lab Batch #: 890634

Date Analyzed: 06/20/2012 14:00

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444248-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.07	1.96	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444211

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444211
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.2.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444212
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)



11-JUL-12

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

Reference: XENCO Report No: **444212**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444212. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444212 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 444212



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 14 G-1	S	06-14-12 15:00		444212-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444212

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300*

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444212-001.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444212



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 14 G-1		Matrix: Soil		% Moisture: .63		
Lab Sample Id: 444212-001		Date Collected: Jun-14-12 15:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580		Reviewed		Date Prep: Jul-04-12 06:02		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.02	mg/kg	07/04/12 06:02		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748				Date Prep: Jun-21-12 08:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	93.2	mg/kg	06/22/12 00:58		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	44.4	mg/kg	06/22/12 00:58		1
Total TPH	PHC635	138	mg/kg	06/22/12 00:58		1



Certificate of Analysis Summary 444212
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444212-001			
	Field Id:	TZ Cell 14 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-14-12 15:00			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 06:02			
	Analyzed:	Jul-04-12 06:02			
	Units/RL:	mg/kg RL			
Chloride		7.02 0.503			
Percent Moisture	Extracted:				
	Analyzed:	Jun-20-12 14:00			
	Units/RL:	% RL			
Percent Moisture		ND 1.00			
TPH By SW8015 Mod	Extracted:	Jun-21-12 08:00			
	Analyzed:	Jun-22-12 00:58			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.1			
C12-C28 Diesel Range Hydrocarbons		93.2 15.1			
C28-C35 Oil Range Hydrocarbons		44.4 15.1			
Total TPH		138 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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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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444212,

Project ID:

Lab Batch #: 890748

Sample: 444212-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 00:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	59.5	50.0	119	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444212,

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444212

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Date Prepared: 07/04/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20

Analyst: ASA

Lab Batch ID: 890748

Sample: 623606-1-BKS

Units: mg/kg

Date Prepared: 06/21/2012

Batch #: 1

Date Analyzed: 06/21/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	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	1170	117	1000	1220	122	4	70-135	35		
	C12-C28 Diesel Range Hydrocarbons		<15.0	1000	1080	108	1000	1120	112	4	70-135	35		

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444212

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444209-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444219-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444212

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH By SW8015 Mod	Analytes										
C6-C12 Gasoline Range Hydrocarbons	<15.1	1010	1270	126	1010	1190	118	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	429	1010	1220	78	1010	1140	70	7	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444212

Lab Batch #: 890634

Date Analyzed: 06/20/2012 14:00

Date Prepared: 06/20/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444248-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.07	1.96	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444212

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

Project Manager: Ben J. Arguillo Project Name: Southern Union Gas Landfarm
Company Name: Basin Environmental Service Technologies, LLC Project #: _____
Company Address: P.O. Box 301 Project Loc: Lea County, NM
City/State/Zip: Lovington, NM 88260 PO #: _____
Telephone No: (575)396-2378 Report Format: ☒ Standard ☐ TRRP ☐ NPDES
Sampler Signature: [Signature] e-mail: bjarguillo@basinenv.com; Rose.Stade@SUG.com

ORDER #: 444212

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers	Matrix	Analyze For:
01	TZ Cell 14 G-1			6/14/2012	300		1	Ice		TPH: 418.1 8015M 8015B
								NP - Non-Potable		TPH: TX 1005 TX 1006
								Cations (Ca, Mg, Na, K)		Antions (Cl, SO ₄ , Alkalinity)
								SAR / ESP / CEC		Metals: As Ag Ba Cd Cr Pb Hg Se
								Volatiles		Semivolatiles
								BTEX 8021B/5030 or BTEX 8260		RCI
								N.O.R.M.		CHLORIDES
								RUSH TAT (Pre-Schedule) 24, 48, 72 hrs		Standard TAT 4 DAY

Special Instructions:

Relinquished by: [Signature] Date: 6/18/12 Time: 7:30 Received by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____ Received by: [Signature] Date: 6/18/12 Time: 15:30

Laboratory Comments: Sample Containers Intact? Y VOCs Free of Headspace? Y Labels on container(s) Y Custody seals on container(s) Y Custody seals on cooler(s) Y Sample Hand Delivered by Sampler/Client Rep. ? Y by Courier? UPS DHL FedEx Lone Star Y Temperature Upon Receipt: 50/35 °C

**XENCO Laboratories**

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Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-InClient: SURSDate/Time: 6/18/12 15:30Lab ID #: 444212Initials: AH**Sample Receipt Checklist**

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444213
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)

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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)



11-JUL-12

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

Reference: XENCO Report No: **444213**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444213. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444213 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 444213



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 15 G-1	S	06-14-12 15:10		444213-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444213

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-891580 Inorganic Anions by EPA 300/300.1
E300*

Batch 891580, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 444213-001.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Hits Summary

444213



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 15 G-1		Matrix: Soil		% Moisture: 2.96		
Lab Sample Id: 444213-001		Date Collected: Jun-14-12 15:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891580				Date Prep: Jul-04-12 06:18		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.5	mg/kg	07/04/12 06:18		1
Analytical Method: TPH By SW8015 Mod				Prep Method: TX1005P		
Seq Number: 890748				Date Prep: Jun-21-12 08:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	291	mg/kg	06/22/12 01:30		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	113	mg/kg	06/22/12 01:30		1
Total TPH	PHC635	404	mg/kg	06/22/12 01:30		1



Hits Summary

444213



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: TZ Cell 15 G-1	Matrix: Soil	% Moisture:
Lab Sample Id: 444213-001	Date Collected: Jun-14-12 15:10	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890634

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	2.96	%	06/20/12 14:00		1



Certificate of Analysis Summary 444213

Southern Union Gas Services- Monahans, Monahans, TX



Project Id: Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Project Name: Southern Union Gas Landfarm

Analysis Requested	Lab Id:	444213-001			
	Field Id:	TZ Cell 15 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-14-12 15:10			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 06:18			
	Analyzed:	Jul-04-12 06:18			
	Units/RL:	mg/kg RL			
Chloride		16.5 0.515			
Percent Moisture	Extracted:				
	Analyzed:	Jun-20-12 14:00			
	Units/RL:	% RL			
Percent Moisture		2.96 1.00			
TPH By SW8015 Mod	Extracted:	Jun-21-12 08:00			
	Analyzed:	Jun-22-12 01:30			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.5			
C12-C28 Diesel Range Hydrocarbons		291 15.5			
C28-C35 Oil Range Hydrocarbons		113 15.5			
Total TPH		404 15.5			

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444213,

Project ID:

Lab Batch #: 890748

Sample: 444213-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 01:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.0	100	98	70-135	
o-Terphenyl	52.3	50.0	105	70-135	

Lab Batch #: 890748

Sample: 623606-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 21:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	63.9	50.0	128	70-135	

Lab Batch #: 890748

Sample: 623606-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

Lab Batch #: 890748

Sample: 623606-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/12 20:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 890748

Sample: 444208-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 09:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	158	200	79	70-135	
o-Terphenyl	70.6	100	71	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444213,

Project ID:

Lab Batch #: 890748

Sample: 444208-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 10:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	135	100	135	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 444213

Analyst: TTE

Lab Batch ID: 891580

Sample: 624161-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	<0.500	50.0	52.4	105	50.0	52.9	106	1	80-120	20

Analyst: ASA

Lab Batch ID: 890748

Sample: 623606-1-BKS

Date Prepared: 06/21/2012

Batch #: 1

Date Analyzed: 06/21/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	1170	117	1000	1220	122	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	1000	1080	108	1000	1120	112	4	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Southern Union Gas Landfarm



rk Order #: 444213

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444209-001 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	48.2	50.4	91.1	85	80-120	

Lab Batch #: 891580

Date Analyzed: 07/04/2012

QC- Sample ID: 444219-003 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	75.9	50.7	114	75	80-120	X

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

Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

1 Below Reporting Limit



Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444213

Lab Batch ID: 890748

Date Analyzed: 06/22/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444208-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/21/2012 Analyst: ASA

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	C6-C12 Gasoline Range Hydrocarbons	<15.1	1010	1270	126	1010	1190	118	7	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	429	1010	1220	78	1010	1140	70	7	70-135	35	

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444213

Lab Batch #: 890634

Project ID:

Date Analyzed: 06/20/2012 14:00

Date Prepared: 06/20/2012

Analyst: WRU

QC- Sample ID: 444248-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.07	1.96	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444213

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: SUGS
Date/Time: 6/18/12 15:30
Lab ID #: 444213
Initials: AH

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.5 °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444239
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444239**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444239. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444239 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 444239



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 1 G-1	S	06-14-12 08:00		444239-001
VZ Cell 1 G-2	S	06-14-12 08:10		444239-002
VZ Cell 1 G-3	S	06-14-12 08:20		444239-003
VZ Cell 1 G-4	S	06-14-12 08:30		444239-004
VZ Cell 1 G-5	S	06-14-12 08:40		444239-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444239

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-890837 TPH By SW8015 Mod
SW8015MOD_NM*

*Batch 890837, 1-Chlorooctane recovered below QC limits . Matrix interferences is suspected;
data confirmed by re-analysis
Samples affected are: 444242-003 SD.*

Batch: LBA-891146 BTEX by SW 8260B

*MS doesn't has recovery for o-Xylene and 4-bromofluorobenezene due to instrument stop and
didn't run the whole sample . Sample affected 444239-004 S*



Hits Summary

444239



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

Sample Id: VZ Cell 1 G-1		Matrix: Soil		% Moisture: 9.99		
Lab Sample Id: 444239-001		Date Collected: Jun-14-12 08:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 04:22		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.71	mg/kg	07/05/12 04:22		1



Hits Summary

444239



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

Sample Id: VZ Cell 1 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444239-001		Date Collected: Jun-14-12 08:00		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	9.99	%	06/22/12 11:30		1



Hits Summary

444239



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 1 G-2		Matrix: Soil		% Moisture: 9.35		
Lab Sample Id: 444239-002		Date Collected: Jun-14-12 08:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 04:38		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.3	mg/kg	07/05/12 04:38		1



Hits Summary

444239



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 1 G-2		Matrix: Soil		% Moisture:		
Lab Sample Id: 444239-002		Date Collected: Jun-14-12 08:10		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868		890868				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	9.35	%	06/22/12 11:30		1



Hits Summary

444239



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

Sample Id: VZ Cell 1 G-3		Matrix: Soil		% Moisture: 13.1		
Lab Sample Id: 444239-003		Date Collected: Jun-14-12 08:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 04:54		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.0	mg/kg	07/05/12 04:54		1



Hits Summary

444239



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 1 G-3		Matrix: Soil		% Moisture:		
Lab Sample Id: 444239-003		Date Collected: Jun-14-12 08:20		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	13.1	%	06/22/12 11:30		1



Hits Summary

444239



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 1 G-4		Matrix: Soil	% Moisture: 5.49			
Lab Sample Id: 444239-004		Date Collected: Jun-14-12 08:30	Basis: Dry Weight			
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1					Prep Method: E300P	
Seq Number: 891562					Date Prep: Jul-05-12 06:47	
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4.44	mg/kg	07/05/12 06:47		1



Hits Summary

444239



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

Sample Id: VZ Cell 1 G-4		Matrix: Soil		% Moisture:		
Lab Sample Id: 444239-004		Date Collected: Jun-14-12 08:30		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter		Cas Number	Result	Units	Analysis Date	Flag
Percent Moisture		TMOIST	5.49	%	06/22/12 11:30	Dil
						1



Hits Summary

444239



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 1 G-5		Matrix: Soil		% Moisture: 7.64		
Lab Sample Id: 444239-005		Date Collected: Jun-14-12 08:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562		Reviewed		Date Prep: Jul-05-12 07:19		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.8	mg/kg	07/05/12 07:19		1



Hits Summary

444239



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

Sample Id: VZ Cell 1 G-5		Matrix: Soil		% Moisture:		
Lab Sample Id: 444239-005		Date Collected: Jun-14-12 08:40		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	7.64	%	06/22/12 11:30		1



Certificate of Analysis Summary 444239
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	444239-001	444239-002	444239-003	444239-004	444239-005
	Extracted:	Analyzed:	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg
BTEX by SW 8260B SUB: TX104704215	Benzene			ND	0.00110	ND	0.00110	ND	0.00112	ND
	Toluene			ND	0.00110	ND	0.00110	ND	0.00112	ND
	Ethylbenzene			ND	0.00110	ND	0.00110	ND	0.00112	ND
	m,p-Xylenes			ND	0.00219	ND	0.00219	ND	0.00225	ND
	o-Xylene			ND	0.00110	ND	0.00110	ND	0.00112	ND
	Total BTEX			ND	0.00110	ND	0.00110	ND	0.00112	ND
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Total Xylenes			ND	0.00110	ND	0.00110	ND	0.00112	ND
	Extracted:	Jul-05-12 04:22		Jul-05-12 04:38		Jul-05-12 04:54		Jul-05-12 06:47		Jul-05-12 07:19
	Analyzed:	Jul-05-12 04:22		Jul-05-12 04:38		Jul-05-12 04:54		Jul-05-12 06:47		Jul-05-12 07:19
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg
	Chloride			6.71	0.555	11.3	0.552	50.0	0.575	17.8
	Percent Moisture			9.99	1.00	9.35	1.00	13.1	1.00	7.64
TPH By SW8015 Mod	Extracted:	Jun-22-12 11:30		Jun-22-12 11:30		Jun-22-12 11:30		Jun-22-12 11:30		Jun-22-12 11:30
	Analyzed:	Jun-22-12 11:30		Jun-22-12 11:30		Jun-22-12 11:30		Jun-22-12 11:30		Jun-22-12 11:30
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%
	Extracted:	Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15
	Analyzed:	Jun-22-12 20:52		Jun-22-12 21:21		Jun-22-12 21:50		Jun-22-12 22:18		Jun-22-12 22:45
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg
C6-C12 Gasoline Range Hydrocarbons	Extracted:	Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15
	Analyzed:	Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15
	Units/RL:	ND	16.7	ND	16.5	ND	17.3	ND	15.9	ND
	C12-C28 Diesel Range Hydrocarbons			ND	16.7	ND	16.5	ND	15.9	ND
C28-C35 Oil Range Hydrocarbons	Extracted:	Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15
	Analyzed:	Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15
Total TPH	Extracted:	Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15
	Analyzed:	Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15		Jun-22-12 10:15

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

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444239,

Project ID:

Lab Batch #: 890837

Sample: 444239-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 20:52

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.3	100	73	70-135	
o-Terphenyl	37.0	50.0	74	70-135	

Lab Batch #: 890837

Sample: 444239-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 21:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	72.2	100	72	70-135	
o-Terphenyl	37.1	50.0	74	70-135	

Lab Batch #: 890837

Sample: 444239-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 21:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.7	100	72	70-135	
o-Terphenyl	37.4	50.0	75	70-135	

Lab Batch #: 890837

Sample: 444239-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 22:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	142	200	71	70-135	
o-Terphenyl	73.6	100	74	70-135	

Lab Batch #: 890837

Sample: 444239-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 22:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.5	100	74	70-135	
o-Terphenyl	37.9	50.0	76	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444239,

Project ID:

Lab Batch #: 891064

Sample: 444239-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 13:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0528	0.0500	106	58-152	
Dibromofluoromethane	0.0535	0.0500	107	74-126	
1,2-Dichloroethane-D4	0.0533	0.0500	107	80-120	
Toluene-D8	0.0505	0.0500	101	73-132	

Lab Batch #: 891064

Sample: 444239-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 13:18

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0533	0.0500	107	58-152	
Dibromofluoromethane	0.0531	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0512	0.0500	102	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	

Lab Batch #: 891064

Sample: 444239-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 13:34

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0528	0.0500	106	58-152	
Dibromofluoromethane	0.0523	0.0500	105	74-126	
1,2-Dichloroethane-D4	0.0522	0.0500	104	80-120	
Toluene-D8	0.0494	0.0500	99	73-132	

Lab Batch #: 891064

Sample: 444239-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 14:05

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0537	0.0500	107	58-152	
Dibromofluoromethane	0.0548	0.0500	110	74-126	
1,2-Dichloroethane-D4	0.0561	0.0500	112	80-120	
Toluene-D8	0.0506	0.0500	101	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444239,

Lab Batch #: 891146

Sample: 444239-004 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/27/12 20:18

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0558	0.0500	112	58-152	
Dibromofluoromethane	0.0538	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0539	0.0500	108	80-120	
Toluene-D8	0.0528	0.0500	106	73-132	

Lab Batch #: 890837

Sample: 623670-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 20:23

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	71.3	100	71	70-135	
o-Terphenyl	36.8	50.0	74	70-135	

Lab Batch #: 891064

Sample: 623817-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/12 11:06

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0513	0.0500	103	58-152	
Dibromofluoromethane	0.0501	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0472	0.0500	94	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	

Lab Batch #: 891146

Sample: 623856-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/27/12 20:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0522	0.0500	104	58-152	
Dibromofluoromethane	0.0502	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0487	0.0500	97	80-120	
Toluene-D8	0.0513	0.0500	103	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444239,

Project ID:

Lab Batch #: 890837

Sample: 623670-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 19:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.4	100	90	70-135	
o-Terphenyl	38.9	50.0	78	70-135	

Lab Batch #: 891064

Sample: 623817-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/12 10:16

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0503	0.0500	101	58-152	
Dibromofluoromethane	0.0498	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0493	0.0500	99	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	

Lab Batch #: 891146

Sample: 623856-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/27/12 18:57

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0498	0.0500	100	58-152	
Dibromofluoromethane	0.0500	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0491	0.0500	98	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	

Lab Batch #: 890837

Sample: 623670-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 19:52

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.5	100	89	70-135	
o-Terphenyl	38.1	50.0	76	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444239,

Project ID:

Lab Batch #: 891146

Sample: 623856-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/27/12 19:13

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0501	0.0500	100	58-152	
Dibromofluoromethane	0.0506	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0472	0.0500	94	80-120	
Toluene-D8	0.0509	0.0500	102	73-132	

Lab Batch #: 890837

Sample: 444242-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 07:36

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.7	100	87	70-135	
o-Terphenyl	36.7	50.0	73	70-135	

Lab Batch #: 891064

Sample: 444238-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 14:21

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0517	0.0500	103	58-152	
Dibromofluoromethane	0.0549	0.0500	110	74-126	
1,2-Dichloroethane-D4	0.0575	0.0500	115	80-120	
Toluene-D8	0.0506	0.0500	101	73-132	

Lab Batch #: 891146

Sample: 444239-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/27/12 21:08

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	<	0.0500	0	58-152	**
Dibromofluoromethane	0.0456	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0440	0.0500	88	80-120	
Toluene-D8	0.0482	0.0500	96	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444239,

Project ID:

Lab Batch #: 890837

Sample: 444242-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 08:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	68.9	100	69	70-135	**
o-Terphenyl	35.6	50.0	71	70-135	

Lab Batch #: 891064

Sample: 444238-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 14:37

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0527	0.0500	105	58-152	
Dibromofluoromethane	0.0563	0.0500	113	74-126	
1,2-Dichloroethane-D4	0.0592	0.0500	118	80-120	
Toluene-D8	0.0483	0.0500	97	73-132	

Lab Batch #: 891146

Sample: 444239-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/27/12 21:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0501	0.0500	100	58-152	
Dibromofluoromethane	0.0515	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0502	0.0500	100	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444239

Project ID:

Lab Batch #: 891064

Sample: 623817-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2012

Date Prepared: 06/26/2012

Analyst: JOL

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Benzene	<0.00100	0.100	0.116	116	62-132	
Toluene	<0.00100	0.100	0.114	114	66-124	
Ethylbenzene	<0.00100	0.100	0.111	111	71-134	
m,p-Xylenes	<0.00200	0.200	0.233	117	69-128	
o-Xylene	<0.00100	0.100	0.115	115	72-131	

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

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

- Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 444239

Analyst: BEC

Lab Batch ID: 891146

Sample: 623856-1-BKS

Date Prepared: 06/27/2012

Batch #: 1

Project ID:

Date Analyzed: 06/27/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	BTEX by SW 8260B											
	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	0.0919	92	0.100	0.0908	91	1	62-132	25	
	Toluene	<0.00100	0.100	0.0946	95	0.100	0.0943	94	0	66-124	25	
	Ethylbenzene	<0.00100	0.100	0.0944	94	0.100	0.0935	94	1	71-134	25	
	m,p-Xylenes	<0.00200	0.200	0.193	97	0.200	0.195	98	1	69-128	25	
	o-Xylene	<0.00100	0.100	0.0964	96	0.100	0.0944	94	2	72-131	25	

Analyst: TTE

Date Prepared: 07/04/2012

Date Analyzed: 07/04/2012

Lab Batch ID: 891561

Sample: 624145-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	53.0	106	50.0	52.5	105	1	80-120	20	

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444239

Analyst: TTE

Lab Batch ID: 891562

Sample: 624146-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 07/05/2012

Matrix: Solid

Date Prepared: 07/05/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.0	104	50.0	52.0	104	0	80-120	20	

Analyst: ASA

Lab Batch ID: 890837

Sample: 623670-1-BKS

Units: mg/kg

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/22/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1060	106	1000	1040	104	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	762	76	1000	751	75	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444239

Lab Batch #: 891561

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444232-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.4	55.6	68.9	102	80-120	

Lab Batch #: 891561

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444239-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	50.0	57.5	99.5	86	80-120	

Lab Batch #: 891562

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444239-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	4.44	52.9	59.5	104	80-120	

Lab Batch #: 891562

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444526-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	8.40	50.3	60.1	103	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS MSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444239

Lab Batch ID: 891064

Date Analyzed: 06/26/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444238-001 S

Date Prepared: 06/26/2012

Batch #: 1

Analyst: JOL

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

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
BTEX by SW 8260B											
Benzene	<0.00110	0.110	0.126	115	0.111	0.122	110	3	62-132	25	
Toluene	<0.00110	0.110	0.126	115	0.111	0.119	107	6	66-124	25	
Ethylbenzene	<0.00110	0.110	0.124	113	0.111	0.119	107	4	71-134	25	
m,p-Xylenes	<0.00221	0.221	0.256	116	0.222	0.247	111	4	69-128	25	
o-Xylene	<0.00110	0.110	0.127	115	0.111	0.122	110	4	72-131	25	

Lab Batch ID: 891146

Date Analyzed: 06/27/2012

Reporting Units: mg/kg

QC- Sample ID: 444239-004 S

Date Prepared: 06/27/2012

Batch #: 1

Analyst: BEC

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

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
BTEX by SW 8260B											
Benzene	<0.00106	0.106	0.0962	91	0.104	0.0950	91	1	62-132	25	
Toluene	<0.00106	0.106	0.0950	90	0.104	0.0953	92	0	66-124	25	
Ethylbenzene	<0.00106	0.106	0.103	97	0.104	0.0964	93	7	71-134	25	
m,p-Xylenes	<0.00211	0.211	0.215	102	0.208	0.200	96	7	69-128	25	
o-Xylene	<0.00106	0.106	<0.00106	0	0.104	0.100	96	200	72-131	25	XF

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order # : 444239

Lab Batch ID: 890837

Date Analyzed: 06/23/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444242-003 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH By SW8015 Mod											
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<17.7	1180	1210	103	1180	1220	103	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.7	1180	867	73	1180	849	72	2	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQ = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444239

Lab Batch #: 890868

Project ID:

Date Analyzed: 06/22/2012 11:30

Date Prepared: 06/22/2012

Analyst: WRU

QC- Sample ID: 444235-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	7.20	8.05	11	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444239

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Company Name	Basin Environmental Service Technologies, LLC

Project Loc: Lea County, NM

PO#:

Fax No: (575)396-1429

e-mail: bjlargojo@basinenv.com; Rose.Slade@SUG.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

blarguijo@basinenv.com; Rose.Slade@SUG.com

Revised 1.004



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6-18-12 15:30
Lab ID #: 444239
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.2.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444237
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)



11-JUL-12

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

Reference: XENCO Report No: **444237**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444237. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444237 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 444237



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 2 G-1	S	06-15-12 08:00		444237-001
VZ Cell 2 G-2	S	06-15-12 08:10		444237-002
VZ Cell 2 G-3	S	06-15-12 08:20		444237-003
VZ Cell 2 G-4	S	06-15-12 08:30		444237-004



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444237

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890835 TPH By SW8015 Mod
SW8015MOD_NM

Batch 890835, o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are: 623669-1-BLK,444235-001 S,444235-001 SD,444237-002,444237-001,444237-003.

1-Chlorooctane recovered below QC limits Data confirmed by re-analysis. Samples affected are: 623669-1-BLK,444237-002,444237-003,444237-001.



Hits Summary

444237



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 2 G-1		Matrix: Soil		% Moisture: 5.85		
Lab Sample Id: 444237-001		Date Collected: Jun-15-12 08:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 01:41		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.97	mg/kg	07/05/12 01:41		1



Hits Summary

444237



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 2 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444237-001		Date Collected: Jun-15-12 08:00		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	5.85	%	06/22/12 11:30		1



Hits Summary

444237



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 2 G-2		Matrix: Soil		% Moisture: 6.93		
Lab Sample Id: 444237-002		Date Collected: Jun-15-12 08:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 01:57		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	39.4	mg/kg	07/05/12 01:57		1



Hits Summary

444237



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

Sample Id: VZ Cell 2 G-2		Matrix: Soil		% Moisture:		
Lab Sample Id: 444237-002		Date Collected: Jun-15-12 08:10		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.93	%	06/22/12 11:30		1



Hits Summary

444237



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 2 G-3		Matrix: Soil		% Moisture: 7.72		
Lab Sample Id: 444237-003		Date Collected: Jun-15-12 08:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 02:13		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.4	mg/kg	07/05/12 02:13		1



Hits Summary

444237



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 2 G-3		Matrix: Soil		% Moisture:		
Lab Sample Id: 444237-003		Date Collected: Jun-15-12 08:20		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	7.72	%	06/22/12 11:30		1



Hits Summary

444237



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 2 G-4		Matrix: Soil		% Moisture: 5.59		
Lab Sample Id: 444237-004		Date Collected: Jun-15-12 08:30		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 02:29		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.49	mg/kg	07/05/12 02:29		1



Hits Summary

444237



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 2 G-4		Matrix: Soil		% Moisture:		
Lab Sample Id: 444237-004		Date Collected: Jun-15-12 08:30		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	5.59	%	06/22/12 11:30		1



Certificate of Analysis **Immmary 444237**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>		<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	<i>444237-001</i>	<i>444237-002</i>	<i>444237-003</i>	<i>444237-004</i>	
							VZ Cell 2 G-1	VZ Cell 2 G-2	VZ Cell 2 G-3	VZ Cell 2 G-4	
							SOIL	SOIL	SOIL	SOIL	
							Jun-15-12 08:00	Jun-15-12 08:10	Jun-15-12 08:20	Jun-15-12 08:30	
BTEX by SW 8260B SUB: TX104704215	<i>Extracted:</i>						Jun-25-12 15:58	Jun-25-12 16:00	Jun-25-12 16:02	Jun-25-12 16:04	
	<i>Analyzed:</i>						Jun-25-12 22:41	Jun-25-12 22:57	Jun-25-12 23:14	Jun-25-12 23:30	
	<i>Units/RL:</i>						mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
							ND 0.00104	ND 0.00104	ND 0.00105	ND 0.00106	
Benzene							ND 0.00104	ND 0.00104	ND 0.00105	ND 0.00106	
Toluene							ND 0.00104	ND 0.00104	ND 0.00105	ND 0.00106	
Ethylbenzene							ND 0.00104	ND 0.00104	ND 0.00105	ND 0.00106	
m,p-Xylenes							ND 0.00207	ND 0.00207	ND 0.00210	ND 0.00211	
o-Xylene							ND 0.00104	ND 0.00104	ND 0.00105	ND 0.00106	
Total BTEX							ND 0.00104	ND 0.00104	ND 0.00105	ND 0.00106	
Total Xylenes							ND 0.00104	ND 0.00104	ND 0.00105	ND 0.00106	
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>						Jul-05-12 01:41	Jul-05-12 01:57	Jul-05-12 02:13	Jul-05-12 02:29	
	<i>Analyzed:</i>						Jul-05-12 01:41	Jul-05-12 01:57	Jul-05-12 02:13	Jul-05-12 02:29	
	<i>Units/RL:</i>						mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
							9.97 0.531	39.4 0.537	11.4 0.542	8.49 0.530	
Chloride											
Percent Moisture	<i>Extracted:</i>						Jun-22-12 11:30	Jun-22-12 11:30	Jun-22-12 11:30	Jun-22-12 11:30	
	<i>Analyzed:</i>						% RL	% RL	% RL	% RL	
	<i>Units/RL:</i>						5.85 1.00	6.93 1.00	7.72 1.00	5.59 1.00	
TPH By SW8015 Mod	<i>Extracted:</i>						Jun-22-12 09:10	Jun-22-12 09:10	Jun-22-12 09:10	Jun-22-12 09:10	
	<i>Analyzed:</i>						Jun-23-12 20:26	Jun-23-12 20:56	Jun-23-12 21:25	Jun-23-12 21:53	
	<i>Units/RL:</i>						mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
							ND 15.9	ND 16.1	ND 16.3	ND 15.9	
C6-C12 Gasoline Range Hydrocarbons							ND 15.9	ND 16.1	ND 16.3	ND 15.9	
C12-C28 Diesel Range Hydrocarbons							ND 15.9	ND 16.1	ND 16.3	ND 15.9	
C28-C35 Oil Range Hydrocarbons							ND 15.9	ND 16.1	ND 16.3	ND 15.9	
Total TPH							ND 15.9	ND 16.1	ND 16.3	ND 15.9	

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

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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6017 Financial Drive, Norcross, GA 30071
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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	

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444237,

Project ID:

Lab Batch #: 890835

Sample: 444237-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 20:26

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	60.9	100	61	70-135	**
o-Terphenyl	30.3	50.0	61	70-135	**

Lab Batch #: 890835

Sample: 444237-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 20:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	62.0	100	62	70-135	**
o-Terphenyl	31.2	50.0	62	70-135	**

Lab Batch #: 890835

Sample: 444237-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 21:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	61.5	100	62	70-135	**
o-Terphenyl	31.7	50.0	63	70-135	**

Lab Batch #: 890835

Sample: 444237-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 21:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	62.9	50.0	126	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444237,

Project ID:

Lab Batch #: 890937

Sample: 444237-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 22:41

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0556	0.0500	111	58-152	
Dibromofluoromethane	0.0536	0.0500	107	74-126	
1,2-Dichloroethane-D4	0.0538	0.0500	108	80-120	
Toluene-D8	0.0507	0.0500	101	73-132	

Lab Batch #: 890937

Sample: 444237-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 22:57

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0548	0.0500	110	58-152	
Dibromofluoromethane	0.0549	0.0500	110	74-126	
1,2-Dichloroethane-D4	0.0549	0.0500	110	80-120	
Toluene-D8	0.0500	0.0500	100	73-132	

Lab Batch #: 890937

Sample: 444237-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 23:14

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0560	0.0500	112	58-152	
Dibromofluoromethane	0.0526	0.0500	105	74-126	
1,2-Dichloroethane-D4	0.0548	0.0500	110	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	

Lab Batch #: 890937

Sample: 444237-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 23:30

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0572	0.0500	114	58-152	
Dibromofluoromethane	0.0551	0.0500	110	74-126	
1,2-Dichloroethane-D4	0.0536	0.0500	107	80-120	
Toluene-D8	0.0500	0.0500	100	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444237,

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	67.1	100	67	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 623740-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:59

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0529	0.0500	106	58-152	
Dibromofluoromethane	0.0521	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0546	0.0500	109	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 890937

Sample: 623740-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:27

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0512	0.0500	102	58-152	
Dibromofluoromethane	0.0517	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0517	0.0500	103	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444237,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0520	0.0500	104	58-152	
Dibromofluoromethane	0.0529	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0541	0.0500	108	80-120	
Toluene-D8	0.0491	0.0500	98	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	33.9	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444237,

Lab Batch #: 890937

Sample: 444235-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:19

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0543	0.0500	109	58-152	
Dibromofluoromethane	0.0539	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0555	0.0500	111	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Project Name: Southern Union Gas Landfarm

Work Order #: 444237

Project ID:

Lab Batch #: 890937

Sample: 623740-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: JBU

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B						
Analytes		Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R
Benzene		<0.00100	0.100	0.109	109	62-132
Toluene		<0.00100	0.100	0.107	107	66-124
Ethylbenzene		<0.00100	0.100	0.105	105	71-134
m,p-Xylenes		<0.00200	0.200	0.213	107	69-128
o-Xylene		<0.00100	0.100	0.108	108	72-131

Blank Spike Recovery [D] = $100 \times [C] / [B]$

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

BRL - Below Reporting Limit



BS / BSD recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444237

Analyst: TTE

Lab Batch ID: 891561

Sample: 624145-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Date Prepared: 07/04/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	<0.500	50.0	53.0	106	50.0	52.5	105	1	80-120	20

Analyst: ASA

Lab Batch ID: 890835

Sample: 623669-1-BKS

Units: mg/kg

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/23/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	974	97	1000	983	98	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	723	72	1000	706	71	2	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444237

Lab Batch #: 891561

Date Analyzed: 07/04/2012

QC- Sample ID: 444232-001 S

Reporting Units: mg/kg

Project ID:

Analyst: TTE

Date Prepared: 07/04/2012

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.4	55.6	68.9	102	80-120	

Lab Batch #: 891561

Date Analyzed: 07/05/2012

QC- Sample ID: 444239-003 S

Reporting Units: mg/kg

Date Prepared: 07/05/2012

Analyst: TTE

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	50.0	57.5	99.5	86	80-120	

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

BRL - Below Reporting Limit



Project Name: Southern Union Gas Landfarm

Work Order #: 444237

Lab Batch ID: 890937

Date Analyzed: 06/26/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/25/2012 Analyst: JBU

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	<0.00106	0.106	0.112	106	0.105	0.113	108	1	62-132	25	
	Toluene	<0.00106	0.106	0.110	104	0.105	0.108	103	2	66-124	25	
	Ethylbenzene	<0.00106	0.106	0.108	102	0.105	0.107	102	1	71-134	25	
	m,p-Xylenes	<0.00212	0.212	0.225	106	0.210	0.221	105	2	69-128	25	
	o-Xylene	<0.00106	0.106	0.111	105	0.105	0.111	106	0	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

QC- Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444237

Lab Batch #: 890868

Date Analyzed: 06/22/2012 11:30

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444235-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	7.20	8.05	11	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444237

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Em. / Plains
Date/Time: 6.18.12 15.30
Lab ID #: 444237
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.2.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444240
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444240**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444240. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444240 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 444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 3 G-1	S	06-15-12 08:40		444240-001
VZ Cell 3 G-2	S	06-15-12 08:50		444240-002
VZ Cell 3 G-3	S	06-15-12 09:00		444240-003
VZ Cell 3 G-4	S	06-15-12 09:10		444240-004
VZ Cell 3 G-5	S	06-15-12 09:20		444240-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444240

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-890837 TPH By SW8015 Mod
SW8015MOD_NM*

*Batch 890837, 1-Chlorooctane recovered below QC limits . Matrix interferences is suspected;
data confirmed by re-analysis*

Samples affected are: 444242-003 SD.



Hits Summary

444240



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

Sample Id: VZ Cell 3 G-1		Matrix: Soil		% Moisture: 8.49		
Lab Sample Id: 444240-001		Date Collected: Jun-15-12 08:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562		Date Prep: Jul-05-12 07:35				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4.90	mg/kg	07/05/12 07:35		1



Hits Summary

444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 3 G-1	Matrix: Soil	% Moisture:
Lab Sample Id: 444240-001	Date Collected: Jun-15-12 08:40	Basis: Wet Weight
Date Received: Jun-18-12 15:30		

Analytical Method: **Percent Moisture**

Seq Number: 890868

Revised

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	8.49	%	06/22/12 11:30		1



Hits Summary

444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 3 G-2		Matrix: Soil		% Moisture: 5.62		
Lab Sample Id: 444240-002		Date Collected: Jun-15-12 08:50		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562		Result: 4.80		Date Prep: Jul-05-12 07:51		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4.80	mg/kg	07/05/12 07:51		1



Hits Summary

444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 3 G-2	Matrix: Soil	% Moisture:
Lab Sample Id: 444240-002	Date Collected: Jun-15-12 08:50	Basis: Wet Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Percent Moisture

Seq Number: 890868

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	5.62	%	06/22/12 11:30		1



Hits Summary

444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 3 G-3		Matrix: Soil		% Moisture: 6.38		
Lab Sample Id: 444240-003		Date Collected: Jun-15-12 09:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562				Date Prep: Jul-05-12 08:08		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.40	mg/kg	07/05/12 08:08		1



Hits Summary

444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 3 G-3		Matrix: Soil		% Moisture:		
Lab Sample Id: 444240-003		Date Collected: Jun-15-12 09:00		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.38	%	06/22/12 11:30		1



Hits Summary

444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 3 G-4		Matrix: Soil		% Moisture: 6.62		
Lab Sample Id: 444240-004		Date Collected: Jun-15-12 09:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562				Date Prep: Jul-05-12 08:24		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.98	mg/kg	07/05/12 08:24		1



Hits Summary

444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 3 G-4	Matrix: Soil	% Moisture:
Lab Sample Id: 444240-004	Date Collected: Jun-15-12 09:10	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890869

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.62	%	06/22/12 12:25		1



Hits Summary

444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 3 G-5		Matrix: Soil		% Moisture: 9.15		
Lab Sample Id: 444240-005		Date Collected: Jun-15-12 09:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562				Date Prep: Jul-05-12 09:12		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.23	mg/kg	07/05/12 09:12		1



Hits Summary

444240



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 3 G-5	Matrix: Soil	% Moisture:
Lab Sample Id: 444240-005	Date Collected: Jun-15-12 09:20	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890869

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	9.15	%	06/22/12 12:25		1

Certificate of Analysis Summary 444240
Southern Union Gas Services- Monahans, Monahans, TX



Project Name: Southern Union Gas Landfarm

Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

1. *Confession* (1997) by John Fowles

Contact: Rose Slade

Location: Lea County, NM

Project Manager: Nicholas Straccione

Analysis Requested		Lab Id:	444240-001	444240-002	444240-003	444240-004	444240-005
		Field Id:	VZ Cell 3 G-1	VZ Cell 3 G-2	VZ Cell 3 G-3	VZ Cell 3 G-4	VZ Cell 3 G-5
		Depth:					
		Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled:	Jun-15-12 08:40	Jun-15-12 08:50	Jun-15-12 09:00	Jun-15-12 09:10	Jun-15-12 09:20
BTEX by SW 8260B SUB: TX104704215	Extracted:	Jun-26-12 12:00	Jun-26-12 12:02	Jun-26-12 12:04	Jun-26-12 12:06	Jun-26-12 12:08	
	Analyzed:	Jun-26-12 12:39	Jun-26-12 13:02	Jun-26-12 13:24	Jun-26-12 13:46	Jun-26-12 14:08	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		ND 0.00110	ND 0.00106	ND 0.00109	ND 0.00107	ND 0.00109	
Inorganic Anions by EPA 300/300.1 SUB: TX104704215		ND 0.00110	ND 0.00106	ND 0.00109	ND 0.00107	ND 0.00109	
		ND 0.00110	ND 0.00106	ND 0.00109	ND 0.00107	ND 0.00109	
		ND 0.00220	ND 0.00211	ND 0.00217	ND 0.00215	ND 0.00219	
		ND 0.00110	ND 0.00106	ND 0.00109	ND 0.00107	ND 0.00109	
		ND 0.00110	ND 0.00106	ND 0.00109	ND 0.00107	ND 0.00109	
Percent Moisture		ND 0.00110	ND 0.00106	ND 0.00109	ND 0.00107	ND 0.00109	
	Extracted:	Jul-05-12 07:35	Jul-05-12 07:51	Jul-05-12 08:08	Jul-05-12 08:24	Jul-05-12 09:12	
	Analyzed:	Jul-05-12 07:35	Jul-05-12 07:51	Jul-05-12 08:08	Jul-05-12 08:24	Jul-05-12 09:12	
TPH By SW8015 Mod	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		4.90 0.546	4.80 0.550	8.40 0.534	8.98 0.535	5.23 0.550	
	Extracted:	Jun-22-12 11:30	Jun-22-12 11:30	Jun-22-12 11:30	Jun-22-12 12:25	Jun-22-12 12:25	
C6-C12 Gasoline Range Hydrocarbons	Analyzed:	% RL	% RL	% RL	% RL	% RL	
		8.49 1.00	5.62 1.00	6.38 1.00	6.62 1.00	9.15 1.00	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C12-C28 Diesel Range Hydrocarbons		Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	
		Jun-22-12 23:14	Jun-22-12 23:42	Jun-23-12 00:11	Jun-23-12 00:42	Jun-23-12 01:10	
		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C28-C35 Oil Range Hydrocarbons		ND 16.4	ND 15.9	ND 16.0	ND 16.1	ND 16.5	
		ND 16.4	ND 15.9	ND 16.0	ND 16.1	ND 16.5	
		ND 16.4	ND 15.9	ND 16.0	ND 16.1	ND 16.5	
Total TPH		ND 16.4	ND 15.9	ND 16.0	ND 16.1	ND 16.5	

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444240,

Project ID:

Lab Batch #: 890837

Sample: 444240-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 23:14

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	71.8	100	72	70-135	
o-Terphenyl	36.7	50.0	73	70-135	

Lab Batch #: 890837

Sample: 444240-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/22/12 23:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	72.5	100	73	70-135	
o-Terphenyl	37.2	50.0	74	70-135	

Lab Batch #: 890837

Sample: 444240-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 00:11

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	72.7	100	73	70-135	
o-Terphenyl	37.4	50.0	75	70-135	

Lab Batch #: 890837

Sample: 444240-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 00:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	70.7	100	71	70-135	
o-Terphenyl	36.1	50.0	72	70-135	

Lab Batch #: 890837

Sample: 444240-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 01:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	73.2	100	73	70-135	
o-Terphenyl	37.6	50.0	75	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444240,

Lab Batch #: 891077

Sample: 444240-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 12:39

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0519	0.0500	104	58-152	
Dibromofluoromethane	0.0503	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0476	0.0500	95	80-120	
Toluene-D8	0.0488	0.0500	98	73-132	

Lab Batch #: 891077

Sample: 444240-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 13:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0544	0.0500	109	58-152	
Dibromofluoromethane	0.0511	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0437	0.0500	87	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	

Lab Batch #: 891077

Sample: 444240-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 13:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0491	0.0500	98	58-152	
Dibromofluoromethane	0.0530	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0449	0.0500	90	80-120	
Toluene-D8	0.0479	0.0500	96	73-132	

Lab Batch #: 891077

Sample: 444240-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 13:46

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0500	0.0500	100	58-152	
Dibromofluoromethane	0.0556	0.0500	111	74-126	
1,2-Dichloroethane-D4	0.0532	0.0500	106	80-120	
Toluene-D8	0.0514	0.0500	103	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444240,

Project ID:

Lab Batch #: 891077

Sample: 444240-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 14:08

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0612	0.0500	122	58-152	
Dibromofluoromethane		0.0584	0.0500	117	74-126	
1,2-Dichloroethane-D4		0.0496	0.0500	99	80-120	
Toluene-D8		0.0486	0.0500	97	73-132	

Lab Batch #: 890837

Sample: 623670-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 20:23

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		71.3	100	71	70-135	
o-Terphenyl		36.8	50.0	74	70-135	

Lab Batch #: 891077

Sample: 623824-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/12 12:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0499	0.0500	100	58-152	
Dibromofluoromethane		0.0536	0.0500	107	74-126	
1,2-Dichloroethane-D4		0.0472	0.0500	94	80-120	
Toluene-D8		0.0519	0.0500	104	73-132	

Lab Batch #: 890837

Sample: 623670-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 19:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		90.4	100	90	70-135	
o-Terphenyl		38.9	50.0	78	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444240,

Project ID:

Lab Batch #: 891077

Sample: 623824-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/12 10:58

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0504	0.0500	101	58-152	
Dibromofluoromethane	0.0474	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0509	0.0500	102	73-132	

Lab Batch #: 890837

Sample: 623670-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 19:52

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.5	100	89	70-135	
o-Terphenyl	38.1	50.0	76	70-135	

Lab Batch #: 890837

Sample: 444242-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 07:36

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.7	100	87	70-135	
o-Terphenyl	36.7	50.0	73	70-135	

Lab Batch #: 891077

Sample: 444240-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 16:22

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0602	0.0500	120	58-152	
Dibromofluoromethane	0.0520	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0465	0.0500	93	80-120	
Toluene-D8	0.0523	0.0500	105	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444240,

Project ID:

Lab Batch #: 890837

Sample: 444242-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 08:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	68.9	100	69	70-135	**
o-Terphenyl	35.6	50.0	71	70-135	

Lab Batch #: 891077

Sample: 444240-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 16:46

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0585	0.0500	117	58-152	
Dibromofluoromethane	0.0486	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0443	0.0500	89	80-120	
Toluene-D8	0.0578	0.0500	116	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444240

Project ID:

Lab Batch #: 891077

Sample: 623824-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2012

Date Prepared: 06/26/2012

Analyst: JOL

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Benzene	<0.00100	0.100	0.0811	81	62-132	
Toluene	<0.00100	0.100	0.0978	98	66-124	
Ethylbenzene	<0.00100	0.100	0.101	101	71-134	
m,p-Xylenes	<0.00200	0.200	0.194	97	69-128	
o-Xylene	<0.00100	0.100	0.0974	97	72-131	

Blank Spike Recovery [D] = $100 \times [C]/[B]$

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

-- Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 444240

Analyst: TTE

Lab Batch ID: 891562

Sample: 624146-1-BKS

Date Prepared: 07/05/2012

Batch #: 1

Project ID:

Date Analyzed: 07/05/2012

Matrix: Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Analytes	Inorganic Anions by EPA 300/300.1										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	<0.500	50.0	52.0	104	50.0	52.0	104	0	80-120	20	

Analyst: ASA

Lab Batch ID: 890837

Sample: 623670-1-BKS

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/22/2012

Matrix: Solid

Units: mg/kg

TPH By SW8015 Mod

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1060	106	1000	1040	104	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	762	76	1000	751	75	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

rk Order #: 444240

Lab Batch #: 891562

Date Analyzed: 07/05/2012

QC- Sample ID: 444239-004 S

Reporting Units: mg/kg

Date Prepared: 07/05/2012

Batch #: 1

Project ID:

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	4.44	52.9	59.5	104	80-120	

Lab Batch #: 891562

Date Analyzed: 07/05/2012

QC- Sample ID: 444526-003 S

Reporting Units: mg/kg

Date Prepared: 07/05/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	8.40	50.3	60.1	103	80-120	

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

E Below Reporting Limit

Work Order # : 444240

Lab Batch ID: 891077

Date Analyzed: 06/26/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444240-004 S Batch #: 1 Matrix: Soil

Date Prepared: 06/26/2012 Analyst: JOL

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	<0.00108	0.108	0.0743	69	0.109	0.0777	71	4	62-132	25	
	Toluene	<0.00108	0.108	0.0914	85	0.109	0.100	92	9	66-124	25	
	Ethylbenzene	<0.00108	0.108	0.0933	86	0.109	0.107	98	14	71-134	25	
	m,p-Xylenes	<0.00216	0.216	0.178	82	0.218	0.187	86	5	69-128	25	
	o-Xylene	<0.00108	0.108	0.0888	82	0.109	0.0897	82	1	72-131	25	

Lab Batch ID: 890837

Date Analyzed: 06/23/2012

Reporting Units: mg/kg

QC- Sample ID: 444242-003 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH By SW8015 Mod												
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<17.7	1180	1210	103	1180	1220	103	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<17.7	1180	867	73	1180	849	72	2	70-135	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444240

Lab Batch #: 890868

Date Analyzed: 06/22/2012 11:30

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444235-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	7.20	8.05	11	20	

Lab Batch #: 890869

Date Analyzed: 06/22/2012 12:25

Date Prepared: 06/22/2012

Analyst: WRU

QC- Sample ID: 444240-004 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	6.62	6.83	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444240

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Project #:

Project Loc: Lea County, NM

PO#:

Fax No: (575) 396-1429

Report Format:

blarquillo@basinenv.com; Rose.Slade@SUG.com

e-mail:

Revised 1.004



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6.18.12 15:30
Lab ID #: 444740
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444241
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444241**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444241. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444241 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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Certified and approved by numerous States and Agencies.
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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 444241



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 4 G-1	S	06-14-12 08:50		444241-001
VZ Cell 4 G-2	S	06-14-12 09:00		444241-002
VZ Cell 4 G-3	S	06-14-12 09:10		444241-003
VZ Cell 4 G-4	S	06-14-12 09:20		444241-004
VZ Cell 4 G-5	S	06-14-12 09:30		444241-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444241

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890837 TPH By SW8015 Mod

SW8015MOD_NM

Batch 890837, o-Terphenyl recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 444241-005,444241-002.

1-Chlorooctane recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 444242-003 SD,444241-002,444241-005,444241-003.

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

Samples affected are: 444241-004.



Hits Summary

444241



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 4 G-1		Matrix: Soil		% Moisture: 9.18		
Lab Sample Id: 444241-001		Date Collected: Jun-14-12 08:50		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562		Revised		Date Prep: Jul-05-12 09:28		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.89	mg/kg	07/05/12 09:28		1



Hits Summary

444241



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 4 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444241-001		Date Collected: Jun-14-12 08:50		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	9.18	%	06/22/12 12:25		1



Hits Summary

444241



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

Sample Id: VZ Cell 4 G-2		Matrix: Soil		% Moisture: 11.1		
Lab Sample Id: 444241-002		Date Collected: Jun-14-12 09:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562				Date Prep: Jul-05-12 09:44		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.02	mg/kg	07/05/12 09:44		1



Hits Summary

444241



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 4 G-2		Matrix: Soil		% Moisture:		
Lab Sample Id: 444241-002		Date Collected: Jun-14-12 09:00		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	11.1	%	06/22/12 12:25		1



Hits Summary

444241



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 4 G-3		Matrix: Soil		% Moisture: 13.5		
Lab Sample Id: 444241-003		Date Collected: Jun-14-12 09:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562		Reviewed		Date Prep: Jul-05-12 10:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.72	mg/kg	07/05/12 10:00		1



Hits Summary

444241



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

Sample Id: VZ Cell 4 G-3		Matrix: Soil		% Moisture:		
Lab Sample Id: 444241-003		Date Collected: Jun-14-12 09:10		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	13.5	%	06/22/12 12:25		1



Hits Summary

444241



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 4 G-4		Matrix: Soil		% Moisture: 9.73		
Lab Sample Id: 444241-004		Date Collected: Jun-14-12 09:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562		Revised		Date Prep: Jul-05-12 10:16		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.53	mg/kg	07/05/12 10:16		1



Hits Summary

444241



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 4 G-4		Matrix: Soil		% Moisture:		
Lab Sample Id: 444241-004		Date Collected: Jun-14-12 09:20		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	9.73	%	06/22/12 12:25		1



Hits Summary

444241



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

Sample Id: VZ Cell 4 G-5		Matrix: Soil		% Moisture: 10.2		
Lab Sample Id: 444241-005		Date Collected: Jun-14-12 09:30		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562		Revised		Date Prep: Jul-05-12 10:32		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.45	mg/kg	07/05/12 10:32		1



Hits Summary

444241



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 4 G-5		Matrix: Soil		% Moisture:		
Lab Sample Id: 444241-005		Date Collected: Jun-14-12 09:30		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	10.2	%	06/22/12 12:25		1



Certificate of Analysis immary 444241
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested		Lab Id:	444241-001	444241-002	444241-003	444241-004	444241-005
Field Id:		VZ Cell 4 G-1	VZ Cell 4 G-2	VZ Cell 4 G-3	VZ Cell 4 G-4	VZ Cell 4 G-5	
Depth:							
Matrix:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampled:		Jun-14-12 08:50	Jun-14-12 09:00	Jun-14-12 09:10	Jun-14-12 09:20	Jun-14-12 09:30	
BTEX by SW 8260B SUB: TX104704215	Extracted:	Jun-26-12 12:10	Jun-26-12 12:12	Jun-26-12 12:14	Jun-27-12 18:46	Jun-26-12 12:18	
	Analyzed:	Jun-26-12 14:31	Jun-26-12 14:53	Jun-26-12 15:15	Jun-27-12 21:56	Jun-26-12 16:00	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		ND 0.00107	ND 0.00110	ND 0.00115	ND 0.00109	ND 0.00111	
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Benzene	ND 0.00107	ND 0.00110	ND 0.00115	ND 0.00109	ND 0.00111	
	Toluene	ND 0.00107	ND 0.00110	ND 0.00115	ND 0.00109	ND 0.00111	
	Ethylbenzene	ND 0.00107	ND 0.00110	ND 0.00115	ND 0.00109	ND 0.00111	
	m,p-Xylenes	ND 0.00215	ND 0.00219	ND 0.00229	ND 0.00218	ND 0.00223	
	o-Xylene	ND 0.00107	ND 0.00110	ND 0.00115	ND 0.00109	ND 0.00111	
	Total BTEX	ND 0.00107	ND 0.00110	ND 0.00115	ND 0.00109	ND 0.00111	
Chloride	Total Xylenes	ND 0.00107	ND 0.00110	ND 0.00115	ND 0.00109	ND 0.00111	
	Extracted:	Jul-05-12 09:28	Jul-05-12 09:44	Jul-05-12 10:00	Jul-05-12 10:16	Jul-05-12 10:32	
	Analyzed:	Jul-05-12 09:28	Jul-05-12 09:44	Jul-05-12 10:00	Jul-05-12 10:16	Jul-05-12 10:32	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Percent Moisture	Extracted:	6.89 0.551	8.02 0.562	6.72 0.578	5.53 0.554	6.45 0.557	
	Analyzed:	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	
	Units/RL:	% RL	% RL	% RL	% RL	% RL	
		9.18 1.00	11.1 1.00	13.5 1.00	9.73 1.00	10.2 1.00	
TPH By SW8015 Mod	Extracted:	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	
	Analyzed:	Jun-23-12 02:38	Jun-23-12 03:08	Jun-23-12 03:37	Jun-23-12 04:06	Jun-23-12 04:34	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
		ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
C6-C12 Gasoline Range Hydrocarbons	Extracted:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
	Analyzed:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
	Units/RL:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
		ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
C12-C28 Diesel Range Hydrocarbons	Extracted:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
	Analyzed:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
	Units/RL:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
		ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
C28-C35 Oil Range Hydrocarbons	Extracted:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
	Analyzed:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
	Units/RL:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
		ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
Total TPH	Extracted:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
	Analyzed:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
	Units/RL:	ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	
		ND 16.5	ND 16.9	ND 17.3	ND 16.6	ND 16.7	

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444241,

Project ID:

Lab Batch #: 890837

Sample: 444241-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 02:38

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.2	100	73	70-135	
o-Terphenyl	37.3	50.0	75	70-135	

Lab Batch #: 890837

Sample: 444241-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 03:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	68.6	100	69	70-135	**
o-Terphenyl	34.7	50.0	69	70-135	**

Lab Batch #: 890837

Sample: 444241-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 03:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	69.0	100	69	70-135	**
o-Terphenyl	35.3	50.0	71	70-135	

Lab Batch #: 890837

Sample: 444241-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 04:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	138	100	138	70-135	**
o-Terphenyl	70.3	50.0	141	70-135	**

Lab Batch #: 890837

Sample: 444241-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 04:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	67.6	100	68	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444241,

Project ID:

Lab Batch #: 891077

Sample: 444241-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 14:31

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0529	0.0500	106	58-152	
Dibromofluoromethane		0.0609	0.0500	122	74-126	
1,2-Dichloroethane-D4		0.0595	0.0500	119	80-120	
Toluene-D8		0.0472	0.0500	94	73-132	

Lab Batch #: 891077

Sample: 444241-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 14:53

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0604	0.0500	121	58-152	
Dibromofluoromethane		0.0527	0.0500	105	74-126	
1,2-Dichloroethane-D4		0.0472	0.0500	94	80-120	
Toluene-D8		0.0490	0.0500	98	73-132	

Lab Batch #: 891077

Sample: 444241-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 15:15

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0522	0.0500	104	58-152	
Dibromofluoromethane		0.0630	0.0500	126	74-126	
1,2-Dichloroethane-D4		0.0451	0.0500	90	80-120	
Toluene-D8		0.0486	0.0500	97	73-132	

Lab Batch #: 891077

Sample: 444241-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 16:00

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0587	0.0500	117	58-152	
Dibromofluoromethane		0.0588	0.0500	118	74-126	
1,2-Dichloroethane-D4		0.0487	0.0500	97	80-120	
Toluene-D8		0.0526	0.0500	105	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444241,

Lab Batch #: 891146

Sample: 444241-004 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/27/12 21:56

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0575	0.0500	115	58-152	
Dibromofluoromethane	0.0593	0.0500	119	74-126	
1,2-Dichloroethane-D4	0.0583	0.0500	117	80-120	
Toluene-D8	0.0517	0.0500	103	73-132	

Lab Batch #: 890837

Sample: 623670-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 20:23

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	71.3	100	71	70-135	
o-Terphenyl	36.8	50.0	74	70-135	

Lab Batch #: 891077

Sample: 623824-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/12 12:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0499	0.0500	100	58-152	
Dibromofluoromethane	0.0536	0.0500	107	74-126	
1,2-Dichloroethane-D4	0.0472	0.0500	94	80-120	
Toluene-D8	0.0519	0.0500	104	73-132	

Lab Batch #: 891146

Sample: 623856-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/27/12 20:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0522	0.0500	104	58-152	
Dibromofluoromethane	0.0502	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0487	0.0500	97	80-120	
Toluene-D8	0.0513	0.0500	103	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444241,

Project ID:

Lab Batch #: 890837

Sample: 623670-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 19:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.4	100	90	70-135	
o-Terphenyl	38.9	50.0	78	70-135	

Lab Batch #: 891077

Sample: 623824-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/12 10:58

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0504	0.0500	101	58-152	
Dibromofluoromethane	0.0474	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0509	0.0500	102	73-132	

Lab Batch #: 891146

Sample: 623856-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/27/12 18:57

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0498	0.0500	100	58-152	
Dibromofluoromethane	0.0500	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0491	0.0500	98	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	

Lab Batch #: 890837

Sample: 623670-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 19:52

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	88.5	100	89	70-135	
o-Terphenyl	38.1	50.0	76	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444241,

Project ID:

Lab Batch #: 891146

Sample: 623856-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/27/12 19:13

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0501	0.0500	100	58-152	
Dibromofluoromethane	0.0506	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0472	0.0500	94	80-120	
Toluene-D8	0.0509	0.0500	102	73-132	

Lab Batch #: 890837

Sample: 444242-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 07:36

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.7	100	87	70-135	
o-Terphenyl	36.7	50.0	73	70-135	

Lab Batch #: 891077

Sample: 444240-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 16:22

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0602	0.0500	120	58-152	
Dibromofluoromethane	0.0520	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0465	0.0500	93	80-120	
Toluene-D8	0.0523	0.0500	105	73-132	

Lab Batch #: 891146

Sample: 444239-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/27/12 21:08

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	<	0.0500	0	58-152	**
Dibromofluoromethane	0.0456	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0440	0.0500	88	80-120	
Toluene-D8	0.0482	0.0500	96	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444241,

Project ID:

Lab Batch #: 890837

Sample: 444242-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 08:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	68.9	100	69	70-135	**
o-Terphenyl	35.6	50.0	71	70-135	

Lab Batch #: 891077

Sample: 444240-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 16:46

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0585	0.0500	117	58-152	
Dibromofluoromethane	0.0486	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0443	0.0500	89	80-120	
Toluene-D8	0.0578	0.0500	116	73-132	

Lab Batch #: 891146

Sample: 444239-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/27/12 21:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0501	0.0500	100	58-152	
Dibromofluoromethane	0.0515	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0502	0.0500	100	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444241

Project ID:

Lab Batch #: 891077

Sample: 623824-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2012

Date Prepared: 06/26/2012

Analyst: JOL

Reporting Units: mg/kg

Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Benzene	<0.00100	0.100	0.0811	81	62-132	
Toluene	<0.00100	0.100	0.0978	98	66-124	
Ethylbenzene	<0.00100	0.100	0.101	101	71-134	
m,p-Xylenes	<0.00200	0.200	0.194	97	69-128	
o-Xylene	<0.00100	0.100	0.0974	97	72-131	

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

Results are based on MDL and validated for QC purposes.

L - Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 444241

Analyst: BEC

Lab Batch ID: 891146

Sample: 623856-1-BKS

Date Prepared: 06/27/2012

Batch #: 1

Project ID:

Date Analyzed: 06/27/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	BTEX by SW 8260B	Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	

Analyst: TTE

Date Prepared: 07/05/2012

Date Analyzed: 07/05/2012

Lab Batch ID: 891562

Sample: 624146-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	Inorganic Anions by EPA 300/300.1	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]				
			<0.500	50.0	52.0	104	50.0	52.0	104	0	80-120	20	
		Chloride											

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



BS / BSD recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444241

Analyst: ASA

Lab Batch ID: 890837

Sample: 623670-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 06/22/2012

Matrix: Solid

Date Prepared: 06/22/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	TPH By SW8015 Mod	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]				
		C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1060	106	1000	1040	104	2	70-135	35	
		C12-C28 Diesel Range Hydrocarbons	<15.0	1000	762	76	1000	751	75	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444241

Lab Batch #: 891562

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444239-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	4.44	52.9	59.5	104	80-120	

Lab Batch #: 891562

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444526-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	8.40	50.3	60.1	103	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444241

Lab Batch ID: 891077

Date Analyzed: 06/26/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444240-004 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/26/2012 Analyst: JOL

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	<0.00108	0.108	0.0743	69	0.109	0.0777	71	4	62-132	25	
	Toluene	<0.00108	0.108	0.0914	85	0.109	0.100	92	9	66-124	25	
	Ethylbenzene	<0.00108	0.108	0.0933	86	0.109	0.107	98	14	71-134	25	
	m,p-Xylenes	<0.00216	0.216	0.178	82	0.218	0.187	86	5	69-128	25	
	o-Xylene	<0.00108	0.108	0.0888	82	0.109	0.0897	82	1	72-131	25	

Lab Batch ID: 891146

Date Analyzed: 06/27/2012

Reporting Units: mg/kg

QC- Sample ID: 444239-004 S

Batch #: 1 Matrix: Soil

Date Prepared: 06/27/2012 Analyst: BEC

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00106	0.106	0.0962	91	0.104	0.0950	91	1	62-132	25
	Toluene	<0.00106	0.106	0.0950	90	0.104	0.0953	92	0	66-124	25
	Ethylbenzene	<0.00106	0.106	0.103	97	0.104	0.0964	93	7	71-134	25
	m,p-Xylenes	<0.00211	0.211	0.215	102	0.208	0.200	96	7	69-128	25
	o-Xylene	<0.00106	0.106	<0.00106	0	0.104	0.100	96	200	72-131	25
											XF

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444241

Lab Batch ID: 890837

Date Analyzed: 06/23/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444242-003 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg											
	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	<17.7	1180	1210	103	1180	1220	103	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.7	1180	867	73	1180	849	72	2	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQ = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444241

Lab Batch #: 890869

Project ID:

Date Analyzed: 06/22/2012 12:25

Date Prepared: 06/22/2012

Analyst: WRU

QC- Sample ID: 444240-004 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	6.62	6.83	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444241

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguijo

Project Name: Southern Union Gas Landfarm

Company Name BasIn Environmental Service Technologies, LLC

Project #:

Company Address: P.O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO#:

Telephone No: (575) 396-2378

Fax No: (575) 396-1429.

Report Format:

Sampler Signature: Scott W. W. W.

e-mail: blarguijo@basinmv.com; Rose.Slade@SUG.comRevised 1.004



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6.18.12 15.30
Lab ID #: 444241
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.13.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444228
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)



11-JUL-12

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

Reference: XENCO Report No: **444228**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444228. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444228 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 444228



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 5 G-1	S	06-14-12 09:40		444228-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444228

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-890835 TPH By SW8015 Mod
SW8015MOD_NM*

Batch 890835, 1-Chlorooctane recovered below QC limits Data confirmed by re-analysis.

Samples affected are: 623669-1-BLK,444228-001.

*o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are:
623669-1-BLK,444235-001 S,444235-001 SD,444228-001.*



Hits Summary

444228



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 5 G-1		Matrix: Soil		% Moisture: 7.89		
Lab Sample Id: 444228-001		Date Collected: Jun-14-12 09:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560				Date Prep: Jul-04-12 20:03		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.46	mg/kg	07/04/12 20:03		1



Hits Summary

444228



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 5 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444228-001		Date Collected: Jun-14-12 09:40		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890867						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	7.89	%	06/22/12 11:00		1

Project: Midland Odessa Standard List of prices



Certificate of Analysis Summary 444228
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Rose Slade
Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm
Report Date: 11-JUL-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	<i>444228-001</i> <i>VZ Cell 5 G-1</i> <i>SOIL</i> <i>Jun-14-12 09:40</i>			
BTEX by SW 8260B SUB: TX104704215	<i>Extracted:</i>	Jun-25-12 15:04			
	<i>Analyzed:</i>	Jun-25-12 18:04			
	<i>Units/RL:</i>	mg/kg RL			
	Benzene	ND 0.00107			
	Toluene	ND 0.00107			
Ethylbenzene		ND 0.00107			
	m,p-Xylenes	ND 0.00215			
	o-Xylene	ND 0.00107			
	Total BTEX	ND 0.00107			
Total Xylenes		ND 0.00107			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>	Jul-04-12 20:03			
	<i>Analyzed:</i>	Jul-04-12 20:03			
	<i>Units/RL:</i>	mg/kg RL			
Chloride		6.46 0.543			
Percent Moisture	<i>Extracted:</i>				
	<i>Analyzed:</i>	Jun-22-12 11:00			
	<i>Units/RL:</i>	% RL			
Percent Moisture		7.89 1.00			
TPH By SW8015 Mod	<i>Extracted:</i>	Jun-22-12 09:10			
	<i>Analyzed:</i>	Jun-23-12 12:44			
	<i>Units/RL:</i>	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 16.3			
C12-C28 Diesel Range Hydrocarbons		ND 16.3			
C28-C35 Oil Range Hydrocarbons		ND 16.3			
Total TPH		ND 16.3			

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

Nicholas Straccione

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444228,

Project ID:

Lab Batch #: 890835

Sample: 444228-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 12:44

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	62.7	100	63	70-135	**
o-Terphenyl	32.5	50.0	65	70-135	**

Lab Batch #: 890968

Sample: 444228-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 18:04

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0580	0.0500	116	58-152	
Dibromofluoromethane	0.0538	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0521	0.0500	104	80-120	
Toluene-D8	0.0502	0.0500	100	73-132	

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	67.1	100	67	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 623755-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 13:15

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0513	0.0500	103	58-152	
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0521	0.0500	104	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444228,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 890968

Sample: 623755-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 12:05

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0589	0.0500	118	58-152	
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0410	0.0500	82	80-120	
Toluene-D8	0.0529	0.0500	106	73-132	

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444228,

Lab Batch #: 890968

Sample: 444175-015 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0531	0.0500	106	58-152	
Dibromofluoromethane	0.0477	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0474	0.0500	95	80-120	
Toluene-D8	0.0526	0.0500	105	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	33.9	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 444175-015 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0492	0.0500	98	58-152	
Dibromofluoromethane	0.0465	0.0500	93	74-126	
1,2-Dichloroethane-D4	0.0417	0.0500	83	80-120	
Toluene-D8	0.0454	0.0500	91	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444228

Project ID:

Lab Batch #: 890968

Sample: 623755-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: ROL

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B		Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes							
Benzene		<0.00100	0.100	0.0851	85	62-132	
Toluene		<0.00100	0.100	0.0999	100	66-124	
Ethylbenzene		<0.00100	0.100	0.104	104	71-134	
m,p-Xylenes		<0.00200	0.200	0.200	100	69-128	
o-Xylene		<0.00100	0.100	0.100	100	72-131	

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

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

BRL - Below Reporting Limit



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444228

Analyst: TTE

Lab Batch ID: 891560

Sample: 624144-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Batch #: 1

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	<0.500	50.0	52.2	104	50.0	52.8	106	1	80-120	20

Analyst: ASA

Lab Batch ID: 890835

Sample: 623669-1-BKS

Units: mg/kg

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/23/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	974	97	1000	983	98	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	723	72	1000	706	71	2	70-135	35	

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



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444228

Lab Batch #: 891560

Date Analyzed: 07/04/2012

QC- Sample ID: 444219-004 S

Reporting Units: mg/kg

Project ID:

Analyst: TTE

Date Prepared: 07/04/2012

Batch #: 1

Matrix: Soil

Inorganic Anions by EPA 300		MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		36.4	50.5	82.6	91	80-120	

Lab Batch #: 891560

Date Analyzed: 07/04/2012

QC- Sample ID: 444230-001 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Analyst: TTE

Batch #: 1

Matrix: Soil

Inorganic Anions by EPA 300		MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		6.21	53.5	62.7	106	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444228

Lab Batch ID: 890968

Date Analyzed: 06/25/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444175-015 S Batch #: 1 Matrix: Soil

Date Prepared: 06/25/2012 Analyst: ROL

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	<0.00113	0.113	0.0902	80	0.112	0.0826	74	9	62-132	25	
		Toluene	<0.00113	0.113	0.103	91	0.112	0.0871	78	17	66-124	25	
		Ethylbenzene	<0.00113	0.113	0.117	104	0.112	0.111	99	5	71-134	25	
		m,p-Xylenes	0.00261	0.226	0.227	99	0.223	0.244	108	7	69-128	25	
		o-Xylene	<0.00113	0.113	0.114	101	0.112	0.132	118	15	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

QC- Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	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	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444228

Lab Batch #: 890867

Date Analyzed: 06/22/2012 11:00

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444343-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.65	1.75	6	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 06/18/2012 03:30:00 PM

Work Order #: 444228

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.5
#2 *Shipping container in good condition?	___
#3 *Samples received on ice?	___
#4 *Custody Seals intact on shipping container/ cooler?	___
#5 Custody Seals intact on sample bottles/ container?	___
#6 *Custody Seals Signed and dated for Containers/coolers	___
#7 *Chain of Custody present?	___
#8 Sample instructions complete on Chain of Custody?	___
#9 Any missing/extra samples?	___
#10 Chain of Custody signed when relinquished/ received?	___
#11 Chain of Custody agrees with sample label(s)?	___
#12 Container label(s) legible and intact?	___
#13 Sample matrix/ properties agree with Chain of Custody?	___
#14 Samples in proper container/ bottle?	___
#15 Samples properly preserved?	___
#16 Sample container(s) intact?	___
#17 Sufficient sample amount for indicated test(s)?	___
#18 All samples received within hold time?	___
#19 Subcontract of sample(s)?	___
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	___
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	___
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	___

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

Analyst:	PH Device/Lot#:

Checklist completed by: _____

Date: 06/19/2012 _____

Checklist reviewed by: _____

Date: 06/19/2012 _____



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6-18-12 15:30
Lab ID #: 444228
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and <u>bottles</u> ?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444234
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444234**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444234. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444234 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.
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Sample Cross Reference 444234



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 6 G-1	S	06-14-12 09:50		444234-001
VZ Cell 6 G-2	S	06-14-12 10:00		444234-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444234

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890835 TPH By SW8015 Mod

SW8015MOD_NM

Batch 890835, 1-Chlorooctane recovered below QC limits Data confirmed by re-analysis.

Samples affected are: 623669-1-BLK,444234-001,444234-002.

o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are: 623669-1-BLK,444235-001 S,444235-001 SD,444234-002,444234-001.



Hits Summary

444234



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 6 G-1		Matrix: Soil		% Moisture: 8.01		
Lab Sample Id: 444234-001		Date Collected: Jun-14-12 09:50		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561		Reviewed		Date Prep: Jul-04-12 23:16		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.7	mg/kg	07/04/12 23:16		1



Hits Summary

444234



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 6 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444234-001		Date Collected: Jun-14-12 09:50		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890867		Review				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	8.01	%	06/22/12 11:00		1



Hits Summary

444234



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

Sample Id: VZ Cell 6 G-2	Matrix: Soil	% Moisture: 6.11				
Lab Sample Id: 444234-002	Date Collected: Jun-14-12 10:00	Basis: Dry Weight				
	Date Received: Jun-18-12 15:30					
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P				
Seq Number: 891561		Date Prep: Jul-04-12 23:32				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.2	mg/kg	07/04/12 23:32		1



Hits Summary

444234



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 6 G-2	Matrix: Soil	% Moisture:
Lab Sample Id: 444234-002	Date Collected: Jun-14-12 10:00	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890867

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.11	%	06/22/12 11:00		1



Certificate of Analysis Summary 444234

Southern Union Gas Services- Monahans, Monahans, TX



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Project Name: Southern Union Gas Landfarm

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested		Lab Id:	444234-001	444234-002	
		Field Id:	VZ Cell 6 G-1	VZ Cell 6 G-2	
		Depth:			
		Matrix:	SOIL	SOIL	
		Sampled:	Jun-14-12 09:50	Jun-14-12 10:00	
BTEX by SW 8260B SUB: TX104704215	Extracted:	Jun-25-12 15:46	Jun-25-12 15:48		
	Analyzed:	Jun-25-12 21:05	Jun-25-12 21:21		
	Units/RL:	mg/kg RL	mg/kg RL		
	Benzene	ND 0.00108	ND 0.00103		
	Toluene	ND 0.00108	ND 0.00103		
Ethylbenzene		ND 0.00108	ND 0.00103		
	m,p-Xylenes	ND 0.00215	ND 0.00206		
	o-Xylene	ND 0.00108	ND 0.00103		
	Total BTEX	ND 0.00108	ND 0.00103		
Total Xylenes		ND 0.00108	ND 0.00103		
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 23:16	Jul-04-12 23:32		
	Analyzed:	Jul-04-12 23:16	Jul-04-12 23:32		
	Units/RL:	mg/kg RL	mg/kg RL		
Chloride		11.7 0.544	11.2 0.533		
Percent Moisture		Extracted:			
TPH By SW8015 Mod	Analyzed:	Jun-22-12 11:00	Jun-22-12 11:00		
	Units/RL:	% RL	% RL		
	Percent Moisture	8.01 1.00	6.11 1.00		
C6-C12 Gasoline Range Hydrocarbons	Extracted:	Jun-22-12 09:10	Jun-22-12 09:10		
	Analyzed:	Jun-23-12 16:07	Jun-23-12 16:41		
	Units/RL:	mg/kg RL	mg/kg RL		
C12-C28 Diesel Range Hydrocarbons		ND 16.3	ND 16.0		
C28-C35 Oil Range Hydrocarbons		ND 16.3	ND 16.0		
Total TPH		ND 16.3	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.

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

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 quantitation limit and above the detection limit.
 - U** Analyte was not detected.
 - L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
 - H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
 - K** Sample analyzed outside of recommended hold time.
 - JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- * Surrogate recovered outside laboratory control limit.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- MDL** Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection
- PQL** Practical Quantitation Limit **SQL** Method Quantitation Limit **LOQ** Limit of Quantitation
- DL** Method Detection Limit
- NC** Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444234,

Project ID:

Lab Batch #: 890835

Sample: 444234-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 16:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	60.3	100	60	70-135	**
o-Terphenyl	29.9	50.0	60	70-135	**

Lab Batch #: 890835

Sample: 444234-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 16:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	58.1	100	58	70-135	**
o-Terphenyl	29.5	50.0	59	70-135	**

Lab Batch #: 890937

Sample: 444234-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:05

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0557	0.0500	111	58-152	
Dibromofluoromethane	0.0512	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0522	0.0500	104	80-120	
Toluene-D8	0.0512	0.0500	102	73-132	

Lab Batch #: 890937

Sample: 444234-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:21

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0560	0.0500	112	58-152	
Dibromofluoromethane	0.0538	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0547	0.0500	109	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444234,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	67.1	100	67	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 623740-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:59

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0529	0.0500	106	58-152	
Dibromofluoromethane	0.0521	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0546	0.0500	109	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 890937

Sample: 623740-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:27

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0512	0.0500	102	58-152	
Dibromofluoromethane	0.0517	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0517	0.0500	103	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444234,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0520	0.0500	104	58-152	
Dibromofluoromethane	0.0529	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0541	0.0500	108	80-120	
Toluene-D8	0.0491	0.0500	98	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	33.9	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444234,

Lab Batch #: 890937

Sample: 444235-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:19

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0543	0.0500	109	58-152	
Dibromofluoromethane	0.0539	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0555	0.0500	111	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Project Name: Southern Union Gas Landfarm

Work Order #: 444234

Project ID:

Lab Batch #: 890937

Sample: 623740-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: JBU

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B						
Analytes		Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R
Benzene		<0.00100	0.100	0.109	109	62-132
Toluene		<0.00100	0.100	0.107	107	66-124
Ethylbenzene		<0.00100	0.100	0.105	105	71-134
m,p-Xylenes		<0.00200	0.200	0.213	107	69-128
o-Xylene		<0.00100	0.100	0.108	108	72-131

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

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

BRL - Below Reporting Limit



BS / BSD recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444234

Analyst: TTE

Lab Batch ID: 891561

Sample: 624145-1-BKS

Units: mg/kg

Project ID:
Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Batch #: 1

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	53.0	106	50.0	52.5	105	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890835

Sample: 623669-1-BKS

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/23/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	974	97	1000	983	98	1	70-135	35
	C12-C28 Diesel Range Hydrocarbons	<15.0	1000	723	72	1000	706	71	2	70-135	35

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444234

Lab Batch #: 891561

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444232-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.4	55.6	68.9	102	80-120	

Lab Batch #: 891561

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444239-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	50.0	57.5	99.5	86	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444234

Lab Batch ID: 890937

Date Analyzed: 06/26/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/25/2012 Analyst: JBU

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	<0.00106	0.106	0.112	106	0.105	0.113	108	1	62-132	25	
	Toluene	<0.00106	0.106	0.110	104	0.105	0.108	103	2	66-124	25	
	Ethylbenzene	<0.00106	0.106	0.108	102	0.105	0.107	102	1	71-134	25	
	m,p-Xylenes	<0.00212	0.212	0.225	106	0.210	0.221	105	2	69-128	25	
	o-Xylene	<0.00106	0.106	0.111	105	0.105	0.111	106	0	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

QC- Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH By SW8015 Mod											
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444234

Lab Batch #: 890867

Date Analyzed: 06/22/2012 11:00

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444343-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.65	1.75	6	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444234

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____



XENCO Laboratories
 Atlanta, Boca Raton, Corpus Christi, Dallas
 Houston, Miami, Odessa, Philadelphia
 Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
 Document No.: SYS-SRC
 Revision/Date: No. 01, 5/27/2010
 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Em. / Plains
 Date/Time: 6-18-12 15:30
 Lab ID #: 444234
 Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.2.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444229
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)

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

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

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



11-JUL-12

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

Reference: XENCO Report No: **444229**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444229. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444229 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 444229



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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 7 G-1	S	06-14-12 10:10		444229-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444229

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890835 TPH By SW8015 Mod
SW8015MOD_NM

Batch 890835, 1-Chlorooctane recovered below QC limits Data confirmed by re-analysis.

Samples affected are: 623669-1-BLK,444229-001.

o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are:
623669-1-BLK,444235-001 S,444235-001 SD,444229-001.



Hits Summary

444229



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

Sample Id: VZ Cell 7 G-1		Matrix: Soil		% Moisture: 7.2		
Lab Sample Id: 444229-001		Date Collected: Jun-14-12 10:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891560		Reviewed		Date Prep: Jul-04-12 20:19		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.84	mg/kg	07/04/12 20:19		1



Hits Summary

444229



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 7 G-1	Matrix: Soil	% Moisture:
Lab Sample Id: 444229-001	Date Collected: Jun-14-12 10:10	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890867

Revised

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	7.20	%	06/22/12 11:00		1



Certificate of Analysis Summary 444229

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444229-001			
	Field Id:	VZ Cell 7 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-14-12 10:10			
BTEX by SW 8260B SUB: TX104704215	Extracted:	Jun-25-12 15:06			
	Analyzed:	Jun-25-12 18:26			
	Units/RL:	mg/kg RL			
		ND 0.00105			
Benzene		ND 0.00105			
Toluene		ND 0.00105			
Ethylbenzene		ND 0.00105			
m,p-Xylenes		ND 0.00210			
o-Xylene		ND 0.00105			
Total BTEX		ND 0.00105			
Total Xylenes		ND 0.00105			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 20:19			
	Analyzed:	Jul-04-12 20:19			
	Units/RL:	mg/kg RL			
		6.84 0.539			
Chloride					
Percent Moisture	Extracted:				
	Analyzed:	Jun-22-12 11:00			
	Units/RL:	% RL			
		7.20 1.00			
TPH By SW8015 Mod	Extracted:	Jun-22-12 09:10			
	Analyzed:	Jun-23-12 13:18			
	Units/RL:	mg/kg RL			
		ND 16.2			
C6-C12 Gasoline Range Hydrocarbons		ND 16.2			
C12-C28 Diesel Range Hydrocarbons		ND 16.2			
C28-C35 Oil Range Hydrocarbons		ND 16.2			
Total TPH		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.

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444229,

Project ID:

Lab Batch #: 890835

Sample: 444229-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 13:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	59.6	100	60	70-135	**
o-Terphenyl	29.6	50.0	59	70-135	**

Lab Batch #: 890968

Sample: 444229-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 18:26

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0555	0.0500	111	58-152	
Dibromofluoromethane	0.0544	0.0500	109	74-126	
1,2-Dichloroethane-D4	0.0477	0.0500	95	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	67.1	100	67	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 623755-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 13:15

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0513	0.0500	103	58-152	
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0521	0.0500	104	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444229,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 890968

Sample: 623755-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 12:05

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0589	0.0500	118	58-152	
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0410	0.0500	82	80-120	
Toluene-D8	0.0529	0.0500	106	73-132	

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444229,

Project ID:

Lab Batch #: 890968

Sample: 444175-015 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0531	0.0500	106	58-152	
Dibromofluoromethane	0.0477	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0474	0.0500	95	80-120	
Toluene-D8	0.0526	0.0500	105	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	33.9	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 444175-015 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0492	0.0500	98	58-152	
Dibromofluoromethane	0.0465	0.0500	93	74-126	
1,2-Dichloroethane-D4	0.0417	0.0500	83	80-120	
Toluene-D8	0.0454	0.0500	91	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444229

Project ID:

Lab Batch #: 890968

Sample: 623755-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: ROL

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B		Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes							
Benzene		<0.00100	0.100	0.0851	85	62-132	
Toluene		<0.00100	0.100	0.0999	100	66-124	
Ethylbenzene		<0.00100	0.100	0.104	104	71-134	
m,p-Xylenes		<0.00200	0.200	0.200	100	69-128	
o-Xylene		<0.00100	0.100	0.100	100	72-131	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

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

- Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 444229

Analyst: TTE

Lab Batch ID: 891560

Sample: 624144-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

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 [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.2	104	50.0	52.8	106	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890835

Sample: 623669-1-BKS

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/23/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	974	97	1000	983	98	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	1000	723	72	1000	706	71	2	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

rk Order #: 444229

Lab Batch #: 891560

Date Analyzed: 07/04/2012

QC- Sample ID: 444219-004 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	36.4	50.5	82.6	91	80-120	

Lab Batch #: 891560

Date Analyzed: 07/04/2012

QC- Sample ID: 444230-001 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.21	53.5	62.7	106	80-120	

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

I Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444229

Lab Batch ID: 890968

Date Analyzed: 06/25/2012

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 444175-015 S

Date Prepared: 06/25/2012

Batch #: 1 Matrix: Soil

Analyst: ROL

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00113	0.113	0.0902	80	0.112	0.0826	74	9	62-132	25
	Toluene	<0.00113	0.113	0.103	91	0.112	0.0871	78	17	66-124	25
	Ethylbenzene	<0.00113	0.113	0.117	104	0.112	0.111	99	5	71-134	25
	m,p-Xylenes	0.00261	0.226	0.227	99	0.223	0.244	108	7	69-128	25
	o-Xylene	<0.00113	0.113	0.114	101	0.112	0.132	118	15	72-131	25

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

QC-Sample ID: 444235-001 S

Date Prepared: 06/22/2012

Batch #: 1 Matrix: Soil

Analyst: ASA

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444229

Lab Batch #: 890867

Project ID:

Date Analyzed: 06/22/2012 11:00

Date Prepared: 06/22/2012

Analyst: WRU

QC- Sample ID: 444343-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.65	1.75	6	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444229

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguljo

Project Name: Southern Union Gas Landfarm

Company Name	Basin Environmental Service Technologies, LLC

Project #:

Company Address: P.O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO#:

Telephone No:(575)396-2378

Fax No.: (575)396-1429

Report-Format:

Sampler Signature: Sooley

e-mail: blarguljo@basinenv.com; Rose.Slade@SUG.com

blargullo@basinenv.com; Rose.Slade@SUG.com

(lab use only)

ORDER #:

62229

FIELD CODE

VZ Cell 7 G-1

(A)

Page 18 of 19

Revised 1.002

[illegible]



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6-18-12 15:30
Lab ID #: 444229
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444235
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444235**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444235. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444235 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 444235



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 8 G-1	S	06-14-12 10:20		444235-001
VZ Cell 8 G-2	S	06-14-12 10:30		444235-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444235

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890835 TPH By SW8015 Mod

SW8015MOD_NM

Batch 890835, o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are: 623669-1-BLK,444235-001 S,444235-001 SD,444235-002,444235-001.

1-Chlorooctane recovered below QC limits Data confirmed by re-analysis. Samples affected are: 623669-1-BLK,444235-001,444235-002.



Hits Summary

444235



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 8 G-1		Matrix: Soil		% Moisture: 7.2		
Lab Sample Id: 444235-001		Date Collected: Jun-14-12 10:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 00:05		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.8	mg/kg	07/05/12 00:05		1



Hits Summary

444235



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

Sample Id: VZ Cell 8 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444235-001		Date Collected: Jun-14-12 10:20		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868		Review				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	7.20	%	06/22/12 11:30		1



Hits Summary

444235



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 8 G-2		Matrix: Soil		% Moisture: 6.11		
Lab Sample Id: 444235-002		Date Collected: Jun-14-12 10:30		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 00:53		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.87	mg/kg	07/05/12 00:53		1



Hits Summary

444235



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 8 G-2		Matrix: Soil		% Moisture:		
Lab Sample Id: 444235-002		Date Collected: Jun-14-12 10:30		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.11	%	06/22/12 11:30		1



Certificate of Analysis Summary 444235
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444235-001	444235-002	
	Field Id:	VZ Cell 8 G-1	VZ Cell 8 G-2	
	Depth:			
	Matrix:	SOIL	SOIL	
	Sampled:	Jun-14-12 10:20	Jun-14-12 10:30	
BTX by SW 8260B SUB: TX104704215	Extracted:	Jun-25-12 15:50	Jun-25-12 15:52	
	Analyzed:	Jun-25-12 21:37	Jun-25-12 21:53	
	Units/RL:	mg/kg RL	mg/kg RL	
		ND 0.00107	ND 0.00106	
Benzene		ND 0.00107	ND 0.00106	
Toluene		ND 0.00107	ND 0.00106	
Ethylbenzene		ND 0.00107	ND 0.00106	
m,p-Xylenes		ND 0.00215	ND 0.00213	
o-Xylene		ND 0.00107	ND 0.00106	
Total BTX		ND 0.00107	ND 0.00106	
Total Xylenes		ND 0.00107	ND 0.00106	
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-05-12 00:05	Jul-05-12 00:53	
	Analyzed:	Jul-05-12 00:05	Jul-05-12 00:53	
	Units/RL:	mg/kg RL	mg/kg RL	
Chloride		23.8 0.539	7.87 0.533	
Percent Moisture	Extracted:			
	Analyzed:	Jun-22-12 11:30	Jun-22-12 11:30	
	Units/RL:	% RL	% RL	
Percent Moisture		7.20 1.00	6.11 1.00	
TPH By SW8015 Mod	Extracted:	Jun-22-12 09:10	Jun-22-12 09:10	
	Analyzed:	Jun-23-12 17:14	Jun-23-12 17:47	
	Units/RL:	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		ND 16.2	ND 16.0	
C12-C28 Diesel Range Hydrocarbons		ND 16.2	ND 16.0	
C28-C35 Oil Range Hydrocarbons		ND 16.2	ND 16.0	
Total TPH		ND 16.2	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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Nicholas Straccione

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444235,

Project ID:

Lab Batch #: 890835

Sample: 444235-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 17:14

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	61.9	100	62	70-135	**
o-Terphenyl	31.1	50.0	62	70-135	**

Lab Batch #: 890835

Sample: 444235-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 17:47

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	54.7	100	55	70-135	**
o-Terphenyl	27.3	50.0	55	70-135	**

Lab Batch #: 890937

Sample: 444235-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:37

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0544	0.0500	109	58-152	
Dibromofluoromethane	0.0546	0.0500	109	74-126	
1,2-Dichloroethane-D4	0.0525	0.0500	105	80-120	
Toluene-D8	0.0510	0.0500	102	73-132	

Lab Batch #: 890937

Sample: 444235-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:53

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0569	0.0500	114	58-152	
Dibromofluoromethane	0.0532	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0557	0.0500	111	80-120	
Toluene-D8	0.0509	0.0500	102	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444235,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		67.1	100	67	70-135	**
o-Terphenyl		34.1	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 623740-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:59

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0529	0.0500	106	58-152	
Dibromofluoromethane		0.0521	0.0500	104	74-126	
1,2-Dichloroethane-D4		0.0546	0.0500	109	80-120	
Toluene-D8		0.0495	0.0500	99	73-132	

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		84.9	100	85	70-135	
o-Terphenyl		40.6	50.0	81	70-135	

Lab Batch #: 890937

Sample: 623740-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:27

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0512	0.0500	102	58-152	
Dibromofluoromethane		0.0517	0.0500	103	74-126	
1,2-Dichloroethane-D4		0.0517	0.0500	103	80-120	
Toluene-D8		0.0497	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444235,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0520	0.0500	104	58-152	
Dibromofluoromethane	0.0529	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0541	0.0500	108	80-120	
Toluene-D8	0.0491	0.0500	98	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	33.9	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444235,

Project ID:

Lab Batch #: 890937

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:19

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0543	0.0500	109	58-152	
Dibromofluoromethane		0.0539	0.0500	108	74-126	
1,2-Dichloroethane-D4		0.0555	0.0500	111	80-120	
Toluene-D8		0.0497	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444235

Project ID:

Lab Batch #: 890937

Sample: 623740-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: JBU

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.00100	0.100	0.109	109	62-132	
Toluene	<0.00100	0.100	0.107	107	66-124	
Ethylbenzene	<0.00100	0.100	0.105	105	71-134	
m,p-Xylenes	<0.00200	0.200	0.213	107	69-128	
o-Xylene	<0.00100	0.100	0.108	108	72-131	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

results are based on MDL and validated for QC purposes.

L - Below Reporting Limit

Project Name: Southern Union Gas Landfarm
Work Order #: 444235
Analyst: TTE
Lab Batch ID: 891561
Sample: 624145-1-BKS
Date Prepared: 07/04/2012
Batch #: 1
Project ID:
Date Analyzed: 07/04/2012
Matrix: Solid
Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	Inorganic Anions by EPA 300/300.1	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blank Spike Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]				
		Chloride	<0.500	50.0	53.0	106	50.0	52.5	105	1	80-120	20	

Analyst: ASA
Lab Batch ID: 890835
Sample: 623669-1-BKS
Date Prepared: 06/22/2012
Batch #: 1
Date Analyzed: 06/23/2012
Matrix: Solid
Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	TPH By SW8015 Mod	Analytes	Blank	Spike	Blank	Blank	Spike	Blank	Blk. Spk	RPD	Control	Control	Flag
			Sample Result	Added	Spike	Spike	Spike	Dup.	%	Limits	Limits		
			[A]	[B]	[C]	%R	[D]	[E]	[F]	%R	%RPD	%R	
			</										

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

rk Order #: 444235

Lab Batch #: 891561

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444232-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.4	55.6	68.9	102	80-120	

Lab Batch #: 891561

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444239-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	50.0	57.5	99.5	86	80-120	

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

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

E Below Reporting Limit

Work Order #: 444235

Lab Batch ID: 890937

Date Analyzed: 06/26/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/25/2012 Analyst: JBU

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	<0.00106	0.106	0.112	106	0.105	0.113	108	1	62-132	25	
	Toluene	<0.00106	0.106	0.110	104	0.105	0.108	103	2	66-124	25	
	Ethylbenzene	<0.00106	0.106	0.108	102	0.105	0.107	102	1	71-134	25	
	m,p-Xylenes	<0.00212	0.212	0.225	106	0.210	0.221	105	2	69-128	25	
	o-Xylene	<0.00106	0.106	0.111	105	0.105	0.111	106	0	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

QC- Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
TPH By SW8015 Mod											
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444235

Lab Batch #: 890868

Date Analyzed: 06/22/2012 11:30

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444235-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	7.20	8.05	11	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444235

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Project #:

Project Loc: Lea County, NM

PO#

Fax No: (575)396-1429

☒ Standard ☐ TRRP ☐ NPDES

e-mail: bjarguijo@basinenv.com; Rose.Slade@SUG.com

Revised 1.004



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6-18-12 15:30
Lab ID #: 444235
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444242
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444242**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444242. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444242 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 444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 9 G-1	S	06-14-12 10:40		444242-001
VZ Cell 9 G-2	S	06-14-12 10:50		444242-002
VZ Cell 9 G-3	S	06-14-12 11:00		444242-003
VZ Cell 9 G-4	S	06-14-12 11:10		444242-004
VZ Cell 9 G-5	S	06-14-12 11:20		444242-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444242

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890837 TPH By SW8015 Mod
SW8015MOD_NM

Batch 890837, 1-Chlorooctane recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 444242-003 SD,444242-002,444242-001,444242-003,444242-004.

o-Terphenyl recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 444242-004,444242-003,444242-001.



Hits Summary

444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 9 G-1		Matrix: Soil		% Moisture: 9.34		
Lab Sample Id: 444242-001		Date Collected: Jun-14-12 10:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562		Date Prep: Jul-05-12 10:49				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.65	mg/kg	07/05/12 10:49		1



Hits Summary

444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 9 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444242-001		Date Collected: Jun-14-12 10:40		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	9.34	%	06/22/12 12:25		1



Hits Summary

444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 9 G-2		Matrix: Soil		% Moisture: 8.64		
Lab Sample Id: 444242-002		Date Collected: Jun-14-12 10:50		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562				Date Prep: Jul-05-12 11:05		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.42	mg/kg	07/05/12 11:05		1



Hits Summary

444242



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

Sample Id: VZ Cell 9 G-2		Matrix: Soil		% Moisture:		
Lab Sample Id: 444242-002		Date Collected: Jun-14-12 10:50		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	8.64	%	06/22/12 12:25		1



Hits Summary

444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 9 G-3		Matrix: Soil		% Moisture: 15.3		
Lab Sample Id: 444242-003		Date Collected: Jun-14-12 11:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562		Reviewed		Date Prep: Jul-05-12 11:21		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.5	mg/kg	07/05/12 11:21		1



Hits Summary

444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 9 G-3		Matrix: Soil		% Moisture:		
Lab Sample Id: 444242-003		Date Collected: Jun-14-12 11:00		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	15.3	%	06/22/12 12:25		1



Hits Summary

444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 9 G-4	Matrix: Soil	% Moisture: 11.2
Lab Sample Id: 444242-004	Date Collected: Jun-14-12 11:10	Basis: Dry Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891562	Date Prep: Jul-05-12 11:37

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.7	mg/kg	07/05/12 11:37		1



Hits Summary

444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 9 G-4		Matrix: Soil		% Moisture:		
Lab Sample Id: 444242-004		Date Collected: Jun-14-12 11:10		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter		Cas Number	Result	Units	Analysis Date	Flag
Percent Moisture		TMOIST	11.2	%	06/22/12 12:25	Dil



Hits Summary

444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 9 G-5		Matrix: Soil		% Moisture: 5.99		
Lab Sample Id: 444242-005		Date Collected: Jun-14-12 11:20		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891562				Date Prep: Jul-05-12 12:25		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.32	mg/kg	07/05/12 12:25		1



Hits Summary

444242



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 9 G-5		Matrix: Soil		% Moisture:		
Lab Sample Id: 444242-005		Date Collected: Jun-14-12 11:20		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890869						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	5.99	%	06/22/12 12:25		1



Certificate of Analysis Summary 444242
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested		Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	444242-001	444242-002	444242-003	444242-004	444242-005
							VZ Cell 9 G-1	VZ Cell 9 G-2	VZ Cell 9 G-3	VZ Cell 9 G-4	VZ Cell 9 G-5
							SOIL	SOIL	SOIL	SOIL	SOIL
							Jun-14-12 10:40	Jun-14-12 10:50	Jun-14-12 11:00	Jun-14-12 11:10	Jun-14-12 11:20
BTEX by SW 8260B											
SUB: TX104704215											
		Extracted:	Jun-27-12 19:00	Jun-27-12 19:02	Jun-27-12 19:04	Jun-27-12 19:06	Jun-27-12 19:08	Jun-27-12 19:08	Jun-27-12 19:08	Jun-27-12 19:08	Jun-27-12 19:08
		Analyzed:	Jun-28-12 00:37	Jun-28-12 00:54	Jun-28-12 01:10	Jun-28-12 01:26	Jun-28-12 01:42	Jun-28-12 01:42	Jun-28-12 01:42	Jun-28-12 01:42	Jun-28-12 01:42
		Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene			ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108
Toluene			ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108
Ethylbenzene			ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108
m,p-Xylenes			ND 0.00216	ND 0.00216	ND 0.00231	ND 0.00223	ND 0.00207	ND 0.00207	ND 0.00207	ND 0.00207	ND 0.00207
o-Xylene			ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108
Total BTEX			ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108
Total Xylenes			ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108	ND 0.00108
Inorganic Anions by EPA 300/300.1											
SUB: TX104704215											
		Extracted:	Jul-05-12 10:49	Jul-05-12 11:05	Jul-05-12 11:21	Jul-05-12 11:37	Jul-05-12 12:25	Jul-05-12 12:25	Jul-05-12 12:25	Jul-05-12 12:25	Jul-05-12 12:25
		Analyzed:	Jul-05-12 10:49	Jul-05-12 11:05	Jul-05-12 11:21	Jul-05-12 11:37	Jul-05-12 12:25	Jul-05-12 12:25	Jul-05-12 12:25	Jul-05-12 12:25	Jul-05-12 12:25
		Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride			9.65 0.552	7.42 0.547	23.5 0.590	10.7 0.563	9.32 0.532	9.32 0.532	9.32 0.532	9.32 0.532	9.32 0.532
Percent Moisture											
		Extracted:	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25
		Analyzed:	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25	Jun-22-12 12:25
		Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture			9.34 1.00	8.64 1.00	15.3 1.00	11.2 1.00	5.99 1.00	5.99 1.00	5.99 1.00	5.99 1.00	5.99 1.00
TPH By SW8015 Mod											
		Extracted:	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15	Jun-22-12 10:15
		Analyzed:	Jun-23-12 05:03	Jun-23-12 05:34	Jun-23-12 06:08	Jun-23-12 06:37	Jun-23-12 07:07	Jun-23-12 07:07	Jun-23-12 07:07	Jun-23-12 07:07	Jun-23-12 07:07
		Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-Cl12 Gasoline Range Hydrocarbons			ND 16.5	ND 16.4	ND 17.7	ND 16.9	ND 16.0	ND 16.0	ND 16.0	ND 16.0	ND 16.0
Cl12-C28 Diesel Range Hydrocarbons			ND 16.5	ND 16.4	ND 17.7	ND 16.9	ND 16.0	ND 16.0	ND 16.0	ND 16.0	ND 16.0
C28-C35 Oil Range Hydrocarbons			ND 16.5	ND 16.4	ND 17.7	ND 16.9	ND 16.0	ND 16.0	ND 16.0	ND 16.0	ND 16.0
Total TPH			ND 16.5	ND 16.4	ND 17.7	ND 16.9	ND 16.0	ND 16.0	ND 16.0	ND 16.0	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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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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444242,

Project ID:

Lab Batch #: 890837

Sample: 444242-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 05:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	68.1	100	68	70-135	**
o-Terphenyl	34.5	50.0	69	70-135	**

Lab Batch #: 890837

Sample: 444242-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 05:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	68.9	100	69	70-135	**
o-Terphenyl	35.3	50.0	71	70-135	

Lab Batch #: 890837

Sample: 444242-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 06:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	66.9	100	67	70-135	**
o-Terphenyl	34.3	50.0	69	70-135	**

Lab Batch #: 890837

Sample: 444242-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 06:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	67.5	100	68	70-135	**
o-Terphenyl	33.7	50.0	67	70-135	**

Lab Batch #: 890837

Sample: 444242-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 07:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	72.4	100	72	70-135	
o-Terphenyl	36.2	50.0	72	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444242,

Project ID:

Lab Batch #: 891146

Sample: 444242-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/28/12 00:37

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0547	0.0500	109	58-152	
Dibromofluoromethane	0.0518	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0505	0.0500	101	80-120	
Toluene-D8	0.0505	0.0500	101	73-132	

Lab Batch #: 891146

Sample: 444242-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/28/12 00:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0558	0.0500	112	58-152	
Dibromofluoromethane	0.0530	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0502	0.0500	100	80-120	
Toluene-D8	0.0522	0.0500	104	73-132	

Lab Batch #: 891146

Sample: 444242-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/28/12 01:10

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0560	0.0500	112	58-152	
Dibromofluoromethane	0.0528	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0519	0.0500	104	80-120	
Toluene-D8	0.0528	0.0500	106	73-132	

Lab Batch #: 891146

Sample: 444242-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/28/12 01:26

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0563	0.0500	113	58-152	
Dibromofluoromethane	0.0548	0.0500	110	74-126	
1,2-Dichloroethane-D4	0.0533	0.0500	107	80-120	
Toluene-D8	0.0508	0.0500	102	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444242,

Project ID:

Lab Batch #: 891146

Sample: 444242-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/28/12 01:42

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0550	0.0500	110	58-152	
Dibromofluoromethane	0.0531	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0525	0.0500	105	80-120	
Toluene-D8	0.0518	0.0500	104	73-132	

Lab Batch #: 890837

Sample: 623670-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 20:23

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	71.3	100	71	70-135	
o-Terphenyl	36.8	50.0	74	70-135	

Lab Batch #: 891146

Sample: 623856-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/27/12 20:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0522	0.0500	104	58-152	
Dibromofluoromethane	0.0502	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0487	0.0500	97	80-120	
Toluene-D8	0.0513	0.0500	103	73-132	

Lab Batch #: 890837

Sample: 623670-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 19:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.4	100	90	70-135	
o-Terphenyl	38.9	50.0	78	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444242,

Project ID:

Lab Batch #: 891146

Sample: 623856-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/27/12 18:57

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0498	0.0500	100	58-152	
Dibromofluoromethane		0.0500	0.0500	100	74-126	
1,2-Dichloroethane-D4		0.0491	0.0500	98	80-120	
Toluene-D8		0.0501	0.0500	100	73-132	

Lab Batch #: 890837

Sample: 623670-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/22/12 19:52

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		88.5	100	89	70-135	
o-Terphenyl		38.1	50.0	76	70-135	

Lab Batch #: 891146

Sample: 623856-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/27/12 19:13

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0501	0.0500	100	58-152	
Dibromofluoromethane		0.0506	0.0500	101	74-126	
1,2-Dichloroethane-D4		0.0472	0.0500	94	80-120	
Toluene-D8		0.0509	0.0500	102	73-132	

Lab Batch #: 890837

Sample: 444242-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 07:36

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		86.7	100	87	70-135	
o-Terphenyl		36.7	50.0	73	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444242,

Project ID:

Lab Batch #: 891146

Sample: 444239-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/27/12 21:08

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	<	0.0500	0	58-152	**
Dibromofluoromethane	0.0456	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0440	0.0500	88	80-120	
Toluene-D8	0.0482	0.0500	96	73-132	

Lab Batch #: 890837

Sample: 444242-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 08:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	68.9	100	69	70-135	**
o-Terphenyl	35.6	50.0	71	70-135	

Lab Batch #: 891146

Sample: 444239-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/27/12 21:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0501	0.0500	100	58-152	
Dibromofluoromethane	0.0515	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0502	0.0500	100	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Project Name: Southern Union Gas Landfarm

Work Order #: 444242

Analyst: BEC

Lab Batch ID: 891146

Sample: 623856-1-BKS

Date Prepared: 06/27/2012

Batch #: 1

Project ID:

Date Analyzed: 06/27/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	BTEX by SW 8260B											
	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	0.0919	92	0.100	0.0908	91	1	62-132	25	
	Toluene	<0.00100	0.100	0.0946	95	0.100	0.0943	94	0	66-124	25	
	Ethylbenzene	<0.00100	0.100	0.0944	94	0.100	0.0935	94	1	71-134	25	
	m,p-Xylenes	<0.00200	0.200	0.193	97	0.200	0.195	98	1	69-128	25	
o-Xylene	<0.00100	0.100	0.0964	96	0.100	0.0944	94	2	72-131	25		

Analyst: TTE

Date Prepared: 07/05/2012

Date Analyzed: 07/05/2012

Lab Batch ID: 891562

Sample: 624146-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

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	<0.500	50.0	52.0	104	50.0	52.0	104	0	80-120	20	

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

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

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

All results are based on MDL and Validated for QC Purposes



BS / BSD recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444242

Analyst: ASA

Lab Batch ID: 890837

Sample: 623670-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 06/22/2012

Matrix: Solid

Date Prepared: 06/22/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1060	106	1000	1040	104	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	762	76	1000	751	75	1	70-135	35	

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



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444242

Lab Batch #: 891562

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444239-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	4.44	52.9	59.5	104	80-120	

Lab Batch #: 891562

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444526-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	8.40	50.3	60.1	103	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS MSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444242

Lab Batch ID: 891146

Date Analyzed: 06/27/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444239-004 S

Date Prepared: 06/27/2012

Batch #: 1 Matrix: Soil

Analyst: BEC

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag
	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	
BTEX by SW 8260B											
Benzene	<0.00106	0.106	0.0962	91	0.104	0.0950	91	1	62-132	25	
Toluene	<0.00106	0.106	0.0950	90	0.104	0.0953	92	0	66-124	25	
Ethylbenzene	<0.00106	0.106	0.103	97	0.104	0.0964	93	7	71-134	25	
m,p-Xylenes	<0.00211	0.211	0.215	102	0.208	0.200	96	7	69-128	25	
o-Xylene	<0.00106	0.106	<0.00106	0	0.104	0.100	96	200	72-131	25	XF

Lab Batch ID: 890837

Date Analyzed: 06/23/2012

Reporting Units: mg/kg

QC- Sample ID: 444242-003 S

Date Prepared: 06/22/2012

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag
	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	
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<17.7	1180	1210	103	1180	1220	103	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.7	1180	867	73	1180	849	72	2	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444242

Lab Batch #: 890869

Date Analyzed: 06/22/2012 12:25

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444240-004 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	6.62	6.83	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444242

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Project #:

Project Loc: Lea County, NM

PO#:

Fax No: (575) 396-1429

e-mail: pm@basinenv.com

Report Format:

Standard	TRRP
☒	☐

NPDES

Revised 1.004



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6.18.12 15:30
Lab ID #: 444742
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444238
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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-44-02), 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)



11-JUL-12

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

Reference: XENCO Report No: **444238**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444238. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444238 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 444238



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 10 G-1	S	06-14-12 11:30		444238-001
VZ Cell 10 G-2	S	06-14-12 11:40		444238-002
VZ Cell 10 G-3	S	06-14-12 11:50		444238-003
VZ Cell 10 G-4	S	06-14-12 12:00		444238-004



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444238

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890835 TPH By SW8015 Mod
SW8015MOD_NM

Batch 890835, o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are: 623669-1-BLK,444235-001 S,444235-001 SD,444238-004,444238-003,444238-001,444238-002.

1-Chlorooctane recovered below QC limits Data confirmed by re-analysis. Samples affected are: 623669-1-BLK,444238-001,444238-004,444238-002,444238-003.

Batch: LBA-891064 BTEX by SW 8260B
SW8260BTX

Batch 891064, 1,2-Dichloroethane-D4 recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 444238-003.

1,2-Dichloroethane-d4 out of control limits however sample was clean .Sample affected 444238-003



Hits Summary

444238



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 10 G-1		Matrix: Soil		% Moisture: 9.15		
Lab Sample Id: 444238-001		Date Collected: Jun-14-12 11:30		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 02:46		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.9	mg/kg	07/05/12 02:46		1



Hits Summary

444238



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 10 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444238-001		Date Collected: Jun-14-12 11:30		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868		Revised				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	9.15	%	06/22/12 11:30		1



Hits Summary

444238



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 10 G-2		Matrix: Soil		% Moisture: 5.63		
Lab Sample Id: 444238-002		Date Collected: Jun-14-12 11:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561		Result: 61.3		Date Prep: Jul-05-12 03:02		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	61.3	mg/kg	07/05/12 03:02		1



Hits Summary

444238



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 10 G-2	Matrix: Soil	% Moisture:
Lab Sample Id: 444238-002	Date Collected: Jun-14-12 11:40	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890868

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	5.63	%	06/22/12 11:30		1



Hits Summary

444238



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 10 G-3		Matrix: Soil		% Moisture: 11.5		
Lab Sample Id: 444238-003		Date Collected: Jun-14-12 11:50		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561		Reviewed		Date Prep: Jul-05-12 03:18		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.6	mg/kg	07/05/12 03:18		1



Hits Summary

444238



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

Sample Id: VZ Cell 10 G-3		Matrix: Soil		% Moisture:		
Lab Sample Id: 444238-003		Date Collected: Jun-14-12 11:50		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	11.5	%	06/22/12 11:30		1



Hits Summary

444238



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 10 G-4		Matrix: Soil		% Moisture: 11.7		
Lab Sample Id: 444238-004		Date Collected: Jun-14-12 12:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561				Date Prep: Jul-05-12 04:06		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.3	mg/kg	07/05/12 04:06		1



Hits Summary

444238



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 10 G-4	Matrix: Soil	% Moisture:
Lab Sample Id: 444238-004	Date Collected: Jun-14-12 12:00	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890868

Revised

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	11.7	%	06/22/12 11:30		1



Certificate of Analysis Summary 444238
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm

Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	<i>Extracted:</i>	<i>Analyzed:</i>	<i>Units/RL:</i>
	444238-001	VZ Cell 10 G-1		SOIL	Jun-14-12 11:30	Jun-26-12 10:00	Jun-26-12 11:57	mg/kg RL
	444238-002	VZ Cell 10 G-2		SOIL	Jun-14-12 11:40	Jun-26-12 10:02	Jun-26-12 12:12	mg/kg RL
	444238-003	VZ Cell 10 G-3		SOIL	Jun-14-12 11:50	Jun-26-12 10:04	Jun-26-12 12:28	mg/kg RL
	444238-004	VZ Cell 10 G-4		SOIL	Jun-14-12 12:00	Jun-26-12 10:06	Jun-26-12 12:44	mg/kg RL
BTEX by SW 8260B SUB: TX104704215								
	Benzene					ND 0.00111		ND 0.00114
	Toluene					ND 0.00111		ND 0.00114
	Ethylbenzene					ND 0.00111		ND 0.00114
	m,p-Xylenes					ND 0.00221		ND 0.00227
	o-Xylene					ND 0.00111		ND 0.00114
Total BTEX						ND 0.00111		ND 0.00114
						ND 0.00111		ND 0.00114
						ND 0.00111		ND 0.00114
Inorganic Anions by EPA 300/300.1 SUB: TX104704215								
						Jul-05-12 02:46	Jul-05-12 04:06	
						Jul-05-12 02:46	Jul-05-12 04:06	
Chloride						26.9 0.550	21.6 0.565	20.3 0.566
Percent Moisture								
						Jun-22-12 11:30	Jun-22-12 11:30	
						% RL	% RL	% RL
TPH By SW8015 Mod						9.15 1.00	11.5 1.00	11.7 1.00
C6-C12 Gasoline Range Hydrocarbons						Jun-22-12 09:10	Jun-22-12 09:10	
						Jun-23-12 22:21	Jun-23-12 23:30	
						mg/kg RL	mg/kg RL	mg/kg RL
C12-C28 Diesel Range Hydrocarbons						ND 16.5	ND 16.9	ND 17.0
						ND 16.5	ND 16.9	ND 17.0
						ND 16.5	ND 16.9	ND 17.0
C28-C35 Oil Range Hydrocarbons						ND 16.5	ND 16.9	ND 17.0
						ND 16.5	ND 16.9	ND 17.0
						ND 16.5	ND 16.9	ND 17.0

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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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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444238,

Project ID:

Lab Batch #: 890835

Sample: 444238-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 22:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		65.9	100	66	70-135	**
o-Terphenyl		33.2	50.0	66	70-135	**

Lab Batch #: 890835

Sample: 444238-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 22:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		61.4	100	61	70-135	**
o-Terphenyl		31.1	50.0	62	70-135	**

Lab Batch #: 890835

Sample: 444238-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 23:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		65.9	100	66	70-135	**
o-Terphenyl		32.8	50.0	66	70-135	**

Lab Batch #: 890835

Sample: 444238-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		64.3	100	64	70-135	**
o-Terphenyl		32.3	50.0	65	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444238,

Project ID:

Lab Batch #: 891064

Sample: 444238-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 11:57

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0519	0.0500	104	58-152	
Dibromofluoromethane	0.0536	0.0500	107	74-126	
1,2-Dichloroethane-D4	0.0584	0.0500	117	80-120	
Toluene-D8	0.0511	0.0500	102	73-132	

Lab Batch #: 891064

Sample: 444238-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 12:12

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0545	0.0500	109	58-152	
Dibromofluoromethane	0.0543	0.0500	109	74-126	
1,2-Dichloroethane-D4	0.0593	0.0500	119	80-120	
Toluene-D8	0.0491	0.0500	98	73-132	

Lab Batch #: 891064

Sample: 444238-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 12:28

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0565	0.0500	113	58-152	
Dibromofluoromethane	0.0626	0.0500	125	74-126	
1,2-Dichloroethane-D4	0.0668	0.0500	134	80-120	**
Toluene-D8	0.0509	0.0500	102	73-132	

Lab Batch #: 891064

Sample: 444238-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 12:44

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0548	0.0500	110	58-152	
Dibromofluoromethane	0.0552	0.0500	110	74-126	
1,2-Dichloroethane-D4	0.0558	0.0500	112	80-120	
Toluene-D8	0.0507	0.0500	101	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444238,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	67.1	100	67	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

Lab Batch #: 891064

Sample: 623817-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/12 11:06

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0513	0.0500	103	58-152	
Dibromofluoromethane	0.0501	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0472	0.0500	94	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 891064

Sample: 623817-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/26/12 10:16

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0503	0.0500	101	58-152	
Dibromofluoromethane	0.0498	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0493	0.0500	99	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444238,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

Lab Batch #: 891064

Sample: 444238-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 14:21

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0517	0.0500	103	58-152	
Dibromofluoromethane	0.0549	0.0500	110	74-126	
1,2-Dichloroethane-D4	0.0575	0.0500	115	80-120	
Toluene-D8	0.0506	0.0500	101	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	33.9	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444238,

Lab Batch #: 891064

Sample: 444238-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 14:37

SURROGATE RECOVERY STUDY

BTEx by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0527	0.0500	105	58-152	
Dibromofluoromethane		0.0563	0.0500	113	74-126	
1,2-Dichloroethane-D4		0.0592	0.0500	118	80-120	
Toluene-D8		0.0483	0.0500	97	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444238

Project ID:

Lab Batch #: 891064

Sample: 623817-1-BKS

Matrix: Solid

Date Analyzed: 06/26/2012

Date Prepared: 06/26/2012

Analyst: JOL

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Benzene	<0.00100	0.100	0.116	116	62-132	
Toluene	<0.00100	0.100	0.114	114	66-124	
Ethylbenzene	<0.00100	0.100	0.111	111	71-134	
m,p-Xylenes	<0.00200	0.200	0.233	117	69-128	
o-Xylene	<0.00100	0.100	0.115	115	72-131	

Blank Spike Recovery [D] = $100 \cdot [C] / [B]$

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

-- Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 444238

Analyst: TTE

Lab Batch ID: 891561

Sample: 624145-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

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 [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
		Chloride	<0.500	50.0	53.0	106	50.0	52.5	105	1	80-120

Analyst: ASA

Lab Batch ID: 890835

Sample: 623669-1-BKS

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/23/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	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	974	97	1000	983	98	1	70-135	35		
	C12-C28 Diesel Range Hydrocarbons		<15.0	1000	723	72	1000	706	71	2	70-135	35		

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

rk Order #: 444238

Lab Batch #: 891561

Date Analyzed: 07/04/2012

QC- Sample ID: 444232-001 S

Reporting Units: mg/kg

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.4	55.6	68.9	102	80-120	

Lab Batch #: 891561

Date Analyzed: 07/05/2012

QC- Sample ID: 444239-003 S

Reporting Units: mg/kg

Date Prepared: 07/05/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	50.0	57.5	99.5	86	80-120	

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

B Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444238

Lab Batch ID: 891064

Date Analyzed: 06/26/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444238-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/26/2012 Analyst: JOL

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Analytes	BTEX by SW 8260B											
	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	<0.00110	0.110	0.126	115	0.111	0.122	110	3	62-132	25	
	Toluene	<0.00110	0.110	0.126	115	0.111	0.119	107	6	66-124	25	
	Ethylbenzene	<0.00110	0.110	0.124	113	0.111	0.119	107	4	71-134	25	
	m,p-Xylenes	<0.00221	0.221	0.256	116	0.222	0.247	111	4	69-128	25	
	o-Xylene	<0.00110	0.110	0.127	115	0.111	0.122	110	4	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

QC- Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
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	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444238

Lab Batch #: 890868

Project ID:

Date Analyzed: 06/22/2012 11:30

Date Prepared: 06/22/2012

Analyst: WRU

QC- Sample ID: 444235-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	7.20	8.05	11	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444238

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6-18-12 15:30
Lab ID #: 444238
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444236
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)

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

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



11-JUL-12

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

Reference: XENCO Report No: **444236**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444236. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444236 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 444236



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 11 G-1	S	06-14-12 13:00		444236-001
VZ Cell 11 G-2	S	06-14-12 13:10		444236-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444236

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-890835 TPH By SW8015 Mod
SW8015MOD_NM*

Batch 890835, o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are: 623669-1-BLK,444235-001 S,444235-001 SD,444236-002,444236-001.

1-Chlorooctane recovered below QC limits Data confirmed by re-analysis. Samples affected are: 623669-1-BLK,444236-001,444236-002.



Hits Summary

444236



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 11 G-1		Matrix: Soil		% Moisture: 6.33		
Lab Sample Id: 444236-001		Date Collected: Jun-14-12 13:00		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561		Date Prep: Jul-05-12 01:09				
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.9	mg/kg	07/05/12 01:09		1



Hits Summary

444236



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 11 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444236-001		Date Collected: Jun-14-12 13:00		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.33	%	06/22/12 11:30		1



Hits Summary

444236



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

Sample Id: VZ Cell 11 G-2		Matrix: Soil		% Moisture: 8.21		
Lab Sample Id: 444236-002		Date Collected: Jun-14-12 13:10		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561		Reviewed: 07/05/12		Date Prep: Jul-05-12 01:25		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.5	mg/kg	07/05/12 01:25		1



Hits Summary

444236



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 11 G-2		Matrix: Soil		% Moisture:		
Lab Sample Id: 444236-002		Date Collected: Jun-14-12 13:10		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890868						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	8.21	%	06/22/12 11:30		1



Certificate of Analysis Summary 444236
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	444236-001	444236-002		
						VZ Cell 11 G-1	VZ Cell 11 G-2		
						SOIL	SOIL		
						Jun-14-12 13:00	Jun-14-12 13:10		
BTEX by SW 8260B SUB: TX104704215	Extracted:	Jun-25-12 15:54					Jun-25-12 15:56		
	Analyzed:	Jun-25-12 22:09					Jun-25-12 22:25		
	Units/RL:	mg/kg RL					mg/kg RL		
		ND 0.00104					ND 0.00106		
		ND 0.00104					ND 0.00106		
Benzene		ND 0.00104					ND 0.00106		
Toluene		ND 0.00104					ND 0.00106		
Ethylbenzene		ND 0.00104					ND 0.00106		
m,p-Xylenes		ND 0.00208					ND 0.00212		
o-Xylene		ND 0.00104					ND 0.00106		
Total BTEX		ND 0.00104					ND 0.00106		
Total Xylenes		ND 0.00104					ND 0.00106		
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-05-12 01:09					Jul-05-12 01:25		
	Analyzed:	Jul-05-12 01:09					Jul-05-12 01:25		
	Units/RL:	mg/kg RL					mg/kg RL		
Chloride		11.9 0.534					50.5 0.545		
Percent Moisture	Extracted:	Jun-22-12 11:30					Jun-22-12 11:30		
	Analyzed:	Jun-22-12 11:30					% RL		
	Units/RL:	% RL					% RL		
		6.33 1.00					8.21 1.00		
TPH By SW8015 Mod	Extracted:	Jun-22-12 09:10					Jun-22-12 09:10		
	Analyzed:	Jun-23-12 19:24					Jun-23-12 19:56		
	Units/RL:	mg/kg RL					mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		ND 16.0					ND 16.3		
C12-C28 Diesel Range Hydrocarbons		ND 16.0					ND 16.3		
C28-C35 Oil Range Hydrocarbons		ND 16.0					ND 16.3		
Total TPH		ND 16.0					ND 16.3		

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444236,

Project ID:

Lab Batch #: 890835

Sample: 444236-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 19:24

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	61.6	100	62	70-135	**
o-Terphenyl	31.0	50.0	62	70-135	**

Lab Batch #: 890835

Sample: 444236-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 19:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	61.6	100	62	70-135	**
o-Terphenyl	30.9	50.0	62	70-135	**

Lab Batch #: 890937

Sample: 444236-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 22:09

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0545	0.0500	109	58-152	
Dibromofluoromethane	0.0542	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0542	0.0500	108	80-120	
Toluene-D8	0.0506	0.0500	101	73-132	

Lab Batch #: 890937

Sample: 444236-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 22:25

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0537	0.0500	107	58-152	
Dibromofluoromethane	0.0553	0.0500	111	74-126	
1,2-Dichloroethane-D4	0.0565	0.0500	113	80-120	
Toluene-D8	0.0492	0.0500	98	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444236,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	67.1	100	67	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 623740-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:59

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0529	0.0500	106	58-152	
Dibromofluoromethane	0.0521	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0546	0.0500	109	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 890937

Sample: 623740-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:27

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0512	0.0500	102	58-152	
Dibromofluoromethane	0.0517	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0517	0.0500	103	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444236,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0520	0.0500	104	58-152	
Dibromofluoromethane	0.0529	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0541	0.0500	108	80-120	
Toluene-D8	0.0491	0.0500	98	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	33.9	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444236,

Lab Batch #: 890937

Sample: 444235-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:19

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0543	0.0500	109	58-152	
Dibromofluoromethane		0.0539	0.0500	108	74-126	
1,2-Dichloroethane-D4		0.0555	0.0500	111	80-120	
Toluene-D8		0.0497	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444236

Project ID:

Lab Batch #: 890937

Sample: 623740-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: JBU

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B		Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes							
Benzene		<0.00100	0.100	0.109	109	62-132	
Toluene		<0.00100	0.100	0.107	107	66-124	
Ethylbenzene		<0.00100	0.100	0.105	105	71-134	
m,p-Xylenes		<0.00200	0.200	0.213	107	69-128	
o-Xylene		<0.00100	0.100	0.108	108	72-131	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

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

... - Below Reporting Limit

Project Name: Southern Union Gas Landfarm
Work Order #: 444236
Analyst: TTE
Lab Batch ID: 891561
Sample: 624145-1-BKS
Date Prepared: 07/04/2012
Batch #: 1
Project ID:
Date Analyzed: 07/04/2012
Matrix: Solid
Units: mg/kg
Inorganic Anions by EPA 300/300.1

BLANK /BLANK SPIKE/ BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	53.0	106	50.0	52.5	105	1	80-120	20	

Analyst: ASA
Date Prepared: 06/22/2012
Date Analyzed: 06/23/2012
Lab Batch ID: 890835
Sample: 623669-1-BKS
Batch #: 1
Matrix: Solid
Units: mg/kg
TPH By SW8015 Mod

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Rancg Hydrocarbons		<15.0	1000	974	97	1000	983	98	1	70-135	35	
C12-C28 Diesel Rancg Hydrocarbons		<15.0	1000	723	72	1000	706	71	2	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

rk Order #: 444236
Lab Batch #: 891561
Date Analyzed: 07/04/2012
QC- Sample ID: 444232-001 S
Reporting Units: mg/kg

Date Prepared: 07/04/2012

Project ID:
Analyst: TTE

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.4	55.6	68.9	102	80-120	

Lab Batch #: 891561
Date Analyzed: 07/05/2012
QC- Sample ID: 444239-003 S
Reporting Units: mg/kg

Date Prepared: 07/05/2012

Analyst: TTE

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	50.0	57.5	99.5	86	80-120	

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

I Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444236

Lab Batch ID: 890937

Date Analyzed: 06/26/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444235-001 S

Date Prepared: 06/25/2012

Batch #: 1

Analyst: JBU

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	<0.00106	0.106	0.112	106	0.105	0.113	108	1	62-132	25	
		Toluene	<0.00106	0.106	0.110	104	0.105	0.108	103	2	66-124	25	
		Ethylbenzene	<0.00106	0.106	0.108	102	0.105	0.107	102	1	71-134	25	
		m,p-Xylenes	<0.00212	0.212	0.225	106	0.210	0.221	105	2	69-128	25	
		o-Xylene	<0.00106	0.106	0.111	105	0.105	0.111	106	0	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

QC- Sample ID: 444235-001 S

Date Prepared: 06/22/2012

Batch #: 1

Analyst: ASA

Matrix: Soil

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable, N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444236

Lab Batch #: 890868

Date Analyzed: 06/22/2012 11:30

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444235-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.20	8.05	11	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444236

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Project #:

Project Loc: Lea County, NM

PO#:

Fax No: (575)396-1429

Report Format:

e-mail:

blarquillo@basinenv.com; Rose.Slade@SUG.com

☐ NPDES

TRRP

and

X

Report Format:

Fax No: (575) 396-1429

Talanbano No: (57E)206-2378

Sampler Signature: 2/2/10/104

e-mail:

blarquillo@basinenv.com; Rose.Slade@SUG.com

☐ NPDES

TRRP

and

X

Report Format:

Fax No: (575) 396-1429

Telokbana No: (57E)206-2378

[illegible]



XENCO Laboratories
 Atlanta, Boca Raton, Corpus Christi, Dallas
 Houston, Miami, Odessa, Philadelphia
 Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
 Document No.: SYS-SRC
 Revision/Date: No. 01, 5/27/2010
 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
 Date/Time: 6-18-12 15:30
 Lab ID #: 444236
 Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444230
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444230**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444230. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444230 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 444230



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 12 G-1	S	06-14-12 13:20		444230-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 444230

Report Date: 11-JUL-12
Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890835 TPH By SW8015 Mod
SW8015MOD_NM

Batch 890835, 1-Chlorooctane recovered below QC limits Data confirmed by re-analysis.

Samples affected are: 623669-1-BLK,444230-001.

o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are:
623669-1-BLK,444235-001 S,444235-001 SD,444230-001.



Hits Summary

444230



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 12 G-1	Matrix: Soil	% Moisture: 6.49
Lab Sample Id: 444230-001	Date Collected: Jun-14-12 13:20	Basis: Dry Weight
Date Received: Jun-18-12 15:30		

Analytical Method: Inorganic Anions by EPA 300/300.1	Prep Method: E300P
Seq Number: 891560	Date Prep: Jul-04-12 20:35

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.21	mg/kg	07/04/12 20:35		1



Hits Summary

444230



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 12 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444230-001		Date Collected: Jun-14-12 13:20		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890867						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.49	%	06/22/12 11:00		1



Certificate of Analysis Summary 444230
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Rose Slade

Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm

Report Date: 11-JUL-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444230-001			
	Field Id:	VZ Cell 12 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-14-12 13:20			
BTEX by SW 8260B SUB: TX104704215	Extracted:	Jun-25-12 15:08			
	Analyzed:	Jun-25-12 18:49			
	Units/RL:	mg/kg RL			
		ND 0.00104			
		ND 0.00104			
Benzene		ND 0.00104			
Toluene		ND 0.00104			
Ethylbenzene		ND 0.00104			
m,p-Xylenes		ND 0.00208			
o-Xylene		ND 0.00104			
Total BTEX		ND 0.00104			
Total Xylenes		ND 0.00104			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 20:35			
	Analyzed:	Jul-04-12 20:35			
	Units/RL:	mg/kg RL			
Chloride		6.21 0.535			
Percent Moisture	Extracted:				
	Analyzed:	Jun-22-12 11:00			
	Units/RL:	% RL			
		6.49 1.00			
TPH By SW8015 Mod	Extracted:	Jun-22-12 09:10			
	Analyzed:	Jun-23-12 13:52			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 16.0			
C12-C28 Diesel Range Hydrocarbons		ND 16.0			
C28-C35 Oil Range Hydrocarbons		ND 16.0			
Total TPH		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.

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

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 quantitation limit and above the detection limit.
 - U** Analyte was not detected.
 - L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
 - H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
 - K** Sample analyzed outside of recommended hold time.
 - JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- * Surrogate recovered outside laboratory control limit.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- MDL** Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection
- PQL** Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation
- DL** Method Detection Limit
- NC** Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444230,

Lab Batch #: 890835

Sample: 444230-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 13:52

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	61.8	100	62	70-135	**
o-Terphenyl	30.7	50.0	61	70-135	**

Lab Batch #: 890968

Sample: 444230-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 18:49

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0562	0.0500	112	58-152	
Dibromofluoromethane	0.0539	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0439	0.0500	88	80-120	
Toluene-D8	0.0530	0.0500	106	73-132	

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	67.1	100	67	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 623755-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 13:15

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0513	0.0500	103	58-152	
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0521	0.0500	104	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444230,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 890968

Sample: 623755-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 12:05

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0589	0.0500	118	58-152	
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0410	0.0500	82	80-120	
Toluene-D8	0.0529	0.0500	106	73-132	

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444230,

Lab Batch #: 890968

Sample: 444175-015 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0531	0.0500	106	58-152	
Dibromofluoromethane	0.0477	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0474	0.0500	95	80-120	
Toluene-D8	0.0526	0.0500	105	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	33.9	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 444175-015 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0492	0.0500	98	58-152	
Dibromofluoromethane	0.0465	0.0500	93	74-126	
1,2-Dichloroethane-D4	0.0417	0.0500	83	80-120	
Toluene-D8	0.0454	0.0500	91	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444230

Project ID:

Lab Batch #: 890968

Sample: 623755-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: ROL

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B		Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes							
Benzene		<0.00100	0.100	0.0851	85	62-132	
Toluene		<0.00100	0.100	0.0999	100	66-124	
Ethylbenzene		<0.00100	0.100	0.104	104	71-134	
m,p-Xylenes		<0.00200	0.200	0.200	100	69-128	
o-Xylene		<0.00100	0.100	0.100	100	72-131	

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

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

BRL - Below Reporting Limit



BS / BSD recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444230

Analyst: TTE

Lab Batch ID: 891560

Sample: 624144-1-BKS

Units: mg/kg

Project ID:

Date Prepared: 07/04/2012

Date Analyzed: 07/04/2012

Batch #: 1

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	52.2	104	50.0	52.8	106	1	80-120	20	

Analyst: ASA

Date Prepared: 06/22/2012

Date Analyzed: 06/23/2012

Lab Batch ID: 890835

Sample: 623669-1-BKS

Batch #: 1

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	974	97	1000	983	98	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	1000	723	72	1000	706	71	2	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444230

Lab Batch #: 891560

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444219-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	36.4	50.5	82.6	91	80-120	

Lab Batch #: 891560

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Analyst: TTE

QC- Sample ID: 444230-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.21	53.5	62.7	106	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444230

Lab Batch ID: 890968

Date Analyzed: 06/25/2012

Project ID:

QC- Sample ID: 444175-015 S

Date Prepared: 06/25/2012

Batch #: 1

Analyst: ROL

Matrix: Soil

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00113	0.113	0.0902	80	0.112	0.0826	74	9	62-132	25	
Toluene	<0.00113	0.113	0.103	91	0.112	0.0871	78	17	66-124	25	
Ethylbenzene	<0.00113	0.113	0.117	104	0.112	0.111	99	5	71-134	25	
m,p-Xylenes	0.00261	0.226	0.227	99	0.223	0.244	108	7	69-128	25	
o-Xylene	<0.00113	0.113	0.114	101	0.112	0.132	118	15	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

QC- Sample ID: 444235-001 S

Date Prepared: 06/22/2012

Batch #: 1

Analyst: ASA

Matrix: Soil

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444230

Lab Batch #: 890867

Date Analyzed: 06/22/2012 11:00

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444343-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

		SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture	Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture		1.65	1.75	6	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 06/18/2012 03:30:00 PM

Work Order #: 444230

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6.18.12 15.30
Lab ID #: 44230
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>35</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444231
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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)

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

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



11-JUL-12

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

Reference: XENCO Report No: **444231**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444231. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444231 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 444231



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 13 G-1	S	06-14-12 13:30		444231-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444231

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-890835 TPH By SW8015 Mod
SW8015MOD_NM*

Batch 890835, 1-Chlorooctane recovered below QC limits Data confirmed by re-analysis.

Samples affected are: 623669-1-BLK.

*o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are:
623669-1-BLK,444235-001 S,444235-001 SD.*



Hits Summary

444231



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 13 G-1		Matrix: Soil	% Moisture: 3.11			
Lab Sample Id: 444231-001		Date Collected: Jun-14-12 13:30	Basis: Dry Weight			
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1			Prep Method: E300P			
Seq Number: 891561			Date Prep: Jul-04-12 23:49			
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	43.3	mg/kg	07/04/12 23:49		1



Hits Summary

444231



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

Sample Id: VZ Cell 13 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444231-001		Date Collected: Jun-14-12 13:30		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890867						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	3.11	%	06/22/12 11:00		1



Certificate of Analysis Summary 444231
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Rose Slade
Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm
Report Date: 11-JUL-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444231-001			
	Field Id:	VZ Cell 13 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-14-12 13:30			
BTEX by SW 8260B SUB: TX104704215	Extracted:	Jun-25-12 15:10			
	Analyzed:	Jun-25-12 19:11			
	Units/RL:	mg/kg RL			
	Benzene	ND 0.00101			
	Toluene	ND 0.00101			
	Ethylbenzene	ND 0.00101			
	m,p-Xylenes	ND 0.00202			
	o-Xylene	ND 0.00101			
	Total BTEX	ND 0.00101			
	Total Xylenes	ND 0.00101			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 23:49			
	Analyzed:	Jul-04-12 23:49			
	Units/RL:	mg/kg RL			
	Chloride	43.3 0.516			
Percent Moisture	Extracted:				
	Analyzed:	Jun-22-12 11:00			
	Units/RL:	% RL			
	Percent Moisture	3.11 1.00			
TPH By SW8015 Mod	Extracted:	Jun-22-12 09:10			
	Analyzed:	Jun-23-12 14:26			
	Units/RL:	mg/kg RL			
	C6-Cl2 Gasoline Range Hydrocarbons	ND 15.5			
	Cl2-C28 Diesel Range Hydrocarbons	ND 15.5			
	C28-C35 Oil Range Hydrocarbons	ND 15.5			
	Total TPH	ND 15.5			

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

Nicholas Straccione

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 quantitation limit and above the detection limit.
 - U** Analyte was not detected.
 - L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
 - H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
 - K** Sample analyzed outside of recommended hold time.
 - JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- * Surrogate recovered outside laboratory control limit.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- MDL** Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection
- PQL** Practical Quantitation Limit **SQL** Method Quantitation Limit **LOQ** Limit of Quantitation
- DL** Method Detection Limit
- NC** Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444231,

Project ID:

Lab Batch #: 890835

Sample: 444231-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 14:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.2	100	71	70-135	
o-Terphenyl	35.2	50.0	70	70-135	

Lab Batch #: 890968

Sample: 444231-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 19:11

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0544	0.0500	109	58-152	
Dibromofluoromethane	0.0532	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0474	0.0500	95	80-120	
Toluene-D8	0.0519	0.0500	104	73-132	

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	67.1	100	67	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 623755-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 13:15

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0513	0.0500	103	58-152	
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0521	0.0500	104	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444231,

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 890968

Sample: 623755-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 12:05

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0589	0.0500	118	58-152	
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0410	0.0500	82	80-120	
Toluene-D8	0.0529	0.0500	106	73-132	

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444231,

Project ID:

Lab Batch #: 890968

Sample: 444175-015 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0531	0.0500	106	58-152	
Dibromofluoromethane		0.0477	0.0500	95	74-126	
1,2-Dichloroethane-D4		0.0474	0.0500	95	80-120	
Toluene-D8		0.0526	0.0500	105	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		79.7	100	80	70-135	
o-Terphenyl		33.9	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 444175-015 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0492	0.0500	98	58-152	
Dibromofluoromethane		0.0465	0.0500	93	74-126	
1,2-Dichloroethane-D4		0.0417	0.0500	83	80-120	
Toluene-D8		0.0454	0.0500	91	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444231

Project ID:

Lab Batch #: 890968

Sample: 623755-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: ROL

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Benzene	<0.00100	0.100	0.0851	85	62-132	
Toluene	<0.00100	0.100	0.0999	100	66-124	
Ethylbenzene	<0.00100	0.100	0.104	104	71-134	
m,p-Xylenes	<0.00200	0.200	0.200	100	69-128	
o-Xylene	<0.00100	0.100	0.100	100	72-131	

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

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

- Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 444231

Analyst: TTE

Lab Batch ID: 891561

Sample: 624145-1-BKS

Date Prepared: 07/04/2012

Batch #: 1

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Units: mg/kg

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	53.0	106	50.0	52.5	105	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890835

Sample: 623669-1-BKS

Date Prepared: 06/22/2012

Batch #: 1

Date Analyzed: 06/23/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	974	97	1000	983	98	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	723	72	1000	706	71	2	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

rk Order #: 444231

Lab Batch #: 891561

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444232-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.4	55.6	68.9	102	80-120	

Lab Batch #: 891561

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444239-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	50.0	57.5	99.5	86	80-120	

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

I Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 444231

Lab Batch ID: 890968

Date Analyzed: 06/25/2012

Project ID:

QC-Sample ID: 444175-015 S

Date Prepared: 06/25/2012

Batch #: 1

Analyst: ROL

Matrix: Soil

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00113	0.113	0.0902	80	0.112	0.0826	74	9	62-132	25	
Toluene	<0.00113	0.113	0.103	91	0.112	0.0871	78	17	66-124	25	
Ethylbenzene	<0.00113	0.113	0.117	104	0.112	0.111	99	5	71-134	25	
m,p-Xylenes	0.00261	0.226	0.227	99	0.223	0.244	108	7	69-128	25	
o-Xylene	<0.00113	0.113	0.114	101	0.112	0.132	118	15	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

QC-Sample ID: 444235-001 S

Date Prepared: 06/22/2012

Batch #: 1

Analyst: ASA

Matrix: Soil

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444231

Lab Batch #: 890867

Date Analyzed: 06/22/2012 11:00

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444343-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.65	1.75	6	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444231

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

Xencc laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST
12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Ben J. Arguillo Project Name: Southern Union Gas Landfarm

Company Name: Basin Environmental Service Technologies, LLC Project #: _____

Company Address: P.O. Box 301 Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260 PO #: _____

Telephone No: (575)396-2378 Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: Sop Lowery e-mail: bjarguillo@basinenv.com; Rose Slade@SUG.com

Fax No: (575)396-1429

ORDER #: 444231

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Matrix	Preservation & # of Containers	Analyze For:
01	VZ Cell 13 G-1		6/14/2012	130			1	SOIL	Ice HNO ₃ HCl H ₂ SO ₄ NaOH Na ₂ S ₂ O ₈ None Other (Specify) DW - Drinking Water SL - Sludge CW - Groundwater S - Soil/Sol NP - Non-Potable Specify Other	TPH: 418.1 8015M 8015B TPH: TX 1005 TX 1006 Cations (Ca, Mg, Na, K) Anions (Cl, SO ₄ , Alkalinity) SAR / ESP / CEC Metals: As Ag Ba Cd Cr Pb Hg Se Volatiles Semivolatiles BTEX 8021B/5030 or BTEX 8260 RCI N.O.R.M. CHLORIDES RUSH TAT (Pre-Schedule) 24, 48, 72 hrs Standard TAT 4 DAY

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Sop Lowery	6/16/12	3:30			

Received by ELOT: A. Elom

Temperature Upon Receipt: 5.0/3.5°C

Laboratory Comments:
 Sample Containers Intact? ☒
 VOCs Free of Headspace? ☒
 Labels on container(s) ☒
 Custody seals on container(s) ☒
 Custody seals on cooler(s) ☒
 Sample Hand Delivered ☒
 by Sampler/Client Rep. ? ☒
 by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Em. / Plains
Date/Time: 6.18.12 15:30
Lab ID #: 444231
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.2.3.1.2.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 444232
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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)



11-JUL-12

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

Reference: XENCO Report No: **444232**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444232. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444232 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 444232



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 14 G-1	S	06-14-12 13:40		444232-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444232

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-890835 TPH By SW8015 Mod

SW8015MOD_NM

Batch 890835, 1-Chlorooctane recovered below QC limits Data confirmed by re-analysis.

Samples affected are: 623669-1-BLK,444232-001.

*o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are:
623669-1-BLK,444235-001 S,444235-001 SD,444232-001.*



Hits Summary

444232



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 14 G-1		Matrix: Soil		% Moisture: 10		
Lab Sample Id: 444232-001		Date Collected: Jun-14-12 13:40		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561		Reviewed		Date Prep: Jul-04-12 22:28		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	mg/kg	07/04/12 22:28		1



Hits Summary

444232



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 14 G-1		Matrix: Soil		% Moisture:		
Lab Sample Id: 444232-001		Date Collected: Jun-14-12 13:40		Basis: Wet Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Percent Moisture						
Seq Number: 890867						
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	10.0	%	06/22/12 11:00		1



Certificate of Analysis Summary 444232
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Rose Slade
Project Location: Lea County, NM

Date Received in Lab: Mon Jun-18-12 03:30 pm
Report Date: 11-JUL-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444232-001			
	Field Id:	VZ Cell 14 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Jun-14-12 13:40			
BTEX by SW 8260B SUB: TX104704215	Extracted:	Jun-25-12 15:12			
	Analyzed:	Jun-25-12 19:33			
	Units/RL:	mg/kg RL			
		ND 0.00108			
		ND 0.00108			
		ND 0.00108			
		ND 0.00216			
		ND 0.00108			
Total BTEX		ND 0.00108			
Total Xylenes		ND 0.00108			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 22:28			
	Analyzed:	Jul-04-12 22:28			
	Units/RL:	mg/kg RL			
Chloride		12.4 0.556			
Percent Moisture	Extracted:				
	Analyzed:	Jun-22-12 11:00			
	Units/RL:	% RL			
		10.0 1.00			
TPH By SW8015 Mod	Extracted:	Jun-22-12 09:10			
	Analyzed:	Jun-23-12 15:00			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 16.7			
C12-C28 Diesel Range Hydrocarbons		ND 16.7			
C28-C35 Oil Range Hydrocarbons		ND 16.7			
Total TPH		ND 16.7			

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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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(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444232,

Lab Batch #: 890835

Sample: 444232-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 15:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	61.5	100	62	70-135	**
o-Terphenyl	30.9	50.0	62	70-135	**

Lab Batch #: 890968

Sample: 444232-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 19:33

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0522	0.0500	104	58-152	
Dibromofluoromethane	0.0564	0.0500	113	74-126	
1,2-Dichloroethane-D4	0.0530	0.0500	106	80-120	
Toluene-D8	0.0506	0.0500	101	73-132	

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	67.1	100	67	70-135	**
o-Terphenyl	34.1	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 623755-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 13:15

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0513	0.0500	103	58-152	
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0521	0.0500	104	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444232,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 890968

Sample: 623755-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 12:05

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0589	0.0500	118	58-152	
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0410	0.0500	82	80-120	
Toluene-D8	0.0529	0.0500	106	73-132	

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444232,

Lab Batch #: 890968

Sample: 444175-015 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0531	0.0500	106	58-152	
Dibromofluoromethane	0.0477	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0474	0.0500	95	80-120	
Toluene-D8	0.0526	0.0500	105	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	79.7	100	80	70-135	
o-Terphenyl	33.9	50.0	68	70-135	**

Lab Batch #: 890968

Sample: 444175-015 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 21:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0492	0.0500	98	58-152	
Dibromofluoromethane	0.0465	0.0500	93	74-126	
1,2-Dichloroethane-D4	0.0417	0.0500	83	80-120	
Toluene-D8	0.0454	0.0500	91	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444232

Project ID:

Lab Batch #: 890968

Sample: 623755-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: ROL

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B		Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes							
Benzene		<0.00100	0.100	0.0851	85	62-132	
Toluene		<0.00100	0.100	0.0999	100	66-124	
Ethylbenzene		<0.00100	0.100	0.104	104	71-134	
m,p-Xylenes		<0.00200	0.200	0.200	100	69-128	
o-Xylene		<0.00100	0.100	0.100	100	72-131	

Blank Spike Recovery [D] = $100 \times [C]/[B]$

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

BRL - Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 444232

Analyst: TTE

Lab Batch ID: 891561

Sample: 624145-1-BKS

Units: mg/kg

Project ID: 07/04/2012
Date Analyzed: 07/04/2012
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Analytes	Inorganic Anions by EPA 300/300.1										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	<0.500	50.0	53.0	106	50.0	52.5	105	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890835

Sample: 623669-1-BKS

Units: mg/kg

Date Prepared: 06/22/2012
Batch #: 1
Date Analyzed: 06/23/2012
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Analytes	TPH By SW8015 Mod											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	974	97	1000	983	98	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<15.0	1000	723	72	1000	706	71	2	70-135	35	

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



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444232

Lab Batch #: 891561

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444232-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.4	55.6	68.9	102	80-120	

Lab Batch #: 891561

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444239-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	50.0	57.5	99.5	86	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS MSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444232

Lab Batch ID: 890968

Date Analyzed: 06/25/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 444175-015 S

Date Prepared: 06/25/2012

Batch #: 1 Matrix: Soil

Analyst: ROL

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag
	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	
BTEX by SW 8260B											
Benzene	<0.00113	0.113	0.0902	80	0.112	0.0826	74	9	62-132	25	
Toluene	<0.00113	0.113	0.103	91	0.112	0.0871	78	17	66-124	25	
Ethylbenzene	<0.00113	0.113	0.117	104	0.112	0.111	99	5	71-134	25	
m,p-Xylenes	0.00261	0.226	0.227	99	0.223	0.244	108	7	69-128	25	
o-Xylene	<0.00113	0.113	0.114	101	0.112	0.132	118	15	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

QC- Sample ID: 444235-001 S

Date Prepared: 06/22/2012

Batch #: 1 Matrix: Soil

Analyst: ASA

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag
	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	
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444232

Lab Batch #: 890867

Date Analyzed: 06/22/2012 11:00

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444343-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.65	1.75	6	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444232

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by:

Date: _____

Checklist reviewed by:

Date: _____

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6-18-12 15:30
Lab ID #: 444232
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

- Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.2.3.1.a.1.
 - ☐ Initial and Backup Temperature confirm out of temperature conditions
 - ☐ Client understands and would like to proceed with analysis

Analytical Report 444233
for
Southern Union Gas Services- Monahans

Project Manager: Rose Slade
Southern Union Gas Landfarm

11-JUL-12

Collected By: Client



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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 (E34098)

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)



11-JUL-12

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

Reference: XENCO Report No: **444233**
Southern Union Gas Landfarm
Project Address: Lea County, NM

Rose Slade:

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 444233. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 444233 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 444233



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 15 G-1	S	06-14-12 13:50		444233-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 444233

Report Date: 11-JUL-12

Date Received: 06/18/2012

Sample receipt non conformances and comments:

Due to a contaminated batch of filters for method E 300 the chloride data was biased high. All chloride data was re-run with a new batch of clean filters and reported in a revised report.

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

*Batch: LBA-890835 TPH By SW8015 Mod
SW8015MOD_NM*

Batch 890835, 1-Chlorooctane recovered below QC limits Data confirmed by re-analysis.

Samples affected are: 623669-1-BLK,444233-001.

*o-Terphenyl recovered below QC limits Data confirmed by re-analysis. Samples affected are:
623669-1-BLK,444235-001 S,444235-001 SD,444233-001.*



Hits Summary

444233



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id: VZ Cell 15 G-1		Matrix: Soil		% Moisture: 7.58		
Lab Sample Id: 444233-001		Date Collected: Jun-14-12 13:50		Basis: Dry Weight		
		Date Received: Jun-18-12 15:30				
Analytical Method: Inorganic Anions by EPA 300/300.1				Prep Method: E300P		
Seq Number: 891561		06/18/12		Date Prep: Jul-04-12 23:00		
Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.7	mg/kg	07/04/12 23:00		1



Hits Summary

444233



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

Sample Id: VZ Cell 15 G-1	Matrix: Soil	% Moisture:
Lab Sample Id: 444233-001	Date Collected: Jun-14-12 13:50	Basis: Wet Weight
	Date Received: Jun-18-12 15:30	

Analytical Method: Percent Moisture

Seq Number: 890867

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	7.58	%	06/22/12 11:00		1



Certificate of Analysis Summary 444233
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id: **Contact:** Rose Slade
Project Location: Lea County, NM
Date Received in Lab: Mon Jun-18-12 03:30 pm
Report Date: 11-JUL-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	444233-001				
	Field Id:	VZ Cell 15 G-1				
	Depth:					
	Matrix:	SOIL				
	Sampled:	Jun-14-12 13:50				
BTEX by SW 8260B SUB: TX104704215	Extracted:	Jun-25-12 15:44				
	Analyzed:	Jun-25-12 20:48				
	Units/RL:	mg/kg RL				
		ND 0.00108				
		ND 0.00108				
		ND 0.00108				
		ND 0.00216				
		ND 0.00108				
		ND 0.00108				
		ND 0.00108				
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Jul-04-12 23:00				
	Analyzed:	Jul-04-12 23:00				
	Units/RL:	mg/kg RL				
		16.7 0.541				
Percent Moisture	Extracted:					
	Analyzed:	Jun-22-12 11:00				
	Units/RL:	% RL				
		7.58 1.00				
TPH By SW8015 Mod	Extracted:	Jun-22-12 09:10				
	Analyzed:	Jun-23-12 15:34				
	Units/RL:	mg/kg RL				
		ND 16.2				
		ND 16.2				
		ND 16.2				
		ND 16.2				
		ND 16.2				

Flagging Criteria

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

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444233,

Project ID:

Lab Batch #: 890835

Sample: 444233-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/23/12 15:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		62.3	100	62	70-135	**
o-Terphenyl		31.0	50.0	62	70-135	**

Lab Batch #: 890937

Sample: 444233-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/25/12 20:48

SURROGATE RECOVERY STUDY

BTX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0551	0.0500	110	58-152	
Dibromofluoromethane		0.0546	0.0500	109	74-126	
1,2-Dichloroethane-D4		0.0553	0.0500	111	80-120	
Toluene-D8		0.0498	0.0500	100	73-132	

Lab Batch #: 890835

Sample: 623669-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 12:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		67.1	100	67	70-135	**
o-Terphenyl		34.1	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 623740-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:59

SURROGATE RECOVERY STUDY

BTX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0529	0.0500	106	58-152	
Dibromofluoromethane		0.0521	0.0500	104	74-126	
1,2-Dichloroethane-D4		0.0546	0.0500	109	80-120	
Toluene-D8		0.0495	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444233,

Project ID:

Lab Batch #: 890835

Sample: 623669-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.9	100	85	70-135	
o-Terphenyl	40.6	50.0	81	70-135	

Lab Batch #: 890937

Sample: 623740-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/25/12 17:27

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0512	0.0500	102	58-152	
Dibromofluoromethane	0.0517	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0517	0.0500	103	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	

Lab Batch #: 890835

Sample: 623669-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/23/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	83.9	100	84	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 890835

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 00:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	80.4	100	80	70-135	
o-Terphenyl	34.0	50.0	68	70-135	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 444233,

Project ID:

Lab Batch #: 890937

Sample: 444235-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0520	0.0500	104	58-152	
Dibromofluoromethane		0.0529	0.0500	106	74-126	
1,2-Dichloroethane-D4		0.0541	0.0500	108	80-120	
Toluene-D8		0.0491	0.0500	98	73-132	

Lab Batch #: 890835

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/24/12 01:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		79.7	100	80	70-135	
o-Terphenyl		33.9	50.0	68	70-135	**

Lab Batch #: 890937

Sample: 444235-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/26/12 00:19

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
4-Bromofluorobenzene		0.0543	0.0500	109	58-152	
Dibromofluoromethane		0.0539	0.0500	108	74-126	
1,2-Dichloroethane-D4		0.0555	0.0500	111	80-120	
Toluene-D8		0.0497	0.0500	99	73-132	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Blank Spike Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444233

Project ID:

Lab Batch #: 890937

Sample: 623740-1-BKS

Matrix: Solid

Date Analyzed: 06/25/2012

Date Prepared: 06/25/2012

Analyst: JBU

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Benzene	<0.00100	0.100	0.109	109	62-132	
Toluene	<0.00100	0.100	0.107	107	66-124	
Ethylbenzene	<0.00100	0.100	0.105	105	71-134	
m,p-Xylenes	<0.00200	0.200	0.213	107	69-128	
o-Xylene	<0.00100	0.100	0.108	108	72-131	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

¹⁾ results are based on MDL and validated for QC purposes.

— - Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 444233

Analyst: TTE

Lab Batch ID: 891561

Sample: 624145-1-BKS

Batch #: 1

Date Prepared: 07/04/2012

Project ID:

Date Analyzed: 07/04/2012

Matrix: Solid

Units: mg/kg

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.500	50.0	53.0	106	50.0	52.5	105	1	80-120	20	

Analyst: ASA

Lab Batch ID: 890835

Sample: 623669-1-BKS

Batch #: 1

Date Prepared: 06/22/2012

Date Analyzed: 06/23/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons										
	<15.0	1000	974	97	1000	983	98	1	70-135	35	
	C10-C28 Diesel Range Hydrocarbons										
	<15.0	1000	723	72	1000	706	71	2	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 444233

Lab Batch #: 891561

Date Analyzed: 07/04/2012

Date Prepared: 07/04/2012

Project ID:

Analyst: TTE

QC- Sample ID: 444232-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.4	55.6	68.9	102	80-120	

Lab Batch #: 891561

Date Analyzed: 07/05/2012

Date Prepared: 07/05/2012

Analyst: TTE

QC- Sample ID: 444239-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	50.0	57.5	99.5	86	80-120	

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

1 Below Reporting Limit

Work Order #: 444233

Lab Batch ID: 890937

Date Analyzed: 06/26/2012

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/25/2012 Analyst: JBU

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
		Benzene	<0.00106	0.106	0.112	106	0.105	0.113	108	1	62-132	25	
		Toluene	<0.00106	0.106	0.110	104	0.105	0.108	103	2	66-124	25	
		Ethylbenzene	<0.00106	0.106	0.108	102	0.105	0.107	102	1	71-134	25	
		m,p-Xylenes	<0.00212	0.212	0.225	106	0.210	0.221	105	2	69-128	25	
		o-Xylene	<0.00106	0.106	0.111	105	0.105	0.111	106	0	72-131	25	

Lab Batch ID: 890835

Date Analyzed: 06/24/2012

Reporting Units: mg/kg

QC-Sample ID: 444235-001 S Batch #: 1 Matrix: Soil

Date Prepared: 06/22/2012 Analyst: ASA

Reporting Units: mg/kg											
TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<16.2	1080	966	89	1080	1030	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	765	71	1080	860	80	12	70-135	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQ = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 444233

Lab Batch #: 890867

Date Analyzed: 06/22/2012 11:00

Date Prepared: 06/22/2012

Project ID:

Analyst: WRU

QC- Sample ID: 444343-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.65	1.75	6	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 06/18/2012 03:30:00 PM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 444233

Sample Receipt Checklist:

Comments

#1 *Temperature of cooler(s)?

3.5

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

Checklist completed by: _____

Date: _____

Checklist reviewed by: _____

Date: _____

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

NPDES

PO#:

Revised 1.004



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains
Date/Time: 6-18-12 15:30
Lab ID #: 444233
Initials: AE

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	<u>Yes</u>	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.5</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.3.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Analytical Report 451802
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

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

Reference: XENCO Report No: **451802**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451802. 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. 451802 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 451802



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 1 G-1	S	10-30-12 08:00		451802-001
TZ Cell 1 G-2	S	10-30-12 08:10		451802-002
TZ Cell 1 G-3	S	10-30-12 08:20		451802-003
TZ Cell 1 G-4	S	10-30-12 08:30		451802-004
TZ Cell 1 G-5	S	10-30-12 08:40		451802-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451802

Report Date: 12-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Summary 451802**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 12-NOV-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	451802-001	451802-002	451802-003	451802-004	451802-005
	<i>Field Id:</i>	<i>Field Id:</i>	<i>Field Id:</i>	<i>Field Id:</i>	<i>Field Id:</i>	TZ Cell 1 G-1	TZ Cell 1 G-2	TZ Cell 1 G-3	TZ Cell 1 G-4	TZ Cell 1 G-5
	<i>Depth:</i>	<i>Depth:</i>	<i>Depth:</i>	<i>Depth:</i>	<i>Depth:</i>					
	<i>Matrix:</i>	<i>Matrix:</i>	<i>Matrix:</i>	<i>Matrix:</i>	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	<i>Sampled:</i>	<i>Sampled:</i>	<i>Sampled:</i>	<i>Sampled:</i>	Oct-30-12 08:00	Oct-30-12 08:10	Oct-30-12 08:20	Oct-30-12 08:30	Oct-30-12 08:40
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>	Nov-09-12 22:19	Nov-09-12 23:07	Nov-09-12 23:23	Nov-09-12 23:39	Nov-09-12 23:56	Nov-09-12 23:56	Nov-09-12 23:56	Nov-09-12 23:56	Nov-09-12 23:56
	<i>Analyzed:</i>	Nov-09-12 22:19	Nov-09-12 23:07	Nov-09-12 23:23	Nov-09-12 23:39	Nov-09-12 23:56	Nov-09-12 23:56	Nov-09-12 23:56	Nov-09-12 23:56	Nov-09-12 23:56
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		21.0	18.3	82.4	90.0	62.1	62.1	62.1	62.1	62.1
Percent Moisture	<i>Extracted:</i>	Nov-07-12 12:55	Nov-07-12 12:55	Nov-07-12 12:55	Nov-07-12 12:55	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00
	<i>Analyzed:</i>	Nov-07-12 12:55	Nov-07-12 12:55	Nov-07-12 12:55	Nov-07-12 12:55	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		3.07	3.46	3.48	3.23	2.15	2.15	2.15	2.15	2.15
TPH By SW8015 Mod	<i>Extracted:</i>	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00
	<i>Analyzed:</i>	Nov-03-12 07:22	Nov-03-12 07:56	Nov-03-12 08:31	Nov-03-12 09:00	Nov-03-12 09:32	Nov-03-12 09:32	Nov-03-12 09:32	Nov-03-12 09:32	Nov-03-12 09:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg 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	ND	ND	ND	ND	ND	ND	ND	ND
C12-C28 Diesel Range Hydrocarbons		514	438	1100	1220	961	961	961	961	961
C28-C35 Oil Range Hydrocarbons		63.5	47.2	124	148	140	140	140	140	140
Total TPH		578	485	1220	1370	1100	1100	1100	1100	1100

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451802,

Project ID:

Lab Batch #: 900093

Sample: 451802-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 07:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.8	101	70-135	
o-Terphenyl	51.9	49.9	104	70-135	

Lab Batch #: 900093

Sample: 451802-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 07:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	49.7	50.0	99	70-135	

Lab Batch #: 900093

Sample: 451802-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 08:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.5	99.8	96	70-135	
o-Terphenyl	47.5	49.9	95	70-135	

Lab Batch #: 900093

Sample: 451802-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 09:00

SURROGATE RECOVERY STUDY

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	51.1	50.1	102	70-135	

Lab Batch #: 900093

Sample: 451802-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 09:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.3	100	99	70-135	
o-Terphenyl	48.6	50.1	97	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451802,

Lab Batch #: 900093

Sample: 629450-1-BLK / BLK

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 02:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.5	100	98	70-135	
o-Terphenyl	46.7	50.1	93	70-135	

Lab Batch #: 900093

Sample: 629450-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 01:28

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.8	100	99	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 900093

Sample: 629450-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 02:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	54.5	50.0	109	70-135	

Lab Batch #: 900093

Sample: 451779-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 03:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	53.8	50.0	108	70-135	

Lab Batch #: 900093

Sample: 451779-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 04:19

SURROGATE RECOVERY STUDY

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	
o-Terphenyl	52.2	50.0	104	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451802

Analyst: TTE

Lab Batch ID: 900609

Sample: 629776-1-BKS

Date Prepared: 11/09/2012

Batch #: 1

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Units: mg/kg

Units: mg/kg											
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<1.00	100	104	104	100	103	103	1	80-120	20	

Analyst: KEB

Lab Batch ID: 900093

Sample: 629450-1-BKS

Date Prepared: 11/02/2012

Batch #: 1

Date Analyzed: 11/03/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	936	94	1000	984	98	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	1000	952	95	1000	998	100	5	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451802

Lab Batch #: 900609

Date Analyzed: 11/10/2012

Date Prepared: 11/10/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451798-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	25.3	103	117	89	80-120	

Lab Batch #: 900609

Date Analyzed: 11/09/2012

Date Prepared: 11/09/2012

Analyst: TTE

QC- Sample ID: 451803-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	3.87	102	105	99	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451802

Lab Batch ID: 900093

Date Analyzed: 11/03/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451779-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/02/2012 Analyst: KEB

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	<16.9	1130	991	88	1130	1000	88	1	70-135	35
	C12-C28 Diesel Range Hydrocarbons	<16.9	1130	1020	90	1130	987	87	3	70-135	35

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451802

Lab Batch #: 900441

Date Analyzed: 11/07/2012 10:50

Date Prepared: 11/07/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451841-008 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.34	9.10	3	20	

Lab Batch #: 900447

Date Analyzed: 11/07/2012 13:00

Date Prepared: 11/07/2012

Analyst: WRU

QC- Sample ID: 451802-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.15	2.10	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

pm@basinenv.com; Rose.Slade@SUG.com

Special Instructions:				Laboratory Comments:			
Relinquished by:	Date	Time	Received by:	Date	Time	Sample Container(s) in Place?	N
Relinquished by:	Date	Time	Received by:	Date	Time	VOCs Free of Headspace?	N
Relinquished by:	Date	Time	Received by:	Date	Time	Leak on container(s)	N
Relinquished by:	Date	Time	Received by:	Date	Time	Custody seals on container(s)	Y
Relinquished by:	Date	Time	Received by:	Date	Time	Custody seals on container(s)	N
Relinquished by:	Date	Time	Received by:	Date	Time	Sample Hand Delivered by Sampler/Client Rep.?	N
Relinquished by:	Date	Time	Received by:	Date	Time	by Courier?	N
Relinquished by:	Date	Time	Received by:	Date	Time	UPS	N
Relinquished by:	Date	Time	Received by:	Date	Time	DHL	N
Relinquished by:	Date	Time	Received by:	Date	Time	FedEx	N
Relinquished by:	Date	Time	Received by:	Date	Time	One Star	N
Relinquished by:	Date	Time	Received by:	Date	Time	Temperature Upon Receipt:	45°C



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451802

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451801
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

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

Reference: XENCO Report No: **451801**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451801. 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. 451801 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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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 451801



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 2 G-1	S	10-30-12 08:50		451801-001
TZ Cell 2 G-2	S	10-30-12 09:00		451801-002
TZ Cell 2 G-3	S	10-30-12 09:10		451801-003
TZ Cell 2 G-4	S	10-30-12 09:20		451801-004



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451801

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Immury 451801**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	451801-001	<i>Field Id:</i>	451801-002	<i>Depth:</i>	451801-003	<i>Matrix:</i>	451801-004	<i>Sampled:</i>	
	<i>Field Id:</i>	TZ Cell 2 G-1	<i>Field Id:</i>	TZ Cell 2 G-2	<i>Depth:</i>	TZ Cell 2 G-3	<i>Matrix:</i>	TZ Cell 2 G-4	<i>Sampled:</i>	
	<i>Matrix:</i>	SOIL	<i>Matrix:</i>	SOIL	<i>Depth:</i>	SOIL	<i>Matrix:</i>	SOIL	<i>Sampled:</i>	
	<i>Sampled:</i>	Oct-30-12 08:50	<i>Sampled:</i>	Oct-30-12 09:00	<i>Depth:</i>	Oct-30-12 09:10	<i>Matrix:</i>	Oct-30-12 09:20	<i>Sampled:</i>	
	<i>Extracted:</i>	Nov-10-12 01:32	<i>Extracted:</i>	Nov-10-12 02:20	<i>Depth:</i>	Nov-10-12 02:37	<i>Matrix:</i>	Nov-10-12 02:53	<i>Sampled:</i>	
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Analyzed:</i>	Nov-10-12 01:32	<i>Analyzed:</i>	Nov-10-12 02:20	<i>Depth:</i>	Nov-10-12 02:37	<i>Matrix:</i>	Nov-10-12 02:53	<i>Sampled:</i>	
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Depth:</i>	mg/kg RL	<i>Matrix:</i>	mg/kg RL	<i>Sampled:</i>	
	<i>Units/RL:</i>	16.3 1.02	<i>Units/RL:</i>	50.6 1.02	<i>Depth:</i>	35.9 1.02	<i>Matrix:</i>	88.3 1.02	<i>Sampled:</i>	
	<i>Extracted:</i>	Nov-07-12 12:30	<i>Extracted:</i>	Nov-07-12 12:30	<i>Depth:</i>	Nov-07-12 12:30	<i>Matrix:</i>	Nov-07-12 12:55	<i>Sampled:</i>	
	<i>Analyzed:</i>	% RL	<i>Analyzed:</i>	% RL	<i>Depth:</i>	% RL	<i>Matrix:</i>	% RL	<i>Sampled:</i>	
Percent Moisture	<i>Units/RL:</i>	2.31 1.00	<i>Units/RL:</i>	2.31 1.00	<i>Depth:</i>	1.80 1.00	<i>Matrix:</i>	2.20 1.00	<i>Sampled:</i>	
	<i>Extracted:</i>	Nov-05-12 15:00	<i>Extracted:</i>	Nov-05-12 15:00	<i>Depth:</i>	Nov-05-12 15:00	<i>Matrix:</i>	Nov-05-12 15:00	<i>Sampled:</i>	
	<i>Analyzed:</i>	Nov-06-12 06:05	<i>Analyzed:</i>	Nov-06-12 06:39	<i>Depth:</i>	Nov-06-12 07:11	<i>Matrix:</i>	Nov-06-12 07:46	<i>Sampled:</i>	
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Depth:</i>	mg/kg RL	<i>Matrix:</i>	mg/kg RL	<i>Sampled:</i>	
	<i>Units/RL:</i>	ND 15.3	<i>Units/RL:</i>	ND 15.4	<i>Depth:</i>	ND 15.2	<i>Matrix:</i>	ND 15.3	<i>Sampled:</i>	
TPH By SW8015 Mod	<i>Extracted:</i>	Nov-05-12 15:00	<i>Extracted:</i>	Nov-05-12 15:00	<i>Depth:</i>	Nov-05-12 15:00	<i>Matrix:</i>	Nov-05-12 15:00	<i>Sampled:</i>	
	<i>Analyzed:</i>	Nov-06-12 06:05	<i>Analyzed:</i>	Nov-06-12 06:39	<i>Depth:</i>	Nov-06-12 07:11	<i>Matrix:</i>	Nov-06-12 07:46	<i>Sampled:</i>	
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Depth:</i>	mg/kg RL	<i>Matrix:</i>	mg/kg RL	<i>Sampled:</i>	
	<i>Units/RL:</i>	ND 15.3	<i>Units/RL:</i>	ND 15.4	<i>Depth:</i>	ND 15.2	<i>Matrix:</i>	ND 15.3	<i>Sampled:</i>	
	<i>Units/RL:</i>	669 15.3	<i>Units/RL:</i>	467 15.4	<i>Depth:</i>	523 15.2	<i>Matrix:</i>	430 15.3	<i>Sampled:</i>	
C6-C12 Gasoline Range Hydrocarbons	<i>Extracted:</i>	Nov-05-12 15:00	<i>Extracted:</i>	Nov-05-12 15:00	<i>Depth:</i>	Nov-05-12 15:00	<i>Matrix:</i>	Nov-05-12 15:00	<i>Sampled:</i>	
	<i>Analyzed:</i>	Nov-06-12 06:05	<i>Analyzed:</i>	Nov-06-12 06:39	<i>Depth:</i>	Nov-06-12 07:11	<i>Matrix:</i>	Nov-06-12 07:46	<i>Sampled:</i>	
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Depth:</i>	mg/kg RL	<i>Matrix:</i>	mg/kg RL	<i>Sampled:</i>	
	<i>Units/RL:</i>	ND 15.3	<i>Units/RL:</i>	ND 15.4	<i>Depth:</i>	ND 15.2	<i>Matrix:</i>	ND 15.3	<i>Sampled:</i>	
	<i>Units/RL:</i>	669 15.3	<i>Units/RL:</i>	467 15.4	<i>Depth:</i>	523 15.2	<i>Matrix:</i>	430 15.3	<i>Sampled:</i>	
C12-C28 Diesel Range Hydrocarbons	<i>Extracted:</i>	Nov-05-12 15:00	<i>Extracted:</i>	Nov-05-12 15:00	<i>Depth:</i>	Nov-05-12 15:00	<i>Matrix:</i>	Nov-05-12 15:00	<i>Sampled:</i>	
	<i>Analyzed:</i>	Nov-06-12 06:05	<i>Analyzed:</i>	Nov-06-12 06:39	<i>Depth:</i>	Nov-06-12 07:11	<i>Matrix:</i>	Nov-06-12 07:46	<i>Sampled:</i>	
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Depth:</i>	mg/kg RL	<i>Matrix:</i>	mg/kg RL	<i>Sampled:</i>	
	<i>Units/RL:</i>	ND 15.3	<i>Units/RL:</i>	ND 15.4	<i>Depth:</i>	ND 15.2	<i>Matrix:</i>	ND 15.3	<i>Sampled:</i>	
	<i>Units/RL:</i>	669 15.3	<i>Units/RL:</i>	467 15.4	<i>Depth:</i>	523 15.2	<i>Matrix:</i>	430 15.3	<i>Sampled:</i>	
C28-C35 Oil Range Hydrocarbons	<i>Extracted:</i>	Nov-05-12 15:00	<i>Extracted:</i>	Nov-05-12 15:00	<i>Depth:</i>	Nov-05-12 15:00	<i>Matrix:</i>	Nov-05-12 15:00	<i>Sampled:</i>	
	<i>Analyzed:</i>	Nov-06-12 06:05	<i>Analyzed:</i>	Nov-06-12 06:39	<i>Depth:</i>	Nov-06-12 07:11	<i>Matrix:</i>	Nov-06-12 07:46	<i>Sampled:</i>	
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Depth:</i>	mg/kg RL	<i>Matrix:</i>	mg/kg RL	<i>Sampled:</i>	
	<i>Units/RL:</i>	ND 15.3	<i>Units/RL:</i>	ND 15.4	<i>Depth:</i>	ND 15.2	<i>Matrix:</i>	ND 15.3	<i>Sampled:</i>	
	<i>Units/RL:</i>	669 15.3	<i>Units/RL:</i>	467 15.4	<i>Depth:</i>	523 15.2	<i>Matrix:</i>	430 15.3	<i>Sampled:</i>	
Total TPH	<i>Extracted:</i>	Nov-05-12 15:00	<i>Extracted:</i>	Nov-05-12 15:00	<i>Depth:</i>	Nov-05-12 15:00	<i>Matrix:</i>	Nov-05-12 15:00	<i>Sampled:</i>	
	<i>Analyzed:</i>	Nov-06-12 06:05	<i>Analyzed:</i>	Nov-06-12 06:39	<i>Depth:</i>	Nov-06-12 07:11	<i>Matrix:</i>	Nov-06-12 07:46	<i>Sampled:</i>	
	<i>Units/RL:</i>	mg/kg RL	<i>Units/RL:</i>	mg/kg RL	<i>Depth:</i>	mg/kg RL	<i>Matrix:</i>	mg/kg RL	<i>Sampled:</i>	
	<i>Units/RL:</i>	ND 15.3	<i>Units/RL:</i>	ND 15.4	<i>Depth:</i>	ND 15.2	<i>Matrix:</i>	ND 15.3	<i>Sampled:</i>	
	<i>Units/RL:</i>	733 15.3	<i>Units/RL:</i>	520 15.4	<i>Depth:</i>	601 15.2	<i>Matrix:</i>	509 15.3	<i>Sampled:</i>	

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 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

Phone	Fax
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(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451801,

Lab Batch #: 900297

Sample: 451801-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 06:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	99.8	110	70-135	
o-Terphenyl	52.7	49.9	106	70-135	

Lab Batch #: 900297

Sample: 451801-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 06:39

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	49.4	50.0	99	70-135	

Lab Batch #: 900297

Sample: 451801-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 07:11

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	99.8	103	70-135	
o-Terphenyl	52.9	49.9	106	70-135	

Lab Batch #: 900297

Sample: 451801-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 07:46

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.8	112	70-135	
o-Terphenyl	53.9	49.9	108	70-135	

Lab Batch #: 900297

Sample: 629524-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 02:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

¹ results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451801,

Project ID:

Lab Batch #: 900297

Sample: 629524-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.1	99.9	95	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 900297

Sample: 629524-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 900297

Sample: 451794-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	89.1	100	89	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 900297

Sample: 451794-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	94.0	100	94	70-135	
o-Terphenyl	54.4	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451801

Analyst: TTE

Lab Batch ID: 900609

Sample: 629776-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Date Prepared: 11/09/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<1.00	100	104	104	100	103	103	1	80-120	20	

Analyst: KEB

Lab Batch ID: 900297

Sample: 629524-1-BKS

Units: mg/kg

Date Prepared: 11/05/2012

Batch #: 1

Date Analyzed: 11/06/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blank Spike Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	961	96	999	966	97	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	986	99	999	997	100	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Southern Union Gas Landfarm



Work Order #: 451801

Lab Batch #: 900609

Date Analyzed: 11/10/2012

Date Prepared: 11/10/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451798-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	25.3	103	117	89	80-120	

Lab Batch #: 900609

Date Analyzed: 11/09/2012

Date Prepared: 11/09/2012

Analyst: TTE

QC- Sample ID: 451803-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	3.87	102	105	99	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order # : 451801

Lab Batch ID: 900297

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451794-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: KEB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.3	1020	906	89	1020	917	90	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		80.0	1020	968	87	1020	1000	90	3	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$
ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451801

Lab Batch #: 900441

Date Analyzed: 11/07/2012 10:50

Date Prepared: 11/07/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451841-008 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.34	9.10	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

...
com@basinenv.com; Rose.Slade@SUG.com

Page 13 of 14



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451801

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451803
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

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

Reference: XENCO Report No: **451803**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451803. 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. 451803 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 451803



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 3 G-1	S	10-30-12 09:30		451803-001
TZ Cell 3 G-2	S	10-30-12 09:40		451803-002
TZ Cell 3 G-3	S	10-30-12 09:50		451803-003
TZ Cell 3 G-4	S	10-30-12 10:00		451803-004
TZ Cell 3 G-5	S	10-30-12 10:10		451803-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451803

Report Date: 12-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Immary 451803**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 12-NOV-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	451803-001	451803-002	451803-003	451803-004	451803-005
	<i>Extracted:</i>	<i>Analyzed:</i>	<i>Units/RL:</i>	<i>Sampled:</i>	<i>Extracted:</i>	<i>Analyzed:</i>	<i>Units/RL:</i>	<i>Sampled:</i>	<i>Extracted:</i>	<i>Analyzed:</i>
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Nov-09-12 20:42	Nov-09-12 20:42	mg/kg	RL	Oct-30-12 09:30	Nov-09-12 21:15	Nov-09-12 21:15	Nov-09-12 21:31	Nov-09-12 21:47	Nov-09-12 22:03
Chloride	3.87	1.02	16.8	1.03	6.02	6.02	1.02	6.05	1.03	6.11
Percent Moisture	Nov-06-12 12:00	%	RL	1.00	Nov-07-12 12:30	%	RL	Nov-07-12 12:30	%	RL
TPH By SW8015 Mod	Nov-09-12 13:30	Nov-09-12 20:26	mg/kg	RL	Nov-09-12 13:30	Nov-09-12 20:56	mg/kg	RL	Nov-09-12 13:30	Nov-09-12 23:16
C6-Cl2 Gasoline Range Hydrocarbons	ND	15.3	3590	15.3	319	3910	15.3	3380	15.2	276
Cl2-C28 Diesel Range Hydrocarbons	3590	15.3	319	15.3	3910	15.3	3380	15.2	276	3660
C28-C35 Oil Range Hydrocarbons	319	15.3	3910	15.3	3380	15.2	276	3660	15.2	3040
Total TPH	3910	15.3	3380	15.2	276	3660	15.2	3040	15.4	3280

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451803,

Project ID:

Lab Batch #: 900586

Sample: 451803-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/12 20:26

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.9	105	70-135	
o-Terphenyl	54.2	50.0	108	70-135	

Lab Batch #: 900586

Sample: 451803-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/12 20:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.6	107	70-135	
o-Terphenyl	55.4	49.8	111	70-135	

Lab Batch #: 900586

Sample: 451803-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/12 21:28

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.8	109	70-135	
o-Terphenyl	56.1	49.9	112	70-135	

Lab Batch #: 900586

Sample: 451803-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/12 22:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.2	99.9	97	70-135	
o-Terphenyl	48.2	50.0	96	70-135	

Lab Batch #: 900586

Sample: 451803-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/12 23:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.0	100	95	70-135	
o-Terphenyl	47.4	50.0	95	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451803,

Project ID:

Lab Batch #: 900586

Sample: 629743-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	52.0	50.1	104	70-135	

Lab Batch #: 900586

Sample: 629743-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 15:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.9	106	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 900586

Sample: 629743-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	64.7	50.0	129	70-135	

Lab Batch #: 900586

Sample: 451773-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	60.1	50.0	120	70-135	

Lab Batch #: 900586

Sample: 451773-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 05:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 451803

Analyst: TTE

Lab Batch ID: 900609

Sample: 629776-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Date Prepared: 11/09/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
	Chloride	<1.00	100	104	104	100	103	103	1	80-120	20

Analyst: KEB

Lab Batch ID: 900586

Sample: 629743-1-BKS

Units: mg/kg

Date Prepared: 11/09/2012

Batch #: 1

Date Analyzed: 11/09/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg	TPH By SW8015 Mod	Analytes	Blank	Spike	Blank	Blank	Spike	Blank	Blk. Spk	RPD	Control	Flag
			Sample Result	Added	Spike	Spike	Spk	Dup.	%	Limits		
			[A]	[B]	[C]	%R	[D]	[E]	Duplicate Result [F]	%R	[G]	
	C6-C12 Gasoline Range Hydrocarbons		<15.0	999	970	97	999	1040	104	7	70-135	35
	C12-C28 Diesel Range Hydrocarbons		<15.0	999	956	96	999	1020	102	6	70-135	35

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451803

Lab Batch #: 900609

Date Analyzed: 11/10/2012

Date Prepared: 11/10/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451798-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	25.3	103	117	89	80-120	

Lab Batch #: 900609

Date Analyzed: 11/09/2012

Date Prepared: 11/09/2012

Analyst: TTE

QC- Sample ID: 451803-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	3.87	102	105	99	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451803

Lab Batch ID: 900586

Date Analyzed: 11/10/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451773-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/09/2012

Analyst: KEB

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<16.7	1110	1120	101	1110	1070	96	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<16.7	1110	1140	103	1110	1100	99	4	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451803

Lab Batch #: 900287

Date Analyzed: 11/06/2012 12:00

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451804-003 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	3.39	3.39	0	20	

Lab Batch #: 900441

Date Analyzed: 11/07/2012 10:50

Date Prepared: 11/07/2012

Analyst: WRU

QC- Sample ID: 451841-008 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	9.34	9.10	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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451803

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451804
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

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

Reference: XENCO Report No: **451804**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451804. 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. 451804 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 451804



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 4 G-1	S	10-30-12 10:20		451804-001
TZ Cell 4 G-2	S	10-30-12 10:30		451804-002
TZ Cell 4 G-3	S	10-30-12 10:40		451804-003
TZ Cell 4 G-4	S	10-30-12 10:50		451804-004
TZ Cell 4 G-5	S	10-30-12 11:00		451804-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451804

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451804
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 12-NOV-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451804-001	451804-002	451804-003	451804-004	451804-005
	Field Id: Depth: Matrix: Sampled:	TZ Cell 4 G-1 Oct-30-12 10:20 SOIL Oct-30-12 10:20	TZ Cell 4 G-2 Oct-30-12 10:30 SOIL Oct-30-12 10:30	TZ Cell 4 G-3 Oct-30-12 10:40 SOIL Oct-30-12 10:40	TZ Cell 4 G-4 Oct-30-12 10:50 SOIL Oct-30-12 11:00	TZ Cell 4 G-5 Oct-30-12 11:00 SOIL Oct-30-12 11:00
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-12-12 09:49	Nov-12-12 09:49	Nov-12-12 09:49	Nov-10-12 01:00	Nov-10-12 01:16
	Analyzed:	Nov-12-12 09:49	Nov-12-12 09:49	Nov-12-12 09:49	Nov-10-12 01:00	Nov-10-12 01:16
	Units/RL:	mg/kg RL 18.0 1.04	mg/kg RL 27.2 1.04	mg/kg RL 18.0 1.04	mg/kg RL 35.7 1.03	mg/kg RL 33.6 1.04
Chloride						
Percent Moisture	Extracted:					
	Analyzed:	Nov-06-12 11:50	Nov-06-12 11:50	Nov-06-12 12:00	Nov-06-12 12:00	Nov-06-12 12:00
	Units/RL:	% RL 3.51 1.00	% RL 3.72 1.00	% RL 3.39 1.00	% RL 2.65 1.00	% RL 3.45 1.00
Percent Moisture						
TPH By SW8015 Mod	Extracted:	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00
	Analyzed:	Nov-03-12 10:32	Nov-03-12 11:08	Nov-03-12 11:37	Nov-03-12 12:14	Nov-03-12 12:43
	Units/RL:	mg/kg RL ND 15.5	mg/kg RL ND 15.6	mg/kg RL ND 15.5	mg/kg RL ND 15.4	mg/kg RL ND 15.5
C6-C12 Gasoline Range Hydrocarbons						
C12-C28 Diesel Range Hydrocarbons		2650 15.5	2340 15.6	2800 15.5	1910 15.4	1920 15.5
C28-C35 Oil Range Hydrocarbons		265 15.5	228 15.6	258 15.5	183 15.4	170 15.5
Total TPH		2920 15.5	2570 15.6	3060 15.5	2090 15.4	2090 15.5

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 5332 Blackberry Drive, San Antonio TX 78238
 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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(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451804,

Project ID:

Lab Batch #: 900093

Sample: 451804-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 10:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.8	100	96	70-135	
o-Terphenyl	61.7	50.0	123	70-135	

Lab Batch #: 900093

Sample: 451804-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 11:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	81.0	100	81	70-135	
o-Terphenyl	50.5	50.0	101	70-135	

Lab Batch #: 900093

Sample: 451804-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 11:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.4	99.8	96	70-135	
o-Terphenyl	61.8	49.9	124	70-135	

Lab Batch #: 900093

Sample: 451804-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 12:14

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	93.4	99.9	93	70-135	
o-Terphenyl	55.7	50.0	111	70-135	

Lab Batch #: 900093

Sample: 451804-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 12:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.1	99.6	95	70-135	
o-Terphenyl	54.8	49.8	110	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451804,

Project ID:

Lab Batch #: 900093

Sample: 629450-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 02:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	97.5	100	98	70-135	
o-Terphenyl	46.7	50.1	93	70-135	

Lab Batch #: 900093

Sample: 629450-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 01:28

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.8	100	99	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 900093

Sample: 629450-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 02:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	54.5	50.0	109	70-135	

Lab Batch #: 900093

Sample: 451779-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 03:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	53.8	50.0	108	70-135	

Lab Batch #: 900093

Sample: 451779-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 04:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451804

Analyst: TTE

Lab Batch ID: 900609

Sample: 629776-1-BKS

Units: mg/kg

Date Prepared: 11/09/2012

Batch #: 1

Project ID:
Date Analyzed: 11/09/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
Chloride	<1.00	100	104	104	100	103	103	1	80-120	20	

Analyst: KEB

Lab Batch ID: 900093

Sample: 629450-1-BKS

Units: mg/kg

Date Prepared: 11/02/2012

Batch #: 1

Date Analyzed: 11/03/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	936	94	1000	984	98	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	1000	952	95	1000	998	100	5	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451804

Lab Batch #: 900609

Date Analyzed: 11/10/2012

Date Prepared: 11/10/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451798-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	25.3	103	117	89	80-120	

Lab Batch #: 900609

Date Analyzed: 11/09/2012

Date Prepared: 11/09/2012

Analyst: TTE

QC- Sample ID: 451803-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	3.87	102	105	99	80-120	

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

BRL - Below Reporting Limit

Work Order #: 451804

Lab Batch ID: 900093

Date Analyzed: 11/03/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451779-001 S

Date Prepared: 11/02/2012

Batch #: 1

Analyst: KEB

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<16.9	1130	991	88	1130	1000	88	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.9	1130	1020	90	1130	987	87	3	70-135	35	

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451804

Lab Batch #: 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.45	2.45	0	20	

Lab Batch #: 900287

Date Analyzed: 11/06/2012 12:00

Date Prepared: 11/06/2012

Analyst: WRU

QC- Sample ID: 451804-003 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	3.39	3.39	0	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

pm@basinenv.com; Rose.Slade@SUG.com

Page 13 of 14



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451804

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451807
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

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

Reference: XENCO Report No: **451807**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451807. 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. 451807 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 451807



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 5 G-1	S	10-30-12 11:10		451807-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451807

Report Date: 12-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451807
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 12-NOV-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id: Field Id: Depth: Matrix: Sampled:</i>	<i>451807-001 TZ Cell 5 G-I SOIL Oct-30-12 11:10</i>			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted: Analyzed: Units/RL:</i>	<i>Nov-10-12 18:15 Nov-10-12 18:15 mg/kg RL</i>			
Chloride		ND 1.01			
Percent Moisture	<i>Extracted: Analyzed: Units/RL:</i>	<i>Nov-06-12 10:30 % RL</i>			
Percent Moisture		1.14 1.00			
TPH By SW8015 Mod	<i>Extracted: Analyzed: Units/RL:</i>	<i>Nov-10-12 10:00 Nov-10-12 16:36 mg/kg RL</i>			
C6-C12 Gasoline Range Hydrocarbons		ND 15.1			
C12-C28 Diesel Range Hydrocarbons		60.6 15.1			
C28-C35 Oil Range Hydrocarbons		31.1 15.1			
Total TPH		91.7 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.

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 9701 Harry Hines Blvd, Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451807,

Project ID:

Lab Batch #: 900607

Sample: 451807-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 16:36

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.8	104	70-135	
o-Terphenyl	48.1	49.9	96	70-135	

Lab Batch #: 900607

Sample: 629774-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 12:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.9	109	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

Lab Batch #: 900607

Sample: 629774-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 11:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	62.9	50.0	126	70-135	

Lab Batch #: 900607

Sample: 629774-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 12:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.8	114	70-135	
o-Terphenyl	59.9	49.9	120	70-135	

Lab Batch #: 900607

Sample: 451788-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/12 00:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451807,

Lab Batch #: 900607

Sample: 451788-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/12 00:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		110	99.7	110	70-135	
o-Terphenyl		58.5	49.9	117	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451807

Analyst: TTE

Lab Batch ID: 900610

Sample: 629780-1-BKS

Units: mg/kg

Project ID: 11/10/2012
Date Analyzed: 11/10/2012
Batch #: 1
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	Inorganic Anions by EPA 300/300.1	Analytes	Blank Sample Result	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
			[A]	[B]	[C]	[D]	[E]			[G]			
		Chloride	<1.00	100	100	100	100	101	101	1	80-120	20	

Analyst: KEB

Lab Batch ID: 900607

Sample: 629774-1-BKS

Units: mg/kg

Date Prepared: 11/10/2012
Batch #: 1
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	TPH By SW8015 Mod	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
			[A]	[B]	[C]	[D]	[E]	[F]	[G]					

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Southern Union Gas Landfarm



Work Order #: 451807

Lab Batch #: 900610

Date Analyzed: 11/10/2012

QC- Sample ID: 451807-001 S

Reporting Units: mg/kg

Project ID:

Analyst: TTE

Date Prepared: 11/10/2012

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.01	101	106	105	80-120	

Lab Batch #: 900610

Date Analyzed: 11/10/2012

QC- Sample ID: 451911-001 S

Reporting Units: mg/kg

Date Prepared: 11/10/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2.58	118	122	101	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451807

Lab Batch ID: 900607

Date Analyzed: 11/11/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451788-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/10/2012 Analyst: KEB

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	<17.1	1140	1170	103	1140	1120	98	4	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<17.1	1140	1200	105	1140	1160	102	3	70-135	35	

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

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

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

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451807

Lab Batch #: 900282

Date Analyzed: 11/06/2012 10:30

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451813-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	6.88	5.76	18	20	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$

All Results are based on M/DL and validated for QC purposes.

BRL - Below Reporting Limit

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

pm@basinenvironment.com; Rose.Slade@SUG.com

Final 1.000



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451807

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451806
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

08-NOV-12

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)



08-NOV-12

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

Reference: XENCO Report No: **451806**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451806. 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. 451806 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 451806



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 6 G-1	S	10-30-12 11:20		451806-001
TZ Cell 6 G-2	S	10-30-12 11:30		451806-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451806

Report Date: 08-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Immary 451806**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 08-NOV-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	<i>451806-001</i> <i>TZ Cell 6 G-1</i> <i>SOIL</i> <i>Oct-30-12 11:20</i>	<i>451806-002</i> <i>TZ Cell 6 G-2</i> <i>SOIL</i> <i>Oct-30-12 11:30</i>	
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	Nov-08-12 07:54 Nov-08-12 07:54 mg/kg RL	Nov-08-12 08:10 Nov-08-12 08:10 mg/kg RL	
Chloride		7.22 1.02	27.6 1.01	
Percent Moisture	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	Nov-06-12 11:25 % RL	Nov-06-12 11:25 % RL	
Percent Moisture		2.37 1.00	2.07 1.00	
TPH By SW8015 Mod	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	Nov-05-12 15:00 Nov-06-12 04:59 mg/kg RL	Nov-05-12 15:00 Nov-06-12 05:32 mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		ND 15.4	ND 15.3	
C12-C28 Diesel Range Hydrocarbons		176 15.4	246 15.3	
C28-C35 Oil Range Hydrocarbons		23.6 15.4	27.0 15.3	
Total TPH		200 15.4	273 15.3	

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451806,

Project ID:

Lab Batch #: 900297

Sample: 451806-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 04:59

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	53.2	50.0	106	70-135	

Lab Batch #: 900297

Sample: 451806-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 05:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	51.4	50.1	103	70-135	

Lab Batch #: 900297

Sample: 629524-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 02:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

Lab Batch #: 900297

Sample: 629524-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.1	99.9	95	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 900297

Sample: 629524-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451806,

Project ID:

Lab Batch #: 900297

Sample: 451794-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.1	100	89	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 900297

Sample: 451794-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	100	94	70-135	
o-Terphenyl	54.4	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 451806

Analyst: TTE

Lab Batch ID: 900478

Sample: 629686-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/08/2012

Matrix: Solid

Date Prepared: 11/08/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<1.00	100	103	103	100	103	103	0	80-120	20	

Analyst: KEB

Date Prepared: 11/05/2012

Date Analyzed: 11/06/2012

Lab Batch ID: 900297

Sample: 629524-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	961	96	999	966	97	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	986	99	999	997	100	1	70-135	35	

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



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451806

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451796-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.02	102	100	98	80-120	

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Analyst: TTE

QC- Sample ID: 451817-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.7	104	118	101	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order # : 451806

Lab Batch ID: 900297

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 451794-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: KEB

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons		<15.3	1020	906	89	1020	917	90	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		80.0	1020	968	87	1020	1000	90	3	70-135	35	

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

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

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

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451806

Lab Batch #: 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.45	2.45	0	20	

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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

pm@basinenv.com; Rose.Slade@SUG.com

pm@basinenv.com; Rose.Slade@SUG.com

Final 1.000



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451806

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451797
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

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

Reference: XENCO Report No: **451797**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451797. 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. 451797 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 451797



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 7 G-1	S	10-30-12 11:40		451797-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451797

Report Date: 12-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Immary 451797**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id: Field Id: Depth: Matrix: Sampled:</i>	<i>451797-001 TZ Cell 7 G-1 SOIL Oct-30-12 11:40</i>			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>	Nov-09-12 14:00			
	<i>Analyzed:</i>	Nov-09-12 14:00			
	<i>Units/RL:</i>	mg/kg RL			
Chloride		5.67 1.05			
Percent Moisture	<i>Extracted:</i>				
	<i>Analyzed:</i>	Nov-06-12 11:10			
	<i>Units/RL:</i>	% RL			
Percent Moisture		4.43 1.00			
TPH By SW8015 Mod	<i>Extracted:</i>	Nov-05-12 15:00			
	<i>Analyzed:</i>	Nov-06-12 12:32			
	<i>Units/RL:</i>	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.7			
C12-C28 Diesel Range Hydrocarbons		204 15.7			
C28-C35 Oil Range Hydrocarbons		36.5 15.7			
Total TPH		241 15.7			

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451797,

Lab Batch #: 900297

Sample: 451797-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 12:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.6	100	98	70-135	
o-Terphenyl	47.7	50.1	95	70-135	

Lab Batch #: 900297

Sample: 629524-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 02:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

Lab Batch #: 900297

Sample: 629524-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	99.9	95	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 900297

Sample: 629524-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 900297

Sample: 451794-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.1	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

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451797,

Lab Batch #: 900297

Sample: 451794-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		94.0	100	94	70-135	
o-Terphenyl		54.4	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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

Project Name: Southern Union Gas Landfarm

Work Order #: 451797

Analyst: TTE

Lab Batch ID: 900608

Sample: 629775-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Date Prepared: 11/09/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
Chloride	<1.00	100	101	101	100	99.4	99	2	80-120	20	

Analyst: KEB

Date Prepared: 11/05/2012

Date Analyzed: 11/06/2012

Lab Batch ID: 900297

Sample: 629524-1-BKS

Batch #: 1

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
Analytes	TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons		<15.0	999	961	96	999	966	97	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		<15.0	999	986	99	999	997	100	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Southern Union Gas Landfarm



Work Order #: 451797

Lab Batch #: 900608

Date Analyzed: 11/09/2012

Date Prepared: 11/09/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451777-005 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	<1.16	116	118	102	80-120	

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

Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451797

Lab Batch ID: 900297

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451794-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: KEB

Reporting Units: mg/kg											
TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
	<15.3	1020	906	89	1020	917	90	1	70-135	35	
	80.0	1020	968	87	1020	1000	90	3	70-135	35	

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451797

Lab Batch #: 900284

Date Analyzed: 11/06/2012 10:57

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451817-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	4.12	4.01	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Sampler Signature: Paul Young

pm@basinenv.com; Rose.Slade@SUG.com

Page 13 of 14



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451797

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451798
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

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

Reference: XENCO Report No: **451798**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451798. 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. 451798 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 451798



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 8 G-2	S	10-30-12 11:50		451798-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451798

Report Date: 12-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451798
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451798-001			
	Field Id:	TZ Cell 8 G-2			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Oct-30-12 11:50			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-10-12 03:09			
	Analyzed:	Nov-10-12 03:09			
	Units/RL:	mg/kg RL			
Chloride		25.3 1.03			
Percent Moisture	Extracted:				
	Analyzed:	Nov-06-12 11:25			
	Units/RL:	% RL			
Percent Moisture		2.45 1.00			
TPH By SW8015 Mod	Extracted:	Nov-05-12 15:00			
	Analyzed:	Nov-06-12 13:00			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.4			
C12-C28 Diesel Range Hydrocarbons		161 15.4			
C28-C35 Oil Range Hydrocarbons		27.0 15.4			
Total TPH		188 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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 5332 Blackberry Drive, San Antonio TX 78238
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 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
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(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451798,

Project ID:

Lab Batch #: 900297

Sample: 451798-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 13:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	54.0	50.1	108	70-135	

Lab Batch #: 900297

Sample: 629524-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 02:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

Lab Batch #: 900297

Sample: 629524-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	99.9	95	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 900297

Sample: 629524-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 900297

Sample: 451794-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.1	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

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

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



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451798,

Lab Batch #: 900297

Sample: 451794-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	100	94	70-135	
o-Terphenyl	54.4	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

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

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



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451798

Analyst: TTE

Lab Batch ID: 900609

Sample: 629776-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Date Prepared: 11/09/2012

Batch #: 1

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
	<1.00	100	104	104	100	103	103	1	80-120	20	
	Chloride										

Analyst: KEB

Lab Batch ID: 900297

Sample: 629524-1-BKS

Units: mg/kg

Date Prepared: 11/05/2012

Batch #: 1

Date Analyzed: 11/06/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	C6-C12 Gasoline Range Hydrocarbons	<15.0	999	961	96	999	966	97	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<15.0	999	986	99	999	997	100	1	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451798

Lab Batch #: 900609

Date Analyzed: 11/10/2012

Date Prepared: 11/10/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451798-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	25.3	103	117	89	80-120	

Lab Batch #: 900609

Date Analyzed: 11/09/2012

Date Prepared: 11/09/2012

Analyst: TTE

QC- Sample ID: 451803-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	3.87	102	105	99	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$
Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS 4SD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451798

Lab Batch ID: 900297

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451794-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: KEB

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.3	1020	906	89	1020	917	90	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	80.0	1020	968	87	1020	1000	90	3	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451798

Lab Batch #: 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.45	2.45	0	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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451798

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451799
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451799**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451799. 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. 451799 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 451799



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 9 G-1	S	10-30-12 12:00		451799-001
TZ Cell 9 G-2	S	10-30-12 12:10		451799-002
TZ Cell 9 G-3	S	10-30-12 12:20		451799-003
TZ Cell 9 G-4	S	10-30-12 12:30		451799-004
TZ Cell 9 G-5	S	10-30-12 12:40		451799-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451799

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Immmary 451799**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	<i>Extracted:</i>	<i>Analyzed:</i>	<i>Units/RL:</i>
	<i>451799-001</i>	<i>TZ Cell 9 G-1</i>	<i>SOIL</i>	<i>Oct-30-12 12:00</i>	<i>Nov-08-12 08:26</i>	<i>Nov-08-12 08:26</i>	<i>mg/kg</i>	<i>RL</i>
Inorganic Anions by EPA 300/300.1 SUB: TX104704215								
Chloride								
Percent Moisture								
TPH By SW8015 Mod								
C6-C12 Gasoline Range Hydrocarbons								
C12-C28 Diesel Range Hydrocarbons								
C28-C35 Oil Range Hydrocarbons								
Total TPH								

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 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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(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451799,

Lab Batch #: 900307

Sample: 451799-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/07/12 05:24

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	94.6	99.7	95	70-135	
o-Terphenyl	44.6	49.9	89	70-135	

Lab Batch #: 900307

Sample: 451799-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/07/12 06:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	87.1	99.9	87	70-135	
o-Terphenyl	39.7	50.0	79	70-135	

Lab Batch #: 900307

Sample: 451799-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/07/12 06:40

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.1	100	96	70-135	
o-Terphenyl	45.6	50.0	91	70-135	

Lab Batch #: 900307

Sample: 451799-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/07/12 07:17

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.0	99.8	98	70-135	
o-Terphenyl	46.2	49.9	93	70-135	

Lab Batch #: 900307

Sample: 451799-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/07/12 07:54

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	93.0	99.7	93	70-135	
o-Terphenyl	43.2	49.9	87	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

† Results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451799,

Project ID:

Lab Batch #: 900307

Sample: 629587-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg	Date Analyzed: 11/06/12 19:06	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		100	100	100	70-135	
o-Terphenyl		47.3	50.2	94	70-135	

Lab Batch #: 900307

Sample: 629587-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg	Date Analyzed: 11/06/12 17:56	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		102	99.9	102	70-135	
o-Terphenyl		60.4	50.0	121	70-135	

Lab Batch #: 900307

Sample: 629587-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg	Date Analyzed: 11/06/12 18:29	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		103	100	103	70-135	
o-Terphenyl		60.2	50.0	120	70-135	

Lab Batch #: 900307

Sample: 451814-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg	Date Analyzed: 11/07/12 09:02	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		106	99.9	106	70-135	
o-Terphenyl		62.6	50.0	125	70-135	

Lab Batch #: 900307

Sample: 451814-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg	Date Analyzed: 11/07/12 09:31	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		95.9	100	96	70-135	
o-Terphenyl		56.8	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451799

Analyst: TTE

Lab Batch ID: 900478

Sample: 629686-1-BKS

Units: mg/kg

Date Prepared: 11/08/2012
Batch #: 1
Date Analyzed: 11/08/2012
Matrix: Solid

Project ID:

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
Chloride	<1.00	100	103	103	100	103	103	0	80-120	20	

Analyst: KEB

Lab Batch ID: 900307

Sample: 629587-1-BKS

Date Prepared: 11/06/2012
Batch #: 1

Date Analyzed: 11/06/2012
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	999	986	99	1000	943	94	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	999	978	98	1000	968	97	1	70-135	35	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451799

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451796-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.02	102	100	98	80-120	

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Analyst: TTE

QC- Sample ID: 451817-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.7	104	118	101	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$
Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order # : 451799

Lab Batch ID: 900307

Date Analyzed: 11/07/2012

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 451814-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/06/2012 Analyst: KEB

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	1050	101	1040	926	89	13	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<15.6	1040	1070	103	1040	967	93	10	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \cdot (C-A)/B$
Relative Percent Difference $RPD = 200 \cdot |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \cdot (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451799

Lab Batch #: 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.45	2.45	0	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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451799

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451800
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

08-NOV-12

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)



08-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451800**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451800. 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. 451800 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 451800



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 10 G-1	S	10-30-12 13:40		451800-001
TZ Cell 10 G-2	S	10-30-12 13:50		451800-002
TZ Cell 10 G-3	S	10-30-12 14:00		451800-003
TZ Cell 10 G-4	S	10-30-12 14:10		451800-004



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451800

Report Date: 08-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451800
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 08-NOV-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451800-001	451800-002	451800-003	451800-004
	Field Id:	TZ Cell 10 G-1	TZ Cell 10 G-2	TZ Cell 10 G-3	TZ Cell 10 G-4
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Depth:				
	Matrix:	SOIL	SOIL	SOIL	SOIL
Chloride	Sampled:	Oct-30-12 13:40	Oct-30-12 13:50	Oct-30-12 14:00	Oct-30-12 14:10
	Extracted:	Nov-08-12 10:28	Nov-08-12 10:44	Nov-08-12 11:32	Nov-08-12 11:48
Percent Moisture	Analyzed:	Nov-08-12 10:28	Nov-08-12 10:44	Nov-08-12 11:32	Nov-08-12 11:48
	Units/RL:	mg/kg RL 3.69 1.01	mg/kg RL 3.30 1.01	mg/kg RL 3.91 1.01	mg/kg RL 9.29 1.01
TPH By SW8015 Mod	Extracted:	Nov-06-12 11:25	Nov-06-12 11:25	Nov-06-12 11:25	Nov-06-12 11:25
	Analyzed:	% RL 1.39 1.00	% RL 1.10 1.00	% RL 1.17 1.00	% RL 1.56 1.00
C6-C12 Gasoline Range Hydrocarbons	Units/RL:	ND 15.2	ND 15.1	ND 15.1	ND 15.2
	Extracted:	Nov-05-12 15:00	Nov-05-12 15:00	Nov-05-12 15:00	Nov-05-12 15:00
C12-C28 Diesel Range Hydrocarbons	Analyzed:	Nov-06-12 13:30	Nov-06-12 14:00	Nov-06-12 14:29	Nov-06-12 14:58
	Units/RL:	mg/kg RL 288 15.2	mg/kg RL 132 15.1	mg/kg RL 150 15.1	mg/kg RL 521 15.2
C28-C35 Oil Range Hydrocarbons	Extracted:	288 15.2	132 15.1	150 15.1	521 15.2
	Analyzed:	66.9 15.2	41.0 15.1	39.6 15.1	110 15.2
Total TPH	Units/RL:	355 15.2	173 15.1	190 15.1	631 15.2
	Extracted:	355 15.2	173 15.1	190 15.1	631 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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 6017 Financial Drive, Norcross, GA 30071
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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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451800,

Lab Batch #: 900297

Sample: 451800-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 13:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 900297

Sample: 451800-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 14:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.8	99.7	100	70-135	
o-Terphenyl	46.8	49.9	94	70-135	

Lab Batch #: 900297

Sample: 451800-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 14:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.8	103	70-135	
o-Terphenyl	48.8	49.9	98	70-135	

Lab Batch #: 900297

Sample: 451800-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 14:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.7	105	70-135	
o-Terphenyl	49.8	49.9	100	70-135	

Lab Batch #: 900297

Sample: 629524-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 02:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

† results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451800,

Project ID:

Lab Batch #: 900297

Sample: 629524-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.1	99.9	95	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 900297

Sample: 629524-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 900297

Sample: 451794-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	89.1	100	89	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 900297

Sample: 451794-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	94.0	100	94	70-135	
o-Terphenyl	54.4	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451800

Analyst: TTE

Lab Batch ID: 900478

Sample: 629686-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/08/2012

Matrix: Solid

Date Prepared: 11/08/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<1.00	100	103	103	100	103	103	0	80-120	20	

Analyst: KEB

Lab Batch ID: 900297

Sample: 629524-1-BKS

Units: mg/kg

Date Prepared: 11/05/2012

Batch #: 1

Date Analyzed: 11/06/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	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	961	96	999	966	97	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	986	99	999	997	100	1	70-135	35	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$

Blank Spike Recovery [D] = $100 * (C) / [B]$

Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451800

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451796-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.02	102	100	98	80-120	

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Analyst: TTE

QC- Sample ID: 451817-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.7	104	118	101	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$
Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451800

Lab Batch ID: 900297

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451794-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: KEB

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.3	1020	906	89	1020	917	90	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	80.0	1020	968	87	1020	1000	90	3	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451800

Lab Batch #: 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.45	2.45	0	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Paul Young

Page 13 of 14
Final 1.000



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451800

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451805
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451805**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451805. 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. 451805 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 451805



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 11 G-1	S	10-30-12 14:20		451805-001
TZ Cell 11 G-2	S	10-30-12 14:30		451805-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451805

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451805
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>		<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	<i>Extracted:</i>	<i>Analyzed:</i>	<i>Units/RL:</i>
Inorganic Anions by EPA 300/300.1 SUB: TX104704215		451805-001	TZ Cell 11 G-1		SOIL	Oct-30-12 14:20	Nov-08-12 06:50	Nov-08-12 06:50	mg/kg RL
Chloride							49.9	1.02	ND
Percent Moisture									
TPH By SW8015 Mod									
C6-C12 Gasoline Range Hydrocarbons									
C12-C28 Diesel Range Hydrocarbons									
C28-C35 Oil Range Hydrocarbons									
Total TPH									

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.
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- 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.

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RL Reporting Limit

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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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451805,

Project ID:

Lab Batch #: 900607

Sample: 451805-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 15:39

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	99.5	107	70-135	
o-Terphenyl	50.3	49.8	101	70-135	

Lab Batch #: 900607

Sample: 451805-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 16:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	99.9	103	70-135	
o-Terphenyl	47.5	50.0	95	70-135	

Lab Batch #: 900607

Sample: 629774-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 12:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.9	109	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

Lab Batch #: 900607

Sample: 629774-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 11:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	62.9	50.0	126	70-135	

Lab Batch #: 900607

Sample: 629774-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 12:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	114	99.8	114	70-135	
o-Terphenyl	59.9	49.9	120	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

!! results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451805,

Project ID:

Lab Batch #: 900607

Sample: 451788-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/12 00:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

Lab Batch #: 900607

Sample: 451788-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/12 00:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.7	110	70-135	
o-Terphenyl	58.5	49.9	117	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451805

Analyst: TTE

Lab Batch ID: 900478

Sample: 629686-1-BKS

Batch #: 1

Date Prepared: 11/08/2012

Project ID:

Date Analyzed: 11/08/2012

Matrix: 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	<1.00	100	103	103	100	103	103	0	80-120	20

Analyst: KEB

Lab Batch ID: 900607

Sample: 629774-1-BKS

Batch #: 1

Date Prepared: 11/10/2012

Date Analyzed: 11/10/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW'8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	1000	993	99	998	1070	107	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	1000	988	99	998	1080	108	9	70-135	35	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$

Blank Spike Recovery [D] = $100 * (C) / [B]$

Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451805

Lab Batch #: 900478

Date Analyzed: 11/08/2012

QC- Sample ID: 451796-001 S

Reporting Units: mg/kg

Project ID:

Analyst: TTE

Date Prepared: 11/08/2012

Batch #: 1

Matrix: Soil

Inorganic Anions by EPA 300		MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		<1.02	102	100	98	80-120	

Lab Batch #: 900478

Date Analyzed: 11/08/2012

QC- Sample ID: 451817-001 S

Reporting Units: mg/kg

Date Prepared: 11/08/2012

Analyst: TTE

Batch #: 1

Matrix: Soil

Inorganic Anions by EPA 300		MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		12.7	104	118	101	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451805

Lab Batch ID: 900607

Date Analyzed: 11/11/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451788-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/10/2012 Analyst: KEB

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons		<17.1	1140	1170	103	1140	1120	98	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<17.1	1140	1200	105	1140	1160	102	3	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451805

Lab Batch #: 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.45	2.45	0	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Paul Jones

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451805

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451796
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

08-NOV-12

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)



08-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451796**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451796. 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. 451796 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 451796



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 12 G-1	S	10-30-12 14:20		451796-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451796

Report Date: 08-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Immary 451796**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 08-NOV-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	451796-001 TZ Cell 12 G-1 SOIL Oct-30-12 14:20			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>	Nov-08-12 12:20			
	<i>Analyzed:</i>	Nov-08-12 12:20			
	<i>Units/RL:</i>	mg/kg RL			
Chloride		ND 1.02			
Percent Moisture	<i>Extracted:</i>				
	<i>Analyzed:</i>	Nov-06-12 11:50			
	<i>Units/RL:</i>	% RL			
Percent Moisture		1.98 1.00			
TPH By SW8015 Mod	<i>Extracted:</i>	Nov-05-12 15:00			
	<i>Analyzed:</i>	Nov-06-12 12:03			
	<i>Units/RL:</i>	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.3			
C12-C28 Diesel Range Hydrocarbons		209 15.3			
C28-C35 Oil Range Hydrocarbons		35.3 15.3			
Total TPH		244 15.3			

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(214) 902 0300	(214) 351-9139
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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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451796,

Lab Batch #: 900297

Sample: 451796-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 12:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	54.3	50.1	108	70-135	

Lab Batch #: 900297

Sample: 629524-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 02:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

Lab Batch #: 900297

Sample: 629524-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.1	99.9	95	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 900297

Sample: 629524-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 900297

Sample: 451794-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	89.1	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

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451796,

Lab Batch #: 900297

Sample: 451794-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	100	94	70-135	
o-Terphenyl	54.4	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451796

Analyst: TTE

Lab Batch ID: 900478

Sample: 629686-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/08/2012

Matrix: Solid

Date Prepared: 11/08/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes										
Chloride	<1.00	100	103	103	100	103	103	0	80-120	20	

Analyst: KEB

Lab Batch ID: 900297

Sample: 629524-1-BKS

Units: mg/kg

Date Prepared: 11/05/2012

Batch #: 1

Date Analyzed: 11/06/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg	TPH By SW8015 Mod	Analytes	Blank	Spike	Blank	Blank	Spike	Blank	Blk. Spk	RPD	Control	Flag
			Sample Result	Added	Spike Result	Spike %R	Added	Spike Duplicate	Dup. %R	%	Limits	
			[A]	[B]	[C]	[D]	[E]	Result [F]	[G]		%R	
	C6-C12 Gasoline Range Hydrocarbons		<15.0	999	961	96	999	966	97	1	70-135	35
	C12-C28 Diesel Range Hydrocarbons		<15.0	999	986	99	999	997	100	1	70-135	35

Relative Percent Difference $RPD = 200 * |(C-F)/(C+F)|$

Blank Spike Recovery $[D] = 100 * (C)/[B]$

Blank Spike Duplicate Recovery $[G] = 100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451796

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451796-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.02	102	100	98	80-120	

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Analyst: TTE

QC- Sample ID: 451817-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.7	104	118	101	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$
Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451796

Lab Batch ID: 900297

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 451794-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: KEB

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.3	1020	906	89	1020	917	90	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		80.0	1020	968	87	1020	1000	90	3	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: Southern Union Gas Landfarm

Work Order #: 451796**Lab Batch #:** 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

Reporting Units: %	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.45	2.45	0	20	

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

pm@basinenv.com; Rose.Slade@SUG.com

Special Instructions:

Sample Containers: Plastic

Custody seals on container

**Sample Hand Delivered
by Sampler/Client Rep**

Temperature Upon Receipt

100

Page 13 of 14



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451796

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451795
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

08-NOV-12

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)



08-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451795**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451795. 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. 451795 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 451795



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 13 G-1	S	10-30-12 15:00		451795-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451795

Report Date: 08-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451795
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 08-NOV-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i> <i>Field Id:</i> <i>Depth:</i> <i>Matrix:</i> <i>Sampled:</i>	451795-001 TZ Cell 13 G-1 SOIL Oct-30-12 15:00			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	Nov-08-12 12:04 Nov-08-12 12:04 mg/kg RL			
Chloride		131 1.04			
Percent Moisture	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	Nov-06-12 11:50 % RL			
Percent Moisture		3.89 1.00			
TPH By SW8015 Mod	<i>Extracted:</i> <i>Analyzed:</i> <i>Units/RL:</i>	Nov-05-12 15:00 Nov-06-12 11:34 mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.6			
C12-C28 Diesel Range Hydrocarbons		133 15.6			
C28-C35 Oil Range Hydrocarbons		29.4 15.6			
Total TPH		162 15.6			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 9701 Harry Hines Blvd, Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 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

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451795,

Project ID:

Lab Batch #: 900297

Sample: 451795-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 11:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	49.8	50.0	100	70-135	

Lab Batch #: 900297

Sample: 629524-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 02:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

Lab Batch #: 900297

Sample: 629524-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.1	99.9	95	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 900297

Sample: 629524-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 900297

Sample: 451794-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	89.1	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

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451795,

Project ID:

Lab Batch #: 900297

Sample: 451794-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		94.0	100	94	70-135	
o-Terphenyl		54.4	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451795

Analyst: TTE

Lab Batch ID: 900478

Sample: 629686-1-BKS

Units: mg/kg

Date Prepared: 11/08/2012

Batch #: 1

Project ID:
Date Analyzed: 11/08/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg	Inorganic Anions by EPA 300/300.1	Blank Sample Result	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
		[A]	[B]	[C]	[D]	[E]		[G]				
	Analytes											
	Chloride	<1.00	100	103	103	100	103	103	0	80-120	20	

Analyst: KEB

Lab Batch ID: 900297

Sample: 629524-1-BKS

Units: mg/kg

Date Prepared: 11/05/2012

Batch #: 1

Date Analyzed: 11/06/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	<15.0	999	961	96	999	966	97	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<15.0	999	986	99	999	997	100	1	70-135	35	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451795

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451796-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.02	102	100	98	80-120	

Lab Batch #: 900478

Date Analyzed: 11/08/2012

Date Prepared: 11/08/2012

Analyst: TTE

QC- Sample ID: 451817-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	12.7	104	118	101	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$
Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS 1SD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451795

Lab Batch ID: 900297

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451794-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: KEB

Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.3	1020	906	89	1020	917	90	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		80.0	1020	968	87	1020	1000	90	3	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*[(C-F)/(C+F)]

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451795

Lab Batch #: 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.45	2.45	0	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfill

Project #:

Project Loc: Lea County, NM

PO #:

Fax No: (575)396-1429

e-mail: pm@basinenv.com; Rose.Slade@SUG.com

fall 1997

Page 13 of 14



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451795

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451794
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451794**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451794. 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. 451794 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 451794



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 14 G-1	S	10-30-12 15:20		451794-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451794

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Immary 451794**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 12-NOV-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	451794-001				
	<i>Field Id:</i>	TZ Cell 14 G-1				
	<i>Depth:</i>					
	<i>Matrix:</i>	SOIL				
	<i>Sampled:</i>	Oct-30-12 15:20				
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>	Nov-09-12 13:44				
	<i>Analyzed:</i>	Nov-09-12 13:44				
	<i>Units/RL:</i>	mg/kg RL				
Chloride		3.70 1.02				
Percent Moisture	<i>Extracted:</i>					
	<i>Analyzed:</i>	Nov-06-12 11:50				
	<i>Units/RL:</i>	% RL				
Percent Moisture		2.05 1.00				
TPH By SW8015 Mod	<i>Extracted:</i>	Nov-05-12 15:00				
	<i>Analyzed:</i>	Nov-06-12 11:05				
	<i>Units/RL:</i>	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		ND 15.3				
C12-C28 Diesel Range Hydrocarbons		80.0 15.3				
C28-C35 Oil Range Hydrocarbons		16.5 15.3				
Total TPH		96.5 15.3				

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451794,

Project ID:

Lab Batch #: 900297

Sample: 451794-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 11:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	97.9	99.9	98	70-135	
o-Terphenyl	46.9	50.0	94	70-135	

Lab Batch #: 900297

Sample: 629524-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 02:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

Lab Batch #: 900297

Sample: 629524-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.1	99.9	95	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 900297

Sample: 629524-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 01:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	54.7	50.0	109	70-135	

Lab Batch #: 900297

Sample: 451794-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	89.1	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

Surrogate Recovery [D] = $100 \times A / B$

† Results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451794,

Lab Batch #: 900297

Sample: 451794-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 15:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	100	94	70-135	
o-Terphenyl	54.4	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451794

Analyst: TTE

Lab Batch ID: 900608

Sample: 629775-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Date Prepared: 11/09/2012

Batch #: 1

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	<1.00	100	101	101	100	99.4	99	2	80-120	20

Analyst: KEB

Lab Batch ID: 900297

Sample: 629524-1-BKS

Units: mg/kg

Date Analyzed: 11/06/2012

Matrix: Solid

Date Prepared: 11/05/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	961	96	999	966	97	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	986	99	999	997	100	1	70-135	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451794

Lab Batch #: 900608

Date Analyzed: 11/09/2012

Date Prepared: 11/09/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451777-005 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	<1.16	116	118	102	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS 4SD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order # 451794

Lab Batch ID: 900297

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451794-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: KEB

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	TPH By SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Analytes											
	C6-C12 Gasoline Range Hydrocarbons	<15.3	1020	906	89	1020	917	90	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	80.0	1020	968	87	1020	1000	90	3	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451794

Lab Batch #: 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.45	2.45	0	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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451794

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451793
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451793**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451793. 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. 451793 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 451793



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TZ Cell 15 G-1	S	10-30-12 15:40		451793-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451793

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451793
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 12-NOV-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	451793-001				
	<i>Field Id:</i>	TZ Cell 15 G-1				
	<i>Depth:</i>					
	<i>Matrix:</i>	SOIL				
	<i>Sampled:</i>	Oct-30-12 15:40				
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	<i>Extracted:</i>	Nov-09-12 13:28				
	<i>Analyzed:</i>	Nov-09-12 13:28				
	<i>Units/RL:</i>	mg/kg RL				
Chloride		13.8 1.06				
Percent Moisture	<i>Extracted:</i>					
	<i>Analyzed:</i>	Nov-06-12 11:25				
	<i>Units/RL:</i>	% RL				
Percent Moisture		5.80 1.00				
TPH By SW8015 Mod	<i>Extracted:</i>	Nov-05-12 07:00				
	<i>Analyzed:</i>	Nov-06-12 08:50				
	<i>Units/RL:</i>	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		ND 16.0				
C12-C28 Diesel Range Hydrocarbons		164 16.0				
C28-C35 Oil Range Hydrocarbons		64.6 16.0				
Total TPH		229 16.0				

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Nicholas Straccione
Project Manager

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- 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.

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RL Reporting Limit

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PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451793,

Project ID:

Lab Batch #: 900217

Sample: 451793-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 08:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	49.0	50.1	98	70-135	

Lab Batch #: 900217

Sample: 629522-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.4	99.7	97	70-135	
o-Terphenyl	47.1	49.9	94	70-135	

Lab Batch #: 900217

Sample: 629522-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.1	99.9	96	70-135	
o-Terphenyl	57.8	50.0	116	70-135	

Lab Batch #: 900217

Sample: 629522-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	100	99.8	100	70-135	
o-Terphenyl	58.7	49.9	118	70-135	

Lab Batch #: 900217

Sample: 451793-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 09:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	61.4	50.1	123	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

If results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451793,

Lab Batch #: 900217

Sample: 451793-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 10:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	63.0	50.1	126	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451793

Analyst: TTE

Lab Batch ID: 900608

Sample: 629775-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Date Prepared: 11/09/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Chloride	<1.00	100	101	101	100	99.4	99	2	80-120	20

Analyst: KEB

Lab Batch ID: 900217

Sample: 629522-1-BKS

Units: mg/kg

Date Prepared: 11/05/2012

Batch #: 1

Date Analyzed: 11/05/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg													
Analytes	TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons		<15.0	999	961	96	998	988	99	3	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		<15.0	999	963	96	998	978	98	2	70-135	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451793

Lab Batch #: 900608

Date Analyzed: 11/09/2012

Date Prepared: 11/09/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451777-005 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	<1.16	116	118	102	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$
Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Project Name: Southern Union Gas Landfarm

Work Order # : 451793

Lab Batch ID: 900217

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451793-001 S

Batch #: 1 **Matrix:** Soil

Date Prepared: 11/05/2012 **Analyst:** KEB

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	C6-C12 Gasoline Range Hydrocarbons	<15.9	1060	1050	99	1060	1070	101	2	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	164	1060	1180	96	1060	1200	98	2	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$
ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451793

Lab Batch #: 900285

Date Analyzed: 11/06/2012 11:25

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451798-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.45	2.45	0	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

pm@basinenv.com; Rose.Slade@SUG.com

Final 1.000



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451793

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451779
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

08-NOV-12

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)



08-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451779**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451779. 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. 451779 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 451779



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 1 G-1	S	10-31-12 08:00		451779-001
VZ Cell 1 G-2	S	10-31-12 08:10		451779-002
VZ Cell 1 G-3	S	10-31-12 08:20		451779-003
VZ Cell 1 G-4	S	10-31-12 08:30		451779-004
VZ Cell 1 G-5	S	10-31-12 08:40		451779-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451779

Report Date: 08-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-900313 BTEX by SW 8260B

Samples received with headspace.

Batch: LBA-900426 BTEX by SW 8260B

Samples received with headspace.



Certificate of Analysis **Immmary 451779**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 08-NOV-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451779-001	451779-002	451779-003	451779-004	451779-005
	Field Id: Depth: Matrix: Sampled:	VZ Cell 1 G-1 Oct-31-12 08:00 SOIL	VZ Cell 1 G-2 Oct-31-12 08:10 SOIL	VZ Cell 1 G-3 Oct-31-12 08:20 SOIL	VZ Cell 1 G-4 Oct-31-12 08:30 SOIL	VZ Cell 1 G-5 Oct-31-12 08:40 SOIL
BTEX by SW 8260B SUB: TX104704215	Extracted:	Nov-05-12 12:00	Nov-05-12 13:06	Nov-05-12 13:08	Nov-06-12 12:08	Nov-05-12 13:12
	Analyzed:	Nov-05-12 12:17	Nov-05-12 13:50	Nov-05-12 14:14	Nov-06-12 12:24	Nov-05-12 15:00
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	ND 0.00112	ND 0.00114	ND 0.00110	ND 0.00105	ND 0.00106
	Toluene	ND 0.00112	ND 0.00114	ND 0.00110	ND 0.00105	ND 0.00106
Ethylbenzene		ND 0.00112	ND 0.00114	ND 0.00110	ND 0.00105	ND 0.00106
	m,p-Xylenes	ND 0.00225	ND 0.00227	ND 0.00220	ND 0.00211	ND 0.00213
	o-Xylene	ND 0.00112	ND 0.00114	ND 0.00110	ND 0.00105	ND 0.00106
Total Xylenes		ND 0.00112	ND 0.00114	ND 0.00110	ND 0.00105	ND 0.00106
Total BTEX		ND 0.00112	ND 0.00114	ND 0.00110	ND 0.00105	ND 0.00106
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-06-12 21:51	Nov-06-12 22:08	Nov-06-12 22:24	Nov-06-12 22:40	Nov-06-12 22:56
	Analyzed:	Nov-06-12 21:51	Nov-06-12 22:08	Nov-06-12 22:24	Nov-06-12 22:40	Nov-06-12 22:56
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8.85 0.996	37.0 1.00	20.6 1.00	ND 0.990	2.63 0.988
Percent Moisture	Extracted:	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00
	Analyzed:	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00	Nov-07-12 13:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL
Percent Moisture		11.2 1.00	12.1 1.00	10.5 1.00	4.99 1.00	7.78 1.00
TPH By SW8015 Mod	Extracted:	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00	Nov-02-12 14:00
	Analyzed:	Nov-03-12 03:16	Nov-03-12 04:56	Nov-03-12 05:32	Nov-03-12 06:11	Nov-03-12 06:48
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 16.9	ND 17.1	ND 16.8	ND 15.8	ND 16.3
C12-C28 Diesel Range Hydrocarbons		ND 16.9	ND 17.1	ND 16.8	ND 15.8	ND 16.3
C28-C35 Oil Range Hydrocarbons		ND 16.9	ND 17.1	ND 16.8	ND 15.8	ND 16.3
Total TPH		ND 16.9	ND 17.1	ND 16.8	ND 15.8	ND 16.3

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451779,

Project ID:

Lab Batch #: 900093

Sample: 451779-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 03:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.9	99.9	97	70-135	
o-Terphenyl	46.3	50.0	93	70-135	

Lab Batch #: 900093

Sample: 451779-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 04:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	100	97	70-135	
o-Terphenyl	45.8	50.0	92	70-135	

Lab Batch #: 900093

Sample: 451779-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 05:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.5	100	94	70-135	
o-Terphenyl	45.1	50.1	90	70-135	

Lab Batch #: 900093

Sample: 451779-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 06:11

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.3	100	95	70-135	
o-Terphenyl	45.1	50.1	90	70-135	

Lab Batch #: 900093

Sample: 451779-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 06:48

SURROGATE RECOVERY STUDY

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	47.7	50.1	95	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

|| results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451779,

Project ID:

Lab Batch #: 900313

Sample: 451779-001 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0500	0.0500	100	74-126	
1,2-Dichloroethane-D4		0.0573	0.0500	115	80-120	
Toluene-D8		0.0484	0.0500	97	73-132	
4-Bromofluorobenzene		0.0477	0.0500	95	58-152	

Lab Batch #: 900313

Sample: 451779-002 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/05/12 13:50

SURROGATE RECOVERY STUDY

Units: mg/kg		Date Analyzed: 11/03/12 15:30				
BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0487	0.0500	97	74-126	
1,2-Dichloroethane-D4		0.0566	0.0500	113	80-120	
Toluene-D8		0.0489	0.0500	98	73-132	
4-Bromofluorobenzene		0.0461	0.0500	92	58-152	

Lab Batch #: 900313

Sample: 451779-003 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/05/12 14:14

SURROGATE RECOVERY STUDY

Units: mg/kg		Date Analyzed: 11/05/12 14:14				
BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0501	0.0500	100	74-126	
1,2-Dichloroethane-D4		0.0555	0.0500	111	80-120	
Toluene-D8		0.0497	0.0500	99	73-132	
4-Bromofluorobenzene		0.0474	0.0500	95	58-152	

Lab Batch #: 900313

Sample: 451779-005 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/05/12 15:00

SURROGATE RECOVERY STUDY

Units: mg/kg		Data Analyzed: 11/05/12 15:00				
BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0507	0.0500	101	74-126	
1,2-Dichloroethane-D4		0.0572	0.0500	114	80-120	
Toluene-D8		0.0505	0.0500	101	73-132	
4-Bromofluorobenzene		0.0475	0.0500	95	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451779,

Lab Batch #: 900426

Sample: 451779-004 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 12:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0506	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0509	0.0500	102	80-120	
Toluene-D8	0.0486	0.0500	97	73-132	
4-Bromofluorobenzene	0.0510	0.0500	102	58-152	

Lab Batch #: 900093

Sample: 629450-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 02:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	97.5	100	98	70-135	
o-Terphenyl	46.7	50.1	93	70-135	

Lab Batch #: 900313

Sample: 629597-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:51

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0468	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0492	0.0500	98	80-120	
Toluene-D8	0.0484	0.0500	97	73-132	
4-Bromofluorobenzene	0.0482	0.0500	96	58-152	

Lab Batch #: 900426

Sample: 629646-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 11:57

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0498	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0535	0.0500	107	80-120	
Toluene-D8	0.0484	0.0500	97	73-132	
4-Bromofluorobenzene	0.0473	0.0500	95	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

II results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451779,

Project ID:

Lab Batch #: 900093

Sample: 629450-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 01:28

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.8	100	99	70-135	
o-Terphenyl	52.0	50.0	104	70-135	

Lab Batch #: 900313

Sample: 629597-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:18

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0436	0.0500	87	74-126	
1,2-Dichloroethane-D4	0.0449	0.0500	90	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	
4-Bromofluorobenzene	0.0519	0.0500	104	58-152	

Lab Batch #: 900426

Sample: 629646-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 10:22

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0427	0.0500	85	74-126	
1,2-Dichloroethane-D4	0.0447	0.0500	89	80-120	
Toluene-D8	0.0512	0.0500	102	73-132	
4-Bromofluorobenzene	0.0504	0.0500	101	58-152	

Lab Batch #: 900093

Sample: 629450-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 02:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	54.5	50.0	109	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451779,

Project ID:

Lab Batch #: 900313

Sample: 629597-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:41

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0422	0.0500	84	74-126	
1,2-Dichloroethane-D4	0.0432	0.0500	86	80-120	
Toluene-D8	0.0487	0.0500	97	73-132	
4-Bromofluorobenzene	0.0507	0.0500	101	58-152	

Lab Batch #: 900426

Sample: 629646-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/12 10:46

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0465	0.0500	93	74-126	
1,2-Dichloroethane-D4	0.0466	0.0500	93	80-120	
Toluene-D8	0.0489	0.0500	98	73-132	
4-Bromofluorobenzene	0.0503	0.0500	101	58-152	

Lab Batch #: 900093

Sample: 451779-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 03:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	53.8	50.0	108	70-135	

Lab Batch #: 900313

Sample: 451779-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:40

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0486	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0524	0.0500	105	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	
4-Bromofluorobenzene	0.0499	0.0500	100	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

If results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451779,

Project ID:

Lab Batch #: 900426

Sample: 451779-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 12:48

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0478	0.0500	96	74-126	
1,2-Dichloroethane-D4	0.0514	0.0500	103	80-120	
Toluene-D8	0.0502	0.0500	100	73-132	
4-Bromofluorobenzene	0.0520	0.0500	104	58-152	

Lab Batch #: 900093

Sample: 451779-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 04:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 900313

Sample: 451779-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 13:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0454	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0501	0.0500	100	80-120	
Toluene-D8	0.0481	0.0500	96	73-132	
4-Bromofluorobenzene	0.0507	0.0500	101	58-152	

Lab Batch #: 900426

Sample: 451779-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 13:12

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0544	0.0500	109	80-120	
Toluene-D8	0.0493	0.0500	99	73-132	
4-Bromofluorobenzene	0.0510	0.0500	102	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451779

Analyst: MCH

Lab Batch ID: 900313

Sample: 629597-1-BKS

Date Prepared: 11/05/2012

Batch #: 1

Project ID:

Date Analyzed: 11/05/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
BTEX by SW 8260B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		<0.00100	0.100	0.0823	82	0.100	0.0868	87	5	62-132	25	
Toluene		<0.00100	0.100	0.0878	88	0.100	0.0928	93	6	66-124	25	
Ethylbenzene		<0.00100	0.100	0.0936	94	0.100	0.0987	99	5	71-134	25	
m,p-Xylenes		<0.00200	0.200	0.194	97	0.200	0.205	103	6	69-128	25	
o-Xylene		<0.00100	0.100	0.0967	97	0.100	0.102	102	5	72-131	25	

Analyst: MCH

Lab Batch ID: 900426

Sample: 629646-1-BKS

Date Prepared: 11/06/2012

Batch #: 1

Date Analyzed: 11/06/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
BTEX by SW 8260B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		<0.00100	0.100	0.0813	81	0.100	0.0827	83	2	62-132	25	
Toluene		<0.00100	0.100	0.0856	86	0.100	0.0846	85	1	66-124	25	
Ethylbenzene		<0.00100	0.100	0.0920	92	0.100	0.0924	92	0	71-134	25	
m,p-Xylenes		<0.00200	0.200	0.187	94	0.200	0.190	95	2	69-128	25	
o-Xylene		<0.00100	0.100	0.0942	94	0.100	0.0969	97	3	72-131	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$

Blank Spike Recovery [D] = $100 * (C)/(B)$

Blank Spike Duplicate Recovery [G] = $100 * (F)/(E)$

All results are based on MDL and Validated for QC Purposes

Project Name: Southern Union Gas Landfarm

Work Order #: 451779

Analyst: DAQ

Lab Batch ID: 900331

Sample: 629606-1-BKS

Date Prepared: 11/06/2012

Batch #: 1

Project ID:

Date Analyzed: 11/06/2012

Matrix: 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	<0.977	97.7	97.9	100	94.2	95.7	102	2	80-120	20

Analyst: KEB

Lab Batch ID: 900093

Sample: 629450-1-BKS

Date Prepared: 11/02/2012

Batch #: 1

Date Analyzed: 11/03/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	936	94	1000	984	98	5	70-135	35	
C12 C28 Diesel Range Hydrocarbons	<15.0	1000	952	95	1000	998	100	5	70-135	35	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$

Blank Spike Recovery [D] = $100 * (C) / [B]$

Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Southern Union Gas Landfarm



Work Order #: 451779

Lab Batch #: 900331

Date Analyzed: 11/06/2012

QC- Sample ID: 451779-005 S

Reporting Units: mg/kg

Project ID:

Analyst: DAQ

Date Prepared: 11/06/2012

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2.63	98.8	104	103	80-120	

Lab Batch #: 900331

Date Analyzed: 11/06/2012

QC- Sample ID: 451785-001 S

Reporting Units: mg/kg

Date Prepared: 11/06/2012

Analyst: DAQ

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2.31	107	112	103	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451779

Lab Batch ID: 900313

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451779-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: MCH

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00112	0.112	0.106	95	0.112	0.0942	84	12	62-132	25
	Toluene	<0.00112	0.112	0.109	97	0.112	0.0962	86	12	66-124	25
	Ethylbenzene	<0.00112	0.112	0.109	97	0.112	0.104	93	5	71-134	25
	m,p-Xylenes	<0.00225	0.225	0.227	101	0.224	0.214	96	6	69-128	25
	o-Xylene	<0.00112	0.112	0.117	104	0.112	0.108	96	8	72-131	25

Lab Batch ID: 900426

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

QC- Sample ID: 451779-004 S Batch #: 1 Matrix: Soil

Date Prepared: 11/06/2012 Analyst: MCH

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00105	0.105	0.0881	84	0.105	0.0870	83	1	62-132	25
	Toluene	<0.00105	0.105	0.0899	86	0.105	0.0898	86	0	66-124	25
	Ethylbenzene	<0.00105	0.105	0.0949	90	0.105	0.0954	91	1	71-134	25
	m,p-Xylenes	<0.00211	0.211	0.196	93	0.211	0.197	93	1	69-128	25
	o-Xylene	<0.00105	0.105	0.0988	94	0.105	0.0995	95	1	72-131	25

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Form 3 - MS MSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451779

Lab Batch ID: 900093

Date Analyzed: 11/03/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451779-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/02/2012 Analyst: KEB

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	TPH By SW8015 Mod										
	Analytes										
C6-C12 Gasoline Range Hydrocarbons	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
	<16.9	1130	991	88	1130	1000	88	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.9	1130	1020	90	1130	987	87	3	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451779

Lab Batch #: 900447

Date Analyzed: 11/07/2012 13:00

Date Prepared: 11/07/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451802-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.15	2.10	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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451779

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451781
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451781**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451781. 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. 451781 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 451781



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 2 G-1	S	10-30-12 08:00		451781-001
VZ Cell 2 G-2	S	10-30-12 08:20		451781-002
VZ Cell 2 G-3	S	10-30-12 08:40		451781-003
VZ Cell 2 G-4	S	10-30-12 09:00		451781-004



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451781

Report Date: 12-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-900313 BTEX by SW 8260B

SW8260BTX

Batch 900313, 1,2-Dichloroethane-D4 recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis
Samples affected are: 451781-002.



Certificate of Analysis Summary 451781
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 12-NOV-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	451781-001	451781-002	451781-003	451781-004
	Extracted:	Analyzed:	Units/RL:	mg/kg	RL	mg/kg	mg/kg	mg/kg	mg/kg
BTEX by SW 8260B SUB: TX104704215				ND	0.00108	ND	0.00116	ND	0.00112
				ND	0.00108	ND	0.00116	ND	0.00112
				ND	0.00108	ND	0.00116	ND	0.00112
				ND	0.00216	ND	0.00231	ND	0.00224
				ND	0.00108	ND	0.00116	ND	0.00112
				ND	0.00108	ND	0.00116	ND	0.00112
Total BTEX				ND	0.00108	ND	0.00116	ND	0.00112
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-07-12 01:21				Nov-07-12 01:37		Nov-07-12 01:53	
	Analyzed:	Nov-07-12 01:21				Nov-07-12 01:37		Nov-07-12 01:53	
	Units/RL:	mg/kg	RL	2.79	1.07	mg/kg	RL	mg/kg	RL
Chloride				2.79	1.07	2.27	1.15	13.5	1.10
Percent Moisture	Extracted:	Nov-05-12 12:05				Nov-05-12 12:05		Nov-05-12 12:05	
	Analyzed:	Nov-05-12 12:05				Nov-05-12 12:05		Nov-05-12 12:05	
	Units/RL:	%	RL	8.17	1.00	%	RL	%	RL
TPH By SW8015 Mod				8.17	1.00	13.8	1.00	9.62	1.00
C6-Cl2 Gasoline Range Hydrocarbons	Extracted:	Nov-10-12 10:00				Nov-10-12 10:00		Nov-10-12 10:00	
	Analyzed:	Nov-10-12 17:06				Nov-10-12 17:34		Nov-10-12 18:35	
	Units/RL:	mg/kg	RL	ND	16.4	mg/kg	RL	mg/kg	RL
Cl2-C28 Diesel Range Hydrocarbons				ND	16.4	ND	17.4	ND	16.8
C28-C35 Oil Range Hydrocarbons				ND	16.4	ND	17.4	ND	16.8
Total TPH				ND	16.4	ND	17.4	ND	16.8

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451781,

Project ID:

Lab Batch #: 900313

Sample: 451781-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 17:20

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0506	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0563	0.0500	113	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	
4-Bromofluorobenzene	0.0493	0.0500	99	58-152	

Lab Batch #: 900313

Sample: 451781-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 17:44

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0578	0.0500	116	74-126	
1,2-Dichloroethane-D4	0.0624	0.0500	125	80-120	*
Toluene-D8	0.0485	0.0500	97	73-132	
4-Bromofluorobenzene	0.0469	0.0500	94	58-152	

Lab Batch #: 900313

Sample: 451781-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 18:07

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0495	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0573	0.0500	115	80-120	
Toluene-D8	0.0508	0.0500	102	73-132	
4-Bromofluorobenzene	0.0499	0.0500	100	58-152	

Lab Batch #: 900313

Sample: 451781-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 18:30

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0531	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0569	0.0500	114	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	
4-Bromofluorobenzene	0.0472	0.0500	94	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

If results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451781,

Project ID:

Lab Batch #: 900607

Sample: 451781-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 17:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	51.2	50.1	102	70-135	

Lab Batch #: 900607

Sample: 451781-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 17:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	52.9	50.1	106	70-135	

Lab Batch #: 900607

Sample: 451781-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 18:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.5	105	70-135	
o-Terphenyl	50.1	49.8	101	70-135	

Lab Batch #: 900607

Sample: 451781-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 19:11

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	50.6	50.2	101	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451781,

Project ID:

Lab Batch #: 900313

Sample: 629597-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:51

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0468	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0492	0.0500	98	80-120	
Toluene-D8	0.0484	0.0500	97	73-132	
4-Bromofluorobenzene	0.0482	0.0500	96	58-152	

Lab Batch #: 900607

Sample: 629774-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 12:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.9	109	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

Lab Batch #: 900313

Sample: 629597-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:18

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0436	0.0500	87	74-126	
1,2-Dichloroethane-D4	0.0449	0.0500	90	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	
4-Bromofluorobenzene	0.0519	0.0500	104	58-152	

Lab Batch #: 900607

Sample: 629774-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 11:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	62.9	50.0	126	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

.All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451781,

Project ID:

Lab Batch #: 900313

Sample: 629597-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:41

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0422	0.0500	84	74-126	
1,2-Dichloroethane-D4		0.0432	0.0500	86	80-120	
Toluene-D8		0.0487	0.0500	97	73-132	
4-Bromofluorobenzene		0.0507	0.0500	101	58-152	

Lab Batch #: 900607

Sample: 629774-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 12:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		114	99.8	114	70-135	
o-Terphenyl		59.9	49.9	120	70-135	

Lab Batch #: 900313

Sample: 451779-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:40

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0486	0.0500	97	74-126	
1,2-Dichloroethane-D4		0.0524	0.0500	105	80-120	
Toluene-D8		0.0497	0.0500	99	73-132	
4-Bromofluorobenzene		0.0499	0.0500	100	58-152	

Lab Batch #: 900607

Sample: 451788-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/12 00:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		113	100	113	70-135	
o-Terphenyl		60.9	50.0	122	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451781,

Project ID:

Lab Batch #: 900313

Sample: 451779-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 13:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0454	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0501	0.0500	100	80-120	
Toluene-D8	0.0481	0.0500	96	73-132	
4-Bromofluorobenzene	0.0507	0.0500	101	58-152	

Lab Batch #: 900607

Sample: 451788-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/12 00:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	99.7	110	70-135	
o-Terphenyl	58.5	49.9	117	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

Il results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451781

Analyst: MCH

Lab Batch ID: 900313

Sample: 629597-1-BKS

Date Prepared: 11/05/2012

Batch #: 1

Project ID:

Date Analyzed: 11/05/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	BTEX by SW 8260B										
	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	0.0823	82	0.100	0.0868	87	5	62-132	25	
Toluene	<0.00100	0.100	0.0878	88	0.100	0.0928	93	6	66-124	25	
Ethylbenzene	<0.00100	0.100	0.0936	94	0.100	0.0987	99	5	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.194	97	0.200	0.205	103	6	69-128	25	
o-Xylene	<0.00100	0.100	0.0967	97	0.100	0.102	102	5	72-131	25	

Analyst: DAQ

Date Prepared: 11/06/2012

Date Analyzed: 11/06/2012

Lab Batch ID: 900331

Sample: 629606-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	Inorganic Anions by EPA 300/300.1	Analytes	Chloride	Blank	Spike	Blank	Blank	Spike	Blank	Blk. Spk	RPD	Control	Control	Flag
				Sample Result [A]	Added [B]	Spike Result [C]	Spike %R [D]	Added [E]	Spike Duplicate Result [F]	Dup. %R [G]	%	Limits %R	Limits %RPD	
				<0.977	97.7	97.9	100	94.2	95.7	102	2	80-120	20	

Relative Percent Difference RPD = $200 \times (C-F)/(C+F)$

Blank Spike Recovery [D] = $100 \times (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 \times (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: Southern Union Gas Landfarm

Work Order #: 451781

Analyst: KEB

Lab Batch ID: 900607

Sample: 629774-1-BKS

Date Prepared: 11/10/2012

Batch #: 1

Project ID:

Date Analyzed: 11/10/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	993	99	998	1070	107	7	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<15.0	1000	988	99	998	1080	108	9	70-135	35	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451781

Lab Batch #: 900331

Date Analyzed: 11/06/2012

Date Prepared: 11/06/2012

Project ID:

Analyst: DAQ

QC- Sample ID: 451779-005 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2.63	98.8	104	103	80-120	

Lab Batch #: 900331

Date Analyzed: 11/06/2012

Date Prepared: 11/06/2012

Analyst: DAQ

QC- Sample ID: 451785-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2.31	107	112	103	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$
Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Work Order #: 451781

Lab Batch ID: 900313

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451779-001 S

Date Prepared: 11/05/2012

Batch #: 1 Matrix: Soil

Analyst: MCH

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00112	0.112	0.106	95	0.112	0.0942	84	12	62-132	25
	Toluene	<0.00112	0.112	0.109	97	0.112	0.0962	86	12	66-124	25
	Ethylbenzene	<0.00112	0.112	0.109	97	0.112	0.104	93	5	71-134	25
	m,p-Xylenes	<0.00225	0.225	0.227	101	0.224	0.214	96	6	69-128	25
	o-Xylene	<0.00112	0.112	0.117	104	0.112	0.108	96	8	72-131	25

Lab Batch ID: 900607

Date Analyzed: 11/11/2012

Reporting Units: mg/kg

QC- Sample ID: 451788-001 S

Date Prepared: 11/10/2012

Batch #: 1 Matrix: Soil

Analyst: KEB

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<17.1	1140	1170	103	1140	1120	98	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.1	1140	1200	105	1140	1160	102	3	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*((C-F)/(C+F))

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451781

Lab Batch #: 900214

Date Analyzed: 11/05/2012 12:05

Date Prepared: 11/05/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451781-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	8.17	8.09	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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451781

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451780
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451780**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451780. 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. 451780 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 451780



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 3 G-1	S	10-30-12 09:20		451780-001
VZ Cell 3 G-2	S	10-30-12 09:40		451780-002
VZ Cell 3 G-3	S	10-30-12 09:50		451780-003
VZ Cell 3 G-4	S	10-30-12 10:00		451780-004
VZ Cell 3 G-5	S	10-30-12 10:15		451780-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451780

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Summary 451780**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12

Project Manager: Nicholas Straccione

<i>Analysis Requested</i>		<i>Lab Id:</i>	<i>Field Id:</i>	<i>Depth:</i>	<i>Matrix:</i>	<i>Sampled:</i>	<i>451780-001</i>	<i>451780-002</i>	<i>451780-003</i>	<i>451780-004</i>	<i>451780-005</i>
		<i>Units/RL:</i>	<i>mg/kg</i>	<i>RL</i>	<i>mg/kg</i>	<i>RL</i>	<i>mg/kg</i>	<i>RL</i>	<i>mg/kg</i>	<i>RL</i>	<i>mg/kg</i>
BTEX by SW 8260B SUB: TX104704215	Extracted:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	Analyzed:	Nov-05-12 13:14	Nov-05-12 13:16	Nov-05-12 13:18	Nov-05-12 13:20	Nov-05-12 13:22	Nov-05-12 13:24	Nov-05-12 13:26	Nov-05-12 13:28	Nov-05-12 13:30	Nov-05-12 13:32
	Units/RL:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	mg/kg	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	RL	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	Analyzed:	Nov-06-12 23:28	Nov-06-12 23:44	Nov-06-12 23:44	Nov-06-12 23:44	Nov-06-12 23:44	Nov-06-12 23:44	Nov-06-12 23:44	Nov-06-12 23:44	Nov-06-12 23:44	Nov-06-12 23:44
	Units/RL:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	mg/kg	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	RL	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
Percent Moisture	Extracted:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	Analyzed:	Nov-05-12 11:10	Nov-05-12 11:10	Nov-05-12 11:10	Nov-05-12 11:10	Nov-05-12 11:10	Nov-05-12 11:10	Nov-05-12 11:10	Nov-05-12 11:10	Nov-05-12 11:10	Nov-05-12 11:10
	Units/RL:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	%	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	RL	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
TPH By SW8015 Mod	Extracted:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	Analyzed:	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00
	Units/RL:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	mg/kg	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	RL	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
Total TPH	Extracted:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	Analyzed:	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00	Nov-10-12 10:00
	Units/RL:	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	mg/kg	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND
	RL	ND	0.00108	RL	ND	0.00108	ND	0.00108	ND	0.00110	ND

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

Nicholas Straccione

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 5332 Blackberry Drive, San Antonio TX 78238
 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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(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451780,

Lab Batch #: 900313

Sample: 451780-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 15:24

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0501	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0555	0.0500	111	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	
4-Bromofluorobenzene	0.0492	0.0500	98	58-152	

Lab Batch #: 900313

Sample: 451780-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 15:47

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0505	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0584	0.0500	117	80-120	
Toluene-D8	0.0511	0.0500	102	73-132	
4-Bromofluorobenzene	0.0494	0.0500	99	58-152	

Lab Batch #: 900313

Sample: 451780-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 16:10

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0496	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0515	0.0500	103	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	
4-Bromofluorobenzene	0.0485	0.0500	97	58-152	

Lab Batch #: 900313

Sample: 451780-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 16:34

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0505	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0551	0.0500	110	80-120	
Toluene-D8	0.0505	0.0500	101	73-132	
4-Bromofluorobenzene	0.0496	0.0500	99	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

If results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451780,

Project ID:

Lab Batch #: 900313

Sample: 451780-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 16:57

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0483	0.0500	97	74-126	
1,2-Dichloroethane-D4		0.0543	0.0500	109	80-120	
Toluene-D8		0.0504	0.0500	101	73-132	
4-Bromofluorobenzene		0.0490	0.0500	98	58-152	

Lab Batch #: 900607

Sample: 451780-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 13:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		105	100	105	70-135	
o-Terphenyl		51.0	50.0	102	70-135	

Lab Batch #: 900607

Sample: 451780-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 13:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		106	99.6	106	70-135	
o-Terphenyl		52.0	49.8	104	70-135	

Lab Batch #: 900607

Sample: 451780-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 14:17

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		106	100	106	70-135	
o-Terphenyl		52.3	50.1	104	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451780,

Project ID:

Lab Batch #: 900607

Sample: 451780-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 14:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.8	109	70-135	
o-Terphenyl	53.0	49.9	106	70-135	

Lab Batch #: 900607

Sample: 451780-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 15:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	99.7	110	70-135	
o-Terphenyl	53.8	49.9	108	70-135	

Lab Batch #: 900313

Sample: 629597-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:51

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0468	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0492	0.0500	98	80-120	
Toluene-D8	0.0484	0.0500	97	73-132	
4-Bromofluorobenzene	0.0482	0.0500	96	58-152	

Lab Batch #: 900607

Sample: 629774-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 12:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	109	99.9	109	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451780,

Project ID:

Lab Batch #: 900313

Sample: 629597-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:18

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0436	0.0500	87	74-126	
1,2-Dichloroethane-D4	0.0449	0.0500	90	80-120	
Toluene-D8	0.0496	0.0500	99	73-132	
4-Bromofluorobenzene	0.0519	0.0500	104	58-152	

Lab Batch #: 900607

Sample: 629774-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 11:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	62.9	50.0	126	70-135	

Lab Batch #: 900313

Sample: 629597-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:41

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0422	0.0500	84	74-126	
1,2-Dichloroethane-D4	0.0432	0.0500	86	80-120	
Toluene-D8	0.0487	0.0500	97	73-132	
4-Bromofluorobenzene	0.0507	0.0500	101	58-152	

Lab Batch #: 900607

Sample: 629774-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/12 12:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	114	99.8	114	70-135	
o-Terphenyl	59.9	49.9	120	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451780,

Project ID:

Lab Batch #: 900313

Sample: 451779-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:40

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0486	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0524	0.0500	105	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	
4-Bromofluorobenzene	0.0499	0.0500	100	58-152	

Lab Batch #: 900607

Sample: 451788-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/12 00:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	60.9	50.0	122	70-135	

Lab Batch #: 900313

Sample: 451779-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 13:03

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0454	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0501	0.0500	100	80-120	
Toluene-D8	0.0481	0.0500	96	73-132	
4-Bromofluorobenzene	0.0507	0.0500	101	58-152	

Lab Batch #: 900607

Sample: 451788-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/12 00:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	99.7	110	70-135	
o-Terphenyl	58.5	49.9	117	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

II results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451780

Analyst: MCH

Lab Batch ID: 900313

Sample: 629597-1-BKS

Date Prepared: 11/05/2012

Batch #: 1

Project ID:

Date Analyzed: 11/05/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	BTEX by SW 8260B	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]				
			<0.00100	0.100	0.0823	82	0.100	0.0868	87	5	62-132	25	
			<0.00100	0.100	0.0878	88	0.100	0.0928	93	6	66-124	25	
			<0.00100	0.100	0.0936	94	0.100	0.0987	99	5	71-134	25	
			<0.00200	0.200	0.194	97	0.200	0.205	103	6	69-128	25	
			<0.00100	0.100	0.0967	97	0.100	0.102	102	5	72-131	25	

Analyst: DAQ

Lab Batch ID: 900331

Sample: 629606-1-BKS

Date Prepared: 11/06/2012

Batch #: 1

Date Analyzed: 11/06/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.977	97.7	97.9	100	94.2	95.7	102	2	80-120	20	

Relative Percent Difference RPD = $200 \cdot (C-F) / (C+F)$

Blank Spike Recovery [D] = $100 \cdot (C) / [B]$

Blank Spike Duplicate Recovery [G] = $100 \cdot (F) / [E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451780

Analyst: KEB

Lab Batch ID: 900607

Sample: 629774-1-BKS

Date Prepared: 11/10/2012

Batch #: 1

Project ID:

Date Analyzed: 11/10/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	993	99	998	1070	107	7	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<15.0	1000	988	99	998	1080	108	9	70-135	35	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451780

Lab Batch #: 900331

Date Analyzed: 11/06/2012

Date Prepared: 11/06/2012

Project ID:

Analyst: DAQ

QC- Sample ID: 451779-005 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2.63	98.8	104	103	80-120	

Lab Batch #: 900331

Date Analyzed: 11/06/2012

Date Prepared: 11/06/2012

Analyst: DAQ

QC- Sample ID: 451785-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2.31	107	112	103	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451780

Lab Batch ID: 900313

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451779-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: MCH

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY													
Reporting Units: mg/kg	BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	<0.00112	0.112	0.106	95	0.112	0.0942	84	12	62-132	25		
	Toluene	<0.00112	0.112	0.109	97	0.112	0.0962	86	12	66-124	25		
	Ethylbenzene	<0.00112	0.112	0.109	97	0.112	0.104	93	5	71-134	25		
	m,p-Xylenes	<0.00225	0.225	0.227	101	0.224	0.214	96	6	69-128	25		
	o-Xylene	<0.00112	0.112	0.117	104	0.112	0.108	96	8	72-131	25		

Lab Batch ID: 900607

Date Analyzed: 11/11/2012

Reporting Units: mg/kg

QC- Sample ID: 451788-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/10/2012 Analyst: KEB

Reporting Units: mg/kg											
TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<17.1	1140	1170	103	1140	1120	98	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.1	1140	1200	105	1140	1160	102	3	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \cdot (C-A)/B$
Relative Percent Difference $RPD = 200 \cdot |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \cdot (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451780

Lab Batch #: 900210

Date Analyzed: 11/05/2012 11:10

Date Prepared: 11/05/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451789-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.22	5.49	5	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Joel Lowry Project Name: Southern Union Gas Landfarm

Company Name: Basin Environmental Service Technologies, LLC Project #: _____

Company Address: P.O. Box 301 Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260 PO #: _____

Telephone No: (575)396-2378 Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: Joel Lowry e-mail: pm@basinenvironment.com; Rose.Slade@SUG.com

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers										Matrix	Analyze For:										Standard TAT 4 DAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
								Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	None	Other (Specify)	DW - Drinking Water SL - Sludge	CW - Groundwater S - Soil/Soil		NP - Non-Potable Specify Other	TCP:	TOTAL:	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO ₄ , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles		Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	CHLORIDES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Special Instructions:

Relinquished by: Joel Lowry Date: 11/1/12 Time: 9:00

Relinquished by: Michael King Date: 11/1/12 Time: 12:20

Relinquished by: Michael King Date: 11/1/12 Time: 12:20

Received by: Michael King Date: 11/1/12 Time: 09:00

Received by: Michael King Date: 11/1/12 Time: 12:20

Received by ELOT: Michael King Date: 11/1/12 Time: 12:20

Temperature Upon Receipt: 43 °C

Laboratory Comments: Sample Containers intact? ☒ VOCs Free of Headspace? ☒ Custody seals on container(s) intact? ☒ Sample Hand Delivered by Sampler/Client Rep? ☒ by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451780

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451777
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451777**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451777. 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. 451777 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 451777



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 4 G-1	S	10-30-12 10:30		451777-001
VZ Cell 4 G-2	S	10-30-12 10:40		451777-002
VZ Cell 4 G-3	S	10-30-12 10:50		451777-003
VZ Cell 4 G-4	S	10-30-12 11:00		451777-004
VZ Cell 4 G-5	S	10-30-12 11:10		451777-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451777

Report Date: 12-NOV-12

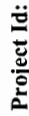
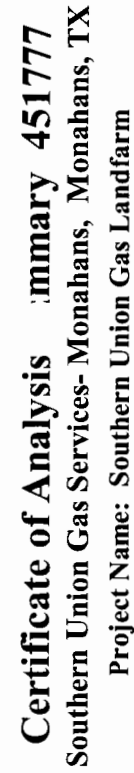
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 9701 Harry Hines Blvd, Dallas, TX 75220
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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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(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451777,

Project ID:

Lab Batch #: 900090

Sample: 451777-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 18:24

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.7	99.8	97	70-135	
o-Terphenyl	46.7	49.9	94	70-135	

Lab Batch #: 900090

Sample: 451777-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 18:54

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	99.8	96	70-135	
o-Terphenyl	46.6	49.9	93	70-135	

Lab Batch #: 900090

Sample: 451777-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 19:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.8	100	92	70-135	
o-Terphenyl	43.5	50.1	87	70-135	

Lab Batch #: 900090

Sample: 451777-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 20:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.1	100	97	70-135	
o-Terphenyl	45.9	50.2	91	70-135	

Lab Batch #: 900090

Sample: 451777-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 20:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	100	99	70-135	
o-Terphenyl	47.4	50.1	95	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

.If results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451777,

Project ID:

Lab Batch #: 900281

Sample: 451777-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 18:30

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0543	0.0500	109	74-126	
1,2-Dichloroethane-D4	0.0483	0.0500	97	80-120	
Toluene-D8	0.0540	0.0500	108	73-132	
4-Bromofluorobenzene	0.0542	0.0500	108	58-152	

Lab Batch #: 900281

Sample: 451777-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 18:53

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0468	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0519	0.0500	104	80-120	
Toluene-D8	0.0486	0.0500	97	73-132	
4-Bromofluorobenzene	0.0517	0.0500	103	58-152	

Lab Batch #: 900281

Sample: 451777-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 19:15

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0493	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0491	0.0500	98	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	
4-Bromofluorobenzene	0.0534	0.0500	107	58-152	

Lab Batch #: 900281

Sample: 451777-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 19:37

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0495	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0505	0.0500	101	80-120	
Toluene-D8	0.0521	0.0500	104	73-132	
4-Bromofluorobenzene	0.0533	0.0500	107	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451777,

Lab Batch #: 900281

Sample: 451777-005 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 19:59

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0527	0.0500	105	74-126	
1,2-Dichloroethane-D4	0.0490	0.0500	98	80-120	
Toluene-D8	0.0518	0.0500	104	73-132	
4-Bromofluorobenzene	0.0530	0.0500	106	58-152	

Lab Batch #: 900090

Sample: 629449-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 11:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.8	100	100	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

Lab Batch #: 900281

Sample: 629552-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0462	0.0500	92	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	
4-Bromofluorobenzene	0.0489	0.0500	98	58-152	

Lab Batch #: 900090

Sample: 629449-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 10:20

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.4	99.9	98	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

II results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451777,

Project ID:

Lab Batch #: 900281

Sample: 629552-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg	Date Analyzed: 11/05/12 09:47	SURROGATE RECOVERY STUDY			
BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
Dibromofluoromethane		0.0457	0.0500	91	74-126
1,2-Dichloroethane-D4		0.0449	0.0500	90	80-120
Toluene-D8		0.0503	0.0500	101	73-132
4-Bromofluorobenzene		0.0497	0.0500	99	58-152

Lab Batch #: 900090

Sample: 629449-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg	Date Analyzed: 11/02/12 10:49	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1-Chlorooctane		95.6	99.9	96	70-135
o-Terphenyl		51.6	50.0	103	70-135

Lab Batch #: 900281

Sample: 629552-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg	Date Analyzed: 11/05/12 10:10	SURROGATE RECOVERY STUDY			
BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
Dibromofluoromethane		0.0457	0.0500	91	74-126
1,2-Dichloroethane-D4		0.0428	0.0500	86	80-120
Toluene-D8		0.0497	0.0500	99	73-132
4-Bromofluorobenzene		0.0496	0.0500	99	58-152

Lab Batch #: 900090

Sample: 451783-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg	Date Analyzed: 11/02/12 11:49	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					Flags
1-Chlorooctane		98.2	100	98	70-135
o-Terphenyl		50.2	50.1	100	70-135

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451777,

Lab Batch #: 900281

Sample: 451759-001 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0470	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0454	0.0500	91	80-120	
Toluene-D8	0.0494	0.0500	99	73-132	
4-Bromofluorobenzene	0.0534	0.0500	107	58-152	

Lab Batch #: 900090

Sample: 451783-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 12:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	50.9	50.1	102	70-135	

Lab Batch #: 900281

Sample: 451759-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:25

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0455	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0437	0.0500	87	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	
4-Bromofluorobenzene	0.0555	0.0500	111	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

If results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451777

Analyst: MCH

Lab Batch ID: 900281

Sample: 629552-1-BKS

Date Prepared: 11/05/2012

Batch #: 1

Project ID:

Date Analyzed: 11/05/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg	BTEX by SW 8260B											
	Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00100	0.100	0.0972	97	0.100	0.0977	98	1	62-132	25	
	Toluene	<0.00100	0.100	0.0974	97	0.100	0.105	105	8	66-124	25	
	Ethylbenzene	<0.00100	0.100	0.108	108	0.100	0.111	111	3	71-134	25	
	m,p-Xylenes	<0.00200	0.200	0.216	108	0.200	0.225	113	4	69-128	25	
	o-Xylene	<0.00100	0.100	0.108	108	0.100	0.116	116	7	72-131	25	

Analyst: TTE

Date Prepared: 11/09/2012

Date Analyzed: 11/09/2012

Lab Batch ID: 900608

Sample: 629775-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg	Inorganic Anions by EPA 300/300.1	Analytes	Blank	Spike	Blank	Spike	Blank	Spike	Blk. Spk	RPD	Control	Flag
			Sample Result [A]	Added [B]	Spike Result [C]	Spike %R [D]	Added [E]	Duplicate Result [F]	Dup. %R [G]	%	Limits %R	
			<1.00	100	101	101	101	100	99	2	80-120	20
		Chloride										

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451777

Analyst: KEB

Lab Batch ID: 900090

Sample: 629449-1-BKS

Date Prepared: 11/02/2012

Batch #: 1

Project ID:

Date Analyzed: 11/02/2012

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	999	870	87	999	863	86	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	922	92	999	924	92	0	70-135	35	

Relative Percent Difference RPD = $200 * (C - F) / (C + F)$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Southern Union Gas Landfarm



Work Order #: 451777

Lab Batch #: 900608

Date Analyzed: 11/09/2012

Date Prepared: 11/09/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451777-005 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	<1.16	116	118	102	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451777

Lab Batch ID: 900281

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451759-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: MCH

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00113	0.113	0.112	99	0.112	0.107	96	5	62-132	25	
	Toluene	<0.00113	0.113	0.122	108	0.112	0.118	105	3	66-124	25	
	Ethylbenzene	<0.00113	0.113	0.121	107	0.112	0.125	112	3	71-134	25	
	m,p-Xylenes	<0.00225	0.225	0.256	114	0.225	0.257	114	0	69-128	25	
	o-Xylene	<0.00113	0.113	0.125	111	0.112	0.126	113	1	72-131	25	

Lab Batch ID: 900090

Date Analyzed: 11/02/2012

Reporting Units: mg/kg

QC- Sample ID: 451783-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/02/2012 Analyst: KEB

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	881	85	1040	912	88	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	899	86	1040	904	87	1	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451777

Lab Batch #: 900206

Date Analyzed: 11/05/2012 10:10

Date Prepared: 11/05/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451776-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	15.0	15.0	0	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

Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Joel Lowry

Project Name: Southern Union Gas Landfarm

Company Name: Basin Environmental Service Technologies, LLC

Project #:

Company Address: P.O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #:

Telephone No: (575)396-2378

Fax No: (575)396-1429

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: Joel Lowry

e-mail: pm@basinenv.com; Rose.Slade@SUG.com

(lab use only)

ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filled	Total #. of Containers	Preservation & # of Containers										Matrix	Analyze For:										RUSH TAT (Pre-Schedule) 24, 48, 72 hrs																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
								Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	None	Other (Specify)	DW = Drinking Water SL = Sludge CW = Groundwater S = Soil/Soil NP = Non-Portable Specify Other	TPH: 418.1 8015M 8015B		TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO ₄ , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.		CHLORIDES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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Special Instructions:

Laboratory Comments:

Relinquished by:

Received by:

Date

Time

Date

Time

Date

Time

Relinquished by:

Received by:

Date

Time

Date

Time

Date

Time

Relinquished by:

Received by:

Date

Time

Date

Time

Date

Time



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451777

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451762
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451762**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451762. 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. 451762 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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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 451762



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 5 G-1	S	10-30-12 11:30		451762-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451762

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451762
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451762-001			
	Field Id:	VZ Cell 5 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Oct-30-12 11:30			
BTX by SW 8260B SUB: TX104704215	Extracted:	Nov-03-12 16:14			
	Analyzed:	Nov-03-12 19:20			
	Units/RL:	mg/kg RL			
	Benzene	ND 0.00108			
	Toluene	ND 0.00108			
	Ethylbenzene	ND 0.00108			
m,p-Xylenes		ND 0.00215			
	o-Xylene	ND 0.00108			
	Total Xylenes	ND 0.00108			
	Total BTX	ND 0.00108			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-07-12 19:01			
	Analyzed:	Nov-07-12 19:01			
	Units/RL:	mg/kg RL			
Chloride		ND 1.10			
Percent Moisture	Extracted:				
	Analyzed:	Nov-06-12 10:30			
	Units/RL:	% RL			
		10.3 1.00			
TPH By SW8015 Mod	Extracted:	Nov-09-12 13:30			
	Analyzed:	Nov-09-12 19:22			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 16.7			
C12-C28 Diesel Range Hydrocarbons		ND 16.7			
C28-C35 Oil Range Hydrocarbons		ND 16.7			
Total TPH		ND 16.7			

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 5332 Blackberry Drive, San Antonio TX 78238
 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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451762,

Project ID:

Lab Batch #: 900187

Sample: 451762-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 19:20

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0468	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0514	0.0500	103	80-120	
Toluene-D8	0.0507	0.0500	101	73-132	
4-Bromofluorobenzene	0.0499	0.0500	100	58-152	

Lab Batch #: 900586

Sample: 451762-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/12 19:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.8	99.8	100	70-135	
o-Terphenyl	47.4	49.9	95	70-135	

Lab Batch #: 900187

Sample: 629508-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 15:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0499	0.0500	100	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	
4-Bromofluorobenzene	0.0487	0.0500	97	58-152	

Lab Batch #: 900586

Sample: 629743-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	52.0	50.1	104	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

If results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451762,

Lab Batch #: 900187

Sample: 629508-1-BKS / BKS

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:20

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0434	0.0500	87	74-126	
1,2-Dichloroethane-D4		0.0489	0.0500	98	80-120	
Toluene-D8		0.0515	0.0500	103	73-132	
4-Bromofluorobenzene		0.0508	0.0500	102	58-152	

Lab Batch #: 900586

Sample: 629743-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 15:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		106	99.9	106	70-135	
o-Terphenyl		55.4	50.0	111	70-135	

Lab Batch #: 900187

Sample: 629508-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:44

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0458	0.0500	92	74-126	
1,2-Dichloroethane-D4		0.0487	0.0500	97	80-120	
Toluene-D8		0.0517	0.0500	103	73-132	
4-Bromofluorobenzene		0.0500	0.0500	100	58-152	

Lab Batch #: 900586

Sample: 629743-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		112	99.9	112	70-135	
o-Terphenyl		64.7	50.0	129	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451762,

Lab Batch #: 900187

Sample: 451750-001 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 16:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0485	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0510	0.0500	102	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0508	0.0500	102	58-152	

Lab Batch #: 900586

Sample: 451773-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	60.1	50.0	120	70-135	

Lab Batch #: 900187

Sample: 451750-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 17:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0459	0.0500	92	74-126	
1,2-Dichloroethane-D4	0.0527	0.0500	105	80-120	
Toluene-D8	0.0508	0.0500	102	73-132	
4-Bromofluorobenzene	0.0502	0.0500	100	58-152	

Lab Batch #: 900586

Sample: 451773-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 05:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

II results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451762

Analyst: ZHO

Lab Batch ID: 900187

Sample: 629508-1-BKS

Date Prepared: 11/03/2012

Batch #: 1

Project ID:

Date Analyzed: 11/03/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00100	0.100	0.0853	85	0.100	0.0872	87	2	62-132	25
	Toluene	<0.00100	0.100	0.0885	89	0.100	0.0878	88	1	66-124	25
	Ethylbenzene	<0.00100	0.100	0.0925	93	0.100	0.0922	92	0	71-134	25
	m,p-Xylenes	<0.00200	0.200	0.189	95	0.200	0.188	94	1	69-128	25
	o-Xylene	<0.00100	0.100	0.0947	95	0.100	0.0957	96	1	72-131	25

Analyst: TTE

Date Prepared: 11/07/2012

Date Analyzed: 11/07/2012

Lab Batch ID: 900477

Sample: 629684-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Inorganic Anions by EPA 300/300.1											
Analytes											
Chloride	<1.00	100	99.0	99	100	98.9	99	0	80-120	20	

Relative Percent Difference RPD = $200 \cdot [(C-F)/(C+F)]$

Blank Spike Recovery [D] = $100 \cdot (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 \cdot (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451762

Analyst: KEB

Lab Batch ID: 900586

Sample: 629743-1-BKS

Units: mg/kg

Date Prepared: 11/09/2012

Batch #: 1

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		C6-C12 Gasoline Range Hydrocarbons	<15.0	999	970	97	999	1040	104	7	70-135	35
		C12-C28 Diesel Range Hydrocarbons	<15.0	999	956	96	999	1020	102	6	70-135	35

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451762

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451762-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.10	110	111	101	80-120	

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Analyst: TTE

QC- Sample ID: 451776-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.64	116	120	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 451762

Lab Batch ID: 900187

Date Analyzed: 11/03/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451750-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/03/2012

Analyst: ZHO

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00112	0.112	0.0779	70	0.114	0.0877	77	12	62-132	25
	Toluene	<0.00112	0.112	0.0798	71	0.114	0.0922	81	14	66-124	25
	Ethylbenzene	<0.00112	0.112	0.0881	79	0.114	0.0999	88	13	71-134	25
	m,p-Xylenes	<0.00225	0.225	0.181	80	0.228	0.206	90	13	69-128	25
	o-Xylene	<0.00112	0.112	0.0941	84	0.114	0.105	92	11	72-131	25

Lab Batch ID: 900586

Date Analyzed: 11/10/2012

Reporting Units: mg/kg

QC- Sample ID: 451773-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/09/2012

Analyst: KEB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg	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	<16.7	1110	1120	101	1110	1070	96	5	70-135	35	
	C12-C28 Diesel Range Hydrocarbons	<16.7	1110	1140	103	1110	1100	99	4	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451762

Lab Batch #: 900282

Date Analyzed: 11/06/2012 10:30

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451813-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	6.88	5.76	18	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



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451762

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist:	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451764
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451764**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451764. 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. 451764 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 451764



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 6 G-1	S	10-30-12 11:35		451764-001
VZ Cell 6 G-2	S	10-30-12 11:45		451764-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451764

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451764
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451764-001	451764-002		
	Field Id:	VZ Cell 6 G-1	VZ Cell 6 G-2		
	Depth:				
	Matrix:	SOIL	SOIL		
	Sampled:	Oct-30-12 11:35	Oct-30-12 11:45		
BTX by SW 8260B SUB: TX104704215	Extracted:	Nov-03-12 16:16	Nov-05-12 12:50		
	Analyzed:	Nov-03-12 19:43	Nov-05-12 13:14		
	Units/RL:	mg/kg RL	mg/kg RL		
	Benzene	ND 0.00105	ND 0.000992		
	Toluene	ND 0.00105	ND 0.000992		
	Ethylbenzene	ND 0.00105	ND 0.000992		
m,p-Xylenes		ND 0.00210	ND 0.00198		
	o-Xylene	ND 0.00105	ND 0.000992		
	Total Xylenes	ND 0.00105	ND 0.000992		
	Total BTX	ND 0.00105	ND 0.000992		
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-07-12 16:04	Nov-07-12 16:20		
	Analyzed:	Nov-07-12 16:04	Nov-07-12 16:20		
	Units/RL:	mg/kg RL	mg/kg RL		
Chloride		12.9 1.08	29.6 1.08		
Percent Moisture	Extracted:				
	Analyzed:	Nov-06-12 10:30	Nov-06-12 10:30		
	Units/RL:	% RL	% RL		
TPH By SW8015 Mod		8.19 1.00	8.12 1.00		
	Extracted:	Nov-09-12 13:30	Nov-09-12 13:30		
	Analyzed:	Nov-09-12 18:50	Nov-09-12 19:56		
	Units/RL:	mg/kg RL	mg/kg RL		
C6-C12 Gasoline Range Hydrocarbons		ND 16.3	ND 16.3		
C12-C28 Diesel Range Hydrocarbons		ND 16.3	ND 16.3		
C28-C35 Oil Range Hydrocarbons		ND 16.3	ND 16.3		
Total TPH		ND 16.3	ND 16.3		

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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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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(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451764,

Lab Batch #: 900187

Sample: 451764-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 19:43

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0500	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0544	0.0500	109	80-120	
Toluene-D8	0.0499	0.0500	100	73-132	
4-Bromofluorobenzene	0.0490	0.0500	98	58-152	

Lab Batch #: 900281

Sample: 451764-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 13:14

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0437	0.0500	87	74-126	
1,2-Dichloroethane-D4	0.0443	0.0500	89	80-120	
Toluene-D8	0.0534	0.0500	107	73-132	
4-Bromofluorobenzene	0.0523	0.0500	105	58-152	

Lab Batch #: 900586

Sample: 451764-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/12 18:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	102	99.7	102	70-135	
o-Terphenyl	49.3	49.9	99	70-135	

Lab Batch #: 900586

Sample: 451764-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/12 19:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.7	99.9	99	70-135	
o-Terphenyl	46.9	50.0	94	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

If results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451764,

Project ID:

Lab Batch #: 900187

Sample: 629508-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/03/12 15:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4		0.0499	0.0500	100	80-120	
Toluene-D8		0.0495	0.0500	99	73-132	
4-Bromofluorobenzene		0.0487	0.0500	97	58-152	

Lab Batch #: 900281

Sample: 629552-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4		0.0462	0.0500	92	80-120	
Toluene-D8		0.0495	0.0500	99	73-132	
4-Bromofluorobenzene		0.0489	0.0500	98	58-152	

Lab Batch #: 900586

Sample: 629743-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		108	100	108	70-135	
o-Tcrphenyl		52.0	50.1	104	70-135	

Lab Batch #: 900187

Sample: 629508-1-BKS / BKS

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:20

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0434	0.0500	87	74-126	
1,2-Dichloroethane-D4		0.0489	0.0500	98	80-120	
Toluene-D8		0.0515	0.0500	103	73-132	
4-Bromofluorobenzene		0.0508	0.0500	102	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451764,

Project ID:

Lab Batch #: 900281

Sample: 629552-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:47

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0449	0.0500	90	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0497	0.0500	99	58-152	

Lab Batch #: 900586

Sample: 629743-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 15:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	99.9	106	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 900187

Sample: 629508-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:44

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0458	0.0500	92	74-126	
1,2-Dichloroethane-D4	0.0487	0.0500	97	80-120	
Toluene-D8	0.0517	0.0500	103	73-132	
4-Bromofluorobenzene	0.0500	0.0500	100	58-152	

Lab Batch #: 900281

Sample: 629552-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:10

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	
4-Bromofluorobenzene	0.0496	0.0500	99	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

If results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451764,

Project ID:

Lab Batch #: 900586

Sample: 629743-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	64.7	50.0	129	70-135	

Lab Batch #: 900187

Sample: 451750-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 16:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0485	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0510	0.0500	102	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0508	0.0500	102	58-152	

Lab Batch #: 900281

Sample: 451759-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0470	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0454	0.0500	91	80-120	
Toluene-D8	0.0494	0.0500	99	73-132	
4-Bromofluorobenzene	0.0534	0.0500	107	58-152	

Lab Batch #: 900586

Sample: 451773-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	60.1	50.0	120	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451764,

Lab Batch #: 900187

Sample: 451750-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 17:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0459	0.0500	92	74-126	
1,2-Dichloroethane-D4	0.0527	0.0500	105	80-120	
Toluene-D8	0.0508	0.0500	102	73-132	
4-Bromofluorobenzene	0.0502	0.0500	100	58-152	

Lab Batch #: 900281

Sample: 451759-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:25

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0455	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0437	0.0500	87	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	
4-Bromofluorobenzene	0.0555	0.0500	111	58-152	

Lab Batch #: 900586

Sample: 451773-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 05:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

If results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm
Work Order #: 451764

Analyst: ZHO

Lab Batch ID: 900187

Sample: 629508-1-BKS

Batch #: 1

Date Prepared: 11/03/2012

Project ID:
Date Analyzed: 11/03/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	BTEX by SW 8260B	Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
</														

Analyst: MCH

Date Prepared: 11/05/2012

Date Analyzed: 11/05/2012

Lab Batch ID: 900281

Sample: 629552-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
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	0.0972	97	0.100	0.0977	98	1	62-132	25
	Toluene	<0.00100	0.100	0.0974	97	0.100	0.105	105	8	66-124	25
	Ethylbenzene	<0.00100	0.100	0.108	108	0.100	0.111	111	3	71-134	25
	m,p-Xylenes	<0.00200	0.200	0.216	108	0.200	0.225	113	4	69-128	25
	o-Xylene	<0.00100	0.100	0.108	108	0.100	0.116	116	7	72-131	25

Relative Percent Difference $RPD = 200 * [(C-F)/(C+F)]$

Blank Spike Recovery $[D] = 100 * (C)/[B]$

Blank Spike Duplicate Recovery $[G] = 100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Project Name: Southern Union Gas Landfarm

Work Order #: 451764

Analyst: TTE

Lab Batch ID: 900477

Sample: 629684-1-BKS

Date Prepared: 11/07/2012

Batch #: 1

Project ID:

Date Analyzed: 11/07/2012

Matrix: 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	<1.00	100	99.0	99	100	98.9	99	0	80-120	20

Analyst: KEB

Lab Batch ID: 900586

Sample: 629743-1-BKS

Date Prepared: 11/09/2012

Batch #: 1

Date Analyzed: 11/09/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	999	970	97	999	1040	104	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	999	956	96	999	1020	102	6	70-135	35	

Relative Percent Difference $RPD = 200 * [(C-F) / (C+F)]$

Blank Spike Recovery $[D] = 100 * (C) / [B]$

Blank Spike Duplicate Recovery $[G] = 100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Southern Union Gas Landfarm



Work Order #: 451764

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451762-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.10	110	111	101	80-120	

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Analyst: TTE

QC- Sample ID: 451776-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.64	116	120	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Work Order # : 451764

Lab Batch ID: 900187

Date Analyzed: 11/03/2012

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 451750-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/03/2012 Analyst: ZHO

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
BTEX by SW 8260B Analytes											
	Benzene	<0.00112	0.112	0.0779	70	0.114	0.0877	77	12	62-132	25
	Toluene	<0.00112	0.112	0.0798	71	0.114	0.0922	81	14	66-124	25
	Ethylbenzene	<0.00112	0.112	0.0881	79	0.114	0.0999	88	13	71-134	25
	m,p-Xylenes	<0.00225	0.225	0.181	80	0.228	0.206	90	13	69-128	25
	o-Xylene	<0.00112	0.112	0.0941	84	0.114	0.105	92	11	72-131	25

Lab Batch ID: 900281

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

QC-Sample ID: 451759-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: MCH

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by SW 8260B		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		<0.00113	0.113	0.112	99	0.112	0.107	96	5	62-132	25	
Toluene		<0.00113	0.113	0.122	108	0.112	0.118	105	3	66-124	25	
Ethylbenzene		<0.00113	0.113	0.121	107	0.112	0.125	112	3	71-134	25	
m,p-Xylenes		<0.00225	0.225	0.256	114	0.225	0.257	114	0	69-128	25	
o-Xylene		<0.00113	0.113	0.125	111	0.112	0.126	113	1	72-131	25	

Matrix Spike Percent Recovery $[D] = 100 \cdot (C-A)/B$
Relative Percent Difference $RPD = 200 \cdot (C-F)/(C+F)$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \cdot (F-A)/E$



Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451764

Lab Batch ID: 900586

Date Analyzed: 11/10/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451773-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/09/2012 Analyst: KEB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/kg	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	<16.7	1110	1120	101	1110	1070	96	5	70-135	35
	C12-C28 Diesel Range Hydrocarbons	<16.7	1110	1140	103	1110	1100	99	4	70-135	35

Matrix Spike Percent Recovery $[D] = 100 \cdot (C-A)/B$

Relative Percent Difference $RPD = 200 \cdot |(C-F)/(C+F)|$

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

Matrix Spike Duplicate Percent Recovery $[G] = 100 \cdot (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451764

Lab Batch #: 900282

Date Analyzed: 11/06/2012 10:30

Date Prepared: 11/06/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451813-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	6.88	5.76	18	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**12600 West I-20 East
Odessa, Texas 79765**

Phone: 432-563-1800
Fax: 432-563-1713

Paul Perry

45171047

Received by: Thad R...
Received by: _____

Received by: Finance
Received by: _____



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451764

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451761
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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 (LA000312), 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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451761**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451761. 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. 451761 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 451761



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 7 G-1	S	10-30-12 12:00		451761-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451761

Report Date: 12-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 451761

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico
Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451761-001				
	Field Id:	VZ Cell 7 G-1				
	Depth:					
	Matrix:	SOIL				
	Sampled:	Oct-30-12 12:00				
BTX by SW 8260B SUB: TX104704215	Extracted:	Nov-03-12 16:12				
	Analyzed:	Nov-03-12 18:56				
	Units/RL:	mg/kg RL				
	Benzene	ND 0.00103				
	Toluene	ND 0.00103				
Ethylbenzene m,p-Xylenes o-Xylene		ND 0.00103				
		ND 0.00206				
		ND 0.00103				
Total Xylenes		ND 0.00103				
Total BTX		ND 0.00103				
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-07-12 18:45				
	Analyzed:	Nov-07-12 18:45				
	Units/RL:	mg/kg RL				
Chloride		ND 1.99				
Percent Moisture	Extracted:					
	Analyzed:	Nov-05-12 11:10				
	Units/RL:	% RL				
Percent Moisture		8.45 1.00				
TPH By SW8015 Mod	Extracted:	Nov-09-12 13:30				
	Analyzed:	Nov-09-12 18:20				
	Units/RL:	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		ND 16.4				
C12-C28 Diesel Range Hydrocarbons		ND 16.4				
C28-C35 Oil Range Hydrocarbons		ND 16.4				
Total TPH		ND 16.4				

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



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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 5332 Blackberry Drive, San Antonio TX 78238
 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
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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	

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451761,

Project ID:

Lab Batch #: 900187

Sample: 451761-001 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/03/12 18:56

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0476	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0540	0.0500	108	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	
4-Bromofluorobenzene	0.0496	0.0500	99	58-152	

Lab Batch #: 900586

Sample: 451761-001 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/09/12 18:20

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		103	99.9	103	70-135	
o-Terphenyl		49.4	50.0	99	70-135	

Lab Batch #: 900187

Sample: 629508-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/03/12 15:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4		0.0499	0.0500	100	80-120	
Toluene-D8		0.0495	0.0500	99	73-132	
4-Bromofluorobenzene		0.0487	0.0500	97	58-152	

Lab Batch #: 900586

Sample: 629743-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		108	100	108	70-135	
o-Terphenyl		52.0	50.1	104	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451761,

Project ID:

Lab Batch #: 900187

Sample: 629508-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:20

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0434	0.0500	87	74-126	
1,2-Dichloroethane-D4	0.0489	0.0500	98	80-120	
Toluene-D8	0.0515	0.0500	103	73-132	
4-Bromofluorobenzene	0.0508	0.0500	102	58-152	

Lab Batch #: 900586

Sample: 629743-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 15:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	99.9	106	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 900187

Sample: 629508-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:44

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0458	0.0500	92	74-126	
1,2-Dichloroethane-D4	0.0487	0.0500	97	80-120	
Toluene-D8	0.0517	0.0500	103	73-132	
4-Bromofluorobenzene	0.0500	0.0500	100	58-152	

Lab Batch #: 900586

Sample: 629743-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	64.7	50.0	129	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

If results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451761,

Project ID:

Lab Batch #: 900187

Sample: 451750-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/03/12 16:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0485	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0510	0.0500	102	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0508	0.0500	102	58-152	

Lab Batch #: 900586

Sample: 451773-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/10/12 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	60.1	50.0	120	70-135	

Lab Batch #: 900187

Sample: 451750-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/03/12 17:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0459	0.0500	92	74-126	
1,2-Dichloroethane-D4	0.0527	0.0500	105	80-120	
Toluene-D8	0.0508	0.0500	102	73-132	
4-Bromofluorobenzene	0.0502	0.0500	100	58-152	

Lab Batch #: 900586

Sample: 451773-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/10/12 05:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451761

Analyst: ZHO

Lab Batch ID: 900187

Sample: 629508-1-BKS

Date Prepared: 11/03/2012

Batch #: 1

Project ID:

Date Analyzed: 11/03/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	BTEX by SW 8260B											
	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	0.0853	85	0.100	0.0872	87	2	62-132	25	
	Toluene	<0.00100	0.100	0.0885	89	0.100	0.0878	88	1	66-124	25	
	Ethylbenzene	<0.00100	0.100	0.0925	93	0.100	0.0922	92	0	71-134	25	
	m,p-Xylenes	<0.00200	0.200	0.189	95	0.200	0.188	94	1	69-128	25	
	o-Xylene	<0.00100	0.100	0.0947	95	0.100	0.0957	96	1	72-131	25	

Analyst: TTE

Lab Batch ID: 900477

Sample: 629684-1-BKS

Date Prepared: 11/07/2012

Batch #: 1

Date Analyzed: 11/07/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Inorganic Anions by EPA 300/300.1											
Analytes											
Chloride	<1.00	100	99.0	99	100	98.9	99	0	80-120	20	

Relative Percent Difference $RPD = 200 * [(C-F) / (C+F)]$
Blank Spike Recovery $[D] = 100 * (C) / [B]$
Blank Spike Duplicate Recovery $[G] = 100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes

Project Name: Southern Union Gas Landfarm
Work Order #: 451761
Analyst: KEB
Lab Batch ID: 900586
Sample: 629743-1-BKS
Date Prepared: 11/09/2012
Batch #: 1
Project ID:
Date Analyzed: 11/09/2012
Matrix: Solid
Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	970	97	999	1040	104	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	956	96	999	1020	102	6	70-135	35	

Analytes

Relative Percent Difference $RPD = 200 * [(C-F)/(C+F)]$
 Blank Spike Recovery $[D] = 100 * (C)/[B]$
 Blank Spike Duplicate Recovery $[G] = 100 * (F)/[E]$
 All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451761

Lab Batch #: 900477

Project ID:

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Analyst: TTE

QC- Sample ID: 451762-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.10	110	111	101	80-120	

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Analyst: TTE

QC- Sample ID: 451776-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.64	116	120	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$
Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451761

Lab Batch ID: 900187

Date Analyzed: 11/03/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451750-001 S

Date Prepared: 11/03/2012

Batch #: 1 Matrix: Soil

Analyst: ZHO

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B		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 %RPD	Flag
Analytes											
Benzene		<0.00112	0.112	0.0779	70	0.114	0.0877	77	12	62-132	25
Toluene		<0.00112	0.112	0.0798	71	0.114	0.0922	81	14	66-124	25
Ethylbenzene		<0.00112	0.112	0.0881	79	0.114	0.0999	88	13	71-134	25
m,p-Xylenes		<0.00225	0.225	0.181	80	0.228	0.206	90	13	69-128	25
o-Xylene		<0.00112	0.112	0.0941	84	0.114	0.105	92	11	72-131	25

Lab Batch ID: 900586

Date Analyzed: 11/10/2012

Reporting Units: mg/kg

QC- Sample ID: 451773-001 S

Date Prepared: 11/09/2012

Batch #: 1 Matrix: Soil

Analyst: KEB

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.7	1110	1120	101	1110	1070	96	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.7	1110	1140	103	1110	1100	99	4	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451761

Lab Batch #: 900210

Date Analyzed: 11/05/2012 11:10

Date Prepared: 11/05/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451789-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.22	5.49	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451761

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451765
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

14-NOV-12

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)



14-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451765**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451765. 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. 451765 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 451765



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 8 G-1	S	10-30-12 12:30		451765-001
VZ Cell 8 G-2	S	10-30-12 12:35		451765-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451765

Report Date: 14-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 451765

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico
Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 14-NOV-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>		Lab Id:	451765-001	451765-002	
		Field Id:	VZ Cell 8 G-1	VZ Cell 8 G-2	
		Depth:			
		Matrix:	SOIL	SOIL	
		Sampled:	Oct-30-12 12:30	Oct-30-12 12:35	
BTEX by SW 8260B SUB: TX104704215	Extracted:	Nov-05-12 12:52	Nov-05-12 12:54		
	Analyzed:	Nov-05-12 13:36	Nov-05-12 13:59		
	Units/RL:	mg/kg RL	mg/kg RL		
	Benzene	ND 0.00109	ND 0.00108		
	Toluene	ND 0.00109	ND 0.00108		
Ethylbenzene		ND 0.00109	ND 0.00108		
	m,p-Xylenes	ND 0.00217	ND 0.00215		
	o-Xylene	ND 0.00109	ND 0.00108		
	Total Xylenes	ND 0.00109	ND 0.00108		
	Total BTEX	ND 0.00109	ND 0.00108		
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-07-12 16:36	Nov-07-12 16:53		
	Analyzed:	Nov-07-12 16:36	Nov-07-12 16:53		
	Units/RL:	mg/kg RL	mg/kg RL		
	Chloride	6.76 1.08	25.4 1.08		
Percent Moisture	Extracted:				
	Analyzed:	Nov-05-12 11:55	Nov-05-12 11:55		
	Units/RL:	% RL	% RL		
	Percent Moisture	8.19 1.00	7.77 1.00		
TPH By SW8015 Mod	Extracted:	Nov-02-12 08:20	Nov-02-12 08:20		
	Analyzed:	Nov-02-12 16:47	Nov-02-12 17:23		
	Units/RL:	mg/kg RL	mg/kg RL		
	C6-C12 Gasoline Range Hydrocarbons	ND 16.4	ND 16.3		
	C12-C28 Diesel Range Hydrocarbons	ND 16.4	ND 16.3		
C28-C35 Oil Range Hydrocarbons		ND 16.4	ND 16.3		
	Total TPH	ND 16.4	ND 16.3		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.1%



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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451765,

Project ID:

Lab Batch #: 900090

Sample: 451765-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 16:47

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	97.4	100	97	70-135	
o-Terphenyl	46.9	50.1	94	70-135	

Lab Batch #: 900090

Sample: 451765-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 17:23

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	92.0	100	92	70-135	
o-Terphenyl	44.2	50.0	88	70-135	

Lab Batch #: 900281

Sample: 451765-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 13:36

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0475	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0451	0.0500	90	80-120	
Toluene-D8	0.0510	0.0500	102	73-132	
4-Bromofluorobenzene	0.0506	0.0500	101	58-152	

Lab Batch #: 900281

Sample: 451765-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 13:59

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0478	0.0500	96	74-126	
1,2-Dichloroethane-D4	0.0453	0.0500	91	80-120	
Toluene-D8	0.0514	0.0500	103	73-132	
4-Bromofluorobenzene	0.0530	0.0500	106	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451765,

Lab Batch #: 900090

Sample: 629449-1-BLK / BLK

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 11:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.8	100	100	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

Lab Batch #: 900281

Sample: 629552-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0462	0.0500	92	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	
4-Bromofluorobenzene	0.0489	0.0500	98	58-152	

Lab Batch #: 900090

Sample: 629449-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 10:20

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.4	99.9	98	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 900281

Sample: 629552-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:47

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0449	0.0500	90	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0497	0.0500	99	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

If results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451765,

Project ID:

Lab Batch #: 900090

Sample: 629449-1-BSD / BSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/02/12 10:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		95.6	99.9	96	70-135	
o-Terphenyl		51.6	50.0	103	70-135	

Lab Batch #: 900281

Sample: 629552-1-BSD / BSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:10

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4		0.0428	0.0500	86	80-120	
Toluene-D8		0.0497	0.0500	99	73-132	
4-Bromofluorobenzene		0.0496	0.0500	99	58-152	

Lab Batch #: 900090

Sample: 451783-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/02/12 11:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		98.2	100	98	70-135	
o-Terphenyl		50.2	50.1	100	70-135	

Lab Batch #: 900281

Sample: 451759-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0470	0.0500	94	74-126	
1,2-Dichloroethane-D4		0.0454	0.0500	91	80-120	
Toluene-D8		0.0494	0.0500	99	73-132	
4-Bromofluorobenzene		0.0534	0.0500	107	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451765,

Lab Batch #: 900090

Sample: 451783-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 12:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	50.9	50.1	102	70-135	

Lab Batch #: 900281

Sample: 451759-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:25

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0455	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0437	0.0500	87	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	
4-Bromofluorobenzene	0.0555	0.0500	111	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451765

Analyst: MCH

Lab Batch ID: 900281

Sample: 629552-1-BKS

Batch #: 1

Date Prepared: 11/05/2012

Project ID:

Date Analyzed: 11/05/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	BTEX by SW 8260B	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
			[A]	[B]	[C]	[D]	[E]	[F]	[G]					
					</									

Analyst: TTE

Date Prepared: 11/07/2012

Date Analyzed: 11/07/2012

Lab Batch ID: 900477

Sample: 629684-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
	Chloride	<1.00	100	99.0	99	100	98.9	99	0	80-120	20

 Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

 Blank Spike Recovery [D] = $100 * (C/[B])$

 Blank Spike Duplicate Recovery [G] = $100 * (F/[E])$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451765

Analyst: KEB

Lab Batch ID: 900090

Sample: 629449-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/02/2012

Date Prepared: 11/02/2012

Batch #: 1

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	999	870	87	999	863	86	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	999	922	92	999	924	92	0	70-135	35	

Relative Percent Difference RPD = $200 * ((C-F) / (C+F))$

Blank Spike Recovery [D] = $100 * (C) / [B]$

Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Southern Union Gas Landfarm



Work Order #: 451765

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451762-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.10	110	111	101	80-120	

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Analyst: TTE

QC- Sample ID: 451776-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.64	116	120	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS ASD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451765

Lab Batch ID: 900281

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451759-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: MCH

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00113	0.113	0.112	99	0.112	0.107	96	5	62-132	25
	Toluene	<0.00113	0.113	0.122	108	0.112	0.118	105	3	66-124	25
	Ethylbenzene	<0.00113	0.113	0.121	107	0.112	0.125	112	3	71-134	25
	m,p-Xylenes	<0.00225	0.225	0.256	114	0.225	0.257	114	0	69-128	25
	o-Xylene	<0.00113	0.113	0.125	111	0.112	0.126	113	1	72-131	25

Lab Batch ID: 900090

Date Analyzed: 11/02/2012

Reporting Units: mg/kg

QC- Sample ID: 451783-001 S

Batch #: 1 Matrix: Soil

Date Prepared: 11/02/2012 Analyst: KEB

Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
	TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	881	85	1040	912	88	3	70-135	35		
	C12-C28 Diesel Range Hydrocarbons	<15.6	1040	899	86	1040	904	87	1	70-135	35		

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451765

Lab Batch #: 900210

Date Analyzed: 11/05/2012 11:10

Date Prepared: 11/05/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451789-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.22	5.49	5	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

e-mail: pm@basinenv.com; Rose.Slade@SUG.com

Laboratory Comments:



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451765

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451776
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

08-NOV-12

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)



08-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451776**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451776. 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. 451776 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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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 451776



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 9 G-1	S	10-31-12 09:00		451776-001
VZ Cell 9 G-2	S	10-31-12 09:20		451776-002
VZ Cell 9 G-3	S	10-31-12 09:40		451776-003
VZ Cell 9 G-4	S	10-31-12 10:00		451776-004
VZ Cell 9 G-5	S	10-31-12 10:20		451776-005



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451776

Report Date: 08-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis **Immary 451776**
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 08-NOV-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451776-001	451776-002	451776-003	451776-004	451776-005
	Field Id:	VZ Cell 9 G-1	VZ Cell 9 G-2	VZ Cell 9 G-3	VZ Cell 9 G-4	VZ Cell 9 G-5
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-31-12 09:00	Oct-31-12 09:20	Oct-31-12 09:40	Oct-31-12 10:00	Oct-31-12 10:20
BTEX by SW 8260B SUB: TX104704215	Extracted:	Nov-05-12 16:10	Nov-05-12 16:12	Nov-05-12 16:14	Nov-05-12 16:16	Nov-05-12 16:18
	Analyzed:	Nov-05-12 16:37	Nov-05-12 17:00	Nov-05-12 17:23	Nov-05-12 17:45	Nov-05-12 18:08
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		ND 0.00117	ND 0.00120	ND 0.00116	ND 0.00115	ND 0.00111
		ND 0.00117	ND 0.00120	ND 0.00116	ND 0.00115	ND 0.00111
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-07-12 12:51	Nov-07-12 13:23	Nov-07-12 13:39	Nov-07-12 13:55	Nov-07-12 14:12
	Analyzed:	Nov-07-12 12:51	Nov-07-12 13:23	Nov-07-12 13:39	Nov-07-12 13:55	Nov-07-12 14:12
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		6.64 1.16	13.0 1.18	20.8 1.16	15.0 1.15	9.63 1.10
Percent Moisture	Extracted:					
	Analyzed:	Nov-05-12 10:10	Nov-05-12 10:10	Nov-05-12 10:10	Nov-05-12 10:10	Nov-05-12 10:10
	Units/RL:	% RL	% RL	% RL	% RL	% RL
		15.0 1.00	17.1 1.00	14.1 1.00	14.0 1.00	9.90 1.00
TPH By SW8015 Mod	Extracted:	Nov-02-12 08:20	Nov-02-12 08:20	Nov-02-12 08:20	Nov-02-12 08:20	Nov-02-12 08:20
	Analyzed:	Nov-02-12 21:01	Nov-02-12 21:35	Nov-02-12 22:08	Nov-02-12 22:39	Nov-02-12 23:08
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
C6-C12 Gasoline Range Hydrocarbons		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
C12-C28 Diesel Range Hydrocarbons		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
C28-C35 Oil Range Hydrocarbons		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
Total TPH		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6
		ND 17.6	ND 18.0	ND 17.5	ND 17.4	ND 16.6

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451776,

Project ID:

Lab Batch #: 900090

Sample: 451776-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 21:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.2	99.8	94	70-135	
o-Terphenyl	45.4	49.9	91	70-135	

Lab Batch #: 900090

Sample: 451776-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 21:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.6	99.7	97	70-135	
o-Terphenyl	46.1	49.9	92	70-135	

Lab Batch #: 900090

Sample: 451776-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 22:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.2	100	94	70-135	
o-Terphenyl	45.1	50.1	90	70-135	

Lab Batch #: 900090

Sample: 451776-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 22:39

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.6	100	97	70-135	
o-Terphenyl	46.1	50.0	92	70-135	

Lab Batch #: 900090

Sample: 451776-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 23:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.6	102	70-135	
o-Terphenyl	48.1	49.8	97	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

II results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451776,

Project ID:

Lab Batch #: 900281

Sample: 451776-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 16:37

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0476	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0446	0.0500	89	80-120	
Toluene-D8	0.0520	0.0500	104	73-132	
4-Bromofluorobenzene	0.0542	0.0500	108	58-152	

Lab Batch #: 900281

Sample: 451776-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 17:00

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0486	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0474	0.0500	95	80-120	
Toluene-D8	0.0507	0.0500	101	73-132	
4-Bromofluorobenzene	0.0510	0.0500	102	58-152	

Lab Batch #: 900281

Sample: 451776-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 17:23

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0461	0.0500	92	74-126	
1,2-Dichloroethane-D4	0.0472	0.0500	94	80-120	
Toluene-D8	0.0523	0.0500	105	73-132	
4-Bromofluorobenzene	0.0528	0.0500	106	58-152	

Lab Batch #: 900281

Sample: 451776-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 17:45

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0477	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0457	0.0500	91	80-120	
Toluene-D8	0.0514	0.0500	103	73-132	
4-Bromofluorobenzene	0.0561	0.0500	112	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451776,

Project ID:

Lab Batch #: 900281

Sample: 451776-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 18:08

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0469	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0465	0.0500	93	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	
4-Bromofluorobenzene	0.0532	0.0500	106	58-152	

Lab Batch #: 900090

Sample: 629449-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 11:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.8	100	100	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

Lab Batch #: 900281

Sample: 629552-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0462	0.0500	92	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	
4-Bromofluorobenzene	0.0489	0.0500	98	58-152	

Lab Batch #: 900090

Sample: 629449-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 10:20

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.4	99.9	98	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

.All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451776,

Project ID:

Lab Batch #: 900281

Sample: 629552-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:47

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4		0.0449	0.0500	90	80-120	
Toluene-D8		0.0503	0.0500	101	73-132	
4-Bromofluorobenzene		0.0497	0.0500	99	58-152	

Lab Batch #: 900090

Sample: 629449-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 10:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		95.6	99.9	96	70-135	
o-Terphenyl		51.6	50.0	103	70-135	

Lab Batch #: 900281

Sample: 629552-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:10

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4		0.0428	0.0500	86	80-120	
Toluene-D8		0.0497	0.0500	99	73-132	
4-Bromofluorobenzene		0.0496	0.0500	99	58-152	

Lab Batch #: 900090

Sample: 451783-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 11:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		98.2	100	98	70-135	
o-Terphenyl		50.2	50.1	100	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451776,

Lab Batch #: 900281

Sample: 451759-001 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0470	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0454	0.0500	91	80-120	
Toluene-D8	0.0494	0.0500	99	73-132	
4-Bromofluorobenzene	0.0534	0.0500	107	58-152	

Lab Batch #: 900090

Sample: 451783-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 12:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	50.9	50.1	102	70-135	

Lab Batch #: 900281

Sample: 451759-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:25

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0455	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0437	0.0500	87	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	
4-Bromofluorobenzene	0.0555	0.0500	111	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

If results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm
Work Order #: 451776
Analyst: MCH
Lab Batch ID: 900281
Sample: 629552-1-BKS
Date Prepared: 11/05/2012
Batch #: 1
Project ID:
Date Analyzed: 11/05/2012
Matrix: Solid
Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	BTEX by SW 8260B	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
			[A]	[B]	[C]	[D]	[E]	[F]	[G]					

Analyst: TTE
Date Prepared: 11/07/2012
Date Analyzed: 11/07/2012
Lab Batch ID: 900477
Sample: 629684-1-BKS
Batch #: 1
Matrix: Solid
Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	Inorganic Anions by EPA 300/300.1	Analytes	Blank	Spike	Blank	Blank	Spike	Blank	Blk. Spk	RPD	Control	Control	Flag
			Sample Result	Added	Spike	Spike	Added	Spike	Dup.	%	Limits	Limits	
			[A]	[B]	[C]	%R	[D]	[E]	[F]	%R	%	%R	%RPD
		Chloride	<1.00	100	99.0	99	100	98.9	99	0	80-120	20	

 Relative Percent Difference $RPD = 200 * [(C-F)/(C+F)]$

 Blank Spike Recovery $[D] = 100 * (C)/[B]$

 Blank Spike Duplicate Recovery $[G] = 100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451776

Analyst: KEB

Lab Batch ID: 900090

Sample: 629449-1-BKS

Date Prepared: 11/02/2012

Batch #: 1

Project ID:

Date Analyzed: 11/02/2012

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	999	870	87	999	863	86	1	70-135	35
	C12-C28 Diesel Range Hydrocarbons	<15.0	999	922	92	999	924	92	0	70-135	35

Analytes

Relative Percent Difference $RPD = 200 * [(C-F) / (C+F)]$
Blank Spike Recovery $[D] = 100 * (C) / [B]$
Blank Spike Duplicate Recovery $[G] = 100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Southern Union Gas Landfarm



Work Order #: 451776

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451762-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.10	110	111	101	80-120	

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Analyst: TTE

QC- Sample ID: 451776-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.64	116	120	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 451776

Lab Batch ID: 900281

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451759-001 S

Date Prepared: 11/05/2012

Batch #: 1

Analyst: MCH

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<0.00113	0.113	0.112	99	0.112	0.107	96	5	62-132	25	
Toluene	<0.00113	0.113	0.122	108	0.112	0.118	105	3	66-124	25	
Ethylbenzene	<0.00113	0.113	0.121	107	0.112	0.125	112	3	71-134	25	
m,p-Xylenes	<0.00225	0.225	0.256	114	0.225	0.257	114	0	69-128	25	
o-Xylene	<0.00113	0.113	0.125	111	0.112	0.126	113	1	72-131	25	

Lab Batch ID: 900090

Date Analyzed: 11/02/2012

Reporting Units: mg/kg

QC- Sample ID: 451783-001 S

Date Prepared: 11/02/2012

Batch #: 1

Analyst: KEB

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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	<15.6	1040	881	85	1040	912	88	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	899	86	1040	904	87	1	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \cdot (C-A)/B$

Relative Percent Difference $RPD = 200 \cdot |(C-F)/(C+F)|$

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

Matrix Spike Duplicate Percent Recovery $[G] = 100 \cdot (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451776

Lab Batch #: 900206

Date Analyzed: 11/05/2012 10:10

Date Prepared: 11/05/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451776-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	15.0	15.0	0	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Project #:

Project Loc: Lea County, NM

新OP

Fax No: (575) 396-1429

e-mail: pm@basinenv.com

1

ORDER #:

27/6/57

Special Instructions:

Laboratory Comments:

Sample 6: Mailers' Mailer?

VOC's Free of Headsnace?

Labels on containers

Custody seals on containers

616 body seals on coolers

Sample Hand Delivered

by Sampler/Client Rep.?

by Courier? UPS

Temperature / Non Receipt

Temperature Upon Receipt

[illegible]

Page 17 of 18

Final 1.000

Page 17 of 18



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451776

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451773
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451773**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451773. 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. 451773 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 451773



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 10 G-1	S	10-30-12 11:20		451773-001
VZ Cell 10 G-2	S	10-30-12 11:40		451773-002
VZ Cell 10 G-3	S	10-30-12 12:00		451773-003
VZ Cell 10 G-4	S	10-30-12 12:20		451773-004



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451773

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451773
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451773-001	451773-002	451773-003	451773-004
	Field Id: Depth: Matrix: Sampled:	VZ Cell 10 G-1 SOIL Oct-30-12 11:20	VZ Cell 10 G-2 SOIL Oct-30-12 11:40	VZ Cell 10 G-3 SOIL Oct-30-12 12:00	VZ Cell 10 G-4 SOIL Oct-30-12 12:20
BTX by SW 8260B SUB: TX104704215	Extracted:	Nov-05-12 13:00	Nov-05-12 13:02	Nov-05-12 13:04	Nov-05-12 15:32
	Analyzed:	Nov-05-12 15:07	Nov-05-12 15:30	Nov-05-12 15:52	Nov-05-12 16:14
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	ND 0.00110	ND 0.00107	ND 0.00112	ND 0.00111
	Toluene	ND 0.00110	ND 0.00107	ND 0.00112	ND 0.00111
	Ethylbenzene	ND 0.00110	ND 0.00107	ND 0.00112	ND 0.00111
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	m,p-Xylenes	ND 0.00220	ND 0.00214	ND 0.00224	ND 0.00223
	o-Xylene	ND 0.00110	ND 0.00107	ND 0.00112	ND 0.00111
	Total Xylenes	ND 0.00110	ND 0.00107	ND 0.00112	ND 0.00111
	Total BTX	ND 0.00110	ND 0.00107	ND 0.00112	ND 0.00111
	Extracted:	Nov-07-12 14:28	Nov-07-12 15:16	Nov-07-12 15:32	Nov-07-12 15:48
	Analyzed:	Nov-07-12 14:28	Nov-07-12 15:16	Nov-07-12 15:32	Nov-07-12 15:48
Chloride	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Percent Moisture	Extracted:	240 1.10	70.4 1.07	48.2 1.12	51.1 1.10
	Analyzed:	Nov-05-12 10:35	Nov-05-12 10:35	Nov-05-12 10:35	Nov-05-12 10:35
	Units/RL:	% RL	% RL	% RL	% RL
TPH By SW8015 Mod	Extracted:	10.0 1.00	7.09 1.00	11.6 1.00	11.0 1.00
	Analyzed:	Nov-09-12 13:30	Nov-09-12 13:30	Nov-09-12 13:30	Nov-09-12 13:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons	Extracted:	ND 16.6	ND 16.1	ND 16.9	ND 16.9
C12-C28 Diesel Range Hydrocarbons	Analyzed:	ND 16.6	ND 16.1	ND 16.9	ND 16.9
C28-C35 Oil Range Hydrocarbons	Units/RL:	ND 16.6	ND 16.1	ND 16.9	ND 16.9
Total TPH	Extracted:	ND 16.6	ND 16.1	ND 16.9	ND 16.9

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451773,

Lab Batch #: 900281

Sample: 451773-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 15:07

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0506	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0476	0.0500	95	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0530	0.0500	106	58-152	

Lab Batch #: 900281

Sample: 451773-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 15:30

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0483	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0455	0.0500	91	80-120	
Toluene-D8	0.0509	0.0500	102	73-132	
4-Bromofluorobenzene	0.0554	0.0500	111	58-152	

Lab Batch #: 900281

Sample: 451773-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 15:52

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0509	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0460	0.0500	92	80-120	
Toluene-D8	0.0540	0.0500	108	73-132	
4-Bromofluorobenzene	0.0558	0.0500	112	58-152	

Lab Batch #: 900281

Sample: 451773-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 16:14

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0476	0.0500	95	74-126	
1,2-Dichloroethane-D4	0.0455	0.0500	91	80-120	
Toluene-D8	0.0531	0.0500	106	73-132	
4-Bromofluorobenzene	0.0535	0.0500	107	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

.All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries**Project Name: Southern Union Gas Landfarm****Work Orders : 451773,****Project ID:****Lab Batch #: 900586****Sample: 451773-001 / SMP****Batch: 1 Matrix: Soil****Units: mg/kg****Date Analyzed: 11/09/12 23:52****SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
I-Chlorooctane	98.2	99.8	98	70-135	
o-Terphenyl	47.4	49.9	95	70-135	

Lab Batch #: 900586**Sample: 451773-002 / SMP****Batch: 1 Matrix: Soil****Units: mg/kg****Date Analyzed: 11/10/12 00:30****SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
I-Chlorooctane	106	99.7	106	70-135	
o-Terphenyl	50.6	49.9	101	70-135	

Lab Batch #: 900586**Sample: 451773-003 / SMP****Batch: 1 Matrix: Soil****Units: mg/kg****Date Analyzed: 11/10/12 01:06****SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
I-Chlorooctane	99.4	99.8	100	70-135	
o-Terphenyl	48.1	49.9	96	70-135	

Lab Batch #: 900586**Sample: 451773-004 / SMP****Batch: 1 Matrix: Soil****Units: mg/kg****Date Analyzed: 11/10/12 01:44****SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
I-Chlorooctane	97.6	100	98	70-135	
o-Terphenyl	46.3	50.0	93	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451773,

Lab Batch #: 900281

Sample: 629552-1-BLK / BLK

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0462	0.0500	92	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	
4-Bromofluorobenzene	0.0489	0.0500	98	58-152	

Lab Batch #: 900586

Sample: 629743-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	52.0	50.1	104	70-135	

Lab Batch #: 900281

Sample: 629552-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:47

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0449	0.0500	90	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0497	0.0500	99	58-152	

Lab Batch #: 900586

Sample: 629743-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 15:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	99.9	106	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

II results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451773,

Project ID:

Lab Batch #: 900281

Sample: 629552-1-BSD / BSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:10

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4		0.0428	0.0500	86	80-120	
Toluene-D8		0.0497	0.0500	99	73-132	
4-Bromofluorobenzene		0.0496	0.0500	99	58-152	

Lab Batch #: 900586

Sample: 629743-1-BSD / BSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:22

SURROGATE RECOVERY STUDY

Units: mg/kg		Date Analyzed: 11/09/12 10:22				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		112	99.9	112	70-135	
o-Terphenyl		64.7	50.0	129	70-135	

Lab Batch #: 900281

Sample: 451759-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0470	0.0500	94	74-126	
1,2-Dichloroethane-D4		0.0454	0.0500	91	80-120	
Toluene-D8		0.0494	0.0500	99	73-132	
4-Bromofluorobenzene		0.0534	0.0500	107	58-152	

Lab Batch #: 900586

Sample: 451773-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/10/12 04:57

SURROGATE RECOVERY STUDY

Units: mg/kg		Date Analyzed: 11/16/12 04:57				
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		110	100	110	70-135	
o-Terphenyl		60.1	50.0	120	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451773,

Project ID:

Lab Batch #: 900281

Sample: 451759-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:25

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0455	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0437	0.0500	87	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	
4-Bromofluorobenzene	0.0555	0.0500	111	58-152	

Lab Batch #: 900586

Sample: 451773-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 05:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

.All results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451773

Analyst: MCH

Lab Batch ID: 900281

Date Prepared: 11/05/2012

Batch #: 1

Sample: 629552-1-BKS

Project ID:

Date Analyzed: 11/05/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
BTEX by SW 8260B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Benzene		<0.00100	0.100	0.0972	97	0.100	0.0977	98	1	62-132	25	
Toluene		<0.00100	0.100	0.0974	97	0.100	0.105	105	8	66-124	25	
Ethylbenzene		<0.00100	0.100	0.108	108	0.100	0.111	111	3	71-134	25	
m,p-Xylenes		<0.00200	0.200	0.216	108	0.200	0.225	113	4	69-128	25	
o-Xylene		<0.00100	0.100	0.108	108	0.100	0.116	116	7	72-131	25	

Analyst: TTE

Date Prepared: 11/07/2012

Date Analyzed: 11/07/2012

Lab Batch ID: 900477

Batch #: 1

Sample: 629684-1-BKS

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Inorganic Anions by EPA 300/300.1											
Analytes											
Chloride	<1.00	100	99.0	99	100	98.9	99	0	80-120	20	

Relative Percent Difference $RPD = 200 * [(C-F)/(C+F)]$

Blank Spike Recovery $[D] = 100 * (C/[B])$

Blank Spike Duplicate Recovery $[G] = 100 * (F/[E])$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451773

Analyst: KEB

Lab Batch ID: 900586

Sample: 629743-1-BKS

Date Prepared: 11/09/2012

Batch #: 1

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/kg											
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	970	97	999	1040	104	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	956	96	999	1020	102	6	70-135	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451773

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451762-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.10	110	111	101	80-120	

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Analyst: TTE

QC- Sample ID: 451776-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.64	116	120	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS MSD Recoveries

Project Name: Southern Union Gas Landfarm

Work Order #: 451773

Lab Batch ID: 900281

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451759-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: MCH

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/kg												
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	<0.00113	0.113	0.112	99	0.112	0.107	96	5	62-132	25	
	Toluene	<0.00113	0.113	0.122	108	0.112	0.118	105	3	66-124	25	
	Ethylbenzene	<0.00113	0.113	0.121	107	0.112	0.125	112	3	71-134	25	
	m,p-Xylenes	<0.00225	0.225	0.256	114	0.225	0.257	114	0	69-128	25	
	o-Xylene	<0.00113	0.113	0.125	111	0.112	0.126	113	1	72-131	25	

Lab Batch ID: 900586

Date Analyzed: 11/10/2012

Reporting Units: mg/kg

QC- Sample ID: 451773-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/09/2012 Analyst: KEB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<16.7	1110	1120	101	1110	1070	96	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.7	1110	1140	103	1110	1100	99	4	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451773

Lab Batch #: 900207

Date Analyzed: 11/05/2012 10:35

Date Prepared: 11/05/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451788-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	12.3	12.4	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800
Fax: 432-563-1713

fuel pump

Page 17 of 18



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451773

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451767
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

08-NOV-12

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)



08-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451767**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451767. 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. 451767 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 451767



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 11 G-1	S	10-30-12 12:50		451767-001
VZ Cell 11 G-2	S	10-30-12 13:00		451767-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451767

Report Date: 08-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451767
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id:

Contact: Joel Lowry

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Nov-01-12 12:20 pm

Report Date: 08-NOV-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451767-001	451767-002		
	Field Id:	VZ Cell 11 G-1	VZ Cell 11 G-2		
	Depth:				
	Matrix:	SOIL	SOIL		
	Sampled:	Oct-30-12 12:50	Oct-30-12 13:00		
BTX by SW 8260B SUB: TX104704215	Extracted:	Nov-05-12 12:56	Nov-05-12 12:58		
	Analyzed:	Nov-05-12 14:22	Nov-05-12 14:44		
	Units/RL:	mg/kg RL	mg/kg RL		
	Benzene	ND 0.00110	ND 0.00107		
	Toluene	ND 0.00110	ND 0.00107		
Ethylbenzene		ND 0.00110	ND 0.00107		
	m,p-Xylenes	ND 0.00220	ND 0.00214		
	o-Xylene	ND 0.00110	ND 0.00107		
	Total Xylenes	ND 0.00110	ND 0.00107		
	Total BTX	ND 0.00110	ND 0.00107		
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-07-12 17:09	Nov-07-12 17:25		
	Analyzed:	Nov-07-12 17:09	Nov-07-12 17:25		
	Units/RL:	mg/kg RL	mg/kg RL		
Chloride		ND 1.10	8.84 1.07		
Percent Moisture	Extracted:				
	Analyzed:	Nov-05-12 11:10	Nov-05-12 11:10		
	Units/RL:	% RL	% RL		
TPH By SW8015 Mod		9.79 1.00	7.10 1.00		
	Extracted:	Nov-02-12 08:20	Nov-02-12 08:20		
	Analyzed:	Nov-02-12 13:47	Nov-02-12 14:16		
C6-C12 Gasoline Range Hydrocarbons	Units/RL:	mg/kg RL	mg/kg RL		
		ND 16.6	ND 16.1		
	C12-C28 Diesel Range Hydrocarbons	ND 16.6	ND 16.1		
	C28-C35 Oil Range Hydrocarbons	ND 16.6	ND 16.1		
	Total TPH	ND 16.6	ND 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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451767,

Project ID:

Lab Batch #: 900090

Sample: 451767-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 13:47

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.9	99.9	96	70-135	
o-Terphenyl	46.0	50.0	92	70-135	

Lab Batch #: 900090

Sample: 451767-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 14:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.0	100	96	70-135	
o-Terphenyl	46.5	50.0	93	70-135	

Lab Batch #: 900281

Sample: 451767-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 14:22

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0494	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0452	0.0500	90	80-120	
Toluene-D8	0.0521	0.0500	104	73-132	
4-Bromofluorobenzene	0.0510	0.0500	102	58-152	

Lab Batch #: 900281

Sample: 451767-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 14:44

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0432	0.0500	86	74-126	
1,2-Dichloroethane-D4	0.0424	0.0500	85	80-120	
Toluene-D8	0.0515	0.0500	103	73-132	
4-Bromofluorobenzene	0.0536	0.0500	107	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

If results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451767,

Project ID:

Lab Batch #: 900090

Sample: 629449-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 11:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.8	100	100	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

Lab Batch #: 900281

Sample: 629552-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0462	0.0500	92	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	
4-Bromofluorobenzene	0.0489	0.0500	98	58-152	

Lab Batch #: 900090

Sample: 629449-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 10:20

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.4	99.9	98	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 900281

Sample: 629552-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:47

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0449	0.0500	90	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0497	0.0500	99	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451767,

Project ID:

Lab Batch #: 900090

Sample: 629449-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 10:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.6	99.9	96	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 900281

Sample: 629552-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:10

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	
4-Bromofluorobenzene	0.0496	0.0500	99	58-152	

Lab Batch #: 900090

Sample: 451783-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 11:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.2	100	98	70-135	
o-Terphenyl	50.2	50.1	100	70-135	

Lab Batch #: 900281

Sample: 451759-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0470	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0454	0.0500	91	80-120	
Toluene-D8	0.0494	0.0500	99	73-132	
4-Bromofluorobenzene	0.0534	0.0500	107	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

If results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451767,

Project ID:

Lab Batch #: 900090

Sample: 451783-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/02/12 12:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	50.9	50.1	102	70-135	

Lab Batch #: 900281

Sample: 451759-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:25

SURROGATE RECOVERY STUDY

BTX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0455	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0437	0.0500	87	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	
4-Bromofluorobenzene	0.0555	0.0500	111	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451767

Analyst: MCH

Lab Batch ID: 900281

Sample: 629552-1-BKS

Date Prepared: 11/05/2012

Batch #: 1

Project ID:

Date Analyzed: 11/05/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY														
Units: mg/kg	BTEX by SW 8260B	Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
			Benzene	<0.00100	0.100	0.0972	97	0.100	0.0977	98	1	62-132	25	
			Toluene	<0.00100	0.100	0.0974	97	0.100	0.105	105	8	66-124	25	
			Ethylbenzene	<0.00100	0.100	0.108	108	0.100	0.111	111	3	71-134	25	
			m,p-Xylenes	<0.00200	0.200	0.216	108	0.200	0.225	113	4	69-128	25	
			o-Xylene	<0.00100	0.100	0.108	108	0.100	0.116	116	7	72-131	25	

Analyst: TTE

Lab Batch ID: 900477

Sample: 629684-1-BKS

Date Prepared: 11/07/2012

Batch #: 1

Date Analyzed: 11/07/2012

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 [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		<1.00	100	99.0	99	100	98.9	99	0	80-120	20	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: Southern Union Gas Landfarm

Work Order #: 451767

Analyst: KEB

Lab Batch ID: 900090

Sample: 629449-1-BKS

Date Prepared: 11/02/2012

Batch #: 1

Project ID:

Date Analyzed: 11/02/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	TPH By SW8015 Mod	Analytes	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Result	Blk. Spk Dup. %R	RPD %	Control Limits	Control Limits	Flag
			[A]	[B]	[C]	[D]	[E]	[F]	[G]	%R	%RPD		
		C6-C12 Gasoline Range Hydrocarbons	<15.0	999	870	87	999	863	86	1	70-135	35	
		C12-C28 Diesel Range Hydrocarbons	<15.0	999	922	92	999	924	92	0	70-135	35	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

rk Order #: 451767

Lab Batch #: 900477

Date Analyzed: 11/07/2012

QC- Sample ID: 451762-001 S

Reporting Units: mg/kg

Date Prepared: 11/07/2012

Batch #: 1

Project ID:

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.10	110	111	101	80-120	

Lab Batch #: 900477

Date Analyzed: 11/07/2012

QC- Sample ID: 451776-001 S

Reporting Units: mg/kg

Date Prepared: 11/07/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.64	116	120	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$
Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

- Below Reporting Limit

Project Name: Southern Union Gas Landfarm

Work Order #: 451767

Lab Batch ID: 900281

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 451759-001 S

Date Prepared: 11/05/2012

Batch #: 1

Analyst: MCH

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag
	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	
Benzene	<0.00113	0.113	0.112	99	0.112	0.107	96	5	62-132	25	
Toluene	<0.00113	0.113	0.122	108	0.112	0.118	105	3	66-124	25	
Ethylbenzene	<0.00113	0.113	0.121	107	0.112	0.125	112	3	71-134	25	
m,p-Xylenes	<0.00225	0.225	0.256	114	0.225	0.257	114	0	69-128	25	
o-Xylene	<0.00113	0.113	0.125	111	0.112	0.126	113	1	72-131	25	

Lab Batch ID: 900090

Date Analyzed: 11/02/2012

Reporting Units: mg/kg

QC-Sample ID: 451783-001 S

Date Prepared: 11/02/2012

Batch #: 1

Analyst: KEB

Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag
	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	
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	881	85	1040	912	88	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	899	86	1040	904	87	1	70-135	35	

Matrix Spike Percent Recovery: $[D] = 100 \cdot (C-A)/B$
Relative Percent Difference: $RPD = 200 \cdot |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery: $[G] = 100 \cdot (F-A)/E$

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451767

Lab Batch #: 900210

Project ID:

Date Analyzed: 11/05/2012 11:10

Date Prepared: 11/05/2012

Analyst: WRU

QC- Sample ID: 451789-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.22	5.49	5	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Name: Southern Union Gas Landfarm

Project #:

Project Loc: Lea County, NM

PO#:

Fax No: (575) 396-1429

e-mail: pm@basinenv.com

7

(lab use only)

ORDER #:

[illegible]

Special Instructions:

Laboratory Comments:

Relinquished by:

Received by:

Time

Date

1

1

Relinquished

Relinquished by:

Received by:

Time

Date 04/11/16

100

10

Relinquished by

Belinavished by:

Received by Editor

Time

Date _____

A

25/11/20

Belinavijshid

Page 16 of 17

Final 1,000



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451767

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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 451750
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

13-NOV-12

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)



13-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451750**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451750. 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. 451750 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 451750



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 12 G-1	S	10-30-12 13:15		451750-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451750

Report Date: 13-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 451750

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico
Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 13-NOV-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451750-001			
	Field Id:	VZ Cell 12 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Oct-30-12 13:15			
BTEX by SW 8260B SUB: TX104704215	Extracted:	Nov-03-12 16:00			
	Analyzed:	Nov-03-12 16:31			
	Units/RL:	mg/kg RL			
		ND 0.00115			
		ND 0.00115			
Benzene		ND 0.00115			
Toluene		ND 0.00115			
Ethylbenzene		ND 0.00115			
m,p-Xylenes		ND 0.00230			
o-Xylene		ND 0.00115			
Total Xylenes		ND 0.00115			
Total BTEX		ND 0.00115			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-13-12 11:00			
	Analyzed:	Nov-13-12 11:00			
	Units/RL:	mg/kg RL			
Chloride		ND 1.16			
Percent Moisture	Extracted:				
	Analyzed:	Nov-05-12 11:10			
	Units/RL:	% RL			
Percent Moisture		11.8 1.00			
TPH By SW8015 Mod	Extracted:	Nov-02-12 08:20			
	Analyzed:	Nov-02-12 13:18			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 17.0			
C12-C28 Diesel Range Hydrocarbons		ND 17.0			
C28-C35 Oil Range Hydrocarbons		ND 17.0			
Total TPH		ND 17.0			

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



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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 5332 Blackberry Drive, San Antonio TX 78238
 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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(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(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	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451750,

Project ID:

Lab Batch #: 900090

Sample: 451750-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/02/12 13:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.8	99.8	97	70-135	
o-Terphenyl	46.5	49.9	93	70-135	

Lab Batch #: 900187

Sample: 451750-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 16:31

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0536	0.0500	107	80-120	
Toluene-D8	0.0507	0.0500	101	73-132	
4-Bromofluorobenzene	0.0497	0.0500	99	58-152	

Lab Batch #: 900090

Sample: 629449-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 11:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.8	100	100	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

Lab Batch #: 900187

Sample: 629508-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 15:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0499	0.0500	100	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	
4-Bromofluorobenzene	0.0487	0.0500	97	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451750,

Project ID:

Lab Batch #: 900090

Sample: 629449-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 10:20

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.4	99.9	98	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 900187

Sample: 629508-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:20

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0434	0.0500	87	74-126	
1,2-Dichloroethane-D4	0.0489	0.0500	98	80-120	
Toluene-D8	0.0515	0.0500	103	73-132	
4-Bromofluorobenzene	0.0508	0.0500	102	58-152	

Lab Batch #: 900090

Sample: 629449-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/02/12 10:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	95.6	99.9	96	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 900187

Sample: 629508-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:44

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0458	0.0500	92	74-126	
1,2-Dichloroethane-D4	0.0487	0.0500	97	80-120	
Toluene-D8	0.0517	0.0500	103	73-132	
4-Bromofluorobenzene	0.0500	0.0500	100	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

If results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451750,

Lab Batch #: 900090

Sample: 451783-001 S / MS

Project ID:

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/02/12 11:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	98.2	100	98	70-135	
o-Terphenyl	50.2	50.1	100	70-135	

Lab Batch #: 900187

Sample: 451750-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/03/12 16:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0485	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0510	0.0500	102	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0508	0.0500	102	58-152	

Lab Batch #: 900090

Sample: 451783-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/02/12 12:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	50.9	50.1	102	70-135	

Lab Batch #: 900187

Sample: 451750-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/03/12 17:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0459	0.0500	92	74-126	
1,2-Dichloroethane-D4	0.0527	0.0500	105	80-120	
Toluene-D8	0.0508	0.0500	102	73-132	
4-Bromofluorobenzene	0.0502	0.0500	100	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451750

Analyst: ZHO

Lab Batch ID: 900187

Sample: 629508-1-BKS

Units: mg/kg

Project ID:

Date Analyzed: 11/03/2012

Matrix: Solid

Date Prepared: 11/03/2012

Batch #: 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	BTEX by SW 8260B											
	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	0.0853	85	0.100	0.0872	87	2	62-132	25	
	Toluene	<0.00100	0.100	0.0885	89	0.100	0.0878	88	1	66-124	25	
	Ethylbenzene	<0.00100	0.100	0.0925	93	0.100	0.0922	92	0	71-134	25	
	m,p-Xylenes	<0.00200	0.200	0.189	95	0.200	0.188	94	1	69-128	25	
	o-Xylene	<0.00100	0.100	0.0947	95	0.100	0.0957	96	1	72-131	25	

Analyst: TTE

Lab Batch ID: 900794

Sample: 629896-1-BKS

Date Prepared: 11/13/2012

Batch #: 1

Date Analyzed: 11/13/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Inorganic Anions by EPA 300/300.1		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Chloride		<1.00	100	96.9	97	100	97.0	97	0	80-120	20	

Relative Percent Difference RPD = $200 \cdot |(C-F)/(C+F)|$
Blank Spike Recovery [D] = $100 \cdot (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 \cdot (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: Southern Union Gas Landfarm

Work Order #: 451750

Analyst: KEB

Lab Batch ID: 900090

Sample: 629449-1-BKS

Date Prepared: 11/02/2012

Batch #: 1

Project ID:

Date Analyzed: 11/02/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY													
Units: mg/kg	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	870	87	999	863	86	1	70-135	35	
	C12-C28 Diesel Range Hydrocarbons		<15.0	999	922	92	999	924	92	0	70-135	35	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451750

Lab Batch #: 900794

Project ID:

Date Analyzed: 11/13/2012

Date Prepared: 11/13/2012

Analyst: TTE

QC- Sample ID: 451750-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	<1.16	116	116	100	80-120	

Matrix Spike Percent Recovery [D] = $100 \cdot (C-A)/B$

Relative Percent Difference [E] = $200 \cdot (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

· Below Reporting Limit

Work Order #: 451750

Lab Batch ID: 900187

Date Analyzed: 11/03/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451750-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/03/2012 Analyst: ZHO

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	Benzene	<0.00112	0.112	0.0779	70	0.114	0.0877	77	12	62-132	25	
	Toluene	<0.00112	0.112	0.0798	71	0.114	0.0922	81	14	66-124	25	
	Ethylbenzene	<0.00112	0.112	0.0881	79	0.114	0.0999	88	13	71-134	25	
	m,p-Xylenes	<0.00225	0.225	0.181	80	0.228	0.206	90	13	69-128	25	
	o-Xylene	<0.00112	0.112	0.0941	84	0.114	0.105	92	11	72-131	25	

Lab Batch ID: 900090

Date Analyzed: 11/02/2012

Reporting Units: mg/kg

QC- Sample ID: 451783-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/02/2012 Analyst: KEB

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod Analytes	Parent Sample Result	Spike Added	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	[A]	[B]	[C]	[D]	[E]	[F]	[G]					
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	881	85	1040	912	88	3	70-135	35		
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	899	86	1040	904	87	1	70-135	35		

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451750

Lab Batch #: 900210

Project ID:

Date Analyzed: 11/05/2012 11:10

Date Prepared: 11/05/2012

Analyst: WRU

QC- Sample ID: 451789-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.22	5.49	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451750

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 HNO ₃ ,HCL, H ₂ SO ₄ ?	Yes
#22 >10 for all samples preserved with NaAsO ₂ +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 451752
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451752**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451752. 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. 451752 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 451752



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 13 G-1	S	10-30-12 13:30		451752-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451752

Report Date: 12-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-900354 BTEX by SW 8260B
SW8260BTX

Batch 900354, 1,2-Dichloroethane-D4 recovered above QC limits . Matrix interferences is suspected; data confirmed by MS/MSD.

Samples affected are: 451752-001 S,451752-001 SD,451752-001.

Certificate of Analysis Summary 451752

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Southern Union Gas Landfarm



Project Id:
Contact: Joel Lowry
Project Location: Lea County, New Mexico
Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 12-NOV-12
Project Manager: Nicholas Straccione

<i>Analysis Requested</i>		Lab Id:	451752-001			
		Field Id:	VZ Cell 13 G-1			
		Depth:				
		Matrix:	SOIL			
		Sampled:	Oct-30-12 13:30			
BTEX by SW 8260B SUB: TX104704215	Extracted:	Nov-05-12 15:00				
	Analyzed:	Nov-05-12 15:19				
	Units/RL:	mg/kg RL				
	Benzene	ND 0.00103				
	Toluene	ND 0.00103				
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 SUB: TX104704215	Extracted:	Nov-07-12 02:25				
	Analyzed:	Nov-07-12 02:25				
	Units/RL:	mg/kg RL				
Chloride		30.9 1.06				
Percent Moisture	Extracted:					
	Analyzed:	Nov-05-12 11:10				
	Units/RL:	% RL				
Percent Moisture		5.28 1.00				
TPH By SW8015 Mod	Extracted:	Nov-09-12 13:30				
	Analyzed:	Nov-09-12 17:21				
	Units/RL:	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		ND 15.8				
C12-C28 Diesel Range Hydrocarbons		ND 15.8				
C28-C35 Oil Range Hydrocarbons		ND 15.8				
Total TPH		ND 15.8				

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



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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **SQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451752,

Project ID:

Lab Batch #: 900354

Sample: 451752-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 15:19

SURROGATE RECOVERY STUDY

BTX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0559	0.0500	112	74-126	
1,2-Dichloroethane-D4	0.0634	0.0500	127	80-120	*
Toluene-D8	0.0474	0.0500	95	73-132	
4-Bromofluorobenzene	0.0487	0.0500	97	58-152	

Lab Batch #: 900586

Sample: 451752-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/09/12 17:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	100	99.9	100	70-135	
o-Terphenyl	47.4	50.0	95	70-135	

Lab Batch #: 900354

Sample: 629623-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 14:49

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0528	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0590	0.0500	118	80-120	
Toluene-D8	0.0509	0.0500	102	73-132	
4-Bromofluorobenzene	0.0499	0.0500	100	58-152	

Lab Batch #: 900586

Sample: 629743-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	52.0	50.1	104	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451752,

Project ID:

Lab Batch #: 900354

Sample: 629623-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 13:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0509	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0527	0.0500	105	80-120	
Toluene-D8	0.0501	0.0500	100	73-132	
4-Bromofluorobenzene	0.0485	0.0500	97	58-152	

Lab Batch #: 900586

Sample: 629743-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 15:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	99.9	106	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 900354

Sample: 629623-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 13:43

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0502	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0543	0.0500	109	80-120	
Toluene-D8	0.0475	0.0500	95	73-132	
4-Bromofluorobenzene	0.0491	0.0500	98	58-152	

Lab Batch #: 900586

Sample: 629743-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	64.7	50.0	129	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

II results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451752,

Project ID:

Lab Batch #: 900354

Sample: 451752-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 15:50

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0555	0.0500	111	74-126	
1,2-Dichloroethane-D4	0.0625	0.0500	125	80-120	**
Toluene-D8	0.0491	0.0500	98	73-132	
4-Bromofluorobenzene	0.0501	0.0500	100	58-152	

Lab Batch #: 900586

Sample: 451773-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	60.1	50.0	120	70-135	

Lab Batch #: 900354

Sample: 451752-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 16:12

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0542	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0632	0.0500	126	80-120	**
Toluene-D8	0.0505	0.0500	101	73-132	
4-Bromofluorobenzene	0.0494	0.0500	99	58-152	

Lab Batch #: 900586

Sample: 451773-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 05:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	56.9	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451752

Analyst: ZHO

Lab Batch ID: 900354

Sample: 629623-1-BKS

Units: mg/kg

Date Prepared: 11/05/2012
Batch #: 1

Project ID:
Date Analyzed: 11/05/2012
Matrix: Solid

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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
BTEX by SW 8260B											
Benzene	<0.00100	0.100	0.0841	84	0.100	0.0962	96	13	62-132	25	
Toluene	<0.00100	0.100	0.0821	82	0.100	0.0895	90	9	66-124	25	
Ethylbenzene	<0.00100	0.100	0.0874	87	0.100	0.0994	99	13	71-134	25	
m,p-Xylenes	<0.00200	0.200	0.178	89	0.200	0.203	102	13	69-128	25	
o-Xylene	<0.00100	0.100	0.0867	87	0.100	0.0994	99	14	72-131	25	

Analyst: DAQ

Lab Batch ID: 900331

Sample: 629606-1-BKS

Units: mg/kg

Date Prepared: 11/06/2012
Batch #: 1

Date Analyzed: 11/06/2012
Matrix: Solid

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.977	97.7	97.9	100	94.2	95.7	102	2	80-120	20	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes

Project Name: Southern Union Gas Landfarm

Work Order #: 451752

Analyst: KEB

Lab Batch ID: 900586

Sample: 629743-1-BKS

Date Prepared: 11/09/2012

Batch #: 1

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	970	97	999	1040	104	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	956	96	999	1020	102	6	70-135	35	

Relative Percent Difference $RPD = 200 * [(C-F)/(C+F)]$
Blank Spike Recovery $[D] = 100 * (C)/[B]$
Blank Spike Duplicate Recovery $[G] = 100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451752

Lab Batch #: 900331

Project ID:

Date Analyzed: 11/06/2012

Date Prepared: 11/06/2012

Analyst: DAQ

QC- Sample ID: 451779-005 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2.63	98.8	104	103	80-120	

Lab Batch #: 900331

Date Analyzed: 11/06/2012

Date Prepared: 11/06/2012

Analyst: DAQ

QC- Sample ID: 451785-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	2.31	107	112	103	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit

Work Order #: 451752

Lab Batch ID: 900354

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451752-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: ZHO

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY														
Reporting Units: mg/kg	BTEX by SW 8260B	Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
			Benzene	<0.00101	0.101	0.0879	87	0.107	0.105	98	18	62-132	25	
			Toluene	<0.00101	0.101	0.0824	82	0.107	0.105	98	24	66-124	25	
			Ethylbenzene	<0.00101	0.101	0.0849	84	0.107	0.104	97	20	71-134	25	
			m,p-Xylenes	<0.00203	0.203	0.174	86	0.214	0.211	99	19	69-128	25	
			o-Xylene	<0.00101	0.101	0.0863	85	0.107	0.105	98	20	72-131	25	

Lab Batch ID: 900586

Date Analyzed: 11/10/2012

Reporting Units: mg/kg

QC- Sample ID: 451773-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/09/2012 Analyst: KEB

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
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	<16.7	1110	1120	101	1110	1070	96	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.7	1110	1140	103	1110	1100	99	4	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \cdot (C-A)/B$
Relative Percent Difference $RPD = 200 \cdot |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \cdot (F-A)/E$

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



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451752

Lab Batch #: 900210

Project ID:

Date Analyzed: 11/05/2012 11:10

Date Prepared: 11/05/2012

Analyst: WRU

QC- Sample ID: 451789-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.22	5.49	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451752

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451759
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

08-NOV-12

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)



08-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451759**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451759. 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. 451759 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 451759



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 14 G-1	S	10-31-12 13:00		451759-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: Southern Union Gas Landfarm



Project ID:
Work Order Number: 451759

Report Date: 08-NOV-12
Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 451759
Southern Union Gas Services- Monahans, Monahans, TX
Project Name: Southern Union Gas Landfarm



Project Id: Contact: Joel Lowry
Project Location: Lea County, New Mexico
Date Received in Lab: Thu Nov-01-12 12:20 pm
Report Date: 08-NOV-12
Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	451759-001			
	Field Id:	VZ Cell 14 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Oct-31-12 13:00			
BTEX by SW 8260B SUB: TX104704215	Extracted:	Nov-05-12 11:24			
	Analyzed:	Nov-05-12 11:40			
	Units/RL:	mg/kg RL			
	Benzene	ND 0.00113			
	Toluene	ND 0.00113			
	Ethylbenzene	ND 0.00113			
	m,p-Xylenes	ND 0.00225			
	o-Xylene	ND 0.00113			
	Total Xylenes	ND 0.00113			
	Total BTEX	ND 0.00113			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-07-12 18:29			
	Analyzed:	Nov-07-12 18:29			
	Units/RL:	mg/kg RL			
	Chloride	27.2 i.i2			
Percent Moisture	Extracted:				
	Analyzed:	Nov-05-12 11:55			
	Units/RL:	% RL			
	Percent Moisture	11.3 1.00			
TPH By SW8015 Mod	Extracted:	Nov-05-12 07:00			
	Analyzed:	Nov-05-12 21:35			
	Units/RL:	mg/kg RL			
	C6-C12 Gasoline Range Hydrocarbons	ND 16.9			
	C12-C28 Diesel Range Hydrocarbons	ND 16.9			
	C28-C35 Oil Range Hydrocarbons	ND 16.9			
	Total TPH	ND 16.9			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- * Surrogate recovered outside laboratory control limit.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- MDL** Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection
- PQL** Practical Quantitation Limit **SQL** Sample Quantitation Limit **LOQ** Limit of Quantitation
- DL** Method Detection Limit
- NC** Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451759,

Project ID:

Lab Batch #: 900281

Sample: 451759-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 11:40

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0470	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0447	0.0500	89	80-120	
Toluene-D8	0.0498	0.0500	100	73-132	
4-Bromofluorobenzene	0.0511	0.0500	102	58-152	

Lab Batch #: 900217

Sample: 451759-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 21:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	50.5	50.0	101	70-135	

Lab Batch #: 900217

Sample: 629522-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.4	99.7	97	70-135	
o-Terphenyl	47.1	49.9	94	70-135	

Lab Batch #: 900281

Sample: 629552-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 11:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0462	0.0500	92	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	
4-Bromofluorobenzene	0.0489	0.0500	98	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451759,

Project ID:

Lab Batch #: 900217

Sample: 629522-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.1	99.9	96	70-135	
o-Terphenyl	57.8	50.0	116	70-135	

Lab Batch #: 900281

Sample: 629552-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:47

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0449	0.0500	90	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0497	0.0500	99	58-152	

Lab Batch #: 900217

Sample: 629522-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 09:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	100	99.8	100	70-135	
o-Terphenyl	58.7	49.9	118	70-135	

Lab Batch #: 900281

Sample: 629552-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/05/12 10:10

SURROGATE RECOVERY STUDY

BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0457	0.0500	91	74-126	
1,2-Dichloroethane-D4	0.0428	0.0500	86	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	
4-Bromofluorobenzene	0.0496	0.0500	99	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

If results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451759,

Project ID:

Lab Batch #: 900281

Sample: 451759-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:02

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0470	0.0500	94	74-126	
1,2-Dichloroethane-D4		0.0454	0.0500	91	80-120	
Toluene-D8		0.0494	0.0500	99	73-132	
4-Bromofluorobenzene		0.0534	0.0500	107	58-152	

Lab Batch #: 900217

Sample: 451793-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 09:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		107	100	107	70-135	
o-Terphenyl		61.4	50.1	123	70-135	

Lab Batch #: 900281

Sample: 451759-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/12 12:25

SURROGATE RECOVERY STUDY

BTEX by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0455	0.0500	91	74-126	
1,2-Dichloroethane-D4		0.0437	0.0500	87	80-120	
Toluene-D8		0.0504	0.0500	101	73-132	
4-Bromofluorobenzene		0.0555	0.0500	111	58-152	

Lab Batch #: 900217

Sample: 451793-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/12 10:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		105	100	105	70-135	
o-Terphenyl		63.0	50.1	126	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: Southern Union Gas Landfarm

Work Order #: 451759

Analyst: MCH

Lab Batch ID: 900281

Sample: 629552-1-BKS

Date Prepared: 11/05/2012

Batch #: 1

Project ID:

Date Analyzed: 11/05/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
Analytes	BTEX by SW 8260B											
	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	0.0972	97	0.100	0.0977	98	1	62-132	25	
	Toluene	<0.00100	0.100	0.0974	97	0.100	0.105	105	8	66-124	25	
	Ethylbenzene	<0.00100	0.100	0.108	108	0.100	0.111	111	3	71-134	25	
	m,p-Xylenes	<0.00200	0.200	0.216	108	0.200	0.225	113	4	69-128	25	
	o-Xylene	<0.00100	0.100	0.108	108	0.100	0.116	116	7	72-131	25	

Analyst: TTE

Lab Batch ID: 900477

Sample: 629684-1-BKS

Date Prepared: 11/07/2012

Batch #: 1

Date Analyzed: 11/07/2012

Matrix: 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	<1.00	100	99.0	99	100	98.9	99	0	80-120	20

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$

Blank Spike Recovery [D] = $100 * (C/[B])$

Blank Spike Duplicate Recovery [G] = $100 * (F/[E])$

All results are based on MDL and Validated for QC Purposes

Project Name: Southern Union Gas Landfarm

Work Order #: 451759

Analyst: KEB

Lab Batch ID: 900217

Sample: 629522-1-BKS

Date Prepared: 11/05/2012

Batch #: 1

Project ID:

Date Analyzed: 11/05/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
C6-C12 Gasoline Range Hydrocarbons		<15.0	999	961	96	998	988	99	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons		<15.0	999	963	96	998	978	98	2	70-135	35	

Relative Percent Difference $RPD = 200 * [(C-F)/(C+F)]$
Blank Spike Recovery $[D] = 100 * (C)/[B]$
Blank Spike Duplicate Recovery $[G] = 100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451759

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Project ID:

Analyst: TTE

QC- Sample ID: 451762-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.10	110	111	101	80-120	

Lab Batch #: 900477

Date Analyzed: 11/07/2012

Date Prepared: 11/07/2012

Analyst: TTE

QC- Sample ID: 451776-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.64	116	120	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit

Work Order #: 451759

Lab Batch ID: 900281

Date Analyzed: 11/05/2012

Reporting Units: mg/kg

Project ID:

QC- Sample ID: 451759-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: MCH

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Benzene	<0.00113	0.113	0.112	99	0.112	0.107	96	5	62-132	25
	Toluene	<0.00113	0.113	0.122	108	0.112	0.118	105	3	66-124	25
	Ethylbenzene	<0.00113	0.113	0.121	107	0.112	0.125	112	3	71-134	25
	m,p-Xylenes	<0.00225	0.225	0.256	114	0.225	0.257	114	0	69-128	25
	o-Xylene	<0.00113	0.113	0.125	111	0.112	0.126	113	1	72-131	25

Lab Batch ID: 900217

Date Analyzed: 11/06/2012

Reporting Units: mg/kg

QC- Sample ID: 451793-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/05/2012 Analyst: KEB

Reporting Units: mg/kg											
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod Analytes	Parent Sample Result	Spike Added	Spiked Sample Result	Spiked Sample %R	Spike Added	Duplicate Sample Result	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
	[A]	[B]	[C]	[D]	[E]	[F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.9	1060	1050	99	1060	1070	101	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	164	1060	1180	96	1060	1200	98	2	70-135	35	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451759

Lab Batch #: 900210

Date Analyzed: 11/05/2012 11:10

Date Prepared: 11/05/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451789-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.22	5.49	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451759

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	9.7
#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 451757
for
Southern Union Gas Services- Monahans

Project Manager: Joel Lowry
Southern Union Gas Landfarm

12-NOV-12

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)



12-NOV-12

Project Manager: **Joel Lowry**
Southern Union Gas Services- Monahans
801 South Loop 464
Monahans, TX 79756

Reference: XENCO Report No: **451757**
Southern Union Gas Landfarm
Project Address: Lea County, New Mexico

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 451757. 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. 451757 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 451757



Southern Union Gas Services- Monahans, Monahans, TX

Southern Union Gas Landfarm

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VZ Cell 15 G-1	S	10-30-12 13:45		451757-001



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans

Project Name: Southern Union Gas Landfarm



Project ID:

Work Order Number: 451757

Report Date: 12-NOV-12

Date Received: 11/01/2012

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 451757

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: Southern Union Gas Landfarm



Project Id: **Contact: Joel Lowry**
 Project Location: **Lea County, New Mexico**
 Date Received in Lab: **Thu Nov-01-12 12:20 pm**
 Report Date: **12-NOV-12**
 Project Manager: **Nicholas Straccione**

Analysis Requested	Lab Id:	451757-001			
	Field Id:	VZ Cell 15 G-1			
	Depth:				
	Matrix:	SOIL			
	Sampled:	Oct-30-12 13:45			
BTEX-MTBE by SW 8260B SUB: TX104704215	Extracted:	Nov-03-12 16:08			
	Analyzed:	Nov-03-12 18:07			
	Units/RL:	mg/kg RL			
		ND 0.00557			
		ND 0.00111			
		ND 0.00111			
		ND 0.00111			
		ND 0.00223			
		ND 0.00111			
		ND 0.00111			
		ND 0.00111			
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Nov-07-12 17:41			
	Analyzed:	Nov-07-12 17:41			
	Units/RL:	mg/kg RL			
		8.25 1.09			
Percent Moisture	Extracted:				
	Analyzed:	Nov-05-12 11:55			
	Units/RL:	% RL			
		8.71 1.00			
TPH By SW8015 Mod	Extracted:	Nov-09-12 13:30			
	Analyzed:	Nov-09-12 17:52			
	Units/RL:	mg/kg RL			
		ND 16.4			
		ND 16.4			
		ND 16.4			
		ND 16.4			

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

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 quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451757,

Project ID:

Lab Batch #: 900187

Sample: 451757-001 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/03/12 18:07

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0496	0.0500	99	74-126	
1,2-Dichloroethane-D4		0.0552	0.0500	110	80-120	
Toluene-D8		0.0492	0.0500	98	73-132	
4-Bromofluorobenzene		0.0490	0.0500	98	58-152	

Lab Batch #: 900586

Sample: 451757-001 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 11/09/12 17:52

SURROGATE RECOVERY STUDY

Units: mg/kg		Date Analyzed: 11/09/12 17:52		Sample Name: 1200		

Lab Batch #: 900187

Sample: 629508-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/03/12 15:54

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4		0.0499	0.0500	100	80-120	
Toluene-D8		0.0495	0.0500	99	73-132	
4-Bromofluorobenzene		0.0487	0.0500	97	58-152	

Lab Batch #: 900586

Sample: 629743-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:50

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		108	100	108	70-135	
o-Terphenyl		52.0	50.1	104	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451757,

Project ID:

Lab Batch #: 900187

Sample: 629508-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:20

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0434	0.0500	87	74-126	
1,2-Dichloroethane-D4	0.0489	0.0500	98	80-120	
Toluene-D8	0.0515	0.0500	103	73-132	
4-Bromofluorobenzene	0.0508	0.0500	102	58-152	

Lab Batch #: 900586

Sample: 629743-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 15:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	106	99.9	106	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 900187

Sample: 629508-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/03/12 14:44

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
Dibromofluoromethane	0.0458	0.0500	92	74-126	
1,2-Dichloroethane-D4	0.0487	0.0500	97	80-120	
Toluene-D8	0.0517	0.0500	103	73-132	
4-Bromofluorobenzene	0.0500	0.0500	100	58-152	

Lab Batch #: 900586

Sample: 629743-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/09/12 16:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	64.7	50.0	129	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Southern Union Gas Landfarm

Work Orders : 451757,

Lab Batch #: 900187

Sample: 451750-001 S / MS

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 16:54

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0485	0.0500	97	74-126	
1,2-Dichloroethane-D4		0.0510	0.0500	102	80-120	
Toluene-D8		0.0503	0.0500	101	73-132	
4-Bromofluorobenzene		0.0508	0.0500	102	58-152	

Lab Batch #: 900586

Sample: 451773-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		110	100	110	70-135	
o-Terphenyl		60.1	50.0	120	70-135	

Lab Batch #: 900187

Sample: 451750-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/03/12 17:17

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
Dibromofluoromethane		0.0459	0.0500	92	74-126	
1,2-Dichloroethane-D4		0.0527	0.0500	105	80-120	
Toluene-D8		0.0508	0.0500	102	73-132	
4-Bromofluorobenzene		0.0502	0.0500	100	58-152	

Lab Batch #: 900586

Sample: 451773-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/12 05:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		107	100	107	70-135	
o-Terphenyl		56.9	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451757

Analyst: ZHO

Lab Batch ID: 900187

Sample: 629508-1-BKS

Date Prepared: 11/03/2012

Batch #: 1

Project ID:

Date Analyzed: 11/03/2012

Matrix: Solid

Units: mg/kg

BTEX-MTBE by SW 8260B

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg												
BTEx-MTBE by SW 8260B		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
MTBE		<0.00500	0.500	0.405	81	0.500	0.437	87	8	68-138	25	
Benzene		<0.00100	0.100	0.0853	85	0.100	0.0872	87	2	62-132	25	
Toluene		<0.00100	0.100	0.0885	89	0.100	0.0878	88	1	66-124	25	
Ethylbenzene		<0.00100	0.100	0.0925	93	0.100	0.0922	92	0	71-134	25	
m,p-Xylenes		<0.00200	0.200	0.189	95	0.200	0.188	94	1	69-128	25	
o-Xylene		<0.00100	0.100	0.0947	95	0.100	0.0957	96	1	72-131	25	

Analyst: TTE

Lab Batch ID: 900477

Sample: 629684-1-BKS

Date Prepared: 11/07/2012

Batch #: 1

Date Analyzed: 11/07/2012

Matrix: Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
Units: mg/kg	Inorganic Anions by EPA 300/300.1	Analytes	Blank	Spike	Blank	Blank	Spike	Blank	Blk. Spk	RPD	Control	Flag
			Sample Result [A]	Added [B]	Spike Result [C]	Spike %R [D]	Added [E]	Spike Duplicate Result [F]	Dup. %R [G]	%	Limits %R	%RPD
		Chloride	<1.00	100	99.0	99	100	98.9	99	0	80-120	20

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: Southern Union Gas Landfarm

Work Order #: 451757

Analyst: KEB

Lab Batch ID: 900586

Sample: 629743-1-BKS

Date Prepared: 11/09/2012

Batch #: 1

Project ID:

Date Analyzed: 11/09/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	Units: mg/kg										
	TPH By SW8015 Mod										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	970	97	999	1040	104	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	956	96	999	1020	102	6	70-135	35	

Relative Percent Difference $RPD = 200 * [(C-F)/(C+F)]$
Blank Spike Recovery $[D] = 100 * (C)/[B]$
Blank Spike Duplicate Recovery $[G] = 100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: Southern Union Gas Landfarm

Work Order #: 451757

Lab Batch #: 900477

Date Analyzed: 11/07/2012

QC- Sample ID: 451762-001 S

Reporting Units: mg/kg

Project ID:

Analyst: TTE

Date Prepared: 11/07/2012

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.10	110	111	101	80-120	

Lab Batch #: 900477

Date Analyzed: 11/07/2012

QC- Sample ID: 451776-001 S

Reporting Units: mg/kg

Date Prepared: 11/07/2012

Analyst: TTE

Batch #: 1

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	6.64	116	120	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

Below Reporting Limit

Work Order #: 451757

Lab Batch ID: 900187

Date Analyzed: 11/03/2012

Reporting Units: mg/kg

Project ID:

QC-Sample ID: 451750-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/03/2012 Analyst: ZHO

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
BTEX-MTBE by SW 8260B		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
MTBE		<0.00561	0.561	0.451	80	0.569	0.467	82	3	68-138	25	
Benzene		<0.00112	0.112	0.0779	70	0.114	0.0877	77	12	62-132	25	
Toluene		<0.00112	0.112	0.0798	71	0.114	0.0922	81	14	66-124	25	
Ethylbenzene		<0.00112	0.112	0.0881	79	0.114	0.0999	88	13	71-134	25	
m,p-Xylenes		<0.00225	0.225	0.181	80	0.228	0.206	90	13	69-128	25	
o-Xylene		<0.00112	0.112	0.0941	84	0.114	0.105	92	11	72-131	25	

Lab Batch ID: 900586

Date Analyzed: 11/10/2012

Reporting Units: mg/kg

QC-Sample ID: 451773-001 S Batch #: 1 Matrix: Soil

Date Prepared: 11/09/2012 Analyst: KEB

Reporting Units: mg/kg												
MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
C6-C12 Gasoline Range Hydrocarbons	<16.7	1110	1120	101	1110	1070	96	5	70-135	35		
C12-C28 Diesel Range Hydrocarbons	<16.7	1110	1140	103	1110	1100	99	4	70-135	35		

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: Southern Union Gas Landfarm

Work Order #: 451757

Lab Batch #: 900210

Date Analyzed: 11/05/2012 11:10

Date Prepared: 11/05/2012

Project ID:

Analyst: WRU

QC- Sample ID: 451789-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.22	5.49	5	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



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 11/01/2012 12:20:00 PM

Work Order #: 451757

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	9.7
#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: _____

PHOTOGRAPHS



Southern Union Landfarm Cell 1



Southern Union Landfarm Cell 2



Southern Union Landfarm Cell 3



Southern Union Landfarm Cell 4



Southern Union Landfarm Cell 5



Southern Union Landfarm Cell 6



Southern Union Landfarm Cell 7



Southern Union Landfarm Cell 8



Southern Union Landfarm Cell 9



Southern Union Landfarm Cell 10



Southern Union Landfarm Cell 11



Southern Union Landfarm Cell 12



Southern Union Landfarm Cell 13



Southern Union Landfarm Cell 14



Southern Union Landfarm Cell 15