1R - 952

REPORTS

2008-2009



November 21, 2008

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RECEIVED 2008 DEC 3 PM 1 01

Mr. Larry Johnson Environmental Engineer New Mexico Oil Conservation Division – District 1 1625 North French Drive Hobbs, New Mexico 88240

Re: 1RP-952 - Notification of Groundwater Impairment - North 10" Pipeline Release Targa Midstream Services, L.P., Unit B (NW/4, NE/4), Section 22, Township 22 South, Range 37 East, Lea County, New Mexico 21

Dear Mr. Johnson:

This letter is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of Targa Midstream Services, L.P. (Targa) by Larson & Associates Inc. (LAI), its consultant, to report groundwater impairment, as a required by 19.15.1.19 (B) (2) (a) and (b) NMAC, from a pipeline release known as the North 10-Inch pipeline. Contact information for Targa is as follows:

Name:	Mr. Don Embrey
Address:	6 Desta Drive, Suite 3300
	Midland, Texas 79705
Telephone:	(432) 688-0555
Fax:	(432) 688-0552
Email:	dembrey@targaresources.com

Setting

The release occurred about 2.8 miles northeast of Eunice, New Mexico, in Unit B (NW/4, NE/4), Section 22, Township 22 South, Range 37 East in Lea County, New Mexico. The release is located at latitude 32° 28' 05.36" north and longitude 103° 08' 52.41" west. The surface estate is owned by Mr. Charlie Bettis and is used for livestock grazing and oil and gas production. A railroad right-of-way is located about 250 feet west of the release. The surface elevation is approximately 3410 feet above mean sea level (MSL) and slope gently east and southeast toward Monument Draw located about 4,500 feet east of the release. The nearest residence and domestic well is located about 900 feet north (up and cross gradient) of the release.

Groundwater occurs in the Ogallala formation at approximately 58 feet below ground surface (BGS) and the regional groundwater flow direction is from northwest to southeast. The Ogallala formation is overlain by unconsolidated windblown sand. A layer of moderately hard to dense caliche (commonly referred to as caprock) was observed below the windblown sand between approximately 15 and 30 feet BGS. The Ogallala formation consists of interbedded units of sand, silt, clay, gravel, and is underlain by the Chinle formation (Triassic) of the Dockum group. The Chinle formation consists of interbedded units of clay, shale, mudstone, sandstone and

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siltstone. The Dockum group is generally referred to as "red bed". The Chinle formation was encountered in borings MW-1 and MW-2 at approximately 70 and 68 feet BGS, respectively. Figure 1 presents a Google® image of the release and vicinity. Figure 2 presents a location and topographic map extracted from the U.S.G.S. 7.5 - minute topographic series map for the Eunice, New Mexico Quadrangle (1969).

Recommended remediation action levels (RRAL) benzene, toluene, ethylbenzene, xylene (BTEX) and total petroleum hydrocarbons (TPH) were calculated using published guidelines (Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1994) and the following criteria:

Ranking Criteria	Result	Ranking Score
Depth-to-Groundwater	50 – 99 Feet	10
Wellhead Protection Area	Yes	20
Distance to Surface Water Body	>1000 Horizontal Feet	0
		Total Score: 30

The following RRAL are assigned to the leak based on the total ranking score (30):

\triangleright	Benzene	10 mg/kg
\triangleright	Total BTEX	50 mg/kg
\triangleright	TPH	100 mg/kg

Background

The release occurred on August 16, 2002 and was reported to the OCD on form C-141. The reported volume released was less than 5 barrels (bbl) liquid. No product was recovered. Targa excavated soil from the release to expose, blind and abandon the pipeline. The excavated soil was piled on the north side of the release. Targa contracted Environmental Plus, Inc. (EPI) to delineate the release. EPI personnel investigated the release on July 19, 2005, August 29, 2005, August 31, 2005, October 24, 2005 and February 2, 2006, including collecting soil samples from the bottom of the excavation, backhoe trenches and machine-drilled (auger and air rotary) borings. Two (2) machine-drilled borings (BH-1 and SB-4) were advanced below the static groundwater level, and a temporary monitoring well (TMW-1) was installed in boring SB-4. On February 10, 2006, EPI personnel collected groundwater samples from the temporary well for laboratory methods of BTEX, chloride and sulfate. The temporary well was plugged following the investigation.

The investigation results were submitted to the OCD in a letter dated June 30, 2006 (Site Characterization and Soil Remediation Proposal, Targa Resources, Inc. – North 10-Inch Release Site (Ref. #210010), NW1/4 of the NE1/4, Section 22, T21S, R37E, Lea County, New Mexico) and requested approval for the following:

- 1) Collect grab-type soil samples from the excavation sidewalls;
- Based on laboratory analytical data, excavate hydrocarbon impacted soil from sidewalls (if necessary);
- 3) Dispose of impacted soil at a state approved disposal facility;
- 4) Install an impermeable barrier (i.e., compacted clay, poly-vinyl chloride or equivalent) on

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the excavation floor;

- 5) Backfill the excavation with clean soil and grade/contour to allow natural drainage;
- 6) Seed the area with a blend preferred by the landowner.

In September 2006, EPI deepened the excavation to approximately 11 feet BGS and expanded the sides to the current configuration. On October 16, 2006, twenty-one (21) soil samples (SW-1 through SW-21) were collected from the sides of the expanded excavation. Fourteen (14) samples were tested for chloride and reported concentrations from less than 16 mg/Kg ((SW-20) to 864 mg/Kg (SW-10). The highest chloride concentrations were observed near the southwest corner of the excavation in samples SW-8, 4' (608 mg/Kg) and SW-10, 4' (864 mg/Kg).

In summary, the EPI soil sample results reported no concentrations of benzene, BTEX and TPH above the calculated RRAL. The side samples indicated elevated chloride near the southwest corner of the excavation. Chloride in the lowermost soil sample, above groundwater, from boring BH-1 near the excavation center was 1,040 mg/Kg. The laboratory reported benzene in sample TMW-1 at 0.221 milligrams per liter (mg/L) and exceeded the New Mexico Water Quality Control Commission (WQCC) human health standard of 0.01 mg/L. Toluene (0.298 mg/L), ethylbenzene (0.037 mg/L) and xylene (0.075 mg/L) were less than the WQCC human health standards. Chloride and sulfate were reported in sample TMW-1 at 3,799 mg/L and 468 mg/L, respectively. The chloride value exceeded the WQCC domestic water quality standard of 250 mg/L.

Current Investigation

On October 29 and 30, 2008, Scarborough Drilling, Inc., under supervision from LAI, collected soil samples at six (6) locations (B1 through B4, MW-1 and MW-2) using an air-rotary rig and jam tube sampler. Soil samples were from each location at approximately 1, 5, 10, 15, 20, 30, 40 and 50 feet BGS, and analyzed by field method for organic vapors. No field headspace readings exceeded 100 parts per million, therefore, Xenco Laboratories, formerly Environmental Lab of Texas, Inc., analyzed the samples for TPH by method 8015 modified and chloride by method 300. Two (2) soil borings (MW-1 and MW-2) were completed as temporary monitoring wells to determine if groundwater has been impaired. Well MW-1 was installed approximately 150 feet northwest (up gradient) of the release and well MW-2 was installed approximately 150 feet southeast (down gradient) of the release. The borings were advanced to approximately 75 feet BGS and completed with about 20 feet of 2-inch schedule 40 PVC 0.010-inch factory-slotted screen. The well screen was placed near the bottom of the borings and extends into the entire saturated thickness of the Ogallala formation and above the groundwater surface observed during drilling. Figure 3 presents a site drawing showing the boring and monitoring well locations. Table 1 presents a summary of the field and laboratory analysis of soil samples. Appendix A presents the boring logs and temporary well completion forms. Appendix B presents the laboratory reports.

Referring to Table 1, TPH was below the RRAL (100 mg/Kg) in all samples. The chloride levels in the background boring (MW-1) ranged from 35.3 mg/Kg to 371 mg/Kg. Chloride was reported at 140 mg/Kg in the sample from 50 feet BGS. Chloride exceeded the maximum 507 North Marienfeld, Suite 200 ♦ Midland, Texas 79701 ♦ Ph. (432) 687-0901 ♦ Fax (432) 687-0456

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Boring	Sample (Feet)	Chloride (mg/Kg)
MW-2	30	281
MW-2	40	240
B1	15	581
B1	20	818
B1	30	1,230
B1	40	1,730
B1	50	590
B2	10	628
B2	15	707
B2	20	1,080
B2	30	3,310
B2	40	2,100
B2	50	1,840
B3	15	678
B3	20	429

background concentration (371 mg/Kg) in the following samples:

The chloride results confirm that the vertical limit of the release is the approximate depth of the static groundwater level. However, the lateral limit of the release was not determined during the investigation on October 29 and 30, 2008.

On October 30, 2008, following hand-bailing to develop the monitoring wells, groundwater samples were collected using dedicated disposable PVC bailers. The groundwater samples were labeled, properly preserved and delivered under chain of custody control to Xenco, which analyzed the samples by EPA methods for BTEX, dissolved metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver), anions, cations and total dissolved solids (TDS). Table 2a presents a summary of the BTEX. Table 2b presents a summary of the dissolved metals and cations. Table 2c presents a summary of the anions and TDS. Appendix A presents the laboratory reports. Appendix C presents photographs. Appendix D presents the initial and final C-141.

BTEX was not reported above the method detection limits or WQCC human health standards in the groundwater samples. No dissolved metals, except manganese, exceeded the WQCC human health or domestic water quality standards. Manganese was reported at 0.255 mg/L in sample well MW-1 and exceeded the WQCC domestic water quality standard of 0.2 mg/L. Chloride was reported at 190 mg/L and 824 mg/L in samples from wells MW-1 and MW-2, respectively. Chloride exceeded the WQCC domestic water quality standard (250 mg/L) in sample MW-2. TDS was 1,330 mg/L and 1,800 mg/L in samples MW-1 and MW-2, respectively, and exceeded the WQCC domestic water quality standard of 1,000 mg/L.

LAI personnel collected two (2) composite soil samples (SS-1 and SS-2) from the soil pile located north of the excavation. The samples were analyzed for TPH and chloride by methods

8015 modified and 300, respectively. The laboratory reported no TPH above the method detection limit and chloride was 532 mg/Kg and 1,190 mg/Kg, in samples SS-1 and SS-2, respectively.

Remediation and Delineation Proposal

Based on the results of the previous and current investigations, Targa proposes the following options to remediate and delineate the release:

- 1) Dispose of the contaminated soil piled north side of the excavation at a OCD approved disposal facility;
- 2) Install an impermeable barrier (i.e., compacted clay or 20-mil thickness polyethylene liner) in the bottom of the excavation, fill the excavation with clean soil, crown the surface for drainage and seed the surface to landowner specifications;
- 3) Install three (3) monitoring wells (MW-3, MW-4 and MW-5) to delineate the vadose zone and groundwater impact;
- 4) Analyze soil samples for chloride and groundwater samples for anions, cations and TDS;
- 5) Prepare a report that includes excavation closure summary, soil and groundwater investigation summary, geological logs and cross sections, iopleth maps for chloride and TDS concentrations in groundwater;
- 6) Groundwater remedial alternative.

Your approval of the remediation and delineation proposal is requested. Please contact Mr. Don Embrey with Targa at (432) 688-0555 or email <u>DEmbrey@targaresources.com</u> or myself at the contact information provided below, if you have questions. Sincerely,

Larson & Associates, Inc.

Mark J. Larson, PG, CPG, CGWP Sr. Project Manager / President

Encl.

Cc: Wayne Price – OCD Santa Fe James Lingnau - Targa Don Embrey – Targa TABLES

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Table 1 Targa Midstream Services, L.P. 1RP-952 Soil Analytical Data Summary North 10-Inch Release Unit B (NW/4, NE/4) Sec 22, T21S, R37E Lea County, New Mexico Project Number: 8-0132

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Sample ID	Date	PID	GRO	DRO	ТРН	Chlorides
Sample ID	Date	FID	C6-C12	C12-C28	C6-C28	Chiorides
RAL:					1,000	250
MW-1-1'	10/29/2008	0.7	<16.6	<16.6	<16.6	<5.00
MW-1-5'	10/29/2008	0.8	<16.2	<16.2	<16.2	35.3
MW-1-10'	10/29/2008	0.9	<17.1	<17.1	<17.1	371
MW-1-15'	10/29/2008	0.9	<15.8	<15.8	<15.8	171
MW-1-20'	10/29/2008	0.7	<15.7	<15.7	<15.7	110
MW-1-30'	10/29/2008	0.7	<16.8	<16.8	<16.8	82.7
MW-1-40'	10/29/2008	0.9	<16.6	<16.6	<16.6	90.7
MW-1-50'	10/29/2008	0.5	<16.6	<16.6	<16.6	140
MW-2-1'	10/30/2008	0.3	<16.8	<16.8	<16.8	<56.0
MW-2-5'	10/30/2008	0.4	<16.1	<16.1	<16.1	<53.5
MW-2-10'	10/30/2008	0.4	<16.9	<16.9	<16.9	<56.2
MW-2-15'	10/30/2008	0.3	<16.4	<16.4	<16.4	<109
MW-2-20'	10/30/2008	0.2	<15.4	<15.4	<15.4	<103
MW-2-30'	10/30/2008	0.0	<17.4	<17.4	<17.4	281
MW-2-40'	10/30/2008	0.0	<17.5	<17.5	<17.5	240
MW-2-50'	10/30/2008	0.0	<16.9	<16.9	<16.9	181
B1-1'	10/29/2008	0.3	<15.7	<15.7	<15.7	ູ <5.00
B1-5'	10/29/2008	0.3	<16.2	<16.2	<16.2	23.3
B1-10'	10/29/2008	0.3	<16.1	<16.1	<16.1	230
B1-15'	10/29/2008	0.3	<16.9	<16.9	<16.9	581
B1-20'	10/29/2008	0.4	<16.8	<16.8	<16.8	818
B1-30'	10/29/2008	0.2	<17.9	<17.9	<17.9	1,230
B1-40'	10/29/2008	0.2	<16.9	<16.9	<16.9	1,730
B1-50'	10/29/2008	0.2	<16.8	24.1	24.1	590
B2-1'	10/29/2008	0.2	<16.1	<16.1	<16.1	6.43
B2-5'	10/29/2008	0.3	<16.5	<16.5	<16.5	233
B2-10'	10/29/2008	0.2	<16.6	<16.6	<16.6	628
B2-15'	10/29/2008	0.2	<16.2	<16.2	<16.2	707
B2-20'	10/29/2008	0.2	<16.1	<16.1	<16.1	1,080
B2-30'	10/29/2008	0.0	<18.5	<18.5	<18.5	3,310
B2-40	10/29/2008	0.0	<17.0	<17.0	<17.0	2,100
B2-50'	10/29/2008	0.0	<17.1	<17.1	<17.1	1,840

Page 1 of 2

Table 1 Targa Midstream Services, L.P. 1RP-952 Soil Analytical Data Summary North 10-Inch Release Unit B (NW/4, NE/4) Sec 22, T21S, R37E Lea County, New Mexico Project Number: 8-0132

Sample ID	Date	PID	GRO C6-C12	DRO C12-C28	ТРН C6-C28	Chlorides
RAL:					1,000	250
B3-1'	10/29/2008	0.0	<15.7	<15.7	<15.7	<10.5
B3-5'	10/29/2008	0.0	<15.8	<15.8	<15.8	16.6
B3-10'	10/29/2008	0.0	<16.2	17.2	17.2	60.2
B3-15'	10/29/2008	0.0	<16.6	<16.6	<16.6	678
B3-20'	10/29/2008	0.0	<15.8	<15.8	<15.8	429
B3-30'	10/29/2008	0.0	<19.9	<19.9	<19.9	<13.3
B3-40'	10/29/2008	0.0	<16.0	<16.0	<16.0	<5.34
B3-50'	10/29/2008	0.0	<17.0	<17.0	<17.0	<11.3
B4-1'	10/30/2008	0.0	<16.4	<16.4	<16.4	240
B4-5'	10/30/2008	0.0	<15.6	<15.6	<15.6	181
B4-10'	10/30/2008	0.2	<16.6	<16.6	<16.6	<54.5
B4-15'	10/30/2008	0.0	<16.5	<16.5	<16.5	<52.0
B4-20'	10/30/2008	0.0	<16.0	<16.0	<16.0	<107
B4-30'	10/30/2008	0.0	<16.4	<16.4	<16.4	190
B4-40'	10/30/2008	0.0	<16.5	<16.5	<16.5	251
B4-50'	10/30/2008	0.0	<15.8	<15.8	<15.8	196
SS1	10/29/2008		<15.5	<15.5	<15.5	532
_SS2	10/29/2008		<15.9	<15.9	<15.9	1,190

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RAL - Regulatory Action Level

Total Petroleum Hydrocarbons analyzed via EPA SW Method 8015 Mod.

Chlorides analyzed via EPA Method 300.

All values reported in Milligrams per Kilogram - dry (mg/Kg, parts per million).

Bold indicates the analyte was detected.

Bold and blue indicates the value exceeds NMOCD requirements.

Table 2a Targa Midstream Services, L.P. 1RP-952 Groundwater Analytical Data Summary North 10-Inch Release Unit B (NW/4, NE/4) Sec 22, T21S, R37E Lea County, New Mexico Project Number: 8-0132

Sample ID	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX
RAL:		0.01	0.75	0.75	1	
MW-1	10/30/2008	<0.0010	<0.0020	<0.0010	<00010	<0.0050
MW-2	10/30/2008	<0.0010	<0.0020	<0.0010	<00010	<0.0050

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RAL - Regulatory Action Level

BTEX analyzed via EPA SW Method 8021B.

Bold indicates the analyte was detected.

Bold and blue indicates the value exceeds regulatory requirements.

Table 2b Targa Midstream Services, L.P. 1RP-952	Groundwater Analytical Data Summary North 10-Inch Release	Unit B (NW/4, NE/4) Sec 22, T21S, R37E	Project Number: 8-0132
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Sample ID	Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Lead
RAL:			0.1	1.0		0.01	-	0.05	0.05
MW-1	10/30/2008	>0.006	0.017	0.699	0.0012	<0.001	464	0.025	0.014
MW-2	10/30/2008	<0.006	0.016	0.409	0.0010	<0.001	282	0.022	0.010

Sample ID	Date	Manganese	Mercury	Nickel.	Potassium	Selenium	Silver	Sodium
RAL:		0.2	0.002	0.2		0.05	0.05	
MW-1	10/30/2008	0.255	<0.0001	0.037	13.6	0.014	<0.002	183
MW-2	10/30/2008	0.198	<0.0001	0.027	12.9	0.018	<0.002	302
Notes								

RAL - Regulatory Action Level

Metals except mercury analyzed via EPA SW Method 6020.

Mercury analyzed via EPA SW Method 7470A. **Bold** and blue indicates the value exceeds regulatory requirements.

Table 2c Targa Midstream Services, L.P. 1RP-952 Groundwater Analytical Data Summary North 10-Inch Release Unit B (NW/4, NE/4) Sec 22, T21S, R37E Lea County, New Mexico Project Number: 8-0132

Sample ID	Date	Total Alkalinity	Chlorides	Sulfate	Total Dissolved Solids
RAL:			250	600	1,000
MW-1	10/30/2008	156	190	511	1,330
MW-2	10/30/2008	208	824	303	1,800

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RAL - Regulatory Action Level

Bold and blue indicates the value exceeds regulatory requirements.

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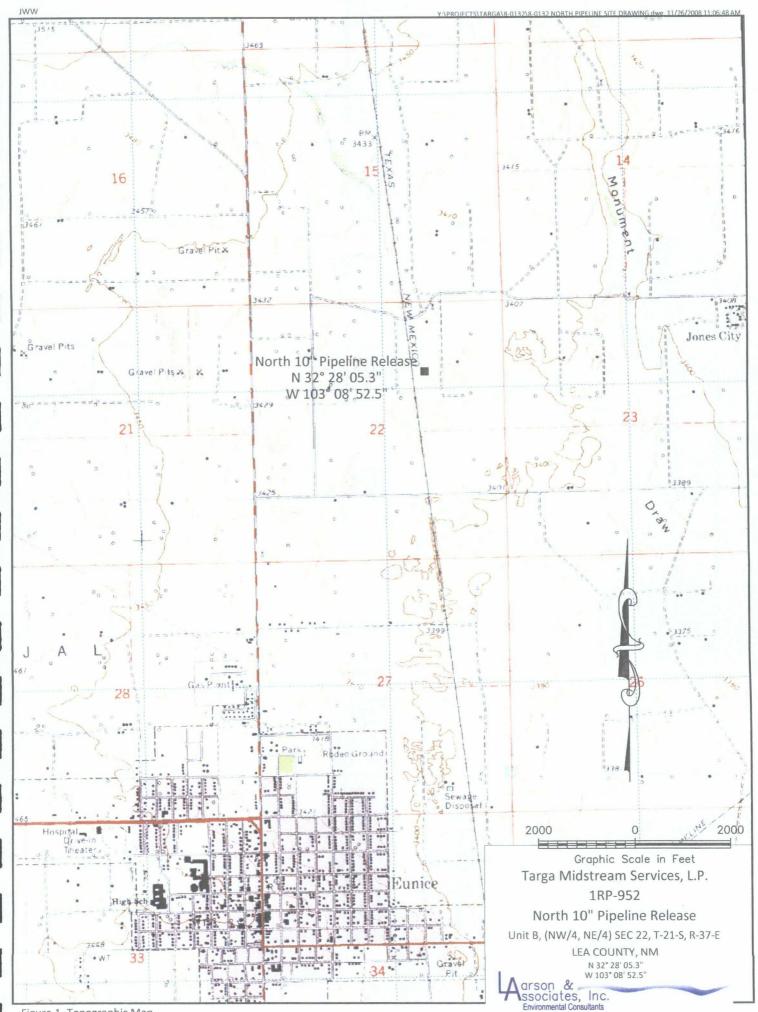
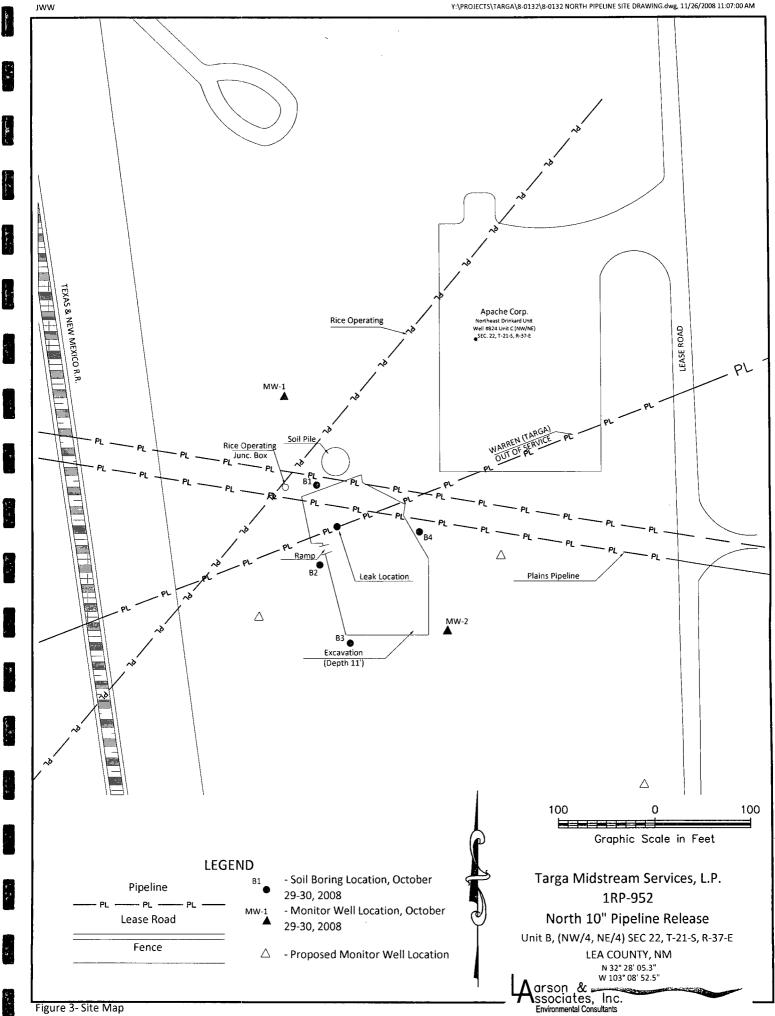


Figure 1- Topographic Map



Figure 2 - Aerial Map





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APPENDIX A

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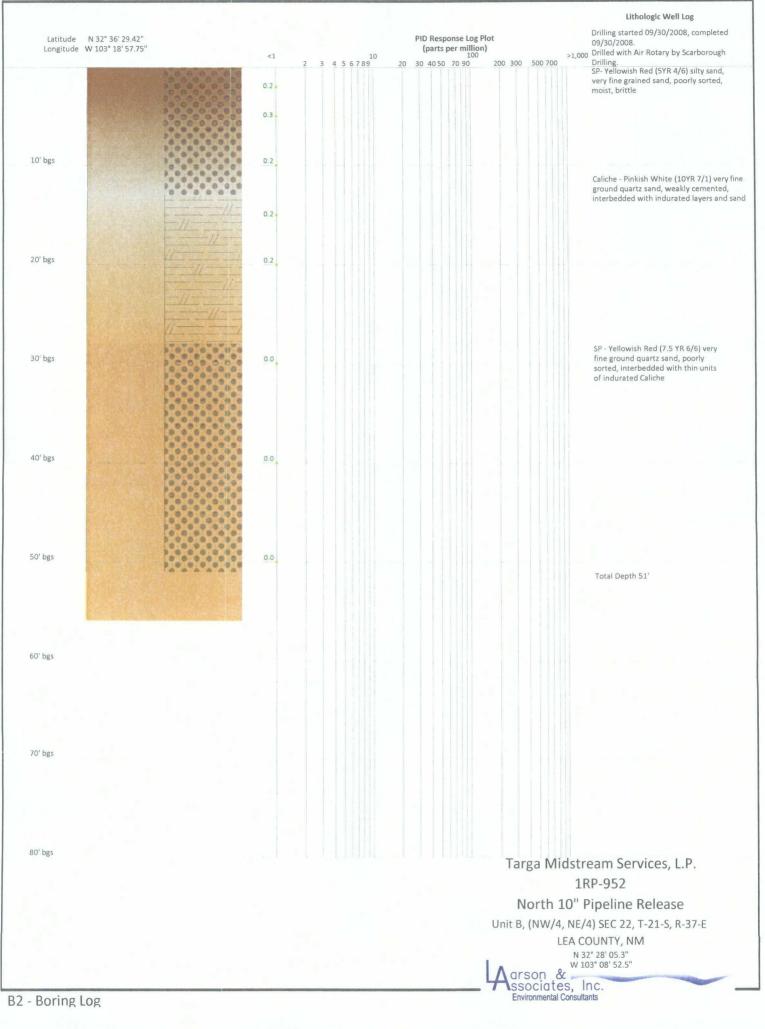
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Boring Logs and Well Completion Records

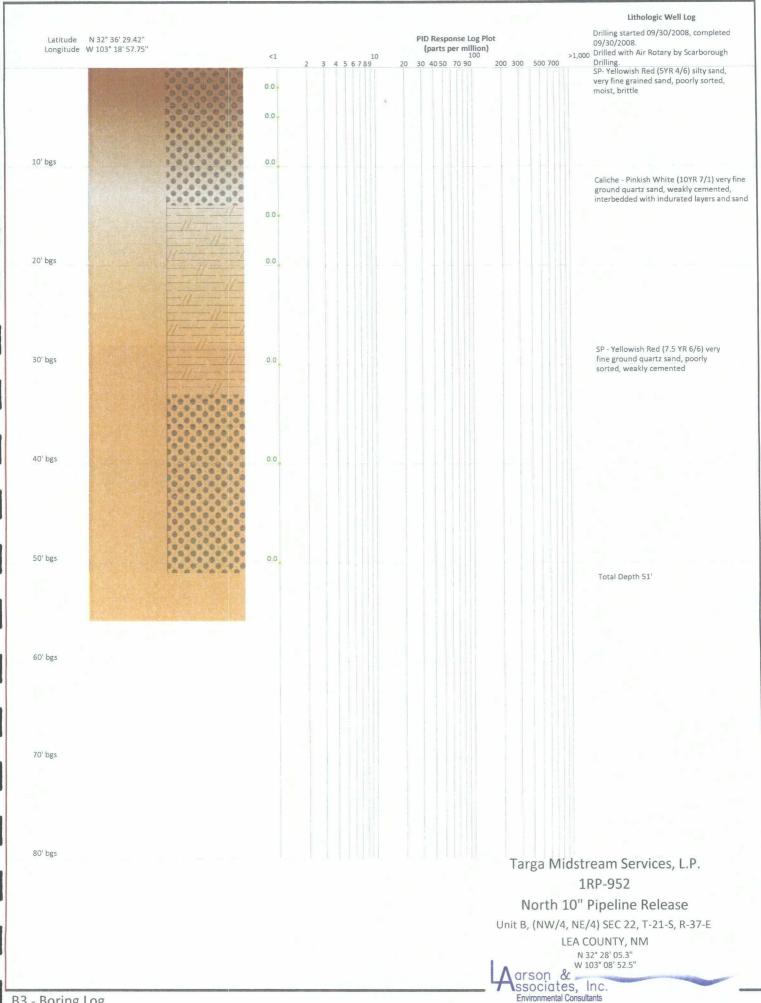


Latitude N 32° 36' 29.4: Longitude W 103° 18' 57.7	<1 2 3 4 5 6 7 8	PID Response Log Plot (parts per million) 10 9 20 30 40 50 70 90 200 300 5	Lithologic Well Log Drilling started 09/30/2008, complet 09/30/2008. >1,000 Drilled with Air Rotary by Scarboroug Drilling. SP- Yellowish Red (SYR 6/6) silty sam
	0.3		very fine grained sand, poorly sorted dry, brittle
10' bgs	0.3		Reddish Brown(5YR 6/6) below 10'
20' bgs	0.3		
			Interbedded with thin Caliche units below 20'
30' bgs	0.2		
40' bgs	0.2		
50' bgs	0.2		Total Depth 51'
60' bgs			
70' bgs			
80' bgs		Targ	a Midstream Services, L.P. 1RP-952
			rth 10" Pipeline Release NW/4, NE/4) SEC 22, T-21-S, R-37-E LEA COUNTY, NM

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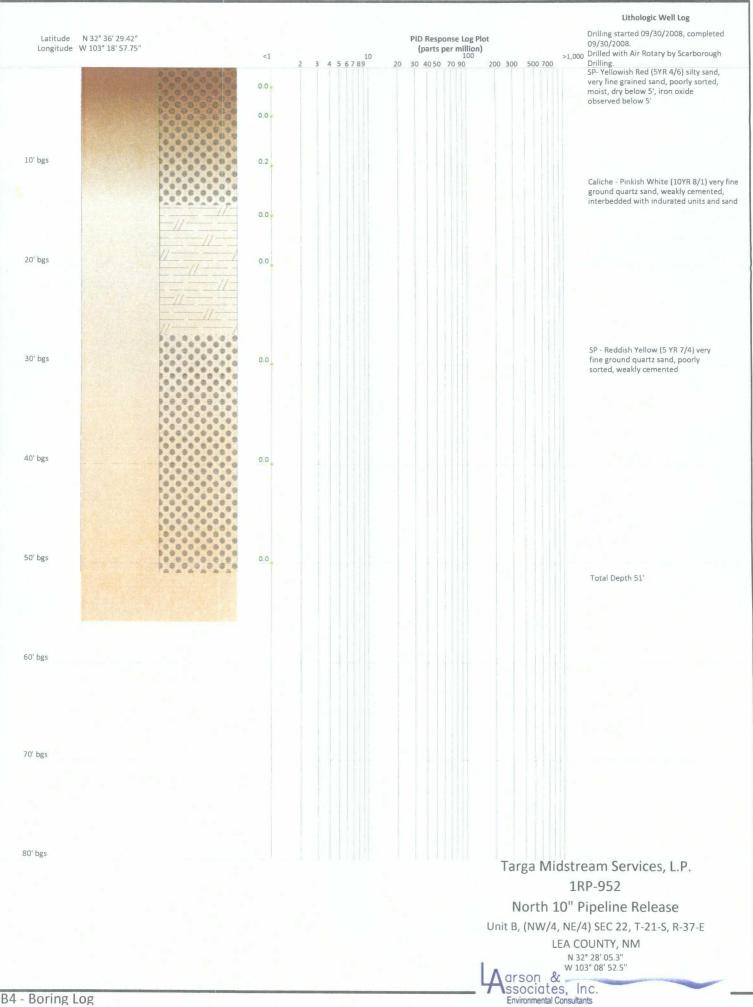


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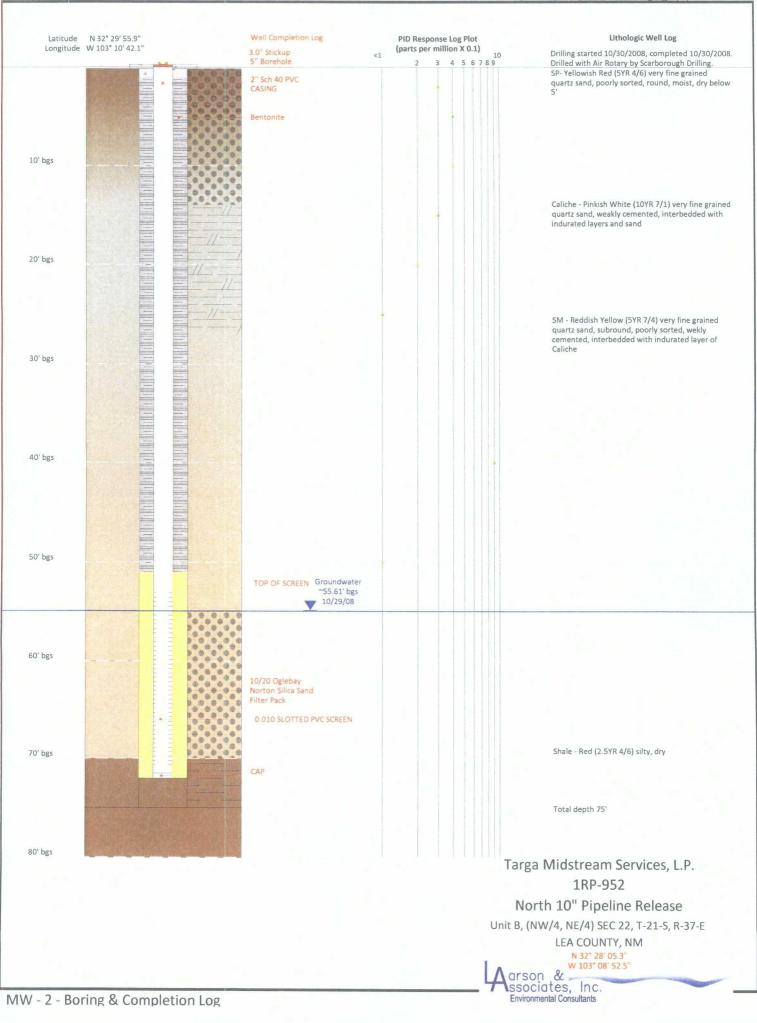


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Y:\PROJECTS\TARGA\8-0132\MW-1 Well Log.dwg, 11/25/2008 3:34:00 PM

Latitude N32 Longitude W10		Well Completion Log 1.95" Stickup 5" Borehole.	PID Response Log Plot (parts per million X 0.1) 10 2 3 4 5 6 7 8 9	Lithologic Well Log Drilling started 10/29/2008, completed 10/29/200 Drilled with Air Rotary by Scarborough Drilling.
	·	2" Sch 40 PVC CASING		SM- Yellowish Red (5YR 4/6) very fine grained quartz sand, round, moist, clay dry and brittle below 5',slightly mottled
		Bentonite		
10' bgs		20		
		-//-		Caliche - Pinkish White (10YR 4/6) very fine grain quartz sand, weakly cemented, interbedded with
				indurated layers and sand
20' bgs				
		-//-		
				SM - Pinkish White (2.5YR 7/4) very fine grained quartz sand, subround, poorly sorted, interbedd
30' bgs				with thin Caliche units
20 DR2				
40' bgs				
50' bgs				
		Groundwater ~57.90' bgs		
		∑ 10/29/08		
60' bgs				SM - Reddish Yellow (5YR 7/4) below 60'
		10/20 Oglebay Norton Silica Sand		
		6 Filter Pack 0.010 SLOTTED PVC SCREEN		
70' bgs				Shale - Red (2.5YR 4/6) silty, dry
		CAP		
				Total depth 75'
80' bgs				arga Midstream Services L. D.
				arga Midstream Services, L.P. 1RP-952
				North 10" Pipeline Release
				B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E
				LEA COUNTY, NM N 32° 28' 05.3"
			Λ	W 103° 08' 52.5"
V - 1 - Boring	g & Completion Log	2	\	arson & ssociates, Inc. Environmental Consultants

Y:\PROJECTS\TARGA\8-0132\MW-2 Well Log.dwg, 11/25/2008 3:40:59 PM



APPENDIX B

Laboratory Reports

Julian " No

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507 North Marienfeld, Suite 200 Midland, Texas 79701 Ph. (432) 687-0901 Fax (432) 687-0456

Analytical Report 316093

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Sere 2

for

Larson & Associates

Project Manager: Mark Larson

Midland/Odessa Standard List of Methods

8-0132

07-NOV-08





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12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215 - Odessa/Midland, TX T104704215-08-TX

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta



07-NOV-08

nelad

Project Manager: Mark Larson Larson & Associates P.O. Box 50685 Midland, TX 79710

Reference: XENCO Report No: 316093 Midland/Odessa Standard List of Methods Project Address:

Mark Larson:

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 316093. 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. 316093 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,

Brent Barron, II Odessa Laboratory Manager

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76.00

Sample Cross Reference 316093



Larson & Associates, Midland, TX

Midland/Odessa Standard List of Methods

_					
-	Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
عيد لأدف	MW-1-1'	S	Oct-29-08 10:10		316093-001
	MW-1-5'	S	Oct-29-08 10:15		316093-002
	MW-1-10'	S	Oct-29-08 10:18		316093 - 003
. 8 . 4	MW-1-15'	S	Oct-29-08 10:22		316093-004
ie.	MW-1-20'	S	Oct-29-08 10:25		316093-005
	MW-1-30'	S	Oct-29-08 10:36		316093-006
	MW-1-40'	S	Oct-29-08 10:45		316093-007
	MW-1-50'	S	Oct-29-08 11:00		316093-008
	B1-1'	S	Oct-29-08 13:37		316093-009
	B1-5'	S	Oct-29-08 13:51		316093-010
	B1-10'	S	Oct-29-08 13:55		316093-011
2	B1-15'	S	Oct-29-08 14:00		316093-012
	B1-20'	S	Oct-29-08 14:03		316093-013
	B1-30'	S	Oct-29-08 14:11		316093-014
as' _{y t}	B1-40'	S	Oct-29-08 14:19		316093-015
	B1-50'	S	Oct-29-08 14:36		316093-016
	B2-1'	S	Oct-29-08 14:55		316093-017
55 - C - T	B2-5'	S	Oct-29-08 14:58		316093-018
1	B2-10'	S	Oct-29-08 15:01		316093-019
	B2-15'	S	Oct-29-08 15:04		316093-020
	B2-20'	S	Oct-29-08 15:16		316093-021
	B2-30'	S	Oct-29-08 15:19		316093-022
	B2-40'	S	Oct-29-08 15:27		316093-023
	B2-50'	S	Oct-29-08 15:37		316093-024
	SS1	S	Oct-29-08 15:30		316093-025
_	SS2	S	Oct-29-08 15:35		316093-026
	B3-1'	S	Oct-29-08 15:50		316093-027
8	B3-5'	S	Oct-29-08 15:55		316093-028
-	B3-10'	S	Oct-29-08 15:58		316093-029
	B3-15'	S	Oct-29-08 16:02		316093-030
	B3-20'	S	Oct-29-08 16:05		316093-031
	B3-30'	S	Oct-29-08 16:15		316093-032
	B3-40'	S	Oct-29-08 16:24		316093-033
-	B3-50'	S	Oct-29-08 16:35		316093-034
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Project Name: Midland/Odessa Standard List of Methods

Project Id: 8-0132

Contact: Mark Larson

Report Date: 07-NOV-08

Date Received in Lab: Oct-30-08 08:40 am

Project Location:]	Project I	Manager: H	Brent Bar	ron, II	
	Lab Id:	316093-00	01	316093-0	02	316093-0	03	316093-0	04
Analysis Requested	Field Id:	MW-1-1		MW-1-5'		MW-1-10'		MW-1-15'	
	Depth:		Í						
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-29-08 10:10		Oct-29-08 1	0:15	Oct-29-08 1	0:18	Oct-29-08	10:22
Anions by EPA 300/300.1	Extracted:								
	Analyzed:	Oct-30-08 1	3:40	Oct-30-08 1	3:40	Oct-30-08 1	3:40	Oct-30-08	13:40
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		ND	5.00	35.3	5.00	371	10.0	171	10.0
Percent Moisture	Extracted:								
Percent Moisture	Analyzed:	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL
Percent Moisture		9.67	1.00	7.66	1.00	12.18	1.00	5.28	1.00
TPH by SW 8015B	Extracted:	Oct-30-08 1	0:30	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08	11:00
	Analyzed:	Oct-31-08 0	3:47	Oct-31-08 0	8:51	Oct-31-08 0	9:19	Oct-31-08 ()9:46
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	16.6	ND	16.2	ND	17.1	ND	15.8
C10-C28 Diesel Range Hydrocarbons		ND	16.6	ND	16.2	ND	17.1	ND	15.8
Total TPH		ND		ND		ND		ND	

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Brent Barron

Odessa Laboratory Director

Since 1990

e 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

Version: 1.016





Project Name: Midland/Odessa Standard List of Methods

Project Id: 8-0132 Contact: Mark Larson
 Date Received in Lab:
 Oct-30-08 08:40 am

 Report Date:
 07-NOV-08

Project Location:				3	Project I	Manager: E	Brent Ba	rron, II	
	Lab Id:	316093-00	35	316093-00	06	316093-00	37	316093-0	108
Analysis Requested	Field Id:	MW-1-20	r	MW-1-30)'	MW-1-40'		MW-1-5	0'
	Depth:								
	Matrix:	SOIL	SOIL SOIL		SOIL		SOIL		
	Sampled:	Oct-29-08 10	0:25	Oct-29-08 10:36		Oct-29-08 1	0:45	Oct-29-08 1	11:00
Anions by EPA 300/300.1	Extracted:					<u> </u>			
	Analyzed:	<i>dyzed:</i> Oct-30-08 22:13 Oct-30-08 22:13 Oct-30-08 22:13		Oct-30-08 22:13					
	Units/RL:	Units/RL: mg/kg RL mg/kg RL		mg/kg	RL	mg/kg	RL		
Chloride		110	10.0	82.7	20.0	90.7	20.0	140	20.0
Percent Moisture	Extracted:								
	Analyzed:	Oct-30-08 17	7:00	Oct-30-08 1	7:00	Oct-30-08 17:00		Oct-30-08	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.62	1.00	10.69	1.00	9.75	1.00	9.69	1.00
TPH by SW 8015B	Extracted:	Oct-30-08 11	1:00	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08	11:00
	Analyzed:	Oct-31-08 10	0:13	Oct-31-08 1	0:40	Oct-31-08 1	1:04	Oct-31-08	11:29
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	15.7	ND	16.8	ND	16.6	ND	16.6
C10-C28 Diesel Range Hydrocarbons		ND	15.7	ND	16.8	ND	16.6	ND	16.6
Total TPH		ND		ND		ND		ND	

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Brent Barron

Odessa Laboratory Director

Version: 1.016





Project Name: Midland/Odessa Standard List of Methods

F.,	Project Id: 8-0132				Date				08:40 am	
1. A	Contact: Mark Larson			ort Date: (07-NOV-08					
	Project Location:]	Project N	Manager: H	Brent Bar	ron, II	
É		Lab Id:	316093-0	09	316093-0	10	316093-0	11	316093-0	12
Ş	Analysis Requested	Field Id:	B1-1'		B1-5'		B1-10'		B1-15'	
		Depth:				1				
ø		Matrix:	SOIL		SOIL		SOIL		SOIL	
ų		Sampled:	Oct-29-08 1	3:37	Oct-29-08 1	3:51	Oct-29-08 1	3:55	Oct-29-08 1	14:00
Ī	Anions by EPA 300/300.1	Extracted:								
٦		Analyzed:	Oct-30-08 2	2:13	Oct-30-08 2	2:13	Oct-30-08 2	2:13	Oct-30-08 2	22:13
Ę		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
	Chloride		ND	5.00	23.3	10.0	230	10.0	581	20.0
10.00	Percent Moisture	Extracted:								
ų		Analyzed:	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08	17:00
		Units/RL:	%	RL	%	RL	%	RL	%	RL
	Percent Moisture		4.66	1.00	7.22	1.00	6.96	1.00	11.22	1.00
(ja – 1	TPH by SW 8015B	Extracted:	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08	11:00
		Analyzed:	Oct-31-08 1	1:54	Oct-31-08 1	2:21	Oct-31-08 1	2:45	Oct-31-08	13:35
Ż		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
	C6-C10 Gasoline Range Hydrocarbons		ND	15.7	ND	16.2	ND	16.1	ND	16.9
-	C10-C28 Diesel Range Hydrocarbons		ND	15.7	ND	16.2	ND	16.1	ND	16.9
	Total TPH		ND		ND		ND		ND	_

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t Brent Barron

Odessa Laboratory Director

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Project Name: Midland/Odessa Standard List of Methods

Project Id: 8-0132				Date				8 08:40 am	
Contact: Mark Larson					Rep	oort Date:	07-NOV	-08	
Project Location:]	Project	Manager:	Brent Ba	rron, II	
	Lab Id:	316093-0	13	316093-0	14	316093-0	015	316093-0)16
Analysis Requested	Field Id:	B1-20'		B1-30'		B1-40'		B1-50'	
	Depth:								
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-29-08 1	4:03	Oct-29-08 1	4:11	Oct-29-08	14:19	Oct-29-08	14:36
Anions by EPA 300/300.1	Extracted:								
	Analyzed:	Oct-30-08 2	2:13	Oct-30-08 2	2:13	Oct-30-08	22:13	Oct-30-08 2	22:13
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		818	25.0	1230	25.0	1730	25.0	590	20
Percent Moisture	Extracted:								
	Analyzed:	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08	17:00	Oct-30-08	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL
Percent Moisture		10.61	1.00	16.41	1.00	11.08	1.00	10.49	1.
TPH by SW 8015B	Extracted:	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08	11:00	Oct-30-08	11:00
	Analyzed:	Oct-31-08 1	4:01	Oct-31-08 1	4:27	Oct-31-08	14:54	Oct-31-08	15:19
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	16.8	ND	17.9	ND	16.9	ND	10
C10-C28 Diesel Range Hydrocarbons		ND	16.8	ND	17.9	ND	16.9	24.1	10
Total TPH		ND		ND		ND		24.1	

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Odessa Laboratory Director

Version: 1.016





Project Name: Midland/Odessa Standard List of Methods

Date Received in Lab: Oct-30-08 08:40 am

Project Id: 8-0132 Contact: Mark Larson

Report Date: 07-NOV-08

Project Location:				j	Project I	Manager: H	Brent Bar	ron, II	
	Lab Id:	316093-0	17	316093-0	18	316093-0	19	316093-0	020
Analysis Requested	Field Id:	B2-1'		B2-5'		B2-10'		B2-15'	
	Depth:								
f i i i i i i i i i i i i i i i i i i i	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-29-08 1	4:55	Oct-29-08 1	4:58	Oct-29-08 1	5:01	Oct-29-08	15:04
Anions by EPA 300/300.1	Extracted:								
	Analyzed:	Oct-30-08 2	2:13	Oct-30-08 2	2:13	Oct-30-08 2	2:13	Oct-30-08	22:13
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6.43	5.00	233	10.0	628	10.0	707	20.0
Percent Moisture	Extracted:								
	Analyzed:	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.85	1.00	9.08	1.00	9.44	1.00	7.50	1.00
TPH by SW 8015B	Extracted:	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08	11:00
	Analyzed:	Oct-31-08 1	5:43	Oct-31-08 1	5:59	Oct-31-08 1	7:25	Oct-31-08	17:50
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	16.1	ND	16.5	ND	16.6	ND	16.2
C10-C28 Diesel Range Hydrocarbons		ND	16.1	ND	16.5	ND	16.6	ND	16. 2
Total TPH		ND		ND		ND		ND	

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Brent Barron

Odessa Laboratory Director

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Version: 1.016



Project Id: 8-0132

Certificate of Analysis Summary 316093 Larson & Associates, Midland, TX



Project Name: Midland/Odessa Standard List of Methods

Date Received in Lab: Oct-30-08 08:40 am

				Dan					
Contact: Mark Larson					Rep	ort Date: 0	7-NOV-(08	
Project Location:]	Project I	Manager: E	Brent Bar	ron, II	
Analysis Requested	Lab Id:	316093-0	21	316093-0	22	316093-02	23	316093-0	24
Analysis Requested	Field Id:	B2-20'		B2-30'		B2-40'		B2-50'	
	Depth:								
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-29-08 1	5:16	Oct-29-08 1	5:19	Oct-29-08 1	5:27	Oct-29-08	5:37
Anions by EPA 300/300.1	Extracted:								
	Analyzed:	Oct-30-08 2	2:13	Oct-30-08 2	2:13	Oct-30-08 2	2:13	Oct-30-08 2	2:13
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1080	25.0	3310	50.0	2100	50.0	1840	50.
Percent Moisture	Extracted:								
	Analyzed:	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08	7:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.11	1.00	18.92	1.00	11.55	1.00	12.06	1.0
TPH by SW 8015B	Extracted:	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08	1:00
	Analyzed:	Oct-31-08 1	8:16	Oct-31-08 2	3:02	Oct-31-08 2	3:29	Oct-31-08 2	23:56
	Units/RL:	mg/kg	RL	mg/kg	RL	_mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	16.1	ND	18.5	ND	17.0	ND	17.
C10-C28 Diesel Range Hydrocarbons		ND	16.1	ND	18.5	ND	17.0	ND	17.
Total TPH		ND		ND		ND		ND	

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Brent Barron

Odessa Laboratory Director

Version: 1.016

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Certificate of Analysis Summary 316093 Larson & Associates, Midland, TX



Project Name: Midland/Odessa Standard List of Methods

Project Id: 8-0132 Contact: Mark Larson Date Received in Lab: Oct-30-08 08:40 am Report Date: 07-NOV-08

Project Location:]	Project I	Manager: H	Brent Ba	rron, II	
Analysis Requested	Lab Id:	316093-0	25	316093-0	26	316093-0	27	316093-0)28
Analysis Requested	Field Id:	SS1		SS2		B3-1'		B3-5'	
	Depth:								
Ś.	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-29-08 1	5:30	Oct-29-08 1	5:35	Oct-29-08 1	5:50	Oct-29-08	15:55
Anions by EPA 300/300.1	Extracted:								<u> </u>
	Analyzed:	Oct-31-08 1	1:00	Oct-31-08 1	1:00	Oct-31-08 1	1:00	Oct-31-08	11:00
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		532	20.6	1190	26.4	ND	10.5	16.6	10.5
Percent Moisture	Extracted:								
Percent Moisture	Analyzed:	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL
² Percent Moisture		3.13	1.00	5.41	1.00	4.57	1.00	5.12	1.00
TPH by SW 8015B	Extracted:	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08	11:00
	Analyzed:	Nov-01-08 0	0:23	Nov-01-08 (0:50	Nov-01-08 (01:17	Nov-01-08	01:44
<u> </u>	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	15.5	ND	15.9	ND	15.7	ND	15.8
C10-C28 Diesel Range Hydrocarbons		ND	15.5	ND	15.9	ND	15.7	ND	15.8
Fotal TPH		ND		ND		ND		ND	

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Brent Barron

Odessa Laboratory Director

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Version: 1.016





Project Name: Midland/Odessa Standard List of Methods

Project Id: 8-0132 Contact: Mark Larson Date Received in Lab: Oct-30-08 08:40 am Report Date: 07-NOV-08

Project Location:				J	Project I	Manager: E	Brent Ba	топ, II	
Analysis Requested	Lab Id:	316093-0	29	316093-0	30	316093-03	31	316093-0	132
Analysis Requested	Field Id:	B3-10'	B3-10'			B3-20'		B3-30'	
	Depth:								
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-29-08 1	5:58	Oct-29-08 1	6:02	Oct-29-08 1	6:05	Oct-29-08	16:15
Anions by EPA 300/300.1	Extracted:								
	Analyzed:	Oct-31-08 1	1:00	Oct-31-08 1	1:00	Oct-31-08 1	1:00	Oct-31-08	11:00
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		60.2	10.8	678	27.6	429	21.0	ND	13.3
Percent Moisture	Extracted:								
	Analyzed:	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08 1	7:00	Oct-30-08	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.58	1.00	9.41	1.00	4.87	1.00	24.75	1.00
TPH by SW 8015B	Extracted:	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08 1	1:00	Oct-30-08	11:00
	Analyzed:	Nov-01-08 0	2:11	Nov-01-08 0	2:38	Nov-01-08 (03:03	Nov-01-08	03:54
· · · · · · · · · · · · · · · · · · ·	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		ND	16.2	ND	16.6	ND	15.8	ND	19.9
C10-C28 Diesel Range Hydrocarbons		17.2	16.2	ND	16.6	ND	15.8	ND	19.9
Total TPH		17.2		ND		ND		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.

Brent Barron

Odessa Laboratory Director

Version: 1.016

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Project Id: 8-0132

Certificate of Analysis Summary 316093 Larson & Associates, Midland, TX



Project Name: Midland/Odessa Standard List of Methods

Date Received in Lab: Oct-30-08 08:40 am

Contact: Mark Larson					Re	port Date:	07-NOV	/-08	
Project Location:				1	Project	Manager:	Brent B	arron, II	
	Lab Id:	316093-03	33	316093-03	34				
Analysis Requested	Field Id:	B3-40'		B3-50'					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Oct-29-08 1	6:24	Oct-29-08 1	6:35				
Anions by EPA 300/300.1	Extracted:								
	Analyzed:	Oct-31-08 1	1:00	Oct-31-08 1	1:00				
0	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		ND	5.34	ND	11.3				
Percent Moisture	Extracted:								
	Analyzed:	Oct-30-08 1	7:00	Oct-30-08 1	7:00				
	Units/RL:	%	RL	%	RL				
Percent Moisture		6.35	1.00	11.66	1.00				
TPH by SW 8015B	Extracted:	Oct-30-08 1	1:00	Oct-30-08 1	1:00				
	Analyzed:	Nov-01-08 0	4:21	Nov-01-08 0	4:48				
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		ND	16.0	ND	17.0		-		
C10-C28 Diesel Range Hydrocarbons		ND	16.0	ND	17.0				
Total TPH		ND		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.

Brent Barron

Odessa Laboratory Director

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- 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 effect the recovery of the spike concentration. This condition could also effect 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 MOL(POL) and above the SQL(MDL).
- 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 OA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- * Outside XENCO'S scope of NELAC Accreditation

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Form 2 - Surrogate Recoveries

Project Name: Midland/Odessa Standard List of Methods

ork Orders : 316093,		Pi	roject ID:	8-0132		
	le: 316093-001 / SMP	Batch: 1	Matrix	: Soil		
Units: mg/kg		SURROGA	ATE RE	COVERYS	STUDY	
TPH by SW 8015B Analytes	Amou Four [A]	nd Amo	ount	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	107		00	107	70-135	
o-Terphenyl	54.9).0	110	70-135	-
Lab Batch #: 739399 Samp	le: 518788-1-BKS/BKS	Batch: 1	Matrix	: Solid		
Units: mg/kg		SURROGA			STUDY	
TPH by SW 8015B Analytes	Amou Four [A]	nd Amo	rue ount B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane	123	10	00	123	70-135	
o-Terphenyl	59.4	50	0.0	119	70-135	
Lab Batch #: 739399 Samp	le: 518788-1-BLK / BLK	Batch: 1	Matrix	: Solid		
Units: mg/kg		SURROGA	ATE RE	COVERYS	STUDY	
TPH by SW 8015B Analytes	Amoi Four [A]	nd Amo	rue ount B}	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane	123	10	00	123	70-135	
o-Terphenyl	62.3	50).0	125	70-135	
Lab Batch #: 739399 Samp	le: 518788-1-BSD / BSD	Batch: 1	Matrix	: Solid		
Units: mg/kg		SURROGA	ATE RE	COVERYS	STUDY	
TPH by SW 8015B Analytes	Amou Four [A]	id Amo	rue ount B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane	130	10	00	130	70-135	
o-Terphenyl	63.7		0.0	127	70-135	
Lab Batch #: 739401 Samp	le: 316093-002 / SMP	Batch: 1	Matrix	: Soil		
Units: mg/kg		SURROGA	ATE RE	COVERY	STUDY	
		int Tr	rue		Control	Fla
TPH by SW 8015B	Amou Four [A]	nd Amo	ount B]	Recovery %R	Limits %R	1.19
TPH by SW 8015B Analytes 1-Chlorooctane	Four	nd Amo	ount	•		1.14

** 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.

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Project Name: Midland/Odessa Standard List of Methods

ork Orders : 316093,			Project ID			
•	e: 316093-002 S / MS	Bate		x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY S	STUDY	
TPH by SW 8015B Analytes	Amoun Found [A]		True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	118		100	118	70-135	
p-Terphenyl	57.0		50.0	118	70-135	
Lab Batch #: 739401 Sample	e: 316093-002 SD / MSD	Bate	ch: 1 Matri	x: Soil	·	
Units: mg/kg	[SUI	RROGATE RE	COVERYS	STUDY	
TPH by SW 8015B Analytes	Amoun Found [A]		True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	115		100	115	70-135	
o-Terphenyl	54.6		50.0	109	70-135	
Lab Batch #: 739401 Sample	e: 316093-003 / SMP	Bate		x: Soil		-
Units: mg/kg		SUI	RROGATE RE	COVERY	STUDY	
TPH by SW 8015B Analytes	Amoun Found [A]		True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane	114		100	114	70-135	
o-Terphenyl	56.9		50.0	114	70-135	- <u>-</u>
Lab Batch #: 739401 Sample	e: 316093-004 / SMP	Bate	ch: 1 Matri	x: Soil		
Units: mg/kg		SUI	RROGATE RE	COVERY	STUDY	
TPH by SW 8015B Analytes	Amoun Found [A]		True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
I-Chlorooctane	102		100	102	70-135	
o-Terphenyl	52.0		50.0	104	70-135	
Lab Batch #: 739401 Sample	e: 316093-005 / SMP	Bat	ch: 1 Matri	x: Soil		
Units: mg/kg			RROGATE RE		STUDY	
TPH by SW 8015B	Amoun Found [A]		True Amount [B]	Recovery %R	Control Limits %R	Fla
Analytes				[D]		L
1-Chlorooctane	104		100	104	70-135	
o-Terphenyl	53.1		50.0	106	70-135	

** 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: Midland/Odessa Standard List of Methods

Vork Orders : 316093,	(002.00(/ 0) (0)	Project II			
Lab Batch #: 739401 Sample: 310 Units: mg/kg	6093-006 / SMP Bat	ch: 1 Matri	ix: Soil	STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	53.6	50.0	103	70-135	
		<u> </u>	L	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Lab Batch #: 739401 Sample: 314 Units: mg/kg	6093-007 / SMP Bat	ch: 1 Matri	ix: Soil ECOVERY S	STUDY	<u> </u>
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	56.3	50.0	113	70-135	
Lab Batch #: 739401 Sample: 310	6093-008 / SMP Bat	ch: 1 Matri	ix: Soil	<u></u>	
Units: mg/kg	SU	SURROGATE RECOVERY STUDY			
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	56.2	50.0	112	70-135	
Lab Batch #: 739401 Sample: 310	5093-009 / SMP Bat	ch: 1 Matri	ix: Soil	<u> </u>	
Units: mg/kg		RROGATE RI		STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	54.9	50.0	110	70-135	
Lab Batch #: 739401 Sample: 310	6093-010 / SMP Bat	ch: 1 Matri	ix: Soil	<u></u> _	— ——
Units: mg/kg	SU	RROGATE RI	ECOVERY	STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
A ¥ .					
Analytes	108	100	108	70-135	

** 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: Midland/Odessa Standard List of Methods

Jork Orders : 316093, Lab Batch #: 739401 Sample: 3	B16093-011 / SMP Bat	ch: 1 Matr	ix: Soil		
Units: mg/kg		RROGATE R		STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes		<u> </u>	{D]		
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	60.1	50.0	120	70-135	
Lab Batch #: 739401 Sample: 3 Units: mg/kg	B16093-012 / SMP Bat	ch: ¹ Matr	ix: Soil ECOVERY S	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	56.0	50.0	112	70-135	-
Lab Batch #: 739401 Sample: 3 Units: mg/kg		MP Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY			
	Amount	True		Control	
TPH by SW 8015B Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flag
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	55.3	50.0	111	70-135	
Lab Batch #: 739401 Sample: 3	B16093-014 / SMP Bat	ch: 1 Matı	rix: Soil		
Units: mg/kg		RROGATE R		STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	56.3	50.0	113	70-135	
Lab Batch #: 739401 Sample: 3	316093-015 / SMP Bat	ch: 1 Mati	rix: Soil	·	
Units: mg/kg	SU	RROGATE R		STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes			[D]		
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl					

** 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: Midland/Odessa Standard List of Methods

ork Orders : 316093,	• • • • • • • • • • • • • • • • • • •	n	Project II			
Lab Batch #: 739401 S Units: mg/kg	ample: 316093-016 / SMP		tch: 1 Matri	x: Soil	TUDV	<u> </u>
TPH by SW 801	5B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
Analytes		110			70.125	_
I-Chlorooctane		110 56.6	100 50.0	110	70-135	
			L		10 155	
Lab Batch #: 739401 S Units: mg/kg	ample: 316093-017 / SMP		tch: 1 Matri RROGATE RI	x: Soil ECOVERY S	STUDY	
TPH by SW 801 Analytes	5B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		112	100	112	70-135	
o-Terphenyl		55.3	50.0	111	70-135	
Lab Batch #: 739401 S	ample: 316093-018 / SMP	Ba	tch: 1 Matri	x: Soil		
Units: mg/kg	Γ	SU	RROGATE RI	COVERY	STUDY	
TPH by SW 801 Analytes	5B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
I-Chlorooctane		113	100	113	70-135	
p-Terphenyl		34.2	50.0	68	70-135	*
Lab Batch #: 739401 S	ample: 316093-019 / SMP	Ba	tch: 1 Matri	x: Soil	·····	
Units: mg/kg	Г	SU	RROGATE RI	COVERY	STUDY	
TPH by SW 801 Analytes	5B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
I-Chlorooctane		112	100	112	70-135	<u> </u>
p-Terphenyl		40.2	50.0	80	70-135	
Lab Batch #: 739401 S	ample: 316093-020 / SMP	Ba	tch: 1 Matri	ix: Soil		
Units: mg/kg	Ē		RROGATE RI		STUDY	
TPH by SW 801	5B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
Analytes				[D]		
-Chlorooctane		108	100	108	70-135	
p-Terphenyl		41.1	50.0	82	70-135	i

** 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: Midland/Odessa Standard List of Methods

Vork Orders: 316093,			Project II): 8- 0132		
Lab Batch #: 739401	Sample: 316093-021 / S	MP Bat	tch: ¹ Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	ECOVERY S	STUDY	
TPH by S Anal		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		110	100	110	70-135	
o-Terphenyl	·····	45.3	50.0	91	70-135	
Lab Batch #: 739401	Sample: 518784-1-BKS	/BKS Bat	tch: 1 Matri	x: Solid		
Units: mg/kg			RROGATE RI		STUDY	
TPH by S Anal		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	 Flag
1-Chlorooctane		121	100	121	70-135	
o-Terphenyl		60.6	50.0	121	70-135	
Lab Batch #: 739401	Sample: 518784-1-BLK	/BLK Ba	tch: 1 Matri	ix: Solid	1	
Units: mg/kg		SU	RROGATE RI	COVERY	STUDY	
TPH by S Anal		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		123	100	123	70-135	
o-Terphenyl		62.3	50.0	125	70-135	<u> </u>
Lab Batch #: 739401	Sample: 518784-1-BSD	/BSD Bat	tch: 1 Matri	ix: Solid	I	
Units: mg/kg	•		RROGATE RI		STUDY	
TPH by S Anal		Amount Found [A]	True Amount {B}	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	·	129	100	129	70-135	
o-Terphenyl	· · · · · · · · · · · · · · · · · · ·	62.0	50.0	124	70-135	
Lab Batch #: 739402	Sample: 316093-022 / S	MP Ba	tch: 1 Matri	ix: Soil		
Units: mg/kg		SU	RROGATE RI	ECOVERY	STUDY	
TPH by S		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
Anal	ytes			[D]		
1-Chlorooctane		106	100	106	70-135	
o-Terphenyl		51.7	50.0	103	70-135	

** 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.

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Form 2 - Surrogate Recoveries

Project Name: Midland/Odessa Standard List of Methods

ork Orders : 316093,	,	Project II	D: 8-0132		
Lab Batch #: 739402 Sample: 31	6093-022 S / MS Bat	tch: l Matri	x: Soil		
Units: mg/kg	SU	RROGATE RE	ECOVERY S	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	61.0	50.0	122	70-135	
Lab Batch #: 739402 Sample: 31	6093-022 SD / MSD Ba	tch: 1 Matri	x: Soil		_
Units: mg/kg	SU	RROGATE RI	ECOVERYS	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	57.5	50.0	115	70-135	
•			ix: Soil	CTUDY	
Units: mg/kg		RROGATE RI			-
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	52.0	50.0	104	70-135	
Lab Batch #: 739402 Sample: 31	6093-024 / SMP Ba	tch: 1 Matri	ix: Soil		
Units: mg/kg	SU	RROGATE RI	ECOVERY	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	53.9	50.0	108	70-135	
Lab Batch #: 739402 Sample: 31	.6093-025 / SMP Ba	tch: 1 Matri	ix: Soil		
Units: mg/kg	SU	RROGATE RI	ECOVERY	STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
Analytes			[D]		
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	51.7	50.0	103	70-135	

** 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.

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Form 2 - Surrogate Recoveries

Project Name: Midland/Odessa Standard List of Methods

ork Orders : 316093,			Project II			
	ple: 316093-026 / SMP	Bat		x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERYS	STUDY	
TPH by SW 8015 Analytes	3	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		107	100	107	70-135	
o-Terphenyl		52.6	50.0	105	70-135	<u>.</u>
Lab Batch #: 739402 San	nple: 316093-027 / SMP	Bat	ch: 1 Matri	x: Soil		-
Units: mg/kg	[SU	RROGATE RE	COVERYS	STUDY	
TPH by SW 8015 Analytes	3	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane		113	100	113	70-135	
o-Terphenyl		54.8	50.0	110	70-135	
Lab Batch #: 739402 San	ple: 316093-028 / SMP	Bat	ch: 1 Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERY S	STUDY	
TPH by SW 8015 Analytes	3	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane		112	100	112	70-135	. <u> </u>
o-Terphenyl		54.7	50.0	109	70-135	
Lab Batch #: 739402 San	216002 020 / SMD			x: Soil		
Units: mg/kg	nple: 316093-029 / SMP	Bat	ch: 1 Matri RROGATE RI		TUDV	
Units: mg/kg		50.				
TPH by SW 8015 Analytes	3	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane		112	100	112	70-135	
o-Terphenyl		55.6	50.0	111	70-135	
Lab Batch #: 739402 San	nple: 316093-030 / SMP	Bat	ch: 1 Matri	x: Soil		
Lab Batch #: 739402 San Units: mg/kg	nple: 316093-030 / SMP		ch: ¹ Matri RROGATE RH		STUDY	
Units: mg/kg TPH by SW 80151	·				STUDY Control Limits %R	Fla
Units: mg/kg	·	SU Amount Found	RROGATE RH True Amount	COVERY Recovery %R	Control Limits	Fla

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / BAll results are based on MDL and validated for QC purposes.

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Form 2 - Surrogate Recoveries

Project Name: Midland/Odessa Standard List of Methods

/ork Orders : 316093,		Project II			
Lab Batch #: 739402 Sample: 316093-031 / SN		· · · · · · · · · · · · · · · · · · ·	ix: Soil		
Units: mg/kg	SU	RROGATE RI	ECOVERYS	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Límits %R	Flag
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	54.3	50.0	109	70-135	
Lab Batch #: 739402 Sample: 316093-032 / SN	AP Ba	tch: 1 Matr	ix: Soil		
Units: mg/kg	SU	RROGATE RI	ECOVERY	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	55.4	50.0	111	70-135	
Lab Batch #: 739402 Sample: 316093-033 / SN	/P P-	tch: 1 Matr	ix: Soil	I	
Units: mg/kg		RROGATE RI		STUDY	
TPH by SW 8015B	Amount	True		Control	
Analytes	Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Flag
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	53.8	50.0	108	70-135	
Lab Batch #: 739402 Sample: 316093-034 / SN		l	ix: Soil		
Units: mg/kg		RROGATE R		STUDY	
					<u> </u>
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes			[D]		
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	53.4	50.0	107	70-135	
Lab Batch #: 739402 Sample: 518787-1-BKS /			ix: Solid		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
	1		[D]		
Analytes					
Analytes 1-Chlorooctane	124	100	124	70-135	

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / BAll results are based on MDL and validated for QC purposes.



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Form 2 - Surrogate Recoveries

Project Name: Midland/Odessa Standard List of Methods

/ork Orders : 316093, Lab Batch #: 739402 Sample: 518787-1-BL	K/BLK B		D: 8-0132 fix: Solid		
Units: mg/kg		JRROGATE R		STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	57.6	50.0	115	70-135	
Lab Batch #: 739402 Sample: 518787-1-BS	D/BSD B:	atch: 1 Mat	rix: Solid		
Units: mg/kg	SI	URROGATE R	ECOVERY	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	64.0	50.0	128	70-135	

** Surrogates outside limits; data and surrogates confirmed by reanalysis *** Poor recoveries due to dilution Surrogate Recovery [D] = 100 * A / BAll results are based on MDL and validated for QC purposes.

Version: 1.016





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Project Name: Midland/Odessa Standard List of Methods

Work Order #: 316093		Pi	roject ID:			8-0132
Lab Batch #: 738696	Sample: 738696	-1-BKS	Matr	ix: Solid		
Date Analyzed: 10/30/2008	Date Prepared: 10/30/2	008	Analy	st: LATCO	OR	
Reporting Units: mg/kg	Batch #: 1	BLANK/	BLANK SPI	KE REC	OVERY	STUDY
Anions by EPA 300/300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes			[C]	[D]		
Chloride Analytes	ND	10.0	9.61	96	75-125	
Lab Batch #: 738697	Sample: 738697	-1-BKS	Matr	ix: Solid		
Date Analyzed: 10/30/2008	Date Prepared: 10/30/2		Analy	st: LATC	OR	
Reporting Units: mg/kg	Batch #: 1	Batch #: 1 BLANK /			OVERY	STUDY
Anions by EPA 300/300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes			[C]	[D]		
Chloride	ND	10.0	8.73	87	75-125	
Lab Batch #: 738877	Sample: 738877	-1-BKS	Matr	ix: Solid		
Date Analyzed: 10/31/2008 Reporting Units: mg/kg	Date Prepared: 10/31/2	008	Analy	st: LATC	OR	
Reporting Units: mg/kg	Batch #: 1	BLANK /	BLANK SPI	KE REC	OVERY	STUDY
Anions by EPA 300/300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes	[**]	[~]	[C]	[D]		
Chloride		10.0	9.02	90	75-125	†

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

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			BS / BSD Recoveries) Rect	verie	S					N
	Pr	oject Na	me: Mid	land/Od	lessa St	Project Name: Midland/Odessa Standard List of Methods	st of Mei	thods			
Work Order #: 316093 Analyst: BRB	Ä	ate Prepar	Date Prepared: 10/30/2008	8(Pro. Date A	Project ID: 8-0132 Date Analyzed: 10/31/2008	-0132 0/31/2008		
Lab Batch ID: 739401 Sample: 518784-1-BKS		Batch #:	1 #: 1					Matrix: Solid	solid		
Units: mg/kg		BLANI	K /BLANK	SPIKE / F	STANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE	RECOVE	JRY STUD	Y	
TPH by SW 8015B	Blank Sample Result	Spike Added	Blank Spike Beeult	Blank Spike %B	Spike Added	Blank Spike Dunlicate	Bik. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		B	ICI		[E]	Result [F]	<u></u>				
C6-C10 Gasoline Range Hydrocarbons	QN	1000	840	84	1000	882	88	5	70-135	35	
C10-C28 Diesel Range Hydrocarbons	QN	1000	882	88	1000	930	93	5	70-135	35	
Analyst: BRB	Ď	ate Prepar	Date Prepared: 10/30/2008	8(Date A	Date Analyzed: 10/31/2008	0/31/2008		
Lab Batch ID: 739402 Sample: 518787-1-BKS	I-BKS	Batch #:	1 #1					Matrix: Solid	Solid		
Units: mg/kg		BLAN	K /BLANK	SPIKE / F	3LANK 5	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE	JCATE	RECOVI	RECOVERY STUDY	Y	
TPH by SW 8015B	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Dunlicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	<u>c</u>	[B]	[c]	Ē	[E]	Result [F]	[6]				
C6-C10 Gasoline Range Hydrocarbons	QN	1000	852	85	1000	901	96	9	70-135	35	
C10-C28 Diesel Range Hydrocarbons	QN	1000	883	88	1000	943	94	7	70-135	35	

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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



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Project Name: Midland/Odessa Standard List of Methods

Work Order #: 316093						
Analyst: BRB		Da	te Prepar	Date Prepared: 10/30/2008	8	
Lab Batch ID: 739399	Sample: 518788-1-BKS	SKS	Batch #:]	1#: 1		
Units: mg/kg			BLAN	BLANK /BLANK SPIKE / BLANK S	PIKE / B	LANK S
TPH by SW 8015B	/ 8015B	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added
Analytes		A	[<u>8</u>]	IC]	N IQ	[E]

Flag

Control Limits %RPD

Control Limits %R

RPD %

Blk. Spk Dup. %R [G]

Blank Spike Duplicate Result [F]

NK SPIKE DUPLICATE RECOVERY STUDY

Project ID: 8-0132 **Date Analyzed:** 10/30/2008

Matrix: Solid

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70-135 70-135

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C6-C10 Gasoline Range Hydrocarbons C10-C28 Diesel Range Hydrocarbons Relative Percent Difference RPD = 200*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100*(C)/[B] Blank Spike Duplicate Recovery [G] = 100*(F)/[E] All results are based on MDL and Validated for QC Purposes

Version: 1.016

XENCO	Form 3 -	MS R	lecover	ies	J		S S S S S S S S S S S S S S S S S S S
Laboratories Project	Name: Mio	iland/Oc	lessa Sta	ndard List	of Met	hods	
Work Order #: 316093							
Lab Batch #: 738696					oject D:		
Date Analyzed: 10/30/2008	Date P	repared:	10/30/2008		Analyst:	LATCOR	
QC- Sample ID: 316119-001 S Reporting Units: mg/kg	_	Batch #:	1		Matrix:	Soil	
Reporting Units: mg/kg		MAT	RIX / MAT	FRIX SPIKE	RECOV	VERY STU	
Inorganic Anions by EPA 300 Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		33.2	105	156	117	75-125	
Lab Batch #: 738697 Date Analyzed: 10/30/2008 QC- Sample ID: 316093-006 S	Date F	Prepared: Batch #:	10/30/2008 1	TRIX SPIKE	Matrix:	Soil	IDV
Reporting Units: mg/kg						·	
Inorganic Anions by EPA 300 Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		82.7	400	538	114	75-125	
Lab Batch #: 738877							
Date Analyzed: 10/31/2008	Date P	repared:	10/31/2008		Analyst:	LATCOR	
QC- Sample ID: 316093-026 S		Batch #:	1		Matrix:	Soil	
Reporting Units: mg/kg	Г	MAT	RIX / MAT	FRIX SPIKE	RECO	VERY STU	JDY
Inorganic Anions by EPA 300 Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		1190	516	1810	120	75-125	+

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

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Form 5 - MS / MSD Recoveries

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Project Name: Midland/Odessa Standard List of Methods



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Work Order #: 316093

Date Analyzed: 10/31/2008

Lab Batch ID: 739401

QC-Sample ID: 316093-002 S Date Prepared: 10/30/2008

BRB Batch #: Analyst:

Matrix: Soil Ļ

Project ID: 8-0132

Reporting Units: mg/kg		M	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	TAM / 3	RIX SPII	KE DUPLICA	FE REC	VERY	STUDY		
TPH by SW 8015B	Parent Sample	Spike	Spiked Sample Spiked Result Sample	Spiked Sample		Duplicate Spiked Sample	Spiked Dup.	RPD	Control Control Limits Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	D	%R [U]		Added Result [F] [E]	%R [G]	%	%R	%RPD	
C6-C10 Gasoline Range Hydrocarbons	QN	1080	936	87	1080	915	85	2	70-135	35	
C10-C28 Diesel Range Hydrocarbons	QN	1080	963	89	1080	941	87	2	70-135	35	
Lab Batch ID: 739402 Date Analyzed: 11/01/2008	QC-Sample ID: 316093-022 S Date Prepared: 10/30/2008	316093- 10/30/2	-022 S 008	Bat Ani	Batch #: Analyst: I	1 Matrix BRB	Matrix: Soil				

Reporting Units: mg/kg		M	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	/ MATI	RIX SPH	(E DUPLICA	re reco	VERY 5	STUDY		
TPH by SW 8015B	Parent Sample	Spike	Spiked Sample Spiked Result Sample Spiked	Spiked Sample	bike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Kesult [A]	Added [B]	5	8% [D]	E	Result [F]		%	%R		
C6-C10 Gasoline Range Hydrocarbons	QN	1230	1070	87	1230	1080	88	1	70-135	35	
C10-C28 Diesel Range Hydrocarbons	QN	1230	1120	91	1230	1140	93	2	70-135	35	

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 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

Version: 1.016

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Project Name: Midland/Odessa Standard List of Methods

Work Order #: 316093						
Lab Batch #: 738696				Project I	D: 8-0132	
Date Analyzed: 10/30/2008	Date Pro	epared: 10/3	30/2008	Analy	st: LATCOF	2
QC- Sample ID: 316119-001 D	B	Batch #: 1		Matr	ix: Soil	
Reporting Units: mg/kg		SAMPLE	/ SAMPLE	DUPLIC	ATE RECO	OVERY
Anions by EPA 300/300.1 Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride		33.2	30.4	9	20	
Lab Batch #: 738697				<u>. </u>	·	
Date Analyzed: 10/30/2008	Date Pro	epared: 10/3	30/2008	Analy	st: LATCOF	ł
QC- Sample ID: 316093-006 D	E	atch #: 1	l	Matr	ix: Soil	
Reporting Units: mg/kg		SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Anions by EPA 300/300.1 Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride		82.7	79.4	4	20	
	<u> </u>		//.+	<u> </u>		
Lab Batch #: 738877 Date Analyzed: 10/31/2008	Date Pro	enared 10/3	31/2008	Analy	st: LATCOF	2
QC- Sample ID: 316093-026 D		atch #: 1		-	ix: Soil	-
Reporting Units: mg/kg		SAMPLE	/ SAMPLE			OVERY
Anions by EPA 300/300.1 Analyte	<u> </u>	Parent Sample Result [A]	· · · · · · · · · · · · · · · · · · ·	RPD	Control Limits %RPD	Flag
Chloride		1190	1110	7	20	
Lab Batch #: 738800				<u></u>	·	
Date Analyzed: 10/30/2008	Date Pro	e pared: 10/3	30/2008	Analy	st: BEV	
QC- Sample ID: 316093-001 D	E	atch #: 1	l	Matr	ix: Soil	
Reporting Units: %		SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	·	Parent Sample Result [A]	Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte			[B]			
Percent Moisture		9.67	9.61	1	20	

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



Work Order #: 316093

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Sample Duplicate Recovery



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Project Name: Midland/Odessa Standard List of Methods

Lab Batch #: 738801 Date Analyzed: 10/30/2008 QC- Sample ID: 316093-021- D	Date Prepared: 10/3 Batch #: 1	0/2008	Analy	D: ⁸⁻⁰¹³² st: BEV ix: Soil	
Reporting Units: %	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
ercent Moisture	6.99	6,99	2	20	

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

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		M. Larson			1-
PROJECT NO.		PROJECT NAME	5	τ	
8-0132			108		Erva
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0011		MW-1-50			
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CUENT NAME:	SITE MANAGER	PARAMETER	PARAMETERS/METHOD NI IMBER	CH
	M. Larson			; ; -
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8-0132		510		
se v	LAB PO#	8 25		507
105 105 3011 31100	SAMPLE IDENTIFICATION	<u>СРГ?</u> <u>559</u> 680 ИПЖВЕВ		LAE NUY I ILAB US
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#1	1 emperature of container/ cooler/	1 tes/	ON	2.0 0
#2	Shipping container in good condition?	(Yes)	No	
#2 #3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present>
#4	Custody Seals intact on sample bottles/ container?	Yes	No	(Not Present)
#5	Chain of Custody present?	(Yes>)	No	
#5 #6	Sample instructions complete of Chain of Custody?	Yes	No	
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No	
#8	Chain of Custody agrees with sample label(s)?	Yes>	No_	ID written on Cont./ Lid
#8 #9	Container label(s) legible and intact?	(Yes)	No	Not Applicable
#1(Yes	No	
#1	1 Containers supplied by ELOT?	Tes	No	
#1 #1	2 Samples in proper container/ bottle?	Yes	No	See Below
#1		(Yes)	No	See Below
#1	4 Sample bottles intact?	Yes	No	
#1 #1	5 Preservations documented on Chain of Custody?	(Yes)	No	
#1		(Yes)	No	
#1	7 Sufficient sample amount for indicated test(s)?	Tes	No	See Below
#1 #1	8 All samples received within sufficient hold time?	Yes>	No	See Below
#1		Yes	No	(Not Applicable)
#2	0 VOC samples have zero headspace?	Ves	No	Not Applicable

the second	Contact:	 Contacted by:	Date/ Time:
8 · · · · · · · · · · · · · · · · · · ·	Regarding:		
1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Corrective Action Taken:	 	
3 N F.			
1.8 8. P : 0 7	Check all that Apply:	See attached e-mail/ fax Client understands and would like to proceed with an Cooling process had begun shortly after sampling ev	-

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Analytical Report 316265

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Larson & Associates

Project Manager: Mark Larson

North 10-inch

8-0132

05-NOV-08





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12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215 - Odessa/Midland, TX T104704215-08-TX

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta



05-NOV-08

nelad

Project Manager: Mark Larson Larson & Associates P.O. Box 50685 Midland, TX 79710

Reference: XENCO Report No: 316265 North 10-inch Project Address:

Mark Larson:

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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 316265. 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. 316265 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,

Brent Barron, II Odessa Laboratory Manager

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Sample Cross Reference 316265

Larson & Associates, Midland, TX

North 10-inch

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW2 - 1'	S	Oct-30-08 09:30		316265-001
MW2 - 5'	S	Oct-30-08 09:39		316265-002
MW2 - 10'	S	Oct-30-08 09:43		316265-003
MW2 - 15'	S	Oct-30-08 09:48		316265-004
MW2 - 20'	S	Oct-30-08 09:52		316265-005
MW2 - 30'	S	Oct-30-08 10:15		316265-006
MW2 - 40'	S	Oct-30-08 10:22		316265-007
MW2 - 50'	S	Oct-30-08 10:33		316265-008
B4 - 1'	S	Oct-30-08 11:55		316265-009
B4 - 5'	S	Oct-30-08 11:59		316265-010
B4 - 10'	S	Oct-30-08 12:02		316265-011
B4 - 15'	S	Oct-30-08 12:05		316265-012
B4 - 20'	S	Oct-30-08 12:10		316265-013
B4 - 30'	S	Oct-30-08 12:17		316265-014
B4 - 40'	S	Oct-30-08 12:25		316265-015
B4 - 50'	S	Oct-30-08 12:40		316265-016

		West States i ected	bjectrates and 10 and				
Contact: Mark I aron		•			te Received in Lab: 1	Date Received in Lab: Fri Oct-31-08 08:56 am	1
Project Location:					Report Date: (05-NOV-08	
					Project Manager:]	Brent Barron, II	
	Lab Id:	316265-001	316265-002	316265-003	316265-004	316265-005	316265-006
Auducie Domoctod	Field Id:	MW2 - 1'	MW2 - 5'	MW2 - 10'	MW2 - 15'	MW2 - 20'	MW2 - 30'
naisanhay sistimuy	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-30-08 09:30	Oct-30-08 09:39	Oct-30-08 09:43	Oct-30-08 09:48	Oct-30-08 09:52	Oct-30-08 10:15
Anions by EPA 300/300.1	Extracted:						
	Analyzed:	Nov-03-08 19:04	Nov-03-08 19:04	Nov-03-08 19:04	Nov-03-08 19:04	Nov-03-08 19:04	Nov-03-08 19:04
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		ND 56.0	ND 53.5	ND 56.2	ND 109	ND 103	281 116
Percent Maisture	Extracted:						
	Analyzed:	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		10.71 1.00	6.61 1.00	10.98 1.00	8.46 1.00	2.83 1.00	13.56 1.00
TPH hv SW 8015B	Extracted:	Nov-03-08 17:15	Nov-03-08 17:15	Nov-03-08 17:15	Nov-03-08 17:15	Nov-03-08 17:15	Nov-03-08 17:15
	Analyzed:	Nov-04-08 20:32	Nov-04-08 20:57	Nov-04-08 21:23	Nov-04-08 21:49	Nov-04-08 22:14	Nov-04-08 22:40
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C10 Gasoline Range Hydrocarbons		ND 16.8	ND 16.1	ND 16.9	ND 16.4	ND 15.4	ND 17.4
C10-C28 Diesel Range Hydrocarbons		ND 16.8	ND 16.1	ND 16.9	ND 16.4	ND 15.4	ND 17.4
Total TPH		QN	QN	QN	QN	QN	QN

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Brent Barron Odessa Laboratory Director

The survey of

Project 1d: X-0132		is while the	jectionale: Jacob 10 and	4 - 45 			
Contact: Mark Larson		1		Dat	Date Received in Lab: Fri Oct-31-08 08:56 am	Fri Oct-31-08 08:56 an	ц
Project Location:					Report Date: (05-NOV-08	
					Project Manager: H	Brent Barron, II	
	Lab Id:	316265-007	316265-008	316265-009	316265-010	316265-011	316265-012
Awaling Dogunated	Field Id:	MW2 - 40'	MW2 - 50'	B4 - 1'	B4 - 5'	B4 - 10'	B4 - 15'
naisanhay sisting	Depth:	_					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Oct-30-08 10:22	Oct-30-08 10:33	Oct-30-08 11:55	Oct-30-08 11:59	Oct-30-08 12:02	Oct-30-08 12:05
Anions hv EPA 300/300.1	Extracted:						
	Analyzed:	Nov-03-08 19:04	Nov-03-08 19:04	Nov-04-08 03:18	Nov-04-08 03:18	Nov-04-08 03:18	Nov-04-08 03:18
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		240 117	181 113	ND 54.5	ND 52.0	ND 55.2	ND 110
Percent Moisture	Extracted:						
	Analyzed:	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		14.21 1.00	11.44 1.00	8.27 1.00	3.84 1.00	9.46 1.00	8.87 1.00
TPH hv SW 8015B	Extracted:	Nov-03-08 17:15	Nov-03-08 17:15	Nov-03-08 17:30	Nov-03-08 17:30	Nov-03-08 17:30	Nov-03-08 17:30
	Analyzed:	Nov-04-08 23:05	Nov-04-08 23:31	Nov-05-08 04:14	Nov-05-08 04:40	Nov-05-08 05:05	Nov-05-08 05:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C10 Gasoline Range Hydrocarbons		ND 17.5	ND 16.9	ND 16.4	ND 15.6	ND 16.6	ND 16.5
C10-C28 Diesel Range Hydrocarbons	1	ND 17.5	ND 16.9	ND 16.4	ND 15.6	ND 16.6	ND 16.5
Total TPH		QN	QN	QN	QN	QN	QN

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Odessa Laboratory Director Brent Barron

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Project Id: 8-0132		and the second second	ljecteratie: New 10 22				the sector
Contact: Mark Larson				Dat	ce Received in Lab:	Date Received in Lab: Fri Oct-31-08 08:56 am	
Project Location:					Report Date:	05-NOV-08	
					Project Manager:	Brent Barron, II	
	Lab Id:	316265-013	316265-014	316265-015	316265-016		
Analysis Domostad	Field Id:	B4 - 20'	B4 - 30'	B4 - 40'	B4 - 50'		
noiconhou ciclimut	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Oct-30-08 12:10	Oct-30-08 12:17	Oct-30-08 12:25	Oct-30-08 12:40		
Anions by FPA 300/300.1	Extracted:						
	Analyzed:	Nov-04-08 03:18	Nov-04-08 03:18	Nov-04-08 03:18	Nov-04-08 03:18		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		ND 107	190 109	251 110	196 106		
Percent Moisture	Extracted:						
	Analyzed:	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00	Oct-31-08 17:00		
	Units/RL:	% RL	% RL	% RL	% RL		
Percent Moisture		6.50 1.00	8.63 1.00	9.15 1.00	5.25 1.00		
TPH hv SW 8015B	Extracted:	Nov-03-08 17:30	Nov-03-08 17:30	Nov-03-08 17:30	Nov-03-08 17:30		
	Analyzed:	Nov-05-08 05:58	Nov-05-08 06:23	Nov-05-08 06:49	Nov-05-08 07:16		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		Í
C6-C10 Gasoline Range Hydrocarbons		ND 16.0	ND 16.4	ND 16.5	ND 15.8		
C10-C28 Diesel Range Hydrocarbons		ND 16.0	ND 16.4	ND 16.5	ND 15.8		
Total TPH		QN	QN	QN	QN		

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Brent Barron Odessa Laboratory Director

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- 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 effect the recovery of the spike concentration. This condition could also effect 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 MQL(PQL) and above the SQL(MDL).
- 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.
- * Outside XENCO'S scope of NELAC Accreditation

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238	(210) 509-3334	(210) 509-3335
2505 N. Falkenburg Rd., Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
6017 Financial Dr., Norcross, GA 30071	(770) 449-8800	(770) 449-5477



Project Name: North 10-inch

Vork Orders : 316265, Lab Batch #: 739170 Sample: 32	16265-009 / SMP Bat	Project I	ix: Soil		
Units: mg/kg	_	RROGATE R		STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.2	100	87	70-135	<u>.</u>
o-Terphenyl	46.0	50.0	92	70-135	
Lab Batch #: 739170 Sample: 3	16265-010 / SMP Bat		rix: Soil	<u> </u>	
Units: mg/kg	SU	RROGATE R	ECOVERYS	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	89.5	100	90	70-135	
o-Terphenyl	46.8	50.0	94	70-135	
•			rix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY S	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	88.8	100	89	70-135	
o-Terphenyl	46.7	50.0	93	70-135	
Lab Batch #: 739170 Sample: 3	16265-012 / SMP Bat	tch: 1 Matı	rix: Soil	·	
Units: mg/kg	SU	RROGATE R	ECOVERYS	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	T rue Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	92.2	100	92	70-135	
o-Terphenyl	48.2	50.0	96	70-135	
Lab Batch #: 739170 Sample: 3	16265-013 / SMP Bat	tch: 1 Mat	rix: Soil		
Units: mg/kg		RROGATE R		STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes			[D]		
1-Chlorooctane	87.5	100	88	70-135	
o-Terphenyl	45.6	50.0	91	70-135	1

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / B

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



Project Name: North 10-inch

Lab Batch #: 739170 San	ple: 316265-014 / SMP	Batch:	1 Matri	x: Soil		
Units: mg/kg		SURR	OGATE RE	COVERYS	TUDY	
TPH by SW 8015 Analytes	3 Ame Foi [2	ind	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		0	100	88	70-135	
p-Terphenyl	46		50.0	93	70-135	
Lab Batch #: 739170 San	uple: 316265-015 / SMP	Batch	1 Matri	x: Soil		
Units: mg/kg		SURR	OGATE RE	COVERY S	STUDY	
TPH by SW 80151 Analytes	3 Ame Foi [/	ind	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
I-Chlorooctane		1	100	89	70-135	
D-Terphenyl		6	50.0	93	70-135	
Lab Batch #: 739170 San	ple: 316265-015 S / MS	Batch	l Matri	x: Soil		
Units: mg/kg		SURR	OGATE RE	COVERYS	STUDY	
TPH by SW 80151 Analytes	3 Am Foi [4	ind	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
I-Chlorooctane	10	7	100	107	70-135	
o-Terphenyl	44	7	50.0	89	70-135	_
Lab Batch #: 739170 San	ple: 316265-015 SD / MSD	Batch	1 Matri	x: Soil		
Units: mg/kg	`	SURR	OGATE RE	COVERYS	STUDY	
TPH by SW 80151	For	1	True Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes				[D]		
-Chlorooctane	1	_	100	106	70-135	
		6	100 50.0		70-135 70-135	
-Chlorooctane	10	6	50.0	106		
-Chlorooctane	10	6 5 Batch:	50.0	106 89 x: Soil	70-135	
-Chlorooctane -Terphenyl Lab Batch #: 739170 San Units: mg/kg TPH by SW 80151	10 44 19] 10 10 44	6 5 Batch: SURR punt ind	50.0 1 Matri	106 89 x: Soil COVERY S Recovery %R	70-135	Fla
-Chlorooctane -Terphenyl Lab Batch #: 739170 San Units: mg/kg	10 44 pple: 316265-016 / SMP 3 Ame For	6 5 Batch: SURR ount ind -]	50.0 1 Matri OGATE RE True Amount	106 89 x: Soil COVERY S Recovery	70-135 STUDY Control Limits	Fla

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / BAll results are based on MDL and validated for QC purposes.



Project Name: North 10-inch

ork Orders : 316265,		Project II			
	35-1-BKS / BKS Bat		ix: Solid		
Units: mg/kg	SU	RROGATE RI	ECOVERY S	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	43.7	50.0	87	70-135	
Lab Batch #: 739170 Sample: 5186	535-1-BLK / BLK B at	tch: 1 Matri	ix: Solid		
Units: mg/kg		RROGATE RI		STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	90.1	100	90	70-135	
o-Terphenyl	48.7	50.0	97	70-135	
		<u></u>			
Lab Batch #: 739170 Sample: 5186 Units: mg/kg	35-1-BSD / BSD Bat	ch: []] Matri RROGATE RI	ix: Solid	STUDY	
Units: mg/kg	<u> </u>				
TPH by SW 8015B Analytes	Amount Found [A]	T rue Amount [B]	Recovery %R [D]	Control Limits %R	Flag
······································		100		<u> 70 105</u>	
1-Chlorooctane o-Terphenyl	106	100	106	70-135	
	43.4	50.0	87	70-133	
Lab Batch #: 739174 Sample: 3162			ix: Soil		
Units: mg/kg	SU.	RROGATE RI	ECOVERY	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane	88.5	100	89	70-135	
o-Terphenyl	45.8	50.0	92	70-135	
Lab Batch #: 739174 Sample: 3162	65-001 S / MS Bat	tch: 1 Matr	ix: Soil		
Units: mg/kg	SU	RROGATE RI	ECOVERY	STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
Analytes	[]	1	[D]		
			<u> </u>	· · · · · · · · · · · · · · · · · · ·	
1-Chlorooctane	106	100	106	70-135	

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / B

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



Project Name: North 10-inch

ork Orders : 316265,		Project II			
Lab Batch #: 739174 Sample: 316265-001 SD / M			ix: Soil		
Units: mg/kg	SU	RROGATE RI	ECOVERY	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
1-Chlorooctane	102	100	102	70-135	h=
o-Terphenyl	42.3	50.0	85	70-135	
		<u> </u>	<u> </u>	[]	
Lab Batch #: 739174 Sample: 316265-002 / SMP Units: mg/kg		itch: 1 Matri IRROGATE RI	ix: Soil ECOVERY S	STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
Analytes		100		70.125	
o-Terphenyl	84.8	100	85	70-135	
	43.6	50.0	<u> </u>	70-135	
Lab Batch #: 739174 Sample: 316265-003 / SMP			ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
Analytes			[D]		-
1-Chlorooctane	87.8	100	88	70-135	
o-Terphenyl	45.8	50.0	92	70-135	
Lab Batch #: 739174 Sample: 316265-004 / SMP	Ba	tch: 1 Matr	ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH by SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
Analytes	87.0	100	87	70-135	_
	45.0	50.0	90	70-135	
o-Terphenyl		1	ſ		
		4.1. 1 3 <i>T</i> ·	Coll		
Lab Batch #: 739174 Sample: 316265-005 / SMP			ix: Soil	CTUDV	
Lab Batch #: 739174 Sample: 316265-005 / SMP Units: mg/kg	SU	RROGATE R			
Lab Batch #: 739174 Sample: 316265-005 / SMP Units: mg/kg TPH by SW 8015B			ECOVERY Recovery %R	STUDY Control Limits %R	Fla
Lab Batch #: 739174 Sample: 316265-005 / SMP Units: mg/kg	SU Amount Found	RROGATE R True Amount	ECOVERY Recovery	Control Limits	Fla

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / BAll results are based on MDL and validated for QC purposes.



Project Name: North 10-inch

Work Orders : 316265,			Project II): 8-0132		
Lab Batch #: 739174	Sample: 316265-006 / SN	IP Bat	tch: 1 Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERYS	STUDY	
TPH by S Ana	SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	·	86.0	100	86	70-135	
o-Terphenyl		45.3	50.0	91	70-135	
o-Terphenyl Lab Batch #: 739174	Sample: 316265-007 / SN	1P Bat	tch: ¹ Matri	x: Soil	· · · · · · · · · · · · · · · · · · ·	
Units: mg/kg		SU	RROGATE RE	COVERYS	STUDY	
	SW 8015B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Ana 1-Chlorooctane		88.0	100	88	70-135	
o-Terphenyl	<u> </u>	45.7	50.0	91	70-135	
Lab Batch #: 739174	Sample: 316265-008 / SM			x: Soil	· · · · · · · · · · · ·	
Units: mg/kg		SU	RROGATE RI	COVERY	STUDY	
Ana	SW 8015B lytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		89.1	100	89	70-135	
o-Terphenyl		46.0	50.0	92	70-135	
Lab Batch #: 739174	Sample: 518638-1-BKS /	BKS Bat	tch: ¹ Matri	x: Solid	••••••••••••••••••••••••••••••••••••••	
Lab Batch #: 739174 Units: mg/kg	······ · ·····		RROGATE RI		STUDY	
TPH by S Ana	SW 8015B	Amount Found [A]	T rue Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		102	100	102	70-135	
o-Terphenyl		43.4	50.0	87	70-135	
Lab Batch #: 739174	Sample: 518638-1-BLK /	BLK Bat	tch: 1 Matri	x: Solid	L	
Units: mg/kg	ł		RROGATE RI		STUDY	
TPH by S	W 8015B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Ana	lytes		-	[D]		
1-Chlorooctane		86.8	100	87	70-135	
o-Terphenyl	· · · · · · · · · · · · · · · · · · ·	45.8	50.0	92	70-135	

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / B

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



Project Name: North 10-inch

Work Orders : 316265,

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Project ID: 8-0132 1 Matrin Solid

Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH by SW 8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	43.0	50.0	86	70-135	

** 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.

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Blank Spike Recovery



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Project Name: North 10-inch

Work Order #: 316265			Pr	oject ID:			8-0132
Lab Batch #: 739033 Date Analyzed: 11/03/2008		ample: 739033- pared: 11/03/20	800	Analy	ix: Solid st: LATCO		
Reporting Units: mg/kg	B	atch #: 1	BLANK /	BLANK SPI	KE REC	OVERY S	STUDY
		Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analy	/tes			[C]	[D]		
Chloride		ND	10.0	10.2	102	75-125	
Lab Batch #: 739036	S	ample: 739036-	1-BKS	Matri	ix: Solid		
Date Analyzed: 11/04/2008	Date Pre	pared: 11/04/20	800	Analy	st: LATCO	OR	
Reporting Units: mg/kg	В	atch #: 1	BLANK /	BLANK SPI	KE REC	COVERY S	STUDY
Anions by EPA	A 300/300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analy	vtes	[² ^k]		[C]	[D]	,	
Chloride		ND	10.0	9.63	96	75-125	

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

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Work Order #: 316265

BS / BSD Recoveries

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Project Name: North 10-inch

Work Order #: 316265								Proj	Project ID: 8-0132	-0132		
Analyst: ASA		Da	ite Prepar	Date Prepared: 11/03/2008	8			Date A	Date Analyzed: 11/05/2008	1/05/2008		
Lab Batch ID: 739170	Sample: 518635-1-BKS	KS	Batch #:	1#:1					Matrix: Solid	olid		
Units: mg/kg			BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	SPIKE / E	SLANK S	PIKE DUPI	ICATE	RECOVE	RY STUD	Y	
TPH by SW 8015B	8015B	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes		[¥]	[B]	Result	DI N	Ē	Duplicate Result [F]	۲ [G]	%	%R	%RPD	
C6-C10 Gasoline Range Hydrocarbons	arbons	DN	1000	847	85	1000	852	85	1	70-135	35	
C10-C28 Diesel Range Hydrocarbons	rbons	Q	1000	832	83	1000	832	83	0	70-135	35	
Analyst: ASA		Da	ite Prepar	Date Prepared: 11/03/2008	8			Date A	Date Analyzed: 11/04/2008	1/04/2008		
Lab Batch ID: 739174	Sample: 518638-1-BKS	KS	Batch #:	n#: 1					Matrix: Solid	olid		
Units: mg/kg			BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	SPIKE / E	SLANK S	PIKE DUPI	ICATE]	RECOVE	RY STUD	Y	
TPH by SW 8015B	8015B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes			[B]	[c]	ē	[E]	Result [F]	[0]				
C6-C10 Gasoline Range Hydrocarbons	arbons	Q	1000	836	84	1000	841	84	1	70-135	35	
C10-C28 Diesel Range Hydrocarbons	rbons	QN	1000	812	81	1000	812	81	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

For (For	m 3 - MS F	Recover	ries	J		STER TH ACCORDANCE
aboratories Project Nam	e: North 10-ir	ıch				melac
Vork Order #: 316265 Lab Batch #: 739033 Date Analyzed: 11/03/2008 QC- Sample ID: 316212-046 S Reporting Units: mg/kg	Date Prepared: Batch #: MAT	11/03/2008 1 RIX / MAT		oject ID: Analyst: <u>Matrix:</u> RECO	LATCOR Soil	DY
Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	ND	102	109	107	75-125	
Lab Batch #: 739036 Date Analyzed: 11/04/2008 QC- Sample ID: 316265-009 S Reporting Units: mg/kg	Date Prepared: Batch #:	11/04/2008 1		Analyst: Matrix:	LATCOR Soil	
Reporting Units: mg/kg	МАТ	RIX / MAT	FRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	ND	109	110	101	75-125	

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

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Project Name: North 10-inch



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Lab Batch ID: 739170 Work Order #: 316265

Date Analyzed: 11/05/2008

-Analyst: Batch #: QC-Sample ID: 316265-015 S

Matrix: Soil ASA

Project ID: 8-0132

Date Prepared: 11/03/2008

Reporting Units: mg/kg		Z	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH by SW 8015B	Parent Sample	Spike	Spiked Sample Spiked Result Sample	Spiked Sample	Spike	Duplicate Spiked Sample	Š.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]	<u>כ</u>	л» Ю	Added [E]	Result [F]	%R [G]	%	%К	%RPD	
C6-C10 Gasoline Range Hydrocarbons	QN	1100	916	83	1100	905	82	ĺ	70-135	35	
C10-C28 Diesel Range Hydrocarbons	QN	1100	906	82	1100	891	81	1	70-135	35	
Lab Batch ID: 739174 Date Analyzed: 11/04/2008	QC- Sample ID: 316265-001 S Date Prepared: 11/03/2008	316265- 11/03/2	-001 S 208	Ba An	Batch #: 1 Analyst: ASA		Matrix: Soil				-
Reporting Units: mg/kg		Z	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH by SW 8015B	Parent Sample Descrift	Spike	Spiked Sample Spiked Result Sample	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup. %D	RPD	Control Limits	Control Limits	Flag

%RPD 35 35 70-135 70-135 %В % 4 2 ß % 82 79 Result [F] 913 888 Added [E] 1120 1120 B] % 82 84 919 <u>ច</u> 939 Added [B] 1120 1120 Result [A] QZ ĝ C6-C10 Gasoline Range Hydrocarbons C10-C28 Diesel Range Hydrocarbons Analytes

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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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Sample Duplicate Recovery



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Project Name: North 10-inch

Work Order #: 316265

Lab Batch #: 739033 Date Analyzed: 11/03/2008 QC- Sample ID: 316212-046 D	Date Pro	epared: 11/0 Batch #: 1	3/2008	Analy	D: 8-0132 st: LATCOR ix: Soil	2
Reporting Units: mg/kg	D		SAMPLE			OVERY
Anions by EPA 300/300.1 Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride		ND		NC	20	
		ND		ne		
Lab Batch #: 739036 Date Analyzed: 11/04/2008	Date Pro		4/2008	·	st: LATCOF	R
QC- Sample ID: 316265-009 D	В	Batch #: 1	_		ix: Soil	
Reporting Units: mg/kg		SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Anions by EPA 300/300.1 Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride		ND				
			ND	NC	20	
Lab Batch #: 738813 Date Analyzed: 10/31/2008 QC- Sample ID: 316265-001 D	Date Pro B		1/2008	Analy	20 st: ASA ix: Soil	
Date Analyzed: 10/31/2008		epared: 10/3 Batch #: 1	1/2008	Analy Matr	st: ASA ix: Soil	OVERY
Date Analyzed: 10/31/2008 QC- Sample ID: 316265-001 D	B	epared: 10/3 Batch #: 1	1/2008 / SAMPLE	Analy Matr	st: ASA ix: Soil	OVERY Flag

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

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DATE: <u>70-30-4</u> 7 RELINQUISHED BY: ISignature) DATE. TIME:
RECEIVED BY: (Signature)
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RECEIVED BY: (Signature)
DATE TIME.
LA CONTACT PERSON:
DATE: TIME: TIME

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#1	Temperature of container/ cooler?	(Yes)	No	4.5 °C
#2	Shipping container in good condition?	Yes	No	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present
#5	Chain of Custody present?	Yes	No	
#6	Sample instructions complete of Chain of Custody?	Yes	No	
#7	Chain of Custody signed when relinquished/ received?	Yes	No	
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable
#10		Yes	No	
#11	Containers supplied by ELOT?	Yes	No	
#12	Samples in proper container/ bottle?	(Yes)	No	See Below
#13		Yes	No	See Below
#14		Yes	No	
#15	Preservations documented on Chain of Custody?	Yes	No	
#16		Yes	No	
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below
#18	3 All samples received within sufficient hold time?	Yes	No	See Below
#19	Subcontract of sample(s)?	Yes	No	Ont Applicable > 100 Control Contro
#2(	VOC samples have zero headspace?	Yes	No	Not Applicable
Co	Variance Docur         ntact:          Contacted by:	nentation	-	Date/ Time:
Re	garding:			
Co	rrective Action Taken:			
			· · · · · · · · · · · · · · · · · · ·	
Ch	eck all that Apply: See attached e-mail/ fax Ctient understands and wou Cooling process had begun			

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Michelle L. Green Larson & Associates, Inc. 507 N Marienfeld, Suite 200 Midland, TX 79701

Office: 432.687.0901 Fax: 432.687.0456 Cell: 432.934.3231

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11/3/2008

## **Analytical Report 313582**

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for

Larson & Associates

**Project Manager: Michelle Green** 

Targa South Brine Pond 6-0107

07-OCT-08





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12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215 - Odessa/Midland, TX T104704215-08-TX

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta



07-OCT-08

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Project Manager: Michelle Green Larson & Associates P.O. Box 50685 Midland, TX 79710

Reference: XENCO Report No: 313582 Targa South Brine Pond Project Address:

#### Michelle Green:

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 313582. 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. 313582 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,

Brent Barron, II Odessa Laboratory 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 - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America and the second

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### Sample Cross Reference 313582

### Larson & Associates, Midland, TX

Targa South Brine Pond

	Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
1	NW @ 1'	S	Sep-30-08 10:21		313582-001
	NW @ 3'	S	Sep-30-08 10:26		313582-002
-	NW @ 5'	S	Sep-30-08 10:29		313582-003
1. A.	NW @ 10'	S	Sep-30-08 10:33		313582-004
	NW @ 15'	S	Sep-30-08 10:36		313582-005
- 19 mar	NW @ 20'	S	Sep-30-08 10:42		313582-006
*	SW @ 1'	S	Sep-30-08 10:55		313582-007
	SW @ 3'	S	Sep-30-08 10:58		313582-008
1	SW @ 5'	S	Sep-30-08 11:00		313582-009
	SW @ 10'	S	Sep-30-08 11:04		313582-010
_	SW @ 15'	S	Sep-30-08 11:08		313582-011
nu, <b>b</b> itr Ω	SW @ 20'	S	Sep-30-08 11:11		313582-012
e.	SE @ 1'	S	Sep-30-08 12:36		313582-013
	SE @ 3'	S	Sep-30-08 12:39		313582-014
1 4 . 2995	SE @ 5'	S	Sep-30-08 12:42		313582-015
3.0	SE @ 10'	S	Sep-30-08 12:44		313582-016
	SE @ 15'	S	Sep-30-08 12:47		313582-017
1. 2. 5 ° .	SE @ 20'	S	Sep-30-08 12:52		313582-018
	Center @ 1'	S	Sep-30-08 09:08		313582-019
	Center @ 3'	S	Sep-30-08 09:12		313582-020
a de ana	Center @ 5'	S	Sep-30-08 09:17		313582-021
	Center @ 10'	S	Sep-30-08 09:20		313582-022
6	Center @ 15'	S	Sep-30-08 09:23		313582-023
f ar at	Center @ 20'	S	Sep-30-08 09:27		313582-024
-	NE @ 1'	S	Sep-30-08 09:48		313582-025
се - 1	NE @ 3'	S	Sep-30-08 09:51		313582-026
2. m. a.	NE @ 5'	S	Sep-30-08 09:54		313582-027
	NE @ 10'	S	Sep-30-08 09:57		313582-028
	NE @ 15'	S	Sep-30-08 10:00		313582-029
	NE @ 20'	S	Sep-30-08 10:04		313582-030

Protect Id: 6-0107	÷ 5.86%	mere Projekti al	ameranga with British on the	_	「「「「「「」」」		
Contact: Michelle Green				Da	Date Received in Lab: Tue Sep-30-08 04:38 pm	Tue Sep-30-08 04:38 I	mq
Project Location:					Report Date: (	07-OCT-08	
					Project Manager: 1	Brent Barron, II	-
	Lab Id:	313582-001	313582-002	313582-003	313582-004	313582-005	313582-006
Analysis Donnostod	Field Id:	NW @ 1'	NW @ 3'	NW @ 5'	NW @ 10'	NW @ 15'	NW @ 20'
noisonhou ciclinut	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Sep-30-08 10:21	Sep-30-08 10:26	Sep-30-08 10:29	Sep-30-08 10:33	Sep-30-08 10:36	Sep-30-08 10:42
Anions by FPA 300/300.1	Extracted:						
	Analyzed:	Oct-01-08 14:42	Oct-01-08 14:42	Oct-01-08 14:42	Oct-01-08 14:42	Oct-01-08 14:42	Oct-01-08 14:42
	Units/RL:	mg/kg RL	mg/kg	RL mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8330 110	0 2650 56.7	1.7 1030 22.3	970 22.5	1040 22.4	644 11.5
Percent Maisture	Extracted:						
	Analyzed:	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00
	Units/RL:	% RL	%	RL % RL	% RL	% RL	% RL
Percent Moisture		8.84	11.8	10.3	11	10.7	12.8
TPH Rv SW8015 Mod	Extracted:	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20
	Analyzed:	Oct-05-08 01:53	Oct-05-08 02:20	Oct-05-08 02:47	Oct-05-08 03:15	Oct-05-08 03:43	Oct-05-08 04:09
	Units/RL:	mg/kg RL	mg/kg	RL mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 16.5	Q	17.0 ND 16.7	ND 16.9	ND 16.8	ND 17.2
C12-C28 Diesel Range Hydrocarbons		ND 16.5	Q	17.0 ND 16.7	ND 16.9	ND 16.8	ND 17.2
C28-C35 Oil Range Hydrocarbons		ND 16.5	QN	17.0 ND 16.7	ND 16.9	ND 16.8	ND 17.2
Total TPH		QN	QU	QN	Ð	QN	QN

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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.

Brent Barron Odessa Laboratory Director

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Contract: Michalle Graan					Date Received in Lab:	Tue Sep-30-08 04:38 pm	0-08 04:38 pm	
Project Location:					Report Date: ( Project Manager: I	07-OCT-08 Brent Barron, II		
	Lab Id:	313582-007	313582-008	313582-009		313582-011	313582-012	
	Field Id:	SW @ 1'	SW @ 3'	SW @ 5'	SW @ 10'	SW @ 15'	SW @ 20'	
naisan perturbation of the second sec	Depth:							
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Sep-30-08 10:55	Sep-30-08 10:58	Sep-30-08 11:00	Sep-30-08 11:04	Sep-30-08 11:08	Sep-30-08 11:11	1
Anions by EPA 300/300.1	Extracted:							
	Analyzed:	Oct-01-08 14:42	Oct-01-08 14:42	Oct-01-08 14:42	Oct-01-08 14:42	Oct-01-08 14:42	Oct-01-08 14:42	2
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg I	RL
Chloride		9660 220	9550 222	5640 108	1300 21.9	423 10.9	336 1	11.1
Percent Moisture	Extracted:							
	Analyzed:	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	0
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% H	RL
Percent Moisture		9.14	10.1	7.78	8.74	8.17	9.53	
TPH RV SW8015 Mod	Extracted:	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	0
	Analyzed:	Oct-05-08 04:35	Oct-05-08 05:02	Oct-05-08 05:30	Oct-05-08 05:57	Oct-05-08 06:50	Oct-05-08 07:18	×
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg I	RL .
C6-C12 Gasoline Range Hydrocarbons		ND 16.5	ND 16.7	ND 16.3	ND 16.4	ND 16.3	QN	16.6
C12-C28 Diesel Range Hydrocarbons		ND 16.5	ND 16.7	ND 16.3	ND 16.4	ND 16.3	QN	16.6
C28-C35 Oil Range Hydrocarbons		ND 16.5	ND 16.7	ND 16.3	ND 16.4	ND 16.3	QN	16.6
Total TPH		Ð	QN	QN	QZ	QN	Ð	

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Contraction of the second s		7	D		Date Received in Lab:	Tue Sep-30-08 04:38 pm	m	
Contact: MINUELIC OLCER					Report Date: Project Manager:	07-OCT-08 Brent Barron, II		
	Lab Id:	313582-013	313582-014	313582-015	313582-016	313582-017	313582-018	
Analysis Domostod	Field Id:	SE @ 1'	SE @ 3'	SE @ 5'	SE @ 10'	SE @ 15'	SE @ 20'	
naicanhay sistinuy	Depth:							
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Sep-30-08 12:36	Sep-30-08 12:39	Sep-30-08 12:42	Sep-30-08 12:44	Sep-30-08 12:47	Sep-30-08 12:52	2
Anions by EPA 300/300.1	Extracted:							
	Analyzed:	Oct-01-08 14:42	Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RJ	RL
Chloride	-	0	5200 100	2170 50.0	815 20.0	369 10.0	548 10	10.0
Percent Moisture	Extracted:							
	Analyzed:	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	_
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% R	RL
Percent Moisture		8.8	9.07	8.82	10.9	9.93	15	
TPH RV SW8015 Mod	Extracted:	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	Oct-03-08 18:20	~
	Analyzed:	Oct-05-08 07:45	Oct-05-08 08:13	Oct-05-08 08:41	Oct-05-08 09:09	Oct-05-08 09:37	Oct-05-08 10:03	~
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg R	RL
C6-C12 Gasoline Range Hydrocarbons			ND 16.5	ND 16.5	ND 16.8	ND 16.7	CI QN	17.7
C12-C28 Diesel Range Hydrocarbons		ND 16.4	ND 16.5	ND 16.5	ND 16.8	ND 16.7	CI ON	17.7
C28-C35 Oil Range Hydrocarbons		ND 16.4	ND 16.5	ND 16.5	ND 16.8	ND 16.7	CI QN	17.7
Total TDH		QN	QX	Q	QN	QN	QN	

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Brent Barron Odessa Laboratory Director

Contact: Michelle Green				)		Date Received in Lab:	Tue Sep-30-08 04:38 pm	m	
Project Location:						Report Date: Project Manager:	07-OCT-08 Brent Barron, II		
	Lab Id:	313582-019		313582-020	313582-021	313582-022	313582-023	313582-024	
Auchicic Decented	Field Id:	Center @ 1'		Center @ 3'	Center @ 5'	Center @ 10'	Center @ 15'	Center @ 20'	
naicanhay ciclinny	Depth:								
	Matrix:	SOIL		SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Sep-30-08 09:08		Sep-30-08 09:12	Sep-30-08 09:17	Sep-30-08 09:20	Sep-30-08 09:23	Sep-30-08 09:27	12
Anions by RPA 300/300 1	Extracted:								
	Analyzed:	Oct-01-08 21:05		Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05	)5
	Units/RL:	mg/kg	RL n	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg	RL
Chloride		0	200	6920 200	5960 100	738 20.0	388 10.0	363	10.0
Percent Maisture	Extracted:								
	Analyzed:	Oct-01-08 17:00		Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	00
	Units/RL:	%	RL	% RL	% RL	% RL	% RL	%	RL
Percent Moisture		9.74		8.08	11.1	11.3	9.05	13.4	
TDH Ry CW/8015 Mod	Extracted:	Oct-03-08 18:20		Oct-03-08 18:20	Oct-03-08 18:00	Oct-03-08 18:00	Oct-03-08 18:00	Oct-03-08 18:00	00
	Analyzed:	Oct-05-08 10:29		Oct-05-08 10:55	Oct-05-08 15:33	Oct-05-08 15:58	Oct-06-08 09:48	Oct-05-08 16:49	6†
	Units/RL:	mg/kg	RL n	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons			16.6	ND 16.3	ND 16.9	ND 16.9	ND 16.5	QN	17.3
C12-C28 Diesel Range Hydrocarbons		ND 1	16.6	ND 16.3	ND 16.9	ND 16.9	ND 16.5	QN	17.3
C28-C35 Oil Range Hydrocarbons		ND 1	16.6	ND 16.3	ND 16.9	ND 16.9	ND 16.5	QN	17.3
Total TPH		Q		QN	QN	QN	ND	Q	

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Brent Barron Odessa Laboratory Director



Froject Id: 6-0107		Projestian	Name and a second the brack Ponter		1		
Contact: Michelle Green				Dat		Tue Sep-30-08 04:38 pm	u
Project Location:					Project Manager: E	0/-001-00 Brent Barron, II	
	Lab Id:	313582-025	313582-026	313582-027		313582-029	313582-030
Androic Domontal	Field Id:	NE @ 1'	NE @ 3'	NE @ 5'	NE @ 10'	NE @ 15'	NE @ 20'
naisanbay sistinuy	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Sep-30-08 09:48	Sep-30-08 09:51	Sep-30-08 09:54	Sep-30-08 09:57	Sep-30-08 10:00	Sep-30-08 10:04
Anions hv FPA 300/300 1	Extracted:						
	Analyzed:	Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05	Oct-01-08 21:05
	Units/RL:	mg/kg RL	L mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		6080 100	0 5190 100	4400 200	1590 50.0	774 20.0	466 20.0
Percent Maisture	Extracted:						
	Analyzed:	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00	Oct-01-08 17:00
	Units/RL:	% RL	L % RL	% RL	% RL	% RL	% RL
Percent Moisture		16.9	18.4	21.7	16.7	9.94	10.9
TPH Rv CW8015 Mod	Extracted:	Oct-03-08 18:00	Oct-03-08 18:00	Oct-03-08 18:00	Oct-03-08 18:00	Oct-03-08 18:00	Oct-03-08 18:00
	Analyzed:	Oct-05-08 17:14	Oct-05-08 17:40	Oct-05-08 18:06	Oct-05-08 18:31	Oct-05-08 18:57	Oct-05-08 19:22
	Units/RL:	mg/kg RL	L mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 18.1	.1 ND 18.4	ND 19.1	ND 18.0	ND 16.7	ND 16.8
C12-C28 Diesel Range Hydrocarbons		ND 18.1	.1 ND 18.4	ND 19.1	ND 18.0	ND 16.7	ND 16.8
C28-C35 Oil Range Hydrocarbons		ND 18.1	.1 ND 18.4	1.91 UN 19.1	ND 18.0	ND 16.7	ND 16.8
Total TPH		QN	QN	QN	QN	QN	QN

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Brent Barron Odessa Laboratory Director

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## **Flagging Criteria**

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect 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 MQL(PQL) and above the SQL(MDL).
- 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.
- * Outside XENCO'S scope of NELAC Accreditation

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5332 Blackberry Drive, Suite 104, San Antonio, TX 78238	(210) 509-3334	(210) 509-3335
2505 N. Falkenburg Rd., Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
6017 Financial Dr., Norcross, GA 30071	(770) 449-8800	(770) 449-5477





Project Name: Targa South Brine Pond

W	ork Orders : 313582,	<b>Project ID:</b> 6-0107		
	Lab Batch #: 736185 Sample:	313582-001 / SMP         Batch:         1         Matrix:         Soil		
	Units: mg/kg	SURROGATE RECOVERY STUDY		
	TPH By SW8015 Mod Analytes	AmountTrueControlFoundAmountRecoveryLimits[A][B]%R%R[D]		
F	1-Chlorooctane	103 100 103 70-135		
Ī	o-Terphenyl	51.4 50.0 103 70-135		
-	•	313582-002 / SMP Batch: 1 Matrix: Soil		
F	Units: mg/kg	SURROGATE RECOVERY STUDY		
	TPH By SW8015 Mod Analytes	AmountTrueControlFoundAmountRecoveryLimits[A][B]%R%R[D][D][D]		
$\mathbf{F}$	1-Chlorooctane	97.4 100 97 70-135		
L	o-Terphenyl	49.1         50.0         98         70-135		
L	Lab Batch #: 736185 Sample:	313582-003 / SMP Batch: 1 Matrix: Soil		
Lab Batch #: 736185       Sample: 313582-003 / SMP       Batch: 1       Matrix: Soil         Units: mg/kg       SURROGATE RECOVERY STUDY				
	TPH By SW8015 Mod Analytes	AmountTrueControlFoundAmountRecoveryLimits[A][B]%R%R[D][D][D]		
t	1-Chlorooctane	92.3 100 92 70-135		
	o-Terphenyl	46.8 50.0 94 70-135		
L	-	313582-004 / SMP Batch: 1 Matrix: Soil		
_	Units: mg/kg	SURROGATE RECOVERY STUDY		
	TPH By SW8015 Mod Analytes	AmountTrueControlFoundAmountRecoveryLimits[A][B]%R%R[D][D][D]		
	1-Chlorooctane	96.7 100 97 70-135		
(	o-Terphenyl	48.9         50.0         98         70-135		
_	Lab Batch #: 736185 Sample:	313582-005 / SMP Batch: 1 Matrix: Soil		
	Units: mg/kg	SURROGATE RECOVERY STUDY		
	TPH By SW8015 Mod	AmountTrueControlFoundAmountRecoveryLimits[A][B]%R%R		
	Analytes	[D]		
	1-Chlorooctane	99.2 100 99 70-135		
	o-Terphenyl	50.1 50.0 100 70-135		

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

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*** Poor recoveries due to dilution Surrogate Recovery [D] = 100 * A / B All results are based on MDL and validated for QC purposes.

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Project Name: Targa South Brine Pond

ork Orders : 313582,			Project II	<b>):</b> 6-0107		
Lab Batch #: 736185 S	ample: 313582-006 / SMP	Bat	tch: 1 Matri	x: Soil		
Units: mg/kg		SU	RROGATE RE	COVERYS	STUDY	
TPH By SW8015 Analytes	Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		96.3	100	96	70-135	
o-Terphenyl		48.4	50.0	97	70-135	
Lab Batch #: 736185 S	ample: 313582-007 / SMP	Bat	tch: 1 Matri	x: Soil		
Units: mg/kg	- -	SU	RROGATE RE	COVERYS	STUDY	
TPH By SW8015 Analytes	Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		94.9	100	95	70-135	
o-Terphenyl		48.2	50.0	96	70-135	
Lab Batch #: 736185 S	ample: 313582-008 / SMP	Bat	tch: 1 Matri	x: Soil	•	
Units: mg/kg	ſ	SURROGATE RECOVERY STUDY				
TPH By SW8015 Analytes	Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	·····	93.5	100	94	70-135	
o-Terphenyl		47.2	50.0	94	70-135	
Lab Batch #: 736185 S	ample: 313582-009 / SMP	Bat	tch: 1 Matri	x: Soil	<u> </u>	
Units: mg/kg	Г		RROGATE RE	COVERY	STUDY	
TPH By SW8015 Analytes	Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
		97.4	100	97	70-135	
1-Chlorooctane		97.4				
1-Chlorooctane		48.6	50.0	97	70-135	
o-Terphenyl	ample: 313582-010 / SMP	48.6		97 <b>x:</b> Soil	70-135	I
o-Terphenyl	ample: 313582-010 / SMP	48.6 <b>Ba</b> t		x: Soil	l	
o-Terphenyl Lab Batch #: 736185 S Units: mg/kg TPH By SW8015		48.6 <b>Ba</b> t	tch: ¹ Matri	x: Soil	l	Flag
o-Terphenyl Lab Batch #: 736185 S Units: mg/kg		48.6 Ba SU Amount Found	tch: 1 Matri RROGATE RE True Amount	x: Soil COVERY Recovery %R	STUDY Control Limits	Flag

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / B



### Project Name: Targa South Brine Pond

ork Orders : 313582, Lab Batch #: 736185 Sample: 313	3582-011 / SMP Bat	Project ID: 6-0107           AP         Batch: 1         Matrix: Soil						
Units: mg/kg		RROGATE R		STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag			
Analytes			[D]					
1-Chlorooctane	96.8	100	97	70-135				
o-Terphenyl	48.5	50.0	97	70-135				
•	3582-012 / SMP Bat		rix: Soil					
Units: mg/kg	SU.	RROGATE R	ECOVERY S					
TPH By SW8015 Mod Analytes	Amount Found . [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag			
1-Chlorooctane	96.5	100	97	70-135				
p-Terphenyl	48.7	50.0	97	70-135				
-	3582-013 / SMP Bat		rix: Soil					
Units: mg/kg		SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag			
Analytes			[D]					
1-Chlorooctane	96.9	100	97	70-135				
p-Terphenyl	48.7	50.0	97	70-135				
Lab Batch #: 736185 Sample: 313	3582-014 / SMP Bat	tch: 1 Mati	rix: Soil					
Units: mg/kg	SU	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag			
-Chlorooctane	96.5	100	97	70-135				
-Terphenyl	48.5	50.0	97	70-135				
Lab Batch #: 736185 Sample: 313	3582-015 / SMP Bat	tch: 1 Mati	rix: Soil					
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY				
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla			
-Chlorooctane	95.6	100	96	70-135				
	20.0	100	1 20	1 10-135	1			

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / B

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### Project Name: Targa South Brine Pond

ork Orders : 313582,	212592 017 / 010		Project II			
Lab Batch #: 736185 Sample: Units: mg/kg	313582-016 / SMP		tch: 1 Matri	x: Soil	STUDY	<u>.</u>
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes		[**]	[2]	[D]		
-Chlorooctane		91.0	100	91	70-135	<u> </u>
»-Terphenyl		45.9	50.0	92	70-135	
Lab Batch #: 736185 Sample:	313582-017 / SMP	Ba	tch: 1 Matri	x: Soil		
Units: mg/kg		SU	RROGATE RI	ECOVERY S	STUDY	
TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
-Chlorooctane		97.1	100	97	70-135	
p-Terphenyl		49.2	50.0	98	70-135	
Lab Batch #: 736185 Sample:	313582-018 / SMP	Da	tah: 1 Matri	ir: Soil	ll	
Units: mg/kg	515502-0107 SM	MP Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod		Amount	True	<u>r                                    </u>	Control	
·		Found [A]	Amount [B]	Recovery %R [D]	Limits %R	Fla
-Chlorooctane		96.2	100	96	70-135	
- Terphenyl		48.4	50.0	90	70-135	
	212582 010 (SMD		<u> </u>	l	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Lab Batch #: 736185 Sample: Units: mg/kg	313582-019 / SMP		itch: 1 Matr	ix: Soil	STUDV	
TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
-Chlorooctane		96.9	100	97	70-135	
-Terphenyl		49.3	50.0	99	70-135	
Lab Batch #: 736185 Sample:	313582-020 / SMP	Ba	tch: 1 Matr	ix: Soil	<u></u>	
Units: mg/kg	Γ-		RROGATE R		STUDY	
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla
Analytes		(**)		[D]		
-Chlorooctane		91.4	100	91	70-135	
-Terphenyl		46.0	50.0	92	70-135	1

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / B

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#### Project Name: Targa South Brine Pond

ork Orders : 313582,		Project II				
	313582-020 S / MS Bat		x: Soil			
Units: mg/kg	SU	RROGATE RI	ECOVERY S	STUDY		
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag	
-Chlorooctane		100	111	70-135		
-Terphenyl	55.6	50.0	111	70-135		
Lab Batch #: 736185 Sample:	313582-020 SD / MSD Bat	tch: 1 Matri	ix: Soil	<u> </u> 4		
Units: mg/kg		RROGATE RI	ECOVERYS	STUDY		
TPH By SW8015 Mod Analytes	Amount Found {A}	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag	
-Chlorooctane		100	111	70-135		
Terphenyl	53.0	50.0	106	70-135		
Lab Batch #: 736185 Sample:	516858-1-BKS / BKS Bat	tch: 1 Matri	ix: Solid	· · · · · · · · · · · · · · · · · · ·		
Units: mg/kg	SU	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla	
-Chlorooctane	107	100	107	70-135		
Terphenyl	52.3	50.0	105	70-135	<u>.</u>	
Lab Batch #: 736185 Sample:	516858-1-BLK / BLK Bat	tch: 1 Matri	ix: Solid	··································		
Units: mg/kg	SU	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla	
Chlorooctane	96.6	100	97	70-135		
Terphenyl	48.4	50.0	97	70-135		
Lab Batch #: 736185 Sample:	516858-1-BSD / BSD Bat	tch: 1 Matr	ix: Solid			
Units: mg/kg	SU	RROGATE RI	ECOVERYS	STUDY		
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Fla	
Analytes			[D]			
Chlorooctane	115	100	115	70-135		

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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## Form 2 - Surrogate Recoveries

Project Name: Targa South Brine Pond

ork Orders : 313582,		Project II					
Lab Batch #: 736200 Sample: 3135			x: Soil				
Units: mg/kg	SU	RROGATE RI	COVERY S	STUDY			
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
Analytes				70.105			
1-Chlorooctane	98.8	100	99 	70-135 70-135			
o-Terphenyl	49.3	50.0	99	/0-135			
Lab Batch #: 736200 Sample: 3135 Units: mg/kg		tch: 1 Matri RROGATE RI	x: Soil COVERY S	STUDY			
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R {D]	Control Limits %R	Flag		
I-Chlorooctane	99.0	100	99	70-135			
p-Terphenyl	49,7	50.0	99	70-135			
			0.1				
Lab Batch #: 736200 Sample: 31353		MP Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY					
Units: mg/kg	SU						
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla		
Analytes							
I-Chlorooctane	122	100	122	70-135			
-Terphenyl	58.6	50.0	117	70-135			
Lab Batch #: 736200 Sample: 3135	82-024 / SMP Ba	tch: 1 Matr	x: Soil				
Units: mg/kg	SU	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla		
-Chlorooctane	93.4	100	93	70-135			
p-Terphenyl	46.6	50.0	93	70-135			
Lab Batch #: 736200 Sample: 3135			ix: Soil	l	<u> </u>		
- 1 a u $- 3 a u $ $- 3 a u $ $- 3 a u $ $- 3 a u$		RROGATE RI		STUDY			
-		MOOATE M			<del></del>		
Units: mg/kg		True		Cantrol	1		
Units: mg/kg TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla		
Units: mg/kg	Amount Found	Amount		Limits	Fla		

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B



Project Name: Targa South Brine Pond

<b>/ork Orders :</b> 313582,		Project II			
Lab Batch #: 736200 Sample: 313582-026 / SMP			ix: Soil		
Units: mg/kg	SU	RROGATE RI	ECOVERY	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	49.1	50.0	98	70-135	
Lab Batch #: 736200 Sample: 313582-027 / SMP	Ba	tch: l Matr	ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	98.4	100	98	70-135	
o-Terphenyl	49.1	50.0	98	70-135	
Lab Batch #: 736200 Sample: 313582-028 / SMP	Ba	tch: ¹ Matr	ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	97.6	100	98	70-135	
o-Terphenyl	48.7	50.0	97	70-135	
Lab Batch #: 736200 Sample: 313582-029 / SMP	Ba	tch: 1 Matr	ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found	T rue Amount	Recovery	Control Limits %R	Flag
Analytes	[A]	[B]	%R [D]	70 K	
Analytes 1-Chlorooctane	[A] 95.9	[ <b>B</b> ]		70-135	
			[D]		
1-Chlorooctane	95.9 48.3	100	[D] 96	70-135	
1-Chlorooctane o-Terphenyl	95.9 48.3 Ba	100	[D] 96 97 ix: Soil	70-135	
1-Chlorooctane         o-Terphenyl         Lab Batch #: 736200         Sample: 313582-030 / SMP         Units: mg/kg         TPH By SW8015 Mod	95.9 48.3 Ba	100 50.0 tch: 1 Matr	[D] 96 97 ix: Soil ECOVERY Recovery %R	70-135	Flag
1-Chlorooctane       o-Terphenyl       Lab Batch #: 736200       Sample: 313582-030 / SMP       Units: mg/kg	95.9 48.3 Ba SU Amount Found	100 50.0 tch: 1 Matr RROGATE R True Amount	[D] 96 97 ix: Soil ECOVERY Recovery	70-135 70-135 STUDY Control Limits	Flag

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / B

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Project Name: Targa South Brine Pond

ork Orders : 313582,		Project I	<b>D:</b> 6-0107		
Lab Batch #: 736200 Sample: 3137	200-030 S / MS Bat	tch: 1 Matr	ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	55.7	50.0	111	70-135	
Lab Batch #: 736200 Sample: 3137	700-030 SD / MSD Bat	tch: 1 Matr	ix: Soil		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	T rue Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	53.8	50.0	108	70-135	
Lab Batch #: 736200 Sample: 5168	392-1-BKS / BKS <b>Ba</b> l	tch: 1 Matı	ix: Solid	<u> </u>	
Units: mg/kg		RROGATE R		STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	109	100	109	70-135	 
o-Terphenyl	53.9	50.0	108	70-135	
Lab Batch #: 736200 Sample: 5168	392-1-BLK / BLK Bat	tch: 1 Matı	ix: Solid		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	97.5	100	98	70-135	
o-Terphenyl	48.9	50.0	98	70-135	
Lab Batch #: 736200 Sample: 5168	392-1-BSD / BSD Bat	tch: 1 Matu	ix: Solid		
Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	T rue Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes			[D]		
1-Chlorooctane	107	100	107	70-135	

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

*** Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 * A / B



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**Blank Spike Recovery** 



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### **Project Name: Targa South Brine Pond**

1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Work Order #: 313582	×	-	Pi	roject ID:			6-0107
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Lab Batch #: 735838 Date Analyzed: 10/01/2008		mple: 735838- pared: 10/01/20			ix: Solid st: LATC(	OR	
est.	Reporting Units: mg/kg	Ba	tch #: 1	BLANK/	BLANK SPI	KE REC	OVERY S	STUDY
C. The A	Anions by EPA 300/300.1		Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
S. 8.	Analytes		[**]	[0]	[C]	[D]		
	Chloride		ND	10.0	ND	0	75-125	L
5 . 3 . 4 . 5 . 5 . 5 . 5 . 5 . 5 . 5 . 5 . 5	Lab Batch #: 735839 Date Analyzed: 10/01/2008		mple: 735839- pared: 10/01/20			ix: Solid st: LATCO	OR	
	Reporting Units: mg/kg	Ba	<b>tch #:</b> 1	BLANK /	BLANK SPI	KE REC	OVERY	STUDY
1. S. S.	Anions by EPA 300/300.1		Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
is.	Analytes				[C]	[D]		
1. w.	Chloride		ND	10.0	8.79	88	75-125	

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

			BS / BSD Recoveries	) Rec	verie	BS / BSD Recoveries					
	Pr	Project Name:		Targa South Brine Pond	ı Brine	Pond					
Work Order #: 313582 Analyst: ASA Lab Batch ID: 736185 Sample: 516858-1-BKS		ate Prepared: Batch #:	Date Prepared: 10/03/2008 Batch #: 1	80			Pro Date A	Project ID: 6-0107 te Analyzed: 10/05/2 Matrix: Solid	<b>Project ID:</b> 6-0107 <b>Date Analyzed:</b> 10/05/2008 <b>Matrix:</b> Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / E	ILANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE	ICATE	RECOVI	RECOVERY STUDY	Y	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[ <u>B</u> ]	[c]	ē	[E]	Result [F]	[6]				
C6-C12 Gasoline Range Hydrocarbons	Q	1000	860	86	1000	885	. 68	μ	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	952	95	1000	983	98	3	70-135	35	
Analyst: ASA	D	ate Prepar	Date Prepared: 10/03/2008	80			Date A	nalyzed: 1	<b>Date Analyzed:</b> 10/05/2008		
Lab Batch ID: 736200 Sample: 516892-1-BKS	-BKS	Batch #:	ı#: 1					Matrix: Solid	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / E	S XNK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE		RECOVI	RECOVERY STUDY	Y	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		8		<u>e</u>	[E]	Result [F]	[6]				
C6-C12 Gasoline Range Hydrocarbons	QN	1000	873	87	1000	849	85	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1000	963	96	1000	940	94	7	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

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Forn	1 3 - MS F	Recover	ies	J		ALL ACCO.
Laboratories Project Name	: Targa Sout	h Brine P	ond			
	Date Prepared:	10/01/2008		oject ID: Analyst:	6-0107 LATCOR	
QC- Sample ID: 313614-001 S	Batch #:			Matrix:	Soil	
Reporting Units: mg/kg		RIX / MA	TRIX SPIKE	RECO	VERY STU	
Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	198	200	436	119	75-125	
Lab Batch #: 735839 Date Analyzed: 10/01/2008	Date Prepared:	10/01/2008		Analyst:	LATCOR	
<b>QC- Sample ID:</b> 313582-014 S	Batch #:	1		Matrix:	Soil	
Reporting Units: mg/kg	MAT	RIX / MA	<b>FRIX SPIKE</b>	RECO	VERY STU	JDY
Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	5200	2000	7610	121	75-125	

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

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Form 9 M SPM SPRecedentes

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1. A. S. S.

Project Name: Targa South Brine Pond

**Project ID: 6-0107** 

Matrix: Soil

Batch #:

QC-Sample ID: 313582-020 S

**Date Prepared:** 10/03/2008

1 ASA

Analyst:

Work Order #: 313582 Lab Batch ID: 736185 Date Analyzed: 10/05/2008 Reporting Units: mg/kg

Flag Limits %RPD Control 35 35 Control Limits %R 70-135 70-135 MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY MATRIX SPIKE / MATRIX SPIKE DIJPI ICATE BECOVERV STUDV RPD % Ō Spiked Dup. %R Matrix: Soil 96 87 Duplicate Spiked Sample Result [F] 1050 947 ---ASA Spike Added 1090 1090 Ξ Batch #: Analyst: Spiked Sample %R ē 87 76 Spiked Sample Result [C] 1060 951 QC-Sample ID: 313700-030 S Date Prepared: 10/03/2008 Spike Added 1090 1090 **B** Parent Sample Result **[A**] g £ L TPH By SW8015 Mod C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons Analytes Date Analyzed: 10/06/2008 Lab Batch ID: 736200 Reporting Units: mg/kg

			MAINIA SPINE / MAINIA SPINE DUFLICATE RECUVERT STUDI		ILIC VIV	LE DUFLICA.	IE RECU	VERS	10010		
TDH By CWIGHT Mod	Parent		Spiked Sample Spiked	Spiked		Duplicate	Spiked			Control	
notal ctool as for the t	Sample		Result	Sample	Spike	le Spike Spiked Sample D	Dup.	RPD	Limits	Limits	Flag
	Result		[0]	%R	Added	Result [F]	%R	%		%RPD	
Analytes	[Y]	[ <u>B</u> ]		<u>í</u>	[ <u></u> ]		<u>[</u> ]				
C6-C12 Gasoline Range Hydrocarbons	Ð	1070	957	89	1070	926	87	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ΩN	1070	1070	100	1070	1040	97	3	70-135	35	

Relative Percent Difference RPD = 200*((C+F)/(C+F)) ND = Not Detected, J = Present Below Reporting Linuit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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

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

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Sample Duplicate Recovery



**Project Name: Targa South Brine Pond** 

Work Order #: 313582 **Project ID:** 6-0107 Lab Batch #: 735838 Analyst: LATCOR 10/01/2008 Date Analyzed: 10/01/2008 **Date Prepared:** OC- Sample ID: 313614-001 D Batch #: 1 Matrix: Soil SAMPLE / SAMPLE DUPLICATE RECOVERY Reporting Units: mg/kg Anions by EPA 300/300.1 Sample Control Parent Sample RPD Duplicate Limits Result Flag Result %RPD [A] [B] Analyte Chloride 198 195 2 20 Lab Batch #: 735839 10/01/2008 Date Analyzed: 10/01/2008 **Date Prepared:** Analyst: LATCOR Batch #: QC- Sample ID: 313582-014 D 1 Matrix: Soil Reporting Units: mg/kg SAMPLE / SAMPLE DUPLICATE RECOVERY Anions by EPA 300/300.1 Parent Sample Sample Control RPD Duplicate Limits Result Flag %RPD Result [A] [B] Analyte Chloride 20 5200 5150 1 Lab Batch #: 735882 10/01/2008 Analyst: WRU Date Analyzed: 10/01/2008 **Date Prepared:** QC- Sample ID: 313549-001 D Batch #: 1 Matrix: Soil **Reporting Units: %** SAMPLE / SAMPLE DUPLICATE RECOVERY **Percent Moisture** Parent Sample Sample Control RPD Duplicate Limits Result Flag Result %RPD [A] [B] Analyte Percent Moisture 2.88 F 5.62 64 20 Lab Batch #: 735894 Date Analyzed: 10/01/2008 **Date Prepared:** 10/01/2008 Analyst: WRU 1 QC- Sample ID: 313582-019 D Batch #: Matrix: Soil **Reporting Units: %** SAMPLE / SAMPLE DUPLICATE RECOVERY Control **Percent Moisture** Parent Sample Sample RPD Duplicate Limits Flag Result Result %RPD [A] [B] Analyte Percent Moisture 9.74 8.55 13 20

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

Client Numer         Site Numer         Parameters/Method Number         CHA           Soferio         Router Numer         Router Numer         Router Numer         Sofor         Non-t         Sofor         Sofor         Non-t         Sofor         Non-t         Sofor         Non-t         Sofor         Non-t         Sofor         Non-t         Sofor         Non-t         Sofor         Sofor         Non-t         Sofor         Non-t         Sofor         Non-t         Sofor         Non-t         Sofor         Non-t         Non-t         Sofor         Non-t         <		9 8 9				Same Same		
Мани (Зачин (100)	CLIENT NAME:			75	TE MANAGER:	PARA	METERS/METHOD NUMBER	CHA
POLICI         REDICT NAME         Toward         South Enviro			1		MartLarson			
C: - СІСТ     South Britie R.J.     Multiple     South Britie R.J.       0:     us por 3/3551     NUELT     A     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X       1     X     X     X     X <td< td=""><td>PROJECT NO.:</td><td></td><td></td><td>ā.</td><td>ROJECT NAME: TANG</td><td>n.t (</td><td></td><td>Ĕ</td></td<>	PROJECT NO.:			ā.	ROJECT NAME: TANG	n.t (		Ĕ
OF         MB P01         3.7.5.7.         OC         MB         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A	<u>( </u>	<u>ار</u>	;			51 S		<b>с</b> ш
AFF         AFF         AFF         AFF         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A         A			3	AB. PO		8		507 N
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		MAJER	[		AMPLE IDENTIFICATION	Ч-) 		Lab. Num: (Lab Use
1021         N. WE			[ _	+	.ronr	X		-0-
10243     1     1     1     1     1       1033     1     1     1     1     1     1       1035     5     1     1     1     1     1       1055     5     5     1     1     1       105     5     5     1     1     1       105     5     5     1     1     1       105     5     5     1     1     1       105     5     1     1     1     1       11     5     5     1     1     1       11     5     5     1     1     1       11     5     5     1     1     1       123     5     5     1     1     1       1244     5     5     1     1     1       1244     5     5     1     1     1       1244     5     5     1     1     1       1244     5     5     1     1     1       1244     5     5     1     1     1       1244     5     5     1     1     1       1244     5     5     1     1<			<b>\</b> .		N WE3'			12.
1033       1       N. W.E. IC'       N. W.E. IC'         1035       1       N. W.E. IS'       N. W.E. IS'         1055       5       1       N. W.E. IS'         1055       5       1       1         1055       5       1       1         1054       5       1       1         1054       5       1       1         1014       5       1       1         102       5       1       1         1104       5       1       1         1247       5       1       1         1247       5       5       1         1247       5       5       1         1247       5       5       1         1247       5       5       5         1247       5       5       5         1247       5       5       5         1252       1       5       5         1247       5       5       5         1252       1       5       5         1252       1       5       5         1252       5       5       5      <	1020	-	~		N WES'			C.
1036     N.W.E. IS'     N.W.E. IS'       1056     S.U.E. O.     N.W.E. SC       1056     S.U.E. O.     N.W.E. SC       1057     S.U.E. O.     N.W.E. SC       1018     S.U.E. O.     N.W.E. SC       111     S.U.E. O.     N.W.E. Sc       112     S.E.E. N.     N.W.E. Sc	103	2			3) 19)			Ċ
1355     8.12     1     1     1       1355     5.12     1     1     1       105     5.12     5.12     1     1       1104     5.12     5.12     1     1       111     5.12     5.12     1     1       111     5.12     5.12     1     1       111     5.12     5.12     1     1       111     5.12     5.12     1     1       124     5.12     5.22     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124     5.62     1     1     1       124	1 103	9			N Ø			-0
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1054     52.035     104       1104     52.035     104       1236     52.035     10       111     52.035     10       1235     566.1     10       1242     566.5     10       1242     566.5     10       1242     566.5     10       1242     566.5     10       1242     566.5     10       1243     566.5     10       1244     566.5     10       1245     566.5     10       1245     566.5     10       1247     566.5     10       1247     566.5     10       1247     566.5     10       1247     566.5     10       1247     566.5     10       1252     046.5     10       046.5     12.5     10       046.5     10.5     10       046.5     10.5     10       046.5     10.5     10       046.5     10.5     10       04.5     10.5     10       04.5     10.5     10       05.5     10.5     0.5       10.65     10     10       55.5     10     0.5 <tr< td=""><td>1050</td><td>10</td><td><b>\</b></td><td></td><td>ହ</td><td></td><td></td><td><u>c</u></td></tr<>	1050	10	<b>\</b>		ହ			<u>c</u>
March         Suless           1104         Suless           1104         Suless           1105         Suless           111         Suless           1236         Suless           1242         See S           1243         See S           1244         See S           1245         See S           1252         See S           1254         See S           1255         Inter Print           Inter Print         Inter Print      Inter Print         Inter Print <td>105</td> <td>्राष्ट</td> <td>1</td> <td></td> <td>Q</td> <td></td> <td></td> <td>2,</td>	105	्राष्ट	1		Q			2,
1104     Surgest       1111     Surgest       1111     Surgest       1236     Seet       1242     Seet       1243     Seet       1244     Seet       1245     Seet       1247     Seet       1252     Seet       1253     Seet       1254     Seet       126     Seet       1126     Turuadure	10/1	0			_			0
1/10と 5:000 (11)     2000 (11)     2000 (11)     2000 (11)     2000 (11)     2000 (11)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     2000 (12)     20000 (12)     20000 (12)     20000 (12)     20000 (12)     20000 (12)     20000 (12)     200000 (12)     20000 (12)     20000 (12)     20000 (12)     2	4011				SW C. 10'			`  
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7236     5Ee.5     10       1243     5Ee.5     5Ee.5       1243     5Ee.5     10       1244     5Ee.5     10       1245     5Ee.5     10       1245     5Ee.5     10       1245     5Ee.5     10       1246     5Ee.5     10       1252     5Ee.5     10       1245     5Ee.5     10       1252     5Ee.5     10       1246     5Ee.5     10       1255     5Ee.5     10       0015     10     10       10     10     10       11     10     10       11     10     10       11     10     10       12     10     10       13     10     10       14     10     10       15     10     10       16     10     10       10     10     10       10     10     10       11     10     10       10     10     10       10     10     10       10     10     10       10     10     10       10     10     10       10 <td></td> <td></td> <td>À</td> <td></td> <td>5 W020'</td> <td>Ś</td> <td></td> <td></td>			À		5 W020'	Ś		
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1244     5Ee.15     2E.15       1247     5Ee.15     2E.25       1252     5Ee.15     2E.25       1252     5Ee.15     Date 2.55       1252     5Ee.15     Date 2.55       1000     1000     1000       1100     Date 2.55     1000       0.015     1000     1000       0.015     1000     1000       0.015     1000     1000       0.015     1000     1000       0.015     1000     0.010       0.015     1000     1000       0.016     1000     1000       0.010     1000     1000       0.010     1000     1000       0.010     1000     1000       0.010     1000     1000       0.010     1000     1000	1242	N			SE@ 5			
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1252     V     SEC 2°     V     V       VEP BY: (Signature)     DATE: 7.32     ARELINQUISHED BY: (Signature)     DATE: 7.12       DATE: 7.32     TIME: 7.32     ARELINQUISHED BY: (Signature)     DATE: 7.12       DATE: 7.32     TIME: 7.32     ARECEVED BY: (Signature)     DATE: 7.12       DATE: 7.32     TIME: 7.32     ARECEVED BY: (Signature)     DATE: 7.12       DATE: 7.32     TIME: 7.32     ARECEVED BY: (Signature)     DATE: 7.36       MEUTS:     TIME: 7.32     ARECEVED BY: (Signature)     TIME: 41.36       ACT:     PHONE:     ZIP:     DATE: 7.30     VIN.       S. 5 'C     V     Latrels     ZIP:     DATE: 7.30     VIN.	124	7						
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MENTS: TURNIAROUND TIME NEEDED VING LABORATORY: <u>VENT of LUCT</u> RECEIVED BY: ISignaturel <u>CUENCUM A</u> ESS: <u>CUENCUM A</u> <u>TIME: 11:36</u> ACT: <u>PHONE: 21P</u> . ACT: <u>DATE: 1:30 UR</u> TIME: <u>11:38</u> ACT: <u>PHONE: LACC</u> S. 5 ⁻¹ C w [Licite] S	Jan J				4300		TIME	FEDEX
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CLIENT: LZ FSEM F 455 ADDRESS: PHONE: DATA REPORTED TO: DATA REPOR	Gries TC S=SOIL S=SOIL N=W±WATER A=AIR A=AIR		С. 27 S.								DHL		
TOTAL RELINOUIBHER BY CA	(antienties)	67	DATE/TIME	3		RECEIVED BY: (Signature) RECEIVED BY: (Signature)	(Signature)	an file		TURN AROUND TIME RUSH IT CALL FIRST 1 DAY 2 CALL FIRST	A AROUND TIME		LABOR RECEIV
RELINOUISHED BY: (Signature)	gnature)		DATE/TIME		CEIVE	RECEIVED BY:	(Signature)	ature)		2 DAY 7 NORMAL 3		366	
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#1	Temperature of container/ cooler?	405	No	<u>3.5 °C</u>	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	<not present-<="" td=""><td></td></not>	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#1	0 Sample matrix/ properties agree with Chain of Custody?	Yes )	No		
#1	1 Containers supplied by ELOT?	Yés	No		
#1	2 Samples in proper container/ bottle?	Yes	No	See Below	
#1		Yes	No	See Below	
#1	4 Sample bottles intact?	Yes	No		
#1	5 Preservations documented on Chain of Custody?	Yes	No		
#1	6 Containers documented on Chain of Custody?	<b>Ve</b>	No		
#1	7 Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#1	8 All samples received within sufficient hold time?	Yes	No	See Below	
#1	9 Subcontract of sample(s)?	Yes	No	Not Applicable	
#2	0 VOC samples have zero headspace?	Yes	No	Not Applicable	

	Variance Documentation									
19 B 10	Contact:	<u></u>	Contacted by:	Date/ Time:						
	Regarding:				• • • • • • • • • • • • • • • • • • •					
****	Corrective Action Taken:				14697497777777777777777777777777777777					
$\sum_{k=1}^{N} k = \max_{k=1}^{N} k_{k}^{2}$		•••••								
2 B.	Check all that Apply:		See attached e-mail/ fax Client understands and would lik Cooling process had begun sho	· ·						

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Please use this method for our New Mexico projects.

If you need additional information please let me know.

Thank you,

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Michelle L. Green Larson & Associates, Inc. 507 N Marienfeld, Suite 200 Midland, TX 79701

Office: 432.687.0901 Fax: 432.687.0456 Cell: 432.934.3231



10/3/2008

## Analytical Report 316263

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### Larson & Associates

#### **Project Manager: Mark Larson**

#### Midland/Odessa Standard List of Methods

8-0132

#### 18-NOV-08



12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta



18-NOV-08



Project Manager: Mark Larson Larson & Associates P.O. Box 50685 Midland, TX 79710

#### Reference: XENCO Report No: 316263 Midland/Odessa Standard List of Methods Project Address:

#### Mark Larson:

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 316263. 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. 316263 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,

Brent Barron, II Odessa Laboratory 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 - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



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### Sample Cross Reference 316263



#### Larson & Associates, Midland, TX Midland/Odessa Standard List of Methods

Sample Id	Matrix	Date Collected Sample Depth	Lab Sample Id
MW-1	W	Oct-30-08 14:20	316263-001
MW-2	W	Oct-30-08 15:20	316263-002



# Certificate of Analysis Summary 316263 Larson & Associates, Midland, TX



Project Name: Midland/Odessa Standard List of Methods

Project Id: 8-0132 Contact: Mark Larson			Date Received in La Report Da					
Project Location:					Project Manage	r: Brent	Brent Barron, II	
· · · · · · · · · · · · · · · · · · ·	Lab Id:	d Id: MW-1 epth: utrix: WATER		316263-0	02			
Analysis Requested	Field Id:			MW-2				
	Depth:							
	Matrix:			WATER Oct-30-08 15:20				
	Sampled:							
Alkalinity by SM2320B	Extracted:							
<i></i>	Analyzed:	Nov-07-08 11:00		Nov-07-08 11:00				
	Units/RL:	mg/L	RL	mg/L	RL			
Alkalinity, Total (as CaCO3)		156	4.00	208	4.00			
Anions by EPA 300/300.1	Extracted:							
-	Analyzed:	Nov-01-08	16:09	Nov-01-08	16:09			
	Units/RL:	mg/L	RL	mg/L	RL			
Chloride		190	10.0	824	25.0			
Sulfate		511	10.0	303	25.0			
BTEX by EPA 8021B	Extracted:	Nov-05-08 11:00 Nov-05-08 12:41		Nov-05-08				
	Analyzed:			Nov-05-08 13:03				
	Units/RL:	mg/L	RL	mg/L	RL			
Benzene		ND	0.0010	ND	0.0010			
Toluene		ND	0.0020	ND	0.0020			
Ethylbenzene		ND	0.0010	ND	0.0010			
m,p-Xylenes	ND	0.0020	ND	0.0020				
o-Xylene	ND	0.0010	ND	0.0010				
Total Xylenes	ND		ND					
Total BTEX		ND		ND				
Mercury by EPA 7470A	Extracted:				Nov-06-08 07:00			
	Analyzed: Units/RL:	Nov-06-08		Nov-06-08				
		mg/L	RL	mg/L	RL			
Mercury		ND	0.0001	ND	0.0001			
TDS by SM2540C	Extracted: Analyzed:	Nov-03-08	15:50	Nov-03-08	15:50			
	Anaiyzea: Units/RL:							
Total dissolved solids	Unus/KL:	mg/L 1330	RL 5.00	mg/L 1800	RL			

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 - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

Brent Barron

Odessa Laboratory Director

Since 1990 Version: 1.014

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# Certificate of Analysis Summary 316263 Larson & Associates, Midland, TX



Project Name: Midland/Odessa Standard List of Methods

Project Id: 8-0132 Contact: Mark Larson Project Location:	-				Rep	ed in Lab: oort Date: Manager:	Oct-31- 18-NOV Brent B	
	Lab Id:	316263-0	01	316263-0	02			
Analysis Requested	Field Id:	MW-1		MW-2				
	Depth:							
	Matrix:	WATE	R	WATE	R			
	Sampled:	Oct-30-08	14:20	Oct-30-08	5:20			
Total RCRA Metals by SW6020A	Extracted:	Nov-04-08	10:45	Nov-04-08	10:45			
2000 110121 11000 Sy 511 002011	Analyzed:	Nov-04-08	16:09	Nov-04-08	16:14			
	Units/RL:	mg/L	RL	mg/L	RL			
Antimony		ND	0.006	ND	0.006			
Arsenic		0.017	0.002	0.016	0.002			
Barium		0.699	0.005	0.409	0.005			
Beryllium		0.0012	0.0010	0.0010	0.0010			
Cadmium		ND	0.001	ND	0.001			
Calcium		464	0.500	282	0.500			
Chromium		0.025	0.003	0.022	0.003			
Lead		0.014	0.002	0.010	0.002			
Manganese		0.255	0.003	0.198	0.003			
Nickel		0.037	0.005	0.027	0.005			
Potassium		13.6	0.300	12.9	0.300			
Selenium		0.014	0.003	0.018	0.003			
Silver		ND	0.002	ND	0.002			
Sodium		183	0.500	302	5.00			

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

Brent Barron

Odessa Laboratory Director

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Version: 1.014

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- 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 effect the recovery of the spike concentration. This condition could also effect 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 MQL and above the SQL.
- 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.

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### Form 2 - Surrogate Recoveries

Project Name: Midland/Odessa Standard List of Methods

Lab Batch #: 739349	Sample: 316263-001 / SM	P Bat	ich: 1 Matri	x: Water		
Units: mg/L		SU	RROGATE RE	COVERY S	TUDY	
BTEX by F		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
Anal	ytes				00.100	-
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0333	0.0300	61	80-120 80-120	**
					00 120	
Lab Batch #: 739349	Sample: 316263-001 S / M			x: Water		
Units: mg/L		SU	RROGATE RI	COVERY S	STUDY	
BTEX by F		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0278	0.0300	93	80-120	
4-Bromofluorobenzene		0.0303	0.0300	101	80-120	
Lab Batch #: 739349	Sample: 316263-001 SD /	MSD Bat	tch: 1 Matri	x: Water		
Units: mg/L		SU	RROGATE RI	ECOVERYS	STUDY	
BTEX by H		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
Anal	ytes	0.0272	0.0200		80-120	
4-Bromofluorobenzene		0.0272	0.0300	91 102	80-120	
	a 1 216262.002/SM		l	ix: Water		
Lab Batch #: 739349 Units: mg/L	Sample: 316263-002 / SM		tch: 1 Matri RROGATE RI		STUDY	
BTEX by H	EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
Anal	ytes			[D]		
1,4-Difluorobenzene		0.0330	0.0300	110	80-120	
4-Bromofluorobenzene		0.0185	0.0300	62	80-120	**
Lab Batch #: 739349	Sample: 518744-1-BKS / 1			ix: Water		
		SU	RROGATE RI	ECOVERY	STUDY	
Units: mg/L				1	0.11	1
BTEX by H	i	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fia
	i	Found	Amount	%R	Limits	Flag

** 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.



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# Form 2 - Surrogate Recoveries

Project Name: Midland/Odessa Standard List of Methods

Vork Orders : 316263,         Sample: 518744-1-BLK           Lab Batch #: 739349         Sample: 518744-1-BLK			x: Water		
Units: mg/L BTEX by EPA 8021B Analytes	Amount Found [A]	RROGATE RE True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0204	0.0300	68	80-120	**
Lab Batch #: 739349 Sample: 518744-1-BSD	BSD Ba	tch: 1 Matri	ix: Water		
Units: mg/L	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

** 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.



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### Project Name: Midland/Odessa Standard List of Methods

Work Order #: 316263		Pro	oject ID:			8-0132
Lab Batch #: 739485	Sample: 739485	-1-BKS	Matri	x: Water		
Date Analyzed: 11/07/2008 Da	te Prepared: 11/07/2		Analys	t: LATCO	)R	
Reporting Units: mg/L	Batch #: 1	BLANK /	BLANK SPI	KE REC	OVERY S	STUDY
Alkalinity by SM2320B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		200			00.100	
Alkalinity, Total (as CaCO3)	ND	200	172	86	80-120	
Lab Batch #: 738894	Sample: 738894	-1-BKS	Matri	x: Water		
Date Analyzed: 11/01/2008 Da	ate Prepared: 11/01/2	008	Analys	st: LATCO	OR	
Reporting Units: mg/L	Batch #: 1	BLANK /I	BLANK SPI	KE REC	OVERY S	STUDY
Anions by EPA 300/300.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.11	91	80-120	
Sulfate	ND	10.0	8.70	87	80-120	
Lab Batch #: 739192	Sample: 518557	-1-BKS	Matri			
Date Analyzed:11/04/2008DateReporting Units:mg/L	ate Prepared: 11/04/2 Batch #: 1		Analy: BLANK SPI	st: HAT KE REC	COVERY	STUDY
-	-				COVERY S Control Limits %R	STUDY Flags
Reporting Units: mg/L Total RCRA Metals by SW6020A	Batch #: 1 Blank Result	BLANK /I Spike Added	BLANK SPI Blank Spike Result	KE REC Blank Spike %R	Control Limits	
Reporting Units: mg/L Total RCRA Metals by SW6020A Analytes	Batch #: 1 Blank Result [A]	BLANK /I Spike Added [B]	BLANK SPI Blank Spike Result [C]	KE REC Blank Spike %R [D]	Control Limits %R	
Reporting Units: mg/L Total RCRA Metals by SW6020A Analytes Antimony	Batch #: 1 Blank Result [A] ND	BLANK /I Spike Added [B] 0.020	BLANK SPI Blank Spike Result [C] 0.022	KE REC Blank Spike %R [D] 110	Control Limits %R 75-125	
Reporting Units: mg/L Total RCRA Metals by SW6020A Analytes Antimony Arsenic	Batch #: 1 Blank Result [A] ND ND	BLANK /I Spike Added [B] 0.020 0.050	Blank Spike Result [C] 0.022 0.051	KE REC Blank Spike %R [D] 110 102	Control Limits %R 75-125 75-125	
Reporting Units: mg/L Total RCRA Metals by SW6020A Analytes Antimony Arsenic Barium	Batch #: 1 Blank Result [A] ND ND ND	BLANK /I Spike Added [B] 0.020 0.050 0.050	Blank Spike Result [C] 0.022 0.051 0.051	KE REC Blank Spike %R [D] 110 102 102	Control Limits %R 75-125 75-125 75-125	
Reporting Units: mg/L Total RCRA Metals by SW6020A Analytes Antimony Arsenic Barium Beryllium	Batch #: 1 Blank Result [A] ND ND ND ND	BLANK /I Spike Added [B] 0.020 0.050 0.050 0.050	Blank Spike Result [C] 0.022 0.051 0.051 0.022	KE REC Blank Spike %R [D] 110 102 102 110	Control Limits %R 75-125 75-125 75-125 75-125	
Reporting Units: mg/L         Total RCRA Metals by SW6020A         Analytes         Analytes         Antimony         Arsenic         Barium         Beryllium         Cadmium	Batch #: 1 Blank Result [A] ND ND ND ND ND ND	BLANK /I Spike Added [B] 0.020 0.050 0.050 0.020 0.020	Blank Spike Result [C] 0.022 0.051 0.051 0.022 0.021	KE REC Blank Spike %R [D] 110 102 102 110 105	Control Limits %R 75-125 75-125 75-125 75-125 75-125	
Reporting Units: mg/L         Total RCRA Metals by SW6020A         Analytes         Antimony         Arsenic         Barium         Beryllium         Cadmium         Calcium	Batch #: 1 Blank Result [A] ND ND ND ND ND ND ND ND ND ND ND	BLANK /I Spike Added [B] 0.020 0.050 0.050 0.020 0.020 0.020 0.020 0.020 0.020 0.050	Blank Spike Result [C] 0.022 0.051 0.051 0.022 0.021 3.04	KE REC Blank Spike %R [D] 110 102 102 110 105 101	Control Limits %R 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125	
Reporting Units: mg/L Total RCRA Metals by SW6020A Analytes Antimony Arsenic Barium Beryllium Cadmium Cadmium Calcium Chromium Lead Manganese	Batch #: 1 Blank Result [A] ND ND ND ND ND ND ND ND ND ND ND	BLANK /I Spike Added [B] 0.020 0.050 0.050 0.020 0.020 0.020 0.020 0.020 0.050 0.050	Blank Spike Result [C] 0.022 0.051 0.051 0.022 0.021 3.04 0.051	KE REC Blank Spike %R [D] 110 102 102 102 102 101 105 101 102 98 102	Control Limits %R 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125	
Reporting Units: mg/L         Total RCRA Metals by SW6020A         Analytes         Analytes         Antimony         Arsenic         Barium         Beryllium         Cadmium         Calcium         Chromium         Lead	Batch #: 1 Blank Result [A] ND ND ND ND ND ND ND ND ND ND ND	BLANK /I Spike Added [B] 0.020 0.050 0.050 0.020 0.020 3.00 0.050 0.050 0.050 0.050	Blank         Spike           Result         [C]           0.022         0.051           0.051         0.051           0.022         0.051           0.021         3.04           0.051         0.051	KE         REC           Blank         Spike           %R         [D]           110         102           102         102           101         105           101         102           98         102           100         100	Control Limits %R 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125	
Reporting Units: mg/L         Total RCRA Metals by SW6020A         Analytes         Analytes         Antimony         Arsenic         Barium         Beryllium         Cadmium         Calcium         Chromium         Lead         Manganese         Nickel         Potassium	Batch #: 1 Blank Result [A] ND ND ND ND ND ND ND ND ND ND ND ND ND	BLANK /I Spike Added [B] 0.020 0.050 0.050 0.020 0.020 0.020 0.020 0.020 0.050 0.050 0.050 0.050 0.050 0.050 0.050	Blank         Spike           Result         [C]           0.022         0.051           0.051         0.051           0.022         0.051           0.021         3.04           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.050           2.01         2.01	KE         REC           Blank         Spike           %R         [D]           110         102           102         102           101         105           101         102           98         102           100         101	Control Limits %R 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125	
Reporting Units: mg/L         Total RCRA Metals by SW6020A         Analytes         Antimony         Arsenic         Barium         Beryllium         Cadmium         Calcium         Chromium         Lead         Manganese         Nickel         Potassium         Selenium	Batch #: 1 Blank Result [A] ND ND ND ND ND ND ND ND ND ND ND ND ND	BLANK /I Spike Added [B] 0.020 0.050 0.050 0.020 0.020 0.020 0.020 0.020 0.050 0.050 0.050 0.050 0.050 0.050 0.050	Blank         Spike           Result         [C]           0.022         0.051           0.051         0.051           0.021         3.04           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.051	KE         REC           Blank         Spike           %R         [D]           110         102           102         102           101         105           101         102           98         102           100         101           102         100           101         102	Control Limits %R 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125	
Reporting Units: mg/L         Total RCRA Metals by SW6020A         Analytes         Analytes         Antimony         Arsenic         Barium         Beryllium         Cadmium         Calcium         Chromium         Lead         Manganese         Nickel         Potassium	Batch #: 1 Blank Result [A] ND ND ND ND ND ND ND ND ND ND ND ND ND	BLANK /I Spike Added [B] 0.020 0.050 0.050 0.020 0.020 0.020 0.020 0.020 0.050 0.050 0.050 0.050 0.050 0.050 0.050	Blank         Spike           Result         [C]           0.022         0.051           0.051         0.051           0.022         0.051           0.021         3.04           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.051           0.051         0.050           2.01         2.01	KE         REC           Blank         Spike           %R         [D]           110         102           102         102           101         105           101         102           98         102           100         101	Control Limits %R 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125	

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

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**BS / BSD Recoveries** 

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Project Name: Midland/Odessa Standard List of Methods

Work Order #: 316263 Lab Batch ID: 739349 Analyst: ASA

Date Prepared: 11/05/2008

Batch #: 1

Sample: 518744-1-BKS

**Project ID: 8-0132** Date Analyzed: 11/05/2008 Matrix: Water

Units: mg/L		BLAN	K /BLANK S	PIKE / B	LANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE I	RECOVE	CRY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	1	[ <b>B</b> ]	[C]		[E]	Result [F]	[0]				
Benzene	Ð	0.1000	0.0998	100	0.1	0.0995	100	0	70-125	25	
Toluene	Ð	0.1000	0.1029	103	0.1	0.1057	106	3	70-125	25	
Ethylbenzene	Ð	0.1000	0.0995	100	0.1	0.1059	106	9	71-129	25	
m,p-Xylenes	Ð	0.2000	0.2238	112	0.2	0.2394	120	7	70-131	25	
o-Xylenc	Ð	0.1000	0.1031	103	0.1	0.1099	110	6	71-133	25	
Analyst: DAT	D	ite Prepar	<b>Date Prepared:</b> 11/06/2008	8			Date Ar	nalyzed: 1	Date Analyzed: 11/06/2008		
Lab Batch ID: 739295 Sample: 518706-1-BKS	-BKS	Batch #:	1#: 1					Matrix: Water	Vater		
Units: mg/L		BLAN	K /BLANK S	PIKE / B	LANK S	BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE I	RECOVE	RY STUD	Y	

Flag Control Limits %RPD 20 75-125 Control Limits %R RPD % 0 Blk. Spk Dup. [G] 100 Blank Spike Duplicate Result [F] 0.0050 Spike Added 0.005 Ξ Blank Spike %R [D] 100 Blank Spike Result 0.0050 Ū 0.0050 Spike Added [**B**] Blank Sample Result Ð P **Mercury by EPA 7470A** Analytes Mercury

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



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### Form 3 - MS Recoveries



Project Name: Midland/Odessa Standard List of Methods

	Work Order #:       316263         Lab Batch #:       738894         Date Analyzed:       11/01/2008         QC- Sample ID:       316263-001 S         Reporting Units:       mg/L	Date Prepared: Batch #: MAT	11/01/2008 1 RIX / MA		Matrix:	LATCOR Water	DY
	Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
_	Analytes	[A]	[B]		<b>L</b> - <b>J</b>		
4 7 1 7 1	Chloride	190	200	515	163	80-120	X
	Sulfate	511	200	788	139	80-120	x

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



Form 3 - MS / MSD Recoveries

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**Project Name: Midland/Odessa Standard List of Methods** 



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Project ID: 8-0132

Matrix: Water

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Batch #:

QC- Sample ID: 316263-001 S Date Prepared: 11/05/2008

Date Analyzed: 11/05/2008

Reporting Units: mg/L

 Work Order #:
 316263

 Lab Batch ID:
 739349

/2008 Analyst: ASA MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

								_			
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Spiked Result Sample [C] %R	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	QN	0.1000	0.0920	92	0.1000	0.0953	95	3	70-125	25	
Toluene	QN	0.1000	0.0940	94	0.1000	0.0974	67	ŝ	70-125	25	
Ethylbenzene	QN	0.1000	0.0913	91	0.1000	0.0942	94	3	71-129	25	
m,p-Xylenes	Ð	0.2000	0.2049	102	0.2000	0.2116	106	4	70-131	25	
o-Xylene	DN	0.1000	0.0955	. 96	0.1000	0.0992	66	3	71-133	25	
Lab Batch ID: 739295 Date Analyzed: 11/06/2008	QC- Sample ID: 316372-002 S Date Prepared: 11/06/2008	316372-002 11/06/2008	002 S 008	Bai Ani	Batch #: Analyst: I	1 Matrix DAT	Matrix: Water				

Flag Limits %RPD Control Control Limits %R MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY RPD % Spiked Dup. [G] **Spiked Sample** Duplicate Result [F] Spike Added Ξ Spiked Sample %R [D] Spiked Sample Result [C] Spike Added [B] Parent Sample Result [Y] **Mercury by EPA 7470A** Analytes Reporting Units: mg/L

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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

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Form 3 - MS / MSD Recoveries

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Project Name: Midland/Odessa Standard List of Methods

Project ID: 8-0132 Matrix: Water

Work Order #: 316263

Date Analyzed: 11/04/2008 Lab Batch ID: 739192 Reporting Units: mg/L

Analyst: HAT Batch #: QC- Sample ID: 315914-001 S Date Prepared: 11/04/2008

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

*****

Total RCRA Metals by SW6020A	Parent Sample	Spike	Spiked Sample Result		Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]		%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	)
Antimony	0.020	0.020	0.042	110	0.020	0.043	115	4	85-115	20	
Arsenic	0.198	0.050	0.235	74	0.050	0.240	84	13	85-115	20	x
Barium	0.099	0.050	0.150	102	0.050	0.155	112	6	85-115	20	
Beryllium	Ð	0.0200	0.0190	95	0.0200	0.0190	95	0	85-115	20	
Cadmium	Ð	0.020	0.017	85	0.020	0.017	85	0	85-115	20	
Calcium	124	3.00	124	0	3.00	126	67	200	85-115	20	XF
Chromium	Ð	0.050	0.053	106	0.050	0.052	104	2	85-115	20	
Lead	Q	0.050	0.052	. 104	0.050	0.052	104	0	85-115	20	
Manganese	0.041	0.050	0.089	96	0.050	060.0	98	2	85-115	20	
Nickel	0.008	0.050	0.054	92	0.050	0.053	06	2	85-115	20	
Potassium	19.8	2.00	21.2	70	2.00	21.7	95	30	85-115	20	XF
Selenium	Ð	0.050	0.038	76	0.050	0.037	74	3	85-115	20	×
Silver	Ð	0.020	0.017	85	0.020	0.017	85	0	85-115	20	
Sodium	213	3.00	206	0	3.00	210	0	NC	85-115	20	×

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

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



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### Sample Duplicate Recovery



### Project Name: Midland/Odessa Standard List of Methods

Work Order #: 316263

Lab Batch #: 739485 Date Analyzed: 11/07/2008	Date Pro	mared	11/0	7/2008	-	<b>D:</b> 8-0132 st: LATCOR	
OC- Sample ID: 316263-001 D		atch #:	1		•	ix: Water	•
Reporting Units: mg/L	_	SAME	LE	SAMPLE		ATE RECO	OVERY
Alkalinity by SM2320B		Parent Sa Resul [A]		Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte				[D]			
Alkalinity, Total (as CaCO3)		156		160	3	20	
Lab Batch #: 738894							
Date Analyzed: 11/01/2008	Date Pro	epared:	11/0	1/2008	Analy	st: LATCOR	L .
QC- Sample ID: 316263-001 D	B	atch #:	1		Matr	ix: Water	
Reporting Units: mg/L		SAMI	PLE /	/ SAMPLE	DUPLIC	ATE RECO	OVERY
Anions by EPA 300/300.1		Parent Sa Resul [A]		Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte				<b>[B]</b>			
Chloride		190		190	0	20	
Sulfate		511		513	0	20	
Lab Batch #: 739048		• • • • •					
Date Analyzed: 11/03/2008	Date Pro	epared:	11/0	3/2008	Analy	st: LATCOF	t
QC- Sample ID: 316263-001 D	B	atch #:	1		Matr	ix: Water	
Reporting Units: mg/L		SAMI	PLE .	/ SAMPLE	DUPLIC	ATE REC	OVERY
TDS by SM2540C Analyte		Parent Sa Resu [A]		Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids		1330		1370	3	30	

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



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### Sample Duplicate Recovery



### Project Name: Midland/Odessa Standard List of Methods

Work Order #: 316263

Lab Batch #: 739192 Date Analyzed: 11/04/2008 Dat QC- Sample ID: 315914-001 D Reporting Units: mg/L	Batch #: 1	4/2008 <b>' SAMPLE</b>	Analy Matr	D: 8-0132 st: HAT ix: Water ATE REC	OVERY
Total RCRA Metals by SW6020A Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Antimony	0.020	0.017	16	20	
Arsenic	0.198	0.186	6	20	
Barium	0.099	0.095	4	20	
Beryllium	ND	ND	NC	20	
Cadmium	ND	ND	NC	20	
Calcium	124	117	6	20	
Chromium	ND	ND	NC	20	
Lead	ND	ND	NC	20	
Manganese	0.041	0.037	10	20	
Nickel	0.008	0.007	13	20	
Potassium	19.8	18.5	7	20	
Selenium	ND	ND	NC	20	[
Silver	ND	ND	NC	20	
Sodium	213	199	7	20	

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

CLIENT NAME:		SITE MANAGER:	PARAMETERS/METHOD NUMBER	R CHAIN-OF-CUSTODY RECORD
		NI. LARSON		
PROJECT 140: 8-0133	/	PROJECT NAME.		A CISON & SSOCICITES, Inc. Fax: 432-687-0456 inversariatic Considence 432-687-0901
PAGE OF	1 LAB. PO #	*0	sni sni 751 X	507 N. Marienfeld, Ste. 202 • Midland, TX 79701
MALLO MALLO MALLO MALLO MALLO	³³⁴¹⁰ ¹¹ 05	SAMPLE IDENTIFICATION	215: 215: 215: 215: 215: 215: 215: 215:	LAB 10. REMARKS NUMBER DEFINITERED UNTURERED NESTRORG, UNESTRORG, UNESTRORG, UNESTRORD ILAB USE ONITY REMARKSTRORD
051 10 1		MW-I	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	340
		Aw-2	() () () () () () () () () () () () () (	
	- +			
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	-			
	+ - - -			
SAMPLED BY. (Signature)		DATE JC-3008 RELINQUISHED BY: ISIgnature) TIME	D BY: iSignature) DATE:	RECEIVED 5Y: (Signature) DATE:
lã	of Urej	DATE: I.C. + 24 RECEIVED BY: (Signature)	1 2.57	SAMPLE SHIPPED BY: (Circle)
The Much	{	TIME 0500 - ULLIND	Kilit TIME I SE	FEDEX BUS A
COMMENTS:		<b>(</b> ,	TURNARDUND TIME NEEDED	HAND DELIVERED UPS OTHER. WHITE - RECEIVING LAB
RECEIVING LABORATORY		KE	RECEIVED BY: [Signature]	<b>YELLOW</b> - RECEIVING LAB (TO BE RETURNED TO 1.4 AFTER RECEIPT)
ADDRESS:				1
CITY: CONTACT:		PHONE: ZIP	DATE: TIME:	GOLD - QA/QC COORDINATOR
/ 5 °C 5-20 - 5-25 - 42 PA	Circl Duty		LA CONTACT PERSON:	SAMPLE TYPE: LUCE #11 5

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#### Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

Client:	Larson + Assee
Date/ Time:	10/31/08 5 54
Lab ID # :	3/4243
Initials:	<u>    (jnu4                                    </u>

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#### Sample Receipt Checklist

oumple receipt	OUPERUSI		
			Client Initia
Temperature of container/ cooler?	Yes	No	/.5 °C
Shipping container in good condition?	Yes?	No	
Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present
Custody Seals intact on sample bottles/ container?	Yes	No	Not Present
Chain of Custody present?	Hes	No	
Sample instructions complete of Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished/ received?	Yes	No	
Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid
Container label(s) legible and intact?	Yes	No	Not Applicable
Sample matrix/ properties agree with Chain of Custody?	Yes	No	
Containers supplied by ELOT?	Yes	No	
Samples in proper container/ bottle?	(Es	No	See Below
Samples properly preserved?	Yes	No	See Below
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	des	No	
Sufficient sample amount for indicated test(s)?	Tes	No	See Below
All samples received within sufficient hold time?	Yes	No	See Below
Subcontract of sample(s)?	Yes	No	Not Applicable
VOC samples have zero headspace?	Yes	No	Not Applicable
	Temperature of container/ cooler? Shipping container in good condition? Custody Seals intact on shipping container/ cooler? Custody Seals intact on sample bottles/ container? Chain of Custody present? Sample instructions complete of Chain of Custody? Chain of Custody signed when relinquished/ received? Chain of Custody agrees with sample label(s)? Container label(s) legible and intact? Sample matrix/ properties agree with Chain of Custody? Containers supplied by ELOT? Samples in proper container/ bottle? Samples properly preserved? Sample bottles intact? Preservations documented on Chain of Custody? Containers adocumented on Chain of Custody? Containers documented on Chain of Custody? Containers documented on Chain of Custody? Sufficient sample amount for indicated test(s)? All samples received within sufficient hold time? Subcontract of sample(s)?	Shipping container in good condition?       Yes         Custody Seals intact on shipping container/ cooler?       Yes         Custody Seals intact on sample bottles/ container?       Yes         Chain of Custody present?       Yes         Sample instructions complete of Chain of Custody?       Yes         Chain of Custody signed when relinquished/ received?       Yes         Chain of Custody signed when relinquished/ received?       Yes         Chain of Custody agrees with sample label(s)?       Yes         Container label(s) legible and intact?       Yes         Sample matrix/ properties agree with Chain of Custody?       Yes         Container supplied by ELOT?       Yes         Sample bottles intact?       Yes         Preservations documented on Chain of Custody?       Yes         Cuntainers supplied on Chain of Custody?       Yes         Sufficient sample amount for indicated test(s)?       Yes         All samples received within sufficient hold time?       Yes	Temperature of container/ cooler?       Yes       No         Shipping container in good condition?       Class?       No         Custody Seals intact on shipping container/ cooler?       Yes       No         Custody Seals intact on sample bottles/ container?       Yes       No         Chain of Custody present?       Yes       No         Sample instructions complete of Chain of Custody?       Yes?       No         Chain of Custody signed when relinquished/ received?       Yes?       No         Chain of Custody agrees with sample label(s)?       Yes?       No         Container label(s) legible and intact?       Yes?       No         Sample matrix/ properties agree with Chain of Custody?       Yes       No         Samples in proper container/ bottle?       Yes?       No         Samples properly preserved?       Yes?       No         Sample bottles intact?       Yes?       No         Sufficient sample amount for indicated test(s)?       Yes?       No         Sufficient sample amount for indicated test(s)?       Yes?       No         Subcontract of sample(s)?

#### Variance Documentation

Contact:	••••	Contacted by:	Date/ Time:	
Regarding:			· · · · · · · · · · · · · · · · · · ·	
Corrective Action Taken	1:			
Check all that Apply:		See attached e-mail/ fax Client understands and would like to pr	oceed with analysis	
		Cooling process had begun shortly after		

**APPENDIX C** 

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Photographs

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# Leak Location Looking West



Leak Location Looking Southwest

Targa Midstream Services, L.P. 1RP-952 North 10" Pipeline Release Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E LEA COUNTY, NM N 32" 28' 05.3" W 103" 08' 52.5" Arson & Sociates, Inc. Environmental Consultants



## Leak Location Looking Northwest



# Leak Location Looking Northeast

Targa Midstream Services, L.P. 1RP-952 North 10" Pipeline Release Unit B, (NW/4, NE/4) SEC 22, T-21-S, R-37-E LEA COUNTY, NM N 32* 28' 05.3" W 103* 08' 52.5" arson & Ssociates, Inc. Environmental Consultants

### **APPENDIX D**

Initial and Final C-141

1. A. A.

4 4 1							V														
			NM 88240 tesia, NM 88210	]	Energy Mine		Resources	:	Form C-141 Revised March 17, 1999												
	<u>District III</u> 1000 Rio Braz <u>District IV</u> 1220 S. St. Fra		ec, NM 87410 ta Fe, NM 87505		1220 S	ation Div St. Franci NM 8750	s Dr.			Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form											
	· · · · · · · · · · · · · · · · · · ·			Release	e Notificat	tion a	and Cor	rective A	ction												
		OPERA	TOR					🛛 In	itial Report		Final Report										
		mpany: <b>D</b>	ynegy Midstr	eam Servio	ces		: Roger Hol	land													
Mar .	Address	1070 E	ice, New Mexi	an 88721		Telepho 505-63															
	Facility Nar		ice, new mexi	10 00231	·.	Facility															
	North 10"	#210010				10 inch	steel pipelin	e	·	· · · · · · · · · · · · · · · ·											
3. 60 . 42 .	Surface Ow	ner: C.A.	. Bettis			Mine	ral Owner			Lease No.											
	LOCATION OF RELEASE																				
and the	Unit Letter C	Section 22	Township T21S	Feet from the	South Line	Feet from the	East/West Li	ne	County: Lea Lat. 32° 28' 05.36''N Lon. 103° 08' 52.41''W												
-																					
1. 2. 2. al	Type of Relea	ase			11110	Volume of		1	Vo	lume Recovered											
	Natural Gas					Data and U	<5 barrels our of Occurre		Det	None											
			al operating pr		nal daily flow 1 2 p.s.i .	August 16,		nce	Dat	e and Hour of Discovery											
1. Sec. 1	Was Immedia		iven?			If YES, To		I													
			Y	′es ∐ No	Not Requ	ired		· · ·			·										
· 121-	By Whom? Was a Waterc	ourse Reach	ned? 🗌 Yes	🛛 No	<u> </u>	Date and H If YES, Vo NA	our lume Impacting	g the Waterco	ourse	). 											
	If a Watercourse was Impacted, Describe Fully,*																				
	Describe Cause of Problem and Remedial Action Taken.*																				
	10 inch steel nineline. Release was due to corrosion. A line renair clamp was installed																				
	Release Area: ~400 square feet. Soil contaminated above the NMOCD Remedial Guidelines will be remediated. Remedial Goals: TPH 8015m =																				
の何な	1,000 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethylbenzene, Toluene, and Xylenes = 50 mg/Kg.																				
	regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger																				
	Signature:			<u> </u>			OIL CONSERVATION DIVISION														
	Printed Name:	Roger Hol	land				Appro	Approved by District Supervisor:													
	E-mail Addres	s: Roger.H	olland@Dyne	gy.com			Аррго	Approval Date:			Expiration Date:										
	Title:						Condit	ions of Approv	val:		Attached										
: T	Date:			Pho	one: 505-631-7	094		,													
Ľ		Addition	nal Sheets I				L	· · · ·			Date:     Phone: 505-631-7094       * Attach Additional Sheets If Necessary										

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1. Sec.	District 1 1625 N. French	Dr., Hobbs,	NM 88240				New Mex					]	Form C-141
	District II 1301 W. Grand		and Natura	and Natural Resources				Revised October 10, 2003					
The Barris	District III 1000 Rio Brazos			rvation Div				Submit 2 Copies to appropriate District Office in accordance					
	District IV 1220 S. St. Fran		-	;				n St. Francis Dr. with Rule 1				116 on back side of form	
8							Fe, NM 875	· · · · · · · · · · · · · · · · · · ·	- <b>A</b> ²				
Carlos - Same				Kel	ease Notili	catio		orrective A	ction			N	
	Name of Co		Farga Midstro	am Car			OPERA' Contact: D		· · · · ·	Initia	al Report	X	Final Report
8-18-18					ind, TX 79705	5		No.: (432) 688-	0555				
			10" Pipeline					e: Natural Gas		ne (not asse	ociated wit	h a we	ell) ,
	Surface Ow	ner: Char	lie Bettis		Mineral (	Owner				Lease N	lo.		
1900 - 1924 - 1924 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 1920 - 19200 - 19200 - 19200 - 19200 - 1920 - 1920 - 1920 - 1920	LOCATION OF RELEASE												
							h/South Line	Feet from the	East/\	West Line	County Lea		
1. T. C.		l	<u> </u>			I					<u> </u>		<u></u>
æ				Latit	tude: N 32° 28'	05.36	" Longitud	le: W 103° 08'	52.41"	,			
1. 10 B .	. <u></u>				NAT	ΓURI	E OF REL						
	Type of Rele			tool minal	ine with a normal	daile		f Release: <5 barr Hour of Occurrence			Recovered: Hour of Dis		
1						daily		August 16, 2002		Unknown		scovery	•
神話語い	flow rate of 1,000 mcf and normal operating pressure of 12 p.s.i.       Unknown August 16, 2002       Unknown         Was Immediate Notice Given?       If YES, To Whom?         Yes       Xo       Not Required												
_	By Whom?												
1. 18 A.	Was a Water	- course Rea	ched?		<u> </u>			olume Impacting	the Wat	ercourse.			
				Yes 🛽	No No								
2. 9. 4	Describe Cau	se of Probl	npacted, Descr lem and Reme oil was piled n	dial Actio	n Taken.* Relea	se was	due to corrosio	on of 10 inch stee	i pipelin	e. Line wa	s exposed, t	olinded	and taken out
B 2000	of 11 feet bel limits of relea groundwater soil to comm	ow natural ase. Vertic impaction ercial dispo	grade. Conta al limits deter- from chloride osal facility (S	minated s mined wit (824 mg/l undance I	oil piled on north th 2 monitoring w L). Propose 3 add Disposal Services	side of ells ins ditional , Inc.),	location. Soi talled up gradi monitoring w line excavation	I 1,400 ^{ft2} excavate l borings and sam ient (northwest) at ells to complete v a bottom with imp yner requirements	ples wer nd dowr adose/g permeab	re collected 1 gradient (s roundwater	to assess vo southeast) c delineation	ertical a onfirmo , haul c	and horizontal ed contaminated
· · · · · · · · · · · · · · · · · · ·	I hereby certi regulations al public health should their c or the environ	fy that the l operators or the envi operations homent. In a	information g are required t ironment. The have failed to	iven abov o report a acceptan adequatel )CD acce	e is true and com nd/or file certain ce of a C-141 rep y investigate and	plete to release ort by f remedi	the best of my notifications a he NMOCD n ate contaminat	/ knowledge and und perform correnarked as "Final Fion that pose a three operator of the operator operator of the operator operator of the operator operat	understa ctive act Report" ( reat to g	tions for rel does not rel round wate	eases which ieve the ope r, surface w	n may e erator o vater, hu	ndanger f liability ıman health
-	OIL CONSERVATION DIVISION												
* 200 ×	Signature:				<u>&gt;</u>								
	Printed Name (Consultant to		Larson idstream Servi	ces, L.P.)	<u></u>		Approved by	District Supervis	sor:				515.00 <b></b>
13. L. Co	Title: Sr. Pro	ject Manas	ger / President	, Larson a	nd Associates, In	IC.	Approval Da	ıte:		Expiration	Date:		
_	*****		)laenvironmen				Conditions of		<b>1</b> .		Attache	a 🗆	
in the second	Date: 11/21/2	008	Phon	e: (432)	687-0001						Anache	• ليا	
	* Attach Addit						l	<u></u>					
1. State 1. State				-									