District I
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District II
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District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

1RP-03-11-2691

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Targa Midstream Services, L.P.	Contact: Cal Wrangham
Address: 6 Desta Drive, Suite 3200, Midland, Texas 79705	Telephone No.: (432) 688-0452
Facility Name: R. D. Sims 8" (West Location)	Facility Type: Natural Gas Pipeline

Surface Owner: William Sims	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea
L	26	22S	37E					

Latitude: N32.3592° **Longitude:** W103.1419°

NATURE OF RELEASE

Type of Release: Installing new line and working on old site	Volume of Release:	Volume Recovered:
Source of Release: Pipeline Leak	Date and Hour of Occurrence: N/A	Date and Hour of Discovery: N/A
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Twin 8" natural gas lines developed leaks at two locations (west and east) from corrosion. Steel lines were shut-in, leaks clamped and 300 feet of 6 inch poly line was inserted into each of the steel lines.

Describe Area Affected and Cleanup Action Taken.* Two (2) leaks were observed on the same line approximately 40 feet (west and east) apart. The west excavations measures approximately 45'L x 65'W x 27'D and the east excavation measures approximately 20'L X 25'W X 15'D. Approximately 1,624 cubic yards of contaminated soil was excavated and hauled to Parabo Disposal (NM-01-0003). Highest in-situ TPH concentration in 82.6 mg/Kg in the bottom of the east excavation at approximately 15' bgs and is below RRAL of 1,000 mg/Kg. Highest in-situ chloride concentration is 783 mg/Kg from north side of the west excavation at approximately 12 feet bgs and decreases to 404 mg/Kg (maximum obtainable sample depth) in bottom of west excavation at 35' bgs. Highest chloride in bottom of east excavation is 123 mg/Kg at 18' bgs and decreases to 8.16 mg/Kg and 11.7 mg/Kg at 21 and 24 feet bgs, respectively. Chloride in west excavation is believed to be from 4 inch PVC line previously used by a third party to convey produced water south from heater treater located about 100 feet north of the excavation. The PVC line crossed over release at about 3 feet bgs where a dresser sleeve was observed. TPH in soil stockpiles below RRAL and chloride ranges from 23.1 to 260 mg/Kg. Request approval to fill excavations with soil from 5 piles and clean soil from offsite source. A final letter, including photographs, will be submitted to OCD upon completion.

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

Signature:	OIL CONSERVATION DIVISION 1RP-03-11-2691	
Printed Name: Mark J. Larson	Approved by District Supervisor:	
Title: Sr. Project Manager, Larson and Associates, Inc. (Agent)	Approval Date:	Expiration Date:
E-mail Address: mark@laenvironmental.com	Conditions of Approval:	Attached ☐
Date: 04/03//2011 Phone: (432) 687-0901 (Office) (432) 556-8656 (Cell)		

* Attach Additional Sheets If Necessary

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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Targa Midstream Services L P	Contact: Gary Maricle 575.394.2534, Chuck Tolsma 575.631.6026
Address: PO Box 1909 Eunice, NM 88231	Telephone No. (575) 394-2534
Facility Name: Eunice Gas Plant	Facility Type: Natural Gas Gathering System

Surface Owner: Bill Sims	Mineral Owner:	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	27	22S	37E					Lea

Latitude 32.3592N Longitude 103.1419

NATURE OF RELEASE

Type of Release: Installing new pipe and working on old sites	Volume of Release:	Volume Recovered:
Source of Release:	Date and Hour of Occurrence: NA	Date and Hour of Discovery NA
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken. *
Twin 8 inch natural gas gathering lines developed leaks from corrosion. Lines were shut in and 300 feet of 6 inch poly line was inserted into each of the steel lines. Contaminated soil will be excavated and disposed of in an OCD approved landfarm.

Describe Area Affected and Cleanup Action Taken.*
The two 8 inch steel lines are used for casing for the 6 inch poly lines. Areas of contamination will be addressed and excavated and sampled to insure compliance with OCD guidelines.

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

Signature: Don Embrey	OIL CONSERVATION DIVISION	
Printed Name: Don Embrey	Approved by District Supervisor:	
Title: Training Specialist	Approval Date:	Expiration Date:
E-mail Address: dembrey@targaresources.com	Conditions of Approval:	Attached ☐
Date: December 1, 2010 Phone: (432) 688-0546		

* Attach Additional Sheets If Necessary

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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Targa Midstream Services L P	Contact: Gary Maricle 575.394.2534, Chuck Tolsma 575.631.6026
Address: PO Box 1909 Eunice, NM 88231	Telephone No. (575) 394-2534
Facility Name: Eunice Gas Plant	Facility Type: Natural Gas Gathering System

Surface Owner: Bill Sims	Mineral Owner:	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	27	22S	37E					Lea

Latitude 32.3592N Longitude 103.1419

NATURE OF RELEASE

Type of Release: Installing new pipe and working on old sites	Volume of Release:	Volume Recovered:
Source of Release:	Date and Hour of Occurrence: NA	Date and Hour of Discovery NA
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
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The two 8 inch steel lines are used for casing for the 6 inch poly lines. Areas of contamination will be addressed and excavated and sampled to insure compliance with OCD guidelines.

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Signature: Don Embrey	OIL CONSERVATION DIVISION	
Printed Name: Don Embrey	Approved by District Supervisor:	
Title: Training Specialist	Approval Date:	Expiration Date:
E-mail Address: dembrey@targaresources.com	Conditions of Approval:	Attached ☐
Date: December 1, 2010 Phone: (432) 688-0546		

* Attach Additional Sheets If Necessary

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Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Targa Midstream Services, L.P.	Contact: Cal Wrangham
Address: 6 Desta Drive, Suite 3200, Midland, Texas 79705	Telephone No.: (432) 688-0452
Facility Name: R. D. Sims 8" (West Location)	Facility Type: Natural Gas Pipeline

Surface Owner: William Sims	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea
L	26	22S	37E					

Latitude: N32.3592° **Longitude:** W103.1419°

NATURE OF RELEASE

Type of Release: Installing new line and working on old site	Volume of Release:	Volume Recovered:
Source of Release: Pipeline Leak	Date and Hour of Occurrence: N/A	Date and Hour of Discovery: N/A
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
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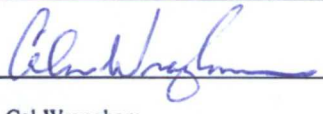
Describe Area Affected and Cleanup Action Taken.* West area excavated to approximately 45'L x 65'W x 27'D. East area excavated to approximately 20'W x 40'L x 15'D. Approximately 1,624 cubic yards of contaminated soil excavated and disposed at Parabo Disposal (NM-01-0003). Highest in-situ TPH concentration in bottom of east excavation (82.6 mg/Kg) at approximately 18 feet bgs and below RRAL of 5,000 mg/Kg. Highest in-situ chloride concentration in north sidewall of west excavation (783 mg/Kg) at approximately 12 feet bgs. Chloride in deepest bottom sample from west excavation (404 mg/Kg) at approximately 35 feet bgs and<16.6 mg/Kg in east exaction at 21 feet bgs. Highest TPH and chloride in soil piles is 19.8 mg/Kg and 260 mg/Kg, respectively, from Pile #1. Triassic Chinle formation (red bed) at approximately 38 feet bgs with no groundwater present. Targa requests approval from OCD to close excavations with soil from soil piles and clean soil from offsite source. A final letter will be submitted to OCD upon completion of backfilling, including photographs.

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

Signature: 	OIL CONSERVATION DIVISION 1RP-03-11-2691	
Printed Name: Cal Wrangham	Approved by District Supervisor:	
Title: EHS Manager, Targa midstream Services, L.P.	Approval Date:	Expiration Date:
E-mail Address: CWrangham@targaresources.com Date: 06/23//2011 Phone: (432) 688-0542 (Office) (432) 425-7072 (Cell)	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary

1.0 EXECUTIVE SUMMARY

This report is submitted to the New Mexico Oil Conservation Division (OCD) District 1 in Hobbs, New Mexico, for investigation and remediation of a natural gas liquid (NGL) release at the R.D. Sims 8 inch pipeline segment operated by Targa Midstream Services, L.P. (Targa) in Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East in Lea County, New Mexico. As operator for Versado Gas Processors, LLC, on December 1, 2010, Targa reported two releases (west and east) at the location while inserting a polyethylene line inside the 8 inch steel pipe. Targa submitted the initial C-141 and OCD assigned remediation project (RP) number 1RP-03-11-2691. This report is for the west location. Targa will remediate the east location upon filling the west excavation. The geodetic position is north 33° 21' 32.55" and west 103° 08' 28.80".

On March 2, 2011, Larson & Associates, Inc. (LAI) personnel used stainless steel sample trowels to collect 13 discrete soil samples from the bottom of the excavation at approximately 27 feet below ground surface (bgs) and sidewalls (east, south, west and north) at approximately 20, 12 and 6 feet bgs, in ascending order. Four 5-spot composite samples were collected from 4 soil piles that resulted from benching the excavation to satisfy workplace safety concerns. The soil samples were placed in clean 4-ounce glass jars that were filled to near zero headspace, labeled, chilled in an ice filled chest and delivered under chain of custody control to Xenco Environmental Laboratories, located in Odessa, Texas. The laboratory analyzed the samples for total petroleum hydrocarbons (TPH), including gasoline (GRO), diesel (DRO) and oil range organics, and chloride by EPA methods SW-8015M and 300, respectively. A portion of each sample was collected in a clean 8-ounce glass jar that was partially filled, sealed with aluminum foil, capped and allowed to reach ambient temperature before testing with a calibrated photoionization detector (PID). The highest PID reading was 13.9 parts per million (ppm) in the north sidewall sample from approximately 12 feet bgs.

The highest TPH concentration in the excavation samples was 22.4 milligram per kilogram (mg/Kg) from the south sidewall at approximately 12 feet bgs. TPH was less than the method detection limit of 16.2 mg/Kg in the bottom sample from approximately 27 feet bgs. The highest chloride concentration in the excavation samples was 783 mg/Kg at approximately 12 feet bgs from the north sidewall and decreased to 660 mg/Kg in the bottom sample from approximately 27 feet bgs. The highest TPH concentration in the soil pile samples was 19.8 mg/Kg from Pile #1. The highest and lowest chloride concentrations in the soil pile samples were 260 mg/Kg (Pile #1) and 41.20 mg/Kg (Pile #3).

The chloride is believed to be from a 4 inch PVC line that a third party previously used to convey produced water from a heater treater located about 100 feet north of the Site. The PVC line extended across the west excavation and was not identified during utility notification. However, the PVC line was encountered about 3 feet bgs near the center of the west excavation where a dresser sleeve was observed on the line.

Since soil has been remediated below the OCD recommended remediation action level (RRAL) for TPH (1,000 mg/Kg), Targa respectfully requests approval to fill the excavation with soil from the piles and clean soil from an offsite source. Targa will commence cleanup at the east location upon filling the west exaction and submit a separate report to the OCD.

2.0 INTRODUCTON

In November 2010, while inserting a polyethylene pipe inside the 8 inch steel pipeline, Targa Midstream Services, L.P. (Targa) identified two locations (west and east) where natural gas liquid (NGL) had leaked from south pipeline of two 8" pipelines known as the R.D. Sims 8" (Site) located in Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East, Lea County, New Mexico. On December 1, 2010, Targa submitted the initial C-141 to the New Mexico Oil Conservation Division (OCD) District 1 in Hobbs, New Mexico and was assigned remediation project (RP) number 1RP-03-11-2691. Environmental Plus, Inc. (EPI), Eunice, New Mexico, excavated approximately 1,624 cubic yards of soil which was disposed at the Parabo Disposal Facility (NM-01-0003) operated by Sundance Services, Inc. and located east of Eunice, New Mexico.

On February 3, 2011, Larson & Associates, Inc. (LAI) was retained to investigate the release, collect soil samples for field and laboratory analysis and prepare a report. This report presents the results of soil samples collected from the west location and soil piles on March 2, 2011. The geodetic position is north 33° 21' 32.55" and west 103° 08' 28.80". Figure 1 presents a location and topographic map. Figure 2 presents an aerial photograph.

2.1 Chronology

November 2010	Targa identified two leak locations (west and east) on the R.D. Sims 8" pipeline while inserting a polyethylene pipe inside the steel pipe. The leaks were repaired and Targa began excavating soil for disposal at the Parabo Disposal Facility located near Eunice, New Mexico;
November 30, 2010	Targa personnel collected initial soil samples from the bottom and sidewalls of the west excavation for TPH (8015M) and chloride (SM4500Cl-B) analysis by Cardinal Laboratories, located in Hobbs, New Mexico;
December 1, 2010	Targa submitted the initial C-141 to the OCD District 1 in Hobbs, New Mexico;
December 15, 2010	Targa excavated additional soil and collected soil samples from the bottom and sidewalls of the west location for TPH (8015M) and chloride (SM4500Cl-B) analysis by Cardinal Laboratories, located in Hobbs, New Mexico;
January 28, 2011	Landowner contracted Basin Environmental Service Technologies, Inc., to collect soil samples from the north side of the west location for chloride analysis by field method (Hach Quantab);

March 2, 2011	LAI personnel collected soil samples from the bottom and sidewalls of the west excavation for TPH (SW-8015M) and chloride (SW-300) analysis by Xenco Laboratories, located in Odessa, Texas.
March 22, 2011	LAI personnel used a Terraprobe® direct push sample rig to collect samples from the bottom of the west excavation for chloride analysis and grab samples from the bottom and sidewalls of the east excavations for TPH (SW-8015M) and chloride (Standard Method 300) by Xenco Laboratories, located in Odessa, Texas.

2.2 Setting

The Site is located about 5 miles southeast of Eunice, in rural Lea County, New Mexico. The surface elevation is approximately 3,315 feet above mean sea level (MSL) and slopes gently to the southeast. The soil is designated "Simona fine sandy loam, 0 to 3 percent slopes" with color from pale brown to grayish brown and fine sandy loam with fragments of hard caliche. The "c" layer is comprised of white caliche that is indurated to strongly cemented. The soil is used for range, wildlife and recreation. The nearest surface water feature is Monument Draw which is located about 1.3 miles (6,800 feet) southeast of the Site.

According to the *Geologic Map of New Mexico* and the *Geologic Atlas of Texas, Hobbs Sheet* the surface geology is comprised of Holocene to mid-Pleistocene age wind-blown sand. This material covers the eastern flank of the Pecos River valley and derived principally from reworking the underlying Tertiary-aged Ogallala formation of the Southern High Plains. The Ogallala formation is comprised of fluvial sand, silt, clay and localized gravel, with indistinct to massive crossbeds. The Ogallala sand is generally fine- to medium-grained quartz, and is known to contain arsenic, barium and other heavy metals.

In the Eunice area, the Ogallala formation consists mainly of unconsolidated to poorly consolidated, very fine to medium-grained quartz sand and gravel, with minor amount of silt and clay. An upper-most unit, the Blackwater Draw formation, consists of reddish brown, very fine to fine grained eolian sand with minor amounts of clay and caliche. Locally the "c" horizon of the Simona fine sandy loam, 0 to 3 percent slopes, is called the caprock caliche. The caprock is a hard, erosion resistant, pedogenic calcrete that is typically five to ten feet thick but may exceed 20 feet in some areas.

Groundwater occurs in the Ogallala formation at approximately 70 feet below ground surface (bgs) based on records of water levels from Office of the New Mexico State Engineer. The regional groundwater flow direction is to the southeast and the nearest well was observed about 2,000 feet southwest (cross gradient) from the Site. This well is used for livestock watering. Figure 1 presents approximate water well locations and depth to groundwater based on records from the Office of the New Mexico State Engineer.

3.0 REMEDIATION

Between November and December 2010, EPI excavated approximately 1,624 cubic yards of soil which was disposed at the Parabo Disposal Facility (NM-01-003) operated by Sundance Services, Inc., located east of Eunice, New Mexico. In February 2011, EPI excavated about 400 cubic yards of soil while benching the west excavation for safety concerns.

On March 2, 2011, LAI personnel collected soil samples from the bottom of the west excavation at approximately 27 feet bgs and sidewalls (east, west, south and north) at approximately 20, 12 and 6 feet bgs, in ascending order. Four 5-spot composite samples were collected from 4 soil piles that resulted from benching activities.

On March 22, 2011, LAI personnel used a Terraprobe® direct push rig to collect soil samples from the bottom of the west excavation to approximately 35 feet bgs. These samples were analyzed for chloride using Standard Method 300. Also, on March 22, 2011, LAI personnel collected grab samples from the bottom and sidewalls of the east excavation for laboratory analysis of total petroleum hydrocarbon (TPH) analysis by method SW-8015 and chloride by Standard Method 300. A 5-part composite sample of soil excavated from the soil wall of the east excavation (Pile #5) was also collected and analyzed for TPH and chloride.

The grab and composite samples were collected using stainless steel sample trowels that were decontaminated between uses by washing with a solution of laboratory grade (Alconox) detergent and water and rinsed with distilled water. The Terraprobe® samples were collected with a 4-foot long stainless steel core barrel that was equipped with disposable polyethylene liners. The samples were placed in 4-ounce clean glass sample jars that were filled to near zero headspace, labeled, chilled in an ice filled chest and hand delivered under chain of custody control to Xenco Laboratories, Inc., located in Odessa, Texas. Figure 3 presents the approximate sample locations.

A portion of each grab and composite sample was collected in a clean 8 ounce glass jars for headspace vapor analysis. The jars were partially filled, sealed with aluminum foil before securing the cap. After approximately 30 minutes at ambient temperature the headspace vapor concentration was measured using a calibrated Thermo Environmental instruments Model 580B organic vapor meter (OVM) photoionization detector (PID). The highest PID reading was 13.9 parts per million (ppm) from the north sidewall at approximately 12 feet bgs. Since all PID readings were below 100 ppm the laboratory analyzed the samples for total petroleum hydrocarbons (TPH), including gasoline (GRO), diesel (DRO) and oil range organics, and chloride by EPA methods SW-8015M and 300, respectively. Table 1 presents a summary of the laboratory analysis. Appendix A presents the laboratory report.

The following criteria were used to calculate recommended remediation action levels for the release:

Ranking Criteria	Result	Ranking Score
Depth-to-Groundwater	50 to 99 feet	10
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1000 Horizontal Feet	0
	Total Score:	**10**

The following RRAL were calculated for 1RP-03-11-2691:

Benzene:	**10 mg/Kg**
BTEX:	**50 mg/Kg**
TPH:	**1,000 mg/Kg**

4.0 CONCLUSIONS

The highest TPH in the excavation samples was 82.8 mg/Kg from the bottom of the east excavation at approximately 15 feet bgs. The TPH decreased to less than the method detection limit of 16.6 mg/Kg in the east excavation bottom from approximately 18 feet bgs. The laboratory analysis demonstrates that TPH at the release was remediated below the OCD recommended remediation action level of 1,000 mg/Kg.

The highest chloride in the west excavation soil samples was 783 mg/Kg from the north sidewall at approximately 12 feet bgs. Chloride was 660 mg/Kg in the bottom sample from approximately 27 feet bgs and decreased to 404 mg/Kg in the sample from 35 feet bgs.

The highest chloride in the east excavation soil samples was 638 mg/Kg from the west sidewall at approximately 6 feet bgs. Chloride was 123 mg/Kg in the bottom sample from approximately 18 feet bgs and decreased to 8.16 mg/Kg, and 11.7 mg/Kg, in samples from 21 and 24 feet bgs, respectively.

The highest TPH concentration in the soil pile samples was 19.8 mg/Kg from Pile #1. The highest and lowest chloride concentrations in the soil pile samples were 260 mg/Kg (Pile #1) and 23.1 mg/Kg (Pile #5).

A 4 inch polyvinyl chloride (PVC) line that crossed the west excavation from north to south is believed to be the source for the chloride. A third party previously used the PVC line, which is out of service, to convey produced water south of the Site from a heater treater located about 100 feet north of the Site. The PVC line was not identified during the utility notification but was encountered near the center of the west excavation at approximately 3 feet bgs where a dresser sleeve was observed. The PVC pipe joints were glued and the line was capped near the south side of the excavation.

5.0 RECOMMENDATIONS

Since TPH was remediated below the RRAL of 1,000 mg/Kg, Targa respectfully requests approval from OCD to fill the excavation with soil from the piles and clean soil from an offsite source. Targa will commence cleanup at the east location upon filling the west location. A separate report will be submitted to the OCD upon completion of remediation at the east location. Appendix B presents photographs. Appendix C presents the initial and final C-141.

Table 1
West and East Excavation Soil Sample Analytical Summary
Targa Midstream Services, L.P., R. D. Sims 8" Pipeline Release
Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East
Lea County, New Mexico
1RP-03-11-2691

Location (West)	Depth Feet BGS	Date	Status	PID (ppm)	Chloride mg/Kg	GRO mg/Kg	DRO mg/Kg	Oil mg/Kg	Total TPH mg/Kg
RRAL:									1,000
West Excavation									
Bottom	27	03/02/2011	Insitu	4.0	660	<16.2	<16.2	<16.2	<16.2
(SP-1)	28 - 29.5	03/22/2011	Insitu	--	649	--	--	--	--
(SP-1)	32 - 33.5	03/22/2011	Insitu	--	671	--	--	--	--
(SP-1)	35	03/22/2011	Insitu	--	404	--	--	--	--
East Side	6	03/02/2011	Insitu	3.9	10	<16.8	<16.8	<16.8	<16.8
	12	03/02/2011	Insitu	13.1	330	<17.4	17.5	<17.4	17.5
	20	03/02/2011	Insitu	3.0	281	<15.6	<15.6	<15.6	<15.6
West Side	6	03/02/2011	Insitu	2.2	12	<21.1	<21.1	<21.1	<21.1
	12	03/02/2011	Insitu	2.2	69.9	<17.1	<17.1	<17.1	<17.1
	20	03/02/2011	Insitu	2.2	644	<15.4	21.6	<15.4	21.6
South Side	6	03/02/2011	Insitu	3.3	324	<16.5	<16.5	<16.5	<16.5
	12	03/02/2011	Insitu	3.3	71.1	<16.6	22.4	<16.6	22.4
	20	03/02/2011	Insitu	2.7	299	<16.2	<16.2	<16.2	<16.2
North Side	6	03/02/2011	Insitu	2.6	13.4	<16.2	<16.2	<16.2	<16.2
	12	03/02/2011	Insitu	13.9	783	<16.7	<16.7	<16.7	<16.7
	20	03/02/2011	Insitu	3.9	336	<15.5	<15.5	<15.5	<15.5
East Excavation									
Bottom	15	03/22/2011	Insitu	1.2	36.8	<17.2	<17.2	<17.2	<17.2
	18	03/22/2011	Insitu	1.2	123	<17.4	82.6	<17.4	82.6
	21	03/22/2011	Insitu	1.2	8.16	<16.6	<16.6	<16.6	<16.6
	24	03/22/2011	Insitu	1.1	11.7	<16.1	<16.1	<16.1	<16.1
East Side	6	03/22/2011	Insitu	1.6	16.9	<15.5	<15.5	<15.5	<15.5
	12	03/22/2011	Insitu	1.6	15.5	<15.6	<15.6	<15.6	<15.6
West Side	6	03/22/2011	Insitu	1.1	638	<16.1	<16.1	<16.1	<16.1
	12	03/22/2011	Insitu	1.8	21.4	<16.5	<16.5	<16.5	<16.5

Table 1
West and East Excavation Soil Sample Analytical Summary
Targa Midstream Services, L.P., R. D. Sims 8" Pipeline Release
Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East
Lea County, New Mexico
1RP-03-11-2691

Location (West)	Depth Feet BGS	Date	Status	PID (ppm)	Chloride mg/Kg	GRO mg/Kg	DRO mg/Kg	Oil mg/Kg	Total TPH mg/Kg
RRAL:									**1,000**
South Side	6	03/22/2011	Insitu	1.0	21.1	<17.3	<17.3	<17.3	<17.3
	12	03/22/2011	Insitu	1.4	8.24	<18.9	<18.9	<18.9	<18.9
North Side	6	03/22/2011	Insitu	1.2	61.5	<16.2	<16.2	<16.2	<16.2
	12	03/22/2011	Insitu	1.2	12.7	<18.9	<18.9	<18.9	<18.9
Soil Piles									
Pile #1	--	03/02/2011	Excavated	3.3	260	<16.7	19.8	<16.7	19.8
Pile #2		03/02/2011	Excavated	2.2	49.7	<16.6	<16.6	<16.6	<16.6
Pile #3	--	03/02/2011	Excavated	2.2	41.2	<16.3	<16.3	<16.3	<16.3
Pile #4	--	03/02/2011	Excavated	2.2	105	<16.6	<16.6	<16.6	<16.6
Pile #5	--	03/22/2011	Excavated	1.2	23.1	<16.7	<16.7	<16.7	<16.7

Notes

Samples analyzed via EPA method SW-8015M (TPH) and SW-300 (chloride).
Depth measurements are in feet below ground surface (bgs).
All concentrations are in milligrams per kilogram (mg/Kg) equivalent to parts per million (ppm).

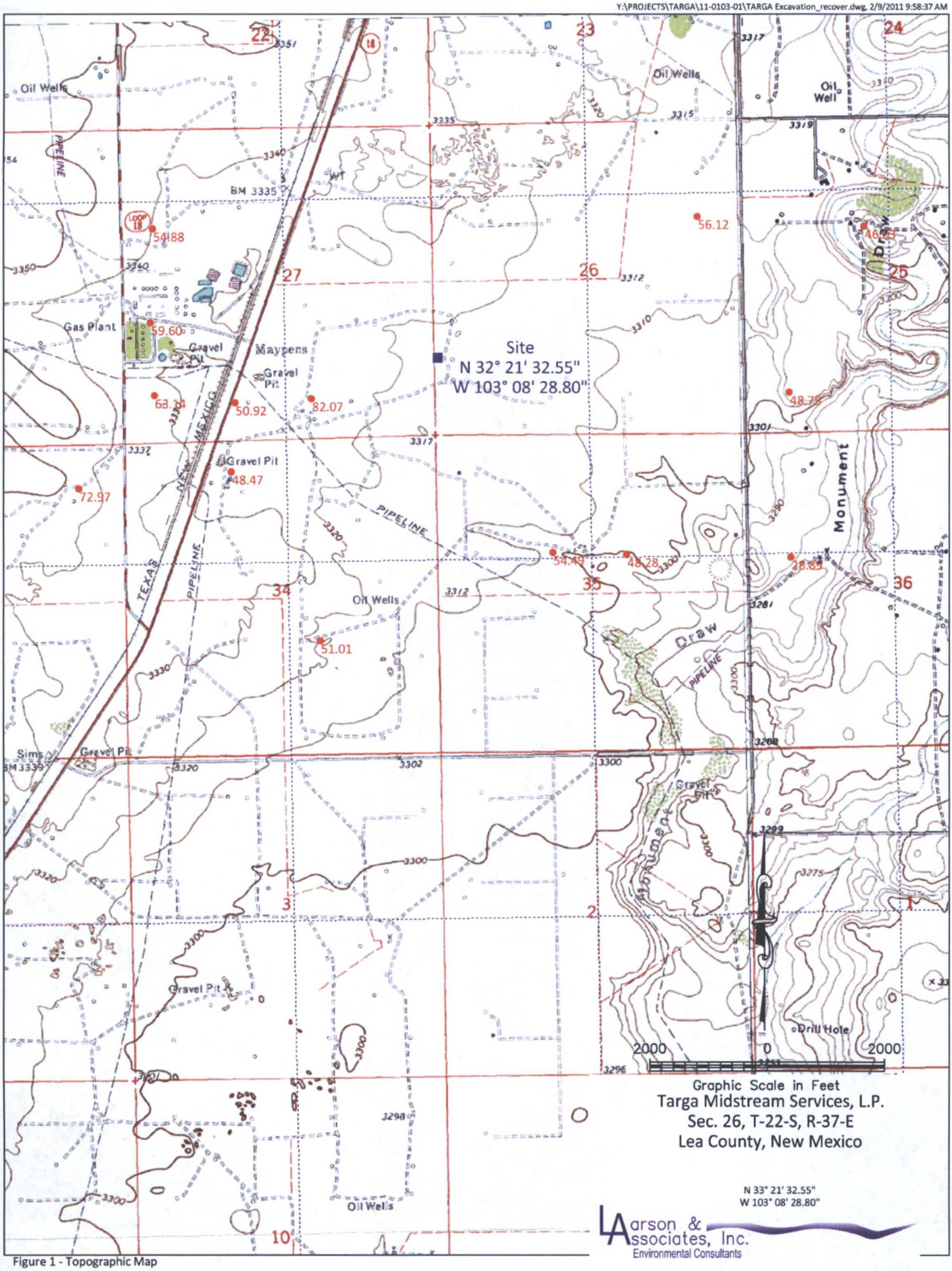
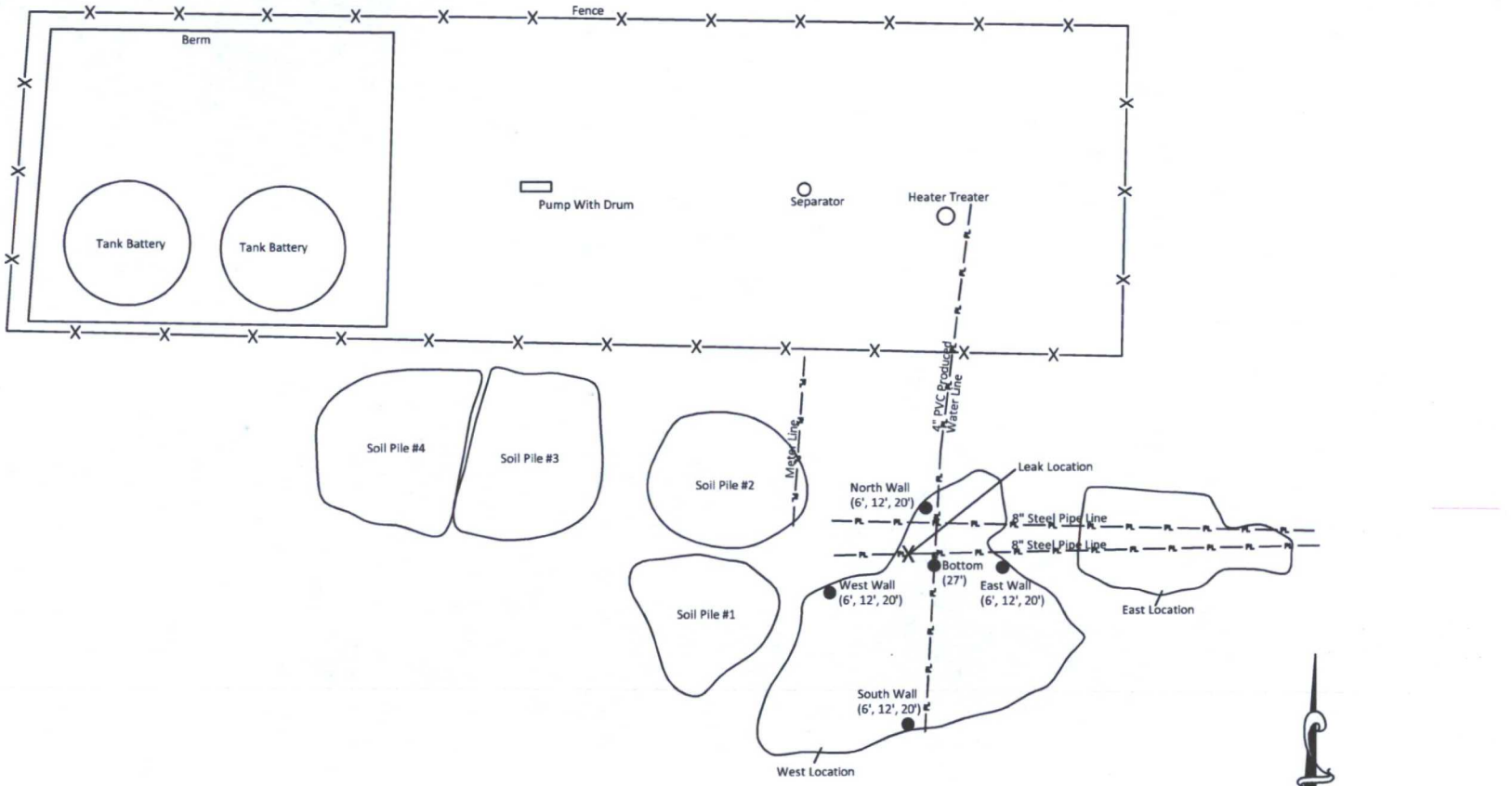
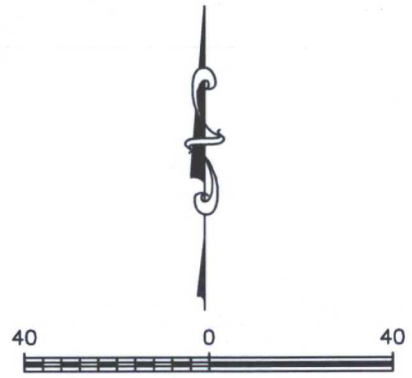


Figure 1 - Topographic Map

Y:\PROJECTS\TARGA\11-0103-01\TARGA Excavation.dwg, 3/14/2011 5:01:15 PM

Figure 2 - Aerial Map





Legend

● - Soil Sample Location (approximate)
March 2, 2011

Targa Midstream Services, L.P.
Sec. 26, T-22-S, R-37-E
Lea County, New Mexico

N 33° 21' 32.55"
W 103° 08' 28.80"

Larson & Associates, Inc.
Environmental Consultants

Figure 3 - Site Map

Analytical Report 410646

for

Larson & Associates

Project Manager: Alexis Johnson

R.D. Sims 8" Site

11-0103-01

24-MAR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

24-MAR-11

Project Manager: **Alexis Johnson**
Larson & Associates
P.O. Box 50685
Midland, TX 79710

Reference: XENCO Report No: **410646**
R.D. Sims 8" Site
Project Address:

Alexis Johnson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 410646. 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. 410646 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

Sample Cross Reference 410646

Larson & Associates, Midland, TX

R.D. Sims 8" Site

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Pile # 5	S	Mar-22-11 12:05		410646-001
SS-Bottom (15')	S	Mar-22-11 12:40		410646-002
SS-East (12')	S	Mar-22-11 12:43		410646-003
SS-East (6')	S	Mar-22-11 12:45		410646-004
SS-West (12')	S	Mar-22-11 12:50		410646-005
SS-West (6')	S	Mar-22-11 12:53		410646-006
SS-South (12')	S	Mar-22-11 12:55		410646-007
SS-South (6')	S	Mar-22-11 12:58		410646-008
SS-North (12')	S	Mar-22-11 13:00		410646-009
SS-North (6')	S	Mar-22-11 13:03		410646-010
SS-Bottom (18')	S	Mar-22-11 13:12		410646-011
SS-Bottom (21')	S	Mar-22-11 13:20		410646-012
SS-Bottom(24')	S	Mar-22-11 13:30		410646-013

CASE NARRATIVE

XENCO Laboratories

Client Name: Larson & Associates
Project Name: R.D. Sims 8" Site

ACCREDITED IN ACCORDANCE WITH nelac

Project ID: 11-0103-01
Work Order Number: 410646

Report Date: 24-MAR-11
Date Received: 03/22/2011

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-849014 TPH By SW8015 Mod
SW8015MOD_NM

Batch 849014, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 410646-013 S.

Certificate of Analysis Summary 410646

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" Site

Project Id: 11-0103-01
Contact: Alexis Johnson
Project Location:

Date Received in Lab: Tue Mar-22-11 05:00 pm
Report Date: 24-MAR-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	410646-001		410646-002		410646-003		410646-004		410646-005		410646-006	
	Field Id:	Pile # 5		SS-Bottom (15')		SS-East (12')		SS-East (6')		SS-West (12')		SS-West (6')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-11 12:05		Mar-22-11 12:40		Mar-22-11 12:43		Mar-22-11 12:45		Mar-22-11 12:50		Mar-22-11 12:53	
Anions by E300	***Extracted:***												
	Analyzed:	Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.1	4.70	36.8	4.79	15.5	8.75	16.9	8.64	21.4	9.27	638	18.1
Percent Moisture	***Extracted:***												
	Analyzed:	Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		10.6	1.00	12.4	1.00	4.02	1.00	2.80	1.00	9.37	1.00	7.09	1.00
TPH By SW8015 Mod	***Extracted:***	Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45	
	Analyzed:	Mar-23-11 14:06		Mar-23-11 14:36		Mar-23-11 15:05		Mar-23-11 15:34		Mar-23-11 16:04		Mar-23-11 16:33	
	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	16.7	ND	17.2	ND	15.6	ND	15.5	ND	16.5	ND	16.1
C12-C28 Diesel Range Hydrocarbons		ND	16.7	ND	17.2	ND	15.6	ND	15.5	ND	16.5	ND	16.1
C28-C35 Oil Range Hydrocarbons		ND	16.7	ND	17.2	ND	15.6	ND	15.5	ND	16.5	ND	16.1
Total TPH		ND	16.7	ND	17.2	ND	15.6	ND	15.5	ND	16.5	ND	16.1

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Certificate of Analysis Summary 410646

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" Site

Project Id: 11-0103-01
Contact: Alexis Johnson
Project Location:

Date Received in Lab: Tue Mar-22-11 05:00 pm
Report Date: 24-MAR-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	410646-007		410646-008		410646-009		410646-010		410646-011		410646-012	
	Field Id:	SS-South (12')		SS-South (6')		SS-North (12')		SS-North (6')		SS-Bottom (18')		SS-Bottom (21')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-11 12:55		Mar-22-11 12:58		Mar-22-11 13:00		Mar-22-11 13:03		Mar-22-11 13:12		Mar-22-11 13:20	
Anions by E300	***Extracted:***												
	Analyzed:	Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8.24	5.32	21.1	4.84	12.7	5.28	61.5	4.53	123	9.71	8.16	4.63
Percent Moisture	***Extracted:***												
	Analyzed:	Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		21.1	1.00	13.2	1.00	20.5	1.00	7.35	1.00	13.5	1.00	9.31	1.00
TPH By SW8015 Mod	***Extracted:***	Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45	
	Analyzed:	Mar-23-11 17:01		Mar-23-11 17:32		Mar-23-11 18:01		Mar-23-11 18:30		Mar-23-11 19:29		Mar-23-11 19:59	
	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	18.9	ND	17.3	ND	18.9	ND	16.2	ND	17.4	ND	16.6
C12-C28 Diesel Range Hydrocarbons		ND	18.9	ND	17.3	ND	18.9	ND	16.2	82.6	17.4	ND	16.6
C28-C35 Oil Range Hydrocarbons		ND	18.9	ND	17.3	ND	18.9	ND	16.2	ND	17.4	ND	16.6
Total TPH		ND	18.9	ND	17.3	ND	18.9	ND	16.2	82.6	17.4	ND	16.6

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 410646

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" Site

Project Id: 11-0103-01
Contact: Alexis Johnson
Project Location:

Date Received in Lab: Tue Mar-22-11 05:00 pm
Report Date: 24-MAR-11
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	410646-013						
	Field Id:	SS-Bottom(24')						
	Depth:							
	Matrix:	SOIL						
	Sampled:	Mar-22-11 13:30						
Anions by E300	***Extracted:***							
	Analyzed:	Mar-23-11 09:34						
	Units/RL:	mg/kg	RL					
Chloride		11.7	4.52					
Percent Moisture	***Extracted:***							
	Analyzed:	Mar-23-11 17:00						
	Units/RL:	%	RL					
Percent Moisture		7.06	1.00					
TPH By SW8015 Mod	***Extracted:***	Mar-23-11 09:45						
	Analyzed:	Mar-23-11 20:29						
	Units/RL:	mg/kg	RL					
C6-C12 Gasoline Range Hydrocarbons		ND	16.1					
C12-C28 Diesel Range Hydrocarbons		ND	16.1					
C28-C35 Oil Range Hydrocarbons		ND	16.1					
Total TPH		ND	16.1					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

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 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.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" Site

Work Orders : 410646, **Project ID:** 11-0103-01

Lab Batch #: 849014 **Sample:** 598767-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/23/11 12:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	47.8	50.1	95	70-135	

Lab Batch #: 849014 **Sample:** 598767-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/23/11 13:08

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.8	100	98	70-135	
o-Terphenyl	43.4	50.2	86	70-135	

Lab Batch #: 849014 **Sample:** 598767-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/23/11 13:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	99.8	99	70-135	
o-Terphenyl	48.3	49.9	97	70-135	

Lab Batch #: 849014 **Sample:** 410646-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 14:06

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.6	103	70-135	
o-Terphenyl	50.1	49.8	101	70-135	

Lab Batch #: 849014 **Sample:** 410646-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 14:36

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	100	99	70-135	
o-Terphenyl	47.3	50.2	94	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" Site

Work Orders : 410646, **Project ID:** 11-0103-01

Lab Batch #: 849014 **Sample:** 410646-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 15:05

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.5	107	70-135	
o-Terphenyl	50.3	49.8	101	70-135	

Lab Batch #: 849014 **Sample:** 410646-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 15:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	101	128	70-135	
o-Terphenyl	61.1	50.3	121	70-135	

Lab Batch #: 849014 **Sample:** 410646-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 16:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.5	102	70-135	
o-Terphenyl	47.6	49.8	96	70-135	

Lab Batch #: 849014 **Sample:** 410646-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 16:33

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	54.3	50.0	109	70-135	

Lab Batch #: 849014 **Sample:** 410646-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 17:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.6	111	70-135	
o-Terphenyl	54.9	49.8	110	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" Site

Work Orders : 410646,

Project ID: 11-0103-01

Lab Batch #: 849014 **Sample:** 410646-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 17:32

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.2	50.0	96	70-135	

Lab Batch #: 849014 **Sample:** 410646-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 18:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	52.4	50.2	104	70-135	

Lab Batch #: 849014 **Sample:** 410646-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 18:30

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.1	100	97	70-135	
o-Terphenyl	46.9	50.1	94	70-135	

Lab Batch #: 849014 **Sample:** 410646-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 19:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	51.2	50.1	102	70-135	

Lab Batch #: 849014 **Sample:** 410646-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 19:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	101	115	70-135	
o-Terphenyl	55.8	50.3	111	70-135	

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" Site

Work Orders : 410646,

Project ID: 11-0103-01

Lab Batch #: 849014 **Sample:** 410646-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 20:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.5	112	70-135	
o-Terphenyl	52.5	49.8	105	70-135	

Lab Batch #: 849014 **Sample:** 410646-013 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 22:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	148	99.6	149	70-135	*
o-Terphenyl	66.6	49.8	134	70-135	

Lab Batch #: 849014 **Sample:** 410646-013 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 22:31

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: R.D. Sims 8" Site

Work Order #: 410646 **Project ID:** 11-0103-01

Analyst: LATCOR **Date Prepared:** 03/23/2011 **Date Analyzed:** 03/23/2011

Lab Batch ID: 848925 **Sample:** 848925-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.420	10.0	9.75	98	10.0	9.28	93	5	75-125	20	

Analyst: BEV **Date Prepared:** 03/23/2011 **Date Analyzed:** 03/23/2011

Lab Batch ID: 849014 **Sample:** 598767-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	893	89	1000	823	82	8	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	898	90	1000	824	82	9	70-135	35	

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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: R.D. Sims 8" Site

Work Order #: 410646
Lab Batch #: 848925
Project ID: 11-0103-01
Date Analyzed: 03/23/2011
Date Prepared: 03/23/2011
Analyst: LATCOR
QC- Sample ID: 410646-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	23.1	112	121	87	75-125	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: R.D. Sims 8" Site

Work Order # : 410646 **Project ID:** 11-0103-01

Lab Batch ID: 849014 **QC- Sample ID:** 410646-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/23/2011 **Date Prepared:** 03/23/2011 **Analyst:** BEV

Reporting Units: mg/kg

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**Spiked Sample %R [D]**	**Spike Added [E]**	**Duplicate Spiked Sample Result [F]**	**Spiked Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	<16.1	1070	1340	125	1080	944	87	35	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.1	1070	1340	125	1080	941	87	35	70-135	35	

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

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

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

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: R.D. Sims 8" Site

Work Order #: 410646

Lab Batch #: 848925 **Project ID:** 11-0103-01

Date Analyzed: 03/23/2011 09:34 **Date Prepared:** 03/23/2011 **Analyst:** LATCOR

QC- Sample ID: 410646-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	23.1	21.7	6	20	

Lab Batch #: 849000

Date Analyzed: 03/23/2011 17:00 **Date Prepared:** 03/23/2011 **Analyst:** WRU

QC- Sample ID: 410641-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	10.8	10.9	1	20	

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

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to: ALEXIS JOHNSON

DATE: 3-22-11 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER #: 410646
PROJECT LOCATION OR NAME: BILL SEMS 10"
LAI PROJECT #: 11-0103-01 COLLECTOR: A. BROOKS

TRRP report? ☐ Yes ☐ No

TIME ZONE: Time zone/State: MST / NM

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ | TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 | DIESEL - MOD 8015 | VOC 8260 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ | 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TCLP - METALS (RCRA) ☐ TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ | TOTAL METALS (RCRA) ☐ OTHER LIST ☐ | LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ | pH ☐ HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PECHLORATE ☐ | CHLORIDES ☐ ANIONS ☐ ALKALINITY ☐ | 300.0

Field Sample I.D.	Lab #	Date (2011)	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015	DIESEL - MOD 8015	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDES ☐ ANIONS ☐ ALKALINITY ☐	300.0	FIELD NOTES
PILE #5	01	03-22	1205	S	1				X				X	X													X		EAST EXCAVATION
SS-BOTTOM (15')	02		1240																										
SS-EAST (12')	03		1243																										
SS-EAST (6')	04		1245																										
SS-WEST (12')	05		1250																										
SS-WEST (6')	06		1253																										
SS-SOUTH (12')	07		1255																										
SS-SOUTH (6')	08		1258																										
SS-NORTH (12')	09		1300																										
SS-NORTH (6')	10		1303																										
SS-BOTTOM (18')	11		1312																										
SS-BOTTOM (21')	12		1320																										
SS-BOTTOM (24')	13	↓	1330	↓	↓				↓				↓	↓													↓		↓

TOTAL 13

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)	
K.W. Brooks	3-22-11 5:00P	Andrea Elam	3.22.11 17:00
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)	
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)	

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 3.1 THERM #: A7
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL # _____
☒ HAND DELIVERED 4oz glass

XENCO Laboratories

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

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.
Date/Time: 3·22·11 17:00
Lab ID # : 410646
Initials: AE

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	3.1 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

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

Analytical Report 410647

for

Larson & Associates

Project Manager: Alexis Johnson

R.D. Sims 8" Site

11-0103-01

24-MAR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

24-MAR-11

Project Manager: **Alexis Johnson**
Larson & Associates
P.O. Box 50685
Midland, TX 79710

Reference: XENCO Report No: **410647**
R.D. Sims 8" Site
Project Address:

Alexis Johnson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 410647. 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. 410647 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

Sample Cross Reference 410647

Larson & Associates, Midland, TX

R.D. Sims 8" Site

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1 (28-29.5')	S	Mar-22-11 09:55		410647-001
SP-1 (32-33.5')	S	Mar-22-11 10:40		410647-002
SP-1 (35')	S	Mar-22-11 11:40		410647-003

CASE NARRATIVE

Client Name: Larson & Associates
Project Name: R.D. Sims 8" Site

Project ID:	*11-0103-01*	*Report Date:*	*24-MAR-11*
Work Order Number:	*410647*	*Date Received:*	*03/22/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 410647

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" Site

Project Id: 11-0103-01
Contact: Alexis Johnson
Project Location:

Date Received in Lab: Tue Mar-22-11 05:00 pm
Report Date: 24-MAR-11
Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	410647-001		410647-002		410647-003			
	Field Id:	SP-1 (28-29.5')		SP-1 (32-33.5')		SP-1 (35')			
	Depth:								
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Mar-22-11 09:55		Mar-22-11 10:40		Mar-22-11 11:40			
Anions by E300	***Extracted:***								
	Analyzed:	Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		649	24.9	671	25.3	404	19.2		
Percent Moisture	***Extracted:***								
	Analyzed:	Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00			
	Units/RL:	%	RL	%	RL	%	RL		
Percent Moisture		15.6	1.00	17.0	1.00	12.6	1.00		

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

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 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.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

BS / BSD Recoveries

Project Name: R.D. Sims 8" Site

Work Order #: 410647
Analyst: LATCOR
Lab Batch ID: 848925
Sample: 848925-1-BKS
Units: mg/kg

Date Prepared: 03/23/2011
Batch #: 1

Project ID: 11-0103-01
Date Analyzed: 03/23/2011
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.420	10.0	9.75	98	10.0	9.28	93	5	75-125	20	

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

Final 1.000

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: R.D. Sims 8" Site

Work Order #: 410647
Lab Batch #: 848925
Project ID: 11-0103-01
Date Analyzed: 03/23/2011
Date Prepared: 03/23/2011
Analyst: LATCOR
QC- Sample ID: 410646-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	23.1	112	121	87	75-125	

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

BRL - Below Reporting Limit

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: R.D. Sims 8" Site

Work Order #: 410647

Lab Batch #: 848925 **Project ID:** 11-0103-01

Date Analyzed: 03/23/2011 09:34 **Date Prepared:** 03/23/2011 **Analyst:** LATCOR

QC- Sample ID: 410646-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	23.1	21.7	6	20	

Lab Batch #: 849000

Date Analyzed: 03/23/2011 17:00 **Date Prepared:** 03/23/2011 **Analyst:** WRU

QC- Sample ID: 410641-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	10.8	10.9	1	20	

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

BRL - Below Reporting Limit

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to: ALEXIS JOHNSON

DATE: 03-22-11 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER #: 410647
PROJECT LOCATION OR NAME: BILL SIMS 10"
LAI PROJECT #: 11-0103-01 COLLECTOR: R. BROOKS

TRRP report? ☐ Yes ☐ No
TIME ZONE: Time zone/State: MST/NM

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

Field Sample I.D.	Lab #	Date (2011)	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE 300 ANIONS ☐ ALKALINITY ☐	FIELD NOTES
SP-1(28-29.6')	01	03-22	0955	S	1				X																	X		WEST EXCAVATION
SP-1(32-33.5')	02	↓	1040	↓	↓				↓																	↓		↓
SP-1(35')	03	↓	1140	↓	↓				↓																	↓		↓
TOTAL					3																							

RELINQUISHED BY:(Signature) T.W. Booth DATE/TIME 3-22-11 5:00 PM RECEIVED BY: (Signature) Andrea Elam 3-22-11 17:00
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 3.1 THERM #: A7
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☑ NOT USED
☐ CARRIER BILL # _____
☑ HAND DELIVERED 4oz glass

XENCO Laboratories

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

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.
Date/Time: 3.22.11 17:00
Lab ID # : 410647
Initials: AE

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	3.1 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

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

Analytical Report 408471

for

Larson & Associates

Project Manager: Mark Larson

R.D. Sims 8" West Excavation

11-0103-01

07-MAR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

07-MAR-11

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

Reference: XENCO Report No: **408471**
R.D. Sims 8" West Excavation
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 408471. 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. 408471 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

Sample Cross Reference 408471

Larson & Associates, Midland, TX

R.D. Sims 8" West Excavation

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Botton (27')	S	Mar-02-11 09:45	27 ft	408471-001
East (20')	S	Mar-02-11 09:50	20 ft	408471-002
East (12')	S	Mar-02-11 09:55	12 ft	408471-003
East (6')	S	Mar-02-11 10:00	6 ft	408471-004
West (20')	S	Mar-02-11 10:10	20 ft	408471-005
West (12')	S	Mar-02-11 10:15	12 ft	408471-006
West (6')	S	Mar-02-11 10:20	6 ft	408471-007
South (20')	S	Mar-02-11 10:25	20 ft	408471-008
South (12')	S	Mar-02-11 10:30	12 ft	408471-009
South (6')	S	Mar-02-11 10:32	6 ft	408471-010
North (20')	S	Mar-02-11 10:38	20 ft	408471-011
North (12')	S	Mar-02-11 10:48	12 ft	408471-012
North (6')	S	Mar-02-11 10:55	6 ft	408471-013
Pile # 1	S	Mar-02-11 11:10		408471-014
Pile # 2	S	Mar-02-11 11:15		408471-015
Pile # 3	S	Mar-02-11 11:20		408471-016
Pile # 4	S	Mar-02-11 11:25		408471-017

CASE NARRATIVE

XENCO Laboratories

Client Name: Larson & Associates

Project Name: R.D. Sims 8" West Excavation

Project ID:	*11-0103-01*	*Report Date:*	*07-MAR-11*
Work Order Number:	*408471*	*Date Received:*	*03/02/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 408471

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" West Excavation

Project Id: 11-0103-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Mar-02-11 05:07 pm
Report Date: 07-MAR-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	408471-001		408471-002		408471-003		408471-004		408471-005		408471-006	
	Field Id:	Botton (27')		East (20')		East (12')		East (6')		West (20')		West (12')	
	Depth:	27- ft		20- ft		12- ft		6- ft		20- ft		12- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-02-11 09:45		Mar-02-11 09:50		Mar-02-11 09:55		Mar-02-11 10:00		Mar-02-11 10:10		Mar-02-11 10:15	
Anions by E300	*Extracted:*												
	Analyzed:	Mar-03-11 11:01		Mar-03-11 11:40		Mar-03-11 11:53		Mar-03-11 12:06		Mar-03-11 12:19		Mar-03-11 12:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		660	18.2	281	8.74	330	9.72	10.0	4.67	644	8.64	69.9	9.58
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.55	1.00	3.93	1.00	13.6	1.00	10.0	1.00	2.80	1.00	12.3	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00	
	Analyzed:	Mar-03-11 12:43		Mar-03-11 13:02		Mar-03-11 13:22		Mar-03-11 13:41		Mar-03-11 14:01		Mar-03-11 14:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.2	ND	15.6	ND	17.4	ND	16.8	ND	15.4	ND	17.1
C12-C28 Diesel Range Hydrocarbons		ND	16.2	ND	15.6	17.5	17.4	ND	16.8	21.6	15.4	ND	17.1
C28-C35 Oil Range Hydrocarbons		ND	16.2	ND	15.6	ND	17.4	ND	16.8	ND	15.4	ND	17.1
Total TPH		ND	16.2	ND	15.6	17.5	17.4	ND	16.8	21.6	15.4	ND	17.1

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 408471

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" West Excavation

Project Id: 11-0103-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Mar-02-11 05:07 pm
Report Date: 07-MAR-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	408471-007		408471-008		408471-009		408471-010		408471-011		408471-012	
	Field Id:	West (6')		South (20')		South (12')		South (6')		North (20')		North (12')	
	Depth:	6- ft		20- ft		12- ft		6- ft		20- ft		12- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-02-11 10:20		Mar-02-11 10:25		Mar-02-11 10:30		Mar-02-11 10:32		Mar-02-11 10:38		Mar-02-11 10:48	
Anions by E300	*Extracted:*												
	Analyzed:	Mar-03-11 12:45		Mar-03-11 12:58		Mar-03-11 13:11		Mar-03-11 13:24		Mar-03-11 13:37		Mar-03-11 13:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		12.0	5.93	299	9.08	71.1	4.67	324	9.22	336	8.68	783	9.33
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		29.2	1.00	7.50	1.00	10.0	1.00	8.92	1.00	3.21	1.00	10.0	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00	
	Analyzed:	Mar-03-11 14:40		Mar-03-11 14:59		Mar-03-11 15:19		Mar-03-11 15:38		Mar-03-11 16:17		Mar-03-11 16:37	
	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	21.1	ND	16.2	ND	16.6	ND	16.5	ND	15.5	ND	16.7
C12-C28 Diesel Range Hydrocarbons		ND	21.1	ND	16.2	22.4	16.6	ND	16.5	ND	15.5	ND	16.7
C28-C35 Oil Range Hydrocarbons		ND	21.1	ND	16.2	ND	16.6	ND	16.5	ND	15.5	ND	16.7
Total TPH		ND	21.1	ND	16.2	22.4	16.6	ND	16.5	ND	15.5	ND	16.7

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 408471

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" West Excavation

Project Id: 11-0103-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Mar-02-11 05:07 pm
Report Date: 07-MAR-11
Project Manager: Brent Barron, II

Analysis Requested															
	Lab Id:	408471-013		408471-014		408471-015		408471-016		408471-017					
	Field Id:	North (6')		Pile # 1		Pile # 2		Pile # 3		Pile # 4					
	Depth:	6- ft													
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL					
	Sampled:	Mar-02-11 10:55		Mar-02-11 11:10		Mar-02-11 11:15		Mar-02-11 11:20		Mar-02-11 11:25					
Anions by E300	***Extracted:***														
	Analyzed:	Mar-03-11 14:03		Mar-03-11 14:16		Mar-03-11 14:35		Mar-03-11 14:58		Mar-03-11 15:21					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		13.4	4.54	260	9.31	49.7	4.63	41.2	4.57	105	9.29				
Percent Moisture	***Extracted:***														
	Analyzed:	Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00					
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL				
Percent Moisture		7.47	1.00	9.82	1.00	9.21	1.00	8.13	1.00	9.55	1.00				
TPH By SW8015 Mod	***Extracted:***	Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00					
	Analyzed:	Mar-03-11 16:56		Mar-03-11 17:15		Mar-03-11 17:35		Mar-03-11 17:54		Mar-03-11 18:13					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	16.2	ND	16.7	ND	16.6	ND	16.3	ND	16.6				
C12-C28 Diesel Range Hydrocarbons		ND	16.2	19.8	16.7	ND	16.6	ND	16.3	ND	16.6				
C28-C35 Oil Range Hydrocarbons		ND	16.2	ND	16.7	ND	16.6	ND	16.3	ND	16.6				
Total TPH		ND	16.2	19.8	16.7	ND	16.6	ND	16.3	ND	16.6				

Brent Barron, II
Odessa Laboratory Manager

XENCO Laboratories

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 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.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

***** Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471, **Project ID:** 11-0103-01

Lab Batch #: 846206 **Sample:** 597109-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/03/11 11:44

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.8	100	79	70-135	
o-Terphenyl	41.5	50.0	83	70-135	

Lab Batch #: 846206 **Sample:** 597109-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/03/11 12:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.3	100	76	70-135	
o-Terphenyl	38.4	50.2	76	70-135	

Lab Batch #: 846206 **Sample:** 597109-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/03/11 12:23

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.8	100	78	70-135	
o-Terphenyl	37.8	50.2	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 12:43

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.6	99.9	80	70-135	
o-Terphenyl	38.7	50.0	77	70-135	

Lab Batch #: 846206 **Sample:** 408471-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 13:02

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.8	100	80	70-135	
o-Terphenyl	38.3	50.1	76	70-135	

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471,

Project ID: 11-0103-01

Lab Batch #: 846206 **Sample:** 408471-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 13:22

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.3	100	80	70-135	
o-Terphenyl	38.7	50.2	77	70-135	

Lab Batch #: 846206 **Sample:** 408471-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 13:41

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.1	101	77	70-135	
o-Terphenyl	37.7	50.3	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 14:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.8	99.6	77	70-135	
o-Terphenyl	36.5	49.8	73	70-135	

Lab Batch #: 846206 **Sample:** 408471-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 14:20

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.6	99.8	76	70-135	
o-Terphenyl	36.7	49.9	74	70-135	

Lab Batch #: 846206 **Sample:** 408471-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 14:40

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.4	99.5	78	70-135	
o-Terphenyl	37.7	49.8	76	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471,

Project ID: 11-0103-01

Lab Batch #: 846206 **Sample:** 408471-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 14:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.4	100	77	70-135	
o-Terphenyl	37.4	50.0	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 15:19

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.5	99.6	79	70-135	
o-Terphenyl	38.1	49.8	77	70-135	

Lab Batch #: 846206 **Sample:** 408471-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 15:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.5	100	79	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

Lab Batch #: 846206 **Sample:** 408471-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 16:17

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.6	100	78	70-135	
o-Terphenyl	36.7	50.0	73	70-135	

Lab Batch #: 846206 **Sample:** 408471-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 16:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.8	99.9	79	70-135	
o-Terphenyl	38.1	50.0	76	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471,

Project ID: 11-0103-01

Lab Batch #: 846206 **Sample:** 408471-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 16:56

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.4	99.9	84	70-135	
o-Terphenyl	40.3	50.0	81	70-135	

Lab Batch #: 846206 **Sample:** 408471-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 17:15

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.8	100	79	70-135	
o-Terphenyl	37.5	50.1	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 17:35

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.0	100	79	70-135	
o-Terphenyl	37.4	50.1	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 17:54

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.6	99.9	80	70-135	
o-Terphenyl	38.1	50.0	76	70-135	

Lab Batch #: 846206 **Sample:** 408471-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 18:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.1	99.8	78	70-135	
o-Terphenyl	37.4	49.9	75	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471,

Project ID: 11-0103-01

Lab Batch #: 846206 **Sample:** 408471-017 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 19:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.3	99.6	82	70-135	
o-Terphenyl	40.6	49.8	82	70-135	

Lab Batch #: 846206 **Sample:** 408471-017 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 19:48

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.4	99.8	80	70-135	
o-Terphenyl	39.6	49.9	79	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Final 1.000

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Order #: 408471
Lab Batch #: 846180
Project ID: 11-0103-01
Date Analyzed: 03/03/2011
Date Prepared: 03/03/2011
Analyst: LATCOR
QC- Sample ID: 408471-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	660	433	1110	104	75-125	

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

BRL - Below Reporting Limit

Final 1.000

XENCO Laboratories

Form 3 - MS / MSD Recoveries

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: R.D. Sims 8" West Excavation

Work Order # : 408471 **Project ID:** 11-0103-01

Lab Batch ID: 846206 **QC- Sample ID:** 408471-017 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/03/2011 **Date Prepared:** 03/03/2011 **Analyst:** BEV

Reporting Units: mg/kg

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**Spiked Sample %R [D]**	**Spike Added [E]**	**Duplicate Spiked Sample Result [F]**	**Spiked Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	<16.5	1100	1100	100	1100	1090	99	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.5	1100	848	77	1100	853	78	1	70-135	35	

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

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

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

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: R.D. Sims 8" West Excavation

Work Order #: 408471

Lab Batch #: 846180 **Project ID:** 11-0103-01

Date Analyzed: 03/03/2011 11:14 **Date Prepared:** 03/03/2011 **Analyst:** LATCOR

QC- Sample ID: 408471-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Anions by E300 **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Chloride	660	630	5	20	

Lab Batch #: 846172

Date Analyzed: 03/03/2011 17:00 **Date Prepared:** 03/03/2011 **Analyst:** WRU

QC- Sample ID: 408471-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	7.55	7.85	4	20	

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

408471

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

DATE: 03-02-11 PAGE 1 OF 2

PO #: _____ LAB WORK ORDER #: _____

PROJECT LOCATION OR NAME: R.D Sims 8" West Excavation

LAI PROJECT #: 11-0103-01 COLLECTOR: R. Brooks / M. Lasa

Data Reported to: Alexis Johnson

TRRP report? ☐ Yes ☐ No

TIME ZONE: Time zone/State: MST / NM

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

Field Sample I.D.	Lab #	Date (2011)	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 X	DIESEL - MOD 8015 X	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE X ANIONS ☐ ALKALINITY ☐	MOD 300	FIELD NOTES
Bottom (27')		03/02	0945	S	2				X				X	X													X		
East (20')		03/02	0950	S	2				X				X	X													X		
East (12')		03/02	0955	S	2				X				X	X													X		
East (6')		03/02	1000	S	2				X				X	X													X		
West (20')		03/02	1010	S	2				X				X	X													X		
West (12')		03/02	1015	S	2				X				X	X													X		
West (6')		03/02	1020	S	2				X				X	X													X		
South (20')		03/02	1025	S	2				X				X	X													X		
South (12')		03/02	1030	S	2				X				X	X													X		
South (6')		03/02	1032	S	2				X				X	X													X		
North (20')		03/02	1038	S	2				X				X	X													X		
North (12')		03/02	1048	S	2				X				X	X													X		
North (6')		03/02	1055	S	2				X				X	X													X		
Pile #1		03/02	1110	S	2				X				X	X													X		
Pile #2		03/02	1115	S	2				X				X	X													X		
TOTAL																													

RELINQUISHED BY:(Signature) K.W. Brooks DATE/TIME 3.2.11 5:07 RECEIVED BY: (Signature) Andrea Elam 3.2.11/17:07

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL X
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: AT THERM #: 3.1
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL # _____
☒ HAND DELIVERED 4oz glass

408471

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

DATE: 03-02-11 PAGE 2 OF 2

PO #: _____ LAB WORK ORDER #: _____

PROJECT LOCATION OR NAME: R.D. SIMS 8" WEST EXCAVATION

LAI PROJECT #: 11-0103-01 COLLECTOR: RB DMC

Data Reported to: ALEXIS JOHNSON

TRRP report? ☐ Yes ☐ No

TIME ZONE: Time zone/State: MST/NM

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

Field Sample I.D.	Lab #	Date (2011)	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015	DIESEL - MOD 8015	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐	MOD 300	FIELD NOTES
PILE #3		03/02	1120	S	2				X				X	X													X		
PILE #4		03/02	1125	S	2				X				X	X													X		
TOTAL																													

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

K. W. Brock 3/4/11 5:07 Andrea Elam 3.2.11/17.07

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL X
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 4.7 THERM #: 3.1
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL # _____
☒ HAND DELIVERED 4 02 glass

Final 1.000

XENCO Laboratories

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

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.
Date/Time: 3.2.11 17.07
Lab ID # : 408471
Initials: AE

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	3.1 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

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

Appendix B

Photographs

Photo Documentation

Lease Sign From Tank Battery Located North of Spill

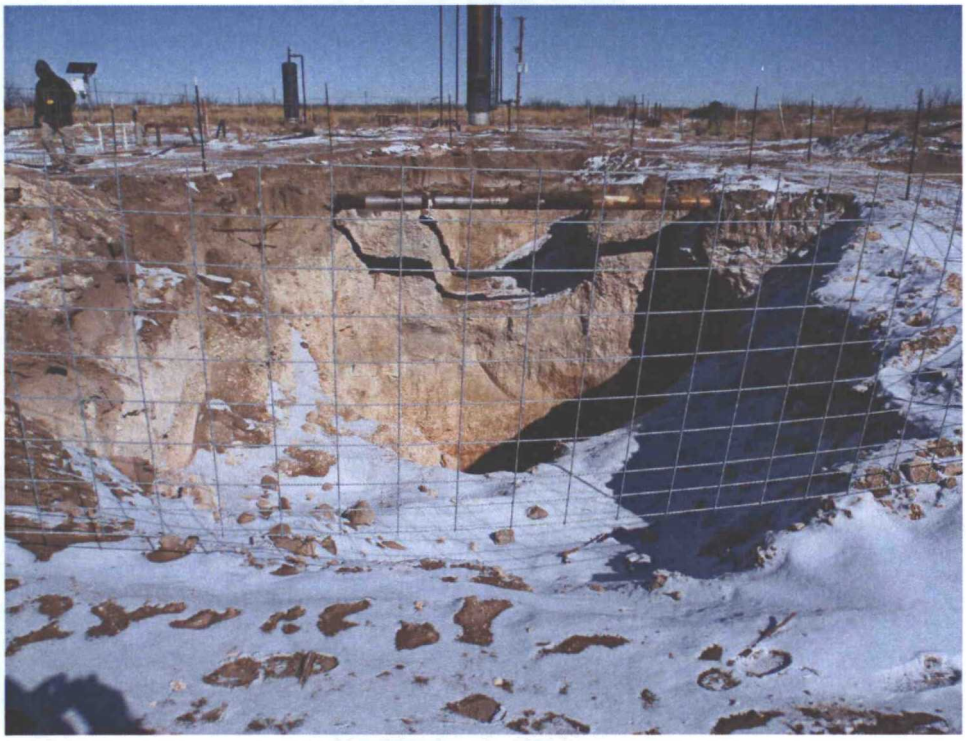


Photo Documentation

West Excavation Viewing North, February 4, 2011

West Excavation Viewing South, February 4, 2011

West (Foreground) and East (Background) Excavations Viewing East, February 4, 2011

Photo Documentation

West Excavation after Benching Viewing North, March 2, 2011

West Excavation after Benching Viewing Northeast, March 2, 2011

Photo Documentation

West Excavation after Benching Viewing West, March 2, 2011

West Excavation after Benching Viewing South, March 2, 2011

Photo Documentation

Produced Water (PVC) Line Exposed on North Side of West Excavation, March 2, 2011

East Excavation Viewing South, March 22, 2011

Photo Documentation

East Excavation Viewing North, March 22, 2011

East Excavation Viewing West, March 22, 2011

Photo Documentation

4 Inch PVC Line and Dresser Sleeve from West Excavation, March 22, 2011

Appendix C

Initial and Final C-141

Leking, Geoffrey R, EMNRD

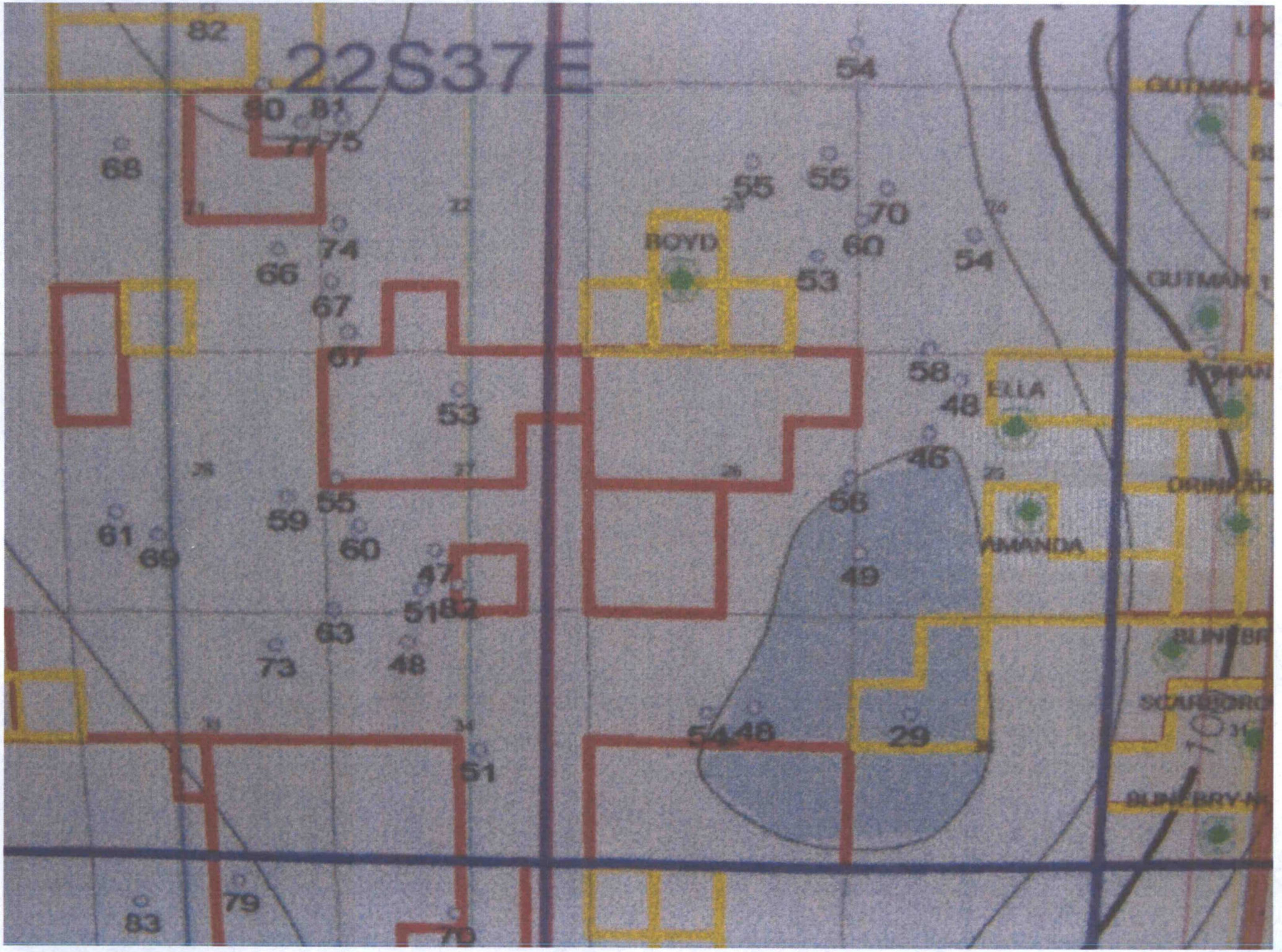
From: Leking, Geoffrey R, EMNRD
Sent: Thursday, April 21, 2011 11:24 AM
To: 'Mark Larson'
Subject: Chloride delineation
Attachments: DSC09712.JPG; DSC09714.JPG

Mark

Although a diminishing trend is displayed for chloride concentration with depth of soil column sampled, chlorides are not delineated to 250 mg/kg in soil.

2.2 Setting – p. 3 – para. 4 – sentence 1 – "Groundwater occurs in the Ogallala formation at approximately 70 feet below ground Surface (bgs) based on records of water levels from Office of the New Mexico State Engineer." – Please provide the referenced Office of the New Mexico State Engineer records. In addition, please review the attachments to this email. Discuss why or why not the 82 foot bgs reading displayed west of the subject location is a statistical outlier compared to the surrounding and proximal water levels displayed in the attachments.

Geoffrey Leking
Environmental Engineer
NMOCD-Hobbs
1625 N. French Drive
Hobbs, NM 88240
Office: (575) 393-6161 Ext. 113
Cell: (575) 399-2990
email: geoffreyr.leking@state.nm.us


22S37E
ROYD
ELLA
AMANDA
82
80
81
77
75
68
74
66
67
67
53
55
59
60
61
69
47
51
52
63
73
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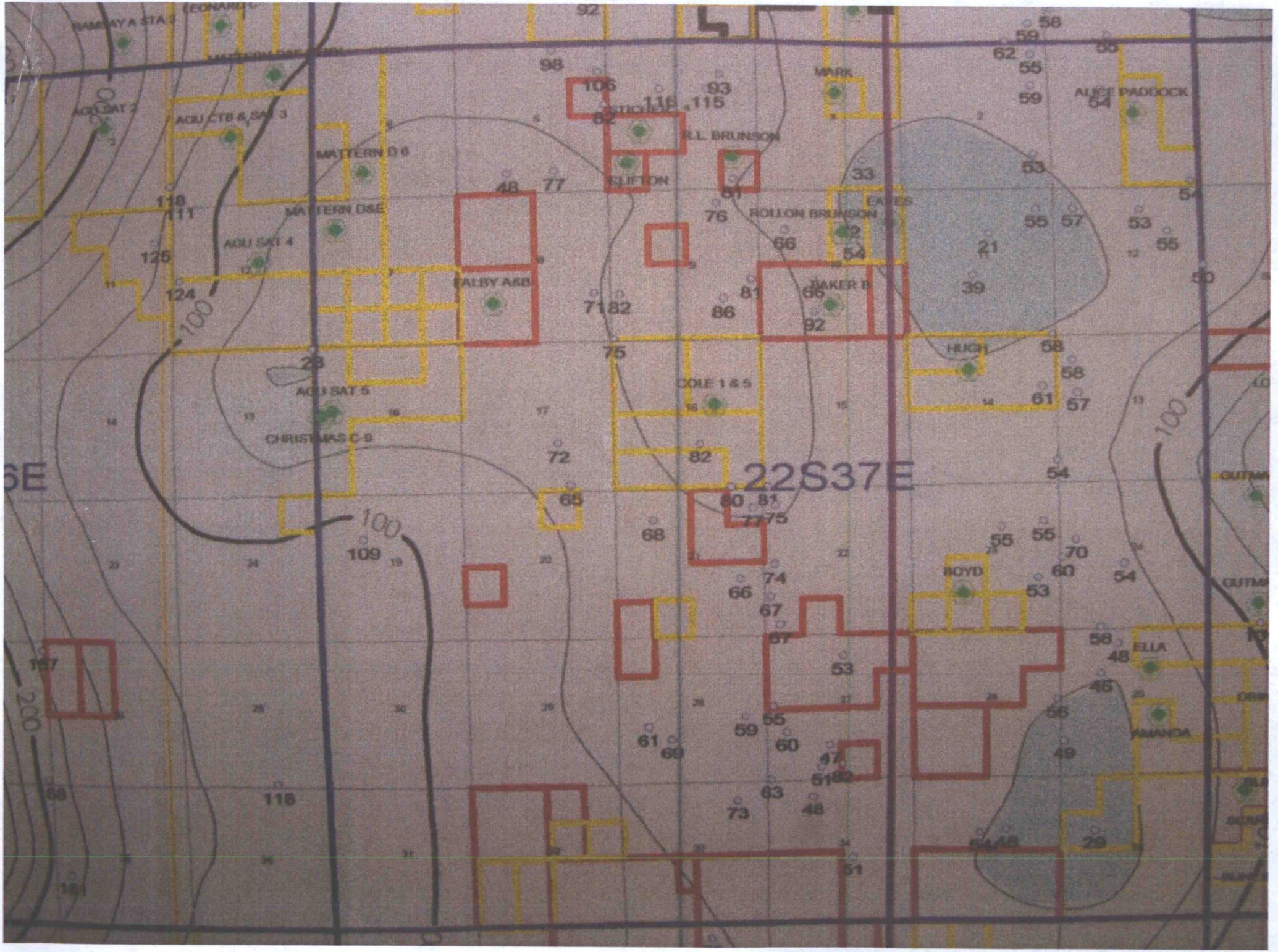
56
49
54
48
29
51


22S37E
MARK
ALBERT PADDOCK
R.L. BRUNSON
SUTTON
MATTERN D 6
MATTERN D&E
AGU SAT 4
AGU SAT 5
CALBY A&B
ROLLON BRUNSON
BAKER B
HUGH
COLE 1 & 5
CHRISTMAS C 9
BOYD
ELLA
AMANDA
100
200

Larson & Associates, Inc.
Environmental Consultants

HOBBS OCD

JUN 24 2011

RECEIVED

TARGA SIMS 8"

June 24, 2011

VIA EMAIL: GeoffreyR.Leking@state.nm.us

Mr. Geoffrey R. Leking
Environmental Engineer
New Mexico Oil Conservation Division - District 1
1625 N. French Drive
Hobbs, New Mexico 88240

Re: Final Report – R.D. Sims 8" Pipeline Release, 1RP-03-11-2691
Targa Midstream Services, L.P., Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East, Lea County, New Mexico, June 23, 2011

Dear Geoffrey:
Please find the enclosed report which is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of Targa Midstream Services, L.P. by Larson & Associates, Inc. The report details the results of investigations and remediation of two releases (west and east) at the R.D. Sims 8" pipeline segment located in Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East in Lea County, New Mexico. Your approval and signature of the final C-141 for closing the excavations is requested. Please remit a copy of the signed final C-141 to Mr. Cal Wrangham, Environmental Manager, Targa Midstream Services, L.P., 6 Desta Drive, Suite 3300, Midland, Texas 79705. You may contact Mr. Wrangham by phone at 432-688-0542 or email (CalvinWrangham@targaresources.com) or myself at the contact information presented below if you have questions.

Sincerely,

Larson & Associates, Inc.

Mark J. Larson, P.G.
(432) 687-0901
mark@laenvironmental.com

cc: Cal Wrangham - Targa
David Honeycutt - Targa
Encl.

Approved by:
Geoff Leking
Env. Engineer
NMOCD-District I
08/02/11

1.0 EXECUTIVE SUMMARY

This report is submitted on behalf of Targa Midstream Services, L.P. (Targa) to the New Mexico Oil Conservation Division (OCD) District 1 to present the analysis of soil samples collected during investigation and remediation of a natural gas liquid (NGL) release at the R.D. Sims 8 inch pipeline segment (Site). The Site is located in Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East in Lea County, New Mexico. In November 2010 two leaks were discovered at the location (west and east) while Targa was inserting polyethylene pipe inside the 8 inch steel pipelines. On December 1, 2010, Targa submitted the initial C-141 to the OCD District 1 which assigned the leak remediation project (RP) number 1RP-03-11-2691. The geodetic position is north 33° 21' 32.55" and west 103° 08' 28.80".

During November and December 2010, Environmental Plus, Inc. (EPI) excavated soil from the leak locations. The west leak was excavated to approximately 27 feet below ground surface (bgs) and the east leak was excavated to approximately 15 feet bgs. Approximately 1,624 cubic yards of soil was removed from the Site and disposed at Sundance Disposal located east of Eunice, New Mexico. On March 2, 2011, Larson & Associates, Inc. (LAI) was requested to collect soil samples from the west excavation. Samples were collected from the bottom at approximately 27 feet bgs and sidewalls at 6, 12 and 20 feet bgs. LAI also collected composite (5 spot) samples from 4 soil piles and samples a fifth pile (Pile #5) on March 22, 2011. The soil piles were the result of excavation sloping for safety concerns. On March 22, 2011, LAI personnel used a Terraprobe® direct push rig to collect samples from the bottom of the west excavation at approximately 28, 32 and 35 feet bgs. LAI personnel also collected samples from the east excavation bottom at about 15, 18, 21 and 24 feet bgs and sidewalls at about 6 and 12 feet bgs.

On May 24, 2011, LAI supervised Scarborough Drilling, Inc., to collect soil samples from an air rotary drilled boring (BH-1) about 20 feet west of the Site. A jam tube core sampler was used to collect samples about every five feet (0', 5', 10', 15', 20', etc.) to approximately 40 feet bgs. All samples were placed in clean 4-ounce glass jars that were filled to near zero headspace, labeled, chilled in an ice filled chest. The samples were delivered under chain of custody control and analyzed by Xenco Environmental Laboratories, for total petroleum hydrocarbons (TPH) by EPA method SW-8015 and chloride by standard method 300. A portion of each sample was collected for headspace analysis in clean 8-ounce glass jars that were partially filled, sealed with aluminum foil, capped and allowed to reach ambient temperature before testing with a calibrated photoionization detector (PID). The highest PID reading was 13.9 parts per million (ppm) from the north sidewall of the west location at approximately 12 feet bgs. No BTEX analysis was performed on the samples.

The highest TPH concentration in the excavation samples was 82.6 milligram per kilogram (mg/Kg) in the bottom of the east excavation at approximately 18 feet bgs. The highest chloride concentration in the excavation samples was 783 mg/Kg from the north side of the west excavation at approximately 12 feet bgs. Chloride was 404 mg/Kg in the bottom of the west excavation at approximately 35 feet bgs. The highest TPH and chloride concentrations in the soil piles were 19.8 mg/Kg and 260 mg/Kg, respectively, from Pile #1.

TPH was not reported in the soil boring samples above the test method detection limits. The highest chloride concentration in the soil boring samples was 229 mg/Kg at approximately 30 feet bgs. Chloride was 158 mg/Kg in the sample from 40 feet bgs. The jam tube core sampler and sample trowels were thoroughly washed between samples with a solution of laboratory grade detergent and potable water

and rinsed with distilled water. Groundwater was not observed in the boring which was plugged with bentonite approximately 1 hour after drilling was completed.

Since groundwater is not present in the Ogallala formation and TPH is below the recommended remediation action level (RRAL) of 5,000 mg/Kg, Targa requests approval from the OCD to fill the excavations (west and east) with soil from the piles and clean soil from an offsite source.

2.0 INTRODUCTON

This document 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 present the analysis of soil samples collected from 2 excavations (west and east), 5 soil piles (Pile #1 through Pile #5) and a soil boring (BH-1) at the R.D. Sims 8" natural gas pipeline release (Site). In November 2010, while inserting polyethylene pipe inside the steel pipelines, Targa discovered natural gas liquids (NGL) leaking at two locations (west and east). The leaks are separated by about 50 feet. Targa repaired the leaks and submitted an initial C-141 to the New Mexico Oil Conservation Division (OCD) on December 1, 2010. The OCD assigned remediation project (RP) number 1RP-03-11-2691 to the release. The Site is located in Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East, Lea County, New Mexico. The geodetic position is north 33° 21' 32.55" and west 103° 08' 28.80". Figure 1 presents a location and topographic map. Figure 2 presents an aerial photograph.

2.1 Chronology

November 2010	Targa identified two leaks while inserting polyethylene pipe inside two steel pipelines. The leaks were repaired and a Targa contractor excavated approximately 1,624 cubic yards of contaminated soil which was disposed at Sundance Disposal located east of Eunice, New Mexico;
November 30, 2010	Targa personnel collected initial soil samples from the bottom and sidewalls of the west excavation for TPH (8015M) and chloride (SM4500CI-B) analysis by Cardinal Laboratories, located in Hobbs, New Mexico;
December 1, 2010	Targa submitted the initial C-141 to the OCD District 1 in Hobbs, New Mexico;
December 15, 2010	Targa personnel collected soil samples from the bottom and sidewalls of the west location for TPH (8015M) and chloride (SM4500CI-B) analysis by Cardinal Laboratories, located in Hobbs, New Mexico;
January 28, 2011	Landowner contracted Basin Environmental Service Technologies, Inc., to collect soil samples from the north side of the west location for chloride analysis by field method (Hach Quantab);
March 2, 2011	LAI collected soil samples from the bottom and sidewalls of the west excavation and five soil piles for TPH (SW-8015M) and chloride (SW-300) analysis by Xenco Laboratories, located in Odessa, Texas;

March 22, 2011	LAI collected soil samples from approximately 28, 32 and 35 feet bgs from a direct push boring (SP-1) in the bottom of the west excavation. LAI also collected soil samples from the bottom and sidewalls of the east excavation for TPH (SW-8015M) and chloride (SW-300) analysis. All analyses were performed by Xenco Laboratories, located in Odessa, Texas;
May 24, 2011	LAI collected soil samples to approximately 40 feet below ground surface (bgs) from an air rotary drilled boring (BH-1) located about 20 feet west of the Site. The samples were analyzed for TPH (8015M) and chloride (SW-300) by Xenco Laboratories.

2.2 Setting

The Site is located about 5 miles southeast of Eunice, in rural Lea County, New Mexico. The surface elevation is approximately 3,315 feet above mean sea level (MSL) and slopes gently to the southeast. The soil is designated "Simona fine sandy loam, 0 to 3 percent slopes" with color from pale brown to grayish brown and fine sandy loam with fragments of hard caliche. The "c" layer is comprised of white caliche that is indurated to strongly cemented. The soil is used for range, wildlife and recreation. The nearest surface water feature is Monument Draw which is located about 1.3 miles (6,800 feet) southeast of the Site.

According to the *Geologic Map of New Mexico* and the *Geologic Atlas of Texas, Hobbs Sheet* the surface geology is comprised of Holocene to mid-Pleistocene age wind-blown sand. This material covers the eastern flank of the Pecos River valley and derived principally from reworking the underlying Tertiary-aged Ogallala formation of the Southern High Plains. The Ogallala formation is comprised of fluvial sand, silt, clay and localized gravel, with indistinct to massive crossbeds. The Ogallala sand is generally fine- to medium-grained quartz, and is known to contain arsenic, barium and other heavy metals.

In the Eunice area, the Ogallala formation consists mainly of unconsolidated to poorly consolidated, very fine to medium-grained quartz sand and gravel, with minor amount of silt and clay. An upper-most unit, the Blackwater Draw formation, consists of reddish brown, very fine to fine grained eolian sand with minor amounts of clay and caliche. Locally the "c" horizon of the Simona fine sandy loam, 0 to 3 percent slopes, is called the caprock caliche. The caprock is a hard, erosion resistant, pedogenic calcrete that is typically five to ten feet thick but may exceed 20 feet in some areas. The Ogallala formation is underlain by the Chile formation (Triassic).

On May 24, 2011, Scarborough Drilling, Inc. drilled a boring for the purpose of collecting soil samples about 20 feet west of the Site. The boring was advanced to approximately 40 feet bgs and shale and mudstone was encountered at approximately 38 feet bgs. Groundwater was not observed in the Ogallala sediments above the red bed. The nearest well was observed about 2,000 feet southwest (cross gradient) from the Site. This well is used for livestock watering. Figure 1 presents approximate water well locations and depth to groundwater based on records from the Office of the New Mexico State Engineer.

3.0 REMEDIATION

Between November and December 2010, Environmental Plus, Inc. (EPI), located in Eunice, New Mexico, was contracted to excavate soil from the west and east locations. EPI excavated approximately 1,624 cubic yards of soil which was hauled and disposed at Sundance Disposal (NM-01-003) located east of Eunice, New Mexico. In February 2011, EPI removed approximately 400 cubic yards of soil during sidewall sloping of the excavations for safety concerns. The soil was piled on the right-of-way.

On March 2, 2011, LAI personnel collected soil samples from the bottom (27 feet) and sidewalls (6, 12 and 20 feet) of the west excavation. LAI collected 5 – spot composite samples from 4 soil piles resulting from excavation sloping. A fifth pile was also sampled on March 22, 2011. The samples were collected using stainless steel trowels that were decontaminated between uses by washing with a solution of laboratory grade (Alconox) detergent and water and rinsed with distilled water.

On March 22, 2011, LAI personnel used a Terraprobe® direct-push sampling rig to collect soil samples from the bottom of the west excavation at approximately 28, 32 and 35 feet bgs. The direct push boring was filled with bentonite. LAI personnel also collected soil samples from the bottom (15, 18, 21 and 24 feet bgs) and sidewalls (6 and 12 feet bgs) from the east excavation. The samples were placed in 4-ounce clean glass sample jars that were filled to near zero headspace, labeled, chilled in an ice filled chest, hand delivered under chain of custody control and analyzed by Xenco Laboratories, Inc., Odessa, Texas, for total petroleum hydrocarbons (TPH) by EPA method SW-8015 and chloride by standard method 300. Figure 3 presents a Site drawing and sample locations.

On May 24, 2011, Scarborough Drilling, Inc., under supervision from LAI, used an air rotary rig and jam tube core sampler to collect samples from a boring that was drilled approximately 20 feet west of the Site. Soil samples were collected about every 5 feet (0', 5', 10', 15', etc.) to the terminal depth of approximately 40 feet. Shale and mudstone, commonly referred to as "red bed", of the Chinle formation (Triassic) was encountered at about 38 feet bgs. The red beds form the lower confining layer for groundwater in the overlying Ogallala formation. Groundwater was not observed in the Ogallala formation. The samples were placed in 4-ounce clean glass sample jars that were filled to near zero headspace, labeled, chilled in an ice filled chest, hand delivered under chain of custody control and analyzed by Xenco Laboratories, Inc., for TPH by EPA method SW-8015 and chloride by standard method 300. Figure 3 presents the boring location. Table 1 present a summary of the laboratory analysis. Appendix A presents the analytical laboratory reports. Appendix B presents the soil boring geologic log.

A portion of each sample was placed in a clean 8 ounce glass jars for headspace vapor analysis. The jars were partially filled, sealed with aluminum foil before securing the cap. After approximately 30 minutes at ambient temperature the headspace vapor concentration was measured using a calibrated Thermo Environmental instruments Model 580B organic vapor meter (OVM) photoionization detector (PID). The highest PID reading was 13.9 parts per million (ppm) from the north sidewall of the west excavation at approximately 12 feet bgs. No samples were analyzed for benzene, ethylbenzene, toluene or xylene (BTEX) since PID readings were less than 100 ppm. Table 1 presents a summary of the PID analysis.

The following criteria were used to calculate recommended remediation action levels for the release:

Ranking Criteria	Result	Ranking Score
Depth-to-Groundwater	>100 feet	0

Wellhead Protection Area	No	0
Distance to Surface Water Body	>1000 Horizontal Feet	0
	Total Score:	**0**

The following RRAL were calculated for 1RP-03-11-2691:

Benzene:	**10 mg/Kg**
BTEX:	**50 mg/Kg**
TPH:	**5,000 mg/Kg**

4.0 CONCLUSIONS

The insitu TPH concentrations are below the recommended remediation action level (RRAL) of 5,000 milligrams per kilogram (mg/Kg). Chloride was 404 mg/Kg at approximately 35 feet bgs in the west excavation. Shale and mudstone, commonly referred to as "red bed", was encountered at approximately 38 feet bgs and groundwater was not observed in the Ogallala formation.

5.0 RECOMMENDATIONS

Since TPH is below the RRAL (5,000 mg/Kg) and groundwater is not present in the Ogallala formation Targa requests approval from the OCD to close the excavations. The excavations will be filled with soil from the piles and clean soil from an offsite source. Appendix C presents photographs. Appendix D presents the initial and final C-141.

Table 1
Soil Samples Analytical Summary
Targa Midstream Services, L.P., R. D. Sims 8" Pipeline Release
Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East
Lea County, New Mexico
1RP-03-11-2691

Location (West)	Depth Feet BGS	Date	Status	PID (ppm)	Chloride mg/Kg	GRO mg/Kg	DRO mg/Kg	Oil mg/Kg	Total TPH mg/Kg
RRAL:									5,000
West Excavation Analytical Results									
Bottom	27	03/02/2011	Insitu	4.0	660	<16.2	<16.2	<16.2	<16.2
(SP-1)	28 - 29.5	03/22/2011	Insitu	--	649	--	--	--	--
(SP-1)	32 - 33.5	03/22/2011	Insitu	--	671	--	--	--	--
(SP-1)	35	03/22/2011	Insitu	--	404	--	--	--	--
East Side	6	03/02/2011	Insitu	3.9	10	<16.8	<16.8	<16.8	<16.8
	12	03/02/2011	Insitu	13.1	330	<17.4	17.5	<17.4	17.5
	20	03/02/2011	Insitu	3.0	281	<15.6	<15.6	<15.6	<15.6
West Side	6	03/02/2011	Insitu	2.2	12	<21.1	<21.1	<21.1	<21.1
	12	03/02/2011	Insitu	2.2	69.9	<17.1	<17.1	<17.1	<17.1
	20	03/02/2011	Insitu	2.2	644	<15.4	21.6	<15.4	21.6
South Side	6	03/02/2011	Insitu	3.3	324	<16.5	<16.5	<16.5	<16.5
	12	03/02/2011	Insitu	3.3	71.1	<16.6	22.4	<16.6	22.4
	20	03/02/2011	Insitu	2.7	299	<16.2	<16.2	<16.2	<16.2
North Side	6	03/02/2011	Insitu	2.6	13.4	<16.2	<16.2	<16.2	<16.2
	12	03/02/2011	Insitu	13.9	783	<16.7	<16.7	<16.7	<16.7
	20	03/02/2011	Insitu	3.9	336	<15.5	<15.5	<15.5	<15.5
East Excavation Analytical Results									
Bottom	15	03/22/2011	Insitu	1.2	36.8	<17.2	<17.2	<17.2	<17.2
	18	03/22/2011	Insitu	1.2	123	<17.4	82.6	<17.4	82.6
	21	03/22/2011	Insitu	1.2	8.16	<16.6	<16.6	<16.6	<16.6
	24	03/22/2011	Insitu	1.1	11.7	<16.1	<16.1	<16.1	<16.1
East Side	6	03/22/2011	Insitu	1.6	16.9	<15.5	<15.5	<15.5	<15.5
	12	03/22/2011	Insitu	1.6	15.5	<15.6	<15.6	<15.6	<15.6
West Side	6	03/22/2011	Insitu	1.1	638	<16.1	<16.1	<16.1	<16.1
	12	03/22/2011	Insitu	1.8	21.4	<16.5	<16.5	<16.5	<16.5

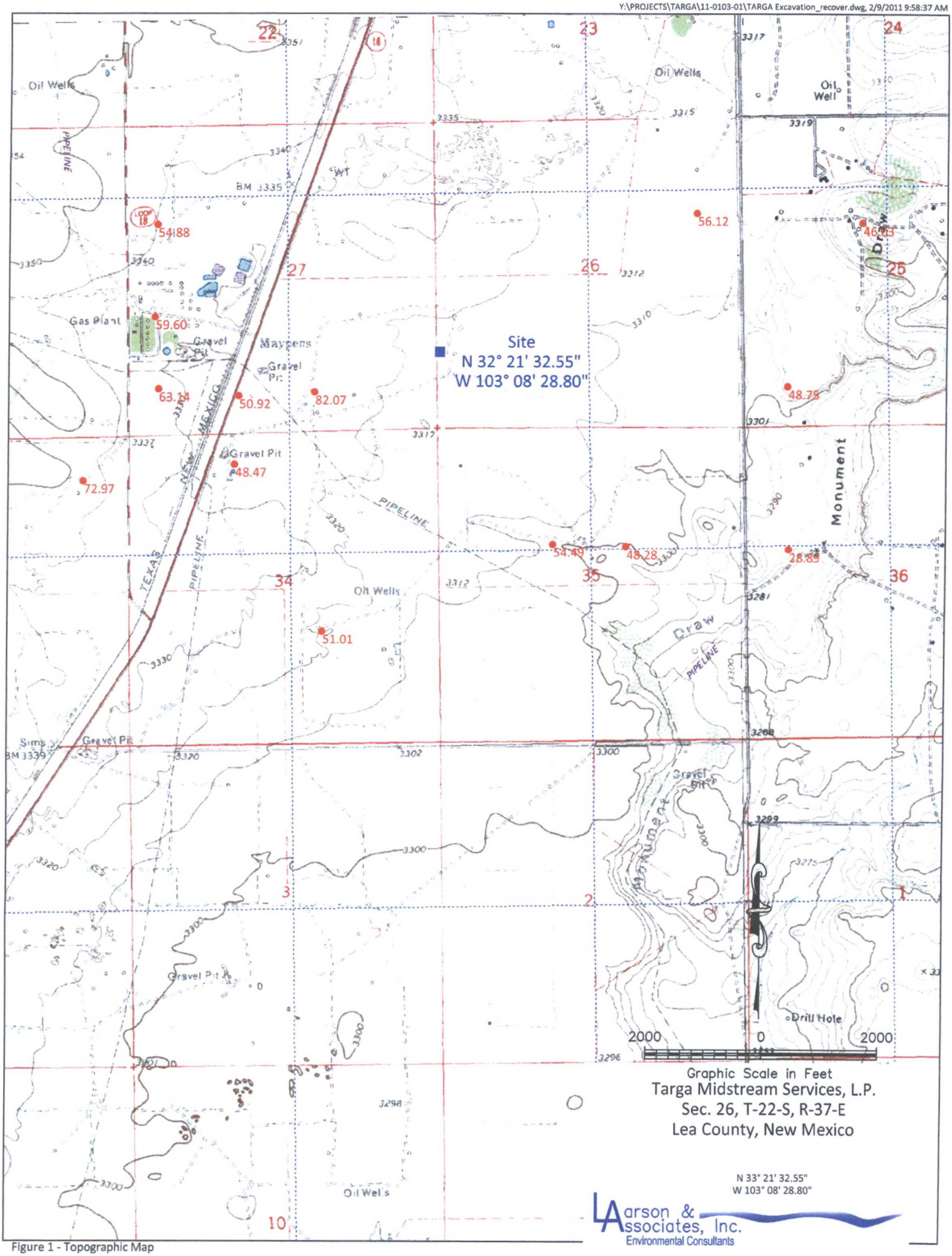
Table 1
Soil Samples Analytical Summary
Targa Midstream Services, L.P., R. D. Sims 8" Pipeline Release
Unit L (NW/4, SW/4), Section 26, Township 22 South, Range 37 East
Lea County, New Mexico
1RP-03-11-2691

Location (West)	Depth Feet BGS	Date	Status	PID (ppm)	Chloride mg/Kg	GRO mg/Kg	DRO mg/Kg	Oil mg/Kg	Total TPH mg/Kg
RRAL:									**5,000**
South Side	6	03/22/2011	Insitu	1.0	21.1	<17.3	<17.3	<17.3	<17.3
	12	03/22/2011	Insitu	1.4	8.24	<18.9	<18.9	<18.9	<18.9
North Side	6	03/22/2011	Insitu	1.2	61.5	<16.2	<16.2	<16.2	<16.2
	12	03/22/2011	Insitu	1.2	12.7	<18.9	<18.9	<18.9	<18.9
Soil Boring Analytical Results									
BH-1	0	05/24/2011	Insitu	1.4	52.6	<15.7	<15.7	<15.7	<15.7
	5	05/24/2011	Insitu	2.0	5.02	<17.2	<17.2	<17.2	<17.2
	10	05/24/2011	Insitu	1.1	<4.71	<16.8	<16.8	<16.8	<16.8
	15	05/24/2011	Insitu	1.7	19.4	<18.1	<18.1	<18.1	<18.1
	20	05/24/2011	Insitu	2.0	19.5	<17.1	<17.1	<17.1	<17.1
	25	05/24/2011	Insitu	0.2	64.2	<16.0	<16.0	<16.0	<16.0
	30	05/24/2011	Insitu	0.2	229	<17.5	<17.5	<17.5	<17.5
	35	05/24/2011	Insitu	0.2	182	<17.2	<17.2	<17.2	<17.2
	40	05/24/2011	Insitu	0.2	158	<17.3	<17.3	<17.3	<17.3
Soil Pile Analytical Results									
Pile #1	--	03/02/2011	Excavated	3.3	260	<16.7	19.8	<16.7	19.8
Pile #2		03/02/2011	Excavated	2.2	49.7	<16.6	<16.6	<16.6	<16.6
Pile #3	--	03/02/2011	Excavated	2.2	41.2	<16.3	<16.3	<16.3	<16.3
Pile #4	--	03/02/2011	Excavated	2.2	105	<16.6	<16.6	<16.6	<16.6
Pile #5	--	03/22/2011	Excavated	1.2	23.1	<16.7	<16.7	<16.7	<16.7

Notes

Samples analyzed via EPA method SW-8015M (TPH) and SW-300 (chloride).
Depth measurements are in feet below ground surface (bgs).
All concentrations are in milligrams per kilogram (mg/Kg) equivalent to parts per million (ppm).

FIGURES



Targa Midstream Services, L.P.
Sec. 26, T-22-S, R-37-E
Lea County, New Mexico

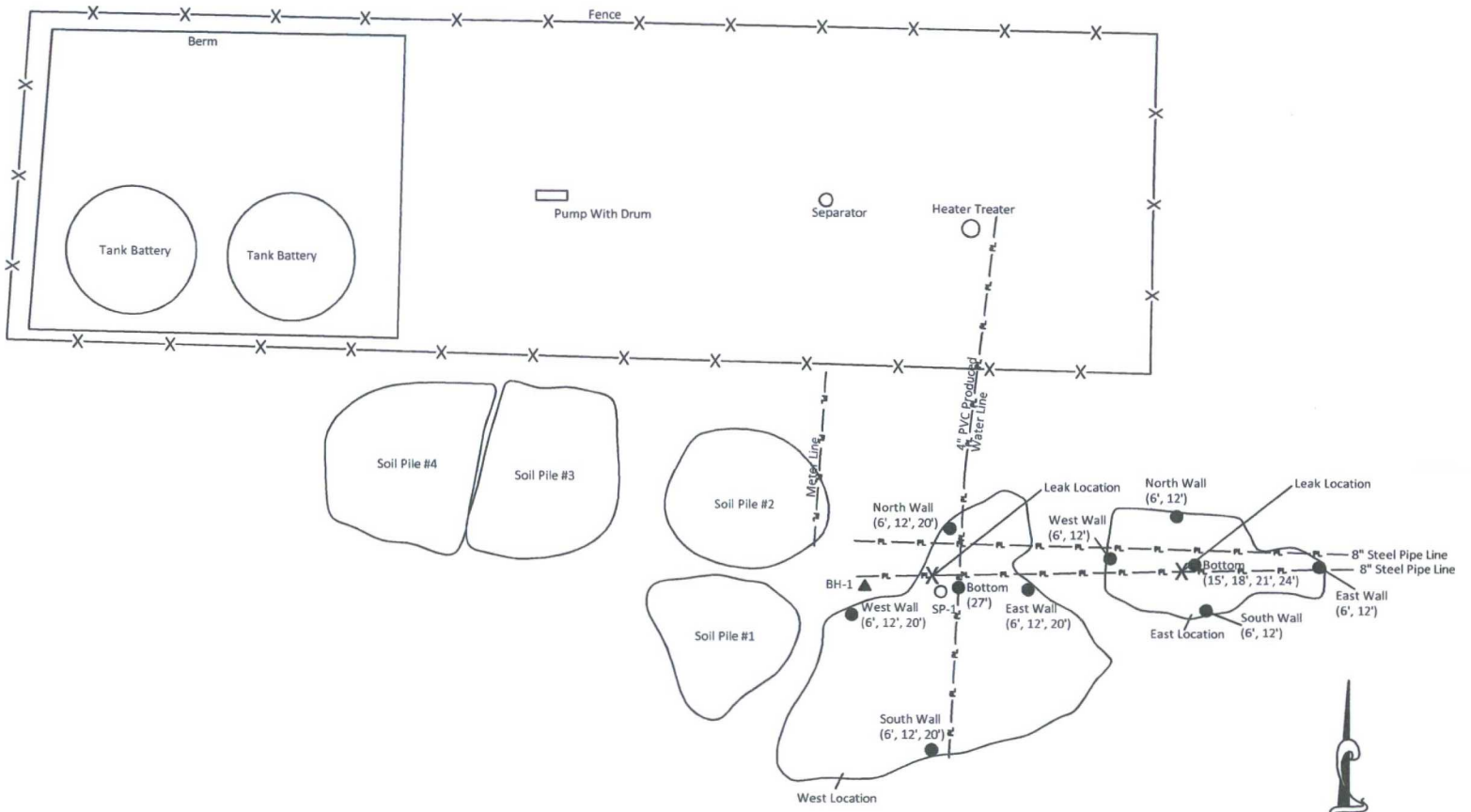
N 33° 21' 32.55"
W 103° 08' 28.80"

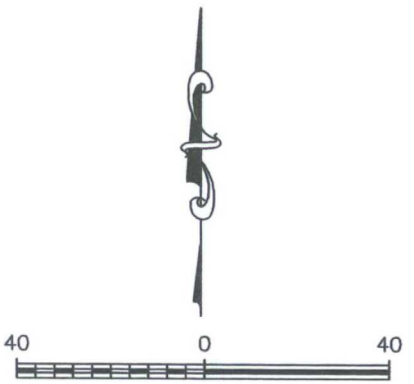
Larson & Associates, Inc.
Environmental Consultants

Figure 1 - Topographic Map

Y:\PROJECTS\TARGA\11-0103-01\TARGA Excavation.dwg, 3/14/2011 5:01:15 PM

Figure 2 - Aerial Map





Graphic Scale in Feet

Legend

- ● - Soil Sample Location (approximate) West Excavation March 2, 2011 East Excavation March 22, 2011
- BH-1 ▲ - Soil Sample Location (approximate) March 2, 2011
- SP-1 ○ - Soil Sample Location (approximate) March 2, 2011

Targa Midstream Services, L.P.
Sec. 26, T-22-S, R-37-E
Lea County, New Mexico

N 33° 21' 32.55"
W 103° 08' 28.80"

Larson & Associates, Inc.
Environmental Consultants

Figure 3 - Site Map

Analytical Report 408471

for

Larson & Associates

Project Manager: Mark Larson

R.D. Sims 8" West Excavation

11-0103-01

07-MAR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

07-MAR-11

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

Reference: XENCO Report No: **408471**
R.D. Sims 8" West Excavation
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 408471. 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. 408471 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

Sample Cross Reference 408471

Larson & Associates, Midland, TX

R.D. Sims 8" West Excavation

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Botton (27')	S	Mar-02-11 09:45	27 ft	408471-001
East (20')	S	Mar-02-11 09:50	20 ft	408471-002
East (12')	S	Mar-02-11 09:55	12 ft	408471-003
East (6')	S	Mar-02-11 10:00	6 ft	408471-004
West (20')	S	Mar-02-11 10:10	20 ft	408471-005
West (12')	S	Mar-02-11 10:15	12 ft	408471-006
West (6')	S	Mar-02-11 10:20	6 ft	408471-007
South (20')	S	Mar-02-11 10:25	20 ft	408471-008
South (12')	S	Mar-02-11 10:30	12 ft	408471-009
South (6')	S	Mar-02-11 10:32	6 ft	408471-010
North (20')	S	Mar-02-11 10:38	20 ft	408471-011
North (12')	S	Mar-02-11 10:48	12 ft	408471-012
North (6')	S	Mar-02-11 10:55	6 ft	408471-013
Pile # 1	S	Mar-02-11 11:10		408471-014
Pile # 2	S	Mar-02-11 11:15		408471-015
Pile # 3	S	Mar-02-11 11:20		408471-016
Pile # 4	S	Mar-02-11 11:25		408471-017

CASE NARRATIVE

Client Name: Larson & Associates
Project Name: R.D. Sims 8" West Excavation

Project ID:	*11-0103-01*	*Report Date:*	*07-MAR-11*
Work Order Number:	*408471*	*Date Received:*	*03/02/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 408471

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" West Excavation

Project Id: 11-0103-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Mar-02-11 05:07 pm
Report Date: 07-MAR-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	408471-001		408471-002		408471-003		408471-004		408471-005		408471-006	
	Field Id:	Botton (27')		East (20')		East (12')		East (6')		West (20')		West (12')	
	Depth:	27- ft		20- ft		12- ft		6- ft		20- ft		12- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-02-11 09:45		Mar-02-11 09:50		Mar-02-11 09:55		Mar-02-11 10:00		Mar-02-11 10:10		Mar-02-11 10:15	
Anions by E300	*Extracted:*												
	Analyzed:	Mar-03-11 11:01		Mar-03-11 11:40		Mar-03-11 11:53		Mar-03-11 12:06		Mar-03-11 12:19		Mar-03-11 12:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		660	18.2	281	8.74	330	9.72	10.0	4.67	644	8.64	69.9	9.58
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.55	1.00	3.93	1.00	13.6	1.00	10.0	1.00	2.80	1.00	12.3	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00	
	Analyzed:	Mar-03-11 12:43		Mar-03-11 13:02		Mar-03-11 13:22		Mar-03-11 13:41		Mar-03-11 14:01		Mar-03-11 14:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.2	ND	15.6	ND	17.4	ND	16.8	ND	15.4	ND	17.1
C12-C28 Diesel Range Hydrocarbons		ND	16.2	ND	15.6	17.5	17.4	ND	16.8	21.6	15.4	ND	17.1
C28-C35 Oil Range Hydrocarbons		ND	16.2	ND	15.6	ND	17.4	ND	16.8	ND	15.4	ND	17.1
Total TPH		ND	16.2	ND	15.6	17.5	17.4	ND	16.8	21.6	15.4	ND	17.1

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Certificate of Analysis Summary 408471

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" West Excavation

Project Id: 11-0103-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Mar-02-11 05:07 pm
Report Date: 07-MAR-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	408471-007		408471-008		408471-009		408471-010		408471-011		408471-012	
	Field Id:	West (6')		South (20')		South (12')		South (6')		North (20')		North (12')	
	Depth:	6- ft		20- ft		12- ft		6- ft		20- ft		12- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-02-11 10:20		Mar-02-11 10:25		Mar-02-11 10:30		Mar-02-11 10:32		Mar-02-11 10:38		Mar-02-11 10:48	
Anions by E300	*Extracted:*												
	Analyzed:	Mar-03-11 12:45		Mar-03-11 12:58		Mar-03-11 13:11		Mar-03-11 13:24		Mar-03-11 13:37		Mar-03-11 13:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		12.0	5.93	299	9.08	71.1	4.67	324	9.22	336	8.68	783	9.33
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		29.2	1.00	7.50	1.00	10.0	1.00	8.92	1.00	3.21	1.00	10.0	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00	
	Analyzed:	Mar-03-11 14:40		Mar-03-11 14:59		Mar-03-11 15:19		Mar-03-11 15:38		Mar-03-11 16:17		Mar-03-11 16:37	
	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	21.1	ND	16.2	ND	16.6	ND	16.5	ND	15.5	ND	16.7
C12-C28 Diesel Range Hydrocarbons		ND	21.1	ND	16.2	22.4	16.6	ND	16.5	ND	15.5	ND	16.7
C28-C35 Oil Range Hydrocarbons		ND	21.1	ND	16.2	ND	16.6	ND	16.5	ND	15.5	ND	16.7
Total TPH		ND	21.1	ND	16.2	22.4	16.6	ND	16.5	ND	15.5	ND	16.7

Brent Barron, II
Odessa Laboratory Manager

Certificate of Analysis Summary 408471

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" West Excavation

Project Id: 11-0103-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Wed Mar-02-11 05:07 pm
Report Date: 07-MAR-11
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	408471-013		408471-014		408471-015		408471-016		408471-017	
	Field Id:	North (6')		Pile # 1		Pile # 2		Pile # 3		Pile # 4	
	Depth:	6- ft									
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-02-11 10:55		Mar-02-11 11:10		Mar-02-11 11:15		Mar-02-11 11:20		Mar-02-11 11:25	
Anions by E300	*Extracted:*										
	Analyzed:	Mar-03-11 14:03		Mar-03-11 14:16		Mar-03-11 14:35		Mar-03-11 14:58		Mar-03-11 15:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		13.4	4.54	260	9.31	49.7	4.63	41.2	4.57	105	9.29
Percent Moisture	*Extracted:*										
	Analyzed:	Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00		Mar-03-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.47	1.00	9.82	1.00	9.21	1.00	8.13	1.00	9.55	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00		Mar-03-11 10:00	
	Analyzed:	Mar-03-11 16:56		Mar-03-11 17:15		Mar-03-11 17:35		Mar-03-11 17:54		Mar-03-11 18:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.2	ND	16.7	ND	16.6	ND	16.3	ND	16.6
C12-C28 Diesel Range Hydrocarbons		ND	16.2	19.8	16.7	ND	16.6	ND	16.3	ND	16.6
C28-C35 Oil Range Hydrocarbons		ND	16.2	ND	16.7	ND	16.6	ND	16.3	ND	16.6
Total TPH		ND	16.2	19.8	16.7	ND	16.6	ND	16.3	ND	16.6

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

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 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.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471, **Project ID:** 11-0103-01

Lab Batch #: 846206 **Sample:** 597109-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/03/11 11:44

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.8	100	79	70-135	
o-Terphenyl	41.5	50.0	83	70-135	

Lab Batch #: 846206 **Sample:** 597109-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/03/11 12:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.3	100	76	70-135	
o-Terphenyl	38.4	50.2	76	70-135	

Lab Batch #: 846206 **Sample:** 597109-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/03/11 12:23

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.8	100	78	70-135	
o-Terphenyl	37.8	50.2	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 12:43

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.6	99.9	80	70-135	
o-Terphenyl	38.7	50.0	77	70-135	

Lab Batch #: 846206 **Sample:** 408471-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 13:02

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.8	100	80	70-135	
o-Terphenyl	38.3	50.1	76	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471,

Project ID: 11-0103-01

Lab Batch #: 846206 **Sample:** 408471-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 13:22

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.3	100	80	70-135	
o-Terphenyl	38.7	50.2	77	70-135	

Lab Batch #: 846206 **Sample:** 408471-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 13:41

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.1	101	77	70-135	
o-Terphenyl	37.7	50.3	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 14:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.8	99.6	77	70-135	
o-Terphenyl	36.5	49.8	73	70-135	

Lab Batch #: 846206 **Sample:** 408471-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 14:20

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.6	99.8	76	70-135	
o-Terphenyl	36.7	49.9	74	70-135	

Lab Batch #: 846206 **Sample:** 408471-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 14:40

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.4	99.5	78	70-135	
o-Terphenyl	37.7	49.8	76	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471, **Project ID:** 11-0103-01

Lab Batch #: 846206 **Sample:** 408471-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 14:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.4	100	77	70-135	
o-Terphenyl	37.4	50.0	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 15:19

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.5	99.6	79	70-135	
o-Terphenyl	38.1	49.8	77	70-135	

Lab Batch #: 846206 **Sample:** 408471-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 15:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.5	100	79	70-135	
o-Terphenyl	38.0	50.0	76	70-135	

Lab Batch #: 846206 **Sample:** 408471-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 16:17

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.6	100	78	70-135	
o-Terphenyl	36.7	50.0	73	70-135	

Lab Batch #: 846206 **Sample:** 408471-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 16:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.8	99.9	79	70-135	
o-Terphenyl	38.1	50.0	76	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471,

Project ID: 11-0103-01

Lab Batch #: 846206 **Sample:** 408471-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 16:56

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.4	99.9	84	70-135	
o-Terphenyl	40.3	50.0	81	70-135	

Lab Batch #: 846206 **Sample:** 408471-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 17:15

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.8	100	79	70-135	
o-Terphenyl	37.5	50.1	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 17:35

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.0	100	79	70-135	
o-Terphenyl	37.4	50.1	75	70-135	

Lab Batch #: 846206 **Sample:** 408471-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 17:54

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.6	99.9	80	70-135	
o-Terphenyl	38.1	50.0	76	70-135	

Lab Batch #: 846206 **Sample:** 408471-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 18:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.1	99.8	78	70-135	
o-Terphenyl	37.4	49.9	75	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Orders : 408471,

Project ID: 11-0103-01

Lab Batch #: 846206 **Sample:** 408471-017 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 19:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.3	99.6	82	70-135	
o-Terphenyl	40.6	49.8	82	70-135	

Lab Batch #: 846206 **Sample:** 408471-017 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/03/11 19:48

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.4	99.8	80	70-135	
o-Terphenyl	39.6	49.9	79	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

BS / BSD Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Order #: 408471 **Project ID:** 11-0103-01

Analyst: LATCOR **Date Prepared:** 03/03/2011 **Date Analyzed:** 03/03/2011

Lab Batch ID: 846180 **Sample:** 846180-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.420	10.0	11.2	112	10.0	11.4	114	2	75-125	20	

Analyst: BEV **Date Prepared:** 03/03/2011 **Date Analyzed:** 03/03/2011

Lab Batch ID: 846206 **Sample:** 597109-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	946	95	1000	940	94	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	847	85	1000	891	89	5	70-135	35	

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

Final 1.000

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Order #: 408471
Lab Batch #: 846180
Project ID: 11-0103-01
Date Analyzed: 03/03/2011
Date Prepared: 03/03/2011
Analyst: LATCOR
QC- Sample ID: 408471-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	660	433	1110	104	75-125	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: R.D. Sims 8" West Excavation

Work Order # : 408471 **Project ID:** 11-0103-01

Lab Batch ID: 846206 **QC- Sample ID:** 408471-017 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/03/2011 **Date Prepared:** 03/03/2011 **Analyst:** BEV

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.5	1100	1100	100	1100	1090	99	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.5	1100	848	77	1100	853	78	1	70-135	35	

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

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

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

Final 1.000

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: R.D. Sims 8" West Excavation

Work Order #: 408471

Lab Batch #: 846180 **Project ID:** 11-0103-01

Date Analyzed: 03/03/2011 11:14 **Date Prepared:** 03/03/2011 **Analyst:** LATCOR

QC- Sample ID: 408471-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	660	630	5	20	

Lab Batch #: 846172

Date Analyzed: 03/03/2011 17:00 **Date Prepared:** 03/03/2011 **Analyst:** WRU

QC- Sample ID: 408471-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.55	7.85	4	20	

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

BRL - Below Reporting Limit

408471

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to: ALEXIS JOHNSON

DATE: 03-02-11 PAGE 1 OF 2
PO #: LAB WORK ORDER #:
PROJECT LOCATION OR NAME: R.D SIMS 8" WEST EXCAVATION
LAI PROJECT #: 11-0103-01 COLLECTOR: R. BROOKS / M. LARSON

TRRP report? ☐ Yes ☐ No

TIME ZONE: Time zone/State: MST / NM

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ | TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 | DIESEL - MOD 8015 X | VOC 8260 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ | 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TCLP - METALS (RCRA) ☐ TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ | TOTAL METALS (RCRA) ☐ OTHER LIST ☐ | LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ | pH ☐ HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PECHLORATE ☐ | CHLORIDE X ANIONS ☐ ALKALINITY ☐ | MS 300

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 NaOH	ICE	UNPRESERVED	BTEX	MTBE	TRPH 418.1	TPH 1005	TPH 1006	GASOLINE MOD 8015	DIESEL - MOD 8015	VOC 8260	SVOC 8270	PAH 8270	HOLDPAH	8081 PESTICIDES	8151 HERBICIDES	8082 PCBS	TCLP - METALS (RCRA)	TCLP VOC	TCLP - PEST	HERB	Semi-VOC	TOTAL METALS (RCRA)	OTHER LIST	LEAD - TOTAL	D.W. 200.8	TCLP	RCI	TOX	FLASHPOINT	TDS	TSS	% MOISTURE	CYANIDE	pH	HEXAVALENT CHROMIUM	EXPLOSIVES	PECHLORATE	CHLORIDE	ANIONS	ALKALINITY	MS 300	FIELD NOTES
BOTTOM (27')		03/02	0945	S	2				X				X				X	X																											X				
EAST (20')		03/02	0950	S	2				X				X				X	X																											X				
EAST (12')		03/02	0955	S	2				X				X				X	X																											X				
EAST (6')		03/02	1000	S	2				X				X				X	X																											X				
WEST (20')		03/02	1010	S	2				X				X				X	X																											X				
WEST (12')		03/02	1015	S	2				X				X				X	X																											X				
WEST (6')		03/02	1020	S	2				X				X				X	X																											X				
SOUTH (20')		03/02	1025	S	2				X				X				X	X																											X				
SOUTH (12')		03/02	1030	S	2				X				X				X	X																											X				
SOUTH (6')		03/02	1032	S	2				X				X				X	X																											X				
NORTH (20')		03/02	1038	S	2				X				X				X	X																											X				
NORTH (12')		03/02	1048	S	2				X				X				X	X																											X				
NORTH (6')		03/02	1055	S	2				X				X				X	X																											X				
PILE #1		03/02	1110	S	2				X				X				X	X																											X				
PILE #2		03/02	1115	S	2				X				X				X	X																											X				
TOTAL																																																	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
K.W. Brooks	3-2-11 5:07	Andrea Elam 3-2-11/17:07
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL X
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: A7 THERM #: 3.1
CUSTODY SEALS - ☐ BROKEN ☐ INTACT X NOT USED
☐ CARRIER BILL #
X HAND DELIVERED 4oz glass

408471

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to: ALEXIS JOHNSON

DATE: 03-02-11 PAGE 2 OF 2

PO #: _____ LAB WORK ORDER #: _____

PROJECT LOCATION OR NAME: R.D. SIMS 8" WEST EXCAVATION

LAI PROJECT #: 11-0103-01 COLLECTOR: RB RMC

TRRP report? ☐ Yes ☐ No

TIME ZONE: Time zone/State: MST/NM

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

Field Sample I.D.	Lab #	Date (2011)	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015	DIESEL - MOD 8015	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐	pH ☐ HEXAVALENT CHROMIUM ☐ CYANIDE ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐ MOD 300	FIELD NOTES
PILE #3		03/02	1120	S	2				X				X	X													X	
PILE #4		03/02	1125	S	2				X				X	X													X	

TOTAL

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
R. W. Brock	3/2/11 5:07	Andrea Elam 3.2.11/17.07
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL X
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: A7 THERM #: 3.1
CUSTODY SEALS - ☐ BROKEN ☐ INTACT X NOT USED
☐ CARRIER BILL # _____
X HAND DELIVERED 4 oz glass

XENCO Laboratories

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

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.
Date/Time: 3.2.11 17:07
Lab ID # : 408471
Initials: AE

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	3.1 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

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

Analytical Report 410647

for

Larson & Associates

Project Manager: Alexis Johnson

R.D. Sims 8" Site

11-0103-01

24-MAR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

ACCREDITED IN ACCORDANCE WITH nelac

24-MAR-11

Project Manager: **Alexis Johnson**
Larson & Associates
P.O. Box 50685
Midland, TX 79710

Reference: XENCO Report No: **410647**
R.D. Sims 8" Site
Project Address:

Alexis Johnson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 410647. 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. 410647 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

Sample Cross Reference 410647

Larson & Associates, Midland, TX

R.D. Sims 8" Site

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1 (28-29.5')	S	Mar-22-11 09:55		410647-001
SP-1 (32-33.5')	S	Mar-22-11 10:40		410647-002
SP-1 (35')	S	Mar-22-11 11:40		410647-003

CASE NARRATIVE

XENCO Laboratories

Client Name: Larson & Associates
Project Name: R.D. Sims 8" Site

ACCREDITED IN ACCORDANCE WITH nelac

Project ID: 11-0103-01
Work Order Number: 410647

Report Date: 24-MAR-11
Date Received: 03/22/2011

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 410647

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" Site

Project Id: 11-0103-01
Contact: Alexis Johnson
Project Location:

Date Received in Lab: Tue Mar-22-11 05:00 pm
Report Date: 24-MAR-11
Project Manager: Brent Barron, II

Analysis Requested									
	Lab Id:	410647-001		410647-002		410647-003			
	Field Id:	SP-1 (28-29.5')		SP-1 (32-33.5')		SP-1 (35')			
	Depth:								
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Mar-22-11 09:55		Mar-22-11 10:40		Mar-22-11 11:40			
Anions by E300	***Extracted:***								
	Analyzed:	Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		649	24.9	671	25.3	404	19.2		
Percent Moisture	***Extracted:***								
	Analyzed:	Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00			
	Units/RL:	%	RL	%	RL	%	RL		
Percent Moisture		15.6	1.00	17.0	1.00	12.6	1.00		

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

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 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.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

BS / BSD Recoveries

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: R.D. Sims 8" Site

Work Order #: 410647 **Project ID:** 11-0103-01

Analyst: LATCOR **Date Prepared:** 03/23/2011 **Date Analyzed:** 03/23/2011

Lab Batch ID: 848925 **Sample:** 848925-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.420	10.0	9.75	98	10.0	9.28	93	5	75-125	20	

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

Final 1.000

Form 3 - MS Recoveries

Project Name: R.D. Sims 8" Site

Work Order #: 410647
Lab Batch #: 848925
Project ID: 11-0103-01
Date Analyzed: 03/23/2011
Date Prepared: 03/23/2011
Analyst: LATCOR
QC- Sample ID: 410646-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	23.1	112	121	87	75-125	

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

BRL - Below Reporting Limit

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: R.D. Sims 8" Site

Work Order #: 410647

Lab Batch #: 848925 **Project ID:** 11-0103-01

Date Analyzed: 03/23/2011 09:34 **Date Prepared:** 03/23/2011 **Analyst:** LATCOR

QC- Sample ID: 410646-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	23.1	21.7	6	20	

Lab Batch #: 849000

Date Analyzed: 03/23/2011 17:00 **Date Prepared:** 03/23/2011 **Analyst:** WRU

QC- Sample ID: 410641-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	10.8	10.9	1	20	

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

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to: ALEXIS JOHNSON

DATE: 03-22-11 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER #: 410647
PROJECT LOCATION OR NAME: BILL SIMS 10"
LAI PROJECT #: 11-0103-01 COLLECTOR: R. BROOKS

TRRP report? ☐ Yes ☐ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

TIME ZONE: Time zone/State: MST/NM

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE X ☐ ANIONS ☐ ALKALINITY ☐	300	FIELD NOTES
SP-1(28-29.6')	01	03-22	0955	S	1				X																			X		WEST EXCAVATION
SP-1(32-33.5')	02	↓	1040	↓	↓				↓																			↓		↓
SP-1(35')	03	↓	1140	↓	↓				↓																			↓		↓
TOTAL					3																									

RELINQUISHED BY:(Signature) T.M. Brooks DATE/TIME 3-22-11 5:00 PM RECEIVED BY: (Signature) Andrea Elam 3-22-11 17:00

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL X
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 3.1 THERM #: A7
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☑ NOT USED
☐ CARRIER BILL # _____
☑ HAND DELIVERED 4oz glass

XENCO Laboratories

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

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc
Date/Time: 3.22.11 17:00
Lab ID # : 410647
Initials: AE

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	3.1 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

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

Analytical Report 410646

for

Larson & Associates

Project Manager: Alexis Johnson

R.D. Sims 8" Site

11-0103-01

24-MAR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

24-MAR-11

Project Manager: **Alexis Johnson**
Larson & Associates
P.O. Box 50685
Midland, TX 79710

Reference: XENCO Report No: **410646**
R.D. Sims 8" Site
Project Address:

Alexis Johnson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 410646. 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. 410646 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

Sample Cross Reference 410646

Larson & Associates, Midland, TX

R.D. Sims 8" Site

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Pile # 5	S	Mar-22-11 12:05		410646-001
SS-Bottom (15')	S	Mar-22-11 12:40		410646-002
SS-East (12')	S	Mar-22-11 12:43		410646-003
SS-East (6')	S	Mar-22-11 12:45		410646-004
SS-West (12')	S	Mar-22-11 12:50		410646-005
SS-West (6')	S	Mar-22-11 12:53		410646-006
SS-South (12')	S	Mar-22-11 12:55		410646-007
SS-South (6')	S	Mar-22-11 12:58		410646-008
SS-North (12')	S	Mar-22-11 13:00		410646-009
SS-North (6')	S	Mar-22-11 13:03		410646-010
SS-Bottom (18')	S	Mar-22-11 13:12		410646-011
SS-Bottom (21')	S	Mar-22-11 13:20		410646-012
SS-Bottom(24')	S	Mar-22-11 13:30		410646-013

CASE NARRATIVE

XENCO Laboratories

Client Name: Larson & Associates
Project Name: R.D. Sims 8" Site

ACCREDITED IN ACCORDANCE WITH nelac

Project ID:	*11-0103-01*	*Report Date:*	*24-MAR-11*
Work Order Number:	*410646*	*Date Received:*	*03/22/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-849014 TPH By SW8015 Mod
SW8015MOD_NM

Batch 849014, 1-Chlorooctane recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 410646-013 S.

Certificate of Analysis Summary 410646

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" Site

Project Id: 11-0103-01
Contact: Alexis Johnson
Project Location:

Date Received in Lab: Tue Mar-22-11 05:00 pm
Report Date: 24-MAR-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	410646-001		410646-002		410646-003		410646-004		410646-005		410646-006	
	Field Id:	Pile # 5		SS-Bottom (15')		SS-East (12')		SS-East (6')		SS-West (12')		SS-West (6')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-11 12:05		Mar-22-11 12:40		Mar-22-11 12:43		Mar-22-11 12:45		Mar-22-11 12:50		Mar-22-11 12:53	
Anions by E300	*Extracted:*												
	Analyzed:	Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.1	4.70	36.8	4.79	15.5	8.75	16.9	8.64	21.4	9.27	638	18.1
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		10.6	1.00	12.4	1.00	4.02	1.00	2.80	1.00	9.37	1.00	7.09	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45	
	Analyzed:	Mar-23-11 14:06		Mar-23-11 14:36		Mar-23-11 15:05		Mar-23-11 15:34		Mar-23-11 16:04		Mar-23-11 16:33	
	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	16.7	ND	17.2	ND	15.6	ND	15.5	ND	16.5	ND	16.1
C12-C28 Diesel Range Hydrocarbons		ND	16.7	ND	17.2	ND	15.6	ND	15.5	ND	16.5	ND	16.1
C28-C35 Oil Range Hydrocarbons		ND	16.7	ND	17.2	ND	15.6	ND	15.5	ND	16.5	ND	16.1
Total TPH		ND	16.7	ND	17.2	ND	15.6	ND	15.5	ND	16.5	ND	16.1

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Certificate of Analysis Summary 410646

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" Site

Project Id: 11-0103-01
Contact: Alexis Johnson
Project Location:

Date Received in Lab: Tue Mar-22-11 05:00 pm
Report Date: 24-MAR-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	410646-007		410646-008		410646-009		410646-010		410646-011		410646-012	
	Field Id:	SS-South (12')		SS-South (6')		SS-North (12')		SS-North (6')		SS-Bottom (18')		SS-Bottom (21')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-22-11 12:55		Mar-22-11 12:58		Mar-22-11 13:00		Mar-22-11 13:03		Mar-22-11 13:12		Mar-22-11 13:20	
Anions by E300	***Extracted:***												
	Analyzed:	Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34		Mar-23-11 09:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8.24	5.32	21.1	4.84	12.7	5.28	61.5	4.53	123	9.71	8.16	4.63
Percent Moisture	***Extracted:***												
	Analyzed:	Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00		Mar-23-11 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		21.1	1.00	13.2	1.00	20.5	1.00	7.35	1.00	13.5	1.00	9.31	1.00
TPH By SW8015 Mod	***Extracted:***	Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45		Mar-23-11 09:45	
	Analyzed:	Mar-23-11 17:01		Mar-23-11 17:32		Mar-23-11 18:01		Mar-23-11 18:30		Mar-23-11 19:29		Mar-23-11 19:59	
	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	18.9	ND	17.3	ND	18.9	ND	16.2	ND	17.4	ND	16.6
C12-C28 Diesel Range Hydrocarbons		ND	18.9	ND	17.3	ND	18.9	ND	16.2	82.6	17.4	ND	16.6
C28-C35 Oil Range Hydrocarbons		ND	18.9	ND	17.3	ND	18.9	ND	16.2	ND	17.4	ND	16.6
Total TPH		ND	18.9	ND	17.3	ND	18.9	ND	16.2	82.6	17.4	ND	16.6

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Certificate of Analysis Summary 410646

Larson & Associates, Midland, TX

Project Name: R.D. Sims 8" Site

Project Id: 11-0103-01
Contact: Alexis Johnson
Project Location:

Date Received in Lab: Tue Mar-22-11 05:00 pm
Report Date: 24-MAR-11
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	410646-013						
	Field Id:	SS-Bottom(24')						
	Depth:							
	Matrix:	SOIL						
	Sampled:	Mar-22-11 13:30						
Anions by E300	***Extracted:***							
	Analyzed:	Mar-23-11 09:34						
	Units/RL:	mg/kg	RL					
Chloride		11.7	4.52					
Percent Moisture	***Extracted:***							
	Analyzed:	Mar-23-11 17:00						
	Units/RL:	%	RL					
Percent Moisture		7.06	1.00					
TPH By SW8015 Mod	***Extracted:***	Mar-23-11 09:45						
	Analyzed:	Mar-23-11 20:29						
	Units/RL:	mg/kg	RL					
C6-C12 Gasoline Range Hydrocarbons		ND	16.1					
C12-C28 Diesel Range Hydrocarbons		ND	16.1					
C28-C35 Oil Range Hydrocarbons		ND	16.1					
Total TPH		ND	16.1					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

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 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.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" Site

Work Orders : 410646, **Project ID:** 11-0103-01

Lab Batch #: 849014 **Sample:** 598767-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/23/11 12:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	47.8	50.1	95	70-135	

Lab Batch #: 849014 **Sample:** 598767-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/23/11 13:08

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.8	100	98	70-135	
o-Terphenyl	43.4	50.2	86	70-135	

Lab Batch #: 849014 **Sample:** 598767-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/23/11 13:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	99.8	99	70-135	
o-Terphenyl	48.3	49.9	97	70-135	

Lab Batch #: 849014 **Sample:** 410646-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 14:06

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.6	103	70-135	
o-Terphenyl	50.1	49.8	101	70-135	

Lab Batch #: 849014 **Sample:** 410646-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 14:36

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	100	99	70-135	
o-Terphenyl	47.3	50.2	94	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" Site

Work Orders : 410646,

Project ID: 11-0103-01

Lab Batch #: 849014 **Sample:** 410646-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 15:05

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.5	107	70-135	
o-Terphenyl	50.3	49.8	101	70-135	

Lab Batch #: 849014 **Sample:** 410646-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 15:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	101	128	70-135	
o-Terphenyl	61.1	50.3	121	70-135	

Lab Batch #: 849014 **Sample:** 410646-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 16:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.5	102	70-135	
o-Terphenyl	47.6	49.8	96	70-135	

Lab Batch #: 849014 **Sample:** 410646-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 16:33

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	54.3	50.0	109	70-135	

Lab Batch #: 849014 **Sample:** 410646-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 17:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.6	111	70-135	
o-Terphenyl	54.9	49.8	110	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" Site

Work Orders : 410646,

Project ID: 11-0103-01

Lab Batch #: 849014 **Sample:** 410646-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 17:32

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	48.2	50.0	96	70-135	

Lab Batch #: 849014 **Sample:** 410646-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 18:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	52.4	50.2	104	70-135	

Lab Batch #: 849014 **Sample:** 410646-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 18:30

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.1	100	97	70-135	
o-Terphenyl	46.9	50.1	94	70-135	

Lab Batch #: 849014 **Sample:** 410646-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 19:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	51.2	50.1	102	70-135	

Lab Batch #: 849014 **Sample:** 410646-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 19:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	101	115	70-135	
o-Terphenyl	55.8	50.3	111	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R.D. Sims 8" Site

Work Orders : 410646,

Project ID: 11-0103-01

Lab Batch #: 849014 **Sample:** 410646-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 20:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.5	112	70-135	
o-Terphenyl	52.5	49.8	105	70-135	

Lab Batch #: 849014 **Sample:** 410646-013 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 22:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	148	99.6	149	70-135	*
o-Terphenyl	66.6	49.8	134	70-135	

Lab Batch #: 849014 **Sample:** 410646-013 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/23/11 22:31

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: R.D. Sims 8" Site

Work Order #: 410646 **Project ID:** 11-0103-01

Analyst: LATCOR **Date Prepared:** 03/23/2011 **Date Analyzed:** 03/23/2011

Lab Batch ID: 848925 **Sample:** 848925-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.420	10.0	9.75	98	10.0	9.28	93	5	75-125	20	

Analyst: BEV **Date Prepared:** 03/23/2011 **Date Analyzed:** 03/23/2011

Lab Batch ID: 849014 **Sample:** 598767-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	893	89	1000	823	82	8	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	898	90	1000	824	82	9	70-135	35	

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

Form 3 - MS Recoveries

Project Name: R.D. Sims 8" Site

Work Order #: 410646
Lab Batch #: 848925
Project ID: 11-0103-01
Date Analyzed: 03/23/2011
Date Prepared: 03/23/2011
Analyst: LATCOR
QC- Sample ID: 410646-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	23.1	112	121	87	75-125	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: R.D. Sims 8" Site

Work Order # : 410646 **Project ID:** 11-0103-01

Lab Batch ID: 849014 **QC- Sample ID:** 410646-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/23/2011 **Date Prepared:** 03/23/2011 **Analyst:** BEV

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.1	1070	1340	125	1080	944	87	35	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.1	1070	1340	125	1080	941	87	35	70-135	35	

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

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

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

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: R.D. Sims 8" Site

Work Order #: 410646

Lab Batch #: 848925 **Project ID:** 11-0103-01

Date Analyzed: 03/23/2011 09:34 **Date Prepared:** 03/23/2011 **Analyst:** LATCOR

QC- Sample ID: 410646-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	23.1	21.7	6	20	

Lab Batch #: 849000

Date Analyzed: 03/23/2011 17:00 **Date Prepared:** 03/23/2011 **Analyst:** WRU

QC- Sample ID: 410641-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	10.8	10.9	1	20	

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

BRL - Below Reporting Limit

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to: ALEXIS JOHNSON

DATE: 3-22-11 PAGE 1 OF 1
PO #: LAB WORK ORDER #: 410646
PROJECT LOCATION OR NAME: BILL SIMS 10"
LAI PROJECT #: 11-0103-01 COLLECTOR: A. BROOKS

TRRP report? ☐ Yes ☐ No
TIME ZONE: Time zone/State: MST / NM

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

Field Sample I.D.	Lab #	2011 Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
PILE #5	01	03-22	1205	S	1				X		BTEX ☐ MTBE ☐ TPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐ GASOLINE MOD 8015 ☐ DIESEL - MOD 8015 ☐ VOC 8260 ☐ SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ 8082 PCBS ☐ TCLP - METALS (RCRA) ☐ TCLP VOC ☐ TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ TOTAL METALS (RCRA) ☐ OTHER LIST ☐ LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ RCI ☐ TOX ☐ FLASHPOINT ☐ TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ pH ☐ HEXAVALENT CHROMIUM ☐ EXPLOSIVES ☐ PECHLORATE ☐ CHLORIDES ☐ ANIONS ☐ ALKALINITY ☐ 300	EAST EXCAVATION
SS-BOTTOM (15')	02		1240									
SS-EAST (12')	03		1243									
SS-EAST (6')	04		1245									
SS-WEST (12')	05		1250									
SS-WEST (6')	06		1253									
SS-SOUTH (12')	07		1255									
SS-SOUTH (6')	08		1258									
SS-NORTH (12')	09		1300									
SS-NORTH (6')	10		1303									
SS-BOTTOM (18')	11		1312									
SS-BOTTOM (21')	12		1320									
SS-BOTTOM (24')	13	↓	1330	↓	↓				↓		↓	↓
TOTAL					13							

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
K.W. Brooks	3-22-11 5:00P	Andrea Elam 3-22-11 17:00
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 3.1 THERM #: A7
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED 4oz glass

XENCO Laboratories	Document Title: Sample Receipt Checklist
Atlanta, Boca Raton, Corpus Christi, Dallas	Document No.: SYS-SRC
Houston, Miami, Odessa, Philadelphia	Revision/Date: No. 01, 5/27/2010
Phoenix, San Antonio, Tampa	Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.
Date/Time: 3-22-11 17:05
Lab ID #: 410646
Initials: AE

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	3.1 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

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

Analytical Report 417595

for

Larson & Associates

Project Manager: Mark Larson

R. D. Sims 8"

11-0103-01

26-MAY-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

26-MAY-11

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

Reference: XENCO Report No: **417595**
R. D. Sims 8"
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 417595. 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. 417595 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

XENCO Laboratories

Sample Cross Reference 417595

Larson & Associates, Midland, TX

R. D. Sims 8"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1, 0'	S	May-24-11 09:13		417595-001
BH-1, 5'	S	May-24-11 09:22		417595-002
BH-1, 10'	S	May-24-11 09:25		417595-003
BH-1, 15'	S	May-24-11 09:30		417595-004
BH-1, 20'	S	May-24-11 09:35		417595-005
BH-1, 25'	S	May-24-11 09:43		417595-006
BH-1, 30'	S	May-24-11 10:25		417595-007
BH-1, 35'	S	May-24-11 10:45		417595-008
BH-1, 40'	S	May-24-11 10:55		417595-009

CASE NARRATIVE

XENCO Laboratories

Client Name: Larson & Associates
Project Name: R. D. Sims 8"

Project ID:	*11-0103-01*	*Report Date:*	*26-MAY-11*
Work Order Number:	*417595*	*Date Received:*	*05/24/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Certificate of Analysis Summary 417595

Larson & Associates, Midland, TX

Project Name: R. D. Sims 8"

Project Id: 11-0103-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Tue May-24-11 03:20 pm
Report Date: 26-MAY-11
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	417595-001		417595-002		417595-003		417595-004		417595-005		417595-006	
	Field Id:	BH-1, 0'		BH-1, 5'		BH-1, 10'		BH-1, 15'		BH-1, 20'		BH-1, 25'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-24-11 09:13		May-24-11 09:22		May-24-11 09:25		May-24-11 09:30		May-24-11 09:35		May-24-11 09:43	
Anions by E300	***Extracted:***												
	Analyzed:	May-24-11 23:19		May-24-11 23:19		May-24-11 23:19		May-24-11 23:19		May-24-11 23:19		May-24-11 23:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		52.6	4.40	5.02	4.82	ND	4.71	19.4	5.07	19.5	4.78	64.2	4.47
Percent Moisture	***Extracted:***												
	Analyzed:	May-24-11 17:15		May-24-11 17:15		May-24-11 17:15		May-26-11 09:05		May-24-11 17:15		May-24-11 17:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.55	1.00	12.8	1.00	10.8	1.00	17.2	1.00	12.2	1.00	6.00	1.00
TPH By SW8015 Mod	***Extracted:***	May-24-11 16:00		May-24-11 16:00		May-24-11 16:00		May-24-11 16:00		May-24-11 16:00		May-24-11 16:00	
	Analyzed:	May-24-11 22:48		May-24-11 23:18		May-24-11 23:47		May-25-11 00:44		May-25-11 01:13		May-25-11 01:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.7	ND	17.2	ND	16.8	ND	18.1	ND	17.1	ND	16.0
C12-C28 Diesel Range Hydrocarbons		ND	15.7	ND	17.2	ND	16.8	ND	18.1	ND	17.1	ND	16.0
C28-C35 Oil Range Hydrocarbons		ND	15.7	ND	17.2	ND	16.8	ND	18.1	ND	17.1	ND	16.0
Total TPH		ND	15.7	ND	17.2	ND	16.8	ND	18.1	ND	17.1	ND	16.0

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Certificate of Analysis Summary 417595

Larson & Associates, Midland, TX

Project Name: R. D. Sims 8"

Project Id: 11-0103-01
Contact: Mark Larson
Project Location:

Date Received in Lab: Tue May-24-11 03:20 pm
Report Date: 26-MAY-11
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	417595-007		417595-008		417595-009					
	Field Id:	BH-1, 30'		BH-1, 35'		BH-1, 40'					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	May-24-11 10:25		May-24-11 10:45		May-24-11 10:55					
Anions by E300	*Extracted:*										
	Analyzed:	May-24-11 23:19		May-24-11 23:19		May-24-11 23:19					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		229	4.89	182	4.82	158	9.70				
Percent Moisture	*Extracted:*										
	Analyzed:	May-24-11 17:15		May-24-11 17:15		May-24-11 17:15					
	Units/RL:	%	RL	%	RL	%	RL				
Percent Moisture		14.1	1.00	12.9	1.00	13.4	1.00				
TPH By SW8015 Mod	*Extracted:*	May-24-11 16:00		May-24-11 16:00		May-24-11 16:00					
	Analyzed:	May-25-11 02:09		May-25-11 02:38		May-25-11 03:08					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	17.5	ND	17.2	ND	17.3				
C12-C28 Diesel Range Hydrocarbons		ND	17.5	ND	17.2	ND	17.3				
C28-C35 Oil Range Hydrocarbons		ND	17.5	ND	17.2	ND	17.3				
Total TPH		ND	17.5	ND	17.2	ND	17.3				

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the 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.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

LOD Limit of Detection

LOQ Limit of Quantitation

DL Method Detection Limit

*** Outside XENCO's scope of NELAC Accreditation.**

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R. D. Sims 8"

Work Orders : 417595,

Project ID: 11-0103-01

Lab Batch #: 857501 **Sample:** 603621-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/24/11 18:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	44.4	50.0	89	70-135	

Lab Batch #: 857501 **Sample:** 603621-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/24/11 18:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.5	100	100	70-135	
o-Terphenyl	43.1	50.0	86	70-135	

Lab Batch #: 857501 **Sample:** 603621-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/24/11 18:57

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.3	100	94	70-135	
o-Terphenyl	49.8	50.0	100	70-135	

Lab Batch #: 857501 **Sample:** 417595-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/24/11 22:48

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.2	100	98	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

Lab Batch #: 857501 **Sample:** 417595-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/24/11 23:18

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.6	100	94	70-135	
o-Terphenyl	48.3	50.0	97	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R. D. Sims 8"

Work Orders : 417595,

Project ID: 11-0103-01

Lab Batch #: 857501 **Sample:** 417595-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/24/11 23:47

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.2	100	96	70-135	
o-Terphenyl	49.3	50.0	99	70-135	

Lab Batch #: 857501 **Sample:** 417595-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/11 00:44

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.6	100	87	70-135	
o-Terphenyl	44.7	50.0	89	70-135	

Lab Batch #: 857501 **Sample:** 417595-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/11 01:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	53.4	50.0	107	70-135	

Lab Batch #: 857501 **Sample:** 417595-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/11 01:41

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.8	100	94	70-135	
o-Terphenyl	47.6	50.0	95	70-135	

Lab Batch #: 857501 **Sample:** 417595-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/11 02:09

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.7	100	94	70-135	
o-Terphenyl	47.6	50.0	95	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: R. D. Sims 8"

Work Orders : 417595,

Project ID: 11-0103-01

Lab Batch #: 857501 **Sample:** 417595-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/11 02:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.5	100	90	70-135	
o-Terphenyl	46.3	50.0	93	70-135	

Lab Batch #: 857501 **Sample:** 417595-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/11 03:08

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.0	100	91	70-135	
o-Terphenyl	46.5	50.0	93	70-135	

Lab Batch #: 857501 **Sample:** 417503-002 D / MD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/11 03:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.3	100	88	70-135	
o-Terphenyl	46.4	50.0	93	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: R. D. Sims 8"

Work Order #: 417595
Analyst: LATCOR
Date Prepared: 05/24/2011
Project ID: 11-0103-01
Date Analyzed: 05/24/2011
Lab Batch ID: 857393
Sample: 857393-1-BKS
Batch #: 1
Matrix: Solid
Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.420	10.0	8.88	89	10.0	8.94	89	1	75-125	20	

Analyst: BEV
Date Prepared: 05/24/2011
Date Analyzed: 05/24/2011
Lab Batch ID: 857501
Sample: 603621-1-BKS
Batch #: 1
Matrix: Solid
Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	765	77	1000	740	74	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	760	76	1000	744	74	2	70-135	35	

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

Final 1.000

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: R. D. Sims 8"

Work Order #: 417595
Lab Batch #: 857393
Project ID: 11-0103-01
Date Analyzed: 05/24/2011
Date Prepared: 05/24/2011
Analyst: LATCOR
QC- Sample ID: 417498-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	14000	11400	26500	110	75-125	

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

BRL - Below Reporting Limit

XENCO Laboratories

Sample Duplicate Recovery

Project Name: R. D. Sims 8"

Work Order #: 417595

Lab Batch #: 857393 **Project ID:** 11-0103-01

Date Analyzed: 05/24/2011 23:19 **Date Prepared:** 05/24/2011 **Analyst:** LATCOR

QC- Sample ID: 417498-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	14000	13900	1	20	

Lab Batch #: 857352

Date Analyzed: 05/24/2011 17:15 **Date Prepared:** 05/24/2011 **Analyst:** WRU

QC- Sample ID: 417595-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	4.55	5.02	10	20	

Lab Batch #: 857613

Date Analyzed: 05/26/2011 09:05 **Date Prepared:** 05/26/2011 **Analyst:** WRU

QC- Sample ID: 417595-004 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	17.2	17.3	1	20	

Lab Batch #: 857501

Date Analyzed: 05/25/2011 03:38 **Date Prepared:** 05/24/2011 **Analyst:** BEV

QC- Sample ID: 417503-002 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

TPH By SW8015 Mod Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.8	<16.8	0	35	
C12-C28 Diesel Range Hydrocarbons	676	677	0	35	
C28-C35 Oil Range Hydrocarbons	50.0	37.6	28	35	

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

BRL - Below Reporting Limit

Final 1.000

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 5-24-2011 PAGE ____ OF ____
PO #: ____ LAB WORK ORDER #: ____
PROJECT LOCATION OR NAME: R.D. Sims 8"
LAI PROJECT #: 11-0103-01 COLLECTOR: MJL / RB

TRRP report? ☐ Yes ☑ No
TIME ZONE: Time zone/State: MTN / NM
S=SOIL W=WATER A=AIR P=PAINT SL=SLUDGE OT=OTHER
417595

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
BH-1, 0'	01	5/24/11	09:13	S	1				✓			✓	✓	✓												✓			
BH-1, 5'	02		09:22	S	1				✓			✓	✓													✓			
BH-1, 10'	03		09:25	S	1				✓			✓	✓													✓			
BH-1, 15'	04		09:30	S	1				✓			✓	✓													✓			
BH-1, 20'	05		09:35	S	1				✓			✓	✓													✓			
BH-1, 25'	06		09:43	S	1				✓			✓	✓													✓			
BH-1, 30'	07		10:25	S	1				✓			✓	✓													✓			
BH-1, 35'	08		10:45	S	1				✓			✓	✓													✓			
BH-1, 40'	09	↓	10:55	S	1				✓			✓	✓													✓			
TOTAL																													

~~RELINQUISHED BY:(Signature)~~ MJL DATE/TIME 5/24/2011 15:20 RECEIVED BY: (Signature) Andrea Elam 5.24.11 15:20
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL ☐ ~~NA~~
1 DAY ☐
2 DAY ☑
OTHER ☐

LABORATORY USE ONLY: NE
RECEIVING TEMP: 17 THERM #: .4
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☑ NOT USED
☐ CARRIER BILL # ____
☑ HAND DELIVERED 4 oz glass

XENCO Laboratories

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

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.
Date/Time: 5.24.11 15:20
Lab ID # : 417595
Initials: AE

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	.4 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

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

APPENDIX B

Geologic Log

10' bgs

20' bgs

30' bgs

40' bgs

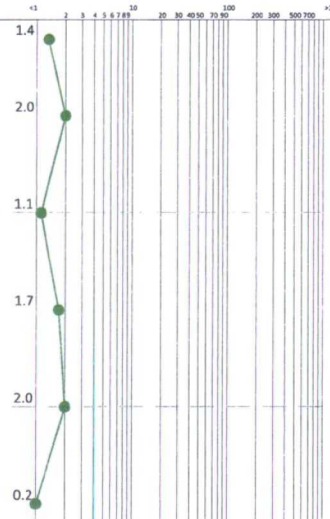
50' bgs

60' bgs

70' bgs

80' bgs

PID Response Log Plot
(parts per million)



Lithologic Well Log

Drilling started 5/24/2011, completed 5/24/2011.
Drilled with Air Rotary by Scarborough

SP - Pinkish Gray to Pink (7.5YR 7/2 to 7.5YR 7/4), very fine grained quartz sand, loose, dry

Caliche - Pink (7.5YR 7/3), very fine grained quartz sand, moderately well cemented, dry

SW - Light Brown to Reddish Yellow (7.5YR 6/4 to 7.5YR 6/6), very fine grained quartz sand, moderately well cemented, dry

SP - Light Brown to Reddish Yellow (7.5YR 6/4 to 7.5YR 6/6), very fine to fine grained quartz sand, poorly sorted, weakly cemented to loose, dry

SP - White (7.5YR 8/1), very fine to fine grained quartz sand, poorly sorted, friable, dry

SP - Pink (7.5YR 7/3), very fine to fine grained quartz sand, poorly sorted, hard modules
Shale - Red (2.5YR 4/6), silty, blocky, dry

TD at 38' BGS

Targa Midstream Services, L.P.
R.D. Sims 8"
Sec. 26, T-22-S, R-37-E
Lea County, New Mexico

N 33° 21' 32.55"
W 103° 08' 28.80"

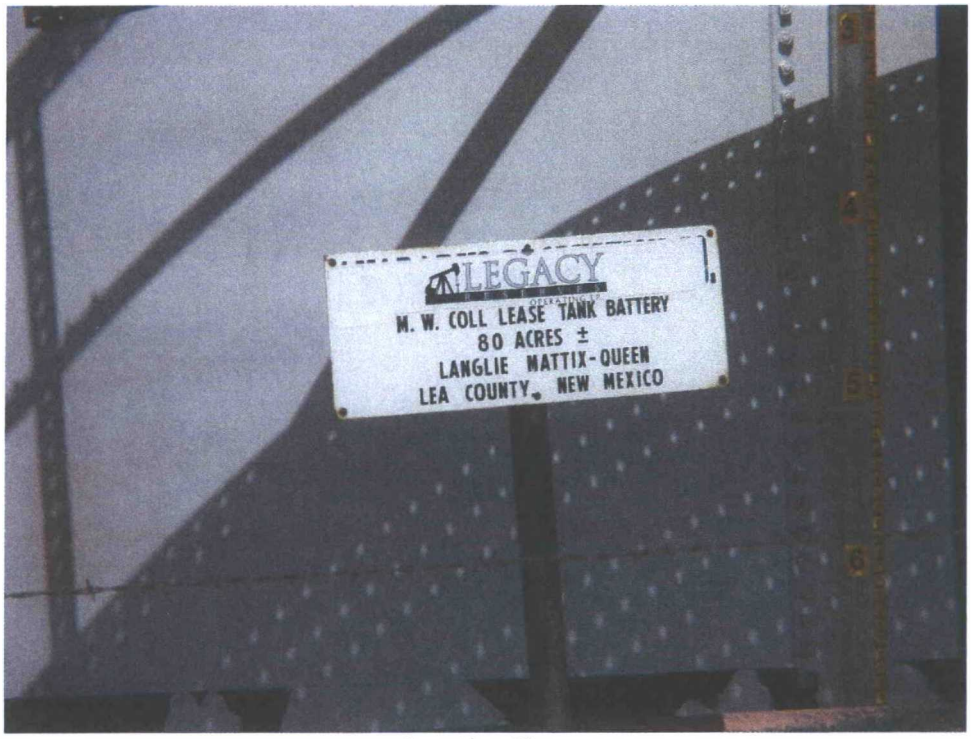
Larson & Associates, Inc.
Environmental Consultants

BH-1 Boring Log

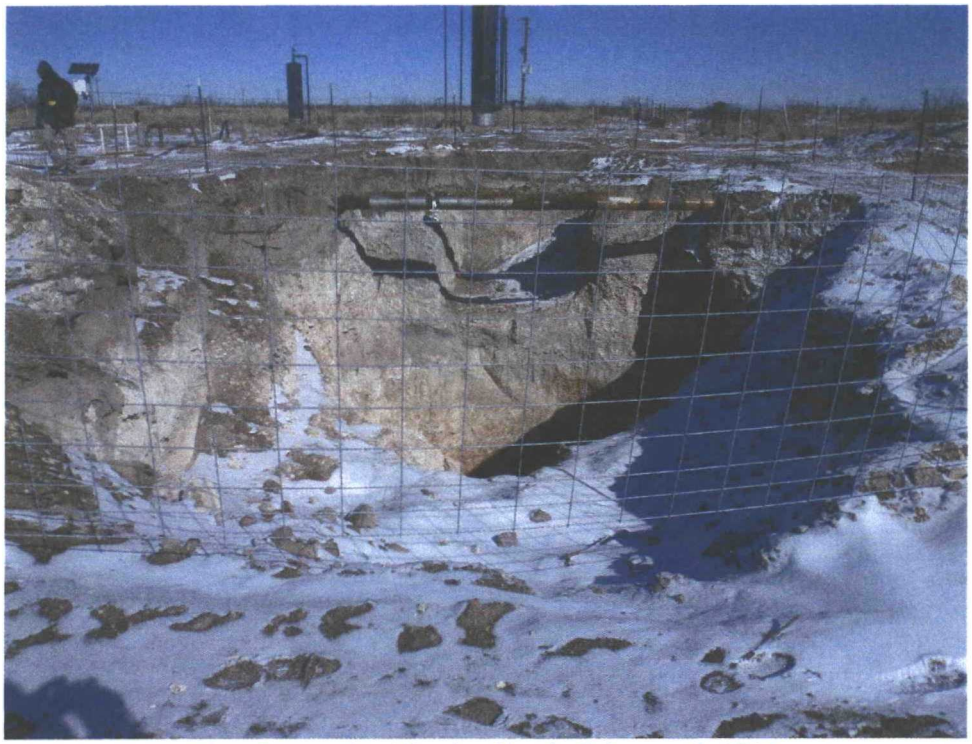
APPENDIX C

Photographs

Photo Documentation



Location Sign



West Excavation Viewing North, February 4, 2011

Photo Documentation

West Excavation Viewing South, February 4, 2011

West (Foreground) and East (Background) Excavations Viewing East, February 4, 2011

Photo Documentation

West Excavation after Benching Viewing North, March 2, 2011

West Excavation after Benching Viewing Northeast, March 2, 2011

Photo Documentation

West Excavation after Benching Viewing West, March 2, 2011

West Excavation after Benching Viewing South, March 2, 2011

Photo Documentation

Produced Water (PVC) Line Exposed on North Side of Excavation, March 2, 2011