Larson & Associates, Inc.
Environmental Consultants

June 15, 2012

HAND DELIVERED

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

Re: 1RP04-12-2801 - Remediation Report Boyd 9 Inch Pipeline Release
Targa Midstream Services, L.P., Unit K (NE/4, SW/4), Section 23,
Township 22 South, Range 37 East, Lea County, New Mexico

Dear Mr. Leking:
On behalf of Targa Midstream Services, L.P. (Targa) please find the referenced report enclosed which presents the remediation of a release from a natural gas pipeline (Boyd 9 Inch). Targa requests approval to install 20 mill polyethylene liners in the bottom of 2 excavations and filling the excavations above the liners with clean soil. Please contact me at (432) 687-0901 or Mr. Cal Wrentham with Targa at (432) 688-0456, if you have any questions or require additional information, thank you.

Sincerely,

Larson & Associates, Inc.

Mark J. Larson, P.G.
Sr. Project Manager
Mark@laenvironmental.com

Enclosure (1)

cc: Cal Wrangham – Targa, Midland
Roger Holland – Targa, Eunice

REMEDIATION REPORT

Boyd 9 Inch Pipeline Release
1RP-04-12-2802

Lea County, New Mexico

LAI Project No. 12-0118-01

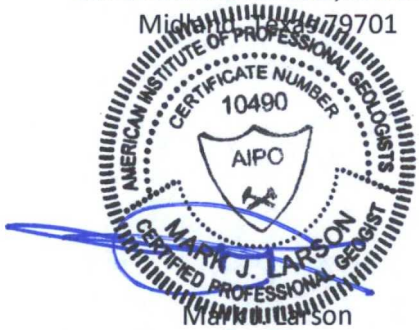
June 14, 20112

Prepared for:

Targa Midstream Services, L.P.
6 Desta Drive, Suite 3300
Midland, Texas 79705

Prepared by:

Larson & Associates, Inc.
507 North Marienfeld, Suite 200
Midland, Texas 79701



Mark J. Larson
Certified Professional Geologist No. 10490

Approved.
Jeff Johnson
Env. Specialist
NMOCD-DIST I
6/15/12

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1.0 EXECUTIVE SUMMARY

This report is submitted to the New Mexico Oil Conservation Division (OCD) District 1, on behalf of Targa Midstream Services, L.P. (Targa), to present the remediation of 2 leaks (north and south) from a 9 inch pipeline segment referred to as the "Boyd 9 Inch" (Site). The release was caused by corrosion of the steel pipeline and involved an unknown volume of natural gas liquid (NGL). Targa personnel replaced the steel pipe with polyethylene pipe. The Site is located in Unit K (NE/4, SW/4), Section 23, Township 22 South, and Range 37 East in Lea County, New Mexico. The geodetic position is north 32° 22' 32.54" and west 103° 08' 11.56".

The leaks were discovered in February 2012 and are separated by approximately 40 feet. On April 11, 2012, Targa submitted the initial C-141. The OCD assigned remediation project (RP) number 1RP-04-12-2802.

Between February 28, 2012 and March 12, 2012, Environmental Plus, Inc. (EPI) was contracted to excavate soil from the leaks. Soil was excavated at the north and south locations to approximately 15 feet below ground surface (bgs). Approximately 1,372 cubic yards of soil was disposed at Sundance Disposal located east of Eunice, New Mexico. The north and south excavations measure approximately 50' x 65' and 40' x 40', respectively.

On March 12, 2012, Larson & Associates, Inc. (LAI) collected soil samples from the bottom and sidewalls of the north and south excavations. A backhoe was used to collect samples from the bottom of the north excavation at approximately 15, 20 and 25 feet bgs and south excavation at approximately 15, 20, 25 and 30 feet bgs. The sidewall samples were collected at approximately 10 feet bgs. A stainless steel trowel was used to transfer the samples to 4 ounce laboratory containers which were filled to near zero headspace and delivered under preservation and chain of custody to Xenco Laboratories, located in Odessa, Texas. The laboratory analyzed the samples for benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH) and chloride by methods SW-8021B, SW-8015 and E300.

The following remediation action levels were calculated from criteria established by the OCD (*Guidelines for Remediation of Leaks, Spills and Releases, August 13,* 1993):

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

Benzene, BTEX and TPH were less than the method detection limits in all samples. Chloride in the north excavation sidewalls ranged from 1,410 milligrams per kilogram (mg/Kg) in the north sidewall to 8,290 mg/Kg in the east sidewall. Chloride concentrations in the bottom samples of north excavation were 7,680 mg/Kg (15 feet), 1,700 mg/Kg (20 feet) and 223 mg/Kg (25 feet). Chloride concentrations in the sidewalls of the south ranged from 1,480 mg/Kg (west) to 13,800 mg/Kg (east). Chloride concentrations in the bottom samples from the south excavation were 3,220 mg/Kg (15 feet), 1,310 mg/Kg (20 feet), 546 mg/Kg (25 feet) and 249 mg/Kg (30 feet).

Targa proposes to install 20-mill polyethylene liners in the bottom of the excavations and fill the excavations, above the liner, with clean soil. The surface will be crowned to prevent standing water and

seeded with a blend recommended for the area. A final report will be submitted to the OCD upon completion of the excavation backfilling.

2.0 INTRODUCTON

Larson & Associates, Inc. (LAI) submits this report to the New Mexico Oil Conservation Division (OCD), on behalf of Targa Midstream Services, L.P. (Targa), to present the remediation of 2 leaks from a segment of pipeline referred to as the "Boyd 9 inch". The leaks are separated by approximately 40 feet. The leaks occurred from corrosion of the steel pipe which was replaced with polyethylene pipe. Targa discovered the leaks in February 2012 and submitted the initial C-141 to the OCD in Hobbs, New Mexico, on April 11, 2012. The Site is located in Unit K (NE/4, SW/4), Section 23, Township 22 South, Range 37 east, in Lea County, New Mexico. The geodetic position is north 32° 22' 32.54" and west 103° 08' 11.56". Figure 1 presents a location and topographic map. Figure 2 presents an aerial photograph.

2.1 Setting

The Site is located about 4 miles southeast of Eunice, New Mexico. The surface elevation is approximately 3,330 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 mile (5,400 feet) east 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).

The nearest water well is located approximately 2,400 feet northwest of the Site. According to records from the New Mexico Office of the State Engineer (OSE) depth to groundwater ranges between about 55 and 65 feet below ground surface (bgs).

3.0 REMEDIATION

Between February 28, 2012 and March 12, 2012, Environmental Plus, Inc. (EPI) excavated approximately 1,372 cubic yards of soil which was disposed at Sundance Disposal (NM-01-003), located east of Eunice, New Mexico. Soil was excavated to approximately 15 feet bgs. The north and south excavations

measure approximately 50' x 65' and 40' x 40', respectively. Waste manifests are available upon request.

On March 12, 2012, LAI personnel collected soil samples from the bottom and sidewalls of the excavations. A backhoe was used to collect bottom samples from the north excavation at approximately 15, 20 and 25 feet below ground surface (bgs) and south excavation at approximately 15, 20, 25 and 30 feet bgs. The sidewall samples were collected from approximately 10 feet bgs. A stainless steel trowels were used to transfer the samples to 4 ounce glass sample jars. The trowels were decontaminated between samples by washing with a solution of laboratory grade (Alconox) detergent and water and rinsed with distilled water. The samples were delivered under chain of custody (COC) to Xenco Laboratories, located in Odessa, Texas. The laboratory analyzed the samples for benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH) and chloride by methods SW-8021B, SW-8015 and E300, respectively. Table 1 presents an analytical data summary. Appendix A presents the laboratory report. Appendix B presents photographs.

Remediation action levels were calculated for benzene, BTEX and TPH using criteria established by the OCD (*Guidelines for Remediation of Leaks, Spills and Releases, August 13,* 1993) assuming the following:

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

The following remediation levels are assigned to the Site based on the ranking score (10):

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

Referring to Table 1, benzene, BTEX and TPH were less than the method detection limits in all samples. Chloride in the sidewalls of the north excavation ranged from 1,410 mg/Kg (north) to 8,290 mg/Kg (east). Chloride concentrations in the bottom of the north excavation were 7,680 mg/Kg (15 feet), 1,700 mg/Kg (20 feet) and 223 mg/Kg (25 feet). Chloride in the south excavation sidewalls ranged from 1,480 mg/Kg (west) to 13,800 mg/Kg (east). Chloride concentrations in the bottom samples of the south excavation were 3,220 mg/Kg (15 feet), 1,310 mg/Kg (20 feet), 546 mg/Kg (25 feet) and 249 mg/Kg (30 feet).

4.0 CONCLUSIONS

- Groundwater occurs between approximately 55 to 65 feet bgs;
- The nearest well is located approximately 2,400 feet northwest of the site;
- The nearest surface water (Monument Draw) is located approximately 1 miles (5,400 feet) east of the Site;
- Recommended remediation level for benzene, BTEX and TPH are 10mg/K, 50 mg/K and 1,000 mg/K, respectively;

- Concentrations of benzene, BTEX and TPH were less than the method detection limits in all soil samples;

- Chloride was delineated vertically in the bottom of the north and south excavations to less than 250 mg/Kg at approximately 25 and 30 feet bgs, respectively.

5.0 RECOMMENDATIONS

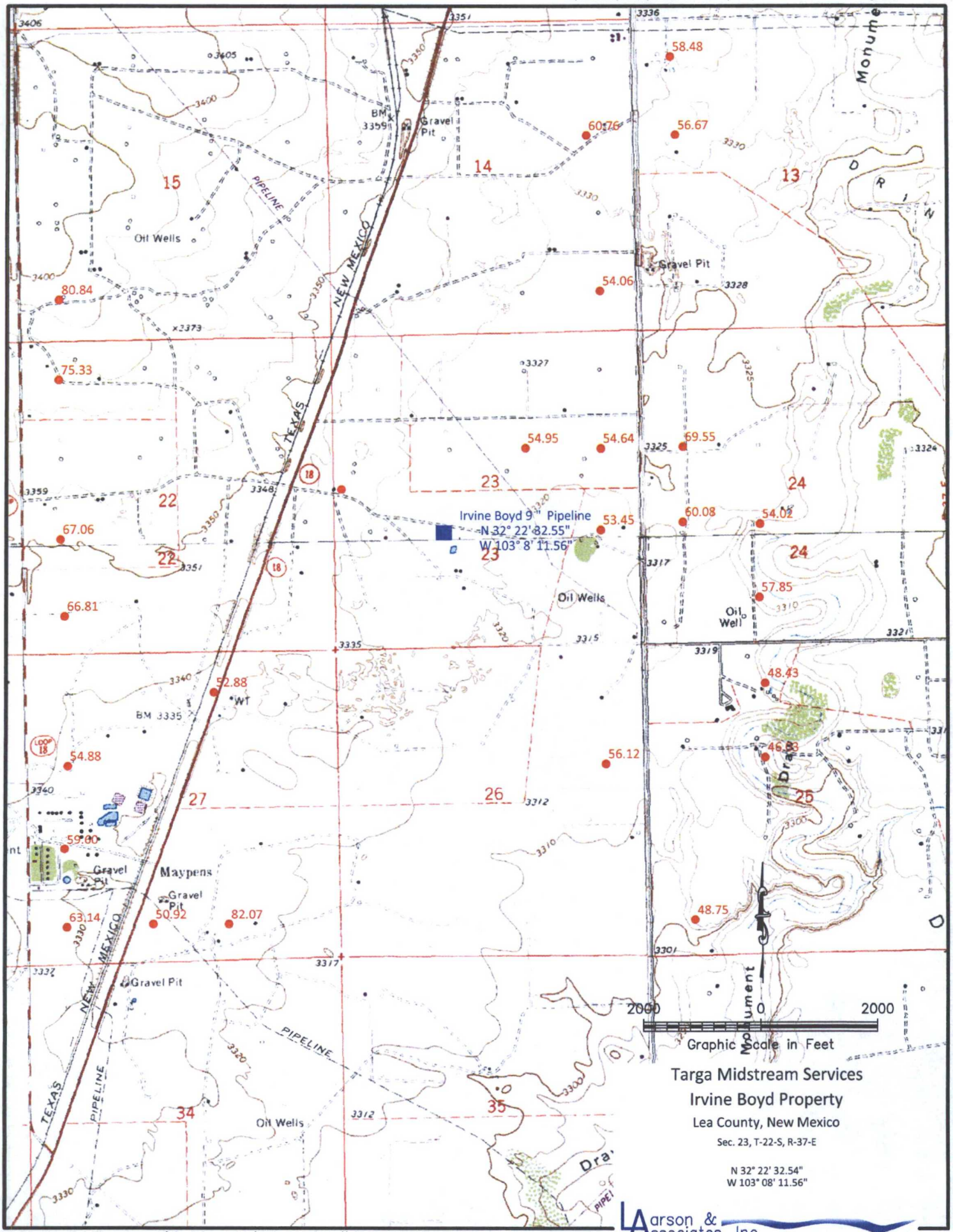
Targa proposes to install 20-mill thickness polyethylene liners in the bottom of the excavations and fill the excavations, above the liner, with clean soil. The surface will be crowned to prevent standing water and seeded with blend recommended for the area. A final report will be submitted to the OCD upon completion of the backfilling. Appendix C presents the initial C-141.

Table 1
Soil Samples Analytical Summary
Targa Midstream Services, L.P., Irrvine Boyd 9" Pipeline Release
Unit K (NE/4, SW/4), Section 23, Township 22 South, Range 37 East
Lea County, New Mexico

Location	Date	Depth Feet BGS	Status	Chloride (mg/Kg)	Benzene (mg/Kg)	BTEX (mg/Kg)	GRO (mg/Kg)	DRO (mg/Kg)	Oil (mg/Kg)	Total TPH (mg/Kg)
RRAL:										**100**
North Excavation Soil Samples										
Bottom	03-12-2012	15	Insitu	7,680	<0.00116	<0.0081	<17.5	<17.5	<17.5	<17.5
		20	Insitu	1,700	--	--	--	--	--	--
		25	Insitu	223	--	--	--	--	--	--
South	03-12-2012	10	Insitu	2,050	<0-00101	<0.00707	<16.7	<16.7	<16.7	<16.7
West	03-12-2012	10	Insitu	4,110	<0.000998	<0.006994	<17.4	<17.4	<17.4	<17.4
North	03-12-2012	10	Insitu	1,410	<0.001	<0.007	<16.9	<16.9	<16.9	<16.9
East	03-12-2012	10	Insitu	8,290	<0.001	<0.007	<16.5	<16.5	<16.5	<16.5
South Excavation Soil Samples										
Bottom	03-12-2012	15	Insitu	3,220	<0.001	<0.007	<15.5	<15.5	<15.5	<15.5
		20	Insitu	1,310	<0.001	<0.007	<17.8	<17.8	<17.8	<17.8
		25	Insitu	546	--	--	--	--	--	--
		30	Insitu	249	--	--	--	--	--	--
South	03-12-2012	10	Insitu	2,950	<0.001	<0.007	<16.2	<16.2	<16.2	<16.2
West	03-12-2012	10	Insitu	1,480	<0.000992	<0.006936	<15.9	<15.9	<15.9	<15.9
East	03-12-2012	10	Insitu	13,800	<0.001	<0.007	<18.8	<18.8	<18.8	<18.8

Notes: All samples analyzed by Xenco Laboratories, Inc., Odessa, Texas
Samples analyzed via EPA method SW-8021B (BTEX), SW-8015M (TPH) and E-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).

V:\PROJECTS\TARGA\12-0118-01 Irvine Boyd 9in\TARGA IRVINE BOYD 9 INCH.dwg, 6/14/2012 4:15:02 PM



Targa Midstream Services
Irvine Boyd Property
Lea County, New Mexico
Sec. 23, T-22-S, R-37-E

N 32° 22' 32.54"
W 103° 08' 11.56"

Larson & Associates, Inc.
Environmental Consultants

Figure 1 - Topographic Map and Water Well Location Map

Figure 2 - Aerial Map

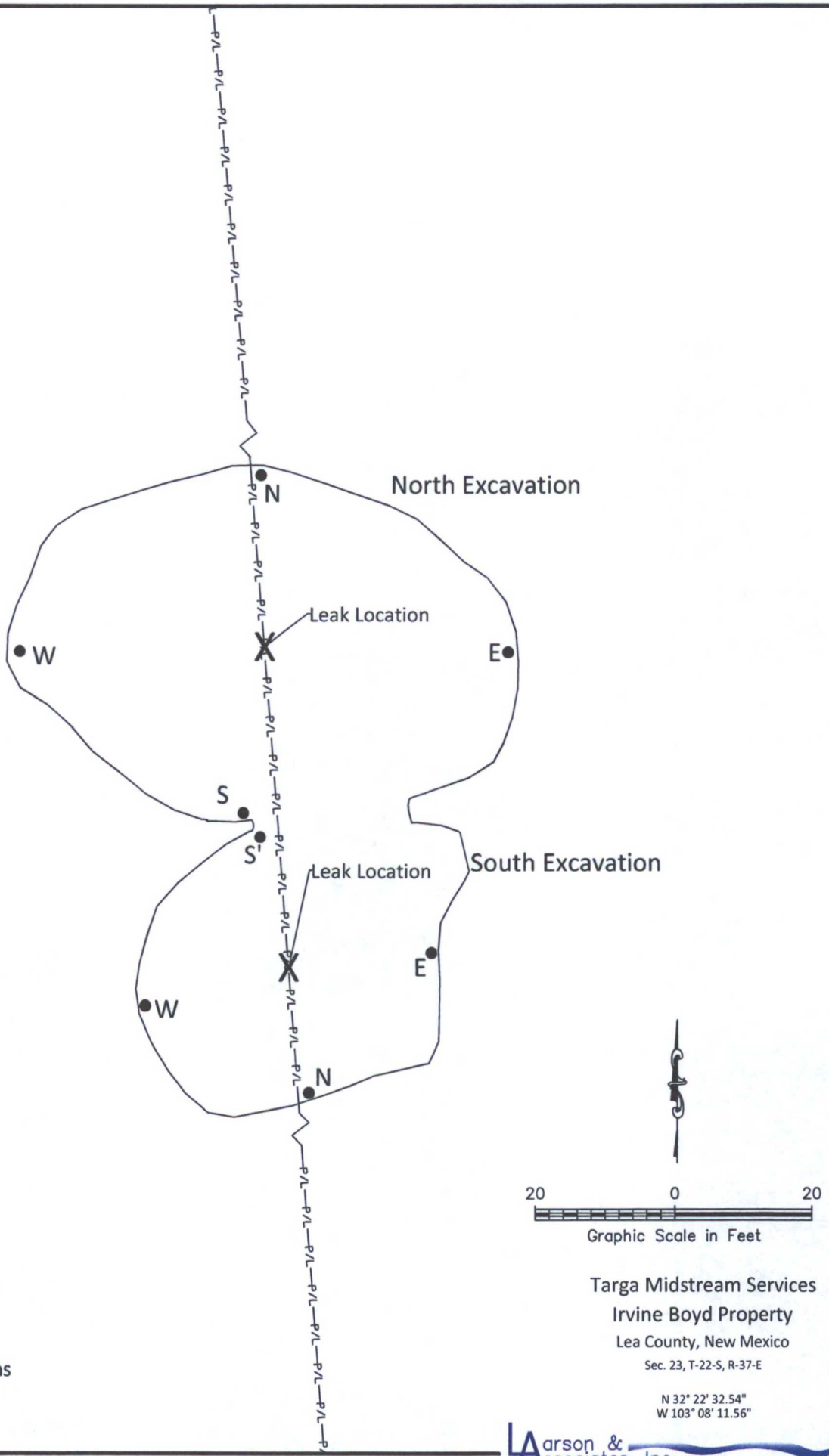


Figure 3 - Site Map

Analytical Report 438637

for

Larson & Associates

Project Manager: Mark Larson

Boyd 9"

12-0118-01

22-MAR-12

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

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

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 Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

22-MAR-12

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

Reference: XENCO Report No: **438637**
Boyd 9"
Project Address: Lea County, NM

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 438637. 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. 438637 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 438637

Larson & Associates, Midland, TX

Boyd 9"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North Bottom 15'	S	03-12-12 14:20		438637-001
North Bottom 20'	S	03-12-12 14:40		438637-002
North Bottom 25'	S	03-12-12 15:05		438637-003
North South 10'	S	03-12-12 14:45		438637-004
North West 10'	S	03-12-12 15:00		438637-005
North North 10'	S	03-12-12 15:15		438637-006
North East 10'	S	03-12-12 15:25		438637-007
South Bottom 15'	S	03-12-12 15:30		438637-008
South Bottom 20'	S	03-12-12 15:45		438637-009
South Bottom 25'	S	03-12-12 15:50		438637-010
South Bottom 30'	S	03-12-12 16:02		438637-011
South South 10'	S	03-12-12 15:42		438637-012
South West 10'	S	03-12-12 16:12		438637-013
South East 10'	S	03-12-12 16:14		438637-014

CASE NARRATIVE

XENCO Laboratories

Client Name: Larson & Associates
Project Name: Boyd 9"

Project ID:	*12-0118-01*	*Report Date:*	*22-MAR-12*
Work Order Number:	*438637*	*Date Received:*	*03/13/2012*

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-883586 BTEX by EPA 8021B
SW8021BM

Batch 883586, Benzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Ethylbenzene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 438637-009, -004, -005, -014, -006, -008, -007, -012, -013.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits

Batch: LBA-883636 TPH By SW8015 Mod
SW8015MOD_NM

Batch 883636, C6-C12 Gasoline Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 438637-009, -004, -005, -014, -006, -008, -007, -012, -013.
The Laboratory Control Sample for C6-C12 Gasoline Range Hydrocarbons is within laboratory Control Limits

SW8015MOD_NM

Batch 883636, o-Terphenyl recovered below QC limits Data not confirmed by re-analysis.
Samples affected are: 619206-1-BKS,438637-013. Matrix interference is suspected in sample QC failures.

CASE NARRATIVE

XENCO Laboratories

Client Name: Larson & Associates
Project Name: Boyd 9"

Project ID: 12-0118-01
Work Order Number: 438637

Report Date: 22-MAR-12
Date Received: 03/13/2012

Batch: LBA-883686 BTEX by EPA 8021B
SW8021BM

Batch 883686, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis
Samples affected are: 438791-001 SD.

SW8021BM

Batch 883686, Benzene, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 438637-001.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits

Certificate of Analysis Summary 438637

Larson & Associates, Midland, TX

Project Name: Boyd 9"

Project Id: 12-0118-01
Contact: Mark Larson
Project Location: Lea County, NM

Date Received in Lab: Tue Mar-13-12 03:50 pm
Report Date: 22-MAR-12
Project Manager: Brent Barron II

Analysis Requested													
	Lab Id:	438637-001		438637-002		438637-003		438637-004		438637-005		438637-006	
	Field Id:	North Bottom 15'		North Bottom 20'		North Bottom 25'		North South 10'		North West 10'		North North 10'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-12-12 14:20		Mar-12-12 14:40		Mar-12-12 15:05		Mar-12-12 14:45		Mar-12-12 15:00		Mar-12-12 15:15	
Anions by E300	***Extracted:***												
	Analyzed:	Mar-14-12 18:13		Mar-20-12 10:48		Mar-20-12 10:48		Mar-14-12 18:13		Mar-14-12 18:13		Mar-14-12 18:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		7680	97.7	1700	23.0	223	4.61	2050	23.4	4110	48.9	1410	23.6
BTEX by EPA 8021B	***Extracted:***	Mar-15-12 11:29						Mar-14-12 14:43		Mar-14-12 14:43		Mar-14-12 14:43	
	Analyzed:	Mar-15-12 13:20						Mar-14-12 17:12		Mar-14-12 17:34		Mar-14-12 18:20	
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00116					ND	0.00101	ND	0.000998	ND	0.00100
Toluene		ND	0.00231					ND	0.00202	ND	0.00200	ND	0.00200
Ethylbenzene		ND	0.00116					ND	0.00101	ND	0.000998	ND	0.00100
m_p-Xylenes		ND	0.00231					ND	0.00202	ND	0.00200	ND	0.00200
o-Xylene		ND	0.00116					ND	0.00101	ND	0.000998	ND	0.00100
Total Xylenes		ND	0.00116					ND	0.00101	ND	0.000998	ND	0.00100
Total BTEX		ND	0.00116					ND	0.00101	ND	0.000998	ND	0.00100
Percent Moisture	***Extracted:***												
	Analyzed:	Mar-14-12 09:00		Mar-20-12 08:05		Mar-20-12 08:05		Mar-14-12 09:00		Mar-14-12 09:00		Mar-14-12 09:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		14.0	1.00	8.54	1.00	8.99	1.00	10.3	1.00	14.1	1.00	11.1	1.00
TPH By SW8015 Mod	***Extracted:***	Mar-14-12 10:15						Mar-14-12 11:30		Mar-14-12 11:30		Mar-14-12 11:30	
	Analyzed:	Mar-15-12 03:53						Mar-14-12 17:13		Mar-14-12 17:38		Mar-14-12 18:03	
	Units/RL:	mg/kg	RL					mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	17.5					ND	16.7	ND	17.4	ND	16.9
C12-C28 Diesel Range Hydrocarbons		ND	17.5					ND	16.7	ND	17.4	ND	16.9
C28-C35 Oil Range Hydrocarbons		ND	17.5					ND	16.7	ND	17.4	ND	16.9
Total TPH		ND	17.5					ND	16.7	ND	17.4	ND	16.9

Brent Barron II
Odessa Laboratory Manager

XENCO Laboratories

Certificate of Analysis Summary 438637

Larson & Associates, Midland, TX

Project Name: Boyd 9"

Project Id: 12-0118-01
Contact: Mark Larson
Project Location: Lea County, NM

Date Received in Lab: Tue Mar-13-12 03:50 pm
Report Date: 22-MAR-12
Project Manager: Brent Barron II

Analysis Requested													
	Lab Id:	438637-007		438637-008		438637-009		438637-010		438637-011		438637-012	
	Field Id:	North East 10'		South Bottom 15'		South Bottom 20'		South Bottom 25'		South Bottom 30'		South South 10'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-12-12 15:25		Mar-12-12 15:30		Mar-12-12 15:45		Mar-12-12 15:50		Mar-12-12 16:02		Mar-12-12 15:42	
Anions by E300	***Extracted:***												
	Analyzed:	Mar-14-12 18:13		Mar-14-12 18:13		Mar-14-12 18:13		Mar-20-12 10:48		Mar-20-12 10:48		Mar-14-12 18:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8290	184	3220	43.5	1310	20.0	546	10.7	249	5.53	2950	45.4
BTEX by EPA 8021B	***Extracted:***	Mar-14-12 14:43		Mar-14-12 14:43		Mar-14-12 14:43						Mar-14-12 14:43	
	Analyzed:	Mar-14-12 18:42		Mar-14-12 19:05		Mar-14-12 19:28						Mar-14-12 19:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					mg/kg	RL
Benzene		ND	0.00100	ND	0.00100	ND	0.00100					ND	0.00100
Toluene		ND	0.00200	ND	0.00200	ND	0.00201					ND	0.00200
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100					ND	0.00100
m_p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00201					ND	0.00200
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100					ND	0.00100
Total Xylenes		ND	0.00100	ND	0.00100	ND	0.00100					ND	0.00100
Total BTEX		ND	0.00100	ND	0.00100	ND	0.00100					ND	0.00100
Percent Moisture	***Extracted:***												
	Analyzed:	Mar-14-12 09:00		Mar-14-12 09:00		Mar-14-12 09:00		Mar-20-12 08:05		Mar-20-12 08:05		Mar-14-12 09:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		8.91	1.00	3.52	1.00	15.8	1.00	21.2	1.00	24.0	1.00	7.59	1.00
TPH By SW8015 Mod	***Extracted:***	Mar-14-12 11:30		Mar-14-12 11:30		Mar-14-12 11:30						Mar-14-12 11:30	
	Analyzed:	Mar-14-12 18:27		Mar-14-12 18:51		Mar-14-12 19:16						Mar-14-12 19:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.5	ND	15.5	ND	17.8					ND	16.2
C12-C28 Diesel Range Hydrocarbons		ND	16.5	ND	15.5	ND	17.8					ND	16.2
C28-C35 Oil Range Hydrocarbons		ND	16.5	ND	15.5	ND	17.8					ND	16.2
Total TPH		ND	16.5	ND	15.5	ND	17.8					ND	16.2

Brent Barron II
Odessa Laboratory Manager

Certificate of Analysis Summary 438637

Larson & Associates, Midland, TX

Project Name: Boyd 9"

Project Id: 12-0118-01
Contact: Mark Larson
Project Location: Lea County, NM

Date Received in Lab: Tue Mar-13-12 03:50 pm
Report Date: 22-MAR-12
Project Manager: Brent Barron II

Analysis Requested													
	Lab Id:	438637-013		438637-014									
	Field Id:	South West 10'		South East 10'									
	Depth:												
	Matrix:	SOIL		SOIL									
	Sampled:	Mar-12-12 16:12		Mar-12-12 16:14									
Anions by E300	*Extracted:*												
	Analyzed:	Mar-14-12 18:13		Mar-15-12 16:27									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Chloride		1480	17.8	13800	211								
BTEX by EPA 8021B	*Extracted:*	Mar-14-12 14:43		Mar-14-12 14:43									
	Analyzed:	Mar-14-12 20:13		Mar-14-12 20:36									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		ND	0.000992	ND	0.00100								
Toluene		ND	0.00198	ND	0.00200								
Ethylbenzene		ND	0.000992	ND	0.00100								
m_p-Xylenes		ND	0.00198	ND	0.00200								
o-Xylene		ND	0.000992	ND	0.00100								
Total Xylenes		ND	0.000992	ND	0.00100								
Total BTEX		ND	0.000992	ND	0.00100								
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-14-12 09:00		Mar-14-12 09:00									
	Units/RL:	%	RL	%	RL								
Percent Moisture		5.58	1.00	20.5	1.00								
TPH By SW8015 Mod	*Extracted:*	Mar-14-12 11:30		Mar-14-12 11:30									
	Analyzed:	Mar-14-12 20:07		Mar-14-12 20:34									
	Units/RL:	mg/kg	RL	mg/kg	RL								
C6-C12 Gasoline Range Hydrocarbons		ND	15.9	ND	18.8								
C12-C28 Diesel Range Hydrocarbons		ND	15.9	ND	18.8								
C28-C35 Oil Range Hydrocarbons		ND	15.9	ND	18.8								
Total TPH		ND	15.9	ND	18.8								

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 affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

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

***** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Boyd 9"

Work Orders : 438637, **Project ID:** 12-0118-01

Lab Batch #: 883586 **Sample:** 438637-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 17:12

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 883636 **Sample:** 438637-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 17:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.9	99.8	88	70-135	
o-Terphenyl	35.7	49.9	72	70-135	

Lab Batch #: 883586 **Sample:** 438637-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 17:34

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0243	0.0300	81	80-120	
4-Bromofluorobenzene	0.0270	0.0300	90	80-120	

Lab Batch #: 883636 **Sample:** 438637-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 17:38

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.8	99.5	87	70-135	
o-Terphenyl	35.2	49.8	71	70-135	

Lab Batch #: 883636 **Sample:** 438637-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 18:03

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	100	91	70-135	
o-Terphenyl	36.5	50.0	73	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Boyd 9"

Work Orders : 438637, **Project ID:** 12-0118-01

Lab Batch #: 883586 **Sample:** 438637-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 18:20

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 883636 **Sample:** 438637-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 18:27

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	36.3	50.0	73	70-135	

Lab Batch #: 883586 **Sample:** 438637-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 18:42

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 883636 **Sample:** 438637-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 18:51

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.1	99.5	91	70-135	
o-Terphenyl	36.3	49.8	73	70-135	

Lab Batch #: 883586 **Sample:** 438637-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 19:05

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Boyd 9"

Work Orders : 438637, **Project ID:** 12-0118-01

Lab Batch #: 883636 **Sample:** 438637-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 19:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.0	99.9	89	70-135	
o-Terphenyl	36.0	50.0	72	70-135	

Lab Batch #: 883586 **Sample:** 438637-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 19:28

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 883636 **Sample:** 438637-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 19:41

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.7	100	91	70-135	
o-Terphenyl	36.8	50.0	74	70-135	

Lab Batch #: 883586 **Sample:** 438637-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 19:50

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 883636 **Sample:** 438637-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 20:07

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.0	100	86	70-135	
o-Terphenyl	34.7	50.1	69	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: Boyd 9"

Work Orders : 438637, **Project ID:** 12-0118-01

Lab Batch #: 883586 **Sample:** 438637-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 20:13

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 883636 **Sample:** 438637-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 20:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.6	99.8	90	70-135	
o-Terphenyl	36.5	49.9	73	70-135	

Lab Batch #: 883586 **Sample:** 438637-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 20:36

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0340	0.0300	113	80-120	

Lab Batch #: 883615 **Sample:** 438637-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/12 03:53

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.8	100	90	70-135	
o-Terphenyl	42.8	50.1	85	70-135	

Lab Batch #: 883686 **Sample:** 438637-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/12 13:20

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Boyd 9"

Work Orders : 438637, **Project ID:** 12-0118-01

Lab Batch #: 883615 **Sample:** 619195-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/12 16:12

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	42.4	50.0	85	70-135	

Lab Batch #: 883586 **Sample:** 619197-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/12 16:49

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 883636 **Sample:** 619206-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/12 16:49

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.0	100	88	70-135	
o-Terphenyl	35.9	50.0	72	70-135	

Lab Batch #: 883686 **Sample:** 619262-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/12 12:35

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 883615 **Sample:** 619195-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/12 15:10

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	38.7	50.0	77	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: Boyd 9"

Work Orders : 438637, **Project ID:** 12-0118-01

Lab Batch #: 883586 **Sample:** 619197-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/12 15:18

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

Lab Batch #: 883636 **Sample:** 619206-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/12 16:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	33.5	50.0	67	70-135	*

Lab Batch #: 883686 **Sample:** 619262-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/12 11:03

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 883615 **Sample:** 619195-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/12 15:41

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	38.9	50.0	78	70-135	

Lab Batch #: 883586 **Sample:** 619197-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/12 15:41

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Boyd 9"

Work Orders : 438637, **Project ID:** 12-0118-01

Lab Batch #: 883636 **Sample:** 619206-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/12 16:24

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.1	100	88	70-135	
o-Terphenyl	36.3	50.0	73	70-135	

Lab Batch #: 883686 **Sample:** 619262-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/12 11:26

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 883586 **Sample:** 438637-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 21:21

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0258	0.0300	86	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 883636 **Sample:** 438675-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/12 02:14

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.6	99.5	89	70-135	
o-Terphenyl	36.5	49.8	73	70-135	

Lab Batch #: 883615 **Sample:** 438609-003 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/12 04:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.4	99.9	89	70-135	
o-Terphenyl	35.8	50.0	72	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Boyd 9"

Work Orders : 438637, **Project ID:** 12-0118-01

Lab Batch #: 883686 **Sample:** 438791-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/12 17:31

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0361	0.0300	120	80-120	

Lab Batch #: 883586 **Sample:** 438637-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/12 21:44

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 883636 **Sample:** 438675-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/12 02:41

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.9	106	70-135	
o-Terphenyl	37.4	50.0	75	70-135	

Lab Batch #: 883615 **Sample:** 438609-003 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/12 05:03

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.7	99.8	96	70-135	
o-Terphenyl	37.0	49.9	74	70-135	

Lab Batch #: 883686 **Sample:** 438791-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/12 17:53

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0365	0.0300	122	80-120	*

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: Boyd 9"

Work Order #: 438637 **Project ID:** 12-0118-01

Analyst: ASA **Date Prepared:** 03/14/2012 **Date Analyzed:** 03/14/2012

Lab Batch ID: 883586 **Sample:** 619197-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0979	98	0.100	0.0970	97	1	70-130	35	
Toluene	<0.00200	0.100	0.0971	97	0.100	0.0970	97	0	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0972	97	0.100	0.0973	97	0	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.203	102	0.200	0.203	102	0	70-135	35	
o-Xylene	<0.00100	0.100	0.0990	99	0.100	0.0991	99	0	71-133	35	

Analyst: ASA **Date Prepared:** 03/15/2012 **Date Analyzed:** 03/15/2012

Lab Batch ID: 883686 **Sample:** 619262-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0961	96	0.100	0.0959	96	0	70-130	35	
Toluene	<0.00200	0.100	0.0955	96	0.100	0.0962	96	1	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0957	96	0.100	0.0963	96	1	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.201	101	0.200	0.201	101	0	70-135	35	
o-Xylene	<0.00100	0.100	0.0979	98	0.100	0.0979	98	0	71-133	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

BS / BSD Recoveries

Project Name: Boyd 9"

Work Order #: 438637 **Project ID:** 12-0118-01

Analyst: BRB **Date Prepared:** 03/14/2012 **Date Analyzed:** 03/14/2012

Lab Batch ID: 883576 **Sample:** 883576-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Anions by E300	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.840	20.0	19.5	98	20.0	19.6	98	1	75-125	20	

Analyst: BRB **Date Prepared:** 03/15/2012 **Date Analyzed:** 03/15/2012

Lab Batch ID: 883802 **Sample:** 883802-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Anions by E300	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.840	20.0	19.8	99	20.0	19.6	98	1	75-125	20	

Analyst: BRB **Date Prepared:** 03/20/2012 **Date Analyzed:** 03/20/2012

Lab Batch ID: 884044 **Sample:** 884044-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Anions by E300	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.840	20.0	18.9	95	20.0	20.4	102	8	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: Boyd 9"

Work Order #: 438637
Analyst: BRB
Lab Batch ID: 883615 **Sample:** 619195-1-BKS
Units: mg/kg

Date Prepared: 03/14/2012 **Batch #:** 1

Project ID: 12-0118-01
Date Analyzed: 03/14/2012
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	822	82	1000	793	79	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1100	110	1000	1090	109	1	70-135	35	

Analyst: BRB
Lab Batch ID: 883636 **Sample:** 619206-1-BKS
Units: mg/kg

Date Prepared: 03/14/2012 **Batch #:** 1

Date Analyzed: 03/14/2012
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	810	81	1000	823	82	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	959	96	1000	941	94	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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: Boyd 9"

Work Order #: 438637

Lab Batch #: 883576 **Project ID:** 12-0118-01

Date Analyzed: 03/14/2012 **Date Prepared:** 03/14/2012 **Analyst:** BRB

QC- Sample ID: 438611-012 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	48.6	105	163	109	75-125	

Lab Batch #: 883576

Date Analyzed: 03/14/2012 **Date Prepared:** 03/14/2012 **Analyst:** BRB

QC- Sample ID: 438637-001 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	7680	2330	9890	95	75-125	

Lab Batch #: 883802

Date Analyzed: 03/15/2012 **Date Prepared:** 03/15/2012 **Analyst:** BRB

QC- Sample ID: 438795-001 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	2330	1060	3320	93	75-125	

Lab Batch #: 884044

Date Analyzed: 03/20/2012 **Date Prepared:** 03/20/2012 **Analyst:** BRB

QC- Sample ID: 439008-001 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	159	213	374	101	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

Form 3 - MS / MSD Recoveries

Project Name: Boyd 9"

Work Order # : 438637 **Project ID:** 12-0118-01

Lab Batch ID: 883586 **QC- Sample ID:** 438637-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/14/2012 **Date Prepared:** 03/14/2012 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00101	0.101	0.0684	68	0.0998	0.0706	71	3	70-130	35	X
Toluene	<0.00201	0.101	0.0678	67	0.0998	0.0718	72	6	70-130	35	X
Ethylbenzene	<0.00101	0.101	0.0648	64	0.0998	0.0702	70	8	71-129	35	X
m_p-Xylenes	<0.00201	0.201	0.139	69	0.200	0.144	72	4	70-135	35	X
o-Xylene	<0.00101	0.101	0.0677	67	0.0998	0.0709	71	5	71-133	35	X

Lab Batch ID: 883686 **QC- Sample ID:** 438791-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/15/2012 **Date Prepared:** 03/15/2012 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00101	0.101	0.0654	65	0.100	0.0639	64	2	70-130	35	X
Toluene	<0.00201	0.101	0.0661	65	0.100	0.0647	65	2	70-130	35	X
Ethylbenzene	<0.00101	0.101	0.0671	66	0.100	0.0665	67	1	71-129	35	X
m_p-Xylenes	<0.00201	0.201	0.138	69	0.200	0.135	68	2	70-135	35	X
o-Xylene	<0.00101	0.101	0.0648	64	0.100	0.0630	63	3	71-133	35	X

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

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

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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: Boyd 9"

Work Order # : 438637 **Project ID:** 12-0118-01

Lab Batch ID: 883615 **QC- Sample ID:** 438609-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/15/2012 **Date Prepared:** 03/14/2012 **Analyst:** BRB

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	26.1	1110	807	70	1110	817	71	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	299	1110	1310	91	1110	1380	97	5	70-135	35	

Lab Batch ID: 883636 **QC- Sample ID:** 438675-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/15/2012 **Date Prepared:** 03/14/2012 **Analyst:** BRB

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	36.9	1120	797	68	1130	815	69	2	70-135	35	X
C12-C28 Diesel Range Hydrocarbons	113	1120	1170	94	1130	1170	94	0	70-135	35	

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

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

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

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

XENCO Laboratories

Sample Duplicate Recovery

Project Name: Boyd 9"

Work Order #: 438637

Lab Batch #: 883576 **Project ID:** 12-0118-01

Date Analyzed: 03/14/2012 18:13 **Date Prepared:** 03/14/2012 **Analyst:** BRB

QC- Sample ID: 438637-001 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	7680	7650	0	20	

Lab Batch #: 883802

Date Analyzed: 03/15/2012 16:27 **Date Prepared:** 03/15/2012 **Analyst:** BRB

QC- Sample ID: 438795-001 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	2330	2330	0	20	

Lab Batch #: 884044

Date Analyzed: 03/20/2012 10:48 **Date Prepared:** 03/20/2012 **Analyst:** BRB

QC- Sample ID: 439008-001 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	159	152	5	20	

Lab Batch #: 883599

Date Analyzed: 03/14/2012 09:00 **Date Prepared:** 03/14/2012 **Analyst:** BRB

QC- Sample ID: 438636-001 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	10.1	11.2	10	20	

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

XENCO Laboratories

Sample Duplicate Recovery

Project Name: Boyd 9"

Work Order #: 438637

Lab Batch #: 884001 **Project ID:** 12-0118-01

Date Analyzed: 03/20/2012 08:05 **Date Prepared:** 03/20/2012 **Analyst:** BRB

QC- Sample ID: 438985-001 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	4.28	4.42	3	20	

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

CHAIN-OF-CUSTODY

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

Data Reported to:

DATE: 3-12-2012 PAGE 1 OF 1
PO #: LAB WORK ORDER #: 438637
PROJECT LOCATION OR NAME: Lea County, NM/Boyd 9"
LAI PROJECT #: 12-0118-01 COLLECTOR: MJL

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

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

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 ☐	Hold	FIELD NOTES
North Bottom 15'	-01	3/12/12	1420	S	2			✓	✓		✓			✓	✓										✓				
North Bottom 20'	-02		1440		2			✓	✓																	✓			
North Bottom 25'	-03		1505		2			✓	✓																	✓			
North-South 10'	-04		1445		2			✓	✓		✓			✓	✓										✓				
NorthWest 10'	-05		1500		2			✓	✓		✓			✓	✓										✓				
North-North 10'	-06		1515		2			✓	✓		✓			✓	✓										✓				
NorthEast 10'	-07		1525		2			✓	✓		✓			✓	✓										✓				
South Bottom 15'	-08		1530		2			✓	✓		✓			✓	✓										✓				
South Bottom 20'	-09		1545		2			✓	✓		✓			✓	✓										✓				
South Bottom 25'	-10		1550		2			✓	✓																	✓			
South Bottom 30'	-11		1602		2			✓	✓																	✓			
South-South 10'	-12		1542		2			✓	✓		✓			✓	✓										✓				
South-West 10'	-13		1612		2			✓	✓		✓			✓	✓										✓				
South-East 10'	-14		1614	↓	2			✓	✓		✓			✓	✓										✓				
		↓																											
TOTAL					28																								

RELINQUISHED BY:(Signature) DATE/TIME 3/13/2012 350pm RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature) A. Hernandez 3/13/12 350

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

LABORATORY USE ONLY:
RECEIVING TEMP: 1.0°C THERM #:
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☑ HAND DELIVERED

XENCO Laboratories

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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
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Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.
Date/Time: 3/13/12 3:50
Lab ID # : 438637
Initials: AH

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	1.0 °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

Photo Documentation

North Excavation Viewing Northwest, March 12, 2012

Photo Documentation

South Excavation Viewing North, March 12, 2012

Photo Documentation

South Excavation Viewing South, March 12, 2012

Photo Documentation

North Excavation Viewing West, March 12, 2012