

RECEIVED

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources JUL 22 2010

Form C-141
Revised October 10, 2003

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

HOBBSOCD

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

Release Notification and Corrective Action

FINAL

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Samson Resources Company	Contact: Autumn Long
Address: Two West Second Street, Tulsa, OK 74103-3103	Telephone No.: (918) 591-1364
Facility Name: C.S. Caylor	Facility Type: CTB Produced Water Line

Surface Owner: State of New Mexico	Mineral Owner	Lease No. API #30-025-05430
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LOCATION OF RELEASE

Unit Letter D	Section 6	Township 17S	Range 37E	Feet from the 660	North/South Line FNL	Feet from the 665	East/West Line FWL	County: Lea
------------------	--------------	-----------------	--------------	----------------------	-------------------------	----------------------	-----------------------	----------------

Latitude: 32.86899 N Longitude: -103.29661 W

NATURE OF RELEASE

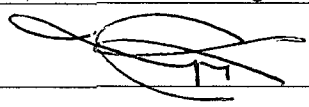
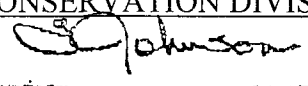
Type of Release: Produced Water	Volume of Release: 50 BBL	Volume Recovered: 40 BBL
Source of Release: Weld in Poly Line	Date and Hour of Occurrence: 05/22/2010; Unknown	Date and Hour of Discovery: 05/22/2010; 10:00 A.M.
Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required	If YES, To Whom: Geoff Leking	
By Whom?	Date and Hour: 05/22/2010; 1:30 P.M. Central Time	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*A fused weld on a 2" poly line came apart causing release of 50 barrels of produced water. Well was shut-in, M&S trucking called in and picked-up 40 barrels of water from east side of lease road. Banta Roustabouts re-fused connection in the poly line where leak occurred. Further corrective actions are being identified.

Describe Area Affected and Cleanup Action Taken.*Soil was excavated along east side of lease road between about 5 and 8 feet below ground and taken to Sundance Services located east of Eunice, New Mexico. Bottom samples collected from twelve (12) locations were analyzed for chloride and reported concentrations between 32 and 448 mg/Kg. Sidewall samples collected from three (3) locations reported chloride between 32 and 80 mg/Kg. On June 24, 2010, OCD in Hobbs, New Mexico, granted verbal approved to fill excavation with clean soil. Excavation filling completed on June 28, 2010.

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	
Printed Name: Mark J. Larson	Approved by District Supervisor 	
Title: Sr. Project Manager, Larson & Associates, Inc. (Consultant)	Approval Date: 7.22.10	Expiration Date: —
E-mail Address: mark@laenvironmental.com	Conditions of Approval:	
Date: 06/28/2010	Attached ☐ IRP # 2553	
Phone: (432) 687-0901 (Office) (432) 556-8656 (Cell)		

* Attach Additional Sheets If Necessary

10.6
(INITIAL 22AR)

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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, 2001

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: Samson Resources Company	Contact: Autumn Long
Address: Two West Second Street	Telephone No.: (918) 591-1364
Facility Name: C. S. Caylor	Facility Type: CTB Produced Water Line
Surface Owner: State of New Mexico	Mineral Owner: Samson Resources Company
	Lease No.: API #30-02505-430

LOCATION OF RELEASE

Unit Letter D	Section 5	Township 17S	Range 37E	Feet from the 660	North/South Line FNL	Feet from the 665	East/West Line FWL	County Lea
------------------	--------------	-----------------	--------------	----------------------	-------------------------	----------------------	-----------------------	---------------

Latitude: 32.86899 N Longitude: -103.29661 W

WTR 80'

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 50 Barrels	Volume Recovered: 40 Barrels
Source of Release: Weld in Polyline	Date and Hour of Occurrence: 5/22/2010: Unknown	Date and Hour of Discovery: 05/22/2010: 10:00 A.M.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Geoff Leking	
By Whom? Floyd Siegel - Production Foreman	Date and Hour: 05/22/2010 1:30 P.M. Central Time	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse: N/A	
If a Watercourse was Impacted, Describe Fully. N/A		

Describe Cause of Problem and Remedial Action Taken.*

A fused weld in the above ground 2" poly line came apart causing release of 50 barrels of produced water. Well was shut-in, M&S trucking called in and picked-up 40 barrels water from east side of lease road. Bant Roustabouts re-fused connection in the poly line where leak occurred. Further corrective actions are being identified

Describe Area Affected and Cleanup Action Taken.*

Area affected is approximately 131 yards along east side of lease road and approximately six (6) feet wide. All standing fluids were vacuumed-up.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOCID 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, NMOCID 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: <i>(Autumn Long)</i>	OIL CONSERVATION DIVISION <i>(Signature)</i>	
Printed Name: Autumn Long	Approved by District ENVIRONMENTAL ENGINEER	
Title: Environmental Specialist	Approval Date: 6.8.10	Expiration Date: 8.9.10
E-mail Address: autumnl@samson.com	Conditions of Approval:	
Date: May 24, 2010 Phone: (918) 591-1364	SUBMIT FINAL C-141 w/DOCS BY <i>(Signature)</i> IRP# 10.6.2553	
Attach Additional Sheets If Necessary		

WCI - COST 6699
APPS pLWS 7270

CARSON & ASSOC. TO REMEDIATE SITE

RECEIVED

JUL 22 2010

HOBBSOCD

REMEDIATION REPORT
Produced Water Flow line Leak

C.S. Caylor Lease
1RP-2553

Lea County, New Mexico

Project No. 10-0112

June 28, 2010

Prepared for:

Samson Resources Company
Two West Second Street
Tulsa, Oklahoma 74103-3103

Prepared by:
Mark J. Larson
Project Manager

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

June 28, 2010

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June 28, 2010

1.0 Executive Summary

This report is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of Samson Resources Company (Samson) by Larson & Associates, Inc. (LAI), its consultant, to report the remediation of a produced water leak that occurred approximately 200 feet south of the Lovington Paddock Unit Well #118 (API #30-025-31275) in Unit D (NW/4, NW/4), Section 6, Township 17 South and Range 37 East in Lea County, New Mexico. The geodetic position is 32.86899° north and -103.29661° west.

The leak occurred on May 22, 2010, after a fusion weld on a 2-inch poly flow line failed and released approximately 50 barrels (bbls) of produced water. The fluids pooled near the source of the leak and flowed along the east side of a lease road for about 350 feet before terminating. Samson recovered approximately 40 bbls of produced water that was returned to a tank battery located west of the leak. Approximately 10 bbl of produced water was lost to the surface. Soil samples collected near the source did not reveal total petroleum hydrocarbons (TPH) above the method detection limit.

On June 14, 2010, Samson contracted Banta Oilfield Services, Inc. (Banta) to excavate soil from the area. At approximately 2-3 feet below ground surface (bgs) caliche was encountered and prevented further excavation using a backhoe. Additional soil was excavated from 4 to 8 feet bgs using a track hoe and hammer hoe.

On June 14, 2010, LAI personnel collected discreet samples from 1 foot bgs from twelve locations (SS-1 through SS-12). The samples were submitted to Xenco Laboratory, located in Odessa, Texas and analyzed for chloride using method 300. The laboratory reported chloride concentrations between 897 milligrams per kilogram (mg/Kg) in sample SS-1 to 11,600 mg/Kg from SS-7. LAI personnel collected additional samples on June 18 and 23, 2010, from the bottom of the excavation between 5 and 8 feet bgs. Chloride concentrations ranged from 31 mg/Kg (SS-1) to 448 mg/Kg (SS-5). Sidewall samples were collected near locations SS-1, SS-6 and SS-9, and chloride concentrations were reported between 32 and 80 mg/Kg.

The OCD in Hobbs, New Mexico, granted verbal approval on June 24, 2010, to fill the excavation. The excavation was filled on June 25 and 28, 2010, with soil from a borrow area that was tested and reported chloride at 122 mg/Kg.

June 28, 2010

2.0 Introduction

This report is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of Samson Resources Company (Samson) by Larson & Associates, Inc. (LAI), its consultant, to present the remediation of a leak that occurred on May 22, 2010. The leak occurred about 200 feet south of the Lovington Paddock Unit Well #118, API # 30-025-31275, in Unit D (NW/4, NW/4), Section 6, Township 17 South and Range 37 East in Lea County, New Mexico. The leak was attributed to failure of a fusion weld on the 2-inch poly flow due to incompatible material (SDR-7 v SDR-11) after the line was previously cut by heavy equipment. The geodetic position is 32.86899° north and -103.29661° west. A topographic map is presented in Figure 1. An aerial map is presented in Figure 2.

3.0 Chronology

On May 22, 2010, Samson notified the OCD that a leak had occurred on the flow line where the line had been repaired after being struck by heavy equipment on July 31, 2008. Samson repaired the leak and notified the OCD District 1 office in Hobbs, New Mexico, that the spill involved approximately 50 barrels (bbl) of produced water. Approximately 40 bbl of water was recovered and returned to a tank battery and about 10 bbl lost to the surface. Fluid pooled near the source and flowed south about 350 feet along the east side of the lease road before terminating. Samson submitted the initial C-141 on May 24, 2010.

4.0 Setting

The setting is as follows:

- Groundwater occurs at about 75 feet below ground surface based on records from the New Mexico State Engineer (NMSE);
- The release is within the City of Lovington well field;
- No continuously flowing watercourse is within 1,000 horizontal feet of the release;
- No surface water features, including lakes, rivers, ponds, arroyos, lakebed, sinkhole, or playa lake, are located within 1,000 horizontal feet of the release; and
- No private, domestic fresh-water well or spring are within 500 horizontal feet of release.

5.0 Remediation

On June 14, 2010, Samson contracted Banta Oilfield Services, Inc. (Banta) to excavate soil from the release area. Soil was excavated to approximately 2-3 feet bgs where caliche was encountered and prohibited further excavation with a backhoe. Banta mobilized a track and hammer hoe on June 15, 2010 and resumed excavating soil between 4 and 8 feet bgs. The soil was disposed at Sundance Services located east of Eunice, New Mexico.

On June 14, 2010, LAI personnel collected twelve discreet samples (SS-1 through SS-12) from the bottom of the excavation at about 1 foot bgs. The samples were submitted under chain of custody to Xenco Laboratories (formerly Environmental Labs of Texas) located in Odessa, Texas. The samples were analyzed for chloride using method 300. The chloride results ranged from 897 mg/Kg in sample SS-1 to 11,600 mg/Kg in sample SS-7.

June 28, 2010

On June 18 and 23, 2010, LAI personnel collected samples between 5 and 8 feet bgs which reported chloride concentrations between 32 mg/Kg for sample SS-1 to 448 mg/Kg in sample SS-5. Sidewall samples were collected near locations SS-1, SS-6 and SS-9, which reported chloride concentrations between 32 and 80 mg/Kg. Analytical laboratory reports are presented in Appendix A.

6.0 Closure

On June 24, 2010, Mr. Larry Johnson with the OCD District 1, granted verbal permission to fill the excavation. The excavation was filled with soil obtained from a nearby borrow area that was tested and reported chloride at 122 mg/Kg. The excavation was filled on June 25 and 28, 2010. Photographic documentation is presented in Appendix B. Appendix C presents the initial and final C 141.

Table 1
Summary of Soil Laboratory Analyses
Samson Resources
C. S. Caylor Leak
Lea County, New Mexico
1RP-2553

Location	Depth	Date	Status	Chloride
RRAL:				250
SS-1	1	6/14/2010	Excavated	897
	5	6/23/2010	Insitu	32
SS-2	1	6/14/2010	Excavated	1,830
		6/23/2010	Insitu	64
SS-3	1	6/14/2010	Excavated	2,210
	5	6/23/2010	Insitu	48
SS-4	1	6/14/2010	Excavated	1,920
	5	6/23/2010	Insitu	80
SS-5	1	6/14/2010	Excavated	2,020
	5	6/23/2010	Insitu	448
SS-6	1	6/14/2010	Excavated	2,220
	8	6/23/2010	Insitu	64
SS-7	1	6/14/2010	Excavated	11,600
	5	6/23/2010	Insitu	32
SS-8	1	6/14/2010	Excavated	2,160
	5	6/21/2010	Insitu	160
SS-9	1	6/14/2010	Excavated	2,680
	3	6/18/2010	Excavated	400
	5	6/21/2010	Insitu	80
SS-10	1	6/14/2010	Excavated	2,110
	5	6/18/2010	Insitu	176
SS-11	1	6/14/2010	Excavated	1,460
	5	6/18/2010	Insitu	16
SS-12	1	6/14/2010	Excavated	2,220
	5	6/21/2010	Excavated	256
	6	6/23/2010	Insitu	112

Table 1
Summary of Soil Laboratory Analyses
Samson Resources
C. S. Caylor Leak
Lea County, New Mexico
1RP-2553

Location	Depth	Date	Status	Chloride
RRAL:				250
Side Walls				
SW-1 East	--	6/23/2010	Insitu	32
SW-1 West	--	6/23/2010	Insitu	80
SW-6 East	--	6/23/2010	Insitu	48
SW-6 West	--	6/23/2010	Insitu	32
SW-9 East	--	6/23/2010	Insitu	80
SW-9 West	--	6/23/2010	Insitu	48
Backfill				
Backfill	--	6/15/2010	Insitu	122

Notes

Depth measurements are in feet.

All concentrations are in milligrams per kilogram (mg/Kg, parts per million).

Blue and Bold indicates the value exceeds the RRAL Cleanup Level.

JWW

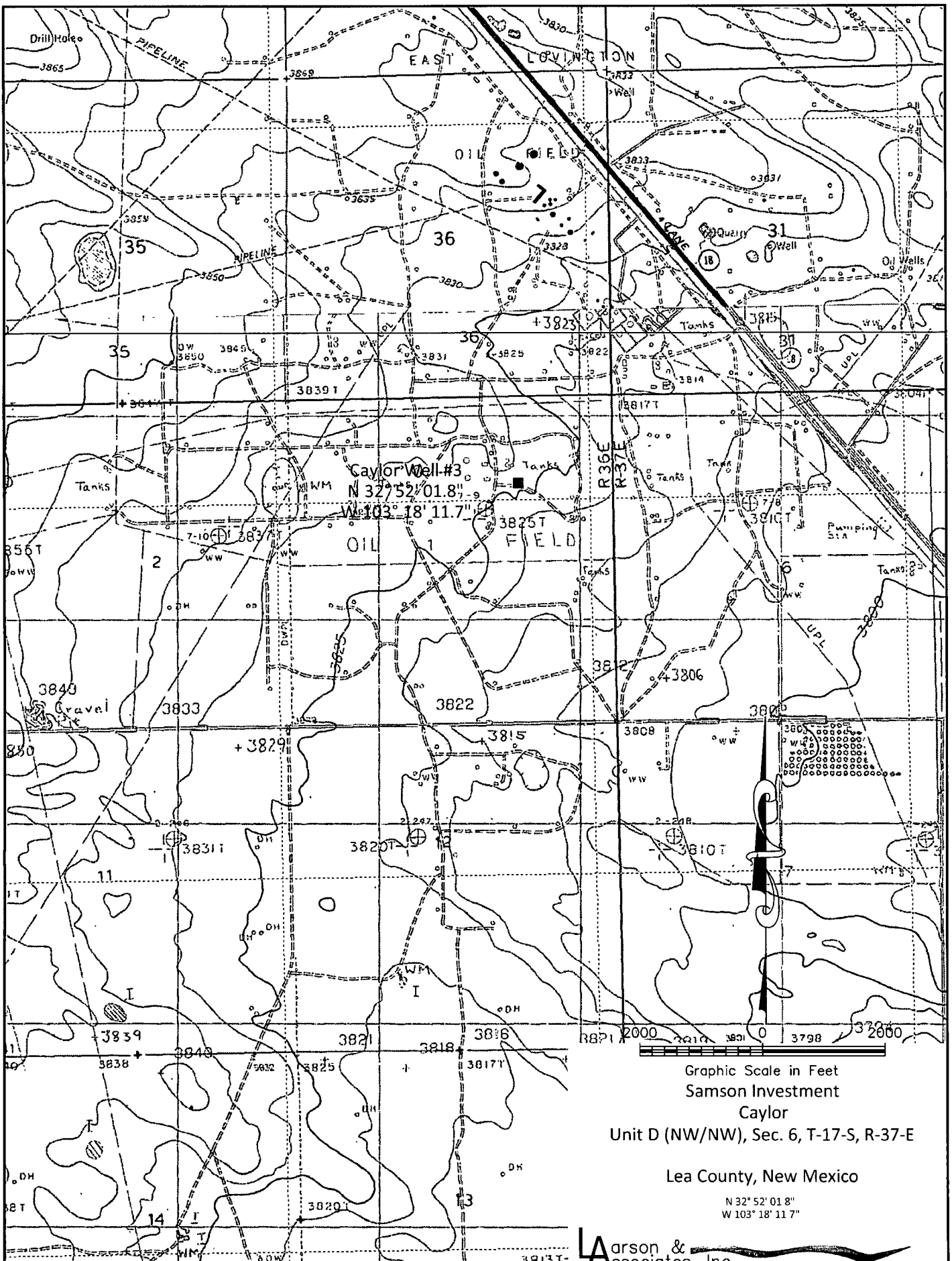


Figure 1 - Topographic Map

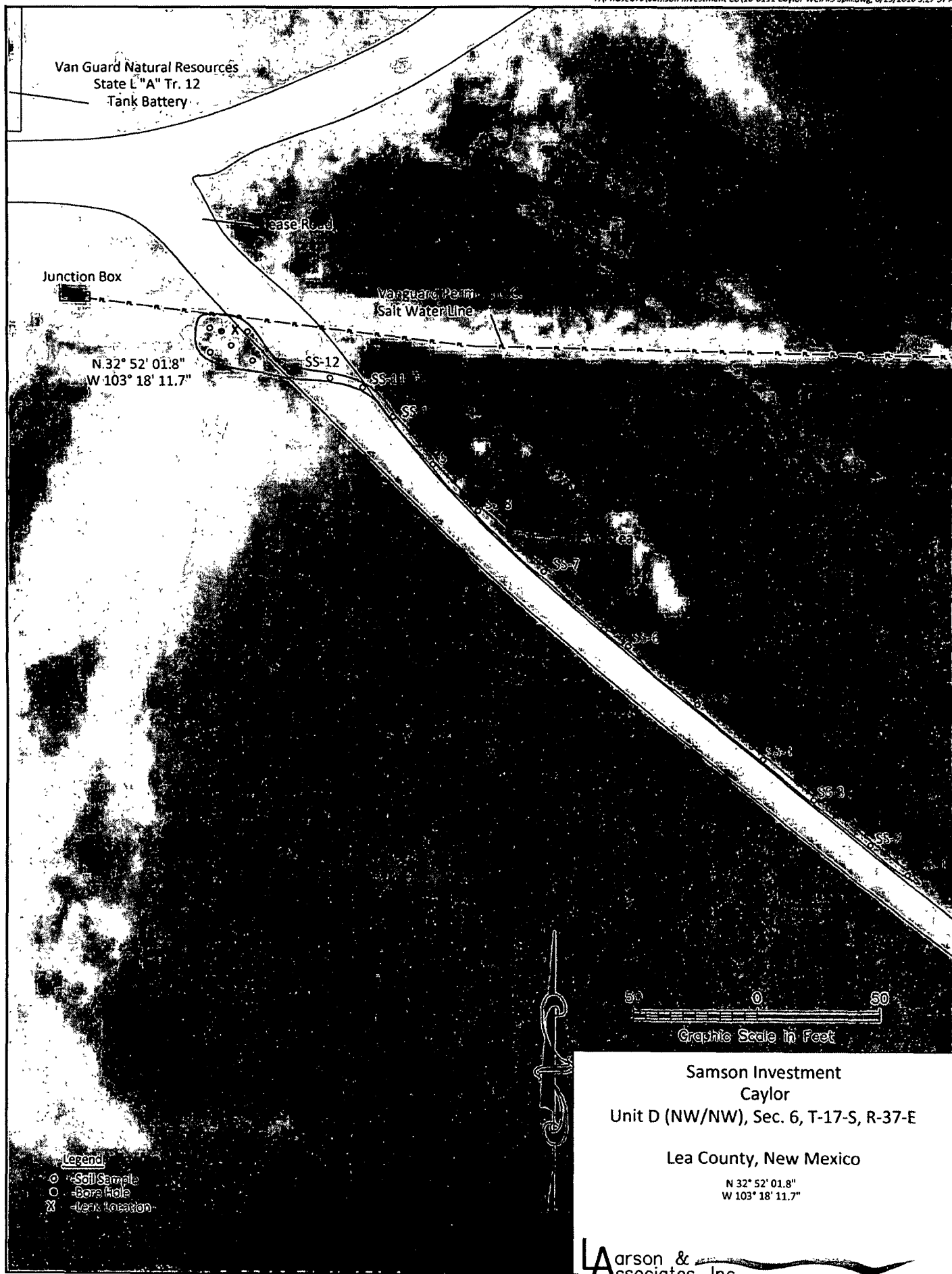


Figure 2 - Aerial Map

JWW

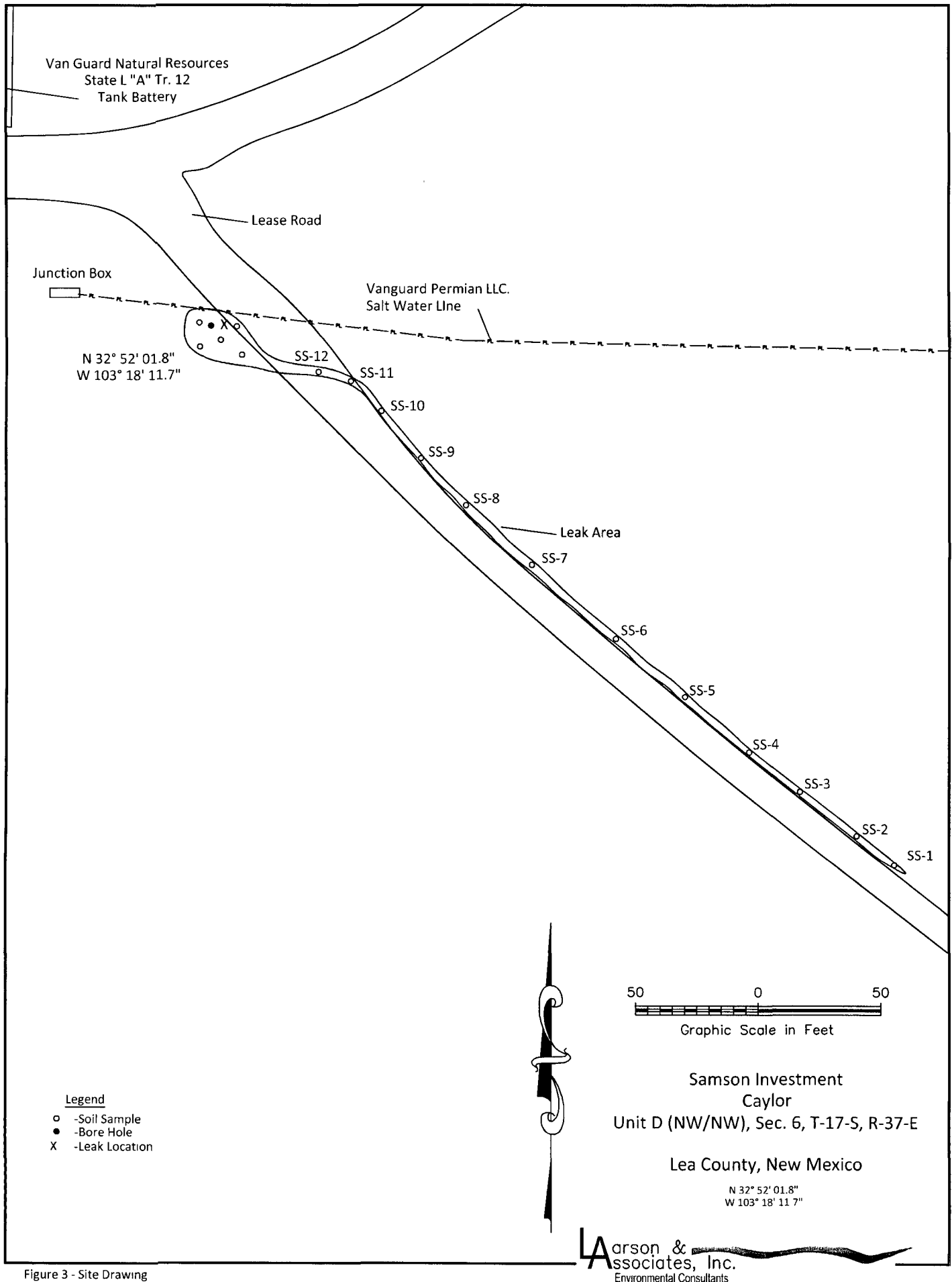


Figure 3 - Site Drawing

Analytical Report 377138

for

Larson & Associates

Project Manager: Michelle Green

Midland Odessa Standard List of prices

10-0112

16-JUN-10



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-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 (AAL11), 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: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295)

16-JUN-10

Project Manager: **Michelle Green****Larson & Associates**

P.O. Box 50685

Midland, TX 79710

Reference: XENCO Report No: **377138****Midland Odessa Standard List of prices**

Project Address:

Michelle Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 377138. 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. 377138 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Brent Barron, II**

Odessa Laboratory Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.**Certified and approved by numerous States and Agencies.**A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

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

Sample Cross Reference 377138**Larson & Associates, Midland, TX**

Midland Odessa Standard List of prices

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-1 (1')	S	Jun-14-10 13:00		377138-001
SS-2 (1')	S	Jun-14-10 13:20		377138-002
SS-3 (1')	S	Jun-14-10 13:30		377138-003
SS-4 (1')	S	Jun-14-10 13:55		377138-004
SS-5 (1')	S	Jun-14-10 14:10		377138-005
SS-6 (1')	S	Jun-14-10 14:35		377138-006
SS-7 (1')	S	Jun-14-10 14:50		377138-007
SS-8 (1')	S	Jun-14-10 15:00		377138-008
SS-9 (1')	S	Jun-14-10 15:25		377138-009
SS-10 (1')	S	Jun-14-10 15:43		377138-010
SS-11 (1')	S	Jun-14-10 16:05		377138-011



CASE NARRATIVE

Client Name: Larson & Associates

Project Name: Midland Odessa Standard List of prices



Project ID: 10-0112

Work Order Number: 377138

Report Date: 16-JUN-10

Date Received: 06/15/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-810798 Percent Moisture

None

Batch: LBA-810903 Inorganic Anions by EPA 300

None

Certificate of Analysis Summary 377138

Larson & Associates, Midland, TX

Project Name: Midland Odessa Standard List of prices



Project Id: 10-0112

Contact: Michelle Green

Date Received in Lab: Tue Jun-15-10 08:40 am

Report Date: 16-JUN-10

Project Location:

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	377138-001	377138-002	377138-003	377138-004	377138-005	377138-006
	<i>Field Id:</i>	SS-1 (1')	SS-2 (1')	SS-3 (1')	SS-4 (1')	SS-5 (1')	SS-6 (1')
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-14-10 13 00	Jun-14-10 13 20	Jun-14-10 13 30	Jun-14-10 13 55	Jun-14-10 14 10	Jun-14-10 14 35
Anions by E300	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-16-10 08 46	Jun-16-10 08 46	Jun-16-10 08 46	Jun-16-10 08 46	Jun-16-10 08 46	Jun-16-10 08 46
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		897 17 8	1830 46 1	2210 45 5	1920 47 9	2020 47 6	2220 47 5
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-15-10 14 30	Jun-15-10 14 30	Jun-15-10 14 30	Jun-15-10 14 30	Jun-15-10 14 30	Jun-15-10 14 30
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		5 46 1 00	8 98 1 00	7 60 1 00	12 4 1 00	11 8 1 00	11 5 1 00

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

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

 Brent Barron, II
 Odessa Laboratory Manager

Certificate of Analysis Summary 377138

Larson & Associates, Midland, TX

Project Name: Midland Odessa Standard List of prices



Project Id: 10-0112

Contact: Michelle Green

Date Received in Lab: Tue Jun-15-10 08:40 am

Report Date: 16-JUN-10

Project Location:

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	377138-007	377138-008	377138-009	377138-010	377138-011	
	<i>Field Id:</i>	SS-7 (1')	SS-8 (1')	SS-9 (1')	SS-10 (1')	SS-11 (1')	
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Jun-14-10 14 50	Jun-14-10 15 00	Jun-14-10 15 25	Jun-14-10 15 43	Jun-14-10 16 05	
Anions by E300	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-16-10 08 46	Jun-16-10 08 46	Jun-16-10 08 46	Jun-16-10 08 46	Jun-16-10 08 46	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		11600 183	2160 45 9	2680 47 0	2110 47 1	1460 23 1	
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-15-10 14 30	Jun-15-10 14 30	Jun-15-10 14 30	Jun-15-10 14 30	Jun-15-10 14 30	
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	
Percent Moisture		8 23 1 00	8 47 1 00	10 6 1 00	10 8 1 00	9 28 1 00	

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

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


 Brent Barron, II
 Odessa Laboratory Manager

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

Project Name: Midland Odessa Standard List of prices

Work Order #: 377138

Analyst: LATCOR

Date Prepared: 06/16/2010

Project ID: 10-0112

Date Analyzed: 06/16/2010

Lab Batch ID: 810903

Sample: 810903-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	ND	10.0	10.2	102	10	10.1	101	1	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



Form 3 - MS Recoveries

Project Name: Midland Odessa Standard List of prices



Work Order #: 377138

Lab Batch #: 810903

Date Analyzed: 06/16/2010

Date Prepared: 06/16/2010

Project ID: 10-0112

Analyst: LATCOR

QC- Sample ID: 376805-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	229	236	508	118	75-125	

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

BRL - Below Reporting Limit



Sample Duplicate Recovery



Project Name: Midland Odessa Standard List of prices

Work Order #: 377138

Lab Batch #: 810903

Date Analyzed: 06/16/2010

QC- Sample ID: 376805-001 D

Reporting Units: mg/kg

Date Prepared: 06/16/2010

Batch #: 1

Project ID: 10-0112

Analyst: LATCOR

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	229	200	14	20	

Lab Batch #: 810798

Date Analyzed: 06/15/2010

QC- Sample ID: 377062-001 D

Reporting Units: %

Date Prepared: 06/15/2010

Batch #: 1

Analyst: JLG

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1 31	1 19	10	20	

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

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

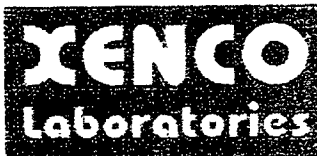
BRL - Below Reporting Limit



№ 43611
CHAIN-OF-CUSTODY

DATE: 6-14-2010 PAGE 1 OF 1
PO #: _____ DHL WORK ORDER #: _____
PROJECT LOCATION OR NAME: _____
CLIENT PROJECT #: 10-0112 COLLECTOR: Don McAninch

[illegible]

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

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

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson's Associates
Date/Time: 06-15-10 @ 0840
Lab ID #: 377138
Initials: JME

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	<u>N/A</u>	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	<u>No</u>	N/A	
17. VOC sample have zero head space?	Yes	No	<u>N/A</u>	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 3.6 °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 377208

for

Larson & Associates

Project Manager: Mark Larson

Samson - Caylor

10-0112

16-JUN-10



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-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 (AAL11), 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: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295)



16-JUN-10

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

Reference: XENCO Report No: **377208**
Samson - Caylor
Project Address: Lea Co., MN

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 377208. 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. 377208 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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Sample Cross Reference 377208



Larson & Associates, Midland, TX

Samson - Caylor

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Backfill	S	Jun-15-10 10:20		377208-001



CASE NARRATIVE

Client Name: Larson & Associates

Project Name: Samson - Caylor



Project ID: 10-0112

Work Order Number: 377208

Report Date: 16-JUN-10

Date Received: 06/15/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-810806 Percent Moisture

None

Batch: LBA-810903 Inorganic Anions by EPA 300

None



Certificate of Analysis Summary 377208

Larson & Associates, Midland, TX

Project Name: Samson - Caylor



Project Id: 10-0112

Contact: Mark Larson

Project Location: Lea Co., MN

Date Received in Lab: Tue Jun-15-10 03:15 pm

Report Date: 16-JUN-10

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	377208-001					
	<i>Field Id:</i>	Backfill					
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL					
	<i>Sampled:</i>	Jun-15-10 10 20					
Anions by E300	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-16-10 08 46					
	<i>Units/RL:</i>	mg/kg RL					
Chloride		122 4 37					
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-16-10 08 19					
	<i>Units/RL:</i>	% RL					
Percent Moisture		3 82 1 00					

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

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


Brent Barron, II
Odessa Laboratory Manager

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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
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- * Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
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12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



BS / BSD Recoveries



Project Name: Samson - Caylor

Work Order #: 377208

Analyst: LATCOR

Date Prepared: 06/16/2010

Project ID: 10-0112

Date Analyzed: 06/16/2010

Lab Batch ID: 810903

Sample: 810903-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	ND	10.0	10.2	102	10	10.1	101	1	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



Form 3 - MS Recoveries



Project Name: Samson - Caylor

Work Order #: 377208

Lab Batch #: 810903

Date Analyzed: 06/16/2010

Date Prepared: 06/16/2010

Project ID: 10-0112

Analyst: LATCOR

QC- Sample ID: 376805-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	229	236	508	118	75-125	

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

BRL - Below Reporting Limit

Project Name: Samson - Caylor

Work Order #: 377208

Lab Batch #: 810903

Project ID: 10-0112

Date Analyzed: 06/16/2010

Date Prepared: 06/16/2010

Analyst: LATCOR

QC- Sample ID: 376805-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	229	200	14	20	

Lab Batch #: 810806

Date Analyzed: 06/16/2010

Date Prepared: 06/16/2010

Analyst: JLG

QC- Sample ID: 377167-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	3.58	3.48	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

The Environmental Lab of Texas

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

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

Project Manager:

Mark Larson

Project Name:

Sambon-Caylor

Company Name

Larson & Associates, Inc

Project #:

10-0112

Company Address:

507 N. Marianfeld St, Ste Zoo

Project Loc:

Lea Co., NM

City/State/Zip:

Midland, TX 79701

PO #:

Telephone No:

(432) 687-0901

Fax No:

(432) 687-0456

Report Format:

☒ Standard

☐ TRRP

NPDES

Sampler Signature:

e-mail:

marko@environmental.com

LAB # (lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers										Matrix		TCLP TOTAL										RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	
LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Ice	HNO ₃	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	None	Other (Specify)	DW=Drinking Water SL=Sediment GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418 1 8015M 8015E	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO ₄ , Alkalinity)	SAR / ESP / CEC	Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride	Standard TAT				
01	Backfill	-	-	6/15/10	10:20	12										S																	
Special Instructions:										Laboratory Comments:										Sample Contaminated? VOCs Free of Headspace? Labels on container(s)? Custody seals on container(s)? Sample Hand Delivered by Sampler/Client Rep.? by Courier? UPS DHL FedEx Lone Star 90291955 Temperature Upon Receipt: 11.0 °C													
Relinquished by:	Date	Time	Received by:	Date	Time																												
Relinquished by:	Date	Time	Received by:	Date	Time																												
Relinquished by:	Date	Time	Received by ELOT:	Date	Time																												

**XENCO Laboratories**

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist

Document No.: SYS-SRC

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

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

Prelogin / Nonconformance Report - Sample Log-InClient: Larson & Assoc.Date/Time: 6.15.10 15:15Lab ID #: 377208Initials: AL**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 11.6°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 377224

for

Larson & Associates

Project Manager: Michelle Green

Midland Odessa Standard List of prices

10-0112

16-JUN-10



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-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 (AAL11), 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: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295)



16-JUN-10

Project Manager: **Michelle Green**

Larson & Associates

P.O. Box 50685

Midland, TX 79710

Reference: XENCO Report No: **377224**

Midland Odessa Standard List of prices

Project Address:

Michelle Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 377224. 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. 377224 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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Sample Cross Reference 377224



Larson & Associates, Midland, TX
Midland Odessa Standard List of prices

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-12 (1')	S	Jun-15-10 08:50		377224-001
SS-13 (1')	S	Jun-15-10 11:10		377224-002



CASE NARRATIVE

Client Name: Larson & Associates

Project Name: Midland Odessa Standard List of prices



Project ID: 10-0112

Work Order Number: 377224

Report Date: 16-JUN-10

Date Received: 06/15/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-810866 Percent Moisture

None

Batch: LBA-810903 Inorganic Anions by EPA 300

None



Certificate of Analysis Summary 377224

Larson & Associates, Midland, TX

Project Name: Midland Odessa Standard List of prices



Project Id: 10-0112

Contact: Michelle Green

Date Received in Lab: Tue Jun-15-10 04:50 pm

Report Date: 16-JUN-10

Project Location:

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	377224-001	377224-002				
	<i>Field Id:</i>	SS-12 (1')	SS-13 (1')				
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL				
	<i>Sampled:</i>	Jun-15-10 08 50	Jun-15-10 11 10				
Anions by E300	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-16-10 08 46	Jun-16-10 08 46				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Chloride		2220 46 4	3090 46 8				
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-16-10 12 22	Jun-16-10 12 22				
	<i>Units/RL:</i>	% RL	% RL				
Percent Moisture		9 53 1 00	10 3 1 00				

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

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Brent Barron, II
Odessa Laboratory Manager

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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.

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

Project Name: Midland Odessa Standard List of prices

Work Order #: 377224

Analyst: LATCOR

Date Prepared: 06/16/2010

Project ID: 10-0112

Date Analyzed: 06/16/2010

Lab Batch ID: 810903

Sample: 810903-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	ND	10.0	10.2	102	10	10.1	101	1	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



Form 3 - MS Recoveries



Project Name: Midland Odessa Standard List of prices

Work Order #: 377224

Lab Batch #: 810903

Date Analyzed: 06/16/2010

Date Prepared: 06/16/2010

Project ID: 10-0112

Analyst: LATCOR

QC- Sample ID: 376805-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	229	236	508	118	75-125	

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

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

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Sample Duplicate Recovery



Project Name: Midland Odessa Standard List of prices

Work Order #: 377224

Lab Batch #: 810903
Date Analyzed: 06/16/2010
QC- Sample ID: 376805-001 D
Reporting Units: mg/kg

Date Prepared: 06/16/2010
Batch #: 1

Project ID: 10-0112
Analyst: LATCOR
Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	229	200	14	20	

Lab Batch #: 810866
Date Analyzed: 06/16/2010
QC- Sample ID: 377317-001 D
Reporting Units: %

Date Prepared: 06/16/2010
Batch #: 1

Analyst: JLG
Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	7.23	6.68	8	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

[illegible]



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

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson's Associates
Date/Time: 06-15-10 @ 1650
Lab ID #: 377224
Initials: JMC

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	<u>N/A</u>	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	<u>No</u>	N/A	
17. VOC sample have zero head space?	Yes	No	<u>N/A</u>	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs 2.6 °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 377603

for

Larson & Associates

Project Manager: Michelle Green

Midland Odessa Standard List of prices

10-0112

21-JUN-10



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-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 (AAL11), 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: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)



21-JUN-10

Project Manager: **Michelle Green**

Larson & Associates

P.O. Box 50685

Midland, TX 79710

Reference: XENCO Report No: **377603**

Midland Odessa Standard List of prices

Project Address:

Michelle Green:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 377603. 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. 377603 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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Sample Cross Reference 377603



Larson & Associates, Midland, TX

Midland Odessa Standard List of prices

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-13 (5')	S	Jun-16-10 12:30		377603-001



CASE NARRATIVE

Client Name: Larson & Associates

Project Name: Midland Odessa Standard List of prices



Project ID: 10-0112

Work Order Number: 377603

Report Date: 21-JUN-10

Date Received: 06/17/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-811074 Percent Moisture

None

Batch: LBA-811425 Inorganic Anions by EPA 300

None



Certificate of Analysis Summary 377603

Larson & Associates, Midland, TX

Project Name: Midland Odessa Standard List of prices



Project Id: 10-0112

Contact: Michelle Green

Date Received in Lab: Thu Jun-17-10 10:55 am

Report Date: 21-JUN-10

Project Location:

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	377603-001					
	<i>Field Id:</i>	SS-13 (5')					
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL					
	<i>Sampled:</i>	Jun-16-10 12 30					
Anions by E300	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-18-10 10 48					
	<i>Units/RL:</i>	mg/kg RL					
Chloride		413 9 52					
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Jun-17-10 15 05					
	<i>Units/RL:</i>	% RL					
Percent Moisture		11 8 1 00					

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

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Brent Barron, II
Odessa Laboratory Manager

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



BS / BSD Recoveries



Project Name: Midland Odessa Standard List of prices

Work Order #: 377603

Analyst: LATCOR

Date Prepared: 06/18/2010

Project ID: 10-0112

Date Analyzed: 06/18/2010

Lab Batch ID: 811425

Sample: 811425-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	ND	10.0	9.96	100	10	9.96	100	0	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



Form 3 - MS Recoveries



Project Name: Midland Odessa Standard List of prices

Work Order #: 377603

Lab Batch #: 811425

Date Analyzed: 06/18/2010

Date Prepared: 06/18/2010

Project ID: 10-0112

Analyst: LATCOR

QC- Sample ID: 377603-001 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	413	227	648	104	75-125	

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

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

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Sample Duplicate Recovery



Project Name: Midland Odessa Standard List of prices

Work Order #: 377603

Lab Batch #: 811425

Project ID: 10-0112

Date Analyzed: 06/18/2010

Date Prepared: 06/18/2010

Analyst: LATCOR

QC- Sample ID: 377603-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	413	439	6	20	

Lab Batch #: 811074

Date Analyzed: 06/17/2010

Date Prepared: 06/17/2010

Analyst: JLG

QC- Sample ID: 377573-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	19.0	19.0	0	20	

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

All Results are based on MDL and validated for QC purposes

BRL - Below Reporting Limit

Larson & Associates, Inc.
Environmental Consultants

DATE: 6-16-2010 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER #: _____
PROJECT LOCATION OR NAME: _____
LAI PROJECT #: 10-0112 COLLECTOR: D. McBratney

Data Reported to: M. Green

[illegible]



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

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.
Date/Time: 6-17-10 10:55
Lab ID #: 377603
Initials: AL

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	<u>No</u>	
2. Shipping container in good condition?	Yes	No	<u>None</u>	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	<u>N/A</u>	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	Yes	No	<u>N/A</u>	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>18.1</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

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



CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

June 21, 2010

Michelle Green
Larson & Associates, Inc.
507 North Marienfeld, Suite 202
Midland, TX 79701

Re: 10-0112

Enclosed are the results of analyses for sample number H20165, received by the laboratory on 06/18/10 at 3:25 pm.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

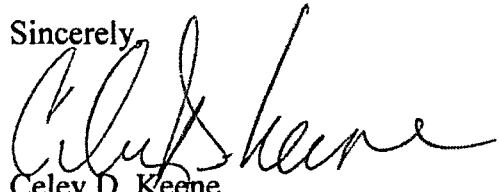
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,



Celey D. Keene
Laboratory Director

This report conforms with NELAP requirements.



ANALYTICAL RESULTS FOR
LARSON & ASSOCIATES, INC.
ATTN: MICHELLE GREEN
507 N. MARIENFELD, STE. 200
MIDLAND, TX 79701

Receiving Date: 06/18/10
Reporting Date: 06/18/10
Project Owner: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Analysis Date: 06/18/10
Sampling Date: 06/18/10
Sample Type: SOIL
Sample Condition: INTACT @ 16°C
Sample Received By: JH
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/kg)
H20165-1	SS-11 (5')	16
H20165-2	SS-10 (5')	176
H20165-3	SS-9 (3')	400
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		< 0.1

METHOD: Standard Methods

4500-CIB

Note: Analyses performed on 1:4 w:v aqueous extracts.


Chemist

06/21/10
Date

H20165 Larson & Associates, Inc.

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

DATE: 6-18-2010 PAGE 1 OF 1

PO #: _____ LAB WORK ORDER #: _____

PROJECT LOCATION OR NAME: _____

LAI PROJECT #: 10-0112 COLLECTOR: D. McInnis

Data Reported to: M. Green / John 432-557-9703 verbal

TRRP report?

☐ Yes ☐ No

S=SOIL
W=WATER
A=AIR

P=PAINT
SL=SLUDGE
OT=OTHER

PRESERVATION

of Containers

HCl

HNO₃

H₂SO₄ ☐ NaOH ☐

ICE

UNPRESERVED

ANALYSES

BTX ☐ MTBE ☐
TPH 418 ☐ 1 ☐ TPH 1005 ☐ TPH 1006 ☐
GASOLINE MOD 8015 ☐
DIESEL - MOD 8015 ☐
VOC 8280 ☐
SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐
8082 PESTICIDES ☐ 8151 HERBICIDES ☐
TCIP - METALS (RCRA) ☐ TCIP VOC ☐
TOTAL METALS (RCRA) ☐ HERB ☐ Semi-VOC ☐
LEAD - TOTAL ☐ D.W. 200.8 ☐ OTHER LIST ☐
TDS ☐ TOX ☐ FLASHPOINT ☐
PH ☐ TSS ☐ % MOISTURE ☐ TCIP ☐
EXPLOSIVES ☐ CHROMIUM ☐
CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐

FIELD NOTES

Field Sample ID	Lab #	Date	Time	Matrix
1 55-11 (5')		6-18	1150	S
2 55-10 (5')		1	1252	1
3 55-9 (3')		1	1335	1

TOTAL

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

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: 116°C THERM #: 26

CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED

☐ CARRIER BILL # _____

☒ HAND DELIVERED



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**ANALYTICAL RESULTS FOR
LARSON & ASSOCIATES, INC.
ATTN: MICHELLE GREEN
507 N. MARIENFELD, STE. 200
MIDLAND, TX 79701**

Receiving Date: 06/21/10
Reporting Date: 06/22/10
Project Number: 10-0112
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Analysis Date: 06/22/10
Sampling Date: 06/21/10
Sample Type: SOIL
Sample Condition: COOL & INTACT @ 5.5°C
Sample Received By: JH
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/kg)
H20174-1	SS-12 (5')	256
H20174-2	SS-9 (5')	80
H20174-3	SS-8 (5')	160
Quality Control		490
True Value QC		500
% Recovery		98.0
Relative Percent Difference		3.8

METHOD: Standard Methods	4500-ClB
--------------------------	----------

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chad Boone
Chemist

06/22/10

Date

H20174 Larson & Associates, Inc.

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Larson &
Associates, Inc.
Environmental Consultants

DATE: 6/21/2010 PAGE 1 OF 1

PO #: _____ LAB WORK ORDER #: _____

PROJECT LOCATION OR NAME: _____

LAI PROJECT #: 10-0112 COLLECTOR: J. Fergerson

Data Reported to: Michelle Green

[illegible]



CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

June 24, 2010

Michelle Green
Larson & Associates, Inc.
507 North Marienfeld, Suite 202
Midland, TX 79701

Re: 10-0112

Enclosed are the results of analyses for sample number H20192, received by the laboratory on 06/23/10 at 3:40 pm.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely,



Celey D. Keene
Laboratory Director



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
LARSON & ASSOCIATES, INC.
ATTN: MICHELLE GREEN
507 N. MARIENFELD, STE. 200
MIDLAND, TX 79701

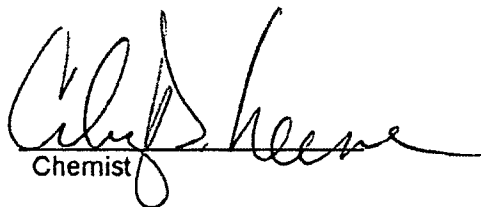
Receiving Date: 06/23/10
Reporting Date: 06/24/10
Project Number: 10-0112
Project Name: SAMSON
Project Location: SAMSON

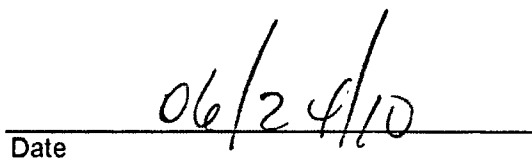
Analysis Date: 06/24/10
Sampling Date: 06/23/10
Sample Type: SOIL
Sample Condition: INTACT @ 38°C
Sample Received By: JH
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/kg)
H20192-1	SS-4 (5')	80
H20192-2	SS-3 (5')	48
H20192-3	SS-7 (5')	32
H20192-4	SS-5 (5')	448
H20192-5	SS-1 (5')	32
H20192-6	SS-2 (5')	64
H20192-7	SS-6 (8')	64
H20192-8	SW-1 E	32
H20192-9	SW-1 W	80
H20192-10	SW-6 E	48
H20192-11	SW-6 W	32
H20192-12	SW-9 E	80
H20192-13	SW-9 W	48
H20192-14	SS-12 (6')	112
H20192-15	SS-13 (6')	352
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		6.5

METHOD: Standard Methods 4500-Cl⁻B

Note: Analyses performed on 1:4 w:v aqueous extracts.


Chemist


Date

H20192 Larson & Associates, Inc.

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

DATE: 6-23-2010 PAGE 1 OF 1

PO #: _____ LAB WORK ORDER #: _____

PROJECT LOCATION OR NAME: Samson

LAI PROJECT #: 10-0112 COLLECTOR: Don McInnis

Data Reported to: M. Green

TRRP report? ☐ Yes ☒ No		S=SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER		PRESERVATION					ANALYSES															FIELD NOTES							
TIME ZONE: Time zone/State: <u>MST/N.M.</u>		Lab #	Date	Time	Matrix	# of Containers	HCl	HNO ₃	H ₂ SO ₄ ☐ NaOH ☐	ICE	UNPRESERVED	BTX ☐ MTBE ☐	TPH 418.1 ☐ TPH 1006 ☐ TPH 1008 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐	8081 PESTICIDES ☐ PAH 8270 ☐	8082 PESTICIDES ☐ 8151 HERBICIDES ☐	TCLP - METALS (RCRA) ☐ HOLDPAH ☐	TCLP - PEST ☐ HERB ☐	TOTAL METALS (RCRA) ☐ TCLP VOC ☐	LEAD - TOTAL ☐ D.W. 200 B ☐ OTHER LIST ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐		EXPLOSIVES ☐ CHROMIUM ☐	PH ☐ HEXAVALENT CHROMIUM ☐	CHLORIDE ☐ ANIONS ☐	ALKALINITY ☐			
1	SS-4 (5')							6-23	1105	S	1																						
2	SS-3 (5')			1107		1																											
3	SS-7 (5')			1110		1																											
4	SS-5 (5')			1115		1																											
5	SS-1 (5')			1220		1																											
6	SS-2 (5')			1223		1																											
7	SS-6 (8')			1230		1																											
8	SW-1 E			1235		1																											
9	SW-1 W			1237		1																											
10	SW-6 E			1245		1																											
11	SW-6 W			1247		1																											
12	SW-9 E			1305		1																											
13	SW-9 W			1310		1																											
14	SS-12 (6')			1400		1																											
15	SS-13 (6')			1405		1																											
TOTAL						15																											

RELINQUISHED BY: (Signature) <u>Don McInnis</u>	DATE/TIME <u>6/23/10 3:40</u>	RECEIVED BY: (Signature) <u>Don McInnis</u>	TURN AROUND TIME NORMAL ☐ 1 DAY ☒ 2 DAY ☐ OTHER ☐	LABORATORY USE ONLY: RECEIVING TEMP: <u>38°C</u> THERM #: <u>26</u> CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED ☐ CARRIER BILL # _____ ☒ HAND DELIVERED
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)		
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)		

Photo Documentation

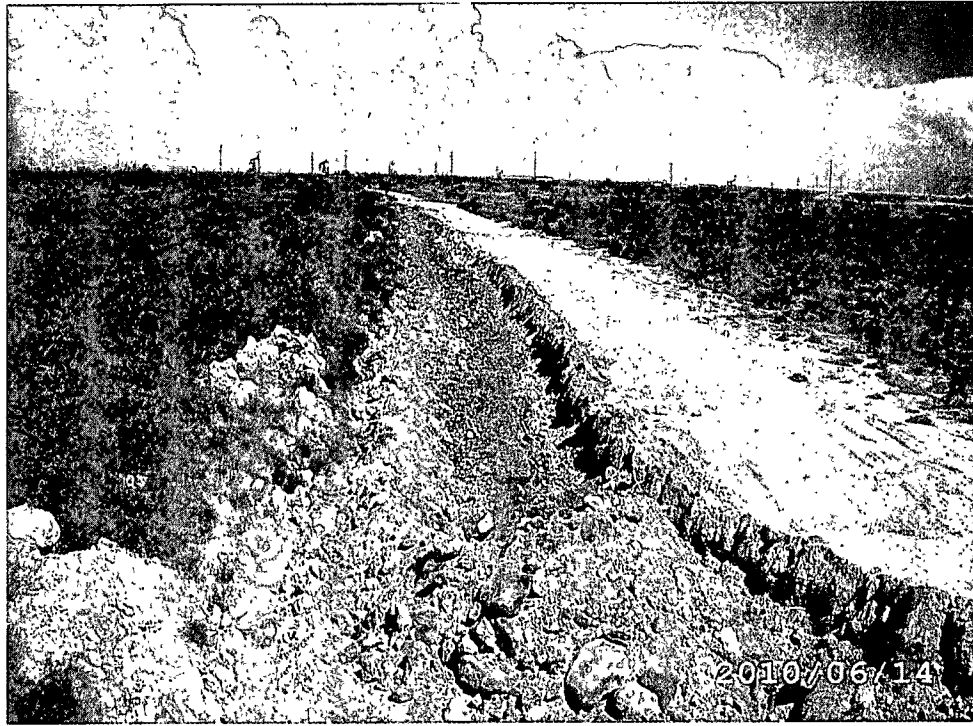


May 22, 2010 - Leak area viewing south.



June 3, 2010 - Leak area viewing north.

Photo Documentation



June 14, 2010 - excavation viewing south.



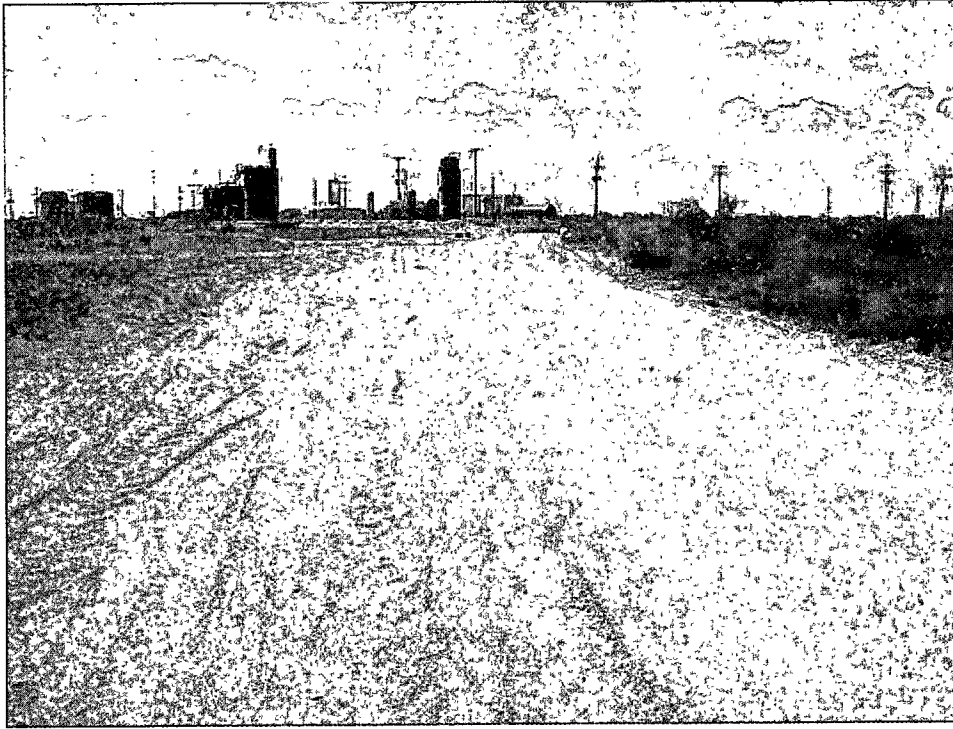
June 15, 2010 - Excavated leak location viewing south.

Photo Documentation



June 18, 2010 - Excavated leak area (approximately 5 to 8 feet) viewing south.

Photo Documentation



June 28, 2010 – View of backfilled excavation.