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

HOBBSOCD

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

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

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County:
D	6	17S	37E	660	FNL	665	FWL	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: ENVIRONMENTAL ENGINEER	
Title: Sr. Project Manager, Larson & Associates, Inc. (Consultant)	Approval Date: 7.22.10	Expiration Date: —
E-mail Address: mark@laenvironmental.com	Conditions of Approval:	Attached ☐ IRP # 2553
Date: 06/28//2010 Phone: (432) 687-0901 (Office) (432) 556-8656 (Cell)		

* Attach Additional Sheets If Necessary

10.6
(INITIAL LEAK)

District I
1625 N. French Dr., Hobbs, NM 88240
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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
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Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

[X] 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 #30-02505430

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	6	17S	37E	660	FNL	665	FWL	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? X Yes ☐ No ☐ Not Required	If YES, To Whom? Geoff Leking	
By Whom? Floyd Steed – 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 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: Autumn M. Long	OIL CONSERVATION DIVISION
Printed Name: Autumn Long	Approved by District Supervisor: ENVIRONMENTAL ENGINEER
Title: Environmental Specialist	Approval Date: 6.8.10 Expiration Date: 8.9.10
E-mail Address: autumnl@samson.com	Conditions of Approval: SUBMIT FINAL C-141 w/ DOCS BY ~~Attached~~ ☐ IRP# 10.6.2553
Date: May 24, 2010 Phone: (918) 591-1364	

Attach Additional Sheets If Necessary

INCI - WOI 6699
Apps pWOI 7270

LARSON & 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

Table of Content

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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.

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.

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

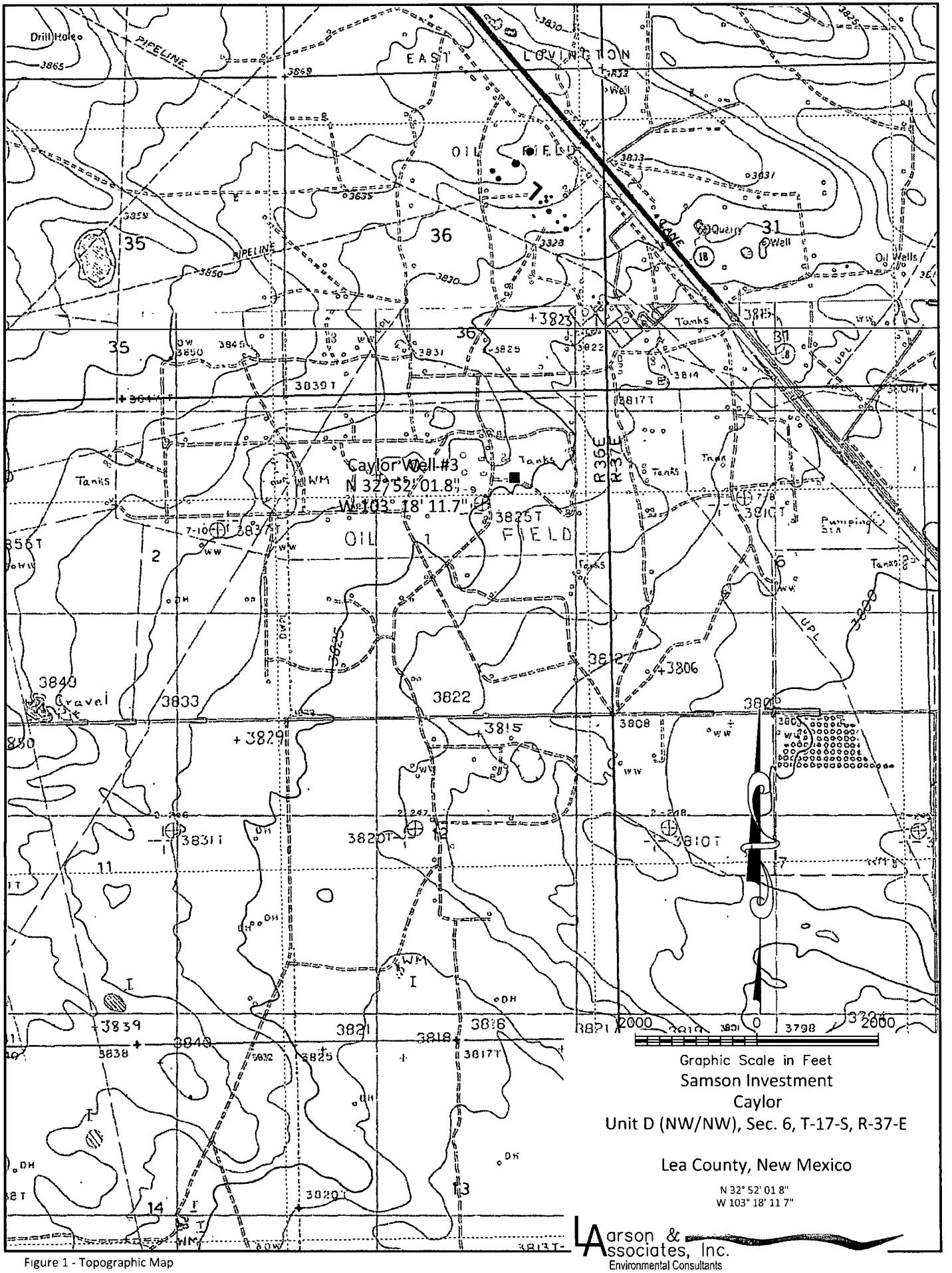
Notes

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



Samson Investment
Caylor
Unit D (NW/NW), Sec. 6, T-17-S, R-37-E

Lea County, New Mexico

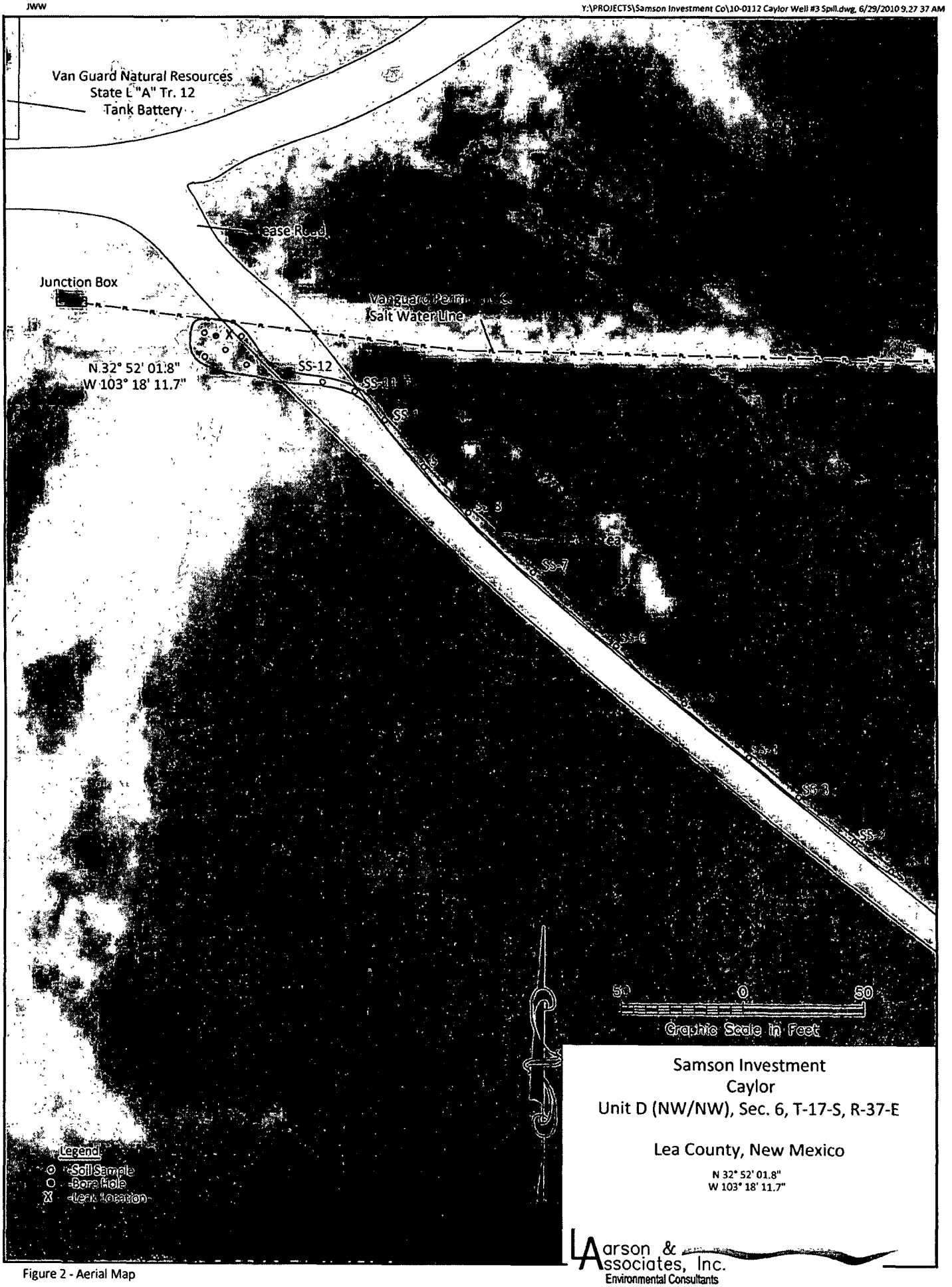
N 32° 52' 01 8"
W 103° 18' 11 7"

Larson & Associates, Inc.
Environmental Consultants

Figure 1 - Topographic Map

JWW

Y:\PROJECTS\Samson Investment Co\10-0112 Caylor Well #3 Spill.dwg, 6/29/2010 9:27:37 AM



Samson Investment
Caylor
Unit D (NW/NW), Sec. 6, T-17-S, R-37-E

Lea County, New Mexico

N 32° 52' 01.8"
W 103° 18' 11.7"

Larson & Associates, Inc.
Environmental Consultants

Figure 2 - Aerial Map

JWW

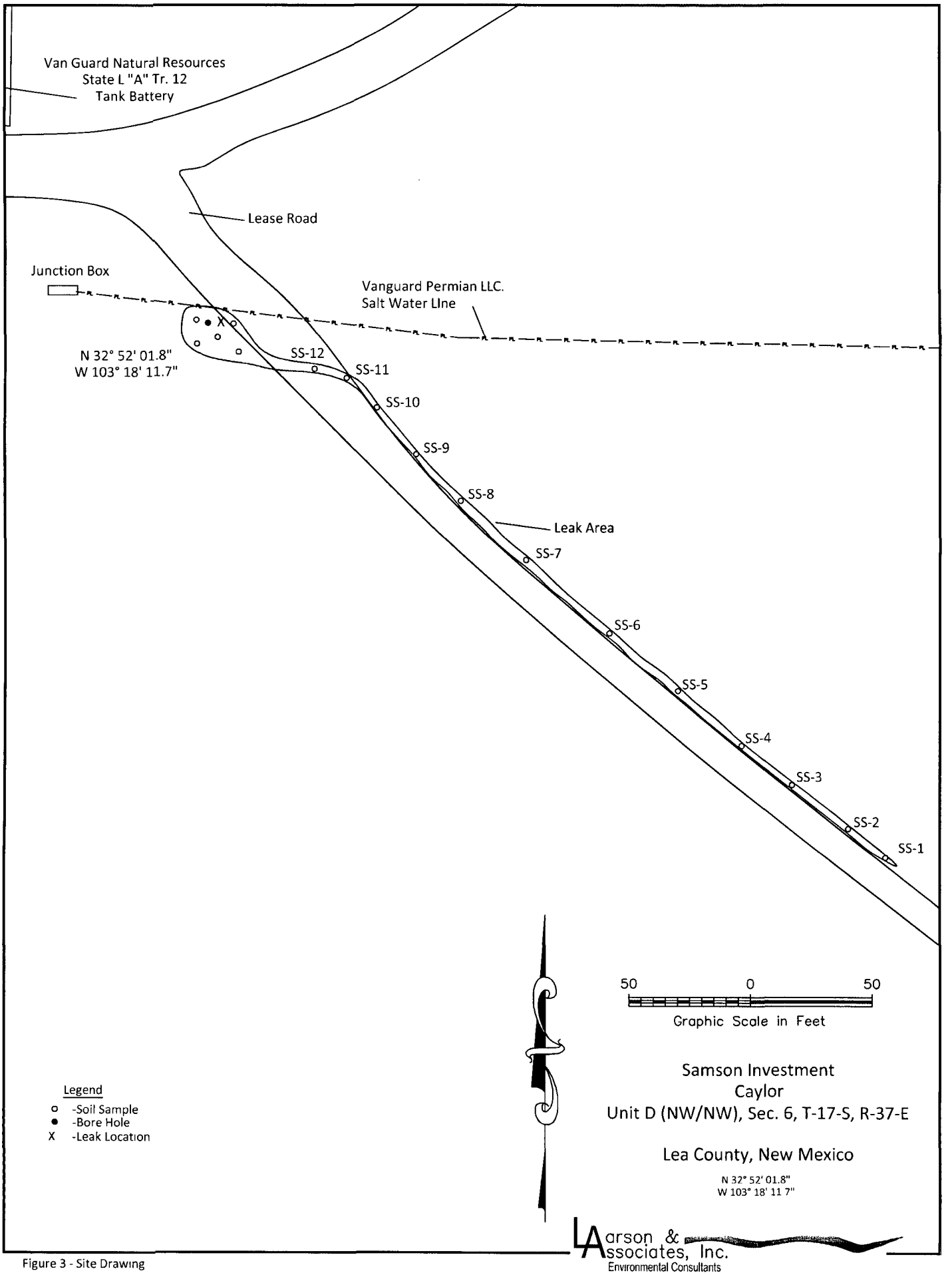


Figure 3 - Site Drawing

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 (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295)

XENCO Laboratories

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

XENCO Laboratories

Sample Cross Reference 377138

ACCREDITED IN ACCORDANCE WITH nelac

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*	*Report Date:*	*16-JUN-10*
Work Order Number:	*377138*	*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
Project Location:

Date Received in Lab: Tue Jun-15-10 08:40 am
Report Date: 16-JUN-10
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	377138-001		377138-002		377138-003		377138-004		377138-005		377138-006	
	Field Id:	SS-1 (1')		SS-2 (1')		SS-3 (1')		SS-4 (1')		SS-5 (1')		SS-6 (1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	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	*Extracted:*												
	Analyzed:	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	
	Units/RL:	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	*Extracted:*												
	Analyzed:	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	
	Units/RL:	%	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

Brent Barron, II
Odessa Laboratory Manager

Final Ver. 1 000

Certificate of Analysis Summary 377138

Larson & Associates, Midland, TX

Project Name: Midland Odessa Standard List of prices

Project Id: 10-0112
Contact: Michelle Green
Project Location:

Date Received in Lab: Tue Jun-15-10 08:40 am
Report Date: 16-JUN-10
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	377138-007		377138-008		377138-009		377138-010		377138-011	
	Field Id:	SS-7 (1')		SS-8 (1')		SS-9 (1')		SS-10 (1')		SS-11 (1')	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	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	*Extracted:*										
	Analyzed:	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	
	Units/RL:	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	*Extracted:*										
	Analyzed:	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	
	Units/RL:	%	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

Brent Barron, II
Odessa Laboratory Manager

XENCO Laboratories

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

BS / BSD Recoveries

Project Name: Midland Odessa Standard List of prices

Work Order #: 377138 **Project ID:** 10-0112

Analyst: LATCOR **Date Prepared:** 06/16/2010 **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 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	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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: Midland Odessa Standard List of prices

Work Order #: 377138
Lab Batch #: 810903
Project ID: 10-0112
Date Analyzed: 06/16/2010
Date Prepared: 06/16/2010
Analyst: LATCOR
QC- Sample ID: 376805-001 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	229	236	508	118	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

Sample Duplicate Recovery

Project Name: Midland Odessa Standard List of prices

Work Order #: 377138

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

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

Lab Batch #: 810798

Date Analyzed: 06/15/2010 **Date Prepared:** 06/15/2010 **Analyst:** JLG

QC- Sample ID: 377062-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

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

DHL ANALYTICAL

2300 Double Creek Drive • Round Rock, TX 78664
Phone (512) 388-8222 • FAX (512) 388-8229

№ 43611

CHAIN-OF-CUSTODY

CLIENT: Larson Associates Inc
ADDRESS:
PHONE: 432 687 0901 FAX
DATA REPORTED TO:
ADDITIONAL REPORT COPIES TO: M Green

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

Authorize 5% surcharge for TRRP report? ☐ Yes ☐ No

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

377138

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO3	H2SO4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX ☐ MTBE ☐ TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐ GASOLINE - MOD 8015 ☐ DIESEL - MOD 8015 ☐ VOC 8260 ☐ SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ 8082 PCBS ☐ TCLP - METALS (RCRA) ☐ TCLP VOC ☐ TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ TOTAL METALS (RCRA) ☐ OTHER LIST ☐ LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐ RCI ☐ TOX ☐ FLASHPOINT ☐ TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ pH ☐ HEXAVALENT CHROMIUM ☐ EXPLOSIVES ☐ PECHLORATE ☐ CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐	FIELD NOTES
SS-1 (1')	01	6-14	1300	S	402	1				✓		BTEX, TRPH	
SS-2 (1')	02		1320										
SS-3 (1')	03		1330										
SS-4 (1')	04		1355										
SS-5 (1')	05		1410										
SS-6 (1')	06		1435										
SS-7 (1')	07		1450										
SS-8 (1')	08		1500										
SS-9 (1')	09		1525										
SS-10 (1')	10		1543										
SS-11 (1')	11		1605										

TOTAL

RELINQUISHED BY: (Signature) DATE/TIME 6/15/10 0700 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME 6/15/10 0840 RECEIVED BY: (Signature) Jeanne Fitch
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☑ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☐
OTHER ☐ ____

LABORATORY USE ONLY:
RECEIVING TEMP: 3.6°C THERM #: ____
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL #
☐ APC DELIVERY
☐ HAND DELIVERED

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Associates

Date/Time: 06-15-10 @ 0840

Lab ID #: 377138

Initials: JME

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	3.6 °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 (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295)

XENCO Laboratories

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

XENCO Laboratories

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*	*Report Date:*	*16-JUN-10*
Work Order Number:	*377208*	*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

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

Brent Barron, II
Odessa Laboratory Manager

Final Ver 1 000

XENCO Laboratories

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

BS / BSD Recoveries

Project Name: Samson - Caylor

Work Order #: 377208 **Project ID:** 10-0112

Analyst: LATCOR **Date Prepared:** 06/16/2010 **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 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	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

XENCO Laboratories

Form 3 - MS Recoveries

ACCREDITED IN ACCORDANCE WITH nelac

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 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	229	236	508	118	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

Sample Duplicate Recovery

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

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
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: %

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Mark Larson
Company Name: Larson & Associates, Inc.
Company Address: 507 N. Marienfeld St, Ste 200
City/State/Zip: Midland, TX 79701
Telephone No: (432) 687-0901 Fax No: (432) 687-0456
Sampler Signature:
e-mail: markl@laenvironmental.com

Project Name: Samson-Caylon
Project #: 10-0112
Project Loc: Lea Co., NM
PO #:
Report Format: ☑ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 377208

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	TOTAL: Metals As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	Backfill	-	-	6/15/10	10:20		1	X								S												X	X	

Special Instructions:

	Date	Time		Date	Time
Relinquished by:	6/15/10	15:15	Received by:		
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Lam	6-15-10	15:15

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?		
by Courier? UPS DHL FedEx Lone Star		
902 9155		
Temperature Upon Receipt: 11.6 °C		

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.

Date/Time: 6.15.10 15:15

Lab ID #: 377208

Initials: 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 (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295)

XENCO Laboratories

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

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*	*Report Date:*	*16-JUN-10*
Work Order Number:	*377224*	*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
Project Location:

Date Received in Lab: Tue Jun-15-10 04.50 pm
Report Date: 16-JUN-10
Project Manager: Brent Barron, II

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

Brent Barron, II
Odessa Laboratory Manager

XENCO Laboratories

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

BS / BSD Recoveries

Project Name: Midland Odessa Standard List of prices

Work Order #: 377224
Analyst: LATCOR
Lab Batch ID: 810903
Sample: 810903-1-BKS
Batch #: 1
Units: mg/kg

Date Prepared: 06/16/2010
Project ID: 10-0112
Date Analyzed: 06/16/2010
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: Midland Odessa Standard List of prices

Work Order #: 377224
Lab Batch #: 810903
Project ID: 10-0112
Date Analyzed: 06/16/2010
Date Prepared: 06/16/2010
Analyst: LATCOR
QC- Sample ID: 376805-001 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	229	236	508	118	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

Sample Duplicate Recovery

Project Name: Midland Odessa Standard List of prices

Work Order #: 377224

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

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

Lab Batch #: 810866

Date Analyzed: 06/16/2010 **Date Prepared:** 06/16/2010 **Analyst:** JLG

QC- Sample ID: 377317-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7 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

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

Data Reported to: M Green

DATE: 6-15-2010 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER #: _____
PROJECT LOCATION OR NAME: _____
LAI PROJECT #: 10-0112 COLLECTOR: D. McGinnis

TRRP report? ☐ Yes ☐ No

TIME ZONE: Time zone/State: MST

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

377224

Field Sample I.D.	Lab #	Date	Time (MST)	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
SS-12 (1')	01	6-15	0850	S	1				✓		✓	
SS-13 (1')	02	6-15	1110	S	1				✓		✓	5pt composite

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 ☐ 8082 PCBS ☐ 8151 HERBICIDES ☐ 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 ☐

TOTAL

RELINQUISHED BY:(Signature) — DATE/TIME: 6-15-10/1650 — RECEIVED BY: (Signature): Jeanne Fitch
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: 2-9oz glass w/labels no seals
RECEIVING TEMP: 2.6°C THERM #: _____
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL # _____
☐ HAND DELIVERED

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson's Associates

Date/Time: 06-15-10 @ 1650

Lab ID #: 377224

Initials: JMC

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	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 (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

XENCO Laboratories

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

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*	*Report Date:*	*21-JUN-10*
Work Order Number:	*377603*	*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
Project Location:

Date Received in Lab: Thu Jun-17-10 10:55 am
Report Date: 21-JUN-10
Project Manager: Brent Barron, II

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

Brent Barron, II
Odessa Laboratory Manager

Final Ver 1.000

XENCO Laboratories

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

BS / BSD Recoveries

Project Name: Midland Odessa Standard List of prices

Work Order #: 377603
Analyst: LATCOR
Lab Batch ID: 811425
Sample: 811425-1-BKS
Batch #: 1
Units: mg/kg

Project ID: 10-0112
Date Prepared: 06/18/2010
Date Analyzed: 06/18/2010
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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

XENCO Laboratories

Form 3 - MS Recoveries

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 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	413	227	648	104	75-125	

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

BRL - Below Reporting Limit

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

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

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
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: %

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

CHAIN-OF-CUSTODY

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

Data Reported to: M. Green

DATE: 6-16-2010 PAGE 1 OF 1

PO #: _____ LAB WORK ORDER #: _____

PROJECT LOCATION OR NAME: _____

LAI PROJECT #: 10-0112 COLLECTOR: D McGinnis

TRRP report? ☐ Yes ☐ No

TIME ZONE: Time zone/State: MST

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

377603

Field Sample I.D.	Lab #	Date	Time (MST)	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
SS-13 (5')	01	6-16	1230	S	1				✓		Cl ✓	5pt composite

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 ☐

TOTAL

RELINQUISHED BY:(Signature) — DATE/TIME 6-17-10/1055 — RECEIVED BY: (Signature) Andrea Fern 6.17.10 10:55

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: 18.1 THERM #: _____
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL # _____
☒ HAND DELIVERED 902 glass

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Larson & Assoc.

Date/Time: 6.17.10 10:55

Lab ID #: 377603

Initials: 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	18.1 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

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

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 though 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.

CARDINAL LABORATORIES

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: 06/18/10
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-ClB

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

Chemist

06/21/10
Date

H20165 Larson & Associates, Inc.

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. McGinnis

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

TRRP report? ☐ Yes ☐ No

TIME ZONE: Time zone/State: MST

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

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

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

	Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	FIELD NOTES
	H20165 –											
1	SS-11 (5')		6-18	1150	S							Method 300
2	SS-10 (5')		"	1252	"							Method 300
3	SS-9 (3')		"	1335	"							Method 300

TOTAL

RELINQUISHED BY:(Signature) — DATE/TIME: 6-18-10/1525 — RECEIVED BY: (Signature): Eddie Stenson

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: 16°C THERM #: 26
CUSTODY SEALS - ☐ BROKEN ☑ INTACT ☐ NOT USED
☐ CARRIER BILL # _____
☑ HAND DELIVERED

CARDINAL LABORATORIES

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-ClˉB

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

Chemist

06/22/10
Date

H20174 Larson & Associates, Inc.

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

Data Reported to: Michelle Green

DATE: 6/21/2010 PAGE 1 OF 1
PO #: ________ LAB WORK ORDER #: ________
PROJECT LOCATION OR NAME: ________
LAI PROJECT #: 10-0112 COLLECTOR: J. Fergerson

TRRP report? ☐ Yes ☒ No

TIME ZONE:
Time zone/State:
MDT/NM

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

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

ANALYSES:
1. BTEX ☐ MTBE ☐
2. TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐
3. GASOLINE MOD 8015 ☐
4. DIESEL - MOD 8015 ☐
5. VOC 8260 ☐
6. SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐
7. 8081 PESTICIDES ☐ 8151 HERBICIDES ☐
8. 8082 PCBS ☐
9. TCLP - METALS (RCRA) ☐ TCLP VOC ☐
10. TCLP - PEST ☐ HERB ☐ Semi-VOC ☐
11. TOTAL METALS (RCRA) ☐ OTHER LIST ☐
12. LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐
13. RCI ☐ TOX ☐ FLASHPOINT ☐
14. TDS ☐ TSS ☐ % MOISTURE ☐
15. pH ☐ HEXAVALENT CHROMIUM ☐ CYANIDE ☐
16. EXPLOSIVES ☐ PECHLORATE ☐
17. CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐

	Field Sample I.D. (H20174-)	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 / NaOH	ICE	UNPRESERVED	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	FIELD NOTES
-1	SS-12 (5')		6/21/10	1015	S	1				✓																		✓				Method 300
2	SS-9 (5')		6/21/10	1125	S	1				✓																		✓				Method 300
3	SS-8 (5')		6/21/10	1600	S	1				✓																		✓				Method 300
	TOTAL					3																										

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	6/21/10 1820	Jodi Henson

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

LABORATORY USE ONLY:
RECEIVING TEMP: 5.5°C THERM #: 26
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL # ________
☒ HAND DELIVERED

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 though 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.

CARDINAL LABORATORIES

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 06/24/10

H20192 Larson & Associates, Inc.

CHAIN-OF-CUSTODY

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

Data Reported to: M. Green

DATE: 6-23-2010 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER #: _____
PROJECT LOCATION OR NAME: Samson
LAI PROJECT #: 10-0112 COLLECTOR: Dan McGinnis

TRRP report? ☐ Yes ☑ No
TIME ZONE: Time zone/State: M.S.T./N.M.
S=SOIL P=PAINT W=WATER SL=SLUDGE A=AIR 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 ☐	FIELD NOTES
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							

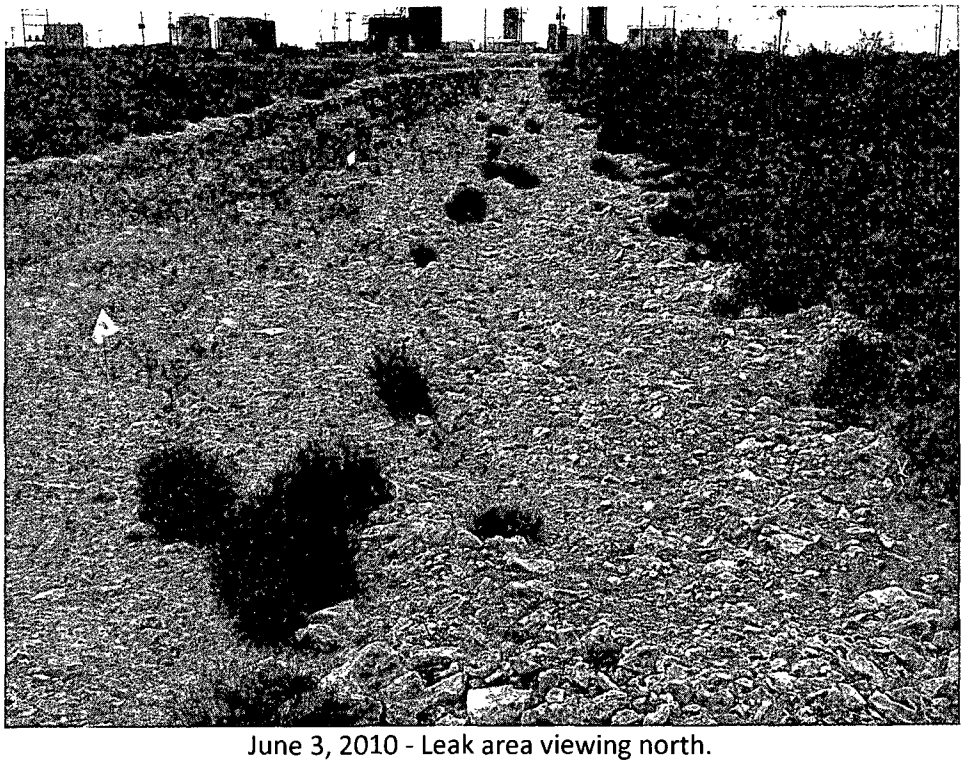
RELINQUISHED BY:(Signature) Dan McGinnis DATE/TIME 6/23/10 3:40 RECEIVED BY:(Signature) Jodi Henson
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)
RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

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

LABORATORY USE ONLY:
RECEIVING TEMP: 38°C THERM #: 26
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☑ NOT USED
☐ CARRIER BILL # _____
☑ HAND DELIVERED

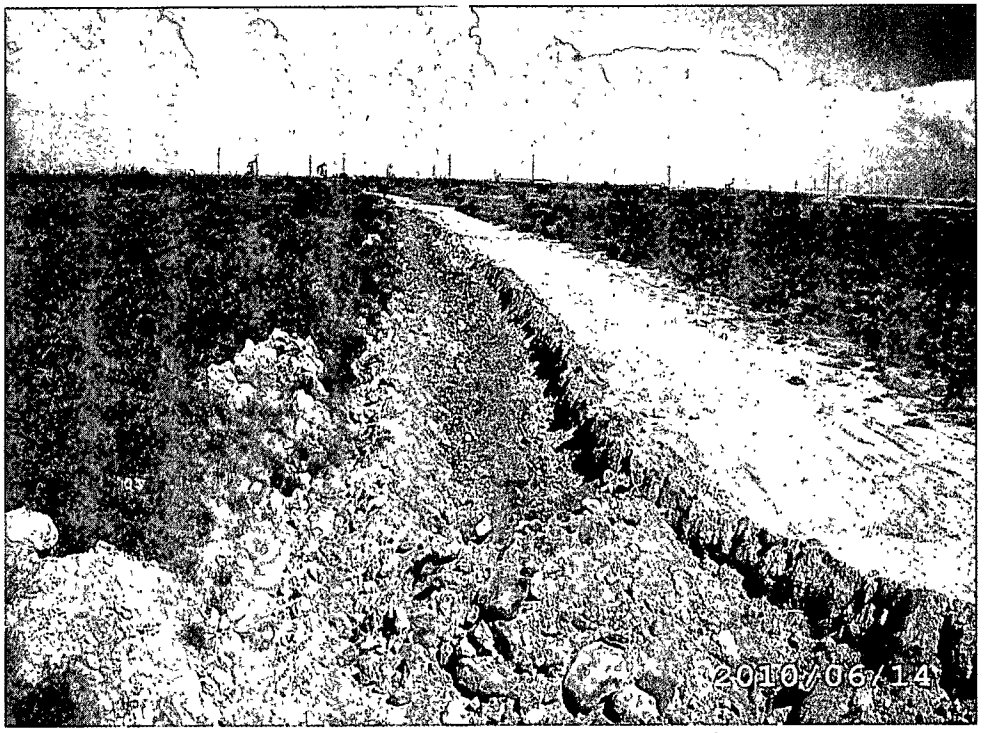
Photo Documentation

May 22, 2010 - Leak area viewing south.



June 3, 2010 - Leak area viewing north.

Photo Documentation



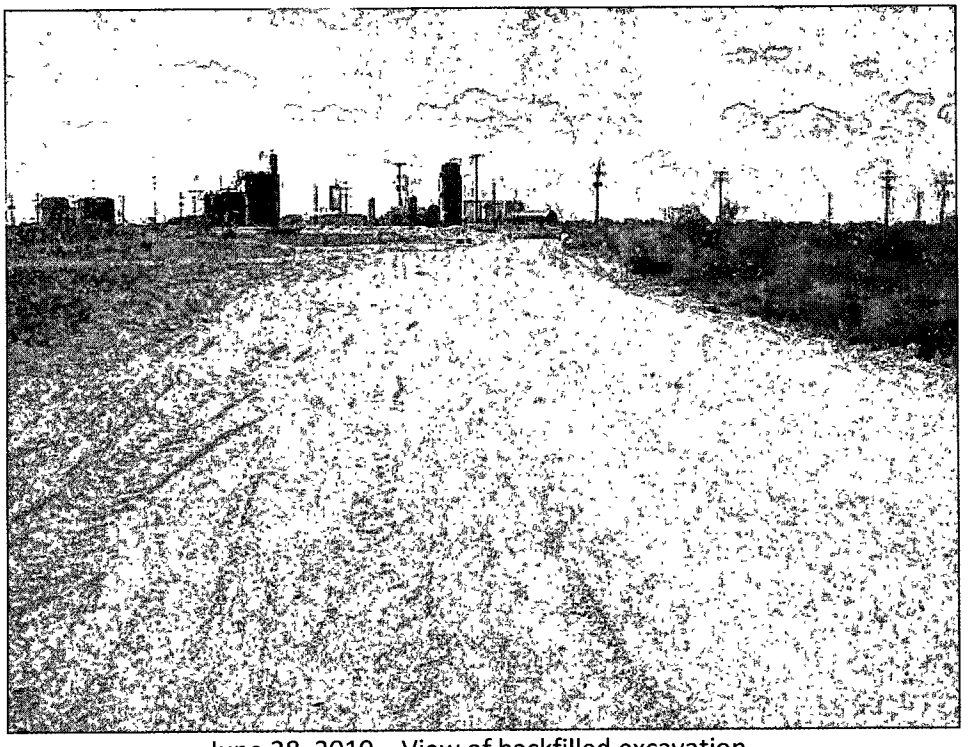
June 14, 2010 - excavation viewing south.

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.