

Incident ID	NT01424540359
District RP	1 RP-3297
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following items must be included in the closure report.

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection) – **Photos not available due to the spill being from 2013.**
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Amy BarnhillTitle: Waste and Water SpecialistSignature: Date: 12-14-21email: ABarnhill@chevron.comTelephone: 432-687-7108

OCD Only

Received by: _____

Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Jennifer Nobui Date: 03/31/2022Printed Name: Jennifer NobuiTitle: Environmental Specialist A



Luke Welch
Project Manager

Upstream Business Unit
Environmental Management
Company
1400 Smith Street
Room 07069B
Houston, Texas 77002
Tel 713-372-0292
Luke.Welch@chevron.com

December 15, 2014

Dr. Tomas Oberding
Environmental Specialist
New Mexico Oil Conservation Division
1625 N. French Dr.
Hobbs, New Mexico 88240

Re : Chevron Special Projects – WLU 45 (RP# 3297)

Dear Dr. Oberding,

Please find enclosed for your records, a copy of the final report documenting the final closure activities at the West Lovington Unit No. 45 (RP #3297).

The report was prepared by Conestoga-Rovers and Associates (CRA) on behalf of Chevron Environmental Management Company (CEMC) to document remedial activities performed for CEMC at the above referenced site.

The only impacts identified significantly above regulatory limits were at 45 feet below grade surface and are considered to be historical. CEMC now considers assessment and remedial activities to be complete and respectfully requests the NMOCDD to grant a no further action status. Should you have any questions regarding the content of the report, please do not hesitate to contact me by phone at 713-372-0292 or via e-mail at luke.welch@chevron.com.

Sincerely,

A handwritten signature in blue ink that reads "Luke Welch". The signature is fluid and cursive, with the first name "Luke" and last name "Welch" clearly distinguishable.

Luke Welch
Environmental Project Manager

Original



**CONESTOGA-ROVERS
& ASSOCIATES**

www.CRAworld.com



Final Report

SOIL ASSESSMENT AND DELINEATION ACTIVITIES REPORT WEST LOVINGTON UNIT #45 INJECTION WELL RP #3297

Unit B, Section 8, Township 17 South, Range 36 East, Lea
County, New Mexico

Prepared for: Chevron Environmental Management Company

Conestoga-Rovers & Associates

2135 South Loop, 250 West
Midland, Texas 79703

November 2014 • 086499 • Report No. 1



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Section 1.0 Introduction

Conestoga-Rovers and Associates (CRA) is pleased to present this Soil Assessment and Delineation Activities Report to Chevron Environmental Management Company (CEMC) for the West Lovington Unit #45 Injection Well release location (hereafter referred to as the "Site").

This Report also serves as documentation of corrective actions performed by Chevron in association with Remediation Permit No. 3297 (RP #3297); which the New Mexico Oil Conservation Division (NMOCD) District I, Hobbs, New Mexico office assigned to the release in August of 2014.

Section 2.0 Project Information and Background

The Site is located in Unit B, Section 8, Township 17 South, Range 36 East, approximately 6.5 miles southwest of Lovington, New Mexico, in eastern Lea County (Figure 1 and Figure 2).

CRA understands that Chevron conducted initial field assessment activities at the Site in 2013. Chevron's assessment included a site visit, soil sample collection, analytical laboratory analyses and preliminary determinations of impacts to environmental media. Following the initial field assessment activities Chevron delegated the continuation of assessment and delineation efforts for the Site to CEMC. In June 2014, CEMC contracted CRA to perform a comprehensive soil assessment at the Site by implementing a soil boring program.

On July 16, 2014, CRA mobilized to the Site to perform a site visit. During the site visit, proposed boring locations were marked and New Mexico one-call parameters were flagged for utility locating purposes. In addition, the Site was walked to observe site features.

2.1 West Lovington Unit #45 Injection Well Release

Chevron submitted a C-141 Form to the NMOCD dated June 27, 2013 (Appendix A), describing a release of 20.8 barrels (bbls) of produced water resulting from a hole in the bottom of a frac tank that was being utilized after the completion of an acid job. The C-141 reported that approximately 0.5 bbl of produced water was recovered. The release was described as follows:

The release resulted in an approximately 160 by 30 foot pool of fluids on the well pad.

Following standing fluids clean-up by vacuum truck, Chevron proceeded with remedial excavation activities. Chevron excavated visibly contaminated soil to a depth of approximately 18-inches below ground surface (bgs) (Figure 3). The excavated soils were loaded and

transported to an approved disposal facility. The actual volume and final disposition of the excavated soils are unknown.

In September of 2013, Chevron collected three surficial soil samples from along the spill path. These three soil samples were submitted to Cardinal Laboratories, Hobbs, New Mexico for determination of benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8021 B, total petroleum hydrocarbons (TPH) by Method 8015 (GRO and DRO) and chlorides by EPA Method SM4500Cl-B. The following results were reported:

<u>Sample Point</u>	<u>TPH (GRO + DRO)</u>	<u>Chlorides</u>
SS #1	<10.0 (mg/kg)	2840 (mg/kg)
SS #2	<10.0 (mg/kg)	4320 (mg/kg)
SS #3	<10.0 (mg/kg)	128 (mg/kg)

2.2 Recommended Remediation Action Levels

Information available on the Petroleum Recovery Research Center (PRRC) Mapping Portal, United States Geological Survey (USGS) Current Water Database for the Nation, and current (CRA) managed groundwater site(s) data demonstrate the depth to groundwater at the Site is greater than 100-feet bgs. The nearest private domestic water source is greater than 200-feet from the release site; the nearest public/municipal water source is greater than 1,000-feet from the release site; and the release site lies more than 1,000 horizontal feet from the nearest surface water body. Consequently, the NMOCD total ranking criteria score is zero (0) for the Site. The anticipated site-specific Recommended Remediation Action Levels (RRALs; per 2011 Draft Guidance) to be applied to this location by the NMOCD for TPH (GRO+DRO) at the site is 500 mg/kg and 1,000 mg/kg for chlorides.

New Mexico Oil Conservation Division Site Assessment	
Ranking Criteria	Score
Depth to Ground Water (>100 feet)	0
Wellhead Protection Area (> 1000 feet from water source, > 200 feet from domestic source)	0
Distance to Surface Body Water (>1000 horizontal feet)	0
Ranking Criteria Total Score	0*

*Because the ranking criteria total score is 0, NMOCD established RRALs are 50 mg/kg for benzene, toluene, ethylbenzene, and xylene (BTEX), 500 mg/kg TPH (GRO + DRO), and 1,000 mg/kg for chlorides¹.

¹ NMOCD Draft Guidance for Release Reporting and Corrective Action, September 30, 2011

Section 3.0 Soil Assessment and Delineation Activities

On July 15, 2014, CRA's contracted service provider, Harrison & Cooper, Inc. (HCI) of Lubbock, Texas submitted an initial New Mexico one-call utility locate ticket (2014291464) pertaining to the installation of five soil borings under RP #3291. CRA submitted an MCBU Chevron Dig Plan with appropriate attachments for approval to the Chevron Buckeye Field Management Team. On July 31, 2014, HCI and CRA mobilized to the Site to begin soil boring activities. The soil borings were pre-cleared via air knife techniques to a depth of 5-feet bgs or until refusal. The remainder of each boring was advanced using an air rotary drill rig and split spoon sampling techniques were utilized to collect soil samples. Five soil borings were advanced inside and adjacent to the remedial excavation boundary at the Site. Three soil borings were advanced to a total depth of 35-feet bgs. Two soil borings were advanced to a total depth of 45-feet bgs based on field screening for chlorides. A photo log documenting the drilling activities is included as Appendix B. Chloride concentrations in soil were field screened by mixing soil samples with distilled water. The rinseate was then screened using Hach chloride test strips. Soil borings were logged in accordance with the Unified Soil Classification System and recorded. Visual representation of the boring logs can be found in Appendix C. The location of the soil borings are presented on the Site Details and Analytical Results Map (Figure 3).

Soil samples were collected for laboratory analysis from each boring (SB-1, SB-2, SB-3, SB-4 and SB-5) at varying intervals beginning at 5-feet bgs. Soil samples were packed into laboratory prepared jars and stored in a cooler with ice. The soil samples were sent to Xenco Laboratories (Xenco) in Odessa, Texas for analysis of BTEX by EPA Method 8021 B; TPH by Method 8015 and for chloride analysis by EPA Method 300/300.1. Soil laboratory analytical results are summarized in Table 1. The soil laboratory analytical report is included as Appendix D. A Site Details and Analytical Results Map is presented as Figure 3.

3.1 Soil Sampling Analytical Results

The soil type observed in soil samples collected during the drilling program consisted of tan, dense caliche from the surface to approximately 15-feet bgs. Brown to tan, very fine grain sandstone was observed from approximately 15-feet to total depth (35-feet). Moisture content observed in the soil samples was dry in all instances.

All soil samples collected (SB-1, SB-2, SB-3, SB-4 and SB-5) from the Site in 2014 for laboratory analyses exhibited concentrations below laboratory reporting limits and below the Site RRLs for total BTEX (50 mg/kg) and TPH (GRO + DRO) (500 mg/kg). Soil sample SB-3 at the 45-foot bgs interval exhibited chloride concentrations above the Site RRLs at 1600 mg/kg. Soil sample SB-4, at the 5 and 45-foot bgs interval exhibited chloride concentrations just above the RRLs at

1010 mg/kg and 1250 mg/kg, respectively. The remaining soil samples (SB-1, SB-2 and SB-5) collected from the Site in 2014 for laboratory analysis exhibited chloride concentrations in soil below the Site RRALs (1000 mg/kg).

Section 4.0 Conclusions

Evaluation of the analytical data obtained from soil assessment and delineation activities performed in July of 2014 indicates that vertical and horizontal delineation of BTEX and TPH (GRO + DRO) impacts to soil has been reached. Evaluation of the analytical data indicates that vertical and horizontal delineation of chloride impacts to soil has been reached in soil borings to the north (SB-2), east (SB-1) and south (SB-5); however, vertical delineation in soil borings located to the west (SB-4) and centrally located boring (SB-3) has not been achieved.

Section 5.0 Recommendations

Based on the chloride concentrations observed in the soil, additional assessment activities are recommended to achieve closure of the release associated with RP #33297. The assessment efforts should address the following:

- The vertical extent of chloride concentrations at the Site

To further assess the vertical extent of chlorides in soil, CRA proposes to perform the following tasks:

- Install one additional soil boring equally spaced between existing soil borings (SB-3 and SB-4) to a depth of approximately 90-feet bgs
- Collect soil samples from the drill rig cuttings in the first 1-foot interval and at each 5-foot interval thereafter as the borings are advanced
- Submit collected soil samples for laboratory analysis of chlorides by EPA Method 300/300.1
- Compile a soil assessment report, summarizing soil boring and analytical data collected in the field for CEMC review and consideration

Chevron Environmental Management Company

Soil Assessment and Delineation Activities Report

If you have any questions or comments with regard to this Soil Assessment and Delineation Activities Report, please do not hesitate to contact our Midland office at (432) 686-0086. Your timely response to this correspondence is appreciated.

All of Which is Respectfully Submitted,

CONESTOGA ROVERS & ASSOCIATES



Thomas C. Larson
Principal, Midland Operations Manager



Jake L. Ferenz
Project Manager

Chevron Environmental Management Company

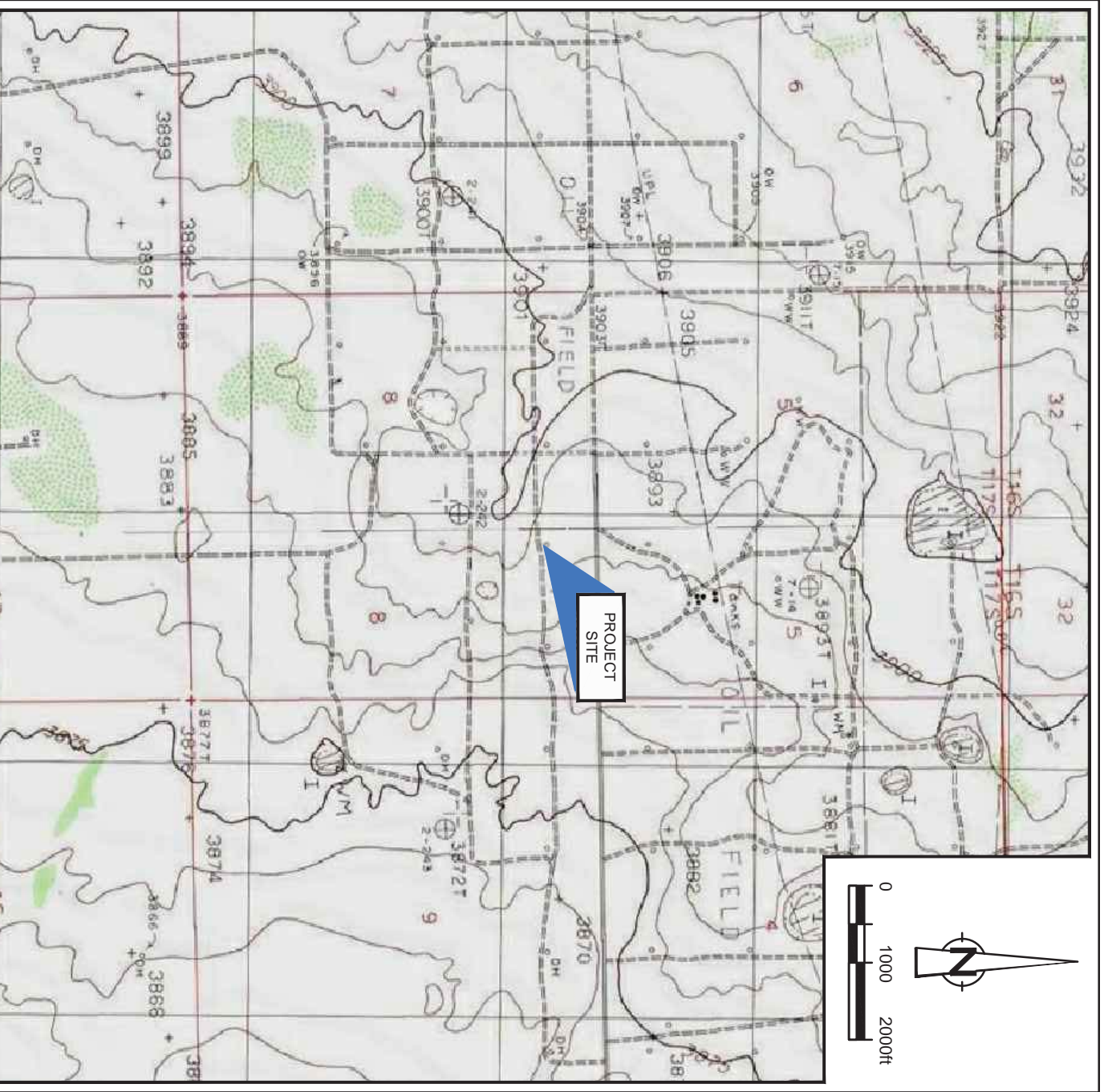
Soil Assessment and Delineation Activities Report

Figures

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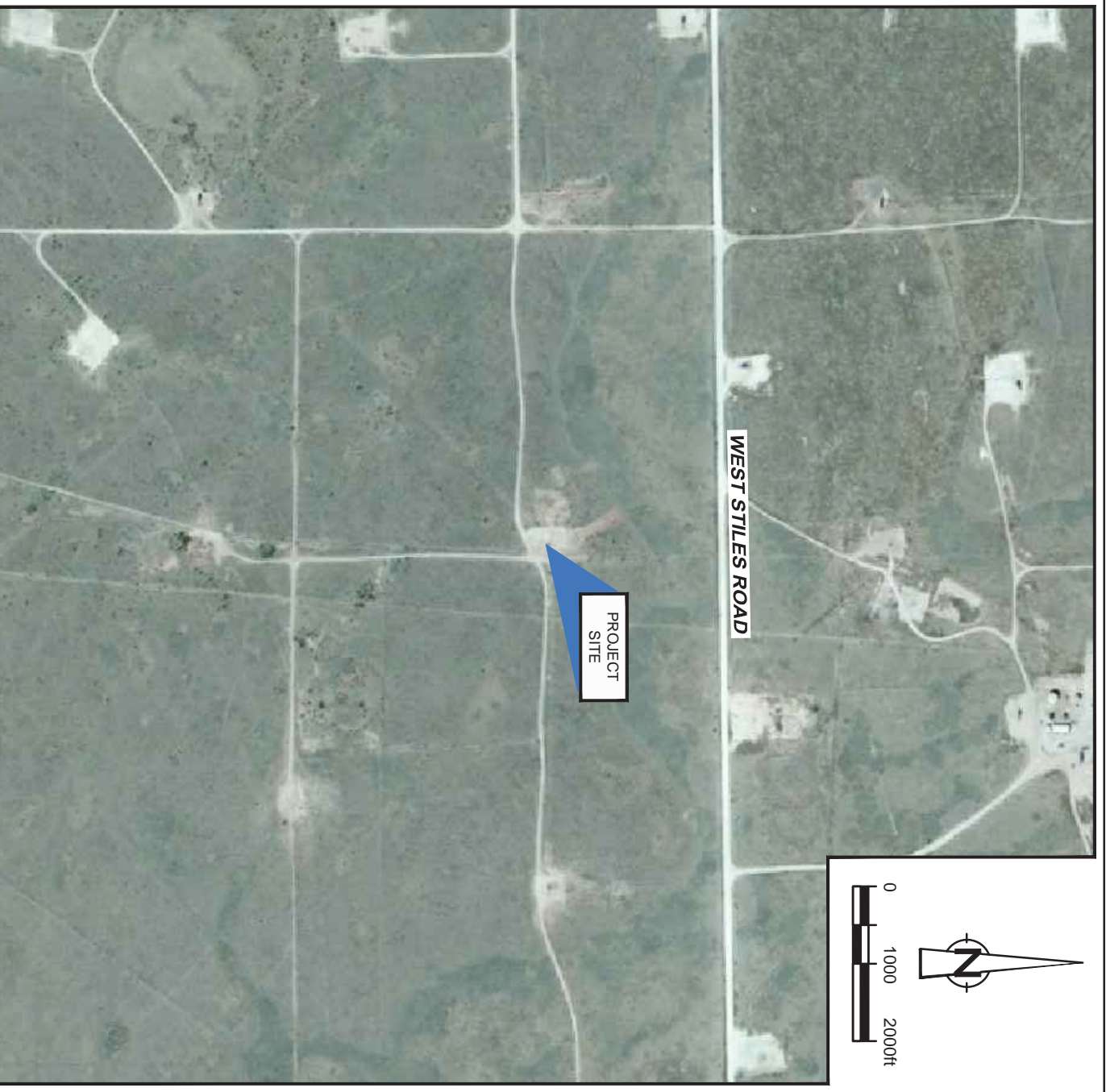
SOURCE: USGS 7.5 MINUTE QUAD
"LOVINGTON SE AND LOVINGTON SW, NEW MEXICO"

LAT/LONG: 32.8549° NORTH, 103.3747° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

figure 1



SITE LOCATION MAP
WEST LOVINGTON UNIT #45
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company



LAT/LONG: 32.8549° NORTH, 103.3747° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

figure 2



SITE AERIAL MAP
WEST LOVINGTON UNIT #45
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

NOTES:

- 1. All analytical results reported in mg/kg.
- 2. Remedial excavation depth is approximately 18-inches below ground surface.
- 3. Highlighted cells indicate exceedance of NMOC RRLs guidance levels.

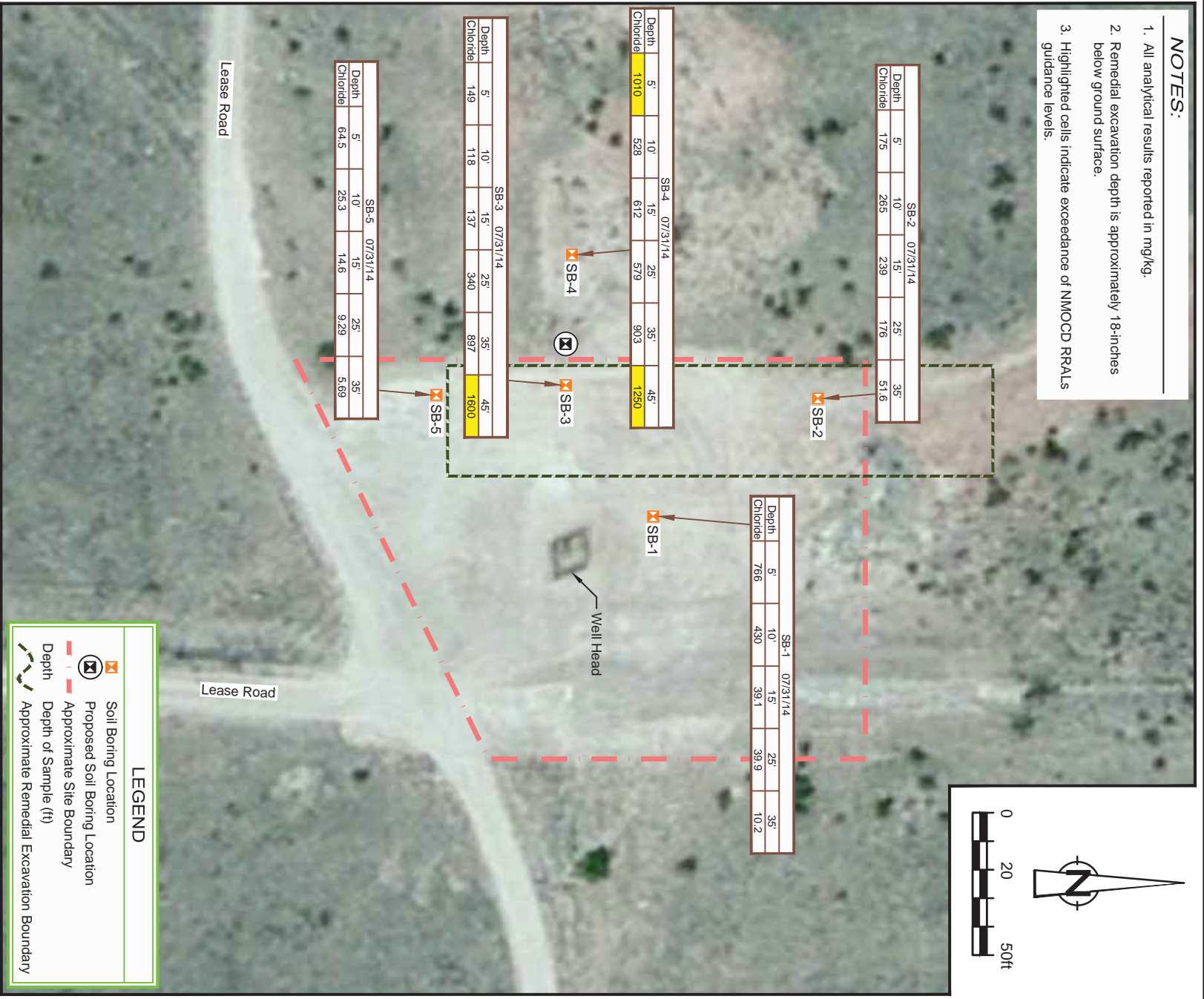


figure 3



SITE DETAILS AND ANALYTICAL RESULTS MAP
WEST LOVINGTON UNIT #45
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

Chevron Environmental Management Company

Soil Assessment and Delineation Activities Report

Tables

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TABLE 1

SOIL ANALYTICAL SUMMARY
WEST LOVINGTON UNIT #45 FRAC TANK
LEA COUNTY, NEW MEXICO

Sample ID	Depth (lgs)	Sample Date	Benzene	Toluene	Ethyl-Benzene	Xylenes	Total BTEX	TPH (SW 8015 Modified)					Total TPH C6-C35	Chlorides			
								C6-C10	>C10-C28	C6-C12	C12-C28	C28-C35					
NMOCd Recommended Remediation Action Levels								0.2	---	---	---	50	---	---	---	---	---
SS #1	Surface	9/23/13	(mg/kg) <0.050	(mg/kg) <0.050	(mg/kg) <0.050	(mg/kg) <0.150	(mg/kg) <0.300	(mg/kg) <10.0	(mg/kg) <10.0	(mg/kg) --	(mg/kg) --	(mg/kg) --	(mg/kg) --	(mg/kg) 2840			
SS #2	Surface	9/23/13	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	--	--	--	--	4320			
SS #3	Surface	9/23/13	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	--	--	--	--	128			
SB-1	5'	7/31/14	<0.00111	<0.00223	<0.00111	<0.00111	<0.00111	--	--	<16.7	<16.7	<16.7	<16.7	766			
SB-1	10'	7/31/14	<0.00108	<0.00215	<0.00108	<0.00108	<0.00108	--	--	<16.2	<16.2	<16.2	<16.2	430			
SB-1	15'	7/31/14	<0.00133	<0.00267	<0.00133	<0.00133	<0.00133	--	--	<20.0	<20.0	<20.0	<20.0	39.1			
SB-1	25'	7/31/14	<0.00105	<0.00210	<0.00105	<0.00105	<0.00105	--	--	<15.8	<15.8	<15.8	<15.8	39.9			
SB-1	35'	7/31/14	<0.00109	<0.00217	<0.00109	<0.00109	<0.00109	--	--	<16.4	<16.4	<16.4	<16.4	10.2			
SB-2	5'	7/31/14	<0.00151	<0.00301	<0.00151	<0.00151	<0.00151	--	--	<22.7	<22.7	<22.7	<22.7	175			
SB-2	10'	7/31/14	<0.00106	<0.00211	<0.00211	<0.00106	<0.00106	--	--	<15.9	<15.9	<15.9	<15.9	265			
SB-2	15'	7/31/14	<0.00109	<0.00219	<0.00109	<0.00109	<0.00109	--	--	<16.4	<16.4	<16.4	<16.4	239			
SB-2	25'	7/31/14	<0.00106	<0.00211	<0.00106	<0.00106	<0.00106	--	--	<15.9	<15.9	<15.9	<15.9	176			
SB-2	35'	7/31/14	<0.00106	<0.00212	<0.00106	<0.00106	<0.00106	--	--	<15.9	<15.9	<15.9	<15.9	51.6			
SB-3	5'	7/31/14	<0.00113	<0.00225	<0.00113	<0.00113	<0.00113	--	--	<16.8	<16.8	<16.8	<16.8	149			
SB-3	10'	7/31/14	<0.00108	<0.00216	<0.00108	<0.00108	<0.00108	--	--	<16.2	<16.2	<16.2	<16.2	118			
SB-3	15'	7/31/14	<0.00106	<0.00212	<0.00106	<0.00106	<0.00106	--	--	<15.9	<15.9	<15.9	<15.9	137			
SB-3	25'	7/31/14	<0.00107	<0.00213	<0.00107	<0.00107	<0.00107	--	--	<16.0	<16.0	<16.0	<16.0	340			
SB-3	35'	7/31/14	<0.00106	<0.00211	<0.00106	<0.00106	<0.00106	--	--	<16.0	<16.0	<16.0	<16.0	897			
SB-3	45'	7/31/14	<0.00105	<0.00210	<0.00105	<0.00105	<0.00105	--	--	<15.8	<15.8	<15.8	<15.8	1600			
SB-4	5'	7/31/14	<0.00108	<0.00216	<0.00108	<0.00108	<0.00108	--	--	<16.2	<16.2	<16.2	<16.2	1010			
SB-4	10'	7/31/14	<0.00104	<0.00209	<0.00104	<0.00104	<0.00104	--	--	<15.7	<15.7	<15.7	<15.7	528			
SB-4	15'	7/31/14	<0.00107	<0.00215	<0.00107	<0.00107	<0.00107	--	--	<16.1	<16.1	<16.1	<16.1	612			
SB-4	25'	7/31/14	<0.00107	<0.00213	<0.00107	<0.00107	<0.00107	--	--	<16.0	<16.0	<16.0	<16.0	579			
SB-4	35'	7/31/14	<0.00105	<0.00210	<0.00105	<0.00105	<0.00105	--	--	<15.8	<15.8	<15.8	<15.8	903			
SB-4	45'	7/31/14	<0.00106	<0.00211	<0.00106	<0.00106	<0.00106	--	--	<15.9	<15.9	<15.9	<15.9	1250			
SB-5	5'	7/31/14	<0.00110	<0.00220	<0.00110	<0.00110	<0.00110	--	--	<16.6	<16.6	<16.6	<16.6	64.5			
SB-5	10'	7/31/14	<0.00105	<0.00211	<0.00105	<0.00105	<0.00105	--	--	<15.9	<15.9	<15.9	<15.9	25.3			
SB-5	15'	7/31/14	<0.00106	<0.00212	<0.00106	<0.00106	<0.00106	--	--	<16.0	<16.0	<16.0	<16.0	14.6			
SB-5	25'	7/31/14	<0.00106	<0.00211	<0.00106	<0.00106	<0.00106	--	--	<15.8	<15.8	<15.8	<15.8	9.29			
SB-5	35'	7/31/14	<0.00105	<0.00210	<0.00105	<0.00105	<0.00105	--	--	<15.8	<15.8	<15.8	<15.8	5.69			

Notes:

- 1. All analytical results reported in (mg/kg) milligrams per kilogram
- 2. 2013 Chloride analyses by Method EPA 5045-00C1-8; 2014 Chloride analyses by Method EPA 300/300.1
- 3. BTEX analysis by Method SW 8015 Modified
- 4. TPH analysis by Method EPA 8021 B
- 5. Highlighted cells indicate concentrations exceeding guidance RRLs
- 6. RRLs from NMOCd (September 2011 Draft) Release Guidance Document
- 7. bgs - below ground surface
- 8. < indicates below laboratory Reporting Limit (RL)
- 9. (SB) indicates Soil Boring; (SS) indicates Soil Sample
- 10. ",-," indicates not analyzed

Chevron Environmental Management Company

Soil Assessment and Delineation Activities Report

Appendices

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Chevron Environmental Management Company

Soil Assessment and Delineation Activities Report

Appendix A

Original Form C-141

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MDistrict I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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

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

NOBBS OCD

Form C-141
Revised August 8, 2011

SEP 09 2014
Bulfinch 1400

to appropriate District Office in
accordance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

Name of Company CHEVRON		Contact David Pagano	<input checked="" type="checkbox"/> Initial Report <input type="checkbox"/> Final Report
Address HCR 60, BOX 423 - Lovington, NM 88260		Telephone No. Office: 575-396-4414 ext 275 Cellular: 505-787-9816	
Physical: 56 Texas Camp Road, Lovington NM 88260		Facility Type: Produced Water Injection Well	
Facility Name: West Lovington Unit #45			
Surface Owner: State of New Mexico		Mineral Owner State of New Mexico	API No. 30-025-03910

LOCATION OF RELEASE
Longitude: 32.861662 ° Latitude: -103.374497 °

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	08	17.0S	36E	660	North	1980	East	Lea

NATURE OF RELEASE

Type of Release Spill to Land	Volume of Release 20.8bbls of Produced Water	Volume Recovered 0.5 bbls of Produced Water
Source of Release Flow Back Frac Tank	Date and Hour of Occurrence 6/26/13 10:30AM	Date and Hour of Discovery 6/26/13 11:30AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Geoffrey Leking	
By Whom? David Pagano	Date and Hour 6/26/13 4:00PM left voicemail	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully. *

Describe Cause of Problem and Remedial Action Taken. *

Fluids were released from hole in the bottom of a Frac Tank that was on location in order to flow back well after completion of acid job.

Describe Area Affected and Cleanup Action Taken. *

Release resulted in approx 160 by 30 foot pool of fluids on the well pad. Hyrdo Vac truck vacuumed up standing fluids and recovered 0.5 bbls of oil. Next step is to excavate visibly contaminated soil up to 18" and haul off to disposal facility. Contamination beyond 18" will be remediated by Chevron EMC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCOD 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 NMOCOD 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, NMOCOD 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: <u>David Pagano</u>	OIL CONSERVATION DIVISION		
Printed Name: David Pagano	Approved by <u>[Signature]</u> District Supervisor	Emmental garbino	
Title: Health & Environmental Specialist	Approval Date: 9-2-14	Expiration Date: 11-2-14	
Date: 6/27/13 Phone: 505-787-9816	Conditions of Approval: <u>Sita Supler</u>	Attached <input type="checkbox"/>	1, RP-3297

* Attach Additional Sheets If Necessary

repared. District & Lovington man
re per NMOCOD guid. Sita's find
C-141 by 8/1-3-14.
09-11-24/833
11-10-14-24 540359
P 10 14-24 540620

SEP 05 2014

Chevron Environmental Management Company

Soil Assessment and Delineation Activities Report

Appendix B

Photographic Log

086499 (1)

November 2014



PHOTO 1: View of soil boring (SB-5) installation activities facing west



PHOTO 2: View of soil boring (SB-1) installation activities facing south west



PHOTOGRAPH LOG

West Lovington Unit #45
Lea County, New Mexico
Chevron Environmental Management Company

Chevron Environmental Management Company

Soil Assessment and Delineation Activities Report

Appendix C

Soil Boring Logs

086499 (1)

November 2014



SOIL BORING LOG

WLU #45
Lea County, NM

Lea County, NM

SB-1

File No.: 086499
Date: 07/31/2014
Drilling Co.: HCI
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: Jake Ferenz

LABORATORY TEST DATA						FIELD DATA			BORING DATA	
Results Reported in mg/kg						Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval
Benzene	Toluene	Ethylbenzene	Xylenes	Total TPH (C6-C35)	Chlorides					
										Start Time: 9:20 am Finish Time: 9:34 Caliche: White, weathered, very well cemented, consolidated Caliche: White to tan, consolidated with sandstone fragments in matrix
								5		Caliche: Tan to reddish brown, unconsolidated with well cemented, very fine grain sandstone
								10		Sand: Tan to reddish brown, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone in matrix
								15		
								25		Sand: Tan, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone in matrix
								30		TD = 35-Feet
								35		
								40		

Sampling Interval

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure

Water First Noted
 Analyzed Sample

SOIL BORING LOG

WLU #45
Lea County, NM

No. SB-3

MC

File No.: 086499
Date: 07/31/2014
Drilling Co.: HCI
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: Jake Ferenz

[illegible]

SOIL BORING LOG

LPU #10

Lea County, New Mexico

No. SB-3

File No.: 086497
Date: 07/29/2014

Date: 07/29/2014

Drilling Co.: HCL
Superintendent: Kenny Connor

Supervisor: Kenny Cooper

Type Rig: Air/Mud Rotary

Logged by: Jake Ferenz

[illegible]

SOIL BORING LOG

WLU #45
Lea County, NM

Lea County, NM

SB-4

File No.: 086499
Date: 07/31/2014
Drilling Co.: HCI
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: Jake Ferenz

LABORATORY TEST DATA						FIELD DATA			BORING DATA		
Results Reported in mg/kg						Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides						
											Start Time: 11:10 am Finish Time: 11:33 Caliche: White, weathered, very well cemented, consolidated Caliche: White to tan, consolidated with sandstone fragments in matrix Caliche: Tan to reddish brown, unconsolidated with well cemented, very fine grain sandstone Sand: Tan to reddish brown, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone in matrix Sand: Tan to brown, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone in matrix TD = 35-Feet

SOIL BORING LOG

WLU #45
Lea County, NM

Lea County, NM


SB-5


File No.: 086499
Date: 07/31/2014
Drilling Co.: HCI
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: Jake Ferenz


LABORATORY TEST DATA						FIELD DATA			BORING DATA	
Results Reported in mg/kg						Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level Screen Interval	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides					
							<input checked="" type="checkbox"/>	5		Start Time: 11:43 am Finish Time: 11:56 Caliche: White, weathered, very well cemented, consolidated Caliche: White to tan, consolidated with sandstone fragments in matrix Caliche: Tan to reddish brown, unconsolidated with well cemented, very fine grain sandstone Sand: Tan to reddish brown, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone in matrix TD = 35-Feet
							<input checked="" type="checkbox"/>	10		
							<input checked="" type="checkbox"/>	15		
							<input checked="" type="checkbox"/>	25		
								30		
							<input checked="" type="checkbox"/>	35		
								40		

☒ Sampling Interval

Stratification is Inferred And May Not be Exact.
Soil Classification Based on Visual-Manual Procedure


Water First Noted


Analyzed Sample



Chevron Environmental Management Company

Soil Assessment and Delineation Activities Report

Appendix D

Soil Laboratory Analytical Report

086499 (1)

November 2014



Analytical Report 490524 for Conestoga Rovers & Associates

Project Manager: Jacob Ferez

WLU #45

086499

11-AUG-14

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054)

New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)

Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ00989): Arizona (AZ0758)



11-AUG-14

Project Manager: **Jacob Ferenz**
Conestoga Rovers & Associates
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **490524**

WLU #45
Project Address: Lea County, NM

Jacob Ferenz:

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(s) 490524. 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. The uncertainty of measurement associated with the results of analysis reported is available upon request. 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. 490524 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,

Kelsey Brooks
Project 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 - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 490524

Conestoga Rovers & Associates, Midland, TX

WLU #45

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
086499-SB-1	S	07-31-14 09:22	- 5 ft	490524-001
086499-SB-1	S	07-31-14 09:24	- 10 ft	490524-002
086499-SB-1	S	07-31-14 09:26	- 15 ft	490524-003
086499-SB-1	S	07-31-14 09:30	- 25 ft	490524-004
086499-SB-1	S	07-31-14 09:34	- 35 ft	490524-005
086499-SB-2	S	07-31-14 09:55	- 5 ft	490524-006
086499-SB-2	S	07-31-14 09:57	- 10 ft	490524-007
086499-SB-2	S	07-31-14 09:59	- 15 ft	490524-008
086499-SB-2	S	07-31-14 10:03	- 25 ft	490524-009
086499-SB-2	S	07-31-14 10:07	- 35 ft	490524-010
086499-SB-3	S	07-31-14 10:30	- 5 ft	490524-011
086499-SB-3	S	07-31-14 10:32	- 10 ft	490524-012
086499-SB-3	S	07-31-14 10:34	- 15 ft	490524-013
086499-SB-3	S	07-31-14 10:38	- 25 ft	490524-014
086499-SB-3	S	07-31-14 10:42	- 35 ft	490524-015
086499-SB-3	S	07-31-14 10:58	- 45 ft	490524-016
086499-SB-4	S	07-31-14 11:11	- 5 ft	490524-017
086499-SB-4	S	07-31-14 11:13	- 10 ft	490524-018
086499-SB-4	S	07-31-14 11:15	- 15 ft	490524-019
086499-SB-4	S	07-31-14 11:19	- 25 ft	490524-020
086499-SB-4	S	07-31-14 11:23	- 35 ft	490524-021
086499-SB-4	S	07-31-14 11:35	- 45 ft	490524-022
086499-SB-5	S	07-31-14 11:44	- 5 ft	490524-023
086499-SB-5	S	07-31-14 11:46	- 10 ft	490524-024
086499-SB-5	S	07-31-14 11:48	- 15 ft	490524-025
086499-SB-5	S	07-31-14 11:52	- 25 ft	490524-026
086499-SB-5	S	07-31-14 11:56	- 35 ft	490524-027



CASE NARRATIVE



Client Name: Conestoga Rovers & Associates

Project Name: WLU #45

Project ID: 086499

Work Order Number(s): 490524

Report Date: 11-AUG-14

Date Received: 07/31/2014

Sample receipt non conformance and comments:

Sample receipt non conformance and comments per sample:

None



Certificate of Analysis Summary 490524

Conestoga Rovers & Associates, Midland, TX

Project Name: WLU #45



Project Id: 086499

Contact: Jacob Ferenz

Project Location: Lea County, NM

Date Received in Lab: Thu Jul-31-14 04:15 pm

Report Date: 11-AUG-14

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	490524-001	490524-002	490524-003	490524-004	490524-005	490524-006
	<i>Field Id:</i>	086499-SB-1	086499-SB-1	086499-SB-1	086499-SB-1	086499-SB-1	086499-SB-2
	<i>Depth:</i>	5 ft	10 ft	15 ft	25 ft	35 ft	5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-31-14 09:22	Jul-31-14 09:24	Jul-31-14 09:26	Jul-31-14 09:30	Jul-31-14 09:34	Jul-31-14 09:55
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00
	<i>Analyzed:</i>	Aug-07-14 12:12	Aug-07-14 12:29	Aug-07-14 12:45	Aug-07-14 13:01	Aug-07-14 13:18	Aug-07-14 13:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00111	ND 0.00108	ND 0.00133	ND 0.00105	ND 0.00109	ND 0.00151
Toluene		ND 0.00223	ND 0.00215	ND 0.00267	ND 0.00210	ND 0.00217	ND 0.00301
Ethylbenzene		ND 0.00111	ND 0.00108	ND 0.00133	ND 0.00105	ND 0.00109	ND 0.00151
m,p-Xylenes		ND 0.00223	ND 0.00215	ND 0.00267	ND 0.00210	ND 0.00217	ND 0.00301
o-Xylene		ND 0.00111	ND 0.00108	ND 0.00133	ND 0.00105	ND 0.00109	ND 0.00151
Total Xylenes		ND 0.00111	ND 0.00108	ND 0.00133	ND 0.00105	ND 0.00109	ND 0.00151
Total BTEX		ND 0.00111	ND 0.00108	ND 0.00133	ND 0.00105	ND 0.00109	ND 0.00151
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00
	<i>Analyzed:</i>	Aug-04-14 22:38	Aug-04-14 23:01	Aug-04-14 23:24	Aug-04-14 23:46	Aug-05-14 00:09	Aug-05-14 04:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		766 44.6	430 21.7	39.1 2.68	39.9 2.11	10.2 2.19	175 15.2
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Aug-04-14 00:00	Aug-04-14 00:00	Aug-04-14 00:00	Aug-04-14 00:00	Aug-04-14 00:00	Aug-04-14 00:00
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		10.4 1.00	7.73 1.00	25.3 1.00	5.26 1.00	8.77 1.00	34.2 1.00
TPH By SW8015 Mod	<i>Extracted:</i>	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00
	<i>Analyzed:</i>	Aug-06-14 02:22	Aug-06-14 05:19	Aug-06-14 05:43	Aug-06-14 06:07	Aug-06-14 06:31	Aug-06-14 06:54
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 16.7	ND 16.2	ND 20.0	ND 15.8	ND 16.4	ND 22.7
C12-C28 Diesel Range Hydrocarbons		ND 16.7	ND 16.2	ND 20.0	ND 15.8	ND 16.4	ND 22.7
C28-C35 Oil Range Hydrocarbons		ND 16.7	ND 16.2	ND 20.0	ND 15.8	ND 16.4	ND 22.7
Total TPH		ND 16.7	ND 16.2	ND 20.0	ND 15.8	ND 16.4	ND 22.7

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 490524

Conestoga Rovers & Associates, Midland, TX

Project Name: WLU #45



Project Id: 086499

Contact: Jacob Ferenz

Project Location: Lea County, NM

Date Received in Lab: Thu Jul-31-14 04:15 pm

Report Date: 11-AUG-14

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	490524-007	490524-008	490524-009	490524-010	490524-011	490524-012
	<i>Field Id:</i>	086499-SB-2	086499-SB-2	086499-SB-2	086499-SB-2	086499-SB-3	086499-SB-3
	<i>Depth:</i>	10 ft	15 ft	25 ft	35 ft	5 ft	10 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-31-14 09:57	Jul-31-14 09:59	Jul-31-14 10:03	Jul-31-14 10:07	Jul-31-14 10:30	Jul-31-14 10:32
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00
	<i>Analyzed:</i>	Aug-07-14 13:51	Aug-07-14 14:07	Aug-07-14 14:24	Aug-07-14 14:41	Aug-07-14 16:53	Aug-07-14 17:10
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00106	ND 0.00109	ND 0.00106	ND 0.00106	ND 0.00113	ND 0.00108
Toluene		ND 0.00211	ND 0.00219	ND 0.00211	ND 0.00212	ND 0.00225	ND 0.00216
Ethylbenzene		ND 0.00106	ND 0.00109	ND 0.00106	ND 0.00106	ND 0.00113	ND 0.00108
m,p-Xylenes		ND 0.00211	ND 0.00219	ND 0.00211	ND 0.00212	ND 0.00225	ND 0.00216
o-Xylene		ND 0.00106	ND 0.00109	ND 0.00106	ND 0.00106	ND 0.00113	ND 0.00108
Total Xylenes		ND 0.00106	ND 0.00109	ND 0.00106	ND 0.00106	ND 0.00113	ND 0.00108
Total BTEX		ND 0.00106	ND 0.00109	ND 0.00106	ND 0.00106	ND 0.00113	ND 0.00108
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00
	<i>Analyzed:</i>	Aug-05-14 05:03	Aug-05-14 05:26	Aug-05-14 05:49	Aug-05-14 06:11	Aug-05-14 06:34	Aug-05-14 07:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		265 21.2	239 21.9	176 10.6	51.6 2.12	149 22.5	118 21.7
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		5.79 1.00	8.78 1.00	5.64 1.00	5.72 1.00	11.2 1.00	7.86 1.00
TPH By SW8015 Mod	<i>Extracted:</i>	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00
	<i>Analyzed:</i>	Aug-06-14 07:42	Aug-06-14 08:06	Aug-06-14 08:29	Aug-06-14 08:53	Aug-06-14 09:18	Aug-06-14 09:41
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.9	ND 16.4	ND 15.9	ND 15.9	ND 16.8	ND 16.2
C12-C28 Diesel Range Hydrocarbons		ND 15.9	ND 16.4	ND 15.9	ND 15.9	ND 16.8	ND 16.2
C28-C35 Oil Range Hydrocarbons		ND 15.9	ND 16.4	ND 15.9	ND 15.9	ND 16.8	ND 16.2
Total TPH		ND 15.9	ND 16.4	ND 15.9	ND 15.9	ND 16.8	ND 16.2

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 490524

Conestoga Rovers & Associates, Midland, TX

Project Name: WLU #45



Project Id: 086499

Contact: Jacob Ferenz

Project Location: Lea County, NM

Date Received in Lab: Thu Jul-31-14 04:15 pm

Report Date: 11-AUG-14

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	490524-013	490524-014	490524-015	490524-016	490524-017	490524-018
	<i>Field Id:</i>	086499-SB-3	086499-SB-3	086499-SB-3	086499-SB-3	086499-SB-4	086499-SB-4
	<i>Depth:</i>	15 ft	25 ft	35 ft	45 ft	5 ft	10 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-31-14 10:34	Jul-31-14 10:38	Jul-31-14 10:42	Jul-31-14 10:58	Jul-31-14 11:11	Jul-31-14 11:13
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00	Aug-07-14 08:00
	<i>Analyzed:</i>	Aug-07-14 17:26	Aug-07-14 17:43	Aug-07-14 17:59	Aug-07-14 18:16	Aug-07-14 18:32	Aug-07-14 18:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00106	ND 0.00107	ND 0.00106	ND 0.00105	ND 0.00108	ND 0.00104
Toluene		ND 0.00212	ND 0.00213	ND 0.00211	ND 0.00210	ND 0.00216	ND 0.00209
Ethylbenzene		ND 0.00106	ND 0.00107	ND 0.00106	ND 0.00105	ND 0.00108	ND 0.00104
m,p-Xylenes		ND 0.00212	ND 0.00213	ND 0.00211	ND 0.00210	ND 0.00216	ND 0.00209
o-Xylene		ND 0.00106	ND 0.00107	ND 0.00106	ND 0.00105	ND 0.00108	ND 0.00104
Total Xylenes		ND 0.00106	ND 0.00107	ND 0.00106	ND 0.00105	ND 0.00108	ND 0.00104
Total BTEX		ND 0.00106	ND 0.00107	ND 0.00106	ND 0.00105	ND 0.00108	ND 0.00104
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00
	<i>Analyzed:</i>	Aug-05-14 08:04	Aug-05-14 08:27	Aug-05-14 08:50	Aug-05-14 09:12	Aug-05-14 09:58	Aug-05-14 10:20
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		137 21.3	340 42.8	897 107	1600 212	1010 108	528 42.0
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		6.22 1.00	6.45 1.00	6.12 1.00	5.52 1.00	7.76 1.00	4.69 1.00
TPH By SW8015 Mod	<i>Extracted:</i>	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00	Aug-05-14 17:00	Aug-08-14 18:00	Aug-08-14 18:00
	<i>Analyzed:</i>	Aug-06-14 10:06	Aug-06-14 10:32	Aug-06-14 10:58	Aug-06-14 11:23	Aug-08-14 22:10	Aug-08-14 22:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.9	ND 16.0	ND 16.0	ND 15.8	ND 16.2	ND 15.7
C12-C28 Diesel Range Hydrocarbons		ND 15.9	ND 16.0	ND 16.0	ND 15.8	ND 16.2	ND 15.7
C28-C35 Oil Range Hydrocarbons		ND 15.9	ND 16.0	ND 16.0	ND 15.8	ND 16.2	ND 15.7
Total TPH		ND 15.9	ND 16.0	ND 16.0	ND 15.8	ND 16.2	ND 15.7

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 490524

Conestoga Rovers & Associates, Midland, TX

Project Name: WLU #45



Project Id: 086499

Contact: Jacob Ferenz

Project Location: Lea County, NM

Date Received in Lab: Thu Jul-31-14 04:15 pm

Report Date: 11-AUG-14

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	490524-019	490524-020	490524-021	490524-022	490524-023	490524-024
	<i>Field Id:</i>	086499-SB-4	086499-SB-4	086499-SB-4	086499-SB-4	086499-SB-5	086499-SB-5
	<i>Depth:</i>	15 ft	25 ft	35 ft	45 ft	5 ft	10 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-31-14 11:15	Jul-31-14 11:19	Jul-31-14 11:23	Jul-31-14 11:35	Jul-31-14 11:44	Jul-31-14 11:46
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-07-14 08:00	Aug-07-14 15:00	Aug-07-14 15:00	Aug-07-14 15:00	Aug-07-14 15:00	Aug-07-14 15:00
	<i>Analyzed:</i>	Aug-07-14 19:07	Aug-07-14 19:24	Aug-07-14 22:09	Aug-07-14 22:25	Aug-07-14 22:42	Aug-07-14 22:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00107	ND 0.00107	ND 0.00105	ND 0.00106	ND 0.00110	ND 0.00105
Toluene		ND 0.00215	ND 0.00213	ND 0.00210	ND 0.00211	ND 0.00220	ND 0.00211
Ethylbenzene		ND 0.00107	ND 0.00107	ND 0.00105	ND 0.00106	ND 0.00110	ND 0.00105
m,p-Xylenes		ND 0.00215	ND 0.00213	ND 0.00210	ND 0.00211	ND 0.00220	ND 0.00211
o-Xylene		ND 0.00107	ND 0.00107	ND 0.00105	ND 0.00106	ND 0.00110	ND 0.00105
Total Xylenes		ND 0.00107	ND 0.00107	ND 0.00105	ND 0.00106	ND 0.00110	ND 0.00105
Total BTEX		ND 0.00107	ND 0.00107	ND 0.00105	ND 0.00106	ND 0.00110	ND 0.00105
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00	Aug-04-14 10:00
	<i>Analyzed:</i>	Aug-05-14 10:43	Aug-05-14 11:06	Aug-05-14 12:26	Aug-05-14 12:48	Aug-05-14 13:11	Aug-05-14 13:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		612 43.0	579 42.8	903 105	1250 106	64.5 11.1	25.3 2.13
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00	Aug-07-14 00:00
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		7.07 1.00	6.47 1.00	5.18 1.00	5.64 1.00	9.61 1.00	5.95 1.00
TPH By SW8015 Mod	<i>Extracted:</i>	Aug-08-14 18:00	Aug-08-14 18:00	Aug-08-14 18:00	Aug-08-14 18:00	Aug-08-14 18:00	Aug-08-14 18:00
	<i>Analyzed:</i>	Aug-08-14 23:01	Aug-08-14 23:25	Aug-08-14 23:49	Aug-09-14 00:13	Aug-09-14 00:37	Aug-09-14 01:04
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 16.1	ND 16.0	ND 15.8	ND 15.9	ND 16.6	ND 15.9
C12-C28 Diesel Range Hydrocarbons		ND 16.1	ND 16.0	ND 15.8	ND 15.9	ND 16.6	ND 15.9
C28-C35 Oil Range Hydrocarbons		ND 16.1	ND 16.0	ND 15.8	ND 15.9	ND 16.6	ND 15.9
Total TPH		ND 16.1	ND 16.0	ND 15.8	ND 15.9	ND 16.6	ND 15.9

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 490524

Conestoga Rovers & Associates, Midland, TX

Project Name: WLU #45



Project Id: 086499

Contact: Jacob Ferenz

Project Location: Lea County, NM

Date Received in Lab: Thu Jul-31-14 04:15 pm

Report Date: 11-AUG-14

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	490524-025	490524-026	490524-027			
	Field Id:	086499-SB-5	086499-SB-5	086499-SB-5			
	Depth:	15 ft	25 ft	35 ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Jul-31-14 11:48	Jul-31-14 11:52	Jul-31-14 11:56			
BTEX by EPA 8021B	Extracted:	Aug-07-14 15:00	Aug-07-14 15:00	Aug-07-14 15:00			
	Analyzed:	Aug-07-14 23:15	Aug-07-14 23:31	Aug-07-14 23:48			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		ND 0.00106	ND 0.00106	ND 0.00105			
Toluene		ND 0.00212	ND 0.00211	ND 0.00210			
Ethylbenzene		ND 0.00106	ND 0.00106	ND 0.00105			
m,p-Xylenes		ND 0.00212	ND 0.00211	ND 0.00210			
o-Xylene		ND 0.00106	ND 0.00106	ND 0.00105			
Total Xylenes		ND 0.00106	ND 0.00106	ND 0.00105			
Total BTEX		ND 0.00106	ND 0.00106	ND 0.00105			
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-04-14 10:00	Aug-05-14 15:00	Aug-05-14 15:00			
	Analyzed:	Aug-05-14 13:56	Aug-06-14 14:33	Aug-06-14 14:56			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		14.6 2.13	9.29 2.11	5.69 2.11			
Percent Moisture	Extracted:						
	Analyzed:	Aug-07-14 00:00	Aug-07-14 00:00	Aug-05-14 15:00			
	Units/RL:	% RL	% RL	% RL			
Percent Moisture		6.09 1.00	5.23 1.00	5.14 1.00			
TPH By SW8015 Mod	Extracted:	Aug-08-14 18:00	Aug-08-14 18:00	Aug-08-14 18:00			
	Analyzed:	Aug-09-14 01:29	Aug-09-14 01:53	Aug-09-14 02:41			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 16.0	ND 15.8	ND 15.8			
C12-C28 Diesel Range Hydrocarbons		ND 16.0	ND 15.8	ND 15.8			
C28-C35 Oil Range Hydrocarbons		ND 16.0	ND 15.8	ND 15.8			
Total TPH		ND 16.0	ND 15.8	ND 15.8			

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Kelsey Brooks
Project 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 affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- **** Surrogate recovered outside laboratory control limit.
- BRL** Below Reporting Limit.
- RL** Reporting Limit
- MDL** Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection
- PQL** Practical Quantitation Limit **SQL** Method Quantitation Limit **LOQ** Limit of Quantitation
- DL** Method Detection Limit
- NC** Non-Calculable
- +** NELAC certification not offered for this compound.
- *** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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	(602) 437-0330	

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947444

Sample: 490524-001 / SMP

Project ID: 086499
Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 02:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		97.0	99.8	97	70-135	
o-Terphenyl		48.4	49.9	97	70-135	

Lab Batch #: 947444

Sample: 490524-002 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 05:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		105	99.9	105	70-135	
o-Terphenyl		53.1	50.0	106	70-135	

Lab Batch #: 947444

Sample: 490524-003 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 05:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		107	99.6	107	70-135	
o-Terphenyl		54.0	49.8	108	70-135	

Lab Batch #: 947444

Sample: 490524-004 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 06:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		101	99.6	101	70-135	
o-Terphenyl		49.7	49.8	100	70-135	

Lab Batch #: 947444

Sample: 490524-005 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 06:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		101	99.7	101	70-135	
o-Terphenyl		51.4	49.9	103	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947444

Sample: 490524-006 / SMP

Project ID: 086499

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 06:54

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		101	99.7	101	70-135	
o-Terphenyl		51.4	49.9	103	70-135	

Lab Batch #: 947444

Sample: 490524-007 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 07:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		92.5	99.7	93	70-135	
o-Terphenyl		45.4	49.9	91	70-135	

Lab Batch #: 947444

Sample: 490524-008 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 08:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		95.2	99.8	95	70-135	
o-Terphenyl		48.0	49.9	96	70-135	

Lab Batch #: 947444

Sample: 490524-009 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 08:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		95.8	100	96	70-135	
o-Terphenyl		47.6	50.0	95	70-135	

Lab Batch #: 947444

Sample: 490524-010 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 08:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		95.1	99.9	95	70-135	
o-Terphenyl		46.9	50.0	94	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947444

Sample: 490524-011 / SMP

Project ID: 086499

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 09:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		97.9	99.7	98	70-135	
o-Terphenyl		49.3	49.9	99	70-135	

Lab Batch #: 947444

Sample: 490524-012 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 09:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		95.7	99.8	96	70-135	
o-Terphenyl		47.7	49.9	96	70-135	

Lab Batch #: 947444

Sample: 490524-013 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 10:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		113	99.7	113	70-135	
o-Terphenyl		56.1	49.9	112	70-135	

Lab Batch #: 947444

Sample: 490524-014 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 10:32

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		95.7	99.9	96	70-135	
o-Terphenyl		47.5	50.0	95	70-135	

Lab Batch #: 947444

Sample: 490524-015 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 10:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		95.2	99.9	95	70-135	
o-Terphenyl		47.5	50.0	95	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947444

Sample: 490524-016 / SMP

Project ID: 086499
Batch: 1 **Matrix:** Soil

Units:

Date Analyzed: 08/06/14 11:23

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		97.6	99.6	98	70-135	
o-Terphenyl		48.2	49.8	97	70-135	

Lab Batch #: 947582

Sample: 490524-001 / SMP

Batch: 1 **Matrix:** Soil

Units:

Date Analyzed: 08/07/14 12:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0290	0.0300	97	80-120	
4-Bromofluorobenzene		0.0287	0.0300	96	80-120	

Lab Batch #: 947582

Sample: 490524-002 / SMP

Batch: 1 **Matrix:** Soil

Units:

Date Analyzed: 08/07/14 12:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0288	0.0300	96	80-120	
4-Bromofluorobenzene		0.0288	0.0300	96	80-120	

Lab Batch #: 947582

Sample: 490524-003 / SMP

Batch: 1 **Matrix:** Soil

Units:

Date Analyzed: 08/07/14 12:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0287	0.0300	96	80-120	
4-Bromofluorobenzene		0.0290	0.0300	97	80-120	

Lab Batch #: 947582

Sample: 490524-004 / SMP

Batch: 1 **Matrix:** Soil

Units:

Date Analyzed: 08/07/14 13:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0295	0.0300	98	80-120	
4-Bromofluorobenzene		0.0289	0.0300	96	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947582

Sample: 490524-005 / SMP

Project ID: 086499
Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 13:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0284	0.0300	95	80-120	
4-Bromofluorobenzene		0.0276	0.0300	92	80-120	

Lab Batch #: 947582

Sample: 490524-006 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 13:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0293	0.0300	98	80-120	
4-Bromofluorobenzene		0.0291	0.0300	97	80-120	

Lab Batch #: 947582

Sample: 490524-007 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 13:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0291	0.0300	97	80-120	
4-Bromofluorobenzene		0.0287	0.0300	96	80-120	

Lab Batch #: 947582

Sample: 490524-008 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 14:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0286	0.0300	95	80-120	
4-Bromofluorobenzene		0.0284	0.0300	95	80-120	

Lab Batch #: 947582

Sample: 490524-009 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 14:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0282	0.0300	94	80-120	
4-Bromofluorobenzene		0.0280	0.0300	93	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947582

Sample: 490524-010 / SMP

Project ID: 086499
Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 14:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0287	0.0300	96	80-120	
4-Bromofluorobenzene		0.0286	0.0300	95	80-120	

Lab Batch #: 947582

Sample: 490524-011 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 16:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0286	0.0300	95	80-120	
4-Bromofluorobenzene		0.0284	0.0300	95	80-120	

Lab Batch #: 947582

Sample: 490524-012 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 17:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0284	0.0300	95	80-120	
4-Bromofluorobenzene		0.0279	0.0300	93	80-120	

Lab Batch #: 947582

Sample: 490524-013 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 17:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0291	0.0300	97	80-120	
4-Bromofluorobenzene		0.0288	0.0300	96	80-120	

Lab Batch #: 947582

Sample: 490524-014 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 17:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0287	0.0300	96	80-120	
4-Bromofluorobenzene		0.0285	0.0300	95	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947582

Sample: 490524-015 / SMP

Project ID: 086499
Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 17:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0284	0.0300	95	80-120	
4-Bromofluorobenzene		0.0281	0.0300	94	80-120	

Lab Batch #: 947582

Sample: 490524-016 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 18:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0285	0.0300	95	80-120	
4-Bromofluorobenzene		0.0282	0.0300	94	80-120	

Lab Batch #: 947582

Sample: 490524-017 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 18:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0291	0.0300	97	80-120	
4-Bromofluorobenzene		0.0290	0.0300	97	80-120	

Lab Batch #: 947582

Sample: 490524-018 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 18:51

SURROGATE RECOVERY STUDY

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

Lab Batch #: 947582

Sample: 490524-019 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 19:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0290	0.0300	97	80-120	
4-Bromofluorobenzene		0.0285	0.0300	95	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947828

Sample: 490524-020 / SMP

Project ID: 086499
Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 19:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0289	0.0300	96	80-120	
4-Bromofluorobenzene		0.0289	0.0300	96	80-120	

Lab Batch #: 947828

Sample: 490524-021 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 22:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0290	0.0300	97	80-120	
4-Bromofluorobenzene		0.0287	0.0300	96	80-120	

Lab Batch #: 947828

Sample: 490524-022 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 22:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0290	0.0300	97	80-120	
4-Bromofluorobenzene		0.0287	0.0300	96	80-120	

Lab Batch #: 947828

Sample: 490524-023 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 22:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0285	0.0300	95	80-120	
4-Bromofluorobenzene		0.0283	0.0300	94	80-120	

Lab Batch #: 947828

Sample: 490524-024 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 22:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0290	0.0300	97	80-120	
4-Bromofluorobenzene		0.0281	0.0300	94	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947828

Sample: 490524-025 / SMP

Project ID: 086499
Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/14 23:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0293	0.0300	98	80-120	
4-Bromofluorobenzene		0.0283	0.0300	94	80-120	

Lab Batch #: 947828

Sample: 490524-026 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/14 23:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0294	0.0300	98	80-120	
4-Bromofluorobenzene		0.0289	0.0300	96	80-120	

Lab Batch #: 947828

Sample: 490524-027 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/07/14 23:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0283	0.0300	94	80-120	
4-Bromofluorobenzene		0.0281	0.0300	94	80-120	

Lab Batch #: 947831

Sample: 490524-017 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/08/14 22:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		85.5	99.8	86	70-135	
o-Terphenyl		46.8	49.9	94	70-135	

Lab Batch #: 947831

Sample: 490524-018 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/08/14 22:36

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		87.1	99.8	87	70-135	
o-Terphenyl		45.2	49.9	91	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947831

Sample: 490524-019 / SMP

Project ID: 086499
Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/08/14 23:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		82.1	100	82	70-135	
o-Terphenyl		42.9	50.0	86	70-135	

Lab Batch #: 947831

Sample: 490524-020 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/08/14 23:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		87.8	99.6	88	70-135	
o-Terphenyl		45.4	49.8	91	70-135	

Lab Batch #: 947831

Sample: 490524-021 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/08/14 23:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		85.0	99.7	85	70-135	
o-Terphenyl		47.1	49.9	94	70-135	

Lab Batch #: 947831

Sample: 490524-022 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/09/14 00:13

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		91.4	99.8	92	70-135	
o-Terphenyl		50.8	49.9	102	70-135	

Lab Batch #: 947831

Sample: 490524-023 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/09/14 00:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		99.7	99.8	100	70-135	
o-Terphenyl		54.7	49.9	110	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947831 **Sample:** 490524-024 / SMP

Project ID: 086499
Batch: 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/09/14 01:04

Units:	mg/kg	Date Analyzed: 08/09/14 01:04	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes							
1-Chlorooctane			80.9	99.8	81	70-135	
o-Terphenyl			40.6	49.9	81	70-135	

Lab Batch #: 947831 **Sample:** 490524-025 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/09/14 01:29

Units:		mg/kg	Date Analyzed: 08/09/14 01:29		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod					Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes									
1-Chlorooctane					89.1	99.9	89	70-135	
o-Terphenyl					49.1	50.0	98	70-135	

Lab Batch #: 947831 **Sample:** 490524-026 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/09/14 01:53

Units:	mg/kg	Date Analyzed: 08/09/14 01:53	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes							
1-Chlorooctane			86.4	99.6	87	70-135	
o-Terphenyl			46.0	49.8	92	70-135	

Lab Batch #: 947831 **Sample:** 490524-027 / SMP

Batch: 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/09/14 02:41

Units:		mg/kg	Date Analyzed: 08/09/14 02:41		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod					Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes									
1-Chlorooctane					88.0	99.7	88	70-135	
o-Terphenyl					45.9	49.9	92	70-135	

Lab Batch #: 947444 **Sample:** 659522-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/06/14 01:09

Units:		mg/kg	Date Analyzed: 08/06/14 01:09		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod					Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes									
1-Chlorooctane					114	100	114	70-135	
o-Terphenyl					58.9	50.0	118	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947582

Sample: 659613-1-BLK / BLK

Project ID: 086499
Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/07/14 10:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0285	0.0300	95	80-120	
4-Bromofluorobenzene		0.0273	0.0300	91	80-120	

Lab Batch #: 947828

Sample: 659767-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/07/14 20:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0288	0.0300	96	80-120	
4-Bromofluorobenzene		0.0272	0.0300	91	80-120	

Lab Batch #: 947831

Sample: 659774-1-BLK / BLK

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/08/14 20:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		87.3	100	87	70-135	
o-Terphenyl		48.2	50.0	96	70-135	

Lab Batch #: 947444

Sample: 659522-1-BKS / BKS

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/06/14 01:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		121	100	121	70-135	
o-Terphenyl		64.3	50.0	129	70-135	

Lab Batch #: 947582

Sample: 659613-1-BKS / BKS

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/07/14 10:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0288	0.0300	96	80-120	
4-Bromofluorobenzene		0.0312	0.0300	104	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947828

Sample: 659767-1-BKS / BKS

Project ID: 086499
Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/07/14 20:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0296	0.0300	99	80-120	
4-Bromofluorobenzene		0.0312	0.0300	104	80-120	

Lab Batch #: 947831

Sample: 659774-1-BKS / BKS

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/08/14 21:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		104	100	104	70-135	
o-Terphenyl		60.6	50.0	121	70-135	

Lab Batch #: 947444

Sample: 659522-1-BSD / BSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/06/14 01:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		126	100	126	70-135	
o-Terphenyl		62.8	50.0	126	70-135	

Lab Batch #: 947582

Sample: 659613-1-BSD / BSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/07/14 11:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0291	0.0300	97	80-120	
4-Bromofluorobenzene		0.0315	0.0300	105	80-120	

Lab Batch #: 947828

Sample: 659767-1-BSD / BSD

Batch: 1 **Matrix:** Solid

Units: mg/kg

Date Analyzed: 08/07/14 21:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0287	0.0300	96	80-120	
4-Bromofluorobenzene		0.0304	0.0300	101	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947831 **Sample:** 659774-1-BSD / BSD

Project ID: 086499
Batch: 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/08/14 21:45

Units:		mg/kg	Date Analyzed: 08/08/14 21:45		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod					Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes									
1-Chlorooctane					105	100	105	70-135	
o-Terphenyl					60.3	50.0	121	70-135	

Lab Batch #: 947444 **Sample:** 490524-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/06/14 02:50

Units:		mg/kg	Date Analyzed: 08/06/14 02:50		SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod					Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes									
1-Chlorooctane					126	99.8	126	70-135	
o-Terphenyl					64.8	49.9	130	70-135	

Lab Batch #: 947582 **Sample:** 490524-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/07/14 11:23

Units:		mg/kg	Date Analyzed: 08/07/14 11:23		SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B					Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes									
1,4-Difluorobenzene					0.0295	0.0300	98	80-120	
4-Bromofluorobenzene					0.0329	0.0300	110	80-120	

Lab Batch #: 947828 **Sample:** 490605-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/07/14 21:19

Units:		mg/kg	Date Analyzed: 08/07/14 21:19		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B								
Analytes								
		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		0.0300	0.0300	100	80-120			
4-Bromofluorobenzene		0.0326	0.0300	109	80-120			

Lab Batch #: 947831 **Sample:** 490605-001 S / MS

Batch: 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/09/14 03:28

Units:		mg/kg	Date Analyzed: 08/09/14 03:28		SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod								
Analytes								
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane	102	99.8	102	70-135				
o-Terphenyl	59.6	49.9	119	70-135				

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries
Project Name: WLU #45

Work Orders : 490524,

Lab Batch #: 947444

Sample: 490524-001 SD / MSD

Project ID: 086499
Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/06/14 03:14

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		111	99.7	111	70-135	
o-Terphenyl		56.8	49.9	114	70-135	

Lab Batch #: 947582

Sample: 490524-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 11:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0291	0.0300	97	80-120	
4-Bromofluorobenzene		0.0320	0.0300	107	80-120	

Lab Batch #: 947828

Sample: 490605-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/07/14 21:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0302	0.0300	101	80-120	
4-Bromofluorobenzene		0.0325	0.0300	108	80-120	

Lab Batch #: 947831

Sample: 490605-001 SD / MSD

Batch: 1 **Matrix:** Soil

Units: mg/kg

Date Analyzed: 08/09/14 03:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		102	99.7	102	70-135	
o-Terphenyl		58.4	49.9	117	70-135	

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



BS / BSD Recoveries



Project Name: WLU #45

Work Order #: 490524

Project ID: 086499

Analyst: ARM

Date Prepared: 08/07/2014

Date Analyzed: 08/07/2014

Lab Batch ID: 947582

Sample: 659613-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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											
Benzene	<0.00100	0.100	0.102	102	0.100	0.100	100	2	70-130	35	
Toluene	<0.00200	0.100	0.105	105	0.100	0.105	105	0	70-130	35	
Ethylbenzene	<0.00100	0.100	0.109	109	0.100	0.110	110	1	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.219	110	0.200	0.222	111	1	70-135	35	
o-Xylene	<0.00100	0.100	0.106	106	0.100	0.107	107	1	71-133	35	

Analyst: ARM

Date Prepared: 08/07/2014

Date Analyzed: 08/07/2014

Lab Batch ID: 947828

Sample: 659767-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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											
Benzene	<0.00100	0.100	0.0898	90	0.100	0.0878	88	2	70-130	35	
Toluene	<0.00200	0.100	0.0912	91	0.100	0.0898	90	2	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0930	93	0.100	0.0913	91	2	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.186	93	0.200	0.183	92	2	70-135	35	
o-Xylene	<0.00100	0.100	0.0917	92	0.100	0.0899	90	2	71-133	35	

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

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: WLU #45

Work Order #: 490524

Project ID: 086499

Analyst: JUM

Date Prepared: 08/04/2014

Date Analyzed: 08/04/2014

Lab Batch ID: 947522

Sample: 659375-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	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	<2.00	50.0	49.1	98	50.0	48.3	97	2	80-120	20	

Analyst: JUM

Date Prepared: 08/04/2014

Date Analyzed: 08/05/2014

Lab Batch ID: 947525

Sample: 659407-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	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	<2.00	50.0	47.6	95	50.0	45.9	92	4	80-120	20	

Analyst: JUM

Date Prepared: 08/05/2014

Date Analyzed: 08/05/2014

Lab Batch ID: 947424

Sample: 659465-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	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	<2.00	50.0	47.9	96	50.0	48.0	96	0	80-120	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



BS / BSD Recoveries



Project Name: WLU #45

Work Order #: 490524

Project ID: 086499

Analyst: ARM

Date Prepared: 08/05/2014

Date Analyzed: 08/06/2014

Lab Batch ID: 947444

Sample: 659522-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	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											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	925	93	1000	962	96	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1050	105	1000	1110	111	6	70-135	35	

Analyst: ARM

Date Prepared: 08/08/2014

Date Analyzed: 08/08/2014

Lab Batch ID: 947831

Sample: 659774-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	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											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	884	88	1000	968	97	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1070	107	1000	1110	111	4	70-135	35	

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

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: WLU #45

Work Order #: 490524
Lab Batch #: 947424
Date Analyzed: 08/06/2014
QC- Sample ID: 490605-004 S
Reporting Units: mg/kg

Project ID: 086499
Analyst: JUM
Batch #: 1
Date Prepared: 08/05/2014
Matrix: Soil

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	131	258	403	105	80-120

Lab Batch #: 947424
Date Analyzed: 08/05/2014
QC- Sample ID: 490772-001 S
Reporting Units: mg/kg

Analyst: JUM
Batch #: 1
Date Prepared: 08/05/2014
Matrix: Soil

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	1980	5000	7370	108	80-120

Lab Batch #: 947522
Date Analyzed: 08/04/2014
QC- Sample ID: 490523-006 S
Reporting Units: mg/kg

Analyst: JUM
Batch #: 1
Date Prepared: 08/04/2014
Matrix: Soil

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	188	257	423	91	80-120

Lab Batch #: 947522
Date Analyzed: 08/04/2014
QC- Sample ID: 490523-016 S
Reporting Units: mg/kg

Analyst: JUM
Batch #: 1
Date Prepared: 08/04/2014
Matrix: Soil

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	365	525	868	96	80-120

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



Form 3 - MS Recoveries

Project Name: WLU #45

Work Order #: 490524
Lab Batch #: 947525
Date Analyzed: 08/05/2014
QC- Sample ID: 490524-006 S
Reporting Units: mg/kg

Project ID: 086499
Date Prepared: 08/04/2014
Analyst: JUM
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		175	380	555	100	80-120	

Lab Batch #: 947525
Date Analyzed: 08/05/2014
QC- Sample ID: 490524-016 S
Reporting Units: mg/kg

Date Prepared: 08/04/2014
Analyst: JUM
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		1600	5290	6700	96	80-120	

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



Form 3 - MS / MSD Recoveries



Project Name: WLU #45

Work Order # : 490524
Lab Batch ID: 947582
Date Analyzed: 08/07/2014
Reporting Units: mg/kg

QC- Sample ID: 490524-001 S
Date Prepared: 08/07/2014

Project ID: 086499
Batch #: 1 **Matrix:** Soil
Analyst: ARM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00111	0.111	0.106	95	0.112	0.104	93	2	70-130	35	
Toluene	<0.00223	0.111	0.109	98	0.112	0.108	96	1	70-130	35	
Ethylbenzene	<0.00111	0.111	0.113	102	0.112	0.111	99	2	71-129	35	
m,p-Xylenes	<0.00223	0.223	0.227	102	0.223	0.224	100	1	70-135	35	
o-Xylene	<0.00111	0.111	0.111	100	0.112	0.110	98	1	71-133	35	

Lab Batch ID: 947828
Date Analyzed: 08/07/2014
Reporting Units: mg/kg

QC- Sample ID: 490605-001 S
Date Prepared: 08/07/2014

Batch #: 1 **Matrix:** Soil
Analyst: ARM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00106	0.106	0.0912	86	0.106	0.0913	86	0	70-130	35	
Toluene	<0.00213	0.106	0.0930	88	0.106	0.0929	88	0	70-130	35	
Ethylbenzene	<0.00106	0.106	0.0934	88	0.106	0.0933	88	0	71-129	35	
m,p-Xylenes	<0.00213	0.213	0.187	88	0.213	0.187	88	0	70-135	35	
o-Xylene	<0.00106	0.106	0.0916	86	0.106	0.0919	87	0	71-133	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: WLU #45

Work Order # : 490524

Project ID: 086499

Lab Batch ID: 947444

QC- Sample ID: 490524-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 08/06/2014

Date Prepared: 08/05/2014

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.7	1110	1280	115	1110	1030	93	22	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.7	1110	1320	119	1110	1290	116	2	70-135	35	

Lab Batch ID: 947831

QC- Sample ID: 490605-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 08/09/2014

Date Prepared: 08/08/2014

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.0	1070	930	87	1060	899	85	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.0	1070	1180	110	1060	1140	108	3	70-135	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: WLU #45

Work Order #: 490524

Lab Batch #: 947219

Project ID: 086499

Date Analyzed: 08/04/2014 00:00

Date Prepared: 08/04/2014

Analyst: WRU

QC- Sample ID: 490500-001 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
Analyte				
Percent Moisture	19.9	19.9	0	20

Lab Batch #: 947219

Date Analyzed: 08/04/2014 00:00

Date Prepared: 08/04/2014

Analyst: WRU

QC- Sample ID: 490501-003 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
Analyte				
Percent Moisture	7.50	6.96	7	20

Lab Batch #: 947345

Date Analyzed: 08/05/2014 15:00

Date Prepared: 08/05/2014

Analyst: WRU

QC- Sample ID: 490605-007 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
Analyte				
Percent Moisture	9.08	8.72	4	20

Lab Batch #: 947345

Date Analyzed: 08/05/2014 15:00

Date Prepared: 08/05/2014

Analyst: WRU

QC- Sample ID: 490651-001 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
Analyte				
Percent Moisture	<1.00	<1.00	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

Project Name: WLU #45

Work Order #: 490524

Lab Batch #: 947502
Date Analyzed: 08/07/2014 00:00
QC- Sample ID: 490524-007 D
Reporting Units: %

Project ID: 086499
Analyst: WRU
Batch #: 1
Matrix: Soil

Date Prepared: 08/07/2014

SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD
Analyte				
Percent Moisture	5.79	5.84	1	20

Lab Batch #: 947502
Date Analyzed: 08/07/2014 00:00
QC- Sample ID: 490524-017 D
Reporting Units: %

Analyst: WRU
Batch #: 1
Matrix: Soil

Date Prepared: 08/07/2014

SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD
Analyte				
Percent Moisture	7.76	7.15	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

Dallas, Texas (214-902-0300)

Service Center - San Antonio, Texas (210-509-3334)

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Xenco Quote #

Norcross, Georgia (770-449-8800)

Tampa, Florida (813-620-2000)

Lakeland, Florida (863-646-8526)

CHAIN OF CUSTODY

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[illegible]

Service Center - San Antonio, Texas (210-509-3334)

hoyah

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 07/31/2014 04:15:00 PM

Work Order #: 490524

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient



Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	-1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by:		Date: 07/31/2014
	Kelsey Brooks	
Checklist reviewed by:		Date: 08/01/2014
	Kelsey Brooks	

District I
1625 N. French Dr., Hobbs, NM 88240
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District III
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Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 66820

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 66820
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Approved.	3/31/2022