



Robert Speer
Portfolio Manager,
Upstream Business Unit
Remediation Team

**Chevron Environmental
Management Company**
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Houston, TX 77002
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June 9, 2015

Mike Bratcher
Environmental Specialist
New Mexico Oil Conservation Division
811 South First St.
Artesia, NM 88210

Re: Skelly No. 940 Tank Battery Assessment Final Report

Dear Mr. Bratcher:

Please find enclosed for your files copies of the following report for the Skelly No. 940 Tank Battery project site.

- *Soil Assessment and Delineation Activities Report – Skelly No. 940 Tank Battery, Section 22 – Township 17 South – Range 31 East, Eddy County, NM*

This report was prepared by Conestoga-Rovers & Associates (CRA) on behalf of Chevron Environmental Management Company (CEMC) to document assessment activities for a release of 1.15 bbls of oil and 164 bbls of produced water as documented in our October 2010 submittal of form C-141. This submittal indicated that 140 bbls of produced water were recovered at the time of the release. We have concluded that chloride impacts from this release are minimal, and the potential risk of impacts to groundwater is extremely low. Based on this, we are recommending that no further delineation or remedial efforts are warranted, and recommend closure of this release record.

Should you have any questions regarding the content of this report, please do not hesitate to contact me. I look forward to working with you in the future.

Sincerely,

A handwritten signature in black ink that reads "Rob Speer". The signature is written in a cursive, flowing style.

Rob Speer
Environmental Project Manager

District 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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Chevron (CEMC)	Contact	Rob Speer
Address	1400 Smith Street, Houston Texas, 77002	Telephone No.	(713) 372-6117
Facility Name	Skelly No. 940	Facility Type	Tank Battery

Surface Owner	Federal BLM	Mineral Owner	Federal	API No.	3001532599
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	22	17S	31E					Eddy

Latitude 32.824607 Longitude -103.865255

NATURE OF RELEASE

Type of Release	Produced Water and Oil	Volume of Release	1.15 bbl oil and 164 bbl produced water	Volume Recovered	140 bbl fluid
Source of Release	Tank Overflow	Date and Hour of Occurrence	09/23/10	Date and Hour of Discovery	09/23/10 and 8:00 AM
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Geoffery Leking		
By Whom?	Kim Klahsen	Date and Hour	09/24/10		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Spill occurred due to a power failure; resulting in communication failure with regard to engineered tank overflow system.

Describe Area Affected and Cleanup Action Taken.* Affected area included lined and bermed area surrounding the tank battery. One section of the berm failed and fluids migrated west of the well pad; into nearby pasture area and north west onto grassy area within the facility boundary. Vacuum truck resources were immediately dispatched and recovered approximately 140 bbls of fluids.

Six soil samples were collected immediately within the affected area on 09/24/10. These sampling results indicated the presence of chloride and TPH concentrations in soils at levels of regulatory concern. Thus, additional confirmation samples were collected during November and December of 2010.

In response, four additional confirmation samples were collected (4-feet bgs) in 2014 from within and outside the affected area to confirm the extent of the soil impacts. Additionally in 2015, and as directed by the NMOCD, a total of four additional confirmation samples (4-feet bgs) were collected in an effort to provide an update to original (2010) soil samples collected; as well as further delineation of areas outside the affected area.

Final remedial and closure activities are provided in the attached report.

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

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Rob Speer	Approved by Environmental Specialist:		
Title: Project Manager	Approval Date:	Expiration Date:	
E-mail Address: RSpeer@chevron.com	Conditions of Approval:		Attached ☐
Date: <u>June 1, 2015</u> Phone: (713) 372-6117			

* Attach Additional Sheets If Necessary



www.CRAworld.com



Final Report

Soil Assessment and Delineation Activities Report Skelly No. 940 Tank Battery

Unit D, Section 22, Township 17 South, Range 31 East
Eddy County, New Mexico

Prepared for: Chevron Environmental Management Company

Conestoga-Rovers & Associates

2135 South Loop, 250 West
Midland, Texas 79703

June 2015 • 074634 • Report No. 3



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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 Skelly No. 940 Tank Battery release location (hereafter referred to as the “Site”).

Section 2.0 Project Information and Background

The Site is located Unit D, Section 22, T17S, R31E, approximately 7-miles southwest of Maljamar, New Mexico, in northwestern Eddy County (Figures 1 and 2).

CRA understands Cindy K. Crain, P.G., President, Crain Environmental (Crain), conducted assessment activities at the Site following the release during September of 2010. Ms. Crain’s assessment activities included performing site visits and collection of soil samples on September 27, 2010, November 12, 2010, November 23, 2010, and December 3, 2010; analytical laboratory analyses for each of the sampling events; and preliminary evaluations of regulated impacts to environmental media. CRA met with Ms. Crain on April 21, 2011 to review and transfer the file material for the Site as well as to discuss the history of delineation efforts to date for the Site. Additional information regarding the Crain Assessments is provided below.

A Site visit was performed on April 8, 2014 by CRA. During the Site visit, proposed boring locations were flagged for utility locating purposes and the Site was walked to observe Site features. CRA advanced hand auger borings and completed soil sampling activities at the Site in April 2014. Subsequently, CRA returned to the Site in 2015 to advance additional hand auger borings and sample collection activities in an effort to fully delineate the release associated with the Site.

CRA understands the fee simple surface owner of the Site is the U.S. Department of the Interior Bureau of Land Management (BLM), and these federal lands are under management by the BLM and the Mineral Management Service (MMS). The regulatory entity for the Site is the New Mexico Oil Conservation Division (NMOCD), District 2 Office, Artesia, New Mexico.

2.1 Skelly No. 940 Tank Battery Release

Chevron submitted an initial C-141 Form to the NMOCD dated October 6, 2010, describing a release of 1.15-barrels (bbls) of oil and 164-bbls of produced water (Appendix A). The C-141 reported 140-bbls of produced water as being recovered by vacuum truck. The source of the release was recorded to have been a power failure, and the release was described as follows:

“A communication failure resulted from the power failure and a tank filled but did not overflow into an adjacent tank as designed. Most of the spilled fluid remained in a lined dike area. The dike failed in one area and some of the liquid flowed into the area surrounding the tank field.”

During initial delineation investigations, Ms. Crain collected six samples ranging from the surface to approximately 6-inches to 8-inches below ground surface (bgs). Crain returned to the Site on November 12, 2010, November 23, 2010, and December 3, 2010 in an effort to collect additional delineation soil samples ranging from 1 to 2-feet bgs. All samples collected by Crain were sent to Cardinal Laboratories, Hobbs, New Mexico, for determination of benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA Method 8021B, total petroleum hydrocarbons by Method 8015 (GRO and DRO), and chlorides by EPA Method 300.0. A summary of soil analytical results collected by Crain in 2010 are presented in Table 1.

2.2 Recommended Remediation Action Levels

Information available on the Petroleum Recovery Research Center (PRRC) Mapping Portal and United States Geological Survey (USGS) Current Water Database for the Nation, the depth to groundwater at the Site is greater than 100-feet bgs; the nearest private domestic water source is greater than 200-feet; 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 total ranking score is zero, and it is anticipated that the site-specific Recommended Remediation Action Levels (RRALs) to be applied by the NMOCD for chlorides would be 1,000 ppm.

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 0.2 mg/kg for benzene, and 50 mg/kg for BTEX, 500 mg/kg TPH (GRO + DRO), and 1,000 mg/kg for chlorides ¹ .	

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

Section 3.0 Soil Assessment and Delineation Activities - 2014

On April 8, 2014, CRA's contracted service provider, Harrison & Cooper, Inc. (HCI) of Lubbock, Texas submitted an initial New Mexico One Call utility locate ticket (2014151263). CRA submitted a MCBU Chevron Dig Plan with appropriate attachments for approval to the Chevron Eunice Field Management Team. On April 16, 2014, HCI and CRA mobilized to the Site to begin soil boring activities. Upon arrival and review of the Site, it was determined that the air rotary drill rig would be unable to perform drilling activities as previously planned, due to Site conditions (e.g., uneven sandy soils). A Stop Work Authority (SWA) was called into action and a revised plan to utilize hand auger drilling techniques was devised. Four soil borings were advanced across the Site by hand auger techniques on April 16, 2014 to total approximate depths of 4-feet bgs each. A photograph log documenting the 2014 hand auger boring activities is included as Appendix B.

Soil samples were collected for laboratory analysis from each boring (HA-1, HA-2, HA-3, and HA- 4) at 2-foot intervals beginning at the surface (0-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 8021B; TPH (GRO + DRO) by EPA Method SW 8015 Modified and for chloride analysis by EPA Method 300/300.1. A soil analytical summary of the soil boring program implemented in 2014 is summarized in Table 2. The soil laboratory analytical reports are included as Appendix C.

3.1 Soil Sampling Analytical Results - 2014

The soil type observed in soil samples collected during the drilling program consisted of red to brown sand. Moisture content observed in the soil samples was dry in all instances. All soil samples collected (HA-1, HA-2, HA-3, and HA-4) from the Site in 2014 for laboratory analyses were well below the Site RRALs for BTEX (50 mg/kg), TPH (GRO + DRO) (500 mg/kg), and chloride (1,000 mg/kg) concentrations in soil.

Section 4.0 Soil Assessment and Delineation Activities – 2015

Upon discussion and recommendation from the NMOCD, District 2 Office, an effort to collect current soil samples and subsequent analytical analyses from that of soil samples collected by Crain in 2010, CRA mobilized back to the Site on April 20, 2015 to perform a Site visit. During the Site visit, proposed boring locations and New Mexico One Call parameters were flagged for utility locating purposes. The Site was walked to observe any changes that may have occurred at the active facility. The main areas of concern regarded proposed boring locations near active facility equipment that have been placed near or atop of Crain's original (2010) sample

locations. Following the Site visit, CRA submitted an initial New Mexico One Call utility locate ticket (2015170873). Ultimately, the one-call ticket resulted in multiple surface and subsurface utilities being detected in proximity to proposed boring locations near the Site's active facility equipment. Two of the proposed (2015) boring locations are currently located within bermed and lined equipment areas, thus these boring locations were not advanced in an effort to prevent compromising the integrity of the lined areas. A detailed map of the surface and subsurface utilities, and current placement of active (bermed and lined) oilfield equipment areas; in relation to Crain's (2010) sample locations that have been identified at the Site are represented on Figure 3.

On April 24, 2015, CRA mobilized to the Site to begin soil boring activities. CRA developed and submitted a MCBU Chevron Dig Plan with appropriate attachments for review and approval prior to any ground disturbance. Four soil borings were advanced across the Site by hand auger techniques on April 24, 2015 to total approximate depths of 4-feet bgs each. A collective Site Details and Analytical Results Map representing all sample locations and corresponding analytical results (2010-2015) is presented on Figure 4.

Soil samples were collected for laboratory analysis from each boring (CS 1, CS 2, CS 3, and CS 4) at 1-foot intervals beginning at the surface (0 to 2-inches 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 chloride concentrations by EPA Method 300/300.1. A soil analytical summary of the soil boring program implemented in 2015 is summarized in Table 2. The soil laboratory analytical reports are included as Appendix C.

4.1 Soil Sampling Analytical Results - 2015

The soil type observed in soil samples collected during the drilling program consisted of red to brown and tan sand. Moisture content observed in the soil samples was dry in all instances. All soil samples collected (CS 1, CS 2, CS 3, and CS 4) from the Site in 2015 for laboratory analyses were well below the Site RRALs for chloride (1,000 mg/kg) concentrations in soil.

Section 5.0 Conclusions

Evaluation of the analytical data obtained from soil assessment and delineation activities performed in 2014 and 2015 has indicated that vertical and horizontal delineation of BTEX, TPH (GRO + DRO), and chloride impacts have been achieved at the Site. Currently located bermed and lined equipment areas in proximity to Crain's 2010 sample locations (figure 3) provide additional protection to any potential impacts resulting from the 2010 release. The data from the soil boring program (2010-2015) demonstrates that the nature and extent of hydrocarbon

and chloride impacts from the release incident are minimal and the potential risk to impact groundwater is extremely low. Based on data provided in this report, no further delineation or remedial efforts are warranted. CRA recommends closure of the release associated with the Site.

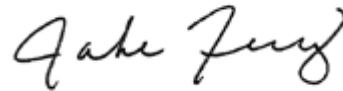
If you have any questions or comments with regard to this Soil Assessment and Delineation Activities Report, please do not hesitate to contact our Midland office at (432) 686-0086.

All of Which is Respectfully Submitted,

CONESTOGA ROVERS & ASSOCIATES

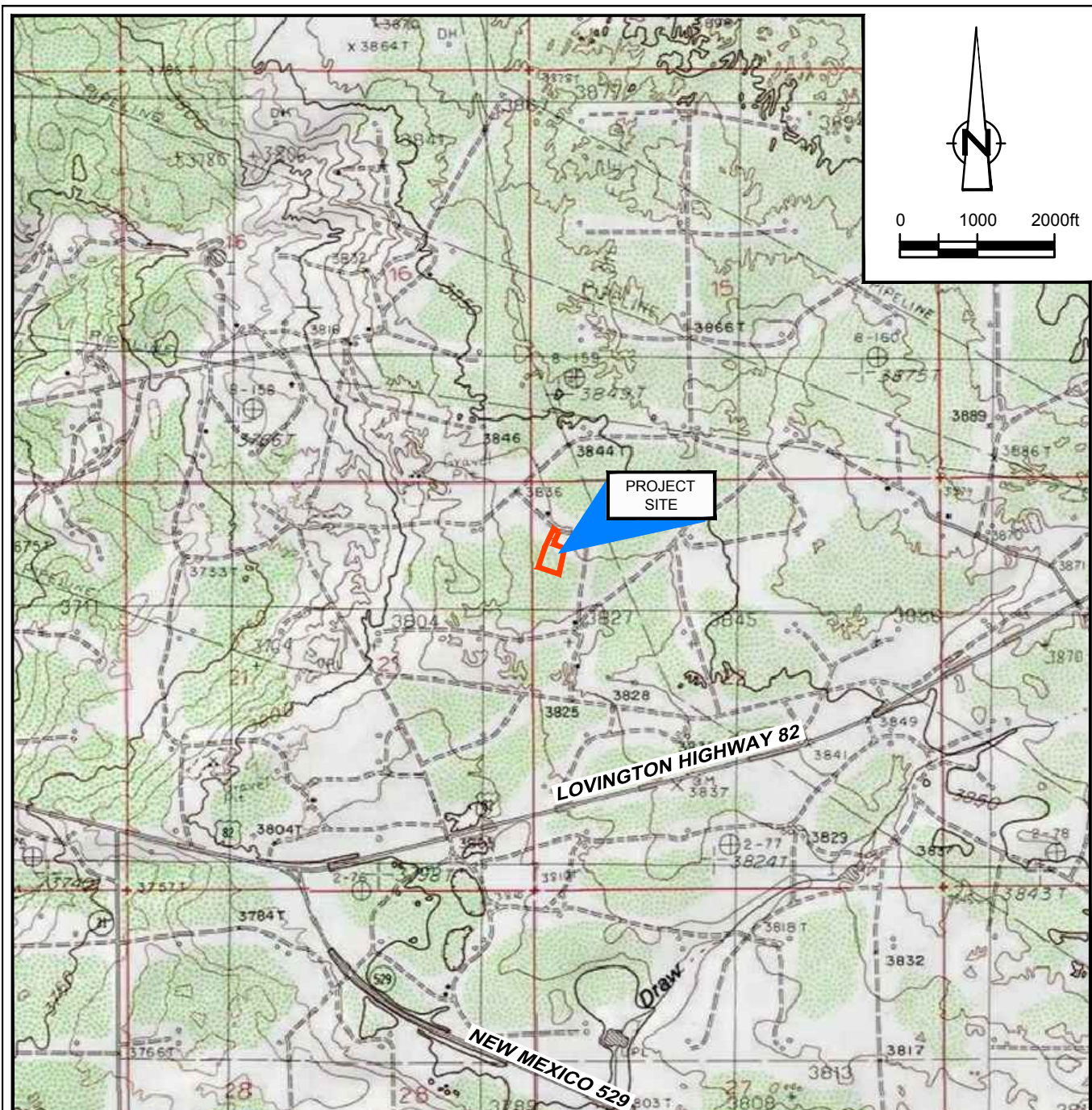


Thomas C. Larson
Principal, Midland Operations Manager



Jake L. Ferenz
Project Manager

Figures



SOURCE: USGS 7.5 MINUTE QUAD
"LOCO HILLS AND MALJAMAR, NEW MEXICO"

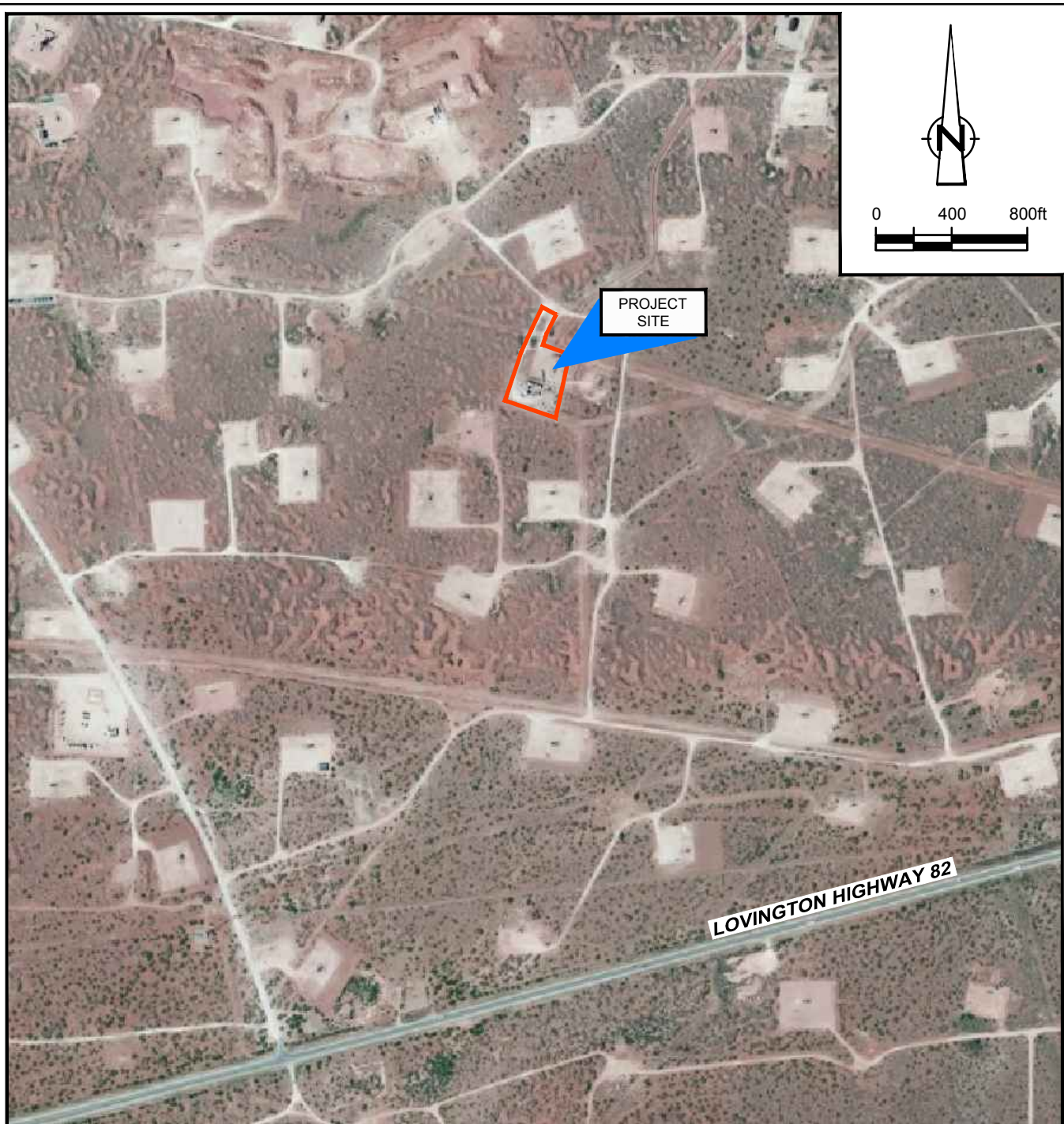
LAT/LONG: 32.8243° NORTH, 103.8653° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

figure 1

SITE LOCATION MAP
SKELLY No. 940 BATTERY
EDDY COUNTY, NEW MEXICO

Chevron Environmental Management Company





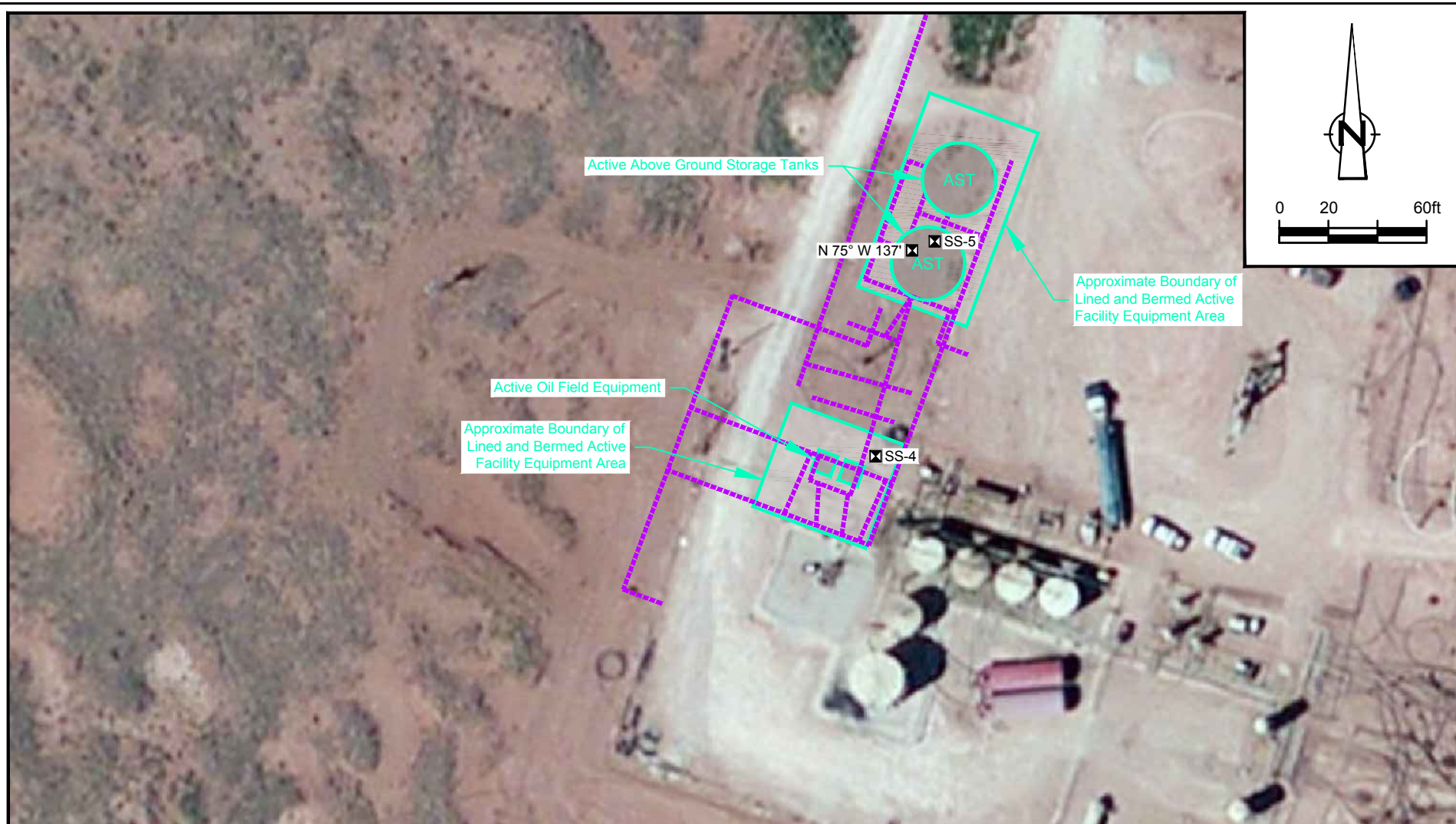
LAT/LONG: 32.8243° NORTH, 103.8653° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

figure 2

AERIAL PHOTOGRAPH
SKELLY No. 940 BATTERY
EDDY COUNTY, NEW MEXICO

Chevron Environmental Management Company





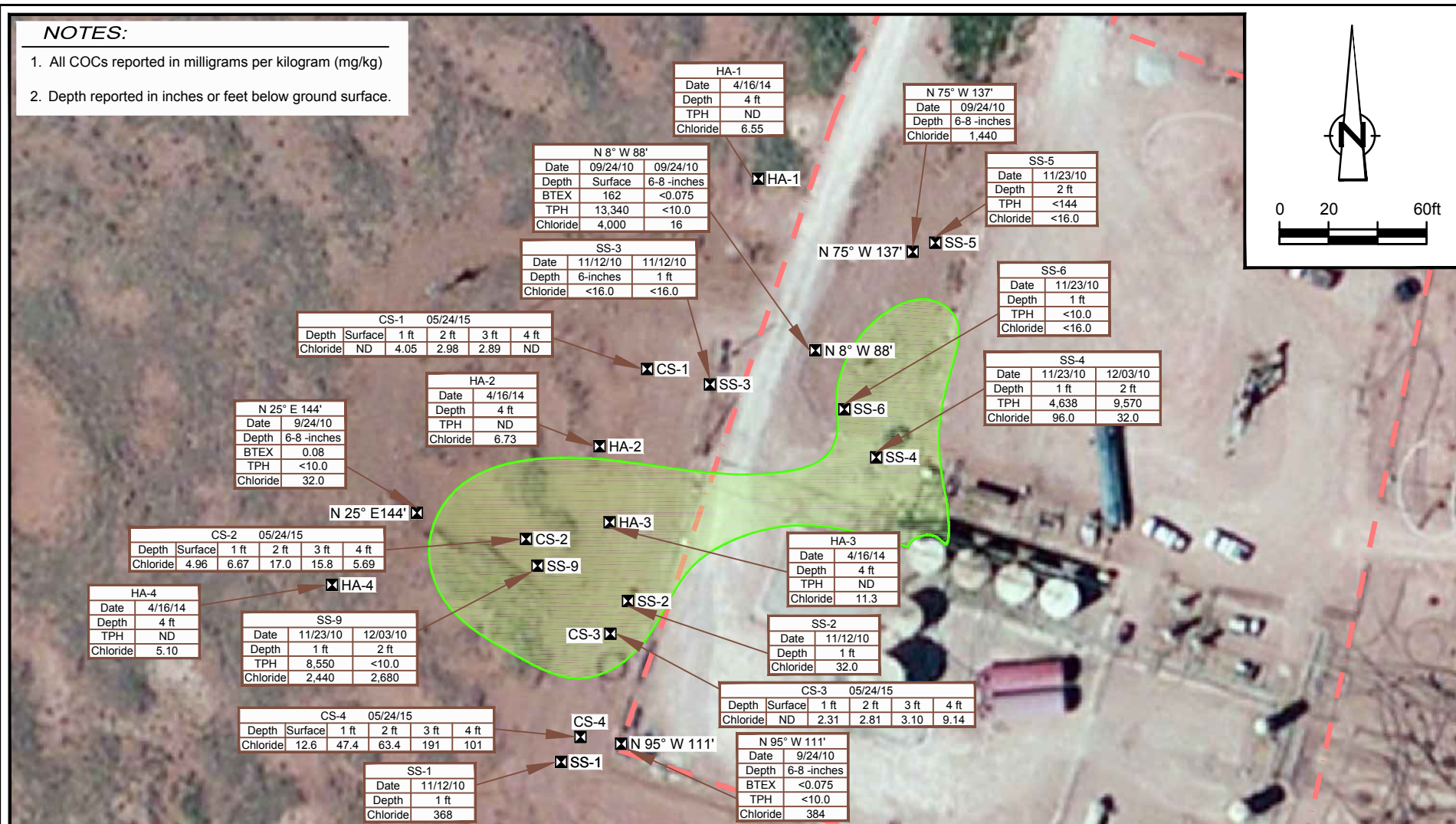
LEGEND	
	Soil Sample Location (Crain 2010)
	Approximate Site Boundary
	Surface and/or Subsurface Line/Hazard

figure 3
 SITE UTILITY MAP
 SKELLY No. 940 BATTERY
 EDDY COUNTY, NEW MEXICO
Chevron Environmental Management Company



NOTES:

1. All COCs reported in milligrams per kilogram (mg/kg)
2. Depth reported in inches or feet below ground surface.



LEGEND

- ✕ Soil Sample Location
- Approximate Spill Path (Crain)
- Approximate Site Boundary
- BTEX Benzene, Toluene, Ethylbenzene and Xylenes Concentration (mg/kg)
- TPH Total Petroleum Hydrocarbons (GRO + DRO) Concentration (mg/kg)
- ND Indicates Below Laboratory Detection Limits



figure 4
SITE DETAILS AND ANALYTICAL RESULTS
SKELLY No. 940 BATTERY
EDDY COUNTY, NEW MEXICO
Chevron Environmental Management Company

Tables

TABLE 1
SOIL ANALYTICAL SUMMARY - 2010
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
SKELLY No. 940 TANK BATTERY
LEA COUNTY, NEW MEXICO

Sample ID	Depth (feet)	Sample Date	Benzene	Toluene	Ethyl-Benzene	Xylenes	Total BTEX	TPH (8015B Modified)			Chlorides
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	DRO	GRO	(GRO+DRO)	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMOCD Recommended Remediation Action Levels			0.2 mg/kg	--- mg/kg	--- mg/kg	--- mg/kg	50 mg/kg	--- mg/kg	--- mg/kg	500 mg/kg	1,000 mg/kg
Skelly 940 N75 W137	(6" - 8")	9/24/10	0.055	0.045	<0.025	<0.075	<.10	<10.0	<10.0	<10.0	1,440
Skelly 940 N95 W111	(6" - 8")	9/24/10	<0.025	<0.025	<0.025	<0.075	<0.075	<10.0	<10.0	<10.0	384
Skelly 940 N 8 W 88	Surface	9/24/10	18.5	58.4	42.1	43	162	1,340	12,000	13,340	4,000
	(6" - 8")	9/24/10	<0.025	<0.025	<0.025	<0.075	<0.075	<10.0	<10.0	<10.0	16.0
Skelly 940 N 125 W 107	(6" - 8")	9/24/10	<0.025	<0.025	<0.025	<0.075	<0.075	<10.0	29.8	29.8	480
Skelly 940 N 25 E 144	(6" - 8")	9/24/10	0.036	0.042	<0.025	<0.075	0.08	<10.0	<10.0	<10.0	32.0
SS-1	6"	11/12/10	--	--	--	--	--	--	--	--	880
	1'	11/12/10	--	--	--	--	--	--	--	--	368
SS-2	6"	11/12/10	--	--	--	--	--	--	--	--	<16.0
	1'	11/12/10	--	--	--	--	--	--	--	--	32.0
SS-3	6"	11/12/10	--	--	--	--	--	--	--	--	<16.0
	1'	11/12/10	--	--	--	--	--	--	--	--	<16.0
SS-4	1'	11/23/10	--	--	--	--	--	278	4,360	4,638	96.0
	2'	12/3/10	--	--	--	--	--	2,600	6,970	9,570	32.0
SS-5	2'	11/23/10	--	--	--	--	--	<10.0	134	<144	<16.0
SS-6	1'	11/23/10	--	--	--	--	--	<10.0	<10.0	<10.0	<16.0
SS-7	1'	11/23/10	--	--	--	--	--	<10.0	<10.0	<10.0	16.0
SS-8	1'	11/23/10	--	--	--	--	--	<50.0	2,070	2,070	1,470
	2'	12/3/10	--	--	--	--	--	<10.0	55.5	55.5	32.0
SS-9	1'	11/23/10	--	--	--	--	--	1,580	6,970	8,550	2,440
	2'	12/3/10	--	--	--	--	--	<10.0	<10.0	<10.0	2,680

Notes:

1. Highlighted cells indicate concentrations exceeding NMOCD guidanceRRALs (per 2011 Draft, guidance document)
2. Bold indicates that COC was detected
3. mg/kg = milligrams per kilogram
4. '--' indicates COC was not analyzed
5. ND Indicates below laboratory detection limits
6. SS indicates Soil Sample

TABLE 2
SOIL ANALYTICAL SUMMARY - 2014 2015
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
SKELLY No. 940 TANK BATTERY
LEA COUNTY, NEW MEXICO

Sample ID	Depth (feet)	Sample Date	Benzene	Toluene	Ethyl-Benzene	Xylenes	Total BTEX	TPH (8015B Modified)			Chlorides
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	DRO	GRO	(GRO+DRO)	
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMOCD Recommended Remediation Action Levels			0.2 mg/kg	---	---	---	50 mg/kg	---	---	500 mg/kg	1,000 mg/kg
HA-1	0'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	4.56
	2'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	5.95
	4'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	6.55
HA-2	0'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	3.76
	2'	4/16/14	ND	ND	0.00125	0.00657	0.00782	ND	ND	ND	4.34
	4'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	6.73
HA-3	0'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	15.3
	2'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	11.1
	4'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	11.3
HA-4	0'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	4.91
	2'	4/16/14	ND	ND	ND	0.00615	0.00615	ND	ND	ND	4.38
	4'	4/16/14	ND	ND	ND	ND	ND	ND	ND	ND	5.10
CS 1	Surface	5/24/15	--	--	--	--	--	--	--	--	ND
	1'	5/24/15	--	--	--	--	--	--	--	--	4.05
	2'	5/24/15	--	--	--	--	--	--	--	--	2.98
	3'	5/24/15	--	--	--	--	--	--	--	--	2.89
	4'	5/24/15	--	--	--	--	--	--	--	--	ND
CS 2	Surface	5/24/15	--	--	--	--	--	--	--	--	4.96
	1'	5/24/15	--	--	--	--	--	--	--	--	6.67
	2'	5/24/15	--	--	--	--	--	--	--	--	17.0
	3'	5/24/15	--	--	--	--	--	--	--	--	15.8
	4'	5/24/15	--	--	--	--	--	--	--	--	5.69
CS 3	Surface	5/24/15	--	--	--	--	--	--	--	--	ND
	1'	5/24/15	--	--	--	--	--	--	--	--	2.31
	2'	5/24/15	--	--	--	--	--	--	--	--	2.81
	3'	5/24/15	--	--	--	--	--	--	--	--	3.10
	4'	5/24/15	--	--	--	--	--	--	--	--	9.14
CS 4	Surface	5/24/15	--	--	--	--	--	--	--	--	12.6
	1'	5/24/15	--	--	--	--	--	--	--	--	47.4
	2'	5/24/15	--	--	--	--	--	--	--	--	63.4
	3'	5/24/15	--	--	--	--	--	--	--	--	191
	4'	5/24/15	--	--	--	--	--	--	--	--	101

Notes:

1. HA indicates Hand Auger
2. CS indicates Confirmation Sample
3. Bold indicates that COC was detected
4. mg/kg = milligrams per kilogram
5. '-' indicates COC was not analyzed
6. ND Indicated below laboratory detection limits
7. Surface indicates sample depth below ground surface of 0 to 2-inches

Appendices

Appendix A

Original Form C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR X Initial Report Final Report

Name of Company Chevron USA	Contact Kim Klahsen	
Address HCR 60 Box 423 Lovington, N.M. 88260	Telephone No. 505-396-4414 X 228	
Facility Name: Skelly 940	Facility Type PRODUCTION BATTERY	
Surface Owner FEDERAL BLM	Mineral Owner FEDERAL	Lease No. FEDERAL LEASE NO.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	South Line	Feet from the	East Line	County
								Eddy

Latitude: / Longitude: -

NATURE OF RELEASE

API #

Type of Release Spill	Volume of Release 1.15 bbl oil and 164 bbl produced water	Volume Recovered 140 bbl produced water
Source of Release Tank overflow at the Skelly 940 battery	Date and Hour of Occurrence 9-23-2010	Date and Hour of Discovery 9-23-2010 @ 8:00
Was Immediate Notice Given? Yes ☐ No ☐ Not Required	If YES, To Whom? Verbal notice to Geoffry Leking on 9/24/10 by Kim Klahsen	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A power failure was the main cause of the spill. A communication failure resulted from the power failure and a tank filled but did not overflow into an adjacent tank as designed. Most of the spilled fluid remained in a lined dike area where a vacuum truck removed the fluid to proper disposal. The dike failed in one area and some of the liquid flowed into the area surrounding the tank field. Soil samples were collected to determine the concentration of BTEX, Chlorides, and TPH.

Describe Area Affected and Cleanup Action Taken.

This is an impact to soil. So far, only free liquids have been removed from the area of the spill.

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

Signature:		OIL CONSERVATION DIVISION	
Printed Name: Kim Klahsen		Approved by District Supervisor:	
Title: Operations : HES		Approval Date:	Expiration Date:
E-mail Address KDKL@chevron.com		Conditions of Approval:	Attached ☐
Date: October 6, 2010 Phone: 396-4414 X 228			

* Attach Additional Sheets If Necessary

Appendix B

Photograph Log



PHOTO 1: View of 2014 hand auger drilling activities (HA-1) facing south west

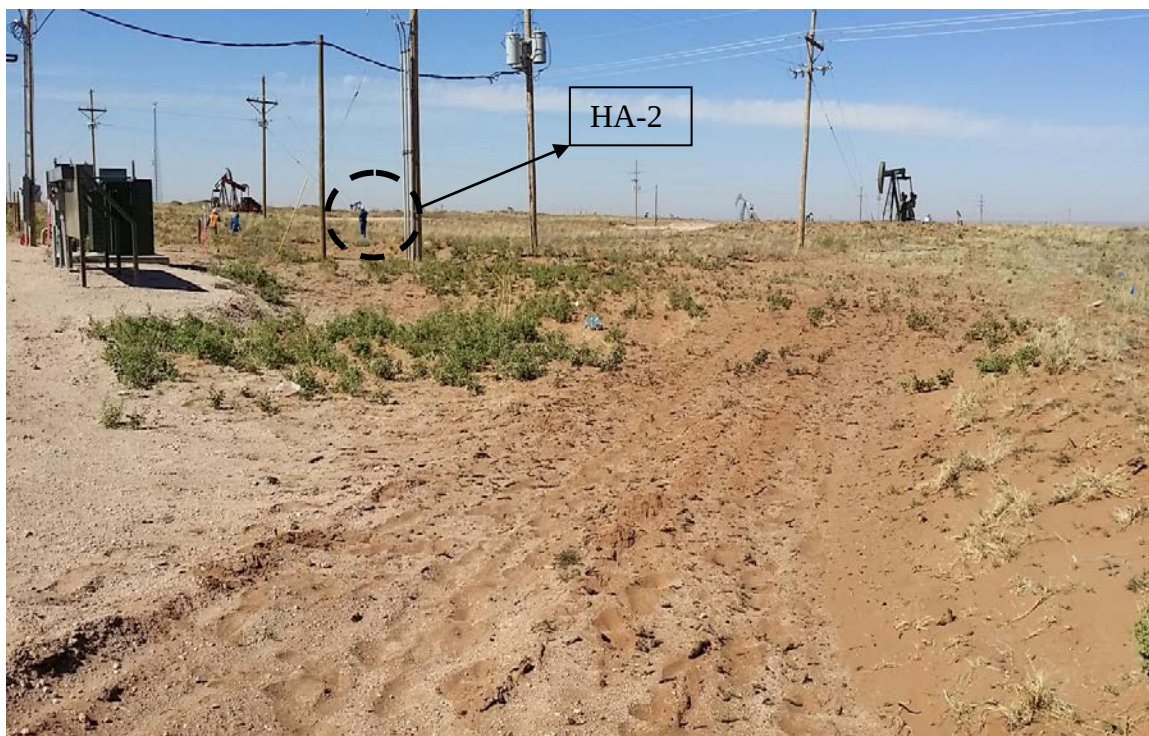


PHOTO 2: View of 2014 hand auger drilling activities (HA-2) and sandy soils facing south west





PHOTO 3: View of 2014 boring location (HA-3) and uneven sandy soil terrain facing north east

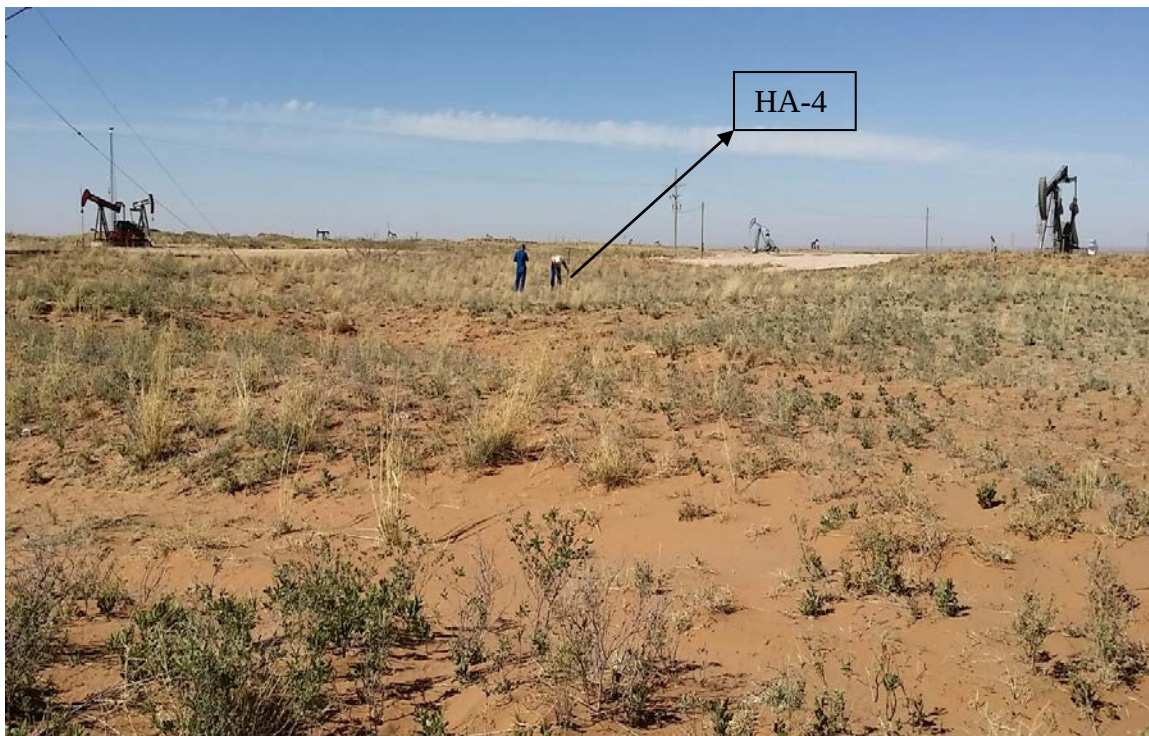


PHOTO 4: View of 2014 hand auger drilling activities (HA-4) and uneven sandy soil terrain facing south west



Appendix C

Soil Laboratory Analytical Reports

Intentionally Omitted From Draft Report

Analytical Report 483546

for

Conestoga Rovers & Associates

Project Manager: Chris Knight

CEMC- Skelly 940

074634

24-APR-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)

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:AZ000989): Arizona (AZ0758)



24-APR-14

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

Reference: XENCO Report No(s): **483546**
CEMC- Skelly 940
Project Address: Eddy County, NM

Chris Knight:

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) 483546. 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. 483546 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

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Sample Cross Reference 483546



Conestoga Rovers & Associates, Midland, TX

CEMC- Skelly 940

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
074634-JNF-HA1	S	04-16-14 10:20	- 0 ft	483546-001
074634-JNF-HA1	S	04-16-14 10:22	- 2 ft	483546-002
074634-JNF-HA1	S	04-16-14 10:24	- 4 ft	483546-003
074634-JNF-HA2	S	04-16-14 10:25	- 0 ft	483546-004
074634-JNF-HA2	S	04-16-14 10:27	- 2 ft	483546-005
074634-JNF-HA2	S	04-16-14 10:29	- 4 ft	483546-006
074634-JNF-HA3	S	04-16-14 10:30	- 0 ft	483546-007
074634-JNF-HA3	S	04-16-14 10:32	- 2 ft	483546-008
074634-JNF-HA3	S	04-16-14 10:34	- 4 ft	483546-009
074634-JNF-HA4	S	04-16-14 10:35	- 0 ft	483546-010
074634-JNF-HA4	S	04-16-14 10:37	- 2 ft	483546-011
074634-JNF-HA4	S	04-16-14 10:39	- 4 ft	483546-012



CASE NARRATIVE



Client Name: *Conestoga Rovers & Associates*

Project Name: *CEMC- Skelly 940*

Project ID: 074634

Work Order Number(s): 483546

Report Date: 24-APR-14

Date Received: 04/17/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 483546

Conestoga Rovers & Associates, Midland, TX

Project Name: CEMC- Skelly 940



Project Id: 074634

Contact: Chris Knight

Project Location: Eddy County, NM

Date Received in Lab: Thu Apr-17-14 10:20 am

Report Date: 24-APR-14

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	483546-001	483546-002	483546-003	483546-004	483546-005	483546-006
	<i>Field Id:</i>	074634-JNF-HA1	074634-JNF-HA1	074634-JNF-HA1	074634-JNF-HA2	074634-JNF-HA2	074634-JNF-HA2
	<i>Depth:</i>	0 ft	2 ft	4 ft	0 ft	2 ft	4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Apr-16-14 10:20	Apr-16-14 10:22	Apr-16-14 10:24	Apr-16-14 10:25	Apr-16-14 10:27	Apr-16-14 10:29
BTEX by EPA 8021B	<i>Extracted:</i>	Apr-17-14 14:00	Apr-17-14 14:00	Apr-17-14 14:00	Apr-17-14 14:00	Apr-21-14 15:00	Apr-17-14 14:00
	<i>Analyzed:</i>	Apr-17-14 22:13	Apr-17-14 22:29	Apr-17-14 22:45	Apr-17-14 23:01	Apr-21-14 20:29	Apr-17-14 23:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00100	ND 0.00101	ND 0.00102	ND 0.00101	ND 0.00102	ND 0.00101
Toluene		ND 0.00201	ND 0.00203	ND 0.00203	ND 0.00202	ND 0.00205	ND 0.00201
Ethylbenzene		ND 0.00100	ND 0.00101	ND 0.00102	ND 0.00101	0.00125 0.00102	ND 0.00101
m_p-Xylenes		ND 0.00201	ND 0.00203	ND 0.00203	ND 0.00202	0.00465 0.00205	ND 0.00201
o-Xylene		ND 0.00100	ND 0.00101	ND 0.00102	ND 0.00101	0.00192 0.00102	ND 0.00101
Total Xylenes		ND 0.00100	ND 0.00101	ND 0.00102	ND 0.00101	0.00657 0.00102	ND 0.00101
Total BTEX		ND 0.00100	ND 0.00101	ND 0.00102	ND 0.00101	0.00782 0.00102	ND 0.00101
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Apr-21-14 10:30	Apr-21-14 10:30	Apr-21-14 10:30	Apr-21-14 10:30	Apr-21-14 10:30	Apr-21-14 10:30
	<i>Analyzed:</i>	Apr-21-14 20:49	Apr-21-14 21:34	Apr-21-14 21:57	Apr-21-14 22:20	Apr-21-14 22:42	Apr-21-14 23:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		4.56 2.02	5.95 2.03	6.55 2.03	3.76 2.02	4.34 2.05	6.73 2.03
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Apr-17-14 17:00	Apr-17-14 17:00	Apr-17-14 17:00	Apr-17-14 17:00	Apr-17-14 17:00	Apr-17-14 17:00
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		ND 1.00	1.66 1.00	1.51 1.00	1.17 1.00	2.63 1.00	1.42 1.00
TPH By SW8015B Mod	<i>Extracted:</i>	Apr-17-14 16:00	Apr-17-14 16:00	Apr-17-14 16:00	Apr-17-14 16:00	Apr-17-14 16:00	Apr-17-14 16:00
	<i>Analyzed:</i>	Apr-18-14 04:06	Apr-18-14 05:27	Apr-18-14 05:54	Apr-18-14 06:19	Apr-18-14 06:46	Apr-18-14 07:13
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Total TPH		ND 15.1	ND 15.2	ND 15.2	ND 15.1	ND 15.4	ND 15.2

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.

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Kelsey Brooks
Project Manager

Certificate of Analysis Summary 483546

Conestoga Rovers & Associates, Midland, TX

Project Name: CEMC- Skelly 940



Project Id: 074634

Contact: Chris Knight

Project Location: Eddy County, NM

Date Received in Lab: Thu Apr-17-14 10:20 am

Report Date: 24-APR-14

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	483546-007	483546-008	483546-009	483546-010	483546-011	483546-012
	<i>Field Id:</i>	074634-JNF-HA3	074634-JNF-HA3	074634-JNF-HA3	074634-JNF-HA4	074634-JNF-HA4	074634-JNF-HA4
	<i>Depth:</i>	0 ft	2 ft	4 ft	0 ft	2 ft	4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Apr-16-14 10:30	Apr-16-14 10:32	Apr-16-14 10:34	Apr-16-14 10:35	Apr-16-14 10:37	Apr-16-14 10:39
BTEX by EPA 8021B	<i>Extracted:</i>	Apr-17-14 14:00	Apr-17-14 14:00	Apr-17-14 14:00	Apr-17-14 14:00	Apr-21-14 15:00	Apr-21-14 15:00
	<i>Analyzed:</i>	Apr-17-14 23:48	Apr-18-14 00:03	Apr-18-14 00:19	Apr-18-14 00:35	Apr-21-14 20:46	Apr-21-14 21:02
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00101	ND 0.00101	ND 0.00106	ND 0.00100	ND 0.00101	ND 0.00105
Toluene		ND 0.00202	ND 0.00202	ND 0.00211	ND 0.00201	ND 0.00202	ND 0.00210
Ethylbenzene		ND 0.00101	ND 0.00101	ND 0.00106	ND 0.00100	ND 0.00101	ND 0.00105
m_p-Xylenes		ND 0.00202	ND 0.00202	ND 0.00211	ND 0.00201	0.00418 0.00202	ND 0.00210
o-Xylene		ND 0.00101	ND 0.00101	ND 0.00106	ND 0.00100	0.00197 0.00101	ND 0.00105
Total Xylenes		ND 0.00101	ND 0.00101	ND 0.00106	ND 0.00100	0.00615 0.00101	ND 0.00105
Total BTEX		ND 0.00101	ND 0.00101	ND 0.00106	ND 0.00100	0.00615 0.00101	ND 0.00105
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Apr-21-14 10:30	Apr-21-14 10:30	Apr-21-14 10:30	Apr-21-14 10:30	Apr-21-14 10:30	Apr-21-14 10:30
	<i>Analyzed:</i>	Apr-22-14 00:13	Apr-22-14 00:36	Apr-22-14 00:58	Apr-22-14 01:21	Apr-22-14 01:44	Apr-22-14 02:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		15.3 2.04	11.1 2.03	11.3 2.11	4.91 2.01	4.38 2.03	5.10 2.11
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Apr-17-14 17:00	Apr-17-14 17:00	Apr-17-14 17:00	Apr-17-14 17:00	Apr-17-14 17:00	Apr-17-14 17:00
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		1.77 1.00	1.58 1.00	5.42 1.00	ND 1.00	1.52 1.00	5.14 1.00
TPH By SW8015B Mod	<i>Extracted:</i>	Apr-17-14 16:00	Apr-17-14 16:00	Apr-17-14 16:00	Apr-17-14 16:00	Apr-17-14 16:00	Apr-17-14 16:00
	<i>Analyzed:</i>	Apr-18-14 07:40	Apr-18-14 08:07	Apr-18-14 08:34	Apr-18-14 08:58	Apr-18-14 09:49	Apr-18-14 10:16
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Total TPH		ND 15.2	ND 15.2	ND 15.8	ND 15.1	ND 15.2	ND 15.8

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

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Kelsey Brooks
Project Manager

- 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 **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
 3725 E. Atlanta Ave, Phoenix, AZ 85040

Phone	Fax
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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: CEMC- Skelly 940

Work Orders : 483546,

Lab Batch #: 939053

Sample: 483546-001 / SMP

Project ID: 074634

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/17/14 22:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 939053

Sample: 483546-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/17/14 22:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0282	0.0300	94	80-120	

Lab Batch #: 939053

Sample: 483546-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/17/14 22:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

Lab Batch #: 939053

Sample: 483546-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/17/14 23:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 939053

Sample: 483546-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/17/14 23:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	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: CEMC- Skelly 940

Work Orders : 483546,

Project ID: 074634

Lab Batch #: 939053

Sample: 483546-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/17/14 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	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0261	0.0300	87	80-120	

Lab Batch #: 939053

Sample: 483546-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 00:03

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 939053

Sample: 483546-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 00:19

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

Lab Batch #: 939053

Sample: 483546-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 00:35

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

Lab Batch #: 938929

Sample: 483546-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 04:06

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.3	99.9	86	70-135	
o-Terphenyl	36.6	50.0	73	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

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



Form 2 - Surrogate Recoveries

Project Name: CEMC- Skelly 940

Work Orders : 483546,

Project ID: 074634

Lab Batch #: 938929

Sample: 483546-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 05:27

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.7	99.8	91	70-135	
o-Terphenyl	38.2	49.9	77	70-135	

Lab Batch #: 938929

Sample: 483546-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 05:54

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	94.9	99.8	95	70-135	
o-Terphenyl	40.6	49.9	81	70-135	

Lab Batch #: 938929

Sample: 483546-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 06:19

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	94.5	99.6	95	70-135	
o-Terphenyl	40.1	49.8	81	70-135	

Lab Batch #: 938929

Sample: 483546-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 06:46

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	114	99.9	114	70-135	
o-Terphenyl	52.9	50.0	106	70-135	

Lab Batch #: 938929

Sample: 483546-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 07:13

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	90.1	99.9	90	70-135	
o-Terphenyl	40.3	50.0	81	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: CEMC- Skelly 940

Work Orders : 483546,

Project ID: 074634

Lab Batch #: 938929

Sample: 483546-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 07:40

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	117	99.8	117	70-135	
o-Terphenyl	53.4	49.9	107	70-135	

Lab Batch #: 938929

Sample: 483546-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 08:07

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	94.4	100	94	70-135	
o-Terphenyl	40.4	50.0	81	70-135	

Lab Batch #: 938929

Sample: 483546-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 08:34

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.6	99.8	97	70-135	
o-Terphenyl	44.5	49.9	89	70-135	

Lab Batch #: 938929

Sample: 483546-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 08:58

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.1	99.7	96	70-135	
o-Terphenyl	41.2	49.9	83	70-135	

Lab Batch #: 938929

Sample: 483546-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 09:49

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	91.4	99.9	91	70-135	
o-Terphenyl	38.8	50.0	78	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: CEMC- Skelly 940

Work Orders : 483546,

Project ID: 074634

Lab Batch #: 938929

Sample: 483546-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 10:16

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	119	99.9	119	70-135	
o-Terphenyl	56.5	50.0	113	70-135	

Lab Batch #: 939223

Sample: 483546-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/21/14 20:29

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 939223

Sample: 483546-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/21/14 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	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 939223

Sample: 483546-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/21/14 21:02

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0273	0.0300	91	80-120	

Lab Batch #: 939053

Sample: 654280-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/17/14 20:38

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0269	0.0300	90	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: CEMC- Skelly 940

Work Orders : 483546,

Lab Batch #: 938929

Sample: 654198-1-BLK / BLK

Project ID: 074634

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/18/14 02:47

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.8	100	94	70-135	
o-Terphenyl	46.6	50.0	93	70-135	

Lab Batch #: 939223

Sample: 654375-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/21/14 18:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 939053

Sample: 654280-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/17/14 20:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 938929

Sample: 654198-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/18/14 03:13

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.1	100	94	70-135	
o-Terphenyl	39.7	50.0	79	70-135	

Lab Batch #: 939223

Sample: 654375-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/21/14 19:08

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	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: CEMC- Skelly 940

Work Orders : 483546,

Lab Batch #: 939053

Sample: 654280-1-BSD / BSD

Project ID: 074634

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/17/14 21:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 938929

Sample: 654198-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/18/14 03:40

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.9	100	99	70-135	
o-Terphenyl	41.1	50.0	82	70-135	

Lab Batch #: 939223

Sample: 654375-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/21/14 19:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 939053

Sample: 483546-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/17/14 21:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 938929

Sample: 483546-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 04:33

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.7	103	70-135	
o-Terphenyl	48.2	49.9	97	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

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



Form 2 - Surrogate Recoveries

Project Name: CEMC- Skelly 940

Work Orders : 483546,

Project ID: 074634

Lab Batch #: 939223

Sample: 483546-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/21/14 19:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 939053

Sample: 483546-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/17/14 21:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 938929

Sample: 483546-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/18/14 05:01

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.4	99.7	100	70-135	
o-Terphenyl	42.0	49.9	84	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.

Project Name: CEMC- Skelly 940

Work Order #: 483546

Project ID: 074634

Analyst: ARM

Date Prepared: 04/17/2014

Date Analyzed: 04/17/2014

Lab Batch ID: 939053

Sample: 654280-1-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	0.0985	99	0.100	0.0948	95	4	70-130	35	
Toluene	<0.00200	0.100	0.0986	99	0.100	0.0945	95	4	70-130	35	
Ethylbenzene	<0.00100	0.100	0.105	105	0.100	0.101	101	4	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.216	108	0.200	0.208	104	4	70-135	35	
o-Xylene	<0.00100	0.100	0.108	108	0.100	0.105	105	3	71-133	35	

Analyst: ARM

Date Prepared: 04/21/2014

Date Analyzed: 04/21/2014

Lab Batch ID: 939223

Sample: 654375-1-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	0.0919	92	0.100	0.0926	93	1	70-130	35	
Toluene	<0.00200	0.100	0.0912	91	0.100	0.0912	91	0	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0971	97	0.100	0.0966	97	1	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.202	101	0.200	0.200	100	1	70-135	35	
o-Xylene	<0.00100	0.100	0.101	101	0.100	0.0997	100	1	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: CEMC- Skelly 940

Work Order #: 483546

Project ID: 074634

Analyst: AMB

Date Prepared: 04/21/2014

Date Analyzed: 04/21/2014

Lab Batch ID: 939208

Sample: 654348-1-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	47.0	94	50.0	47.1	94	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

Work Order #: 483546

Lab Batch #: 939223

Date Analyzed: 04/21/2014

QC- Sample ID: 483546-005 S

Reporting Units: mg/kg

Project ID: 074634

Date Prepared: 04/21/2014

Batch #: 1

Analyst: ARM

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
BTEX by EPA 8021B	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Benzene	<0.00102	0.102	0.0930	91	70-130	
Toluene	<0.00205	0.102	0.0922	90	70-130	
Ethylbenzene	0.00125	0.102	0.0974	94	71-129	
m_p-Xylenes	0.00465	0.205	0.202	96	70-135	
o-Xylene	0.00192	0.102	0.101	97	71-133	

Lab Batch #: 939208

Date Analyzed: 04/21/2014

QC- Sample ID: 483546-001 S

Reporting Units: mg/kg

Date Prepared: 04/21/2014

Batch #: 1

Analyst: AMB

Matrix: Soil

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	4.56	50.4	53.0	96	80-120	

Lab Batch #: 939208

Date Analyzed: 04/22/2014

QC- Sample ID: 483546-011 S

Reporting Units: mg/kg

Date Prepared: 04/21/2014

Batch #: 1

Analyst: AMB

Matrix: Soil

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	4.38	50.8	51.2	92	80-120	

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

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: CEMC- Skelly 940

Work Order # : 483546

Project ID: 074634

Lab Batch ID: 939053

QC- Sample ID: 483546-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/17/2014

Date Prepared: 04/17/2014

Analyst: ARM

Reporting Units: mg/kg

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	<0.00100	0.100	0.0886	89	0.100	0.0851	85	4	70-130	35	
Toluene	<0.00201	0.100	0.0867	87	0.100	0.0829	83	4	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0916	92	0.100	0.0868	87	5	71-129	35	
m_p-Xylenes	<0.00201	0.201	0.188	94	0.200	0.179	90	5	70-135	35	
o-Xylene	<0.00100	0.100	0.0950	95	0.100	0.0903	90	5	71-133	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.

Project Name: CEMC- Skelly 940

Work Order #: 483546

Lab Batch #: 938955

Project ID: 074634

Date Analyzed: 04/17/2014 17:00

Date Prepared: 04/17/2014

Analyst: WRU

QC- Sample ID: 483447-013 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	18.4	18.6	1	20	

Lab Batch #: 938955

Date Analyzed: 04/17/2014 17:00

Date Prepared: 04/17/2014

Analyst: WRU

QC- Sample ID: 483546-007 D

Batch #: 1

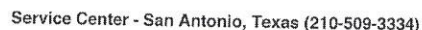
Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.77	1.60	10	20	

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



Page 1 Of 2

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

www.xenco.com

Xenco Quote #

Xenco Job #	
-------------	--

483546

Client / Reporting Information										Project Information										Analytical Information										Matrix Codes									
Company Name / Branch: CRA, Inc										Project Name/Number: 074634										BTEX TPH DRO, GRO Chlorides										A= Air S = Soil/Sed/Solid GW =Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge WW= Waste Water W = Wipe O = Oil WW= Waste Water									
Company Address: 2135 S Loop 250 West Midland, TX 79703										Project Location: CEPC - Skelly 940 Eddy County, New Mexico																													
Email: Phone No: 432-686-0084										Invoice To:																													
Project Contact: Chris Knight / Jake Ferenz										PO Number:																													
Samplers's Name: John Ferguson																																							
No. Field ID / Point of Collection										Collection										Number of preserved bottles																			
										Sample Depth Date Time Matrix # of bottles HCl NaOH/Zn Acetate HNO3 H2SO4 NaOH NaHSO4 MECH NONE																													
1 074634-JNF-HA1										0' 4/16/14 1020 S 1										X X X X																			
2 074634-JNF-HA1										2' 4/16/14 1022 S 1										X X X X																			
3 074634-JNF-HA1										4' 4/16/14 1024 S 1										X X X X																			
4 074634-JNF-HA2										0' 4/16/14 1025 S 1										X X X X																			
5 074634-JNF-HA2										2' 4/16/14 1027 S 1										X X X X																			
6 074634-JNF-HA2										4' 4/16/14 1029 S 1										X X X X																			
7 074634-JNF-HA3										0' 4/16/14 1030 S 1										X X X X																			
8 074634-JNF-HA3										2' 4/16/14 1032 S 1										X X X X																			
9 074634-JNF-HA3										4' 4/16/14 1034 S 1										X X X X																			
10 074634-JNF-HA4										0' 4/16/14 1035 S 1										X X X X																			
Turnaround Time (Business days)										Data Deliverable Information										Notes:																			
☐ Same Day TAT ☐ 5 Day TAT										☐ Level II Std QC ☐ Level IV (Full Data Pkg /raw data)																													
☐ Next Day EMERGENCY ☒ Day TAT										☐ Level III Std QC+ Forms ☐ TRRP Level IV																													
☐ 2 Day EMERGENCY ☐ Contract TAT										☐ Level 3 (CLP Forms) ☐ UST / RG -411																													
☐ 3 Day EMERGENCY										☐ TRRP Checklist																													
TAT Starts Day received by Lab, if received by 3:00 pm																				FED-EX / UPS: Tracking #																			
Relinquished by Sampler:										Date Time:										Received By:																			
1										4/17/14 1020										1 Julian Martinez																			
Relinquished by:										Date Time:										Relinquished By:																			
3																				4																			
Relinquished by:										Date Time:										Custody Seal # Preserved where applicable																			
5																				On Ice Cooler Temp. Thermo. Corr. Factor																			
																				4 1 = 50C																			
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: 04/17/2014 10:20:00 AM

Work Order #: 483546

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)?	5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#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?	N/A
#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 HNO ₃ , HCL, H ₂ SO ₄ ?	N/A
#22 >10 for all samples preserved with NaAsO ₂ +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:

Ruriko Konuma

Date: 04/17/2014

Checklist reviewed by:

Kelsey Brooks

Date: 04/21/2014

Analytical Report 506833

for

Conestoga Rovers & Associates

Project Manager: Jake Ferenz

-

074634

04-MAY-15

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-14-18), 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:AZ000989): Arizona (AZ0758)



04-MAY-15

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

Reference: XENCO Report No(s): **506833**

-

Project Address: NM

Jake 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) 506833. 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. 506833 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

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Conestoga Rovers & Associates, Midland, TX

-

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CS 1- 0-2"	S	04-24-15 08:34	0 - 2 In	506833-001
CS 1-1'	S	04-24-15 08:45	- 1 ft	506833-002
CS 1-2'	S	04-24-15 08:47	- 2 ft	506833-003
CS 1-3'	S	04-24-15 08:49	- 3 ft	506833-004
CS 1-4'	S	04-24-15 08:52	- 4 ft	506833-005
CS 2-0-2"	S	04-24-15 09:00	0 - 2 In	506833-006
CS 2-1'	S	04-24-15 09:02	- 1 ft	506833-007
CS 2-2'	S	04-24-15 09:04	- 2 ft	506833-008
CS 2-3'	S	04-24-15 09:06	- 3 ft	506833-009
CS 2-4'	S	04-24-15 09:07	- 4 ft	506833-010
CS 3-0-2"	S	04-24-15 09:08	0 - 2 In	506833-011
CS 3-1'	S	04-24-15 09:09	- 1 ft	506833-012
CS 3-2'	S	04-24-15 09:10	- 2 ft	506833-013
CS 3-3'	S	04-24-15 09:11	- 3 ft	506833-014
CS 3-4'	S	04-24-15 09:12	- 4 ft	506833-015
CS 4- 0-2"	S	04-24-15 09:14	0 - 2 In	506833-016
CS 4-1'	S	04-24-15 09:16	- 1 ft	506833-017
CS 4-2'	S	04-24-15 09:18	- 2 ft	506833-018
CS 4-3'	S	04-24-15 09:20	- 3 ft	506833-019
CS 4-4'	S	04-24-15 09:22	- 4 ft	506833-020



CASE NARRATIVE



Client Name: *Conestoga Rovers & Associates*

Project Name: -

Project ID: 074634
Work Order Number(s): 506833

Report Date: 04-MAY-15
Date Received: 04/27/2015

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 506833

Conestoga Rovers & Associates, Midland, TX



Project Id: 074634

Contact: Jake Ferenz

Project Location: NM

Project Name: -

Date Received in Lab: Mon Apr-27-15 03:36 pm

Report Date: 04-MAY-15

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	506833-001	506833-002	506833-003	506833-004	506833-005	506833-006
	Field Id:	CS 1- 0-2"	CS 1-1'	CS 1-2'	CS 1-3'	CS 1-4'	CS 2-0-2"
	Depth:	0-2 In	1 ft	2 ft	3 ft	4 ft	0-2 In
	Matrix:	SOIL	Soil	Soil	Soil	Soil	Soil
	Sampled:	Apr-24-15 08:34	Apr-24-15 08:45	Apr-24-15 08:47	Apr-24-15 08:49	Apr-24-15 08:52	Apr-24-15 09:00
Inorganic Anions by EPA 300/300.1	Extracted:	Apr-29-15 15:00	Apr-29-15 15:00	Apr-29-15 15:00	Apr-29-15 15:00	Apr-29-15 15:00	Apr-29-15 15:00
	Analyzed:	Apr-29-15 22:58	Apr-29-15 23:43	Apr-30-15 00:06	Apr-29-15 22:12	Apr-30-15 00:29	Apr-30-15 01:37
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		ND 2.01	4.05 2.07	2.98 2.07	2.89 2.10	ND 11.3	4.96 2.03
Percent Moisture	Extracted:	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45
	Analyzed:	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		ND 1.00	3.41 1.00	3.53 1.00	4.91 1.00	11.7 1.00	1.67 1.00

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Kelsey Brooks
Project Manager

Certificate of Analysis Summary 506833

Conestoga Rovers & Associates, Midland, TX



Project Id: 074634

Contact: Jake Ferenz

Project Name: -

Date Received in Lab: Mon Apr-27-15 03:36 pm

Report Date: 04-MAY-15

Project Location: NM

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	506833-007	506833-008	506833-009	506833-010	506833-011	506833-012
	<i>Field Id:</i>	CS 2-1'	CS 2-2'	CS 2-3'	CS 2-4'	CS 3-0-2"	CS 3-1'
	<i>Depth:</i>	1 ft	2 ft	3 ft	4 ft	0-2 In	1 ft
	<i>Matrix:</i>	Soil	Soil	Soil	Soil	Soil	Soil
	<i>Sampled:</i>	Apr-24-15 09:02	Apr-24-15 09:04	Apr-24-15 09:06	Apr-24-15 09:07	Apr-24-15 09:08	Apr-24-15 09:09
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Apr-29-15 15:00	Apr-29-15 15:00	Apr-29-15 15:00	Apr-29-15 15:00	May-01-15 15:00	May-01-15 15:00
	<i>Analyzed:</i>	Apr-30-15 01:59	Apr-30-15 02:22	Apr-30-15 02:45	Apr-30-15 03:08	May-01-15 18:09	May-01-15 18:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		6.67 2.12	17.0 11.3	15.8 2.25	5.69 2.21	ND 2.06	2.31 2.08
Percent Moisture	<i>Extracted:</i>	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45
	<i>Analyzed:</i>	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		5.87 1.00	11.6 1.00	11.1 1.00	9.40 1.00	2.97 1.00	3.91 1.00

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 506833

Conestoga Rovers & Associates, Midland, TX



Project Id: 074634

Contact: Jake Ferenz

Project Location: NM

Project Name: -

Date Received in Lab: Mon Apr-27-15 03:36 pm

Report Date: 04-MAY-15

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	506833-013	506833-014	506833-015	506833-016	506833-017	506833-018
	Field Id:	CS 3-2'	CS 3-3'	CS 3-4'	CS 4- 0-2"	CS 4-1'	CS 4-2'
	Depth:	2 ft	3 ft	4 ft	0-2 In	1 ft	2 ft
	Matrix:	Soil	Soil	Soil	Soil	Soil	Soil
	Sampled:	Apr-24-15 09:10	Apr-24-15 09:11	Apr-24-15 09:12	Apr-24-15 09:14	Apr-24-15 09:16	Apr-24-15 09:18
Inorganic Anions by EPA 300/300.1	Extracted:	May-01-15 15:00	May-01-15 15:00	May-01-15 15:00	May-01-15 15:00	May-01-15 15:00	May-01-15 15:00
	Analyzed:	May-01-15 19:17	May-01-15 19:40	May-01-15 20:03	May-01-15 20:25	May-01-15 21:34	May-01-15 21:56
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2.81 2.10	3.10 2.22	9.14 2.20	12.6 2.22	47.4 11.2	63.4 10.5
Percent Moisture	Extracted:	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45
	Analyzed:	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45	Apr-29-15 16:45
	Units/RL:	% RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		4.59 1.00	9.73 1.00	8.93 1.00	9.96 1.00	10.5 1.00	4.38 1.00

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 506833

Conestoga Rovers & Associates, Midland, TX



Project Id: 074634

Contact: Jake Ferenz

Project Location: NM

Project Name: -

Date Received in Lab: Mon Apr-27-15 03:36 pm

Report Date: 04-MAY-15

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	506833-019	506833-020				
	Field Id:	CS 4-3'	CS 4-4'				
	Depth:	3 ft	4 ft				
	Matrix:	Soil	Soil				
	Sampled:	Apr-24-15 09:20	Apr-24-15 09:22				
Inorganic Anions by EPA 300/300.1	Extracted:	May-01-15 15:00	May-01-15 15:00				
	Analyzed:	May-01-15 22:19	May-01-15 22:42				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		191 11.3	101 11.2				
Percent Moisture	Extracted:	Apr-29-15 16:45	Apr-29-15 16:45				
	Analyzed:						
	Units/RL:	% RL	% RL				
Percent Moisture		11.2 1.00	10.9 1.00				

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Kelsey Brooks
Project Manager

- 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 **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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 2505 North Falkenburg Rd, Tampa, FL 33619
 12600 West I-20 East, Odessa, TX 79765
 6017 Financial Drive, Norcross, GA 30071
 3725 E. Atlanta Ave, Phoenix, AZ 85040

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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Project Name: -

Work Order #: 506833, 506833

Project ID: 074634

Analyst: JUM

Date Prepared: 04/29/2015

Date Analyzed: 04/29/2015

Lab Batch ID: 967143

Sample: 691917-1-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	54.6	109	50.0	54.9	110	1	90-110	20	

Analyst: JUM

Date Prepared: 05/01/2015

Date Analyzed: 05/01/2015

Lab Batch ID: 967292

Sample: 692038-1-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	52.9	106	50.0	53.2	106	1	90-110	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

Project Name: -

Work Order #: 506833

Lab Batch #: 967143

Date Analyzed: 04/29/2015

QC- Sample ID: 506767-001 S

Reporting Units: mg/kg

Date Prepared: 04/29/2015

Batch #: 1

Project ID: 074634

Analyst: JUM

Matrix: Soil

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	50.5	567	580	93	80-120	

Lab Batch #: 967143

Date Analyzed: 04/29/2015

QC- Sample ID: 506833-001 S

Reporting Units: mg/kg

Date Prepared: 04/29/2015

Batch #: 1

Analyst: JUM

Matrix: Soil

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	<2.01	50.2	56.9	113	80-120	

Lab Batch #: 967292

Date Analyzed: 05/01/2015

QC- Sample ID: 506833-011 S

Reporting Units: mg/kg

Date Prepared: 05/01/2015

Batch #: 1

Analyst: JUM

Matrix: Water

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	<2.06	51.5	56.2	109	80-120	

Lab Batch #: 967292

Date Analyzed: 05/01/2015

QC- Sample ID: 506903-001 S

Reporting Units: mg/kg

Date Prepared: 05/01/2015

Batch #: 1

Analyst: JUM

Matrix: Solid

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	23.8	299	308	95	80-120	

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

BRL - Below Reporting Limit

Project Name: -

Work Order #: 506833

Lab Batch #: 967142

Project ID: 074634

Date Analyzed: 04/29/2015 16:45

Date Prepared: 04/29/2015

Analyst: WRU

QC- Sample ID: 506833-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	<1.00	<1.00	0	20	U

Lab Batch #: 967142

Date Analyzed: 04/29/2015 16:45

Date Prepared: 04/29/2015

Analyst: WRU

QC- Sample ID: 506833-011 D

Batch #: 1

Matrix: Water

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	2.97	3.10	4	20	

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



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Dallas, Texas (214-902-0300)

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

CHAIN OF CUSTODY

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Odessa, Texas (432-563-1800)

Lakeland, Florida (863-646-8526)

Norcross, Georgia (770-449-8800)

Tampa, Florida (813-620-2000)

Xenco Quote #

Xenco Job #

506833

Client / Reporting Information		Project Information		Analytical Information														Matrix Codes
Company Name / Branch: CRA		Project Name/Number: 074634																Matrix Codes A= Air S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge WW= Waste Water W = Wipe O = Oil WW= Waste Water
Company Address: Midland		Project Location: Midland NM																
Email: jferenz@craworld.com 686-0086		Invoice To:																
Project Contact: Jake Ferenz		PO Number:																
Samplers's Name: Nathan Knowles																		
No.	Field ID / Point of Collection	Collection			# of bottles	Number of preserved bottles										Field Comments		
		Sample Depth	Date	Time	Matrix	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE					
1	CS1-0-2"	0-2"	4/24	8:43	S													
2	CS1-1'	1'		8:45														
3	CS1-2'	2'		8:47														
4	CS1-3'	3'		8:49														
5	CS1-4'	4'		8:52														
6	CS2-0-2"	0-2"		9:00														
7	CS2-1'	1'		9:02														
8	CS2-2'	2'		9:04														
9	CS2-3'	3'		9:06														
10	CS2-4'	4'		9:07														
Turnaround Time (Business days)		Data Deliverable Information														Notes:		
☐ Same Day TAT		☐ 5 Day TAT		☐ Level II Std QC		☐ Level IV (Full Data Pkg /raw data)										See SSOW		
☐ Next Day EMERGENCY		☒ 7 Day TAT		☐ Level III Std QC+ Forms		☐ TRRP Level IV												
☐ 2 Day EMERGENCY		☐ Contract TAT		☐ Level 3 (CLP Forms)		☐ UST / RG -411												
☐ 3 Day EMERGENCY				☐ TRRP Checklist														
TAT Starts Day received by Lab, if received by 3:00 pm		FED-EX / UPS: Tracking #																
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																		
Relinquished by Sampler		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:								
1 Nathan Knowles		4/27		[Signature]		2 [Signature]		4/27/15		2 1336								
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:								
3				3		4				4								
Relinquished by:		Date Time:		Received By:		Custody Seal #		Preserved where applicable		On Ice		Cooler Temp.		Thermo. Corr. Factor				
5				5						☒				8				

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.



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CHAIN OF CUSTODY

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Odessa, Texas (432-563-1800)

Lakeland, Florida (863-646-8526)

Norcross, Georgia (770-449-8800)

Tampa, Florida (813-620-2000)

Xenco Quote # _____ Xenco Job # 506833

Client / Reporting Information		Project Information		Analytical Information												Matrix Codes	
Company Name / Branch: <u>CRA</u>		Project Name/Number: <u>074634 Kelly</u>														A= Air S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge WW= Waste Water W = Wipe O = Oil WW= Waste Water	
Company Address: <u>Midland</u>		Project Location: <u>Midway NM</u>															
Email: <u>jferenz@crworld.com</u> Phone No: <u>432</u>		Invoice To:															
Project Contact: <u>Take Ferenz</u>		PO Number:															
Samplers's Name: <u>Nathan Knowles</u>																	
No.	Field ID / Point of Collection	Collection			Matrix	# of bottles	Number of preserved bottles										Field Comments
		Sample Depth	Date	Time			HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE			
1	<u>CS3-0-2'</u>	<u>0-2'</u>	<u>4/24</u>	<u>9:08</u>	<u>S</u>	<u>1</u>											<u>Chlorides</u> ↓
2	<u>CS3-0-2' 1'</u>	<u>1'</u>	<u>9:09</u>	<u>S</u>	<u>1</u>												
3	<u>CS3-2'</u>	<u>2'</u>	<u>9:10</u>	<u>S</u>	<u>1</u>												
4	<u>CS3-3'</u>	<u>3'</u>	<u>9:11</u>	<u>S</u>	<u>1</u>												
5	<u>CS3-4'</u>	<u>4'</u>	<u>9:12</u>	<u>S</u>	<u>1</u>												
6	<u>CS4-0-2'</u>	<u>0-2'</u>	<u>9:14</u>	<u>S</u>	<u>1</u>												
7	<u>CS4-1'</u>	<u>1'</u>	<u>9:16</u>	<u>S</u>	<u>1</u>												
8	<u>CS4-2'</u>	<u>2'</u>	<u>9:18</u>	<u>S</u>	<u>1</u>												
9	<u>CS4-3'</u>	<u>3'</u>	<u>9:20</u>	<u>S</u>	<u>1</u>												
10	<u>CS4-4'</u>	<u>4'</u>	<u>9:22</u>	<u>S</u>	<u>1</u>												
Turnaround Time (Business days)		Data Deliverable Information		Notes: <u>See SSaw</u>													
☐ Same Day TAT		☐ 5 Day TAT		☐ Level II Std QC													
☐ Next Day EMERGENCY		☒ 7 Day TAT		☐ Level III Std QC+ Forms													
☐ 2 Day EMERGENCY		☐ Contract TAT		☐ Level 3 (CLP Forms)													
☐ 3 Day EMERGENCY				☐ TRRP Checklist													
TAT Starts Day received by Lab, if received by 3:00 pm				FED-EX / UPS: Tracking #													
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																	
Relinquished by Sample: <u>Nathan Knowles</u>		Date Time: <u>4/27</u>		Received By: <u>[Signature]</u>		Relinquished By:		Date Time: <u>4/27/15</u>		Received By: <u>[Signature]</u>							
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:							
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:							
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:							
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:							
Custody Seal #		Preserved where applicable		On Ice		Cooler Temp.		Thermo. Corr. Factor									

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Conestoga Rovers & Associates

Date/ Time Received: 04/27/2015 03:36:00 PM

Work Order #: 506833

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)?	8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#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? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	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:

Kelsey Brooks
Kelsey Brooks

Date: 04/28/2015

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 04/28/2015