

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

☒ Initial Report ☐ Final Report

Name of Company	Chevron Environmental Management Co.	Contact	Matt Hudson
Address	1400 Smith Street Room 19001A	Telephone No.	(713) 372-1046
Facility Name	Central Vacuum Unit #342	Facility Type	Reserve Pit API #30-025-38002
Surface Owner	State of New Mexico	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter A	Section 36	Township 17 S	Range 34 E	Feet from the 81.2	North/South Line North	Feet from the 1186.4	East/West Line East	County Lea
------------------	---------------	------------------	---------------	-----------------------	---------------------------	-------------------------	------------------------	---------------

Latitude 32.798611 Longitude -103.509167

NATURE OF RELEASE

Type of Release	C141 submittal requested by L Johnson	Volume of Release	Unknown	Volume Recovered	Unknown
Source of Release	Reserve Pit	Date and Hour of Occurrence	Date and Hour of Discovery		
Was Immediate Notice Given?	☐ Yes ☐ No ☒ Not Required	If YES, To Whom?			
By Whom?	Date and Hour				
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Larry Johnson requested that a C141 be prepared for this location following a Site Inspection.

Describe Area Affected and Cleanup Action Taken.*
Per NMOCD directives, a reserve pit area of approximately 85' x 110' x 100' will be over-excavated and sampled. A remediation plan including analytical results and closure plan will be developed and submitted to the District 1 office for review and approval.

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.

OIL CONSERVATION DIVISION

Signature:	Approved by District Supervisor:		
Printed Name: Matt Hudson	Approval Date:		
Title: Project Manager	Expiration Date:		Attached ☐
E-mail Address: mhudson@chevron.com	Conditions of Approval:		
Date: Phone: 713-372-1046			

* Attach Additional Sheets If Necessary



**CONESTOGA-ROVERS
& ASSOCIATES**

2135 S. Loop 250 West
Midland, Texas 79703
Telephone: (432) 686-0086
www.CRAworld.com

Fax: (432) 686-0186

TRANSMITTAL

DATE: June 5, 2013

REFERENCE NO.: 073823

PROJECT NAME: CVU #342, RP#2672

TO: Mr. Geoffrey R. Leking
New Mexico Oil Conservation District
1625 N. French Dr.
Hobbs, NM 88240

HOBBS OCD

JUN 05 2013

RECEIVED

Please find enclosed: ☐ Draft ☐ Final
☒ Originals ☐ Other
☐ Prints

Sent via: ☐ Mail ☐ Same Day Courier
☐ Overnight Courier ☐ Other

QUANTITY	DESCRIPTION
1	Status Report - Remediation/Closure Activities
1	CD of Status Report

☐ As Requested ☐ For Review and Comment
☒ For Your Use ☐
☐

COMMENTS:

Copy to: Mr. Kegan Boyer, CEMC

Completed by: Polly Dougless

[Please Print]

Signed: Polly Dougless

Filing: Correspondence File

HOBBS OCD

JUN 05 2013

RECEIVED



www.CRAworld.com



STATUS REPORT

Status Report - Remediation/Closure Activities

Central Vacuum Unit #342 - RP#2672
Unit A, Section 36, T17S, R34E
Lea County, New Mexico

Prepared for: Chevron Environmental Management
Company

Conestoga-Rovers & Associates
2135 South Loop, 250 West
Midland, Texas 79703

ORIGINAL

June 2013 • #073823



**CONESTOGA-ROVERS
& ASSOCIATES**

2135 South Loop, 250 West, Midland, Texas 79703
Telephone: (432) 686-0086 Fax: (432) 686-0186
www.CRAworld.com

June 5, 2013

Reference No. 073823

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

Re: Status Report - Remediation/Closure Activities
Central Vacuum Unit #342 - RP #2672
Unit A, Section 36, T17S, R34E
Lea County, New Mexico

Dear Mr. Leking:

Conestoga-Rovers and Associates (CRA), on behalf of Chevron Environmental Management Company (CEMC) is pleased to submit this Status Report on Remediation and Closure Activities for the Central Vacuum Unit #342 (hereafter referred to as the "Site").

PROJECT INFORMATION

The subject location is located approximately 25 miles northwest of Hobbs, New Mexico (Figure 1). This project is associated with (reserve) pit closure activities at this well location and is further identified as the CVU 342 Unit A, Section 36, T17S, R34E. The original C-144 closure plan for this reserve pit was onsite burial; however, that approach was rejected by the New Mexico Oil Conservation Commission (NMOCD). After a site inspection by the NMOCD, the agency requested that a C-141 Release Notification and Corrective Action Form should be filed by Chevron and consequently, a Remediation Permit number (RP#2672) was assigned to this project. A copy of the initial C-141 Form is attached as Appendix A. Subsequent to a January 2011 meeting with the NMOCD, a Closure Request Work Plan prepared by CRA on March 10, 2011 was submitted to the agency. CRA, CEMC and the NMOCD met again on June 27, 2012 to discuss closure plans at this site which included removal of pit contents and sampling of the soils beneath the pit liner.

Soil samples were collected below the existing reserve pit liner and analyzed for chloride concentrations. Soil samples were collected from 1 foot, 4 feet and 6 feet below the existing liner on March 23, 2013 using a backhoe. No hydrocarbons were detected above regulatory levels; however, chloride concentrations exhibited elevated concentrations well above recommended remediation and delineation levels. The chloride concentrations for the 1 foot, 4 feet and 6 feet intervals were 13,100, 12,500 and 13,500 mg/kg, respectively. On April 9, 2013 removal of

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June 5, 2013

Reference No. 073823

- 2 -

impacted materials began from the existing remedial excavation to depths of approximately 6 feet below the ground surface (bgs). On April 13, 2013 excavation activities concluded with approximately 1,492 cubic yards of impacted materials being transported to the CRI disposal facility.

On April 3, 2013, CRA and CEMC personnel met with Geoffrey Leking with the NMOCD to discuss the status of this pit closure project and to propose vertical delineation approaches in association with existing conditions at the site. In the meeting, the NMOCD concurred that the installation of three soil borings within the excavation would provide an adequate assessment of the vertical profile at the CVU 342 reserve pit location.

SOIL ASSESSMENT ACTIVITIES

In May 2013, three soil borings (SB-1, SB-2, and SB-3) were installed within the existing remedial excavation to a depth of 100 feet bgs. Soil boring locations are presented in Figure 2. Soil boring logs are detailed in Appendix B. Soil samples were collected at 5 to 10 foot intervals in an effort to horizontally and vertically evaluate the extent of chloride impacts. Soil samples were collected and sent to Xenco Laboratories of Midland, Texas for chloride analyses using EPA Method 300. Copies of the certified laboratory reports and chain-of-custody documentation are attached in Appendix C. The soil borings were properly plugged with bentonite. May 2013 soil analytical results are summarized in Table I. Soil cross-section and chloride results are presented in Figure 3.

The following is a summary of the soil boring assessment activities:

- All three soil borings (SB-1, SB-2 and SB-3) demonstrate decreasing chloride levels with depth to well below recommended remediation and delineation levels.
- SB-1 demonstrated chloride levels below recommended delineation levels at 20 feet bgs (177 mg/kg), and decreasing to 75 feet bgs (4.94 mg/kg).
- SB-2 demonstrated chloride levels below recommended delineation levels at 40 feet bgs (4.83 mg/kg), and decreasing to 80 feet bgs (4.22 mg/kg).
- SB-3 demonstrated chloride levels below recommended delineation levels at 90 feet bgs (209 mg/kg).



**CONESTOGA-ROVERS
& ASSOCIATES**

June 5, 2013

Reference No. 073823

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CONCLUSIONS

Upon concurrence of acceptable vertical delineation by the NMOCD, the following closure tasks are recommended by CRA:

- Excavation shall be backfilled with imported clean materials (caliche) from approximately 5-6 feet to 4 feet below grade to ensure a uniform/level surface.
- Lay a 20 mil poly liner in excavated area and backfill the remaining excavation with clean materials.
- Complete backfill activities utilizing clean top soil (1-2 ft.) and use of heavy machinery for grading purposes.
- Construction affected areas of pit floor/release site will be graded to match surface contours and seeded using mixtures utilized by local agencies such as the BLM, County Ag Agency and/or as directed by property owner.
- Submit a final C-141 form (spill release) and C-144 form (pit closure) to the NMOCD summarizing closure activities

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

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

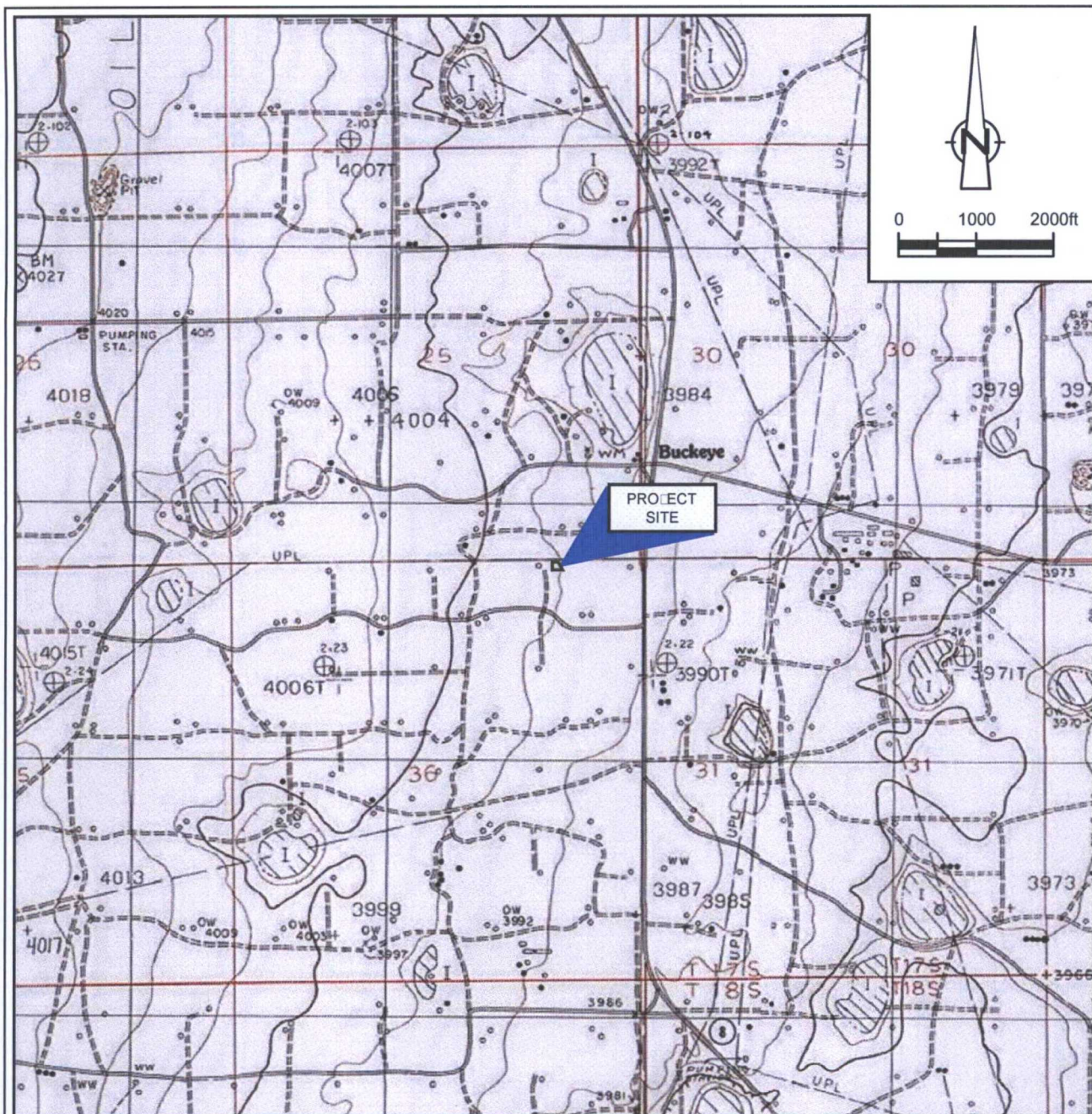
Thomas C. Larson
Operations Manager

Jake Ferenz
Project Manager

JF/pd/1

Attachments: as stated

cc: client w/attachments



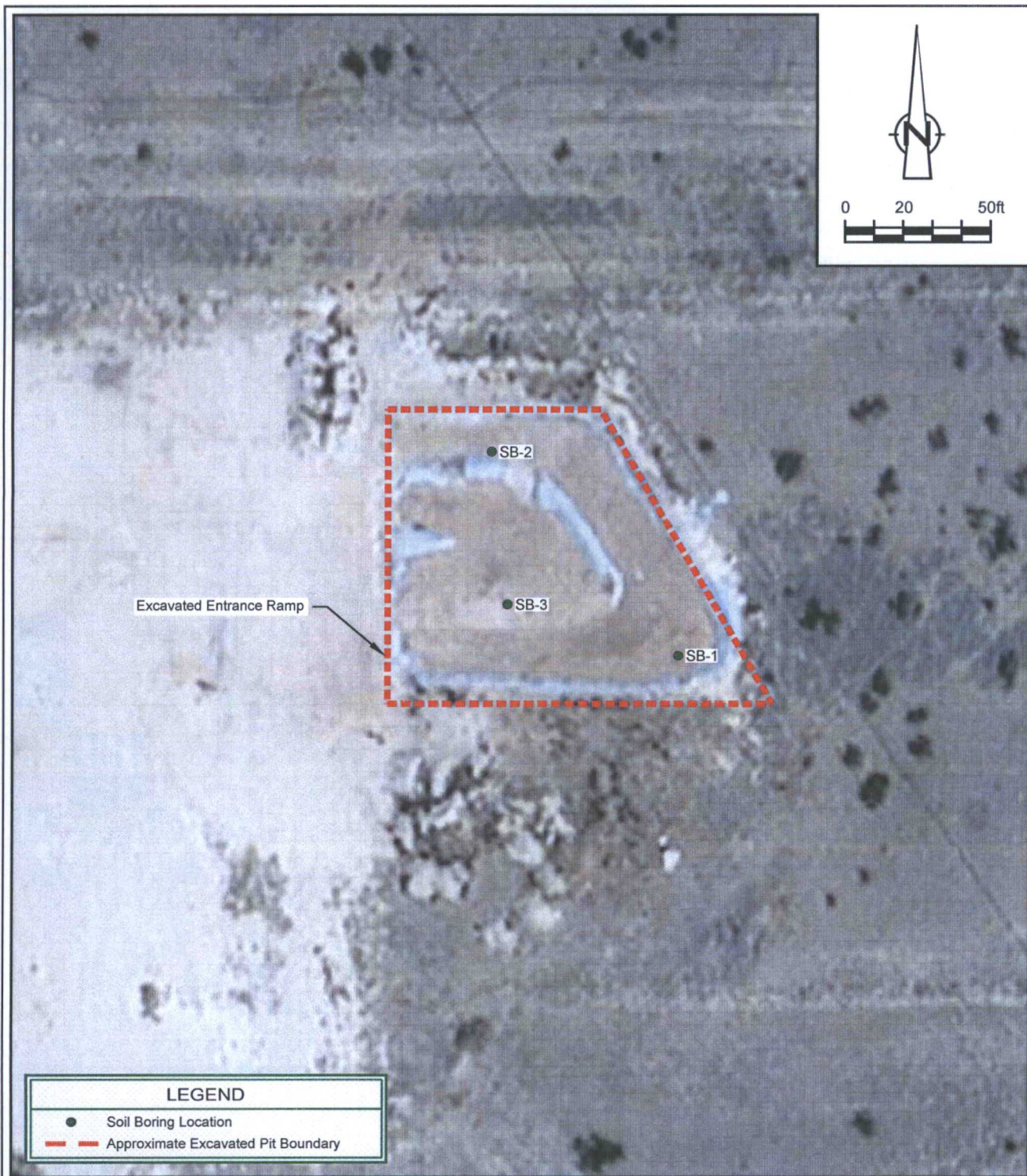
SOURCE: USGS 7.5 MINUTE QUADS
 "BUCKEYE AND LOVINGTON SW, NEW MEXICO"

LAT/LONG: 32.798689° NORTH, 103.508955° WEST
 COORDINATE: NAD83 DATUM, U.S. FOOT
 STATE PLANE ONE - NEW MEXICO EAST

figure 1

SITE LOCATION MAP
 CENTRAL VACUUM UNIT 342 RESERVE PIT
 SECTION 36, T 17S, R 34E (RP #2672)
 Chevron Environmental Management Company



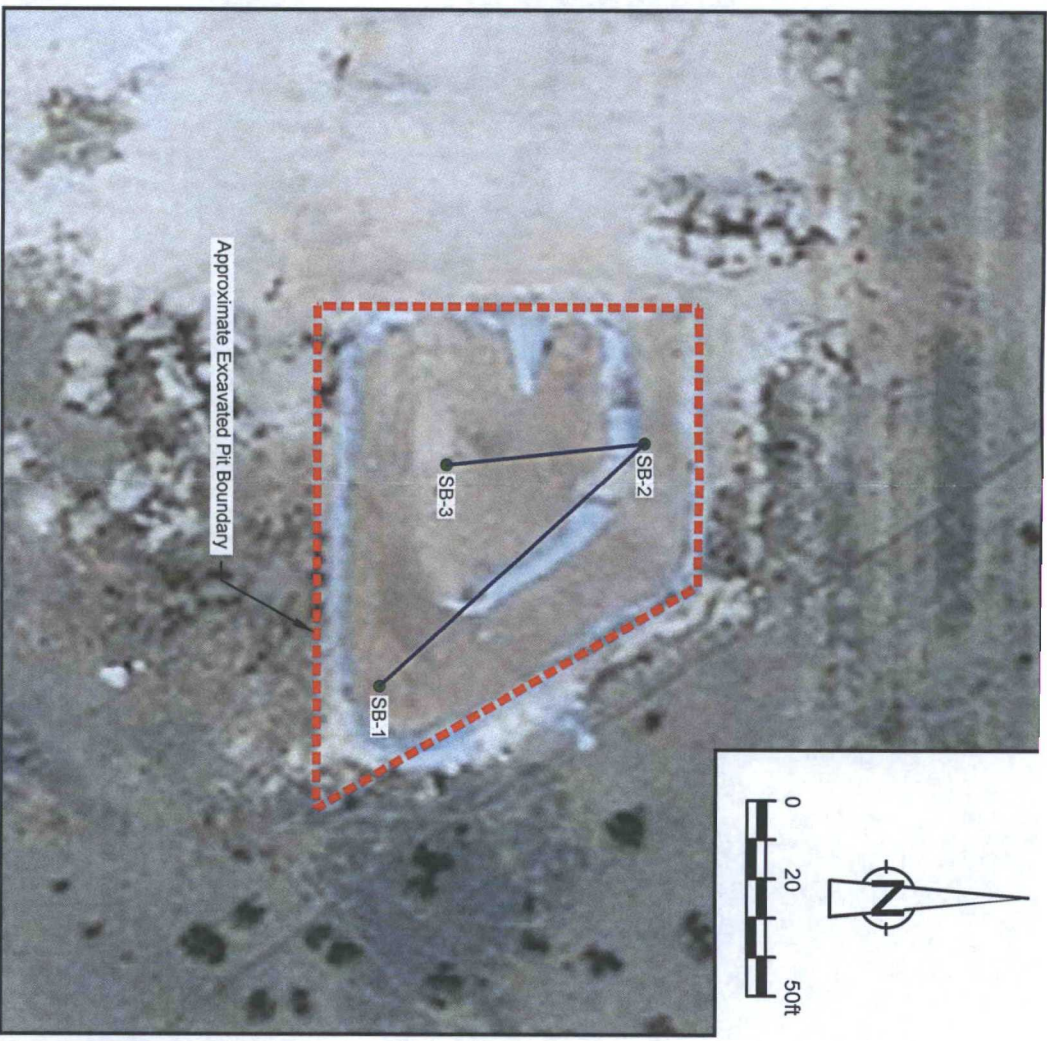
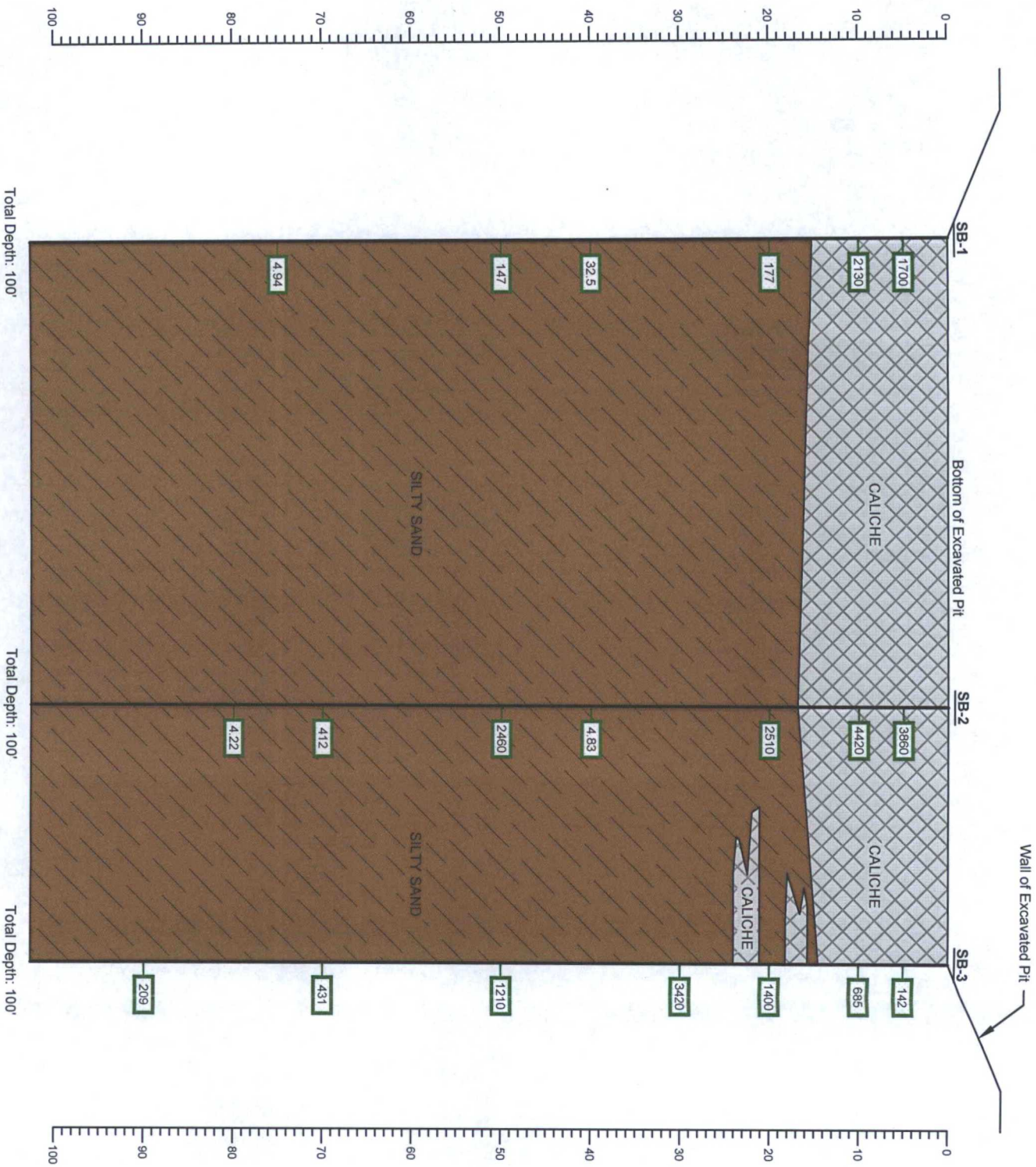


LAT/LONG: 32.798689° NORTH, 103.508955° WEST
COORDINATE: NAD83 DATUM, U.S. □OOT
STATE PLANE □ONE - NEW MEXICO EAST

figure 2

SOIL BORING LOCATION MAP
CENTRAL VACUUM UNIT 342 RESERVE PIT
SECTION 36, T 17S, R 34E (RP #2672)
Chevron Environmental Management Company





NOTES:

1. Soil borings advanced May 6 and 7, 2013.
2. Samples evaluated using drill cuttings and split spoon sampler.
3. Boundaries between soil units are approximate.
4. Harrison & Cooper (Lubbock, Texas) drilling contractor. Six-inch borehole using Ingersol Rand 11RTH60 (2006) drill rig.
5. All borings plugged with drill cuttings and approximately 20 bags of bentonite.

figure 3

SOIL CROSS-SECTION
CENTRAL VACUUM UNIT 342 RESERVE PIT
SECTION 36, T 17S, R 34E (RP #2672)
Chevron Environmental Management Company



TABLE I

Soil Boring Analytical Summary
Central Vacuum Unit #342
Lea County, New Mexico

Sample ID	Sample Date	Depth (feet bgs)	Chloride
			(mg/kg)
NMOCD Recommended Remediation Action Levels			250
SB-1			
SB-1-5'	5/6/2013	5'	1,700
SB-1-10'	5/6/2013	10'	2,130
SB-1-20'	5/6/2013	20'	177
SB-1-40'	5/6/2013	40'	32.5
SB-1-50'	5/6/2013	50'	147
SB-1-75'	5/6/2013	75'	4.94
SB-1-100'	5/6/2013	100'	
SB-2			
SB-2-5'	5/6/2013	5'	3,860
SB-2-10'	5/6/2013	10'	4,420
SB-2-20'	5/6/2013	20'	2,510
SB-2-40'	5/6/2013	40'	4.83
SB-2-50'	5/6/2013	50'	2,460
SB-2-70'	5/6/2013	70'	412
SB-2-80'	5/6/2013	80'	4.22
SB-2-90'	5/6/2013	90'	
SB-2-100'	5/6/2013	100'	
SB-3			
SB-3-5'	5/7/2013	5'	142
SB-3-10'	5/7/2013	10'	685
SB-3-20'	5/7/2013	20'	1,400
SB-3-30'	5/7/2013	30'	3,420
SB-3-50'	5/7/2013	50'	1,210
SB-3-70'	5/7/2013	70'	431
SB-3-90'	5/7/2013	90'	209

Notes:

1. Chlorides analyzed by E300.0
2. Bold concentrations above lab reporting guidelines
3. Highlighted cells indicated concentrations above regulatory guidelines
4. Chloride - RRALs based on NMOCD September 30, 2011 (DRAFT) guidance Release Reporting and Corrective Actions Under Rule 29 & 30

SOIL BORING LOG			
Project:	Central Vacuum Unit #342 Soil Boring Assesment Activities	File No.:	73823
	Unit A, Section 36, T17S, R34E	Date:	5/6/2013
	Lea County, New Mexico	No.	SB-1
Client:	CEMC	Drilling Co.:	Harrison and Cooper, Inc.
	Houston, Texas	Supervisor:	Kenny Cooper
		Type Rig:	Air Rotary
		Logged by:	Tom Larson

File No.: 73823
Date: 5/6/2013
Drilling Co.: Harrison and Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air Rotary
Logged by: Tom Larson

Supervisor: Kelly Coop
Type Rig: Air Rotary
Logged by: Tom Larson

LABORATORY TEST DATA					FIELD DATA				BORING DATA
Results Reported in mg/kg					PID Reading PPM	Sampling	Depth (feet)	Water Level Screen Interval	
Benzene	Toluene	Ethylbenzene	Xylenes	Total TPH (C6-C35)					Start Time: 13:20 Finish Time: 14:35
									Fill from excavation Caliche: White, tan, dense-very dense. Minor silty sands, dry-slightly damp. Silty sand increase 20-30% toward base of unit
						(X)	5		
						(X)	10		
							15		Silty Sand: Tan, buff, very fine grain (vfg), firm, dry to slightly damp
						(X)	20		
							25		
							30		
							35		
						(X)	40		

 Analyzed Sample



SOIL BORING LOG

Project: Central Vacuum Unit #342 Soil Boring Assesment Activities
Unit A, Section 36, T17S, R34E
Lea County, New Mexico

No. SB-1

File No.: 73823
Date: 5/6/2013
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air Rotary
Logged by: Tom Larson

Client: CEMC
Houston, Texas

LABORATORY TEST DATA					FIELD DATA			BORING DATA	
Results Reported in mg/kg					Photo- ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level Screen Interval	
Benzene	Toluene	Ethyl- benzene	Xylenes	Total TPH (C6-C35)					
							45		Silty Sand - Tan, buff, very fine, firm, dry to slightly damp
						X	50		
							55		Silty Sand - light brown, golden brown, vfg, firm-loose, increasing in moisture, damp to slightly moist
							60		
							65		
							70		
						X	75		
							80		

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

 Analyzed Sample



SOIL BORING LOG			
Project:	Central Vacuum Unit #342 Soil Boring Assessment Activities Unit A, Section 36, T17S, R34E Lea County, New Mexico	File No.: Date: Drilling Co.: Supervisor:	73823 5/6/2013 Harrison and Cooper, Inc. Kenny Cooper
Client:	CEMC Houston, Texas	Type Rig: Logged by:	Air Rotary Tom Larson

[illegible]

page 3 of 3

SOIL BORING LOG

Project: Central Vacuum Unit #342 Soil Boring Assesment Activities
Unit A, Section 36, T17S, R34E
Lea County, New Mexico

No. SB-2

File No.: 73823
Date: 5/6/2013
Drilling Co.: Harrison and Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air Rotary
Logged by: Tom Larson

Client: CEMC
Houston, Texas

LABORATORY TEST DATA					FIELD DATA			BORING DATA	
Results Reported in mg/kg					PID Reading PPM	Sampling	Depth (feet)	Water Level	Screen Interval
Benzene	Toluene	Ethyl- benzene	Xylenes	Total TPH (C6-C35)					
									Start Time: 15:15 Finish Time: 16:15
									Fill from excavation
									Caliche: White, very hard-dense, dry at top of unit. Increasing in silty sands at base of unit
						X	5		
						X	10		
							15		
						X	20		
							25		
							30		
							35		
						X	40		

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

○ Analyzed Sample



SOIL BORING LOG

Project: Central Vacuum Unit #342 Soil Boring Assesment Activities
Unit A, Section 36, T17S, R34E
Lea County, New Mexico

No. SB-2

File No.: 73823
Date: 5/6/2013
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air Rotary
Logged by: Tom Larson

Client: CEMC
Houston, Texas

LABORATORY TEST DATA					FIELD DATA				BORING DATA	
Results Reported in mg/kg					Photo- ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level Screen Interval	Start Time: 15:15 Finish Time: 16:15	
Benzene	Toluene	Ethyl- benzene	Xylenes	Total TPH (C6-C35)						
									a/a	
									Silty Sand: light brown-golden brown, vfg, increasing in moisture content-slightly damp - moist, firm-loose	

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

○ Analyzed Sample



SOIL BORING LOG			
Project:	Central Vacuum Unit #342 Soil Boring Assesment Activities Unit A, Section 36, T17S, R34E Lea County, New Mexico	No. SB-2	File No.: 73823 Date: 5/6/2013 Drilling Co.: Harrison and Cooper, Inc. Supervisor: Kenny Cooper Type Rig: Air Rotary Logged by: Tom Larson
Client:	CEMC Houston, Texas		

[illegible]

page 3 of 3

SOIL BORING LOG

Project: Central Vacuum Unit #342 Soil Boring Assesment Activities
Unit A, Section 36, T17S, R34E
Lea County, New Mexico

No. SB-3

File No.: 73823
Date: 5/6/2013
Drilling Co.: Harrison and Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air Rotary
Logged by: Tom Larson

Client: CEMC
Houston, Texas

LABORATORY TEST DATA					FIELD DATA			BORING DATA	
Results Reported in mg/kg					PID Reading PPM	Sampling	Depth (feet)	Water Level Screen	Interval
Benzene	Toluene	Ethyl- benzene	Xylenes	Total TPH (C6-C35)					
									Start Time: 9:50 Finish Time: 10:40
									Fill from excavation
						X	5		Caliche: white, indurated, very dense, dry - rocky 10-14' (rig chatter) minor silty sands at base of unit
						X	10		
							15		
						X	20		Silty Sand: Tan, buff, vfg, dry - caliche seams at 3-6" at top of unit
							25		
						X	30		
							35		
							40		

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



Analyzed Sample



SOIL BORING LOG

Project: Central Vacuum Unit #342 Soil Boring Assesment Activities
Unit A, Section 36, T17S, R34E
Lea County, New Mexico

No. SB-3

File No.: 73823
Date: 5/6/2013
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air Rotary
Logged by: Tom Larson

Client: CEMC
Houston, Texas

LABORATORY TEST DATA					FIELD DATA				BORING DATA	
Results Reported in mg/kg					Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)						
							45			Start Time: 9:50 Finish Time: 10:40 Silty Sand: a/a, slightly increasing in moisture at bottom of unit
						X	50			
							55			Silty Sand: Light brown - golden brown, vfg, firm to loose, slightly damp to moist.
							60			
							65			
						X	70			
							75			
							80			

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

 Analyzed Sample



SOIL BORING LOG			
Project:	Central Vacuum Unit #342 Soil Boring Assesment Activities		File No.:
	Unit A, Section 36, T17S, R34E		Date:
	Lea County, New Mexico	No. SB-3	Drilling Co.:
Client:	CEMC		Supervisor:
	Houston, Texas		Type Rig:
			Logged by:

[illegible] Analyzed Sample

Analytical Report 462651

for

Conestoga Rovers & Associates

Project Manager: Tom Larson

CEMC CVU 342

073823

21-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

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Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
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Xenco-Atlanta (EPA Lab Code: GA00046):

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

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

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

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



21-MAY-13

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

Reference: XENCO Report No(s): **462651**
CEMC CVU 342
Project Address: New Mexico

Tom Larson:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462651. 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. 462651 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

Conestoga Rovers & Associates, Midland, TX

CEMC CVU 342

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1 5'	S	05-06-13 13:25		462651-001
SB-1 10'	S	05-06-13 13:40		462651-002
SB-1 20'	S	05-06-13 13:45		462651-003
SB-1 40'	S	05-06-13 13:55		462651-004
SB-1 50'	S	05-06-13 14:10		462651-005
SB-1 75'	S	05-06-13 14:25		462651-006
SB-1 100'	S	05-06-13 14:35		462651-007
SB-2 5'	S	05-06-13 15:20		462651-008
SB-2 10'	S	05-06-13 15:25		462651-009
SB-2 20'	S	05-06-13 15:35		462651-010
SB-2 40'	S	05-06-13 15:38		462651-011
SB-2 50'	S	05-06-13 15:40		462651-012
SB-2 70'	S	05-06-13 15:45		462651-013
SB-2 80'	S	05-06-13 15:55		462651-014
SB-2 90'	S	05-06-13 16:05		462651-015
SB-2 100'	S	05-06-13 16:15		462651-016
SB-3 5'	S	05-07-13 09:50		462651-017
SB-3 10'	S	05-07-13 10:00		462651-018
SB-3 20'	S	05-07-13 10:05		462651-019
SB-3 30'	S	05-07-13 10:10		462651-020
SB-3 50'	S	05-07-13 10:15		462651-021
SB-3 70'	S	05-07-13 10:30		462651-022
SB-3 90'	S	05-07-13 10:35		462651-023

*Client Name: Conestoga Rovers & Associates**Project Name: CEMC CVU 342*

Project ID: 073823
Work Order Number(s): 462651

Report Date: 21-MAY-13
Date Received: 05/07/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-913372 Inorganic Anions by EPA 300/300.1
E300

Batch 913372, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 462651-020.

The Laboratory Control Sample for Chloride is within laboratory Control Limits

Batch: LBA-913623 Inorganic Anions by EPA 300/300.1
E300

Batch 913623, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 462651-019, -022, -008, -021, -010, -011, -013, -009, -012, -018, -023, -014, -006, -017.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Project Id: 073823

Contact: Tom Larson

Project Location: New Mexico

Date Received in Lab: Tue May-07-13 04:50 pm

Report Date: 21-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	462651-001	462651-002	462651-003	462651-004	462651-005	462651-006
	Field Id:	SB-1 5'	SB-1 10'	SB-1 20'	SB-1 40'	SB-1 50'	SB-1 75'
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	May-06-13 13:25	May-06-13 13:40	May-06-13 13:45	May-06-13 13:55	May-06-13 14:10	May-06-13 14:25
Inorganic Anions by EPA 300/300.1	Extracted:	May-09-13 14:00	May-09-13 14:00	May-09-13 14:00	May-09-13 14:00	May-09-13 14:00	May-10-13 08:00
	Analyzed:	May-09-13 17:09	May-09-13 17:31	May-09-13 17:53	May-09-13 18:15	May-09-13 19:20	May-10-13 10:57
	Units/RL:	mg/kg RL 1700 41.8	mg/kg RL 2130 41.1	mg/kg RL 177 4.28	mg/kg RL 32.5 3.10	mg/kg RL 147 4.19	mg/kg RL 4.94 3.07
Percent Moisture	Extracted:						
	Analyzed:	May-08-13 15:15	May-08-13 15:15	May-08-13 15:15	May-08-13 15:15	May-08-13 15:15	May-08-13 15:15
	Units/RL:	% RL 4.20 1.00	% RL 2.66 1.00	% RL 6.54 1.00	% RL 3.34 1.00	% RL 4.52 1.00	% RL 2.34 1.00
Percent Moisture							

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Wm. H. H. H.

Kelsey Brooks
Project Manager



Project Id: 073823

Contact: Tom Larson

Project Location: New Mexico

Project Name: CEMC CVU 342

Date Received in Lab: Tue May-07-13 04:50 pm

Report Date: 21-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:	462651-007	462651-008	462651-009	462651-010	462651-011	462651-012
									SB-1 100'	SB-2 5'	SB-2 10'	SB-2 20'	SB-2 40'	SB-2 50'
Inorganic Anions by EPA 300/300.1				SOIL	May-06-13 14:35					SOIL	SOIL	SOIL	SOIL	SOIL
									May-08-13 15:15	May-06-13 15:20	May-06-13 15:25	May-06-13 15:35	May-06-13 15:38	May-06-13 15:40
Chloride										mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
									3.77	3860	4420	2510	4.83	2460
Percent Moisture										RL	RL	RL	RL	RL
									1.00	1.00	1.00	1.00	1.00	1.00
Percent Moisture										%	%	%	%	%
									3.77	3.07	5.30	4.56	21.2	4.31

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 Kelsey Brooks
 Project Manager



Project Id: 073823

Contact: Tom Larson

Project Location: New Mexico

Project Name: CEMC CVU 342

Date Received in Lab: Tue May-07-13 04:50 pm

Report Date: 21-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:	462651-013	462651-014	462651-015	462651-016	462651-017	462651-018
									SB-2 70'	SB-2 80'	SB-2 90'	SB-2 100'	SB-3 5'	SB-3 10'
Inorganic Anions by EPA 300/300.1				SOIL	May-06-13 15:45	May-10-13 08:00	May-10-13 13:51	mg/kg RL	412 10.7	May-06-13 15:55	May-06-13 16:05	May-06-13 16:15	May-07-13 09:50	May-07-13 10:00
Chloride									4.22 3.29				142 4.31	685 21.5
Percent Moisture	Extracted:													
	Analyzed:													
Percent Moisture									May-08-13 15:15	May-08-13 16:20	May-08-13 16:20	May-08-13 16:20	May-08-13 16:20	May-08-13 16:20
	Units/RL:								% RL	% RL	% RL	% RL	% RL	% RL
									6.44 1.00	19.1 1.00	5.13 1.00	6.82 1.00	7.22 1.00	7.15 1.00

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 Kelsey Brooks
 Project Manager



Project Id: 073823

Contact: Tom Larson

Project Location: New Mexico

Project Name: CEMC CVU 342

Date Received in Lab: Tue May-07-13 04:50 pm

Report Date: 21-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	462651-019	462651-020	462651-021	462651-022	462651-023
	Field Id:	SB-3 20'	SB-3 30'	SB-3 50'	SB-3 70'	SB-3 90'
	Depth:					
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	May-07-13 10:05	May-07-13 10:10	May-07-13 10:15	May-07-13 10:30	May-07-13 10:35
Inorganic Anions by EPA 300/300.1	Extracted:	May-10-13 08:00	May-09-13 16:00	May-10-13 08:00	May-10-13 08:00	May-13-13 10:00
	Analyzed:	May-10-13 16:44	May-10-13 04:06	May-10-13 17:06	May-10-13 18:12	****
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1400 42.4	3420 43.0	1210 21.1	431 10.3	209 4.17
Percent Moisture	Extracted:					
	Analyzed:	May-08-13 16:45	May-08-13 16:45	May-08-13 16:45	May-08-13 16:45	May-08-13 16:45
	Units/RL:	% RL	% RL	% RL	% RL	% RL
Percent Moisture		5.63 1.00	6.94 1.00	5.19 1.00	2.97 1.00	4.09 1.00

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Kelsey Brooks
Project Manager



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-1 5' Matrix: Soil Date Received: 05.07.13 16.50
Lab Sample Id: 462651-001 Date Collected: 05.06.13 13.25
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: AMB % Moisture: 4.2
Analyst: AMB Date Prep: 05.09.13 14.00 Basis: Dry Weight
Seq Number: 913609

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1700	41.8	mg/kg	05.09.13 17.09		20

Analytical Method: Percent Moisture
Tech: SHSM % Moisture:
Analyst: WRU Basis: Wet Weight
Seq Number: 913266

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	4.20	1.00	%	05.08.13 15.15		1

Conestoga Rovers & Associates, Midland, TX CEMC CVU 342

Sample Id:	SB-1 10'	Matrix: Soil	Date Received: 05.07.13 16.50
Lab Sample Id:	462651-002	Date Collected: 05.06.13 13.40	
Analytical Method:	Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech:	AMB		% Moisture: 2.66
Analyst:	AMB	Date Prep: 05.09.13 14.00	Basis: Dry Weight
Seq Number:	913609		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2130	41.1	mg/kg	05.09.13 17.31		20

Analytical Method:	Percent Moisture		
Tech:	SHSM		% Moisture:
Analyst:	WRU		Basis: Wet Weight
Seq Number:	913266		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	2.66	1.00	%	05.08.13 15.15		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX CEMC CVU 342

Sample Id: SB-1 20' **Matrix:** Soil **Date Received:** 05.07.13 16.50
Lab Sample Id: 462651-003 **Date Collected:** 05.06.13 13.45
Analytical Method: Inorganic Anions by EPA 300/300.1 **Prep Method:** E300P
Tech: AMB **% Moisture:** 6.54
Analyst: AMB **Date Prep:** 05.09.13 14.00 **Basis:** Dry Weight
Seq Number: 913609

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	177	4.28	mg/kg	05.09.13 17.53		2

Analytical Method: Percent Moisture
Tech: SHSM **% Moisture:**
Analyst: WRU **Basis:** Wet Weight
Seq Number: 913266

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.54	1.00	%	05.08.13 15.15		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id:	SB-1 40'	Matrix:	Soil	Date Received:	05.07.13 16.50
Lab Sample Id:	462651-004	Date Collected:	05.06.13 13.55		
Analytical Method:	Inorganic Anions by EPA 300/300.1	Prep Method:	E300P		
Tech:	AMB	% Moisture:	3.34		
Analyst:	AMB	Date Prep:	05.09.13 14.00	Basis:	Dry Weight
Seq Number:	913609				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.5	3.10	mg/kg	05.09.13 18.15		1.5

Analytical Method:	Percent Moisture				
Tech:	SHSM			% Moisture:	
Analyst:	WRU			Basis:	Wet Weight
Seq Number:	913266				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	3.34	1.00	%	05.08.13 15.15		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-1 50'
Lab Sample Id: 462651-005

Matrix: Soil
Date Collected: 05.06.13 14.10

Date Received: 05.07.13 16.50

Analytical Method: Inorganic Anions by EPA 300/300.1
Tech: AMB
Analyst: AMB
Seq Number: 913609

Prep Method: E300P
% Moisture: 4.52
Basis: Dry Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	147	4.19	mg/kg	05.09.13 19.20		2

Analytical Method: Percent Moisture
Tech: SHSM
Analyst: WRU
Seq Number: 913266

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	4.52	1.00	%	05.08.13 15.15		1



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Conestoga Rovers & Associates, Midland, TX CEMC CVU 342

Sample Id: SB-1 75' **Matrix:** Soil **Date Received:** 05.07.13 16.50
Lab Sample Id: 462651-006 **Date Collected:** 05.06.13 14.25
Analytical Method: Inorganic Anions by EPA 300/300.1 **Prep Method:** E300P
Tech: AMB **% Moisture:** 2.34
Analyst: AMB **Date Prep:** 05.10.13 08.00 **Basis:** Dry Weight
Seq Number: 913623

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4.94	3.07	mg/kg	05.10.13 10.57		1.5

Analytical Method: Percent Moisture
Tech: SHSM **% Moisture:**
Analyst: WRU **Basis:** Wet Weight
Seq Number: 913266

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	2.34	1.00	%	05.08.13 15.15		1

Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342**Sample Id:** SB-1 100'
Lab Sample Id: 462651-007**Matrix:** Soil
Date Collected: 05.06.13 14.35**Date Received:** 05.07.13 16.50**Analytical Method:** Percent Moisture**Tech:** SHSM**Analyst:** WRU**Seq Number:** 913266**% Moisture:****Basis:** Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	3.77	1.00	%	05.08.13 15.15		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-2 5' Matrix: Soil Date Received: 05.07.13 16.50
Lab Sample Id: 462651-008 Date Collected: 05.06.13 15.20
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: AMB % Moisture: 3.07
Analyst: AMB Date Prep: 05.10.13 08.00 Basis: Dry Weight
Seq Number: 913623

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3860	103	mg/kg	05.10.13 11.41		50

Analytical Method: Percent Moisture
Tech: SHSM % Moisture:
Analyst: WRU Basis: Wet Weight
Seq Number: 913266

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	3.07	1.00	%	05.08.13 15.15		1

Conestoga Rovers & Associates, Midland, TX CEMC CVU 342

Sample Id: SB-2 10'	Matrix: Soil	Date Received: 05.07.13 16.50
Lab Sample Id: 462651-009	Date Collected: 05.06.13 15.25	
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: AMB		% Moisture: 5.3
Analyst: AMB	Date Prep: 05.10.13 08.00	Basis: Dry Weight
Seq Number: 913623		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4420	106	mg/kg	05.10.13 10.14		50

Analytical Method: Percent Moisture		
Tech: SHSM		% Moisture:
Analyst: WRU		Basis: Wet Weight
Seq Number: 913266		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	5.30	1.00	%	05.08.13 15.15		1

Conestoga Rovers & Associates, Midland, TX CEMC CVU 342

Sample Id: SB-2 20'	Matrix: Soil	Date Received: 05.07.13 16.50
Lab Sample Id: 462651-010	Date Collected: 05.06.13 15.35	
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: AMB		% Moisture: 4.56
Analyst: AMB	Date Prep: 05.10.13 08.00	Basis: Dry Weight
Seq Number: 913623		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2510	41.9	mg/kg	05.10.13 12.02		20

Analytical Method: Percent Moisture		
Tech: SHSM		% Moisture:
Analyst: WRU		Basis: Wet Weight
Seq Number: 913266		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	4.56	1.00	%	05.08.13 15.15		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX CEMC CVU 342

Sample Id: SB-2 40' **Matrix:** Soil **Date Received:** 05.07.13 16.50
Lab Sample Id: 462651-011 **Date Collected:** 05.06.13 15.38
Analytical Method: Inorganic Anions by EPA 300/300.1 **Prep Method:** E300P
Tech: AMB **% Moisture:** 21.2
Analyst: AMB **Date Prep:** 05.10.13 08.00 **Basis:** Dry Weight
Seq Number: 913623

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4.83	3.81	mg/kg	05.10.13 12.24		1.5

Analytical Method: Percent Moisture
Tech: SHSM **% Moisture:**
Analyst: WRU **Basis:** Wet Weight
Seq Number: 913266

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	21.2	1.00	%	05.08.13 15.15		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-2 50' **Matrix:** Soil **Date Received:** 05.07.13 16.50
Lab Sample Id: 462651-012 **Date Collected:** 05.06.13 15.40
Analytical Method: Inorganic Anions by EPA 300/300.1 **Prep Method:** E300P
Tech: AMB **% Moisture:** 4.31
Analyst: AMB **Date Prep:** 05.10.13 08.00 **Basis:** Dry Weight
Seq Number: 913623

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2460	41.8	mg/kg	05.10.13 13.29		20

Analytical Method: Percent Moisture
Tech: SHSM **% Moisture:**
Analyst: WRU **Basis:** Wet Weight
Seq Number: 913266

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	4.31	1.00	%	05.08.13 15.15		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-2 70' Matrix: Soil Date Received: 05.07.13 16.50
Lab Sample Id: 462651-013 Date Collected: 05.06.13 15.45
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: AMB % Moisture: 6.44
Analyst: AMB Date Prep: 05.10.13 08.00 Basis: Dry Weight
Seq Number: 913623

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	412	10.7	mg/kg	05.10.13 13.51		5

Analytical Method: Percent Moisture
Tech: SHSM % Moisture:
Analyst: WRU Basis: Wet Weight
Seq Number: 913266

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.44	1.00	%	05.08.13 15.15		1

Conestoga Rovers & Associates, Midland, TX CEMC CVU 342

Sample Id: SB-2 80'	Matrix: Soil	Date Received: 05.07.13 16.50
Lab Sample Id: 462651-014	Date Collected: 05.06.13 15.55	
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: AMB		% Moisture: 19.1
Analyst: AMB	Date Prep: 05.10.13 08.00	Basis: Dry Weight
Seq Number: 913623		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4.22	3.29	mg/kg	05.10.13 14.13		1.33

Analytical Method: Percent Moisture		
Tech: SHSM		% Moisture:
Analyst: WRU		Basis: Wet Weight
Seq Number: 913266		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	19.1	1.00	%	05.08.13 16.20		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-2 90'
Lab Sample Id: 462651-015

Matrix: Soil
Date Collected: 05.06.13 16.05

Date Received: 05.07.13 16.50

Analytical Method: Percent Moisture
Tech: SHSM
Analyst: WRU
Seq Number: 913266

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	5.13	1.00	%	05.08.13 16.20		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-2 100'
Lab Sample Id: 462651-016

Matrix: Soil
Date Collected: 05.06.13 16.15

Date Received: 05.07.13 16.50

Analytical Method: Percent Moisture
Tech: SHSM
Analyst: WRU
Seq Number: 913266

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.82	1.00	%	05.08.13 16.20		1



Certificate of Analytical Results 462651



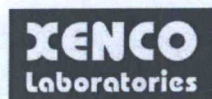
Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-3 5' Matrix: Soil Date Received: 05.07.13 16.50
Lab Sample Id: 462651-017 Date Collected: 05.07.13 09.50
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: AMB % Moisture: 7.22
Analyst: AMB Date Prep: 05.10.13 08.00 Basis: Dry Weight
Seq Number: 913623

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	142	4.31	mg/kg	05.10.13 16.01		2

Analytical Method: Percent Moisture
Tech: SHSM % Moisture:
Analyst: WRU Basis: Wet Weight
Seq Number: 913266

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	7.22	1.00	%	05.08.13 16.20		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: **SB-3 10'** Matrix: Soil Date Received: 05.07.13 16.50
Lab Sample Id: **462651-018** Date Collected: 05.07.13 10.00
Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Tech: **AMB** % Moisture: 7.15
Analyst: **AMB** Date Prep: 05.10.13 08.00 Basis: Dry Weight
Seq Number: **913623**

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	685	21.5	mg/kg	05.10.13 16.23		10

Analytical Method: **Percent Moisture**
Tech: **SHSM** % Moisture:
Analyst: **WRU** Basis: Wet Weight
Seq Number: **913266**

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	7.15	1.00	%	05.08.13 16.20		1

Conestoga Rovers & Associates, Midland, TX CEMC CVU 342

Sample Id: SB-3 20'	Matrix: Soil	Date Received: 05.07.13 16.50
Lab Sample Id: 462651-019	Date Collected: 05.07.13 10.05	
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: AMB		% Moisture: 5.63
Analyst: AMB	Date Prep: 05.10.13 08.00	Basis: Dry Weight
Seq Number: 913623		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1400	42.4	mg/kg	05.10.13 16.44		20

Analytical Method: Percent Moisture	
Tech: SHSM	% Moisture:
Analyst: WRU	Basis: Wet Weight
Seq Number: 913267	

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	5.63	1.00	%	05.08.13 16.45		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-3 30' **Matrix:** Soil **Date Received:** 05.07.13 16.50
Lab Sample Id: 462651-020 **Date Collected:** 05.07.13 10.10
Analytical Method: Inorganic Anions by EPA 300/300.1 **Prep Method:** E300P
Tech: AMB **% Moisture:** 6.94
Analyst: AMB **Date Prep:** 05.09.13 16.00 **Basis:** Dry Weight
Seq Number: 913372

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3420	43.0	mg/kg	05.10.13 04.06		20

Analytical Method: Percent Moisture
Tech: SHSM **% Moisture:**
Analyst: WRU **Basis:** Wet Weight
Seq Number: 913267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	6.94	1.00	%	05.08.13 16.45		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-3 50' Matrix: Soil Date Received: 05.07.13 16.50
Lab Sample Id: 462651-021 Date Collected: 05.07.13 10.15
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: AMB % Moisture: 5.19
Analyst: AMB Date Prep: 05.10.13 08.00 Basis: Dry Weight
Seq Number: 913623

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1210	21.1	mg/kg	05.10.13 17.06		10

Analytical Method: Percent Moisture
Tech: SHSM % Moisture:
Analyst: WRU Basis: Wet Weight
Seq Number: 913267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	5.19	1.00	%	05.08.13 16.45		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-3 70' Matrix: Soil Date Received: 05.07.13 16.50
Lab Sample Id: 462651-022 Date Collected: 05.07.13 10.30
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: AMB % Moisture: 2.97
Analyst: AMB Date Prep: 05.10.13 08.00 Basis: Dry Weight
Seq Number: 913623

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	431	10.3	mg/kg	05.10.13 18.12		5

Analytical Method: Percent Moisture
Tech: SHSM % Moisture:
Analyst: WRU Basis: Wet Weight
Seq Number: 913267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	2.97	1.00	%	05.08.13 16.45		1



Certificate of Analytical Results 462651



Conestoga Rovers & Associates, Midland, TX
CEMC CVU 342

Sample Id: SB-3 90' Matrix: Soil Date Received: 05.07.13 16.50
Lab Sample Id: 462651-023 Date Collected: 05.07.13 10.35
Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Tech: AMB % Moisture: 4.09
Analyst: AMB Date Prep: 05.13.13 10.00 Basis: Dry Weight
Seq Number: 913623

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	209	4.17	mg/kg	05.10.13 18.33		2

Analytical Method: Percent Moisture
Tech: SHSM % Moisture:
Analyst: WRU Basis: Wet Weight
Seq Number: 913267

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Percent Moisture	TMOIST	4.09	1.00	%	05.08.13 16.45		1

- 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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(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	

Conestoga Rovers & Associates
CEMC CVU 342

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 913609

Matrix: Solid

Prep Method: E300P

Date Prep: 05.09.13

MB Sample Id: 637998-1-BLK

LCS Sample Id: 637998-1-BKS

LCSD Sample Id: 637998-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	50.0	51.5	103	51.4	103	80-120	0	20	mg/kg	05.09.13 15:21	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 913372

Matrix: Solid

Prep Method: E300P

Date Prep: 05.09.13

MB Sample Id: 637855-1-BLK

LCS Sample Id: 637855-1-BKS

LCSD Sample Id: 637855-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	50.0	51.6	103	51.7	103	80-120	0	20	mg/kg	05.09.13 22:41	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 913623

Matrix: Solid

Prep Method: E300P

Date Prep: 05.10.13

MB Sample Id: 638012-1-BLK

LCS Sample Id: 638012-1-BKS

LCSD Sample Id: 638012-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	50.0	51.6	103	51.2	102	80-120	1	20	mg/kg	05.10.13 09:10	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 913609

Matrix: Soil

Prep Method: E300P

Date Prep: 05.09.13

Parent Sample Id: 462609-001

MS Sample Id: 462609-001 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	<2.66	66.5	78.5	118	80-120	mg/kg	05.09.13 16:26	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 913372

Matrix: Soil

Prep Method: E300P

Date Prep: 05.09.13

Parent Sample Id: 462651-020

MS Sample Id: 462651-020 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	3420	1070	4390	91	80-120	mg/kg	05.10.13 04:28	

Conestoga Rovers & Associates CEMC CVU 342

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 913372

Matrix: Soil

Prep Method: E300P

Date Prep: 05.09.13

Parent Sample Id: 462827-001

MS Sample Id: 462827-001 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	98.1	112	213	103	80-120	mg/kg	05.09.13 23:46	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 913623

Matrix: Soil

Prep Method: E300P

Date Prep: 05.10.13

Parent Sample Id: 462651-009

MS Sample Id: 462651-009 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	4420	2640	7130	103	80-120	mg/kg	05.10.13 10:36	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 913623

Matrix: Soil

Prep Method: E300P

Date Prep: 05.10.13

Parent Sample Id: 462711-003

MS Sample Id: 462711-003 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	5590	6310	5840	4	80-120	mg/kg	05.10.13 15:18	X

Analytical Method: Percent Moisture

Seq Number: 913266

Matrix: Solid

MB Sample Id: 913266-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	ND	%	05.08.13 15:15	

Analytical Method: Percent Moisture

Seq Number: 913267

Matrix: Solid

MB Sample Id: 913267-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	ND	%	05.08.13 16:45	

Conestoga Rovers & Associates
CEMC CVU 342

Analytical Method: Percent Moisture

Seq Number: 913266

Parent Sample Id: 462609-001

Matrix: Soil

MD Sample Id: 462609-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	<1.00	<1.00	0	20	%	05.08.13 15:15	U

Analytical Method: Percent Moisture

Seq Number: 913267

Parent Sample Id: 462651-019

Matrix: Soil

MD Sample Id: 462651-019 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	5.63	6.47	14	20	%	05.08.13 16:45	

Final 1.002

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Serial #: 330719 Page 2 of 3

ANALYSIS REQUEST & OBTAIN OF RESULTS REPORT

Company-City		Phone		Lab Only:	
Project Name-Location		Previously done at XENCO		Project ID	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM)		TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.	
E-mail Results to		Fax No:			
Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O. Bill to:		P.O. No:			
Quote/Pricing:		Call for P.O.			
Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP					
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:					
Special DLS (GW DW QAPP MDLS RLS See Lab PM Included Call PM)					
Sampler Name		Signature			
Sample ID	Sampling Date	Time	Depth ft' In" m	Matrix	Composite
1	5B-2 40'	5-16	1538	S	X 1
2	50'	1540			
3	70'	1545			
4	80'	1555			
5	90'	1605			
6	100'	1615			
7	5B-3 51'	5-7	450		
8	101'	1600			
9	201'	1605			
10	301'	1610			
Relinquished by (Initials and Sign)		Date & Time		Relinquished to (Initials and Sign)	
1) <i>Paula</i>		5-24-13 1650		2) <i>Paula</i>	
3) <i>Paula</i>				4) <i>Paula</i>	
5) <i>Paula</i>				6) <i>Paula</i>	
Preservatives:		VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs			
		VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:			
		PAHs SIM 8310 8270			
		TX-1005 DRO GRO MA EPH MA VPH			
		SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL			
		OC Pesticides PCBs Herbicides OP Pesticides			
		Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2			
		SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)			
		EDB / DBCP			
		TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d			
		Addn: PAH above mg/L W, mg/Kg S Highest Hit			
		Hold Samples (Surcharges will apply and are pre-approved)			
		Sample Clean-ups are pre-approved as needed			
		Addn: Date Rcv. by: From:			
		Cooler Temp: 6.0 °C			
		Total Containers per COC:			
		Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.			

Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)
Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Ascorbic Acid/NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____
Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)
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Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assistants under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

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Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/07/2013 04:50:00 PM

Work Order #: 462651

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

* 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: 05/08/2013

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 05/08/2013