Robert Speer
Portfolio Manager,
Upstream Business Unit
Remediation Team

Chevron Environmental Management Company
1400 Smith St. 07049
Houston, TX 77002
Tel (731) 372-6117
Cell (713) 301-7274
rspeer@chevron.com

INFORMATION ONLY

October 1, 2015

1. While the OCD agrees that delineation has been achieved, the proposal of no further remediation activities is not warranted at the site. Please submit a work plan on how to address the chlorides at the site.
2. Ensure the State Land Office approves/concurs.

Kellie Jones
Environmental Specialist, District 1
New Mexico Oil Conservation Division
811 South First St.
Artesia, NM 88210

Re: Vacuum Grayburg West Unit Satellite No. 4 Injection Trunkline Release Soil Assessment and Delineation Activities Report

Dear Ms. Jones:

Please find enclosed for your files copies of the following report for the Vacuum Grayburg West Unit Satellite No. 4 Injection Trunkline release project site.

- *VGWU Satellite 4 Injection Trunkline – 2015 Soil Assessment and Delineation Activities Report, Unit B - Section 1 – Township 18 South – Range 34 East, Lea 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 29 bbls of produced water as documented in our March 2009 submittal of form C-141. Soil sampling in the release area indicate that vertical and horizontal delineation of Chlorides have been achieved at the site, and that no further assessment or remediation activities are warranted for this project.

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,

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: VGWU Satellite No. 4 Injection Trunkline	Facility Type: Water Injection System

Surface Owner: State of New Mexico	Mineral Owner: State of New Mexico	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	1	18S	34 E					Lea

Latitude: 32.782766° **Longitude:** -103.510673°

NATURE OF RELEASE

Type of Release: Produced Water/Spill to Land	Volume of Release: 29 bbls water	Volume Recovered: Zero (0)
Source of Release: Injection Trunkline	Date and Hour of Occurrence: 03/06/09 and 3:00 AM	Date and Hour of Discovery: 03/06/09 and 3:10 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Johnson	
By Whom? Larry Ridenour	Date and Hour: 03/06/09 and 11:58 AM	
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.*
Injection trunkline developed a leak. Subsequently, the line was shut-in.

Describe Area Affected and Cleanup Action Taken.*

Affected area was approximately 5-ft x 73-ft on location and 26-ft x 23-ft off location. Water ran across location ESE of leak origin. No immediate clean-up action was taken; as location was occupied by drilling rig at the time of release.

Initial sampling activities commenced. Results of soil sampling indicated the presence of chloride concentrations in shallow soils. In response, a comprehensive soil assessment was performed to confirm the extents of the soil impacts.

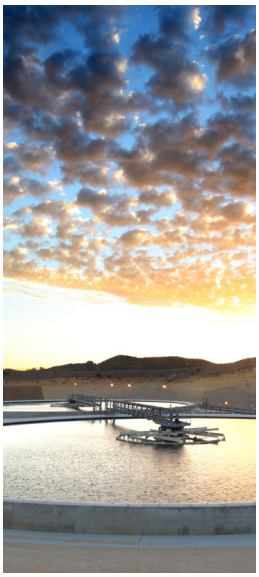
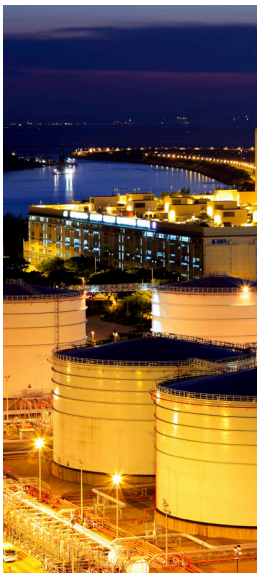
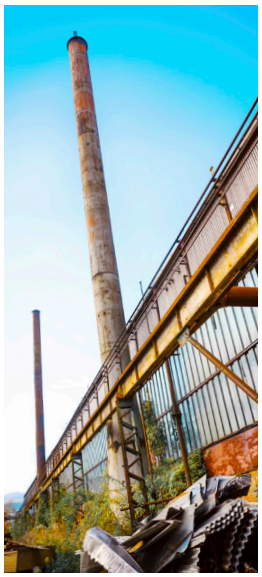
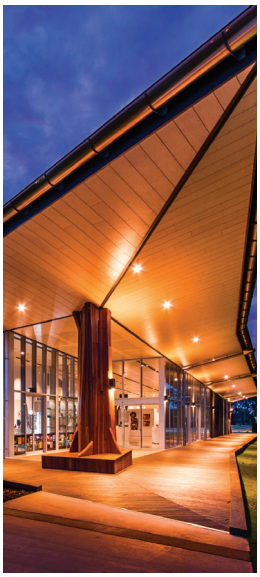
Results of the additional assessment activities are provided in the attached report.

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: Rob Speer	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: 9-30-15 Phone: (713) 372-6117		

* Attach Additional Sheets If Necessary

Final


Soil Assessment and Delineation Activities Report

Vacuum Grayburg West Unit Satellite No. 4 Injection Trunkline Release
Lea County, New Mexico

Chevron Environmental Management Company

1755 Wittington Place, Suite 500 Dallas Texas 75234
074633 | Report No 3 | September 28, 2015

Soil Assessment and Delineation Activities Report

Vacuum Grayburg West Unit Satellite No. 4 Injection Trunkline Release
Lea County, New Mexico

Chevron Environmental Management Company

Thomas C. Larson
Principal, Midland Operations Manager

Jake L. Ferenz
Project Manager

1755 Wittington Place Suite 500 Dallas Texas USA

074633 | Report No 3 |September 28, 2015

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Appendices

1. Introduction

GHD is pleased to present this Soil Assessment and Delineation Activities Report to Chevron Environmental Management Company (CEMC) for the Vacuum Grayburg West Unit Satellite No. 4 Injection Trunkline release location (hereafter referred to as the "Site").

2. Project Information and Background

The Site is located in Unit B, Section 1, Township 18 South, Range 34 East, approximately 1.38-miles southwest of Buckeye, New Mexico, in eastern Lea County (Figure 1 and Figure 2).

Chevron submitted an initial C-141 Form (Appendix A) to the New Mexico Oil Conservation Division (NMOCD) dated March 6, 2009, describing a release of 29 barrels (bbls) of produced water with zero (0) volume being recovered; stating, "No remediation will be done at this time because drilling rig is operating on location (VGSAU #459)." The source of the release was recorded to have been a "Line Leak", and the release was described as follows:

"Water ran across locations ESE of leak origin....most of leak was on location with the 5x73 and 26x23 areas off location....water ran down 2 rut road."

GHD understands that Crain Environmental (Crain) conducted field assessment activities at the Site in August 2009 through October 2010. Crain's assessment included site visits, soil sample collection, analytical laboratory analyses and preliminary determinations of impacts to environmental media. GHD 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. A soil analytical summary of Crain's initial sample collection is presented as Table 1.

In 2014, Chevron contracted GHD to perform a comprehensive soil assessment at the Site by implementing a soil boring program. A Site visit was performed on March 4, 2014 by GHD. During the Site visit, boring locations were flagged for utility locating purposes. In addition, the Site was walked to observe Site features. On March 11 and 12, 2014, GHD performed a geophysical site survey by way of Ground Penetrating Radar (GPR) to assess the presence of subsurface utility hazards. On March 18, 2014, GHD advanced six soil borings to depths ranging from approximately 35-feet to 50-feet below ground surface (bgs). Results of the 2014 soil boring and sampling program indicated the presence of elevated chloride concentrations in the soil.

In October 2014, GHD prepared and submitted a soil assessment and delineation activities report to CEMC detailing recommendations to further investigate and determine the vertical and horizontal extent of chloride impacts at the Site. CEMC concurred with the recommendations outlined in GHD's 2014 report, thus GHD returned to the Site in 2015 to execute the planned field activities. The results of those activities are provided herein.

3. Recommended Remediation Action Limits

Information available on the Petroleum Recovery Research Center (PRRC) Mapping Portal, current (GHD) managed groundwater site(s) data, and the United States Geological Survey (USGS) Current Water Database for the Nation; indicate the depth to groundwater at the Site is greater than

100-feet bgs; the nearest private domestic water source is greater than 200-feet from the release site; the nearest public/municipal water source is greater than 1,000-feet from the release site; and the release site lies more than 1,000 horizontal feet from the nearest surface water body. Consequently, the NMOCD total ranking criteria score is zero (0) for the Site. The anticipated site-specific Recommended Remediation Action Levels (RRALs) to be applied to this location by the NMOCD are 10 milligram per kilogram (mg/kg) for benzene; 50 mg/kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX); 5,000 mg/kg for TPH; and an NMOCD accepted 500 mg/kg for chlorides.

4. Drilling and Sampling - 2014

On March 11, 2014, GHD's contracted service provider, Harrison & Cooper, Inc. (HCI) of Lubbock, Texas submitted an initial New Mexico One Call utility locate ticket (2014110877). GHD submitted a MCBU Chevron Dig Plan with appropriate attachments for approval to the Chevron Buckeye Field Management Team. On March 18, 2014, GHD and HCI mobilized to the Site to begin soil boring activities. The soil borings were pre-cleared via air knife techniques to a depth of 5-feet bgs or until refusal. The remainder of each boring was advanced using an air rotary drill rig. Six soil borings were advanced across the Site covering an approximate area of 182 x 257-feet. Four soil borings were advanced to total depths of 35-feet bgs. Chloride concentrations in soil were field screened by mixing soil samples with distilled water. The rinsate was then screened using Hach chloride test strips to measure chloride concentrations in milligrams per liter (mg/L). This field method led to soil borings (SB-2 and SB-4) being further advanced to 50-feet bgs. Soil borings were logged in accordance with the Unified Soil Classification System and recorded.

Soil samples were collected for laboratory analysis from each boring (SB-1, SB-2, SB-3, SB-4, SB 5 and SB-6) at varying 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 chloride concentrations by EPA Method E300.0.

4.1 Soil Sampling Analytical Results - 2014

The soil type observed in soil samples collected during the drilling program consisted of light gray, dense caliche from the surface to approximately 20-feet bgs. Yellow to orange, very fine grain sandstone with broken caliche was observed from approximately 20-feet to total depth (35 and 50-feet). Moisture content observed in the soil samples was dry in all instances.

Soil boring samples (SB-1, SB-3, SB-5 and SB-6) collected from the Site for laboratory analyses were below the Site RRAL (500 mg/kg) for chloride concentrations. Soil boring samples (SB-2 and SB-4) collected from the Site for laboratory analysis at 50-feet bgs exceeded the Site RRAL for chloride concentrations at 2,700 mg/kg and 1,880 mg/kg, respectively. Soil laboratory analytical results from the 2014 activities are summarized in Table 2.

5. Drilling and Sampling – 2015

On August 11, 2015, GHD's contracted service provider, Harrison & Cooper, Inc. (HCI) of Lubbock, Texas submitted an initial New Mexico One Call utility locate ticket (2015331615). GHD submitted a MCBU Chevron Dig Plan with appropriate attachments for approval to the Chevron Buckeye Field Management Team. On August 20-21, 2015, GHD and HCI mobilized to the Site to begin soil boring activities. The soil borings were pre-cleared via air knife techniques to a depth of 5-feet bgs or until refusal. The remainder of each boring was advanced using an air rotary drill rig. Three soil borings (SB-7, SB-8, and SB-9) were advanced across the Site. All three soil borings were advanced to total depths of 90-feet bgs to further evaluate the extent of chloride impacts. A photo log documenting the 2014 and 2015 drilling activities is included as Appendix B. Soil borings were logged in accordance with the Unified Soil Classification System and recorded. Visual representation of the 2014 and 2015 boring logs can be found in Appendix C.

Soil samples were collected for laboratory analysis from each boring (SB-7, SB-8, and SB-9) at varying 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 chloride concentrations by EPA Method E300/300.1. All of the soil laboratory analytical reports (2009 – 2015) are included as Appendix D.

5.1 Soil Sampling Analytical Results - 2015

The soil type observed in soil samples collected during the drilling program consisted of pale yellow, dense, weathered and dry caliche from the surface to approximately 15-feet bgs. Yellow to orange, very fine grain sandstone with broken caliche was observed to approximately 20-feet bgs. Dull yellowish orange, very fine grain sand interbedded with moderate to well cemented very fine grain sandstone was observed to approximately 67-feet bgs. Dull yellowish brown very fine grain sand was observed from 67-feet to total depth (90-feet bgs). Moisture content observed in the soil samples was dry in all instances; with the exception of the 67-foot to 90-foot (bgs) interval; which was noted as being moist.

All twenty seven (27) soil samples collected from the Site in 2015 for laboratory analyses were below the Site RRAL (500 mg/kg) for chloride concentrations; with the exception of SB-8 at the 30-foot interval (630 mg/kg) and SB-9 at the 5-foot interval (2540 mg/kg). A soil analytical summary of the 2015 results is presented in Table 3. A Site Details and Analytical Results Map (2009 – 2015) is presented as Figure 3.

6. Historical Groundwater Data Review

Currently, GHD monitors two groundwater sites in proximity to the Site. The Buckeye Compressor Station Site located north northeast of the Site, and the Buckeye Vacuum Field Unit Site (AP-104) located east south east of the Site. Upon review of groundwater analytical data pertaining to the Buckeye Compressor Station and Buckeye Vacuum Field Unit, it is suggested that this cross gradient and down gradient monitoring well data can be used in support of assessment/delineation for any potential impacts to groundwater with regard to the Site (Figure 3).

Buckeye Compressor Station Site

The Buckeye Compressor Station Site is monitored with a network of 28 monitor wells. The Buckeye Compressor Station has two monitor wells (MW-11 and MW-12); which are located in proximity to the Site. Upon review of historical documents associated with the Buckeye Compressor Station, it is noted that MW-11 was destroyed in 2009, and has not monitored by GHD since 2009. In addition MW-12 was damaged in April of 2013, and is no longer monitored by GHD. However, GHD has historical records of (MW-12) groundwater data through October 2013. MW-12 is located down gradient, approximately 300-feet north east of the Site and is visible on Figure 3. Below is a table of (MW-12) historical groundwater data:

Table 6.1 MW-12 Historical Groundwater Data

Well ID	Date	Chloride (mg/L)
MW-12	04/16/09	46.4
MW-12	09/30/09	40.1
MW-12	04/19/11	45.5
MW-12	10/19/11	46.3
MW-12	04/25/12	45.1
MW-12	11/12/12	38.5

Buckeye Vacuum Field Unit Site

The Buckeye Vacuum Field Unit Site (AP-104) is monitored with a network of 13 monitor and recovery wells. The Buckeye Vacuum Field Unit has multiple wells located cross gradient and down gradient (south east) of the Site; however it is noted that monitor well (TW-23) has the most current groundwater data, and is located approximately 592-feet south east of the Site. Below is a table of (TW-23) historical groundwater data:

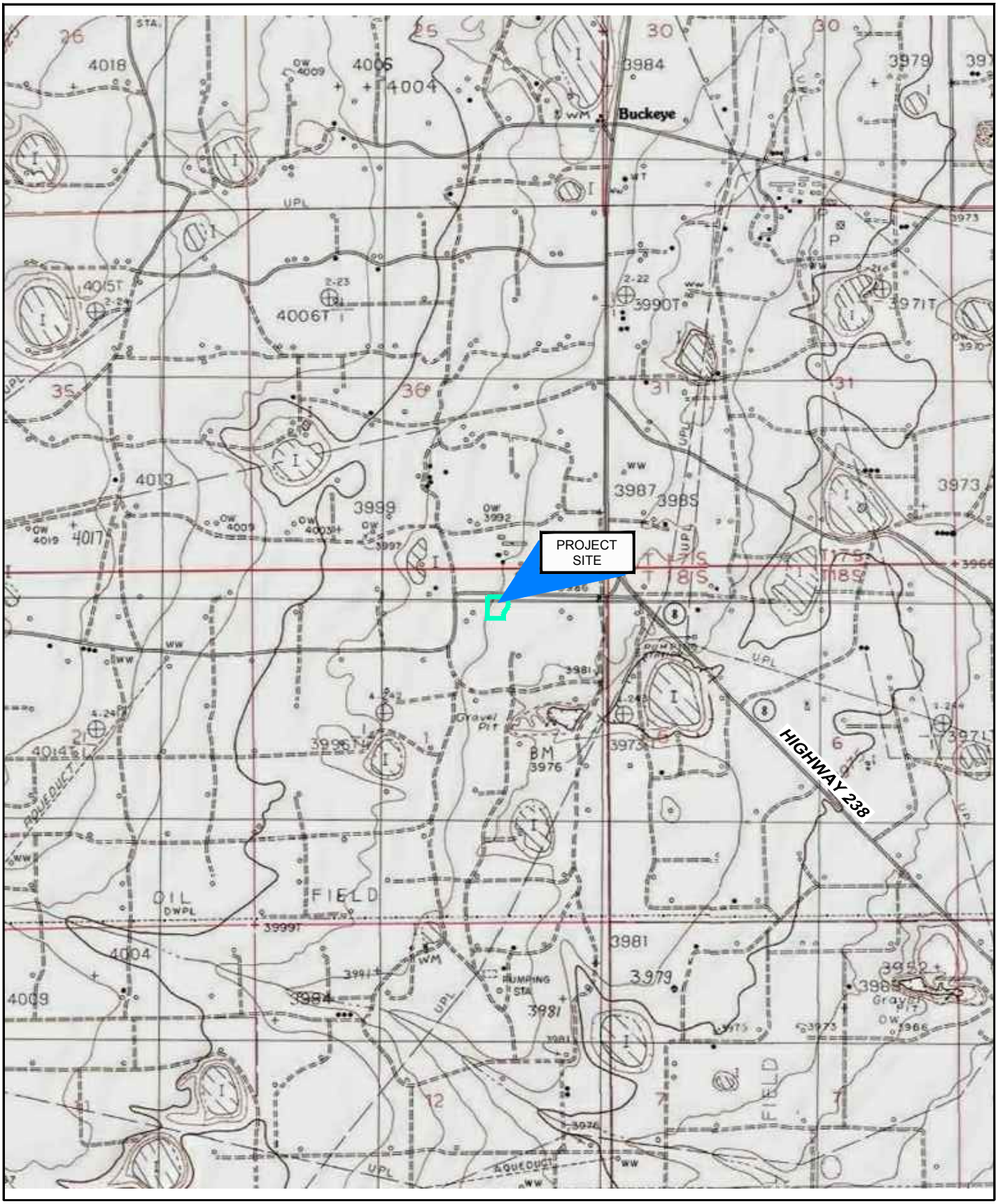
Table 6.2 TW-23 Historical Groundwater Data

Well ID	Date	Chloride (mg/L)
TW-23	4/14/09	53.7
TW-23	10/01/09	42.3
TW-23	05/16/13	28.5
TW-23	10/24/13	64.0
TW-23	2/13/14	75.9
TW-23	5/20/14	105.0
TW-23	8/19/14	127.0

7. Conclusions

Thorough subsurface investigations have been implemented at the Site. Evaluation of the analytical data obtained from soil assessment and delineation activities performed in March of 2014 and August of 2015 indicates that vertical and horizontal delineation of chloride impacts have been achieved at the Site. Furthermore, groundwater analytical data from up gradient and cross gradient monitoring wells demonstrate chloride concentrations in groundwater to be well below the regulatory threshold. Based on data provided in this report, no further delineation or remedial efforts are warranted at this time.

Figures



Source: USGS 7.5 Minute quad "Buckeye And Lovington SW, New Mexico"

Lat/Long: 32.7827° North, 103.5106° West

0 1000 2000ft

Coordinate System:
NAD 83 STATE PLANE - NEW MEXICO EAST (US FEET)

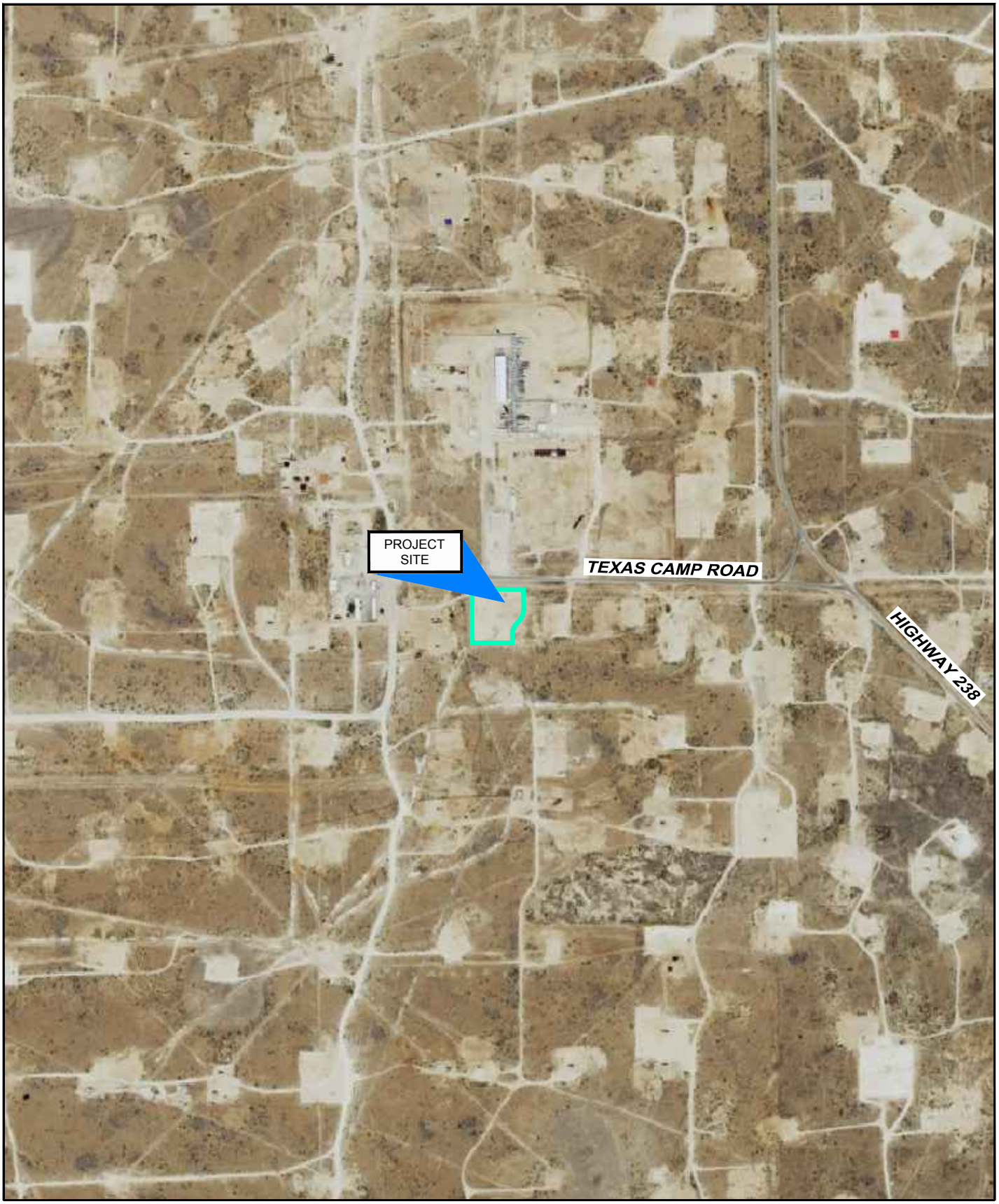
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO
VGWU SATELLITE #4 TRUNK LINE

074633-2015
Sep 1, 2015

SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\07----\074---\074633-VGWU Satellite #4 Trunkline\074633-2015\074633-2015(003)\074633-2015(003)GN-DL001.dwg



Source: USDA FSA Imagery, May 10, 2014

LAT/LONG: 32.7827° NORTH, 103.5106° WEST

0 400 800ft

Coordinate System:
NAD 83 STATE PLANE - NEW MEXICO EAST (US FEET)

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO
VGWU SATELLITE #4 TRUNK LINE

074633-2015
Sep 1, 2015

AERIAL SITE MAP

FIGURE 2

CAD File: I:\CAD\Files\07----\074---\074633-VGWU Satellite #4 Trunkline\074633-2015\074633-2015(003)\074633-2015(003)GN-DL001.dwg

TEXAS CAMP ROAD

SB-2 03/18/14					
Depth	0'	5'	15'	35'	50'
Chloride	8,150	857	1,360	1,890	2,700

SS-6 10/06/10	
Depth	1'
Chloride	32

BH-1 10/06/10	
Depth	30'
Chloride	1140

BH-3 10/06/10	
Depth	20'
Chloride	96

SB-1 03/18/14				
Depth	0'	10'	20'	35'
Chloride	163	11.1	4.70	3.58

SB-3 03/18/14				
Depth	0'	5'	15'	35'
Chloride	9,960	1,880	68.2	32.1

SB-6 03/18/14				
Depth	0'	5'	15'	35'
Chloride	311	21.5	13.4	4.05

SB-8 08/21/15									
Depth	0'	5'	10'	15'	20'	30'	50'	70'	90'
Chloride	9.05	289	172	41.0	55.9	630	72.2	67.4	80.4

BH-2 10/06/10	
Depth	20'
Chloride	80

SB-4 03/18/14					
Depth	0'	5'	15'	35'	50'
Chloride	11,300	4,110	6,220	12,400	1,880

SB-7 08/21/15									
Depth	0'	5'	10'	15'	20'	30'	50'	70'	90'
Chloride	24.2	25.7	277	144	203	53.3	7.28	<2.10	<2.10

SB-5 03/18/14				
Depth	0'	5'	15'	35'
Chloride	111	622	553	18.8

SB-9 08/21/15									
Depth	0'	5'	10'	15'	20'	30'	50'	70'	90'
Chloride	79.6	2540	474	23.9	114	77.2	21.4	4.21	3.63

MW-12
38.5

SB-1
SB-2
SB-3
SB-4
SB-5
SB-6
SB-7
SB-8
SB-9
BH-1
BH-2
BH-3
SS-6

3858.00
3989.00

LEGEND

- Soil Boring Location - 2014
- Soil Boring Location - 2015
- Crain Sample Location
- Monitor Well Location
- 38.5 Chloride Concentration (mg/l)
- Groundwater Elevation Contour (Interval = Variable) - 2012 Data
- Direction Of Groundwater Flow
- Approximate Site Boundary
- Approximate Spill Path

NOTES:

1. All analytical results reported in mg/kg.
2. Depth of samples reported in feet.
3. Approximate groundwater flow at the site to the east northeast.
4. Monitoring well (TW-23) is located approximately 592-feet to the southeast.

Source: USDA FSA Imagery, May 10, 2014

LAT/LONG: 32.7827° NORTH, 103.5106° WEST

0 50 100ft

Coordinate System:
NAD 83 STATE PLANE - NEW MEXICO EAST (US FEET)

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
LEA COUNTY, NEW MEXICO
VGWU SATELLITE #4 TRUNK LINE

074633-2015
Sep 28, 2015

SITE DETAILS AND ANALYTICAL RESULTS MAP

FIGURE 3

CAD File: I:\CAD\Files\07----\074---\074633-VGWU Satellite #4 Trunkline\074633-2015\074633-2015(003)\074633-2015(003)GN-DL001.dwg

Tables

Table 1

Soil Analytical Summary- Crain
VGWU Satellite No. 4 Injection Trunkline
Lea County, New Mexico

Sample ID	Sample Date	Depth (bgs)	Chlorides (mg/kg)
NMOCD Recommended Remediation Action Levels			***500 (mg/kg)***
SS-1	8/4/09	6"	4890
SS-1	9/21/09	1'	3400
SS-1	9/21/09	2'	4040
SS-1	9/21/09	2.5'	1880
SS-2	8/4/09	6"	23400
SS-2	9/21/09	1'	1280
SS-2	9/21/09	2'	1180
SS-2	9/21/09	3'	1460
SS-3	8/4/09	6"	15500
SS-3	9/21/09	1'	1380
SS-3	9/21/09	2'	64
SS-3	9/21/09	3'	864
SS-3	9/21/09	4'	1250
SS-4	8/4/09	6"	29400
SS-5	9/21/09	6"	480
SS-5	9/21/09	1'	224
SS-6	9/21/09	6"	64
SS-6	9/21/09	1'	32
SS-7	9/21/09	6"	480
SS-7	9/21/09	1'	32

Table 1

Soil Analytical Summary- Crain
VGWU Satellite No. 4 Injection Trunkline
Lea County, New Mexico

Sample ID	*Sample Date*	*Depth (bgs)*	*Chlorides (mg/kg)*
NMOCD Recommended Remediation Action Levels			***500 (mg/kg)***
BH-1	10/6/10	5-6'	1520
BH-1	10/6/10	10-11'	736
BH-1	10/6/10	15-16'	528
BH-1	10/6/10	20-21'	1520
BH-1	10/6/10	25-26'	2360
BH-1	10/6/10	30-31'	1140
BH-2	10/6/10	5-6'	160
BH-2	10/6/10	10-11'	304
BH-2	10/6/10	15-16'	96.0
BH-2	10/6/10	20-21'	80.0
BH-3	10/6/10	5-6'	576
BH-3	10/6/10	10-11'	640
BH-3	10/6/10	15-16'	144
BH-3	10/6/10	20-21'	96.0

Notes:

1. All analytical results reported in (mg/kg) milligrams per kilogram
2. Chloride analyses by EPA Method E300.0
3. Highlighted cells indicate concentrations exceeding guidance RRALs
4. bgs - below ground surface
5. Depth of samples reported in inches and feet

Table 2

Soil Analytical Summary - 2014
VGWU Satellite No. 4 Injection Trunkline
Lea County, New Mexico

Sample ID	Sample Date	Depth (bgs)	Chlorides (mg/kg)
NMOCD Recommended Remediation Action Levels			***500 (mg/kg)***
SB-1	3/18/14	0'	163
SB-1	3/18/14	10'	11.1
SB-1	3/18/14	20'	4.7
SB-1	3/18/14	35'	3.58
SB-2	3/18/14	0'	8150
SB-2	3/18/14	5'	857
SB-2	3/18/14	15'	1360
SB-2	3/18/14	35'	1890
SB-2	3/18/14	50'	2700
SB-3	3/18/14	0'	9960
SB-3	3/18/14	5'	1880
SB-3	3/18/14	15'	68.2
SB-3	3/18/14	35'	32.1
SB-4	3/18/14	0'	11300
SB-4	3/18/14	5'	4110
SB-4	3/18/14	15'	6220
SB-4	3/18/14	35'	12400
SB-4	3/18/14	50'	1880
SB-5	3/18/14	0'	111
SB-5	3/18/14	5'	622
SB-5	3/18/14	15'	553
SB-5	3/18/14	35'	18.8
SB-6	3/18/14	0'	311
SB-6	3/18/14	5'	21.5
SB-6	3/18/14	15'	13.4
SB-6	3/18/14	35'	4.05

Notes:

1. All analytical results reported in (mg/kg) milligrams per kilogram
2. Chloride analyses by EPA Method E300.0
3. Highlighted cells indicate concentrations exceeding guidance RRALs
4. bgs - below ground surface
5. Depth of samples reported in feet

Table 3

Soil Analytical Summary - 2015
VGWU Satellite No. 4 Injection Trunkline
Lea County, New Mexico

Sample ID	Sample Date	Depth (bgs)	Chlorides (mg/kg)
NMOCD Recommended Remediation Action Levels			***500 (mg/kg)***
SB-7	8/21/15	0	24.2
SB-7	8/21/15	5	25.7
SB-7	8/21/15	10	277
SB-7	8/21/15	15	144
SB-7	8/21/15	20	203
SB-7	8/21/15	30	53.3
SB-7	8/21/15	50	7.28
SB-7	8/21/15	70	<2.10
SB-7	8/21/15	90	<2.10
SB-8	8/21/15	0	9.05
SB-8	8/21/15	5	289
SB-8	8/21/15	10	172
SB-8	8/21/15	15	41.0
SB-8	8/21/15	20	55.9
SB-8	8/21/15	30	630
SB-8	8/21/15	50	72.2
SB-8	8/21/15	70	67.4
SB-8	8/21/15	90	80.4
SB-9	8/21/15	0	79.6
SB-9	8/21/15	5	2540
SB-9	8/21/15	10	474
SB-9	8/21/15	15	23.9
SB-9	8/21/15	20	114
SB-9	8/21/15	30	77.2
SB-9	8/21/15	50	21.4
SB-9	8/21/15	70	4.21
SB-9	8/21/15	90	3.63

Notes:

1. All analytical results reported in (mg/kg) milligrams per kilogram
2. Chloride analyses by EPA Method E300.0
3. Highlighted cells indicate concentrations exceeding guidance RRALs
4. bgs - below ground surface
5. Depth of samples reported in feet
6. '<' Indicates laboratory detection was below the reporting limit

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

Initial Report X Final Report

Name of Company Chevron USA	Contact Larry Ridenour
Address HCR 60 Box 423 Lovington, N.M. 88260	Telephone No. 505-396-4414 X 102
Facility Name VGWU Sat 4 Inj trunk line	Facility Type Water injection system

Surface Owner State of NM	Mineral Owner State of NM	Lease No. B-155

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	South Line	Feet from the	East Line	County
B	1	18S	34E					Lea

Latitude N 32 deg 46.825 min Longitude W 103 deg 30.717 min

NATURE OF RELEASE

API #not assoc with a well

Type of Release Produced water	Volume of Release 29 BW	Volume Recovered 0 Oil 0 BW
Source of Release Injection trunk line	Date and Hour of Occurrence 3/6/09 3:00 am	Date and Hour of Discovery 3/6/08 3:10 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Johnson (left message)	
By Whom? Larry Ridenour	Date and Hour 3/6/09 11:58AM	
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.*
Line developed leak and was shut in.

Chlorides 65000

Describe Area Affected and Cleanup Action Taken.*
Area divided into 4 areas for measurement. 52' x 36', 24' x 52', 5'x73' and 26' x 23'. Water ran across location ESE of leak origin. Most of leak was on location with the 5x73 and 26x23 areas off location. Water ran down 2 rut road. No remediation will be done at this time because drilling rig is operating on location (VGSAU 459). When rig moves out plan will be submitted on cleanup.

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: Larry Ridenour	Approved by District Supervisor:
Title: Production Team Leader	Approval Date: / Expiration Date:
E-mail Address LRidenour@chevron.com	Conditions of Approval: / Attached ☐
Date: 3/6/09 Phone: 396-4414 X 102	

* Attach Additional Sheets If Necessary

Appendix B
Photograph Log

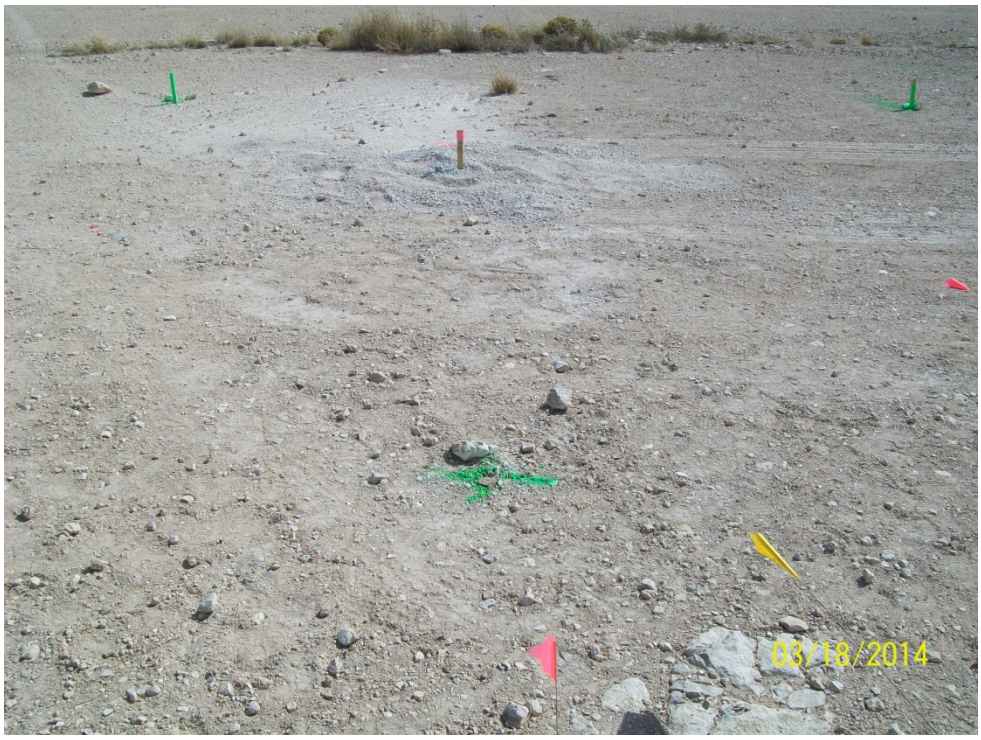


Photo 1 – View of 2014 Ground Penetrating Radar (GPR) survey markings facing southwest

Photo 2 – View of 2014 GPR survey markings facing north

Site Photographs

Photo 3 – View of 2014 borehole clearance activities facing north

Photo 4 – View of 2014 drilling activities facing southwest

Photo 3 – View of 2015 drilling activities facing southeast

Photo 4 – View of 2015 drilling activities facing east

Appendix C
Soil Boring Logs

SOIL BORING LOG

Project: VGWU Sat-4 Trunk Line
Lea County, New Mexico

Client: CEMC

No. SB-1

File No.: 74633
Date:
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: John Fergerson

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	
							☒				Start Time: 09:03 Finish Time: 10:05
											Pad Material/Caliche: light gray, broken-crushed, dry
								5			
							☒	10			Caliche: light gray, dense-weathered, dry
								15			
							☒	20			
											Sand: light yellow/orange, very fine grain, unconsilidated, interbedded with well cemented very fine grain sanstone, borken caliche in matrix, dry
								25			
								30			
							☒	35			Total Depth = 35-Feet
								40			

☒ Sampling Interval

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

Water First Noted

Analyzed Sample

SOIL BORING LOG

Project: VGWU Sat-4 Trunk Line
Lea County, New Mexico

Client: CEMC

No. SB-2

File No.: 74633
Date:
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: John Fergerson

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 10:44 Finish Time: 11:44
							☒				Pad Material/Caliche: light gray, broken-crushed, dry
							☒	5			Caliche: light gray, dense-weathered, dry
								10			
							☒	15			Caliche: pale yellow, weathered-dense, interbedded with very fine grain sand, dry
								20			Sand: light yellow, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone, borken caliche in matrix, dry
								25			
								30			
							☒	35			Sand: light yellow, very fine grain, unconsolidated, interbedded with moderate-well cemented very fine grain sandstone, dry
								40			

☒ Sampling Interval

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

▽ Water First Noted

⬭ Analyzed Sample

SOIL BORING LOG

Project: VGWU Sat-4 Trunk Line
Lea County, New Mexico

Client: CEMC

No. SB-2

File No.: 74633
Date:
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: John Fergerson

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 10:44 Finish Time: 11:44
											Sand: yellow/orange, very fine grain, unconsolidated, interbedded with slight-moderate cemented very fine grain sandstone, dry
								45			
							☒	50			Total Depth = 50-Feet
								55			
								60			
								65			
								70			
								75			
								80			

☒ Sampling Interval

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

▽ Water First Noted

⬭ Analyzed Sample

SOIL BORING LOG

Project: VGWU Sat-4 Trunk Line
Lea County, New Mexico

Client: CEMC

No. SB-3

File No.: 74633
Date:
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: John Fergerson

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 12:13 Finish Time: 12:22
							☒				Top Soil: Sandy Silt, grayish yellow, unconsolidated, dry
							☒	5			Caliche: light gray, dense-weathered, dry
								10			
							☒	15			Caliche: pale yellow, weathered-dense, interbedded with very fine grain sand, dry
								20			Sand: light yellow/orange, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone, broken caliche in matrix, dry
								25			
								30			Sand: yellow/orange, very fine grain, unconsolidated, interbedded with moderate-well cemented very fine grain sandstone, dry. **Total Depth = 35-Feet**
							☒	35			
								40			

☒ Sampling Interval

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

▽ Water First Noted

⬭ Analyzed Sample

SOIL BORING LOG

Project: VGWU Sat-4 Trunk Line
Lea County, New Mexico

Client: CEMC

No. SB-4

File No.: 74633
Date:
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: John Fergerson

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 12:48 Finish Time: 13:27
							☒				Top Soil: Sandy Silt, grayish yellow, unconsolidated, dry
							☒	5			Caliche: light gray, dense-weathered, dry
								10			
							☒	15			
											Caliche: pale yellow, weathered-dense, interbedded with very fine grain sand, dry
								20			Sand: light yellow/orange, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone, broken caliche in matrix, dry
								25			
								30			
											Sand: yellow/orange, very fine grain, unconsolidated, interbedded with moderate-well cemented very fine grain sandstone, dry
							☒	35			
								40			

☒ Sampling Interval

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

▽ Water First Noted

⬭ Analyzed Sample

SOIL BORING LOG

Project: VGWU Sat-4 Trunk Line
Lea County, New Mexico

Client: CEMC

No. SB-4

File No.: 74633
Date:
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: John Fergerson

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 12:48 Finish Time: 13:27
											Sand: yellow/orange, very fine grain, unconsolidated, interbedded with slight-moderate cemented very fine grain sandstone, dry
								45			
							☒	50			Total Depth = 50-Feet
								55			
								60			
								65			
								70			
								75			
								80			

☒ Sampling Interval

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

▽ Water First Noted

⬭ Analyzed Sample

SOIL BORING LOG

Project: VGWU Sat-4 Trunk Line
Lea County, New Mexico

Client: CEMC

No. SB-5

File No.: 74633
Date:
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: John Fergerson

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 13:43 Finish Time: 13:54
							☒				Pad Material/Caliche: light gray, broken-crushed, dry
							☒	5			
								10			Caliche: light gray, dense-weathered, dry
							☒	15			
								20			
								25			Sand: light yellow/orange, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone, broken caliche in matrix, dry
								30			
							☒	35			Sand: yellow/orange, very fine grain, unconsolidated, interbedded with moderate-well cemented very fine grain sandstone, dry. **Total Depth = 35-Feet**
								40			

☒ Sampling Interval

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

▽ Water First Noted

⬭ Analyzed Sample

SOIL BORING LOG

Project: VGWU Sat-4 Trunk Line
Lea County, New Mexico

Client: CEMC

No. SB-6

File No.: 74633
Date:
Drilling Co.: Harrison & Cooper, Inc.
Supervisor: Kenny Cooper
Type Rig: Air/Mud Rotary
Logged by: John Fergerson

LABORATORY TEST DATA (Results Reported in mg/kg)						FIELD DATA				BORING DATA	
Benzene	Toluene	Ethyl-benzene	Xylenes	Total TPH (C6-C35)	Chlorides	Photo-Ionization Detection Reading (ppm)	Sampling	Depth (feet)	Water Level	Screen Interval	Start Time: 14:17 Finish Time: 14:26
							☒				Pad Material/Caliche: light gray, broken-crushed, dry
							☒	5			
								10			Caliche: light gray, dense-weathered, dry
							☒	15			
								20			
								25			Sand: light yellow/orange, very fine grain, unconsolidated, interbedded with well cemented very fine grain sandstone, broken caliche in matrix, dry
								30			
							☒	35			Sand: yellow/orange, very fine grain, unconsolidated, interbedded with moderate-well cemented very fine grain sandstone, dry. **Total Depth = 35-Feet**
								40			

☒ Sampling Interval

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

▽ Water First Noted

⬭ Analyzed Sample

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-7
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE USCS
0	Well Pad Material, crushed caliche mixed with sand, slightly moist					
2	CALICHE, pale yellow, dense-weathered, dry	2.00		AIR	1.0	
4						
6				AIR	1.0	
8						
10				AIR	1.0	
12						
14	becomes light yellowish orange, weathered-dense, interbedded with poor-moderately cemented very fine grained sandstone			AIR	1.0	
16						
18				AIR	1.0	
20						
22	SAND, dull yellowish orange, very fine grained, unconsolidated with broken caliche in matrix, interbedded with poor-moderately cemented very fine grained, sandston, dry	22.00		AIR	1.0	SP
24						

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-7
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE				
			DEPTH (ft)	INTERVAL	REC (ft)	USCS	
26							
28				AIR	1.0		
30							
32				AIR	1.0		
34							
36				AIR	1.0		
38							
40				AIR	1.0		
42							
44				AIR	1.0		
46							
48				AIR	1.0		

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-7
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	USCS
52				AIR	1.0	
54						
56				AIR	1.0	
58						
60				AIR	1.0	
62						
64				AIR	1.0	
66	becomes dull yellowish brown, moist					
68				AIR	1.0	
70						
72				AIR	1.0	
74						

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-7
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE USCS
76				AIR	1.0	
78						
80				AIR	1.0	
82						
84				AIR	1.0	
86						
88						
90	BOREHOLE TERMINATED @ 90.0ft BGS	90.00				
92						
94						
96						
98						

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-8
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	USCS
0	Clayey SILT, dull brown, broken caliche in matrix, slightly moist					ML
	CALICHE, light gray, dense-weathered, dry	1.00				
2				AIR	1.0	
4						
6				AIR	1.0	
8						
10				AIR	1.0	
12						
14				AIR	1.0	
16						
18	becomes light yellowish orange, weathered-dense, interbedded with poor to moderately cemented very fine grained sandstone, dry					
20	SAND, dull yellowish orange, very fine grained, unconsolidated with broken caliche in matrix, interbedded with poor-moderately cemented very fine grained sandstone, dry	20.00		AIR	1.0	SP
22						
24						

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-8
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE USCS
26						
28	becomes moderate to well cemented			AIR	1.0	
30						
32				AIR	1.0	
34						
36						
38				AIR	1.0	
40						
42				AIR	1.0	
44						
46						
48				AIR	1.0	

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-8
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE USCS
52	becomes dull yellowish brown, slightly moist			AIR	1.0	
54						
56				AIR	1.0	
58						
60				AIR	1.0	
62						
64				AIR	1.0	
66						
68				AIR	1.0	
70						
72				AIR	1.0	
74						

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-8
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	USCS
76	becomes moist					
78				AIR	1.0	
80						
82				AIR	1.0	
84						
86						
88				AIR	1.0	
90	BOREHOLE TERMINATED @ 90.0ft BGS	90.00				
92						
94						
96						
98						

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-9
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	USCS
0	Clayey SILT, dull brown, broken caliche in matrix, slightly moist					ML
	CALICHE, light gray, dense-weathered, dry	1.00				
2				AIR	1.0	
4						
6				AIR	1.0	
8						
10				AIR	1.0	
12						
14				AIR	1.0	
16						
18	becomes light yellowish orange, weathered-dense, interbedded with poor to moderately cemented very fine grained sandstone, dry					
20	SAND, dull yellowish orange, very fine grained, unconsolidated with broken caliche in matrix, interbedded with poor-moderately cemented very fine grained sandstone, dry	20.00		AIR	1.0	SP
22						
24						

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-9
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE USCS
26						
28	becomes moderate to well cemented			AIR	1.0	
30						
32				AIR	1.0	
34						
36						
38				AIR	1.0	
40						
42				AIR	1.0	
44						
46						
48				AIR	1.0	

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-9
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE USCS
52	becomes dull yellowish brown, slightly moist			AIR	1.0	
54						
56				AIR	1.0	
58						
60				AIR	1.0	
62						
64				AIR	1.0	
66						
68				AIR	1.0	
70						
72				AIR	1.0	
74						

NOTES:

STRATIGRAPHIC LOG

PROJECT NAME: Satellite No. 4 Trunkline (CVU # 439)
PROJECT NUMBER: 074633
CLIENT: CEMC
LOCATION: Lea County, New Mexico

HOLE DESIGNATION: SB-9
DATE COMPLETED: August 21, 2015
DRILLING METHOD: Air Rotary
FIELD PERSONNEL: J. Fergerson

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE USCS
76	becomes moist			AIR	1.0	
78						
80				AIR	1.0	
82						
84				AIR	1.0	
86						
88						
90	BOREHOLE TERMINATED @ 90.0ft BGS	90.00				
92						
94						
96						
98						

NOTES:

Appendix D
Soil Laboratory Analytical Reports

Analytical Report 514047

for

GHD Services, INC- Midland

Project Manager: Jacob Ferenz

VGSAU #439

074633

31-AUG-15

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

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)

31-AUG-15

Project Manager: **Jacob Ferenz**
GHD Services, INC- Midland
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **514047**
VGSAU #439
Project Address: NM

Jacob Ferenz:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 514047. 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. 514047 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

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

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

Sample Cross Reference 514047

GHD Services, INC- Midland, Midland, TX

VGSAU #439

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-7-074633-JR 0'	S	08-21-15 09:10	- 0 ft	514047-001
SB-7-074633-JR 5'	S	08-21-15 09:15	- 5 ft	514047-002
SB-7-074633-JR 10'	S	08-21-15 09:20	- 10 ft	514047-003
SB-7-074633-JR 15'	S	08-21-15 09:25	- 15 ft	514047-004
SB-7-074633-JR 20'	S	08-21-15 09:30	- 20 ft	514047-005
SB-7-074633-JR 30'	S	08-21-15 09:35	- 30 ft	514047-006
SB-7-074633-JR 50'	S	08-21-15 09:40	- 50 ft	514047-007
SB-7-074633-JR 70'	S	08-21-15 09:45	- 70 ft	514047-008
SB-7-074633-JR 90'	S	08-21-15 09:50	- 90 ft	514047-009
SB-8-074633-JR 0'	S	08-21-15 09:55	- 0 ft	514047-010
SB-8-074633-JR 5'	S	08-21-15 10:00	- 5 ft	514047-011
SB-8-074633-JR 10'	S	08-21-15 10:05	- 10 ft	514047-012
SB-8-074633-JR 15'	S	08-21-15 10:10	- 15 ft	514047-013
SB-8-074633-JR 20'	S	08-21-15 10:15	- 20 ft	514047-014
SB-8-074633-JR '30	S	08-21-15 10:20	- 30 ft	514047-015
SB-8-074633-JR 50'	S	08-21-15 10:25	- 50 ft	514047-016
SB-8-074633-JR 70'	S	08-21-15 10:30	- 70 ft	514047-017
SB-8-074633-JR 90'	S	08-21-15 10:35	- 90 ft	514047-018
SB-9-074633-JR 0'	S	08-21-15 10:40	- 0 ft	514047-019
SB-9-074633-JR 5'	S	08-21-15 10:45	- 5 ft	514047-020
SB-9-074633-JR 10'	S	08-21-15 10:50	- 10 ft	514047-021
SB-9-074633-JR 15'	S	08-21-15 10:55	- 15 ft	514047-022
SB-9-074633-JR 20'	S	08-21-15 11:00	- 20 ft	514047-023
SB-9-074633-JR 30'	S	08-21-15 11:05	- 30 ft	514047-024
SB-9-074633-JR 50'	S	08-21-15 11:10	- 50 ft	514047-025
SB-9-074633-JR 70'	S	08-21-15 11:15	- 70 ft	514047-026
SB-9-074633-JR 90'	S	08-21-15 11:20	- 90 ft	514047-027

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 514047

GHD Services, INC- Midland, Midland, TX

Project Name: VGSAU #439

Project Id: 074633
Contact: Jacob Ferenz
Project Location: NM

Date Received in Lab: Fri Aug-21-15 04:15 pm
Report Date: 31-AUG-15
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	514047-001		514047-002		514047-003		514047-004		514047-005		514047-006	
	Field Id:	SB-7-074633-JR 0'		SB-7-074633-JR 5'		SB-7-074633-JR 10'		SB-7-074633-JR 15'		SB-7-074633-JR 20'		SB-7-074633-JR 30'	
	Depth:	0 ft		5 ft		10 ft		15 ft		20 ft		30 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-21-15 09:10		Aug-21-15 09:15		Aug-21-15 09:20		Aug-21-15 09:25		Aug-21-15 09:30		Aug-21-15 09:35	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-26-15 17:00		Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30	
	Analyzed:	Aug-28-15 12:04		Aug-29-15 02:51		Aug-29-15 03:36		Aug-29-15 03:59		Aug-29-15 04:21		Aug-29-15 04:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		24.2	2.34	25.7	2.12	277	10.5	144	10.8	203	21.3	53.3	2.13
Percent Moisture	***Extracted:***												
	Analyzed:	Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		14.4	1.00	5.51	1.00	4.79	1.00	7.28	1.00	5.99	1.00	5.92	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 514047

GHD Services, INC- Midland, Midland, TX

Project Name: VGSAU #439

Project Id: 074633
Contact: Jacob Ferenz
Project Location: NM

Date Received in Lab: Fri Aug-21-15 04:15 pm
Report Date: 31-AUG-15
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	514047-007		514047-008		514047-009		514047-010		514047-011		514047-012	
	Field Id:	SB-7-074633-JR 50'		SB-7-074633-JR 70'		SB-7-074633-JR 90'		SB-8-074633-JR 0'		SB-8-074633-JR 5'		SB-8-074633-JR 10'	
	Depth:	50 ft		70 ft		90 ft		0 ft		5 ft		10 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-21-15 09:40		Aug-21-15 09:45		Aug-21-15 09:50		Aug-21-15 09:55		Aug-21-15 10:00		Aug-21-15 10:05	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30	
	Analyzed:	Aug-29-15 05:07		Aug-29-15 06:15		Aug-29-15 06:38		Aug-29-15 07:00		Aug-29-15 07:23		Aug-29-15 07:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		7.28	2.16	ND	2.09	ND	2.10	9.05	2.28	289	24.0	172	10.6
Percent Moisture	***Extracted:***												
	Analyzed:	Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.59	1.00	4.15	1.00	4.92	1.00	12.4	1.00	16.8	1.00	5.74	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 514047

GHD Services, INC- Midland, Midland, TX

Project Name: VGSAU #439

Project Id: 074633
Contact: Jacob Ferenz
Project Location: NM

Date Received in Lab: Fri Aug-21-15 04:15 pm
Report Date: 31-AUG-15
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	514047-013		514047-014		514047-015		514047-016		514047-017		514047-018	
	Field Id:	SB-8-074633-JR 15'		SB-8-074633-JR 20'		SB-8-074633-JR '30		SB-8-074633-JR 50'		SB-8-074633-JR 70'		SB-8-074633-JR 90'	
	Depth:	15 ft		20 ft		30 ft		50 ft		70 ft		90 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-21-15 10:10		Aug-21-15 10:15		Aug-21-15 10:20		Aug-21-15 10:25		Aug-21-15 10:30		Aug-21-15 10:35	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30	
	Analyzed:	Aug-29-15 08:31		Aug-29-15 08:54		Aug-29-15 09:17		Aug-29-15 09:39		Aug-29-15 10:48		Aug-29-15 11:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		41.0	2.07	55.9	2.06	630	22.0	72.2	2.10	67.4	2.08	80.4	2.09
Percent Moisture	***Extracted:***												
	Analyzed:	Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.50	1.00	3.00	1.00	8.92	1.00	4.95	1.00	3.69	1.00	4.29	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 514047

GHD Services, INC- Midland, Midland, TX

Project Name: VGSAU #439

Project Id: 074633
Contact: Jacob Ferenz
Project Location: NM

Date Received in Lab: Fri Aug-21-15 04:15 pm
Report Date: 31-AUG-15
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	514047-019		514047-020		514047-021		514047-022		514047-023		514047-024	
	Field Id:	SB-9-074633-JR 0'		SB-9-074633-JR 5'		SB-9-074633-JR 10'		SB-9-074633-JR 15'		SB-9-074633-JR 20'		SB-9-074633-JR 30'	
	Depth:	0 ft		5 ft		10 ft		15 ft		20 ft		30 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-21-15 10:40		Aug-21-15 10:45		Aug-21-15 10:50		Aug-21-15 10:55		Aug-21-15 11:00		Aug-21-15 11:05	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-27-15 15:30		Aug-27-15 15:30		Aug-27-15 15:30		Aug-28-15 16:00		Aug-28-15 16:00		Aug-28-15 16:00	
	Analyzed:	Aug-29-15 11:33		Aug-29-15 11:56		Aug-29-15 12:19		Aug-29-15 16:51		Aug-29-15 18:00		Aug-29-15 18:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		79.6	44.7	2540	111	474	43.9	23.9	2.07	114	21.3	77.2	2.17
Percent Moisture	***Extracted:***												
	Analyzed:	Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		10.5	1.00	10.2	1.00	8.95	1.00	3.20	1.00	6.08	1.00	8.02	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 514047

GHD Services, INC- Midland, Midland, TX

Project Name: VGSAU #439

Project Id: 074633
Contact: Jacob Ferenz
Project Location: NM

Date Received in Lab: Fri Aug-21-15 04:15 pm
Report Date: 31-AUG-15
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	514047-025		514047-026		514047-027					
	Field Id:	SB-9-074633-JR 50'		SB-9-074633-JR 70'		SB-9-074633-JR 90'					
	Depth:	50 ft		70 ft		90 ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Aug-21-15 11:10		Aug-21-15 11:15		Aug-21-15 11:20					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-28-15 16:00		Aug-28-15 16:00		Aug-28-15 16:00					
	Analyzed:	Aug-29-15 18:45		Aug-29-15 19:08		Aug-29-15 19:30					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		21.4	2.10	4.21	2.07	3.63	2.07				
Percent Moisture	***Extracted:***										
	Analyzed:	Aug-27-15 17:30		Aug-27-15 17:30		Aug-27-15 17:30					
	Units/RL:	%	RL	%	RL	%	RL				
Percent Moisture		4.85	1.00	3.17	1.00	3.43	1.00				

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **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

BS / BSD Recoveries

Project Name: VGSAU #439

Work Order #: 514047 **Project ID:** 074633

Analyst: JUM **Date Prepared:** 08/26/2015 **Date Analyzed:** 08/27/2015

Lab Batch ID: 975659 **Sample:** 697223-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	50.3	101	50.0	54.2	108	7	90-110	20	

Analyst: JUM **Date Prepared:** 08/27/2015 **Date Analyzed:** 08/29/2015

Lab Batch ID: 975762 **Sample:** 697359-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	51.2	102	50.0	50.3	101	2	90-110	20	

Analyst: JUM **Date Prepared:** 08/28/2015 **Date Analyzed:** 08/29/2015

Lab Batch ID: 975766 **Sample:** 697370-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	50.6	101	50.0	50.3	101	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

Form 3 - MS Recoveries

Project Name: VGSAU #439

Work Order #: 514047

Lab Batch #: 975659 **Project ID:** 074633

Date Analyzed: 08/27/2015 **Date Prepared:** 08/26/2015 **Analyst:** JUM

QC- Sample ID: 513742-013 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	1780	2660	4840	115	80-120	

Lab Batch #: 975659

Date Analyzed: 08/28/2015 **Date Prepared:** 08/26/2015 **Analyst:** JUM

QC- Sample ID: 514317-005 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	86.5	500	631	109	80-120	

Lab Batch #: 975762

Date Analyzed: 08/29/2015 **Date Prepared:** 08/27/2015 **Analyst:** JUM

QC- Sample ID: 514047-002 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	25.7	52.9	79.7	102	80-120	

Lab Batch #: 975762

Date Analyzed: 08/29/2015 **Date Prepared:** 08/27/2015 **Analyst:** JUM

QC- Sample ID: 514047-012 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	172	265	454	106	80-120	

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

BRL - Below Reporting Limit

Form 3 - MS Recoveries

Project Name: VGSAU #439

Work Order #: 514047

Lab Batch #: 975766 **Project ID:** 074633

Date Analyzed: 08/29/2015 **Date Prepared:** 08/28/2015 **Analyst:** JUM

QC- Sample ID: 514047-027 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	3.63	51.8	57.6	104	80-120	

Lab Batch #: 975766

Date Analyzed: 08/29/2015 **Date Prepared:** 08/28/2015 **Analyst:** JUM

QC- Sample ID: 514468-003 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	1720	2500	4350	105	80-120	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: VGSAU #439

Work Order #: 514047

Lab Batch #: 975633 **Project ID:** 074633
Date Analyzed: 08/27/2015 17:30 **Date Prepared:** 08/27/2015 **Analyst:** WRU
QC- Sample ID: 514047-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	14.4	15.1	5	20	

Lab Batch #: 975633
Date Analyzed: 08/27/2015 17:30 **Date Prepared:** 08/27/2015 **Analyst:** WRU
QC- Sample ID: 514333-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	12.9	13.3	3	20	

Lab Batch #: 975638
Date Analyzed: 08/27/2015 17:30 **Date Prepared:** 08/27/2015 **Analyst:** WRU
QC- Sample ID: 514047-011 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	16.8	16.9	1	20	

Lab Batch #: 975638
Date Analyzed: 08/27/2015 17:30 **Date Prepared:** 08/27/2015 **Analyst:** WRU
QC- Sample ID: 514047-021 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	8.95	8.49	5	20	

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

CHAIN OF CUSTODY

Page 1 Of 3

XENCO LABORATORIES

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Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

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Xenco Quote #

Xenco Job # 514047

Client / Reporting Information

Company Name / Branch: GHD - Dallas

Company Address: 1755 Wittington Place, Suite 500 Dallas, TX 75234

Email: jake.ferenz@ghd.com

Phone No:

Project Contact: Jacob Ferenz

Samplers's Name: Jennifer Reed/John F

Project Information

Project Name/Number: CEMC/074633

Project Location: VEISALL #439

Invoice To:

PO Number:

Analytical Information

Chlorides

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	Field Comments
1	SB-7-074633-JR	0'	0910	8/21/15	S	1								X	X	
2	SB-7-074633-JR	5'	0915	8/21/15	S	1										
3	SB-7-074633-JR	10'	0920	8/21/15	S	1										
4	SB-7-074633-JR	15'	0925	8/21/15	S	1										
5	SB-7-074633-JR	20'	0930	8/21/15	S	1										
6	SB-7-074633-JR	30'	0935	8/21/15	S	1										
7	SB-7-074633-JR	50'	0940	8/21/15	S	1										
8	SB-7-074633-JR	70'	0945	8/21/15	S	1										
9	SB-7-074633-JR	90'	0950	8/21/15	S	1										
10	SB-8-074633-JR	0'	0955	8/21/15	S	1								X	X	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [x] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

See SSOW

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1	Jennifer Reed	8/21/15 1615		2	8/21/15 1615	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X

Cooler Temp. 3.4° Thermo. Corr. Factor

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.

CHAIN OF CUSTODY

Page 2 Of 3

XENCO LABORATORIES

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Odessa, Texas (432-563-1800)
Norcross, Georgia (770-449-8800)
Lakeland, Florida (863-646-8526)
Tampa, Florida (813-620-2000)

Xenco Quote #: | Xenco Job #: 580-47

Client / Reporting Information

Company Name / Branch: GHD - Dallas
Company Address: 1155 Wilmington Plaza, Suite 500 Dallas, TX 75234
Email: jake.ferenz@ghd.com | Phone No:
Project Contact: Jacob Ferenz
Samplers's Name: Jennifer Riedel/John Ferguson

Project Information

Project Name/Number: CEMC/074633
Project Location: VGSAU #439
Invoice To:
PO Number:

Analytical Information

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Time	Date	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	Field Comments
1	SB-8-074633-JR	5'	1000	8/21/15	S	1								X	X	
2	SB-8-074633-JR	10'	1005	8/21/15	S	1								X	X	
3	SB-8-074633-JR	15'	1010	8/21/15	S	1								X	X	
4	SB-8-074633-JR	20'	1015	8/21/15	S	1								X	X	
5	SB-8-074633-JR	30'	1020	8/21/15	S	1								X	X	
6	SB-8-074633-JR	50'	1025	8/21/15	S	1								X	X	
7	SB-8-074633-JR	70'	1030	8/21/15	S	1								X	X	
8	SB-8-074633-JR	90'	1035	8/21/15	S	1								X	X	
9	SB-9-074633-JR	0'	1040	8/21/15	S	1								X	X	
10	SB-9-074633-JR	5'	1045	8/21/15	S	1								X	X	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [x] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes: See SSDW

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	Jennifer Riedel	8/21/15 1615		2	8/21/15 1615	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X; Cooler Temp.: 3.4°; Thermo. Corr. Factor

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 negiotiated under a fully executed client contract.

CHAIN OF CUSTODY

Page 3 Of 3

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Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

www.xenco.com

Xenco Quote #

Xenco Job # 514047

Client / Reporting Information

Company Name / Branch: GHD - Dallas

Company Address: 1755 Wittington Pl., Ste. 500 Dallas, TX 75234

Email: jake.ferenz@ghd.com

Phone No: 972-331-8500

Project Contact: Jacob Ferenz

Samplers's Name: Jennifer Riedel / John Fergerson

Project Information

Project Name/Number: CEMC/074633

Project Location: VGSAU #439

Invoice To:

PO Number:

Analytical Information

Chlorides

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Time	Collection: Date	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	Field Comments
1	SB-9-074633-JR	10'	1050	8/21/15	S	1								X	X	
2	SB-9-074633-JR	15'	1055	8/21/15	S	1										
3	SB-9-074633-JR	20'	1100	8/21/15	S	1										
4	SB-9-074633-JR	30'	1105	8/21/15	S	1										
5	SB-9-074633-JR	50'	1110	8/21/15	S	1										
6	SB-9-074633-JR	70'	1115	8/21/15	S	1										
7	SB-9-074633-JR	90'	1120	8/21/15	S	1										
8																
9																
10																

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
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- [x] 7 Day TAT
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TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

See SSOW

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler / by	Date Time	Received By	Relinquished By	Date Time	Received By
1	Jennifer Riedel	8/21/15 1615	1	2	8/21/15 1615	2
3		Date Time:	3	4	Date Time:	4
5		Date Time:	5	Custody Seal #	Preserved where applicable	On Ice: X

Cooler Temp. 3.4°

Thermo. Corr. Factor

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 negiotiated under a fully executed client contract.

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: GHD Services, INC- Midland

Date/ Time Received: 08/21/2015 04:15:00 PM

Work Order #: 514047

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)?	3.4
#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 Date: 08/23/2015

Checklist reviewed by: Kelsey Brooks Date: 08/25/2015

Analytical Report 339843

for

Ocotillo Environmental, LLC

Project Manager: Cindy Crain

Chevron VGWU Satellite # 4 Trunkline

00409-013C

07-AUG-09

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Miramar (EPA Lab code: FL01246): Florida (E86349)

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

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

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

07-AUG-09

Project Manager: **Cindy Crain**
Ocotillo Environmental, LLC
P.O. Box 1816
Hobbs, NM 88241

Reference: XENCO Report No: **339843**
Chevron VGWU Satellite # 4 Trunkline
Project Address: Lea County, NM

Cindy Crain:

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 339843. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 339843 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 339843

Ocotillo Environmental, LLC, Hobbs, NM

Chevron VGWU Satellite # 4 Trunkline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-1	S	Aug-04-09 15:40	0 - 6 In	339843-001
SS-2	S	Aug-04-09 15:50	0 - 6 In	339843-002
SS-3	S	Aug-04-09 16:00	0 - 6 In	339843-003
SS-4	S	Aug-04-09 16:10	0 - 6 In	339843-004

CASE NARRATIVE

XENCO Laboratories

Client Name: Ocotillo Environmental, LLC
Project Name: Chevron VGWU Satellite # 4 Trunkline

Project ID:	*00409-013C*	*Report Date:*	*07-AUG-09*
Work Order Number:	*339843*	*Date Received:*	*08/05/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-767862 Inorganic Anions by EPA 300
None

Batch: LBA-767881 Percent Moisture
None

Certificate of Analysis Summary 339843

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Chevron VGWU Satellite # 4 Trunkline

Project Id: 00409-013C
Contact: Cindy Crain
Project Location: Lea County, NM

Date Received in Lab: Wed Aug-05-09 04:00 pm
Report Date: 07-AUG-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	339843-001		339843-002		339843-003		339843-004					
	Field Id:	SS-1		SS-2		SS-3		SS-4					
	Depth:	0-6 In		0-6 In		0-6 In		0-6 In					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Aug-04-09 15:40		Aug-04-09 15:50		Aug-04-09 16:00		Aug-04-09 16:10					
Anions by EPA 300	*Extracted:*												
	Analyzed:	Aug-06-09 10:40		Aug-06-09 10:40		Aug-06-09 10:40		Aug-06-09 10:40					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		4890	104	23400	1040	15500	504	29400	1040				
Percent Moisture	*Extracted:*												
	Analyzed:	Aug-07-09 09:23		Aug-07-09 09:23		Aug-07-09 09:23		Aug-07-09 09:23					
	Units/RL:	%	RL	%	RL	%	RL	%	RL				
Percent Moisture		3.68	1.00	3.84	1.00	ND	1.00	3.43	1.00				

Brent Barron, II
Odessa Laboratory Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

BRL Below Reporting Limit.

RL Reporting Limit

* Outside XENCO's scope of NELAC Accreditation.

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

Blank Spike Recovery

Project Name: Chevron VGWU Satellite # 4 Trunkline

Work Order #: 339843 **Project ID:** 00409-013C

Lab Batch #: 767862 **Sample:** 767862-1-BKS **Matrix:** Solid

Date Analyzed: 08/06/2009 **Date Prepared:** 08/06/2009 **Analyst:** LATCOR

Reporting Units: mg/kg **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.77	98	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Form 3 - MS Recoveries

Project Name: Chevron VGWU Satellite # 4 Trunkline

Work Order #: 339843
Lab Batch #: 767862
Date Analyzed: 08/06/2009
QC- Sample ID: 339841-001 S
Reporting Units: mg/kg

Date Prepared: 08/06/2009
Batch #: 1

Project ID: 00409-013C
Analyst: LATCOR
Matrix: Soil

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	11400	10800	21700	95	80-120	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Chevron VGWU Satellite # 4 Trunkline

Work Order #: 339843

Lab Batch #: 767862
Date Analyzed: 08/06/2009
QC- Sample ID: 339841-001 D
Reporting Units: mg/kg

Date Prepared: 08/06/2009
Batch #: 1

Project ID: 00409-013C
Analyst: LATCOR
Matrix: Soil

Anions by EPA 300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	11400	11500	1	20	

Lab Batch #: 767881
Date Analyzed: 08/07/2009
QC- Sample ID: 339842-002 D
Reporting Units: %

Date Prepared: 08/07/2009
Batch #: 1

Analyst: BEV
Matrix: Soil

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.82	4.26	11	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

Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental, LLC
Company Address: PO Box 1816
City/State/Zip: Hobbs, NM 88241
Telephone No: (575) 441-7244 Fax No: (432) 272-0304
Sampler Signature: Cindy Crain e-mail: cindy.crain@gmail.com

Project Name: Chevron VGWU Satellite #4 Trunkline
Project #: 00409-013C
Project Loc: Lea County, NM
PO #:
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 339843

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW= Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	TOTAL: Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	SS-1	0	6"	8/4/09	1540		1							✓		S				✓								✓
02	SS-2	0	6"	"	1550		1							✓		S				✓								✓
03	SS-3	0	6"	"	1600		1							✓		S				✓								✓
04	SS-4	0	6"	"	1610		1							✓		S				✓								✓

Special Instructions:

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? Y (N)
Labels on container(s) (Y) N (Donlid)
Custody seals on container(s) Y (N)
Custody seals on cooler(s) Y (N)
Sample Hand Delivered (Y) N
by Sampler/Client Rep. ? (Y) N
by Courier? UPS DHL FedEx Lone Star
4 oz glass
Temperature Upon Receipt: 32.6 °C

Relinquished by:	Date	Time	Received by:	Date	Time
Cindy Crain	8/5/09	1400			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Sum	Date 8-5-09	Time 16:00

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Ocotillo Env.

Date/ Time: 8.5.09 16:00

Lab ID # : 339843

Initials: CL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	32.6 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	(Not Present)	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	(ID written on Cont./ Lid)	
#9	Container label(s) legible and intact?	Yes	No	(Not Applicable)	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	Yes	No	(Not Applicable)	

Variance Documentation

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

Regarding: _____

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

CARDINAL LABORATORIES

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

September 22, 2009

Cindy Crain
Ocotillo Environmental, LLC
P.O. Box 1816
Hobbs, NM 88241

Re: Chevron (0409-013C)

Enclosed are the results of analyses for sample number H18284, received by the laboratory on 09/22/09 at 9:05 am.

Cardinal Laboratories is accredited through Texas NELAP for:

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

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

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

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

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 4 (includes Chain of Custody)

Sincerely,

Celey D. Keene
Laboratory Director

This report conforms with NELAP requirements.

CARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
OCOTILLO ENVIRONMENTAL
ATTN: CINDY CRAIN
P.O. BOX 1816
HOBBS, NM 88241
FAX TO: (432) 272-0304

Receiving Date: 09/22/09
Reporting Date: 09/22/09
Project Number: 0409-013C (CHEVRON)
Project Name: VGWU SATELLITE #4 TRUNKLINE
Project Location: LEA CO., NM

Analysis Date: 09/22/09
Sampling Date: 09/21/09
Sample Type: SOIL
Sample Condition: COOL & INTACT @ 5.5°C
Sample Received By: ML
Analyzed By: HM

LAB NO.	SAMPLE ID	Cl^- (mg/kg)
H18284-1	SS-1 (1')	3,400
H18284-2	SS-1 (2')	4,040
H18284-3	SS-1 (2.5')	1,880
H18284-4	SS-2 (1')	1,280
H18284-5	SS-2 (2')	1,180
H18284-6	SS-2 (3')	1,460
H18284-7	SS-3 (1')	1,380
H18284-8	SS-3 (2')	64
H18284-9	SS-3 (3')	864
H18284-10	SS-3 (4')	1,250
H18284-11	SS-5 (6")	480
H18284-12	SS-5 (1')	224
H18284-13	SS-6 (6")	64
H18284-14	SS-6 (1')	32
H18284-15	SS-7 (6")	480
H18284-16	SS-7 (1')	32
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		< 0.1

METHOD: Standard Methods	4500-Cl^-B

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

Chemist

09/22/09
Date

H18284 OCO

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Ocotillo Environmental	**BILL TO**	
Project Manager:	Cindy Crain	P.O. #:	
Address:	2125 French Dr. P.O. Box 1814	Company:	Ocotillo
City:	Hobbs State: NM Zip: 88240	Attn:	
Phone #:	(575) 441-7244 Fax #: (432) 272-0304	Address:	Same
Project #:	0409-013C Project Owner: Chevron	City:	
Project Name:	VGWU Satellite #4 Trunkline	State: Zip:	
Project Location:	Lea Co. NM	Phone #:	
Sampler Name:	Cindy Crain	Fax #:	

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	
H18284-1	SS-1 (1')	G	1			✓					✓		9/21/09	0932	✓	
-2	" (2')	G	1			✓					✓		"	0939	✓	
-3	" (2.5')	G	1			✓					✓		"	0950	✓	
-4	SS-2 (1')	G	1			✓					✓		"	0958	✓	
-5	" (2')	G	1			✓					✓		"	1004	✓	
-6	" (3')	G	1			✓					✓		"	1015	✓	
-7	SS-3 (1')	G	1			✓					✓		"	1021	✓	
-8	" (2')	G	1			✓					✓		"	1029	✓	
-9	" (3')	G	1			✓					✓		"	1033	✓	
-10	" (4')	G	1			✓					✓		"	1040	✓	

Relinquished By:	Date: 9/22/09	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Cindy Crain	Time: 9:05		Fax Result: ☑ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		Email to: Cindy.Crain@gmail.com

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 5.5°C

Sample Condition		CHECKED BY:
Cool	Intact	(Initials)
☑ Yes ☐ No	☐ Yes ☐ No	MCAB

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#24

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name:	Ocotillo Environmental	**BILL TO**	
Project Manager:	Cindy Crain	P.O. #:	
Address:	2125 French Dr. P.O. Box 1816	Company:	Ocotillo
City:	Hobbs State: NM Zip: 88240	Attn:	
Phone #:	(575) 441-7244 Fax #: (432) 272-0304	Address:	Same
Project #:	0409-013C Project Owner: Chevron	City:	
Project Name:	VGWU Satellite #4 Trunkline	State: Zip:	
Project Location:	Lea Co. NM	Phone #:	
Sampler Name:	Cindy Crain	Fax #:	

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	
H15254-11	SS-5 (6")	G	1			✓					✓		9/21/09	1050	✓	
-12	" (1')	G	1			✓					✓		"	1053	✓	
-13	SS-6 (6")	G	1			✓					✓		"	1105	✓	
-14	" (1')	G	1			✓					✓		"	1107	✓	
-15	SS-7 (6")	G	1			✓					✓		"	1115	✓	
-16	" (1')	G	1			✓					✓		"	1117	✓	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Cindy Crain	Date: 9/22/09 Time: 9:05	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☑ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.5°C	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) MC/BB	REMARKS: Email results to: Cindy.Crain@gmail.com

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#26

CARDINAL Laboratories

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

October 08, 2010

CINDY CRAIN

CRAIN ENVIRONMENTAL

2925 E. 17TH STREET

ODESSA, TX 79761

RE: VGWU SAT #4

Enclosed are the results of analyses for samples received by the laboratory on 10/06/10 15:15.

Cardinal Laboratories is accredited through Texas NELAP for:

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

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

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

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene
Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

CRAIN ENVIRONMENTAL
CINDY CRAIN
2925 E. 17TH STREET
ODESSA TX, 79761
Fax To: (432) 272-0304

Received:	10/06/2010	Sampling Date:	10/06/2010
Reported:	10/08/2010	Sampling Type:	Soil
Project Name:	VGWU SAT #4	Sampling Condition:	** (See Notes)
Project Number:	0810-020	Sample Received By:	Jodi Henson
Project Location:	LEA CO., NM		

Sample ID: BH - 1 (5-6') (H020996-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1520**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 1 (10-11') (H020996-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**736**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 1 (15-16') (H020996-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**528**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 1 (20-21') (H020996-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1520**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 1 (25-26') (H020996-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2360**	16.0	10/08/2010	ND	416	104	400	3.77	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

CRAIN ENVIRONMENTAL
CINDY CRAIN
2925 E. 17TH STREET
ODESSA TX, 79761
Fax To: (432) 272-0304

Received:	10/06/2010	Sampling Date:	10/06/2010
Reported:	10/08/2010	Sampling Type:	Soil
Project Name:	VGWU SAT #4	Sampling Condition:	** (See Notes)
Project Number:	0810-020	Sample Received By:	Jodi Henson
Project Location:	LEA CO., NM		

Sample ID: BH - 1 (30-31') (H020996-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1140**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 2 (5-6') (H020996-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 2 (10-11') (H020996-08)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 2 (15-16') (H020996-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 2 (20-21') (H020996-10)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	10/08/2010	ND	416	104	400	3.77	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

CRAIN ENVIRONMENTAL
CINDY CRAIN
2925 E. 17TH STREET
ODESSA TX, 79761
Fax To: (432) 272-0304

Received:	10/06/2010	Sampling Date:	10/06/2010
Reported:	10/08/2010	Sampling Type:	Soil
Project Name:	VGWU SAT #4	Sampling Condition:	** (See Notes)
Project Number:	0810-020	Sample Received By:	Jodi Henson
Project Location:	LEA CO., NM		

Sample ID: BH - 3 (5-6') (H020996-11)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**576**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 3 (10-11') (H020996-12)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**640**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 3 (15-16') (H020996-13)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	10/08/2010	ND	416	104	400	3.77	

Sample ID: BH - 3 (20 - 21') (H020996-14)

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	10/08/2010	ND	416	104	400	3.77	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Crain Environmental	**BILL TO**	
Project Manager:	Cindy Crain	P.O. #:	
Address:	2925 East 17th St.	Company:	
City:	Odessa, State: TX Zip: 79761	Attn:	
Phone #:	(432) 530-9797 Fax #: (432) 272-0304	Address:	Same
Project #:	0810-020 Project Owner: Chevron	City:	
Project Name:	VGWU Sat # 4	State: Zip:	
Project Location:	Lea Co, NM	Phone #:	
Sampler Name:	Cindy Crain	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides
H20996-1	BH-1 (5-6')	C	1			✓							10/6/10	1156	✓
2	" (10-11')	C	1			✓							"	1159	✓
3	" (15-16')	C	1			✓							"	1202	✓
4	" (20-21')	C	1			✓							"	1205	✓
5	" (25-26')	C	1			✓							"	1207	✓
6	" (30-31')	C	1			✓							"	1212	✓
7	BH-2 (5-6')	C	1			✓							"	1224	✓
8	" (10-11')	C	1			✓							"	1226	✓
9	" (15-16')	C	1			✓							"	1230	✓
10	" (20-21')	C	1			✓							"	1235	✓

Relinquished By:	Date: 10/6/10	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Cindy Crain	Time: 1515		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:	Jodi Henson	Email Results to: Cindy.Crain@gmail.com
Delivered By: (Circle One)	Sample Condition: Cool: ☐ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:	2.8°C		

FORM-006
Revision 1.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

#26

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	Crain Environmental	**BILL TO**	
Project Manager:	Cindy Crain	P.O. #:	
Address:	2925 East 17th St.	Company:	
City:	Odessa, State: TX Zip: 79761	Attn:	
Phone #:	(432) 530-9797 Fax #: (432) 272-0304	Address:	Same
Project #:	D810-020 Project Owner: Chevron	City:	
Project Name:	VGWU San #4	State: Zip:	
Project Location:	Lea Co, NM	Phone #:	
Sampler Name:	Cindy Crain	Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chlorides
H20996-11	BH-3 (5-6')	C	1			✓							10/6/10	1259	✓
12	" (10-11')	C	1			✓							"	1301	✓
13	" (15-16')	C	1			✓							"	1305	✓
14	" (20-21')	C	1			✓							"	1308	✓

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 10/6/10 Time: 1515	Received By:	
Relinquished By:	Date: Time:	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Cool ☐ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	
28°C			

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

Email Results to: Cindy.Crain@gmail.com

FORM-006 Rev 3.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

SAT 2 to

Analytical Report 481522

for

Conestoga Rovers & Associates

Project Manager: Chris Knight

VGWU Satellte 4

074633

28-MAR-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)

28-MAR-14

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

Reference: XENCO Report No(s): **481522**
VGWU Satellte 4
Project Address: Lea 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) 481522. 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. 481522 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

Sample Cross Reference 481522

Conestoga Rovers & Associates, Midland, TX

VGWU Satellte 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
074633-JMF-SBI	S	03-18-14 09:53	- 0 ft	481522-001
074633-JMF-SBI	S	03-18-14 09:57	- 10 ft	481522-002
074633-JMF-SBI	S	03-18-14 09:59	- 20 ft	481522-003
074633-JMF-SBI	S	03-18-14 10:05	- 35 ft	481522-004
074633-JMF-SB2	S	03-18-14 10:44	- 0 ft	481522-005
074633-JMF-SB2	S	03-18-14 10:45	- 5 ft	481522-006
074633-JMF-SB2	S	03-18-14 10:47	- 15 ft	481522-007
074633-JMF-SB2	S	03-18-14 10:52	- 35 ft	481522-008
074633-JMF-SB2	S	03-18-14 11:56	- 50 ft	481522-009
074633-JMF-SB3	S	03-18-14 12:13	- 0 ft	481522-010
074633-JMF-SB3	S	03-18-14 12:16	- 5 ft	481522-011
074633-JMF-SB3	S	03-18-14 12:18	- 15 ft	481522-012
074633-JMF-SB3	S	03-18-14 12:22	- 35 ft	481522-013
074633-JMF-SB4	S	03-18-14 12:48	- 0 ft	481522-014
074633-JMF-SB4	S	03-18-14 12:51	- 5 ft	481522-015
074633-JMF-SB4	S	03-18-14 12:54	- 15 ft	481522-016
074633-JMF-SB4	S	03-18-14 13:08	- 35 ft	481522-017
074633-JMF-SB4	S	03-18-14 13:27	- 50 ft	481522-018
074633-JMF-SB5	S	03-18-14 13:43	- 0 ft	481522-019
074633-JMF-SB5	S	03-18-14 13:46	- 5 ft	481522-020
074633-JMF-SB5	S	03-18-14 13:48	- 15 ft	481522-021
074633-JMF-SB5	S	03-18-14 13:54	- 35 ft	481522-022
074633-JMF-SB6	S	03-18-14 14:17	- 0 ft	481522-023
074633-JMF-SB6	S	03-18-14 14:20	- 5 ft	481522-024
074633-JMF-SB6	S	03-18-14 14:22	- 15 ft	481522-025
074633-JMF-SB6	S	03-18-14 14:26	- 35 ft	481522-026

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-937044 Inorganic Anions by EPA 300/300.1

Chloride recovered above QC limits in the Matrix Spike. Samples affected are: 481522-008, -015, -019, -004, -009, -010, -011, -017, -018, -005, -014, -001, -020, -002, -006, -012, -013, -003, -007, -016.

The Laboratory Control Sample for Chloride is within laboratory Control Limits. No further action is required.

Certificate of Analysis Summary 481522

Conestoga Rovers & Associates, Midland, TX

Project Name: VGWU Satellte 4

Project Id: 074633
Contact: Chris Knight
Project Location: Lea County, NM

Date Received in Lab: Wed Mar-19-14 12:25 pm
Report Date: 28-MAR-14
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	481522-001		481522-002		481522-003		481522-004		481522-005		481522-006	
	Field Id:	074633-JMF-SBI		074633-JMF-SBI		074633-JMF-SBI		074633-JMF-SBI		074633-JMF-SB2		074633-JMF-SB2	
	Depth:	0 ft		10 ft		20 ft		35 ft		0 ft		5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-18-14 09:53		Mar-18-14 09:57		Mar-18-14 09:59		Mar-18-14 10:05		Mar-18-14 10:44		Mar-18-14 10:45	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00	
	Analyzed:	Mar-25-14 00:53		Mar-25-14 01:39		Mar-25-14 02:02		Mar-25-14 02:24		Mar-25-14 02:47		Mar-25-14 03:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		163	10.0	11.1	2.09	4.70	2.36	3.58	2.11	8150	244	857	25.7
Percent Moisture	***Extracted:***												
	Analyzed:	Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		ND	1.00	4.44	1.00	15.2	1.00	5.33	1.00	18.2	1.00	22.2	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 481522

Conestoga Rovers & Associates, Midland, TX

Project Name: VGWU Satellte 4

Project Id: 074633
Contact: Chris Knight
Project Location: Lea County, NM

Date Received in Lab: Wed Mar-19-14 12:25 pm
Report Date: 28-MAR-14
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	481522-007		481522-008		481522-009		481522-010		481522-011		481522-012	
	Field Id:	074633-JMF-SB2		074633-JMF-SB2		074633-JMF-SB2		074633-JMF-SB3		074633-JMF-SB3		074633-JMF-SB3	
	Depth:	15 ft		35 ft		50 ft		0 ft		5 ft		15 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-18-14 10:47		Mar-18-14 10:52		Mar-18-14 11:56		Mar-18-14 12:13		Mar-18-14 12:16		Mar-18-14 12:18	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00	
	Analyzed:	Mar-25-14 04:18		Mar-25-14 04:40		Mar-25-14 05:03		Mar-25-14 05:26		Mar-25-14 05:48		Mar-25-14 06:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1360	41.6	1890	105	2700	105	9960	404	1880	42.5	68.2	4.41
Percent Moisture	***Extracted:***												
	Analyzed:	Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.83	1.00	5.11	1.00	5.09	1.00	ND	1.00	5.93	1.00	9.34	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 481522

Conestoga Rovers & Associates, Midland, TX

Project Name: VGWU Satellte 4

Project Id: 074633
Contact: Chris Knight
Project Location: Lea County, NM

Date Received in Lab: Wed Mar-19-14 12:25 pm
Report Date: 28-MAR-14
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	481522-013		481522-014		481522-015		481522-016		481522-017		481522-018	
	Field Id:	074633-JMF-SB3		074633-JMF-SB4		074633-JMF-SB4		074633-JMF-SB4		074633-JMF-SB4		074633-JMF-SB4	
	Depth:	35 ft		0 ft		5 ft		15 ft		35 ft		50 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-18-14 12:22		Mar-18-14 12:48		Mar-18-14 12:51		Mar-18-14 12:54		Mar-18-14 13:08		Mar-18-14 13:27	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00	
	Analyzed:	Mar-25-14 06:57		Mar-25-14 07:19		Mar-25-14 07:42		Mar-25-14 09:23		Mar-25-14 09:45		Mar-25-14 10:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		32.1	2.11	11300	1020	4110	107	6220	131	12400	436	1880	41.6
Percent Moisture	***Extracted:***												
	Analyzed:	Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		5.05	1.00	2.00	1.00	6.84	1.00	23.6	1.00	8.25	1.00	3.80	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 481522

Conestoga Rovers & Associates, Midland, TX

Project Name: VGWU Satellte 4

Project Id: 074633
Contact: Chris Knight
Project Location: Lea County, NM

Date Received in Lab: Wed Mar-19-14 12:25 pm
Report Date: 28-MAR-14
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	481522-019		481522-020		481522-021		481522-022		481522-023		481522-024	
	Field Id:	074633-JMF-SB5		074633-JMF-SB5		074633-JMF-SB5		074633-JMF-SB5		074633-JMF-SB6		074633-JMF-SB6	
	Depth:	0 ft		5 ft		15 ft		35 ft		0 ft		5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-18-14 13:43		Mar-18-14 13:46		Mar-18-14 13:48		Mar-18-14 13:54		Mar-18-14 14:17		Mar-18-14 14:20	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00		Mar-21-14 10:00	
	Analyzed:	Mar-25-14 10:31		Mar-25-14 10:54		Mar-25-14 13:10		Mar-25-14 13:55		Mar-25-14 14:18		Mar-25-14 14:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		111	10.0	622	21.1	553	21.1	18.8	2.11	311	20.1	21.5	2.06
Percent Moisture	***Extracted:***												
	Analyzed:	Mar-20-14 17:15		Mar-20-14 17:15		Mar-20-14 17:15		Mar-24-14 13:05		Mar-24-14 13:05		Mar-24-14 13:05	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		ND	1.00	5.18	1.00	5.26	1.00	5.02	1.00	ND	1.00	2.90	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 481522

Conestoga Rovers & Associates, Midland, TX

Project Name: VGWU Satellte 4

Project Id: 074633
Contact: Chris Knight
Project Location: Lea County, NM

Date Received in Lab: Wed Mar-19-14 12:25 pm
Report Date: 28-MAR-14
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	481522-025		481522-026			
	Field Id:	074633-JMF-SB6		074633-JMF-SB6			
	Depth:	15 ft		35 ft			
	Matrix:	SOIL		SOIL			
	Sampled:	Mar-18-14 14:22		Mar-18-14 14:26			
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-21-14 10:00		Mar-21-14 10:00			
	Analyzed:	Mar-25-14 15:03		Mar-25-14 15:26			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		13.4	2.06	4.05	2.07		
Percent Moisture	***Extracted:***						
	Analyzed:	Mar-24-14 13:05		Mar-24-14 13:05			
	Units/RL:	%	RL	%	RL		
Percent Moisture		3.10	1.00	3.34	1.00		

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **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

BS / BSD Recoveries

Project Name: VGWU Satellte 4

Work Order #: 481522 **Project ID:** 074633

Analyst: AMB **Date Prepared:** 03/21/2014 **Date Analyzed:** 03/25/2014

Lab Batch ID: 937044 **Sample:** 652800-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	52.2	104	50.0	51.7	103	1	80-120	20	

Analyst: AMB **Date Prepared:** 03/21/2014 **Date Analyzed:** 03/25/2014

Lab Batch ID: 937035 **Sample:** 652801-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	52.9	106	50.0	51.3	103	3	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

Form 3 - MS Recoveries

Project Name: VGWU Satellte 4

Work Order #: 481522

Lab Batch #: 937035 **Project ID:** 074633

Date Analyzed: 03/25/2014 **Date Prepared:** 03/21/2014 **Analyst:** AMB

QC- Sample ID: 481522-021 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	553	528	1160	115	80-120	

Lab Batch #: 937035

Date Analyzed: 03/25/2014 **Date Prepared:** 03/21/2014 **Analyst:** AMB

QC- Sample ID: 481534-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	2800	2580	6310	136	80-120	X

Lab Batch #: 937044

Date Analyzed: 03/25/2014 **Date Prepared:** 03/21/2014 **Analyst:** AMB

QC- Sample ID: 481522-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	163	250	462	120	80-120	

Lab Batch #: 937044

Date Analyzed: 03/25/2014 **Date Prepared:** 03/21/2014 **Analyst:** AMB

QC- Sample ID: 481522-011 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	1880	1060	3250	129	80-120	X

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: VGWU Satellte 4

Work Order #: 481522

Lab Batch #: 936721 **Project ID:** 074633
Date Analyzed: 03/20/2014 17:15 **Date Prepared:** 03/20/2014 **Analyst:** WRU
QC- Sample ID: 481532-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	8.04	8.06	0	20	

Lab Batch #: 936721
Date Analyzed: 03/20/2014 17:15 **Date Prepared:** 03/20/2014 **Analyst:** WRU
QC- Sample ID: 481642-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

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

Lab Batch #: 936724
Date Analyzed: 03/20/2014 17:15 **Date Prepared:** 03/20/2014 **Analyst:** WRU
QC- Sample ID: 481522-002 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	4.44	4.39	1	20	

Lab Batch #: 936724
Date Analyzed: 03/20/2014 17:15 **Date Prepared:** 03/20/2014 **Analyst:** WRU
QC- Sample ID: 481522-012 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	9.34	9.09	3	20	

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

Sample Duplicate Recovery

Project Name: VGWU Satellte 4

Work Order #: 481522

Lab Batch #: 936912 **Project ID:** 074633
Date Analyzed: 03/24/2014 13:05 **Date Prepared:** 03/24/2014 **Analyst:** WRU
QC- Sample ID: 481586-002 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.95	4.08	3	20	

Lab Batch #: 936912
Date Analyzed: 03/24/2014 13:05 **Date Prepared:** 03/24/2014 **Analyst:** WRU
QC- Sample ID: 481781-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	13.7	15.0	9	20	

Lab Batch #: 936913
Date Analyzed: 03/24/2014 13:05 **Date Prepared:** 03/24/2014 **Analyst:** WRU
QC- Sample ID: 481522-026 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.34	3.63	8	20	

Lab Batch #: 936913
Date Analyzed: 03/24/2014 13:05 **Date Prepared:** 03/24/2014 **Analyst:** WRU
QC- Sample ID: 481523-010 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	21.0	23.9	13	20	

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

BRL - Below Reporting Limit

CHAIN OF CUSTODY

Page 1 Of 3

XENCO LABORATORIES

Setting the Standard since 1990

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Dallas, Texas (214-902-0300)

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

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

www.xenco.com

Xenco Quote #

Xenco Job # 401522

Client / Reporting Information

Company Name / Branch: CRA

Company Address: 2135 S. Loop 250 W. Midland, TX 79703

Email: JFergerson@craworld.com

Phone No: (432) 686-0086

Project Contact: Chris Knight/Jake Forenz

Samplers's Name: John Fergerson

Project Information

Project Name/Number: VGWU Satellite 4 / 074633

Project Location: Lea County, NM

Invoice To:

PO Number:

Analytical Information

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	Field Comments
1	074633-JMF-SB1	0'	3/18/14	0953	S	1								X	X	
2	074633-JMF-SB1	10'	3/18/14	0957	S	1								X	X	
3	074633-JMF-SB1	20'	3/18/14	0959	S	1								X	X	
4	074633-JMF-SB1	35'	3/18/14	1005	S	1								X	X	
5	074633-JMF-SB2	0'	3/18/14	1044	S	1								X	X	
6	074633-JMF-SB2	5'	3/18/14	1045	S	1								X	X	
7	074633-JMF-SB2	15'	3/18/14	1047	S	1								X	X	
8	074633-JMF-SB2	35'	3/18/14	1052	S	1								X	X	
9	074633-JMF-SB2	50'	3/18/14	1156	S	1								X	X	
10	074633-JMF-SB3	0'	3/18/14	1213	S	1								X	X	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [x] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

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		3/19/14 1225	1	2	3/19/14 12:25	
2	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
	3		3	4		4
3	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
	5		5			1.5

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.

CHAIN OF CUSTODY

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Service Center - San Antonio, Texas (210-509-3334) | www.xenco.com

Xenco Quote # | Xenco Job # 481122

Client / Reporting Information

Company Name / Branch: CRA

Company Address: 2135 S. Loop 250 W. Midland, TX 79703

Email: JFergerson@crawild.com Phone No: (432) 686-0086

Project Contact: Chris Knight / Jake Ferenz

Samplers's Name: John Fergerson

Project Information

Project Name/Number: Vgwu Satellite 4 / 074633

Project Location: Lea County, NM

Invoice To:

PO Number:

Analytical Information

Chloride

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	Field Comments
1	074633-JMF-SB3	5'	3/18/14	1216	S	1								X	X	
2	074633-JMF-SB3	15'	3/18/14	1218	S	1								X	X	
3	074633-JMF-SB3	35'	3/18/14	1222	S	1								X	X	
4	074633-JMF-SB4	0'	3/18/14	1248	S	1								X	X	
5	074633-JMF-SB4	5'	3/18/14	1251	S	1								X	X	
6	074633-JMF-SB4	15'	3/18/14	1254	S	1								X	X	
7	074633-JMF-SB4	35'	3/18/14	1308	S	1								X	X	
8	074633-JMF-SB4	50'	3/18/14	1327	S	1								X	X	
9	074633-JMF-SB5	0'	3/18/14	1343	S	1								X	X	
10	074633-JMF-SB5	5'	3/18/14	1346	S	1								X	X	

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- ☐ UST / RG -411
- ☐ TRRP Checklist

Notes:

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	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		3/19/14 1225	1	2	3/19/14 12'25	3
3			3	4		4
5			5			

Custody Seal # | Preserved where applicable ☐ | On Ice ☐ | Cooler Temp. 1.5 | Thermo. Corr. Factor

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CHAIN OF CUSTODY

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Email: JFergerson@cravworld.com Phone No: (432) 686-0086

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Samplers's Name: John Fergerson

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Invoice To:

PO Number:

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No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	Field Comments
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2	074633-JMF-SB5	35'	3/18/14	1354	S	1								X	X	
3	074633-JMF-SB6	0'	3/18/14	1417	S	1								X	X	
4	074633-JMF-SB6	5'	3/18/14	1420	S	1								X	X	
5	074633-JMF-SB6	15'	3/18/14	1422	S	1								X	X	
6	074633-JMF-SB6	35'	3/18/14	1426	S	1								X	X	
7																
8																
9																
10																

Matrix Codes

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1		3/19/14 1225		2	3/19/14 12:25	2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. 1.5 / Thermo. Corr. Factor
			5			

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 03/19/2014 12:25:00 PM

Work Order #: 481522

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)?	2.5
#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 HNO3,HCL, H2SO4?	**N/A**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

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

Analyst:	PH Device/Lot#:

Checklist completed by: Ruriko Konuma Date: 03/19/2014

Checklist reviewed by: Kelsey Brooks Date: 03/19/2014