



**Kegan W. Boyer, P.G.**  
Project Manager

**Upstream Business Unit**  
Environmental Management  
Company  
1400 Smith Street  
Room 07076  
Houston, Texas 77002  
Tel 713-372-7705  
kegan.boyer@chevron.com

June 10, 2015

Dr. Tomáš Oberding  
Hydrologist, Adv-District 1  
Environmental Bureau  
New Mexico Oil Conservation Division  
1220 South Saint Francis Drive  
Santa Fe, New Mexico 87505

Re: Site Closure Documentation  
Central Vacuum Unit #47H (RP #1483)

Dr. Oberding,

Chevron Environmental Management Company (CEMC) is pleased to submit the following report documenting pit closure activities at the Central Vacuum Unit #47H (RP #1483) project site:

- *Remediation and Pit Closure Activities Report,  
Central Vacuum Unit #47H, RP #1483  
Unit A, Section 31, Township 17S, Range 35E,  
Lea County, New Mexico  
(Final Form C-144 also included with report)*

This report was prepared by Conestoga-Rovers & Associates (CRA) on behalf of CEMC to document remedial activities performed for CEMC at the above-referenced project site. For your convenience, this report has been uploaded to the Oil Conservation Division (OCD) Secure FTP Server within the 'Chevron' folder. CEMC is providing this report only as an electronic version; however, a hard copy can be provided at the OCD's request.

In accordance with our previous discussion regarding this project site, CEMC now considers remedial activities with respect to the former pit location at this site to be complete and respectfully requests that the NMOCD grant a no further action status to the pit formerly located at this site. CEMC recognizes that additional assessment activities may be required at the location of the Central Vacuum Unit 47H to assess potential impacts unrelated to the former pit. As previously discussed, CEMC intends to assess those potential impacts under a separate C-141 filing.

Should you have any questions regarding the content of the report or the actions completed at the site, please do not hesitate to contact me by phone at 713-372-7705 or via e-mail at kegan.boyer@chevron.com.

June 10, 2015

Page 2

Sincerely,

A handwritten signature in blue ink, appearing to read 'Kegan W. Boyer', written over a horizontal line.

Kegan W. Boyer, P.G.  
Environmental Project Manager

encl: *Remediation and Pit Closure Activities Report*

cc: Jake Ferenz, CRA

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

Form C-144  
Revised June 6, 2013

**For temporary pits, below-grade tanks, and multi-well fluid management pits**, submit to the appropriate NMOCD District Office.  
**For permanent pits** submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or  
Proposed Alternative Method Permit or Closure Plan Application

Type of action: ☐ Below grade tank registration  
☐ Permit of a pit or proposed alternative method  
☒ Closure of a pit, below-grade tank, or proposed alternative method  
☐ Modification to an existing permit/or registration  
☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

**Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request**

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.  
Operator: Chevron OGRID #: \_\_\_\_\_  
Address: 56 Texas Camp Road, Lovington, New Mexico, 88260  
Facility or well name: Central Vacuum Unit No. 47H  
API Number: 30-025-08532 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr A Section 31 Township 17S Range 34E County: Lea  
Center of Proposed Design: Latitude N 32.7969° Longitude W 103.4907° NAD: ☒ 1927 ☐ 1983  
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.  
☒ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC  
Temporary: ☐ Drilling ☐ Workover  
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no  
☐ Lined ☐ Unlined Liner type: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☐ String-Reinforced  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

3.  
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC  
Volume: \_\_\_\_\_ bbl Type of fluid: \_\_\_\_\_  
Tank Construction material: \_\_\_\_\_  
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other \_\_\_\_\_  
Liner type: Thickness \_\_\_\_\_ mil ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_

4.  
☐ **Alternative Method:**  
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.  
**Fencing:** Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)  
☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)  
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet  
☐ Alternate. Please specify \_\_\_\_\_

6.

**Netting:** Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- ☐ Screen ☐ Netting ☐ Other \_\_\_\_\_
- ☐ Monthly inspections (If netting or screening is not physically feasible)

7.

**Signs:** Subsection C of 19.15.17.11 NMAC

- ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☐ Signed in compliance with 19.15.16.8 NMAC

8.

**Variations and Exceptions:**

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

***Please check a box if one or more of the following is requested, if not leave blank:***

- ☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.
- ☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

***Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.***

**General siting**

**Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.**

- ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

**Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit .**

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)**

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☐ No

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)**

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☐ No

Within an unstable area. **(Does not apply to below grade tanks)**

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☐ No

Within a 100-year floodplain. **(Does not apply to below grade tanks)**

- FEMA map

☐ Yes ☐ No

**Below Grade Tanks**

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

**Temporary Pit using Low Chloride Drilling Fluid** (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application.

NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 100 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

### **Temporary Pit Non-low chloride drilling fluid**

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

### **Permanent Pit or Multi-Well Fluid Management Pit**

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10.

**Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC

***Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

11.

**Multi-Well Fluid Management Pit Checklist:** Subsection B of 19.15.17.9 NMAC

***Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

12.

**Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC

**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC  
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  
☐ Climatological Factors Assessment  
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Quality Control/Quality Assurance Construction and Installation Plan  
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan  
☐ Emergency Response Plan  
☐ Oil Field Waste Stream Characterization  
☐ Monitoring and Inspection Plan  
☐ Erosion Control Plan  
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.

**Proposed Closure:** 19.15.17.13 NMAC

**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type: ☒ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit  
☐ Alternative
- Proposed Closure Method: ☒ Waste Excavation and Removal  
☐ Waste Removal (Closed-loop systems only)  
☐ On-site Closure Method (Only for temporary pits and closed-loop systems)  
☐ In-place Burial ☐ On-site Trench Burial  
☐ Alternative Closure Method

14.

**Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC  
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC  
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)  
☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.

**Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC

**Instructions:** Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☐ No

Within the area overlying a subsurface mine.

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☐ No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

16.

**On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.

**Operator Application Certification:**

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

18.

**OCD Approval:** ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

**OCD Representative Signature:** \_\_\_\_\_ **Approval Date:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **OCD Permit Number:** \_\_\_\_\_

19.

**Closure Report (required within 60 days of closure completion):** 19.15.17.13 NMAC

*Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.*

☒ **Closure Completion Date:** March 25, 2015

20.

**Closure Method:**

- ☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
- ☐ If different from approved plan, please explain.

21.

**Closure Report Attachment Checklist:** *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

- ☒ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☒ Plot Plan (for on-site closures and temporary pits)
- ☒ Confirmation Sampling Analytical Results (if applicable)
- ☒ Waste Material Sampling Analytical Results (required for on-site closure)
- ☒ Disposal Facility Name and Permit Number
- ☒ Soil Backfilling and Cover Installation
- ☒ Re-vegetation Application Rates and Seeding Technique
- ☒ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude N 32.7969° Longitude W 103.4907° NAD: ☒ 1927 ☐ 1983

**Operator Closure Certification:**

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Kegan Boyer Title: Project Manager

Signature:  Date: 6/10/15

e-mail address: kegan.boyer@chevron.com Telephone: (713) 372-7705





**CONESTOGA-ROVERS  
& ASSOCIATES**

[www.CRAworld.com](http://www.CRAworld.com)



## Final Report

# REMEDIATION AND PIT CLOSURE ACTIVITIES REPORT CENTRAL VACUUM UNIT NO. 47H RP #1483

Unit A, Section 31, Township 17 South, Range 35 East  
Lea County, New Mexico

Prepared for: Chevron Environmental Management Company

## Conestoga-Rovers & Associates

2135 South Loop, 250 West  
Midland, Texas 79703

April 2015 • 073821 • Report No. 3



## Table of Contents

	Page
<b>Section 1.0 Introduction.....</b>	<b>1</b>
<b>Section 2.0 Project Information and Background .....</b>	<b>1</b>
<b>Section 3.0 Remediation and Pit Closure Activities .....</b>	<b>2</b>
3.1 Excavation Activities .....	2
3.2 Soil Sampling Activities .....	3
3.3 Waste Management .....	3
3.4 Backfilling Activities .....	4
<b>Section 4.0 Conclusions .....</b>	<b>4</b>

## List of Figures

**(Following Text)**

Figure 1	Site Location Map
Figure 2	Site Aerial Map
Figure 3	Site Details and Analytical Results Map
Figure 4	Remediation and Pit Closure Activities Map

**List of Tables  
(Following Text)**

Table 1	Soil Analytical Summary
---------	-------------------------

**List of Appendices  
(Following Text)**

Appendix A	New Mexico Oil Conservation Division - Meeting Minutes
Appendix B	Soil Laboratory Analytical Reports
Appendix C	Signed Form C-138
Appendix D	Waste Manifest
Appendix E	Site Chronology
Appendix F	Photograph Log

## Section 1.0 Introduction

Conestoga-Rovers and Associates (CRA) is pleased to present this Remediation and Pit Closure Activities Report to Chevron Environmental Management Company (CEMC) for the Central Vacuum Unit No. 47H location (hereafter referred to as the “Site”).

This Report serves as an attachment to Form C-144 documenting pit closure and corrective actions performed by Chevron in association with Remediation Permit No. 1483 (RP #1483); which was assigned by the New Mexico Conservation Division (NMOCD) District I, Hobbs, New Mexico office.

## Section 2.0 Project Information and Background

The Site is located in Unit A, Section 31, Township 17 South, Range 35 East, approximately 0.94 - miles southeast of Buckeye, New Mexico, in central Lea County. The Global Positioning System (GPS) coordinates for the Site are N 32.797194°, W 103.490641° (Figure 1 and Figure 2).

In a correspondence dated July 9, 2007, an environmental site consultant (Environmental Plus, Inc.- EPI), on behalf of Chevron USA (Chevron), submitted to the NMOCD District I, Hobbs, New Mexico office a request for pit closure work plan. The work plan summarized field activities completed by EPI in January and February 2006. An area around the former pit location was excavated to approximately 10-feet below ground surface (bgs) and an estimated 2,622 cubic yards (cy) of drilling mud/soil was transported to Sundance Services, Inc. Subsequent to excavation, soil samples from two soil borings (SB-1 and SB-2) at the base of the excavation and eight sidewall samples (NSWW-3, WSWN-3, WSW-3, SSWW-3, SSWE-3, ESWS-3, ESWN-3 and NSWE-3) of the excavation were collected. Soil boring data demonstrated decreasing chloride concentrations to below 250 mg/kg in each of the pit floor borings. Sidewall samples indicated elevated chloride impacts at the south/southeastern portions of the excavation – at a depth of 3-feet.

On July 11, 2007, the work plan was denied approval by the NMOCD District I, Hobbs, New Mexico office because of elevated chloride concentrations still present on the south/southeastern portion of the existing excavation. The NMOCD recommended these “hot spots” be removed and a closure proposal be resubmitted upon lateral delineation.

In December 2010, CEMC assumed the responsibilities of the pit closure activities at the Site from Chevron. CEMC subcontracted CRA to manage pit closure activities. On January 11, 2011, CRA, CEMC and AECOM met at the NMOCD District I, Hobbs, New Mexico office to discuss the

path forward at the Site. Topics of discussions included 2007 work plan submittal and objectives to close the pit as directed by the NMOCD.

On June 27, 2012, CRA and CEMC met at the NMOCD District I, Hobbs, New Mexico office to discuss the path forward at the Site. Topics of discussion included, information from CRA's Closure Request Workplan, prepared March 18, 2011, additional delineation, proper closure documentation (form-C-141/C-144) and reporting. The NMOCD requested additional assessments to be completed to further evaluate the vertical extent of chloride impacts for areas outside of the excavated pit boundaries. In December 2012, soil borings (SB-3 and SB-4) were drilled to 50-feet bgs to assess areas outside of the excavated pit boundaries.

On July 9, 2014, CRA (Tom Larson) and CEMC (Kegan Boyer) met with NMOCD Environmental Specialist; Tomas Oberding, Ph.D., at the NMOCD District I, Hobbs, New Mexico office to discuss a Pit Closure Plan and Backfill Request prepared by CRA on behalf of CEMC. The Site's history and analytical findings were reviewed. It was concluded by all parties that the existing open pit excavation should be backfilled as appropriate to the Pit Closure Plan and Backfill Request prepared by CRA and presented to the NMOCD in July of 2014. At the meeting, the NMOCD indicated that the proposed backfilling and closure activities should be documented under an NMOCD Form C-144.

Separately and in addition, the NMOCD requested that delineation efforts to the southeast of the excavation be explored further via soil borings and analytical sampling. Field delineation efforts regarding the area southeast (outside) of the excavation will be completed and reported under an NMOCD Form C-141 during the 2015 calendar year. A detailed version of the meeting notes are attached as Appendix A.

## **Section 3.0 Remediation and Pit Closure Activities**

CRA and CEMC sub-contractors, Entact, LLC (Entact) and Lobo's Services, Inc. (Lobo's) mobilized to the Site on March 18, 2015 to begin field activities. Entact provided labor and heavy equipment for the field operations. Lobo's provided haul trucks required for field operations. CRA was responsible for the overall coordination of field operations, project management tasks, soil sample collection, waste management, and assisted in managing safe work operations of all field personnel working on Site. Clean soil material (caliche/sand/top soil) was transported from an off-site (Pearce Ranch Trust) borrow pit located approximately 1.02-miles northwest of the Site.

### **3.1 Excavation Activities**

Excavation activities began on March 19, 2015 with the staging of heavy equipment (tracked excavator) at the Site. A thorough review of the one-call parameters and MCBU Dig Plan was completed before excavation activities commenced. Approximately 100 cy of caliche soils were

excavated along the east sidewall of the existing excavation and loaded into Lobo's haul trucks for transportation to an approved disposal facility, Sundance Services, Inc. (Sundance).

### **3.2 Soil Sampling Activities**

Prior to beginning excavation and backfilling activities, CRA mobilized to the Site on March 10, 2015 to collect a 5-point composite sample (Floor Sample-031015) from the floor of the excavation as part of the pit closure requirements. 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 benzene, toluene, ethylbenzene, and toluene (BTEX) by EPA Method 8021B; total petroleum hydrocarbons (TPH) gasoline range organics (GRO), TPH diesel range organics (DRO) by Method SW8015B Modified and for chloride analysis by EPA Method 300/300.1.

Subsequent to completing the planned excavation of the east sidewall, CRA collected three confirmation soil samples (NE-47H-0311915, SE-47H-031915, and E-47H-031915) at approximately 5-feet below ground surface (bgs) from three separate points along the east sidewall on March 19, 2015. 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 chloride analysis by EPA Method 300/300.1.

All soil samples collected from the Site in 2015 for laboratory analysis were below laboratory reporting limits and below the NMOCD Pit Rule Closure Criteria (Table I) for BTEX (50 mg/kg), TPH (GRO + DRO) (1,000 mg/kg). All soil samples collected from the Site in 2015 for laboratory analysis were below the NMOCD Pit Rule Closure Criteria (Table I) for chloride concentrations (20,000 mg/kg). Soil laboratory analytical results are summarized in Table 1. The soil laboratory analytical reports are included as Appendix B. A Site Details and Analytical Results Map is presented as Figure 3.

### **3.3 Waste Management**

CRA was responsible for managing waste associated with the 2015 project activities (100 cy). An NMOCD and Chevron approved facility, Sundance (Permit No. NM-01-003) was utilized as a disposal facility for the excavated soils. A Request for Approval to Accept Solid Waste (Form C-138) was generated and signed prior to the commencement of field activities. A copy of the Form C-138 is attached as Appendix C. Excavated soils were loaded into haul trucks provided by Lobo's. Each truck leaving the Site was provided with a uniquely numbered non-hazardous waste manifest to accompany each load. The manifest was signed by the generator (CEMC's agent), the transporter and finally by a Sundance representative. Waste manifest copies are attached to this report as Appendix D.

### 3.4 Backfilling Activities

Backfilling activities at the Site began on March 19, 2015 with the staging of heavy equipment near the borrow pit and remedial excavation areas. Transportation of clean soil materials and backfill of the remedial excavation area began on March 19, 2015. Installation of the 20-mil poly liner was completed on March 21, 2015 by Entact. The liner seams were sealed at the time of installation to prevent water infiltration. Lobo's transported approximately 2,340 cy of clean soil materials (sand/caliche) and approximately 144 cy of clean top soil from the off-site borrow pit (Pearce Ranch Trust). Approximately 2,484 cy of clean soil materials was emplaced into the remedial excavation. Entact utilized heavy equipment to contour and grade construction affected areas to minimize erosion. The area was ripped and seeded with a native grass mixture to return construction affected areas to their pre-excavation state that existed before oil and gas operations. Remedial activities were concluded on March 25, 2015. A Remediation and Closure Activities map is presented as figure 4. A Site chronology of the backfilling activities is provided in Appendix E. Site photographs documenting work activities are presented in Appendix F.

## Section 4.0 Conclusions

This Remediation and Closure Activities Report, as attachment to Form C-144 provides documentation of NMOCD approved corrective actions associated with the Central Vacuum Unit No. 47H site. Based on corrective actions performed to date and outlined in this Report no further remedial efforts are warranted. CRA recommends closure of the pit associated with RP # 1483.

As discussed previously, field delineation efforts for RP #1483 and regarding the area southeast (outside) of the excavation will be completed and reported under an NMOCD Form C-141 during the 2015 calendar year.

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

All of Which is Respectfully Submitted,

CONESTOGA ROVERS & ASSOCIATES



Thomas C. Larson  
Principal, Midland Operations Manager



Jake L. Ferenz  
Project Manager

## Figures







figure 2

SITE LOCATION MAP  
CENTRAL VACUUM UNIT No. 47H  
LEA COUNTY, NEW MEXICO

*Chevron Environmental Management Company*





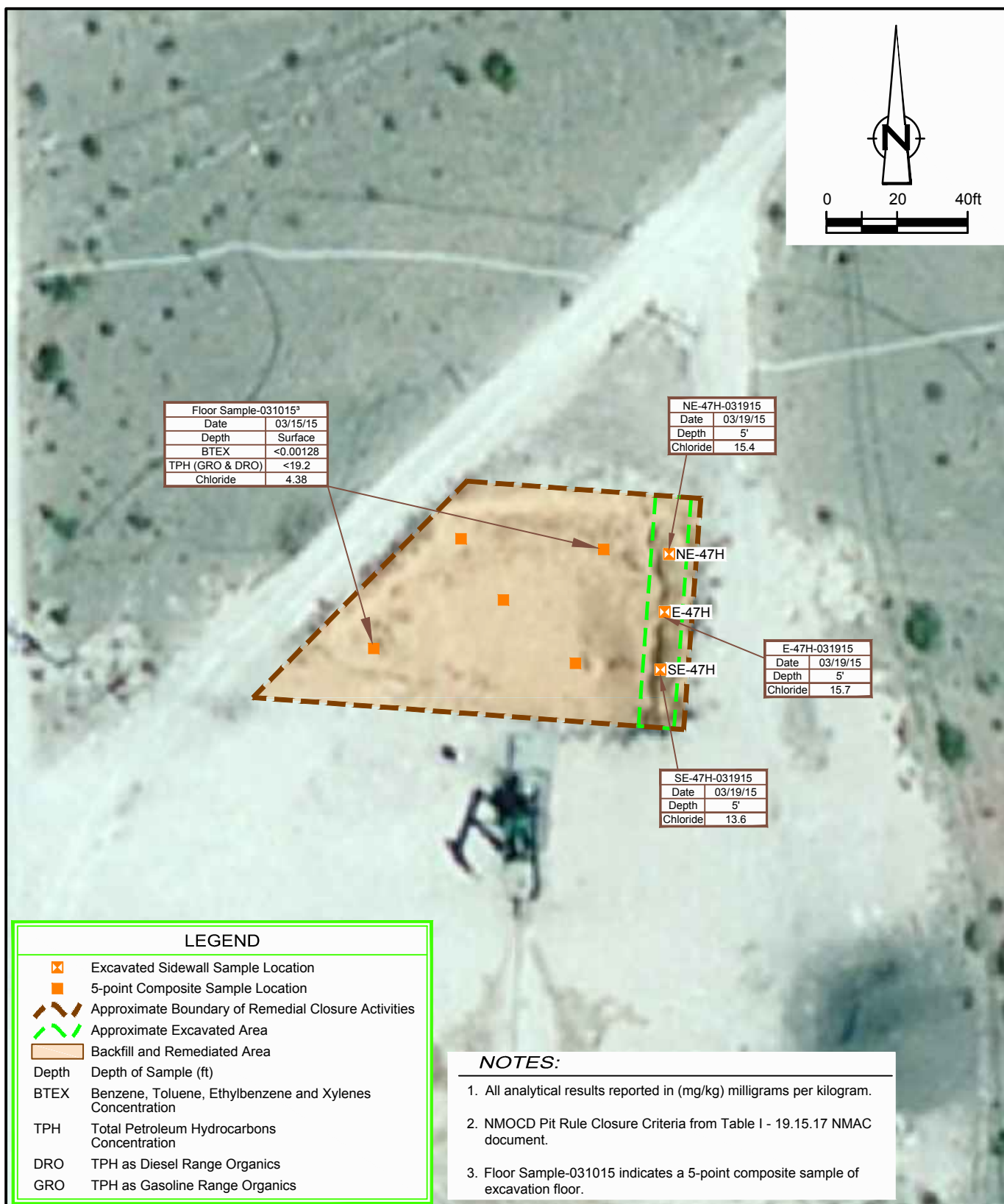


figure 3

**SITE DETAILS AND ANALYTICAL RESULTS MAP**  
**CENTRAL VACUUM UNIT No. 47H**  
**LEA COUNTY, NEW MEXICO**  
*Chevron Environmental Management Company*





figure 4

REMEDIATION AND PIT CLOSURE ACTIVITIES MAP  
CENTRAL VACUUM UNIT No. 47H  
LEA COUNTY, NEW MEXICO  
*Chevron Environmental Management Company*



## Tables

**SOIL ANALYTICAL SUMMARY  
CENTAL VACUUM UNIT NO. 47H  
LEA COUNTY, NEW MEXICO**

Sample ID	Depth (bgs)	Sample Date	Benzene	Toluene	Ethyl-Benzene	Xylenes	Total BTEX	TPH (SW 8015 Modified)			Chlorides
								GRO	DRO	(GRO+DRO)	
NMOCD Pit Rule Closure Criteria			10	---	---	---	50	---	---	1,000	20,000
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Floor Sample-031015	0-feet	3/15/2015	<0.00128	<0.00256	<0.00128	<0.00128	<0.00128	<19.2	<19.2	<19.2	4.38
NE-47H-031915	5-feet	3/19/2015	--	--	--	--	--	--	--	--	15.4
SE-47H-031915	5-feet	3/19/2015	--	--	--	--	--	--	--	--	13.6
E-47H-031915	5-feet	3/19/2015	--	--	--	--	--	--	--	--	15.7

## Notes:

1. All analytical results reported in (mg/kg) milligrams per kilogram
2. Chloride analyses by EPA Method 300/300.1; BTEX analysis by EPA Method 8021 B; TPH analysis by Method SW8015 B Modified
3. NMOCD Pit Rule Closure Criteria from Table I - 19.15.17 NMAC document
4. bgs - below ground surface
5. < indicates laboratory Reporting Limit (RL)
6. '--' indicates COC was not analyzed
7. NE indicates North East; SE indicates South East; E indicates East

## Appendices

## **Appendix A**

### **New Mexico Oil Conservation Division - Meeting Minutes**



## MEETING MINUTES

Reference No. 073821

PROJECT: RP-1483; API 3002508532 Chevron/CVU 47H pit and release closures

CLIENT: Chevron Environmental Management Company      CLIENT REFERENCE NO.:

RE: Backfilling Request and OCD Approval Verification

LOCATION: OCD District 1 Office, Hobbs, NM      DATE: 7/9/14      TIME: 830-930

### Participants:

Tomas Oberding, Ph.D	OCD Env Specialist		
Kegan Boyer	CEMC Project Manager		
Tom Larson	CRA Project Manager		

### Distribution:

<input checked="" type="checkbox"/> File	<input checked="" type="checkbox"/> Participants			

Item	Description	Action By
1	RP 1483 Closure Request, historical data and OCD correspondence were reviewed and discuss among participants	all
2	Noted in association with 6/27/12 OCD meeting, installation of two borings was requested. These boring were installed in SE area of pit for assessment and closure purposes and results were reviewed in 7/9/14 meeting.	all
3	Noted that geophysical surveys were conducted in area surrounding pit (prior to boring installation) and numerous subsurface lines were identified on survey. Map of survey, boring/sample results and proposed borings were presented at 7/9 meeting and are attached to this correspondence.	all
4	Discussions by participants on mutual path forward were presented. Primary concerns were: continued presence of 'swimming pool' sized excavation hazard at active wellsite, limitation of significant excavation as a result of numerous subsurface lines in area and need for additional delineation of chloride impacts in aea SE of former reserve pit.	all
5	Participants agreed that best path forward would involve a two pronged approach. First: Use C-144 process to close out reserve pit - OCD stated that backfilling pit excavation immediately is acceptable and necessary to make area safe. Proposed 20 mil liner would extend over SE corner of former pit. A C-144 Closure Plan was submitted to the OCD District 1 office by CEMC (cover letter dated 12/18/13). Future work will be completed in accordance to this Closure Plan. Second: Use C-141 process to assess extent at nature of impacts in vicinity of SB-3. 'Moderate' impacts evaluated by borings may be historical in nature and not necessarily associated with former reserved pit.	all

<i>Item</i>	<i>Description</i>	<i>Action By</i>
6	<p>Two borings proposed in area SE of SB-3 per OCD directives. Evaluate if RP-1483 can be utilized for C-141 Final Report or if another RP/C-141 will be required.</p> <p>Backfilling of reserve pit and two soil boring installation scheduled to occur in 3Q14</p> <p>Attachment: Figure 3 - Boring Locations and Chloride Results Map, CVU 47H, Lea County, NM</p>	CEMC-CRA

☒ Attachments: \_\_\_\_\_

Prepared By: Tom Larson CRA Date Issued: 7/11/14

This confirms and records CRA's interpretation of the discussions which occurred and our understanding reached during this meeting. Unless notified in writing within 7 days of the date issued, we will assume that this recorded interpretation or description is complete and accurate.

## **Appendix B**

### Soil Laboratory Analytical Reports

# **Analytical Report 503798**

**for**

**Conestoga Rovers & Associates**

**Project Manager: Jake Ferenz**

**CVU 47H**

**073821**

**17-MAR-15**

Collected By: Client



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054)

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

Xenco-Atlanta (EPA Lab Code: GA00046):

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

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

Xenco-Lakeland: Florida (E84098)

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

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

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

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

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



17-MAR-15

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

Reference: XENCO Report No(s): **503798**  
**CVU 47H**  
Project Address: Buckeye, NM

**Jake Ferenz:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 503798. 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. 503798 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 503798



Conestoga Rovers & Associates, Midland, TX

CVU 47H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Floor Sampole -031015	S	03-10-15 15:00		503798-001



## CASE NARRATIVE



*Client Name: Conestoga Rovers & Associates*

*Project Name: CVU 47H*

Project ID: 073821  
Work Order Number(s): 503798

Report Date: 17-MAR-15  
Date Received: 03/12/2015

---

**Sample receipt non conformances and comments:**

---

**Sample receipt non conformances and comments per sample:**

None

**Project Id:** 073821

**Contact:** Jake Ferenz

**Project Name:** CVU 47H

**Date Received in Lab:** Thu Mar-12-15 08:45 am

**Report Date:** 17-MAR-15

**Project Location:** Buckeye,NM

**Project Manager:** Kelsey Brooks

<b>Analysis Requested</b>	<b>Lab Id:</b> 503798-001 <b>Field Id:</b> Floor Sample -031015 <b>Depth:</b> <b>Matrix:</b> SOIL <b>Sampled:</b> Mar-10-15 15:00					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> Mar-12-15 16:00 <b>Analyzed:</b> Mar-13-15 06:45 <b>Units/RL:</b> mg/kg RL					
Benzene	ND 0.00128					
Toluene	ND 0.00256					
Ethylbenzene	ND 0.00128					
m,p-Xylenes	ND 0.00256					
o-Xylene	ND 0.00128					
Total Xylenes	ND 0.00128					
Total BTEX	ND 0.00128					
<b>Inorganic Anions by EPA 300/300.1</b>	<b>Extracted:</b> Mar-16-15 15:00 <b>Analyzed:</b> Mar-16-15 17:26 <b>Units/RL:</b> mg/kg RL					
Chloride	4.38 2.57					
<b>Percent Moisture</b>	<b>Extracted:</b> <b>Analyzed:</b> Mar-12-15 17:25 <b>Units/RL:</b> % RL					
Percent Moisture	22.2 1.00					
<b>TPH By SW8015 Mod</b>	<b>Extracted:</b> Mar-12-15 14:00 <b>Analyzed:</b> Mar-12-15 16:02 <b>Units/RL:</b> mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons	ND 19.2					
C12-C28 Diesel Range Hydrocarbons	ND 19.2					
C28-C35 Oil Range Hydrocarbons	ND 19.2					
Total TPH	ND 19.2					

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

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi



Kelsey Brooks  
Project Manager



- 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

***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 - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4143 Greenbriar Dr, Stafford, TX 77477  
 9701 Harry Hines Blvd, Dallas, TX 75220  
 5332 Blackberry Drive, San Antonio TX 78238  
 2505 North Falkenburg Rd, Tampa, FL 33619  
 12600 West I-20 East, Odessa, TX 79765  
 6017 Financial Drive, Norcross, GA 30071  
 3725 E. Atlanta Ave, Phoenix, AZ 85040

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



# Form 2 - Surrogate Recoveries

Project Name: CVU 47H

Work Orders : 503798,

Project ID: 073821

Lab Batch #: 963655

Sample: 503798-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/12/15 16:02

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.3	99.8	98	70-135	
o-Terphenyl	50.5	49.9	101	70-135	

Lab Batch #: 963694

Sample: 503798-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/13/15 06:45

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0338	0.0300	113	80-120	

Lab Batch #: 963655

Sample: 689705-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/12/15 14:58

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.5	100	95	70-135	
o-Terphenyl	49.3	50.0	99	70-135	

Lab Batch #: 963694

Sample: 689726-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/13/15 01:03

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 963655

Sample: 689705-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/12/15 15:19

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	48.9	50.0	98	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: CVU 47H

Work Orders : 503798,

Lab Batch #: 963694

Sample: 689726-1-BKS / BKS

Project ID: 073821

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/13/15 01:20

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0353	0.0300	118	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 963655

Sample: 689705-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/12/15 15:41

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 963694

Sample: 689726-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/13/15 01:36

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0351	0.0300	117	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 963655

Sample: 503798-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/12/15 16:23

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.8	108	70-135	
o-Terphenyl	48.1	49.9	96	70-135	

Lab Batch #: 963694

Sample: 503832-005 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/13/15 01:52

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0352	0.0300	117	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: CVU 47H

Work Orders : 503798,

Lab Batch #: 963655

Sample: 503798-001 SD / MSD

Project ID: 073821

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/12/15 16:44

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.7	110	70-135	
o-Terphenyl	47.8	49.9	96	70-135	

Lab Batch #: 963694

Sample: 503832-005 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/13/15 02:09

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0337	0.0300	112	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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

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

**Project Name: CVU 47H**

**Work Order #: 503798**

**Project ID: 073821**

**Analyst: ARM**

**Date Prepared: 03/12/2015**

**Date Analyzed: 03/13/2015**

**Lab Batch ID: 963694**

**Sample: 689726-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

<b>BTEX by EPA 8021B</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Benzene	<0.00100	0.100	0.102	102	0.100	0.100	100	2	70-130	35	
Toluene	<0.00200	0.100	0.0997	100	0.100	0.0973	97	2	70-130	35	
Ethylbenzene	<0.00100	0.100	0.102	102	0.100	0.0986	99	3	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.198	99	0.200	0.192	96	3	70-135	35	
o-Xylene	<0.00100	0.100	0.0991	99	0.100	0.0958	96	3	71-133	35	

**Analyst: JUM**

**Date Prepared: 03/16/2015**

**Date Analyzed: 03/16/2015**

**Lab Batch ID: 963863**

**Sample: 689823-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

<b>Inorganic Anions by EPA 300/300.1</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Chloride	<2.00	50.0	49.7	99	50.0	50.0	100	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



# BS / BSD Recoveries



Project Name: CVU 47H

Work Order #: 503798

Project ID: 073821

Analyst: ARM

Date Prepared: 03/12/2015

Date Analyzed: 03/12/2015

Lab Batch ID: 963655

Sample: 689705-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	880	88	1000	986	99	11	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	951	95	1000	1080	108	13	70-135	35	

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

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

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

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries

Project Name: CVU 47H



Work Order #: 503798

Lab Batch #: 963863

Date Analyzed: 03/16/2015

QC- Sample ID: 503866-004 S

Reporting Units: mg/kg

Project ID: 073821

Date Prepared: 03/16/2015

Batch #: 1

Analyst: JUM

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	583	2500	3220	105	80-120	

Lab Batch #: 963863

Date Analyzed: 03/16/2015

QC- Sample ID: 503918-010 S

Reporting Units: mg/kg

Date Prepared: 03/16/2015

Batch #: 1

Analyst: JUM

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	4.39	57.6	68.2	111	80-120	

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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries



Project Name: CVU 47H

Work Order #: 503798

Project ID: 073821

Lab Batch ID: 963694

QC- Sample ID: 503832-005 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/13/2015

Date Prepared: 03/12/2015

Analyst: ARM

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00135	0.135	0.0962	71	0.136	0.111	82	14	70-130	35	
Toluene	<0.00271	0.135	0.0953	71	0.136	0.107	79	12	70-130	35	
Ethylbenzene	<0.00135	0.135	0.0975	72	0.136	0.114	84	16	71-129	35	
m,p-Xylenes	<0.00271	0.271	0.191	70	0.271	0.223	82	15	70-135	35	
o-Xylene	<0.00135	0.135	0.0967	72	0.136	0.112	82	15	71-133	35	

Lab Batch ID: 963655

QC- Sample ID: 503798-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/12/2015

Date Prepared: 03/12/2015

Analyst: ARM

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<19.2	1280	1100	86	1280	1200	94	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<19.2	1280	1200	94	1280	1240	97	3	70-135	35	

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

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

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



**Project Name: CVU 47H**

**Work Order #: 503798**

**Lab Batch #: 963658**

**Project ID: 073821**

**Date Analyzed: 03/12/2015 17:25**

**Date Prepared: 03/12/2015**

**Analyst: WRU**

**QC- Sample ID: 503798-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	22.2	22.8	3	20	

**Lab Batch #: 963658**

**Date Analyzed: 03/12/2015 17:25**

**Date Prepared: 03/12/2015**

**Analyst: WRU**

**QC- Sample ID: 503865-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	8.73	9.15	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



Setting the Standard since 1990

Stafford, Texas (281-240-4200)

Dallas, Texas (214-902-0300)

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

# CHAIN OF CUSTODY

Page 1 Of 1

Odessa, Texas (432-563-1800)

Lakeland, Florida (863-646-8526)

Norcross, Georgia (770-449-8800)

Tampa, Florida (813-620-2000)

www.xenco.com

Xenco Quote #

Xenco Job #

503798

Client / Reporting Information										Project Information										Analytical Information										Matrix Codes									
Company Name / Branch: COA / Midland					Project Name/Number: 073821 COW 476																																		
Company Address: 2135 S. Loop 250 W					Project Location: Budweiser NM																																		
Email: JForenz@Crawworld.com					Phone No: 432-686-0088																																		
Project Contact: Jake Forenz					Invoice To:																																		
Samplers's Name: Justin Mikan					PO Number:																																		
No.	Field ID / Point of Collection				Collection					Number of preserved bottles																													
		Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE																									
1	Floor Sample - 031015															X	X	X																					
2																																							
3																																							
4																																							
5																																							
6																																							
7																																							
8																																							
9																																							
10																																							
Turnaround Time (Business days)										Data Deliverable Information										Notes:																			
<input type="checkbox"/> Same Day TAT										<input checked="" type="checkbox"/> 5 Day TAT										<input type="checkbox"/> Level II Std QC																			
<input type="checkbox"/> Next Day EMERGENCY										<input type="checkbox"/> 7 Day TAT										<input type="checkbox"/> Level III Std QC+ Forms																			
<input type="checkbox"/> 2 Day EMERGENCY										<input type="checkbox"/> Contract TAT										<input type="checkbox"/> Level 3 (CLP Forms)																			
<input type="checkbox"/> 3 Day EMERGENCY																				<input type="checkbox"/> UST / RG -411																			
										<input type="checkbox"/> TRRP Checklist																													
TAT Starts Day received by Lab, if received by 3:00 pm																				FED-EX / UPS: Tracking #																			
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																																							
Relinquished by Sampler:										Date Time:										Received By:																			
1										3-12-15 20:35										Jungfu Rueda																			
Relinquished by:										Date Time:										Received By:																			
3										3/12/15 8:45										Julian Martinez																			
Relinquished by:										Date Time:										Received By:																			
5																																							
										Custody Seal #										Preserved where applicable																			
																				On Ice																			
																				Cooler Temp.																			
																				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.



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



**Client:** Conestoga Rovers & Associates

**Date/ Time Received:** 03/12/2015 08:45:00 AM

**Work Order #:** 503798

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

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

Analyst:

PH Device/Lot#:

**Checklist completed by:**

Kelsey Brooks  
Kelsey Brooks

Date: 03/12/2015

**Checklist reviewed by:**

Kelsey Brooks  
Kelsey Brooks

Date: 03/12/2015

# **Analytical Report 504352**

**for**

## **Conestoga Rovers & Associates**

**Project Manager: Jake Ferenz**

**47H Buckeye FMT**

**073821**

**20-MAR-15**

Collected By: Client



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054)

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

Xenco-Atlanta (EPA Lab Code: GA00046):

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

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

Xenco-Lakeland: Florida (E84098)

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

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

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

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

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



20-MAR-15

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

Reference: XENCO Report No(s): **504352**  
**47H Buckeye FMT**  
Project Address:

**Jake Ferenz:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 504352. 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. 504352 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 504352



Conestoga Rovers & Associates, Midland, TX

47H Buckeye FMT

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NE-47H-031915	S	03-19-15 14:40		504352-001
SE-47H031815	S	03-19-15 14:30		504352-002
E-47H-031915	S	03-19-15 14:35		504352-003



## CASE NARRATIVE



*Client Name: Conestoga Rovers & Associates*

*Project Name: 47H Buckeye FMT*

Project ID: 073821

Work Order Number(s): 504352

Report Date: 20-MAR-15

Date Received: 03/19/2015

---

**Sample receipt non conformances and comments:**

---

**Sample receipt non conformances and comments per sample:**

None





# Certificate of Analysis Summary 504352

Conestoga Rovers & Associates, Midland, TX

Project Name: 47H Buckeye FMT



Project Id: 073821

Contact: Jake Ferenz

Date Received in Lab: Thu Mar-19-15 04:50 pm

Report Date: 20-MAR-15

Project Location:

Project Manager: Kelsey Brooks

<b>Analysis Requested</b>	<b>Lab Id:</b>	504352-001	504352-002	504352-003			
	<b>Field Id:</b>	NE-47H-031915	SE-47H031815	E-47H-031915			
	<b>Depth:</b>						
	<b>Matrix:</b>	SOIL	SOIL	SOIL			
	<b>Sampled:</b>	Mar-19-15 14:40	Mar-19-15 14:30	Mar-19-15 14:35			
<b>Inorganic Anions by EPA 300/300.1</b>	<b>Extracted:</b>	Mar-19-15 17:00	Mar-19-15 17:00	Mar-19-15 17:00			
	<b>Analyzed:</b>	Mar-20-15 14:58	Mar-20-15 15:21	Mar-20-15 15:44			
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		15.4 2.52	13.6 2.38	15.7 2.35			
<b>Percent Moisture</b>	<b>Extracted:</b>	Mar-19-15 16:30	Mar-19-15 16:30	Mar-19-15 16:30			
	<b>Analyzed:</b>						
	<b>Units/RL:</b>	% RL	% RL	% RL			
Percent Moisture		20.8 1.00	16.0 1.00	14.8 1.00			

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

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks  
Project Manager



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

**PQL** Practical Quantitation Limit      **SQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

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

***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 - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4143 Greenbriar Dr, Stafford, TX 77477  
 9701 Harry Hines Blvd, Dallas, TX 75220  
 5332 Blackberry Drive, San Antonio TX 78238  
 2505 North Falkenburg Rd, Tampa, FL 33619  
 12600 West I-20 East, Odessa, TX 79765  
 6017 Financial Drive, Norcross, GA 30071  
 3725 E. Atlanta Ave, Phoenix, AZ 85040

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



## BS / BSD Recoveries



**Project Name: 47H Buckeye FMT**

**Work Order #: 504352**

**Project ID: 073821**

**Analyst: JUM**

**Date Prepared: 03/19/2015**

**Date Analyzed: 03/19/2015**

**Lab Batch ID: 964246**

**Sample: 690077-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<2.00	50.0	49.5	99	50.0	49.1	98	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: 47H Buckeye FMT



Work Order #: 504352

Lab Batch #: 964246

Date Analyzed: 03/19/2015

QC- Sample ID: 504338-001 S

Reporting Units: mg/kg

Date Prepared: 03/19/2015

Batch #: 1

Project ID: 073821

Analyst: JUM

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	481	1220	1710	101	80-120	

Lab Batch #: 964246

Date Analyzed: 03/20/2015

QC- Sample ID: 504338-011 S

Reporting Units: mg/kg

Date Prepared: 03/19/2015

Batch #: 1

Analyst: JUM

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	259	644	890	98	80-120	

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

BRL - Below Reporting Limit

**Project Name: 47H Buckeye FMT**

**Work Order #: 504352**

**Lab Batch #: 964181**

**Project ID: 073821**

**Date Analyzed: 03/19/2015 16:30**

**Date Prepared: 03/19/2015**

**Analyst: WRU**

**QC- Sample ID: 504338-008 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	19.9	20.2	1	20	

**Lab Batch #: 964181**

**Date Analyzed: 03/19/2015 16:30**

**Date Prepared: 03/19/2015**

**Analyst: WRU**

**QC- Sample ID: 504338-018 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	20.9	19.5	7	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



Setting the Standard since 1990

Stafford, Texas (281-240-4200)

Dallas, Texas (214-902-0300)

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

# CHAIN OF CUSTODY

Page \_\_\_ Of \_\_\_

Odessa, Texas (432-563-1800)

Lakeland, Florida (863-646-8526)

Norcross, Georgia (770-449-8800)

Tampa, Florida (813-620-2000)

[www.xenco.com](http://www.xenco.com)

Xenco Quote #

Xenco Job #

504352

Client / Reporting Information		Project Information		Analytical Information												Matrix Codes	
Company Name / Branch: CRA, Midland		Project Name/Number: 073821														<p>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</p>	
Company Address: 2135 S. Loop 250W		Project Location: 47H Buckeye Fm-T															
Email: jferenz@cravld.com		Invoice To:															
Phone No: 512-506-1803		PO Number:															
Project Contact: Jake Ferenz																	
Samplers's Name: Chen Day																	
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments		
1	NE-47H-031915		3-15-15	1440	S	1									X	X	
2	SE-47H-031915		3-15-15	1430	S	1									X	X	
3	E-47H-031915		3-15-15	1435	S	1									X	X	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Turnaround Time ( Business days)		Data Deliverable Information		Notes:													
<input type="checkbox"/> Same Day TAT		<input type="checkbox"/> 5 Day TAT		<input type="checkbox"/> Level II Std QC		<input type="checkbox"/> Level IV (Full Data Pkg /raw data)											
<input checked="" type="checkbox"/> Next Day EMERGENCY		<input type="checkbox"/> 7 Day TAT		<input type="checkbox"/> Level III Std QC+ Forms		<input type="checkbox"/> TRRP Level IV											
<input type="checkbox"/> 2 Day EMERGENCY		<input type="checkbox"/> Contract TAT		<input type="checkbox"/> Level 3 (CLP Forms)		<input type="checkbox"/> UST / RG -411											
<input type="checkbox"/> 3 Day EMERGENCY				<input type="checkbox"/> TRRP Checklist													
TAT Starts Day received by Lab, if received by 3:00 pm		FED-EX / UPS: Tracking #															
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																	
Relinquished by Sampler:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:							
1		3-15-15 1650		1		2		3-18-15 1650		2							
Relinquished by:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:							
3				3		4				4							
Relinquished by:		Date Time:		Received By:		Custody Seal #		Preserved where applicable		On Ice		Cooler Temp.		Thermo. Corr. Factor			
5				5						<input checked="" type="checkbox"/>				0			

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



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: Conestoga Rovers & Associates

Date/ Time Received: 03/19/2015 04:50:00 PM

Work Order #: 504352

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)?	0
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#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 HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ? 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 NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Kelsey Brooks  
Kelsey Brooks

Date: 03/19/2015

Checklist reviewed by:

Kelsey Brooks  
Kelsey Brooks

Date: 03/19/2015

## Appendix C

Signed Form C-138



District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1501 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-138  
Revised March 12, 2007

\*Surface Waste Management Facility Operator  
and Generator shall maintain and make the  
information available to the Division inspection.

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**

Chevron Environmental Management Company Room 07086, 1400 Smith St., Houston, TX 77002 Attn: Kegan Boyer

2. **Originating Site:**

Central Vacuum Unit No. 47H Buckeye, Lea County, New Mexico

Bill: Chevron

3. **Location of Material (Street Address, City, State or ULSTR):**

GPS: 32.797163, -103.490582 Buckeye, Lea County, New Mexico

4. **Source and Description of Waste:**

Chloride impacted soil from impoundment for oil production operations

Estimated Volume 200

yd bbls

Known Volume (to be entered by the operator at the end of the haul)

yd bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Kegan Boyer, representative or authorized agent for Chevron Environmental Management Co., do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only. Waste Acceptance Frequency* ☐ Monthly ☐ Weekly ☐ Per Load

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

### GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, representative for do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter:**

Lobo's Services, Inc.

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Sundance Services, NM-01-0003

Address of Facility: 3 miles east of Eunice, NM on Hwy 18

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☒ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME:

Dominique Teller

TITLE:

Sales

DATE:

3/2/15

SIGNATURE:

Dominique Teller  
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.:

575-408-2606



## Appendix D

### Waste Manifest

# CHEVRON MCBU

## VACUUM FMT

NO EMC-47-5-205 **NON-HAZARDOUS WASTE MANIFEST** 1. PAGE 1 OF 1 2. Truck NO. 71

G E N E R A L I N F O R M A T I O N	3. COMPANY NAME <b>CHEVRON</b>	4. ADDRESS <b>56 Texas Camp Rd.</b>		5. PICK-UP DATE: <b>3-19-15</b>	
	PHONE NO. <b>575-396-4414</b>	CITY <b>Lovington</b>	STATE <b>NM</b>	ZIP <b>88260</b>	
	7. NAME OR DESCRIPTION OF WASTE SHIPPED:		8. CONTAINERS No.   Type	9. TOTAL QUANTITY	10. UNIT WT/Vol.
	a. <i>Chloride impacted soil from impoundment for oil production</i>		1   DT	20	Y
	b.				
	c.				
	d.				
	12. NAME OF LEASE:				
	14. <b>IN CASE OF EMERGENCY OR SPILL, CONTACT</b>				
	<b>HES SPECIALIST</b>			24-HOUR EMERGENCY NO. <b>575-396-4414 (DIAL 1 AFTER HOURS)</b>	
15. <b>Chevron Representative:</b> I hereby declare that the contents of this consignment are fully and accurately described above.					
T R A N S P O R T E R S	PRINTED TYPED NAME <i>As an Agent for CONE Glenn Gorman</i>		SIGNATURE <i>As an Agent for CONE</i>		DATE <b>3-19-15</b>
	16. <b>TRANSPORTER (1)</b> <b>TRUCKING COMPANY NAME:</b> <i>Lebo Services</i> <i>1300 Garden City Hwy</i> <i>Midland, TX, 79701</i>		17. <b>TRANSPORTER (2)</b> <b>TRUCKING COMPANY NAME:</b>		
	IN CASE OF EMERGENCY CONTACT: <i>Luis Alvarado</i>		IN CASE OF EMERGENCY CONTACT:		
	EMERGENCY PHONE: <i>432-974-5706</i>		EMERGENCY PHONE:		
D I S P O S I T I O N	18. <b>TRANSPORTER (1):</b> Acknowledgment of receipt of material		18. <b>TRANSPORTER (2):</b> Acknowledgment of receipt of material		
	PRINTED/TYPED NAME <i>Cody Valdez</i>		PRINTED/TYPED NAME _____		
	SIGNATURE <i>[Signature]</i> DATE <b>3/19/15</b>		SIGNATURE _____ DATE _____		
	19. <b>DISPOSAL FACILITY:</b>		ADDRESS:		PHONE:
<i>Swanton Services</i>		<i>3 miles east of Emoryville</i> <i>on Hwy 16</i>			
PERMIT NO.		20. COMMENTS			
21. <b>DISPOSAL FACILITY'S CERTIFICATION:</b> I hereby certify that the above described wastes were delivered to this facility; that the facility is authorized and permitted to receive such wastes.					
AUTHORIZED SIGNATURE		CELL NO.	DATE	TIME	

PLEASE REMIT COMPLETED MANIFEST VIA MAIL, EMAIL OR FAX TO THE BELOW LISTED CONTACT:  
RIMY ALVARADO - PHONE: (575) 396-441 X223 • FAX: (575) 396-6913 • EMAIL: RIMYALVARADO@CHEVRON.COM

# CHEVRON MCBU

## VACUUM FMT

NO Emc-47-4-2015 NON-HAZARDOUS WASTE MANIFEST 1. PAGE 1 OF 1 2. Truck NO. 46

G E N E R A L I N F O R M A T I O N	3. COMPANY NAME <b>CHEVRON</b> PHONE NO. <b>575-396-4414</b>	4. ADDRESS <b>56 Texas Camp Rd.</b> CITY <b>Lovington</b> STATE <b>NM</b> ZIP <b>88260</b>	5. PICK-UP DATE: <b>3-19-15</b>	
	7. NAME OR DESCRIPTION OF WASTE SHIPPED:		8. CONTAINERS No.   Type	9. TOTAL QUANTITY
	a. <i>Chloride impacted soil from impoundment for oil products</i>		1	DT
	b.			
	c.			
	d.			
	10. UNIT WT/VOL.			
	12. NAME OF LEASE:			
	14. <b>IN CASE OF EMERGENCY OR SPILL, CONTACT</b>			
	15. <b>HES SPECIALIST</b>		24-HOUR EMERGENCY NO. <b>575-396-4414 (DIAL 1 AFTER HOURS)</b>	
15. <b>Chevron Representative:</b> Hereby declare that the contents of this consignment are fully and accurately described above.				
T R A N S P O R T E R S	16. <b>TRANSPORTER (1)</b> TRUCKING COMPANY NAME: <i>Lobos Services</i> <i>1300 Gardner City Hwy</i> <i>Midland, TX 79701</i>		17. <b>TRANSPORTER (2)</b> TRUCKING COMPANY NAME:	
	IN CASE OF EMERGENCY CONTACT: <i>Luis Alvarado</i>		IN CASE OF EMERGENCY CONTACT:	
	EMERGENCY PHONE: <i>432-934-5204</i>		EMERGENCY PHONE:	
	18. <b>TRANSPORTER (1):</b> Acknowledgment of receipt of material		18. <b>TRANSPORTER (2):</b> Acknowledgment of receipt of material	
D I S C P I N A R Y	PRINTED/TYPED NAME <i>Jorge Hernandez</i>		PRINTED/TYPED NAME	
	SIGNATURE <i>[Signature]</i> DATE <i>3/19/15</i>		SIGNATURE DATE	
	19. <b>DISPOSAL FACILITY:</b>		ADDRESS:	
	PERMIT NO.		20. COMMENTS	
21. <b>DISPOSAL FACILITY'S CERTIFICATION:</b> I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.				
AUTHORIZED SIGNATURE		CELL NO.	DATE	TIME

PLEASE REMIT COMPLETED MANIFEST VIA MAIL, EMAIL OR FAX TO THE BELOW LISTED CONTACT:  
RIMY ALVARADO - PHONE: (575) 396-441 X223 • FAX: (575) 396-6913 • EMAIL: RIMYALVARADO@CHEVRON.COM

# VACUUM FMT

<b>3. COMPANY NAME</b> <b>CHEVRON</b> PHONE NO. 575-396-4414	<b>4. ADDRESS</b> <b>56 Texas Camp Rd.</b> CITY STATE ZIP <b>Lovington NM 88260</b>	<b>5. PICK-UP DATE:</b> <b>3-19-15</b>																		
<b>7. NAME OR DESCRIPTION OF WASTE SHIPPED:</b>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">8. CONTAINERS</th> <th style="width: 10%;">9. TOTAL</th> <th style="width: 10%;">10. UNIT</th> </tr> <tr> <td>No.   Type</td> <td>QUANTITY</td> <td>WT/Vol.</td> </tr> <tr> <td>a. 1 DT</td> <td>20</td> <td>Y</td> </tr> <tr> <td>b.</td> <td></td> <td></td> </tr> <tr> <td>c.</td> <td></td> <td></td> </tr> <tr> <td>d.</td> <td></td> <td></td> </tr> </table>	8. CONTAINERS	9. TOTAL	10. UNIT	No.   Type	QUANTITY	WT/Vol.	a. 1 DT	20	Y	b.			c.			d.		
8. CONTAINERS	9. TOTAL	10. UNIT																		
No.   Type	QUANTITY	WT/Vol.																		
a. 1 DT	20	Y																		
b.																				
c.																				
d.																				
<b>12. NAME OF LEASE:</b> <b>Central Vacuum Unit NO. 47H</b>																				
<b>14. IN CASE OF EMERGENCY OR SPILL, CONTACT</b>																				
<b>HES SPECIALIST</b>																				
24-HOUR EMERGENCY NO. <b>575-396-4414 (DIAL 1 AFTER HOURS)</b>																				
<b>15. Chevron Representative:</b> Hereby declare that the contents of this consignment are fully and accurately described above.																				
<b>PRINTED/TYPED NAME:</b> <i>As An Agent of CEMC Glenn Quinney</i>	<b>SIGNATURE:</b> <i>[Signature]</i> <b>DATE:</b> <i>3-19-15</i>																			
<b>16. TRANSPORTER (1)</b> <b>TRUCKING COMPANY NAME:</b> <i>Lobos Services</i> <i>1300 Garden City Hwy</i> <i>Midland, Tx, 79701</i> <b>IN CASE OF EMERGENCY CONTACT:</b> <i>Lois Alvarado</i> <b>EMERGENCY PHONE:</b> <i>432-934-5206</i>	<b>17. TRANSPORTER (2)</b> <b>TRUCKING COMPANY NAME:</b> <b>IN CASE OF EMERGENCY CONTACT:</b> <b>EMERGENCY PHONE:</b>																			
<b>18. TRANSPORTER (1):</b> Acknowledgment of receipt of material <b>PRINTED/TYPED NAME:</b> <i>Andreas Quij Reyes</i> <b>SIGNATURE:</b> <i>[Signature]</i> <b>DATE:</b> <i>3/19/15</i>	<b>18. TRANSPORTER (2):</b> Acknowledgment of receipt of material <b>PRINTED/TYPED NAME:</b> _____ <b>SIGNATURE:</b> _____ <b>DATE:</b> _____																			
<b>DISPOSAL FACILITY:</b> <i>Gardens Services</i>	<b>ADDRESS:</b> <i>3 miles east of Eureka, NM</i> <i>on Hwy 18</i>	<b>PHONE:</b>																		
<b>PERMIT NO.:</b>	<b>20. COMMENTS:</b>																			
<b>21. DISPOSAL FACILITY'S CERTIFICATION:</b> I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.																				
<b>AUTHORIZED SIGNATURE:</b>	<b>CELL NO.:</b>	<b>DATE:</b>																		
<b>TIME:</b>	<b>TIME:</b>																			

PLEASE REMIT COMPLETED MANIFEST VIA MAIL, EMAIL OR FAX TO THE BELOW LISTED CONTACT:  
RIMYALVARADO - PHONE: (575) 396-441 X223 • FAX: (575) 396-6913 • EMAIL: RIMYALVARADO@CHEVRON.COM



# VACUUM FMT

G	3. COMPANY NAME <b>CHEVRON</b>	4. ADDRESS <b>56 Texas Camp Rd.</b>		5. PICK-UP DATE: <b>3-19-15</b>
	PHONE NO. <b>575-396-4414</b>	CITY <b>Lovington</b>	STATE <b>NM</b>	

7. NAME OR DESCRIPTION OF WASTE SHIPPED:		8. CONTAINERS		9. TOTAL	10. UNIT	
		No.	Type	QUANTITY	WT/Vol.	
N  E  R	a. <i>Chloride impacted soil from impairment to oil production</i>	<i>1</i>	<i>DT</i>	<i>20</i>	<i>Y</i>	
	b.					
	c.					
	d.					

12. NAME OF LEASE:  
Central Vacuum unit No. 474

T	14.	IN CASE OF EMERGENCY OR SPILL, CONTACT
	HES SPECIALIST	24-HOUR EMERGENCY NO. 575-396-4414 (DIAL 1 AFTER HOURS)

15. **Chevron Representative:** Hereby declare that the contents of this consignment are fully and accurately described above.

R	PRINTED TYPED NAME	SIGNATURE	DATE
	As an Agent for COMC Glenn Quinney	As an Agent for COMC <i>GJ</i>	3-19-15

<p>16. TRANSPORTER (1)</p> <p>TRUCKING COMPANY NAME: <i>Lobos Services</i>  <i>1300 Garden city Hwy</i>  <i>Midland Tx, 79701</i></p> <p>IN CASE OF EMERGENCY CONTACT: <i>Lois Alvarado</i></p> <p>EMERGENCY PHONE: <i>432-934-5206</i></p>	<p>17. TRANSPORTER (2)</p> <p>TRUCKING COMPANY NAME:</p> <p>IN CASE OF EMERGENCY CONTACT:</p> <p>EMERGENCY PHONE:</p>
---	---

R T E R S	18. TRANSPORTER (1): Acknowledgment of receipt of material		18. TRANSPORTER (2): Acknowledgment of receipt of material	
	PRINTED/TYPED NAME <u>Juan Fuentes</u>		PRINTED/TYPED NAME _____	
	SIGNATURE <u>Juan Fuentes</u> DATE <u>3/4/13</u>		SIGNATURE _____ DATE _____	

DISPOSAL FACILITY:	ADDRESS:	PHONE:
Soudan, Sudan	3 miles east of Ebnice, No on Hwy 18	

19. PERMIT NO.	20. COMMENTS

**M. DISPOSAL FACILITY'S CERTIFICATION:** I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

N F O	AUTHORIZED SIGNATURE	CELL NO.	DATE	TIME
-------------	----------------------	----------	------	------

PLEASE REMIT COMPLETED MANIFEST VIA MAIL, EMAIL OR FAX TO THE BELOW LISTED CONTACT:  
RIMY ALVARADO - PHONE: (575) 396-441 X223 • FAX: (575) 396-6913 • EMAIL: RIMYALVARADO@CHEVRON.COM

# CHEVRON MCBU

## VACUUM FMT

NO Emc-471-2015 NON-HAZARDOUS WASTE MANIFEST 1. PAGE 1 OF 1 2. Truck NO.

G

3. COMPANY NAME

**CHEVRON**

PHONE NO. **575-396-4414**

4. ADDRESS

**56 Texas Camp Rd.**

CITY

STATE

ZIP

**Lovington**

**NM**

**88260**

5. PICK-UP DATE:

**3-19-15**

E

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS

No.

Type

9. TOTAL

QUANTITY

10. UNIT

WT/VOL

N

a. **Chloride impacted soil from impoundment**

**1**

**DT**

**20**

**Y**

E

c.

R

d.

A

12. NAME OF LEASE: **Central Vacuum Unit No. 47H**

T

14.

**IN CASE OF EMERGENCY OR SPILL, CONTACT**

**HES SPECIALIST**

24-HOUR EMERGENCY NO.

**575-396-4414 (DIAL 1 AFTER HOURS)**

O

15. **Chevron Representative:** Hereby declare that the contents of this consignment are fully and accurately described above.

R

PRINTED TYPED NAME

**As an Agent of CEMC ChemQuarry**

SIGNATURE

**As an Agent of CEMC**

DATE

**3-19-15**

T

16. TRANSPORTER (1)

**TRUCKING COMPANY NAME: LoBos Services**  
**1300 Garden City Hwy**  
**Midland TX 79701**

17. TRANSPORTER (2)

**TRUCKING COMPANY NAME:**

IN CASE OF EMERGENCY CONTACT: **Luis Alvarado**

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE: **432-934-5206**

EMERGENCY PHONE:

R

18. TRANSPORTER (1): Acknowledgment of receipt of material

18. TRANSPORTER (2): Acknowledgment of receipt of material

PRINTED/TYPED NAME

**Sanchez**

PRINTED/TYPED NAME

SIGNATURE

**Luis Alvarado**

SIGNATURE

DATE

**3-19-15**

D

DISPOSAL FACILITY:

ADDRESS:

**3 miles east of Eunice, NM**  
**on Hwy 18**

PHONE:

I

**Sundance Services**

A

PERMIT NO.

20. COMMENTS

S

21. DISPOSAL FACILITY'S CERTIFICATION: I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

I

AUTHORIZED SIGNATURE

CELL NO.

DATE

TIME

N

F

PLEASE REMIT COMPLETED MANIFEST VIA MAIL, EMAIL OR FAX TO THE BELOW LISTED CONTACT:  
RIMY ALVARADO - PHONE: (575) 396-441 X223 • FAX: (575) 396-6913 • EMAIL: RIMYALVARADO@CHEVRON.COM

## Appendix E

### Site Chronology

## Site Chronology – CEMC – Central Vacuum Unit No. 47H

### Pit Excavation Backfill – 2015

Tuesday March 10, 2015	Attended Buckeye FMT safety meeting. Conducted on-site safety meeting. Mobilize to Site. Began collection of five point composite sample from excavation floor. Label, pack, and ship soil sample.
Wednesday March 18, 2015	Attended Buckeye FMT safety meeting. Conducted on-site safety meeting. Site prep work. Received equipment at Site. Walk through and visual inspection. Set up construction signage. Verify haul truck Journey Management Plan (JMP).
Thursday March 19, 2015	Attended Buckeye FMT safety meeting. Conducted on-site safety meeting. Began excavation of east sidewall using tracked excavator. Load excavated soils into Lobo's haul trucks, approximately 20 cubic yards (cy) per truck. Five haul trucks transport excavated soils to Sundance Services, Inc. Complete excavation and transport of excavated soils. Project total of approximately 100 cy of excavated soils transported off-site. Began east sidewall soil sample collection. Conduct field test of excavated soils with Hach chloride meter strips. Label, pack, and ship soil samples of east sidewall. Began transportation of clean soil materials from off-site borrow pit (Pearce Ranch Trust) for backfill of excavation. Completed 18-loads of clean soil (caliche). Daily caliche total of 324 cy. Project caliche haul total of 324 cy.
Friday March 20, 2015	Attended Buckeye FMT safety meeting. Conducted on-site safety meeting. Obtain laboratory analytical results of excavated soil samples. Continue with backfilling activities. Continue with transportation of caliche soils for backfill of excavation. Completed 68-loads of caliche soils. Daily haul total of 1,224 cy. Project caliche haul total of 1,548 cy.
Saturday March 21, 2015	Attended Buckeye FMT safety meeting. Conducted on-site safety meeting. Continue with transportation of caliche soils for backfill of excavation. Completed 12-loads of caliche soils. Daily haul total of 216 cy. Project caliche haul total of 1,764 cy. Begin and complete 20-mil poly liner installation.
Monday March 23, 2015	Attended Buckeye FMT safety meeting. Conducted on-site safety meeting. Continue with transportation of caliche soils for backfill of excavation. Completed 32-loads of caliche soils. Daily haul total of 576 cy. Complete caliche haul for project total of 2,340 cy.
Tuesday March 24, 2015	Attended Buckeye FMT safety meeting. Conducted on-site safety meeting. Began transportation of clean top soil materials for backfill of excavation. Completed 8-loads of top soil haul. Daily haul total of 144 cy. Project top soil haul total of 144 cy. Complete hauling of clean soils. Project total of 2,484 cy clean soils emplaced into excavation.
Wednesday March 25, 2015	Attended Buckeye FMT safety meeting. Conducted on-site safety meeting. Begin and complete final grading, contouring, and seeding of Site. De-mobilize heavy equipment from Site. Remedial and closure activities are complete. Site was left clean and secure.



## Appendix F

### Photograph Log



PHOTO 1: View of Pearce Ranch Trust borrow pit stockpiling activities facing west



PHOTO 2: View of east sidewall excavation activities facing north



PHOTOGRAPH LOG  
Central Vacuum Unit No. 47H  
Lea County, New Mexico  
*Chevron Environmental Management Company*



PHOTO 3: View of haul truck dispensing clean soil and heavy equipment facing west



PHOTO 4: View of backfilling activities facing north







PHOTO 5: View backfill activities facing west



PHOTO 6: View of backfilling activities facing north



PHOTOGRAPH LOG  
Central Vacuum Unit No. 47H  
Lea County, New Mexico  
*Chevron Environmental Management Company*



PHOTO 7: View 20-mil poly liner installation facing south



PHOTO 8: View of 20-mil poly liner installation and backfill activities facing north



PHOTOGRAPH LOG  
Central Vacuum Unit No. 47H  
Lea County, New Mexico  
*Chevron Environmental Management Company*



PHOTO 9: View of top soil backfill activities facing south



PHOTO 10: View of final grading, contouring, and seeding activities facing north west

PHOTOGRAPH LOG  
 Central Vacuum Unit No. 47H  
 Lea County, New Mexico

*Chevron Environmental Management Company*

