

FREMONT ENVIRONMENTAL INC.

August 5, 2013

Mr. Jacob Evans
Noble Energy Inc.
1625 Broadway, Suite 2000
Denver, CO 80202

Subject: **Produced Water Pit Replacement Closure Report**
UPRC 1-12L, Hibbs #1, Plutt P1-1 SWSW Sec 1, T3N, R67W
API # 05-123-16557, 05-123-07996, 05-123-22155
Platteville, Colorado
Fremont Project No. C013-025

Dear Mr. Evans:

Enclosed please find a copy of the above referenced Produced Water Pit Replacement Report for the UPRC 1-12L, Hibbs#1 and Plutt P1-13 multi-well site near Platteville, Colorado. The enclosed report describes the soil sampling and replacement of the existing fiberglass water pit. Please contact me at (303) 956-8714 if you require any additional information.

Fremont appreciates the opportunity to provide this service.

Sincerely,
FREMONT ENVIRONMENTAL INC.



Paul V. Henahan, P.E.
Senior Consultant

Enclosure

PRODUCED WATER PIT REPLACEMENT

NOBLE ENERGY INC.

UPRC 1-12L, HIBBS #1 and PLUTT P1-13

PLATTEVILLE, COLORADO

FREMONT PROJECT NO. C013-025

Prepared by:

**Fremont Environmental Inc.
12061 Pennsylvania Street, Suite B-101
Thornton, CO 80241
(303) 956-8714**

August 5, 2013

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PRODUCED WATER PIT REPLACEMENT

NOBLE ENERGY INC.

UPRC 1-12L, HIBBS #1 and PLUTT P1-13

PLATTEVILLE, COLORADO

FREMONT PROJECT NO. C013-025

1.0 INTRODUCTION

The purpose of this document is to describe the actions taken to replace the produced water fiberglass pit at the UPRC 1-12L, Hibbs #1 and Plutt P1-13 multi-well facility. In addition, this report will describe the soil sampling performed to determine whether subsurface impacts were present.

2.0 BACKGROUND INFORMATION

2.1 Site Location

The UPRC 1-12L, Hibbs #1 and Plutt P1-13 site is located approximately two miles northwest of Platteville, Colorado in Weld County as shown on Figure 1. The site is located in a rural and agricultural area northwest of the intersection of County Road 36 and County Road 25. The location is further described as the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 1, Township 3N, Range 67W.

2.2 Site History

The site is a natural gas production and oil storage facility for the UPRC 1-12L, Hibbs #1 and Plutt P1-13 wells as shown on Figure 2, Site Map. These wells were drilled in 1992, 1974, and 2004, respectively. In July 2013, it was determined that the produced water concrete pit was unable to maintain its water level indicating a potential problem with the pit.

3.0 FIELD ACTIVITIES

On July 31, 2013, a crew from Ramirez Trucking Services excavated the produced water pit immediately north of the oil storage tank at the site. The fiberglass water pit was removed and inspected for damage. No obvious indication of failure was observed. Regardless, the fiberglass pit was replaced with a new, concrete water pit. Photos of the pit excavation are provided.

Two soil samples were collected from the side wall of the excavation at depths of approximately two and three feet. The soil sample from a depth of three feet was submitted to eAnalytics Laboratory, Inc. (eAnalytics) in Loveland, Colorado for the analyses of benzene, toluene, ethylbenzene and xylenes (BTEX), naphthalene, Total Petroleum Hydrocarbons-Gasoline Range Organics (TPH-GRO) by EPA Method 8260C and TPH-Diesel Range Organics (TPH-DRO). In addition, this side wall sample was also analyzed for three inorganic parameters including sodium absorption ratio (SAR), electrical conductivity (EC) and pH. Both soil samples were field screened with a photoionization detector (PID). The PID value for the soil samples was 0.0 ppm.

A floor soil sample was also collected from beneath the pit location after it was removed. This sample was collected from approximately the center of the former pit at a depth of approximately four feet. This sample was analyzed for BTEX, TPH-GRO, TPH-DRO and naphthalene but not for any inorganic soil parameters. The PID reading for this soil sample was also 0.0 ppm.

The laboratory data indicated that the BTEX, TPH-GRO, TPH-DRO and naphthalene constituents were below their respective laboratory detection limits for both soil samples. In addition, the SAR and EC were lower than the Colorado Oil and Gas Commission's (COGCC's) Table 910-1 limits. However, the pH concentration was slightly more acidic than allowed for in the COGCC limits; the pH concentration of the soil sample was 5.36

(unitless) whereas the COGCC limit is 6.0 (unitless). A copy of the laboratory reports, quality control data, and chain-of-custody documentation are presented in Appendix A.

The concrete pit was replaced by a new concrete pit at this same location and the facility was placed back in operation. Fremont personnel did not oversee that portion of the project.

4.0 REMARKS

The discussion and conclusions contained in this report represent our professional opinions. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

This report was prepared by **FREMONT ENVIRONMENTAL INC.**



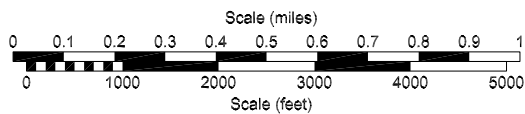
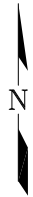
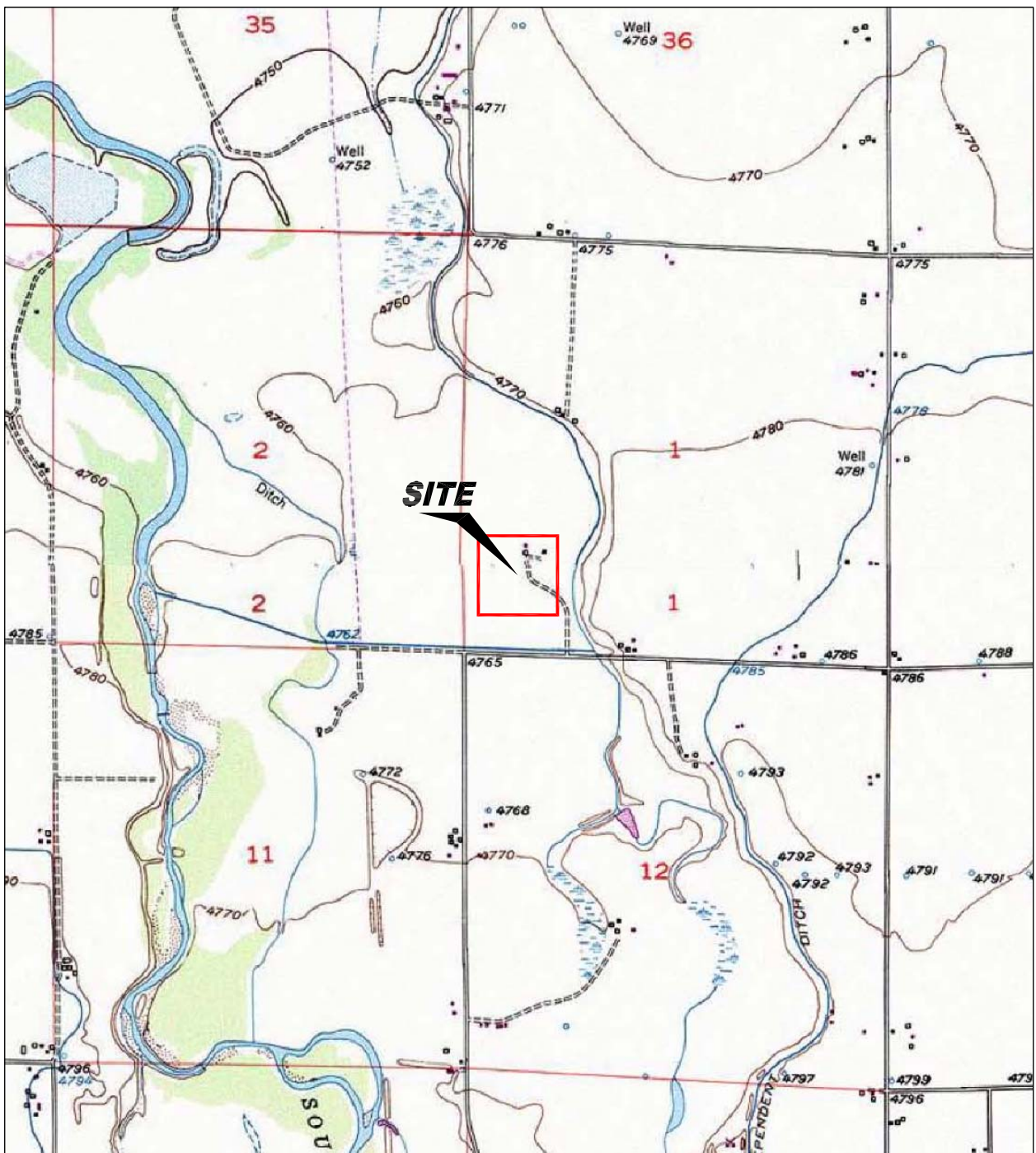
Paul V. Henahan, P.E.

Senior Consultant

8/5/13

Date_____

FIGURES



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
 SITE LOCATION MAP

Noble - UPRC 1-121, Hibbs #1 and Plutt P1-13
 SW SW Section 1, T3N, R67W
 Weld County, Colorado

Project No. C013-025	Prepared by	Drawn by JMA	
Date 8/5/13	Reviewed by	Filename 13025T	




LEGEND

- FENCE LINE
- BERM
- ABOVE GROUND STORAGE TANK

Figure 2

SITE MAP

Noble UPRC 1-12I, Hibbs #1 and Plutt P1-13
 SW SW Section 1, T3N, R67W
 Weld County, Colorado

Project No. C013-025	Prepared by JMA	Drawn by JMA	
Date 8/5/13	Reviewed by	Filename 13025Q	

APPENDIX A

LABORATORY DOCUMENTATION

Certificate of Analysis



August 1, 2013

Client: Fremont Environmental
PO Box 1289
Wellington CO 80549

Project: UPRC, HIBBS #1, PLUT P1

Lab ID: 073103

Date Received: 07/31/13

Number of Samples Received: 2

Sample Condition: Samples arrived intact and in appropriate sample containers

Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

Analysis	EPA Method	Lab ID on COC
BTEX / Nap	8260C	1 - 2
TPH - GRO/DRO	8260C/8015C	1 - 2
pH	9045D	2
Sodium Adsorption Ratio	U.S. Dept of Ag Handbook 60 Method 20B	2
Electrical Conductivity	U.S. Dept of Ag Handbook 60 Method 3	2

All quality control analyses associated with the requested analyses were satisfactorily passed before the samples were run. If you have any questions please give us a call, we are happy to help.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you, we truly appreciate your business.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Dieken".

Christopher Dieken
Quality Assurance Manager

A handwritten signature in black ink, appearing to read "Todd Rhea".

Todd Rhea
Laboratory Manager



A2LA & Department of Defense (DoD) Certified

eANALYTICS
LABORATORY

August 1, 2013

Lab ID: 073103

9045D	pH
U.S. Dept of Ag Handbook 60 Method 20B	SAR
U.S. Dept of Ag Handbook 60 Method 3	EC

[illegible]

eANALYTICS
LABORATORY

August 1, 2013

Project: UPRC, HIBBS #1, PLUT P1

Lab ID: 073103

EPA Method: 8260C

[illegible]

APPENDIX B

PHOTOS



Looking northwest at produced water pit excavation



Fiberglass water pit after removal. No obvious indication of failure was noted.