AP-100

Unit Petroleum
Gourley Fed 3Q Drillpit

Annual Report
2013

Griswold, Jim, EMNRD

From: Griswold, Jim, EMNRD
Sent: Wednesday, April 09, 2014 9:32 AM
To: 'Bockisch, Bernie'
Cc: Gene Voreis
Subject: RE: Gourley Fed #3 Annual Report

Bernie,

Proceed with blending and thin spreading of the soil cuttings at the location.

Jim Griswold
Senior Hydrologist
EMNRD/Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505.476.3465
email: jim.griswold@state.nm.us

From: Bockisch, Bernie [mailto:bbockisch@craworld.com]
Sent: Wednesday, April 09, 2014 9:13 AM
To: Griswold, Jim, EMNRD
Cc: Gene Voreis
Subject: Gourley Fed #3 Annual Report

Jim,

I have attached the Annual Groundwater Monitoring Report for the Gourley Fed #3. The report details the installation of two monitoring wells, one to obtain background data and one to assess down-gradient concentrations. It also includes data from the two most recent groundwater sampling events performed in October 2013 and January 2014.

Also, I reviewed the soil data from the soil borings. It appears that the chloride concentration of the sample collected at 10 feet below ground surface was 845 mg/kg (see Table 1 of the report). The rest of the samples collected from that boring were significantly lower. If we were to thin spread the cuttings, the resulting concentration would be less than 600 mg/kg. Based on this, would it be ok to thin spread the cuttings from this boring?

Bernie

Bernard Bockisch, PMP
Conestoga-Rovers & Associates (CRA)
6121 Indian School Rd NE Ste. 200
Albuquerque, NM, USA 87110
Office: (505) 884-0672
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CONESTOGA-ROVERS & ASSOCIATES

www.CRAworld.com

Annual Groundwater Monitoring Report

Gourley Federal #3 Well
Unit H, Section 28, T-22-S, R-28_E
Eddy County, New Mexico

Prepared for: Unit Petroleum Company
2nd SW 3rd Suite 205
Tuttle, OK 73089

Conestoga-Rovers & Associates
6121 Indian School Road, NE Suite 200
Albuquerque, New Mexico 87110

March 2014 • 082612

Partners in Sustainability

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Section 1.0 Introduction

Subsurface assessment activities were performed at the Gourley Federal #3 site from October 1, 2013 to October 3, 2013 and on January 29, 2014. The Gourley Federal #3 site (hereafter referred to as the "Site"), is located within Unit H, Sec 28, Township 22 South, Range 28 East, in Eddy County, New Mexico (32° 22' 0.48" N, 104° 5' 12.91" W) (**Figure 1**).

A meeting was held between Conestoga-Rovers & Associates (CRA) and Mr. Jim Griswold with the New Mexico Oil Conservation Division (NMOCD) on May 2, 2013 to discuss a path forward for the Site. During the meeting, Mr. Griswold agreed that additional soil remediation was not necessary and that existing data collected by Tetra Tech could qualify as two of the eight quarters of groundwater monitoring.

The scope of work for the project was developed between Unit Petroleum Company (Unit), NMOCD, and CRA personnel. CRA performed project management, general oversight of the remediation activities, soil and groundwater sampling, and documentation of the field work. Drilling and monitoring well installation was performed by Enviro-Drill, Inc. (EDI) of Albuquerque, New Mexico. The scope of services included:

- Obtaining required monitor well permits, and coordinating with stakeholders.
- Installing two additional monitoring wells, one upgradient of MW-2 and one downgradient of MW-3 (**Figure 2**).
- Conducting six quarterly groundwater monitoring and sampling events.

Section 2.0 Site History

In June 2007, Sweatt Construction excavated the pit to a maximum depth of six feet below ground surface (bgs). Trenches were excavated to depths up to 20 feet bgs to sample soils for chlorides. Sampling conducted on July 25, 2007 indicated that chloride concentrations within the pit were generally below 10,000 milligrams per kilogram (mg/kg) with the exception of three samples. At the request of the NMOCD, a temporary monitor well was installed on the southern edge of the pit in June 2007 to establish the depth to groundwater. The well was drilled to a depth of 50 feet bgs. Samples from that well indicated chloride concentrations of 907 milligrams per liter (mg/L) and total dissolved solits (TDS) concentrations of 3990 mg/L. The pit was not backfilled following the excavation and sampling.

On October 5, 2008, The BLM contacted the NMOCD to notify them that the pit had been left open. The NMOCD subsequently issued Unit a Notice of Violation (NOV No. 02-08-23) on November 17, 2008.

On February 19, 2009, Tetra Tech installed monitoring well MW-1 approximately 180 feet north of the northwest corner of the pit. This well was drilled to a depth of 60 feet bgs and installed with 30 feet of 0.02-inch slotted polyvinyl chloride (PVC) well screen.

On June 25, 2009, Tetra Tech installed two additional monitor wells. MW-2 was installed east of the pit and MW-3 was installed west of the pit. Both wells were installed at a depth of 60 feet bgs with 20 feet of 0.02-inch slotted PVC.

On July 17, 2009, Tetra Tech submitted a Stage I Abatement Plan (AP) to the NMOCD. However, this AP was never approved by the NMOCD. A new Stage I AP was submitted by CRA to the NMOCD on July 10, 2013 and approved via email on August 12, 2013 by Mr. Jim Griswold with the NMOCD.

Two new groundwater monitoring wells were installed during the most recent assessment performed in October 2013. MW-4 was installed upgradient of the pit to provide background groundwater concentrations. MW-5 was installed to help assess the downgradient extent of chloride concentrations in the groundwater.

Section 3.0 Monitoring Well Installation

Between October 1, 2013 and October 3, 2013, EDI installed two groundwater monitoring wells, MW-4 and MW-5, under CRA observation. Borings were advanced using a CME-75 drill rig and hollow stem augers. Soil samples were collected in five foot increments using a 1.5-foot long, 2-inch diameter split-spoon. Samples were logged by CRA personnel according to the Unified Soil Classification System and field screened for chlorides using Hach chloride test strips. Cuttings generated during monitoring well installation were placed in labeled 55-gallon drums.

MW-4 was installed to a total depth of 75 feet bgs. The well was constructed of 2-inch diameter, schedule 40, flush-joint, PVC casing and screen. The monitoring well consists of a 0.5-foot long, threaded PVC bottom plug and 20 feet of flush-joint, threaded, factory-slotted (0.020-inch) well screen. The annular space around the well screen was filled with 10/20 gradation silica sand to approximately 2.2 feet above the well screen, followed by approximately 2.8 feet of 3/8-inch bentonite chips. A cement/bentonite grout was placed from the top of the bentonite chips to ground surface. The wellhead is protected with an above-grade completion set within a 24-inch by 24-inch by 4-inch thick concrete pad.

MW-5 was installed to a total depth of 70 feet bgs. The well was constructed of 2-inch diameter, schedule 40, flush-joint, threaded polyvinyl chloride (PVC) casing and screen. The monitoring well consists of a 0.5-foot long, threaded PVC bottom plug and 20 feet of flush-joint, threaded, factory-slotted (0.020-inch) well screen. The annular space around the well screen was filled with 10/20 gradation silica sand to approximately 2.5 feet above the well screen, followed by approximately four feet of 3/8-inch bentonite chips.

A cement/bentonite grout was placed from the top of the bentonite chips to ground surface. The wellhead is protected with an above-grade completion set within a 24-inch by 24-inch by 4-inch thick concrete pad.

After installation, each well was developed using a bailer and submersible Monsoon pump until water quality parameters stabilized and turbidity was significantly decreased.

3.1 Soil Types

The first 25 to 30 feet of soils consisted mainly of tan-brown, fine-grained, silty sands, with the first three feet being very well cemented (caliche). Below the silty sands, the soils were mostly reddish-brown clays or clayey sands.

The water table was expected to be encountered at approximately 50 feet bgs. However, saturated soil conditions were not encountered until 70 and 60 feet bgs for MW-4 and MW-5, respectively. When hydrostatic equilibrium was reached inside each well casing, groundwater was gauged to be approximately 47 and 49 feet bgs for MW-4 and MW-5, respectively. This is most likely indicative of confined conditions. MW-4 and MW-5 boring logs are presented as **Appendix A**. Boring logs for MW-1, MW-2, and MW-3 could not be located.

3.2 Soil Analytical Results

Soil samples were placed in laboratory-supplied containers, labeled, placed on ice, and transported via overnight delivery under chain of custody documentation to Xenco Laboratories of Odessa, Texas (Xenco) for analysis of TPH using EPA method 8015B and chlorides using EPA method 300.0.

All soil samples returned analytical results below detection limits for TPH. The only soil sample that exceeded the NMOCD Recommended Remediation Action Level (RRAL) for chlorides was SS-082612-100213-CK-MW-5-10, which returned an analytical result of 845 mg/kg. This sample was collected from the MW-5 boring at a depth of 10 feet bgs. The RRAL for chlorides is 250 mg/kg. A summary of soil analytical results is presented as **Table 1** and the Laboratory Analytical Report is included in **Appendix B**.

Section 4.0 Quarterly Groundwater Monitoring and Sampling

Groundwater sampling events were conducted at the Site on October 2, 2013 and on January 29, 2014. Gauging of MW-5 was not performed during the October 2, 2013 event because the well had just been developed and the water level had not reached equilibrium.

4.1 Groundwater Gradient

Prior to collection of groundwater samples, depth to groundwater in each well was measured using an oil/water interface probe (**Table 2**). Previous data collected by Tetra Tech indicated that the local groundwater gradient was to the west-northwest. A groundwater gradient map from Tetra Tech is included as **Figure 3**.

However, the reported regional hydraulic gradient is to the southwest towards the Pecos River. Data from the October 2013 and January 2014 events indicate that the gradient is to the southwest. Groundwater potentiometric surface maps reflecting October 2013 and January 2014 groundwater elevations are presented as **Figures 4** and **5**, respectively. The groundwater gradient was approximately 0.0036 and 0.0042 feet per foot to the southwest for the October 2013 and January 2014 monitoring events, respectively.

4.2 Groundwater Monitoring Methodology

Site monitoring wells were purged of at least three casing volumes of groundwater using a 1.5-inch diameter, polyethylene, dedicated bailer or a submersible Monsoon pump. While purging each well, groundwater parameters were recorded using a YSI 556 multi-parameter sonde. Groundwater samples were placed in laboratory-supplied containers, labeled, placed on ice, and transported via overnight delivery under chain of custody documentation to Xenco for analysis of chlorides using EPA method 300.1 and total dissolved solids (TDS) using method SM2540C. A summary of analytical results is presented as **Table 3**.

4.3 Groundwater Monitoring Analytical Results

A summary of the data obtained from groundwater monitoring is presented as follows:

October 2013

- Chlorides: The NMWQCC domestic water supply groundwater quality standard for chloride is 250 mg/L. In October 2013, MW-1, MW-2, MW-3, MW-4, and MW-5 returned results of 1,420 mg/L, 1,030 mg/L, 1,890 mg/L, 767 mg/L, and 682 mg/L, respectively. A chloride concentration map for this event is presented as **Figure 6**.
- TDS: The NMWQCC domestic water supply groundwater quality standard for TDS is 1,000 mg/L. In October 2013, MW-1, MW-2, MW-3, MW-4, and MW-5 returned results of 4,910 mg/L, 4,060 mg/L, 5,620 mg/L, 3,500 mg/L, and 3,280 mg/L, respectively.

January 2014

- Chlorides: In January 2014, MW-1, MW-2, MW-3, MW-4, and MW-5 returned results of 1,380 mg/L, 999 mg/L, 1,970 mg/L, 787 mg/L, and 913 mg/L, respectively. A chloride concentration map for this event is presented as **Figure 7**.
- TDS: The In January 2014, MW-1, MW-2, MW-3, MW-4, and MW-5 returned results of 4,600 mg/L, 2,950 mg/L, 6,240 mg/L, 3,340 mg/L, and 3,500 mg/L, respectively.

Section 5.0 Conclusion and Recommendations

Samples collected from Site monitor wells during the October 2013 and January 2014 groundwater monitoring and sampling events exceeded the NMWQCC standards for chlorides and TDS . Samples collected from the upgradient monitor well, MW-4, were found to contain chloride concentrations above regulatory limits (767 mg/l and 787 mg/l in October and January, respectively), indicating the presence of elevated background chloride conditions.

The chloride concentrations observed in MW-5 are consistent with those found in MW-4 (683 mg/l and 913 mg/l in October and January, respectively). Since these concentrations are consistent with the background well (MW-4), CRA believes that MW-5 may delineate the down-gradient extent of chloride contributions from the pit. The observed concentrations from the remainder of the wells appear to be consistent with historical levels.

At this time, CRA recommends continued quarterly groundwater sampling at the Site in order to gather trend data. Please feel free to contact the CRA Albuquerque office if there are any questions or additional information is required.

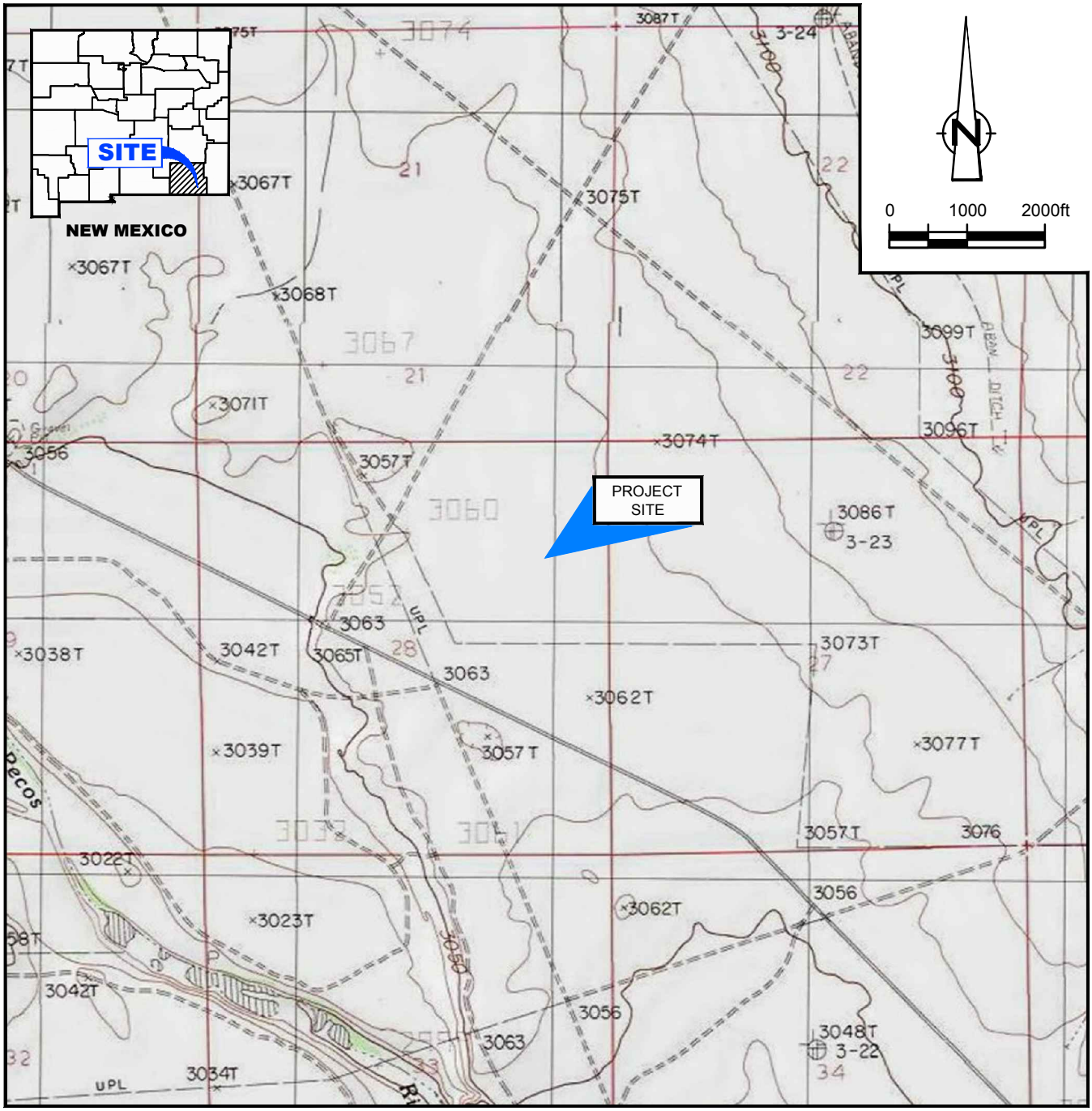
All of which is Respectfully Submitted,

CONESTOGA ROVERS & ASSOCIATES

Cale Kanack
Staff Scientist

Bernard Bockisch, PMP
Sr. Project Manager

Figures



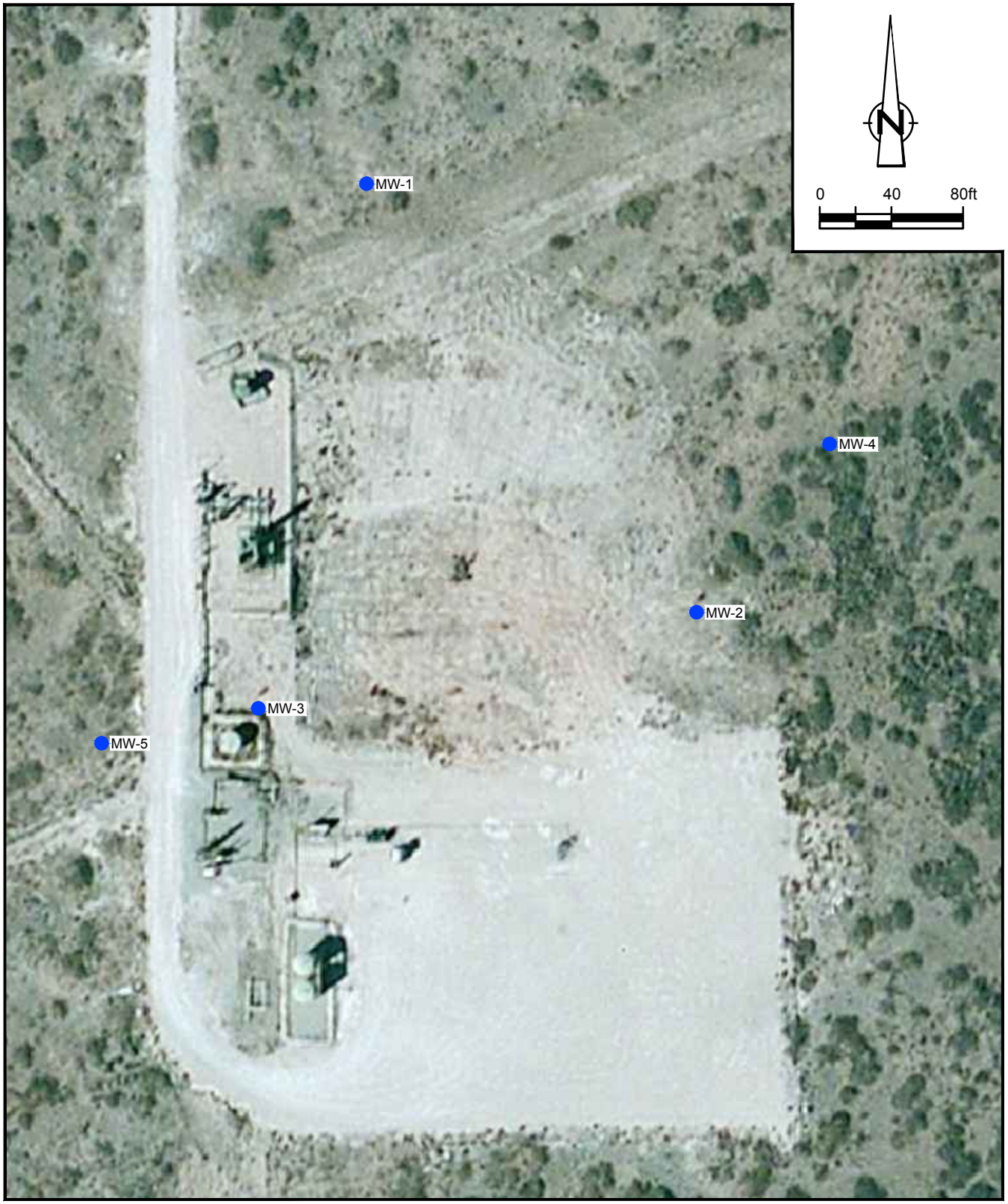
SOURCE: USGS 7.5 MINUTE QUAD
"LOVING AND INDIAN FLATS, NEW MEXICO"

LAT/LONG: 32.3668° NORTH, 104.0869° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 1

SITE LOCATION MAP
GOURLEY FEDERAL #3
EDDY COUNTY, NEW MEXICO
Unit Petroleum Company

082612-00(003)GN-DL001 FEB 28/2014

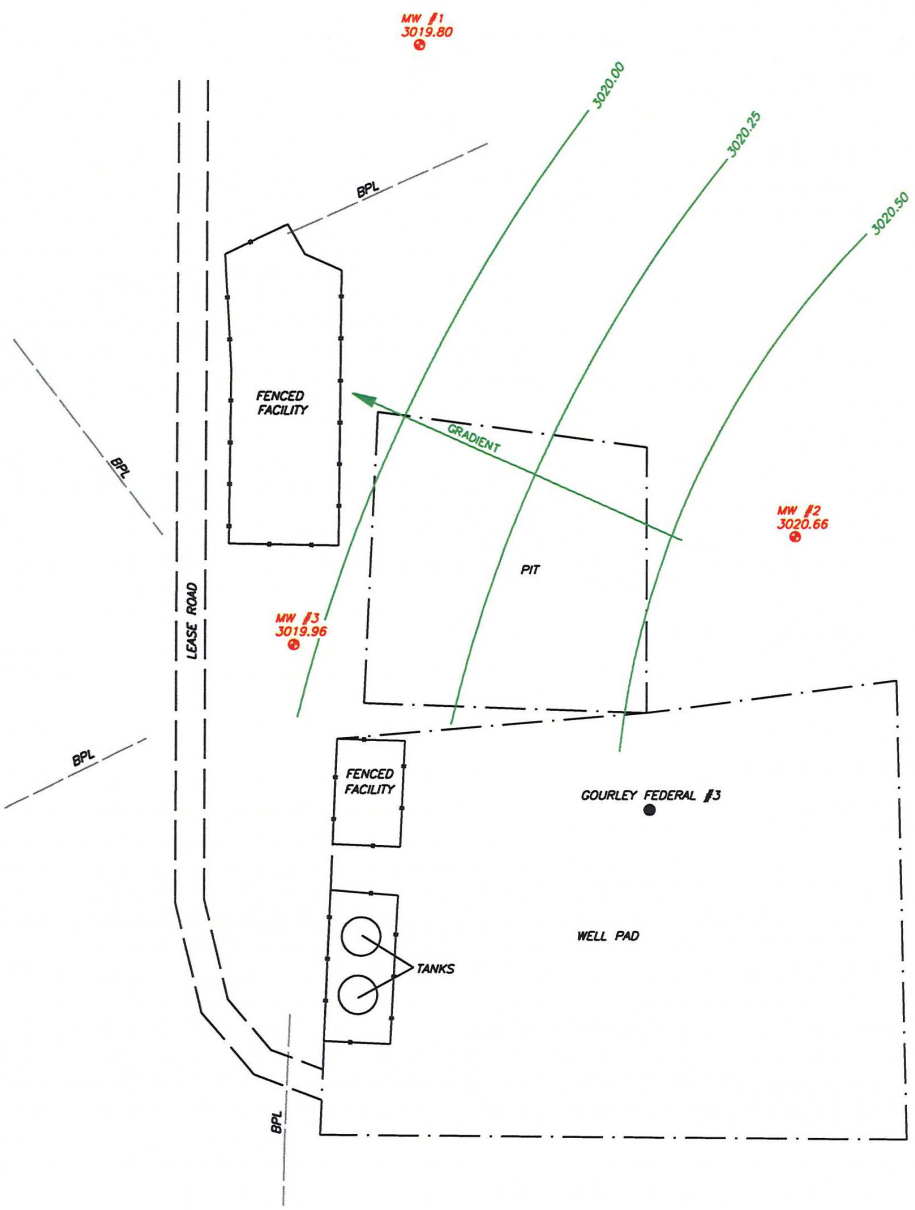


LEGEND
Monitoring Well Location

Figure 2

SITE DETAIL MAP
GOURLEY FEDERAL #3
EDDY COUNTY, NEW MEXICO
Unit Petroleum Company

082612-00(003)GN-DL001 FEB 28/2014



NOT TO SCALE

FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

UNIT PETROLEUM COMPANY

GOURLEY FEDERAL #3
GROUNDWATER GRADIENT MAP
GAUGED ON 6/27/09

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 7/9/09
DWN. BY: JJ
FILE: H:\UNIT\3654 GOURLEY FED #3 PBH

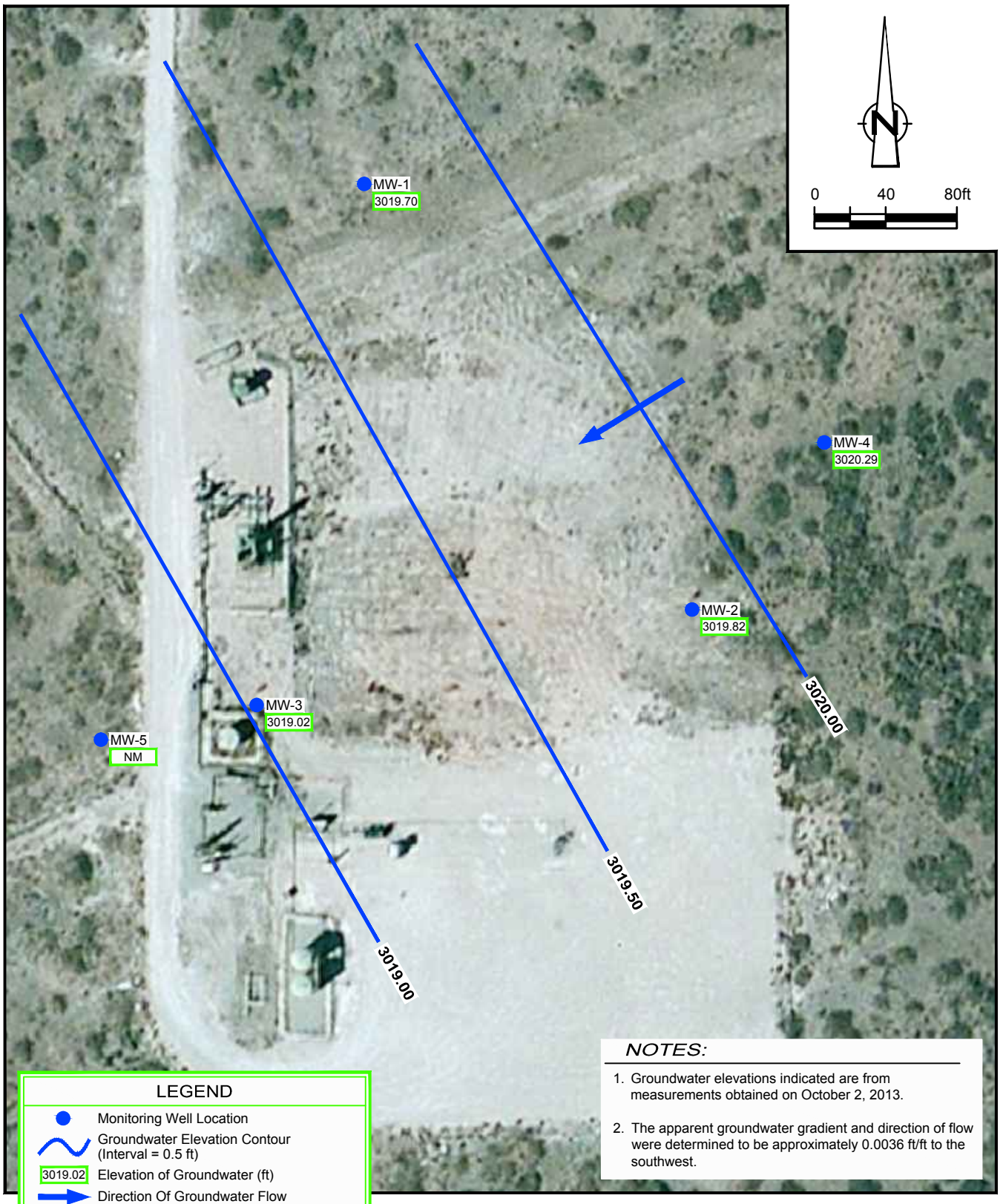


Figure 4

OCTOBER 2013 GROUNDWATER POTENTIOMETRIC MAP
GOURLEY FEDERAL #3
EDDY COUNTY, NEW MEXICO
Unit Petroleum Company

082612-00(003)GN-DL001 MAR 12/2014

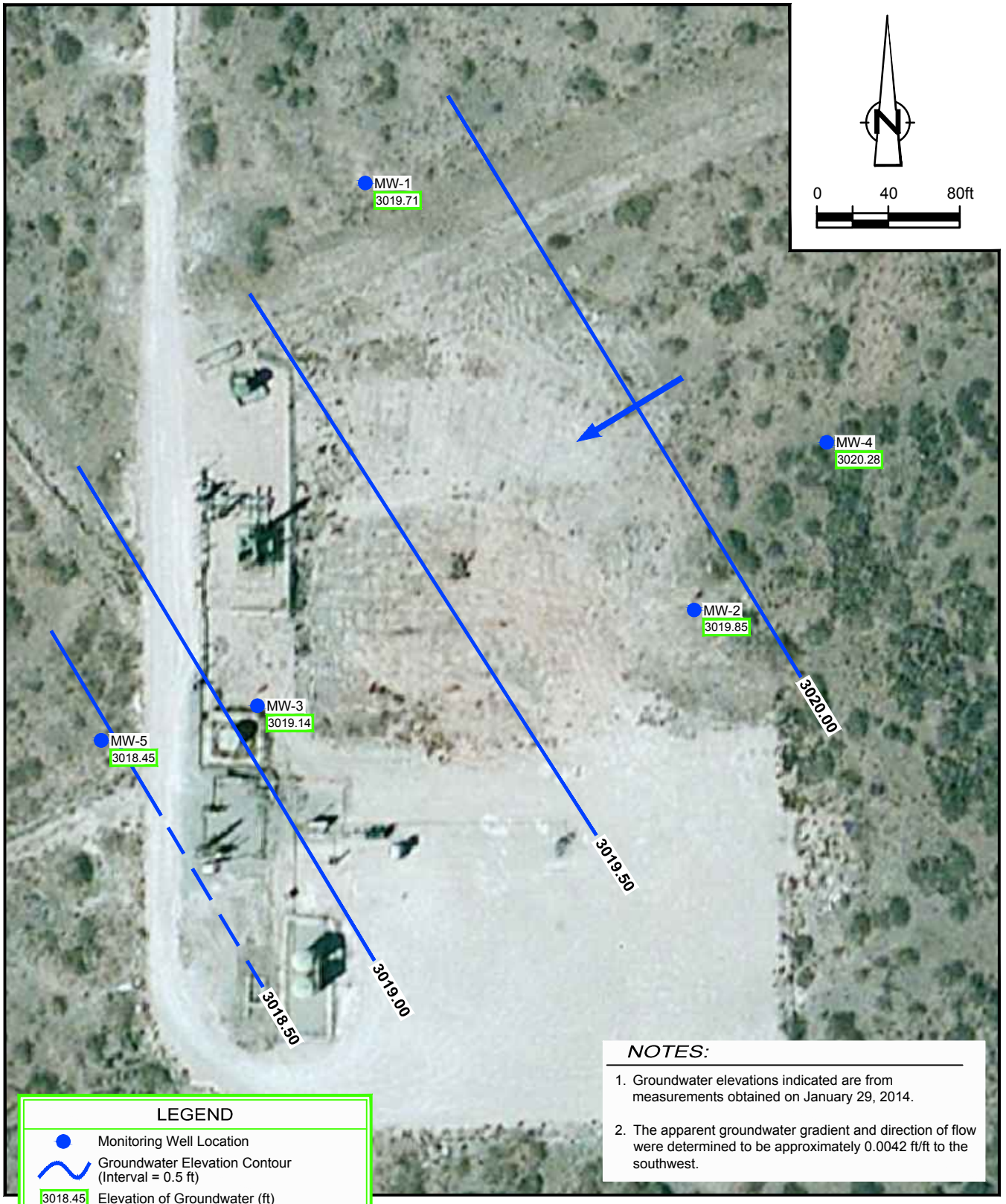


Figure 5

JANUARY 2014 GROUNDWATER POTENTIOMETRIC MAP
GOURLEY FEDERAL #3
EDDY COUNTY, NEW MEXICO
Unit Petroleum Company

082612-00(003)GN-DL001 MAR 12/2014

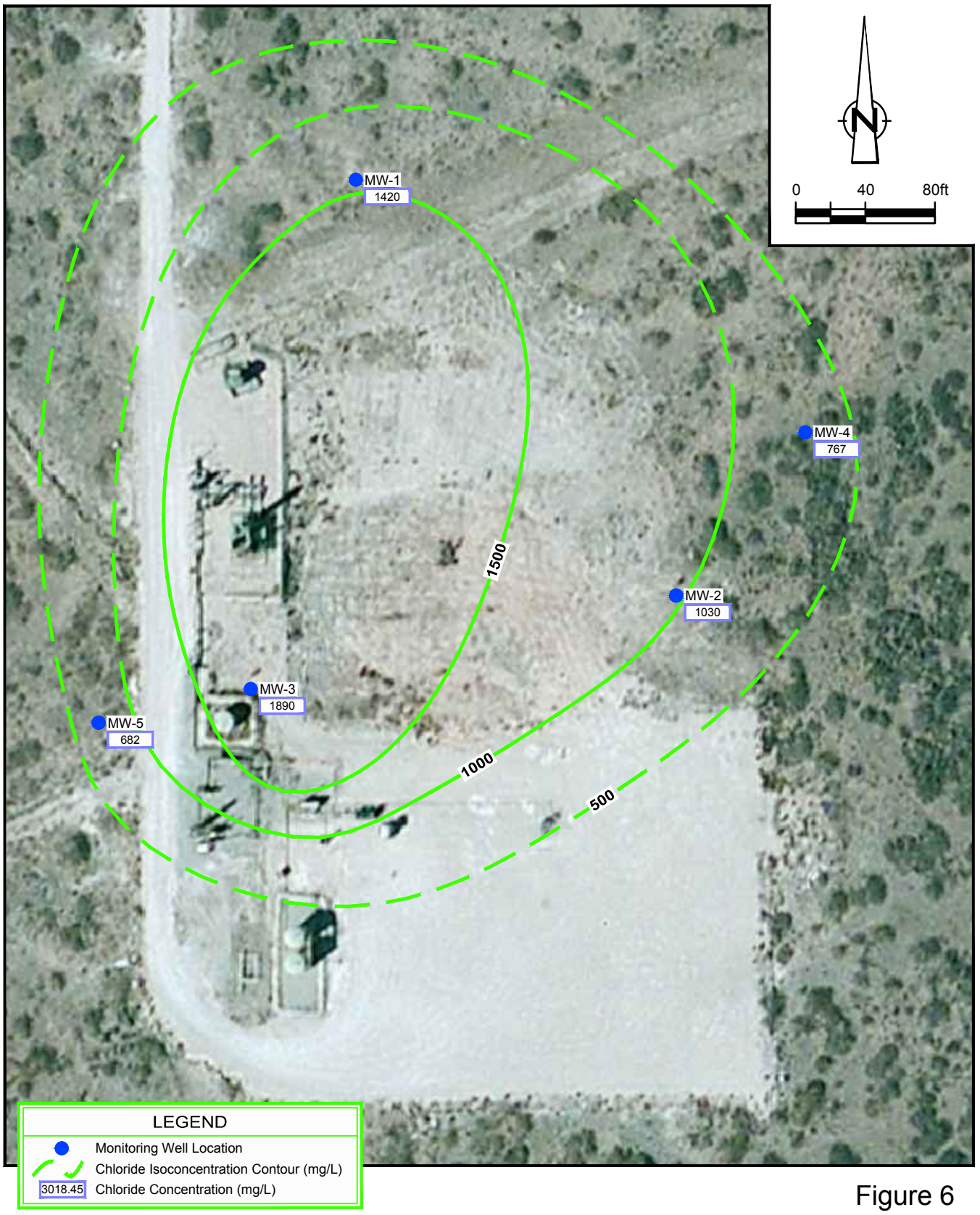


Figure 6

OCTOBER 2013 CHLORIDE CONCENTRATION MAP
GOURLEY FEDERAL #3
EDDY COUNTY, NEW MEXICO
Unit Petroleum Company

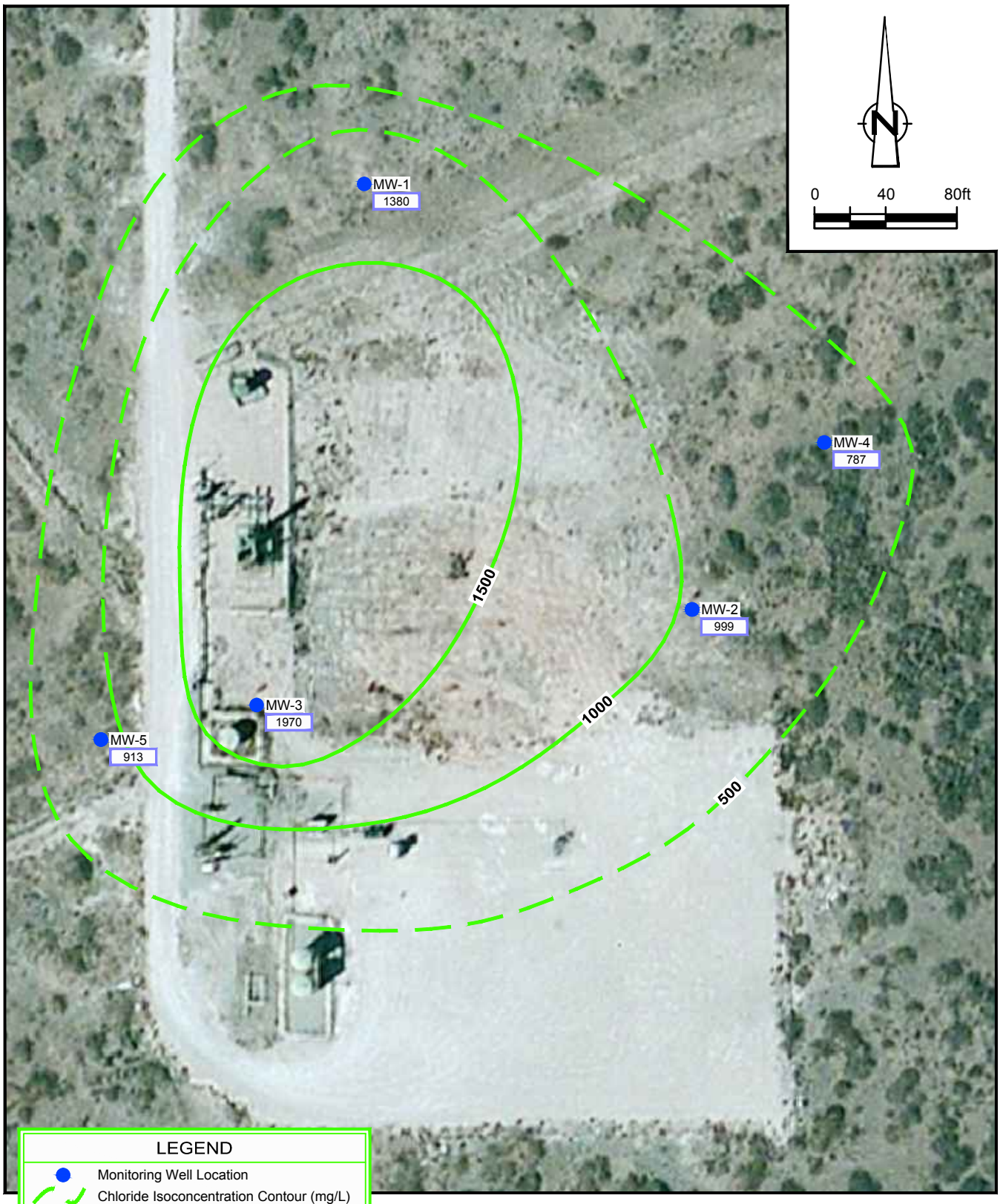


Figure 7

JANUARY 2014 CHLORIDE CONCENTRATION MAP
GOURLEY FEDERAL #3
EDDY COUNTY, NEW MEXICO
Unit Petroleum Company

082612-00(003)GN-DL001 MAR 12/2014

Tables

Table 1
Soil Analytical Summary
Gourley Federal #3
Eddy County, New Mexico

Well ID	*Sample ID*	*Sample Date*	*TPH-GRO (mg/kg)*	*TPH-DRO (mg/kg)*	*TPH-ORO (mg/kg)*	*TPH Total (mg/kg)*	*Chloride (mg/kg)*
MW-4	SS-082612-100113-CK-MW-4-35	10/1/2013	< 26.5	< 26.5	< 26.5	< 26.5	59.7
	SS-082612-100113-CK-MW-4-60	10/1/2013	< 30.1	< 30.1	< 30.1	< 30.1	136
	SS-082612-100113-CK-MW-4-70	10/1/2013	< 30.9	< 30.9	< 30.9	< 30.9	131
MW-5	SS-082612-100213-CK-MW-5-10	10/2/2013	< 27.5	< 27.5	< 27.5	< 27.5	845
	SS-082612-100213-CK-MW-5-60	10/2/2013	< 29.8	< 29.8	< 29.8	< 29.8	128
	SS-082612-100213-CK-MW-5-70	10/2/2013	< 29.6	< 29.6	< 29.6	< 29.6	97.5

Table 2
Monitoring Well Specifications and Groundwater Elevations
Vacuum Glorietta East Unit
Lea County, New Mexico

Well ID	*Total Depth (ft below TOC)*	*Top of Casing Elevation**	*Screen Interval (ft bgs)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level (ft)*
MW-1	55	3069.33	--	10/2/2013	49.63	3019.70
				1/29/2014	49.62	3019.71
MW-2	60	3067.84	--	10/2/2013	48.02	3019.82
				1/29/2014	47.99	3019.85
MW-3	60	3068.67	--	10/2/2013	49.65	3019.02
				1/29/2014	49.53	3019.14
MW-4	75	3067.44	55 - 75	10/2/2013	47.15	3020.29
				1/29/2014	47.16	3020.28
MW-5	70	3068.20	50 - 70	10/2/2013	--	--
				1/29/2014	49.75	3018.45

Appendix A

Boring Logs

Table 3
Groundwater Analytical Summary
Gourley Federal #3
Eddy County, New Mexico

Well ID	*Sample ID*	*Sample Date*	*Chloride (mg/L)*	*TDS (mg/L)*
MW-1	MW-1	2/25/2009	**3220**	**7800**
	MW-1	6/27/2009	**4140**	**10000**
	MW-1	7/1/2010	**5310**	**13000**
	MW-1	10/23/2012	**3910**	**8340**
	MW-1	2/7/2013	**1770**	**5810**
	GW-082612-100213-CK-MW-1	10/2/2013	**1420**	**4910**
	GW-082612-012914-CK-MW-1	1/29/2014	**1380**	**4600**
MW-2	MW-2	6/27/2009	**1110**	**3960**
	MW-2	7/1/2010	**983**	**4070**
	MW-2	10/23/2012	**944**	**4020**
	MW-2	2/7/2013	**956**	**4290**
	GW-082612-100213-CK-MW-2	10/2/2013	**1030**	**4060**
	GW-082612-012914-CK-MW-2	1/29/2014	**999**	**2950**
MW-3	MW-3	6/27/2009	**1270**	**4030**
	MW-3	7/1/2010	**1250**	**4160**
	MW-3	10/23/2012	**1540**	**4840**
	MW-3	2/7/2013	**1540**	**4980**
	GW-082612-100213-CK-MW-3	10/2/2013	**1890**	**5620**
	GW-082612-012914-CK-MW-3	1/29/2014	**1970**	**6240**
MW-4	GW-082612-100313-CK-MW-4	10/3/2013	**767**	**3500**
	GW-082612-012914-CK-MW-4	1/29/2014	**787**	**3340**
MW-5	GW-082612-100313-CK-MW-5	10/3/2013	**682**	**3280**
	GW-082612-012914-CK-MW-5	1/29/2014	**913**	**3500**
NMWQCC Groundwater Quality Standards			**250**	**1000**

Notes:

NMWQCC = New Mexico Water Quality Control Commission

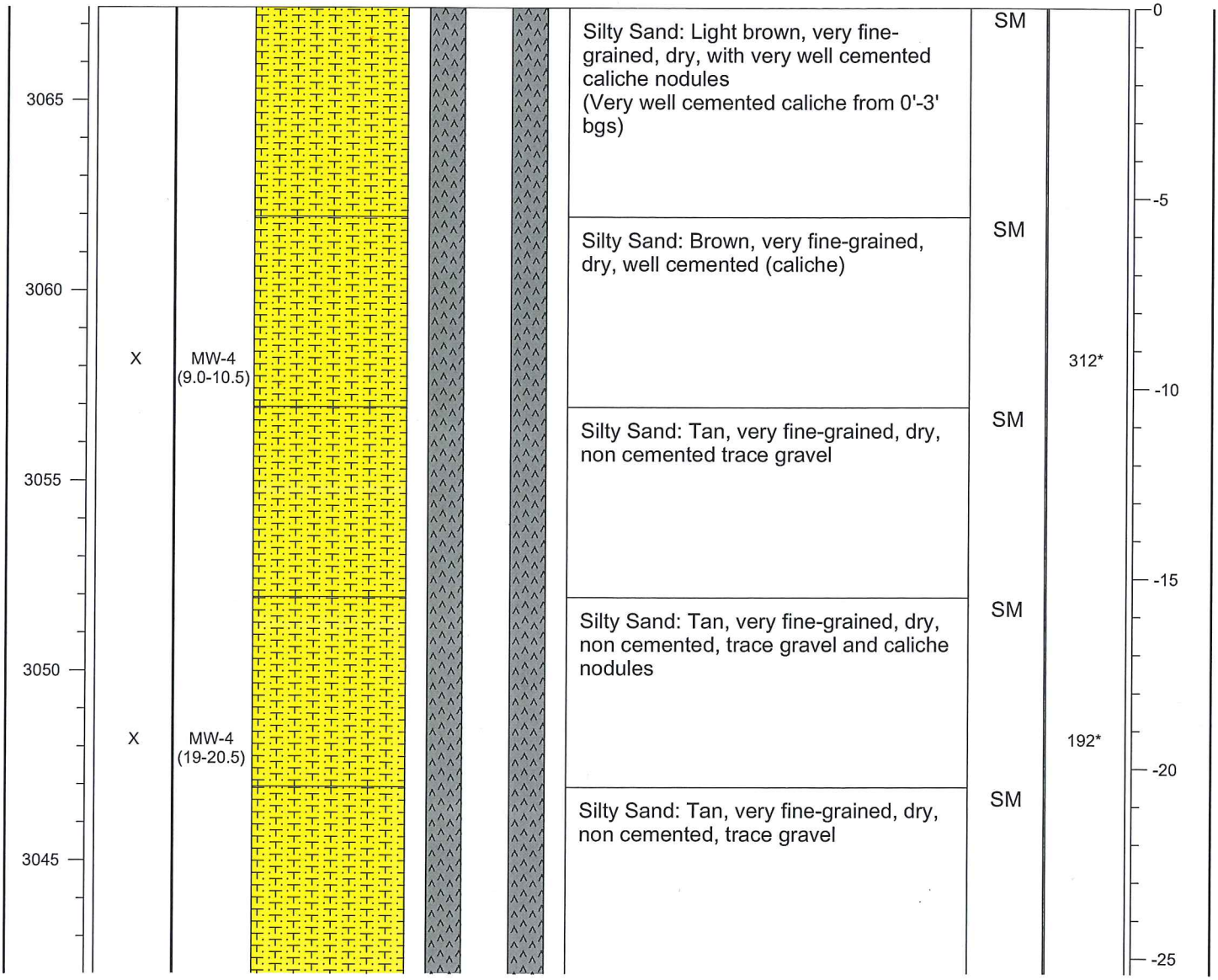
mg/L = milligrams per liter (parts per million)

< 0.001 = Below Laboratory Detection Limit of 0.001 mg/L

< = Below Laboratory Detection Limit

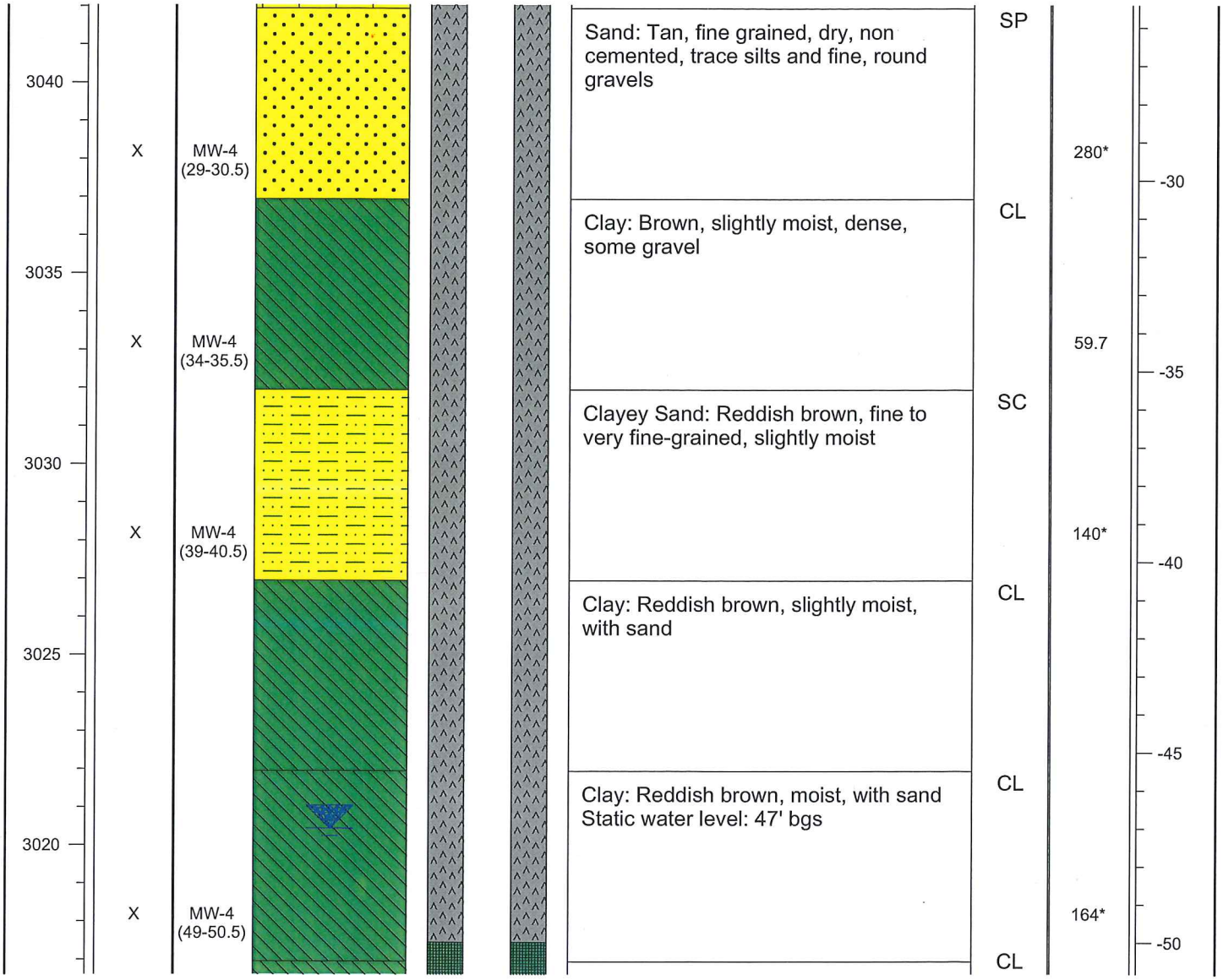
BOLD = Concentrations that exceed the NMWQCC groundwater quality standard

PROJECT NAME: Gourley Fed #3	SOIL BORING NO: MW-4
LOCATION: Eddy County, New Mexico	DRILL TYPE: Hollow Stem Auger
FIELD LOGGED BY: Cale Kanack	
SURFACE ELEVATION (msl): 3067.44 feet	BORE HOLE DIAMETER: 7 7/8 inches
GROUNDWATER ELEVATION (msl): 47 feet	DRILLED BY: Enviro-Drill, Inc.
REMARKS: Blue arrow = static groundwater level Red arrow = first groundwater encounter	DATE/TIME HOLE STARTED: October 1, 2013 at 0845
COORDINATES: 32.36709, -104.08618	DATE/TIME HOLE COMPLETED: October 1, 2013 at 1425



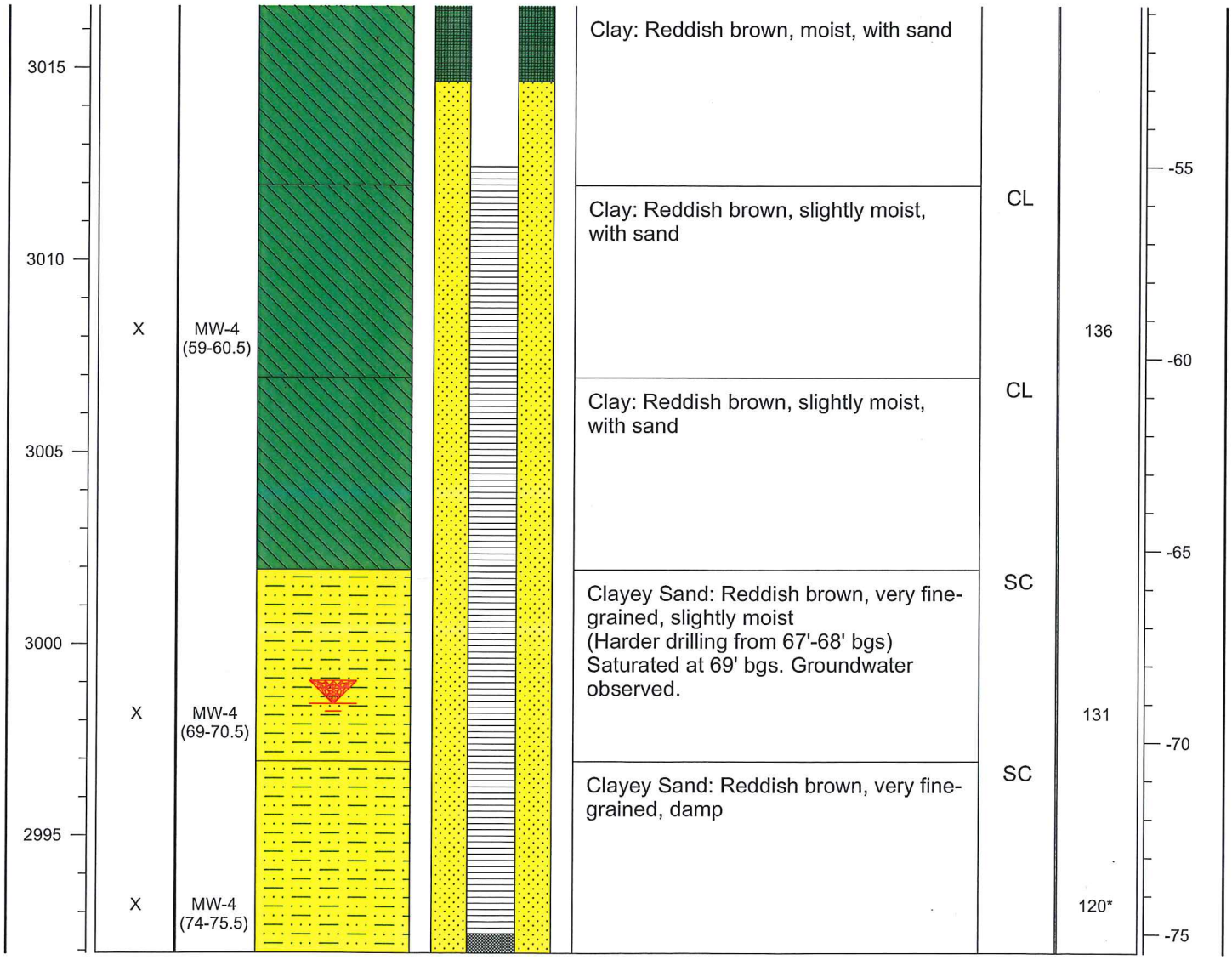
PROJECT NAME: Gourley Fed #3
LOCATION: Eddy County, New Mexico
FIELD LOGGED BY: Cale Kanack
SURFACE ELEVATION (msl): 3067.44 feet
GROUNDWATER ELEVATION (msl): 47 feet
REMARKS: Blue arrow = static groundwater level
Red arrow = first groundwater encounter
COORDINATES: 32.36709, -104.08618

SOIL BORING NO: MW-4
DRILL TYPE: Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8 inches
DRILLED BY: Enviro-Drill, Inc.
DATE/TIME HOLE STARTED: October 1, 2013 at 0845
DATE/TIME HOLE COMPLETED: October 1, 2013 at 1425



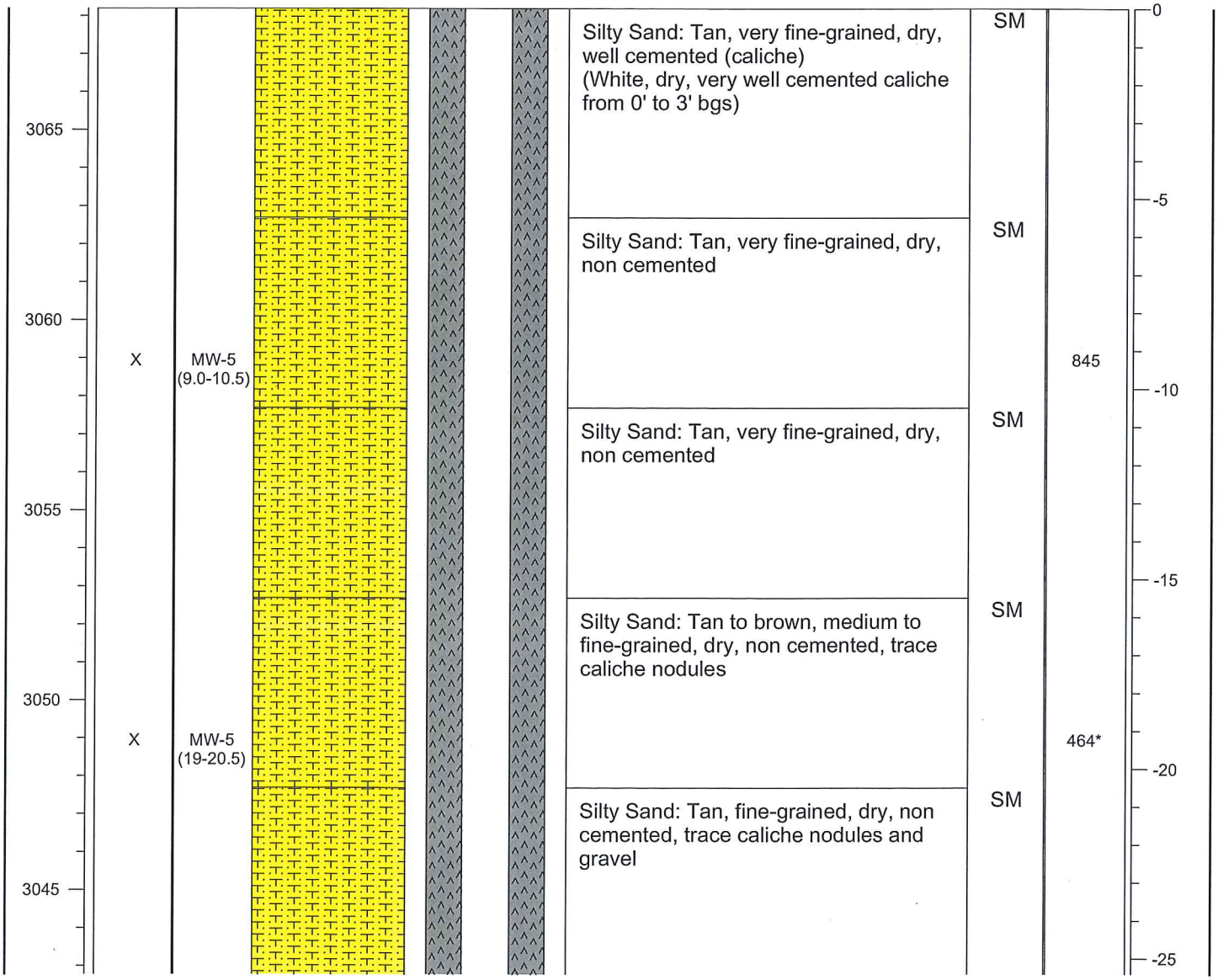
PROJECT NAME: Gourley Fed #3
LOCATION: Eddy County, New Mexico
FIELD LOGGED BY: Cale Kanack
SURFACE ELEVATION (msl): 3067.44 feet
GROUNDWATER ELEVATION (msl): 47 feet
REMARKS: Blue arrow = static groundwater level
Red arrow = first groundwater encounter
COORDINATES: 32.36709, -104.08618

SOIL BORING NO: MW-4
DRILL TYPE: Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8 inches
DRILLED BY: Enviro-Drill, Inc.
DATE/TIME HOLE STARTED: October 1, 2013 at 0845
DATE/TIME HOLE COMPLETED: October 1, 2013 at 1425



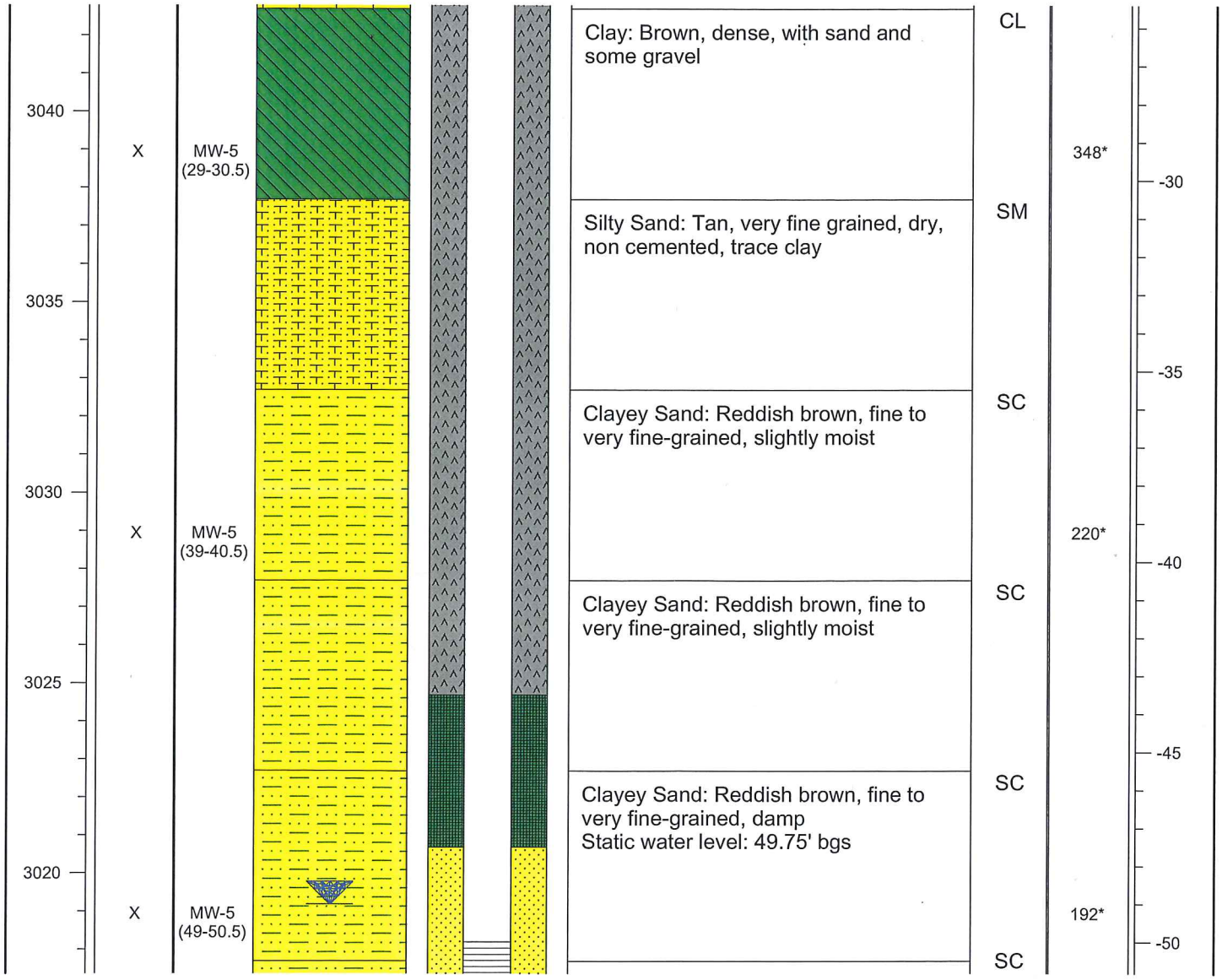
PROJECT NAME: Gourley Fed #3
LOCATION: Eddy County, New Mexico
FIELD LOGGED BY: Cale Kanack
SURFACE ELEVATION (msl): 3068.20 feet
GROUNDWATER ELEVATION (msl): 49 feet
REMARKS: Blue arrow = static groundwater level
Red arrow = first groundwater encounter
COORDINATES: 32.36663, -104.08750

SOIL BORING NO: MW-5
DRILL TYPE: Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8 inches
DRILLED BY: Enviro-Drill, Inc.
DATE/TIME HOLE STARTED: October 2, 2013 at 0810
DATE/TIME HOLE COMPLETED: October 2, 2013 at 1145



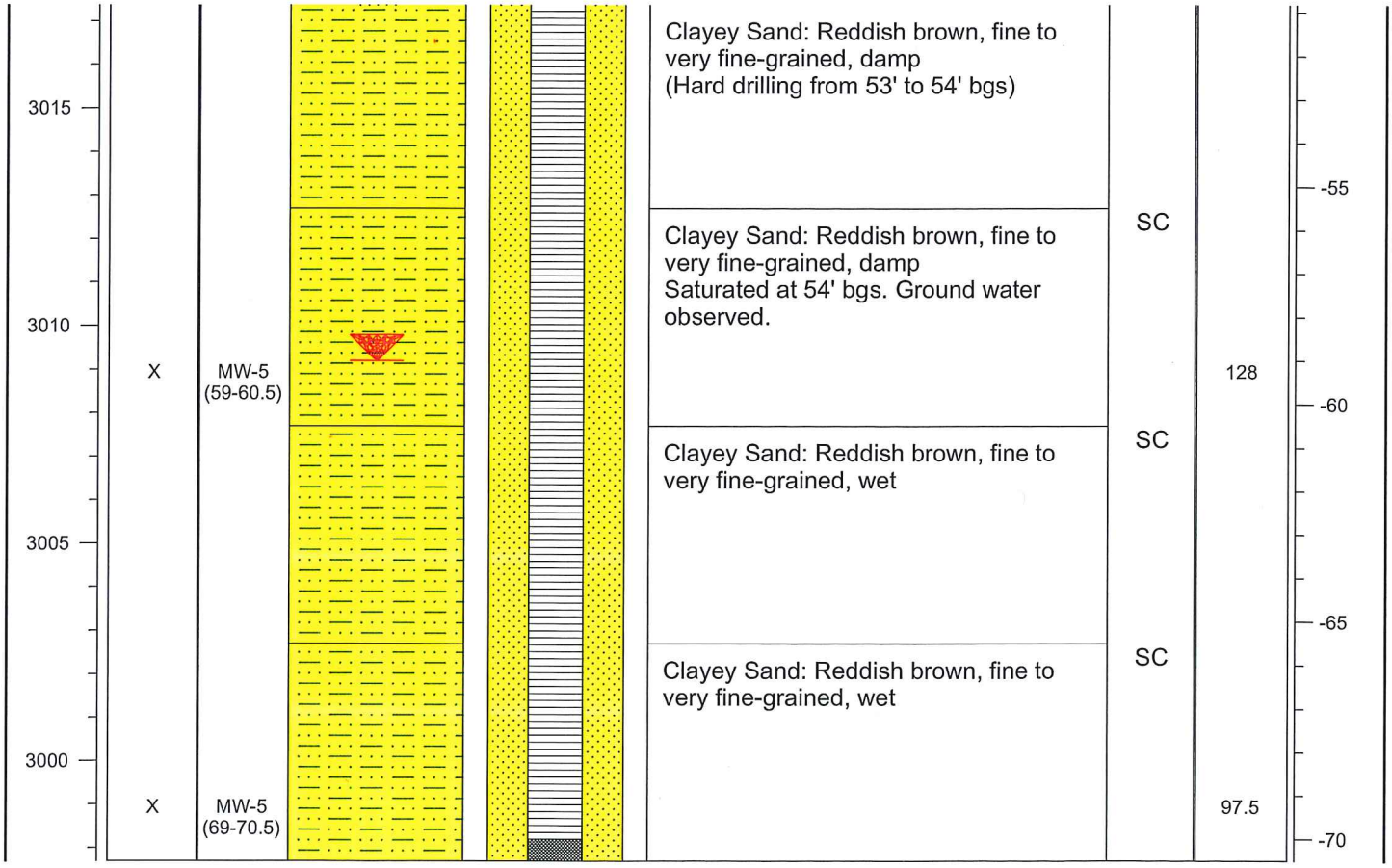
PROJECT NAME: Gourley Fed #3
LOCATION: Eddy County, New Mexico
FIELD LOGGED BY: Cale Kanack
SURFACE ELEVATION (msl): 3068.20 feet
GROUNDWATER ELEVATION (msl): 49 feet
REMARKS: Blue arrow = static groundwater level
Red arrow = first groundwater encounter
COORDINATES: 32.36663, -104.08750

SOIL BORING NO: MW-5
DRILL TYPE: Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8 inches
DRILLED BY: Enviro-Drill, Inc.
DATE/TIME HOLE STARTED: October 2, 2013 at 0810
DATE/TIME HOLE COMPLETED: October 2, 2013 at 1145



PROJECT NAME: Gourley Fed #3
LOCATION: Eddy County, New Mexico
FIELD LOGGED BY: Cale Kanack
SURFACE ELEVATION (msl): 3068.20 feet
GROUNDWATER ELEVATION (msl): 49 feet
REMARKS: Blue arrow = static groundwater level
Red arrow = first groundwater encounter
COORDINATES: 32.36663, -104.08750

SOIL BORING NO: MW-5
DRILL TYPE: Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8 inches
DRILLED BY: Enviro-Drill, Inc.
DATE/TIME HOLE STARTED: October 2, 2013 at 0810
DATE/TIME HOLE COMPLETED: October 2, 2013 at 1145



Appendix B

Analytical Results

Analytical Report 471653

for

Conestoga-Rovers & Associates-Albuquerque, NM

Project Manager: Bernie Bockisch

Gourley Fed #3

082612

11-OCT-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-13-15-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

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

11-OCT-13

Project Manager: **Bernie Bockisch**
Conestoga-Rovers & Associates-Albuquerque, NM
6121 Indian School Rd. NE Suite 200

Albuquerque, NM 87110

Reference: XENCO Report No(s): **471653**
Gourley Fed #3
Project Address: Loving, NM

Bernie Bockisch:

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) 471653. 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. 471653 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 471653

Conestoga-Rovers & Associates-Albuquerque, NM, Albuqu

Gourley Fed #3

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-082612-100113-CK-MW-4-35	S	10-01-13 00:00		471653-001
SS-082612-100113-CK-MW-4-60	S	10-01-13 00:00		471653-002
SS-082612-100113-CK-MW-4-70	S	10-01-13 00:00		471653-003
SS-082612-100213-CK-MW-5-10	S	10-02-13 08:45		471653-004
SS-082612-100213-CK-MW-5-60	S	10-02-13 10:50		471653-005
SS-082612-100213-CK-MW-5-70	S	10-02-13 11:40		471653-006
GW-082612-100213-CK-MW-1	W	10-02-13 16:50		471653-007
GW-082612-100213-CK-MW-2	W	10-02-13 16:15		471653-008
GW-082612-100213-CK-MW-3	W	10-02-13 15:20		471653-009
GW-082612-100313-CK-MW-4	W	10-03-13 10:20		471653-010
GW-082612-100313-CK-MW-5	W	10-02-13 12:20		471653-011

Certificate of Analysis Summary 471653

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerque, NM

Project Name: Gourley Fed #3

Project Id: 082612
Contact: Bernie Bockisch
Project Location: Loving, NM

Date Received in Lab: Sat Oct-05-13 03:00 pm
Report Date: 11-OCT-13
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	471653-001		471653-002		471653-003		471653-004		471653-005		471653-006	
	Field Id:	SS-082612-100113-CK-MW		SS-082612-100113-CK-MW		SS-082612-100113-CK-MW		SS-082612-100213-CK-MW		SS-082612-100213-CK-MW		SS-082612-100213-CK-MW	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-01-13 00:00		Oct-01-13 00:00		Oct-01-13 00:00		Oct-02-13 08:45		Oct-02-13 10:50		Oct-02-13 11:40	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Oct-09-13 11:00		Oct-09-13 11:00		Oct-09-13 11:00		Oct-09-13 11:00		Oct-09-13 11:00		Oct-09-13 11:00	
	Analyzed:	Oct-10-13 11:14		Oct-10-13 11:37		Oct-10-13 11:59		Oct-10-13 12:23		Oct-10-13 13:08		Oct-10-13 13:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		59.7	10.6	136	12.0	131	12.4	845	22.0	128	11.9	97.5	11.9
Percent Moisture	***Extracted:***												
	Analyzed:	Oct-07-13 13:08		Oct-07-13 13:08		Oct-07-13 13:08		Oct-07-13 13:08		Oct-07-13 13:08		Oct-07-13 13:08	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		5.66	1.00	17.0	1.00	19.3	1.00	9.14	1.00	16.2	1.00	15.7	1.00
TPH by Texas1005	***Extracted:***	Oct-07-13 16:00		Oct-07-13 16:00		Oct-07-13 16:00		Oct-07-13 16:00		Oct-07-13 16:00		Oct-07-13 16:00	
	Analyzed:	Oct-07-13 20:16		Oct-07-13 20:42		Oct-07-13 21:10		Oct-07-13 21:38		Oct-07-13 22:04		Oct-07-13 22:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	26.5	ND	30.1	ND	30.9	ND	27.5	ND	29.8	ND	29.6
C12-C28 Diesel Range Hydrocarbons		ND	26.5	ND	30.1	ND	30.9	ND	27.5	ND	29.8	ND	29.6
C28-C35 Oil Range Hydrocarbons		ND	26.5	ND	30.1	ND	30.9	ND	27.5	ND	29.8	ND	29.6
Total TPH 1005		ND	26.5	ND	30.1	ND	30.9	ND	27.5	ND	29.8	ND	29.6

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 471653

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerque, NM

Project Name: Gourley Fed #3

Project Id: 082612
Contact: Bernie Bockisch
Project Location: Loving, NM

Date Received in Lab: Sat Oct-05-13 03:00 pm
Report Date: 11-OCT-13
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	471653-007		471653-008		471653-009		471653-010		471653-011	
	Field Id:	GW-082612-100213-CK-MW		GW-082612-100213-CK-MW		GW-082612-100213-CK-MW		GW-082612-100313-CK-MW		GW-082612-100313-CK-MW	
	Depth:										
	Matrix:	WATER		WATER		WATER		WATER		WATER	
	Sampled:	Oct-02-13 16:50		Oct-02-13 16:15		Oct-02-13 15:20		Oct-03-13 10:20		Oct-02-13 12:20	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Oct-08-13 18:40		Oct-08-13 19:25		Oct-08-13 19:48		Oct-08-13 20:10		Oct-08-13 20:33	
	Analyzed:	Oct-08-13 18:40		Oct-08-13 19:25		Oct-08-13 19:48		Oct-08-13 20:10		Oct-08-13 20:33	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Chloride		1420	50.0	1030	20.0	1890	50.0	767	20.0	682	20.0
TDS by SM2540C SUB: E871002	***Extracted:***										
	Analyzed:	Oct-08-13 18:28		Oct-08-13 18:28		Oct-08-13 18:28		Oct-08-13 18:28		Oct-08-13 18:28	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Total dissolved solids		4910	5.00	4060	5.00	5620	5.00	3500	5.00	3280	5.00

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation 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

Form 2 - Surrogate Recoveries

Project Name: Gourley Fed #3

Work Orders : 471653, **Project ID:** 082612

Lab Batch #: 924536 **Sample:** 471653-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/07/13 20:16

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	100	89	70-135	
o-Terphenyl	41.7	50.0	83	70-130	

Lab Batch #: 924536 **Sample:** 471653-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/07/13 20:42

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.4	99.9	89	70-135	
o-Terphenyl	43.4	50.0	87	70-130	

Lab Batch #: 924536 **Sample:** 471653-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/07/13 21:10

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.8	99.8	94	70-135	
o-Terphenyl	44.3	49.9	89	70-130	

Lab Batch #: 924536 **Sample:** 471653-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/07/13 21:38

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.1	99.9	93	70-135	
o-Terphenyl	43.7	50.0	87	70-130	

Lab Batch #: 924536 **Sample:** 471653-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/07/13 22:04

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.1	100	90	70-135	
o-Terphenyl	42.9	50.0	86	70-130	

* 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: Gourley Fed #3

Work Orders : 471653, **Project ID:** 082612

Lab Batch #: 924536 **Sample:** 471653-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/07/13 22:29

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.9	99.9	95	70-135	
o-Terphenyl	44.4	50.0	89	70-130	

Lab Batch #: 924536 **Sample:** 644987-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/07/13 19:51

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.5	100	90	70-135	
o-Terphenyl	42.1	50.0	84	70-130	

Lab Batch #: 924536 **Sample:** 644987-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/07/13 19:00

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	46.3	50.0	93	70-130	

Lab Batch #: 924536 **Sample:** 644987-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/07/13 19:25

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	44.3	50.0	89	70-130	

Lab Batch #: 924536 **Sample:** 471653-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/07/13 22:54

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	46.1	50.0	92	70-130	

* 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: Gourley Fed #3

Work Orders : 471653, **Project ID:** 082612

Lab Batch #: 924536 **Sample:** 471653-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/07/13 23:21

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.5	105	70-135	
o-Terphenyl	47.1	49.8	95	70-130	

* 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.

BS / BSD Recoveries

Project Name: Gourley Fed #3

Work Order #: 471653 **Project ID:** 082612

Analyst: AMB **Date Prepared:** 10/08/2013 **Date Analyzed:** 10/08/2013

Lab Batch ID: 924745 **Sample:** 645127-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<1.00	25.0	23.0	92	25.0	24.2	97	5	80-120	20	

Analyst: AMB **Date Prepared:** 10/09/2013 **Date Analyzed:** 10/09/2013

Lab Batch ID: 924725 **Sample:** 645107-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	48.4	97	50.0	48.3	97	0	80-120	20	

Analyst: ANS **Date Prepared:** 10/08/2013 **Date Analyzed:** 10/08/2013

Lab Batch ID: 924634 **Sample:** 924634-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TDS by SM2540C Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Total dissolved solids	<5.00	1000	937	94	1000	950	95	1	80-120	10	

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: Gourley Fed #3

Work Order #: 471653 **Project ID:** 082612

Analyst: ARM **Date Prepared:** 10/07/2013 **Date Analyzed:** 10/07/2013

Lab Batch ID: 924536 **Sample:** 644987-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by Texas1005 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<25.0	1000	848	85	1000	830	83	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<25.0	1000	759	76	1000	771	77	2	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: Gourley Fed #3

Work Order #: 471653

Lab Batch #: 924725 **Project ID:** 082612

Date Analyzed: 10/10/2013 **Date Prepared:** 10/09/2013 **Analyst:** AMB

QC- Sample ID: 471653-004 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	845	550	1780	170	80-120	X

Lab Batch #: 924725

Date Analyzed: 10/09/2013 **Date Prepared:** 10/09/2013 **Analyst:** AMB

QC- Sample ID: 471756-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	74.5	520	781	136	80-120	X

Lab Batch #: 924745

Date Analyzed: 10/08/2013 **Date Prepared:** 10/08/2013 **Analyst:** AMB

QC- Sample ID: 471641-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	161	250	442	112	80-120	

Lab Batch #: 924745

Date Analyzed: 10/08/2013 **Date Prepared:** 10/08/2013 **Analyst:** AMB

QC- Sample ID: 471653-007 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	1420	1250	2850	114	80-120	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Gourley Fed #3

Work Order # : 471653 **Project ID:** 082612

Lab Batch ID: 924536 **QC- Sample ID:** 471653-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/07/2013 **Date Prepared:** 10/07/2013 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by Texas1005 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	<29.7	1190	1030	87	1180	981	83	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<29.7	1190	912	77	1180	891	76	2	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

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

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.

Sample Duplicate Recovery

Project Name: Gourley Fed #3

Work Order #: 471653

Lab Batch #: 924531 **Project ID:** 082612

Date Analyzed: 10/07/2013 13:08 **Date Prepared:** 10/07/2013 **Analyst:** WRU

QC- Sample ID: 471653-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.66	5.20	8	20	

Lab Batch #: 924634

Date Analyzed: 10/08/2013 18:28 **Date Prepared:** 10/08/2013 **Analyst:** ANS

QC- Sample ID: 471644-002 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	557	561	1	10	

Lab Batch #: 924634

Date Analyzed: 10/08/2013 18:28 **Date Prepared:** 10/08/2013 **Analyst:** ANS

QC- Sample ID: 471653-010 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	3500	3340	5	10	

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

BRL - Below Reporting Limit

CHAIN OF CUSTODY RECORD 471653

COC NO.: 32547

PAGE 1 OF 1

(See Reverse Side for Instructions)

CONESTOGA-ROVERS & ASSOCIATES

Address: 6121 INDIAN SCHOOL NE, ALBUQUERQUE, NM 87120

Phone: 505-884-0672 Fax: _____

Project No/ Phase/Task Code: 082612	**Laboratory Name:** XENCO	**Lab Location:** ODESSA, TX	**SSOW ID:**
Project Name: GOURLEY FED #3	**Lab Contact:** KELSEY BROOKS	**Lab Quote No:**	**Cooler No:**
Project Location: LOVING, NM			**Carrier:**
Chemistry Contact: CHRIS KNIGHT			**Airbill No:**
Sampler(s): CALE KANACK			**Date Shipped:** 10-4-13

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd//yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	HCl	HNO_3	H_2SO_4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: Chlorides 300.0	TDS SM 2450C	TPH 8015	MS/MSD Request	Comments/ Special Instructions:
1	SS-082612-100113-CK-MW-4-35	10/1/13	NA	SO	G	X								1	X		X		EMAIL RESULTS
2	SS-082612-100113-CK-MW-4-60	10/1/13	NA	SO	G	X								1	X		X		TO
3	SS-082612-100113-CK-MW-4-70	10/1/13	NA	SO	G	X								1	X		X		BBOCKISCH @
4	SS-082612-100213-CK-MW-5-10	10/2/13	0845	SO	G	X								1	X		X		CRAWORLD.COM
5	SS-082612-100213-CK-MW-5-60	10/2/13	1050	SO	G	X								1	X		X		AND
6	SS-082612-100213-CK-MW-5-70	10/2/13	1140	SO	G	X								1	X		X		CKANACK @
7	GW-082612-100213-CK-MW-1	10/2/13	1650	WG	G	X								2	X	X			CRAWORLD.COM
8	GW-082612-100213-CK-MW-2	10/2/13	1615	WG	G	X								2	X	X			
9	GW-082612-100213-CK-MW-3	10/2/13	1520	WG	G	X								2	X	X			
10	GW-082612-100313-CK-MW-4	10/3/13	1020	WG	G	X								2	X	X			
11	GW-082612-100313-CK-MW-5	10/3/13	1220	WG	G	X								2	X	X			
12																			
13																			
14																			
15																			

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☒ Other: STD

Total Number of Containers: 16

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Cale Kanack	CRA	10-4-13	1130	1.			
2.				2.			
3.				3. [signature]	XENCO	10/5/13	15:00

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

Final 1.000

Page 15 of 16

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga-Rovers & Associates-Albuqu

Date/ Time Received: 10/05/2013 03:00:00 PM

Work Order #: 471653

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

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

Analyst:	PH Device/Lot#:

Checklist completed by: Candace James Date: 10/07/2013
Candace James

Checklist reviewed by: Kelsey Brooks Date: 10/07/2013
Kelsey Brooks

Analytical Report 478500

for

Conestoga-Rovers & Associates-Albuquerque, NM

Project Manager: Bernie Bockisch

Gourley Fed #3

082612

10-FEB-14

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

10-FEB-14

Project Manager: **Bernie Bockisch**
Conestoga-Rovers & Associates-Albuquerque, NM
6121 Indian School Rd. NE Suite 200

Albuquerque, NM 87110

Reference: XENCO Report No(s): **478500**
Gourley Fed #3
Project Address: Loving, NM

Bernie Bockisch:

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) 478500. 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. 478500 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 478500

Conestoga-Rovers & Associates-Albuquerque, NM, Albuqu

Gourley Fed #3

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GW-082612-012914-CK-MW-1	W	01-29-14 12:00		478500-001
GW-082612-012914-CK-MW-2	W	01-29-14 15:15		478500-002
GW-082612-012914-CK-MW-3	W	01-29-14 16:35		478500-003
GW-082612-012914-CK-MW-4	W	01-29-14 14:30		478500-004
GW-082612-012914-CK-MW-5	W	01-29-14 16:05		478500-005
GW-082612-012914-CK-DUP	W	01-29-14 00:00		478500-006

CASE NARRATIVE

Client Name: Conestoga-Rovers & Associates-Albuquerque, NM

Project Name: Gourley Fed #3

Project ID: *082612*
Work Order Number(s): *478500*

Report Date: *10-FEB-14*
Date Received: *01/30/2014*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-933558 Inorganic Anions by EPA 300/300.1
Chloride recovered above QC limits in the Matrix Spike.
Samples affected are: 478500-002, -005, -003, -004, -006, -001.
The Laboratory Control Sample for Chloride is within laboratory Control Limits

Certificate of Analytical Results 478500

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerq

Gourley Fed #3

Sample Id: **GW-082612-012914-CK-MW-1** Matrix: Water Date Received:01.30.14 11.30

Lab Sample Id: 478500-001 Date Collected: 01.29.14 12.00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: AMB % Moisture:

Analyst: AMB Date Prep: 02.06.14 14.15

Seq Number: 933558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1380**	50.0	mg/L	02.06.14 14.15		50

Analytical Method: TDS by SM2540C

Tech: KEB % Moisture:

Analyst: AMB

Seq Number: 933587 SUB: E871002

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total dissolved solids	TDS	**4600**	5.00	mg/L	02.04.14 16.00		1

Certificate of Analytical Results 478500

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerq

Gourley Fed #3

Sample Id: **GW-082612-012914-CK-MW-2** Matrix: Water Date Received:01.30.14 11.30

Lab Sample Id: 478500-002 Date Collected: 01.29.14 15.15

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: AMB % Moisture:

Analyst: AMB Date Prep: 02.06.14 14.38

Seq Number: 933558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**999**	100	mg/L	02.06.14 14.38		100

Analytical Method: TDS by SM2540C

Tech: KEB % Moisture:

Analyst: AMB

Seq Number: 933587 SUB: E871002

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total dissolved solids	TDS	**2950**	5.00	mg/L	02.04.14 16.00		1

Certificate of Analytical Results 478500

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerq

Gourley Fed #3

Sample Id: **GW-082612-012914-CK-MW-3** Matrix: Water Date Received:01.30.14 11.30

Lab Sample Id: 478500-003 Date Collected: 01.29.14 16.35

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: AMB % Moisture:

Analyst: AMB Date Prep: 02.06.14 15.01

Seq Number: 933558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1970**	100	mg/L	02.06.14 15.01		100

Analytical Method: TDS by SM2540C

Tech: KEB % Moisture:

Analyst: AMB

Seq Number: 933587 SUB: E871002

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total dissolved solids	TDS	**6240**	5.00	mg/L	02.04.14 16.00		1

Certificate of Analytical Results 478500

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerq

Gourley Fed #3

Sample Id: **GW-082612-012914-CK-MW-4** Matrix: Water Date Received:01.30.14 11.30

Lab Sample Id: 478500-004 Date Collected: 01.29.14 14.30

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: AMB % Moisture:

Analyst: AMB Date Prep: 02.06.14 15.23

Seq Number: 933558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**787**	50.0	mg/L	02.06.14 15.23		50

Analytical Method: TDS by SM2540C

Tech: KEB % Moisture:

Analyst: AMB

Seq Number: 933587 SUB: E871002

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total dissolved solids	TDS	**3340**	5.00	mg/L	02.04.14 16.00		1

Certificate of Analytical Results 478500

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerq

Gourley Fed #3

Sample Id: **GW-082612-012914-CK-MW-5** Matrix: Water Date Received:01.30.14 11.30

Lab Sample Id: 478500-005 Date Collected: 01.29.14 16.05

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: AMB % Moisture:

Analyst: AMB Date Prep: 02.06.14 15.46

Seq Number: 933558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**913**	50.0	mg/L	02.06.14 15.46		50

Analytical Method: TDS by SM2540C

Tech: KEB % Moisture:

Analyst: AMB

Seq Number: 933587 SUB: E871002

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total dissolved solids	TDS	**3500**	5.00	mg/L	02.04.14 16.00		1

Certificate of Analytical Results 478500

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerq

Gourley Fed #3

Sample Id: **GW-082612-012914-CK-DUP** Matrix: Water Date Received:01.30.14 11.30

Lab Sample Id: 478500-006 Date Collected: 01.29.14 00.00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: AMB % Moisture:

Analyst: AMB Date Prep: 02.06.14 16.54

Seq Number: 933558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**975**	50.0	mg/L	02.06.14 16.54		50

Analytical Method: TDS by SM2540C

Tech: KEB % Moisture:

Analyst: AMB

Seq Number: 933587 SUB: E871002

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total dissolved solids	TDS	**3360**	5.00	mg/L	02.04.14 16.00		1

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

QC Summary 478500

Conestoga-Rovers & Associates-Albuquerque, NM

Gourley Fed #3

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 933558 Matrix: Water Date Prep: 02.06.14
MB Sample Id: 650669-1-BLK LCS Sample Id: 650669-1-BKS LCSD Sample Id: 650669-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<1.00	25.0	24.2	97	24.5	98	80-120	1	20	mg/L	02.06.14 12:45	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 933558 Matrix: Water Date Prep: 02.06.14
Parent Sample Id: 478772-001 MS Sample Id: 478772-001 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	42.1	125	174	106	80-120	mg/L	02.06.14 13:53	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 933558 Matrix: Water Date Prep: 02.06.14
Parent Sample Id: 478813-001 MS Sample Id: 478813-001 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Chloride	256	125	411	124	80-120	mg/L	02.06.14 19:10	X

Analytical Method: **TDS by SM2540C**
Seq Number: 933587 Matrix: Water
MB Sample Id: 933587-1-BLK LCS Sample Id: 933587-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Total dissolved solids	<5.00	1000	1040	104	80-120	mg/L	02.04.14 16:00	

Analytical Method: **TDS by SM2540C**
Seq Number: 933587 Matrix: Water
Parent Sample Id: 478500-006 MD Sample Id: 478500-006 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Total dissolved solids	3360	3710	10	10	mg/L	02.04.14 16:00	

CHAIN OF CUSTODY RECORD

COC NO.: 32877

PAGE 1 OF 1

(See Reverse Side for Instructions)

CONESTOGA-ROVERS & ASSOCIATES

478500

Address: 6121 INDIAN SCHOOL NE, STE 200, ABQ, NM 87110

Phone: 505-884-0672 Fax: _____

Project No/ Phase/Task Code: 082612	Laboratory Name: XENCO	Lab Location: ODESSA, TX	SSOW ID:
Project Name: GOURLEY FED #3	Lab Contact: KELSEY BROOKS	Lab Quote No:	Cooler No:
Project Location: EDDY CO., NM			Carrier:
Chemistry Contact: CHRIS KNIGHT			Airbill No:
Sampler(s): CALE KANACK			Date Shipped: 1/30/14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	HCl	HNO_3	H_2SO_4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: Chlorides-300.0	TDS sm2540C	MS/MSD Request	Comments/ Special Instructions:
1	GW-082612-012914-CK-MW-1	1/29/14	1200	WG	G	X									X	X		
2	GW-082612-012914-CK-MW-2	1/29/14	1515	WG	G	X									X	X		
3	GW-082612-012914-CK-MW-3	1/29/14	1635	WG	G	X									X	X		
4	GW-082612-012914-CK-MW-4	1/29/14	1430	WG	G	X									X	X		
5	GW-082612-012914-CK-MW-5	1/29/14	1605	WG	G	X									X	X		
6	GW-082612-012914-CK-DUP	1/29/14	—	WG	G	X									X	X		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☒ Other: STD

Total Number of Containers: 6

All Samples in Cooler must be on COC

Notes/ Special Requirements: 3.0°C

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	[signature]	CRA	1-30-14	1130	1. [signature]	Xenco Mail Serv.	1-30-14	1129
2.					2. Bill Rhuman	Xenco	1.31.14	11:27
3.					3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga-Rovers & Associates-Albuqu

Date/ Time Received: 01/30/2014 11:30:00 AM

Work Order #: 478500

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

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

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 01/31/2014

Checklist reviewed by: Kelsey Brooks Date: 01/31/2014