1R – 394-1

2013 AGWMR

FEB 2014

Luke Welch
Project Manager

Upstream Business Unit
Environmental Management Company
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August 19, 2014

Mr. Glenn von Gonten
Senior Hydrologist
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Lovington Unit Water Plant

Dear Mr. Von Gonten,

Please find enclosed for your files, a copy of the report for the Lovington Water Plant project site (1RP-394-1):

- *2013 Annual Groundwater Monitoring Report, Lovington Unit Water Plant, Section 1 – Township 17 South – Range 36 East, Lea County, NM*

This report was prepared by Conestoga-Rovers & Associates (CRA) on behalf of Chevron Environmental Management Company (CEMC) to document groundwater monitoring activities performed for CEMC during calendar year 2013. Historical groundwater monitoring data are also included in the reports.

Should you have any questions regarding the content of the report, please do not hesitate to contact me by phone at 713-372-0292 or via e-mail at luke.welch@chevron.com.

Sincerely,

Luke Welch
Environmental Project Manager

2013 ANNUAL GROUNDWATER MONITORING REPORT

LOVINGTON WATER UNIT PLANT
SECTION 1, TOWNSHIP 17 SOUTH, RANGE 36 EAST
LEA COUNTY, NEW MEXICO
OCD NO. 1RP-394-1

Prepared For:

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FEBRUARY 2014
REF. NO. 073016 (4)

2013 ANNUAL GROUNDWATER MONITORING REPORT

LOVINGTON WATER UNIT PLANT
SECTION 1, TOWNSHIP 17 SOUTH, RANGE 36 EAST
LEA COUNTY, NEW MEXICO
OCD NO. 1RP-394-1

Prepared For:

Chevron Environmental Management Company

SUBMITTED BY:
Conestoga-Rovers & Associates

Nancy Forster, Project Manager

Joe Cruseturner, Principal

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Section 1.0 Introduction

Conestoga-Rovers & Associates, Inc. (CRA) has prepared this report, on behalf of Chevron Environmental Management Company (CEMC), summarizing quarterly groundwater monitoring activities conducted in 2013. The Lovington Unit Water Plant Site (Site) is located in the northeast quarter of Section 1, Township 17 South, Range 36 East in Lea County, New Mexico. Latitude and longitude coordinates for the Site are 32° 52' 3.77" N and 103° 18' 20.39" W, respectively. The Site lies on land owned by the City of Lovington, New Mexico. Chevron operates an active water injection facility on the Site related to oil production. A map showing the general location of the Site is in Figure 1.

Section 2.0 Background

The City of Lovington requested that Chevron assess chloride concentrations in the groundwater between the Lovington Unit Water Plant (Site) and the location of a surface release from a salt water disposal pipeline operated by Rice Operating Company. The release occurred in 2000, approximately 700 feet southeast of the Lovington Unit Water Plant Site. Based on the potentiometric surface at the Site, the release site is downgradient with respect to the Site. Details as to the date of the release, volume released, and volume recovered are not available.

Four monitor wells, MW-1 through MW-4 were installed in January 2010 as part of the original assessment of the Site. Soil analytical results indicated low chloride concentrations in soil penetrated by MW-1 through MW-3, while higher concentrations of chlorides were present in soil penetrated by MW-4. Groundwater from all four wells was sampled in January and February 2010. Chloride and total dissolved solids (TDS) in groundwater samples collected from MW-1 through MW-3 exceeded groundwater standards set by the New Mexico Water Quality Control Commission (NMWQCC) set forth in New Mexico Administrative Code (NMAC) Section 20.6.2.3103B. Both chloride and TDS in groundwater from MW-4 were below those standards in both samples collected in 2010. Results of the investigation were reported to CEMC by Stantec in June 2010. CRA was retained by CEMC to manage monitoring activities at this Site in November 2010. Quarterly monitoring was conducted in 2011. Additional monitor wells, MW-5 through MW-8 were installed in February and March 2012 to further assess the dissolved chloride plume. All eight monitor wells were gauged and sampled on a quarterly basis during 2013.

Section 3.0 Regulatory framework

The New Mexico Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department (NMOCD) has regulatory jurisdiction over corrective actions conducted at the Site. Corrective actions follow guidance given by the NMOCD in *Guidelines for Remediation of Leaks, Spills,*

and Releases (August 13, 1993). These guidelines require remediation of groundwater to the human health standards of the New Mexico Water Quality Control Commission (NMWQCC**)** that are in the following table.

Analyte	***NMWQCC Standard for Domestic Water Supply (mg/L)***
Chloride	250.0
Total Dissolved Solids	1000.0

Section 4.0 Groundwater Monitoring

The Site includes eight active monitor wells, MW-1 through MW-8. The well locations are shown on Figure 2. The eight monitor wells were gauged and sampled on a quarterly basis during 2013. The monitoring events took place on January 17-19, April 18-20, July 18-19, and October 17-21, 2013.

4.1 Field Methodology

Fluid levels were measured and conductivity profiles were determined in each well before sampling activities began. Fluid levels were measured to the nearest hundredth of a foot with an electronic water level meter with a built-in conductivity sensor. The fluid levels were measured from the mark at the top of the casing in each well or from the north side of the top of the casing where no permanent reference point had been marked.

The conductivity profile of each well was determined by recording measurements of conductivity of the water column at intervals of five feet from the top of the water column to the total depth of each well. The purging and sampling pump was set at the depth of the highest conductivity reading in each well. Temperature, conductivity, and pH were monitored with a YSI 556 MP meter during purging, which continued until all parameters were within specified limits. Samples were collected, labeled and recorded on a chain-of-custody form and placed on ice in a cooler to maintain a temperature of 40°F (4°C) or lower. Field equipment was decontaminated with Alconox™ wash and distilled water rinse before beginning field activities and between wells. Samples of groundwater were analyzed by Xenco Laboratories in Odessa, Texas. Proper chain-of-custody documentation was maintained throughout sampling. Analyses were completed within required holding times.

Samples collected during 2013 were analyzed for dissolved chloride according to method EPA300.0 and for total dissolved solids (TDS) by method SM2540C.

4.2 Potentiometric Surface and Gradient

Fluid level measurements collected during 2013 are presented in Table 1. A cumulative summary of groundwater elevations at the Site is included in Appendix A. Elevations for the top of casings in wells are expressed in feet above mean sea level (famsl). Computed elevations of the potentiometric surface are also indicated in famsl.

The calculated elevations of the potentiometric surface measured on January 17 ranged from 3726.30 (MW-8) to 3729.04 (MW-4) famsl. The measured depth to the water table in MW-1 was deemed erroneous and not used in contouring or calculation of the gradient. The potentiometric surface map generated from the January 2013 event is shown in Figure 3. It indicates that the overall groundwater flow direction was to the northeast over the majority of the Site. There is a component of groundwater flow to the southeast in the northern portion of the Site. The calculated gradient for the January 2013 event was 0.0059 feet/feet (ft/ft).

Groundwater elevations measured on April 18-19 ranged from 3726.13 (MW-8) to 3729.17 (MW-4) famsl. The potentiometric surface map for the April 2013 event is shown in Figure 4. This map indicates that the groundwater flow direction is to the east with a calculated gradient of 0.0035 ft/ft.

The groundwater elevations, measured on July 18, ranged from 3725.85 (MW-8) to 3728.72 (MW-4) famsl. The potentiometric surface map for the third monitoring event is shown in Figure 5. The map indicates that the groundwater flow direction is to the east-northeast with a calculated gradient of 0.0036 ft/ft.

Groundwater elevations measured on October 17 ranged from 3725.85 (MW-8) to 3728.77 (MW-4) famsl. The potentiometric surface map for the October 2013 event is shown in Figure 6. The map indicates that the groundwater flow direction was again to the east-northeast with a calculated gradient of 0.0034 ft/ft.

Groundwater elevations declined in all eight monitoring events between December 19, 2012 and October 17, 2013. The decrease in groundwater elevations ranged from 0.34 foot to 0.86 foot. The average decrease in groundwater elevations was 0.63 foot. The direction of groundwater flow was relatively consistent between each 2013 quarterly monitoring event and with historical groundwater flow data.

4.3 Groundwater Results

Groundwater samples were collected from wells MW-1 through MW-8 during each quarterly monitoring event in 2013. The analytical results for groundwater samples collected during the 2013 monitoring events are summarized in Table 2. A cumulative table of historical groundwater analytical results for the

Site is provided in Appendix B. Analytical results for the January, April, July, and October 2013 monitoring events are shown on Figures 7, 8, 9, and 10, respectively.

Dissolved chloride and TDS were present at concentrations above the NMWQCC standards for each constituent in groundwater from monitor wells MW-1 through MW-3 consistently throughout 2013. The only exception occurred in the sample collected from MW-1 during the January 2013 monitoring event. Chloride or TDS was present in MW-6 at concentrations above the NMWQCC standards until the October 2013 monitoring event, when both chloride and TDS concentrations were observed below the NMWQCC standards. Dissolved chloride and TDS concentrations in MW-4, MW-5, MW-7, and MW-8 were below the NMWQCC standards during all 2013 monitoring events. Concentrations in these wells are shown to be stable or declining. Even though concentrations vary within the center of plume, as defined by MW-1 through MW-3, the plume boundary is stable as depicted on Figures 7 through 10.

Charts showing the trend of dissolved chloride and TDS concentrations versus time are presented in Appendix C. The analytical laboratory reports and associated chain-of-custodies are presented in Appendix D.

Section 5.0 Summary of Findings

Based on activities conducted at the Site in 2013, CRA presents the following summary of findings:

- Quarterly groundwater monitoring was conducted by CRA in 2013. Monitoring events were conducted on January 17-19, April 18-20, July 18-19, and October 17-21, 2013, during which calculated gradients of the potentiometric surface were 0.0059 ft./ft., 0.0035 ft./ft., 0.0036 ft./ft., and 0.0034 ft./ft., respectively. The groundwater flow direction observed during the 2013 monitoring events was variable, ranging from the east to northeast.
- Groundwater elevations decreased in all the wells between December 2012 and October 2013. The decrease in groundwater elevations ranged from 0.34 foot to 0.86 foot. The average decrease in groundwater elevations was 0.63 foot. The direction of groundwater flow was relatively consistent between each 2013 quarterly monitoring event and with historical groundwater flow data.
- Dissolved chloride and TDS were present in groundwater from monitor wells MW-1, MW-2, and MW-3 in concentrations consistently above the NMWQCC standards during all monitoring events in 2013, except for the sample collected from MW-1 during the January event.
- Dissolved chloride or TDS was present in MW-6 at concentrations above the NMWQCC standards during the first three quarterly monitoring events in 2013. Concentrations for both chloride and TDS were below the standards in MW-6 during the final quarterly event in 2013.

- Levels of dissolved chlorides and TDS in MW-4, MW-5, MW-7, and MW-8 were below NMWQCC standards during all 2013 monitoring events. Concentrations in these wells are shown to be stable or declining. Even though concentrations vary within the center of plume, as defined by MW-1 through MW-3, the plume boundary remained stable throughout 2013.

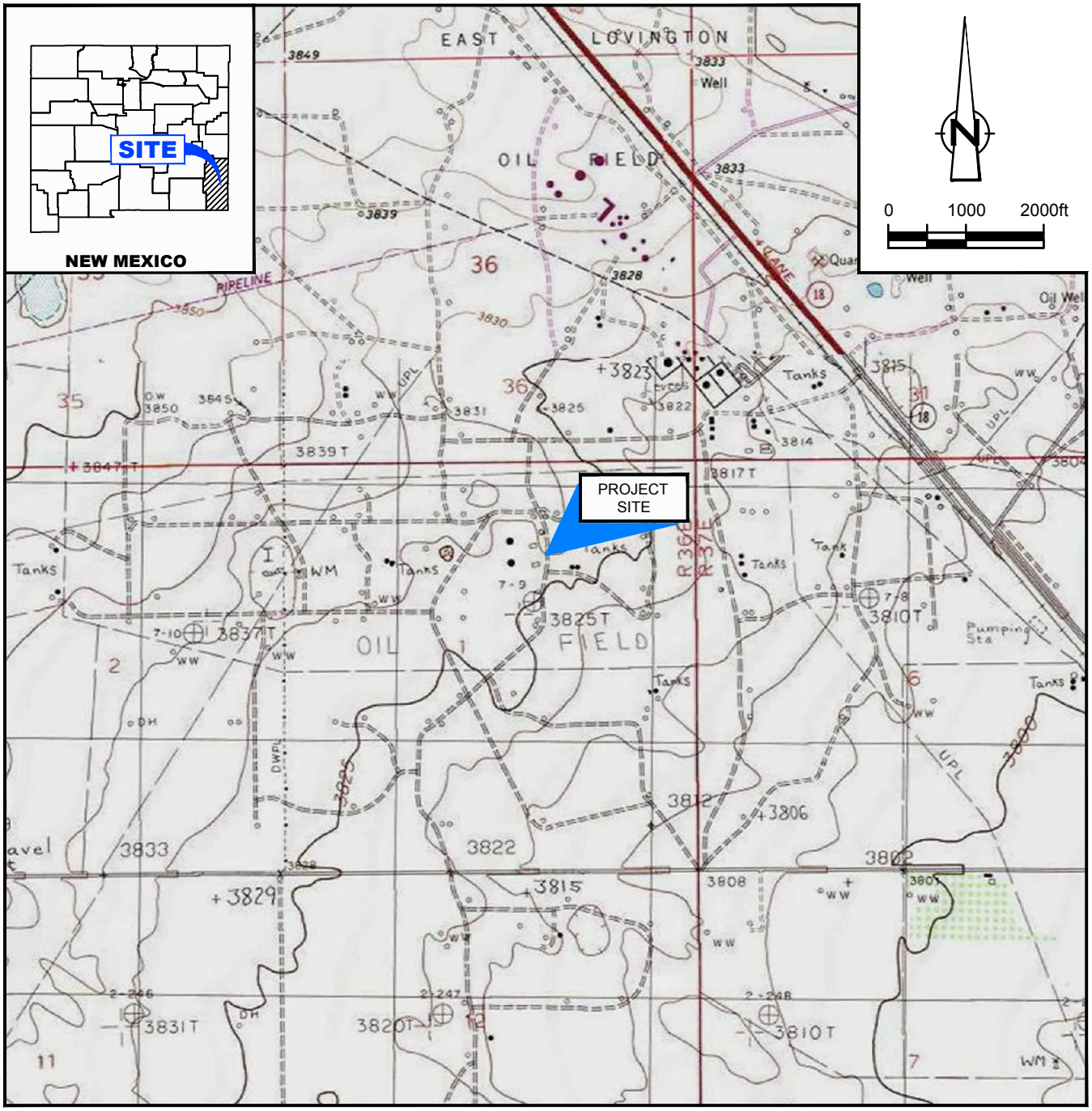
Section 6.0 Planned Activities

Based on the declining trends in COCs the Site, semi-annual gauging and sampling will be conducted in March and September 2014. All eight monitor wells have been included in the semi-annual monitoring plan. Monitoring will include measurements of fluid levels and collection of groundwater samples. Dissolved chloride and TDS continue to be the chemicals of concern (COCs) at the Site. Groundwater samples will be analyzed for dissolved chloride and TDS according to analytical methods EPA300.0 and SM2540C, respectively.

Results from the 2014 groundwater monitoring events will be summarized in the annual report for submission to the NMOCD and the City of Lovington, New Mexico. The report will include tabulated data from gauging activities; tabulated results of chemical analyses; maps of groundwater gradients and maps of constituents of concern for each monitoring event; and recommendations to expedite the Site toward closure.

The final design specification and estimated costs of replacing the existing waterflood supply well and incorporating the replacement into the existing waterflood distribution system are currently being generated and will be presented in March 2014 for review and approval by CEMC. Installation of the replacement well will commence upon approval. Extraction of groundwater from the proposed waterflood supply well in the vicinity of MW-3 is expected to remediate the chloride and TDS exceedances in groundwater.

FIGURES



SOURCE: USGS 7.5 MINUTE QUAD
"LOVINGTON SE AND LOVINGTON, NEW MEXICO"

LAT/LONG: 32.8681° NORTH, 103.3056° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

figure 1

SITE LOCATION MAP
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO

Chevron Environmental Management Company, Houston, Texas

073016-2013(004)GN-DL002 FEB 21/2014

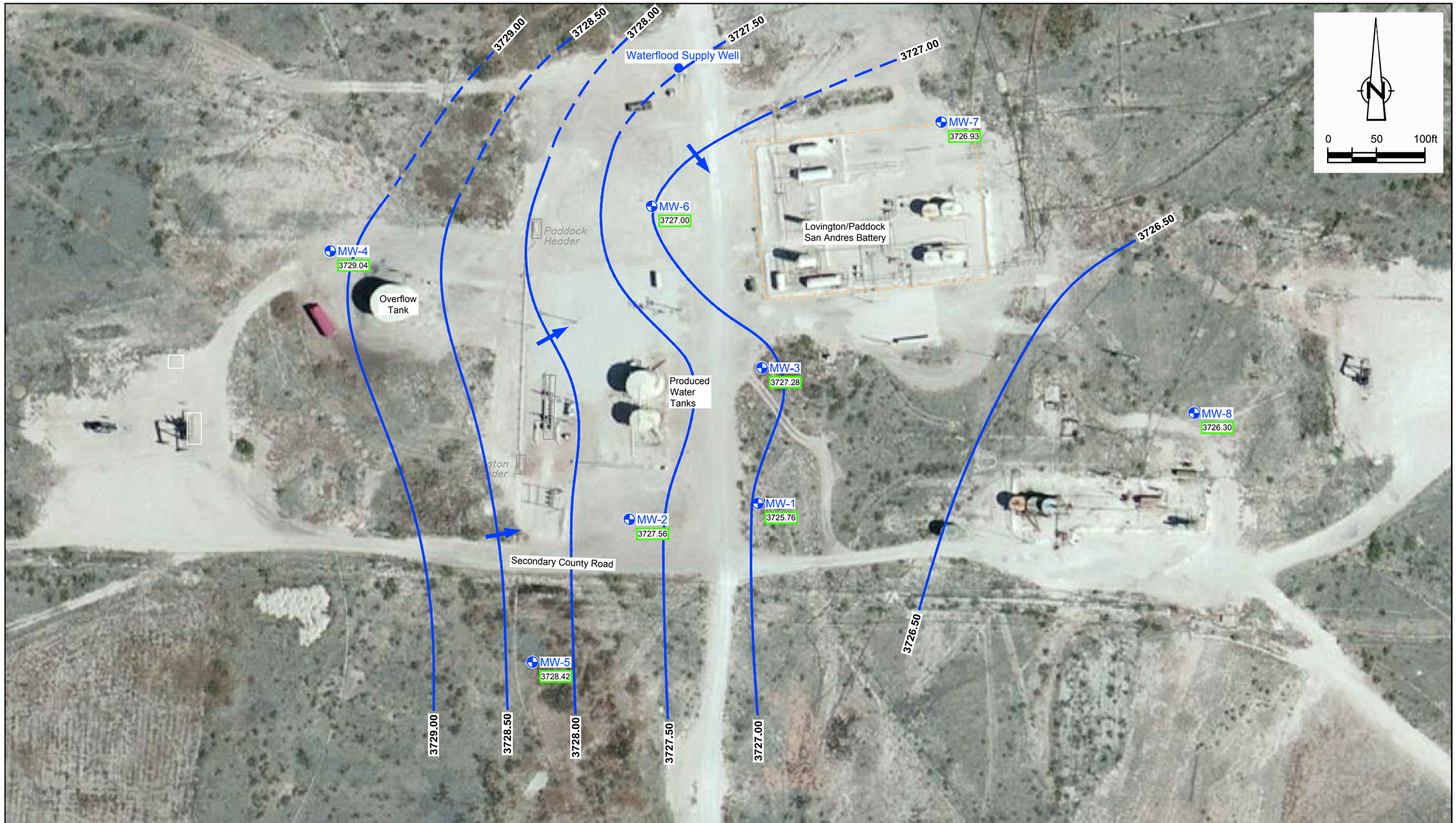
LEGEND

- Monitoring Well Location
- Waterflood Supply Well

figure 2

SITE DETAILS MAP
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company, Houston, Texas

073016-2013(004)GN-DL002 FEB 21/2014



LEGEND

- Monitoring Well Location
- Waterflood Supply Well
- Groundwater Elevation Contour (Interval = 0.50 ft)
- 3728.42 Elevation of Groundwater (ft)
- Direction Of Groundwater Flow

NOTES:

1. Groundwater gradient = 0.0059 ft/ft.
2. Calculated elevation at MW-1 was not used for contouring.
3. Groundwater measurements obtained on January 17, 2013.

figure 3

POTENTIOMETRIC SURFACE MAP - JANUARY 2013
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company, Houston, Texas

LEGEND

- Monitoring Well Location
- Waterflood Supply Well
- Groundwater Elevation Contour (Interval = 0.50 ft)
- 3728.37 Elevation of Groundwater (ft)
- Direction Of Groundwater Flow

NOTES:

1. Groundwater gradient = 0.0035 ft/ft.
2. Groundwater measurements obtained on April 18-19, 2013.

figure 4

POTENTIOMETRIC SURFACE MAP - APRIL 2013
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company, Houston, Texas

LEGEND

- Monitoring Well Location
- Waterflood Supply Well
- Groundwater Elevation Contour (Interval = 0.50 ft)
- 3728.26 Elevation of Groundwater (ft)
- Direction Of Groundwater Flow

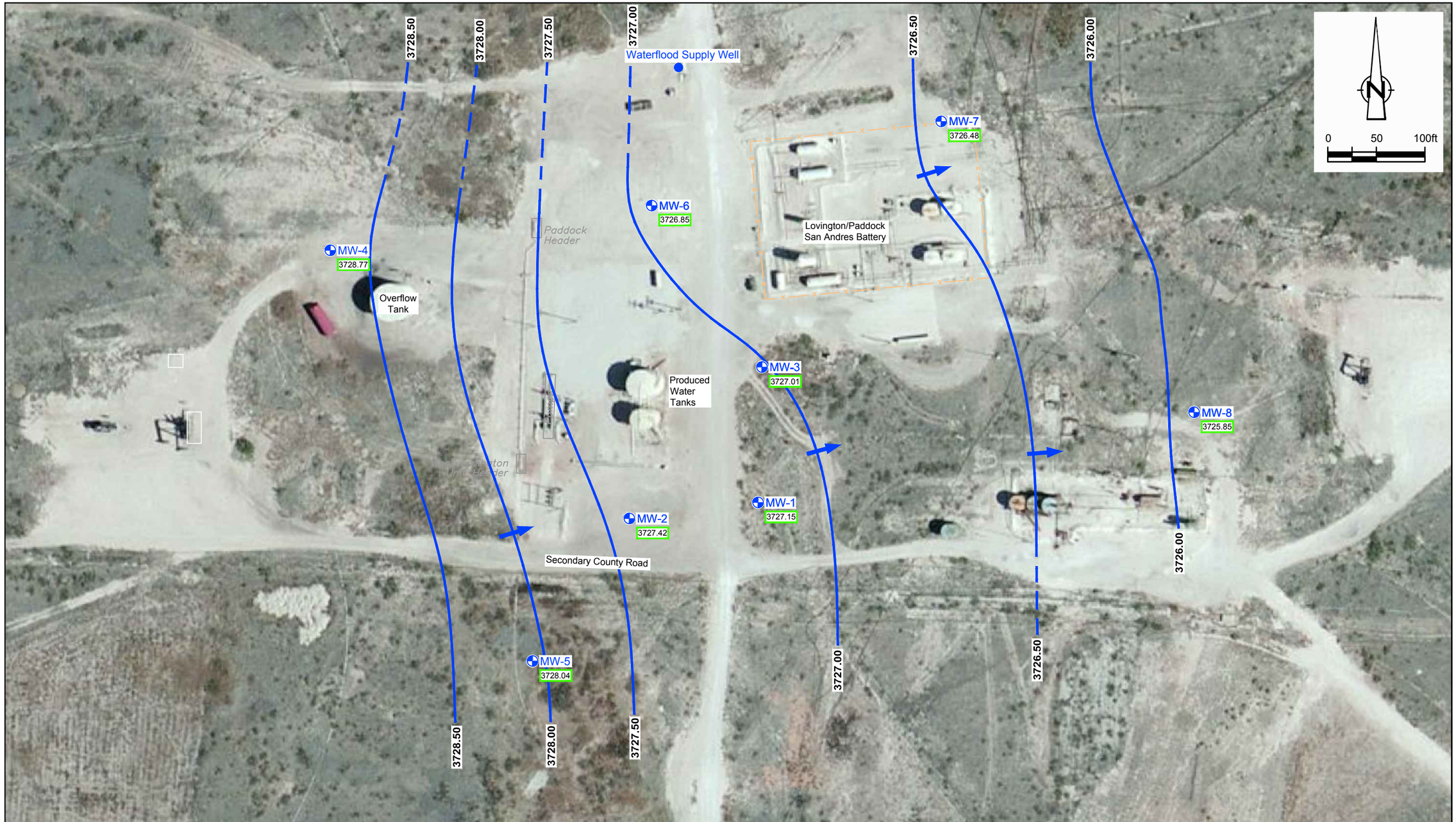
NOTES:

1. Groundwater gradient = 0.0036 ft/ft.
2. Groundwater measurements obtained on July 18, 2013.

figure 5

POTENTIOMETRIC SURFACE MAP - JULY 2013
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company, Houston, Texas

073016-2013(004)GN-DL002 FEB 21/2014



LEGEND

- Monitoring Well Location
- Waterflood Supply Well
- Groundwater Elevation Contour (Interval = 0.50 ft)
- 3728.04 Elevation of Groundwater (ft)
- Direction Of Groundwater Flow

NOTES:

1. Groundwater gradient = 0.0034 ft/ft.
2. Groundwater measurements obtained on October 17, 2013.

figure 6

POTENTIOMETRIC SURFACE MAP - OCTOBER 2013
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company, Houston, Texas

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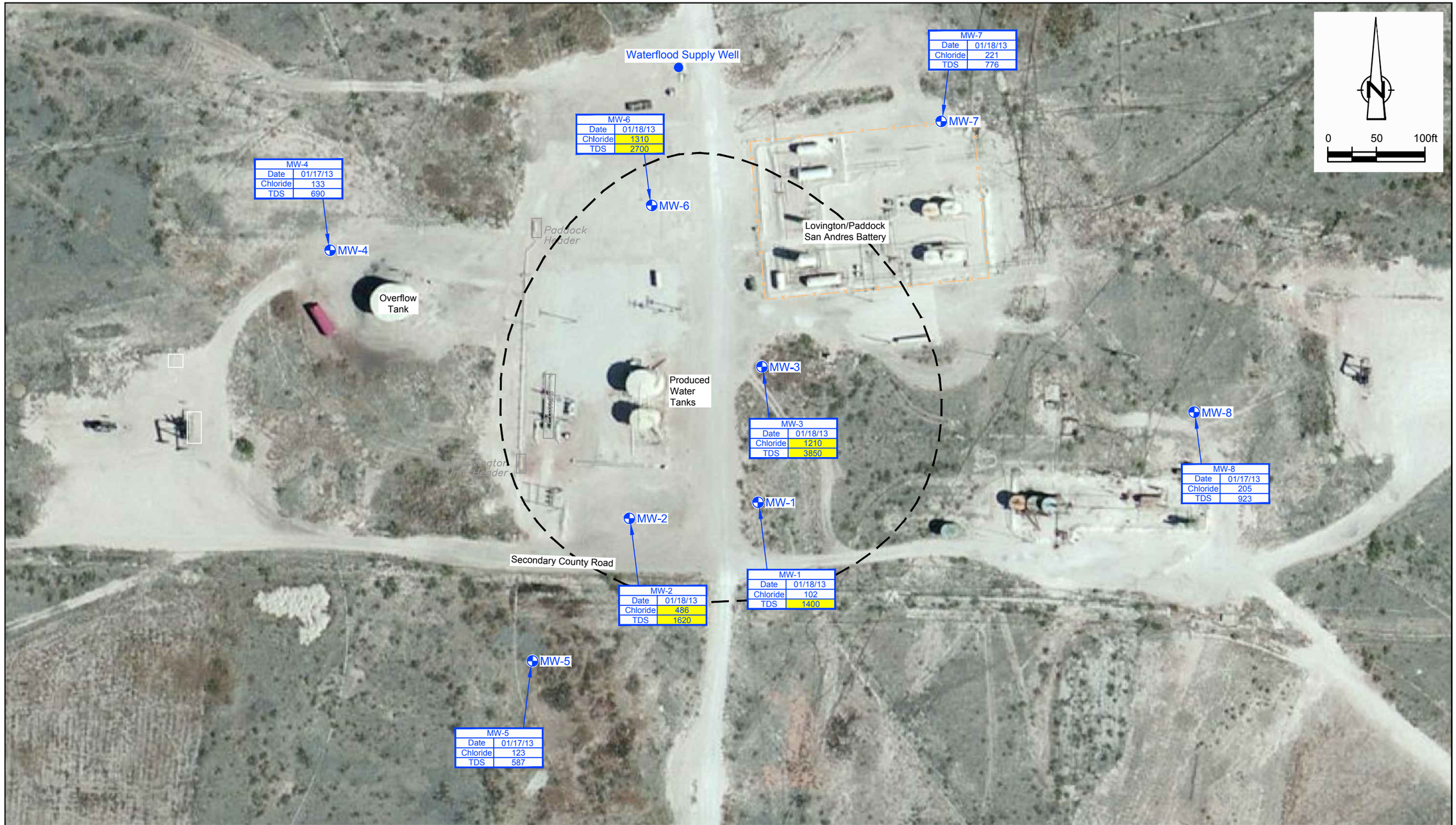


LEGEND

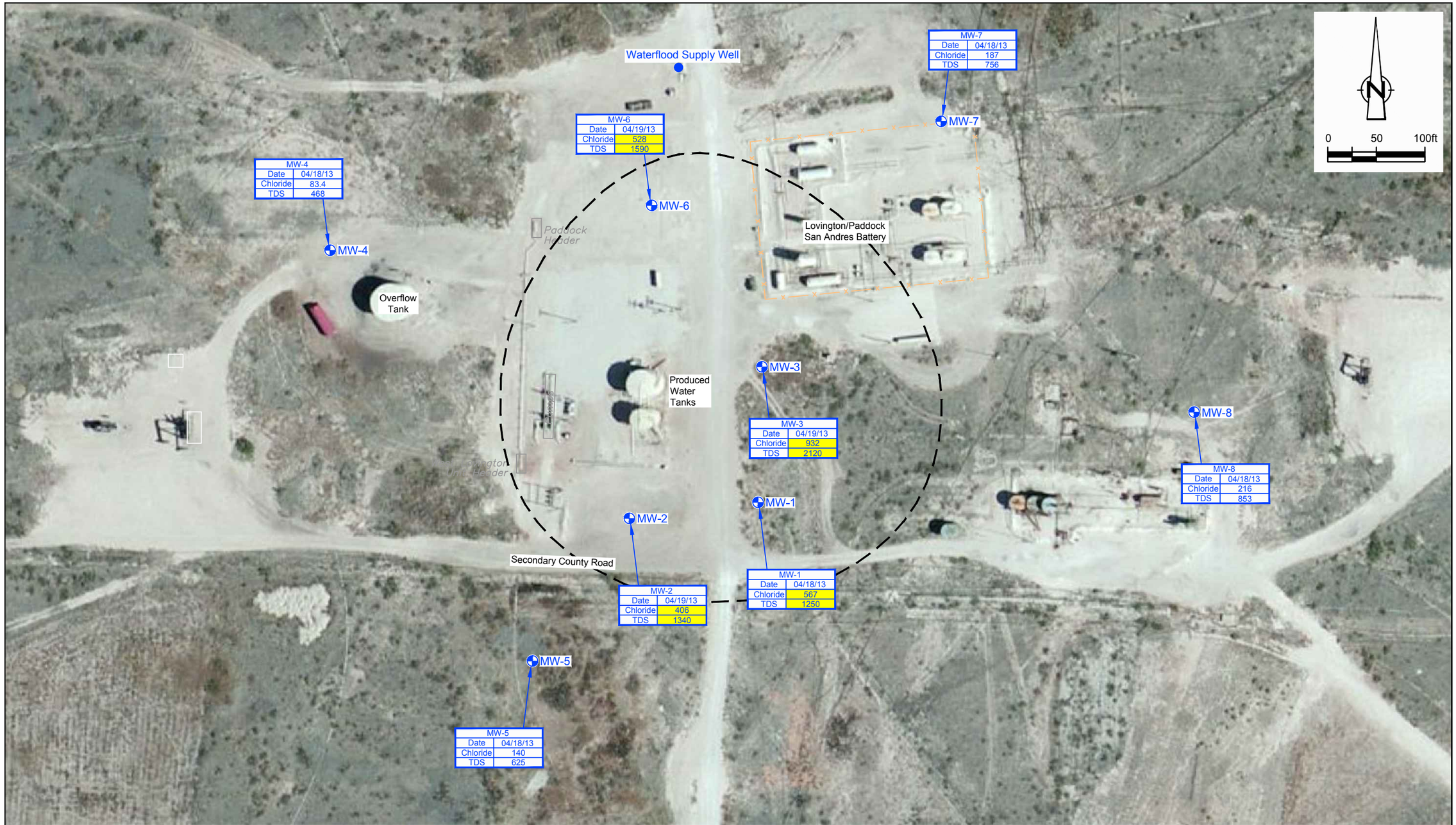
- Monitoring Well Location
- Waterflood Supply Well
- Approximate Outline of Plume Exceeding NMWQCC Standard (mg/L)
- Chloride Dissolved Chloride (mg/L)
- TDS Total Dissolved Solids (mg/L)

NOTE:

1. Concentrations shaded in yellow exceed corresponding standard or guideline.

figure 7

DISSOLVED CHLORIDE AND TOTAL DISSOLVED SOLIDS CONCENTRATION MAP - JANUARY 2013
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company, Houston, Texas



LEGEND

- Monitoring Well Location
- Waterflood Supply Well
- Approximate Outline of Plume Exceeding NMWQCC Standard (mg/L)
- Chloride Dissolved Chloride (mg/L)
- TDS Total Dissolved Solids (mg/L)

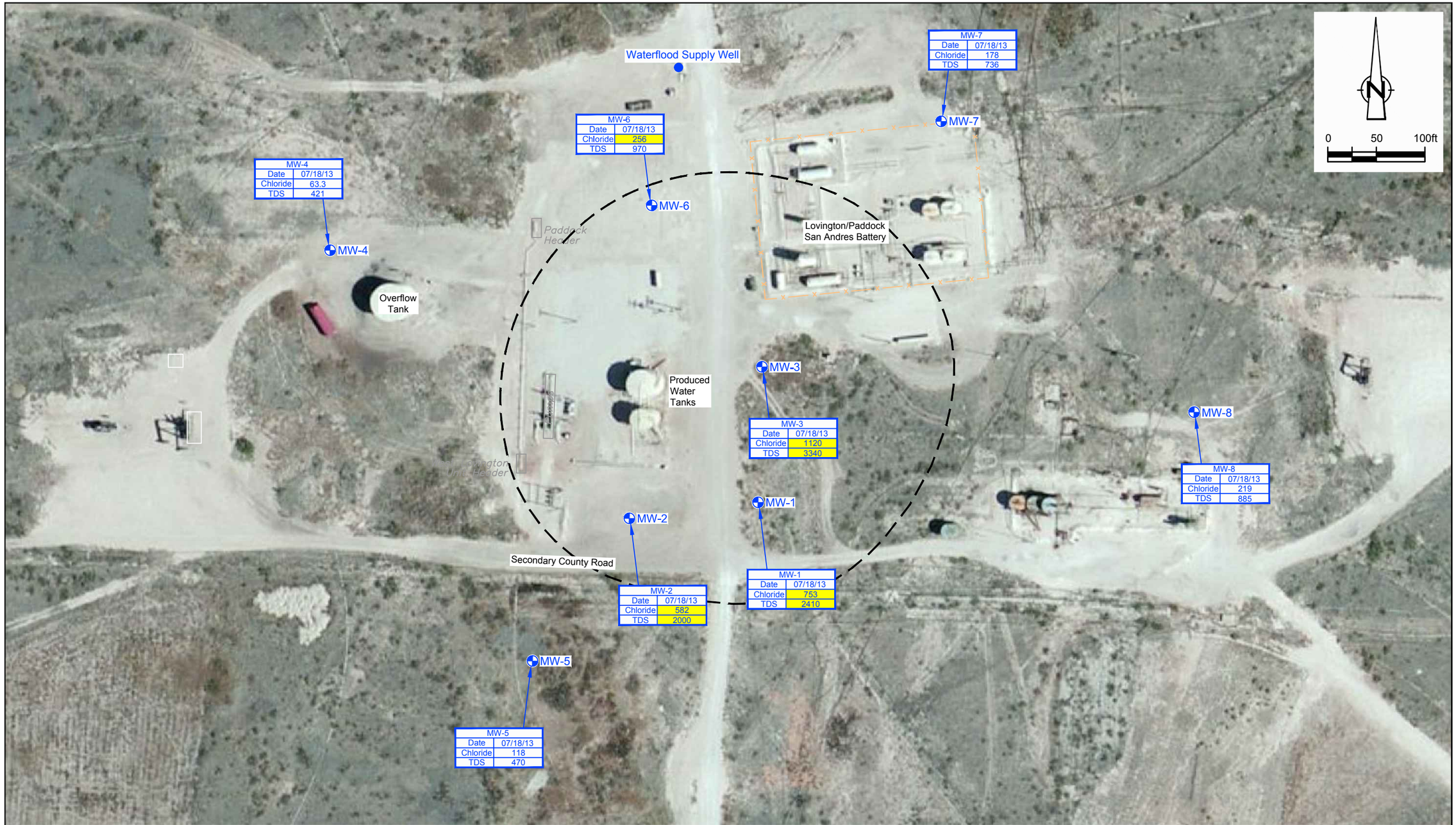
NOTE:

1. Concentrations shaded in yellow exceed corresponding standard or guideline.

figure 8

DISSOLVED CHLORIDE AND TOTAL DISSOLVED SOLIDS CONCENTRATION MAP - APRIL 2013
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company, Houston, Texas

073016-2013(004)GN-DL002 FEB 21/2014



LEGEND

- Monitoring Well Location
- Waterflood Supply Well
- Approximate Outline of Plume Exceeding NMWQCC Standard (mg/L)
- Chloride Dissolved Chloride (mg/L)
- TDS Total Dissolved Solids (mg/L)

NOTE:

1. Concentrations shaded in yellow exceed corresponding standard or guideline.

figure 9

DISSOLVED CHLORIDE AND TOTAL DISSOLVED SOLIDS CONCENTRATION MAP - JULY 2013
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company, Houston, Texas

LEGEND

- Monitoring Well Location
- Waterflood Supply Well
- Approximate Outline of Plume Exceeding NMWQCC Standard (mg/L)
- Chloride Dissolved Chloride (mg/L)
- TDS Total Dissolved Solids (mg/L)

NOTE:

1. Concentrations shaded in yellow exceed corresponding standard or guideline.

figure 10

DISSOLVED CHLORIDE AND TOTAL DISSOLVED SOLIDS CONCENTRATION MAP - OCTOBER 2013
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company, Houston, Texas

TABLES

TABLE 1

2013 FLUID LEVEL MEASUREMENTS
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NM

Well ID	*Elevation of TOC*	*Date of Measurement*	*Depth to Water (fbtoc)*	*Elevation of Potentiometric Surface (famsl)*	*Total Depth (fbtoc)*
MW-1	3832.74	1/17/2013	106.98	3725.76	
	3832.74	4/18/2013	105.47	3727.27	
	3832.74	7/18/2013	105.60	3727.14	115.65
	3832.74	10/17/2013	105.59	3727.15	
MW-2	3830.96	1/17/2013	103.40	3727.56	
	3830.96	4/19/2013	102.93	3728.03	
	3830.96	7/18/2013	103.30	3727.66	114.98
	3830.96	10/17/2013	103.54	3727.42	
MW-3	3834.31	1/17/2013	107.03	3727.28	
	3834.31	4/19/2013	106.85	3727.46	
	3834.31	7/18/2013	107.33	3726.98	115.52
	3834.31	10/17/2013	107.30	3727.01	
MW-4	3831.95	1/17/2013	102.91	3729.04	
	3831.95	4/18/2013	102.78	3729.17	
	3831.95	7/18/2013	103.23	3728.72	115.10
	3831.95	10/17/2013	103.18	3728.77	
MW-5	3830.07	1/17/2013	101.65	3728.42	
	3830.07	4/18/2013	101.70	3728.37	
	3830.07	7/18/2013	101.81	3728.26	131.80
	3830.07	10/17/2013	102.03	3728.04	
MW-6	3835.60	1/17/2013	108.60	3727.00	
	3835.60	4/19/2013	107.83	3727.77	
	3835.60	7/18/2013	108.80	3726.80	132.96
	3835.60	10/17/2013	108.75	3726.85	
MW-7	3834.46	1/17/2013	107.53	3726.93	
	3834.46	4/18/2013	107.46	3727.00	
	3834.46	7/18/2013	108.01	3726.45	135.06
	3834.46	10/17/2013	107.98	3726.48	
MW-8	3832.40	1/17/2013	106.10	3726.30	
	3832.40	4/18/2013	106.27	3726.13	
	3832.40	7/18/2013	106.55	3725.85	134.90
	3832.40	10/17/2013	106.55	3725.85	

Notes:
1. TOC - top of casing
2. famsl - feet above mean sea Level
3. fbtoc - feet below top of casing

TABLE 2

2013 GROUNDWATER ANALYTICAL RESULTS
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NM

Monitor Well ID	*Date of Sample*	*Chloride (mg/L by USEPA 300.0)*	*Total Dissolved Solids (mg/L by 2450C)*
NMWQCC Groundwater Standard (mg/L)		***250***	***1,000***
MW-1	01/18/13	102	1400
	04/18/13	567	1250
	07/18/13	753	2410
	10/21/13	578	2010
MW-2	01/18/13	486	1620
	04/19/13	406	1340
	07/18/13	582	2000
	10/21/13	547	2260
MW-3	01/18/13	1210	3850
DUP1	01/18/13	1210	3650
	04/19/13	932	2120
Dup-1	04/18/13	928	2310
	07/18/13	1120	3340
Dup-1	07/18/13	1060	3320
	10/21/13	1130	3280
Dup	10/21/13	1140	3380
MW-4	01/17/13	133	690
	04/18/13	83.4	468
	07/18/13	63.3	421
	10/18/13	71.9	446
MW-5	01/17/13	123	587
	04/18/13	140	625
	07/18/13	118	470
	10/18/13	59.9	318
MW-6	01/18/13	1310	2700
	04/19/13	528	1590
	07/18/13	256	970
	10/18/13	214	763
MW-7	01/18/13	221	776
	04/18/13	187	756
	07/18/13	178	736
	10/18/13	163	885
MW-8	01/17/13	205	923
	04/18/13	216	853
	07/18/13	219	885
	10/18/13	90.3	443
Waterflood Supply Well	10/21/13	178	848

Notes:
1. fbtoc - feet below top of casing
2. NMWQCC - New Mexico Water Quality Control Commission Groundwater Standard
3. mg/L - milligrams per liter
4. USEPA - United States Environmnetal Protection Agency
5. Cells shaded yellow indicate concentrations exceeding NMWQCC Groundwater Standard

Appendix A

TABLE 1

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NM

Well ID	*Elevation of TOC*	*Date of Measurement*	*Depth to Water (fbtoc)*	*Elevation of Potentiometric Surface (famsl)*	*Total Depth (fbtoc)*
MW-1	3832.74	1/19/2010	100.31	3732.43	
MW-1	3832.74	2/25/2010	100.41	3732.33	
MW-1	3832.74	3/1/2011	102.20	3730.54	114.80
MW-1	3832.74	4/13/2011	102.40	3730.34	114.80
MW-1	3832.74	7/15/2011	102.58	3730.16	
MW-1	3832.74	12/22/2011	102.63	3730.11	
MW-1	3832.74	3/22/2012	103.87	3728.87	
MW-1	3832.74	6/13/2012	103.89	3728.85	
MW-1	3832.74	9/27/2012	104.25	3728.49	
MW-1	3832.74	12/19/2012	104.97	3727.77	
MW-1	3832.74	1/17/2013	106.98	3725.76	
MW-1	3832.74	4/18/2013	105.47	3727.27	
MW-1	3832.74	7/18/2013	105.60	3727.14	115.65
MW-1	3832.74	10/17/2013	105.59	3727.15	
MW-2	3830.96	1/19/2010	98.10	3732.86	
MW-2	3830.96	2/25/2010	98.17	3732.79	
MW-2	3830.96	3/1/2011	99.89	3731.07	114.42
MW-2	3830.96	4/13/2011	100.03	3730.93	114.42
MW-2	3830.96	7/15/2011	100.41	3730.55	
MW-2	3830.96	12/22/2011	100.53	3730.43	
MW-2	3830.96	3/22/2012	101.60	3729.36	
MW-2	3830.96	6/13/2012	101.60	3729.36	
MW-2	3830.96	9/27/2012	102.02	3728.94	
MW-2	3830.96	12/19/2012	102.68	3728.28	
MW-2	3830.96	1/17/2013	103.40	3727.56	
MW-2	3830.96	4/19/2013	102.93	3728.03	
MW-2	3830.96	7/18/2013	103.30	3727.66	114.98
MW-2	3830.96	10/17/2013	103.54	3727.42	
MW-3	3834.31	1/19/2010	101.96	3732.35	
MW-3	3834.31	2/25/2010	102.10	3732.21	
MW-3	3834.31	3/1/2011	103.94	3730.37	115.20
MW-3	3834.31	4/13/2011	104.30	3730.01	114.90
MW-3	3834.31	7/15/2011	104.76	3729.55	
MW-3	3834.31	12/22/2011	104.98	3729.33	
MW-3	3834.31	3/22/2012	105.60	3728.71	
MW-3	3834.31	6/13/2012	105.50	3728.81	
MW-3	3834.31	9/27/2012	105.83	3728.48	
MW-3	3834.31	12/19/2012	106.69	3727.62	
MW-3	3834.31	1/17/2013	107.03	3727.28	

TABLE 1

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NM

Well ID	*Elevation of TOC*	*Date of Measurement*	*Depth to Water (fbtoc)*	*Elevation of Potentiometric Surface (famsl)*	*Total Depth (fbtoc)*
MW-3	3834.31	4/19/2013	106.85	3727.46	
MW-3	3834.31	7/18/2013	107.33	3726.98	115.52
MW-3	3834.31	10/17/2013	107.30	3727.01	
MW-4	3831.95	1/19/2010	98.23	3733.72	
MW-4	3831.95	2/25/2010	98.28	3733.67	
MW-4	3831.95	3/1/2011	99.94	3732.01	114.52
MW-4	3831.95	4/13/2011	100.18	3731.77	114.60
MW-4	3831.95	7/15/2011	100.45	3731.50	
MW-4	3831.95	12/22/2011	100.48	3731.47	
MW-4	3831.95	3/22/2012	101.50	3730.45	
MW-4	3831.95	6/13/2012	101.55	3730.40	
MW-4	3831.95	9/27/2012	102.07	3729.88	
MW-4	3831.95	12/19/2012	102.84	3729.11	
MW-4	3831.95	1/17/2013	102.91	3729.04	
MW-4	3831.95	4/18/2013	102.78	3729.17	
MW-4	3831.95	7/18/2013	103.23	3728.72	115.10
MW-4	3831.95	10/17/2013	103.18	3728.77	
MW-5	3830.07	3/22/2012	100.15	3729.92	
MW-5	3830.07	6/13/2012	100.23	3729.84	
MW-5	3830.07	9/27/2012	100.72	3729.35	
MW-5	3830.07	12/19/2012	101.28	3728.79	
MW-5	3830.07	1/17/2013	101.65	3728.42	
MW-5	3830.07	4/18/2013	101.70	3728.37	
MW-5	3830.07	7/18/2013	101.81	3728.26	131.80
MW-5	3830.07	10/17/2013	102.03	3728.04	
MW-6	3835.60	3/22/2012	106.73	3728.87	
MW-6	3835.60	6/13/2012	106.56	3729.04	
MW-6	3835.60	9/27/2012	107.00	3728.60	
MW-6	3835.60	12/19/2012	108.28	3727.32	
MW-6	3835.60	1/17/2013	108.60	3727.00	
MW-6	3835.60	4/19/2013	107.83	3727.77	
MW-6	3835.60	7/18/2013	108.80	3726.80	132.96
MW-6	3835.60	10/17/2013	108.75	3726.85	
MW-7	3834.46	3/22/2012	105.97	3728.49	
MW-7	3834.46	6/13/2012	106.23	3728.23	
MW-7	3834.46	9/27/2012	106.44	3728.02	
MW-7	3834.46	12/19/2012	107.31	3727.15	

TABLE 1

CUMULATIVE SUMMARY OF FLUID LEVEL MEASUREMENTS
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NM

Well ID	*Elevation of TOC*	*Date of Measurement*	*Depth to Water (fbtoc)*	*Elevation of Potentiometric Surface (famsl)*	*Total Depth (fbtoc)*
MW-7	3834.46	1/17/2013	107.53	3726.93	
MW-7	3834.46	4/18/2013	107.46	3727.00	
MW-7	3834.46	7/18/2013	108.01	3726.45	135.06
MW-7	3834.46	10/17/2013	107.98	3726.48	
MW-8	3832.40	3/22/2012	104.71	3727.69	
MW-8	3832.40	6/13/2012	104.84	3727.56	
MW-8	3832.40	9/27/2012	105.21	3727.19	
MW-8	3832.40	12/19/2012	105.82	3726.58	
MW-8	3832.40	1/17/2013	106.10	3726.30	
MW-8	3832.40	4/18/2013	106.27	3726.13	
MW-8	3832.40	7/18/2013	106.55	3725.85	134.90
MW-8	3832.40	10/17/2013	106.55	3725.85	

Notes:
1. TOC - top of casing
2. famsl - feet above mean sea Level
3. fbtoc - feet below top of casing

Appendix B

TABLE 2

CUMULATIVE SUMMARY OF ANALYTICAL RESULTS OF DISSOLVED CHLORIDE AND TOTAL DISSOLVED SOLIDS IN GROUNDWATER
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NM

Monitor Well ID	*Date of Sample*	*Depth of Sample (fbtoc)*	*Chloride (mg/L by USEPA 300.0)*	*Total Dissolved Solids (mg/L by 2450C)*
			NMWQCC Groundwater Standard	
			250	***1,000***
MW-1	01/19/10		336	1080
MW-1	02/25/10		357	1100
MW-1	03/01/11		264	870
MW-1	04/13/11	114.8	348	1070
MW-1	07/15/11	114.8	271	740
MW-1	12/22/11	114	332	1120
MW-1	03/22/12		485	2170
MW-1	06/14/12		502	1550
MW-1	09/28/12		404	1190
MW-1	12/19/12		401	1000
MW-1	01/18/13		102	1400
MW-1	04/18/13		567	1250
MW-1	07/18/13		753	2410
MW-1	10/21/13		578	2010
MW-2	01/19/10		857	2180
MW-2	02/25/10		901	2440
MW-2	03/01/11		649	2390
MW-2	04/13/11	114.42	775	2690
MW-2	07/15/11	114.41	384	3220
MW-2	12/22/11	114	456	1420
MW-2	03/23/12		614	2640
MW-2	06/14/12		292	1190
MW-2	09/28/12		467	1490
MW-2	12/20/12		670	1560
MW-2	01/18/13		486	1620
MW-2	04/19/13		406	1340
MW-2	07/18/13		582	2000
MW-2	10/21/13		547	2260
MW-3	01/19/10		734	1920
MW-3	02/25/10		763	2130
MW-3	03/01/11		944	2670
MW-3	04/13/11	113	1050	4180
MW-3	07/15/11	112.76	1130	3330
MW-3	12/22/11	110	1200	2850
MW-3	03/23/12		1380	4220
MW-3	06/14/12		1290	4220

TABLE 2

CUMULATIVE SUMMARY OF ANALYTICAL RESULTS OF DISSOLVED CHLORIDE AND TOTAL DISSOLVED SOLIDS IN GROUNDWATER
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NM

Monitor Well ID	*Date of Sample*	*Depth of Sample (fbtoc)*	*Chloride (mg/L by USEPA 300.0)*	*Total Dissolved Solids (mg/L by 2450C)*
			NMWQCC Groundwater Standard	
			250	***1,000***
MW-3	09/28/12		1440	6350
MW-3	12/20/12		1190	2860
MW-3	01/18/13		1210	3850
MW-3	04/19/13		932	2120
MW-3	07/18/13		1120	3340
MW-3	10/21/13		1130	3280
MW-4	01/19/10		212	622
MW-4	02/25/10		110	586
MW-4	03/01/11		72.6	452
MW-4	04/13/11	105	69.8	446
MW-4	07/15/11	110.45	65.6	366
MW-4	12/22/11	110	66.9	526
MW-4	03/22/12		91.7	626
MW-4	06/14/12		64.8	460
MW-4	09/28/12		134	661
MW-4	12/19/12		125	501
MW-4	01/17/13		133	690
MW-4	04/18/13		83.4	468
MW-4	07/18/13		63.3	421
MW-4	10/18/13		71.9	446
MW-5	03/22/12		199	1100
MW-5	06/14/12		88	468
MW-5	09/28/12		130	691
MW-5	12/19/12		126	489
MW-5	01/17/13		123	587
MW-5	04/18/13		140	625
MW-5	07/18/13		118	470
MW-5	10/18/13		59.9	318
MW-6	03/22/12		243	1140
MW-6	06/14/12		566	1670
MW-6	09/28/12		1040	2300
MW-6	12/20/12		961	2210
MW-6	01/18/13		1310	2700
MW-6	04/19/13		528	1590
MW-6	07/18/13		256	970

TABLE 2

CUMULATIVE SUMMARY OF ANALYTICAL RESULTS OF DISSOLVED CHLORIDE AND TOTAL DISSOLVED SOLIDS IN GROUNDWATER
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NM

Monitor Well ID	*Date of Sample*	*Depth of Sample (fbtoc)*	*Chloride (mg/L by USEPA 300.0)*	*Total Dissolved Solids (mg/L by 2450C)*
			NMWQCC Groundwater Standard	
			250	***1,000***
MW-6	10/18/13		214	763
MW-7	03/22/12		251	1210
MW-7	06/14/12		196	926
MW-7	09/28/12		258	1000
MW-7	12/19/12		192	683
MW-7	01/18/13		221	776
MW-7	04/18/13		187	756
MW-7	07/18/13		178	736
MW-7	10/18/13		163	885
MW-8	03/22/12		192	910
MW-8	06/14/12		184	914
MW-8	09/28/12		210	814
MW-8	12/19/12		192	702
MW-8	01/17/13		205	923
MW-8	04/18/13		216	853
MW-8	07/18/13		219	885
MW-8	10/18/13		90.3	443
Watflood Supply Well	10/21/13		178	848
Dup #1 (MW-2)	01/19/10		912	2150
Dup-1	03/01/11		627	2400
Dup-1 (MW-3)	04/13/11		1070	3650
Dup-1 (MW-3)	07/15/11		1120	3480
Dup-1 (MW-1)	12/22/11		339	1010
Dup-1	03/23/12		1390	3100
Dup-1	06/14/12		66.4	436
Dup-1 (MW-3)	09/28/12		1430	5650
Dup1	12/19/12		243	669
DUP1	01/18/13		1210	3650
Dup-1	04/18/13		928	2310
Dup-1	07/18/13		1060	3320
Dup (MW-3)	10/21/13		1140	3380

TABLE 2

CUMULATIVE SUMMARY OF ANALYTICAL RESULTS OF DISSOLVED CHLORIDE AND TOTAL DISSOLVED SOLIDS IN GROUNDWATER
LOVINGTON UNIT WATER PLANT
SECTION 1-T17S-R36E, LEA COUNTY, NM

Monitor Well ID	*Date of Sample*	*Depth of Sample (fbtoc)*	*Chloride (mg/L by USEPA 300.0)*	*Total Dissolved Solids (mg/L by 2450C)*
			NMWQCC Groundwater Standard	
			250	***1,000***

Notes:
1. fbtoc - feet below top of casing
2. NMWQCC - New Mexico Water Quality Control Commission Groundwater Standard
3. mg/L - milligrams per liter
4. USEPA - United States Environmnetal Protection Agency
5. Cells shaded yellow indicate concentrations exceeding NMWQCC Groundwater Standard

Appendix C

Analytical Report 461638

for

Conestoga Rovers & Associates

Project Manager: John Schnable

Lovington Water Plant

073016

26-APR-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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)

26-APR-13

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

Reference: XENCO Report No(s): **461638**
Lovington Water Plant
Project Address: New Mexico

John Schnable:

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) 461638. 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. 461638 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,

Alejandro Montoya
Odessa Laboratory Director

Sample Cross Reference 461638

Conestoga Rovers & Associates, Midland, TX

Lovington Water Plant

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1 041813	W	04-18-13 11:35		461638-001
MW-5 041813	W	04-18-13 12:50		461638-002
MW-4 041813	W	04-18-13 13:50		461638-003
MW-8 041813	W	04-18-13 15:05		461638-004
MW-7 041813	W	04-18-13 16:10		461638-005
MW-2 041913	W	04-19-13 10:40		461638-006
MW-3 041913	W	04-19-13 11:50		461638-007
Dup-1	W	04-18-13 00:00		461638-008
MW-6 041913	W	04-19-13 13:05		461638-009

Project ID:	*073016*	Report Date:	*26-APR-13*
Work Order Number(s):	*461638*	Date Received:	*04/19/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 461638

Conestoga Rovers & Associates, Midland, TX

Project Name: Lovington Water Plant

Project Id: 073016
Contact: John Schnable
Project Location: New Mexico

Date Received in Lab: Fri Apr-19-13 03:30 pm
Report Date: 26-APR-13
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	461638-001		461638-002		461638-003		461638-004		461638-005		461638-006	
	Field Id:	MW-1 041813		MW-5 041813		MW-4 041813		MW-8 041813		MW-7 041813		MW-2 041913	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Apr-18-13 11:35		Apr-18-13 12:50		Apr-18-13 13:50		Apr-18-13 15:05		Apr-18-13 16:10		Apr-19-13 10:40	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00	
	Analyzed:	Apr-22-13 14:02		Apr-22-13 14:46		Apr-22-13 15:07		Apr-22-13 15:29		Apr-22-13 15:51		Apr-22-13 16:12	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Chloride		567	20.0	140	5.00	83.4	5.00	216	10.0	187	10.0	406	10.0
TDS by SM2540C	***Extracted:***												
	Analyzed:	Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Total dissolved solids		1250	5.00	625	5.00	468	5.00	853	5.00	756	5.00	1340	5.00

Alejandro Montoya
Odessa Laboratory Director

Certificate of Analysis Summary 461638

Conestoga Rovers & Associates, Midland, TX

Project Name: Lovington Water Plant

Project Id: 073016
Contact: John Schnable
Project Location: New Mexico

Date Received in Lab: Fri Apr-19-13 03:30 pm
Report Date: 26-APR-13
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	461638-007		461638-008		461638-009					
	Field Id:	MW-3 041913		Dup-1		MW-6 041913					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	Apr-19-13 11:50		Apr-18-13 00:00		Apr-19-13 13:05					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00					
	Analyzed:	Apr-22-13 17:17		Apr-22-13 17:39		Apr-22-13 18:00					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Chloride		932	20.0	928	20.0	528	10.0				
TDS by SM2540C	***Extracted:***										
	Analyzed:	Apr-22-13 10:00		Apr-22-13 10:00		Apr-22-13 10:00					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Total dissolved solids		2120	5.00	2310	5.00	1590	5.00				

Alejandro Montoya
Odessa Laboratory Director

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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Blank Spike Recovery

Project Name: Lovington Water Plant

Work Order #: 461638 **Project ID:** 073016

Lab Batch #: 912097 **Sample:** 912097-1-BKS **Matrix:** Water

Date Analyzed: 04/22/2013 **Date Prepared:** 04/22/2013 **Analyst:** AMB

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

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Total dissolved solids	<5.00	1000	990	99	80-120	

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

BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: Lovington Water Plant

Work Order #: 461638 **Project ID:** 073016

Analyst: AMB **Date Prepared:** 04/22/2013 **Date Analyzed:** 04/22/2013

Lab Batch ID: 912321 **Sample:** 637196-1-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	25.5	102	25.0	25.4	102	0	80-120	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Lovington Water Plant

Work Order #: 461638

Lab Batch #: 912321 **Project ID:** 073016

Date Analyzed: 04/22/2013 **Date Prepared:** 04/22/2013 **Analyst:** AMB

QC- Sample ID: 461637-002 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	184	125	323	111	80-120	

Lab Batch #: 912321

Date Analyzed: 04/22/2013 **Date Prepared:** 04/22/2013 **Analyst:** AMB

QC- Sample ID: 461638-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	567	500	1120	111	80-120	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Lovington Water Plant

Work Order #: 461638

Lab Batch #: 912097 **Project ID:** 073016

Date Analyzed: 04/22/2013 10:00 **Date Prepared:** 04/22/2013 **Analyst:** AMB

QC- Sample ID: 461510-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	1770	1560	13	30	

Lab Batch #: 912097

Date Analyzed: 04/22/2013 10:00 **Date Prepared:** 04/22/2013 **Analyst:** AMB

QC- Sample ID: 461638-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	1250	1520	19	30	

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

BRL - Below Reporting Limit

XENCO Laboratories

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

☐ 4143 Greenbriar Drive, Stafford, TX 77477 **281-240-4200**
☐ 5332, Blackberry Drive, San Antonio, TX 78238 **210-509-3334**
☐ 9701 Harry Hines Blvd., Dallas, TX 75220 **214-902-0300**
☐ 12600 West I-20 East, Odessa, TX 79765 **432-563-1800**

Serial #: 330620 Page of

Company-City CRA - Midland	**Phone** 432-686-0086
Project Name-Location ☐ Previously done at XENCO: Lovington Water Plant	**Project ID** 073016
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other (NM)	**Proj. Manager (PM)** John Schnable
E-mail Results to ☒ PM and jschnable@craworld.com	**Fax No:** 432-686-0186
Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O. Bill to:	
Quote/Pricing:	**P.O. No:** ☐ Call for P.O.
Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW **TRRP** QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:	
Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM)	
Sampler Name Glenn Gurney	**Signature**

Lab Only: 461638

TAT: ASAP 5h 12h 24h 48h 3d (5d) 7d 10d 21d Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

#	Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX-1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	Chlorides	TDS	TAT ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Remarks: Sample Clean-ups are pre-approved as needed	Addn: Date Rcv. by: From:	#
1	MW-1 041813	4-18-13	1135		W		X	1			N										X	X						1
2	MW-5 041813	4-18-13	1250		W		X	1			N										X	X						2
3	MW-4 041813	4-18-13	1350		W		X	1			N										X	X						3
4	MW-8 041813	4-18-13	1505		W		X	1			N										X	X						4
5	MW-7 041813	4-18-13	1610		W		X	1			N										X	X						5
6	MW-2 041913	4-19-13	1040		W		X	1			N										X	X						6
7	MW-3 041913	4-19-13	1150		W		X	1			N										X	X						7
8	DUP-1				W		X	1			N										X	X						8
9	MW-6 041913	4-19-13	1305		W		X	1			N										X	X						9
10																												10

Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1)	4-19-13 15:30	2)	4-19-13 15:30
3)		4)	
5)		6)	

Total Containers per COC: 9 Cooler Temp: 3.5 °C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Preservatives: Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool, <4C) (**C**), None (**NA**),See Label (**L**), Other (**O**) _____
Cont. Size: 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (**V**), Other _____ **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

Matrix: Air (**A**), Product (**P**), Solid (**S**), Water (**W**), Liquid (**L**)

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Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 04/19/2013 03:30:00 PM

Work Order #: 461638

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**Yes**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	**Yes**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**Yes**

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

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 04/23/2013

Checklist reviewed by: Alejandro Montoya Date: 04/26/2013

Analytical Report 456018

for

Conestoga Rovers & Associates

Project Manager: John Schnable

Lovington Water Plant

073016

30-JAN-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-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)

30-JAN-13

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

Reference: XENCO Report No(s): **456018**
Lovington Water Plant
Project Address:

John Schnable:

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) 456018. 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. 456018 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,

Nicholas Straccione
Project Manager

Sample Cross Reference 456018

Conestoga Rovers & Associates, Midland, TX

Lovington Water Plant

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW4 011713	W	01-17-13 15:54		456018-001
MW5 011713	W	01-17-13 16:20		456018-002
MW8 011713	W	01-17-13 16:50		456018-003
MW7 011813	W	01-18-13 09:30		456018-004
MW1 011813	W	01-18-13 10:05		456018-005
MW2 011813	W	01-18-13 10:40		456018-006
MW6 011813	W	01-18-13 11:20		456018-007
MW3 011813	W	01-18-13 12:05		456018-008
Dup 1 011813	W	01-18-13 00:00		456018-009

Project ID:	*073016*	Report Date:	*30-JAN-13*
Work Order Number(s):	*456018*	Date Received:	*01/18/2013*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-905178 Inorganic Anions by EPA 300/300.1
E300

Batch 905178, Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 456018-007, -008, -005, -009, -006.
The Laboratory Control Sample for Chloride is within laboratory Control Limits

Batch: LBA-905554 Inorganic Anions by EPA 300/300.1
E300

Batch 905554, Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 456018-004.
The Laboratory Control Sample for Chloride is within laboratory Control Limits

Batch: LBA-905777 Inorganic Anions by EPA 300/300.1
E300

Batch 905777, Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 456018-008, -009.
The Laboratory Control Sample for Chloride is within laboratory Control Limits

Certificate of Analysis Summary 456018

Conestoga Rovers & Associates, Midland, TX

Project Name: Lovington Water Plant

Project Id: 073016
Contact: John Schnable
Project Location:

Date Received in Lab: Fri Jan-18-13 03:30 pm
Report Date: 30-JAN-13
Project Manager: Nicholas Straccione

Analysis Requested													
	Lab Id:	456018-001		456018-002		456018-003		456018-004		456018-005		456018-006	
	Field Id:	MW4 011713		MW5 011713		MW8 011713		MW7 011813		MW1 011813		MW2 011813	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Jan-17-13 15:54		Jan-17-13 16:20		Jan-17-13 16:50		Jan-18-13 09:30		Jan-18-13 10:05		Jan-18-13 10:40	
Inorganic Anions by EPA 300/300.1 SUB: E871002	***Extracted:***	Jan-21-13 11:34		Jan-21-13 11:51		Jan-21-13 12:26		Jan-25-13 19:30		Jan-21-13 17:23		Jan-21-13 17:40	
	Analyzed:	Jan-21-13 11:34		Jan-21-13 11:51		Jan-21-13 12:26		Jan-25-13 19:30		Jan-21-13 17:23		Jan-21-13 17:40	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Chloride		133	2.00	123	2.00	205	2.00	221	5.00	102	2.00	486	2.00
TDS by SM2540C SUB: E871002	***Extracted:***												
	Analyzed:	Jan-21-13 14:58		Jan-21-13 14:58		Jan-21-13 14:58		Jan-21-13 14:58		Jan-21-13 14:58		Jan-21-13 14:58	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Total dissolved solids		690	5.00	587	5.00	923	5.00	776	5.00	1400	5.00	1620	5.00

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 456018

Conestoga Rovers & Associates, Midland, TX

Project Name: Lovington Water Plant

Project Id: 073016
Contact: John Schnable
Project Location:

Date Received in Lab: Fri Jan-18-13 03:30 pm
Report Date: 30-JAN-13
Project Manager: Nicholas Straccione

Analysis Requested													
	Lab Id:	456018-007		456018-008		456018-009							
	Field Id:	MW6 011813		MW3 011813		Dup 1 011813							
	Depth:												
	Matrix:	WATER		WATER		WATER							
	Sampled:	Jan-18-13 11:20		Jan-18-13 12:05		Jan-18-13 00:00							
Inorganic Anions by EPA 300/300.1 SUB: E871002	***Extracted:***	Jan-21-13 17:58		Jan-21-13 18:15		Jan-21-13 18:33							
	Analyzed:	Jan-21-13 17:58		Jan-21-13 18:15		Jan-21-13 18:33							
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL						
Chloride		1310	5.00	1210	10.0	1210	10.0						
TDS by SM2540C SUB: E871002	***Extracted:***												
	Analyzed:	Jan-21-13 14:58		Jan-21-13 14:58		Jan-21-13 14:58							
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL						
Total dissolved solids		2700	5.00	3850	5.00	3650	5.00						

Nicholas Straccione
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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

Blank Spike Recovery

Project Name: Lovington Water Plant

Work Order #: 456018 **Project ID:** 073016

Lab Batch #: 905123 **Sample:** 632649-1-BKS **Matrix:** Water
Date Analyzed: 01/21/2013 **Date Prepared:** 01/21/2013 **Analyst:** RKO
Reporting Units: mg/L **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<1.00	50.0	47.3	95	80-120	

Lab Batch #: 905178 **Sample:** 632691-1-BKS **Matrix:** Water
Date Analyzed: 01/21/2013 **Date Prepared:** 01/21/2013 **Analyst:** RKO
Reporting Units: mg/L **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<1.00	50.0	53.8	108	80-120	

Lab Batch #: 905554 **Sample:** 632940-1-BKS **Matrix:** Water
Date Analyzed: 01/25/2013 **Date Prepared:** 01/25/2013 **Analyst:** RKO
Reporting Units: mg/L **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<1.00	50.0	52.0	104	80-120	

Lab Batch #: 905777 **Sample:** 633088-1-BKS **Matrix:** Water
Date Analyzed: 01/29/2013 **Date Prepared:** 01/29/2013 **Analyst:** RKO
Reporting Units: mg/L **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<1.00	50.0	52.9	106	80-120	

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

BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: Lovington Water Plant

Work Order #: 456018 **Project ID:** 073016

Analyst: KUG **Date Prepared:** 01/21/2013 **Date Analyzed:** 01/21/2013

Lab Batch ID: 905096 **Sample:** 905096-1-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	994	99	1000	993	99	0	80-120	30	

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 / MSD Recoveries

Project Name: Lovington Water Plant

Work Order # : 456018 **Project ID:** 073016

Lab Batch ID: 905123 **QC- Sample ID:** 455995-001 S **Batch #:** 1 **Matrix:** Water
Date Analyzed: 01/21/2013 **Date Prepared:** 01/21/2013 **Analyst:** RKO
Reporting Units: mg/L

Inorganic Anions by EPA 300/300.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
Chloride	361	250	591	92	250	591	92	0	80-120	20	

Lab Batch ID: 905178 **QC- Sample ID:** 456025-002 S **Batch #:** 1 **Matrix:** Water
Date Analyzed: 01/22/2013 **Date Prepared:** 01/21/2013 **Analyst:** RKO
Reporting Units: mg/L

Inorganic Anions by EPA 300/300.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
Chloride	185	50.0	202	34	50.0	202	34	0	80-120	20	X

Lab Batch ID: 905554 **QC- Sample ID:** 456335-001 S **Batch #:** 1 **Matrix:** Drinking Water
Date Analyzed: 01/25/2013 **Date Prepared:** 01/25/2013 **Analyst:** RKO
Reporting Units: mg/L

Inorganic Anions by EPA 300/300.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
Chloride	13.8	50.0	65.7	104	50.0	66.1	105	1	80-120	20	

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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Lovington Water Plant

Work Order # : 456018 **Project ID:** 073016

Lab Batch ID: 905554 **QC- Sample ID:** 456341-004 S **Batch #:** 1 **Matrix:** Water
Date Analyzed: 01/25/2013 **Date Prepared:** 01/25/2013 **Analyst:** RKO
Reporting Units: mg/L

Inorganic Anions by EPA 300/300.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
Chloride	963	500	1280	63	500	1280	63	0	80-120	20	X

Lab Batch ID: 905777 **QC- Sample ID:** 456465-001 S **Batch #:** 1 **Matrix:** Water
Date Analyzed: 01/29/2013 **Date Prepared:** 01/29/2013 **Analyst:** RKO
Reporting Units: mg/L

Inorganic Anions by EPA 300/300.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
Chloride	2.38	50.0	56.5	108	50.0	56.8	109	1	80-120	20	

Lab Batch ID: 905777 **QC- Sample ID:** 456477-003 S **Batch #:** 1 **Matrix:** Water
Date Analyzed: 01/29/2013 **Date Prepared:** 01/29/2013 **Analyst:** RKO
Reporting Units: mg/L

Inorganic Anions by EPA 300/300.1 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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
Chloride	269	50.0	271	4	50.0	271	4	0	80-120	20	X

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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: Lovington Water Plant

Work Order #: 456018

Lab Batch #: 905096 **Project ID:** 073016

Date Analyzed: 01/21/2013 14:58 **Date Prepared:** 01/21/2013 **Analyst:** KUG

QC- Sample ID: 447894-003 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	575	574	0	30	

Lab Batch #: 905096

Date Analyzed: 01/21/2013 14:58 **Date Prepared:** 01/21/2013 **Analyst:** KUG

QC- Sample ID: 456018-008 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	3850	3840	0	30	

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

BRL - Below Reporting Limit

XENCO Laboratories

☐ 4143 Greenbriar Drive, Stafford, TX 77477 **281-240-4200**
☐ 5332, Blackberry Drive, San Antonio, TX 78238 **210-509-3334**
☐ 9701 Harry Hines Blvd., Dallas, TX 75220 **214-902-0300**
☐ 12600 West I-20 East, Odessa, TX 79765 **432-563-1800**
☐ 842 Cantwell, Corpus Christi, TX 78408 **361-8840371**

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

Serial #: 307925 Page 1 of 1

Company-City CRA - Midland **Phone** 432-686-0086

Lab Only: 456018

Project Name-Location ☐ Previously done at XENCO: Lovington Water Plant **Project ID** 073016

TAT: ASAP 5h 12h 24h 48h 3d (5d) 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other

Proj. Manager (PM) John Schnable

E-mail Results to ☐ PM and jschnable@craworld.com **Fax No:** 432-686-0186

Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.

Bill to:

Quote/Pricing: **P.O. No:** ☐ Call for P.O.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW **TRRP** QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM)

Sampler Name Justin Nixon **Signature** [signature]

Analysis columns: VOCs: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs; VOC's PP TCL DW Appdx-1 Appdx-2 CALL Other:; PAHs SIM; TX-1005 DRO GRO MA EPH MA VPH; SVOCs: Full-List DW BN&AE TCL PP Appdx-2 CALL; OC Pesticides PCBs Herbicides OP Pesticides; Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx1 Appdx2; SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs); EDB / DBCP; Chlorides EPA 300.0; TDS SM 2540; TATASAP 5h 12h 24h 48h 3d (5d) 7d 10d 21d; Addn: PAH above mg/L W, mg/Kg S Highest Hit; Hold Samples (Surcharges will apply and are pre-approved); Sample Clean-ups are pre-approved as needed

Remarks — Addn: Date Rcv. by: From:

#	Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	Chlorides EPA 300.0	TDS SM 2540	#
1	mw4011713	1-17-13	1545		W		X	2			None	X	X	1
2	mw5011713	1-17-13	1620		|		|	|			|	|	|	2
3	mw8011713	1-17-13	1650		|		|	|			|	|	|	3
4	mw7011813	1-18-13	0930		|		|	|			|	|	|	4
5	mw1011813	1-18-13	1005		|		|	|			|	|	|	5
6	mw2011813	1-18-13	1040		|		|	|			|	|	|	6
7	mw6011813	1-18-13	1120		|		|	|			|	|	|	7
8	mw3011813	1-18-13	1205		|		|	|			|	|	|	8
9	Dup011813	1-18-13	—		|		|	|			|	|	|	9
10														10

#	Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1	1) [signature]	1-18-13 1530	2) BR [signature]	1-18-13 15:30
2	3)		4)	
3	5)		6)	

Total Containers per COC: Cooler Temp: 11.0 °C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Preservatives: Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool, <4C) (**C**), None (**NA**), See Label (**L**), Other (**O**)

Cont. Size: 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (**V**), Other **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

Matrix: Air (**A**), Product (**P**), Solid (**S**), Water (**W**), Liquid (**L**)

Committed to Excellence in Service and Quality *www.xenco.com*

Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under 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: 01/18/2013 03:30:00 PM

Work Order #: 456018

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

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

Analyst:	PH Device/Lot#:

Checklist completed by: _____ Date: _____

Checklist reviewed by: _____ Date: _____

Analytical Report 467028

for

Conestoga Rovers & Associates

Project Manager: John Schnable

Lovington Water Plant

073016

26-JUL-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-13-14-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)

26-JUL-13

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

Reference: XENCO Report No(s): **467028**
Lovington Water Plant
Project Address: NM

John Schnable:

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) 467028. 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. 467028 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 467028

Conestoga Rovers & Associates, Midland, TX

Lovington Water Plant

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-4- 071813	W	07-18-13 12:55		467028-001
MW-5- 071813	W	07-18-13 13:25		467028-002
MW-7- 071813	W	07-18-13 14:05		467028-003
MW-8- 071813	W	07-18-13 14:45		467028-004
MW-2- 071813	W	07-18-13 15:30		467028-005
MW-6- 071813	W	07-18-13 16:20		467028-006
MW-1- 071813	W	07-18-13 16:45		467028-007
MW-3- 071813	W	07-18-13 17:15		467028-008
Dup-1- 071813	W	07-18-13 00:00		467028-009

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-919269 Inorganic Anions by EPA 300/300.1
E300

Batch 919269, Chloride recovered above QC limits in the Matrix Spike.
Samples affected are: 467028-007, -008, -005, -009, -001, -002, -004, -003, -006.
The Laboratory Control Sample for Chloride is within laboratory Control Limits

Certificate of Analysis Summary 467028

Conestoga Rovers & Associates, Midland, TX

Project Name: Lovington Water Plant

Project Id: 073016
Contact: John Schnable
Project Location: NM

Date Received in Lab: Fri Jul-19-13 10:30 am
Report Date: 26-JUL-13
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	467028-001		467028-002		467028-003		467028-004		467028-005		467028-006	
	Field Id:	MW-4- 071813		MW-5- 071813		MW-7- 071813		MW-8- 071813		MW-2- 071813		MW-6- 071813	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Jul-18-13 12:55		Jul-18-13 13:25		Jul-18-13 14:05		Jul-18-13 14:45		Jul-18-13 15:30		Jul-18-13 16:20	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-25-13 16:24		Jul-25-13 16:46		Jul-25-13 17:08		Jul-25-13 17:30		Jul-25-13 17:51		Jul-25-13 18:56	
	Analyzed:	Jul-25-13 16:24		Jul-25-13 16:46		Jul-25-13 17:08		Jul-25-13 17:30		Jul-25-13 17:51		Jul-25-13 18:56	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Chloride		63.3	5.00	118	5.00	178	5.00	219	5.00	582	10.0	256	5.00
TDS by SM2540C	***Extracted:***												
	Analyzed:	Jul-24-13 10:30		Jul-24-13 10:30		Jul-24-13 10:30		Jul-24-13 10:30		Jul-24-13 10:30		Jul-24-13 10:30	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Total dissolved solids		421	5.00	470	5.00	736	5.00	885	5.00	2000	5.00	970	5.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 467028

Conestoga Rovers & Associates, Midland, TX

Project Name: Lovington Water Plant

Project Id: 073016
Contact: John Schnable
Project Location: NM

Date Received in Lab: Fri Jul-19-13 10:30 am
Report Date: 26-JUL-13
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	467028-007		467028-008		467028-009					
	Field Id:	MW-1- 071813		MW-3- 071813		Dup-1- 071813					
	Depth:										
	Matrix:	WATER		WATER		WATER					
	Sampled:	Jul-18-13 16:45		Jul-18-13 17:15		Jul-18-13 00:00					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-25-13 19:18		Jul-25-13 19:40		Jul-25-13 20:02					
	Analyzed:	Jul-25-13 19:18		Jul-25-13 19:40		Jul-25-13 20:02					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Chloride		753	10.0	1120	20.0	1060	20.0				
TDS by SM2540C	***Extracted:***										
	Analyzed:	Jul-24-13 10:30		Jul-24-13 10:30		Jul-24-13 10:30					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Total dissolved solids		2410	5.00	3340	5.00	3320	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

Blank Spike Recovery

Project Name: Lovington Water Plant

Work Order #: 467028 **Project ID:** 073016

Lab Batch #: 919276 **Sample:** 919276-1-BKS **Matrix:** Water

Date Analyzed: 07/24/2013 **Date Prepared:** 07/24/2013 **Analyst:** AMB

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

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Total dissolved solids	<5.00	1000	997	100	80-120	

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

BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: Lovington Water Plant

Work Order #: 467028 **Project ID:** 073016

Analyst: MAB **Date Prepared:** 07/25/2013 **Date Analyzed:** 07/25/2013

Lab Batch ID: 919269 **Sample:** 641597-1-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	24.4	98	25.0	24.5	98	0	80-120	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Lovington Water Plant

Work Order #: 467028
Lab Batch #: 919269
Project ID: 073016
Date Analyzed: 07/25/2013
Date Prepared: 07/25/2013
Analyst: MAB
QC- Sample ID: 467125-001 S
Batch #: 1
Matrix: Water
Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	4220	1250	5310	87	80-120	

Lab Batch #: 919269
Date Analyzed: 07/25/2013
Date Prepared: 07/25/2013
Analyst: MAB
QC- Sample ID: 467264-001 S
Batch #: 1
Matrix: Water
Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	193	125	347	123	80-120	X

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Lovington Water Plant

Work Order #: 467028

Lab Batch #: 919276 **Project ID:** 073016

Date Analyzed: 07/24/2013 10:30 **Date Prepared:** 07/24/2013 **Analyst:** AMB

QC- Sample ID: 467028-002 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	470	542	14	30	

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

BRL - Below Reporting Limit

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

XENCO Laboratories

☐ 4143 Greenbriar Drive, Stafford, TX 77477 **281-240-4200**
☐ 5332, Blackberry Drive, San Antonio, TX 78238 **210-509-3334**
☐ 9701 Harry Hines Blvd., Dallas, TX 75220 **214-902-0300**
☐ 12600 West I-20 East, Odessa, TX 79765 **432-563-1800**

Serial #: 327881 Page | of |

Company-City CRA, Midland **Phone** 432-940-2184

Project Name-Location Lovington Water Plant NM ☐ Previously done at XENCO **Project ID** 073016

Proj. State TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other

Proj. Manager (PM) John B Schnable

E-mail Results to PM and Jschnable@CRAworld.com **Fax No:**

Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.

Bill to:

Quote/Pricing: **P.O. No:** ☐ Call for P.O.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW **TRRP**

QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM)

Sampler Name Justin Nixon **Signature**

Lab Only: 467028

TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

	Sample ID	Sampling Date	Time	Depth ft' In" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX-1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	Chlorides EPA 300.0	TDS SM 2540	
1	MW-4-071813	7/18/2013	12:55		W		X	1	500ml		Ice										X	X	
2	MW-5-071813		13:25																				
3	MW-7-071813		14:05																				
4	MW-8-071813		14:45																				
5	MW-2-071813		15:30																				
6	MW-6-071813		16:20																				
7	MW-1-071813		16:45																				
8	MW-3-071813		17:15																				
9	Dup-1-071813		N/A				X	X															
10																							

Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1) Justin Nixon	7-19-13 1030	2)	7-19-13 10:30
3)		4)	
5)		6)	

Total Containers per COC: 9 Cooler Temp: 1.0 °C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Remarks

Sample Clean-ups are pre-approved as needed

Addn: Date Rcv. by: From:

TAT ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d

Addn: PAH above mg/L W, mg/Kg S Highest Hit

Hold Samples (Surcharges will apply and are pre-approved)

Preservatives: Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool, <4C) (**C**), None (**NA**),See Label (**L**), Other (**O**) _____ **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

Cont. Size: 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (**V**), Other _____

Matrix: Air (**A**), Product (**P**), Solid (**S**), Water (**W**), Liquid (**L**)

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

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 07/19/2013 10:30:00 AM

Work Order #: 467028

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)?	1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**Yes**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**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: 07/23/2013

Checklist reviewed by: Kelsey Brooks Date: 07/23/2013

Analytical Report 472523

for

Conestoga Rovers & Associates

Project Manager: John Schnable

Lovington Unit Water Plant

073016

28-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)

28-OCT-13

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

Reference: XENCO Report No(s): **472523**
Lovington Unit Water Plant
Project Address: Lovington, NM

John Schnable:

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) 472523. 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. 472523 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 472523

Conestoga Rovers & Associates, Midland, TX

Lovington Unit Water Plant

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-4-101813	W	10-18-13 11:35		472523-001
MW-5-101813	W	10-18-13 12:50		472523-002
MW-7-101813	W	10-18-13 14:00		472523-003
MW-8-101813	W	10-18-13 15:10		472523-004
MW-6-101813	W	10-18-13 16:20		472523-005
MW-2-102113	W	10-21-13 12:00		472523-006
MW-1-102113	W	10-21-13 13:05		472523-007
MW-3-102113	W	10-21-13 14:05		472523-008
WSW-102113	W	10-21-13 15:20		472523-009
Dup-102113	W	10-21-13 00:00		472523-010

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 472523

Conestoga Rovers & Associates, Midland, TX

Project Name: Lovington Unit Water Plant

Project Id: 073016
Contact: John Schnable
Project Location: Lovington, NM

Date Received in Lab: Tue Oct-22-13 09:22 am
Report Date: 28-OCT-13
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	472523-001		472523-002		472523-003		472523-004		472523-005		472523-006	
	Field Id:	MW-4-101813		MW-5-101813		MW-7-101813		MW-8-101813		MW-6-101813		MW-2-102113	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	Oct-18-13 11:35		Oct-18-13 12:50		Oct-18-13 14:00		Oct-18-13 15:10		Oct-18-13 16:20		Oct-21-13 12:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Oct-23-13 21:54		Oct-23-13 22:39		Oct-23-13 23:02		Oct-23-13 23:25		Oct-23-13 23:47		Oct-24-13 00:10	
	Analyzed:	Oct-23-13 21:54		Oct-23-13 22:39		Oct-23-13 23:02		Oct-23-13 23:25		Oct-23-13 23:47		Oct-24-13 00:10	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Chloride		71.9	5.00	59.9	5.00	163	10.0	90.3	5.00	214	10.0	547	20.0
TDS by SM2540C	***Extracted:***												
	Analyzed:	Oct-23-13 00:00		Oct-23-13 00:00		Oct-23-13 00:00		Oct-23-13 00:00		Oct-23-13 00:00		Oct-23-13 00:00	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Total dissolved solids		446	5.00	318	5.00	885	5.00	443	5.00	763	5.00	2260	5.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 472523

Conestoga Rovers & Associates, Midland, TX

Project Name: Lovington Unit Water Plant

Project Id: 073016
Contact: John Schnable
Project Location: Lovington, NM

Date Received in Lab: Tue Oct-22-13 09:22 am
Report Date: 28-OCT-13
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	472523-007		472523-008		472523-009		472523-010			
	Field Id:	MW-1-102113		MW-3-102113		WSW-102113		Dup-102113			
	Depth:										
	Matrix:	WATER		WATER		WATER		WATER			
	Sampled:	Oct-21-13 13:05		Oct-21-13 14:05		Oct-21-13 15:20		Oct-21-13 00:00			
Inorganic Anions by EPA 300/300.1	***Extracted:***	Oct-24-13 01:18		Oct-24-13 01:40		Oct-24-13 02:03		Oct-24-13 02:26			
	Analyzed:	Oct-24-13 01:18		Oct-24-13 01:40		Oct-24-13 02:03		Oct-24-13 02:26			
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL		
Chloride		578	20.0	1130	20.0	172	10.0	1140	20.0		
TDS by SM2540C	***Extracted:***										
	Analyzed:	Oct-23-13 00:00		Oct-23-13 00:00		Oct-23-13 00:00		Oct-23-13 00:00			
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL		
Total dissolved solids		2010	5.00	3280	5.00	848	5.00	3380	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

Blank Spike Recovery

Project Name: Lovington Unit Water Plant

Work Order #: 472523 **Project ID:** 073016

Lab Batch #: 926033 **Sample:** 926033-1-BKS **Matrix:** Water

Date Analyzed: 10/23/2013 **Date Prepared:** 10/23/2013 **Analyst:** AMB

Reporting Units: mg/L **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

TDS by SM2540C Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Total dissolved solids	<5.00	1000	1010	101	80-120	

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

BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: Lovington Unit Water Plant

Work Order #: 472523 **Project ID:** 073016

Analyst: AMB **Date Prepared:** 10/23/2013 **Date Analyzed:** 10/23/2013

Lab Batch ID: 925898 **Sample:** 645876-1-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	23.6	94	25.0	23.6	94	0	80-120	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Lovington Unit Water Plant

Work Order #: 472523

Lab Batch #: 925898 **Project ID:** 073016

Date Analyzed: 10/23/2013 **Date Prepared:** 10/23/2013 **Analyst:** AMB

QC- Sample ID: 472523-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Inorganic Anions by EPA 300 **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**%R [D]**	**Control Limits %R**	**Flag**
Chloride	71.9	125	201	103	80-120	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Lovington Unit Water Plant

Work Order #: 472523

Lab Batch #: 926033 **Project ID:** 073016

Date Analyzed: 10/23/2013 00:00 **Date Prepared:** 10/23/2013 **Analyst:** AMB

QC- Sample ID: 472495-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	610	580	5	10	

Lab Batch #: 926033

Date Analyzed: 10/23/2013 00:00 **Date Prepared:** 10/23/2013 **Analyst:** AMB

QC- Sample ID: 472523-008 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	3280	3860	16	10	F

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

BRL - Below Reporting Limit

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

XENCO Laboratories

☐ 4143 Greenbriar Drive, Stafford, TX 77477 **281-240-4200**
☐ 5332, Blackberry Drive, San Antonio, TX 78238 **210-509-3334**
☐ 9701 Harry Hines Blvd., Dallas, TX 75220 **214-902-0300**
☒ 12600 West I-20 East, Odessa, TX 79765 **432-563-1800**

Serial #: 324766 Page 1 of 1

Lab Only: 472523

Company-City	**Phone**
CRA - Midland	432-686-0086
Project Name-Location ☑ Previously done at XENCO	**Project ID**
Lovington Unit Water Plant, Lovington, NM	073016
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other NM	**Proj. Manager (PM)** John Schnable
E-mail Results to ☒ PM and	**Fax No:**
JSchnable@CRAworld.com	432-686-0086
Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.	
Bill to:	
Quote/Pricing:	**P.O. No:** ☐ Call for P.O.

TAT: ASAP 5h 12h 24h 48h 3d (5d) 7d 10d 21d Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW **TRRP**
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM)

Sampler Name Joe Micelos **Signature** Joe Micelos

	Sample ID	Sampling Date	Time	Depth ft' In" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX-1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	Chlorides EPA 300.0	TDS SM2540	TAT ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Sample Clean-ups are pre-approved as needed				
1	MW-4-101813	10-18-13	1135				X	1	5	P	C										X	X									1
2	MW-5-101813	10-18-13	1250				X	1	5	P	C										X	X									2
3	MW-7-101813	10-18-13	1400				X	1	5	P	C										X	X									3
4	MW-8-101813	10-18-13	1510				X	1	5	P	C										X	X									4
5	MW-6-101813	10-18-13	1620				X	1	5	P	C										X	X									5
6	MW-2-102113	10-21-13	1200				X	1	5	P	C										X	X									6
7	MW-1-102113	10-21-13	1305				X	1	5	P	C										X	X									7
8	MW-3-102113	10-21-13	1405				X	1	5	P	C										X	X									8
9	WSW-102113	10-21-13	1520				X	1	5	P	C										X	X									9
10	DUP-102113	10-21-13	—				X	1	5	P	C										X	X									10

	Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1	1) X Joe Mueller	10-22-13/0922	2) Caroline Jones	10-22-13
2	3)		4)	9:22
3	5)		6)	

Total Containers per COC: 10 Cooler Temp: 1.1-0°C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Preservatives: Various (**V**), HCl pH<2 (**H**), H2SO4 pH<2 (**S**), HNO3 pH<2 (**N**), Asbc Acid&NaOH (**A**), ZnAc&NaOH (**Z**), (Cool, <4C) (**C**), None (**NA**),See Label (**L**), Other (**O**) _____
Cont. Size: 4oz (**4**), 8oz (**8**), 32oz (**32**), 40ml VOA (**40**), 1L (**1**), 500ml (**5**), Tedlar Bag (**B**), Various (**V**), Other _____ **Cont. Type:** Glass Amb (**A**), Glass Clear (**C**), Plastic (**P**), Various (**V**)

Matrix: Air (**A**), Product (**P**), Solid (**S**), Water (**W**), Liquid (**L**)

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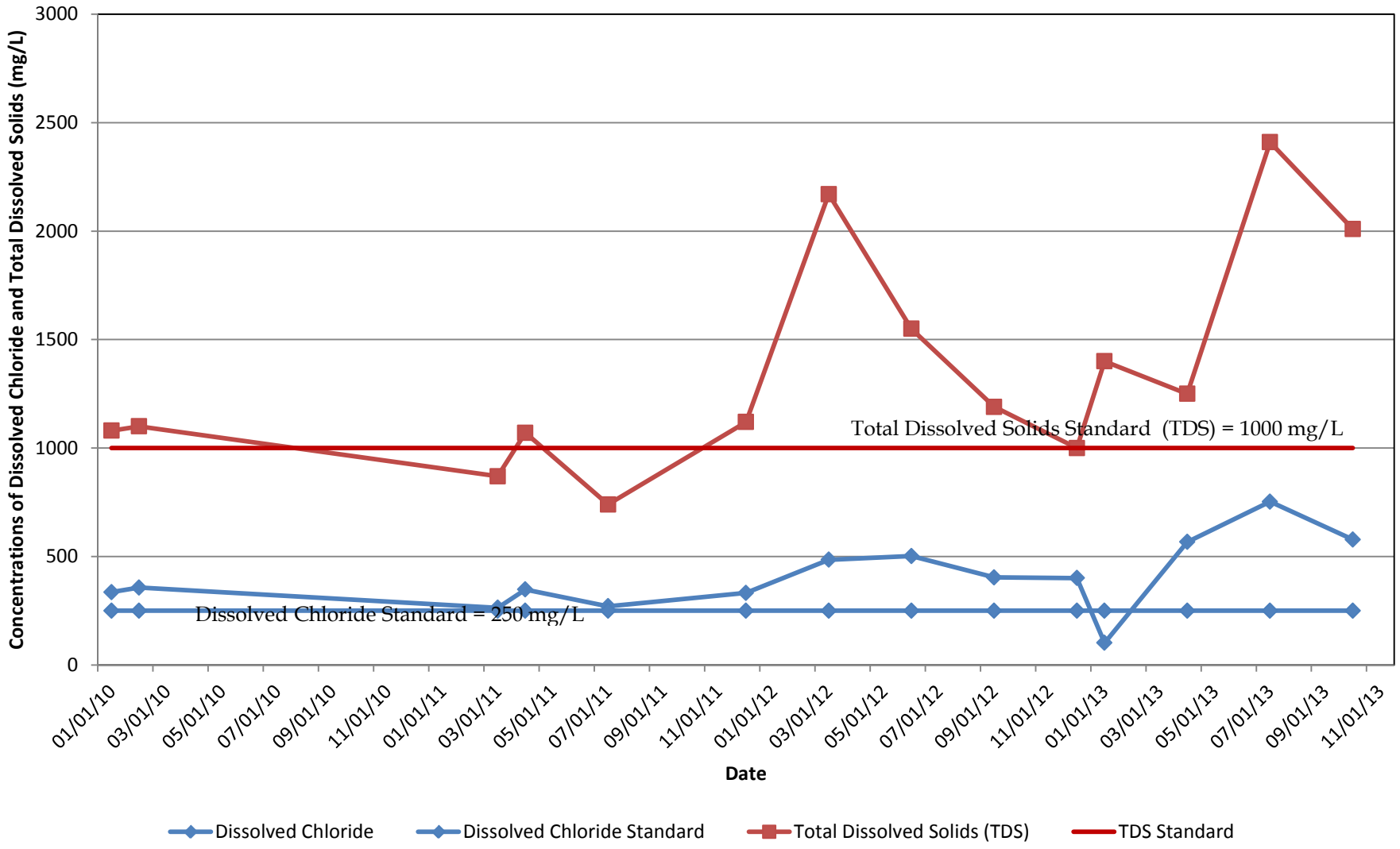
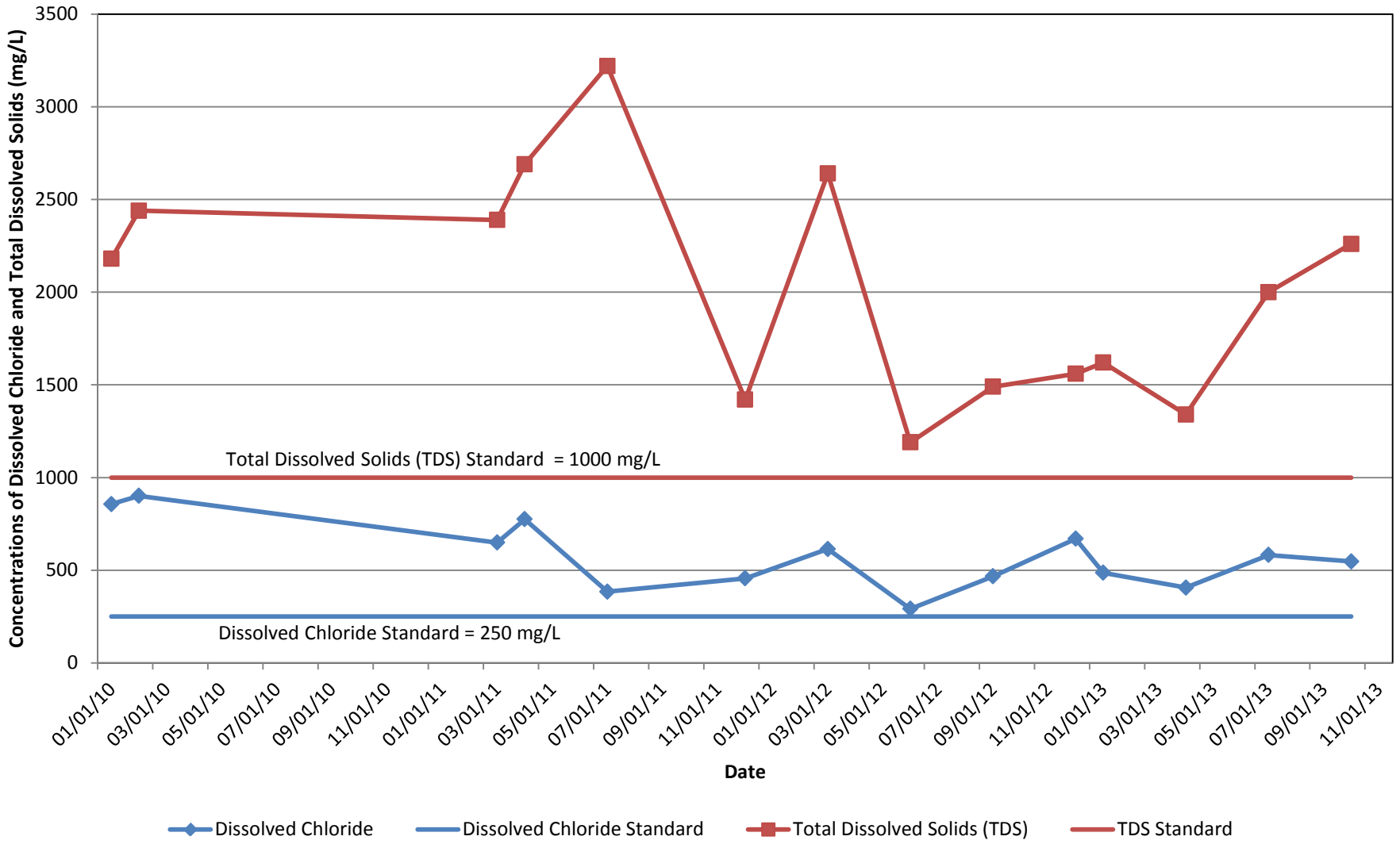
Appendix D

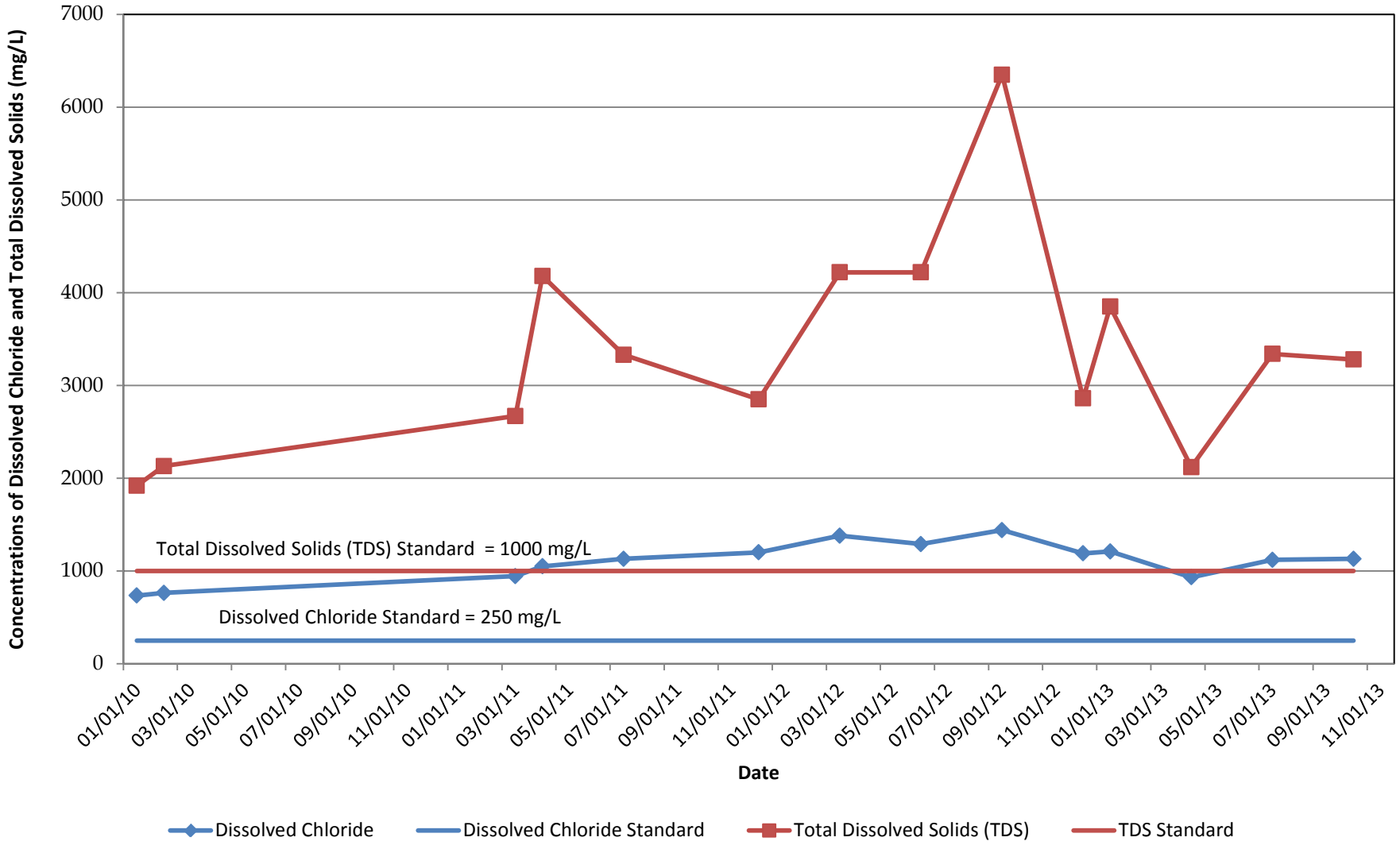
Chevron Environmental Management Company
Lovington Unit Water Plant
Section 1-T17S-R36E, Lea County, NM
Dissolved Chloride and Total Dissolved Solids in Groundwater
MW-1



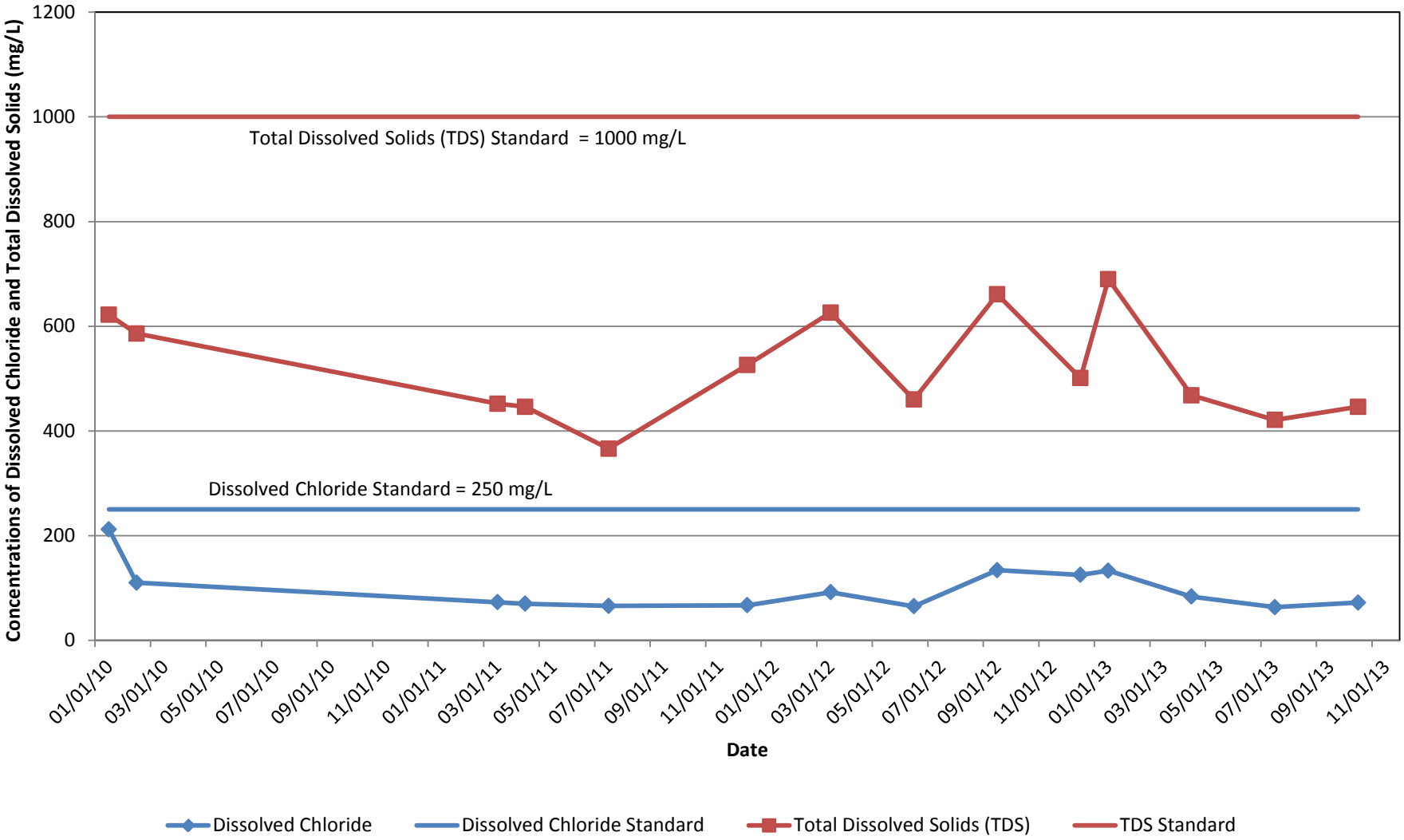
Chevron Environmental Management Company
Lovington Unit Water Plant
Section 1-T17S-R36E, Lea County, NM
Dissolved Chloride and Total Dissolved Solids in Groundwater
MW-2



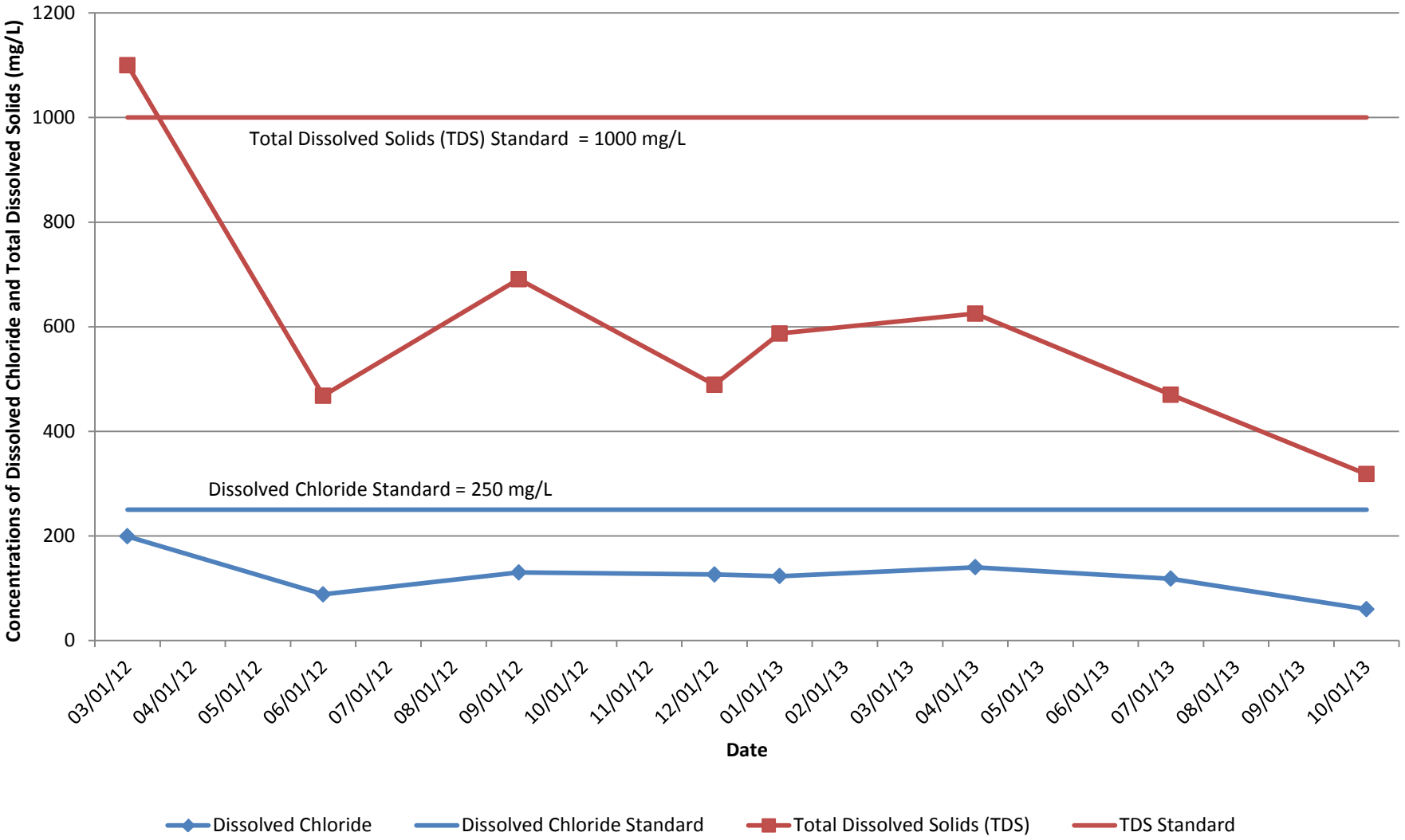
Chevron Environmental Management Company
Lovington Unit Water Plant
Section 1-T17S-R36E, Lea County, NM
Dissolved Chloride and Total Dissolved Solids in Groundwater
MW-3



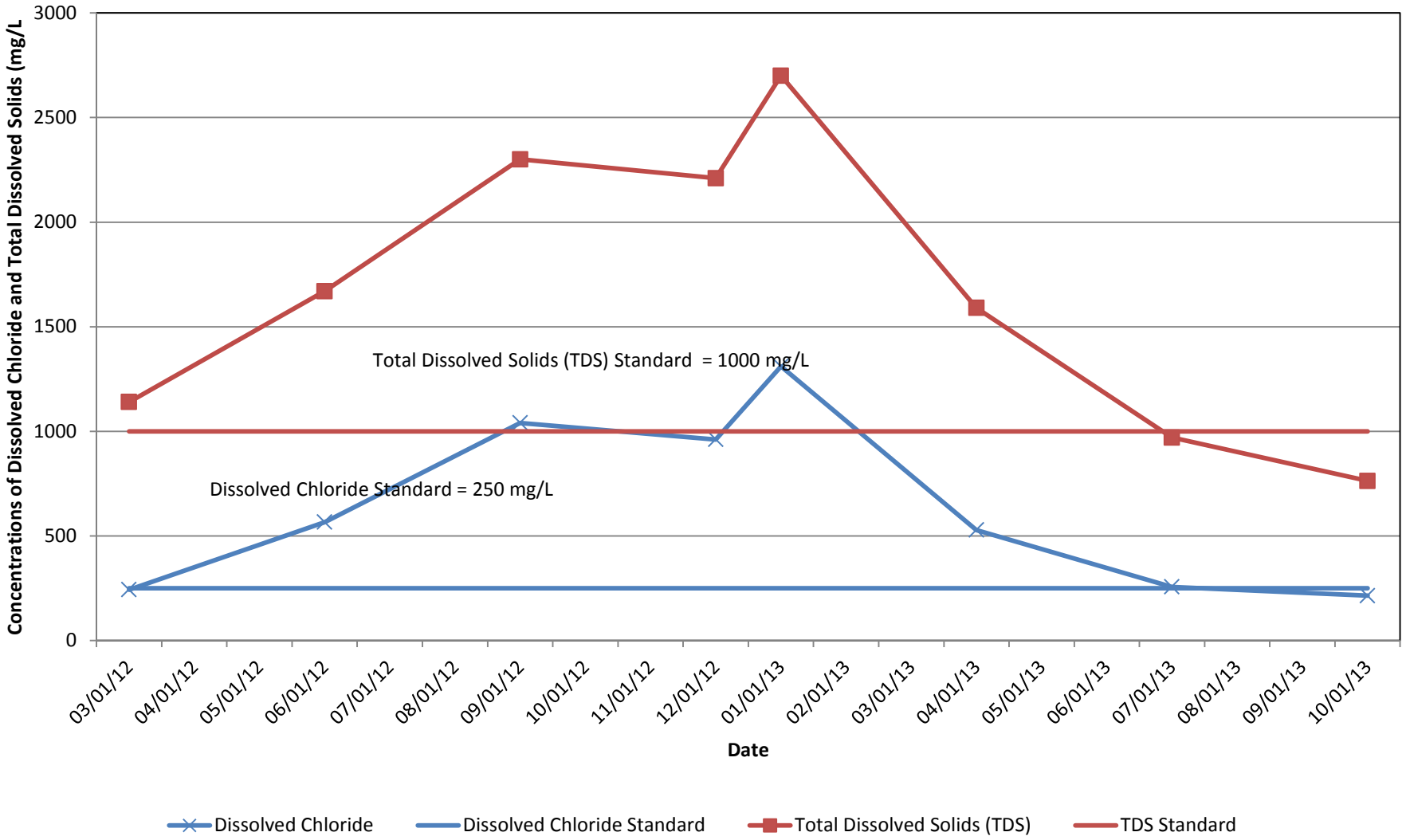
Chevron Environmental Management Company
Lovington Unit Water Plant
Section 1-T17S-R36E, Lea County, NM
Dissolved Chloride and Total Dissolved Solids in Groundwater
MW-4



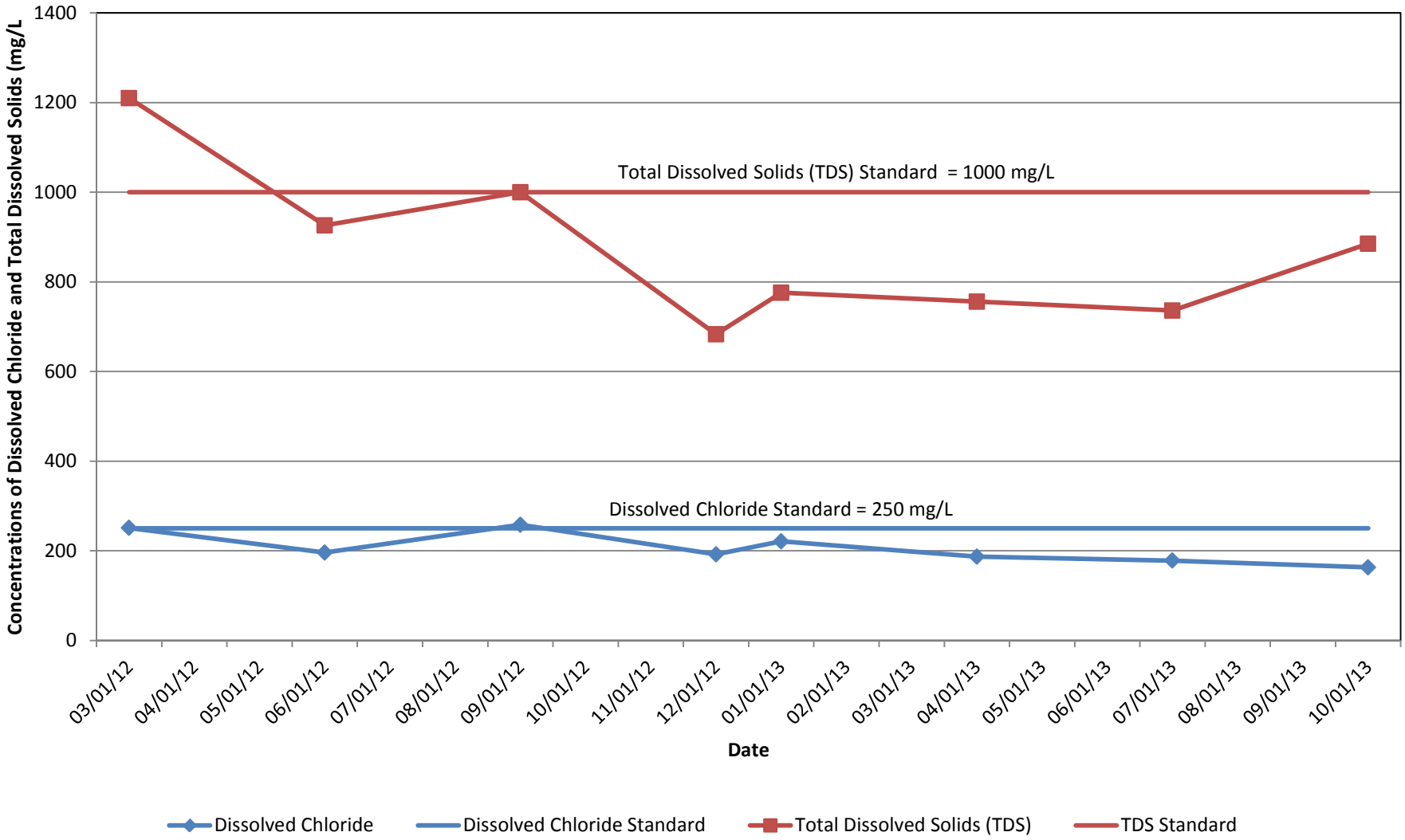
Chevron Environmental Management Company
Lovington Unit Water Plant
Section 1-T17S-R36E, Lea County, NM
Dissolved Chloride and Total Dissolved Solids in Groundwater
MW-5



Chevron Environmental Management Company
Lovington Unit Water Plant
Section 1-T17S-R36E, Lea County, NM
Dissolved Chloride and Total Dissolved Solids in Groundwater
MW-6



Chevron Environmental Management Company
Lovington Unit Water Plant
Section 1-T17S-R36E, Lea County, NM
Dissolved Chloride and Total Dissolved Solids in Groundwater
MW-7



Chevron Environmental Management Company
Lovington Unit Water Plant
Section 1-T17S-R36E, Lea County, NM
Dissolved Chloride and Total Dissolved Solids in Groundwater
MW-8