1R-289

2011 AGWMR

December, 2012

2011 ANNUAL GROUNDWATER MONITORING REPORT

COOPER-JAL UNIT SOUTH INJECTION STATION
CASE NO. 1R289, OGRID NO. 4323
NW/4, NW/4, SE/4, SECTION 24, T-24-S, R-36-E
LATITUDE: N 32° 12' 7.3" LONGITUDE: W 103° 12' 59.9"
LEA COUNTY, NEW MEXICO

Prepared For:

Mr. Jason Michelson
CEMC Upstream Business Unit
1400 Smith Street
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DECEMBER 2012
REF. NO. 039123 (8)
This report is printed on recycled paper.

2011 ANNUAL GROUNDWATER MONITORING REPORT

Prepared For:

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1.0 INTRODUCTION

This Annual Groundwater Monitoring Report presents groundwater data collected during the 2011 reporting period by Conestoga-Rovers & Associates (CRA) on behalf of Chevron Environmental Management Company (CEMC) at the Cooper-Jal Unit South Injection Station (hereafter referred to as the "Site"). Groundwater sampling events were performed on May 11, 2011 and on November 8 and 10, 2011.

The Site is located on Lea County Road J7, approximately 5.5 miles northwest of Jal, New Mexico and situated in Unit Letter J, northwest quarter (NW/4) of the northwest quarter (NW/4) of the southeast quarter (SE/4), Section 24, Township 24 South, Range 36 East, Lea County, New Mexico. The Site is relatively flat and improved with bermed above-ground storage tanks (ASTs), hardened caliche roadways and oil and gas production equipment that includes four production wells. Land use in the vicinity of the Site is undeveloped rangeland vegetated with indigenous grass, livestock ranching and oil and gas production. The topography slopes southeast toward Monument Draw located approximately 7.5 miles southeast of the Site. A Site Location Map is presented as Figure 1.

Site assessment activities were initiated in 1993 when Environmental Spill Control, Inc. (ESCI) of Hobbs, New Mexico performed a subsurface assessment of an unlined earthen emergency produced water overflow pit that was located adjacent to the west edge of the Site. During the investigation, five boreholes were advanced to depths ranging from 15 feet to 100 feet below ground surface (bgs). The investigation revealed the presence of hydrocarbon-affected soil. In 1996, Texaco Exploration and Production, Inc. (Texaco) filed a notice of intent to close the pit with the New Mexico Oil Conservation Division (NMOCD). Approximately 1,248 cubic yards of hydrocarbon-affected material were removed from the pit. During the closure activities, the excavation was lined with approximately 1,091 cubic yards of imported clay and backfilled with 3,360 cubic yards of imported caliche. Texaco submitted a pit closure report to the NMOCD in December 1996.

In 1997, the NMOCD requested additional assessment activities to define the vertical extent of affected soil beneath the pit. Assessment activities performed by Highlander Environmental Corporation revealed elevated soil chloride concentrations. In October 1997, monitor well MW-1 was installed near the former pit. Groundwater samples collected from the well contained chloride concentrations above the New Mexico Water Quality Control Commission (NMWQCC) Human Health Standards for Groundwater. Assessment activities performed through May 1998 included the

installation of 14 monitor wells. In 1998, electromagnetic (EM-34) terrain conductivity surveys were performed to identify areas of elevated soil chloride concentrations.

In June 1998, Texaco prepared a groundwater corrective action plan to mitigate chloride concentrations and to provide plume containment by extracting groundwater from the affected groundwater-bearing unit. Assessment activities performed in 1999 included the installation of wells MW-11, RW-1 and RW-2. Wells MW-12 and MW-13 were installed in 2001. Semi-annual groundwater monitoring activities and annual reporting to the NMOCD for this Site have been performed by CRA since 2005.

2.0 REGULATORY FRAMEWORK

2.1 NEW MEXICO OIL CONSERVATION DIVISION

The NMOCD guidelines require groundwater to be analyzed for potential contaminants as defined by the NMWQCC regulations. In addition, the NMWQCC regulations present the Human Health Standards for Groundwater and Other Standards for Domestic Water Supply. The constituent of concern (COC) in affected groundwater at the Site is chloride. In this report, groundwater analytical results for chloride and four additional analytes are compared to the NMWQCC standards as shown in the following table:

Analyte	*NMWQCC Standard for Groundwater (mg/L)*
Fluoride[1]	1.6[1]
Nitrate (NO_3 as N)[1]	10[1]
Chloride[2]	250[2]
Sulfate (SO_4)[2]	600[2]
Total Dissolved Solids (TDS)[2]	1,000[2]

Notes:

1) [1]NMWQCC Human Health Standards per NMAC 20.6.2.3103A

2) [2]NMWQCC Other Standards for Domestic Water Supply per NMAC 20.6.2.3103B

2.2 NEW MEXICO OFFICE OF THE STATE ENGINEER

The New Mexico Office of the State Engineer (NMOSE) governs water usage in the State of New Mexico. Applications for permit to appropriate groundwater were submitted by Texaco in October 1999 and were approved with specific conditions in June 2008. A total of 65 acre-feet (ac-ft) per annum from two onsite recovery wells (RW-1) and RW-2) was granted by the NMOSE for environmental remediation purposes. Usage of groundwater was granted by the NMOSE under well permits CP-884 (RW-2 - 32.5 ac-ft per annum) and CP-885 (RW-1 - 32.5 ac-ft per annum).

NMOSE Permit CP-884 and CP-884 POD2

On September 15, 2009 an Application for Permit to Change the Location of recovery well RW-2 (CP-884) was submitted to the NMOSE (form wr-06), due to a compromised casing rendering it non-functional as a recovery well. The application was approved for permit (CP-884 POD2) in correspondence dated April 22, 2010 with the condition that a Proof of Completion of Well or an Extension of Time be submitted to the NMOSE no later that April 30, 2012. Permit CP-884 POD2 supersedes permit CP-884. Recovery well (RW-2) will be retained for monitoring use only.

NMOSE Permit CP-885

On June 15, 2010 an Application for an Extension of Time in which to Perfect an Appropriation of Underground Water for permit CP-885 was submitted to the NMOSE (form wr-13). The application was requested because the well for the CP-885 was drilled but not yet equipped. Therefore, the extension of time was needed to fulfill the permit's original requirements. The extension was approved by the NMOSE in correspondence dated August 9, 2010, with the condition that a Proof of Completion of Well or an Extension of Time be submitted to the NMOSE no later than June 30, 2013.

3.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater at the Site is monitored with a network of 17 monitor wells and two recovery wells, in accordance with the *Work Plan for Plume Delineation and Modification to Proposed Groundwater Monitoring Schedule* (Larson & Associates, November 18, 1998). Five wells (MW-8, MW-9, MW-9A, MW-10 and MW-11) were sampled during the first semi-annual monitoring event performed on May 11, 2011. All wells were sampled during the second semi-annual monitoring event performed on November 8 and 10, 2011 except for monitor well MW-6 which was damaged and has collapsed casing. A Site Details Map is presented as Figure 2.

The stratification of chloride-impacted groundwater is monitored with selectively screened wells in the affected groundwater-bearing unit. Monitor wells MW-1 through MW-5, MW-7 through MW-10, MW-12 and MW-13 are screened across the basal 10 to 20 feet of the groundwater-bearing unit. These wells were drilled and completed to the Chinle Formation "Red Beds" underlying the Ogallala Aquifer and are referred to as the "deep wells" in this report. Wells MW-2A, MW-4A, MW-5A and MW-9A are screened across the water table interface with approximately five feet of screen above the water table and 10 feet of screen below the water table. These wells are referred to as the "shallow wells." Wells MW-6, MW-11, RW-1 and RW-2 are screened across the entire saturated zone of the groundwater-bearing unit and are referred to as "fully penetrating" wells.

Prior to purging the monitor wells, static fluid levels were measured with an electric interface probe to the nearest hundredth of a foot and recorded. Purging was considered complete when three well volumes had been removed or the well was purged dry. Water quality field parameters including pH, temperature and conductivity were collected during the purging process. All non-disposable groundwater sampling equipment was decontaminated with a soap (Liquinox®) and potable water wash, a potable water rinse and a final deionized water rinse to minimize potential cross-contamination between each monitor well. Subsequent to the purging process, each groundwater sample was collected using a new disposable PVC bailer. Laboratory-supplied sample containers were then filled directly from the disposable PVC bailers.

Groundwater samples were placed on ice in insulated coolers and chilled to a temperature of approximately 4°C (40°F). The coolers were sealed for shipment and proper chain-of-custody documentation accompanied the samples to ALS Laboratory Group (ALS) in Houston, Texas for analysis of major cations, anions and TDS by various

Environmental Protection Agency (EPA) Methods. The fluids recovered and generated during the sampling event were containerized in a dedicated polyethylene tank located onsite and subsequently transported and disposed at an NMOCD-permitted salt water disposal (SWD) facility by Nabors Well Services, LTD. (Nabors).

3.1 POTENTIOMETRIC SURFACE AND GRADIENT

Groundwater elevation data is presented in Table I. Groundwater gradient maps for May 2011 and November 2011 are presented as Figures 3 and 4, respectively. Groundwater elevations ranged from 3,179.29 feet to 3,193.89 feet above Mean Sea Level (MSL) on May 11, 2011 and from 3,179.32 feet to 3,193.75 feet above MSL on November 8, 2011. Although the Site's network of wells is completed at various intervals (shallow, deep and fully penetrating), the groundwater elevations appear to be consistent with historical levels with groundwater flow to the southeast. The gradient observed in 2011 was 0.003 feet/foot for both May and November events.

3.2 ANALYTICAL RESULTS

The 2011 analytical results generally fall within historical ranges for the two individual sampling strata. Higher chloride concentrations were observed in the basal portion of the Ogallala Aquifer, as reported in Table II. An isoconcentration map of the chloride concentrations for the May 2011 groundwater monitoring event is presented as Figure 5. Chloride isoconcentration maps for the shallow and deep wells for November 2011 are presented as Figures 6 and 7, respectively. Copies of the certified analytical reports and chain-of-custody documentation are attached in Appendix A.

During the May 2011 sampling event, two monitor wells (MW-9A and MW-10) exceeded the NMWQCC groundwater standards for chloride; one monitor well (MW-9) exceeded the NMWQCC groundwater standard for fluoride; and one monitor well (MW-9A) exceeded the NMWQCC groundwater standards for TDS. No wells exceeded the NMWQCC groundwater standards for sulfate or nitrates.

During the November 2011 sampling event, eleven wells (MW-1, MW-2, MW-4, MW-4A, MW-5, MW-7, MW-9A, MW-10, MW-13, RW-1 and RW-2) exceeded the NMWQCC groundwater standards for chloride; three wells (MW-9, MW-11 and RW-1) exceeded the NMWQCC groundwater standard for fluoride; eleven wells (MW-1, MW-2, MW-4, MW-4A, MW-5, MW-7, MW-9A, MW-10, MW-13, RW-1 and RW-2)

exceeded the NMWQCC groundwater standards for TDS; and two wells (MW-4 and RW-1) exceeded the NMWQCC groundwater standard for sulfate. No wells exceeded the NMWQCC groundwater standard for nitrates.

4.0 SUMMARY OF FINDINGS

Based on groundwater monitoring activities performed at the Site, CRA presents the following summary:

- Groundwater at the Site is monitored with a network of 17 monitor wells and two recovery wells. Five wells (MW-8, MW-9, MW-9A, MW-10 and MW-11) were sampled during the first semi-annual monitoring event in May 2011. All wells were sampled during the second semi-annual monitoring event in November 2011 except MW-6, in which damaged casing prevented sampling.
- Groundwater elevations ranged from 3,179.29 feet to 3,193.89 feet above MSL on May 11, 2011 and from 3,179.32 feet to 3,193.75 feet above MSL on November 8, 2011. Groundwater flow at the Site is to the southeast at a gradient of 0.003 feet/foot.
- The analytical results generally fall within historical ranges with higher chloride concentrations in the basal portion of the Ogallala aquifer.
- During the May 2011 sampling event, two monitor wells exceeded the NMWQCC groundwater standards for chloride; one monitor well exceeded the NMWQCC groundwater standard for fluoride; one monitor well exceeded the NMWQCC groundwater standards for TDS; and no wells exceeded the NMWQCC groundwater standards for sulfate or nitrates.
- During the November 2011 sampling event, eleven wells exceeded the NMWQCC groundwater standards for chloride; three wells exceeded the NMWQCC groundwater standard for fluoride; eleven wells exceeded the NMWQCC groundwater standards for TDS; two wells exceeded the NMWQCC groundwater standard for sulfate; and no wells exceeded the NMWQCC groundwater standard for nitrates.
- The semi-annual 2012 groundwater monitoring events are scheduled for May and October 2012.
- The chloride plume appears stable with little migration since 1998.

5.0 PLANNED ACTIVITIES

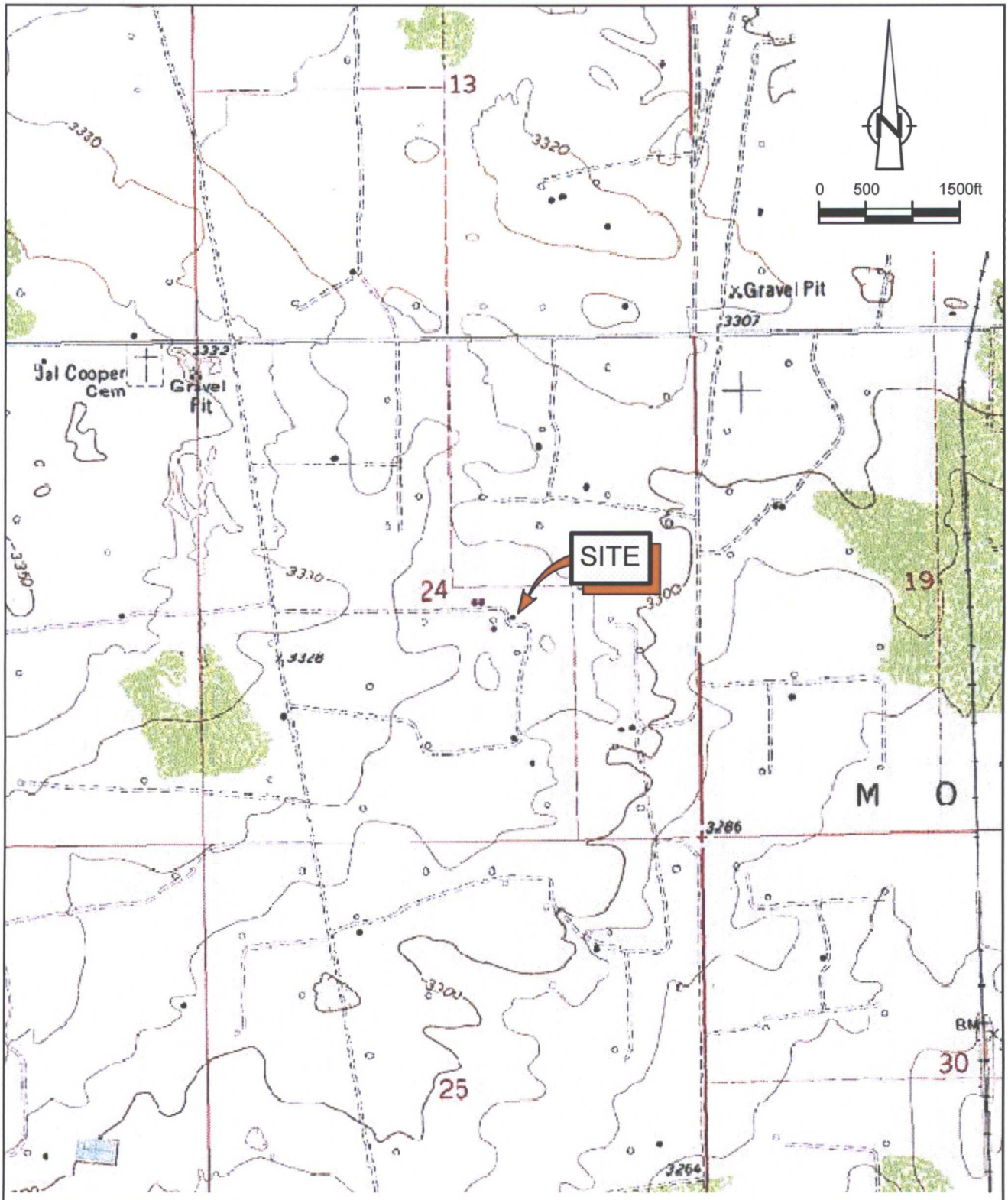
Based upon the summary and conclusions presented in this report, the following is recommended for the 2012 calendar year:

- Perform the 2012 semi-annual groundwater monitoring events that are scheduled for May and October 2012;
- Install a replacement recovery well for RW-2. The existing well RW-2 will be retained for monitoring purposes;
- Perform an aquifer evaluation pump test;
- Install one additional delineation monitor well to the southeast of the Site; and
- Install one monitor well to replace MW-6, which has damaged casing.

All of Which is Respectfully Submitted,
Conestoga-Rovers & Associates

Todd Wells
Senior Project Manager

Thomas C. Larson
Midland Office Manager



SOURCE: USGS 7.5 MINUTE QUADRANGLE;
JAL NW, NEW MEXICO (1977)

32° 12' 7.13" N, 103° 13' 4.36" W

figure 1

SITE LOCATION MAP
COOPER-JAL UNIT SOUTH INJECTION STATION
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

039123-10(008)GN-BR-001 DEC 20/2011

LEGEND

- MONITOR WELL LOCATION (DEEP)
- MONITOR WELL LOCATION (SHALLOW)
- COOPER-JAL OIL WELL LOCATION
- RECOVERY WELL LOCATION (FULLY PENETRATING)
- MONITOR WELL LOCATION (FULLY PENETRATING)

BASEMAP ADAPTED FROM LARSON & ASSOCIATES, INC. (AUGUST 18, 2005).

figure 2

SITE DETAILS MAP
COOPER-JAL UNIT SOUTH INJECTION STATION
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

039123-10(008)GN-BR-001 DEC 20/2011

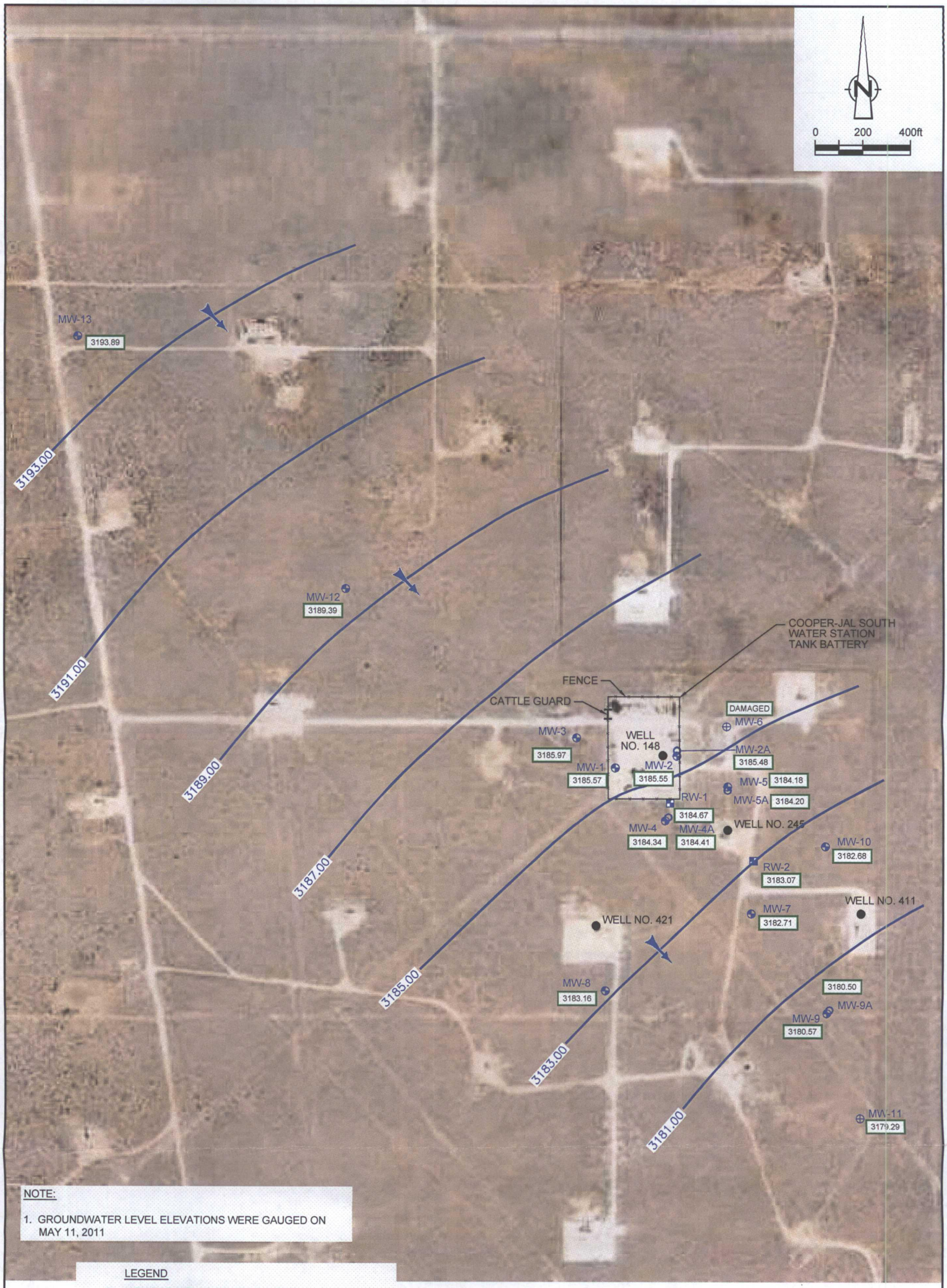


figure 3

GROUNDWATER GRADIENT MAP - MAY 2011
COOPER-JAL UNIT SOUTH INJECTION STATION
LEA COUNTY, NEW MEXICO

Chevron Environmental Management Company

039123-10(008)GN-BR001 MARCH 21/2012

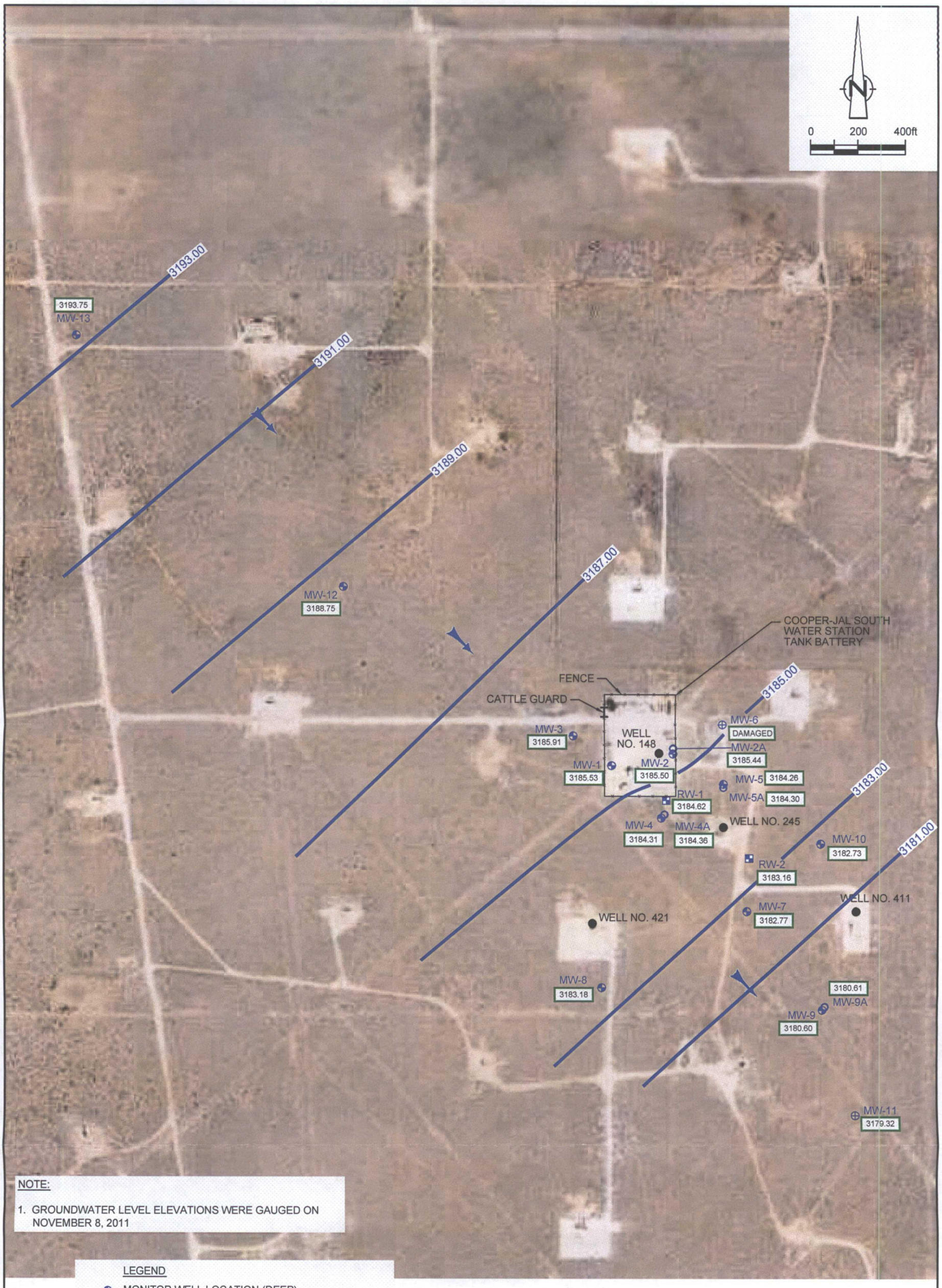
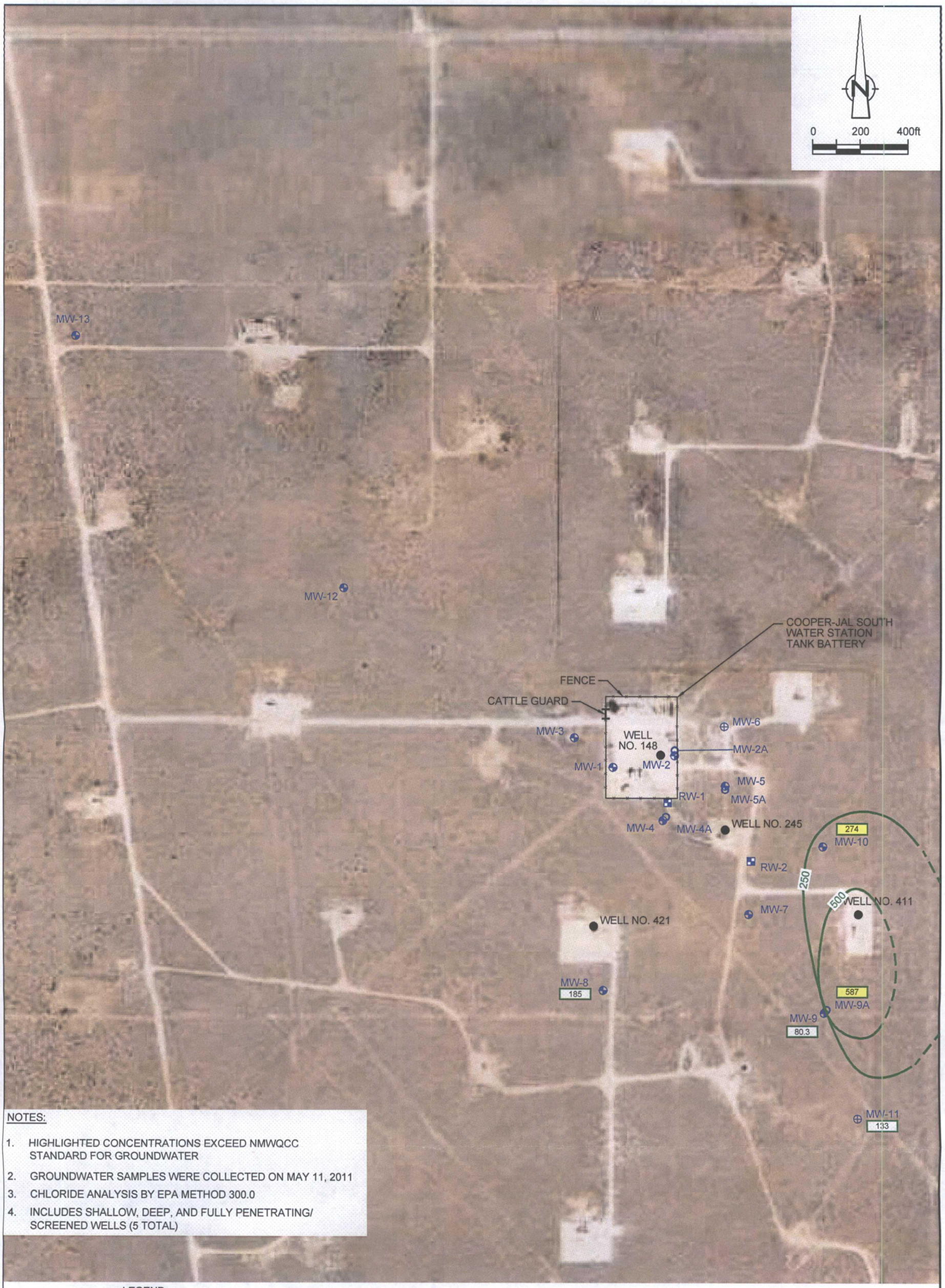


figure 4

GROUNDWATER GRADIENT MAP - NOVEMBER 2011
COOPER-JAL UNIT SOUTH INJECTION STATION
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

039123-10(008)GN-BR-001 MARCH 21/2012



NOTES:

1. HIGHLIGHTED CONCENTRATIONS EXCEED NMWQCC STANDARD FOR GROUNDWATER
2. GROUNDWATER SAMPLES WERE COLLECTED ON MAY 11, 2011
3. CHLORIDE ANALYSIS BY EPA METHOD 300.0
4. INCLUDES SHALLOW, DEEP, AND FULLY PENETRATING/ SCREENED WELLS (5 TOTAL)

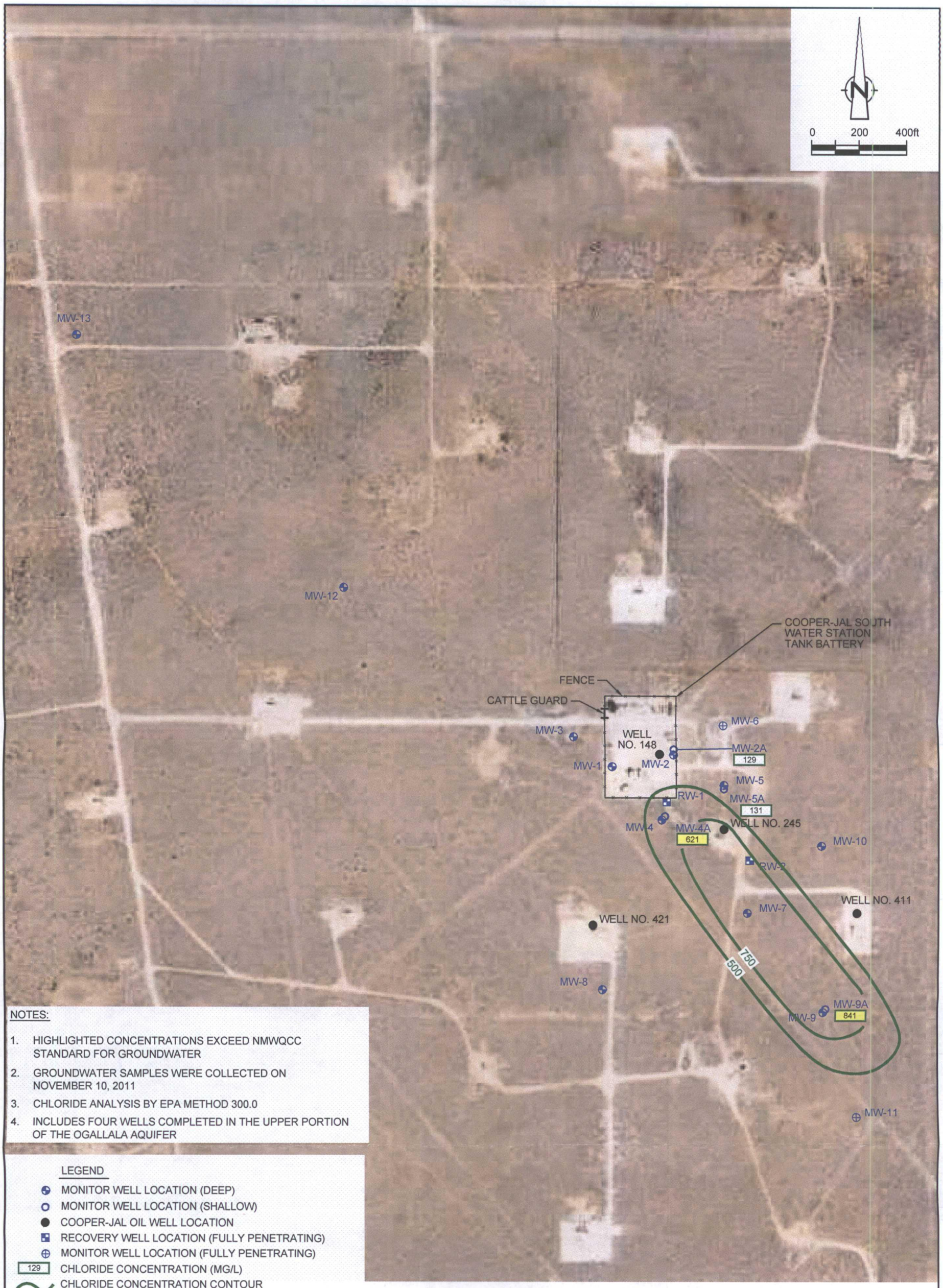
LEGEND

- MONITOR WELL LOCATION (DEEP)
- MONITOR WELL LOCATION (SHALLOW)
- COOPER-JAL OIL WELL LOCATION
- RECOVERY WELL LOCATION (FULLY PENETRATING)
- MONITOR WELL LOCATION (FULLY PENETRATING)
- 185 CHLORIDE CONCENTRATION (MG/L)
- CHLORIDE CONCENTRATION CONTOUR (INTERVAL = 250 MG/L)

figure 5

CHLORIDE ISOCONCENTRATION MAP - MAY 2011
COOPER-JAL UNIT SOUTH INJECTION STATION
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

039123-10(008)GN-BR001 FEB 10/2011



NOTES:

1. HIGHLIGHTED CONCENTRATIONS EXCEED NMWQCC STANDARD FOR GROUNDWATER
2. GROUNDWATER SAMPLES WERE COLLECTED ON NOVEMBER 10, 2011
3. CHLORIDE ANALYSIS BY EPA METHOD 300.0
4. INCLUDES FOUR WELLS COMPLETED IN THE UPPER PORTION OF THE OGALLALA AQUIFER

LEGEND

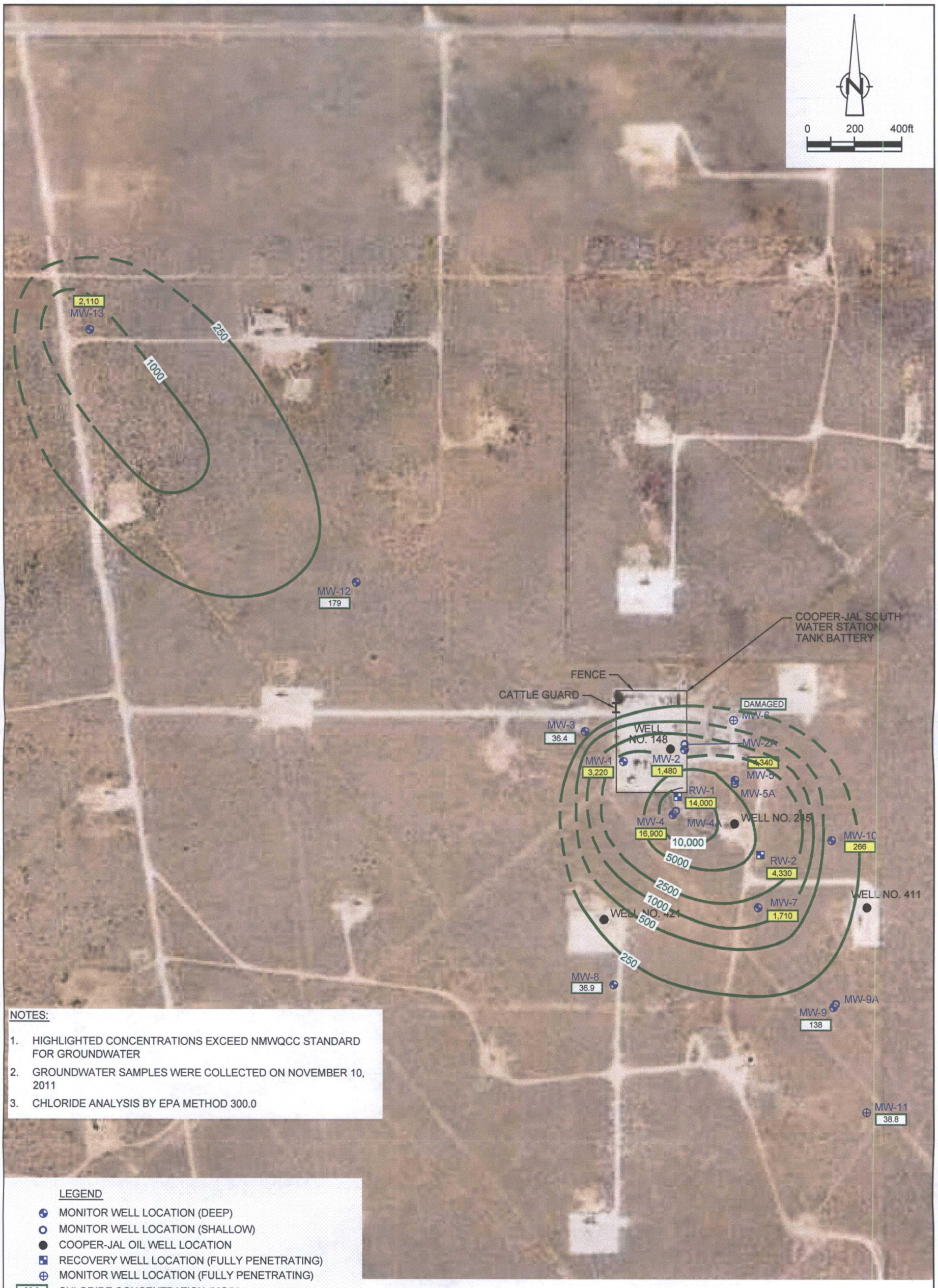
- MONITOR WELL LOCATION (DEEP)
- MONITOR WELL LOCATION (SHALLOW)
- COOPER-JAL OIL WELL LOCATION
- RECOVERY WELL LOCATION (FULLY PENETRATING)
- MONITOR WELL LOCATION (FULLY PENETRATING)
- 129 CHLORIDE CONCENTRATION (MG/L)
- CHLORIDE CONCENTRATION CONTOUR (INTERVAL = 250 MG/L)

figure 6

SHALLOW GROUNDWATER CHLORIDE ISOCONCENTRATION MAP - NOVEMBER 2011
COOPER-JAL UNIT SOUTH INJECTION STATION
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

CRA

039123-10(008)GN-BR-001 FEB 10/2012



NOTES:

1. HIGHLIGHTED CONCENTRATIONS EXCEED NMWQCC STANDARD FOR GROUNDWATER
2. GROUNDWATER SAMPLES WERE COLLECTED ON NOVEMBER 10, 2011
3. CHLORIDE ANALYSIS BY EPA METHOD 300.0

LEGEND

- MONITOR WELL LOCATION (DEEP)
- MONITOR WELL LOCATION (SHALLOW)
- COOPER-JAL OIL WELL LOCATION
- RECOVERY WELL LOCATION (FULLY PENETRATING)
- MONITOR WELL LOCATION (FULLY PENETRATING)
- 36.9 CHLORIDE CONCENTRATION (MG/L)
- CHLORIDE CONCENTRATION CONTOUR (INTERVAL = VARIABLE MG/L)

figure 7

DEEP GROUNDWATER CHLORIDE ISOCONCENTRATION MAP - NOVEMBER 2011
COOPER-JAL UNIT SOUTH INJECTION STATION
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

CRA

039123-10(008)GN-BR001 MARCH 21/2012

TABLE I

GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID *TOC [1] Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC [1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC [1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs [2])*
MW-1	05/18/98	135.05	3185.12	172.38	2	153-173
3320.17	05/25/99	134.93	3185.24	---	---	---
	02/08/01	134.80	3185.37	---	---	---
	05/10/02	134.77	3185.40	---	---	---
	10/22/02	134.89	3185.28	---	---	---
	05/20/03	135.17	3185.00	---	---	---
	11/24/03	134.70	3185.47	---	---	---
	05/11/04	134.75	3185.42	---	---	---
	11/15/04	134.76	3185.41	---	---	---
	05/17/05	134.29	3185.88	---	---	---
	11/15/05	134.93	3185.24	---	---	---
	05/08/06	134.68	3185.49	---	---	---
	11/13/06	134.62	3185.55	---	---	---
	05/29/07	134.71	3185.46	---	---	---
	11/16/07	134.70	3185.47	---	---	---
	05/14/08	134.73	3185.44	---	---	---
	11/03/08	134.69	3185.48	---	---	---
	05/19/09	134.64	3185.53	---	---	---
	11/02/09	134.71	3185.46	---	---	---
	05/05/10	134.90	3185.27	172.2	---	---
	11/08/10	134.50	3185.67	172.2	---	---
	05/11/11	134.60	3185.57	---	---	---
	11/08/11	134.64	3185.53	---	---	---
MW-2	05/18/98	135.00	3184.86	170.60	2	163-173
3319.86	05/25/99	134.79	3185.07	---	---	---
	02/08/01	134.63	3185.23	---	---	---
	05/10/02	134.65	3185.21	---	---	---
	10/22/02	134.72	3185.14	---	---	---
	05/20/03	134.95	3184.91	---	---	---
	11/24/03	134.56	3185.30	---	---	---
	05/11/04	134.55	3185.31	---	---	---
	11/15/04	134.53	3185.33	---	---	---
	05/17/05	134.39	3185.47	---	---	---
	11/15/05	134.77	3185.09	---	---	---
	05/08/06	134.52	3185.34	---	---	---
	11/13/06	134.44	3185.42	---	---	---
	05/29/07	134.54	3185.32	---	---	---
	11/14/07	134.52	3185.34	---	---	---
	05/14/08	134.53	3185.33	---	---	---
	11/03/08	134.44	3185.42	---	---	---
	05/19/09	134.46	3185.40	---	---	---
	11/16/09	134.51	3185.35	---	---	---
	05/05/10	134.62	3185.24	170.5	---	---
	11/08/10	134.25	3185.61	170.5	---	---

TABLE I

GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID *TOC [1] Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC [1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC [1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs [2])*
MW-2A	05/18/98	134.80	3185.06	142.30	2	130-145
3319.86	05/25/99	134.73	3185.13	---	---	---
	02/08/01	134.58	3185.28	---	---	---
	05/10/02	134.50	3185.36	---	---	---
	10/22/02	134.66	3185.20	---	---	---
	05/20/03	135.80	3184.06	---	---	---
	11/24/03	134.60	3185.26	---	---	---
	05/11/04	134.53	3185.33	---	---	---
	11/15/04	134.58	3185.28	---	---	---
	05/17/05	134.47	3185.39	---	---	---
	11/15/05	134.74	3185.12	---	---	---
	05/08/06	134.46	3185.40	---	---	---
	11/13/06	134.39	3185.47	---	---	---
	05/29/07	134.50	3185.36	---	---	---
	11/14/07	134.48	3185.38	---	---	---
	05/14/08	134.49	3185.37	---	---	---
	11/03/08	134.46	3185.40	---	---	---
	05/19/09	134.42	3185.44	---	---	---
	11/02/09	134.45	3185.41	---	---	---
	05/05/10	134.52	3185.34	142.19	---	---
	11/08/10	134.30	3185.56	142.19	---	---
	05/11/11	134.38	3185.48	---	---	---
	11/08/11	134.42	3185.44	142.31	---	
MW-3	05/18/98	132.65	3185.56	171.93	2	161-171
3318.21	05/25/99	132.52	3185.69	---	---	---
	02/08/01	132.40	3185.81	---	---	---
	05/10/02	132.40	3185.81	---	---	---
	10/22/02	132.49	3185.72	---	---	---
	05/20/03	132.75	3185.46	---	---	---
	11/24/03	132.29	3185.92	---	---	---
	05/11/04	132.38	3185.83	---	---	---
	11/15/04	132.46	3185.75	---	---	---
	05/17/05	132.32	3185.89	---	---	---
	11/15/05	132.55	3185.66	---	---	---
	05/08/06	132.32	3185.89	---	---	---
	11/13/06	132.27	3185.94	---	---	---
	05/29/07	132.36	3185.85	---	---	---
	11/16/07	132.34	3185.87	---	---	---
	05/14/08	132.36	3185.85	---	---	---
	11/03/08	132.31	3185.90	---	---	---
	05/19/09	132.25	3185.96	---	---	---
	11/02/09	132.37	3185.84	---	---	---
	05/05/10	132.48	3185.73	171.93	---	---
	11/08/10	132.14	3186.07	171.93	---	---
	05/11/11	132.24	3185.97	---	---	---

TABLE I

GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID *TOC[1] Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC[1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC[1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs[2])*
MW-3 (cont)	11/08/11	132.30	3185.91	171.89	---	---
MW-4	05/18/98	136.01	3183.73	171.41	2	161-171
3319.74	05/25/99	135.57	3184.17	---	---	---
	02/08/01	135.87	3183.87	---	---	---
	05/10/02	135.67	3184.07	---	---	---
	10/22/02	135.90	3183.84	---	---	---
	05/20/03	136.00	3183.74	---	---	---
	11/24/03	135.70	3184.04	---	---	---
	05/11/04	135.34	3184.40	---	---	---
	11/15/04	135.76	3183.98	---	---	---
	05/17/05	135.69	3184.05	---	---	---
	11/15/05	135.85	3183.89	---	---	---
	05/08/06	135.60	3184.14	---	---	---
	11/13/06	135.59	3184.15	---	---	---
	05/29/07	135.75	3183.99	---	---	---
	11/14/07	135.62	3184.12	---	---	---
	05/14/08	135.76	3183.98	---	---	---
	11/03/08	135.66	3184.08	---	---	---
	05/19/09	135.67	3184.07	---	---	---
	11/02/09	135.68	3184.06	---	---	---
	05/05/10	135.83	3183.91	171.56	---	---
	11/08/10	135.36	3184.38	171.56	---	---
	05/05/11	135.40	3184.34	---	---	---
	11/08/11	135.43	3184.31	171.76	---	---
MW-4A	05/18/98	135.68	3183.90	146.00	2	128-143
3319.58	05/21/99	135.65	3183.93	---	---	---
	05/25/99	135.90	3183.68	---	---	---
	02/08/01	135.34	3184.24	---	---	---
	05/10/02	135.30	3184.28	---	---	---
	10/22/02	135.51	3184.07	---	---	---
	05/20/03	135.55	3184.03	---	---	---
	11/24/03	135.31	3184.27	---	---	---
	05/11/04	135.72	3183.86	---	---	---
	11/15/04	135.38	3184.20	---	---	---
	05/17/05	135.32	3184.26	---	---	---
	11/15/05	135.52	3184.06	---	---	---
	05/08/06	135.26	3184.32	---	---	---
	11/13/06	135.20	3184.38	---	---	---
	05/29/07	135.32	3184.26	---	---	---
	11/14/07	135.20	3184.38	---	---	---
	05/14/08	135.31	3184.27	---	---	---
	11/03/08	135.27	3184.31	---	---	---
	05/19/09	135.25	3184.33	---	---	---
	11/02/09	135.25	3184.33	---	---	---

TABLE I

GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID *TOC [1] Elevation*	*Collection Date*	*Depth to Groundwater (ft TOC [1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC [1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs [2])*
MW-4A (cont)	05/05/10	135.33	3184.25	145.95	---	---
	11/08/10	135.18	3184.40	145.95	---	---
	05/11/11	135.17	3184.41	---	---	---
	11/08/11	135.22	3184.36	145.72	---	---
MW-5	05/18/98	137.42	3183.68	173.65	2	161-171
3321.10	05/25/99	137.28	3183.82	---	---	---
	02/08/01	137.18	3183.92	---	---	---
	05/10/02	137.10	3184.00	---	---	---
	10/22/02	137.04	3184.06	---	---	---
	05/20/03	137.45	3183.65	---	---	---
	11/24/03	137.01	3184.09	---	---	---
	05/11/04	137.01	3184.09	---	---	---
	11/15/04	137.08	3184.02	---	---	---
	05/17/05	137.00	3184.10	---	---	---
	11/15/05	137.18	3183.92	---	---	---
	05/08/06	136.90	3184.20	---	---	---
	11/13/06	136.81	3184.29	---	---	---
	05/29/07	136.92	3184.18	---	---	---
	11/14/07	136.85	3184.25	---	---	---
	05/14/08	136.97	3184.13	---	---	---
	11/03/08	136.89	3184.21	---	---	---
	05/19/09	136.90	3184.20	---	---	---
	11/02/09	136.90	3184.20	---	---	---
	05/05/10	137.02	3184.08	173.6	---	---
	11/08/10	136.93	3184.17	173.6	---	---
	05/11/11	136.92	3184.18	---	---	---
	11/08/11	136.84	3184.26	173.61	---	---
MW-5A	05/18/98	137.20	3183.87	143.85	2	126-141
3321.07	05/25/99	137.11	3183.96	---	---	---
	02/08/01	136.99	3184.08	---	---	---
	05/10/02	136.90	3184.17	---	---	---
	10/22/02	137.17	3183.90	---	---	---
	05/20/03	137.24	3183.83	---	---	---
	11/24/03	136.91	3184.16	---	---	---
	05/11/04	136.88	3184.19	---	---	---
	11/15/04	136.92	3184.15	---	---	---
	05/17/05	136.83	3184.24	---	---	---
	11/15/05	137.06	3184.01	---	---	---
	05/08/06	136.80	3184.27	---	---	---
	11/13/06	136.74	3184.33	---	---	---
	05/29/07	136.82	3184.25	---	---	---
	11/14/07	136.88	3184.19	---	---	---
	05/14/08	136.83	3184.24	---	---	---
	11/03/08	136.81	3184.26	---	---	---

TABLE I

GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID TOC[1] Elevation	*Collection Date*	*Depth to Groundwater (ft TOC[1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC[1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs[2])*
MW-5A (cont)	05/19/09	136.78	3184.29	---	---	---
	11/02/09	136.80	3184.27	---	---	---
	05/05/10	136.91	3184.16	143.9	---	---
	11/08/10	136.69	3184.38	143.9	---	---
	05/11/11	136.87	3184.20	---	---	---
	11/08/11	136.77	3184.30	144.06	---	---
MW-6	05/18/98	136.73	3184.42	169.25	2	120-170
3321.15	05/25/99	136.61	3184.54	---	---	---
	02/08/01	136.50	3184.65	---	---	---
	05/10/02	136.40	3184.75	---	---	---
	10/22/02	136.57	3184.58	---	---	---
	05/20/03	136.85	3184.30	---	---	---
	11/24/03	136.38	3184.77	---	---	---
	05/11/04	136.41	3184.74	---	---	---
	11/15/04	136.08	3185.07	---	---	---
	05/17/05	136.58	3184.57	---	---	---
	11/15/05	136.82	3184.33	---	---	---
	05/08/06	136.58	3184.57	---	---	---
	11/13/06	136.49	3184.66	---	---	---
	05/29/07	136.61	3184.54	---	---	---
	11/15/07	136.59	3184.56	---	---	---
	05/14/08	136.58	3184.57	---	---	---
	11/03/08	136.52	3184.63	---	---	---
	05/19/09	136.52	3184.63	---	---	---
	11/02/09	136.51	3184.64	---	---	---
	05/05/10	136.53	3184.62	168.97	---	---
	11/08/10	136.4	3184.75	168.97	---	---
	05/11/11			Well Casing Damaged		
	11/08/11			Well Casing Damaged		
MW-7	05/18/98	136.19	3182.20	166.15	2	151-166
3318.39	05/25/99	135.98	3182.41	---	---	---
	02/08/01	135.87	3182.52	---	---	---
	05/10/02	135.67	3182.72	---	---	---
	10/22/02	135.89	3182.50	---	---	---
	05/20/03	136.12	3182.27	---	---	---
	11/24/03	135.71	3182.68	---	---	---
	05/11/04	135.74	3182.65	---	---	---
	11/15/04	135.78	3182.61	---	---	---
	05/17/05	135.68	3182.71	---	---	---
	11/15/05	135.90	3182.49	---	---	---
	05/08/06	135.64	3182.75	---	---	---
	11/13/06	135.58	3182.81	---	---	---
	05/29/07	135.73	3182.66	---	---	---
	11/15/07	135.64	3182.75	---	---	---

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GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID TOC[1] Elevation	*Collection Date*	*Depth to Groundwater (ft TOC[1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC[1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs[2])*
MW-7 (cont)	05/14/08	135.68	3182.71	---	---	---
	11/03/08	135.66	3182.73	---	---	---
	05/19/09	135.63	3182.76	---	---	---
	11/02/09	135.65	3182.74	---	---	---
	05/05/10	135.80	3182.59	165.9	---	---
	11/08/10	135.51	3182.88	165.9	---	---
	05/11/11	135.68	3182.71	---	---	---
	11/08/11	135.62	3182.77	166.07	---	
MW-8	05/18/98	134.36	3182.78	171.92	2	155-170
3317.14	05/25/99	134.21	3182.93	---	---	---
	02/08/01	134.08	3183.06	---	---	---
	05/10/02	133.95	3183.19	---	---	---
	10/22/02	134.18	3182.96	---	---	---
	05/20/03	134.38	3182.76	---	---	---
	11/24/03	133.99	3183.15	---	---	---
	05/11/04	134.02	3183.12	---	---	---
	11/15/04	134.11	3183.03	---	---	---
	05/17/05	133.97	3183.17	---	---	---
	11/15/05	134.21	3182.93	---	---	---
	05/08/06	133.94	3183.20	---	---	---
	11/13/06	133.9	3183.24	---	---	---
	05/29/07	134.02	3183.12	---	---	---
	11/15/07	133.76	3183.38	---	---	---
	05/15/08	133.98	3183.16	---	---	---
	11/03/08	134.01	3183.13	---	---	---
	05/19/09	133.97	3183.17	---	---	---
	11/02/09	134.00	3183.14	---	---	---
	05/05/10	134.08	3183.06	171.94	---	---
	11/08/10	134.03	3183.11	171.94	---	---
	05/11/11	133.98	3183.16	171.85	---	---
	11/08/11	133.96	3183.18	171.93	---	---
MW-9	05/18/98	132.89	3179.90	161.40	2	149-164
3312.79	05/25/99	132.68	3180.11	---	---	---
	02/08/01	132.52	3180.27	---	---	---
	05/10/02	137.20	3175.59	---	---	---
	10/22/02	132.56	3180.23	---	---	---
	05/20/03	132.75	3180.04	---	---	---
	11/24/03	132.35	3180.44	---	---	---
	05/11/04	132.39	3180.40	---	---	---
	11/15/04	132.43	3180.36	---	---	---
	05/17/05	132.26	3180.53	---	---	---
	11/15/05	132.60	3180.19	---	---	---
	05/08/06	132.26	3180.53	---	---	---
	11/13/06	132.19	3180.60	---	---	---

TABLE I

GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID TOC[1] Elevation	*Collection Date*	*Depth to Groundwater (ft TOC[1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC[1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs[2])*
MW-9 (cont)	05/29/07	132.32	3180.47	---	---	---
	11/14/07	132.34	3180.45	---	---	---
	05/15/08	132.29	3180.50	---	---	---
	11/03/08	132.33	3180.46	---	---	---
	05/19/09	132.21	3180.58	---	---	---
	11/02/09	132.35	3180.44	---	---	---
	05/05/10	132.41	3180.38	161.32	---	---
	11/08/10	132.10	3180.69	161.32	---	---
	05/11/11	132.22	3180.57	161.38	---	---
	11/08/11	132.19	3180.60	161.49	---	---
MW-9A	05/18/98	132.65	3179.91	144.15	2	127-142
3312.56	05/25/99	132.43	3180.13	---	---	---
	02/08/01	132.37	3180.19	---	---	---
	05/10/02	137.20	3175.36	---	---	---
	10/22/02	132.35	3180.21	---	---	---
	05/20/03	132.55	3180.01	---	---	---
	11/24/03	132.10	3180.46	---	---	---
	05/11/04	132.14	3180.42	---	---	---
	11/15/04	132.19	3180.37	---	---	---
	05/17/05	132.06	3180.50	---	---	---
	11/15/05	132.35	3180.21	---	---	---
	05/08/06	132.02	3180.54	---	---	---
	11/13/06	131.09	3181.47	---	---	---
	05/29/07	132.08	3180.48	---	---	---
	11/14/07	132.06	3180.50	---	---	---
	05/15/08	132.03	3180.53	---	---	---
	11/03/08	131.98	3180.58	---	---	---
	05/19/09	132.00	3180.56	---	---	---
	11/02/09	131.90	3180.66	---	---	---
	05/05/10	131.96	3180.60	143.85	---	---
	11/08/10	131.85	3180.71	143.85	---	---
	05/11/11	132.06	3180.50	143.40	---	---
	11/08/11	131.95	3180.61	143.47	---	---
MW-10	05/18/98	137.18	3182.12	164.15	2	151-166
3319.30	05/25/99	137.04	3182.26	---	---	---
	02/08/01	136.88	3182.42	---	---	---
	05/10/02	136.80	3182.50	---	---	---
	10/22/02	136.91	3182.39	---	---	---
	05/20/03	137.13	3182.17	---	---	---
	11/24/03	136.71	3182.59	---	---	---
	05/11/04	136.77	3182.53	---	---	---
	11/15/04	136.82	3182.48	---	---	---
	05/17/05	136.34	3182.96	---	---	---
	11/15/05	136.95	3182.35	---	---	---

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GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID TOC [1] Elevation	*Collection Date*	*Depth to Groundwater (ft TOC [1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC [1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs [2])*
MW-10 (cont)	05/08/06	136.65	3182.65	---	---	---
	11/13/06	136.59	3182.71	---	---	---
	05/29/07	136.68	3182.62	---	---	---
	11/15/07	136.61	3182.69	---	---	---
	05/15/08	136.65	3182.65	---	---	---
	11/03/08	136.60	3182.70	---	---	---
	05/19/09	136.60	3182.70	---	---	---
	11/02/09	136.60	3182.70	---	---	---
	05/05/10	136.44	3182.86	163.98	---	---
	11/08/10	136.58	3182.72	163.98	---	---
	05/11/11	136.62	3182.68	163.77	---	---
	11/08/11	136.57	3182.73	163.79	---	---
MW-11	03/23/99	131.12	3178.57	165.71	4	125-140
3309.69	05/25/99	130.91	3178.78	---	---	---
	02/08/01	130.11	3179.58	---	---	---
	05/10/02	135.60	3174.09	---	---	---
	10/22/02	130.76	3178.93	---	---	---
	05/20/03	131.03	3178.66	---	---	---
	11/24/03	130.57	3179.12	---	---	---
	05/11/04	130.61	3179.08	---	---	---
	11/15/04	130.65	3179.04	---	---	---
	05/17/05	131.56	3178.13	---	---	---
	11/15/05	130.70	3178.99	---	---	---
	05/08/06	130.41	3179.28	---	---	---
	11/13/06	130.42	3179.27	---	---	---
	05/29/07	130.52	3179.17	---	---	---
	11/14/07	130.42	3179.27	---	---	---
	05/15/08	130.46	3179.23	---	---	---
	11/03/08	130.41	3179.28	---	---	---
	05/19/09	130.40	3179.29	---	---	---
	11/02/09	130.40	3179.29	---	---	---
	05/05/10	130.43	3179.26	165.75	---	---
	11/08/10	130.28	3179.41	165.75	---	---
	05/11/11	130.40	3179.29	165.50	---	---
	11/08/11	130.37	3179.32	165.65	---	---
MW-12	05/10/02	139.57	3188.86	165.50	2	156.68-171.65
3328.43	10/22/02	139.73	3188.70	---	---	---
	05/20/03	139.72	3188.71	---	---	---
	11/24/03	139.69	3188.74	---	---	---
	05/11/04	139.64	3188.79	---	---	---
	11/15/04	139.68	3188.75	---	---	---
	05/17/05	139.58	3188.85	---	---	---
	11/15/05	139.83	3188.60	---	---	---
	05/08/06	139.55	3188.88	---	---	---

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GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID TOC [1] Elevation	*Collection Date*	*Depth to Groundwater (ft TOC [1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC [1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs [2])*
MW-12 (cont)	11/13/06	139.53	3188.90	---	---	---
	05/29/07	139.65	3188.78	---	---	---
	11/16/07	139.05	3189.38	---	---	---
	05/14/08	139.69	3188.74	---	---	---
	11/03/08	139.61	3188.82	---	---	---
	05/19/09	139.59	3188.84	---	---	---
	11/02/09	139.62	3188.81	---	---	---
	05/05/10	139.66	3188.77	165.85	---	---
	11/08/10	139.55	3188.88	165.85	---	---
	05/11/11	139.04	3189.39	---	---	---
	11/08/11	139.68	3188.75	171.91	---	---
MW-13	05/10/02	144.45	3194.04	167.40	2	156.68-171.65
3338.49	10/22/02	144.49	3194.00	---	---	---
	05/20/03	144.9	3193.59	---	---	---
	11/24/03	144.37	3194.12	---	---	---
	05/11/04	144.47	3194.02	---	---	---
	11/15/04	144.56	3193.93	---	---	---
	05/17/05	144.36	3194.13	---	---	---
	11/15/05	144.60	3193.89	---	---	---
	05/08/06	144.29	3194.20	---	---	---
	11/13/06	144.38	3194.11	---	---	---
	05/29/07	144.54	3193.95	---	---	---
	11/16/07	144.54	3193.95	---	---	---
	05/14/08	144.45	3194.04	---	---	---
	11/03/08	144.36	3194.13	---	---	---
	05/19/09	144.51	3193.98	---	---	---
	11/02/09	144.35	3194.14	---	---	---
	05/05/10	144.39	3194.10	166.41	---	---
	11/08/10	144.40	3194.09	166.41	---	---
	05/11/11	144.60	3193.89	---	---	---
	11/08/11	144.74	3193.75	171.05	---	---
RW-1	05/21/99	134.32	3184.18	171.25	5	130.41-174.37
3318.50	05/25/99	134.24	3184.26	---	---	---
	02/08/01	134.15	3184.35	---	---	---
	05/10/02	134.00	3184.50	---	---	---
	10/22/02	134.17	3184.33	---	---	---
	05/20/03	134.40	3184.10	---	---	---
	11/24/03	134.02	3184.48	---	---	---
	05/11/04	134.01	3184.49	---	---	---
	11/15/04	134.06	3184.44	---	---	---
	05/17/05	133.97	3184.53	---	---	---
	11/15/05	134.20	3184.30	---	---	---
	05/08/06	133.93	3184.57	---	---	---
	11/13/06	133.92	3184.58	---	---	---

TABLE I

GROUNDWATER GAUGING SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Well ID TOC [1] Elevation	*Collection Date*	*Depth to Groundwater (ft TOC [1])*	*Groundwater Elevation (ft)*	*Well Depth (ft TOC [1])*	*Casing Diameter (in)*	*Well Screen Interval (ft bgs [2])*
RW-1 (cont)	05/29/07	134.00	3184.50	---	---	---
	11/15/07	133.88	3184.62	---	---	---
	05/14/08	133.98	3184.52	---	---	---
	11/03/08	133.99	3184.51	---	---	---
	05/19/09	133.92	3184.58	---	---	---
	11/02/09	134.00	3184.50	---	---	---
	05/05/10	134.03	3184.47	161.7	---	---
	11/08/10	133.81	3184.69	161.7	---	---
	05/11/11	133.83	3184.67	---	---	---
	11/08/11	133.88	3184.62	165.85	---	---
RW-2	02/08/01	135.58	3183.04	154.63	5	134.22-172.73
3318.62	05/10/02	135.55	3183.07	---	---	---
	10/22/02	135.55	3183.07	---	---	---
	05/20/03	135.58	3183.04	---	---	---
	11/24/03	135.54	3183.08	---	---	---
	05/11/04	135.48	3183.14	---	---	---
	11/15/04	135.43	3183.19	---	---	---
	05/17/05	135.46	3183.16	---	---	---
	11/15/05	135.65	3182.97	---	---	---
	05/08/06	135.42	3183.20	---	---	---
	11/13/06	135.47	3183.15	---	---	---
	05/29/07	135.54	3183.08	---	---	---
	11/15/07	135.48	3183.14	---	---	---
	05/14/08	135.48	3183.14	---	---	---
	11/03/08	135.44	3183.18	---	---	---
	05/19/09	135.44	3183.18	---	---	---
	11/02/09	135.45	3183.17	---	---	---
	05/05/10	135.47	3183.15	154.71	---	---
	11/08/10	135.3	3183.32	154.71	---	---
	05/11/11	135.55	3183.07	---	---	---
	11/08/11	135.46	3183.16	156.28	---	---

Notes:

1. TOC - Top of Casing.
2. bgs - below ground surface.
3. A - Indicates shallow groundwater monitor well.

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-1	9/16/97	--	--	280	8,500	--	--	1,100	520.0	630.0	50.00	4,300.0	15,000
	2/25/98	--	--	280	5,600	--	--	570	285.0	520.0	116.00	2,900.0	9,300
	2/14/01	<1.0	306	306	11,000	4.40	7.70	1,000	374.0	780.0	236.00	5,236.0	20,000
	5/17/02	<1.0	208	208	237	5.83	3.28	86.9	45.7	20.1	11.90	184.0	784
	10/23/02	--	--	--	168	--	--	96.8	--	--	--	--	
	5/21/03	<1.0	290	290	6,600	<8.00	10.90	875	238.0	475.0	96.50	3,410.0	13,200
	11/25/03	<1.0	250	250	402	7.03	2.72	125	19.2	22.0	18.50	294.0	1,158
	5/12/04	<1.00	264	264	504	7.31	2.70	136	17.2	23.1	22.40	355.0	1,328
	11/16/04	<1.00	232	232	384	4.94	3.30	103	29.2	22.7	25.40	373.0	952
	11/16/05	<10.0	262	262	1,210 D1	3.0	2.4	215 D1	85.400	92.600	23.000	847.000	2,640 N
	11/14/06	<10	200	200	96	4.2	2.0	76	13.200	6.490	15.600	172.000	624
	11/16/07	<10.0	255	255	4,250 D1	3.7	3.90 D1	602 D1	154.000	187.000	54.000	2100.000 D1	10,900
	11/4/08	<5.0	190	190	110	6.3	1.6	83	10	5.8	7.9	180	590
	11/3/09	<10	270	270	4,100	4.1	2.8	640	190	250	61	2,300	8,000
	11/10/10	<10	223	223	2,670	1.92	2.62	373	138	196	21.5	1,480	5,020
	11/10/11	<5.00	209	209	3,220	1.02	2.37	275	169	176	22.5	1,340	5,250
DUP1	11/10/11	<5.00	213	213	2,930	1.05	2.35	240	183	197	22.6	1,480	4,640
MW-2	2/25/98	--	--	210	5,900	--	--	760	840.0	380.0	30.00	2,650.0	9,400
	4/9/98	--	--	290	8,200	--	--	990	1,100.0	490.0	29.00	3,430.0	15,000
	2/14/01	<1.0	184	184	7,400	2.30	4.10	870	1,025.0	488.0	48.50	3,189.0	15,000
	5/17/02	<1.0	160	160	3,200	1.72	3.18	483	587.0	239.0	35.60	1,160.0	6,040
	10/23/02	--	--	--	2,920	--	--	451	--	--	--	--	6,770
	5/22/03	<1.0	158	158	2,550	2.04	3.87	386	448.0	176.0	20.00	1,020.0	5,880
	11/25/03	<1.0	160	160	3,330	<4.00	5.63	446	555.0	227.0	32.00	1,120.0	6,760
	5/12/04	<1.00	146	146	1,750	<2.00	2.78	246	308.0	112.0	29.70	549.0	3,965
	11/16/04	<1.00	120	120	430	<1.00	2.13	56.9	104.0	29.4	22.40	158.0	832
	11/16/05	<10.0	171	171	4,720 D1	0.72	2.6	645 D1	594.000	209.000	20.800	3,290.000	10,000 N
	11/14/06	<10	160	160	3,500	0.78 N	2.1	470	535.000	212.000	21.000	1,5400.000	8,260

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride [2]	Fluoride [1]	Nitrate - N [1]	Sulfate [2]	Calcium	Magnesium	Potassium	Sodium	TDS [2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-2 (cont)	11/14/07	<10.0	178	178	3,280 D1	0.76	1.93	462 D1	449.000	152.000	16.200	1310.000 D1	9,110
	11/4/08	<5.0	150	150	2,900	<1.0	1.1	430	380	160	26	1,200	5,600
	11/16/09	<10	150	150	2,000	1.1	1.6	340	290	120	20	750	4,300
	11/12/10	<10	186	186	1,890	0.726	1.86	327	326	120	9.80	795	3,680
	11/10/11	<5.00	175	175	1,480	0.814	1.31	150	227	83.2	9.75	668	2,860
MW-2A	2/26/98	--	--	190	280	--	--	330	144.0	36.0	5.70	215.0	1,200
	2/14/01	<1.0	162	162	44	1.30	2.30	76	64.4	16.7	7.02	45.5	390
	5/15/02	<1.0	176	176	36.6	<1.00	2.34	79.1	57.6	13.9	4.35	43.8	435
	10/23/02	--	--	--	44.3	--	--	97	--	--	--	--	425
	5/22/03	<1.0	168	168	40.5	<1.00	2.18	75.5	67.2	14.3	3.76	47.9	418
	11/25/03	<1.0	166	166	43.1	1.00	2.23	77.4	51.7	14.4	3.98	43.8	452
	5/12/04	<1.00	176	176	44.8	<1.00	2.24	76.5	62.9	15.0	3.66	43.6	440
	11/16/04	<1.00	164	164	52.5	1.22	2.78	75.4	68.8	15.3	3.98	49.1	428
	11/16/05	<10.0	151	151	56.8	0.60	2.3	75.1 D1	157.000	18.000	4.200	49.800	630 N
	11/14/06	<10	180	180	49	0.55	1.6	76	69.800	15.600	3.470	49.900	488
	11/14/07	<10.0	170	170	74.6	0.58	1.51	66.8 D1	666.00	15.300	<5.000	45.400	504
	11/4/08	<5.0	220	220	68	0.49	1.4	74	67	15	3.2	42	470
	11/3/09	<10	230	230	62	0.59	1.6	81	66	15	3.4	50	480
	11/11/10	<10	158	158	86.1	0.453	1.73	74.0	53.9	14.9	2.86	42.8	474
	11/10/11	<5.00	175	175	129	0.280	1.25	101	92.5	23.3	4.17	64.7	614
MW-3	2/27/98	--	--	190	452	--	--	406	200.0	50.0	11.00	237.0	1,500
	2/14/01	<1.0	158	158	34	1.60	2.40	100	54.5	19.0	7.61	48.6	440
	5/17/02	<1.0	158	158	30.6	1.56	2.35	102	55.6	18.4	5.04	50.0	433
	10/23/02	--	--	--	35.4	--	--	104	--	--	--	--	419
	5/22/03	<1.0	156	156	30.6	1.17	2.25	96.3	53.2	17.8	5.39	54.6	435
	11/25/03	<1.0	160	160	31.4	1.35	2.30	103	46.5	18.0	5.19	51.7	440
	5/12/04	<1.00	164	164	32.3	1.20	2.38	101	52.2	16.8	4.77	47.5	448

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-3 (cont)	11/16/04	<1.00	166	166	35.1	1.53	2.77	95.4	56.3	23.6	12.70	58.9	424
	11/17/05	<10.0	171	171	96.3	0.97	2.2	108 D1	89.200	22.100	8.870	93.400	840 N
	11/15/06	<10	170	170	30	0.92 N	1.7	96	51.300	17.300	4.300	57.200	505
	11/16/07	<10.0	170	170	39.7	0.93	1.58	88.2 D1	50.800	16.300	<5.000	50.600	570
	11/6/08	<5.0	150	150	36	1.1	1.4	97	50	17	4.0	48	430
	11/3/09	<10	160	160	35	1.1	1.6	110	49	17	4.2	56	410
	11/10/10	<10	164	164	35.4	0.836	1.77	99.9	48.8	15.2	3.42	45.1	380
	11/10/11	<5.00	165	165	36.4	0.833	1.35	87.9	57.9	18.0	3.79	53.0	404
MW-4	2/27/98	--	--	230	12,000	--	--	1,300	1,700.0	880.0	48.00	5,300.0	22,000
	4/9/98	--	--	240	13,000	--	--	1,500	1,740.0	840.0	42.00	5,400.0	23,000
	2/14/01	<1.0	232	232	15,000	1.80	6.80	1,500	--	--	--	--	29,000
	5/17/02	<1.0	232	232	11,300	2.01	6.09	1,380	1,610.0	814.0	60.90	4,310.0	22,600
	10/23/02	--	--	--	11,300	--	--	1,320	--	--	--	--	23,200
	5/22/03	<1.0	220	220	11,300	<10.00	12.30	1,370	1,450.0	659.0	47.30	4,140.0	62,500
	11/26/03	<1.0	218	218	12,100	<8.00	12.30	1,400	1830.0	889.0	62.00	4,620.0	54,450
	5/11/04	<1.00	214	214	14,200	<8.00	8.97	1,560	1800.0	829.0	60.70	4,850.0	65,450
	11/17/04	<1.00	222	222	13,600	<20.00	31.50	1,410	2020.0	972.0	73.60	5,900.0	25,200
	11/17/05	<10.0	181	181	9,440 D1	0.82	0.20	45.8 D1	849.000	387.000	28.100	3,880.000	24,300 N
	11/15/06	<10	260	260	14,000	<5.0 C	5.2	1,400	1,760.000	897.000	58.800	6,150.000	28,700
	11/14/07	<10.0	255	255	14,800 D1	0.54	7.15 D1	1,410 D1	1170.000	382.000	48.000	4,760.000 D1	36,300
	11/12/08	<5.0	200	200	12,000	1.2	0.33	1,300	1,500	840	82	4,800	22,000
	11/4/09	<5.0	250	250	15,000	1.1	5.3	1,600	1,500	1,000	65	5,800	30,000
	11/11/10	<5.0	294	294	15,500	<1.00	10	1,270	1,380	904	40	5,450	25,500
	11/10/11	<5.00	277	277	16,900	0.112	6.16	1,060	1,680	1,110	40.0	6,490	28,900
MW-4A	2/27/98	--	--	180	1,600	--	--	410	470.0	130.0	11.00	620.0	3,300
	2/14/01	<1.0	154	154	1,600	1.40	2.80	210	--	--	--	--	4,000
	5/15/02	<1.0	156	156	577	<1.00	2.23	121	200.0	49.5	10.30	125.0	1,610

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride [2]	Fluoride [1]	Nitrate - N [1]	Sulfate [2]	Calcium	Magnesium	Potassium	Sodium	TDS [2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-4A	10/23/02	--	--	--	478	--	--	114	--	--	--	--	1,430
(cont)	5/22/03	<1.0	154	154	844	<1.00	2.43	160	279.0	58.9	10.10	248.0	2,200
	11/26/03	<1.0	158	158	1,060	<4.00	5.82	182	337.0	79.3	15.20	329.0	2,585
	5/11/04	<1.00	156	156	984	<2.00	3.30	179	297.0	66.5	11.50	279.0	2,300
	11/17/04	<1.00	164	164	1,110	<2.00	4.62	186	369.0	75.4	14.90	413.0	2,235
	11/16/05	<10.0	181	181	827 D1	<0.5	2.2	160 D1	335.000	64.400	9.230	382.000	2,340 N
	11/15/06	<10	620	620	960	<0.50	2.6	170	227.000	53.500	8.100	406.000	2,870
	11/14/07	<10.0	311	311	845 D1	0.35	3.60 D1	167 D1	205.000	44.900	7.330	334.000	2,650
	11/12/08	<5.0	640	640	650	0.32	2.2	170	160	37	9.9	290	1,700
	11/4/09	<5.0	670	670	670	0.56	2.6	150	110	27	7.4	300	1,600
	11/11/10	<5.0	217	217	663	0.505	2.58	125	65.9	15.6	4.42	317	1,760
	11/10/11	<5.00	171	171	621	0.775	2.02	134	78.8	18.7	4.71	389	1,400
MW-5	2/26/98	--	--	180	6,600	--	--	910	1,400.0	470.0	31.00	2,400.0	12,000
	2/14/01	<1.0	166	166	7,700	1.80	4.10	910	--	--	--	--	18,000
	5/17/02	<1.0	156	156	4,040	1.53	4.56	586	757.0	319.0	60.90	1,260.0	8,340
	10/23/02	--	--	--	3,900	--	--	94.8	--	--	--	--	422
	5/22/03	<1.0	158	158	3,170	<4.00	6.52	550	644.0	215.0	49.90	1,240.0	7,860
	11/25/03	<1.0	168	168	5,120	<4.00	6.77	739	978.0	365.0	54.90	1,680.0	11,940
	5/11/04	<1.00	160	160	6,760	<3.00	4.65	1,030	1,180.0	417.0	40.30	2,120.0	20,380
	11/17/04	<1.00	172	172	6,750	<10	16.60	786	1,210.0	486.0	40.60	2,300.0	11,980
	11/17/05	<10.0	161	161	2,140 D1	0.79	0.16	334 D1	339.000	126.000	10.800	791.000	7,120 N
	11/14/06	<10	160	160	2,000	0.60	1.5	300	437.000	173.000	14.200	918.000	4,420
	11/14/07	<10.0	161	161	5,790 D1	0.37	4.01 D1	668 D1	812.000	240.000	23.300	1,850.000 D1	16,300
	11/6/08	<5.0	160	160	4,900	0.78	0.32	540	660	310	35	1,600	9,700
	11/3/09	<10	160	160	5,100	0.51	2.3	710	860	320	<13	1,800	11,000
	11/11/10	<5.0	176	176	4,200	0.159	2.37	554	687	250	17.3	1,400	8,890
	11/10/11	<5.00	172	172	4,340	0.243	0.549	411	944	326	19.7	1,780	7,840

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-5A	2/26/98	--	--	170	190	--	--	180	107.0	23.0	3.50	117.0	740
	2/15/01	<1.0	164	164	140	1.20	2.10	130	90.2	27.9	8.70	74.6	670
	5/15/02	<1.0	182	182	53.5	<1.00	2.23	84.4	63.2	16.1	4.69	43.6	475
	10/23/02	--	--	--	50	--	--	616	--	--	--	--	8,670
	5/22/03	<1.0	158	158	32.5	<1.00	2.10	69.9	55.5	13.8	3.41	41.5	416
	11/25/03	<1.0	332	332	34.1	1.05	2.20	75.5	60.9	14.6	4.08	45.0	422
	5/11/04	<1.00	164	164	38.8	<1.00	2.25	75.8	60.9	15.0	3.40	43.2	484
	11/17/04	<1.00	152	152	39.6	1.37	2.66	74.3	58.1	13.6	3.83	48.5	430
	11/16/05	<10.0	191	191	40.2	0.82	2.1	75.2 D1	176.000	17.800	4.220	45.300	570 N
	11/14/06	<10	240	240	47	0.64	1.5	79	90.400	16.100	3.580	51.400	588
	11/14/07	<10.0	227	227	54.4	0.66	1.45	68.7 D1	73.700	14.000	<5.000	44.200	528
	11/6/08	<5.0	350	350	53	0.70	1.3	72	76	15	3.4	43	450
	11/3/09	<10	710	710	47	0.72	1.5	79	65	14	3.3	50	440
	11/11/10	<5.00	182	182	49.6	0.568	1.61	73.6	55.7	12.9	2.79	42.0	606
	11/10/11	<5.00	170	170	131	0.492	1.15	116	83.8	29.9	5.16	85.7	594
MW-6	2/26/98	--	--	200	260	--	--	400	180.0	44.0	6.20	205.0	1,200
	2/14/01	<1.0	158	158	59	1.70	2.20	99	67.5	22.1	7.67	52.3	470
	5/17/02	<1.0	162	162	37.8	1.62	2.14	99.3	63.1	19.6	5.12	48.6	427
	10/23/02	--	--	--	46.1	--	--	109	--	--	--	--	331
	5/22/03	<1.0	162	162	40.3	1.24	2.13	94.4	61.7	17.4	4.23	51.9	464
	11/25/03	<1.0	154	154	53.6	1.40	2.18	98	53.6	18.7	4.97	51.7	482
	5/11/04	<1.00	156	156	54.4	1.23	2.19	97	59.0	18.1	4.22	47.8	506
	11/16/04	<1.00	162	162	57.9	1.64	2.68	99.8	66.6	19.6	5.16	57.0	464
	11/17/05	<10.0	201	201	101	0.97	0.35	97.8 D1	103.000	20.200	4.100	59.100	730 N
	11/15/06	<10	750	750	68	0.99	1.5	93	64.600	20.400	4.230	57.100	507
	11/15/07	<10.0	284	284	162	51	1.35	96.3 D1	84.100	25.200	<5.000	62.100	630
	11/6/08	<5.0	220	220	84	1.2	1.2	95	67	21	4.3	53	490
	11/3/09	<10	190	190	81	1.2	1.4	100	66	20	4.5	59	550

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-6 (cont)	11/8/10	NS - Well Damaged											
	11/10/11	NS - Well Damaged											
MW-7	5/14/98	--	--	230	430	--	--	340	214.0	66.0	13.00	165.0	1,200
	2/14/01	<1.0	150	150	510	1.70	2.40	150	--	--	--	--	1,500
	5/16/02	<1.0	150	150	75.7	1.59	2.27	97.4	68.6	23.2	6.63	54.3	501
	10/22/02	--	--	--	88.6	--	--	109	--	--	--	--	490
	5/22/03	<1.0	140	140	173	1.17	2.14	88.9	85.5	28.2	6.18	64.6	631
	11/26/03	<1.0	136	136	189	1.29	2.23	93.5	95.7	31.0	7.91	63.6	704
	5/13/04	<1.00	130	130	267	1.11	2.18	94.7	107.0	34.7	6.59	62.9	914
	11/16/04	<1.00	130	130	367	1.49	2.72	97.3	142.0	49.3	8.61	87.9	870
	11/17/05	<10.0	121	121	456 D1	0.53	0.28	106 D1	412.000	64.700	12.100	100.000	1,440 N
	11/15/06	<10	240	240	550	0.63	1.5	110	202.000	70.300	7.400	102.000	2,100
	11/15/07	<10.0	189	189	458 D1	1.20	1.39	176 D1	144.000	59.500	9.950	148.000	1,880
	11/12/08	<5.0	110	110	650	0.84	1.2	140	210	76	12	120	1,600
	11/4/09	<5.0	110	110	1,100	0.63	1.5	160	310	120	11	130	2,800
	11/10/10	<5.0	111	111	1,310	0.372	1.64	173	415	149	10.0	150	3,130
	11/10/11	<5.00	106	109	1,710	0.296	1.45	147	662	203	12.3	198	3,660
MW-8	5/13/98	--	--	200	270	--	--	390	190.0	60.0	12.00	170.0	1,200
	2/14/01	<1.0	156	156	49	1.80	2.50	100	59.9	21.5	7.84	52.9	400
	5/16/02	<1.0	158	158	32.9	1.57	2.33	101	56.6	19.2	5.20	49.5	432
	10/22/02	--	--	--	40.8	--	--	104	--	--	--	--	392
	5/22/03	8	160	168	33.2	1.40	2.32	98.3	53.9	18.3	9.31	46.4	410
	11/26/03	<1.0	142	142	31.7	1.59	2.38	95.6	55.3	18.2	5.31	50.2	443
	5/12/04	<1.00	154	154	36.3	1.39	2.38	101	53.0	17.3	4.56	48.1	435
	11/16/04	<1.00	170	170	39.8	1.94	2.94	103	57.8	18.6	5.63	56.4	435
	5/17/05	4	152	156	41	1.64	2.94	105	61.0	18.6	5.78	47.3	434
	11/17/05	<10.0	171	171	113	1.1	<0.05	115 D1	83.400	21.700	5.740	102.000	750 N

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-8 (cont)	5/9/06	<10	160	160	210	0.89	1.4	200	72.700	33.300	7.120	125.000	896
	11/14/06	<10	150	150	230	1.1	1.2	200	74.200	38.300	9.610	162.000	912
	5/30/07	<10	141	141	62	1.2	1.74	120	54.100	19.100	<5	59.300	500
	11/15/07	<10.0	159	159	43.1	1.33	1.56	94.2 D1	52.100	17.200	<5.000	49.800	540
	5/15/08	<1.53	151	151	40.7	1.40	1.78	99.6 D1	51.7	16.8	4.10	54.8 D1	427
	11/12/08	<5.0	140	140	39	1.4	1.5	97	52	17	<2.6	46	350
	5/20/09	<5.0	140	140	39	1.3	1.6	110	50	17	4.3	49	430
	11/4/09	<5.0	150	150	41	1.4	1.7	110	46	16	3.3	47	450
	5/7/10	<5.0	<5.00	172	34.9	1.09	1.70	97.8	49.5	15.7	3.52	45.5	426
DUP	5/7/10	<5.0	<5.00	157	34.9	1.09	1.71	98.0	51.0	14.5	3.21	43.6	466
	11/12/10	<5.0	172	172	38.7	1.10	1.77	98.2	48.9	15.7	3.40	45.4	410
DUP	11/12/10	<5.0	160	160	38.7	1.10	1.76	98.3	50.5	15.3	3.44	44.8	398
	5/11/11	<5.00	170	170	185	1.20	1.60	93.0	73.0	28.4	5.68	165	692
	11/10/11	<5.00	161	161	36.9	1.06	1.41	87.4	57.1	17.0	3.46	48.6	406
MW-9	5/14/98	--	--	190	350	--	--	470	207.0	61.0	12.00	200.0	1,300
	2/15/01	<1.0	156	156	35	2.60	2.40	110	60.4	19.8	7.47	47.0	430
	5/16/02	<1.0	160	160	31.7	2.22	2.28	99.4	60.8	17.6	5.32	50.1	440
	10/23/02	--	--	--	39	--	--	102	--	--	--	--	436
	5/22/03	<1.0	160	160	31	1.75	2.19	93.3	52.2	15.8	4.75	50.2	455
	11/26/03	<1.0	150	150	31.8	1.99	2.34	99.8	57.7	16.6	4.69	46.3	452
	5/12/04	<1.00	164	164	33.6	1.79	2.29	99.2	54.8	16.0	4.27	43.5	467
	11/16/04	8	154	162	367	1.49	2.72	97.3	63.2	17.8	5.59	55.5	433
	5/17/05	4	154	154	44.2	2.43	3.05	117	58.8	16.7	5.94	44.1	434
	11/17/05	<10.0	161	161	83.5	1.3	0.14	111 D1	149.000	26.200	7.430	80.400	790 N
	5/9/06	<10	170	170	37	1.8	1.8	99	52.700	15.000	3.210	45.500	428
	11/15/06	<10	150	150	210	1.1	1.2	190	70.500	35.800	8.640	152.000	905
	5/30/07	<10	153	153	35	2.1	1.69	110	52.200	15.800	<5	44.700	464
	11/14/07	<10.0	151	151	186	1.49	1.48	156 D1	74.100	39.400	8.730	141.000	808

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-9 (cont)	5/15/08	<1.53	174	174	42.5	2.38	1.72	105 D1	55.6	17.0	3.99	54.1 D1	467
	11/4/08	<5.0	160	160	39	2.1	1.4	98	54	16	3.7	47	440
	5/20/09	<5.0	320	320	69	2.1	1.5	120	58	19	4.6	58	520
	11/4/09	<5.0	160	160	42	2.2	1.6	110	50	15	3.0	43	460
	5/7/10	<5.0	<5.00	162	50.2	2.02	1.66	97.5	53.6	15.7	3.32	43.5	442
	11/9/10	<5.0	186	186	60.7	1.97	1.74	98.0	59.2	18.1	3.64	50.0	446
	5/11/11	<5.0	160	160	80.3	1.71	1.72	75.7	73.9	25.8	4.61	67.9	518
	11/10/11	<5.00	151	151	138	1.66	1.38	107	82.7	26.9	4.34	65.4	582
MW-9A	5/14/98	--	--	280	600	--	--	770	338.0	96.0	12.00	334.0	2,200
	2/15/01	<1.0	142	142	85	1.40	2.20	71	71.6	19.2	6.94	46.0	400
	5/15/02	<1.0	136	136	148	<1.00	2.18	65.3	62.9	16.1	4.62	46.8	445
	10/23/02	--	--	--	168	--	--	75.5	--	--	--	--	651
	5/22/03	<1.0	126	126	207	<1.00	2.09	62.1	102.0	25.2	4.80	55.7	672
	11/26/03	<1.0	118	118	216	1.14	2.26	62.7	107.0	25.1	5.31	53.2	648
	5/12/04	<1.00	122	122	242	<1.00	2.10	64.7	105.0	26.2	5.11	26.2	950
	11/16/04	<1.00	114	114	296	1.24	2.74	67.5	130.0	33.1	6.24	70.3	826
	5/17/05	<1.00	112	112	354	1.04	2.85	77.1	131.0	31.7	6.39	60.5	828
	11/17/05	<10.0	121	121	310 D1	0.82	0.31	74.7 D1	337.000	41.400	8.080	74.500	1,520 N
	5/9/06	<10	670	670	270	0.67	1.6	78	111.000	27.100	3.880	58.700	992
	11/15/06	<10	1,600	1,600	290	0.62	1.6	72	126.000	33.400	4.740	68.400	1,280
	5/30/07	<10	586	586	400	0.7	1.69	83	153.000	36.900	<5	71.800	1,450
	11/14/07	<10.0	605	605	285 D1	0.62	1.52	64.7 D1	153.000	35.400	5.030	70.700	1,430
	5/15/08	<1.53	738	738	380 D1	0.45	1.62	86.8 D1	146	35.5	5.45	77.2 D1	1,390
	11/4/08	<5.0	370	370	330	<1.0	1.2	84	130	32	5.1	66	1,000
	5/20/09	<5.0	600	600	480	0.49	1.5	86	170	43	6.4	76	1,600
	11/4/09	<5.0	110	110	430	0.49	1.6	82	160	41	5.3	71	1,500
	5/7/10	<5.0	<5.00	121	510	0.210	1.62	80.5	188	44.9	4.90	73.6	1,680
	11/9/10	<5.0	115	115	529	0.328	1.72	86.0	159	44.3	5.00	76.1	1,660

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-9A (cont)	5/11/11	<5.00	146	146	587	1.18	1.90	415	166	80.6	11.3	211	1,850
	11/10/11	<5.00	115	115	841	0.189	1.56	125	280	84.8	7.51	117	2,160
MW-10	5/14/98	--	--	240	360	--	--	450	211.0	62.0	11.00	190.0	1,400
	2/15/01	<1.0	140	140	190	2.00	2.30	97	108.0	32.3	8.20	61.0	660
	5/17/02	<1.0	152	152	204	1.93	2.19	99.1	109.0	31.7	7.60	62.4	713
	10/22/02	--	--	--	213	--	--	108	--	--	--	--	758
	5/22/03	<1.0	152	152	213	1.45	2.17	96.6	109.0	29.9	8.65	74.2	764
	11/26/03	<1.0	152	152	220	1.54	2.26	103	120.0	35.7	6.96	64.0	752
	5/13/04	<1.00	158	158	232	1.39	2.23	102	114.0	31.6	5.95	57.2	802
	11/17/04	<1.00	170	170	245	1.73	2.78	104	121.0	35.7	7.07	70.3	764
	5/17/05	<1.00	150	150	233	1.77	2.80	106	113.0	32.3	6.83	60.2	776
	11/17/05	<10.0	151	151	205 D1	1.2	0.26	111 D1	482.000	47.400	13.100	82.400	970 N
	5/9/06	<10	190	190	180	1.4	1.6	98	93.300	27.100	4.310	60.400	724
	11/16/06	<10	320	320	190	1.2	1.6	92	101.000	30.000	4.750	64.100	900
	5/30/07	<10	340	340	200	1.4	1.68	110	101.000	28.600	<5	62.400	820
	11/15/07	<10.0	189	189	251 D1	1.44	1.44	152 D1	104.000	33.400	6.010	84.700	1,010
	5/15/08	<1.53	374	374	342 D1	1.47	1.28	257 D1	106	52.9	11.7	165 D1	1,140
	11/6/08	<5.0	150	150	210	1.5	1.3	89	110	32	5.4	64	730
	5/20/09	<5.0	240	240	270	1.3	1.5	120	110	35	6.2	72	960
	11/4/09	<5.0	150	150	240	1.5	1.3	130	100	35	5.4	78	1,000
	5/7/10	<5.0	<5.00	157	236	1.18	1.62	106	111	30.7	4.59	60.3	940
	11/10/10	<5.0	166	166	280	1.16	1.61	112	98.4	36.9	5.63	81.0	812
	5/11/11	<5.00	157	157	274	1.11	1.99	87.2	117	32.2	5.63	85.0	930
	11/15/11	<5.00	150	150	266	1.03	6.93	94.9	128	32.3	4.58	62.8	1,450
MW-11	1/22/99	30	<1.0	30	46	2.30	4.20	94	33.0	7.0	9.10	58.0	370
	2/15/01	<1.0	156	156	37	2.40	2.40	120	64.0	19.1	7.83	50.1	360
	5/16/02	<1.0	160	160	31.9	2.13	2.33	98.8	63.5	17.2	4.83	47.0	444
	10/23/02	--	--	--	37.2	--	--	102	--	--	--	--	447
	5/22/03	12	154	166	32.3	1.74	2.28	96.7	62.3	0.0	4.63	47.6	437

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-11 (cont)	11/26/03	<1.0	160	160	32.4	1.83	2.23	96.4	59.2	16.6	4.67	48.6	448
	5/12/04	<1.00	164	164	34.6	1.71	2.38	97.7	54.8	15.7	4.28	46.2	457
	11/16/04	<1.00	160	160	39	2.17	2.81	100	65.2	16.8	5.14	54.3	454
	5/17/05	4	158	162	43.1	1.87	2.82	94.6	68.4	16.9	6.45	44.0	429
	11/17/05	<10.0	161	161	58.1	1.5	2.1	91.3 D1	75.000	17.700	4.550	64.700	700 N
	5/9/06	<10	180	180	37	1.8	1.7	100	54.100	16.200	3.260	46.900	456
	11/14/06	<10	170	170	34	1.8	1.8	110	58.000	18.200	4.130	53.400	532
	5/30/07	<10	142	142	36	1.9	1.79	120	54.000	16.700	<5	50.800	456
	11/14/07	<10.0	189	189	42.3	1.98	1.54	95.6 D1	57.200	17.400	<5.000	52.400	452
	5/15/08	<1.53	177	177	72.4 D1	1.86	1.71	141	58.0	19.4	4.93	66.5 D1	544
	11/4/08	<5.0	170	170	49	1.5	1.3	90	60	16	3.6	47	440
	5/20/09	<5.0	360	360	40	2.2	1.7	130	51	17	4.5	53	450
	11/4/09	<5.0	150	150	43	1.6	1.6	100	52	15	2.9	42	470
	5/7/10	<5.0	<5.00	167	36.5	1.97	1.78	117	49.7	14.9	3.42	44.7	494
	11/9/10	<5.0	269	269	52.5	1.45	1.79	95.4	61.0	16.7	3.56	50.0	438
	5/11/11	<5.00	161	161	133	1.43	2.08	140	78.1	37.0	6.32	103	664
DUP	5/11/11	<5.0	161	161	130	1.44	2.01	137	77.4	37.0	6.29	104	706
	11/10/11	<5.00	162	162	38.8	1.86	1.49	97.1	66.2	17.9	3.62	52.3	420
MW-12	5/15/02	<1.0	160	160	58.3	1.09	2.44	91.3	53.5	15.9	5.52	50.3	462
	10/23/02	--	--	--	65	--	--	102	--	--	--	--	477
	5/22/03	<1.0	148	148	91.1	1.04	2.30	87.7	74.2	21.0	4.89	57.6	516
	11/25/03	<1.0	142	142	93.1	1.18	2.36	90.9	74.7	20.9	5.41	52.5	548
	5/12/04	<1.00	458	458	72.9	1.04	2.35	86.7	58.1	19.0	5.92	51.8	489
	11/15/04	<1.00	184	184	79.8	1.39	2.83	88.8	59.7	21.5	16.50	77.4	512
	11/17/05	<10.0	151	151	109	0.93	0.12	94.6 D1	193.000	26.600	13.400	87.500	700 N
	11/16/06	<10	270	270	120	0.71	1.7	84	82.300	27.000	4.820	62.200	620
	11/16/07	<10.0	170	170	258 D1	1.21	1.55	191 D1	77.200	42.700	11.000	154.000	1,270

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
MW-12 (cont)	11/6/08	<5.0	130	130	110	0.89	1.4	79	61	20	4.5	52	460
	11/3/09	<25	2,000	2,000	120	0.87	1.6	98	68	24	6.0	79	600
	11/9/10	<5.0	144	144	211	0.566	1.76	89.8	75.6	27.8	4.60	60.6	712
	11/10/11	<5.00	134	134	179	0.464	1.37	92.8	93.8	27.8	4.53	64.0	594
MW-13	5/13/02	<1.0	100	100	517	<1.00	1.61	437	116.0	76.0	19.40	269.0	1,596
	10/23/02	--	--	--	549	--	--	370	--	--	--	--	1,740
	5/22/03	<1.0	186	186	944	<2.00	2.33	361	289.0	101.0	15.30	458.0	3,060
	11/25/03	<1.0	226	226	1,460	<2.00	2.22	372	369.0	117.0	20.00	478.0	3,445
	5/12/04	<1.00	234	234	1,550	<4.00	4.58	369	384.0	114.0	18.60	485.0	4,240
	11/15/04	<1.00	226	226	1,870	<2.00	4.92	384	510.0	164.0	16.50	627.0	3,600
	11/17/05	<10.0	201	201	722 D1	1.0	2.5	206 D1	786.000	91.600	19.700	276.000	2,350 N
	11/16/06	<10	1,500	1,500	2,000	<0.50 N	2.7	500 N	529.000	176.000	14.200	493.000	5,060
	11/16/07	<10.0	236	236	2,000 D1	0.33	3.05 D1	312 D1	361.000	105.000	11.400	553.000 D1	6,320
	11/6/08	<5.0	180	180	970	0.98	1.8	280	240	96	17	370	2,400
	11/3/09	<25	15,000	15,000	2,200	<0.50	2.6	440	490	180	22	490	5,600
	11/9/10	<5.0	267	267	1,680	0.217	2.82	405	400	120	10.4	540	4,270
	11/10/11	<5.00	206	206	2,110	0.177	<0.500	273	690	223	13.2	472	4,870
RW-1	5/27/99	0	224	224	8,700	2.70	7.00	840	679.0	521.0	34.00	3,290	14,000
	5/22/03	<1.0	190	190	2,410	2.46	4.23	345	162.0	145.0	25.40	1,180.0	5,260
	11/26/03	<1.0	184	184	1,990	<4.00	20.00	324	199.0	147.0	38.60	1,080.0	5,050
	5/11/04	<1.00	148	148	491	1.32	2.65	109	66.3	23.4	11.20	252.0	1,224
	11/17/04	<1.00	160	160	633	1.65	3.23	121	89.7	43.5	18.00	382.0	1,314
	11/17/05	<10.0	221	221	895 D1	1.0	1.4	166 D1	122.000	70.900	8.400	493.000	2,380 N
	11/16/06	<10	380	380	11,000	<0.50	<20 HC	1,100	539.000	694.000	43.300	5,580.000	22,000
	11/15/07	<10.0	359	359	2,380 D1	1.26	3.74 D1	252 D1	141.000	137.000	16.000	1,100.000 D1	5,280
DUP	11/15/07	<10.0	208	208	2,620 D1	1.24	3.85 D1	316 D1	136.000	133.000	15.500	1,040.000 D1	5,360
	11/12/08	<5.0	210	210	370	0.82	1.9	97	66	34	5.0	190	920

TABLE II

GROUNDWATER ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
COOPER-JAL UNIT INJECTION STATION
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Carbonate Alkalinity	Bicarbonate Alkalinity	Total Alkalinity	Chloride[2]	Fluoride[1]	Nitrate - N[1]	Sulfate[2]	Calcium	Magnesium	Potassium	Sodium	TDS[2]
New Mexico Water Quality Control Commission Groundwater Standard					*250*	*1.60*	*10*	*600*					*1,000*
RW-1 (cont)	11/4/09	<5.0	170	170	1,700	1.1	2.6	250	110	120	22	750	3,800
	11/11/10	<5.0	192	192	1,340	0.716	2.72	204	95.5	104	12.6	792	2,830
	11/10/11	<5.00	396	396	14,000	3.32	9.16	1,540	942	1,260	44.6	8,720	32,200
RW-2	5/22/03	324	<4.00	780	1,580	<2.00	2.43	23.9	1,060.0	<0.500	20.20	258.0	4,310
	11/26/03	64	<4.00	704	1,480	<5.00	5.81	38.3	988.0	<0.500	23.80	240.0	3,535
	5/13/04	36.0	<4.00	578	1,770	<3.00	3.19	67	898.0	<0.500	21.60	260.0	4,175
	11/17/04	104.0	<4.00	692	2,280	<10.0	<10.0	116	1180.0	<0.500	18.50	415.0	3,915
	11/17/05	281	<10.0	422	1,770 D1	0.89	0.60	175 D1	861.000	16.600	13.100	361.000	7,350 N
	11/16/06	49	150	199	2,500	0.57	1.9	370	978.000	48.800	18.000	437.000	5,270
	11/15/07	170	37.8	208	1,680 D1	0.49	1.52	166 D1	586.000	<5.000	11.200	245.000	5,590
	11/12/08	150	<5.0	390	2,500	<0.50	0.24	250	1,200	<0.38	6.0	400	4,800
	11/4/09	34	<5.0	220	2,200	<0.50	1.7	240	940	0.18	16	420	6,300
	11/11/10	113	<5.0	172	2,100	<0.10	2.03	233	967	4.06	8.86	426	4,550
	11/10/11	36.9	<5.00	384	4,330	<0.100	2.13	305	2,040	1.12	18.7	711	8,300

Notes:

1. **Bold** value indicates a laboratory detection.
2. Shaded cells indicate New Mexico Water Quality Control Commission (NMWQCC) exceedance.
3. Results shown in mg/L.
4. N - See narrative in laboratory report for a detailed explanation.
5. D1 - The analysis was performed at a dilution due to the high analyte concentration.
6. H - The analysis was performed past holding time.
7. C - Elevated detection limit due to matrix effect.
8. [1]Human Health Standards for Groundwater.
9. [2]Other Standards for Domestic Water Supply.

ALS Environmental

26-May-2011

Todd Wells
Conestoga-Rovers & Associates
2135 S Loop 250 West
Midland, TX 79703

Tel: (432) 686-0086
Fax: (432) 686-0186

Re: CEMC Cooper-JAL - SSOW - 039123 Work Order: **1105433**

Dear Todd,

ALS Environmental received 6 samples on 13-May-2011 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 21.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Patricia L. Lynch

Electronically approved by: Makenzie L. Henderson

Patricia L. Lynch
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

Certificate No: T104704231-09A-TX

ALS Environmental

Date: 26-May-11

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
Work Order: **1105433**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1105433-01	MW-8-051111	Water		5/11/2011 16:45	5/13/2011 09:00	☐
1105433-02	MW-9-051111	Water		5/11/2011 15:10	5/13/2011 09:00	☐
1105433-03	MW-9A-051111	Water		5/11/2011 15:40	5/13/2011 09:00	☐
1105433-04	MW-10-051111	Water		5/11/2011 14:40	5/13/2011 09:00	☐
1105433-05	MW-11-051111	Water		5/11/2011 16:10	5/13/2011 09:00	☐
1105433-06	Dup-051111	Water		5/11/2011	5/13/2011 09:00	☐

Client:	Conestoga-Rovers & Associates
Project:	CEMC Cooper-JAL - SSOW - 039123
Work Order:	1105433

Case Narrative

Batch 52641 Cations: MS/MSD recoveries are outside the control limits in sample MW-10-051111 due to matrix interference. The results are flagged with O due to the high concentrations in the background sample. The LCS recoveries and the MS/MSD RPDs are in control.

Batch R110014 Anions: MS/MSD recoveriesfor sulfate are outside the control limits in sample MW-9-051111 due to matrix interference. The results are flagged with E and O due to the high concentration in the background sample. The LCS/LCSD recoveries and the MS/MSD RPDs are in control.

Batch R110014 Anions: MS/MSD for 1105436-06 is for an unrelated sample.

ALS Environmental

Date: *26-May-11*

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123 **Work Order:** 1105433
Sample ID: MW-8-051111 **Lab ID:** 1105433-01
Collection Date: 5/11/2011 04:45 PM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED METALS			**SW6020**		Prep Date: **5/23/2011**	Analyst: **SKS**
Calcium	**73.0**		**0.500**	**mg/L**	1	5/24/2011 03:14 AM
Magnesium	**28.4**		**0.200**	**mg/L**	1	5/24/2011 03:14 AM
Potassium	**5.68**		**0.200**	**mg/L**	1	5/24/2011 03:14 AM
Sodium	**165**		**0.200**	**mg/L**	1	5/24/2011 03:14 AM
ANIONS			**E300**			Analyst: **TDW**
Chloride	**185**		**10.0**	**mg/L**	20	5/18/2011 01:31 AM
Fluoride	**1.20**		**0.100**	**mg/L**	1	5/18/2011 01:09 AM
Sulfate	**93.0**		**10.0**	**mg/L**	20	5/18/2011 01:31 AM
Nitrate/Nitrite (as N)	**1.60**		**0.500**	**mg/L**	5	5/17/2011 12:23 PM
Surr: Selenate (surr)	*108*		*85-115*	*%REC*	20	5/18/2011 01:31 AM
Surr: Selenate (surr)	*91.5*		*85-115*	*%REC*	5	5/17/2011 12:23 PM
Surr: Selenate (surr)	*115*		*85-115*	*%REC*	1	5/18/2011 01:09 AM
ALKALINITY			**SM2320B**			Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**170**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Total (As CaCO3)	**170**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **JKP**
Total Dissolved Solids (Residue, Filterable)	**692**		**10.0**	**mg/L**	1	5/16/2011 08:05 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *26-May-11*

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
Work Order: 1105433
Sample ID: MW-9-051111
Lab ID: 1105433-02
Collection Date: 5/11/2011 03:10 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED METALS			**SW6020**		Prep Date: **5/23/2011**	Analyst: **SKS**
Calcium	**73.9**		**0.500**	**mg/L**	1	5/24/2011 03:20 AM
Magnesium	**25.8**		**0.200**	**mg/L**	1	5/24/2011 03:20 AM
Potassium	**4.61**		**0.200**	**mg/L**	1	5/24/2011 03:20 AM
Sodium	**67.9**		**0.200**	**mg/L**	1	5/24/2011 03:20 AM
ANIONS			**E300**			Analyst: **TDW**
Chloride	**80.3**		**0.500**	**mg/L**	1	5/18/2011 01:53 AM
Fluoride	**1.71**		**0.100**	**mg/L**	1	5/18/2011 01:53 AM
Sulfate	**75.7**		**10.0**	**mg/L**	20	5/18/2011 02:15 AM
Nitrate/Nitrite (as N)	**1.72**		**0.500**	**mg/L**	5	5/17/2011 12:45 PM
Surr: Selenate (surr)	*108*		*85-115*	*%REC*	20	5/18/2011 02:15 AM
Surr: Selenate (surr)	*95.7*		*85-115*	*%REC*	5	5/17/2011 12:45 PM
Surr: Selenate (surr)	*114*		*85-115*	*%REC*	1	5/18/2011 01:53 AM
ALKALINITY			**SM2320B**			Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**160**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Total (As CaCO3)	**160**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **JKP**
Total Dissolved Solids (Residue, Filterable)	**518**		**10.0**	**mg/L**	1	5/16/2011 08:05 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *26-May-11*

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
Work Order: 1105433
Sample ID: MW-9A-051111
Lab ID: 1105433-03
Collection Date: 5/11/2011 03:40 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED METALS			**SW6020**		Prep Date: **5/23/2011**	Analyst: **SKS**
Calcium	**166**		**5.00**	**mg/L**	10	5/25/2011 06:15 PM
Magnesium	**80.6**		**0.200**	**mg/L**	1	5/24/2011 03:25 AM
Potassium	**11.3**		**0.200**	**mg/L**	1	5/24/2011 03:25 AM
Sodium	**211**		**2.00**	**mg/L**	10	5/25/2011 06:15 PM
ANIONS			**E300**			Analyst: **TDW**
Chloride	**587**		**10.0**	**mg/L**	20	5/18/2011 02:58 AM
Fluoride	**1.18**		**0.100**	**mg/L**	1	5/18/2011 02:36 AM
Sulfate	**415**		**10.0**	**mg/L**	20	5/18/2011 02:58 AM
Nitrate/Nitrite (as N)	**1.90**		**0.500**	**mg/L**	5	5/17/2011 01:06 PM
Surr: Selenate (surr)	*107*		*85-115*	*%REC*	20	5/18/2011 02:58 AM
Surr: Selenate (surr)	*108*		*85-115*	*%REC*	5	5/17/2011 01:06 PM
Surr: Selenate (surr)	*106*		*85-115*	*%REC*	1	5/18/2011 02:36 AM
ALKALINITY			**SM2320B**			Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**146**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Total (As CaCO3)	**146**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **JKP**
Total Dissolved Solids (Residue, Filterable)	**1,850**		**10.0**	**mg/L**	1	5/16/2011 08:05 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *26-May-11*

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
Work Order: 1105433
Sample ID: MW-10-051111
Lab ID: 1105433-04
Collection Date: 5/11/2011 02:40 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED METALS			**SW6020**		Prep Date: **5/23/2011**	Analyst: **SKS**
Calcium	**117**		**0.500**	**mg/L**	1	5/24/2011 03:42 AM
Magnesium	**32.2**		**0.200**	**mg/L**	1	5/24/2011 03:42 AM
Potassium	**5.63**		**0.200**	**mg/L**	1	5/24/2011 03:42 AM
Sodium	**85.0**		**0.200**	**mg/L**	1	5/24/2011 03:42 AM
ANIONS			**E300**			Analyst: **TDW**
Chloride	**274**		**10.0**	**mg/L**	20	5/18/2011 03:41 AM
Fluoride	**1.11**		**0.100**	**mg/L**	1	5/18/2011 03:20 AM
Sulfate	**87.2**		**10.0**	**mg/L**	20	5/18/2011 03:41 AM
Nitrate/Nitrite (as N)	**1.99**		**0.500**	**mg/L**	5	5/17/2011 01:28 PM
Surr: Selenate (surr)	*112*		*85-115*	*%REC*	20	5/18/2011 03:41 AM
Surr: Selenate (surr)	*108*		*85-115*	*%REC*	5	5/17/2011 01:28 PM
Surr: Selenate (surr)	*108*		*85-115*	*%REC*	1	5/18/2011 03:20 AM
ALKALINITY			**SM2320B**			Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**157**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Total (As CaCO3)	**157**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **JKP**
Total Dissolved Solids (Residue, Filterable)	**930**		**10.0**	**mg/L**	1	5/16/2011 08:05 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *26-May-11*

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
Work Order: 1105433
Sample ID: MW-11-051111
Lab ID: 1105433-05
Collection Date: 5/11/2011 04:10 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED METALS			**SW6020**		Prep Date: **5/23/2011**	Analyst: **SKS**
Calcium	**78.1**		**0.500**	**mg/L**	1	5/24/2011 04:27 AM
Magnesium	**37.0**		**0.200**	**mg/L**	1	5/24/2011 04:27 AM
Potassium	**6.32**		**0.200**	**mg/L**	1	5/24/2011 04:27 AM
Sodium	**103**		**0.200**	**mg/L**	1	5/24/2011 04:27 AM
ANIONS			**E300**			Analyst: **TDW**
Chloride	**133**		**10.0**	**mg/L**	20	5/18/2011 05:08 AM
Fluoride	**1.43**		**0.100**	**mg/L**	1	5/18/2011 04:03 AM
Sulfate	**140**		**10.0**	**mg/L**	20	5/18/2011 05:08 AM
Nitrate/Nitrite (as N)	**2.08**		**0.500**	**mg/L**	5	5/17/2011 02:33 PM
Surr: Selenate (surr)	*107*		*85-115*	*%REC*	20	5/18/2011 05:08 AM
Surr: Selenate (surr)	*112*		*85-115*	*%REC*	5	5/17/2011 02:33 PM
Surr: Selenate (surr)	*110*		*85-115*	*%REC*	1	5/18/2011 04:03 AM
ALKALINITY			**SM2320B**			Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**161**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1	5/25/2011 12:00 PM
Alkalinity, Total (As CaCO3)	**161**		**5.00**	**mg/L**	1	5/25/2011 12:00 PM
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **JKP**
Total Dissolved Solids (Residue, Filterable)	**664**		**10.0**	**mg/L**	1	5/16/2011 08:05 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *26-May-11*

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
Work Order: 1105433
Sample ID: Dup-051111
Lab ID: 1105433-06
Collection Date: 5/11/2011
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED METALS			**SW6020**		Prep Date: **5/23/2011**	Analyst: **SKS**
Calcium	**77.4**		**0.500**	**mg/L**	1	5/24/2011 04:33 AM
Magnesium	**37.0**		**0.200**	**mg/L**	1	5/24/2011 04:33 AM
Potassium	**6.29**		**0.200**	**mg/L**	1	5/24/2011 04:33 AM
Sodium	**104**		**0.200**	**mg/L**	1	5/24/2011 04:33 AM
ANIONS			**E300**			Analyst: **TDW**
Chloride	**130**		**10.0**	**mg/L**	20	5/18/2011 05:52 AM
Fluoride	**1.44**		**0.100**	**mg/L**	1	5/18/2011 05:30 AM
Sulfate	**137**		**10.0**	**mg/L**	20	5/18/2011 05:52 AM
Nitrate/Nitrite (as N)	**2.01**		**0.500**	**mg/L**	5	5/17/2011 02:55 PM
Surr: Selenate (surr)	*107*		*85-115*	*%REC*	20	5/18/2011 05:52 AM
Surr: Selenate (surr)	*109*		*85-115*	*%REC*	5	5/17/2011 02:55 PM
Surr: Selenate (surr)	*114*		*85-115*	*%REC*	1	5/18/2011 05:30 AM
ALKALINITY			**SM2320B**			Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**161**		**5.00**	**mg/L**	1	5/23/2011 04:00 PM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1	5/23/2011 04:00 PM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1	5/23/2011 04:00 PM
Alkalinity, Total (As CaCO3)	**161**		**5.00**	**mg/L**	1	5/23/2011 04:00 PM
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **JKP**
Total Dissolved Solids (Residue, Filterable)	**706**		**10.0**	**mg/L**	1	5/16/2011 08:05 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 26-May-11

Client: Conestoga-Rovers & Associates

Work Order: 1105433

Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **52641** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MBLK Sample ID: **MBLKW5-052311-52641** Units: **mg/L** Analysis Date: **5/24/2011 03:03 AM**

Client ID: Run ID: **ICP7500_110523A** SeqNo: **2398357** Prep Date: **5/23/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	U	0.50								
Magnesium	U	0.20								
Potassium	U	0.20								
Sodium	U	0.20								

LCS Sample ID: **MLCSW5-052311-52641** Units: **mg/L** Analysis Date: **5/24/2011 03:08 AM**

Client ID: Run ID: **ICP7500_110523A** SeqNo: **2398358** Prep Date: **5/23/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	4.731	0.50	5	0	94.6	80-120	0			
Magnesium	4.674	0.20	5	0	93.5	80-120	0			
Potassium	4.905	0.20	5	0	98.1	80-120	0			
Sodium	4.662	0.20	5	0	93.2	80-120	0			

MS Sample ID: **1105433-04AMS** Units: **mg/L** Analysis Date: **5/24/2011 03:53 AM**

Client ID: **MW-10-051111** Run ID: **ICP7500_110523A** SeqNo: **2398366** Prep Date: **5/23/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	118	0.50	5	116.9	22	75-125	0			SO
Magnesium	35.62	0.20	5	32.24	67.6	75-125	0			SO
Potassium	10.13	0.20	5	5.629	90	75-125	0			
Sodium	86.65	0.20	5	85.02	32.6	75-125	0			SO

MSD Sample ID: **1105433-04AMSD** Units: **mg/L** Analysis Date: **5/24/2011 03:59 AM**

Client ID: **MW-10-051111** Run ID: **ICP7500_110523A** SeqNo: **2398367** Prep Date: **5/23/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	123.4	0.50	5	116.9	130	75-125	118	4.47	25	SO
Magnesium	37	0.20	5	32.24	95.2	75-125	35.62	3.8	25	O
Potassium	10.42	0.20	5	5.629	95.8	75-125	10.13	2.82	25	
Sodium	90.09	0.20	5	85.02	101	75-125	86.65	3.89	25	O

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1105433
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **52641** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

DUP Sample ID: **1105433-04ADUP** Units: **mg/L** Analysis Date: **5/24/2011 03:48 AM**

Client ID: **MW-10-051111** Run ID: **ICP7500_110523A** SeqNo: **2398365** Prep Date: **5/23/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	116.6	0.50	0	0	0	0-0	116.9	0.257	25	
Magnesium	31.59	0.20	0	0	0	0-0	32.24	2.04	25	
Potassium	5.457	0.20	0	0	0	0-0	5.629	3.1	25	
Sodium	83.08	0.20	0	0	0	0-0	85.02	2.31	25	

The following samples were analyzed in this batch:

1105433-01A	1105433-02A	1105433-03A
1105433-04A	1105433-05A	1105433-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1105433
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R109937** Instrument ID **Balance1** Method: **M2540C**

MBLK Sample ID: **BLANK-R109937** Units: **mg/L** Analysis Date: **5/16/2011 08:05 AM**
Client ID: Run ID: **BALANCE1_110516F** SeqNo: **2389553** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	U	10								

LCS Sample ID: **LCS-R109937** Units: **mg/L** Analysis Date: **5/16/2011 08:05 AM**
Client ID: Run ID: **BALANCE1_110516F** SeqNo: **2389554** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	1046	10	1000	0	105	85-115	0			

DUP Sample ID: **1105242-01ADUPZ** Units: **mg/L** Analysis Date: **5/16/2011 08:05 AM**
Client ID: Run ID: **BALANCE1_110516F** SeqNo: **2389529** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	1278	10	0	0	0	0-0	1240	3.02	20	

DUP Sample ID: **1105402-09DDUP** Units: **mg/L** Analysis Date: **5/16/2011 08:05 AM**
Client ID: Run ID: **BALANCE1_110516F** SeqNo: **2389533** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	848	10	0	0	0	0-0	836	1.43	20	

The following samples were analyzed in this batch:

1105433-01C	1105433-02C	1105433-03C
1105433-04C	1105433-05C	1105433-06C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1105433
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R109998** Instrument ID **ICS3K2** Method: **E300**

MBLK Sample ID: **WBLKW2-051611-R109998** Units: **mg/L** Analysis Date: **5/17/2011 10:13 AM**
Client ID: Run ID: **ICS3K2_110517A** SeqNo: **2391163** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	U	0.50								
Surr: Selenate (surr)	*27.22*	0.50	*25*	0	*109*	*85-115*	0			

LCS Sample ID: **WLCSW2-051611-R109998** Units: **mg/L** Analysis Date: **5/17/2011 10:35 AM**
Client ID: Run ID: **ICS3K2_110517A** SeqNo: **2391164** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	39.14	0.50	40	0	97.8	90-110	0			
Surr: Selenate (surr)	*26.92*	0.50	*25*	0	*108*	*85-115*	0			

LCSD Sample ID: **WLCSDW2-051611-R109998** Units: **mg/L** Analysis Date: **5/17/2011 10:56 AM**
Client ID: Run ID: **ICS3K2_110517A** SeqNo: **2391165** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	39.08	0.50	40	0	97.7	90-110	39.14	0.161	20	
Surr: Selenate (surr)	*26.98*	0.50	*25*	0	*108*	*85-115*	26.92	*0.23*	*20*	

MS Sample ID: **1105456-04BMS** Units: **mg/L** Analysis Date: **5/17/2011 11:40 AM**
Client ID: Run ID: **ICS3K2_110517A** SeqNo: **2391167** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	27.87	0.50	20	9.456	92.1	80-120	0			
Surr: Selenate (surr)	*27.13*	0.50	*25*	0	*109*	*85-115*	0			

MSD Sample ID: **1105456-04BMSD** Units: **mg/L** Analysis Date: **5/17/2011 12:01 PM**
Client ID: Run ID: **ICS3K2_110517A** SeqNo: **2391168** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	27.81	0.50	20	9.456	91.8	80-120	27.81	0	20	
Surr: Selenate (surr)	*27.18*	0.50	*25*	0	*109*	*85-115*	27.18	*0*	*20*	

The following samples were analyzed in this batch:

1105433-01B	1105433-02B	1105433-03B
1105433-04B	1105433-05B	1105433-06B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1105433
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R110014** Instrument ID **ICS3K2** Method: **E300**

MBLK Sample ID: **WBLKW1-051611-R110014** Units: **mg/L** Analysis Date: **5/17/2011 04:00 PM**
Client ID: Run ID: **ICS3K2_110517B** SeqNo: **2391394** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.50								
Fluoride	U	0.10								
Sulfate	U	0.50								
Surr: Selenate (surr)	*5.45*	0.10	*5*	0	*109*	*85-115*	0			

LCS Sample ID: **WLCSW1-051611-R110014** Units: **mg/L** Analysis Date: **5/17/2011 04:22 PM**
Client ID: Run ID: **ICS3K2_110517B** SeqNo: **2391395** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.34	0.50	20	0	96.7	90-110	0			
Fluoride	3.636	0.10	4	0	90.9	90-110	0			
Sulfate	18.44	0.50	20	0	92.2	90-110	0			
Surr: Selenate (surr)	*5.512*	0.10	*5*	0	*110*	*85-115*	0			

LCSD Sample ID: **WLCSDW1-051611-R110014** Units: **mg/L** Analysis Date: **5/17/2011 04:50 PM**
Client ID: Run ID: **ICS3K2_110517B** SeqNo: **2391396** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.37	0.50	20	0	96.8	90-110	19.34	0.114	20	
Fluoride	3.674	0.10	4	0	91.8	90-110	3.636	1.04	20	
Sulfate	18.54	0.50	20	0	92.7	90-110	18.44	0.546	20	
Surr: Selenate (surr)	*5.504*	0.10	*5*	0	*110*	*85-115*	5.512	*0.145*	*20*	

MS Sample ID: **1105433-02CMS** Units: **mg/L** Analysis Date: **5/18/2011 06:13 AM**
Client ID: **MW-9-051111** Run ID: **ICS3K2_110517B** SeqNo: **2391476** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	90.34	0.50	10	81.09	92.6	80-120	0			O
Fluoride	3.804	0.10	2	1.926	93.9	80-120	0			
Sulfate	110.5	0.50	10	75.7	348	80-120	0			SEO
Surr: Selenate (surr)	*5.481*	0.10	*5*	0	*110*	*85-115*	0			

MS Sample ID: **1105436-06BMS** Units: **mg/L** Analysis Date: **5/18/2011 12:44 PM**
Client ID: Run ID: **ICS3K2_110517B** SeqNo: **2391936** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	260.8	0.50	10	255.2	56	80-120	0			SEO
Fluoride	12.46	0.10	2	10.68	88.8	80-120	0			O
Sulfate	46.82	0.50	10	36.13	107	80-120	0			
Surr: Selenate (surr)	*5.739*	0.10	*5*	0	*115*	*85-115*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1105433
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R110014** Instrument ID **ICS3K2** Method: **E300**

MSD Sample ID: **1105433-02CMSD** Units: **mg/L** Analysis Date: **5/18/2011 06:35 AM**
Client ID: **MW-9-051111** Run ID: **ICS3K2_110517B** SeqNo: **2391479** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	90.3	0.50	10	81.09	92.1	80-120	90.34	0.0498	20	O
Fluoride	3.785	0.10	2	1.926	93	80-120	3.804	0.501	20	
Sulfate	110.3	0.50	10	75.7	346	80-120	110.5	0.181	20	SEO
Surr: Selenate (surr)	*5.678*	0.10	*5*	0	*114*	*85-115*	5.481	*3.53*	*20*	

MSD Sample ID: **1105436-06BMSD** Units: **mg/L** Analysis Date: **5/18/2011 01:06 PM**
Client ID: Run ID: **ICS3K2_110517B** SeqNo: **2391937** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	259.8	0.50	10	255.2	46.3	80-120	260.8	0.371	20	SEO
Fluoride	12.24	0.10	2	10.68	77.6	80-120	12.46	1.83	20	SO
Sulfate	46.22	0.50	10	36.13	101	80-120	46.82	1.29	20	
Surr: Selenate (surr)	*5.698*	0.10	*5*	0	*114*	*85-115*	5.739	*0.717*	*20*	

The following samples were analyzed in this batch:

1105433-01C	1105433-02C	1105433-03C
1105433-04C	1105433-05C	1105433-06C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1105433
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R110413** Instrument ID **WetChem** Method: **SM2320B**

MBLK Sample ID: **WBLKW1-052311-R110413** Units: **mg/L** Analysis Date: **5/23/2011 04:00 PM**
Client ID: Run ID: **WETCHEM_110523M** SeqNo: **2400346** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.0								
Alkalinity, Carbonate (As CaCO3)	U	5.0								
Alkalinity, Hydroxide (As CaCO3)	U	5.0								
Alkalinity, Total (As CaCO3)	U	5.0								

LCS Sample ID: **WLCSW1-052311-R110413** Units: **mg/L** Analysis Date: **5/23/2011 04:00 PM**
Client ID: Run ID: **WETCHEM_110523M** SeqNo: **2400347** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	1007	5.0	1000	0	101	80-120	0			
Alkalinity, Total (As CaCO3)	1007	5.0	1000	0	101	80-120	0			

DUP Sample ID: **1105447-13ADUP** Units: **mg/L** Analysis Date: **5/23/2011 04:00 PM**
Client ID: Run ID: **WETCHEM_110523M** SeqNo: **2400355** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	8.05	5.0	0	0	0	0-0	8.05	0	20	
Alkalinity, Carbonate (As CaCO3)	U	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	U	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Total (As CaCO3)	8.05	5.0	0	0	0	0-0	8.05	0	20	

The following samples were analyzed in this batch: 1105433-06C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1105433
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R110460** Instrument ID **WetChem** Method: **SM2320B**

MBLK Sample ID: **WBLKW1-052511-R110460** Units: **mg/L** Analysis Date: **5/25/2011 12:00 PM**
Client ID: Run ID: **WETCHEM_110525E** SeqNo: **2401471** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.0								
Alkalinity, Carbonate (As CaCO3)	U	5.0								
Alkalinity, Hydroxide (As CaCO3)	U	5.0								
Alkalinity, Total (As CaCO3)	U	5.0								

LCS Sample ID: **WLCSW1-052511-R110460** Units: **mg/L** Analysis Date: **5/25/2011 12:00 PM**
Client ID: Run ID: **WETCHEM_110525E** SeqNo: **2401472** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	990.9	5.0	1000	0	99.1	80-120	0			
Alkalinity, Total (As CaCO3)	990.9	5.0	1000	0	99.1	80-120	0			

DUP Sample ID: **1105433-01CDUP** Units: **mg/L** Analysis Date: **5/25/2011 12:00 PM**
Client ID: **MW-8-051111** Run ID: **WETCHEM_110525E** SeqNo: **2401483** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	172.2	5.0	0	0	0	0-0	170.2	1.17	20	
Alkalinity, Carbonate (As CaCO3)	U	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	U	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Total (As CaCO3)	172.2	5.0	0	0	0	0-0	170.2	1.17	20	

The following samples were analyzed in this batch:

1105433-01C	1105433-02C	1105433-03C
1105433-04C	1105433-05C	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 26-May-11

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
WorkOrder: 1105433

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Units Reported	Description
mg/L	Milligrams per Liter

ALS Environmental
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Chain of Custody Form

Page 1 of 1

COC ID: 33437

1105433

CRA-HOU:

Project: Cooper-Jal

ALS Project Manager:

Customer Information		Project Information			
Purchase Order		Project Name	Cooper- Jal	A	Dissolved Metals(6020/7000) Ca, Mg, Na, K
Work Order		Project Number	~~39177~~ 39123 PLL	B	Anions(300) Cl, F, SO4
Company Name	Conestoga-Rovers & Associates	Bill To Company	Conestoga-Rovers & Associates	C	Nitrate/ Nitrite
Send Report To	Todd Wells	Invoice Attn	Todd Wells	D	Alkalinity
Address	6320 Rothway, Suite 100	Address	6320 Rothway, Suite 100	E	TDS
				F	TEMP
City/State/Zip	Houston, TX 77040	City/State/Zip	Houston, TX 77040	G	
Phone	(713) 734-3090	Phone	(713) 734-3090	H	
Fax	(713) 734-3391	Fax	(713) 734-3391	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-8-051111	5-11-11	1645	H_2O	2,3,8	3	X	X	X	X	X						
2	MW-9-051111	5-11-11	1510	H_2O	2,3,8	3	X	X	X	X	X						
3	MW-94-051111	5-11-11	1540	H_2O	2,3,8	3	X	X	X	X	X						
4	MW-10-051111	5-11-11	1440	H_2O	2,3,8	3	X	X	X	X	X						
5	MW-11-051111	5-11-11	1610	H_2O	2,3,8	3	X	X	X	X	X						
6	DUP-051111	5-11-11	—	H_2O	2,3,8	3	X	X	X	X	X						
7	TEMP	—	—	H_2O	8	1						X					
8																	
9			—														
10																	

Sampler(s) Please Print & Sign: Joe Mueller, Joe Nicoles

Shipment Method:

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Joe Mueller	5-12-11	0800	
Relinquished by:	Date:	Time:	Received by (Laboratory): 5/13/11 0820
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: 10 Day TAT

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
☑ Level II Std QC ☐ TRRP CheckList
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other / EDD

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Environmental

Sample Receipt Checklist

Client Name: **CRA-MID** Date/Time Received: **13-May-11 09:00**

Work Order: **1105433** Received by: **RNG**

Checklist completed by Salvador A. Yanez (eSignature) 13-May-11 (Date) Reviewed by: Patricia L. Lynch (eSignature) 17-May-11 (Date)

Matrices: Water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.9c	002	
Cooler(s)/Kit(s):	3419		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

1105433

...d This portion can be removed for Recipient's records.

e FedEx Tracking Number 8741966923 64

...der's ...ne Phone

Company

Address

Dept./Floor/Suite/Room

State ZIP

ur Internal Billing Reference

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 5-12-11 Time: 0500
Name: Joe Myers
Company: CRA

Seal Broken By: AVS
Date: 5/13/11

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Date:
Name
Com

CUSTODY SEAL
5-12-11 Time: 0800
...: Joe Myers
...pany: CRA

Seal Broken By: AVS
Date:

ALS Environmental

29-Nov-2011

Todd Wells
Conestoga-Rovers & Associates
2135 S Loop 250 West
Midland, TX 79703

Tel: (432) 686-0086
Fax: (432) 686-0186

Re: 039123 CEMC Cooper-JAL Work Order: **1111455**

Dear Todd,

ALS Environmental received 21 samples on 12-Nov-2011 09:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 39.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Patricia L. Lynch

Electronically approved by: Mary K. Knowles

Patricia L. Lynch
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac
Certificate No: TX: T104704231-11-5

ALS Environmental

Date: 29-Nov-11

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: **1111455**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1111455-01	MW 13 111011	Water		11/10/2011 11:00	11/12/2011 09:15	☐
1111455-02	MW 12 111011	Water		11/10/2011 10:35	11/12/2011 09:15	☐
1111455-03	MW3 111011	Water		11/10/2011 11:25	11/12/2011 09:15	☐
1111455-04	MW8 111011	Water		11/10/2011 11:35	11/12/2011 09:15	☐
1111455-05	MW11 111011	Water		11/10/2011 11:50	11/12/2011 09:15	☐
1111455-06	MW9 111011	Water		11/10/2011 12:10	11/12/2011 09:15	☐
1111455-07	MW9A 111011	Water		11/10/2011 12:20	11/12/2011 09:15	☐
1111455-08	MW7 111011	Water		11/10/2011 12:40	11/12/2011 09:15	☐
1111455-09	RW2 111011	Water		11/10/2011 12:55	11/12/2011 09:15	☐
1111455-10	MW5 111011	Water		11/10/2011 13:45	11/12/2011 09:15	☐
1111455-11	MW5A 111011	Water		11/10/2011 13:15	11/12/2011 09:15	☐
1111455-12	MW4 111011	Water		11/10/2011 14:10	11/12/2011 09:15	☐
1111455-13	MW4A 111011	Water		11/10/2011 14:05	11/12/2011 09:15	☐
1111455-14	RW1 111011	Water		11/10/2011 14:35	11/12/2011 09:15	☐
1111455-15	MW1 111011	Water		11/10/2011 15:30	11/12/2011 09:15	☐
1111455-16	MW2 111011	Water		11/10/2011 15:15	11/12/2011 09:15	☐
1111455-17	MW2A 111011	Water		11/10/2011 15:00	11/12/2011 09:15	☐
1111455-18	DUP1 111011	Water		11/10/2011	11/12/2011 09:15	☐
1111455-19	Trip Blank 1	Water		11/10/2011	11/12/2011 09:15	☐
1111455-20	Trip Blank 2	Water		11/10/2011	11/12/2011 09:15	☐
1111455-21	Trip Blank 3	Water		11/10/2011	11/12/2011 09:15	☐

Client:	Conestoga-Rovers & Associates
Project:	039123 CEMC Cooper-JAL
Work Order:	1111455

Case Narrative

Batch 57030, Dissolved Metals/ Cations, Sample MW9 111011: MS/MSD recoveries were above the control limits for calcium, magnesium and sodium due to the sample matrix. Results are flagged with O based on the concentration in the background sample as compared to the amount spiked. The associated LCS recoveries and MS/MSD RPD's were within the control limits.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW 13 111011
Lab ID: 1111455-01
Collection Date: 11/10/2011 11:00 AM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**690**		**50.0**	**mg/L**	100	11/17/2011	11/21/2011 02:36 PM
Magnesium	**223**		**20.0**	**mg/L**	100	11/17/2011	11/21/2011 02:36 PM
Potassium	**13.2**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 10:56 AM
Sodium	**472**		**20.0**	**mg/L**	100	11/17/2011	11/21/2011 02:36 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**2,110**		**50.0**	**mg/L**	100		11/21/2011 04:15 AM
Fluoride	**0.177**		**0.100**	**mg/L**	1		11/20/2011 04:21 AM
Sulfate	**273**		**50.0**	**mg/L**	100		11/21/2011 04:15 AM
Nitrate/Nitrite (as N)	U		0.500	mg/L	5		11/18/2011 10:30 AM
Surr: Selenate (surr)	*101*		*85-115*	*%REC*	1		11/20/2011 04:21 AM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	5		11/18/2011 10:30 AM
Surr: Selenate (surr)	*88.7*		*85-115*	*%REC*	100		11/21/2011 04:15 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**206**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**206**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**4,870**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW 12 111011
Lab ID: 1111455-02
Collection Date: 11/10/2011 10:35 AM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			SW6020				Analyst: **ALR**
Calcium	**93.8**		**0.500**	**mg/L**	1	11/17/2011	11/19/2011 11:02 AM
Magnesium	**27.8**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:02 AM
Potassium	**4.53**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:02 AM
Sodium	**64.0**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:02 AM
ANIONS - EPA 300.0 (1993)			E300				Analyst: **JKP**
Chloride	**179**		**5.00**	**mg/L**	10		11/21/2011 04:37 AM
Fluoride	**0.464**		**0.100**	**mg/L**	1		11/20/2011 04:42 AM
Sulfate	**92.8**		**0.500**	**mg/L**	1		11/20/2011 04:42 AM
Nitrate/Nitrite (as N)	**1.37**		**0.500**	**mg/L**	5		11/18/2011 12:16 PM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	5		11/18/2011 12:16 PM
Surr: Selenate (surr)	*90.3*		*85-115*	*%REC*	10		11/21/2011 04:37 AM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	1		11/20/2011 04:42 AM
ALKALINITY			SM2320B				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**134**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**134**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			M2540C				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**594**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW3 111011
Lab ID: 1111455-03
Collection Date: 11/10/2011 11:25 AM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**57.9**		**0.500**	**mg/L**	1	11/17/2011	11/19/2011 11:09 AM
Magnesium	**18.0**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:09 AM
Potassium	**3.79**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:09 AM
Sodium	**53.0**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:09 AM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**36.4**		**0.500**	**mg/L**	1		11/20/2011 05:04 AM
Fluoride	**0.833**		**0.100**	**mg/L**	1		11/20/2011 05:04 AM
Sulfate	**87.9**		**5.00**	**mg/L**	10		11/21/2011 04:58 AM
Nitrate/Nitrite (as N)	**1.35**		**0.500**	**mg/L**	5		11/18/2011 12:37 PM
Surr: Selenate (surr)	*96.4*		*85-115*	*%REC*	1		11/20/2011 05:04 AM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	5		11/18/2011 12:37 PM
Surr: Selenate (surr)	*90.3*		*85-115*	*%REC*	10		11/21/2011 04:58 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**165**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**165**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**404**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Sample ID: MW8 111011
Collection Date: 11/10/2011 11:35 AM

Work Order: 1111455
Lab ID: 1111455-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**57.1**		**0.500**	**mg/L**	1	11/17/2011	11/19/2011 11:16 AM
Magnesium	**17.0**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:16 AM
Potassium	**3.46**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:16 AM
Sodium	**48.6**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:16 AM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**36.9**		**0.500**	**mg/L**	1		11/20/2011 05:25 AM
Fluoride	**1.06**		**0.100**	**mg/L**	1		11/20/2011 05:25 AM
Sulfate	**87.4**		**5.00**	**mg/L**	10		11/21/2011 05:19 AM
Nitrate/Nitrite (as N)	**1.41**		**0.500**	**mg/L**	5		11/18/2011 12:58 PM
Surr: Selenate (surr)	*98.9*		*85-115*	*%REC*	1		11/20/2011 05:25 AM
Surr: Selenate (surr)	*101*		*85-115*	*%REC*	5		11/18/2011 12:58 PM
Surr: Selenate (surr)	*92.9*		*85-115*	*%REC*	10		11/21/2011 05:19 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**161**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**161**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**406**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL **Work Order:** 1111455
Sample ID: MW11 111011 **Lab ID:** 1111455-05
Collection Date: 11/10/2011 11:50 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**66.2**		**0.500**	**mg/L**	1	11/17/2011	11/19/2011 11:22 AM
Magnesium	**17.9**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:22 AM
Potassium	**3.62**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:22 AM
Sodium	**52.3**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:22 AM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**38.8**		**0.500**	**mg/L**	1		11/20/2011 06:28 AM
Fluoride	**1.86**		**0.100**	**mg/L**	1		11/20/2011 06:28 AM
Sulfate	**97.1**		**5.00**	**mg/L**	10		11/21/2011 06:22 AM
Nitrate/Nitrite (as N)	**1.49**		**0.500**	**mg/L**	5		11/18/2011 01:19 PM
Surr: Selenate (surr)	*91.5*		*85-115*	*%REC*	1		11/20/2011 06:28 AM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	5		11/18/2011 01:19 PM
Surr: Selenate (surr)	*89.6*		*85-115*	*%REC*	10		11/21/2011 06:22 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**162**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**162**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**420**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW9 111011
Lab ID: 1111455-06
Collection Date: 11/10/2011 12:10 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**82.7**		**0.500**	**mg/L**	1	11/17/2011	11/19/2011 09:18 AM
Magnesium	**26.9**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 09:18 AM
Potassium	**4.34**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 09:18 AM
Sodium	**65.4**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 09:18 AM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**138**		**5.00**	**mg/L**	10		11/21/2011 06:43 AM
Fluoride	**1.66**		**0.100**	**mg/L**	1		11/20/2011 06:49 AM
Sulfate	**107**		**5.00**	**mg/L**	10		11/21/2011 06:43 AM
Nitrate/Nitrite (as N)	**1.38**		**0.500**	**mg/L**	5		11/18/2011 01:40 PM
Surr: Selenate (surr)	*101*		*85-115*	*%REC*	1		11/20/2011 06:49 AM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	5		11/18/2011 01:40 PM
Surr: Selenate (surr)	*88.3*		*85-115*	*%REC*	10		11/21/2011 06:43 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**151**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**151**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**582**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW9A 111011
Lab ID: 1111455-07
Collection Date: 11/10/2011 12:20 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**280**		**50.0**	**mg/L**	100	11/17/2011	11/21/2011 02:42 PM
Magnesium	**84.8**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:28 AM
Potassium	**7.51**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:28 AM
Sodium	**117**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 11:28 AM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**841**		**5.00**	**mg/L**	10		11/21/2011 07:04 AM
Fluoride	**0.189**		**0.100**	**mg/L**	1		11/20/2011 07:10 AM
Sulfate	**125**		**5.00**	**mg/L**	10		11/21/2011 07:04 AM
Nitrate/Nitrite (as N)	**1.56**		**0.500**	**mg/L**	5		11/18/2011 02:01 PM
Surr: Selenate (surr)	*106*		*85-115*	*%REC*	1		11/20/2011 07:10 AM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	5		11/18/2011 02:01 PM
Surr: Selenate (surr)	*91.0*		*85-115*	*%REC*	10		11/21/2011 07:04 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**115**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**115**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**2,160**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW7 111011
Lab ID: 1111455-08
Collection Date: 11/10/2011 12:40 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**662**		**5.00**	**mg/L**	10	11/17/2011	11/21/2011 02:48 PM
Magnesium	**203**		**2.00**	**mg/L**	10	11/17/2011	11/21/2011 02:48 PM
Potassium	**12.3**		**2.00**	**mg/L**	10	11/17/2011	11/21/2011 02:48 PM
Sodium	**198**		**2.00**	**mg/L**	10	11/17/2011	11/21/2011 02:48 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**1,710**		**50.0**	**mg/L**	100		11/21/2011 07:25 AM
Fluoride	**0.296**		**0.100**	**mg/L**	1		11/20/2011 07:31 AM
Sulfate	**147**		**50.0**	**mg/L**	100		11/21/2011 07:25 AM
Nitrate/Nitrite (as N)	**1.45**		**0.500**	**mg/L**	5		11/18/2011 02:22 PM
Surr: Selenate (surr)	*101*		*85-115*	*%REC*	1		11/20/2011 07:31 AM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	5		11/18/2011 02:22 PM
Surr: Selenate (surr)	*91.0*		*85-115*	*%REC*	100		11/21/2011 07:25 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**106**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**109**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**3,660**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: RW2 111011
Lab ID: 1111455-09
Collection Date: 11/10/2011 12:55 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**2,040**		**250**	**mg/L**	500	11/17/2011	11/21/2011 05:40 PM
Magnesium	**1.12**		**1.00**	**mg/L**	5	11/17/2011	11/21/2011 02:54 PM
Potassium	**18.7**		**1.00**	**mg/L**	5	11/17/2011	11/21/2011 02:54 PM
Sodium	**711**		**1.00**	**mg/L**	5	11/17/2011	11/21/2011 02:54 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**4,330**		**50.0**	**mg/L**	100		11/21/2011 07:46 AM
Fluoride	U		0.100	mg/L	1		11/20/2011 07:52 AM
Sulfate	**305**		**50.0**	**mg/L**	100		11/21/2011 07:46 AM
Nitrate/Nitrite (as N)	**2.13**		**0.500**	**mg/L**	5		11/18/2011 02:43 PM
Surr: Selenate (surr)	*95.1*		*85-115*	*%REC*	1		11/20/2011 07:52 AM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	5		11/18/2011 02:43 PM
Surr: Selenate (surr)	*91.8*		*85-115*	*%REC*	100		11/21/2011 07:46 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	**36.9**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	**347**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**384**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**8,300**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW5 111011
Lab ID: 1111455-10
Collection Date: 11/10/2011 01:45 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**944**		**5.00**	**mg/L**	10	11/17/2011	11/21/2011 03:00 PM
Magnesium	**326**		**2.00**	**mg/L**	10	11/17/2011	11/21/2011 03:00 PM
Potassium	**19.7**		**2.00**	**mg/L**	10	11/17/2011	11/21/2011 03:00 PM
Sodium	**1,780**		**2.00**	**mg/L**	10	11/17/2011	11/21/2011 03:00 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**4,340**		**50.0**	**mg/L**	100		11/21/2011 08:08 AM
Fluoride	**0.243**		**0.100**	**mg/L**	1		11/20/2011 08:13 AM
Sulfate	**411**		**50.0**	**mg/L**	100		11/21/2011 08:08 AM
Nitrate/Nitrite (as N)	**0.549**		**0.500**	**mg/L**	5		11/18/2011 03:05 PM
Surr: Selenate (surr)	*90.9*		*85-115*	*%REC*	1		11/20/2011 08:13 AM
Surr: Selenate (surr)	*99.8*		*85-115*	*%REC*	5		11/18/2011 03:05 PM
Surr: Selenate (surr)	*90.8*		*85-115*	*%REC*	100		11/21/2011 08:08 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**172**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**172**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**7,840**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW5A 111011
Lab ID: 1111455-11
Collection Date: 11/10/2011 01:15 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**83.8**		**1.00**	**mg/L**	2	11/17/2011	11/21/2011 03:07 PM
Magnesium	**29.9**		**0.400**	**mg/L**	2	11/17/2011	11/21/2011 03:07 PM
Potassium	**5.16**		**0.400**	**mg/L**	2	11/17/2011	11/21/2011 03:07 PM
Sodium	**85.7**		**0.400**	**mg/L**	2	11/17/2011	11/21/2011 03:07 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**131**		**5.00**	**mg/L**	10		11/21/2011 08:29 AM
Fluoride	**0.492**		**0.100**	**mg/L**	1		11/20/2011 08:35 AM
Sulfate	**116**		**5.00**	**mg/L**	10		11/21/2011 08:29 AM
Nitrate/Nitrite (as N)	**1.15**		**0.500**	**mg/L**	5		11/18/2011 03:26 PM
Surr: Selenate (surr)	*95.8*		*85-115*	*%REC*	1		11/20/2011 08:35 AM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	5		11/18/2011 03:26 PM
Surr: Selenate (surr)	*92.4*		*85-115*	*%REC*	10		11/21/2011 08:29 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**170**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**170**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**594**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Sample ID: MW4 111011
Collection Date: 11/10/2011 02:10 PM

Work Order: 1111455
Lab ID: 1111455-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**1,680**		**25.0**	**mg/L**	50	11/17/2011	11/21/2011 03:13 PM
Magnesium	**1,100**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:13 PM
Potassium	**40.0**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:13 PM
Sodium	**6,490**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:13 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**16,900**		**500**	**mg/L**	1000		11/21/2011 09:11 AM
Fluoride	**0.112**		**0.100**	**mg/L**	1		11/21/2011 08:50 AM
Sulfate	**1,060**		**500**	**mg/L**	1000		11/21/2011 09:11 AM
Nitrate/Nitrite (as N)	**6.16**		**0.500**	**mg/L**	5		11/18/2011 04:58 PM
Surr: Selenate (surr)	*87.8*		*85-115*	*%REC*	1000		11/21/2011 09:11 AM
Surr: Selenate (surr)	*101*		*85-115*	*%REC*	5		11/18/2011 04:58 PM
Surr: Selenate (surr)	*100*		*85-115*	*%REC*	1		11/21/2011 08:50 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**277**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**277**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**28,900**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW4A 111011
Lab ID: 1111455-13
Collection Date: 11/10/2011 02:05 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**78.8**		**0.500**	**mg/L**	1	11/17/2011	11/19/2011 07:46 PM
Magnesium	**18.7**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 07:46 PM
Potassium	**4.71**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 07:46 PM
Sodium	**389**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:34 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**621**		**5.00**	**mg/L**	10		11/21/2011 03:13 AM
Fluoride	**0.775**		**0.100**	**mg/L**	1		11/20/2011 09:17 AM
Sulfate	**134**		**5.00**	**mg/L**	10		11/21/2011 03:13 AM
Nitrate/Nitrite (as N)	**2.02**		**0.500**	**mg/L**	5		11/18/2011 05:19 PM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	10		11/21/2011 03:13 AM
Surr: Selenate (surr)	*99.0*		*85-115*	*%REC*	5		11/18/2011 05:19 PM
Surr: Selenate (surr)	*95.9*		*85-115*	*%REC*	1		11/20/2011 09:17 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**171**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**171**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**1,400**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: RW1 111011
Lab ID: 1111455-14
Collection Date: 11/10/2011 02:35 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**942**		**25.0**	**mg/L**	50	11/17/2011	11/21/2011 03:40 PM
Magnesium	**1,260**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:40 PM
Potassium	**44.6**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:40 PM
Sodium	**8,720**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:40 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**14,000**		**500**	**mg/L**	1000		11/21/2011 01:42 PM
Fluoride	**3.32**		**1.00**	**mg/L**	10		11/22/2011 11:47 AM
Sulfate	**1,540**		**50.0**	**mg/L**	100		11/21/2011 04:40 AM
Nitrate/Nitrite (as N)	**9.16**		**0.500**	**mg/L**	5		11/18/2011 05:40 PM
Surr: Selenate (surr)	*88.9*		*85-115*	*%REC*	10		11/22/2011 11:47 AM
Surr: Selenate (surr)	*100*		*85-115*	*%REC*	5		11/18/2011 05:40 PM
Surr: Selenate (surr)	*95.1*		*85-115*	*%REC*	1000		11/21/2011 01:42 PM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	100		11/21/2011 04:40 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**396**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**396**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**32,200**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW1 111011
Lab ID: 1111455-15
Collection Date: 11/10/2011 03:30 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**169**		**25.0**	**mg/L**	50	11/17/2011	11/21/2011 03:46 PM
Magnesium	**176**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:46 PM
Potassium	**22.5**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 07:58 PM
Sodium	**1,340**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:46 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**3,220**		**50.0**	**mg/L**	100		11/21/2011 05:02 AM
Fluoride	**1.02**		**0.100**	**mg/L**	1		11/20/2011 10:41 AM
Sulfate	**275**		**50.0**	**mg/L**	100		11/21/2011 05:02 AM
Nitrate/Nitrite (as N)	**2.37**		**0.500**	**mg/L**	5		11/18/2011 06:01 PM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	100		11/21/2011 05:02 AM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	5		11/18/2011 06:01 PM
Surr: Selenate (surr)	*95.3*		*85-115*	*%REC*	1		11/20/2011 10:41 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**209**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**209**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**5,250**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: MW2 111011
Lab ID: 1111455-16
Collection Date: 11/10/2011 03:15 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**227**		**25.0**	**mg/L**	50	11/17/2011	11/21/2011 03:52 PM
Magnesium	**83.2**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 08:04 PM
Potassium	**9.75**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 08:04 PM
Sodium	**668**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 03:52 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**1,480**		**50.0**	**mg/L**	100		11/21/2011 05:23 AM
Fluoride	**0.814**		**0.100**	**mg/L**	1		11/20/2011 11:02 AM
Sulfate	**150**		**50.0**	**mg/L**	100		11/21/2011 05:23 AM
Nitrate/Nitrite (as N)	**1.31**		**0.500**	**mg/L**	5		11/18/2011 06:22 PM
Surr: Selenate (surr)	*101*		*85-115*	*%REC*	100		11/21/2011 05:23 AM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	5		11/18/2011 06:22 PM
Surr: Selenate (surr)	*94.0*		*85-115*	*%REC*	1		11/20/2011 11:02 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**175**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**175**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**2,860**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Sample ID: MW2A 111011
Collection Date: 11/10/2011 03:00 PM

Work Order: 1111455
Lab ID: 1111455-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**92.5**		**0.500**	**mg/L**	1	11/17/2011	11/19/2011 08:10 PM
Magnesium	**23.3**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 08:10 PM
Potassium	**4.17**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 08:10 PM
Sodium	**64.7**		**2.00**	**mg/L**	10	11/17/2011	11/21/2011 03:58 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**129**		**5.00**	**mg/L**	10		11/21/2011 06:28 AM
Fluoride	**0.280**		**0.100**	**mg/L**	1		11/20/2011 11:23 AM
Sulfate	**101**		**5.00**	**mg/L**	10		11/21/2011 06:28 AM
Nitrate/Nitrite (as N)	**1.25**		**0.500**	**mg/L**	5		11/18/2011 06:43 PM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	10		11/21/2011 06:28 AM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	5		11/18/2011 06:43 PM
Surr: Selenate (surr)	*93.7*		*85-115*	*%REC*	1		11/20/2011 11:23 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**175**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**175**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**614**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *23-Nov-11*

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
Work Order: 1111455
Sample ID: DUP1 111011
Lab ID: 1111455-18
Collection Date: 11/10/2011
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
DISSOLVED METALS			**SW6020**				Analyst: **ALR**
Calcium	**183**		**25.0**	**mg/L**	50	11/17/2011	11/21/2011 04:04 PM
Magnesium	**197**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 04:04 PM
Potassium	**22.6**		**0.200**	**mg/L**	1	11/17/2011	11/19/2011 08:16 PM
Sodium	**1,480**		**10.0**	**mg/L**	50	11/17/2011	11/21/2011 04:04 PM
ANIONS - EPA 300.0 (1993)			**E300**				Analyst: **JKP**
Chloride	**2,930**		**50.0**	**mg/L**	100		11/21/2011 06:50 AM
Fluoride	**1.05**		**0.100**	**mg/L**	1		11/20/2011 11:44 AM
Sulfate	**240**		**50.0**	**mg/L**	100		11/21/2011 06:50 AM
Nitrate/Nitrite (as N)	**2.35**		**0.500**	**mg/L**	5		11/18/2011 07:04 PM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	100		11/21/2011 06:50 AM
Surr: Selenate (surr)	*103*		*85-115*	*%REC*	5		11/18/2011 07:04 PM
Surr: Selenate (surr)	*108*		*85-115*	*%REC*	1		11/20/2011 11:44 AM
ALKALINITY			**SM2320B**				Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**213**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1		11/18/2011 11:54 AM
Alkalinity, Total (As CaCO3)	**213**		**5.00**	**mg/L**	1		11/18/2011 11:54 AM
TOTAL DISSOLVED SOLIDS			**M2540C**				Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**4,640**		**10.0**	**mg/L**	1		11/16/2011 04:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **57030** Instrument ID: **ICP7500** Method: **SW6020** **(Dissolve)**

MBLK Sample ID: **MBLKW7-111711-57030** Units: **mg/L** Analysis Date: **11/19/2011 09:06 AM**

Client ID: Run ID: **ICP7500_111118A** SeqNo: **2602719** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	U	0.50								
Magnesium	U	0.20								
Potassium	U	0.20								
Sodium	U	0.20								

LCS Sample ID: **MLCSW7-111711-57030** Units: **mg/L** Analysis Date: **11/19/2011 10:14 AM**

Client ID: Run ID: **ICP7500_111118A** SeqNo: **2602727** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	5.21	0.50	5	0	104	80-120	0			
Magnesium	5.172	0.20	5	0	103	80-120	0			
Potassium	5.117	0.20	5	0	102	80-120	0			
Sodium	5.14	0.20	5	0	103	80-120	0			

MS Sample ID: **1111455-06BMS** Units: **mg/L** Analysis Date: **11/19/2011 09:56 AM**

Client ID: **MW9 111011** Run ID: **ICP7500_111118A** SeqNo: **2602724** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	95.02	0.50	5	82.72	246	75-125	0			SO
Magnesium	33.76	0.20	5	26.87	138	75-125	0			SO
Potassium	9.56	0.20	5	4.343	104	75-125	0			
Sodium	74.76	0.20	5	65.35	188	75-125	0			SO

MSD Sample ID: **1111455-06BMSD** Units: **mg/L** Analysis Date: **11/19/2011 10:02 AM**

Client ID: **MW9 111011** Run ID: **ICP7500_111118A** SeqNo: **2602725** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	91.23	0.50	5	82.72	170	75-125	95.02	4.07	25	SO
Magnesium	34.21	0.20	5	26.87	147	75-125	33.76	1.32	25	SO
Potassium	9.626	0.20	5	4.343	106	75-125	9.56	0.688	25	
Sodium	75.63	0.20	5	65.35	206	75-125	74.76	1.16	25	SO

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **57030** Instrument ID: **ICP7500** Method: **SW6020** **(Dissolve)**

DUP Sample ID: **1111455-06BDUP** Units: **mg/L** Analysis Date: **11/19/2011 09:43 AM**

Client ID: **MW9 111011** Run ID: **ICP7500_111118A** SeqNo: **2602722** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	84.93	0.50	0	0	0	0-0	82.72	2.64	25	
Magnesium	27.81	0.20	0	0	0	0-0	26.87	3.44	25	
Potassium	4.486	0.20	0	0	0	0-0	4.343	3.24	25	
Sodium	67.71	0.20	0	0	0	0-0	65.35	3.55	25	

The following samples were analyzed in this batch:

1111455-01B	1111455-02B	1111455-03B
1111455-04B	1111455-05B	1111455-06B
1111455-07B	1111455-08B	1111455-09B
1111455-10B	1111455-11B	1111455-12B
1111455-13B	1111455-14B	1111455-15B
1111455-16B	1111455-17B	1111455-18B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119445** Instrument ID: **Balance1** Method: **M2540C**

MBLK Sample ID: **BLANK-R119445** Units: **mg/L** Analysis Date: **11/16/2011 04:00 PM**
Client ID: Run ID: **BALANCE1_111116G** SeqNo: **2600628** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filte	U	10								

LCS Sample ID: **LCS-R119445** Units: **mg/L** Analysis Date: **11/16/2011 04:00 PM**
Client ID: Run ID: **BALANCE1_111116G** SeqNo: **2600630** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filte	926	10	1000	0	92.6	85-115	0			

DUP Sample ID: **1111455-01CDUP** Units: **mg/L** Analysis Date: **11/16/2011 04:00 PM**
Client ID: **MW 13 111011** Run ID: **BALANCE1_111116G** SeqNo: **2600604** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filte	4678	10	0	0	0	0-0	4872	4.06	20	

DUP Sample ID: **1111455-18CDUP** Units: **mg/L** Analysis Date: **11/16/2011 04:00 PM**
Client ID: **DUP1 111011** Run ID: **BALANCE1_111116G** SeqNo: **2600626** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filte	4365	10	0	0	0	0-0	4635	6	20	

The following samples were analyzed in this batch:

1111455-01C	1111455-02C	1111455-03C
1111455-04C	1111455-05C	1111455-06C
1111455-07C	1111455-08C	1111455-09C
1111455-10C	1111455-11C	1111455-12C
1111455-13C	1111455-14C	1111455-15C
1111455-16C	1111455-17C	1111455-18C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119486** Instrument ID: **WetChem** Method: **SM2320B**

MBLK Sample ID: **WBLKW1-111811-R119486** Units: **mg/L** Analysis Date: **11/18/2011 11:54 AM**
Client ID: Run ID: **WETCHEM_111118C** SeqNo: **2601964** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.0								
Alkalinity, Carbonate (As CaCO3)	U	5.0								
Alkalinity, Hydroxide (As CaCO3)	U	5.0								
Alkalinity, Total (As CaCO3)	U	5.0								

LCS Sample ID: **WLCSW1-111811-R119486** Units: **mg/L** Analysis Date: **11/18/2011 11:54 AM**
Client ID: Run ID: **WETCHEM_111118C** SeqNo: **2601965** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1018	5.0	1000	0	102	80-120	0			

DUP Sample ID: **1111455-01CDUP** Units: **mg/L** Analysis Date: **11/18/2011 11:54 AM**
Client ID: **MW 13 111011** Run ID: **WETCHEM_111118C** SeqNo: **2601987** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	212.4	5.0	0	0	0	0-0	206.3	2.9	20	
Alkalinity, Carbonate (As CaCO3)	U	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	U	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Total (As CaCO3)	212.4	5.0	0	0	0	0-0	206.3	2.9	20	

The following samples were analyzed in this batch:

1111455-01C	1111455-02C	1111455-03C
1111455-04C	1111455-05C	1111455-06C
1111455-07C	1111455-08C	1111455-09C
1111455-10C	1111455-11C	1111455-12C
1111455-13C	1111455-14C	1111455-15C
1111455-16C	1111455-17C	1111455-18C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119535** Instrument ID: **ICS3000** Method: **E300**

MBLK Sample ID: **WBLKW2-111711-R119535** Units: **mg/L** Analysis Date: **11/18/2011 08:45 AM**
Client ID: Run ID: **ICS3000_111117B** SeqNo: **2603687** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	U	1.0								
Surr: Selenate (surr)	*25.43*	0.50	*25*	0	*102*	*85-115*	0			

LCS Sample ID: **WLCSW2-111711-R119535** Units: **mg/L** Analysis Date: **11/18/2011 08:03 AM**
Client ID: Run ID: **ICS3000_111117B** SeqNo: **2603685** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	41.12	1.0	40	0	103	90-110	0			
Surr: Selenate (surr)	*26.21*	0.50	*25*	0	*105*	*85-115*	0			

LCSD Sample ID: **WLCSDW2-111711-R119535** Units: **mg/L** Analysis Date: **11/18/2011 08:24 AM**
Client ID: Run ID: **ICS3000_111117B** SeqNo: **2603686** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	41.38	1.0	40	0	103	90-110	41.12	0.618	20	

MS Sample ID: **1111290-40FMS** Units: **mg/L** Analysis Date: **11/18/2011 09:27 AM**
Client ID: Run ID: **ICS3000_111117B** SeqNo: **2603689** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	19.38	1.0	20	0.37	95	80-120	0			
Surr: Selenate (surr)	*24.2*	0.50	*25*	0	*96.8*	*85-115*	0			

MSD Sample ID: **1111290-40FMSD** Units: **mg/L** Analysis Date: **11/18/2011 09:48 AM**
Client ID: Run ID: **ICS3000_111117B** SeqNo: **2603690** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	19.12	1.0	20	0.37	93.7	80-120	19.38	1.37	20	
Surr: Selenate (surr)	*23.99*	0.50	*25*	0	*96*	*85-115*	24.2	*0.851*	*20*	

MSD Sample ID: **1111455-01AMS** Units: **mg/L** Analysis Date: **11/18/2011 10:51 AM**
Client ID: **MW 13 111011** Run ID: **ICS3000_111117B** SeqNo: **2603693** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	23.09	1.0	20	0	115	80-120	0			
Surr: Selenate (surr)	*25.26*	0.50	*25*	0	*101*	*85-115*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119535** Instrument ID: **ICS3000** Method: **E300**

MSD Sample ID: **1111455-01AMSD** Units: **mg/L** Analysis Date: **11/18/2011 11:12 AM**

Client ID: **MW 13 111011** Run ID: **ICS3000_111117B** SeqNo: **2603694** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	22.98	1.0	20	0	115	80-120	0			
Surr: Selenate (surr)	*25.29*	0.50	*25*	0	*101*	*85-115*	0			

The following samples were analyzed in this batch:

1111455-01A	1111455-02A	1111455-03A
1111455-04A	1111455-05A	1111455-06A
1111455-07A	1111455-08A	1111455-09A
1111455-10A	1111455-11A	1111455-12A
1111455-13A	1111455-14A	1111455-15A
1111455-16A	1111455-17A	1111455-18A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119565** Instrument ID: **ICS3000** Method: **E300**

MBLK Sample ID: **WBLKW1-112011-R119565** Units: **mg/L** Analysis Date: **11/21/2011 02:51 AM**
Client ID: Run ID: **ICS3000_111121A** SeqNo: **2604343** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.50								
Fluoride	U	0.10								
Sulfate	U	0.50								
Surr: Selenate (surr)	*4.415*	0.10	*5*	0	*88.3*	*85-115*	0			

LCS Sample ID: **WLCSW1-112011-R119565** Units: **mg/L** Analysis Date: **11/21/2011 02:09 AM**
Client ID: Run ID: **ICS3000_111121A** SeqNo: **2604341** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.98	0.50	20	0	99.9	90-110	0			
Fluoride	3.983	0.10	4	0	99.6	90-110	0			
Sulfate	18.96	0.50	20	0	94.8	90-110	0			
Surr: Selenate (surr)	*4.717*	0.10	*5*	0	*94.3*	*85-115*	0			

LCSD Sample ID: **WLCSDW1-112011-R119565** Units: **mg/L** Analysis Date: **11/21/2011 02:30 AM**
Client ID: Run ID: **ICS3000_111121A** SeqNo: **2604342** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.94	0.50	20	0	99.7	90-110	19.98	0.23	20	
Fluoride	3.95	0.10	4	0	98.8	90-110	3.983	0.832	20	

MS Sample ID: **1111303-01AMS** Units: **mg/L** Analysis Date: **11/21/2011 03:33 AM**
Client ID: Run ID: **ICS3000_111121A** SeqNo: **2604345** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	91.59	5.0	100	4.012	87.6	80-120	0			
Fluoride	18.23	1.0	20	0	91.2	80-120	0			
Sulfate	89.58	5.0	100	4.226	85.4	80-120	0			
Surr: Selenate (surr)	*42.84*	1.0	*50*	0	*85.7*	*85-115*	0			

MSD Sample ID: **1111303-01AMSD** Units: **mg/L** Analysis Date: **11/21/2011 03:54 AM**
Client ID: Run ID: **ICS3000_111121A** SeqNo: **2604346** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	96.39	5.0	100	4.012	92.4	80-120	91.59	5.1	20	
Fluoride	19.31	1.0	20	0	96.6	80-120	18.23	5.74	20	
Sulfate	95.62	5.0	100	4.226	91.4	80-120	89.58	6.52	20	
Surr: Selenate (surr)	*45.27*	1.0	*50*	0	*90.5*	*85-115*	42.84	*5.52*	*20*	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119565** Instrument ID: **ICS3000** Method: **E300**

The following samples were analyzed in this batch:

1111455-01C	1111455-02C	1111455-03C
1111455-04C	1111455-05C	1111455-06C
1111455-07C	1111455-08C	1111455-09C
1111455-10C	1111455-11C	1111455-12C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119566** Instrument ID: **ICS3000** Method: **E300**

MBLK Sample ID: **WBLKW1-112011-R119566** Units: **mg/L** Analysis Date: **11/20/2011 02:48 AM**
Client ID: Run ID: **ICS3000_111120A** SeqNo: **2604373** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.50								
Fluoride	U	0.10								
Sulfate	U	0.50								
Surr: Selenate (surr)	*4.659*	0.10	*5*	0	*93.2*	*85-115*	0			

LCS Sample ID: **WLCSW1-112011-R119566** Units: **mg/L** Analysis Date: **11/20/2011 02:06 AM**
Client ID: Run ID: **ICS3000_111120A** SeqNo: **2604371** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.36	0.50	20	0	102	90-110	0			
Fluoride	4.118	0.10	4	0	103	90-110	0			
Sulfate	20.28	0.50	20	0	101	90-110	0			
Surr: Selenate (surr)	*5.006*	0.10	*5*	0	*100*	*85-115*	0			

LCSD Sample ID: **WLCSDW1-112011-R119566** Units: **mg/L** Analysis Date: **11/20/2011 02:27 AM**
Client ID: Run ID: **ICS3000_111120A** SeqNo: **2604372** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.29	0.50	20	0	101	90-110	20.36	0.349	20	
Fluoride	4.08	0.10	4	0	102	90-110	4.118	0.927	20	
Sulfate	20.13	0.50	20	0	101	90-110	20.28	0.747	20	
Surr: Selenate (surr)	*4.975*	0.10	*5*	0	*99.5*	*85-115*	5.006	*0.621*	*20*	

MS Sample ID: **1111303-01AMS** Units: **mg/L** Analysis Date: **11/20/2011 03:39 AM**
Client ID: Run ID: **ICS3000_111120A** SeqNo: **2604375** Prep Date: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1051	50	1000	33.93	102	80-120	0	0	0	
Fluoride	205.3	10	200	0	103	80-120	0	0	0	
Sulfate	1039	50	1000	55.33	98.4	80-120	0	0	0	
Surr: Selenate (surr)	*466.9*	10	*500*	0	*93.4*	*85-115*	0	*0*		

MSD Sample ID: **1111303-01AMSD** Units: **mg/L** Analysis Date: **11/20/2011 04:00 AM**
Client ID: Run ID: **ICS3000_111120A** SeqNo: **2604376** Prep Date: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1051	50	1000	33.93	102	80-120	1051	0	20	
Fluoride	205.5	10	200	0	103	80-120	205.3	0.0876	20	
Sulfate	1038	50	1000	55.33	98.2	80-120	1039	0.157	20	
Surr: Selenate (surr)	*466.2*	10	*500*	0	*93.2*	*85-115*	466.9	*0.156*	*20*	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119566** Instrument ID: **ICS3000** Method: **E300**

The following samples were analyzed in this batch:

1111455-01C	1111455-02C	1111455-03C
1111455-04C	1111455-05C	1111455-06C
1111455-07C	1111455-08C	1111455-09C
1111455-10C	1111455-11C	1111455-12C
1111455-13C	1111455-14C	1111455-15C
1111455-16C	1111455-17C	1111455-18C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119579** Instrument ID: **ICS3K2** Method: **E300**

MBLK Sample ID: **WBLKS1-112011-R119579** Units: **mg/L** Analysis Date: **11/21/2011 02:51 AM**
Client ID: Run ID: **ICS3K2_111121A** SeqNo: **2604700** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.50								
Sulfate	U	0.50								
Surr: Selenate (surr)	*4.664*	0.10	*5*	0	*93.3*	*85-115*	0			

LCS Sample ID: **WLCSS1-112011-R119579** Units: **mg/L** Analysis Date: **11/21/2011 02:08 AM**
Client ID: Run ID: **ICS3K2_111121A** SeqNo: **2604698** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.27	0.50	20	0	106	90-110	0			
Sulfate	18.63	0.50	20	0	93.1	90-110	0			
Surr: Selenate (surr)	*5.234*	0.10	*5*	0	*105*	*85-115*	0			

LCSD Sample ID: **WLCSDS1-112011-R119579** Units: **mg/L** Analysis Date: **11/21/2011 02:30 AM**
Client ID: Run ID: **ICS3K2_111121A** SeqNo: **2604699** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.27	0.50	20	0	106	90-110	21.27	0	20	
Sulfate	18.58	0.50	20	0	92.9	90-110	18.63	0.242	20	
Surr: Selenate (surr)	*5.228*	0.10	*5*	0	*105*	*85-115*	5.234	*0.115*	*20*	

MS Sample ID: **1111455-13CMS** Units: **mg/L** Analysis Date: **11/21/2011 03:35 AM**
Client ID: **MW4A 111011** Run ID: **ICS3K2_111121A** SeqNo: **2604703** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	706.9	5.0	100	620.7	86.2	80-120	0			O
Sulfate	231.4	5.0	100	133.6	97.9	80-120	0			
Surr: Selenate (surr)	*51.5*	1.0	*50*	0	*103*	*85-115*	0			

MSD Sample ID: **1111455-13CMSD** Units: **mg/L** Analysis Date: **11/21/2011 03:56 AM**
Client ID: **MW4A 111011** Run ID: **ICS3K2_111121A** SeqNo: **2604704** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	707.6	5.0	100	620.7	86.9	80-120	706.9	0.0993	20	O
Sulfate	231.2	5.0	100	133.6	97.6	80-120	231.4	0.121	20	
Surr: Selenate (surr)	*51.26*	1.0	*50*	0	*103*	*85-115*	51.5	*0.481*	*20*	

The following samples were analyzed in this batch:

1111455-13C	1111455-14C	1111455-15C
1111455-16C	1111455-17C	1111455-18C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111455
Project: 039123 CEMC Cooper-JAL

QC BATCH REPORT

Batch ID: **R119645** Instrument ID: **ICS3K2** Method: **E300**

MBLK Sample ID: **WBLKW1-112111-R119645** Units: **mg/L** Analysis Date: **11/22/2011 12:21 AM**
Client ID: Run ID: **ICS3K2_111121C** SeqNo: **2606100** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	U	0.10								
Surr: Selenate (surr)	*4.311*	0.10	*5*	0	*86.2*	*85-115*	0			

LCS Sample ID: **WLCSW1-112111-R119645** Units: **mg/L** Analysis Date: **11/22/2011 12:42 AM**
Client ID: Run ID: **ICS3K2_111121C** SeqNo: **2606101** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	3.714	0.10	4	0	92.8	90-110	0			
Surr: Selenate (surr)	*4.48*	0.10	*5*	0	*89.6*	*85-115*	0			

LCSD Sample ID: **WLCSDW1-112111-R119645** Units: **mg/L** Analysis Date: **11/22/2011 01:04 AM**
Client ID: Run ID: **ICS3K2_111121C** SeqNo: **2606102** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	3.759	0.10	4	0	94	90-110	3.714	1.2	20	
Surr: Selenate (surr)	*4.446*	0.10	*5*	0	*88.9*	*85-115*	4.48	*0.762*	*20*	

MS Sample ID: **1111650-06BMSZ** Units: **mg/L** Analysis Date: **11/22/2011 01:48 AM**
Client ID: Run ID: **ICS3K2_111121C** SeqNo: **2606104** Prep Date: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	186.9	10	200	0	93.5	80-120	0			
Surr: Selenate (surr)	*458.9*	10	*500*	0	*91.8*	*85-115*	0			

MSD Sample ID: **1111650-06BMSDZ** Units: **mg/L** Analysis Date: **11/22/2011 02:09 AM**
Client ID: Run ID: **ICS3K2_111121C** SeqNo: **2606105** Prep Date: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	186	10	200	0	93	80-120	186.9	0.515	20	
Surr: Selenate (surr)	*461.2*	10	*500*	0	*92.2*	*85-115*	458.9	*0.496*	*20*	

The following samples were analyzed in this batch: 1111455-14C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 23-Nov-11

Client: Conestoga-Rovers & Associates
Project: 039123 CEMC Cooper-JAL
WorkOrder: 1111455

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Units Reported	Description
mg/L	Milligrams per Liter

ALS Environmental
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Houston, Texas 77099
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Fax. +1 281 530 5887

Chain of Custody Form

Page 1 of 3

COC ID: 29572

11114

CRA-MID: Conestoga-Rov

Project: CEMC Co

ALS Project Manager:

Customer Information		Project Information			
Purchase Order		Project Name	CEMC Cooper-Jal	A	Anions (300) CL, F, SO4
Work Order		Project Number	39123	B	Dissolved Metals (6020/7000) Ca,Mg,N
Company Name	Conestoga-Rovers & Associates	Bill To Company	Conestoga-Rovers & Associates	C	Anions (300) NO3/NO2
Send Report To	Todd Wells	Invoice Attn	Todd Wells	D	Alkalinity
Address	2135 S Loop 250 West	Address	2135 S Loop 250 West	E	TDS
				F	
City/State/Zip	Midland, TX 79703	City/State/Zip	Midland, TX 79703	G	
Phone	(432) 686-0086	Phone	(432) 686-0086	H	
Fax	(432) 686-0186	Fax	(432) 686-0186	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G
1	~~Mw #13 11811~~												
2	Mw 13 11 10 11	11-10-11	1100	H_2O	2,3,8	3	X	X	X	X	X		
3	Mw 12 11 10 11	11-10-11	1035	H_2O	2,3,8	3	X	X	X	X	X		
4	Mw 3 11 10 11	11-10-11	1025	H_2O	2,3,8	3	X	X	X	X	X		
5	Mw 8 11 10 11	11-10-11	1135	H_2O	2,3,8	3	X	X	X	X	X		
6	Mw 11 11 10 11	11-10-11	1150	H_2O	2,3,8	3	X	X	X	X	X		
7	Mw 9 11 10 11	11-10-11	1210	H_2O	2,3,8	3	X	X	X	X	X		
8	Mw 9A 11 10 11	11-10-11	1220	H_2O	2,3,8	3	X	X	X	X	X		
9	~~Mw 10 11 10 11~~	~~11-10-11~~											
10	Mw 7 11 10 11	11-10-11	1240	H_2O	2,3,8	3	X	X	X	X	X		

Sampler(s) Please Print & Sign: Joe Morales Joe Morales

Shipment Method: Fedex

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Relinquished by:	Date:	Time:	Received by:	Notes:
Joe Morales	11-11-11			10 Day TAT.
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID / Cooler Temp. / QC Package: (Cl

ALS Environmental
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Houston, Texas 77099
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Chain of Custody Form

Page 2 of 3

COC ID: 29571

ALS Environmental
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 111455

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	CEMC.Cooper-Jal	A	Anions (300) CL, F, SO4
Work Order		Project Number	39123	B	Dissolved Metals (6020/7000) Ca.Mg,Na,K
Company Name	Conestoga-Rovers & Associates	Bill To Company	Conestoga-Rovers & Associates	C	Anions (300) NO3/NO2
Send Report To	Todd Wells	Invoice Attn	Todd Wells	D	Alkalinity
Address	2135 S Loop 250 West	Address	2135 S Loop 250 West	E	TDS
				F	
City/State/Zip	Midland, TX 79703	City/State/Zip	Midland, TX 79703	G	
Phone	(432) 686-0086	Phone	(432) 686-0086	H	
Fax	(432) 686-0186	Fax	(432) 686-0186	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	RW 2 111011	11-10-11	1255	H_2O	2,3,8	3	X	X	X	X	X						
2	MW 5 111011	11-10-11	1345	H_2O	2,3,8	3	X	X	X	X	X						
3	MW 5A 111011	11-10-11	1315	H_2O	2,3,8	3	X	X	X	X	X						
4	MW 4 111011	11-10-11	1410	H_2O	2,3,8	3	X	X	X	X	X						
5	MW 4A 111011	11-10-11	1405	H_2O	2,3,8	3	X	X	X	X	X						
6	RW 1 111011	11-10-11	1435	H_2O	2,3,8	3	X	X	X	X	X						
7	MW 1 111011	11-10-11	1530	H_2O	2,3,8	3	X	X	X	X	X						
8	MW 2 111011	11-10-11	1515	H_2O	2,3,8	3	X	X	X	X	X						
9	MW 2A 111011	11-10-11	1500	H_2O	2,3,8	3	X	X	X	X	X						
10	DUP 1 111011	11-10-11	—	H_2O	2,3,8	3	X	X	X	X	X						

Sampler(s) Please Print & Sign: Joe Nicolas Joe Nicolas

Shipment Method: Fedex

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ Other ☐ 2 WK Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
Joe Nicolas	11-11-11	1020		10 Day TAT.
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID / Cooler Temp.
	11/11/11	0915	AKS	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

QC Package: (Check One Box Below)
- ☑ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other / EDD
- ☐ TRRP CheckList
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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10450 Stancliff Rd., Suite 210
Houston, Texas 77099
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Chain of Custody Form

Page 3 of 3

COC ID: 29574

☐ ALS Environmental
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 11455

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	CEMC Cooper-Jal	A	Anions (300) CL, F, SO4
Work Order		Project Number	39123	B	Dissolved Metals (6020/7000) Ca,Mg,Na,K
Company Name	Conestoga-Rovers & Associates	Bill To Company	Conestoga-Rovers & Associates	C	Anions (300) NO3/NO2
Send Report To	Todd Wells	Invoice Attn	Todd Wells	D	Alkalinity
Address	2135 S Loop 250 West	Address	2135 S Loop 250 West	E	TDS
				F	Temperature
City/State/Zip	Midland, TX 79703	City/State/Zip	Midland, TX 79703	G	
Phone	(432) 686-0086	Phone	(432) 686-0086	H	
Fax	(432) 686-0186	Fax	(432) 686-0186	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	TRIP																
2	TRIP																
3	TRIP																
4	Temp	—	—	H_2O	8	1						X					
5	Temp	—	—	H_2O	8	1						X					
6	Temp	—	—	H_2O	8	1						X					
7												X					
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Joe Morales / Joe Morales

Shipment Method: Fedex

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Joe Morales	Date: 11-11-11	Time: 1020	Received by:	Notes: 10 Day TAT.	
Relinquished by:	Date: 11/12/11	Time: 0915	Received by (Laboratory): RN ACS.	Cooler ID	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		

QC Package: (Check One Box Below)
☑ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other / EDD
☐ TRRP CheckList
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Environmental

Sample Receipt Checklist

Client Name: **CRA-MID** Date/Time Received: **12-Nov-11 09:15**

Work Order: **1111455** Received by: **RDN**

Checklist completed by: Richard D. Naran (eSignature) 12-Nov-11 (Date) Reviewed by: Patricia L. Lynch (eSignature) 16-Nov-11 (Date)

Matrices: WATER
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.1,1.9,2.3	002	
Cooler(s)/Kit(s):	4209,3752,3595		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

11-11455

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 11-11-11 Time: 10:30
Name:
Company:

Seal Broken By: KN
Date: 11-11-11

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 11-11-11 Time:
Name:
Company:

Seal Broken By: KN
Date: 11/11/11

This portion can be removed for Recipient's records.
Date 11-11-11 FedEx Tracking Number 875882536847
Sender's Name CRA - Joe Mireles Phone 4
Company CRA
Address 2135 S Loop 250 West Dept/Floor/Suite/Room
City Midland State TX ZIP 79703
Your Internal Billing Reference

ORIGIN ID: MAFA

CAD: /POS1242
DIMS: 24x14x14 IN
BILL RECIPIENT

UNITED STATES US
TO CLIENT SERVICE
ALS LABORATORY GROUP
10450 STANCLIFF RD
STE 210
HOUSTON TX 77099
(281) 530-5656 REF:
INV:
PO: DEPT:

FedEx Express
E

2 of 3
MPS# 0681 7955 4168 1920
Mstr# 8758 8253 6842 0215
SATURDAY ### A2
PRIORITY OVERNIGHT
DSR
77099
TX-US IAH
XO SGRA

SHIP DATE: 11NOV11
ACTWGT: 58.8 LB
CAD: /POS1242
DIMS: 24x14x14 IN
BILL RECIPIENT

UNITED STATES US
TO CLIENT SERVICE
ALS LABORATORY GROUP
10450 STANCLIFF
STE 210
HOUSTON TX 770
(281) 530-5656
INV:
PO:

RT 808 1 B
ST 2
1930
11.12

FedEx Express
E

3 of 3
MPS# 0681 7955 4168 1930
Mstr# 8758 8253 6842 0215
SATURDAY ### A2
PRIORITY OVERNIGHT
DSR
77099
TX-US IAH
XO SGRA

Part # 156297-435 RIT2 06/11
J1120110805012S

ALS Environmental

06-Dec-2011

Todd Wells
Conestoga-Rovers & Associates
2135 S Loop 250 West
Midland, TX 79703

Tel: (432) 686-0086
Fax: (432) 686-0186

Re: CEMC Cooper-JAL - SSOW - 039123 Work Order: **1111608**

Dear Todd,

ALS Environmental received 1 sample on 17-Nov-2011 09:20 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Patricia L. Lynch

Electronically approved by: Patricia L. Lynch

Patricia L. Lynch
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

Certificate No: TX: T104704231-11-5

ALS Environmental

Date: 06-Dec-11

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
Work Order: **1111608**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1111608-01	MW-10 111511	Water		11/15/2011 13:30	11/17/2011 09:20	☐

Client:	Conestoga-Rovers & Associates
Project:	CEMC Cooper-JAL - SSOW - 039123
Work Order:	1111608

Case Narrative

Batch 57031 Cations: MS/MSD is for an unrelated sample (1111423-01).

ALS Environmental

Date: *06-Dec-11*

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
Work Order: 1111608
Sample ID: MW-10 111511
Lab ID: 1111608-01
Collection Date: 11/15/2011 01:30 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED METALS			**SW6020**		Prep Date: **11/17/2011**	Analyst: **IGF**
Calcium	**128**		**0.500**	**mg/L**	1	11/23/2011 09:55 PM
Magnesium	**32.3**		**0.200**	**mg/L**	1	11/23/2011 09:55 PM
Potassium	**4.58**		**0.200**	**mg/L**	1	11/23/2011 09:55 PM
Sodium	**62.8**		**0.200**	**mg/L**	1	11/23/2011 09:55 PM
ANIONS - EPA 300.0 (1993)			**E300**			Analyst: **JKP**
Chloride	**266**		**5.00**	**mg/L**	10	11/28/2011 11:05 PM
Fluoride	**1.03**		**0.100**	**mg/L**	1	11/28/2011 09:17 PM
Sulfate	**94.9**		**5.00**	**mg/L**	10	11/28/2011 11:05 PM
Nitrate/Nitrite (as N)	**6.93**		**0.500**	**mg/L**	5	11/28/2011 08:15 PM
Surr: Selenate (surr)	*94.2*		*85-115*	*%REC*	1	11/28/2011 09:17 PM
Surr: Selenate (surr)	*97.2*		*85-115*	*%REC*	10	11/28/2011 11:05 PM
Surr: Selenate (surr)	*114*		*85-115*	*%REC*	5	11/28/2011 08:15 PM
ALKALINITY			**SM2320B**			Analyst: **DM**
Alkalinity, Bicarbonate (As CaCO3)	**150**		**5.00**	**mg/L**	1	11/23/2011 07:55 AM
Alkalinity, Carbonate (As CaCO3)	U		5.00	mg/L	1	11/23/2011 07:55 AM
Alkalinity, Hydroxide (As CaCO3)	U		5.00	mg/L	1	11/23/2011 07:55 AM
Alkalinity, Total (As CaCO3)	**150**		**5.00**	**mg/L**	1	11/23/2011 07:55 AM
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**1,450**		**10.0**	**mg/L**	1	11/21/2011 01:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 06-Dec-11

Client: Conestoga-Rovers & Associates

Work Order: 1111608

Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **57031** Instrument ID **ICPMS04** Method: **SW6020** **(Dissolve)**

MBLK Sample ID: **MBLKW8-111711-57031** Units: **mg/L** Analysis Date: **11/23/2011 06:00 A**

Client ID: Run ID: **ICPMS04_111122A** SeqNo: **2606758** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	U	0.50								
Magnesium	U	0.20								
Potassium	U	0.20								
Sodium	U	0.20								

LCS Sample ID: **MLCSW8-111711-57031** Units: **mg/L** Analysis Date: **11/23/2011 06:07 A**

Client ID: Run ID: **ICPMS04_111122A** SeqNo: **2606759** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	4.63	0.50	5	0	92.6	80-120	0			
Magnesium	4.19	0.20	5	0	83.8	80-120	0			
Potassium	4.518	0.20	5	0	90.4	80-120	0			
Sodium	4.133	0.20	5	0	82.7	80-120	0			

MS Sample ID: **1111423-01DMS** Units: **mg/L** Analysis Date: **11/23/2011 07:00 A**

Client ID: Run ID: **ICPMS04_111122A** SeqNo: **2606767** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	180.4	0.50	5	165.6	296	75-125	0			SEO
Magnesium	42.4	0.20	5	36.54	117	75-125	0			O
Potassium	9.562	0.20	5	4.92	92.8	75-125	0			
Sodium	259.6	0.20	5	243.3	326	75-125	0			SEO

MSD Sample ID: **1111423-01DMSD** Units: **mg/L** Analysis Date: **11/23/2011 08:56 A**

Client ID: Run ID: **ICPMS04_111122A** SeqNo: **2606787** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	185	0.50	5	165.6	389	75-125	180.4	2.55	25	SEO
Magnesium	48.21	0.20	5	36.54	233	75-125	42.4	12.8	25	SO
Potassium	9.952	0.20	5	4.92	101	75-125	9.562	4	25	
Sodium	296.8	0.20	5	243.3	1070	75-125	259.6	13.4	25	SEO

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **57031** Instrument ID **ICPMS04** Method: **SW6020** **(Dissolve)**

DUP Sample ID: **1111423-01DDUP** Units: **mg/L** Analysis Date: **11/23/2011 06:53 A**

Client ID: Run ID: **ICPMS04_111122A** SeqNo: **2606766** Prep Date: **11/17/2011** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	170.2	0.50	0	0	0	0-0	165.6	2.74	25	
Magnesium	36.78	0.20	0	0	0	0-0	36.54	0.654	25	
Potassium	5.015	0.20	0	0	0	0-0	4.92	1.92	25	

DUP Sample ID: **1111423-01DDUP** Units: **mg/L** Analysis Date: **11/23/2011 05:55 PM**

Client ID: Run ID: **ICPMS04_111123A** SeqNo: **2609021** Prep Date: **11/17/2011** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	308.2	2.0	0	0	0	0-0	283.8	8.24	25	

The following samples were analyzed in this batch: 1111608-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111608
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R119628** Instrument ID **Balance1** Method: **M2540C**

MBLK Sample ID: **BLANK-R119628** Units: **mg/L** Analysis Date: **11/21/2011 01:00 PM**
Client ID: Run ID: **BALANCE1_111121D** SeqNo: **2605794** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	U	10								

LCS Sample ID: **LCS-R119628** Units: **mg/L** Analysis Date: **11/21/2011 01:00 PM**
Client ID: Run ID: **BALANCE1_111121D** SeqNo: **2605796** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	1020	10	1000	0	102	85-115	0			

DUP Sample ID: **1111527-01ADUP** Units: **mg/L** Analysis Date: **11/21/2011 01:00 PM**
Client ID: Run ID: **BALANCE1_111121D** SeqNo: **2605752** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	1536	10	0	0	0	0-0	1560	1.55	20	

DUP Sample ID: **1111650-06DDUP** Units: **mg/L** Analysis Date: **11/21/2011 01:00 PM**
Client ID: Run ID: **BALANCE1_111121D** SeqNo: **2605770** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	2622	10	0	0	0	0-0	2564	2.24	20	

The following samples were analyzed in this batch: 1111608-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111608
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R119716** Instrument ID **WetChem** Method: **SM2320B**

MBLK Sample ID: **WBLKW1-112311-R119716** Units: **mg/L** Analysis Date: **11/23/2011 07:55 A**
Client ID: Run ID: **WETCHEM_111123A** SeqNo: **2606956** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.0								
Alkalinity, Carbonate (As CaCO3)	U	5.0								
Alkalinity, Hydroxide (As CaCO3)	U	5.0								
Alkalinity, Total (As CaCO3)	U	5.0								

LCS Sample ID: **WLCSW1-112311-R119716** Units: **mg/L** Analysis Date: **11/23/2011 07:55 A**
Client ID: Run ID: **WETCHEM_111123A** SeqNo: **2606957** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1046	5.0	1000	0	105	80-120	0			

DUP Sample ID: **1111583-01CDUP** Units: **mg/L** Analysis Date: **11/23/2011 07:55 A**
Client ID: Run ID: **WETCHEM_111123A** SeqNo: **2606981** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	223.8	5.0	0	0	0	0-0	217.2	3	20	
Alkalinity, Carbonate (As CaCO3)	U	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	U	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Total (As CaCO3)	223.8	5.0	0	0	0	0-0	217.2	3	20	

The following samples were analyzed in this batch: 1111608-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111608
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R119884** Instrument ID **ICS3K2** Method: **E300**

MBLK Sample ID: **WBLKW1-112211-R119884** Units: **mg/L** Analysis Date: **11/28/2011 04:56 PM**
Client ID: Run ID: **ICS3K2_111127A** SeqNo: **2612017** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.50								
Fluoride	U	0.10								
Sulfate	U	0.50								
Surr: Selenate (surr)	*4.449*	0.10	*5*	0	*89*	*85-115*	0			

LCS Sample ID: **WLCSW1-112211-R119884** Units: **mg/L** Analysis Date: **11/28/2011 03:17 A**
Client ID: Run ID: **ICS3K2_111127A** SeqNo: **2611992** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.43	0.50	20	0	107	90-110	0			
Fluoride	3.83	0.10	4	0	95.8	90-110	0			
Sulfate	18.55	0.50	20	0	92.7	90-110	0			
Surr: Selenate (surr)	*4.616*	0.10	*5*	0	*92.3*	*85-115*	0			

LCSD Sample ID: **WLCSDW1-112211-R119884** Units: **mg/L** Analysis Date: **11/28/2011 03:39 A**
Client ID: Run ID: **ICS3K2_111127A** SeqNo: **2611994** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.47	0.50	20	0	107	90-110	21.43	0.186	20	
Fluoride	3.854	0.10	4	0	96.4	90-110	3.83	0.625	20	
Sulfate	18.62	0.50	20	0	93.1	90-110	18.55	0.361	20	
Surr: Selenate (surr)	*4.635*	0.10	*5*	0	*92.7*	*85-115*	4.616	*0.411*	*20*	

MS Sample ID: **1111625-07CMS** Units: **mg/L** Analysis Date: **11/28/2011 02:03 PM**
Client ID: Run ID: **ICS3K2_111127A** SeqNo: **2612002** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	421.7	5.0	100	320.9	101	80-120	0			
Fluoride	17.34	1.0	20	0.249	85.5	80-120	0			
Sulfate	160.7	5.0	100	65.43	95.2	80-120	0			B
Surr: Selenate (surr)	*48.09*	1.0	*50*	0	*96.2*	*85-115*	0			

MSD Sample ID: **1111625-07CMSD** Units: **mg/L** Analysis Date: **11/28/2011 02:24 PM**
Client ID: Run ID: **ICS3K2_111127A** SeqNo: **2612004** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	424.4	5.0	100	320.9	103	80-120	421.7	0.624	20	
Fluoride	17.42	1.0	20	0.249	85.9	80-120	17.34	0.455	20	
Sulfate	163.1	5.0	100	65.43	97.7	80-120	160.7	1.52	20	
Surr: Selenate (surr)	*48.1*	1.0	*50*	0	*96.2*	*85-115*	48.09	*0.0187*	*20*	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111608
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R119884** Instrument ID **ICS3K2** Method: **E300**

The following samples were analyzed in this batch:	1111608-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 1111608
Project: CEMC Cooper-JAL - SSOW - 039123

QC BATCH REPORT

Batch ID: **R119889** Instrument ID **ICS2100** Method: **E300**

MBLK Sample ID: **WBLKW1-112811-R119889** Units: **mg/L** Analysis Date: **11/28/2011 04:04 PM**
Client ID: Run ID: **ICS2100_111128B** SeqNo: **2612067** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	U	0.20								
Surr: Selenate (surr)	*5.027*	0.10	*5*	0	*101*	*85-115*	0			

LCS Sample ID: **WLCSW1-112811-R119889** Units: **mg/L** Analysis Date: **11/28/2011 06:36 PM**
Client ID: Run ID: **ICS2100_111128B** SeqNo: **2612068** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	8.623	0.20	8	0	108	90-110	0			
Surr: Selenate (surr)	*5.462*	0.10	*5*	0	*109*	*85-115*	0			

LCSD Sample ID: **WLCSDW1-112811-R119889** Units: **mg/L** Analysis Date: **11/28/2011 06:50 PM**
Client ID: Run ID: **ICS2100_111128B** SeqNo: **2612069** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	8.578	0.20	8	0	107	90-110	8.623	0.523	20	
Surr: Selenate (surr)	*5.445*	0.10	*5*	0	*109*	*85-115*	5.462	*0.312*	*20*	

MS Sample ID: **1111608-01AMS** Units: **mg/L** Analysis Date: **11/28/2011 08:30 PM**
Client ID: **MW-10 111511** Run ID: **ICS2100_111128B** SeqNo: **2612073** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	27.58	1.0	20	6.93	103	80-120	0			
Surr: Selenate (surr)	*21.56*	0.50	*25*	0	*86.2*	*85-115*	0			

MSD Sample ID: **1111608-01AMSD** Units: **mg/L** Analysis Date: **11/28/2011 08:44 PM**
Client ID: **MW-10 111511** Run ID: **ICS2100_111128B** SeqNo: **2612074** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	27.04	1.0	20	6.93	101	80-120	27.58	1.96	20	
Surr: Selenate (surr)	*21.31*	0.50	*25*	0	*85.3*	*85-115*	21.56	*1.13*	*20*	

The following samples were analyzed in this batch: 1111608-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Project: CEMC Cooper-JAL - SSOW - 039123
WorkOrder: 1111608

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Units Reported	Description
mg/L	Milligrams per Liter

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

Page 1 of 1

COC ID: 29573

111608

CRA-HOU: Conestoga-Rovers & Associates

Project: CEMC Cooper-JAL - SSOW - 039123

ALS Project Manager: Pat Lyn

Customer Information		Project Information			
Purchase Order		Project Name	CEMC Cooper-Jal	A	Anions (300) CL, F, SO4
Work Order		Project Number	39123	B	Dissolved Metals (6020/7000) Ca.Mg,Na,K
Company Name	Conestoga-Rovers & Associates	Bill To Company	Conestoga-Rovers & Associates	C	Anions (300) NO3/NO2
Send Report To	Todd Wells	Invoice Attn	Todd Wells	D	Alkalinity
Address	2135 S Loop 250 West	Address	2135 S Loop 250 West	E	TDS
				F	Temperature
City/State/Zip	Midland, TX 79703	City/State/Zip	Midland, TX 79703	G	
Phone	(432) 686-0086	Phone	(432) 686-0086	H	
Fax	(432) 686-0186	Fax	(432) 686-0186	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-10 111511	11/15/11	1:30	H_2O	2,3,8	3	X	X	X	X	X						
2	Temperature Blank	—	—	H_2O	8	1						X					
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Todd Wells Todd Wells

Shipment Method: FedEx

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Todd Wells Date: 11/16/11 Time: 1700 Received by:

Relinquished by: — Date: Time: Received by (Laboratory): 11.17.11 0920.

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: 10 Day TAT.

Cooler ID: 4230 Cooler Temp:

QC Package: (Check One Box Below)
☑ Level II Std QC ☐ TRRP CheckList
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other / EDD

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

7111608

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

4283

Date: 11/16
Name: CT
Company: _

CUSTODY SEAL
Time: 1700
Todd Wells
CRA

Seal Broken By:
Date: 11.17.11

This portion can be removed for Recipient's records.

FedEx Tracking Number 875882536864

Date 11/16/11

Sender's Name Todd Wells Phone 432 686-0086

Company Conestoga Rovers & Associates

Address 2135 S. Loop 250 W. Dept/Room/Suite/Room

City Midland State TX ZIP 79703

Your Internal Billing Reference