ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

March 27, 2014

Linda Hanson, P.G.
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

Dear Ms. Hanson:

On behalf of El Dorado Chemical Company, Environmental Management Services, Inc., has prepared the attached 2013 Annual Ground Water Report. This report is being submitted in accordance with CAO LIS Number 06-0153.

Should you have any questions concerning this report please contact me at (225) 751-5386.

Sincerely,

Lauren M. Marcella, P.G.
Project Geologist
Environmental Management Services, Inc.

2013 ANNUAL GROUND WATER REPORT

Prepared For:

El Dorado Chemical Company

Prepared By:

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

12232 Industriplex Blvd, Suite 27
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(225) 751-5386

March 27, 2014

2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

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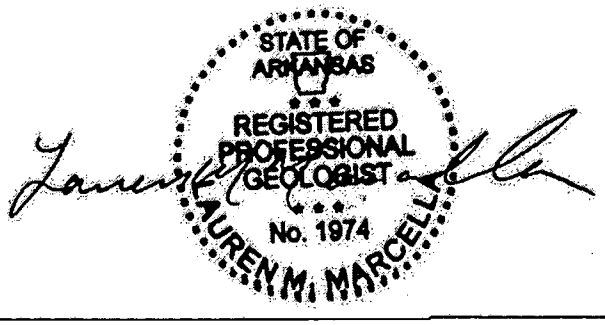
EL DORADO, ARKANSAS

The report contained herein has been prepared by Environmental Management Services, Inc. (EMS) under the direct supervision of the environmental professional(s) indicated below. To the best of our knowledge all appropriate standards of care and practices were utilized to collect and report the data contained within this document. Services performed by EMS were conducted in a manner consistent with that degree of care and skill ordinarily exercised by reputable members of the same profession as EMS practicing in the same locality under similar conditions as exists at the time the service was provided. No other representation, express or implied, and no warranty or guarantee is included or intended in this proposal, or any report, opinion, document or otherwise as a result of, or part of the work by EMS, its subcontractors, or vendors.

Prepared By:



Date: March 27, 2014

Lauren M. Marcella, P.G.
Project Geologist
AR Professional Geologist No. 1974

2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

1.0 INTRODUCTION

This report presents the results of ground water sampling activities conducted at the El Dorado Chemical Company (EDCC) facility during 2013. Field sampling techniques, ground water flow and ground water quality are discussed. A site map is provided as Figure 1.

2.0 SITE GEOLOGY

The EDCC facility is located west of the Mississippi Embayment in the Gulf Coastal Plain Geostratigraphic Region. Sediments within the region are characterized as a thick sequence of unconsolidated sediments, fluvial-deltaic in origin, and Tertiary in age. In some areas of Union County, unconsolidated alluvial deposits, Quaternary in age, overlay the Tertiary sediments.

Within the Claiborne Group, two units crop out in Union County, the Cook Mountain Formation and the Cockfield Formation. The Cook Mountain is overlain by the Cockfield Formation. The Cook Mountain is uniformly underlain by the Sparta Formation. The Cook Mountain is 50 to 200 feet thick and is composed of clay and silty clay containing minor amounts of localized very fine to silty sand. These clays serve as a confining unit between the more permeable overlying Cockfield Formation and the underlying aquifer. The Cockfield Formation, locally referred to as the "lignite sand", is generally characterized by fine sand, interbedded silty clay and lignite becoming more massive and containing less silt and clay with depth. The local shallow subsurface consists of interbedded sand, silty sand, silt and clay, with more clay in the northern area of the property and more sand to the south.

3.0 GROUND WATER MONITORING

The ground water monitoring program including parameters, sampling methodology and laboratory analyses is described in the following sections.

3.1 MONITORING PARAMETERS

In September 2005 statistical analyses were performed on ground water data to compare downgradient well data to upgradient (background) data and determine if the site constituents of concern are present at statistically significant levels. As a result of the statistical analyses, the monitoring program was revised in 2005 and implemented in 2006. The list was changed to allow EDCC to continue to collect data to evaluate the potential risk associated with the current ground water conditions, but eliminate parameters for which there is sufficient data.

Further revisions to the monitoring program were proposed in a letter dated April 25, 2007 and approved by the Arkansas Department of Environmental Quality (ADEQ) on June 8, 2007. The changes to the monitoring program that were implemented in 2007-2008 are as follows:

- ***Lead and chromium:*** These parameters were removed from the monitoring program during 2005; in 2007 ADEQ requested these parameters be sampled semiannually every two years to verify concentrations remain at the previously documented background levels.

- ***Background Wells***: In 2004, data were used to establish the background levels of ammonia, nitrate, lead and chromium in the three upgradient wells ECMW-1, ECMW-2 and ECMW-3. These four parameters were dropped from the annual sampling list but are sampled semiannually every two years to verify concentrations remain at the previously documented background levels.

- ***Nitrate***: The statistical evaluation indicates that wells ECMW-12, ECMW-13, ECMW-15 and ECMW-19 through ECMW-22 have concentrations of nitrate comparable to the background level. Nitrate was dropped from the annual parameter list for these wells, but is sampled semiannually every two years. Nitrate will continue to be analyzed semiannually in monitor wells ECMW-4 through ECMW-11, ECMW-14, ECMW-16, ECMW-17 and ECMW-18.

- ***Ammonia***: The statistical evaluation indicates that wells ECMW-12, ECMW-13, ECMW-15 and ECMW-18 through ECMW-22 have concentrations of ammonia comparable to the background level. Ammonia was dropped from the annual parameter list for these wells, but is sampled semiannually every two years. Ammonia will continue to be analyzed semiannually in monitor wells ECMW-4 through ECMW-11, ECMW-14, ECMW-16 and ECMW-17.

- ***Sulfate***: The statistical evaluation indicates that wells ECMW-12, ECMW-13, ECMW-15 and ECMW-18 through ECMW-22 have concentrations of sulfate comparable to the background level. Sulfate was dropped from the annual parameter list for these wells, but

is sampled semiannually every two years. Sulfate will continue to be analyzed semiannually in monitor wells ECMW-4 through ECMW-11, ECMW-14, ECMW-16 and ECMW-17.

- ***Total Dissolved Solids***: There is sufficient ground water data for TDS. This parameter was dropped from the list of all monitoring wells at this time. TDS can be added back to the list if the information becomes necessary.

- ***Vanadium***: Vanadium was added to the list of parameters in 2004. ADEQ recommended that vanadium remain on the list in order to obtain enough data for statistical comparison.

In a letter dated June 30, 2009, EDCC proposed a modification to the monitoring program requesting the elimination of vanadium from the list of sampling parameters. ADEQ responded in a September 1, 2009 letter, approving the request, stating that historical vanadium data have been non-detect or at low concentrations in the 22 monitor wells at the facility. The removal of vanadium from the sampling program became effective during the second half of 2009 sampling event.

Collection began for several new parameters for the evaluation of in situ remediation from all wells during the October 2005 sampling event. Field testing was conducted to collect measurements for dissolved oxygen, and redox. In addition, samples were shipped to the laboratory and analyzed for alkalinity, nitrite, dissolved manganese, dissolved iron, total phosphorus and Total Organic Carbon. In a letter to ADEQ dated June 3, 2011, EDCC requested additional changes to the monitoring program which included removal of these parameters from the list of constituents. The request was approved August 9, 2011 and was effective for the second half of 2011 sampling event.

3.2 FIELD SAMPLING

Ground water sampling events were conducted in May and November of 2013. Depth-to-water measurements were collected from each well using an electronic water level indicator. The device was decontaminated between each well to minimize cross-contamination. Depth-to-water measurements were subtracted from their respective top-of-casing elevations to calculate ground water elevations referenced to Mean Sea Level (MSL) at each well. Monitoring well

construction details are provided on Table 1. Ground water elevations for the 2013 sampling events are summarized on Table 2.

The depth-to-water measurements were used to calculate the volume of water within each well and determine the amount to be purged prior to sampling. Three well volumes were removed from each well or until the well became dry using a Redi-Flo electric pump. Dedicated polyethylene tubing was used for each well to minimize the potential for cross-contamination. The field parameters were recorded on the sampling forms during the 2013 sampling events (see Appendix A) to demonstrate when aquifer parameters have stabilized sufficiently prior to sampling. Meters used to measure field data were calibrated each day during sampling. Ground water indicator parameter data (final readings only) are summarized on Table 3. Purge water was containerized for proper disposal.

Ground water samples were collected using new, clean, dedicated, disposable polyethylene bailers. Ground water samples were placed into laboratory-provided containers with the appropriate preservatives. The containers were packed in ice-chests and shipped to the laboratory under chain-of-custody.

Field quality assurance/quality control samples collected consisted of blind duplicates. Duplicates are required at a rate of one (1) duplicate per twenty (20) field samples. Twelve wells were sampled each half, requiring one duplicate sample per half. However, two duplicates were collected in the second half of 2013. Duplicate samples were tested for all parameters (ammonia, nitrate and sulfate). The duplicate analyses are evaluated in Section 4.2.3.

3.3 LABORATORY ANALYSIS

Ground water samples were analyzed by Arkansas Analytical, Inc. in Little Rock, Arkansas. Arkansas Analytical is certified by the Arkansas Department of Environmental Quality. The analytical reports are provided in Appendix A.

Ground water samples were analyzed in 2013 for the following constituents:

PARAMETER	ANALYTICAL METHODS
Ammonia-N	4500-NH3 D
Nitrate-N	EPA 300.0/9056A
Sulfate	EPA 300.0/9056A
pH, Temperature, Specific Conductance	Field

4.0 SAMPLING RESULTS

The following sections present ground water flow and analytical data collected in 2013.

4.1 GROUND WATER FLOW

Ground water elevations from May and November 2013 were used to construct the potentiometric maps included as Figures 2 and 3. The average ground water elevation was approximately two feet higher in May than in November. The general ground water flow direction is from northwest to southeast for both sampling events and is consistent with previous measurements.

4.2 GROUND WATER QUALITY

4.2.1 Field Parameters

Indicator parameter data collected during well purging are summarized on Table 3. In 2013, pH values ranged from 3.97 standard units in ECMW-8 to 7.23 s.u. in ECMW-5, with an average of 5.32 s.u. The average of pH readings for 2013 (5.32 s.u.) did not differ significantly than 2012 (5.80 s.u.). Specific conductance values ranged from 48.6 (ECMW-21) to 21,120 (ECMW-7) micro-Siemens/cm (µS/cm) in 2013. The average of specific conductance readings for 2013 is higher than in 2012 due to continuing fluctuations in readings from Wells ECMW-6, ECMW-7 and ECMW-8.

4.2.2 Analytical Results

The analytical results are summarized in Tables 4 through 25 and the laboratory reports are provided in Appendix A. A discussion of each constituent is provided below:

Ammonia

During the year 2013, ammonia concentrations ranged from below the detection limit (0.5 mg/L) to 935 mg/L (ECMW-6). As with previous years, results from ECMW-6, ECMW-7 and ECMW-8 exhibited the highest concentrations. Figures 4 and 5 were prepared to show the distribution of ammonia in groundwater at the facility. However, because the monitoring program specifies that only wells with concentrations above background were sampled and not all wells have data for 2013, no concentration lines were drawn. As shown on Figures 4 and 5, the highest ammonia concentrations continue to be located north of the acid and nitrate process areas known as the Production Area.

Trend graphs of ammonia concentrations through 2013 are provided in Appendix B. Wells ECMW-6, ECMW-11 and ECMW-17 show an increasing trend. Well ECMW-16 shows a decreasing trend. Wells ECMW-4, ECMW-7, ECMW-8 and ECMW-9 show an overall steady or decreasing trend, but with recent increases in concentration. Ammonia concentration trends in all other wells are relatively constant.

Nitrate

For the year 2013, nitrate concentrations ranged from below the detection limit (0.25 mg/L) to 3380 mg/L (ECMW-6). ECMW-6, ECMW-7 and ECMW-8 exhibited the highest concentrations throughout the year. Figures 6 and 7 were prepared to show the distribution of nitrate in groundwater at the facility. However, because the monitoring program specifies that only wells with concentrations above background were sampled and not all wells have data for 2013, no concentration lines were drawn. As shown on Figures 6 and 7, the highest nitrate concentrations continue to be located north of the acid and nitrate process areas known as the Production Area.

Trends graphs for nitrate are provided in Appendix B. Nitrate concentrations in ECMW-5, ECMW-6 and ECMW-11 show increasing trends. Wells ECMW-4, ECMW-7, ECMW-10, ECMW-14, ECMW-15, ECMW-16 and ECMW-17 show decreasing trends. Well ECMW-8, while showing an overall decreasing trend, recently has shown increasing concentrations. Nitrate concentration trends in the remaining wells are relatively constant.

Sulfate

For the year 2013, sulfate concentrations ranged from 6.3 mg/L in ECMW-18 to 890 mg/L in ECMW-7. ECMW-4, ECMW-7, ECMW-8 and ECMW-9 exhibited the highest concentrations throughout the year.

Figures 8 and 9 were prepared to show the distribution of sulfate in groundwater at the facility. However, because the monitoring program specifies that only wells with concentrations above background were sampled and not all wells have data for 2013, no concentration lines were drawn. As shown on Figures 8 and 9, the highest sulfate concentrations are located north of the acid and nitrate process areas known as the Production Area.

Sulfate concentrations Wells ECMW-6 and ECMW-7 in show increasing trends. Wells ECMW-5, ECMW-11, ECMW-18 and ECMW-19 show decreasing trends. Sulfate concentration trends in the remaining wells are relatively constant.

4.2.3 Quality Assurance/Quality Control Results

Precision is the degree of agreement among repeated measurements of the same characteristic on samples collected as close as possible in time and place. It tells how consistent and reproducible field and analytical methods are by showing how close the measurements are to each other. Precision is determined by analyzing blind duplicate samples. The Relative Percent Difference (RPD) is calculated to determine the precision of duplicate analyses as follows:

$$RPD = \frac{(X_1 - X_2)}{(X_1 + X_2)/2} \times 100\%$$

The smaller the relative percent difference, the more precise the analyses. EPA and state guidelines generally consider RPD values below 20-30% to be within acceptable limits. The three duplicate samples collected in 2013 and analyzed for ammonia, nitrate and sulfate had RPD values ranging from 0.97 to 11.3%.

5.0 GROUND WATER REMEDIATION

Wells ECRW #1 and ECRW #2 began operating again in 2013 after the DSN Plant explosion that occurred in May 2012 caused the wells to be shut down. The recovered fluids are now pumped to the facility wastewater treatment system. The wells operated consistently from July 31 to December 31, 2013. Approximately 262,800 gallons of water were recovered from ECRW #1 and 131,400 gallons from ECRW #2, with average recovery rates ranging from 0.6 to 1.2 gallons per minute.

TABLES

TABLE 1
MONITORING WELL CONSTRUCTION DETAILS
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Monitoring Well ID	Completion Date	Well Depth (ft below top of casing)	Screened Interval (ft from top of casing)	Top of Casing Elevation (ft above MSL)
ECMW-1	2/14/1996	22.1	12.1 to 22.2	213.28
ECMW-2	2/14/1996	20.2	10.2 to 20.2	196.25
ECMW-3	2/15/1996	27.1	17.1 to 27.1	192.11
ECMW-4	2/15/1996	22.1	12.1 to 22.1	194.84
ECMW-5	2/21/1996	17.7	7.7 to 17.7	182.69
ECMW-6	2/21/1996	22.0	12 to 22	191.87
ECMW-7	2/20/1996	23.9	13.9 to 23.9	195.88
ECMW-8	2/20/1996	29.9	19.9 to 29.9	197.34
ECMW-9	2/15/1996	30.0	20 to 30	198.39
ECMW-10	2/19/1996	22.6	12.6 to 22.6	205.75
ECMW-11	2/19/1996	19.8	9.8 to 19.8	201.65
ECMW-12	2/19/1996	19.9	9.9 to 19.9	184.97
ECMW-13	2/14/1996	19.8	9.8 to 19.8	177.26
ECMW-14	2/13/1996	18.2	8.2 to 18.2	178.48
ECMW-15	2/13/1996	17.0	7 to 17	180.84
ECMW-16	2/12/1996	19.3	9.3 to 19.3	180.14
ECMW-17	2/13/1996	34.7	24.7 to 34.7	185.40
ECMW-18	2/22/1996	17.2	7.2 to 17.2	155.46
ECMW-19	1/11/2004	61.5	51.5 to 61.5	150.41
ECMW-20	1/7/2004	54.4	44.5 to 54.4	192.77
ECMW-21	1/6/2004	34.9	24.9 to 34.9	176.29
ECMW-22	1/21/2004	79.8	69.8 to 79.8	173.55

Notes:

1. EDC-MW-1 through EDC-MW-18 constructed of 4-inch Sch. 40 PVC flush threaded pipe with 4-inch diamater screens, 10-foot length and 0.01-inch openings, casing risers are approximately 3 feet above ground surface, drilled with hollow-stem auger (Data from Woodward-Clyde June 1996 Report)
2. EDC-MW-19, EDC-MW-20 and EDC-MW-22 constructed of 2-inch Sch. 40 PVC flush threaded pipe with 2-inch diamater screens, 10-foot length and 0.01-inch openings, casing risers are approximately 2.5 to 3 feet above ground surface, drilled with rotary wash procedures
2. EDC-MW-20 constructed of 1-inch Sch. 40 PVC flush threaded pipe with 1-inch diameter screen, 10-foot length and 0.01-inch opening, casing riser approximately 2.5 feet above ground surface, drilled with Geoprobe

TABLE 2
GROUNDWATER ELEVATION DATA
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Monitor Well	Top of Casing Elevation (ft above Mean Sea Level)	Measurement Date			
		5/14-15/2013		11/4-5/13	
		Depth to Water (ft from top of casing)	Ground Water Elevation (ft above MSL)	Depth to Water (ft from top of casing)	Ground Water Elevation (ft above MSL)
ECMW-1	213.28	10.96	202.32	16.43	196.85
ECMW-2	196.25	0.00	196.25	2.33	193.92
ECMW-3	192.11	9.64	182.47	13.52	178.59
ECMW-4	194.84	8.56	186.28	10.31	184.53
ECMW-5	182.69	4.04	178.65	4.06	178.63
ECMW-6	191.87	4.42	187.45	6.09	185.78
ECMW-7	195.88	7.30	188.58	9.26	186.62
ECMW-8	197.34	7.24	190.10	8.72	188.62
ECMW-9	198.39	9.50	188.89	13.21	185.18
ECMW-10	205.75	12.28	193.47	15.57	190.18
ECMW-11	201.65	10.40	191.25	12.58	189.07
ECMW-12	184.97	6.54	178.43	6.82	178.15
ECMW-13	177.26	6.20	171.06	9.26	168.00
ECMW-14	178.48	11.04	167.44	10.08	168.40
ECMW-15	180.84	5.54	175.30	6.79	174.05
ECMW-16	180.14	5.96	174.18	6.50	173.64
ECMW-17	185.40	29.62	155.78	30.51	154.89
ECMW-18	155.46	5.44	150.02	8.48	146.98
ECMW-19	150.41	2.06	148.35	5.84	144.57
ECMW-20	192.77	29.10	163.67	38.62	154.16
ECMW-21	176.29	18.04	158.25	20.31	155.98
ECMW-22	173.55	7.72	165.83	9.64	163.91

TABLE 3
GROUNDWATER INDICATOR PARAMETER DATA
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

WELL	TEMPERATURE (C)		pH (s.u.)		CONDUCTIVITY (uS)	
	Date		Date		Date	
	5/14-15/2013	11/4-5/13	5/14-15/2013	11/4-5/13	5/14-15/2013	11/4-5/13
ECMW-1	16.1	19.4	5.03	5.21	66.6	54.5
ECMW-2	16.7	19.0	5.75	5.91	336	309.5
ECMW-3	17.9	19.1	6.29	5.72	208	273.5
ECMW-4	18.6	20.7	4.03	4.63	7370	6960
ECMW-5	18.8	20.9	5.07	7.23	519	493
ECMW-6	21.1	20.7	4.15	4.49	*	26940
ECMW-7	19.7	20.3	5.09	5.81	*	27120
ECMW-8	19.6	19.3	3.97	4.06	*	20630
ECMW-9	19.8	19.9	5.68	5.51	2380	2198
ECMW-10	19.2	21.5	4.44	4.91	911	708
ECMW-11	17.9	22.1	4.58	4.48	894	706
ECMW-12	19.3	22.0	6.02	5.84	686	651
ECMW-13	18.6	20.8	5.19	4.83	1669	1526
ECMW-14	17.8	22.0	5.20	5.46	533	369.4
ECMW-15	19.4	22.1	6.21	4.56	85.4	66
ECMW-16	17.5	22.5	4.79	4.60	199.7	153.5
ECMW-17	18.6	18.9	4.70	4.77	269	241.5
ECMW-18	15.9	19.7	5.96	6.28	98.8	83.6
ECMW-19	17.2	18.5	6.13	6.73	105.6	73.4
ECMW-20	18.9	18.6	5.29	6.00	106	67.8
ECMW-21	19.2	19.6	6.09	5.68	56.4	48.6
ECMW-22	18.6	19.0	6.19	5.64	179.2	150.1

*Note: Readings registered 'Out of Range', likely due to instrument malfunction.

TABLE 4
ECMW-1 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/14/1996	9.70	--	1.7	4.1	--	0.0037	< 0.002	< 0.005	< 0.005	--	--
5/29/2001	5.10	< 0.5	1.83	3.67	42	< 0.04	--	< 0.02	--	--	--
11/1/2001	4.80	< 0.5	2.74	3.34	43	< 0.04	--	< 0.02	--	--	--
6/3/2002	5.50	< 0.5	2.01	4.66	83	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.60	0.66	1.56	4.63	44	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	6.10	< 0.5	1.8	6.73	108	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	4.77	< 0.5	2.40	3.79	46	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	7.10	< 0.5	2.55	5.05	59	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	5.26	< 0.5	3.18	6.52	68	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	5.11	< 0.5	1.47	5.85	64	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.25	0.56	1.6	6.19	53	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.59	<0.5	2.73	4.22	56	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.51	<0.5	4.79	6.57	35	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	6.16	<0.5	3.68	3.88	80	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	5.65	0.76	4.26	3.48	53	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	5.11	<0.5	3.81	3.9	58	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	5.43	<0.5	2.88	6.69	86	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	5.73	0.55	2.45	4.39	52	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	--	<0.5	2.39	4.43	52	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	3.61	--	--	--	--	--	--	--	--	<0.02	<0.02
10/18/2005	--	--	--	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	4.73	--	--	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	4.98	--	--	--	--	--	--	--	--	<0.02	--
5/23/2007	5.24	--	--	--	--	--	--	--	--	<0.02	--
11/6/2007	4.77	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	7.91	<0.5	1.57	4.23	--	<0.015	--	<0.02	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 4
ECMW-1 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
11/5/2008	4.63	<0.5	0.732	4.34	--	<0.015	--	<0.02	--	<0.02	--
4/22/2009	4.57	--	--	--	--	--	--	--	--	<0.02	--
10/20/2009	4.68	--	--	--	--	--	--	--	--	--	--
4/13/2010	4.53	<0.5	<0.5	6.46	--	<0.015	--	<0.02	--	--	--
11/2/2010	7.69	<0.5	1.31	5.55	--	<0.015	--	<0.01	--	--	--
4/26/2011	5.04	--	--	--	--	--	--	--	--	--	--
5/2/2012	5.48	<0.5	2.07	3.35	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	6.43	<0.5	0.866	5.94	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	5.03	--	--	--	--	--	--	--	--	--	--
11/4/2013	5.21	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 5
ECMW-2 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/14/1996	9.70	--	< 0.2	17	--	0.018	< 0.002	0.0342	< 0.005	--	--
5/29/2001	5.40	< 0.5	< 0.5	19.6	340	< 0.04	--	0.032	--	--	--
11/1/2001	5.30	< 0.5	< 0.5	22.9	300	< 0.04	--	< 0.02	--	--	--
6/3/2002	6.00	< 0.5	< 0.5	20	396	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.10	< 0.5	< 0.5	25.7	517	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	6.70	< 0.5	< 0.5	24	305	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	5.31	< 0.5	< 0.5	22.1	309	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	7.26	< 0.5	< 0.5	22.9	370	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	5.50	< 0.5	< 0.5	24.9	380	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	5.42	< 0.5	< 0.5	28.2	360	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.20	<0.5	<0.5	25.3	490	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.47	<0.5	<0.5	20.9	311	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.40	<0.5	<0.5	24	298	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	5.68	<0.5	<0.5	22.4	330	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	5.44	<0.5	<0.5	24.3	340	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	6.12	<0.5	<0.5	21.5	320	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	5.38	<0.5	<0.5	20.8	300	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	--	<0.5	<0.5	20.5	300	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	5.87	0.79	<0.5	22.9	290	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	5.15	--	<0.5	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	5.56	--	<0.5	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	5.20	--	--	--	--	--	--	--	--	<0.02	--
5/23/2007	5.29	--	--	--	--	--	--	--	--	<0.02	--
11/6/2007	5.17	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	7.04	<0.5	<0.5	20.1	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	5.47	<0.5	<0.5	15.4	--	<0.015	--	<0.02	--	0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 5
ECMW-2 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
4/22/2009	5.41	--	--	--	--	--	--	--	--	<0.02	--
10/20/2009	5.48	--	--	--	--	--	--	--	--	--	--
4/13/2010	5.23	<0.5	<0.5	16.9	--	<0.015	--	<0.02	--	--	--
11/2/2010	8.28	<0.5	<0.5	22.6	--	<0.015	--	<0.01	--	--	--
4/26/2011	5.51	--	--	--	--	--	--	--	--	--	--
5/2/2012	5.76	<0.5	<0.5	18.7	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	6.57	<0.5	<0.5	22	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	5.75	--	--	--	--	--	--	--	--	--	--
11/4/2013	5.91	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 6
ECMW-3 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/14/1996	8.00	--	< 0.2	10	--	0.0027	< 0.002	< 0.005	< 0.005	--	--
5/29/2001	6.20	< 0.5	< 0.5	10.6	180	< 0.04	--	< 0.02	--	--	--
11/1/2001	5.40	< 0.5	< 0.5	22.5	240	< 0.04	--	< 0.02	--	--	--
6/3/2002	6.40	< 0.5	< 0.5	11.4	228	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.50	< 0.5	< 0.5	21.6	295	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	6.00	< 0.5	< 0.5	16.4	242	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	6.05	< 0.5	< 0.5	12.5	207	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	6.23	< 0.5	< 0.5	11.8	210	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	5.97	< 0.5	< 0.5	27.7	250	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	5.81	< 0.5	< 0.5	23.5	220	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.59	<0.5	<0.5	26.9	270	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.94	<0.5	<0.5	11.2	188	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.86	<0.5	<0.5	9.75	176	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	5.92	<0.5	<0.5	13	260	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	5.74	<0.5	<0.5	18.3	220	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	5.96	<0.5	<0.5	18.8	260	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	6.33	<0.5	<0.5	15.8	240	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	6.05	0.98	<0.5	11.8	200	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	6.04	--	<0.5	--	--	--	--	--	--	<0.02	<0.02
4/12/2006	6.39	--	<0.5	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	5.37	--	--	--	--	--	--	--	--	<0.02	--
5/23/2007	5.92	--	--	--	--	--	--	--	--	<0.02	--
11/6/2007	4.85	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	7.96	<0.5	<0.5	10.5	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	4.86	<0.5	<0.5	9.65	--	<0.015	--	<0.02	--	<0.02	--
4/22/2009	5.76	--	--	--	--	--	--	--	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 6
ECMW-3 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
4/22/2009	--	<0.5	<0.5	10.5	--	--	--	--	--	<0.02	--
10/20/2009	5.83	--	--	--	--	--	--	--	--	--	--
4/13/2010	6.20	<0.5	<0.5	9.39	--	<0.015	--	<0.02	--	--	--
11/2/2010	6.97	<0.5	<0.5	17.5	--	<0.015	--	<0.01	--	--	--
4/27/2011	6.19	--	--	--	--	--	--	--	--	--	--
5/3/2012	6.28	<0.5	<0.5	8.87	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	6.74	<0.5	<0.5	13.4	--	0.0169	<0.015	<0.01	<0.02	--	--
5/15/2013	6.29	--	--	--	--	--	--	--	--	--	--
11/4/2013	5.72	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 7
ECMW-4 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/14/1996	8.10	--	1.3	728	--	0.0025	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.10	0.66	< 0.5	925	5100	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.30	< 0.5	< 0.5	936	5200	0.06	--	0.04	--	--	--
6/3/2002	5.20	< 0.5	< 0.5	979	4862	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	4.80	< 0.5	0.62	756	4240	0.02	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	4.40	< 0.5	2.4	976	5360	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	4.33	< 0.5	< 0.5	936	4800	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	--	< 0.5	< 0.5	1000	5150	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	9.08	< 0.5	< 0.5	978	5300	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	--	< 0.5	< 0.5	958	5400	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	4.78	< 0.5	2.42	989	5200	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	--	< 0.5	2.31	952	5200	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.13	< 0.5	2.05	848	5300	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	3.88	<0.5	6.39	1040	5200	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	4.10	<0.5	<0.5	919	5204	<0.015	<0.015	<0.02	<0.02	--	--
5/19/2004	4.05	<0.5	1.45	1040	5300	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	4.35	<0.5	<0.5	973	5500	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	4.44	0.68	<0.5	943	5200	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	4.26	<0.5	<0.5	874	4600	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	4.63	0.64	8.5	805	4700	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	4.77	2.14	0.997	1020	4700	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	4.06	--	0.517	--	--	--	--	--	--	<0.02	<0.02
4/12/2006	4.12	--	<0.5	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	3.69	<0.5	<0.5	--	--	<0.015	--	<0.02	--	<0.02	--
5/23/2007	4.13	<0.5	0.099	779	--	--	--	--	--	<0.02	--
11/6/2007	3.76	<0.5	<0.5	1020	--	--	--	--	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 7
ECMW-4 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
5/21/2008	3.89	<0.5	<0.5	896	--	0.017	--	<0.02	--	<0.02	--
11/5/2008	3.87	<0.5	<0.5	758	--	<0.015	--	<0.02	--	<0.02	--
4/22/2009	4.17	<0.5	<0.5	68.3	--	--	--	--	--	<0.02	--
10/20/2009	3.62	<0.5	<0.5	830	--	--	--	--	--	--	--
10/20/2009	--	<0.5	<0.5	906	--	--	--	--	--	--	--
4/13/2010	3.75	<0.5	<0.5	655	--	0.029	--	<0.02	--	--	--
11/2/2010	6.57	<0.5	<0.5	745	--	<0.015	--	<0.01	--	--	--
11/2/2010	--	<0.5	<0.5	1000	--	<0.015	--	<0.01	--	--	--
4/27/2011	3.91	1.02	<0.5	845	--	--	--	--	--	--	--
11/30/2011	3.72	<0.5	<0.5	930	--	--	--	--	--	--	--
5/3/2012	4.12	<0.5	<0.5	865	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	6.17	<0.5	<0.5	890	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	4.03	2.12	0.37	856	--	--	--	--	--	--	--
11/5/2013	4.63	2.03	0.752	609	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 8
ECMW-5 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	5.80	--	4.4	441	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.60	< 0.5	3.54	657	1000	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.70	< 0.5	3.27	526	980	< 0.04	--	< 0.02	--	--	--
6/3/2002	6.30	< 0.5	3.35	650	934	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.40	< 0.5	3.66	582	929	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.20	< 0.5	3.26	489	901	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	4.75	< 0.5	3.60	654	845	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	6.85	< 0.5	3.47	546	950	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	4.82	< 0.5	3.53	560	950	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.79	< 0.5	2.40	416	780	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.03	<0.5	3.19	476	740	<0.015	<0.015	<0.02	<0.02	--	--
1/28/2004	--	<0.5	3.07	482	730	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.13	<0.5	3.6	472	780	<0.015	<0.015	<0.02	<0.02	--	--
5/19/2004	5.85	<0.5	3.41	455	860	<0.015	<0.015	<0.02	<0.02	--	--
5/19/2004	--	<0.5	3.3	494	900	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	4.96	<0.5	3.75	511	910	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	6.70	0.59	3.75	515	700	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	5.28	<0.5	3.33	502	850	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	6.36	<0.5	3.18	461	870	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	6.42	3.62	3.21	547	820	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/19/2005	4.96	--	--	--	--	--	--	--	--	<0.02	<0.02
10/19/2005	--	--	--	--	--	--	--	--	--	<0.02	<0.02
4/12/2006	4.39	--	--	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	4.42	--	--	--	--	--	--	--	--	<0.02	--
5/23/2007	5.18	<0.5	3.53	476	--	--	--	--	--	<0.02	--
11/7/2007	4.64	<0.5	3.32	464	--	--	--	--	--	<0.02	--
5/21/2008	6.45	<0.5	4.17	308	--	<0.015	--	<0.02	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 8
ECMW-5 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
11/12/2008	2.40	0.55	4.15	163	--	<0.015	--	<0.02	--	<0.02	--
4/22/2009	5.06	<0.5	7.81	133	--	--	--	--	--	<0.02	--
6/3/2009	5.92	--	7.58	--	--	--	--	--	--	--	--
10/20/2009	4.98	<0.5	8.82	93.4	--	--	--	--	--	--	--
4/13/2010	4.75	<0.5	7.96	105	--	<0.015	--	<0.02	--	--	--
11/2/2010	5.64	<0.5	11	94.7	--	<0.015	--	<0.01	--	--	--
4/27/2011	5.03	1.08	15	92.4	--	--	--	--	--	--	--
11/30/2011	4.67	<0.5	19	94.4	--	--	--	--	--	--	--
5/3/2012	5.13	<0.5	23.5	59.6	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	6.43	<0.5	26.6	74.6	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	5.07	<0.5	32.8	60.7	--	--	--	--	--	--	--
11/5/2013	7.23	0.56	34.7	66.5	--	--	--	--	--	--	--
11/5/2013	--	<0.5	35.5	62.8	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 9
ECMW-6 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	7.70	--	51.1	24	--	0.0026	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.30	0.5	298	18.3	2100	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.30	< 0.5	326	15.7	2700	< 0.04	--	< 0.02	--	--	--
6/3/2002	6.10	< 0.5	459	12.1	290	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.00	0.51	661	8.13	3840	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	4.60	< 0.5	580	7.15	3360	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	--	< 0.5	588	6.45	3280	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/21/2003	4.30	0.5	608	17.0	4020	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	7.41	1.09	681	15.0	4600	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	4.28	4.88	857	9.35	5100	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.53	5.72	865	10.7	4700	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	--	5.60	866	9.21	4900	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	4.36	12.3	835	17.2	5300	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	4.40	13	826	17.2	5106	<0.015	<0.015	<0.02	<0.02	--	--
5/19/2004	5.04	21.4	915	13.4	5800	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	4.74	17.9	995	11.7	6100	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	--	17.5	868	11.7	6200	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	5.51	20	1130	3.84	6300	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	4.59	37.6	1140	4.4	7100	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	5.36	43.1	1130	3.14	6600	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	4.57	68.2	1410	5.19	6700	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	4.43	110	1350	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	4.45	154	1680	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	3.94	170	2390	--	--	--	--	--	--	<0.02	--
5/23/2007	6.46	63.3	3550	44.9	--	--	--	--	--	<0.02	--
11/6/2007	5.15	35.7	941	54.1	--	--	--	--	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 9
ECMW-6 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
5/21/2008	4.50	59.1	1130	23.7	--	<0.015	--	<0.02	--	<0.02	--
5/21/2008	--	72.5	256	28.3	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	3.89	103	1060	26.1	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.47	135	1070	148	--	--	--	--	--	<0.02	--
10/20/2009	4.16	181	1330	24.7	--	--	--	--	--	--	--
4/13/2010	4.04	92.8	1660	29.2	--	<0.015	--	<0.02	--	--	--
4/13/2010	--	566	1640	25.7	--	0.023	--	<0.02	--	--	--
7/22/2010	--	246	1940	42.3	--	<0.015	--	<0.02	--	--	--
11/2/2010	5.71	311	1460	29.6	--	<0.015	--	0.011	--	--	--
4/27/2011	4.30	371	1680	46.8	--	--	--	--	--	--	--
6/16/2011	4.01	393	1620	207	--	--	--	--	--	--	--
11/30/2011	3.88	445	1970	60.5	--	--	--	--	--	--	--
11/30/2011	--	455	2060	63.8	--	--	--	--	--	--	--
5/3/2012	4.28	344	1850	456	--	0.0312 E3	0.032	<0.01	<0.02	--	--
5/3/2012	--	407	1740	36.5	--	0.0298 E3	0.028	<0.01 E3	<0.02	--	--
11/7/2012	6.20	620	2520	112	--	0.0185	0.017	<0.01	<0.02	--	--
11/7/2012	--	655	2430	113	--	0.0211	0.016	<0.01	<0.02	--	--
5/15/2013	4.15	521	3120	37.7	--	--	--	--	--	--	--
11/5/2013	4.49	935	3380	28.5	--	--	--	--	--	--	--

"--" - Parameter not analyzed
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TABLE 10
ECMW-7 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	8.10	--	282	380	--	0.0221	0.0185	0.0078	< 0.005	--	--
8/8/2001	9.70	184	336	316	1300	< 0.04	--	< 0.02	--	--	--
10/30/2001	3.50	< 0.5	189	322	1056	< 0.04	--	< 0.02	--	--	--
10/30/2001	--	< 0.5	186	325	1100	< 0.04	--	< 0.02	< 0.02	--	--
6/3/2002	4.40	190	361	363	1324	0.031	< 0.015	< 0.02	< 0.02	--	--
6/3/2002	--	205	358	360	1386	0.027	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	4.20	167	294	345	1080	0.017	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	3.70	180	344	275	1316	< 0.015	0.016	< 0.02	< 0.02	--	--
12/10/2002	--	149	349	276	1350	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/21/2003	3.66	244	563	298	1850	0.02	0.017	< 0.02	< 0.02	--	--
7/24/2003	7.05	95.1	141	378	1400	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	3.84	116	953	341	1700	0.02	0.018	< 0.02	< 0.02	--	--
11/19/2003	4.03	124	152	476	1500	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	3.99	147	300	644	1300	0.018	<0.015	<0.02	<0.02	--	--
3/16/2004	3.98	190	310	496	1280	0.018	0.017	<0.02	<0.02	--	--
5/19/2004	3.95	204	337	524	1500	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	3.99	73.4	150	498	1600	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	4.45	26.5	75.5	142	1000	<0.015	<0.015	<0.02	<0.02	<0.02	--
9/14/2004	--	25.9	76	143	990	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	3.97	219	370	428	1700	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	4.08	281	480	312	1700	0.016	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	4.21	323	595	349	1400	0.022	0.017	<0.02	<0.02	<0.02	<0.02
10/18/2005	3.90	14.3	91.6	--	--	<0.015	<0.015	--	--	<0.02	<0.02
4/11/2006	4.36	267	516	--	--	0.017	<0.015	--	--	<0.02	<0.02
11/1/2006	3.34	57.4	105	--	--	<0.015	--	--	--	<0.02	--
5/23/2007	4.30	96	181	798	--	--	--	--	--	<0.02	--

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TABLE 10
ECMW-7 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
11/6/2007	3.58	49.9	85.3	906	--	--	--	--	--	<0.02	--
5/21/2008	2.81	55.2	153	936	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	3.40	115	237	962	--	<0.015		<0.02	--	<0.02	--
4/21/2009	4.13	77.8	126	895	--	--	--	--	--	<0.02	--
10/20/2009	3.55	51.2	49.9	1090	--	--	--	--	--	--	--
4/13/2010	3.53	1000	1080	214	--	0.06	--	<0.02	--	--	--
7/22/2010	--	43.2	103	3490	--	<0.015	--	<0.02	--	--	--
11/2/2010	4.92	107	155	156	--	<0.015	--	<0.01	--	--	--
4/27/2011	4.47	1630	2640	248	--	--	--	--	--	--	--
6/16/2011	4.17	56.6	227	899	--	--	--	--	--	--	--
11/30/2011	4.18	132	192	259	--	--	--	--	--	--	--
5/3/2012	4.82	132	161	761	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	6.31	187	153	692	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	5.09	105	141	930	--	--	--	--	--	--	--
5/15/2013	--	110	145	921	--	--	--	--	--	--	--
11/5/2013	5.81	132	156	927	--	--	--	--	--	--	--

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TABLE 11
ECMW-8 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	7.90	--	1010	68.3	--	0.0234	0.0238	< 0.005	< 0.005	--	--
10/30/2001	3.90	0.94	1030	81.1	5000	< 0.04	--	< 0.02	--	--	--
6/3/2002	5.40	551	1070	77.8	4246	< 0.02	< 0.02	< 0.02	< 0.02	--	--
6/3/2002	--	551	1200	70.4	4378	0.031	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	4.40	406	1330	151	4560	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	4.00	220	1080	46.2	5120	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	--	261	1030	47.6	5140	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/21/2003	3.99	214	1250	209	4200	0.019	0.019	< 0.02	< 0.02	--	--
5/21/2003	--	167	1270	162	4010	0.019	0.019	< 0.02	< 0.02	--	--
7/24/2003	6.04	179	472	904	3700	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	--	177	478	913	3700	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/23/2003	3.93	157.5	524	870	3400	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/23/2003	--	153	539	899	3400	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.99	206	464	738	3200	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	4.29	45.7	142	854	1800	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	4.18	88	203	805	2221	<0.015	<0.015	<0.02	<0.02	--	--
5/19/2004	4.07	120	298	789	2500	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	4.48	120	354	767	2600	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	3.99	107	392	743	2400	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	4.01	82.1	304	808	2800	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	4.09	48.9	126	1200	2700	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	6.12	79.6	225	1220	2700	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	4.03	84.8	246	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	3.78	53.5	194	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	3.44	74.5	224	--	--	--	--	--	--	<0.02	--
5/23/2007	4.11	122	<0.5	971	--	--	--	--	--	<0.02	--
11/6/2007	3.70	96.2	340	816	--	--	--	--	--	<0.02	--

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E3 - Incorrect preservation, results qualified as "estimated".

TABLE 11
ECMW-8 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
5/21/2008	3.42	56.8	171	1000	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	3.61	70	181	719	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.88	53.6	108	839	--	--	--	--	--	<0.02	--
10/20/2009	3.79	45.8	116	937	--	--	--	--	--	--	--
4/13/2010	4.56	62.1	52.2	737	--	<0.015	--	<0.02	--	--	--
11/2/2010	6.35	63.4	163	860	--	<0.015	--	<0.01	--	--	--
4/27/2011	3.85	1980	3310	106	--	--	--	--	--	--	--
6/29/2011	4.10	175	350	--	--	--	--	--	--	--	--
6/29/2011	--	168	352	--	--	--	--	--	--	--	--
11/30/2011	3.44	120	401	727	--	--	--	--	--	--	--
11/30/2011	--	101	361	637	--	--	--	--	--	--	--
5/3/2012	3.97	122	296	754	--	0.0159 E3	0.015	<0.01	<0.02	--	--
5/3/2012	--	111	287	762	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	5.99	193	429	814	--	0.0166	<0.015	<0.01	<0.02	--	--
5/15/2013	3.97	172	551	614	--	--	--	--	--	--	--
11/5/2013	4.06	150	584	642	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 12
ECMW-9 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/14/1996	9.00	--	37.3	621	--	0.004	< 0.002	< 0.005	< 0.005	--	--
6/27/2001	5.40	< 0.5	28.8	520	1600	< 0.04	--	< 0.02	--	--	--
10/30/2001	5.50	< 0.5	26.7	514	2600	< 0.04	--	< 0.02	--	--	--
6/3/2002	6.00	< 0.5	24.4	639	1597	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.00	18.8	59	655	1630	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.20	0.7	28.1	556	1680	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	--	< 0.5	31.5	555	1640	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/21/2003	5.33	< 0.5	26.3	568	1600	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	7.05	< 0.5	28.4	547	1500	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/23/2003	5.24	< 0.5	146	531	1500	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	5.72	< 0.5	28.0	532	1600	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.53	<0.5	29.2	575	1500	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.88	<0.5	30.6	528	1524	<0.015	<0.015	<0.02	<0.02	--	--
5/19/2004	5.47	<0.5	27.4	517	1600	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	6.87	<0.5	24.6	588	1600	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	5.04	1.14	25.3	548	1500	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	5.67	0.7	24	549	580	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	5.57	<0.5	26.3	518	1600	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/24/2005	5.77	<0.5	27.4	600	1600	0.018	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	5.64	--	29.9	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	5.83	--	29.5	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	5.00	--	40.2	--	--	--	--	--	--	<0.02	--
5/23/2007	5.57	2.91	32.8	420	--	--	--	--	--	<0.02	--
5/23/2007	--	1.48	31.2	502	--	--	--	--	--	<0.02	--
11/6/2007	4.94	3.59	30.6	642	--	--	--	--	--	<0.02	--
5/21/2008	6.04	<0.5	31.7	522	--	<0.015	--	<0.02	--	<0.02	--

"–" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 12
ECMW-9 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
11/5/2008	4.41	<0.5	23.7	391	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	5.91	<0.5	28	501	--	--	--	--	--	<0.02	--
10/20/2009	5.41	2.31	21	505	--	--	--	--	--	--	--
4/13/2010	5.44	<0.5	16.8	462	--	<0.015	--	<0.02	--	--	--
11/2/2010	7.04	<0.5	20	684	--	<0.015	--	<0.01	--	--	--
4/27/2011	5.74	2.96	32.1	542	--	--	--	--	--	--	--
11/30/2011	5.37	0.7	28.5	650	--	--	--	--	--	--	--
5/3/2012	5.71	<0.5	25.5	520	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	6.50	0.68	32.5	568	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	5.68	<0.5	30.1	514	--	--	--	--	--	--	--
11/5/2013	5.51	17	53.9	545	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 13
ECMW-10 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	7.70	--	257	89	--	0.0052	0.0039	< 0.005	< 0.005	--	--
6/27/2001	4.40	< 0.5	156	100	1300	< 0.04	--	0.025	--	--	--
10/30/2001	3.90	< 0.5	153	134	1400	< 0.04	--	0.04	--	--	--
6/3/2002	5.30	< 0.5	138	84.9	1122	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.60	1.84	137	140	968	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	4.50	< 0.5	70.4	52.2	1120	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/21/2003	4.08	< 0.5	148	96.0	1140	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	5.56	< 0.5	118	108	1000	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/23/2003	4.18	< 0.5	147	127	1000	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.38	< 0.5	119	104	970	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	4.60	<0.5	126	129	1000	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.01	<0.5	135	128	1078	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.07	<0.5	123	139	1055	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	4.54	<0.5	114	112	920	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	4.70	0.77	123	137	1000	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	4.79	<0.5	94.4	71.1	800	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	4.63	<0.5	115	114	1000	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	4.93	1.45	120	142	990	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	4.30	--	97.7	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	4.40	--	97.5	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	--	--	95.5	--	--	--				<0.02	<0.02
11/1/2006	3.83	--	71	--	--	<0.015	--	--	--	<0.02	--
5/23/2007	4.18	0.79	79.9	109	--	--	--	--	--	<0.02	--
11/6/2007	3.97	<0.5	65.9	121	--	--	--	--	--	<0.02	--
5/21/2008	5.11	<0.5	69.2	153	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	4.06	<0.5	40.9	105	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.58	12.7 outlier	48.9	155	--	--	--	--	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 13
ECMW-10 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
6/3/2009	6.35	<0.5	--	--	--	--	--	--	--	--	--
10/20/2009	4.57	<0.5	53.5	136	--	--	--	--	--	--	--
4/13/2010	4.08	0.8	44.7	170	--	<0.015	--	<0.02	--	--	--
11/2/2010	6.42	<0.5	41.9	164	--	<0.015	--	<0.01	--	--	--
4/27/2011	4.30	3.18	54.1	166	--	--	--	--	--	--	--
11/30/2011	3.97	<0.5	49.2	94.8	--	--	--	--	--	--	--
5/3/2012	4.39	<0.5	38.4	158	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	6.13	<0.5	44.4	152	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	4.44	<0.5	42.1	163	--	--	--	--	--	--	--
11/5/2013	4.91	<0.5	47.8	153	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 14
ECMW-11 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	11.10	--	22.1	578	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.30	4.21	7.99	611	1100	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.00	< 0.5	21.9	334	610	< 0.04	--	< 0.02	--	--	--
6/3/2002	5.40	< 0.5	6.46	565	897	< 0.02	< 0.02	< 0.02	< 0.02	--	--
6/3/2002	--	3.9	5.81	586	968	< 0.02	< 0.015	< 0.02	< 0.02	--	--
10/30/2002	4.80	18	9.22	362	625	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	4.50	10.73	6.12	414	809	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/21/2003	4.45	7.84	6.02	333	576	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	6.66	25.6	6.68	278	540	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/23/2003	4.29	5.25	4.24	397	660	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.61	12.0	6.26	289	570	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	--	14.3	6.85	276	340	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.04	19.6	6.72	303	520	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.00	15	9.63	262	511	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	--	18	8.79	278	535	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.17	19.9	13.5	228	452	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	4.53	17.4	13.6	222	480	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	4.61	14.5	9.85	247	480	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/17/2004	4.86	19.1	11.1	209	450	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	4.64	--	--	--	--	--	--	--	--	--	--
5/25/2005	5.05	20.6	1.12	3.58	410	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	4.42	10.6	2.02	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	4.63	10.9	6.01	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	4.06	4.88	1.43	--	--	--	--	--	--	<0.02	--
5/23/2007	4.23	25.4	29.2	137	--	--	--	--	--	<0.02	--
5/23/2007	--	17.4	26.4	242	--	--	--	--	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 14
ECMW-11 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
11/6/2007	3.94	8.01	9.75	223	--	--	--	--	--	<0.02	--
5/21/2008	5.26	19.5	18.9	208	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	4.34	18.4	16.9	98.6	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.09	<0.5 outlier	14	119	--	--	--	--	--	<0.02	--
6/3/2009	6.10	17.7	--	--	--	--	--	--	--	--	--
10/20/2009	4.28	18.2	9.44	125	--	--	--	--	--	--	--
4/13/2010	4.32	32.6	7.78	135	--	<0.015	--	<0.02	--	--	--
11/2/2010	5.67	3.17	4.52	325	--	<0.015	--	<0.01	--	--	--
4/27/2011	4.57	47	15.8	146	--	--	--	--	--	--	--
11/30/2011	4.11	2.19	3.56	318	--	--	--	--	--	--	--
5/3/2012	4.73	14.5	29.4	95.6	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	5.92	33.2	23.8	161	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	4.58	17	45.4	98	--	--	--	--	--	--	--
5/15/2013	--	15.7	40.7	102	--	--	--	--	--	--	--
11/5/2013	4.48	<0.5	30.5	125	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 15
ECMW-12 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	6.10	--	< 0.2	9.6	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
6/27/2001	5.90	2.2	< 0.5	13	330	< 0.04	--	< 0.02	--	--	--
6/4/2002	6.00	0.9	< 0.5	4.85	510	< 0.02	< 0.02	< 0.02	< 0.02	--	--
6/4/2002	--	1.4	< 0.5	6.01	500	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.10	4.2	< 0.5	21.6	382	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.80	2.3	< 0.5	12.5	424	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/21/2003	5.71	1.89	< 0.5	5.31	307	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/24/2003	4.76	1.74	< 0.5	18.7	380	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	5.45	1.43	< 0.5	26	440	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	5.79	1.83	< 0.5	30.6	460	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	6.44	1.87	<0.5	6.76	320	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.96	2.2	<0.5	4.04	252	<0.015	<0.015	<0.02	<0.02	--	--
5/19/2004	5.80	1.94	<0.5	5.11	360	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	6.78	1.2	<0.5	7.18	220	<0.015	<0.015	<0.02	<0.02	--	--
9/15/2004	5.80	2.38	<0.5	23	440	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	5.73	1.55	<0.5	18.5	340	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/26/2005	5.91	1.98	<0.5	4.88	360	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	5.96	1.02	<0.5	11.2	370	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/20/2005	5.30	1.06	--	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	6.12	1.58	--	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	5.30	1.37	--	--	--	--	--	--	--	<0.02	--
5/23/2007	5.66	--	--	--	--	--	--	--	--	<0.02	--
11/6/2007	5.11	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	7.53	1.67	<0.5	7.14	--	<0.015	--	<0.02	--	<0.02	--
11/7/2008	5.75	1.17	<0.5	8.74	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	6.52	--	--	--	--	--	--	--	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 15
ECMW-12 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
10/21/2009	7.08	--	--	--	--	--	--	--	--	--	--
4/13/2010	5.95	5.56	<0.5	2.14	--	<0.015	--	<0.02	--	--	--
11/3/2010	6.64	1.44	<0.5	21.5	--	<0.015	--	<0.01	--	--	--
11/3/2010	--	1.34	<0.5	20.5	--	<0.015	--	<0.01	--	--	--
4/27/2011	5.67	--	--	--	--	--	--	--	--	--	--
5/3/2012	6.02	1.81	<0.5	17	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/7/2012	6.49	3.55	<0.5	21.5	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	6.02	--	--	--	--	--	--	--	--	--	--
11/4/2013	5.84	--	--	--	--	--	--	--	--	--	--

"–" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 16
ECMW-13 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	5.60	--	0.2	809	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
6/5/2001	5.60	< 0.5	< 0.5	538	1400	< 0.04	--	< 0.02	--	--	--
10/30/2001	5.30	< 0.5	< 0.5	606	1300	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.70	< 0.5	< 0.5	372	718	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.10	1.28	< 0.5	538	1030	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.50	< 0.5	< 0.5	598	1320	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	5.51	< 0.5	< 0.5	697	1330	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/23/2003	6.05	< 0.5	< 0.5	358	820	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/24/2003	4.70	0.71	< 0.5	458	920	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.91	< 0.5	0.62	310	680	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.02	<0.5	<0.5	565	1100	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.19	<0.5	<0.5	550	1175	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.27	<0.5	<0.5	296	647	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	6.02	<0.5	<0.5	510	1100	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	5.03	0.5	<0.5	416	940	<0.015	<0.015	<0.02	<0.02	<0.02	--
9/14/2004	--	0.51	<0.5	425	960	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	4.83	<0.5	<0.5	250	1500	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/26/2005	4.86	<0.5	0.72	564	1200	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	5.07	0.54	<0.5	302	580	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/19/2005	4.19	--	--	--	--	--	--	--	--	<0.02	<0.02
4/12/2006	4.97	--	--	--	--	--	--	--	--	<0.02	<0.02
11/2/2006	4.71	<0.5	<0.5	--	--	--	<0.015	<0.02	--	<0.02	--
5/23/2007	4.97	--	--	--	--	--	--	--	--	<0.02	--
11/7/2007	4.64	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	5.85	<0.5	<0.5	399	--	<0.015	--	<0.02	--	<0.02	--
5/21/2008	--	<0.5	<0.5	409	--	<0.015	--	<0.02	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 16
ECMW-13 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
11/7/2008	5.01	<0.5	<0.5	346	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.77	--	--	--	--	--	--	--	--	<0.02	--
10/21/2009	4.63	--	--	--	--	--	--	--	--	--	--
4/14/2010	4.75	<0.5	<0.5	470	--	<0.015	--	<0.02	--	--	--
11/3/2010	6.44	<0.5	<0.5	589	--	<0.015	--	<0.01	--	--	--
4/26/2011	4.68	--	--	--	--	--	--	--	--	--	--
5/2/2012	5.23	<0.5	<0.5	505	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.25	<0.5	<0.5	593	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	5.19	--	--	--	--	--	--	--	--	--	--
11/4/2013	4.83	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 17
ECMW-14 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	4.60	--	11.9	139	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.30	< 0.5	75	175	1000	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.50	< 0.5	25.2	211	790	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.60	< 0.5	26.5	187	675	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.30	5.32	17	288	669	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.30	< 0.5	23.4	230	709	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	4.85	< 0.5	44.9	227	865	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/23/2003	4.62	< 0.5	23.1	221	750	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/23/2003	5.00	< 0.5	20.3	275	700	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.92	< 0.5	16.1	227	740	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.19	<0.5	24.5	262	710	0.028	<0.015	0.022	<0.02	--	--
3/16/2004	5.34	<0.5	33.4	211	792	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.23	<0.5	32.6	234	784	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	5.05	<0.5	45.7	226	820	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	--	<0.5	47.3	234	840	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	4.72	<0.5	57.7	232	900	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	4.88	<0.5	21.7	168	660	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/26/2005	4.89	<0.5	62.4	204	930	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	5.06	<0.5	31	204	700	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/19/2005	4.96	--	36	--	--	--	--	--	--	<0.02	<0.02
4/12/2006	4.72	--	48.2	--	--	--	--	--	--	<0.02	<0.02
4/12/2006	--	--	48.5	--	--	--	--	--	--	<0.02	<0.02
11/2/2006	4.15	--	13.6	--	--	--	--	--	--	<0.02	--
5/23/2007	4.60	<0.5	25.5	233	--	--	--	--	--	<0.02	--
11/7/2007	4.24	<0.5	12.6	229	--	--	--	--	--	<0.02	--
5/21/2008	5.69	<0.5	22.5	224	--	<0.015	--	<0.02	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 17
ECMW-14 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
11/5/2008	4.35	<0.5	11.1	137	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.36	0.72	13.2	200	--	--	--	--	--	<0.02	--
12/16/2009	5.53	<0.5	15.7	212	--	--	--	--	--	--	--
4/14/2010	4.54	0.5	24.3	166	--	<0.015	--	<0.02	--	--	--
12/21/2010	5.68	<0.5	12.7	152	--	<0.015	--	<0.01	--	--	--
4/26/2011	5.04	<0.5	10.7	159	--	--	--	--	--	--	--
11/30/2011	4.50	<0.5	8.09	156	--	--	--	--	--	--	--
5/2/2012	5.20	<0.5	17.4	139	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.25	<0.5	8.03	140	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	5.20	<0.5	6.17	108	--	--	--	--	--	--	--
11/5/2013	5.46	7.52	6.92	91.6	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 18
ECMW-15 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	6.40	--	34.5	4.4	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.30	< 0.5	19.1	7.8	140	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.30	< 0.5	12.6	10.2	110	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.40	< 0.5	10.7	11.1	100	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.40	1.16	18.2	9.22	120	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.80	0.5	12.2	10.8	120	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	4.75	< 0.5	9.45	13	66	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/23/2003	4.77	< 0.5	7.63	12.8	100	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/23/2003	4.49	< 0.5	9.62	11.8	180	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.89	< 0.5	9.81	12.6	100	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.56	3.96	4.52	18.6	81	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.68	<0.5	7.66	13.9	97	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.75	<0.5	6.82	15.2	83	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	5.39	<0.5	9.52	11	110	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	4.67	0.61	8.22	13.2	100	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	4.92	<0.5	7.42	11.8	110	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	4.68	<0.5	7.62	11.8	110	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	4.94	<0.5	5.79	16.1	79	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/19/2005	4.77	--	5.63	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	4.95	--	1.6	--	--	--	--	--	--	<0.02	<0.02
11/2/2006	4.17	--	2.54	--	--	--	--	--	--	<0.02	--
5/23/2007	4.43	--	--	--	--	--	--	--	--	<0.02	--
11/7/2007	4.06	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	7.35	<0.5	1.52	15.9	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	5.18	<0.5	2.32	8.79	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.53	--	--	--	--	--	--	--	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 18
ECMW-15 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
10/20/2009	4.36	--	--	--	--	--	--	--	--	--	--
4/14/2010	4.39	<0.5	2.99	10.7	--	<0.015	--	<0.02	--	--	--
11/3/2010	5.30	<0.5	1.9	13.2	--	<0.015	--	<0.01	--	--	--
4/26/2011	4.86	--	--	--	--	--	--	--	--	--	--
5/2/2012	4.88	<0.5	1.08	13.9	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.22	<0.5	1.26	13	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	6.21	--	--	--	--	--	--	--	--	--	--
11/4/2013	4.56	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 19
ECMW-16 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	5.70	--	137	4.6	--	0.0036	0.0034	< 0.005	< 0.005	--	--
6/5/2001	4.30	4.61	134	5.09	1100	< 0.04	--	< 0.02	--	--	--
10/30/2001	3.90	< 0.5	58.4	6.44	330	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.00	6.2	72.5	7.19	396	< 0.02	< 0.02	< 0.02	< 0.02	--	--
6/4/2002	--	5.0	72.6	6.82	404	< 0.02	< 0.015	< 0.02	< 0.02	--	--
10/30/2002	5.00	11.6	72	9.21	263	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.90	2.99	89.4	5.64	595	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	4.42	3.69	90.8	6.55	555	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/23/2003	4.81	6.45	72.3	7.15	430	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/23/2003	4.31	5.97	72.8	7.09	400	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	4.99	8.61	44.3	9.78	230	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	5.61	5.66	59	9.84	280	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.83	8.39	34.8	11.2	180	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.95	10.4	31.9	13.3	167	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	--	11.5	31.5	13.8	135	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	5.50	9.35	40.2	7.7	160	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	4.49	8.57	47.1	7.83	190	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	5.08	6.49	38.2	8.11	310	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
11/16/2004	--	6.87	38.3	8.02	270	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	4.54	4.15	43.1	8.13	310	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	4.62	7.62	26.8	10.2	110	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/19/2005	4.66	6.28	17	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	4.79	2.01	17	--	--	--	--	--	--	<0.02	<0.02
11/2/2006	4.27	2.16	24.8	--	--	--	--	--	--	<0.02	--
5/23/2007	4.25	2.21	12.8	14.4	--	--	--	--	--	<0.02	--
11/7/2007	4.30	1.77	19.6	12.6	--	--	--	--	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 19
ECMW-16 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
5/21/2008	6.08	3.35	14.8	15.9	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	6.50	1.92	11.4	10.4	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.66	3.25	8.85	14.5	--	--	--	--	--	<0.02	--
10/21/2009	4.38	0.88	13.1	12.1	--	--	--	--	--	--	--
10/21/2009	--	0.94	13.2	13	--	--	--	--	--	--	--
4/14/2010	4.42	2.38	4.73	15.3	--	<0.015	--	<0.02	--	--	--
11/3/2010	5.98	0.96	19.2	13.4	--	<0.015	--	<0.01	--	--	--
4/26/2011	4.50	3.56	7.5	15.8	--	--	--	--	--	--	--
11/30/2011	4.12	0.84	11.6	17.9	--	--	--	--	--	--	--
5/2/2012	4.66	0.81	10.7	15.4	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.09	1.19	9.94	14.6	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	4.79	3.91	12.2	13	--	--	--	--	--	--	--
11/5/2013	4.60	1.58	10.3	13.3	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 20
ECMW-17 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	4.90	--	45	145	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
6/5/2001	4.40	1.16	54.2	87.7	600	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.10	< 0.5	106	11.5	760	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.10	< 0.5	83.4	8.04	603	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.10	2.36	92	9.53	540	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.60	1.22	101	28.2	751	< 0.015	< 0.015	< 0.02	< 0.02	--	--
5/20/2003	4.54	< 0.5	83.6	17.1	603	< 0.015	< 0.015	< 0.02	< 0.02	--	--
7/23/2003	4.74	0.58	74.7	9.31	548	< 0.015	< 0.015	< 0.02	< 0.02	--	--
9/23/2003	5.25	< 0.5	64.3	6.98	400	< 0.015	< 0.015	< 0.02	< 0.02	--	--
11/19/2003	5.28	0.55	77.3	11.8	530	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	6.54	<0.5	81.3	42.8	560	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	6.62	8.14	129	64	983	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	6.73	8.05	134	60.1	944	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	6.57	<0.5	67.6	6.54	460	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	4.40	1.42	78.4	3.14	570	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	5.41	9.55	219	54.8	1800	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/26/2005	4.54	1.79	53.3	12.2	360	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	4.86	<0.5	56.4	19.1	390	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	--	<0.5	58.4	4.27	440	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/20/2005	5.74	0.67	48.9	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	3.35	1.15	66.6	--	--	--	--	--	--	<0.02	<0.02
11/2/2006	3.56	4.81	47.6	--	--	--	--	--	--	<0.02	--
5/23/2007	4.19	1.49	58.5	12.7	--	--	--	--	--	<0.02	--
11/7/2007	3.70	0.64	83.3	51.7	--	--	--	--	--	<0.02	--
5/21/2008	4.84	1.63	63.1	63	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	3.85	1.31	34.6	17.5	--	<0.015	--	<0.02	--	<0.02	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 20
ECMW-17 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
4/21/2009	4.25	12.2 outlier	27.1	99.9	--	--	--	--	--	<0.02	--
6/3/2009	5.84	3.04	--	--	--	--	--	--	--	--	--
10/21/2009	4.68	11.2	14.4	87.1	--	--	--	--	--	--	--
4/14/2010	4.07	<0.5	15.9	6.73	--	<0.015	--	<0.02	--	--	--
11/3/2010	7.02	1.94	27.2	13.1	--	<0.015	--	<0.01	--	--	--
4/26/2011	4.34	10.1	4.03	40.2	--	--	--	--	--	--	--
11/30/2011	4.65	2.75	5.95	36.1	--	--	--	--	--	--	--
5/2/2012	4.75	2.51	8.13	20.9	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.21	3.82	1.82	39.2	--	<0.015	<0.015	<0.01	<0.02	--	--
11/6/2012	--	5.67	1.51	37.3	--	<0.015	<0.015	0.0174	<0.02	--	--
5/15/2013	4.70	1.41	3.6	34.5	--	--	--	--	--	--	--
11/5/2013	4.77	<0.5	1.24	39.6	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 21
ECMW-18 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/14/1996	6.60	--	0.4	3.3	--	0.017	< 0.002	0.0194	< 0.005	--	--
10/30/2001	5.40	< 0.5	< 0.5	3.74	300	< 0.04	--	0.05	--	--	--
6/4/2002	6.20	< 0.5	< 0.5	8.38	796	0.115	< 0.02	0.147	0.137	--	--
10/30/2002	6.30	0.43	< 0.5	3.22	258	0.018	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	6.40	< 0.5	< 0.5	5.01	495	< 0.015	< 0.015	0.02	< 0.02	--	--
5/21/2003	6.01	0.59	< 0.5	7.08	786	0.029	< 0.015	0.02	< 0.02	--	--
7/23/2003	5.38	< 0.5	113	115	2000	0.029	< 0.015	0.047	< 0.02	--	--
9/24/2003	5.54	5.79	< 0.5	3.81	590	0.025	< 0.015	0.036	0.026	--	--
11/19/2003	5.90	< 0.5	< 0.5	9.68	300	< 0.015	< 0.015	< 0.02	< 0.02	--	--
1/28/2004	6.17	--	--	--	--	--	--	--	--	--	--
3/16/2004	6.40	<0.5	<0.5	7.01	666	0.021	<0.015	0.027	0.021	--	--
5/19/2004	6.43	<0.5	<0.5	5.63	720	0.063	<0.015	0.088	<0.02	--	--
7/13/2004	6.05	<0.5	<0.5	5.68	1100	0.033	<0.015	0.043	<0.02	--	--
9/15/2004	5.89	0.56	<0.5	3.88	1200	0.109	0.038	0.12	0.05	0.213	--
11/17/2004	5.96	<0.5	<0.5	4.61	1100	<0.015	<0.015	0.027	<0.02	0.045	<0.02
11/17/2004	--	<0.5	<0.5	4.85	1100	0.03	<0.015	0.043	<0.02	0.079	<0.02
1/26/2005	5.90	<0.5	<0.5	5.13	1000	0.056	<0.015	0.055	0.022	0.099	0.031
5/25/2005	6.04	<0.5	<0.5	5.18	700	0.018	<0.015	0.032	<0.02	0.048	0.03
10/19/2005	5.82	--	--	--	--	<0.015	<0.015	<0.02	0.052	<0.02	0.081
4/12/2006	1.34	--	--	--	--	<0.015	0.016	<0.02	0.065	<0.02	<0.02
11/2/2006	5.23	--	--	--	--	<0.015	--	<0.02	--	0.02	--
5/23/2007	5.34	--	0.98	--	--	--	--	--	--	<0.02	--
11/7/2007	5.03	--	<0.5	--	--	--	--	--	--	0.05	--
5/21/2008	7.82	<0.5	0.567	6.57	--	0.02	--	0.028	--	0.04	--
11/7/2008	5.05	<0.5	<0.5	1.52	--	0.032	--	0.025	--	0.05	--
4/22/2009	5.42	--	<0.5	--	--	--	--	--	--	0.03	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 21
ECMW-18 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
10/21/2009	7.16	--	<0.5	--	--	--	--	--	--	--	--
4/14/2010	5.50	<0.5	<0.5	2.82	--	<0.015	--	<0.02	--	--	--
11/3/2010	8.22	<0.5	<1	3.65	--	<0.015	--	<0.01	--	--	--
4/26/2011	5.77	--	--	--	--	--	--	--	--	--	--
6/30/2011	5.71	--	<0.5	--	--	--	--	--	--	--	--
11/30/2011	5.64	--	<0.5	--	--	--	--	--	--	--	--
5/2/2012	5.89	<0.5	<0.5	2.17	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.61	<0.5	<0.5	2.99	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	5.96	<0.5	0.328	6.25	--	--	--	--	--	--	--
11/5/2013	6.28	9.64	<0.25	6.3	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 22
ECMW-19 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
1/28/2004	6.73	0.64	<0.5	8.32	1400	0.122	0.045	0.077	0.077	--	--
3/16/2004	6.49	<0.5	<0.5	6.38	238	0.019	<0.015	<0.02	<0.02	--	--
3/16/2004	--	<0.5	<0.5	7.63	164	0.021	<0.015	<0.02	<0.02	--	--
5/19/2004	6.19	<0.5	<0.5	9.05	220	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	6.37	<0.5	<0.5	6.85	180	<0.015	<0.015	<0.02	<0.02	--	--
9/15/2004	6.23	0.54	<0.5	4.11	120	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/17/2004	6.02	<0.5	<0.5	4.63	130	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/26/2005	5.82	<0.5	<0.5	3.67	100	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	5.88	<0.5	<0.5	4.56	120	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/19/2005	6.27	<0.5	<0.5	--	--	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
4/12/2006	6.10	<0.5	<0.5	--	--	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
11/2/2006	5.51	<0.5	<0.5	--	--	<0.015	--	<0.02	--	<0.02	--
5/23/2007	5.80	--	--	--	--	--	--	--	--	<0.02	--
11/7/2007	5.18	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	8.17	<0.5	<0.5	3.18	--	<0.015	--	<0.02	--	<0.02	--
11/7/2008	5.90	<0.5	<0.5	2.04	--	<0.015	--	<0.02	--	<0.02	--
4/22/2009	5.66	--	--	--	--	--	--	--	--	<0.02	--
10/21/2009	7.82	--	--	--	--	--	--	--	--	--	--
4/14/2010	5.62	<0.5	<0.5	2.46	--	<0.015	--	<0.02	--	--	--
4/14/2010	--	<0.5	<0.5	2.43	--	<0.015	--	<0.02	--	--	--
11/3/2010	6.87	<0.5	<0.5	2.97	--	<0.015	--	<0.01	--	--	--
4/26/2011	5.82	--	--	--	--	--	--	--	--	--	--
5/2/2012	5.98	<0.5	<0.5	2.31	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.68	<0.5	<0.5	2.88	--	<0.015	<0.015	<0.01	<0.02	--	--
5/14/2013	6.13	--	--	--	--	--	--	--	--	--	--
11/5/2013	6.73	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 23
ECMW-20 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
1/28/2004	5.93	<0.5	<0.5	11.4	730	0.024	<0.015	0.034	<0.02	--	--
3/16/2004	6.51	<0.5	<0.5	15.9	186	<0.015	<0.015	<0.02	<0.02	--	--
5/19/2004	6.23	<0.5	<0.5	10.6	140	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	5.80	<0.5	<0.5	17.2	130	<0.015	<0.015	<0.02	<0.02	--	--
9/15/2004	5.61	0.86	<0.5	17.2	120	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/17/2004	5.36	<0.5	<0.5	13.5	160	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/26/2005	6.02	<0.5	<0.5	13.8	160	0.017	<0.015	<0.02	<0.02	<0.02	<0.02
5/26/2005	6.03	<0.5	1.86	7.72	85	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/20/2005	--	<0.5	<0.5	--	--	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
4/12/2006	--	3.58	6.29	--	--	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
11/2/2006	6.20	<0.5	1.21	--	--	<0.015	--	<0.02	--	<0.02	--
5/23/2007	6.06	--	--	--	--	--	--	--	--	<0.02	--
11/7/2007	5.52	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	8.60	<0.5	<0.5	8.94	--	<0.015	--	<0.02	--	<0.02	--
11/7/2008	6.36	<0.5	<0.5	7.94	--	0.016	--	<0.02	--	<0.02	--
4/22/2009	6.22	--	--	--	--	--	--	--	--	<0.02	--
10/21/2009	7.37	--	--	--	--	--	--	--	--	--	--
4/14/2010	5.64	<0.5	<0.5	10.1	--	<0.015	--	<0.02	--	--	--
12/21/2010	5.02	<0.5	<0.5	8.95	--	<0.015	--	<0.01	--	--	--
4/26/2011	6.03	--	--	--	--	--	--	--	--	--	--
5/2/2012	5.96	<0.5	<0.5	7.82	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.74	<0.5	<0.5	9.31	--	<0.015	<0.015	<0.01	<0.02	--	--
5/14/2013	5.29	--	--	--	--	--	--	--	--	--	--
11/5/2013	6.00	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 24
ECMW-21 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
1/28/2004	5.56	<0.5	1.63	8.17	82	0.169	<0.015	0.837	<0.02	--	--
3/16/2004	6.34	<0.5	0.54	3.62	130	<0.015	<0.015	0.028	<0.02	--	--
5/19/2004	6.75	<0.5	2.15	4.59	110	0.029	<0.015	0.07	<0.02	--	--
7/13/2004	6.39	<0.5	2.5	3.74	103	0.032	<0.015	0.056	<0.02	--	--
9/15/2004	5.47	0.81	4.65	4.15	150	<0.015	<0.015	0.029	<0.02	<0.02	--
11/17/2004	5.96	<0.5	2.97	3.14	110	<0.015	<0.015	0.047	<0.02	<0.02	<0.02
1/26/2005	5.37	4.06	3.23	2.88	77	0.02	<0.015	0.044	<0.02	<0.02	<0.02
5/26/2005	5.69	<0.5	3.17	3.64	76	0.063	<0.015	0.265	<0.02	0.092	<0.02
10/20/2005	4.17	<0.5	4.16	--	--	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
4/12/2006	--	<0.5	3.19	--	--	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
11/2/2006	--	<0.5	2.23	--	--	<0.015	--	<0.02	--	<0.02	--
5/23/2007	5.56	--	--	--	--	--	--	--	--	<0.02	--
11/7/2007	5.07	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	7.81	<0.5	1.85	5.18	--	<0.015	--	<0.02	--	<0.02	--
11/7/2008	5.32	<0.5	1.26	3	--	<0.015	--	<0.02	--	<0.02	--
4/22/2009	5.24	--	--	--	--	--	--	--	--	<0.02	--
10/21/2009	5.91	--	--	--	--	--	--	--	--	--	--
4/14/2010	4.88	<0.5	2.24	3.7	--	<0.015	--	<0.02	--	--	--
11/3/2010	7.13	<0.5	1.8	6.07	--	<0.015	--	<0.01	--	--	--
4/26/2011	5.85	--	--	--	--	--	--	--	--	--	--
5/2/2012	5.68	<0.5	1.4	3.94	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.48	<0.5	1.1	6.28	--	<0.015	<0.015	<0.01	<0.02	--	--
5/15/2013	6.09	--	--	--	--	--	--	--	--	--	--
11/5/2013	5.68	--	--	--	--	--	--	--	--	--	--

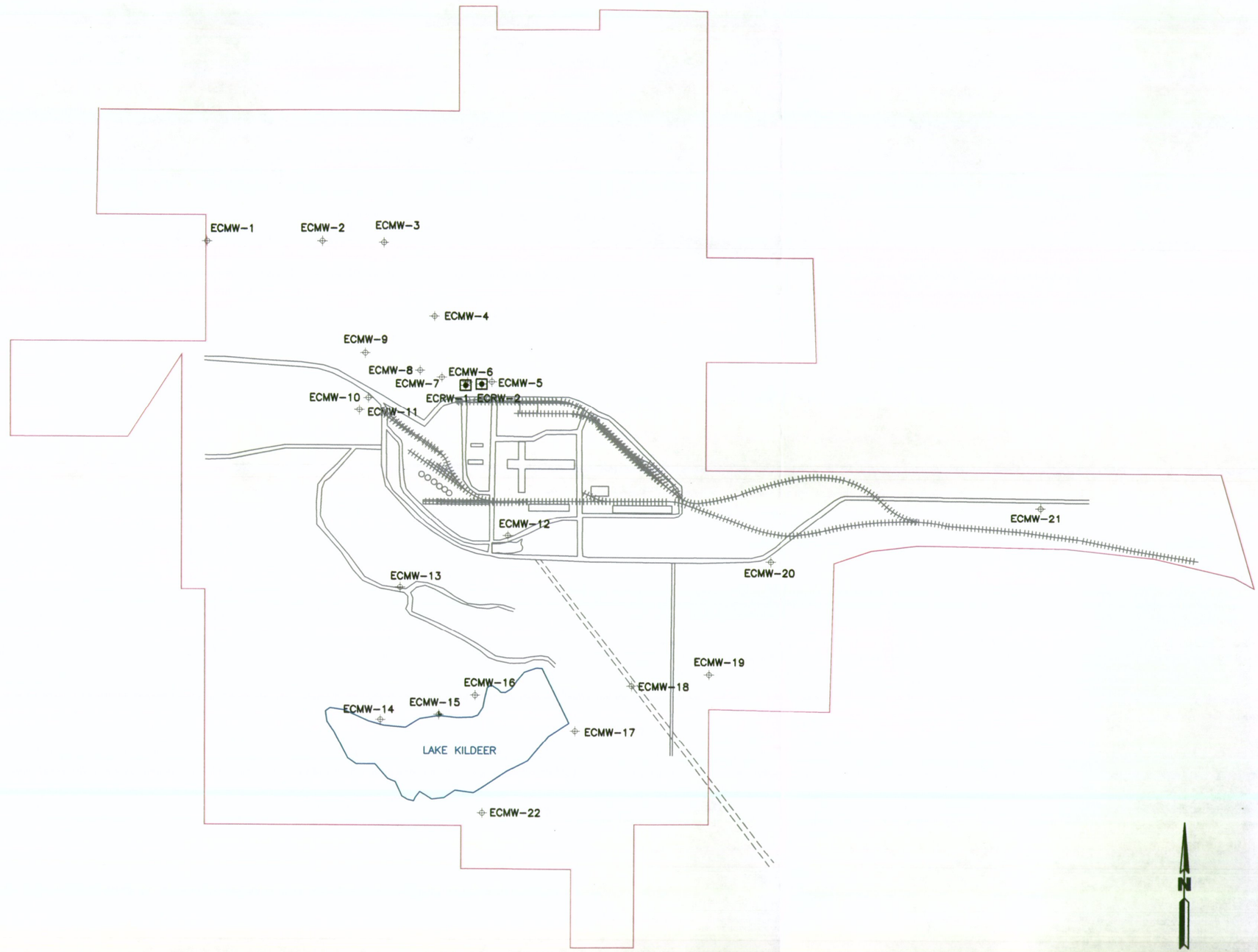
"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

TABLE 25
ECMW-22 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
1/28/2004	7.68	0.61	0.53	6.62	540	0.021	<0.015	0.021	<0.02	--	--
1/28/2004	--	<0.5	0.52	6.62	610	0.021	<0.015	0.023	<0.02	--	--
3/16/2004	6.65	<0.5	0.66	2.88	<1	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	6.76	<0.5	0.95	3.74	136	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	6.74	<0.5	<0.5	3.8	140	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	5.84	0.7	<0.5	2.94	170	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/16/2004	6.95	<0.5	<0.5	2.51	180	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/26/2005	5.79	<0.5	1.09	3.56	140	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
5/25/2005	6.46	<0.5	1.12	3.61	130	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/19/2005	6.21	<0.5	<0.5	--	--	0.056	<0.015	<0.02	<0.02	<0.02	<0.02
4/11/2006	6.22	<0.5	2.56	--	--	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
11/2/2006	5.37	<0.5	1.07	--	--	<0.015	--	<0.02	--	<0.02	--
5/23/2007	5.67	--	--	--	--	--	--	--	--	<0.02	--
11/7/2007	5.01	--	--	--	--	--	--	--	--	<0.02	--
5/21/2008	7.93	<0.5	3.65	7.6	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	5.06	<0.5	1.87	4.7	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	5.80	--	--	--	--	--	--	--	--	<0.02	--
4/21/2009	--	<0.5	0.991	3.67	--	--	--	--	--	<0.02	--
10/21/2009	6.15	--	--	--	--	--	--	--	--	--	--
4/14/2010	5.84	<0.5	1.13	7.73	--	<0.015	--	<0.02	--	--	--
11/3/2010	8.15	<0.5	1.31	6.68	--	<0.015	--	<0.01	--	--	--
4/26/2011	6.05	--	--	--	--	--	--	--	--	--	--
5/2/2012	6.10	<0.5	1.15	4.99	--	<0.015 E3	<0.015	<0.01 E3	<0.02	--	--
11/6/2012	6.73	<0.5	1.74	7.01	--	<0.015	<0.015	<0.01	<0.02	--	--
5/14/2013	6.19	--	--	--	--	--	--	--	--	--	--
11/4/2013	5.64	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

FIGURES

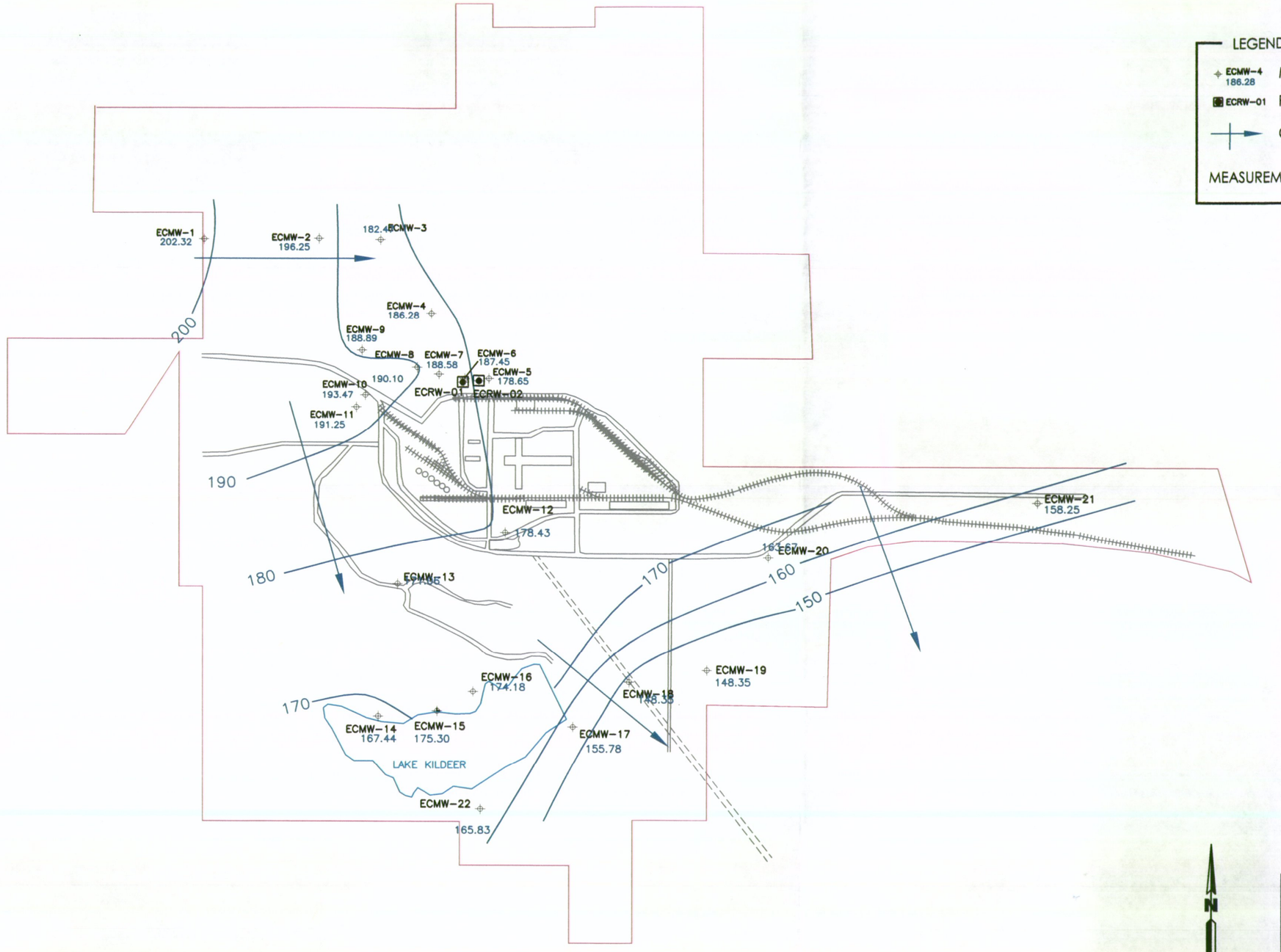


ELDORADO

SITE MAP
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/17/2014	APPROVED: BY: SR DATE: 5/27/14	DRAWN BY: LMM	
SCALE: see above		CAD NO. 02EC0100	FIGURE 1

ENVIRONMENTAL MANAGEMENT SERVICES, INC.



LEGEND

ECMW-4 186.28 Monitor Well with Water Elevation (feet MSL)

ECRW-01 Recovery Well

Ground Water Flow Direction

MEASUREMENTS TAKEN MAY 14-15, 2013

N

0 600 1200

SCALE IN FEET

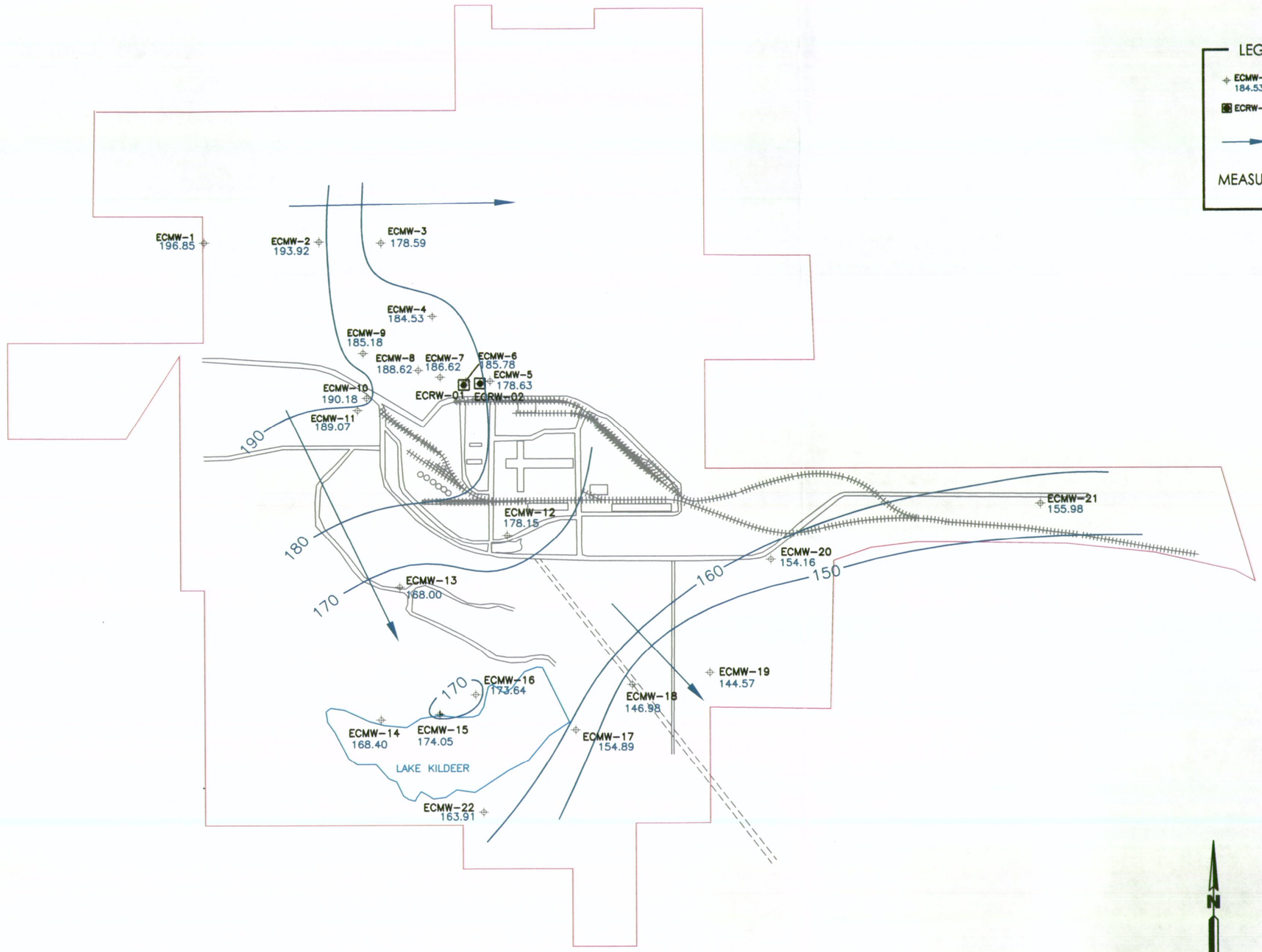
EL DORADO

MAY 2013 GROUND WATER ELEVATION MAP
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/17/2014	APPROVED: BY: DATE: 3/27/14	DRAWN BY: LMM	
SCALE: as shown		CAD NO. 02EC0100	

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 2



LEGEND

ECMW-4 184.53 Monitor Well with Water Elevation (feet MSL)

ECRW-01 Recovery Well

Ground Water Flow Direction

MEASUREMENTS TAKEN NOVEMBER 4-5, 2013

N

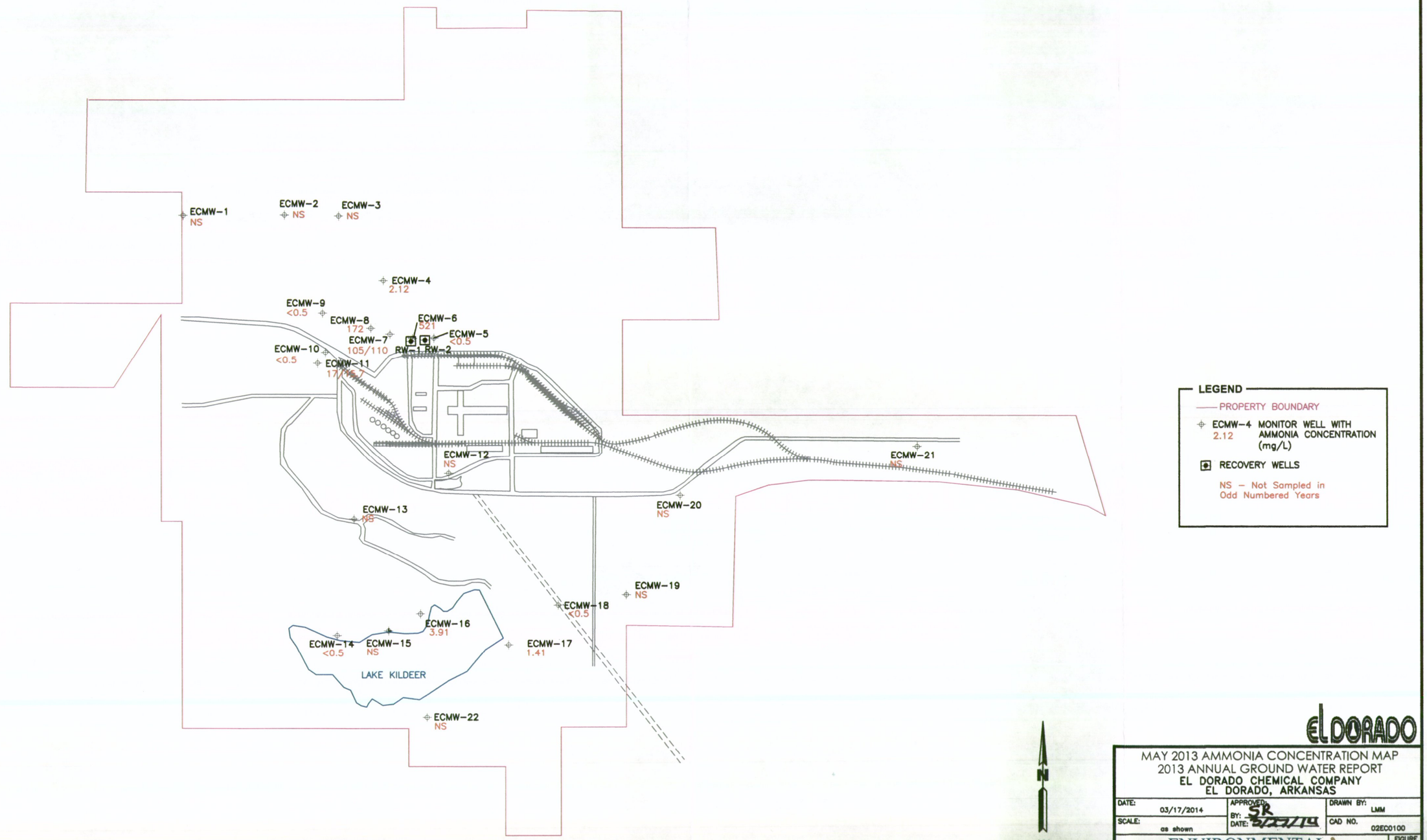
0 600 1200
SCALE IN FEET

ELDORADO

NOVEMBER 2013 GROUND WATER ELEVATION MAP
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/17/2014	APPROVED: BY: DATE: 3/20/14	DRAWN BY: LMM	
SCALE: as shown		CAD NO. 02EC0100	FIGURE 3

ENVIRONMENTAL MANAGEMENT SERVICES, INC.



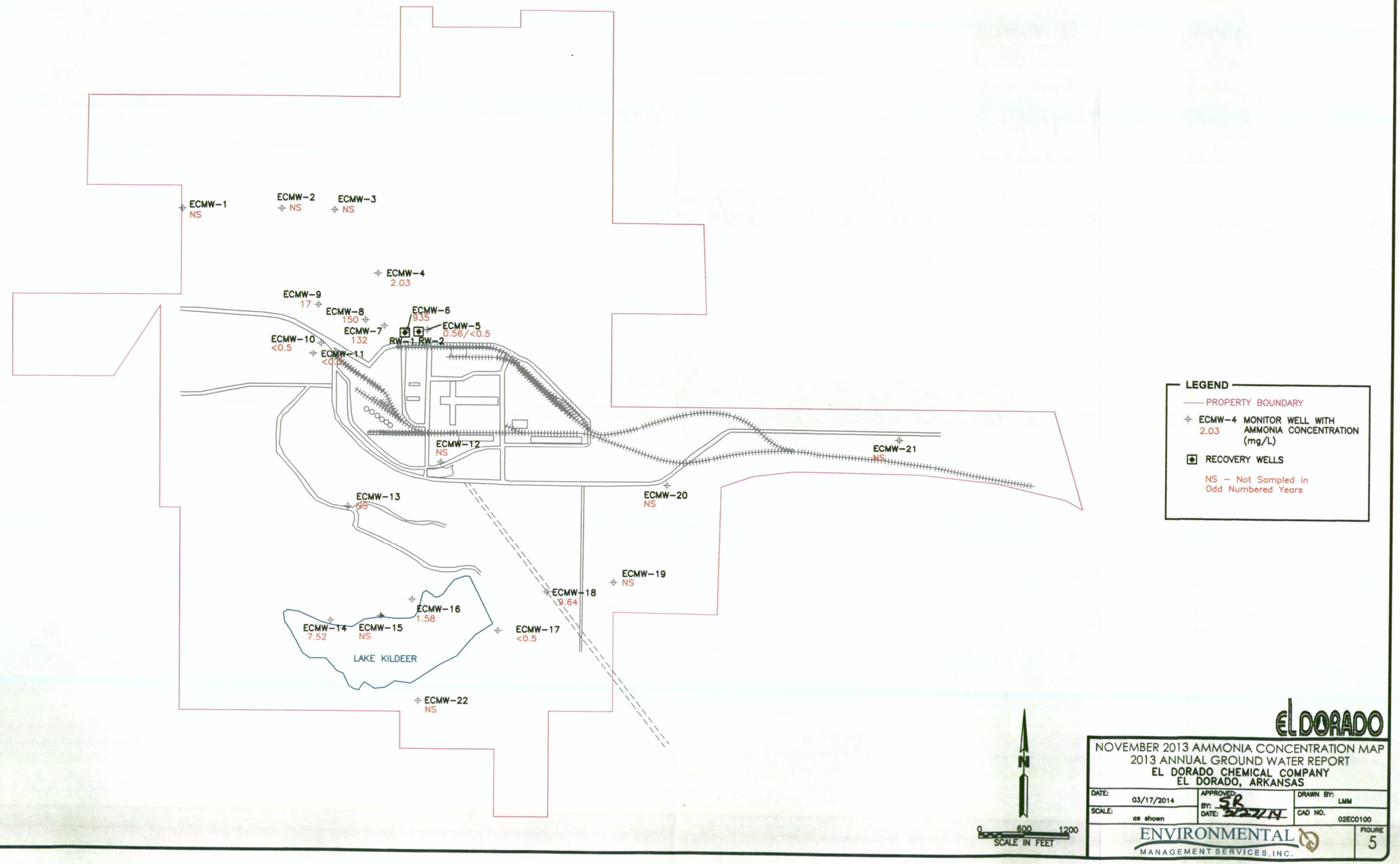
EL DORADO

MAY 2013 AMMONIA CONCENTRATION MAP
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/17/2014	APPROVED: BY: SR DATE: 3/24/14	DRAWN BY: LMM
SCALE: as shown		CAD NO. 02EC0100

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 4

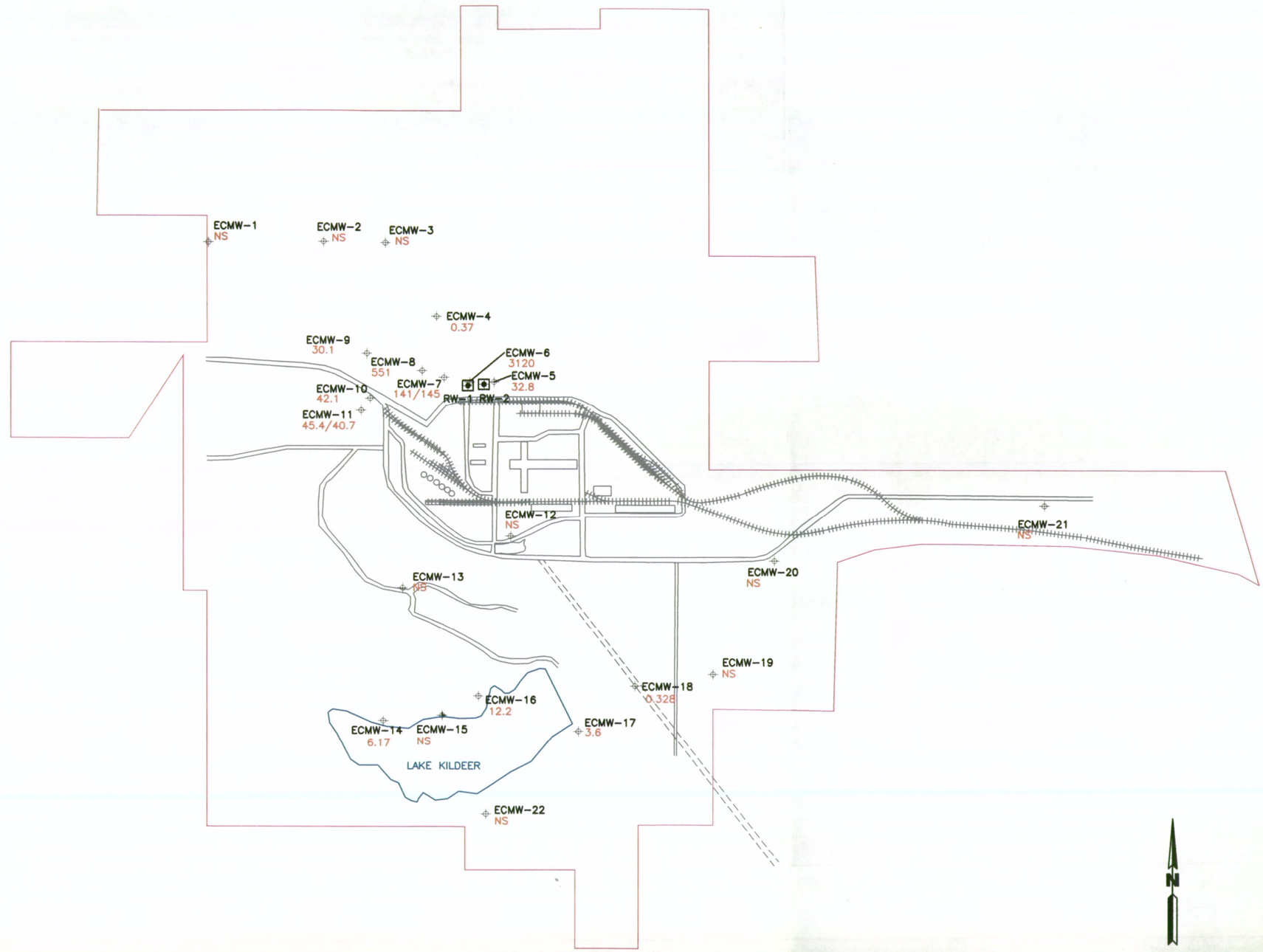


ELDORADO

NOVEMBER 2013 AMMONIA CONCENTRATION MAP
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/17/2014	APPROVED BY: SR DATE: 3/27/14	DRAWN BY: LMM	
SCALE: as shown		CAD NO. 02EC0100	FIGURE 5

ENVIRONMENTAL MANAGEMENT SERVICES, INC.



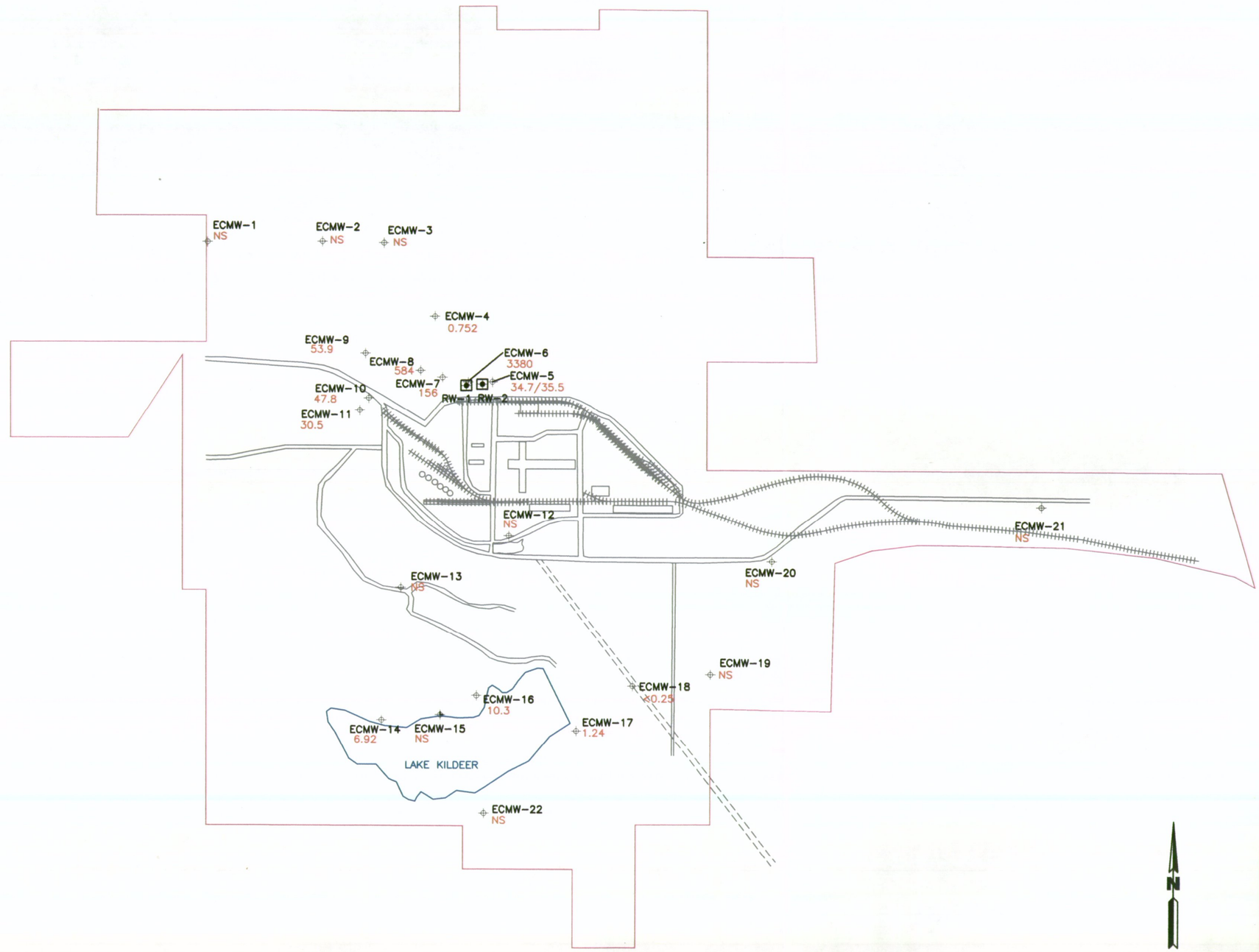
EL DORADO

MAY 2013 NITRATE CONCENTRATION MAP
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/17/2014	APPROVED BY: DATE: 3/27/14	DRAWN BY: LMM	
SCALE: as shown		CAD NO. 02EC0100	

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 6



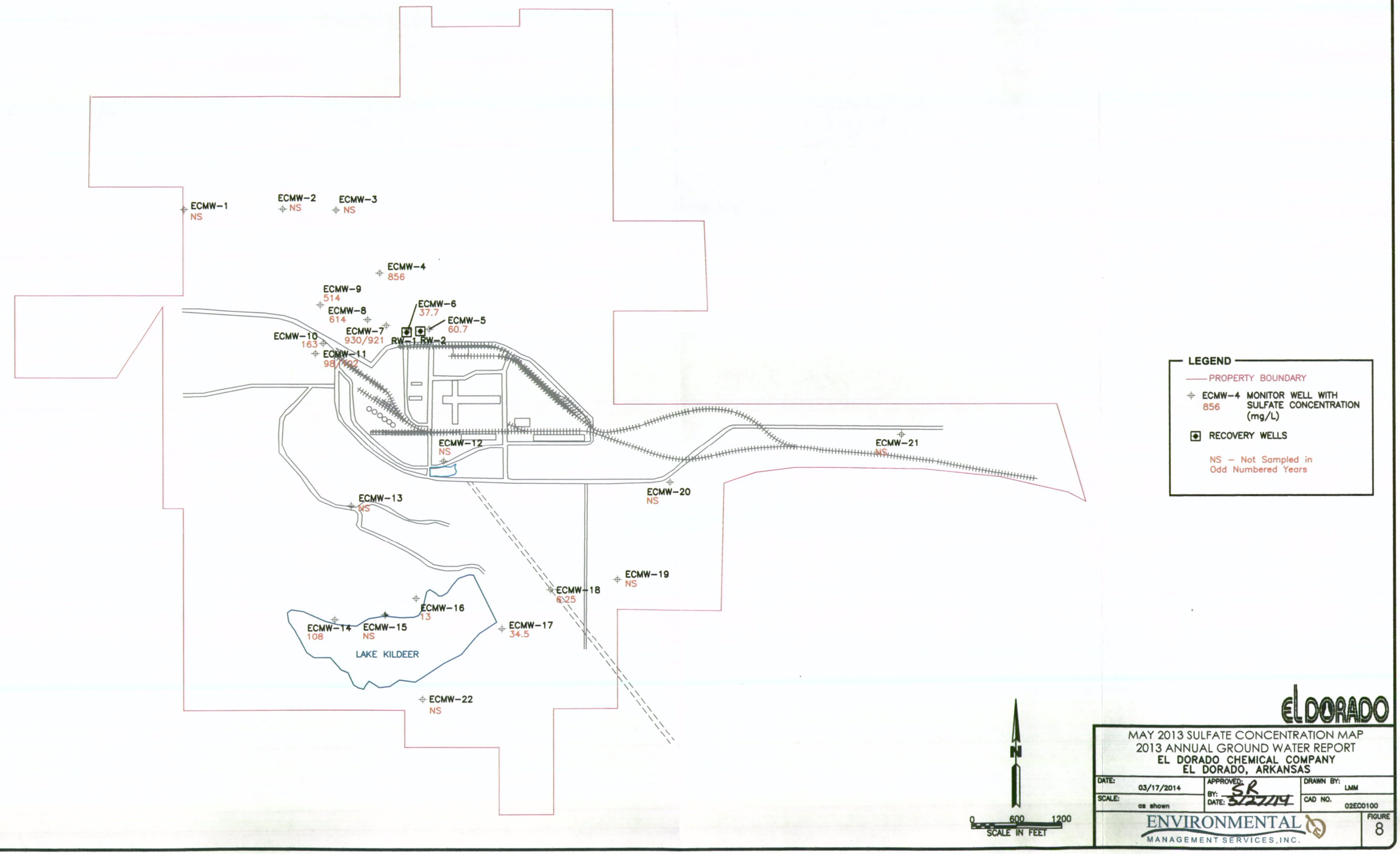
EL DORADO

NOVEMBER 2013 NITRATE CONCENTRATION MAP
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/17/2014	APPROVED BY: SR DATE: 5/22/14	DRAWN BY: LMM	
SCALE: as shown		CAD NO. 02EC0100	

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 7



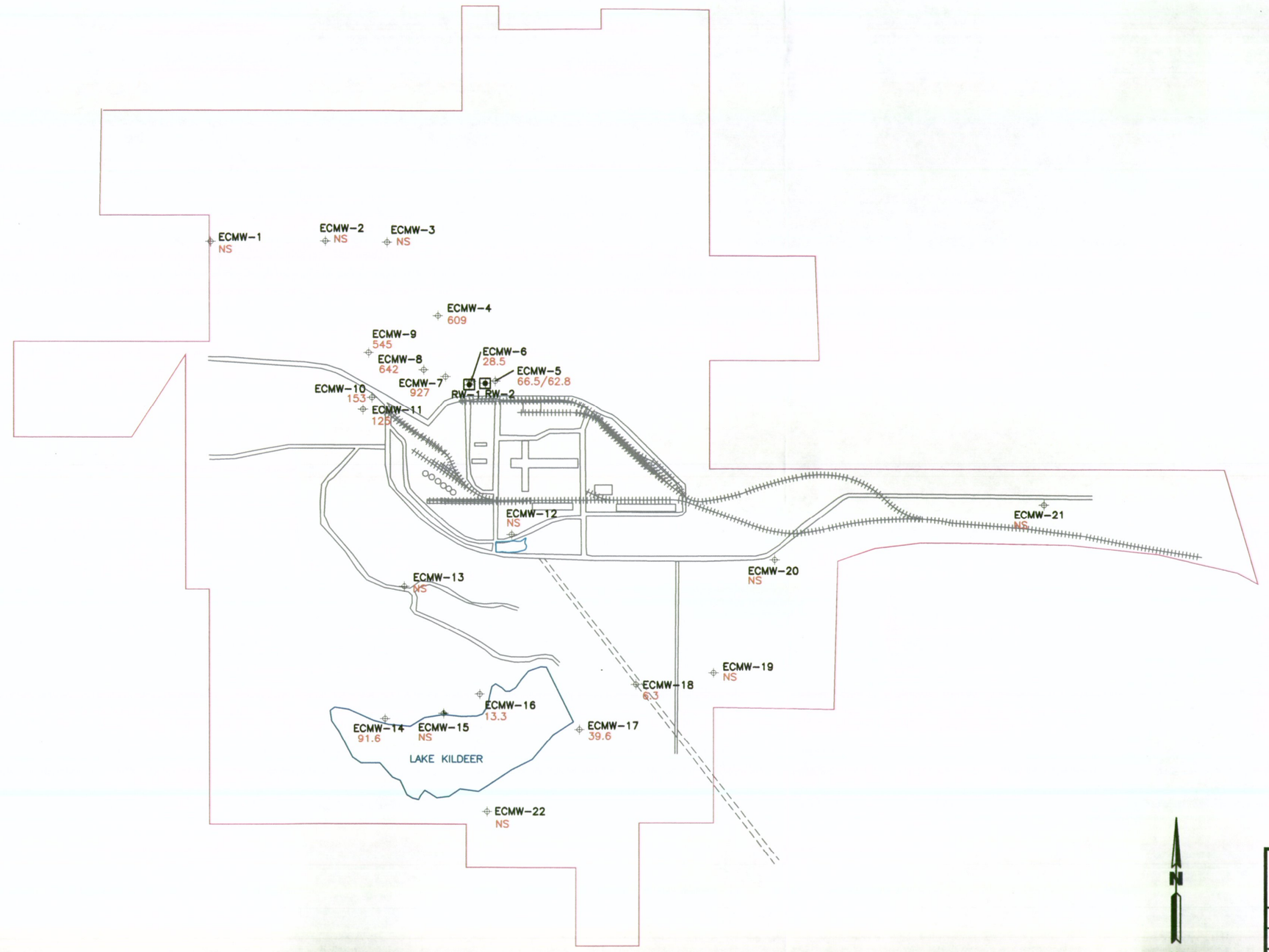
EL DORADO

MAY 2013 SULFATE CONCENTRATION MAP
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/17/2014	APPROVED: BY: SR DATE: 3/27/14	DRAWN BY: LMM	
SCALE: as shown		CAD NO. 02EC0100	

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 8



EL DORADO

NOVEMBER 2013 SULFATE CONCENTRATION MAP
2013 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/17/2014	APPROVED BY: DATE:	DRAWN BY: LMM	
SCALE: as shown		CAD NO. 02EC0100	
ENVIRONMENTAL MANAGEMENT SERVICES, INC.			FIGURE 9

APPENDIX A

SAMPLING FORMS AND LABORATORY ANALYTICAL REPORTS

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EDCC Well No. MW-1
Collector

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-15-13	Method of Evacuation	12V pump
Top of casing to water level	10.96 ft	Gallons per well volume	7.42 gal
Top of casing to bottom	22.38 ft	Total gallons evacuated	22.26 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time		Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
16.8	5.12	84.0		8.46
16.2	4.95	67.5		10.25
16.1	5.03	66.6		14.7

GENERAL INFORMATION

Weather conditions at time of sampling: clear light wind
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Company

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EDCC Well No. MW-2
Collector

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-15-18		Method of Evacuation	12v pump	
Top of casing to water level	0	ft	Gallons per well volume	13.32	gal
Top of casing to bottom	20.50	ft	Total gallons evacuated	39.97	gal
Water level after evacuation		ft	Elevation, Top of casing		ft
Sampling: Date/Time			Elevation of well water		ft
Top of casing to water level		ft	Method of Sampling		

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
17.3	5.52	309		38.3
16.7	5.60	324		8.44
16.7	5.25	336		8.96

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Hooper

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site _____ Facility EDCC Well No. MW3

Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-15-10	Method of Evacuation	12 v pump
Top of casing to water level	9.64 ft	Gallons per well volume	11.54 gal
Top of casing to bottom	27.40 ft	Total gallons evacuated	34.63 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time		Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
17.7	6.34	216		6.72
17.6	6.23	207		6.81
17.9	6.29	208		6.25

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy slight wind

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Recommendations: _____

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site Facility EDCC Well No. MW-12

Colle Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-15-13	Method of Evacuation	12 v pump
Top of casing to water level	6.54 ft	Gallons per well volume	8.81 gal
Top of casing to bottom	20.10 ft	Total gallons evacuated	26.44 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time		Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
19.6	6.03	659		58.9
19.4	6.11	690		9.47
19.3	6.02	686		22.2

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy light windy

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: EDCC Well No: 13
Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-15-13	Method of Evacuation	12 V Pump
Top of casing to water level	6.20 ft	Gallons per well volume	8.94 gal
Top of casing to bottom	19.96 ft	Total gallons evacuated	26.83 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time		Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Dissolved Oxygen [mg/l]	Turbidity [NTU]
18.1	4.81	1452		11.4
18.6	5.19	1669		9.89
		dry		

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: EDCC Well No.: 15
Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-15-13		Method of Evacuation	12 V pump	
Top of casing to water level	5.54	ft	Gallons per well volume	7.68	gal
Top of casing to bottom	17.36	ft	Total gallons evacuated	23.04	gal
Water level after evacuation		ft	Elevation, Top of casing		ft
Sampling: Date/Time			Elevation of well water		ft
Top of casing to water level		ft	Method of Sampling		

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
19.2	6.60	113.7		4.37
19.4	6.21	85.4		11.0
		dry		

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EDCC Well No. MW 19
Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-14-13	Method of Evacuation	12V pump
Top of casing to water level	2.06 ft	Gallons per well volume	9.12 gal
Top of casing to bottom	59.10 ft	Total gallons evacuated	22.37 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time		Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
17.2	6.80	111.6		178
17.2	6.86	159.7		99.9
17.2	6.13	105.6		15.7

GENERAL INFORMATION

Weather conditions at time of sampling:
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EDC Facility _____ Well No. DMW20

Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	6	Method of Evacuation	
Top of casing to water level	29.10 ft	Gallons per well volume	3.29 gal
Top of casing to bottom	53.10 ft	Total gallons evacuated	12.32 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time		Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[uS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
18.2	5.44	122.9		166
19.4	5.38	104.3		132
18.7	5.29	106.2		120

GENERAL INFORMATION

Weather conditions at time of sampling: _____

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Recommendations: _____

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: Facility: EDCC Well No. MW 21

Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5/5/13	Method of Evacuation	elec pump
Top of casing to water level	18.04 ft	Gallons per well volume	gal
Top of casing to bottom	30.10 ft	Total gallons evacuated	gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time		Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
19.7	6.15	63.4		12.4
19.6	5.96	56.4		8.15
19.2	6.09	56.4		7.49

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: EDCC Well No.: MW 22
Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/4/13		Method of Evacuation	12v pump	
Top of casing to water level	7.72	ft	Gallons per well volume	11.44	gal
Top of casing to bottom	7924	ft	Total gallons evacuated	34.32	gal
Water level after evacuation		ft	Elevation, Top of casing		ft
Sampling: Date/Time	5/5/13 0859		Elevation of well water		ft
Top of casing to water level		ft	Method of Sampling	Del pvc Bailer	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
19.8	6.06	174.5		16.1
18.4	6.17	172.5		2.09
18.6	6.19	179.2		4.07

GENERAL INFORMATION

Weather conditions at time of sampling: clear light wind
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: EDCC Well No. MW4
Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5/14/13		Method of Evacuation	12V pump	
Top of casing to water level	8.56	ft	Gallons per well volume	8.99	gal
Top of casing to bottom	22.40	ft	Total gallons evacuated	26.98	gal
Water level after evacuation		ft	Elevation, Top of casing		ft
Sampling: Date/Time	5/15/13 0944		Elevation of well water		ft
Top of casing to water level		ft	Method of Sampling	Dedicated PVC Bailer	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
21.3	4.10	6.71		12.0
18.6	4.03	7.37		11.8
		dry		

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: EDCC Well No.: MW5
Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5 14 13	Method of Evacuation	12V pump
Top of casing to water level	4.04 ft	Gallons per well volume	9.03 gal
Top of casing to bottom	17.94 ft	Total gallons evacuated	27.10 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	5 15 13 09:22	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	Del PVC Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
19.2	5.30	505		2.32
18.7	5.04	513		8.30
18.8	5.07	519		1.54

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EDCC Well No. MW6
Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5/14/13	Method of Evacuation	12v pump
Top of casing to water level	4.42 ft	Gallons per well volume	11.49 gal
Top of casing to bottom	22.12 ft	Total gallons evacuated	34.47 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	5/15/13 0933	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	Ded Pvc Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
20.1	4.20	0 r		5.39
19.1	4.14	0 r		3.85
21.1	4.15	0 r		2.49

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: EDCC Well No. MW 7
Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-14 13	Method of Evacuation	12 v pump
Top of casing to water level	7.30 ft	Gallons per well volume	11.57 gal
Top of casing to bottom	25.10 ft	Total gallons evacuated	34.71 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	5 15 13 0956	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	Ded PVC Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
20.4	5.09	or		5.71
19.4	5.10	or		1.21
19.7	5.09	or		2.01

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy 80°
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations: Dup is MW 23 10:10

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EDCC Well No. MW8
Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5/9/13		Method of Evacuation	12 V pump	
Top of casing to water level	7.24	ft	Gallons per well volume	14.38	gal
Top of casing to bottom	29.98	ft	Total gallons evacuated	44.34	gal
Water level after evacuation		ft	Elevation, Top of casing		ft
Sampling: Date/Time	5/5/13 10:22		Elevation of well water		ft
Top of casing to water level		ft	Method of Sampling	Dedi PVC Bailer	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
19.8	3.99	or		3.12
19.3	3.93	or		2.93
19.6	3.97	or		2.19

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EDCC Well No. MW9
Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5/14/13	Method of Evacuation	12v pump
Top of casing to water level	9.50 ft	Gallons per well volume	13.52 gal
Top of casing to bottom	30.30 ft	Total gallons evacuated	40.56 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	5/15/13 1036	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	Ded PVC Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
19.8	5.61	2.64		2.30
20.2	5.70	2.35		3.13
19.8	5.68	2.38		3.33

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EDCC Well No. MW 10
Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-14 18	Method of Evacuation	12V pump
Top of casing to water level	12.28 ft	Gallons per well volume	6.90 gal
Top of casing to bottom	22.90 ft	Total gallons evacuated	20.70 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	5-15-18 1045	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	Ded PVC Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
20.0	4.67	755		9.69
19.4	4.42	822		6.59
19.2	4.44	911		2.00

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy
Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: EDCC Well No. MW 11
Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5 14 13	Method of Evacuation	12 v pump
Top of casing to water level	10.40 ft	Gallons per well volume	6.31 gal
Top of casing to bottom	20.12 ft	Total gallons evacuated	18.95 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	5 15 13 11:02	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	Ded PVC Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
18.4	4.45	703		10.30
17.8	4.51	759		19.3
17.9	4.58	894		3.36

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations: Dup on MW 11 Dup is MW24 11:15

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: EDCC Well No.: MW 14
Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5 14 13	Method of Evacuation	12 V Pump
Top of casing to water level	11.04 ft	Gallons per well volume	4.84 gal
Top of casing to bottom	18.50 ft	Total gallons evacuated	14.54 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	05 15 13 08:03	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	Ded PVC Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
17.2	5.59	439		25.1
17.7	5.25	568		43.5
17.8	5.20	533		39.6

GENERAL INFORMATION

Weather conditions at time of sampling: clear cool
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EDCC Well No. MW 16
Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-14-13	Method of Evacuation	12 V pump
Top of casing to water level	5.96 ft	Gallons per well volume	8.85 gal
Top of casing to bottom	19.58 ft	Total gallons evacuated	26.55 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	5/15/13 08:35	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	Ded PVC Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[uS]	Dissolved Oxygen[mg/L]	Turbidity [NTU]
17.2	4.91	186		4.32
17.5	4.71	197		1.32
17.5	4.79	199.7		0.91

GENERAL INFORMATION

Weather conditions at time of sampling:
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EDCC Well No. MW 18
Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5-14-3	Method of Evacuation	12 v pump
Top of casing to water level	5.44 ft	Gallons per well volume	7.67 gal
Top of casing to bottom	17.24 ft	Total gallons evacuated	23.01 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	5 15 03 0755	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	Ded PVC Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
15.6	5.91	110.9		4.38
15.8	5.82	106.2		Too cloudy
15.9	5.96	98.8		Too cloudy

GENERAL INFORMATION

Weather conditions at time of sampling: clear cool
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: EDCC Well No.: MW 17
Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	5/4/13		Method of Evacuation	12 v pump	
Top of casing to water level	29.62	ft	Gallons per well volume	35.1	gal
Top of casing to bottom	35.02	ft	Total gallons evacuated	10.53	gal
Water level after evacuation		ft	Elevation, Top of casing		ft
Sampling: Date/Time	5/5/13	0859	Elevation of well water		ft
Top of casing to water level		ft	Method of Sampling	Ded PVC Bailer	

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
18.8	4.51	248		14.7
18.6	4.67	263		3.22
18.6	4.70	269		2.29

GENERAL INFORMATION

Weather conditions at time of sampling: Clear
Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: Joe Thompson

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. EC MW-5 + DUP
Colle R. Durham

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 0840	Method of Evacuation	Elec. Pump
Top of casing to water level	4.06 ft	Gallons per well volume	3.9
Top of casing to bottom	17.7 ft	Total gallons evacuated	26.5
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 0750	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	Turbidity [NT
20.7	7.87	525 uS			
21.0	7.41	485 uS			
20.9	7.23	493 uS			

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy/Cool
Sample characteristics: Clear
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:
R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. ECMW-6
Colle. R. Durham

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-15 0910	Method of Evacuation	Elec. Pump
Top of casing to water level	6.89 ft	Gallons per well volume	10.3
Top of casing to bottom	22.6 ft	Total gallons evacuated	30.9
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-15 0810	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Disso Oxygen[mg/l]	Turbidity [NT
19.8	4.49	30.95 ms		
20.2	4.78	29.62 ms		
20.7	4.49	26.94 ms		

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy/Cool
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. EcMW-4
Colle R. Durham

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1025	Method of Evacuation	Elec. Pump
Top of casing to water level	10.31 ft	Gallons per well volume	7.7
Top of casing to bottom	22.1 ft	Total gallons evacuated	23.1
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 825	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	P/C Bailer

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	Turbidity [NT
19.3	5.94	8.27 ms			
19.8	5.43	7.07 ms			
20.7	4.63	6.96 ms			

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy/cool
Sample characteristics: Brown
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. EC MW-7
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 0925	Method of Evacuation	ELEC. PUMP
Top of casing to water level	9.26 ft	Gallons per well volume	2.5
Top of casing to bottom	23.9 ft	Total gallons evacuated	285
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 0850	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	Turbidity [NT
19.3	5.07	85.1 MS			
26.2	5.98	34.10 MS			
20.3	5.81	27.12 MS			

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/COOL
Sample characteristics: CLEAR
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:
K. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-8
Collector R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1210	Method of Evacuation	ELEC. PUMP
Top of casing to water level	8.72 ft	Gallons per well volume	13.8
Top of casing to bottom	29.9 ft	Total gallons evacuated	41.4
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 0905	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D

Temperature[°C]	pH	Conductivity[uS]	Disso	Oxygen[mg/l]	Turbidity [NT
19.0	4.23	19.72 MS			
18.6	4.18	18.42 MS			
19.3	4.06	20.63 MS			

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/COOL
Sample characteristics: CLEAR
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-9
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1235	Method of Evacuation	ELEC. PUMP
Top of casing to water level	13.21 ft	Gallons per well volume	10.9
Top of casing to bottom	30.0 ft	Total gallons evacuated	32.7
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 0920	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Dissc	Oxygen[mg/l]	Turbidity [NT
18.5	5.29	2528 us			
19.4	5.42	2199 us			
19.9	5.51	2198 us			

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/Cool
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1.1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-10
Collector R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1315	Method of Evacuation	ELEC. PUMP
Top of casing to water level	15.57 ft	Gallons per well volume	4.6
Top of casing to bottom	22.6 ft	Total gallons evacuated	13.8
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 0945	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	Turbidity [NT
21.4	5.61	840 us			
21.2	5.22	730 us			
21.5	4.91	708 us			

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/COOL
Sample characteristics: CLEAR
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. ECMW-11
Collector R. Durham

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1330	Method of Evacuation	Elec. Pump
Top of casing to water level	12.58 ft	Gallons per well volume	4.7
Top of casing to bottom	19.8 ft	Total gallons evacuated	14.1
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 1005	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	Turbidity [NT
21.2	4.70	761 us			
22.1	4.55	746 us			
22.1	4.48	706 us			

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy/Cool
Sample characteristics: Clear
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No.: ECMW-14
Collector: R. Durham

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1415	Method of Evacuation	Elec. Pump
Top of casing to water level	10.08 ft	Gallons per well volume	= 5.3
Top of casing to bottom	18.2 ft	Total gallons evacuated	15.9
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 1025	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	Turbidity [NT
21.2	5.30	477 us			
24.8	5.34	370.2 us			
22.0	5.46	369.4 us			

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy, Cool
Sample characteristics: Clear
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:
K. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-16
Collector R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1510	Method of Evacuation	ELEC. PUMP
Top of casing to water level	6.58 ft	Gallons per well volume	3.3
Top of casing to bottom	19.3 ft	Total gallons evacuated	24.9
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 1050	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Disso. Oxygen [mg/l]	Turbidity [NT
21.4	4.93	146.9 us		
22.2	4.60	148.0 us		
22.5	4.60	153.5 us		

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/COOL
Sample characteristics: CLEAR
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-17
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1555	Method of Evacuation	ELEC. PUMP
Top of casing to water level	30.51 ft	Gallons per well volume	8.7
Top of casing to bottom	34.7 ft	Total gallons evacuated	8.7
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 1110	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso. Oxygen[mg/l]	Turbidity [NT
18.5	5.37	233.9 us		
18.7	5.01	249.9 us		
18.9	4.77	241.5 us		

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/COOL
Sample characteristics: CLEAR
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:
R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-18
Colle... R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1645	Method of Evacuation	ELEC. PUMP
Top of casing to water level	8.48 ft	Gallons per well volume	5.7
Top of casing to bottom	17.2 ft	Total gallons evacuated	17.1
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-5-13 1125	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D...

Temperature[°C]	pH	Conductivity[µS]	Dissc...	Oxygen[mg/l]	Turbidity [NT
19.5	6.79	94.4 uS			
19.6	6.53	88.5 uS			
19.7	6.28	83.6 uS			

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/COOL
Sample characteristics: CLOUDY
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-20
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-5-13 1215	Method of Evacuation	ELEC. PUMP
Top of casing to water level	38.62 ft	Gallons per well volume	2.5
Top of casing to bottom	54.4 ft	Total gallons evacuated	7.5
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Disso	Oxygen [mg/l]	Turbidity [NT
19.4	6.37	78.6 uS			
18.3	6.23	67.9 uS			
18.8	6.00	67.9 uS			

GENERAL INFORMATION

Weather conditions at time of sampling: PCloudy/Cool
Sample characteristics: CLOUDY

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-19
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-6-13 1145	Method of Evacuation	ELEC. PUMP
Top of casing to water level	5.84 ft	Gallons per well volume	8.9
Top of casing to bottom	61.5 ft	Total gallons evacuated	26.7
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	Turbidity[NT
19.6	5.86	75.4 us			
18.7	6.74	75.1 us			
18.5	6.73	73.4 us			

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/COOL
Sample characteristics: CLEAR
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:
R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-12
Colle... R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1620	Method of Evacuation	ELEC. PUMP
Top of casing to water level	6.82 ft	Gallons per well volume	8.5
Top of casing to bottom	19.9 ft	Total gallons evacuated	26.5
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	Turbidity [NT
20.8	5.64	786 uS		
21.5	5.84	662 uS		
22.0	5.84	651 uS		

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/COOL
Sample characteristics: CLEAR
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:
R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-3
Colle... R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1045	Method of Evacuation	ELEC. PUMP
Top of casing to water level	13.52 ft	Gallons per well volume	8.8
Top of casing to bottom	27.1 ft	Total gallons evacuated	26.4
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso...	Oxygen[mg/l]	Turbidity [NT
18.6	5.84	1441.2 us			
18.7	5.81	278.5 us			
18.1	5.72	273.5 us			

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/COOL
Sample characteristics: CLEAR
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: K. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No. ECMW-2
Collector: R. Durham

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1120	Method of Evacuation	Elec. Pump
Top of casing to water level	7.33 ft	Gallons per well volume	8.7
Top of casing to bottom	20.2 ft	Total gallons evacuated	26.2
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Dissc. Oxygen[mg/l]	Turbidity [NT
19.0	5.72	320.4 µs		
19.2	5.80	312.7 µs		
19.0	5.91	309.5 µs		

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy/Cool
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: K. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. ECMW-1
Colle R. Durham

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1140	Method of Evacuation	Elec. Pump
Top of casing to water level	16.43 ft	Gallons per well volume	
Top of casing to bottom	22.1 ft	Total gallons evacuated	Pumped Dry
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	Turbidity [NT
18.7	6.36	68.0 mS			
19.0	5.56	55.4 mS			
19.4	5.21	54.5 mS			

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy/cool
Sample characteristics: CLEAR
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:
R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. ECMW-13
Colle R. Durham

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-21-13 1355	Method of Evacuation	Elec. Pump
Top of casing to water level	9.26 ft	Gallons per well volume	6.9
Top of casing to bottom	19.8 ft	Total gallons evacuated	20.7
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	Turbidity [NT
20.1	4.87	1527 us			
20.6	4.87	1543 us			
20.8	4.83	1526 us			

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy / Cool
Sample characteristics: Clear
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:
R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. ECMW-15
Colle R. Durham

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1435		Method of Evacuation	Elec. Pump	
Top of casing to water level	6.78	ft	Gallons per well volume	6.6	
Top of casing to bottom	17.0	ft	Total gallons evacuated	19.8	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time			Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC Bailer	

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso. Oxygen[mg/l]	Turbidity [NT
21.3	5.30	76.9 us		
21.8	4.67	66.2 us		
22.1	4.56	66.0 us		

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy/Cool
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-2
Colle K. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-4-13 1535	Method of Evacuation	ELEC. PUMP
Top of casing to water level	9.64 ft	Gallons per well volume	11.2
Top of casing to bottom	78.8 ft	Total gallons evacuated	53.2
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	Turbidity [NT
18.4	5.56	148.9 uS		
18.1	5.54	147.6 uS		
18.0	5.64	150.1 uS		

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY, COOL
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: K. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. EC MW-24
Colle... R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-5-13 1235	Method of Evacuation	ELEC. PUMP
Top of casing to water level	40.31 ft	Gallons per well volume	1.0
Top of casing to bottom	54.9 ft	Total gallons evacuated	3.0
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso... Oxygen[mg/l]	Turbidity [NT
19.7	6.04	21.6 ms		
19.6	5.92	50.3 ms		
19.6	5.68	46.6 ms		

GENERAL INFORMATION

Weather conditions at time of sampling:
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification:
R. Durham

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGUI

Arkansas Analytical Inc.

11701 I-30 Bldg 1, Ste 115 - Little Rock, AR 72209
501-455-3233 Fax 501-455-6118

22 May 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

RE: Groundwater Sample(s)

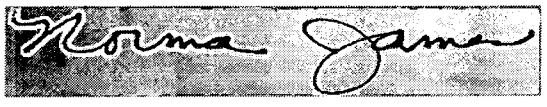
SDG Number: 1305201

Enclosed are the results of analyses for samples received by the laboratory on 15-May-13 15:36. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

Custody Seals	✔
Containers Correct	✔
COC/Labels Agree	✔
Preservation Confirmed	✔
Received On Ice	✔
Temperature on Receipt	14.0°C

Sincerely,



Norma James
President

22 May 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 15-May-13 15:36

CASE NARRATIVE

Sample Delivery Group – 1305201

Qualified Analytical and/or Quality Control Results are Discussed Below:

Anions Analysis:

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Failure: Sulfate failed to recover within acceptance criteria in the MS and/or MSD sample. The recoveries were qualified by "%D1" in the quality control section of the final report. Sulfate was qualified as "estimated" (E20) in the parent sample, 1305201-01.

22 May 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 15-May-13 15:36

ANALYTICAL RESULTS

Lab Number: 1305201-01
Sample Name: ECMW-18
Date/Time Collected: 5/15/13 7:55
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**6.25**	E20	5/16/13 9:05	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**0.328**		5/16/13 9:05	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1305201-02
Sample Name: ECMW-14
Date/Time Collected: 5/15/13 8:23
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**108**		5/17/13 14:15	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**6.17**		5/16/13 9:28	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1305201-03
Sample Name: ECMW-16
Date/Time Collected: 5/15/13 8:35
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**13.0**		5/16/13 9:50	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**12.2**		5/16/13 9:50	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**3.91**		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

22 May 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 15-May-13 15:36

ANALYTICAL RESULTS

Lab Number: 1305201-04
Sample Name: ECMW-17
Date/Time Collected: 5/15/13 8:59
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**34.5**		5/17/13 14:38	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**3.60**		5/16/13 10:13	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1.41**		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1305201-05
Sample Name: ECMW-5
Date/Time Collected: 5/15/13 9:22
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**60.7**		5/16/13 16:59	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**32.8**		5/16/13 16:59	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1305201-06
Sample Name: ECMW-6
Date/Time Collected: 5/15/13 9:33
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**37.7**		5/17/13 15:00	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**3120**		5/16/13 18:07	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**521**		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

22 May 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 15-May-13 15:36

ANALYTICAL RESULTS

Lab Number: 1305201-07
Sample Name: ECMW-4
Date/Time Collected: 5/15/13 9:44
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	856		5/17/13 15:27	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	0.370		5/16/13 11:21	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	2.12		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1305201-08
Sample Name: ECMW-7
Date/Time Collected: 5/15/13 9:56
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	930		5/16/13 18:29	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	141		5/16/13 18:29	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	105		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1305201-09
Sample Name: ECMW-23
Date/Time Collected: 5/15/13 10:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	921		5/16/13 18:52	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	145		5/16/13 18:52	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	110		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

22 May 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 15-May-13 15:36

ANALYTICAL RESULTS

Lab Number: 1305201-10
Sample Name: ECMW-8
Date/Time Collected: 5/15/13 10:22
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**614**		5/16/13 19:15	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**551**		5/16/13 19:15	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**172**		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1305201-11
Sample Name: ECMW-9
Date/Time Collected: 5/15/13 10:36
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**514**		5/17/13 15:50	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**30.1**		5/16/13 13:36	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1305201-12
Sample Name: ECMW-10
Date/Time Collected: 5/15/13 10:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**163**		5/17/13 16:35	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**42.1**		5/16/13 13:59	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

22 May 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 15-May-13 15:36

ANALYTICAL RESULTS

Lab Number: 1305201-13
Sample Name: ECMW-11
Date/Time Collected: 5/15/13 11:02
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**98.0**		5/17/13 16:57	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	**45.4**		5/16/13 14:21	A305211	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**17.0**		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1305201-14
Sample Name: ECMW-24
Date/Time Collected: 5/15/13 11:15
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**102**		5/17/13 17:20	A305228	300.0, 2.1-1993
Nitrate as N	mg/L	**40.7**		5/16/13 14:44	A305228	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**15.7**		5/21/13 7:49	A305255	4500-NH3 B,D,C-1997

QUALITY CONTROL RESULTS

Anions -- Batch: A305211 (Water)
Prepared: 15-May-13 16:46 By: MB -- Analyzed: 16-May-13 15:29 By: Melis

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.250 mg/L	104% / NA	103% / 103%		0.629%	
Sulfate as SO4	<0.500 mg/L	102% / NA	118% / 115%		1.13%	%D1

Anions -- Batch: A305228 (Water)
Prepared: 17-May-13 08:04 By: MB -- Analyzed: 17-May-13 12:40 By: Melis

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.250 mg/L	104% / NA	104% / 104%		0.240%	
Sulfate as SO4	<0.500 mg/L	101% / NA	100% / 101%		0.520%	

Wet Chemistry -- Batch: A305255 (Water)
Prepared: 20-May-13 08:02 By: KP -- Analyzed: 21-May-13 07:49 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	89.8% / NA	89.1% / 89.5%		0.421%	

22 May 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 15-May-13 15:36

QUALIFIER(S)

*%D1:	Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria
*E20:	Estimated Result Due to Matrix Spike and/or Matrix Spike Duplicate Failure; This sample was used as the "parent sample" in MS/MSD prep.

All Analysis performed according to EPA approved methodology when available:
SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by: 

Norma James
President

Arkansas Analytical Inc.
11701 Interstate 30, Bldg. 1, Ste. 115
Little Rock, AR 72209
PHONE: 501-455-3233
FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION	BILLING INFORMATION	Project Description	Turnaround Time
El Dorado Chemical Inc.	El Dorado Chemical Inc.	Groundwater Samples	24 Hour
4500 Northwest Ave.	P.O. Box 231		48 Hour
El Dorado, AR 71731	El Dorado, AR 71731	Reporting Information	72 Hour
		Telephone: 870-863-1484	Routine (5 Day)
Attn: Larken Pennington		Fax: 870-863-1499	Preservative Code:
		Email: LPennington@edc-ark.com	Bottle Type

Preservation Codes:
1. Cool, 4 Degrees Centigrade
2. Sulfuric Acid (H_2SO_4), pH < 2
3. Nitric Acid (HNO_3), pH < 2
4. Thiosulfate for Dechlorination
5. Hydrochloric Acid(HCl)
6. Sodium Hydroxide (NaOH), pH > 12

Joe Thompson
Sampler(s) Signature

Joe Thompson
Sampler(s) Printed

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: Nitrate, Sulfate (1)	Ammonia (1,2)	Bottle Type Code	Arkansas Analytical Work Order Number: 1305201-
	5/5/13	07:55	X		2	Water	ECMW-18	X	X		01
		08:23	X		2	Water	ECMW-14	X	X		02
		08:35	X		2	Water	ECMW-16	X	X		03
		08:59	X		2	Water	ECMW-17	X	X		04
		09:22	X		2	Water	ECMW-5	X	X		05
		09:33	X		2	Water	ECMW-6	X	X		06
		09:44	X		2	Water	ECMW-4	X	X		07
		09:56	X		2	Water	ECMW-7	X	X		08
		10:10	X		2	Water	ECMW-23	X	X		09
		10:22	X		2	Water	ECMW-8	X	X		10
		10:36	X		2	Water	ECMW-9	X	X		11
		10:45	X		2	Water	ECMW-10	X	X		12

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
Joe Thompson	5/5/13	
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)
		Jamie Bowden 5-15-13 12:10

SAMPLE CONDITION UPON RECEIPT IN LAB

1. CUSTODY SEALS:	✓ Yes	No
2. CONTAINERS CORRECT:	Yes	No
3. COC/LABELS AGREE:	Yes	No
4. PRESERVATION CONFIRMED:	Yes	No
5. RECEIVED ON ICE:	Yes	No
6. TEMPERATURE ON RECEIPT:	14°C	

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

delivered na Goldstar - received in lab - Sydney Jones 5/15/13, 1536

Revision 1
12/1/10

Arkansas Analytical Inc.
11701 Interstate 30, Bldg. 1, Ste. 115
Little Rock, AR 72209
PHONE: 501-455-3233
FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION	BILLING INFORMATION	Project Description	Turnaround Time
El Dorado Chemical Inc.	El Dorado Chemical Inc.	Groundwater Samples	24 Hour
4500 Northwest Ave.	P.O. Box 231		48 Hour
El Dorado, AR 71731	El Dorado, AR 71731	Reporting Information	72 Hour
		Telephone: 870-863-1484	Routine (5 Day)
Attn: Larken Pennington		Fax: 870-863-1499	Preservative Code:
		Email: LPennington@edc-ark.com	Bottle Type

Preservation Codes:
1. Cool, 4 Degrees Centigrade
2. Sulfuric Acid (H_2SO_4), pH < 2
3. Nitric Acid (HNO_3), pH < 2
4. Thiosulfate for Dechlorination
5. Hydrochloric Acid(HCl)
6. Sodium Hydroxide (NaOH), pH > 12

Bottle Type Code: G = Glass, P = Plastic, V = Septum, A = Amber

Sampler(s) Signature: Joe Thompson

Sampler(s) Printed: Joe Thompson

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: Nitrate, Sulfate (1)	Ammonia (2)	Arkansas Analytical Work Order Number: 1305201-
	5/15/13	1102	X		2	Water	ECMW- 11	X	X	13
		1115	X		2	Water	ECMW- 24	X	X	14
			X		2	Water	ECMW-	X	X	
			X		2	Water	ECMW-	X	X	
			X		2	Water	ECMW-	X	X	
			X		2	Water	ECMW-	X	X	
			X		2	Water	ECMW-	X	X	
			X		2	Water	ECMW-	X	X	
			X		2	Water	ECMW-	X	X	
			X		2	Water	ECMW-	X	X	
			X		2	Water	ECMW-	X	X	
			X		2	Water	ECMW-	X	X	

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
Joe Thompson	5/15/13	
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature) ®
		Jennie Bades 5-15-13 12:10

SAMPLE CONDITION UPON RECEIPT IN LAB

1. CUSTODY SEALS:	✓ Yes	No
2. CONTAINERS CORRECT:	Yes	No
3. COC/LABELS AGREE:	Yes	No
4. PRESERVATION CONFIRMED:	Yes	No
5. RECEIVED ON ICE:	Yes	No
6. TEMPERATURE ON RECEIPT:	14°C	

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

delivered via Goldstar-
received in Lab-
Sydney James - 5/15/13 1534

Rev. 1
12/

Arkansas Analytical Inc.
11701 Interstate 30, Bldg. 1, Ste. 115
Little Rock, AR 72209
PHONE: 501-455-3233
FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION	BILLING INFORMATION	Project Description	Turnaround Time
El Dorado Chemical Inc.	El Dorado Chemical Inc.	Groundwaters	24 Hour
4500 Northwest Ave.	P.O. Box 231		48 Hour
El Dorado, AR 71731	El Dorado, AR 71731	Reporting Information	72 Hour
		Telephone: 870-863-1484	Routine (5 Day)
Attn: Brent Parker		Fax: 870-863-1499	Preservative Code:
		Email: BParker@edc-ark.com	Bottle Type:

Preservation Codes:
1. Cool, 4 Degrees Centigrade
2. Sulfuric Acid (H_2SO_4), pH < 2
3. Nitric Acid (HNO_3), pH < 2
4. Thiosulfate for Dechlorination
5. Hydrochloric Acid(HCl)
6. Sodium Hydroxide (NaOH), pH > 12

Sampler(s) Signature: Joe Thompson

Sampler(s) Printed: Joe Thompson

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: NO_2 Alkalinity	NO_3, NO_2, SO_4 Alkalinity	NO_3, NO_2 Alkalinity	T. Phosphorus	Ammonia	TOC	Nitrate Sulfate			Bottle Type Code	Arkansas Analytical Work Order Number:
	5/15/13	1010	X		2	W	MW-23 is Dup of 7					X		++				
	"	1115	X		2	W	MW-24 is Dup of 11					X		++				
			X			W	MW-											
			X			W	MW-											
			X			W	MW-											
			X			W	MW-											
			X			W	MW-											
			X			W	MW-											
			X			W	MW-											
			X			W	MW-											
			X			W	MW-											
			X			W	MW-											

Bottle Type Code: G = Glass; P = Plastic; V = Septum; A = Amber

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)

SAMPLE CONDITION UPON RECEIPT IN LAB

1. CUSTODY SEALS:	___Yes	___No
2. CONTAINERS CORRECT:	___Yes	___No
3. COC/LABELS AGREE:	___Yes	___No
4. PRESERVATION CONFIRMED:	___Yes	___No
5. RECEIVED ON ICE:	___Yes	___No
6. TEMPERATURE ON RECEIPT:		

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

P.O. Number:

Revision 1
12/1/10

Arkansas Analytical Inc.

11701 I-30 Bldg 1, Ste 115 - Little Rock, AR 72209
501-455-3233 Fax 501-455-6118

08 November 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

RE: Groundwater Sample(s)

SDG Number: 1311064

Enclosed are the results of analyses for samples received by the laboratory on 05-Nov-13 16:15. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

Custody Seals	✔
Containers Correct	✔
COC/Labels Agree	✔
Preservation Confirmed	✔
Received On Ice	✔
Temperature on Receipt	5.0°C

Sincerely,

Norma James
President

08 November 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 05-Nov-13 16:15

CASE NARRATIVE

Sample Delivery Group – 1311064

Qualified Analytical and/or Quality Control Results are Discussed Below:

Anions Analysis:

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Failure: Sulfate failed to recover within laboratory acceptance criteria in the MS/MSD sample due to the high concentration of Sulfate in the parent sample. The recoveries were qualified by "MBA", which means "Masked by Analyte", in the quality control section of the final report. Sulfate was qualified as "estimated" in the parent sample which was NOT a member of this sample delivery group.

08 November 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 05-Nov-13 16:15

ANALYTICAL RESULTS

Lab Number: 1311064-01
Sample Name: ECMW-5
Date/Time Collected: 11/5/13 7:50
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**66.5**		11/6/13 10:25	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**34.7**		11/6/13 10:25	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**0.56**		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1311064-02
Sample Name: ECMW-6
Date/Time Collected: 11/5/13 8:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**28.5**		11/6/13 10:49	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**3380**		11/6/13 17:11	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**935**		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1311064-03
Sample Name: ECMW-4
Date/Time Collected: 11/5/13 8:25
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**609**		11/6/13 17:35	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**0.752**		11/6/13 11:12	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**2.03**		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

08 November 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 05-Nov-13 16:15

ANALYTICAL RESULTS

Lab Number: 1311064-04
Sample Name: ECMW-7
Date/Time Collected: 11/5/13 8:50
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**927**		11/6/13 12:23	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**156**		11/6/13 12:23	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**132**		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1311064-05
Sample Name: ECMW-8
Date/Time Collected: 11/5/13 9:05
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**642**		11/6/13 12:47	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**584**		11/6/13 12:47	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**150**		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1311064-06
Sample Name: ECMW-9
Date/Time Collected: 11/5/13 9:20
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**545**		11/6/13 17:58	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**53.9**		11/6/13 13:10	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**17.0**		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

08 November 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 05-Nov-13 16:15

ANALYTICAL RESULTS

Lab Number: 1311064-07
Sample Name: ECMW-10
Date/Time Collected: 11/5/13 9:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**153**		11/6/13 13:34	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**47.8**		11/6/13 13:34	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1311064-08
Sample Name: ECMW-11
Date/Time Collected: 11/5/13 10:05
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**125**		11/6/13 18:22	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**30.5**		11/6/13 13:57	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1311064-09
Sample Name: ECMW-14
Date/Time Collected: 11/5/13 10:25
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**91.6**		11/6/13 14:21	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**6.92**		11/6/13 14:21	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**7.52**		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

08 November 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 05-Nov-13 16:15

ANALYTICAL RESULTS

Lab Number: 1311064-10
Sample Name: ECMW-16
Date/Time Collected: 11/5/13 10:50
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**13.3**		11/6/13 14:44	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**10.3**		11/6/13 14:44	A311045	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1.58**		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1311064-11
Sample Name: ECMW-17
Date/Time Collected: 11/5/13 11:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**39.6**		11/6/13 18:45	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**1.24**		11/6/13 15:08	A311045	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1311064-12
Sample Name: ECMW-18
Date/Time Collected: 11/5/13 11:25
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**6.30**		11/6/13 15:31	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	< 0.250		11/6/13 15:31	A311045	300.0, 2.1-1993
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**9.64**		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

08 November 2013

Larken Pennington
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 05-Nov-13 16:15

ANALYTICAL RESULTS

Lab Number:	**1311064-13**
Sample Name:	**Duplicate**
Date/Time Collected:	**11/5/13 0:00**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**62.8**		11/6/13 15:59	A311045	300.0, 2.1-1993
Nitrate as N	mg/L	**35.5**		11/6/13 15:59	A311045	300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		11/7/13 16:46	A311079	4500-NH3 B,D,C-1997

QUALITY CONTROL RESULTS

Anions -- Batch: A311045 (Water)
Prepared: 05-Nov-13 15:51 By: MB -- Analyzed: 06-Nov-13 10:02 By: Melis

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.250 mg/L	102% / NA	106% / 110%		1.85%	
Sulfate as SO4	<0.500 mg/L	99.7% / NA	MBA / MBA		0.383%	MBA

Wet Chemistry -- Batch: A311079 (Water)
Prepared: 07-Nov-13 09:00 By: KP -- Analyzed: 07-Nov-13 16:46 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	95.9% / NA	97.4% / 96.6%		0.790%	

QUALIFIER(S)

*MBA: Masked By Analyte

All Analysis performed according to EPA approved methodology when available:
SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by: 

Norma James
President

Arkansas Analytical Inc.
11701 Interstate 30, Bldg. 1, Ste. 115
Little Rock, AR 72209
PHONE: 501-455-3233
FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION	BILLING INFORMATION	Project Description	Turnaround Time
El Dorado Chemical Inc.	El Dorado Chemical Inc.	Groundwater Samples	24 Hour
4500 Northwest Ave.	P.O. Box 231		48 Hour
El Dorado, AR 71731	El Dorado, AR 71731	Reporting Information	72 Hour
		Telephone: 870-863-1484	Routine (5 Day)
Attn: Larken Pennington		Fax: 870-863-1499	Preservative Code:
		Email: LPennington@edc-ark.com	Bottle Type:

Preservation Codes:
1. Cool, 4 Degrees Centigrade
2. Sulfuric Acid (H_2SO_4), pH < 2
3. Nitric Acid (HNO_3), pH < 2
4. Thiosulfate for Dechlorination
5. Hydrochloric Acid(HCl)
6. Sodium Hydroxide (NaOH), pH > 12

Sampler(s) Signature: L Durham EMSInc
Sampler(s) Printed: R. DURHAM EMSInc

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: Nitrate, Sulfate	Ammonia	Bottle Type Code: G = Glass, P = Plastic, V = Septum, A = Amber	Arkansas Analytical Work Order Number: 1311064-
	11-5-13	0750	X		2	Water	ECMW-5	X	X		01
		0810	X		2	Water	ECMW-6	X	X		02
		0825	X		2	Water	ECMW-4	X	X		03
		0850	X		2	Water	ECMW-7	X	X		04
		0905	X		2	Water	ECMW-8	X	X		05
		0920	X		2	Water	ECMW-9	X	X		06
		0945	X		2	Water	ECMW-10	X	X		07
		1005	X		2	Water	ECMW-11	X	X		08
		1025	X		2	Water	ECMW-14	X	X		09
		1050	X		2	Water	ECMW-16	X	X		10
		1110	X		2	Water	ECMW-17	X	X		11
		1135	X		2	Water	ECMW-18	X	X		12

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
L Durham EMSInc	11-5-13 1115	Larken Pennington 11/5/13
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)
Jessie Bodey 1:45 11-5-13	11-5-13, 1615	Sydney J. Jaime

Revision 1
12/1/10

Delivered via Goldstar Courier

SAMPLE CONDITION UPON RECEIPT IN LAB

1. CUSTODY SEALS:	✓ Yes	No
2. CONTAINERS CORRECT:	✓ Yes	No
3. COC/LABELS AGREE:	✓ Yes	No
4. PRESERVATION CONFIRMED:	✓ Yes	No
5. RECEIVED ON ICE:	✓ Yes	No
6. TEMPERATURE ON RECEIPT:	5°	

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

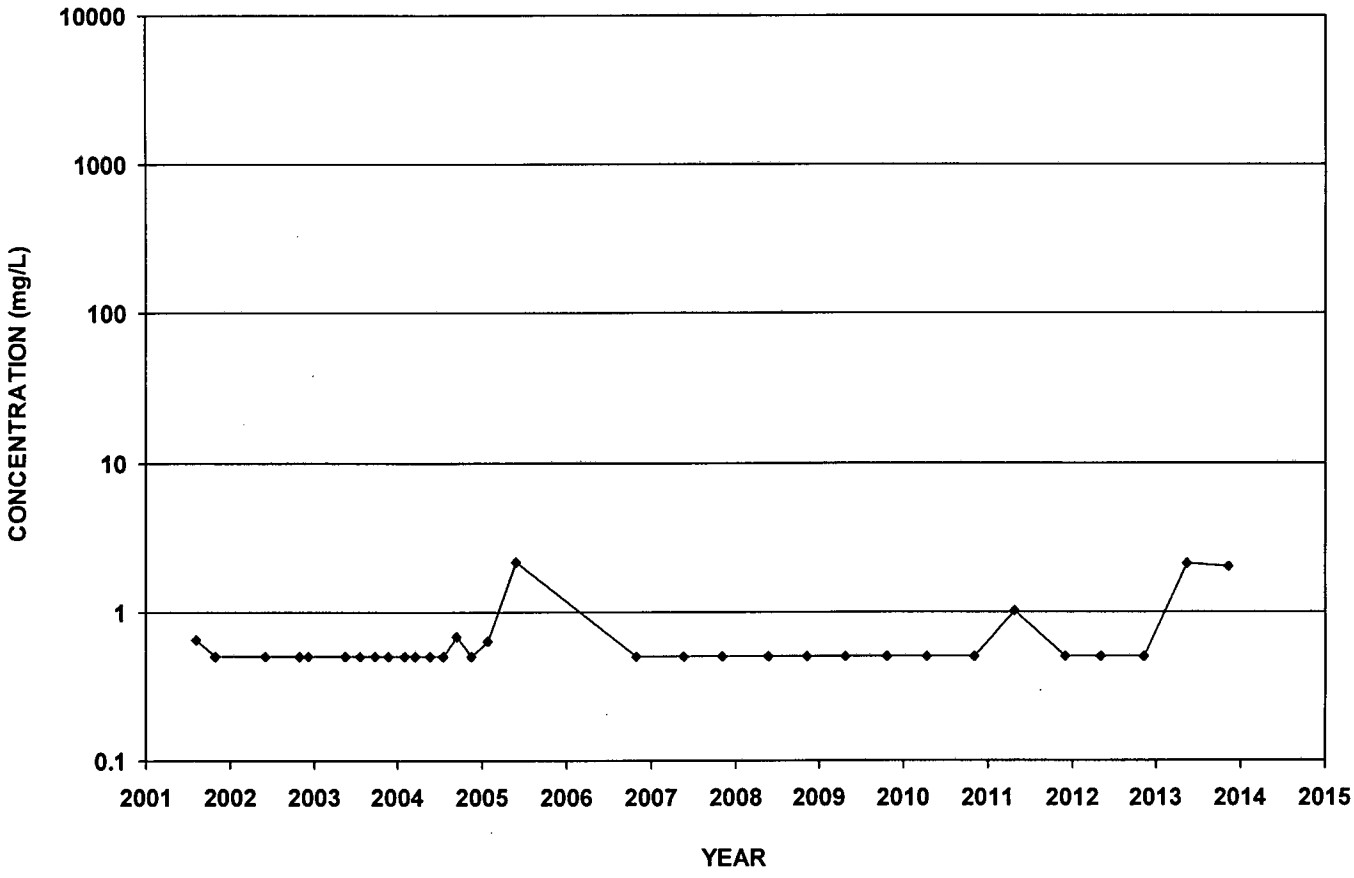
Dup sample = 13
11/5/13

added Dup to COC per sample containers received
11/5/13-B

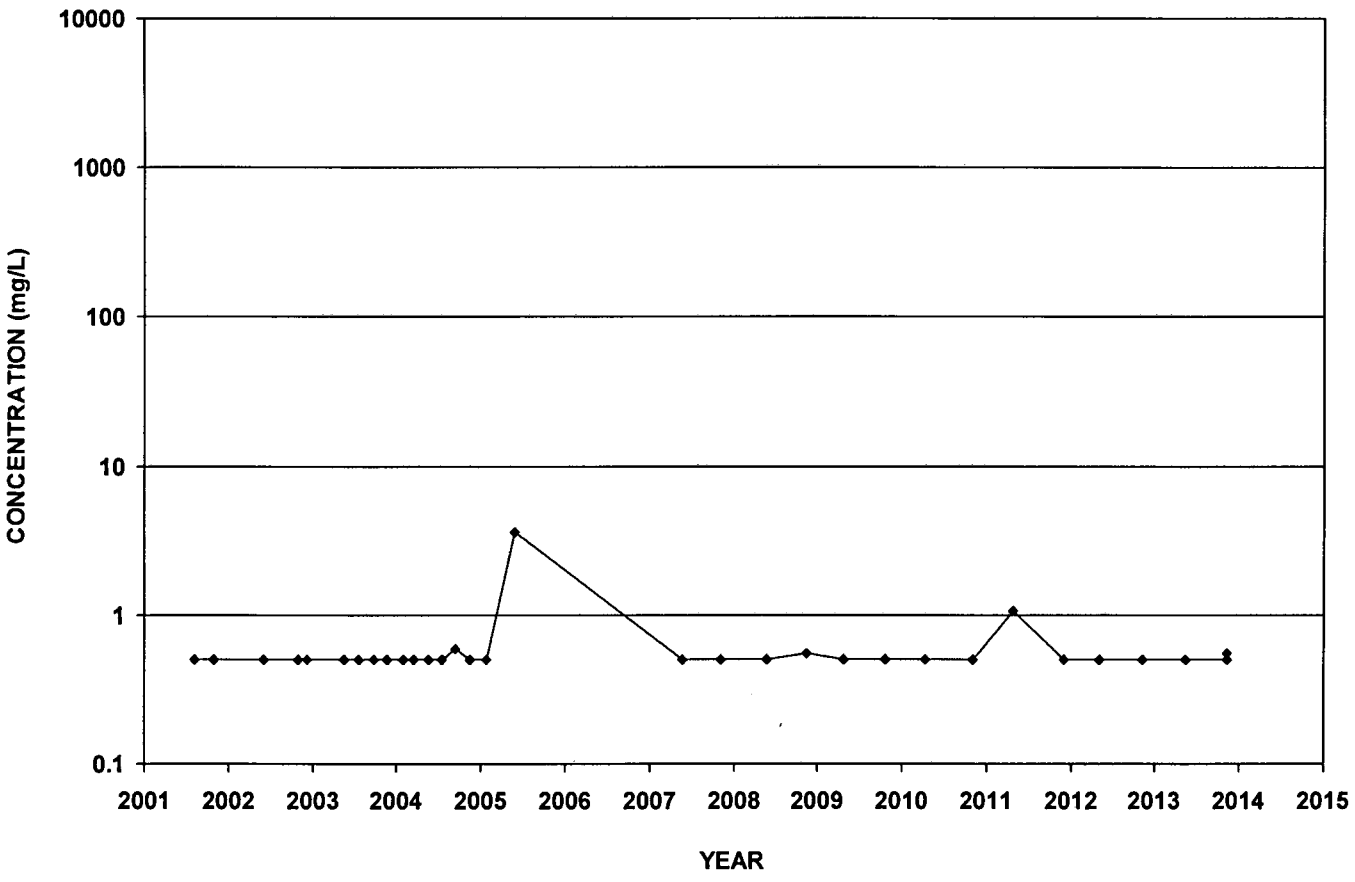
APPENDIX B

TREND GRAPHS

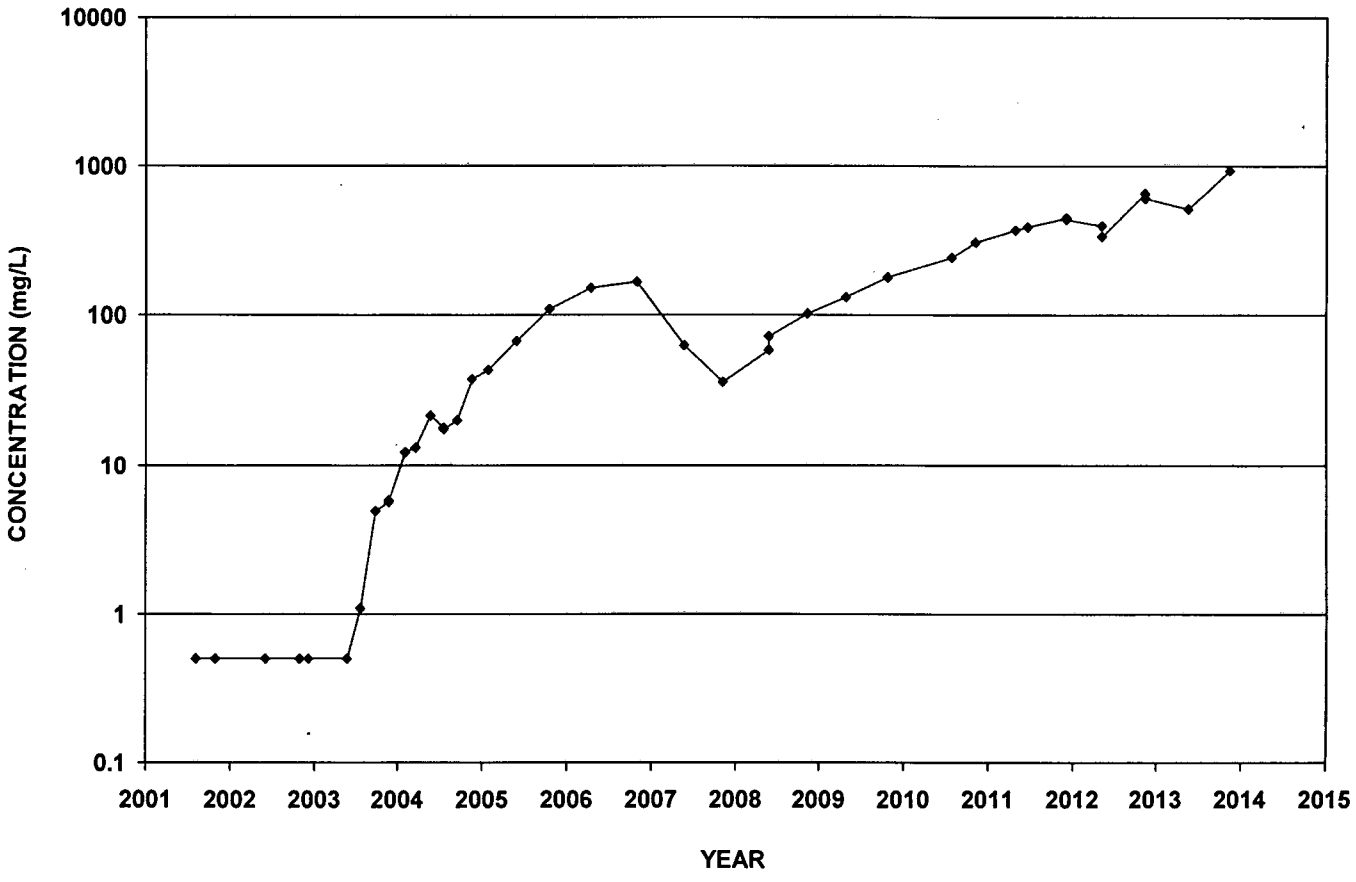
ECMW-4
Ammonia-N



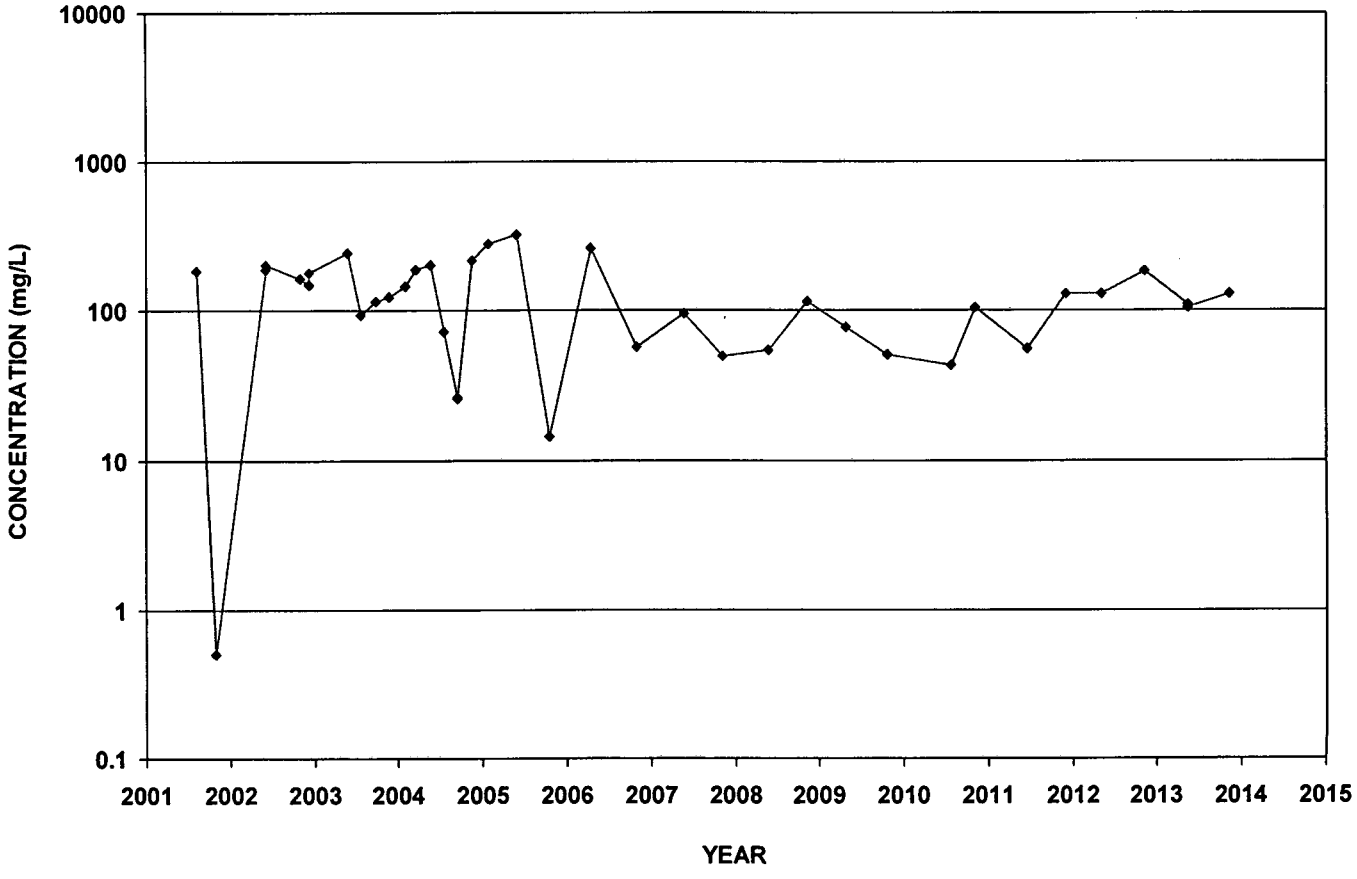
ECMW-5
Ammonia-N



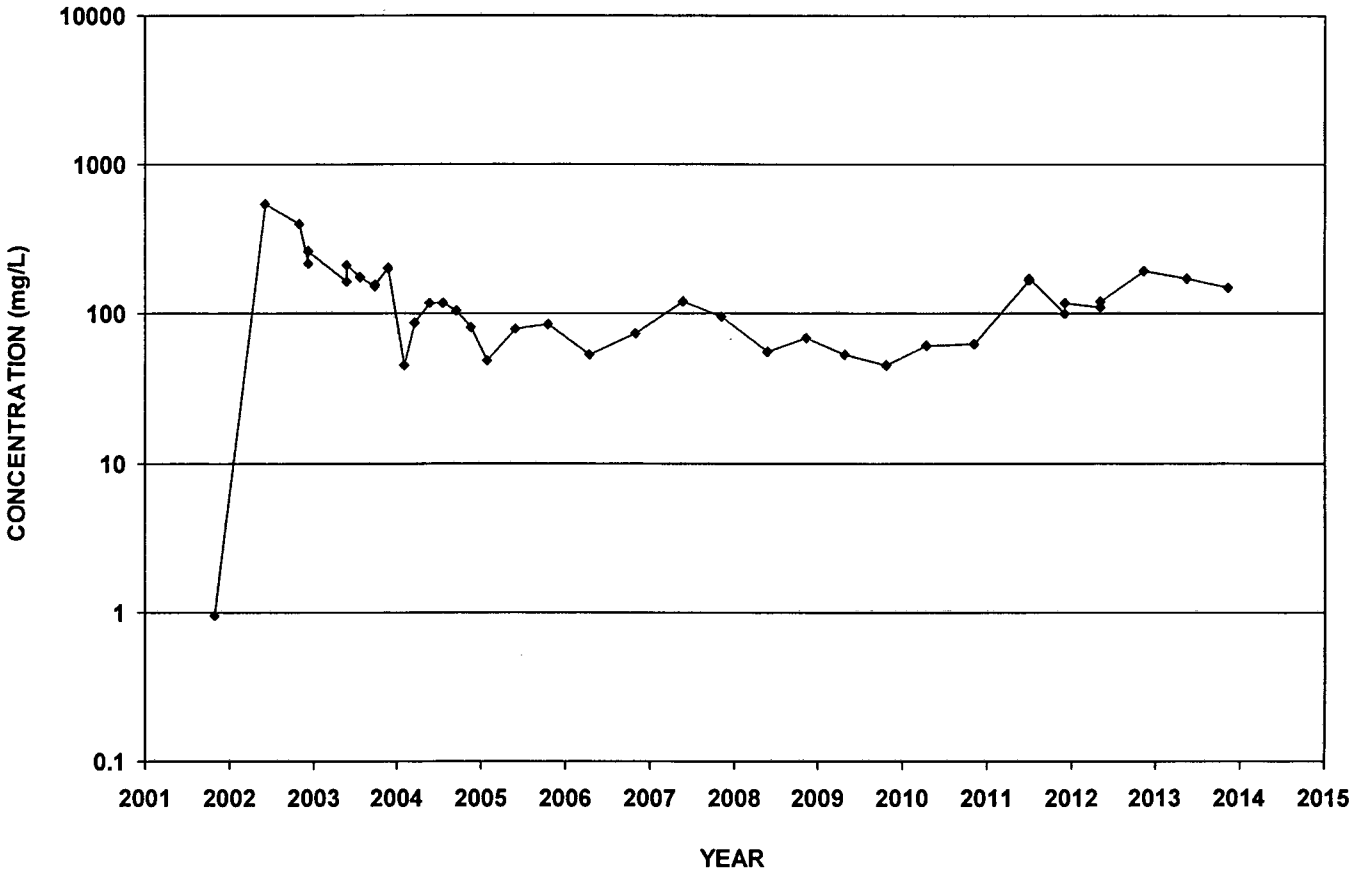
ECMW-6
Ammonia-N



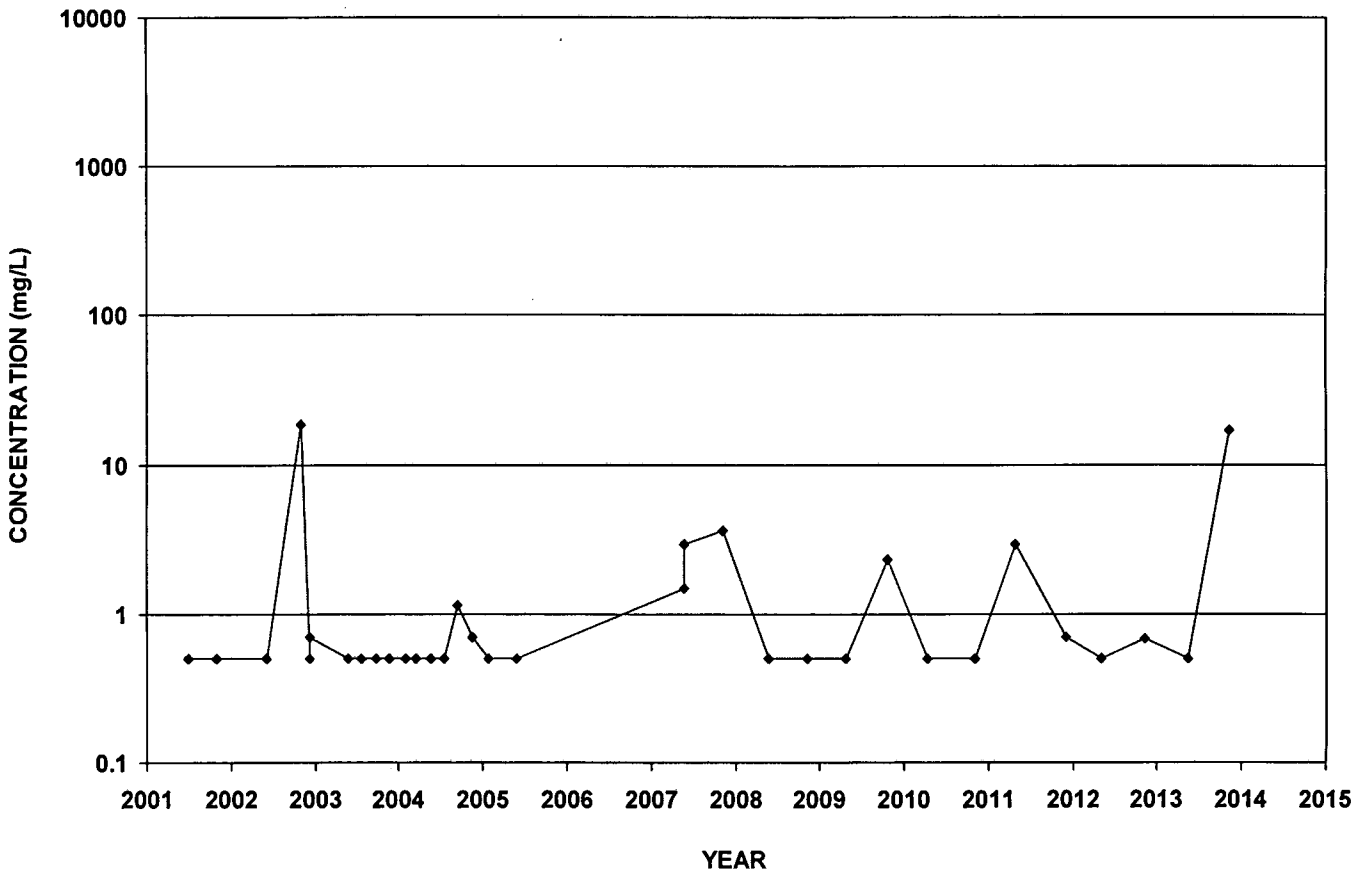
ECMW-7
Ammonia-N



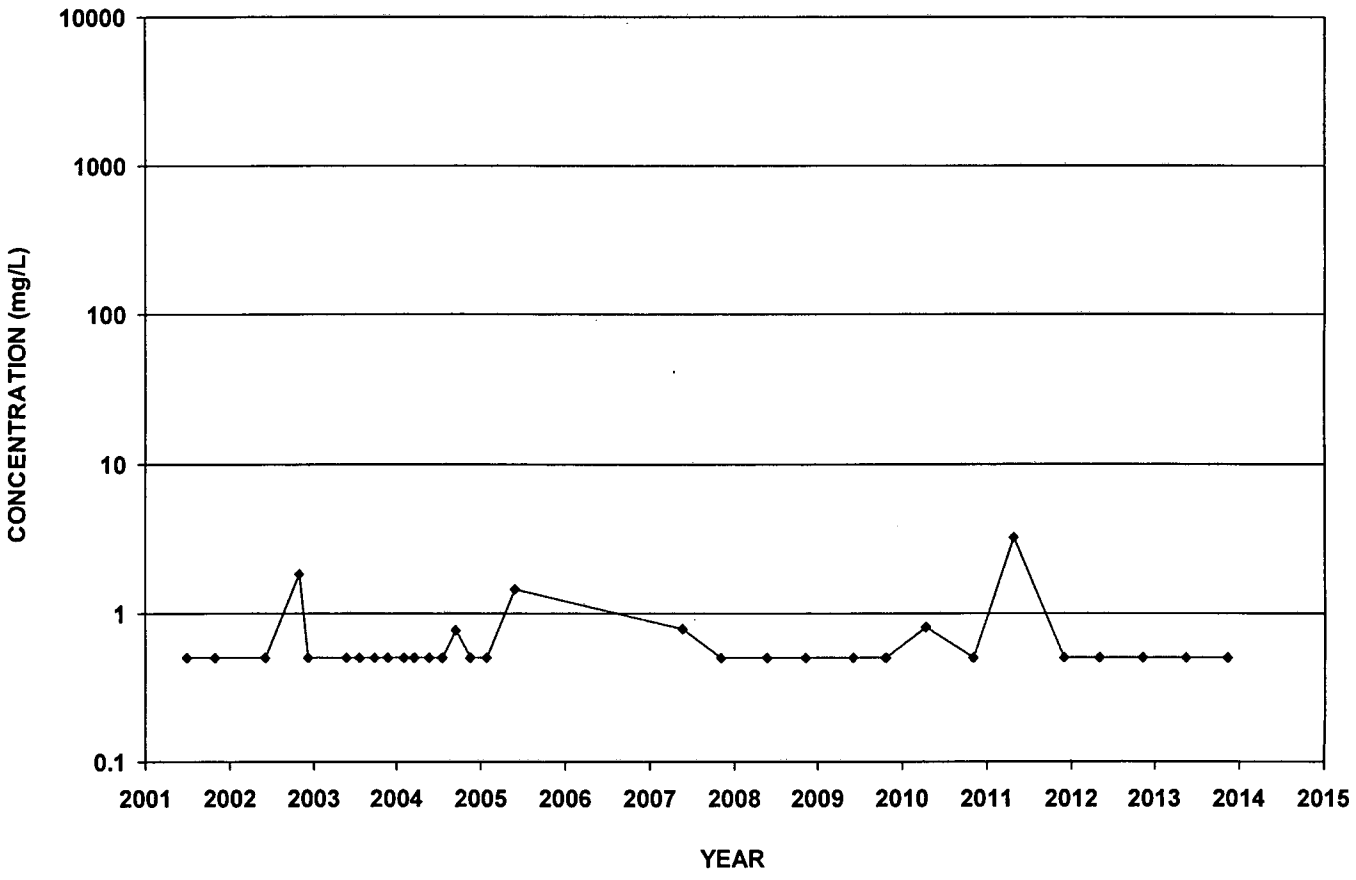
ECMW-8
Ammonia-N



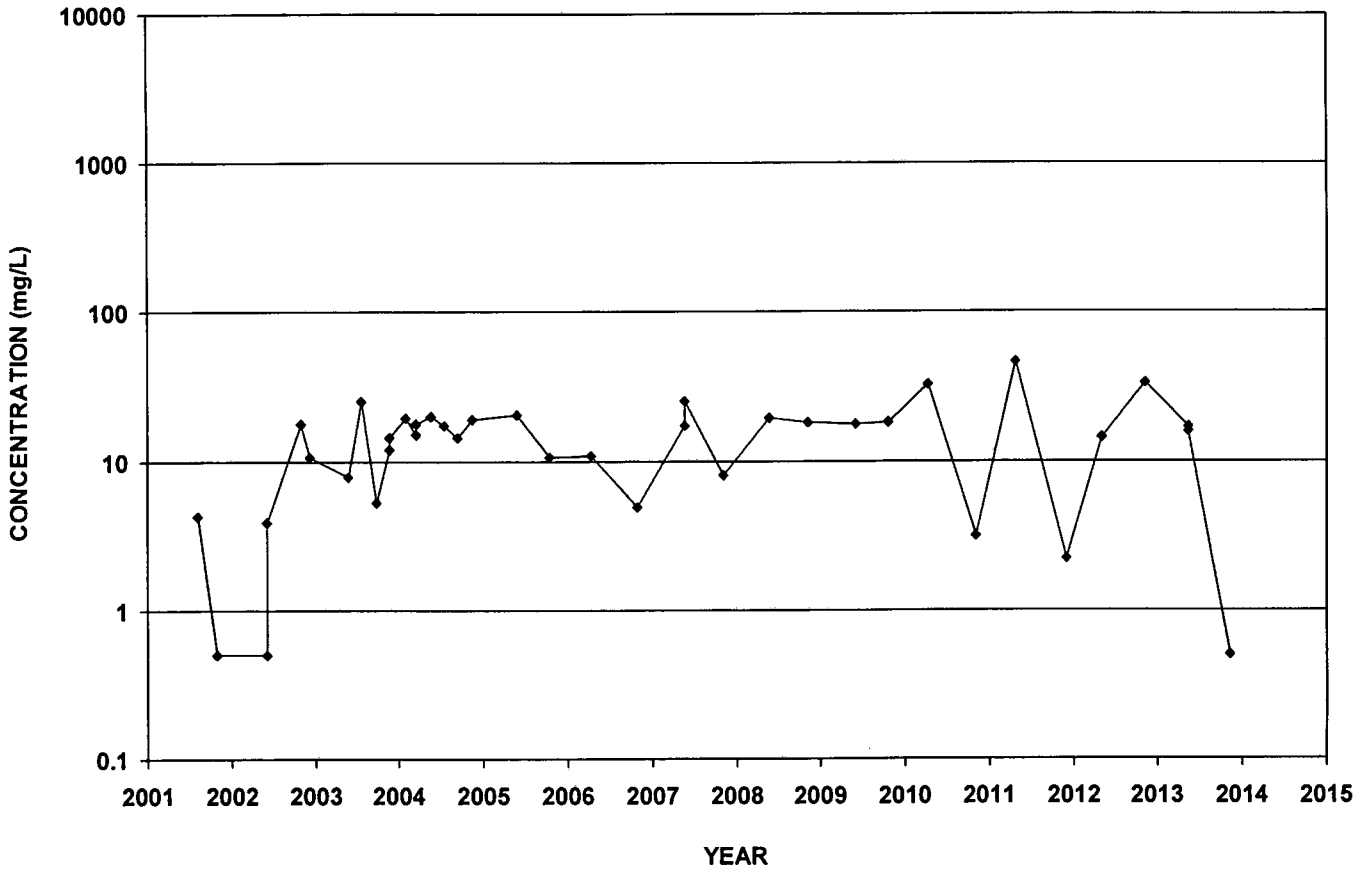
ECMW-9
Ammonia-N



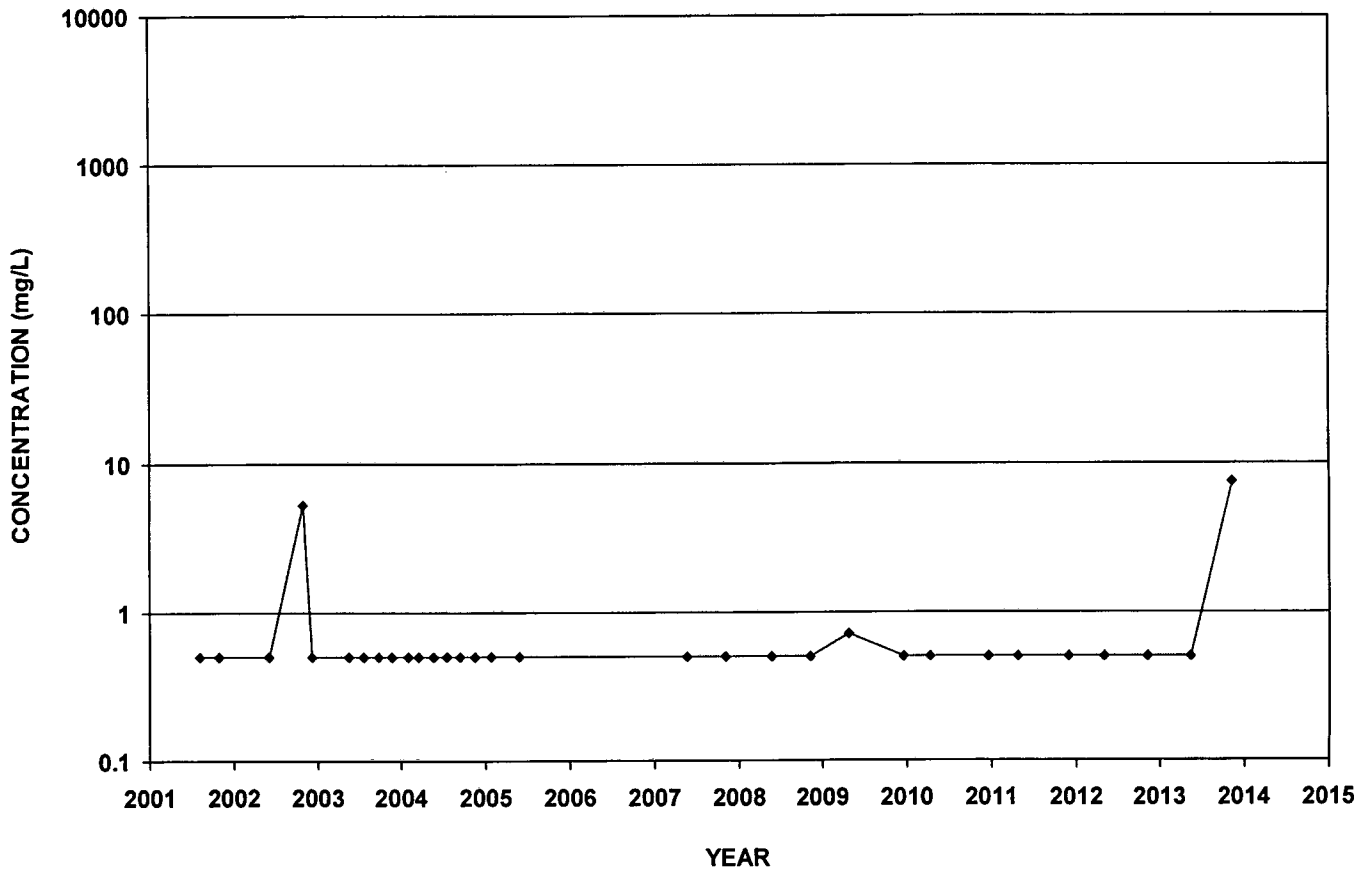
ECMW-10
Ammonia-N



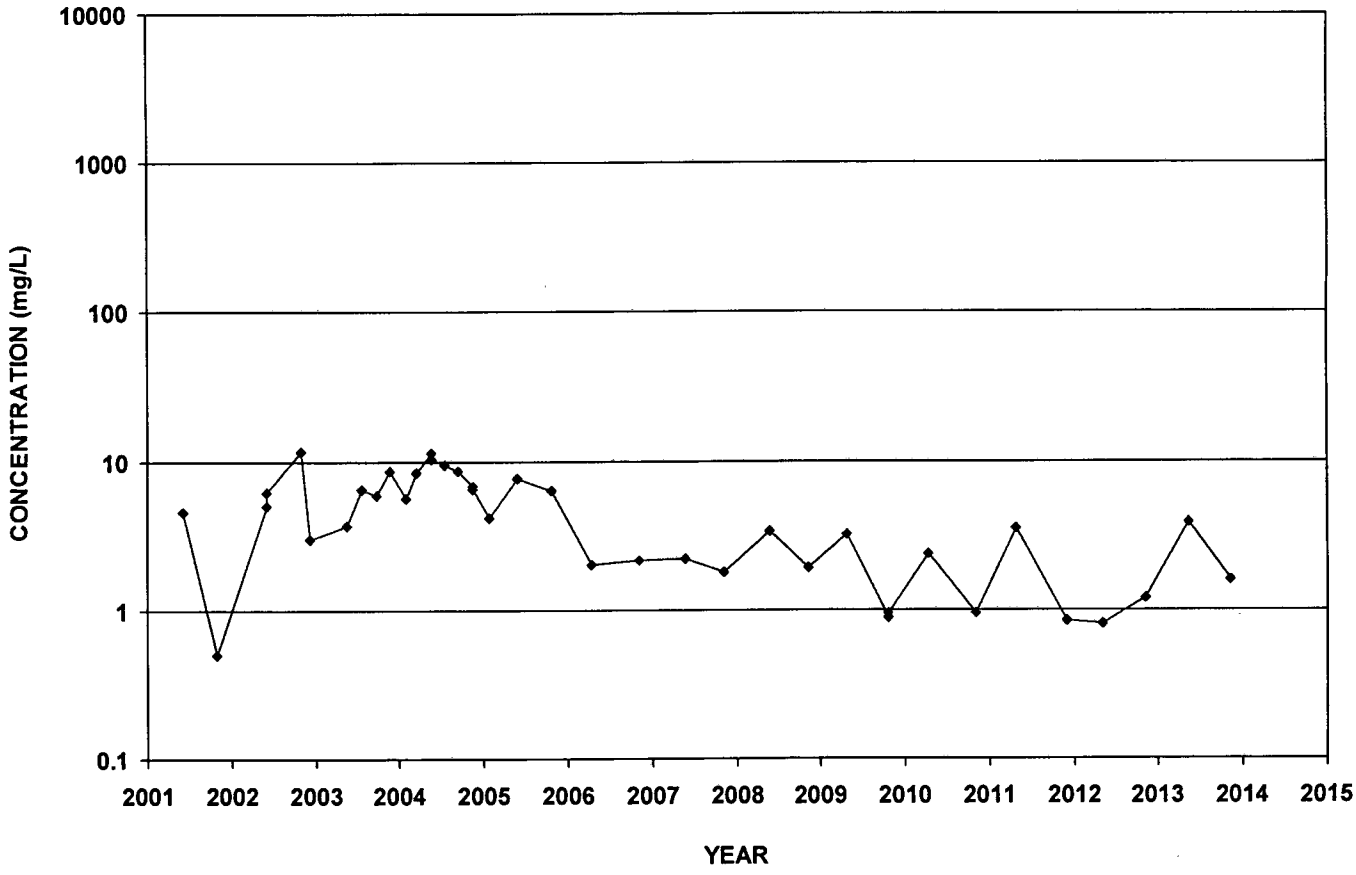
ECMW-11
Ammonia-N



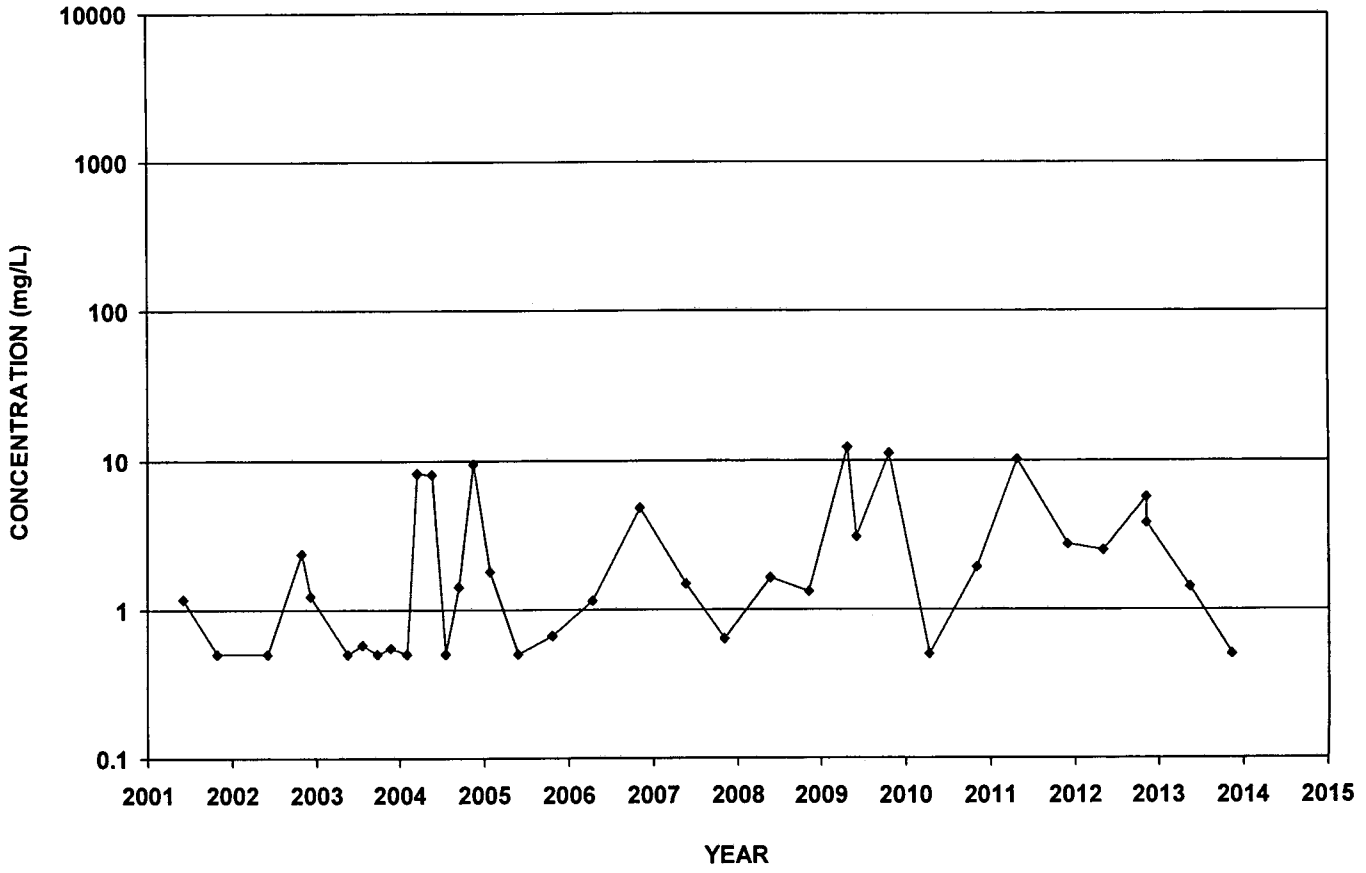
ECMW-14
Ammonia-N



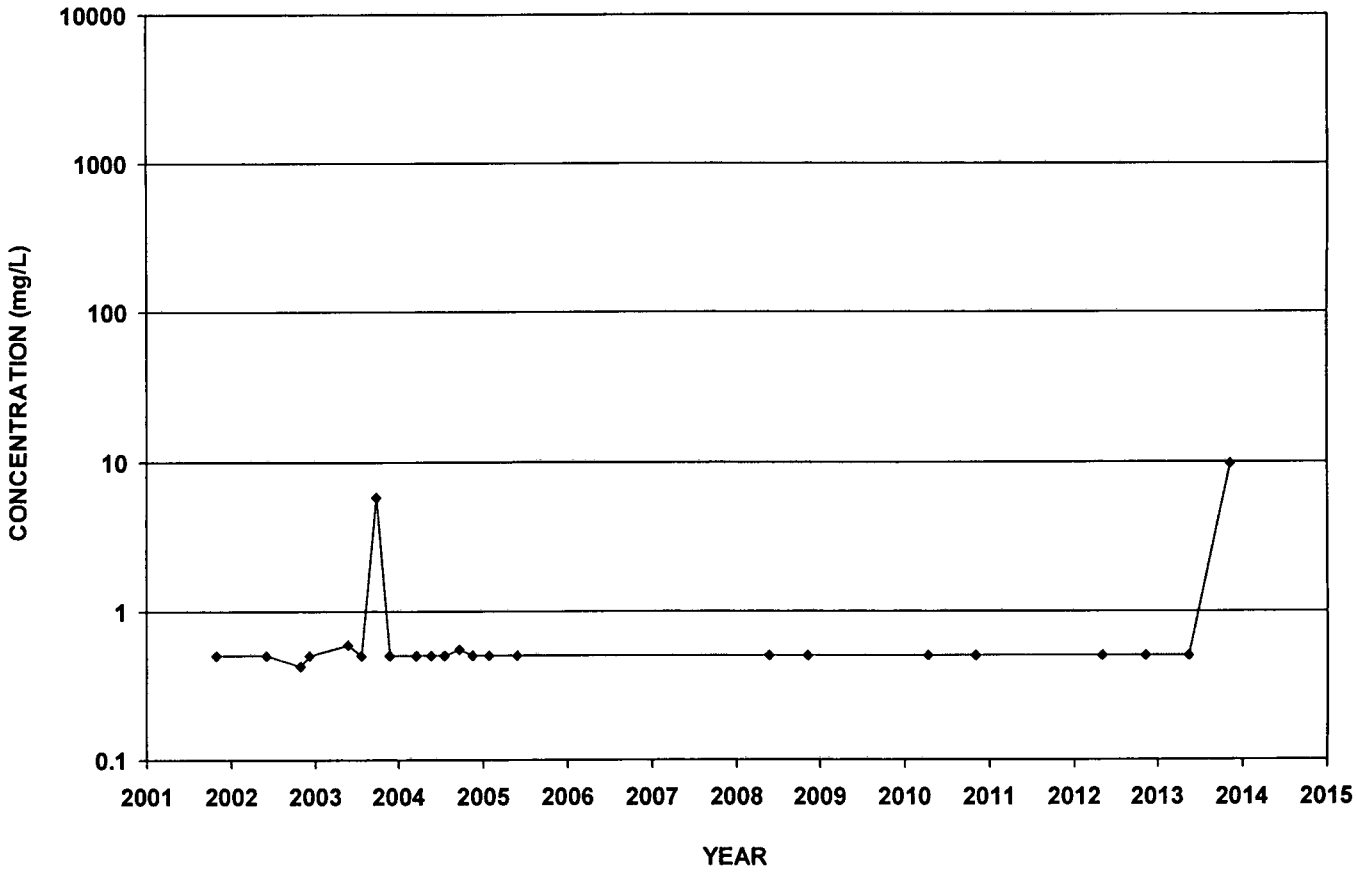
ECMW-16
Ammonia-N



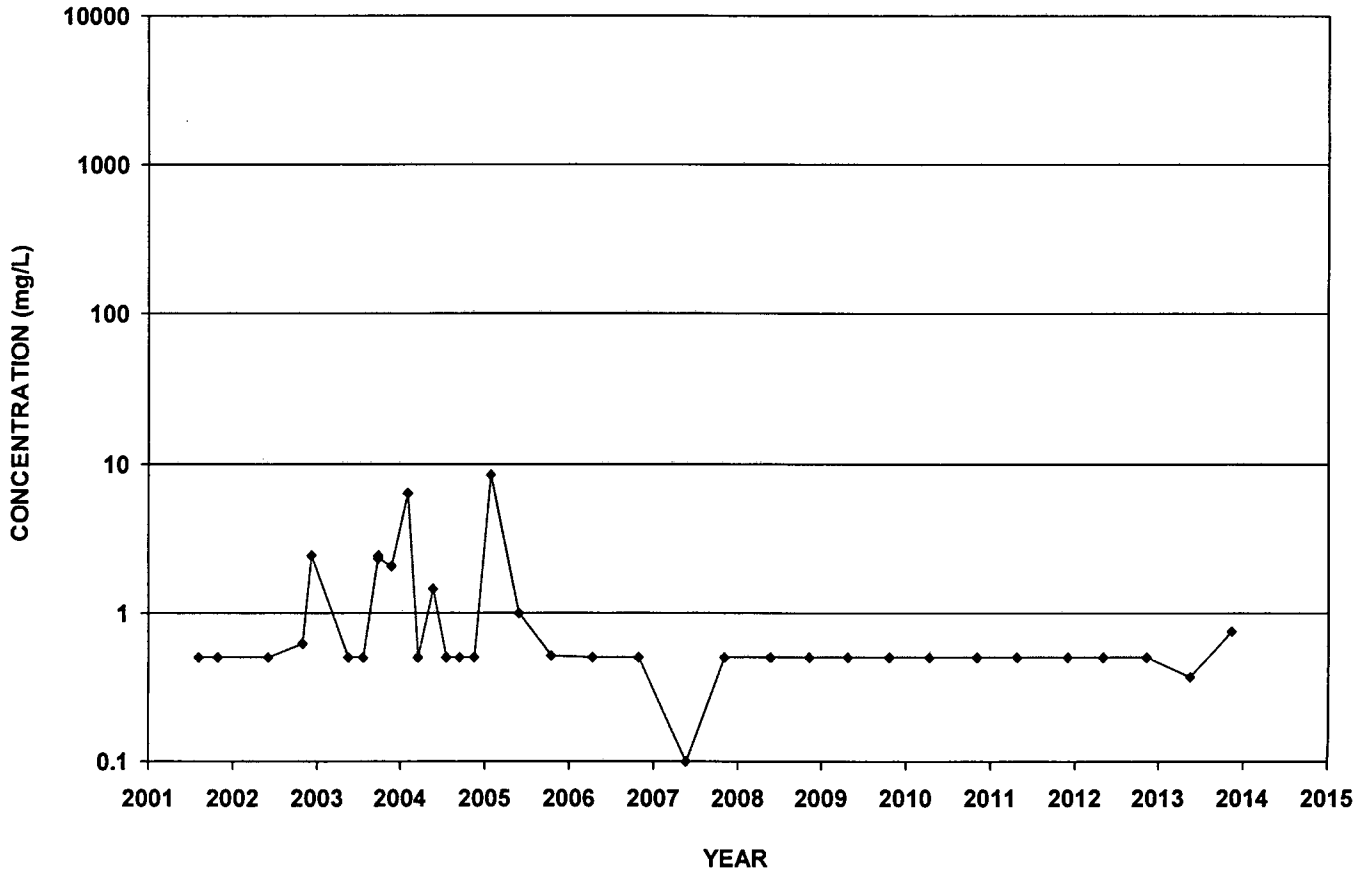
ECMW-17
Ammonia-N



ECMW-18
Ammonia-N



ECMW-4
Nitrate-N



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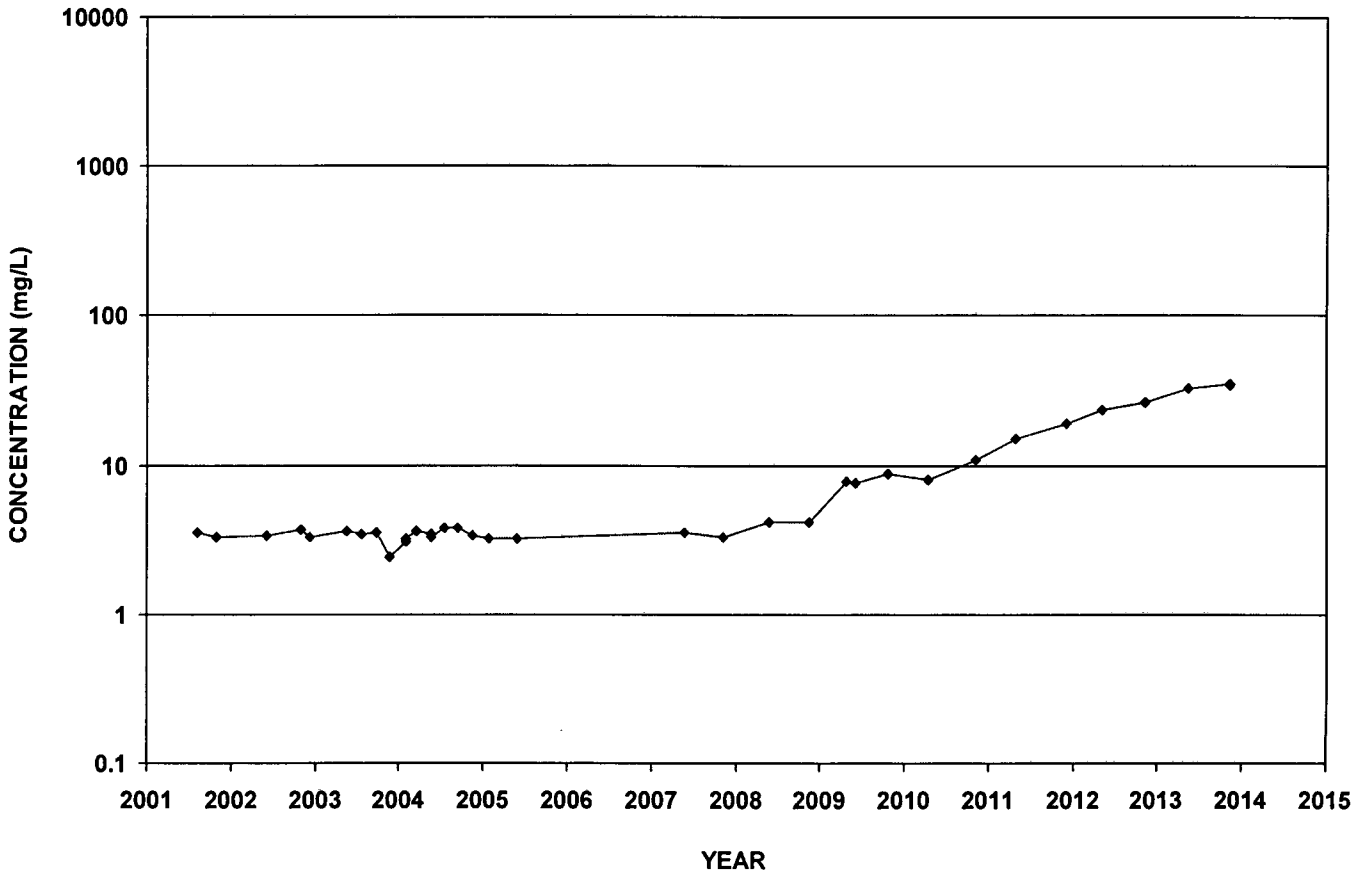
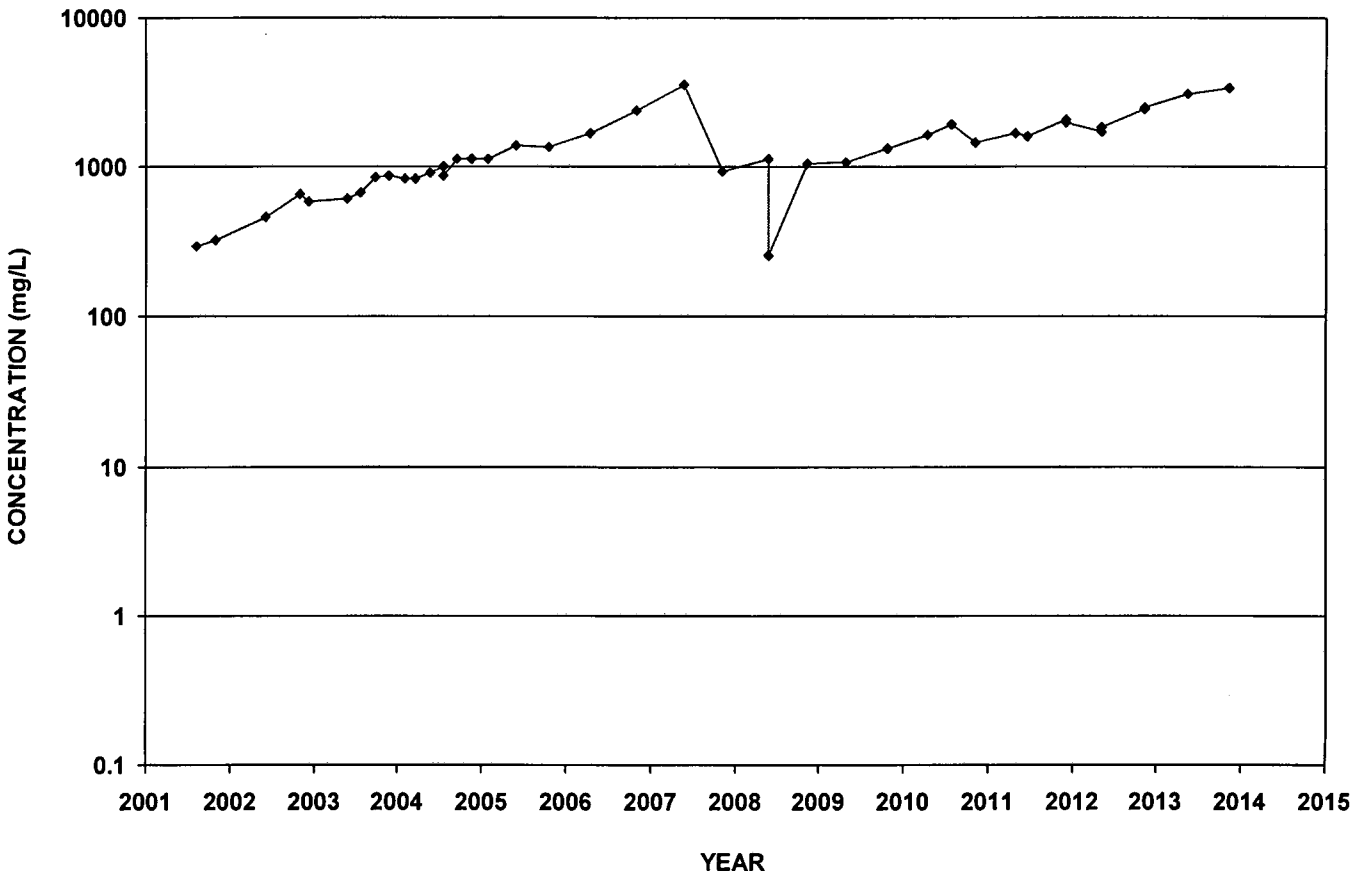
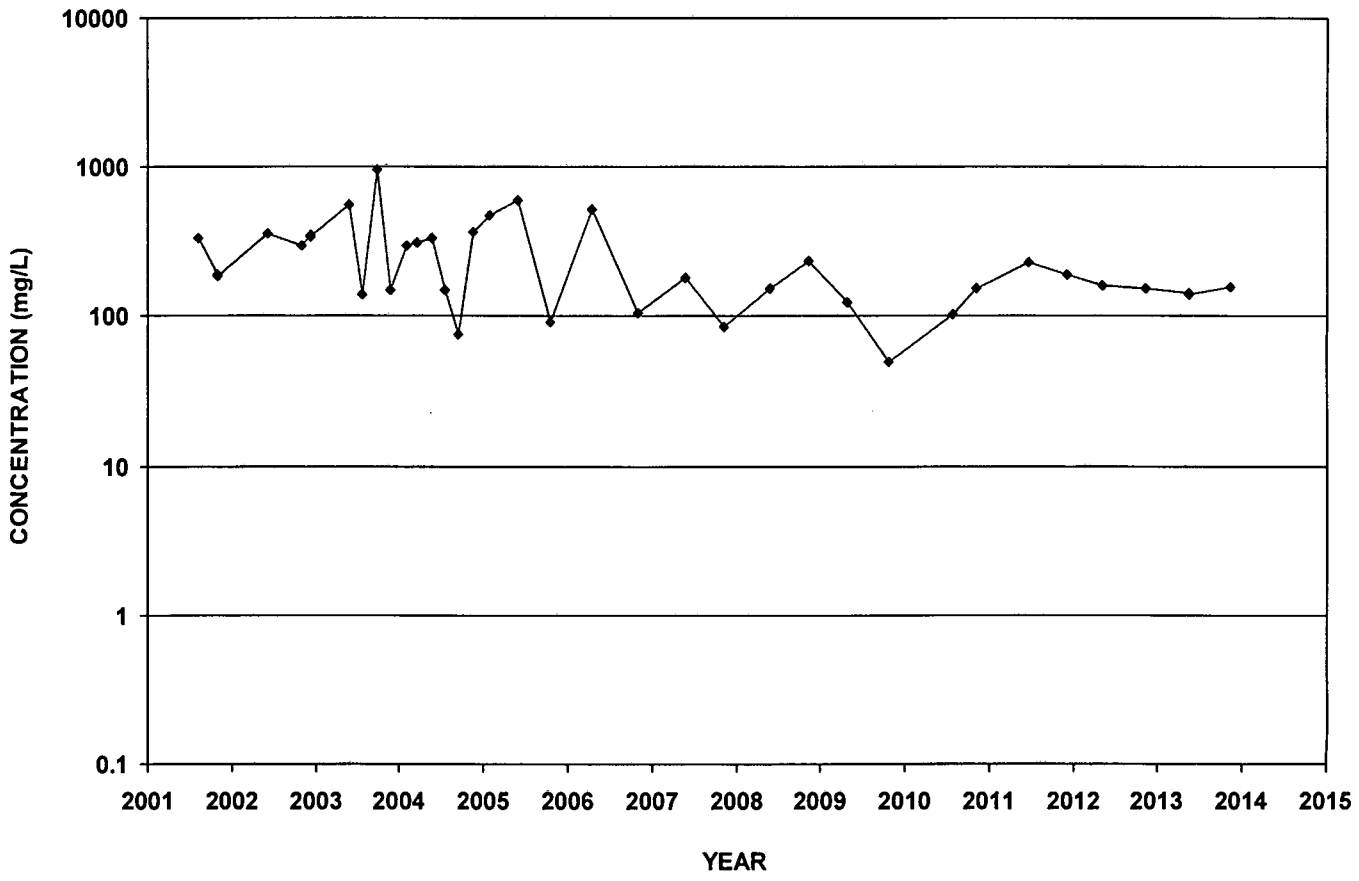
Nitrate-N



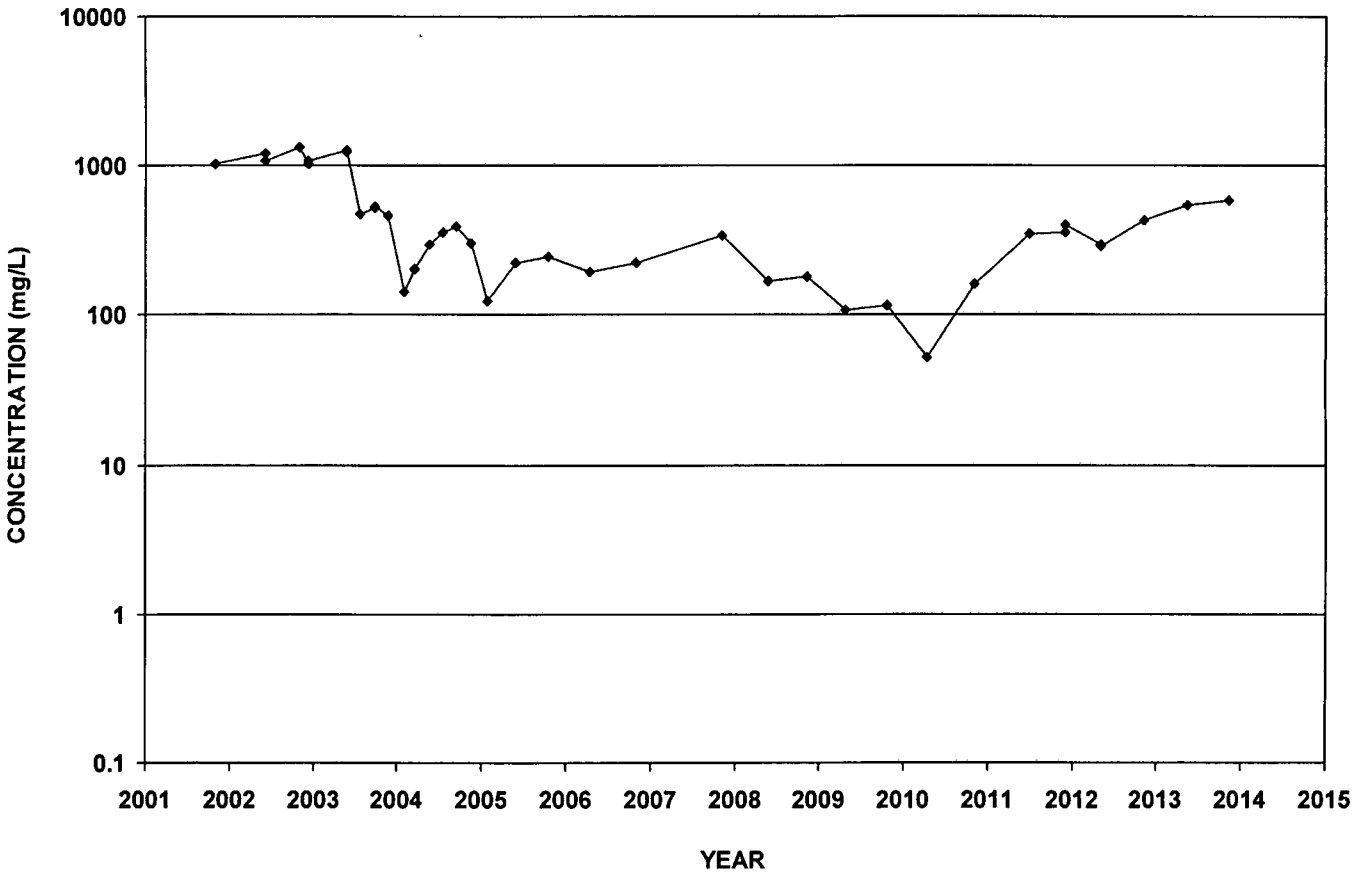
ECMW-6
Nitrate-N



ECMW-7
Nitrate-N



ECMW-8
Nitrate-N



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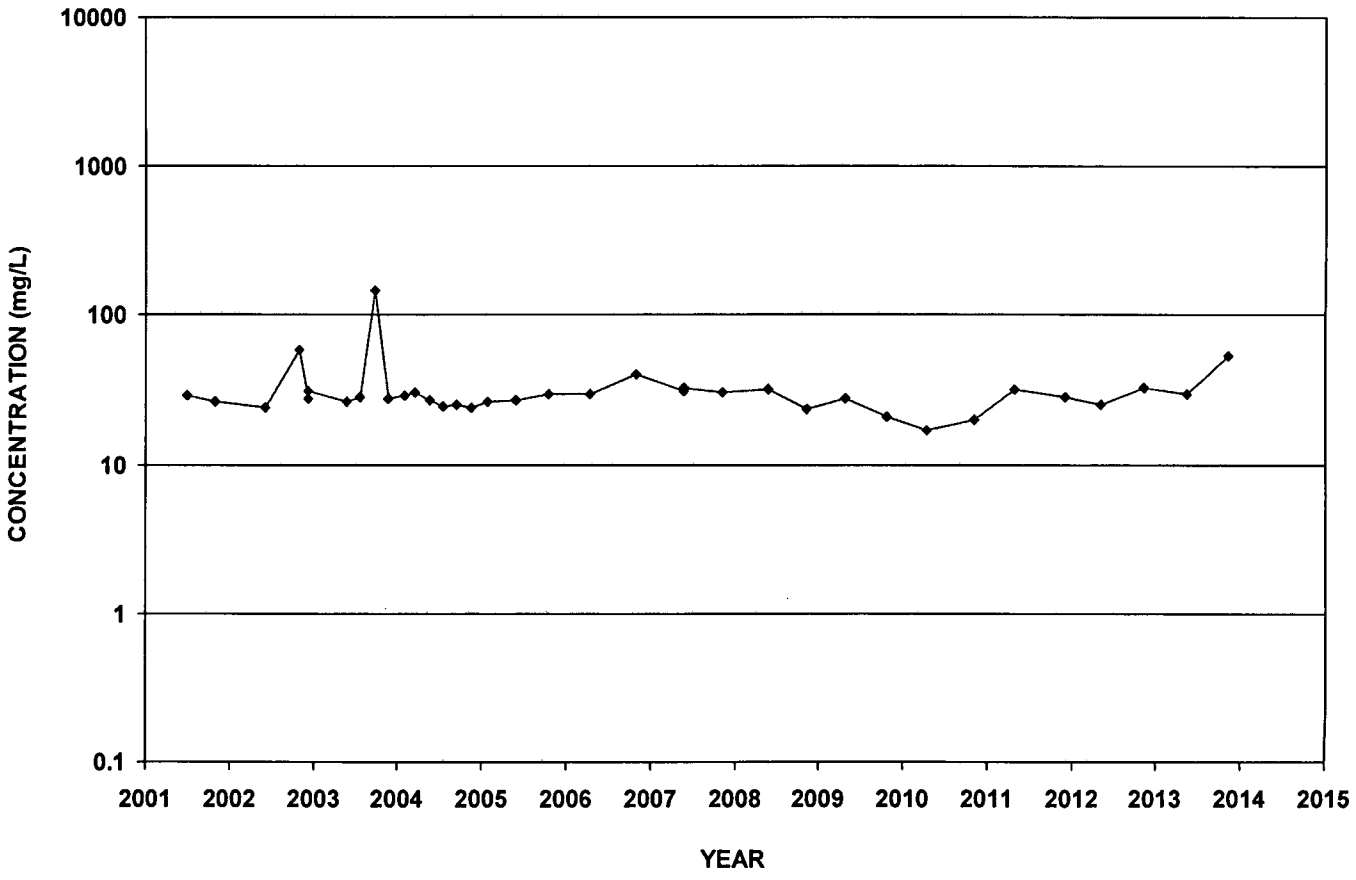
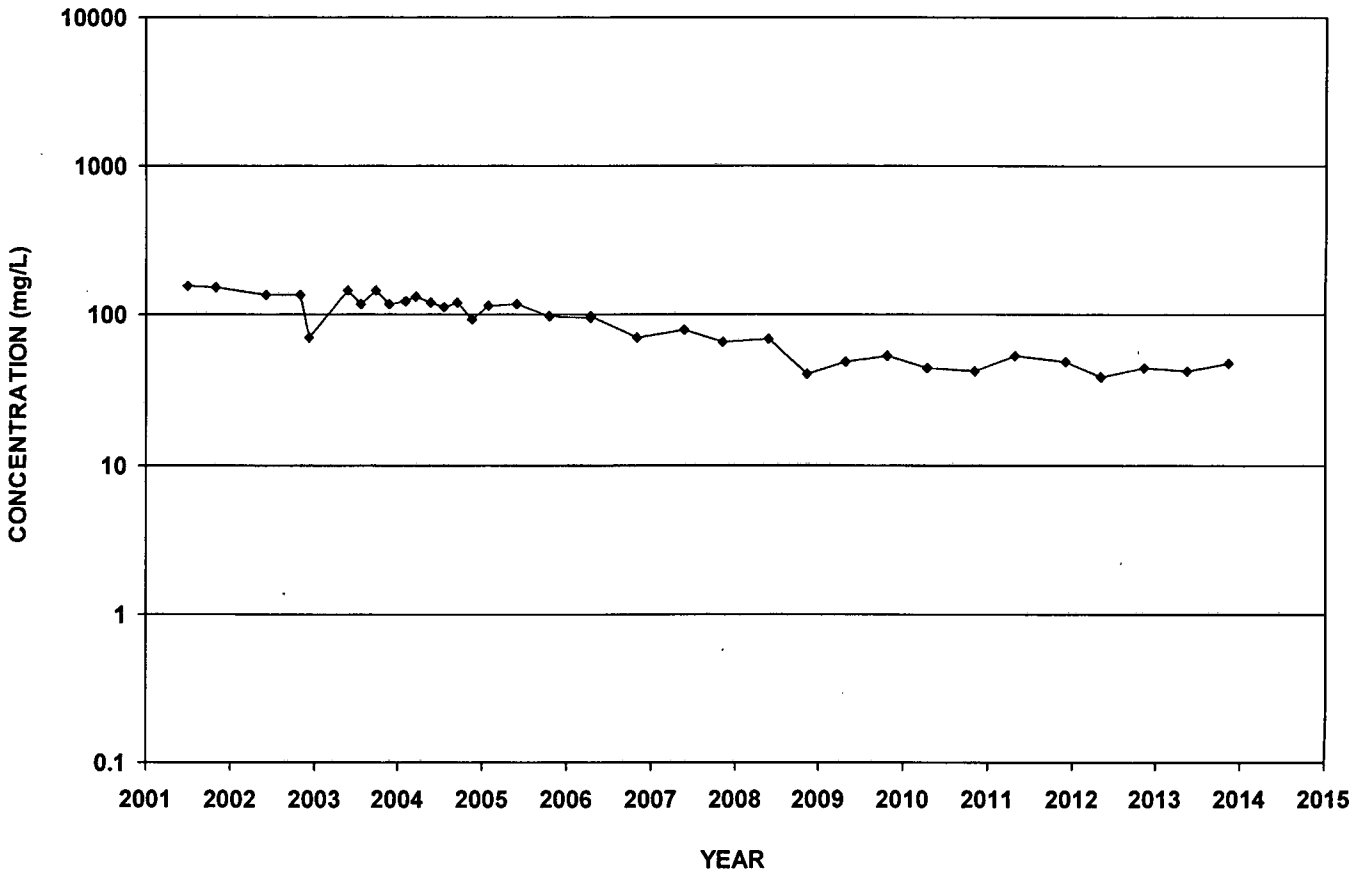
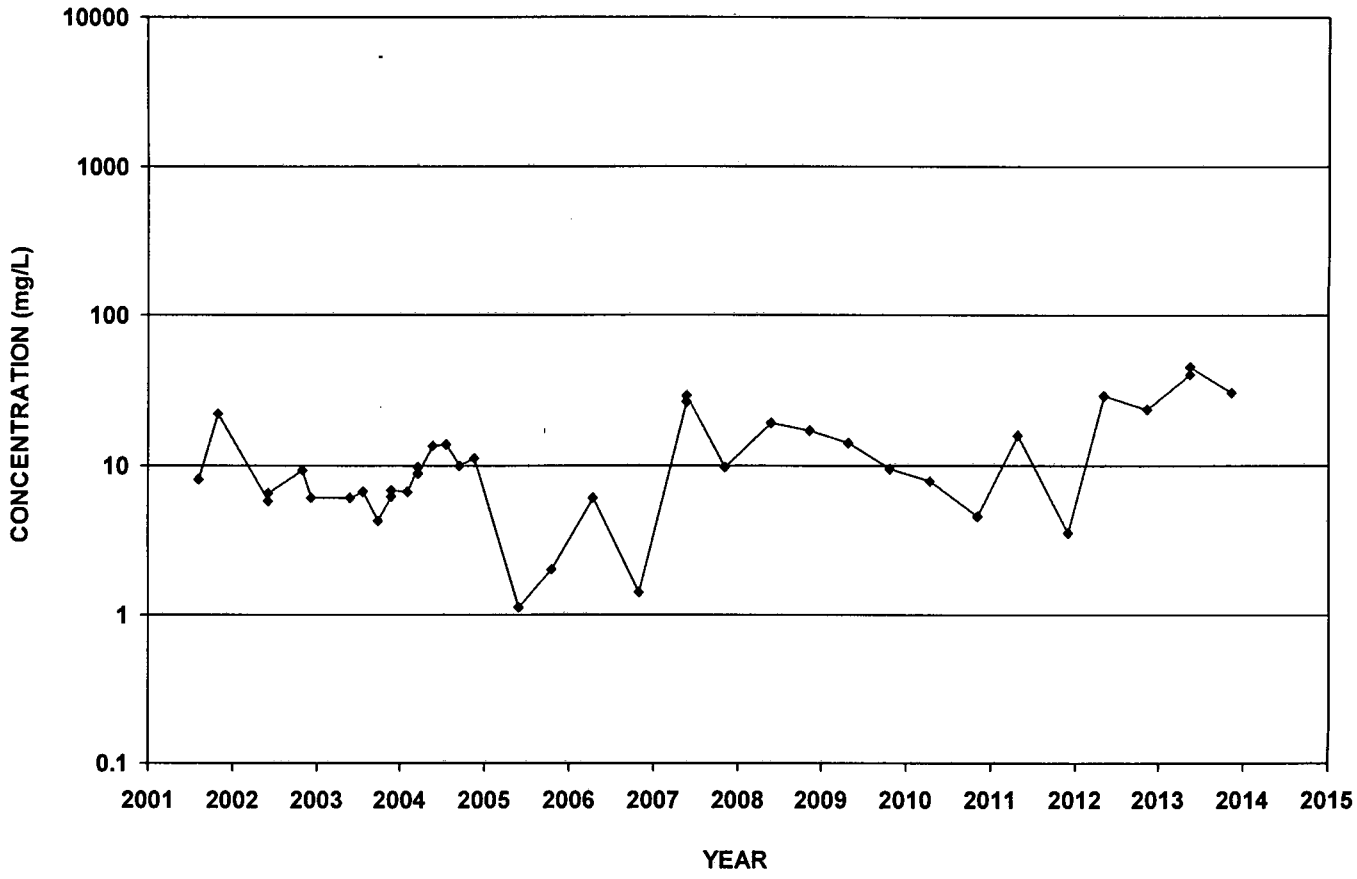
Nitrate-N



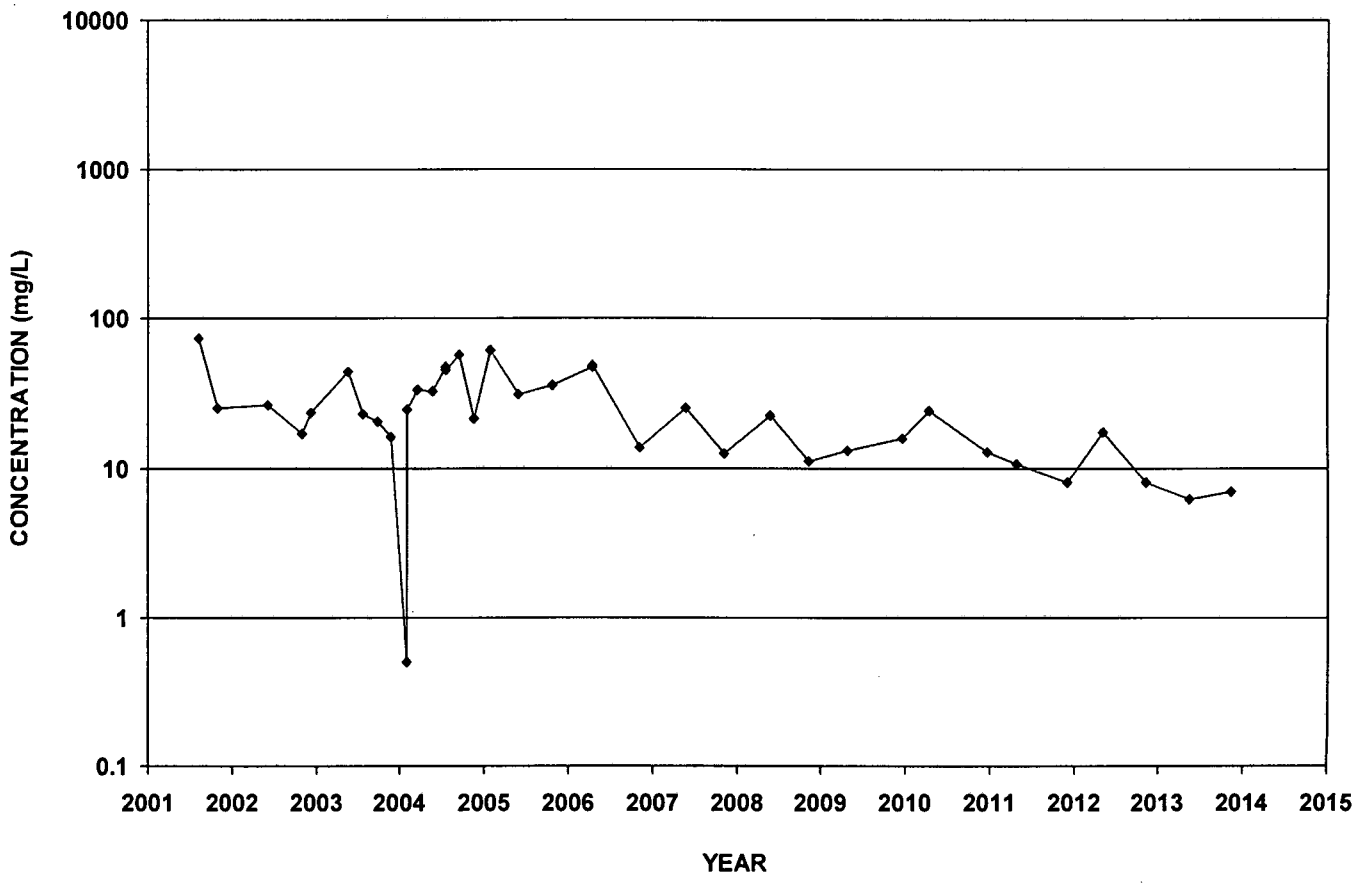
ECMW-10
Nitrate-N



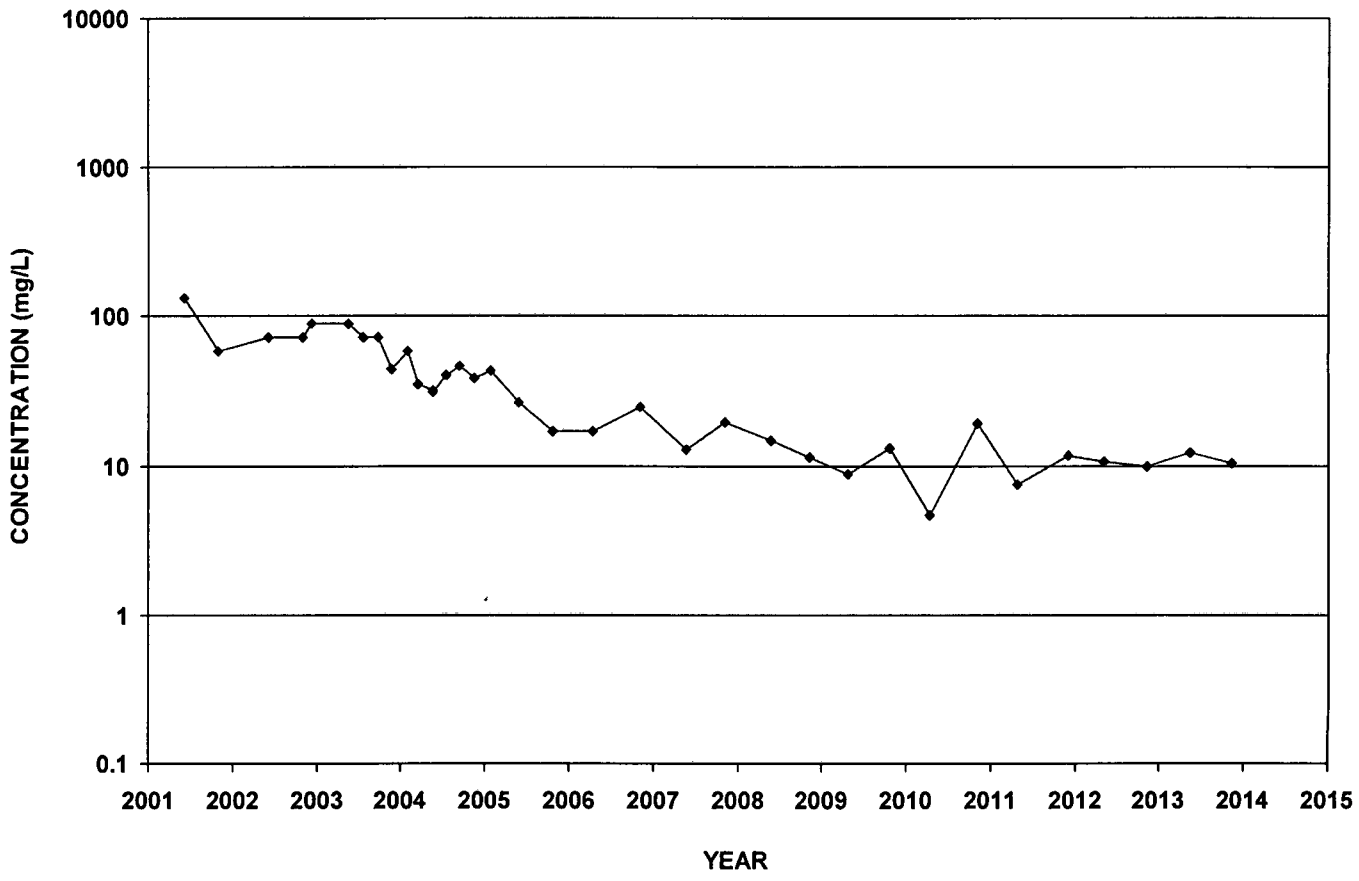
ECMW-11
Nitrate-N



ECMW-14
Nitrate-N



ECMW-16
Nitrate-N



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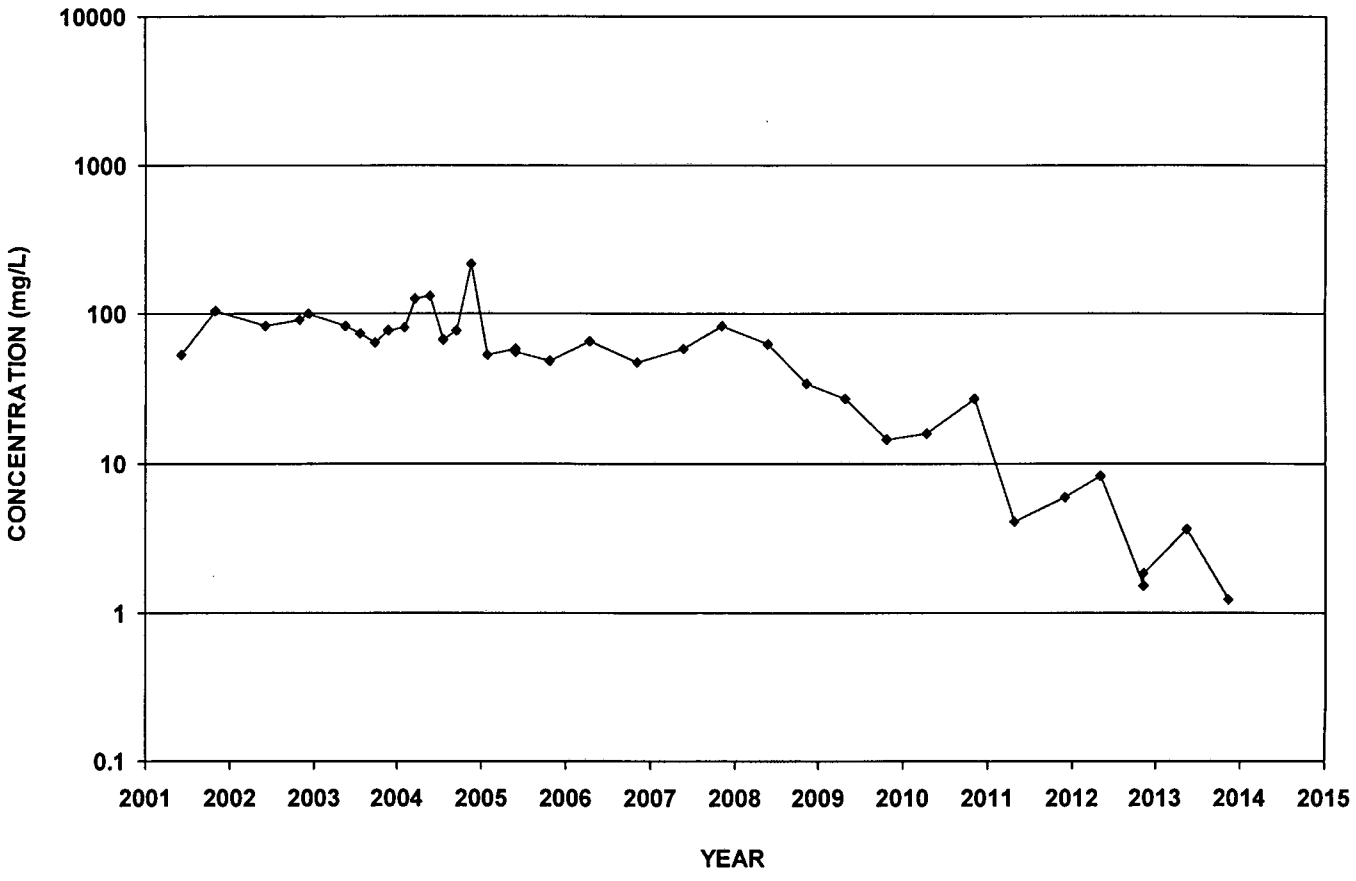
Nitrate-N



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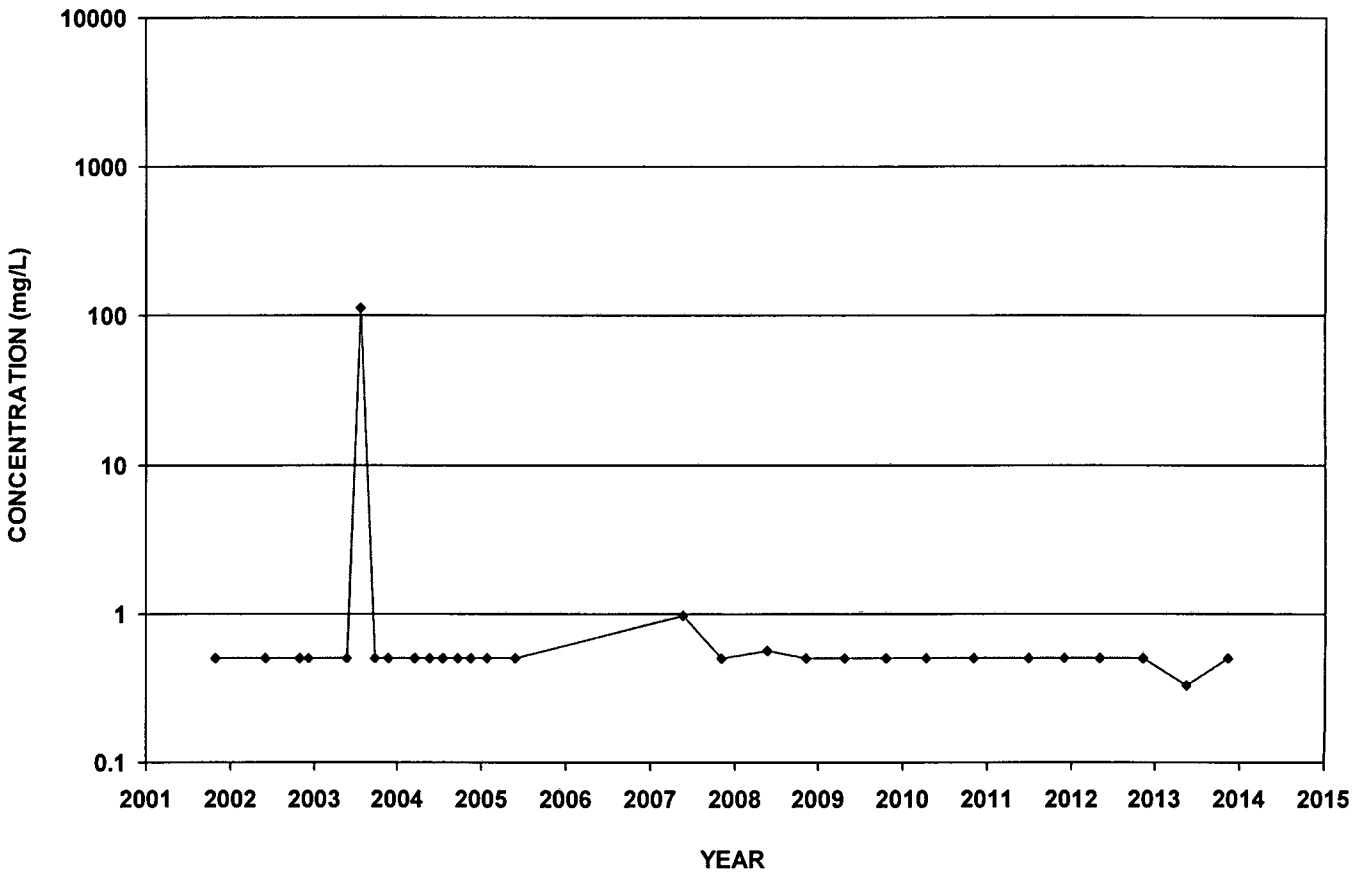
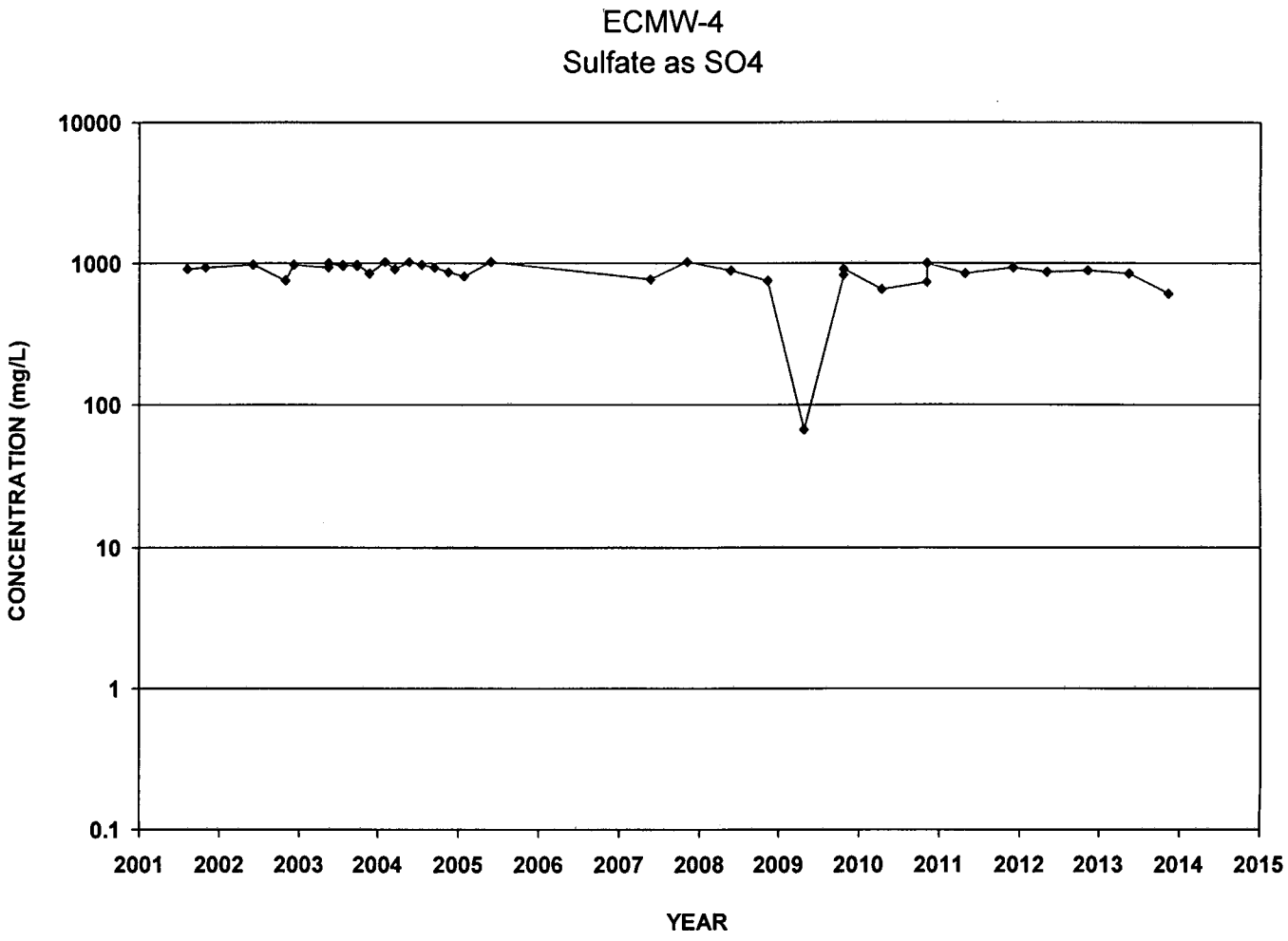
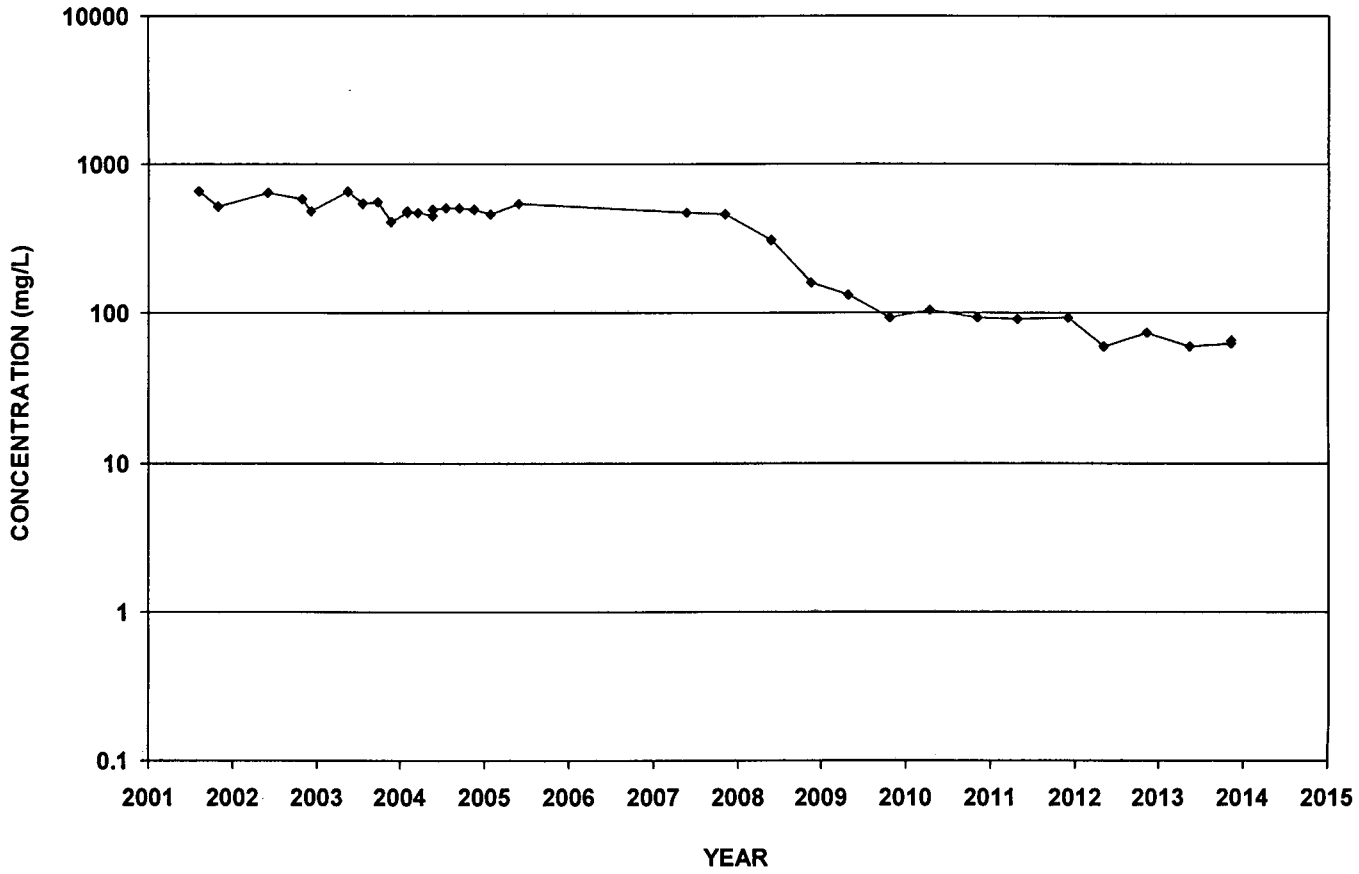
Nitrate-N

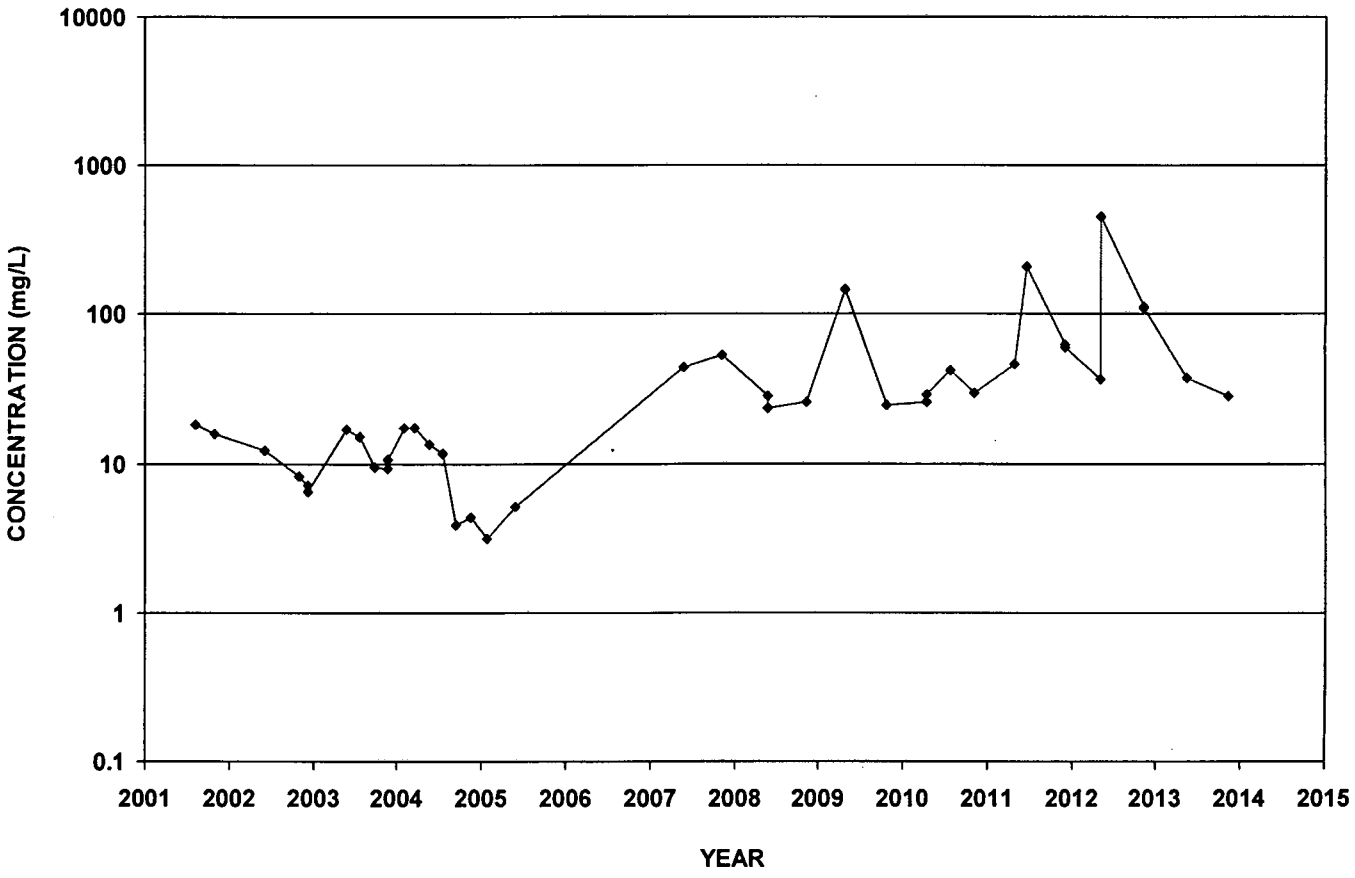



ECMW-4
Sulfate as SO4
10000
1000
100
10
1
0.1
CONCENTRATION (mg/L)
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
YEAR

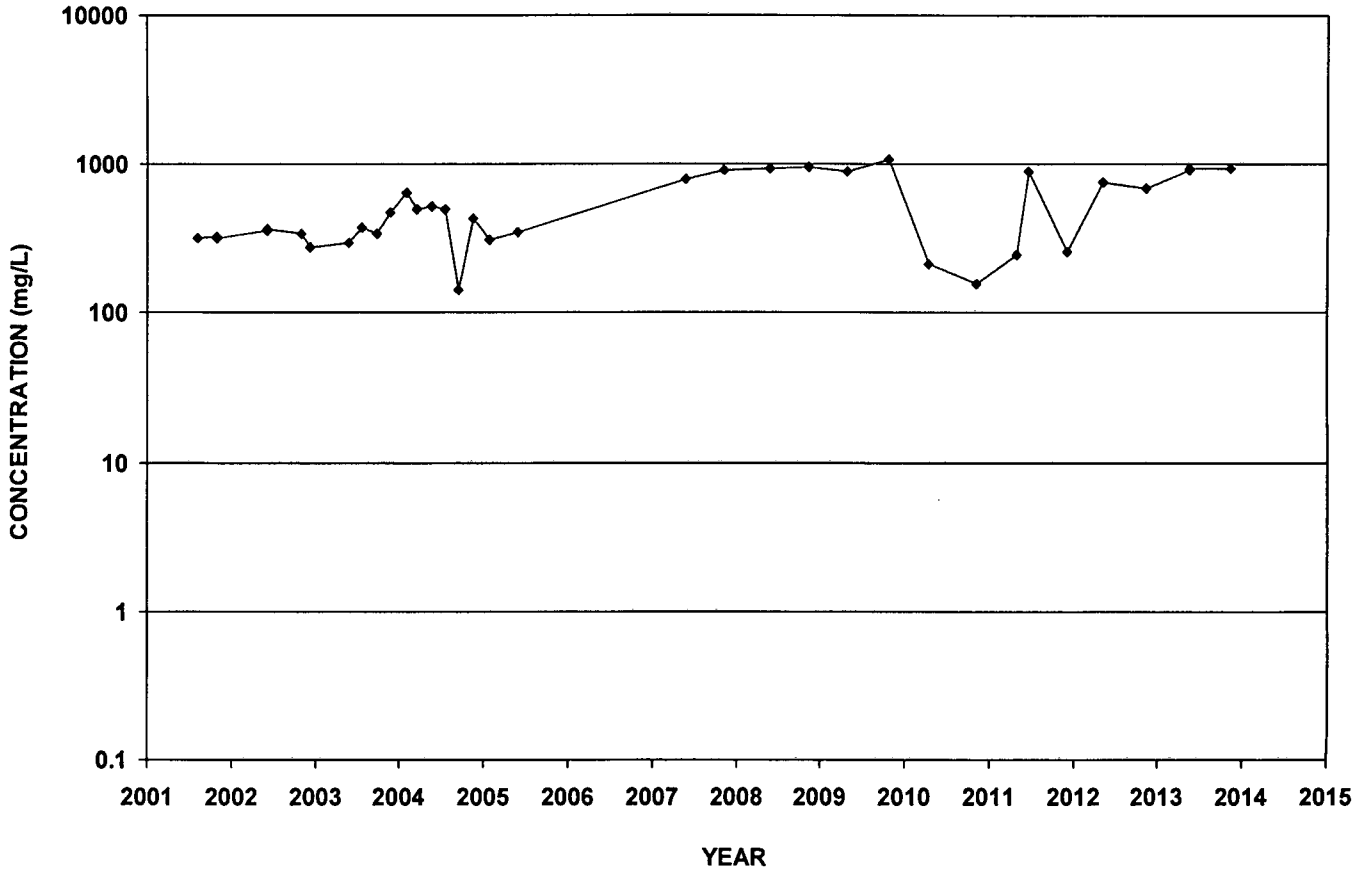
ECMW-5
Sulfate as SO4



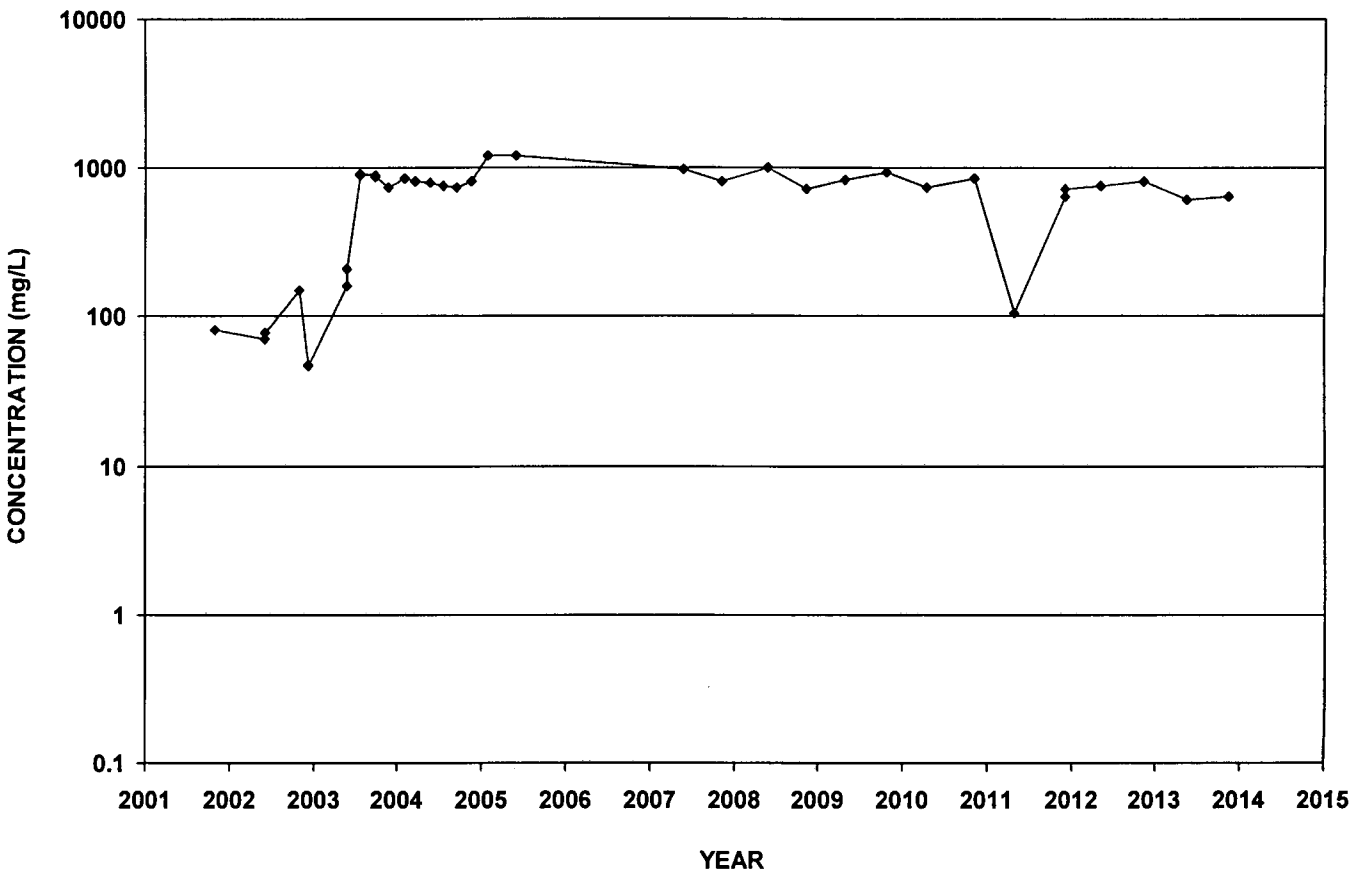
ECMW-6
Sulfate as SO4



ECMW-7
Sulfate as SO4



ECMW-8
Sulfate as SO4



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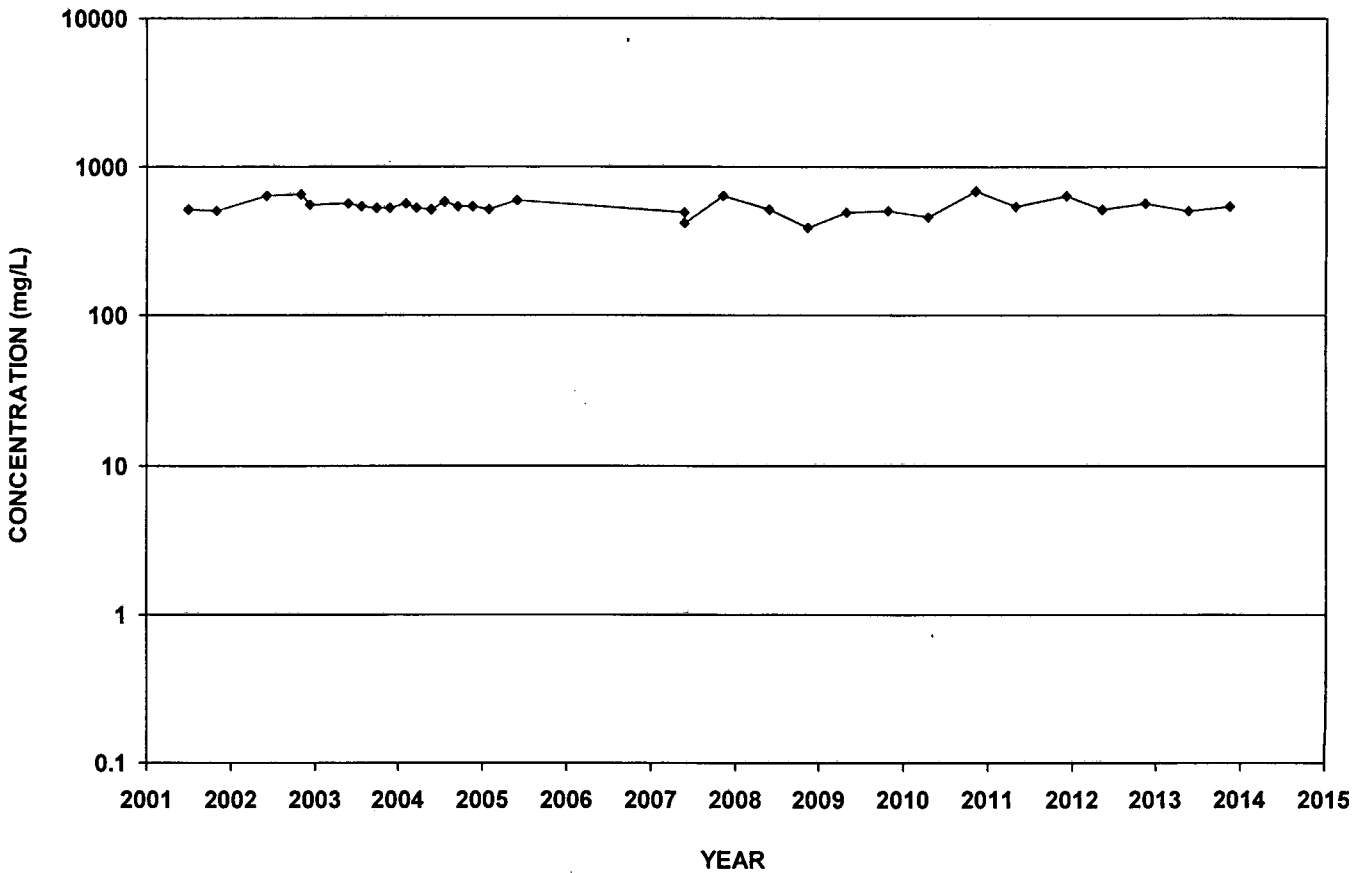
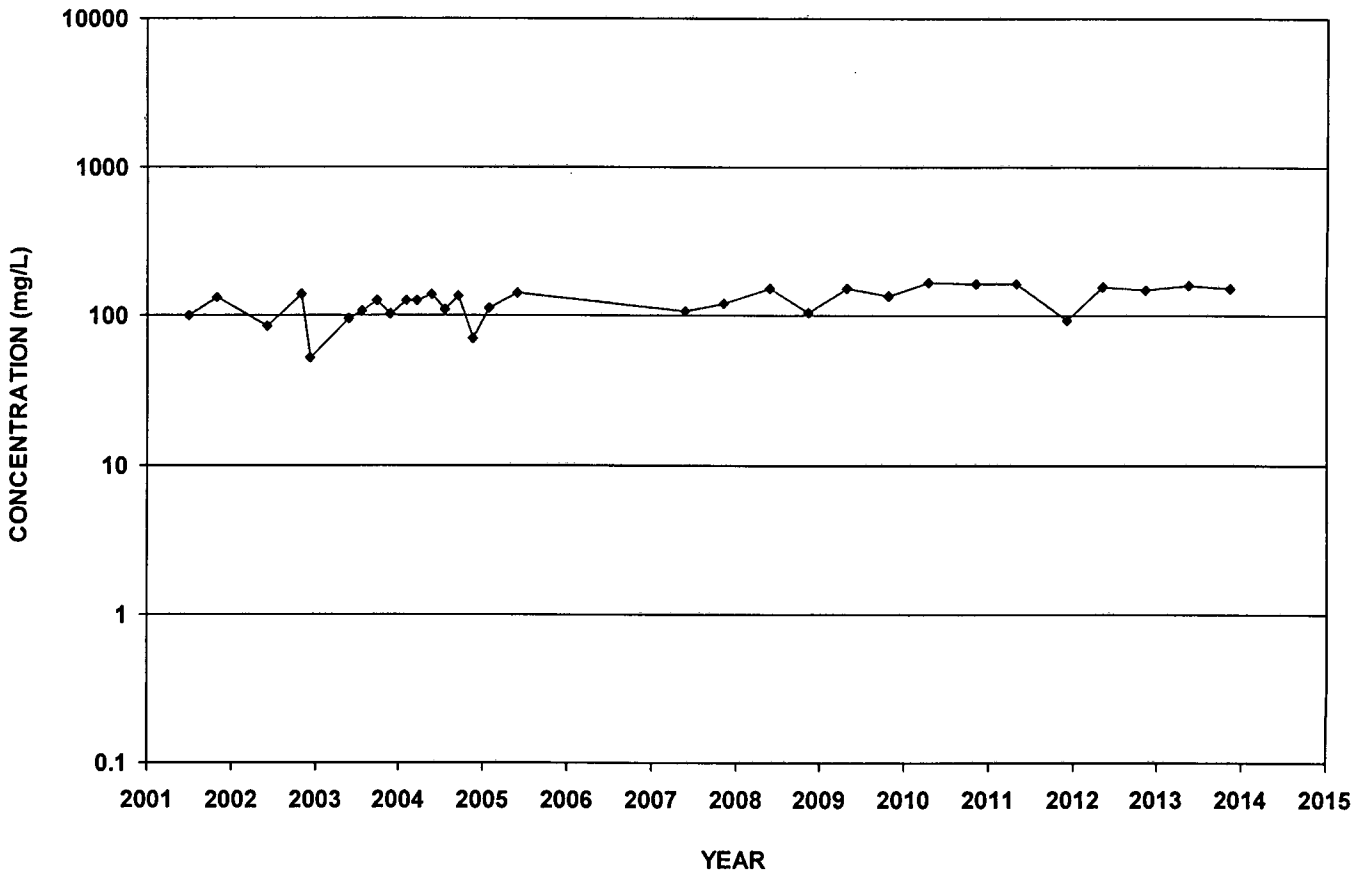
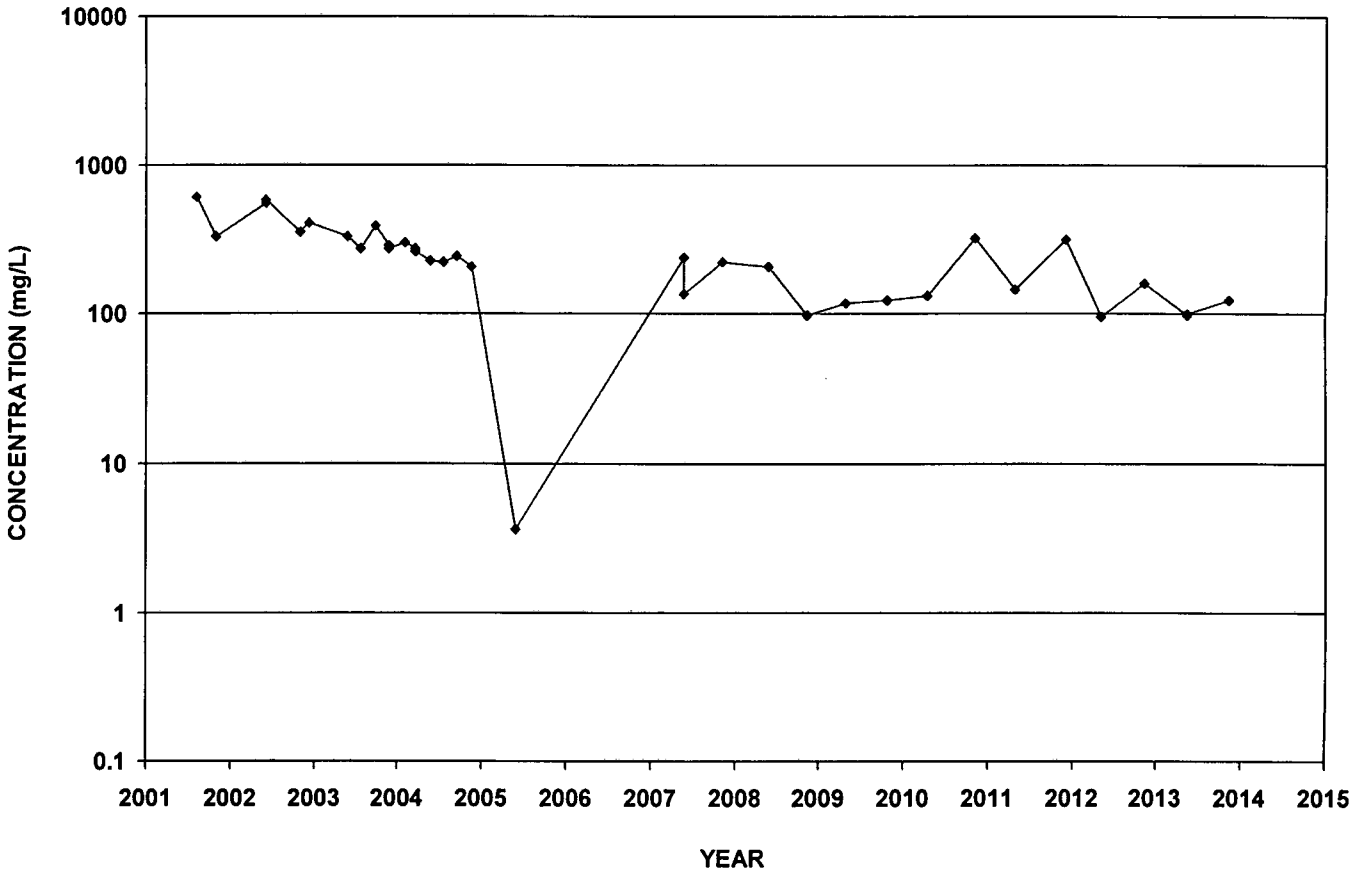
Sulfate as SO4



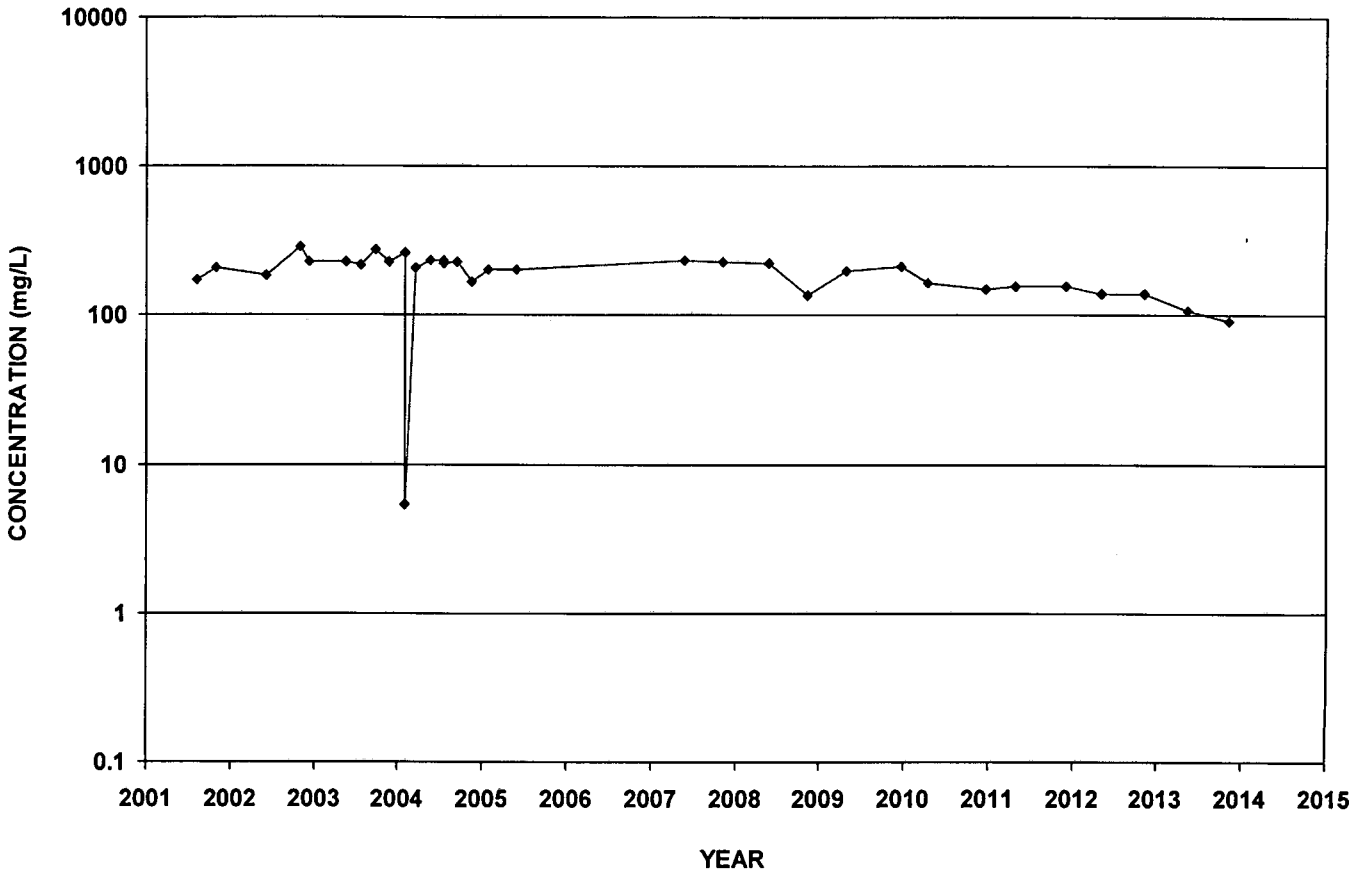
ECMW-10
Sulfate as SO4



ECMW-11
Sulfate as SO4



ECMW-14
Sulfate as SO4



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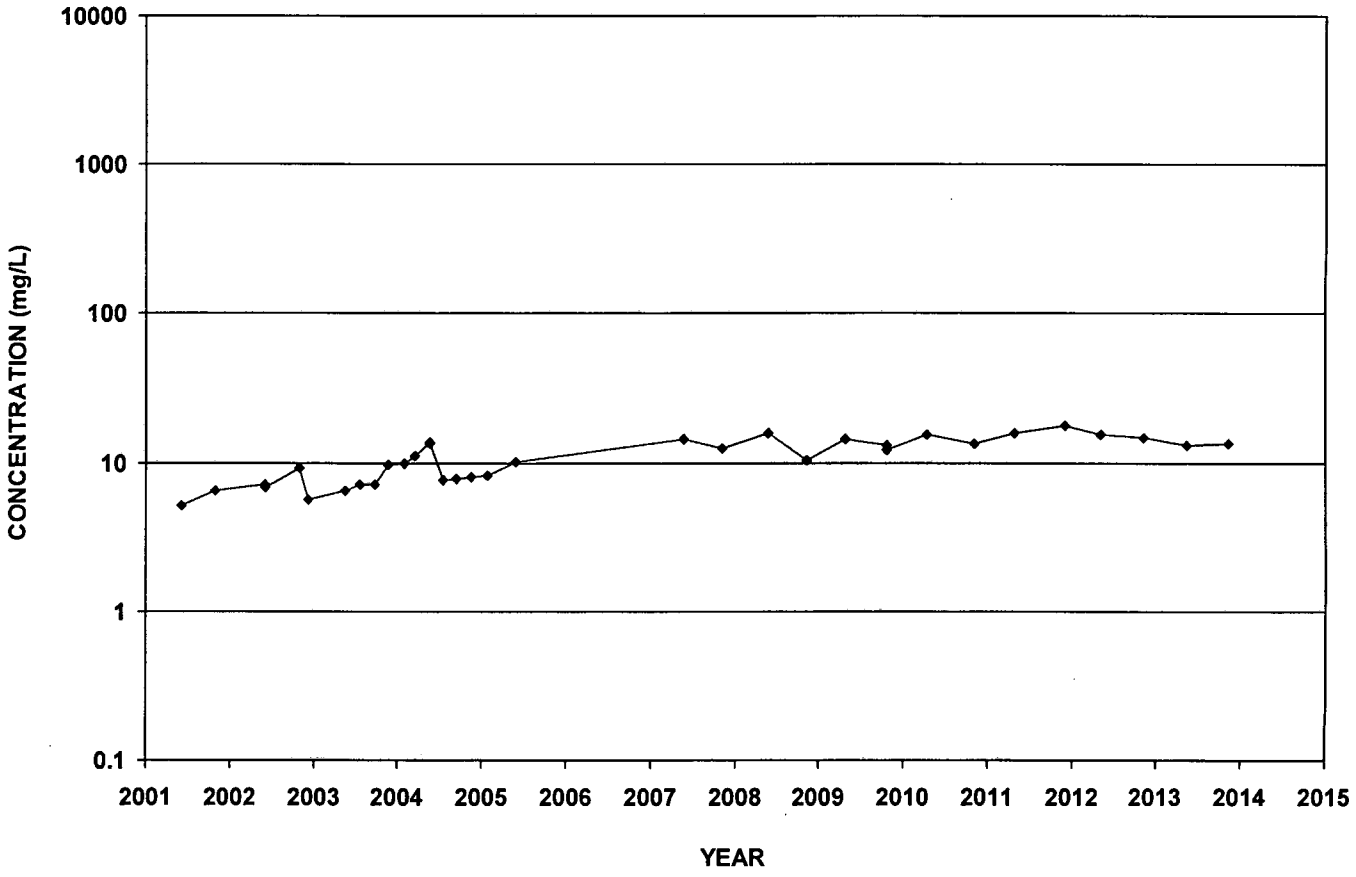
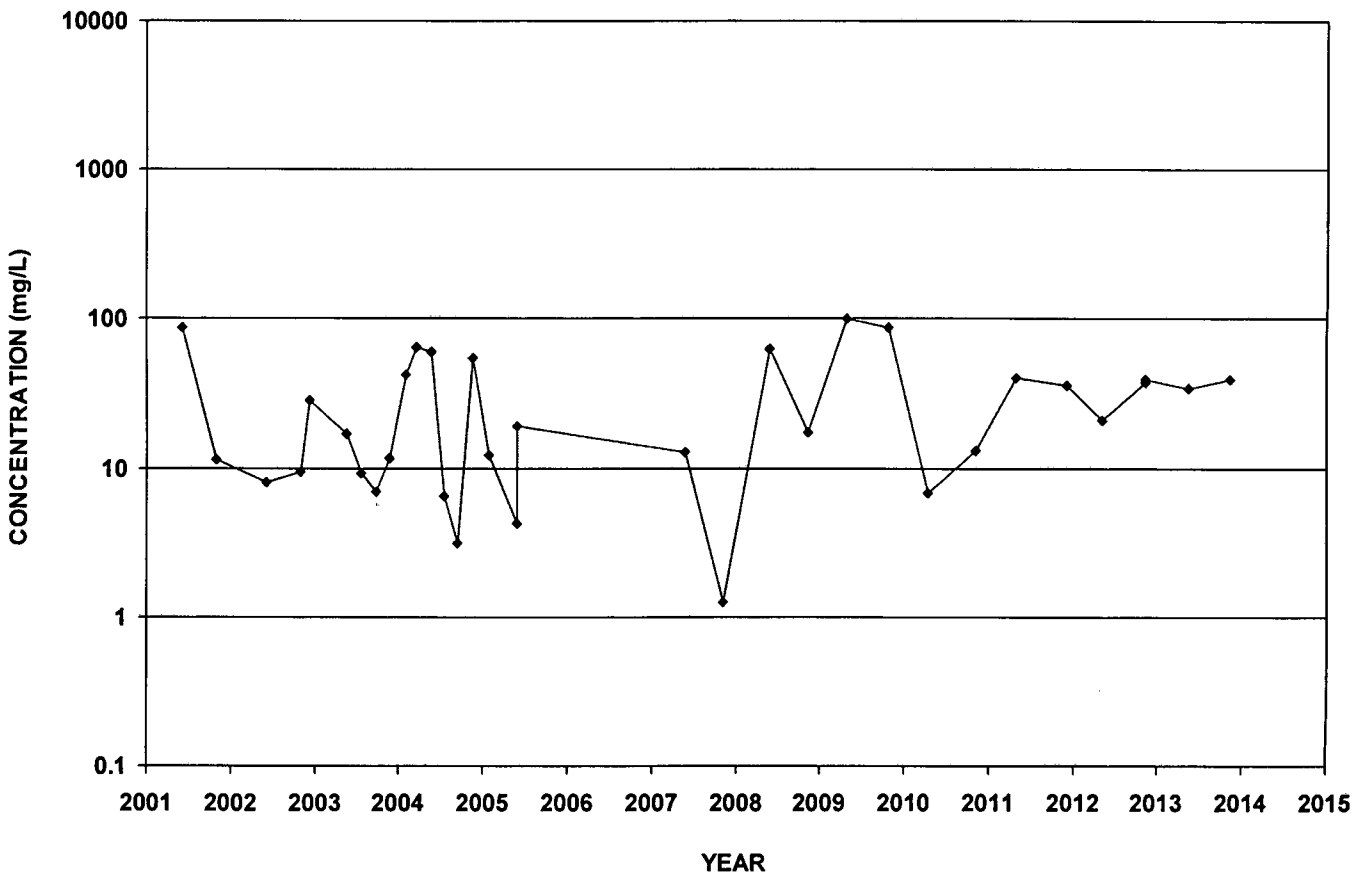
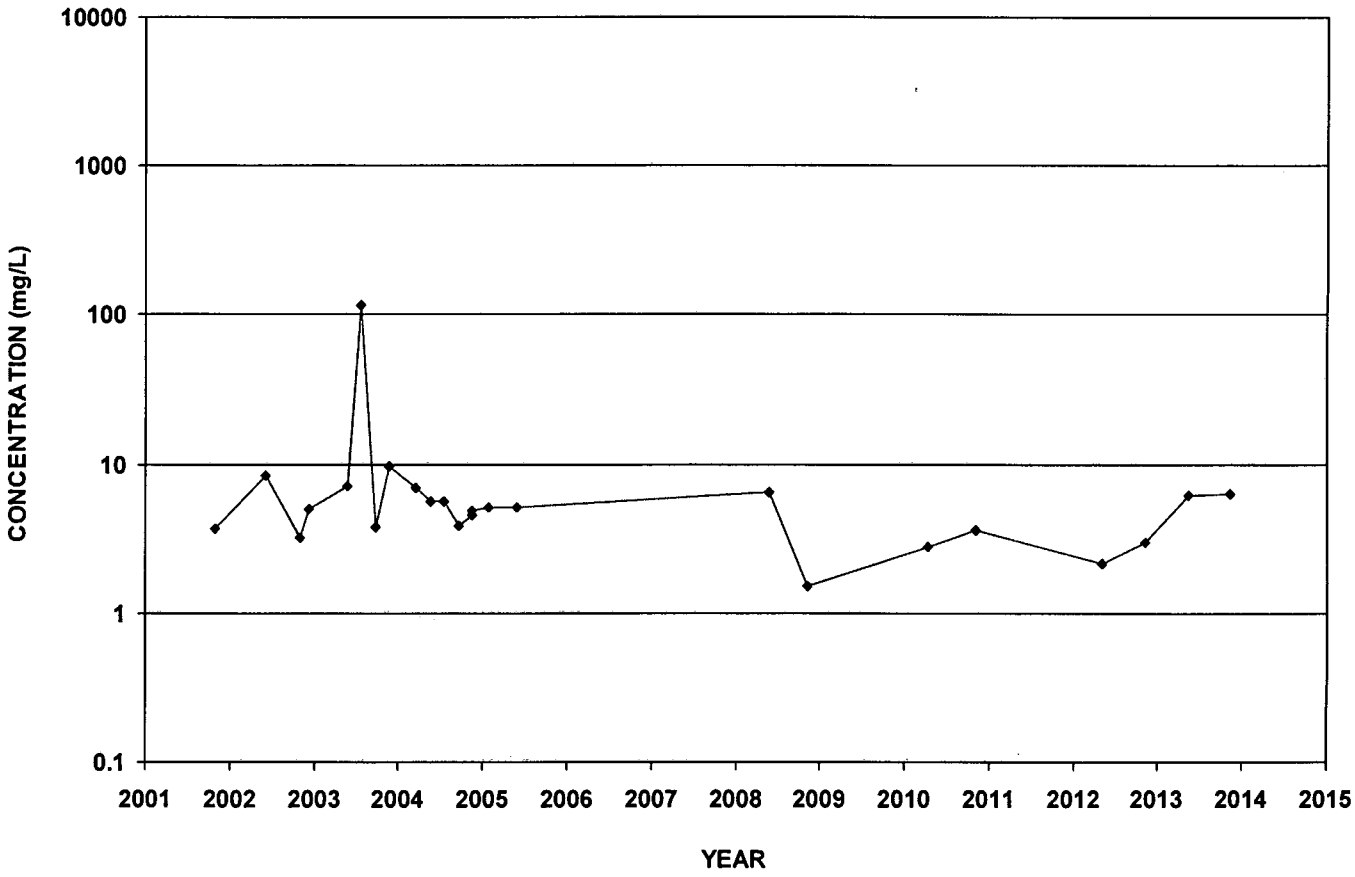
Sulfate as SO4



ECMW-17
Sulfate as SO4



ECMW-18
Sulfate as SO4



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Arkansas Dept of Env Quality
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5301 Northshore Dr.
North Little Rock, AR 72118

Ref # ELD002001
Invoice #
PO #
Dept #

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