

ENVIRONMENTAL 
MANAGEMENT SERVICES, INC.

March 27, 2014

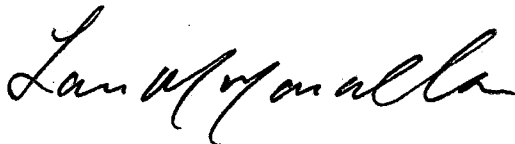
Linda Hanson, P.G.
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

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

El Dorado Chemical Company

Prepared By:

ENVIRONMENTAL 
MANAGEMENT SERVICES, INC.

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March 27, 2014

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

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EL DORADO CHEMICAL COMPANY
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:



Lauren M. Marcella

Date: March 27, 2014

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**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 ($\mu\text{S}/\text{cm}$) 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 diameter 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 diameter 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

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

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	--

"--" - Parameter not analyzed

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

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	--	--	--	--	--	--	--

"--" - Parameter not analyzed

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									
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	--

"--" - Parameter not analyzed

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".

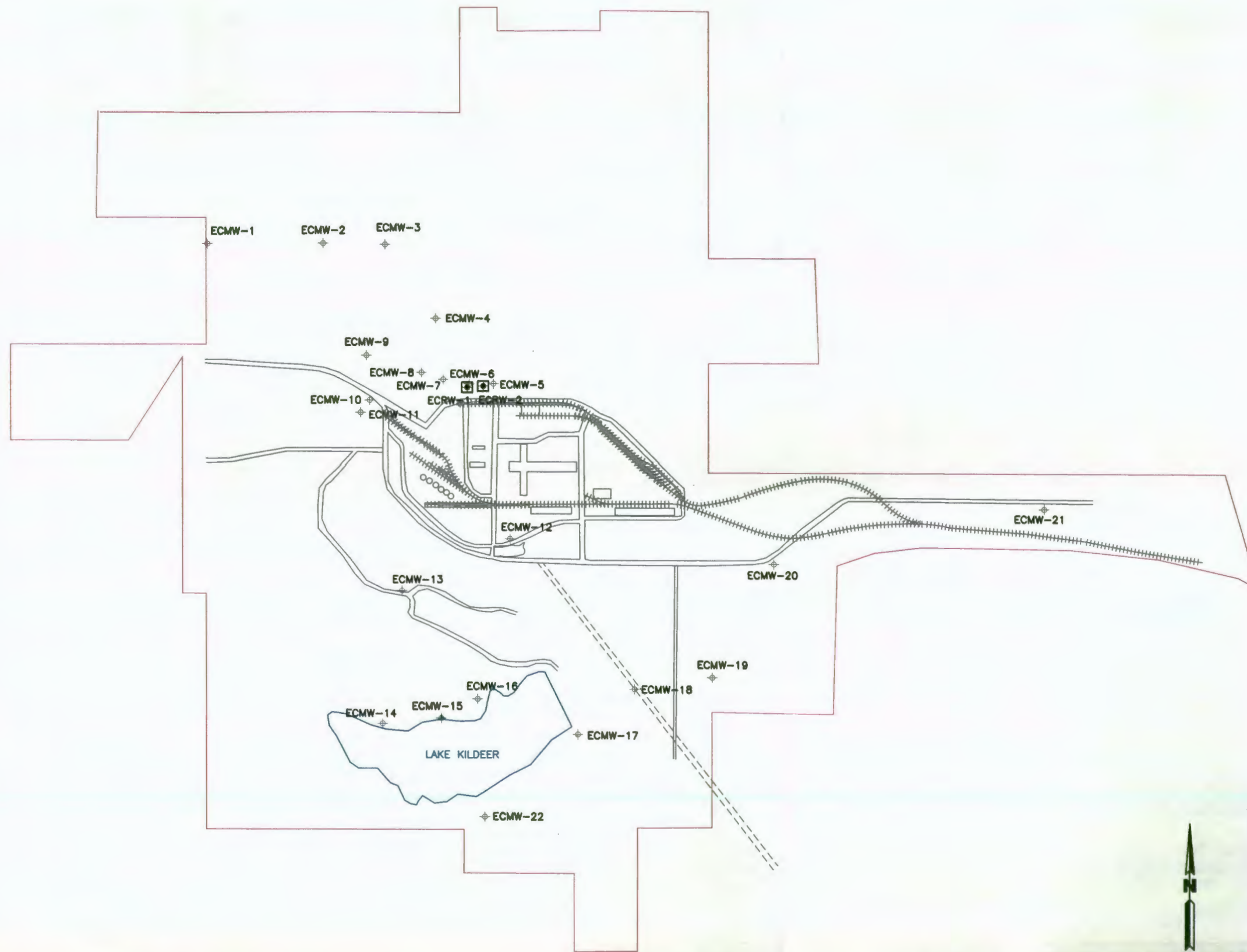
TABLE 25
ECMW-22 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

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



LEGEND

- ◆ MONITOR WELLS
- ⊠ RECOVERY WELLS
- PROPERTY BOUNDARY

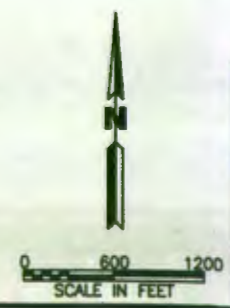
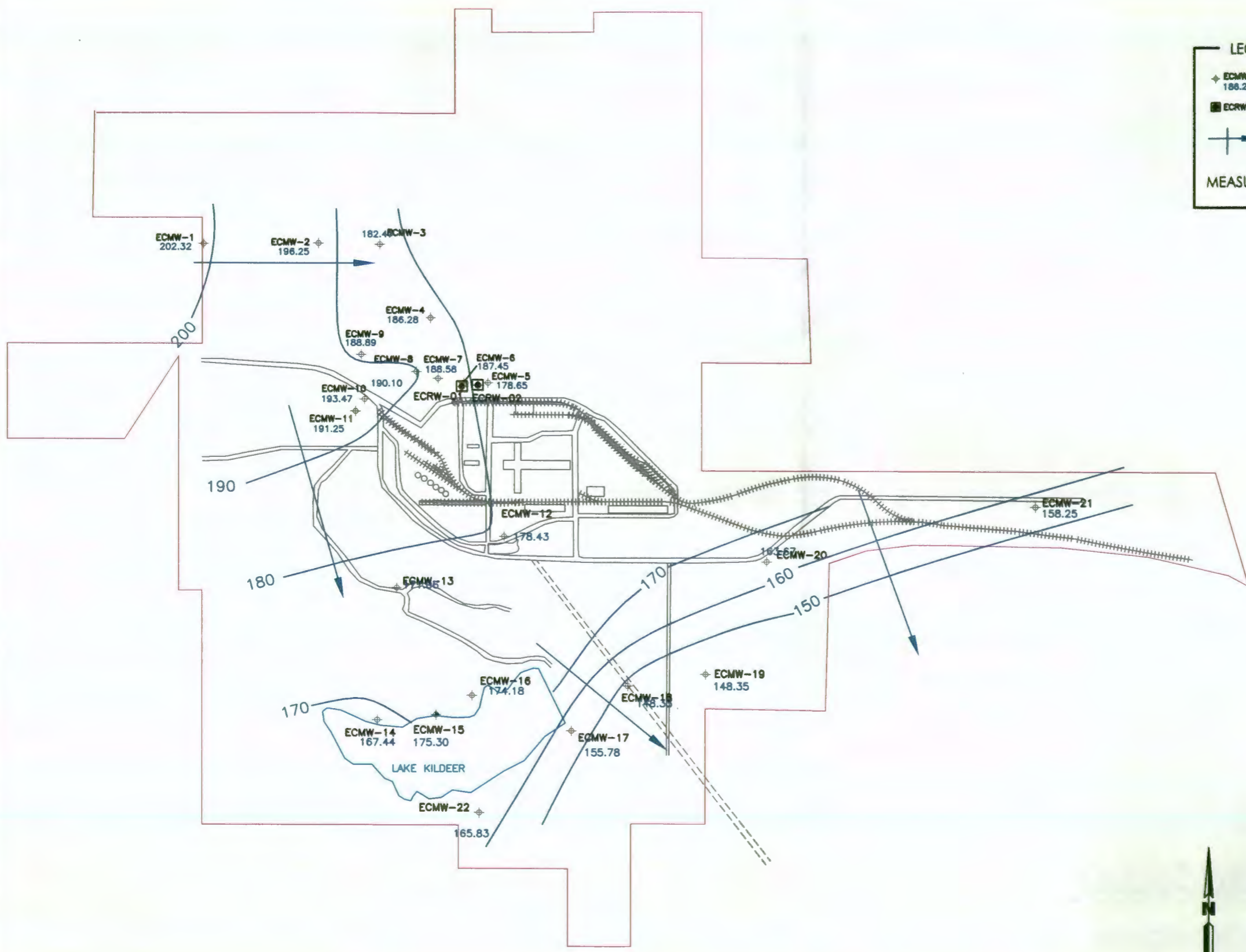
EL DORADO

SITE MAP 2013 ANNUAL GROUND WATER REPORT EL DORADO CHEMICAL COMPANY EL DORADO, ARKANSAS			
DATE:	03/17/2014	APPROVED:	DRAWN BY: LMM
SCALE:	see above	BY: SB DATE: 3/17/14	CAD NO. 02EC0100
ENVIRONMENTAL MANAGEMENT SERVICES, INC.			FIGURE 1

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



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: <i>SR</i>	DRAWN BY: LJM
SCALE: as shown	DATE: 3/27/14	CAD NO. 02EC0100

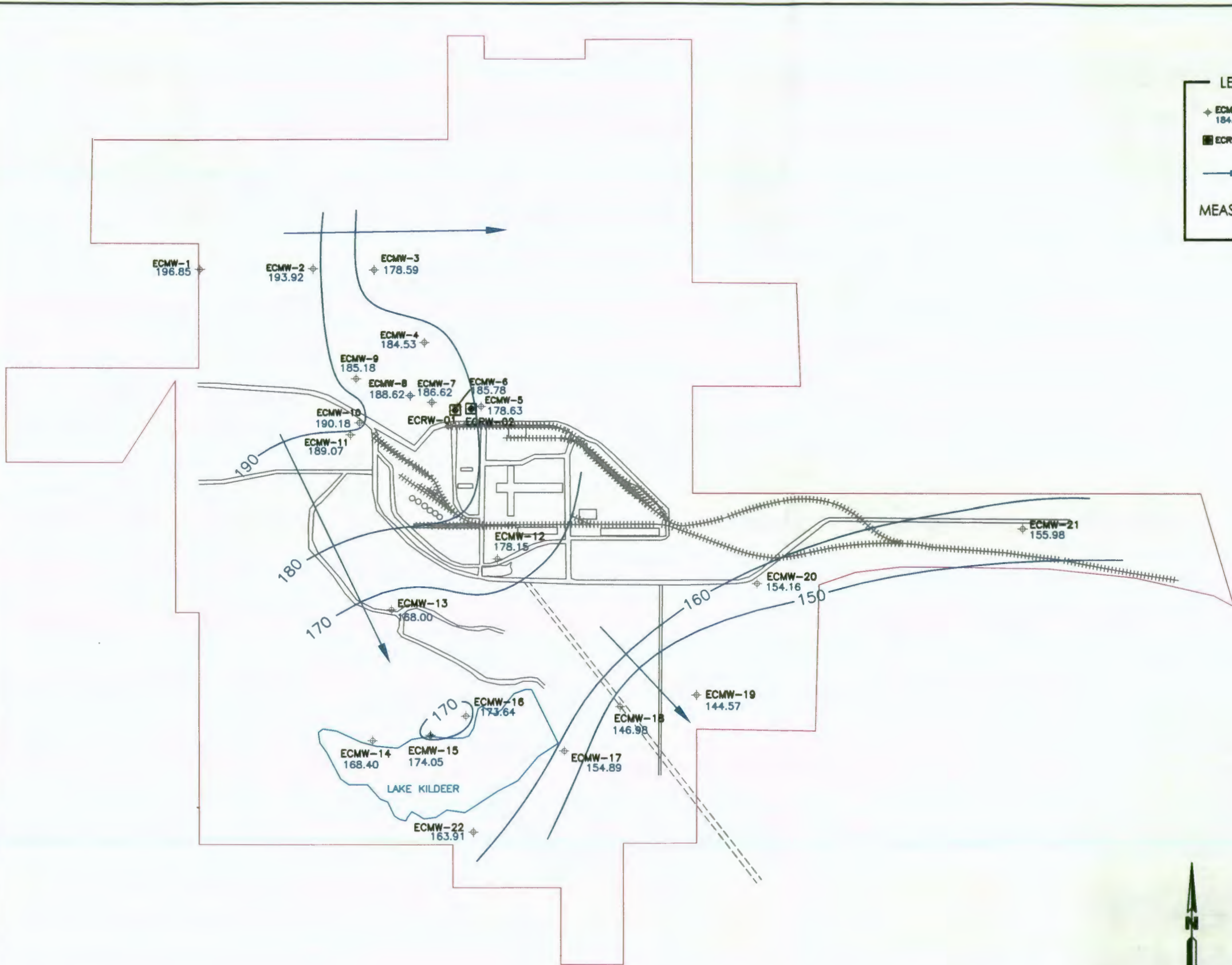
ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

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



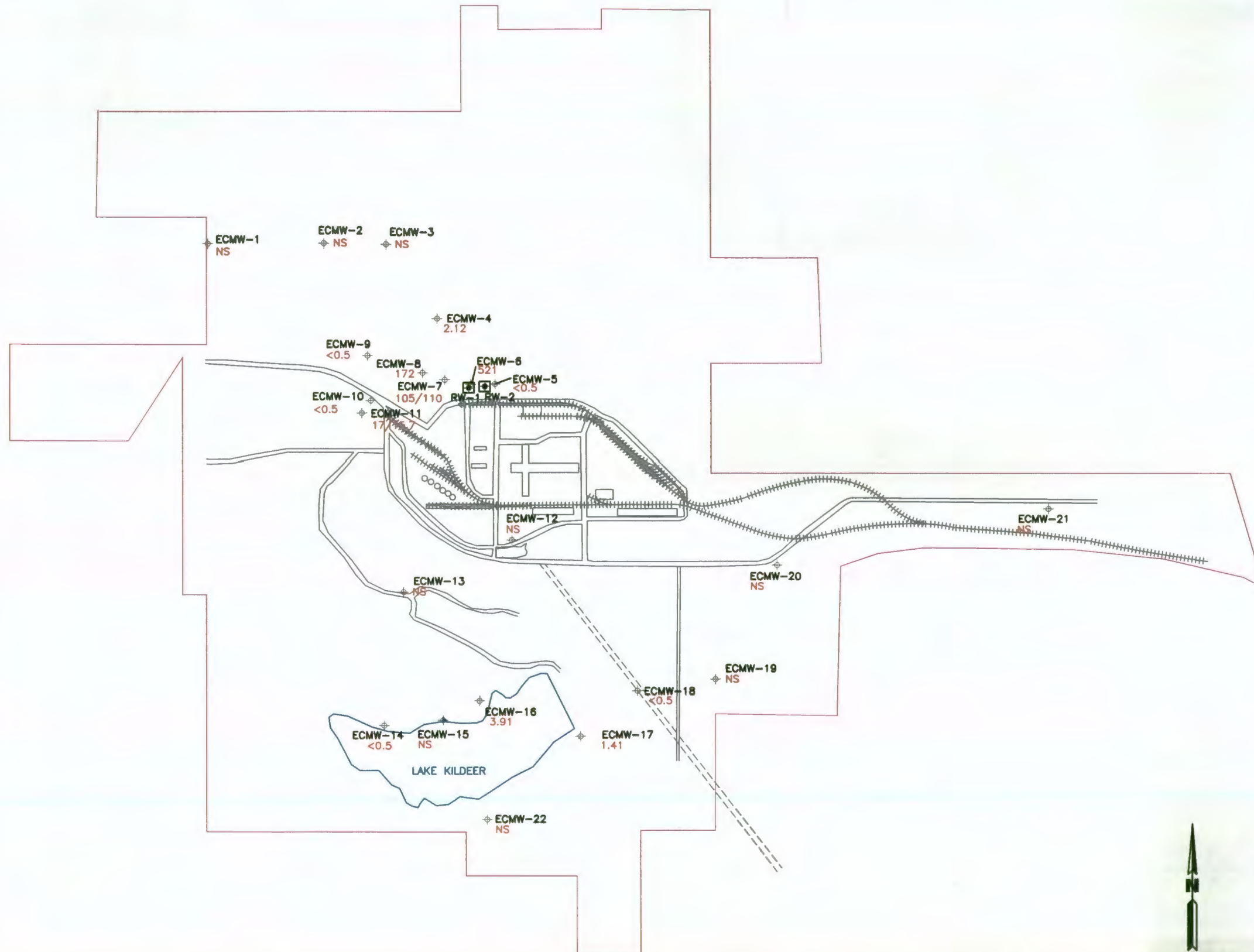
EL DORADO

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

DATE: 03/17/2014	APPROVED: <i>SR</i>	DRAWN BY: LJM
SCALE: as shown	DATE: 3/17/14	CAD NO. 02EC0100

ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

FIGURE
3



LEGEND

- PROPERTY BOUNDARY
- ◆ ECMW-4 MONITOR WELL WITH AMMONIA CONCENTRATION (mg/L)
- ⊠ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years



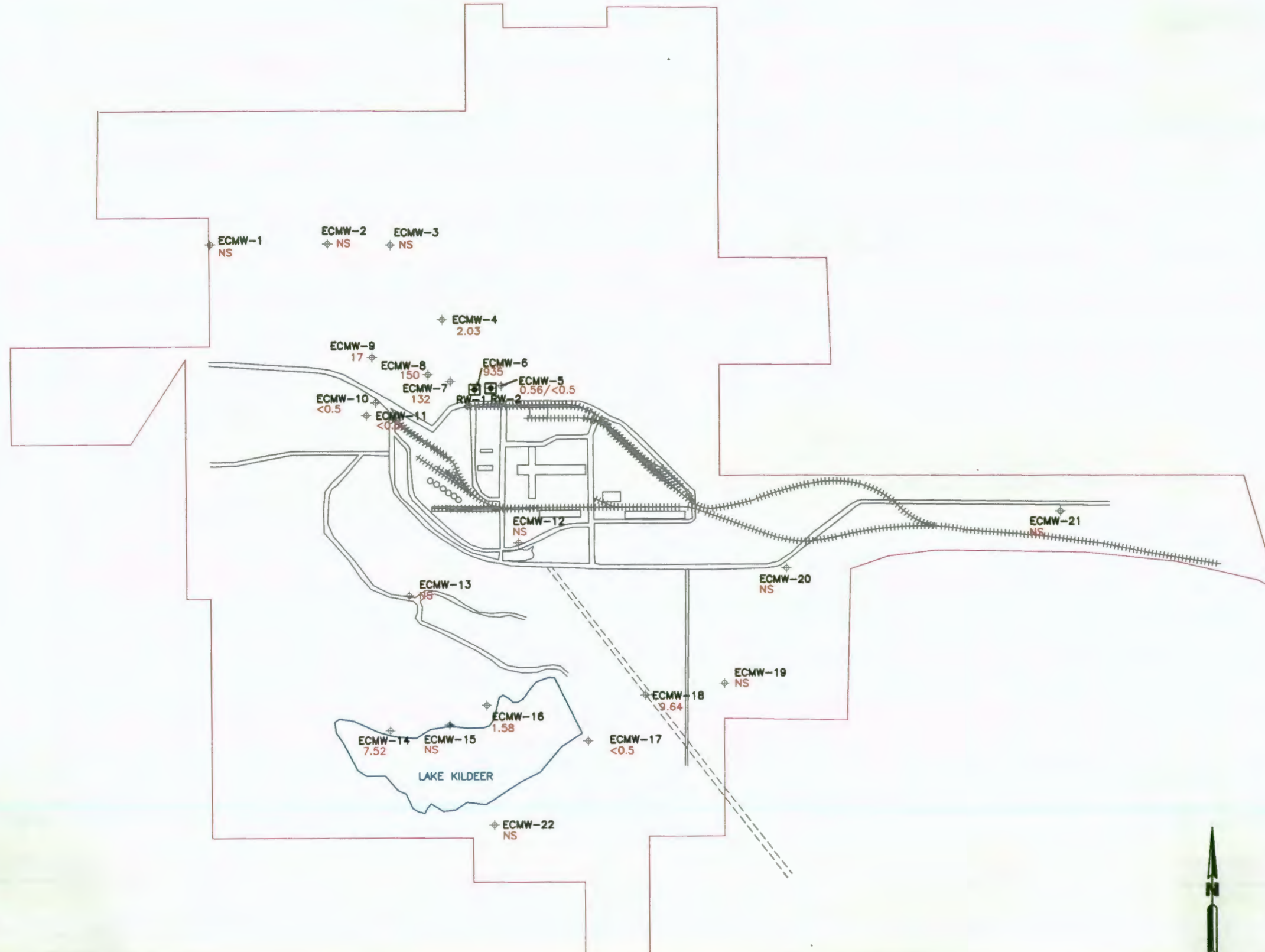
EL DORADO

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

DATE: 03/17/2014	APPROVED: <i>SR</i>	DRAWN BY: LMM
SCALE: as shown	BY: <i>SR</i>	CAD NO. 02E00100

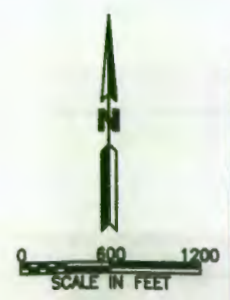
ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

FIGURE
4



LEGEND

- PROPERTY BOUNDARY
- ◆ ECMW-4 MONITOR WELL WITH AMMONIA CONCENTRATION (mg/L)
2.03
- ☒ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years

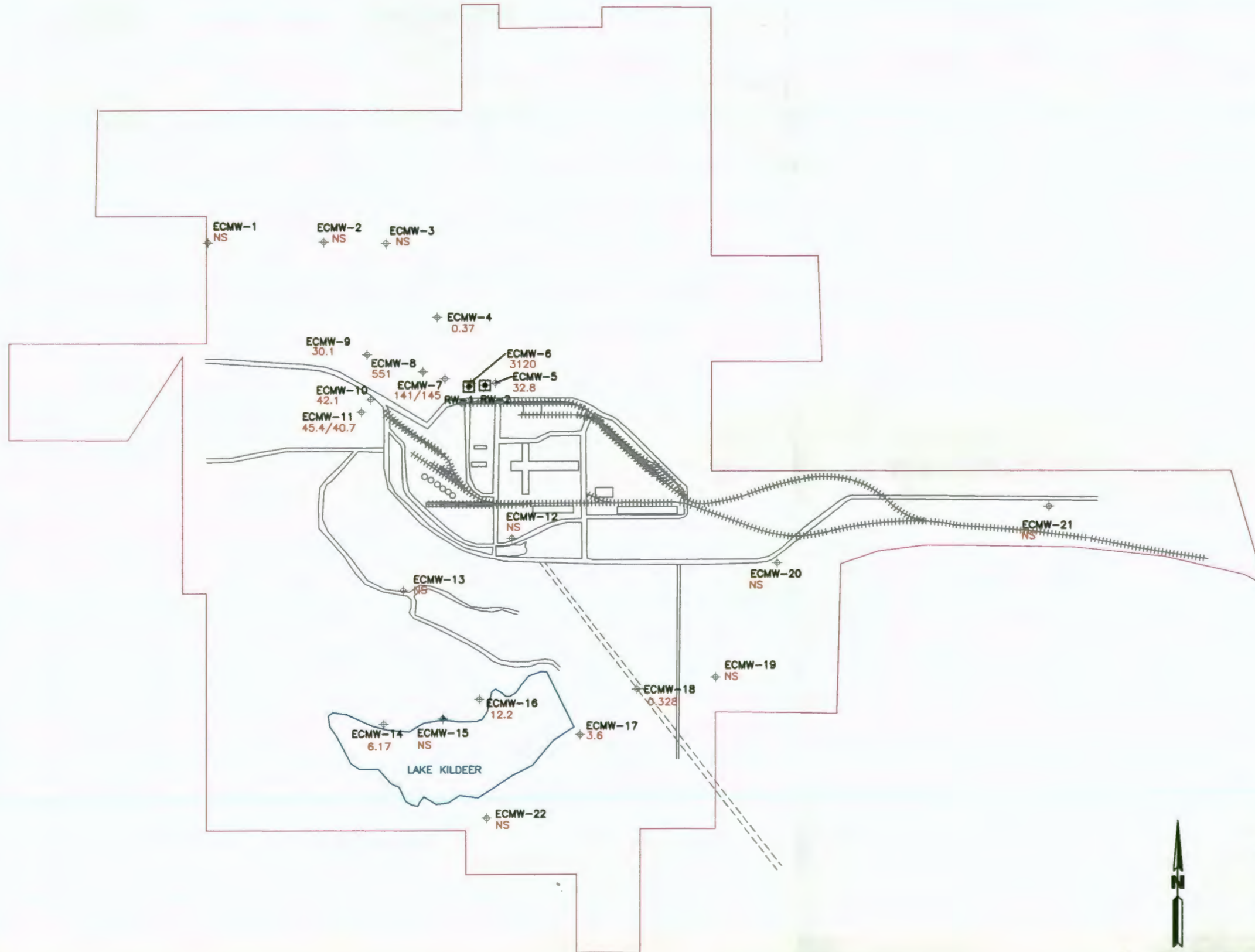


EL DORADO

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

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

ENVIRONMENTAL
MANAGEMENT SERVICES, INC.



LEGEND

- PROPERTY BOUNDARY
- ◆ ECMW-4 MONITOR WELL WITH NITRATE CONCENTRATION (mg/L)
- ⊕ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years

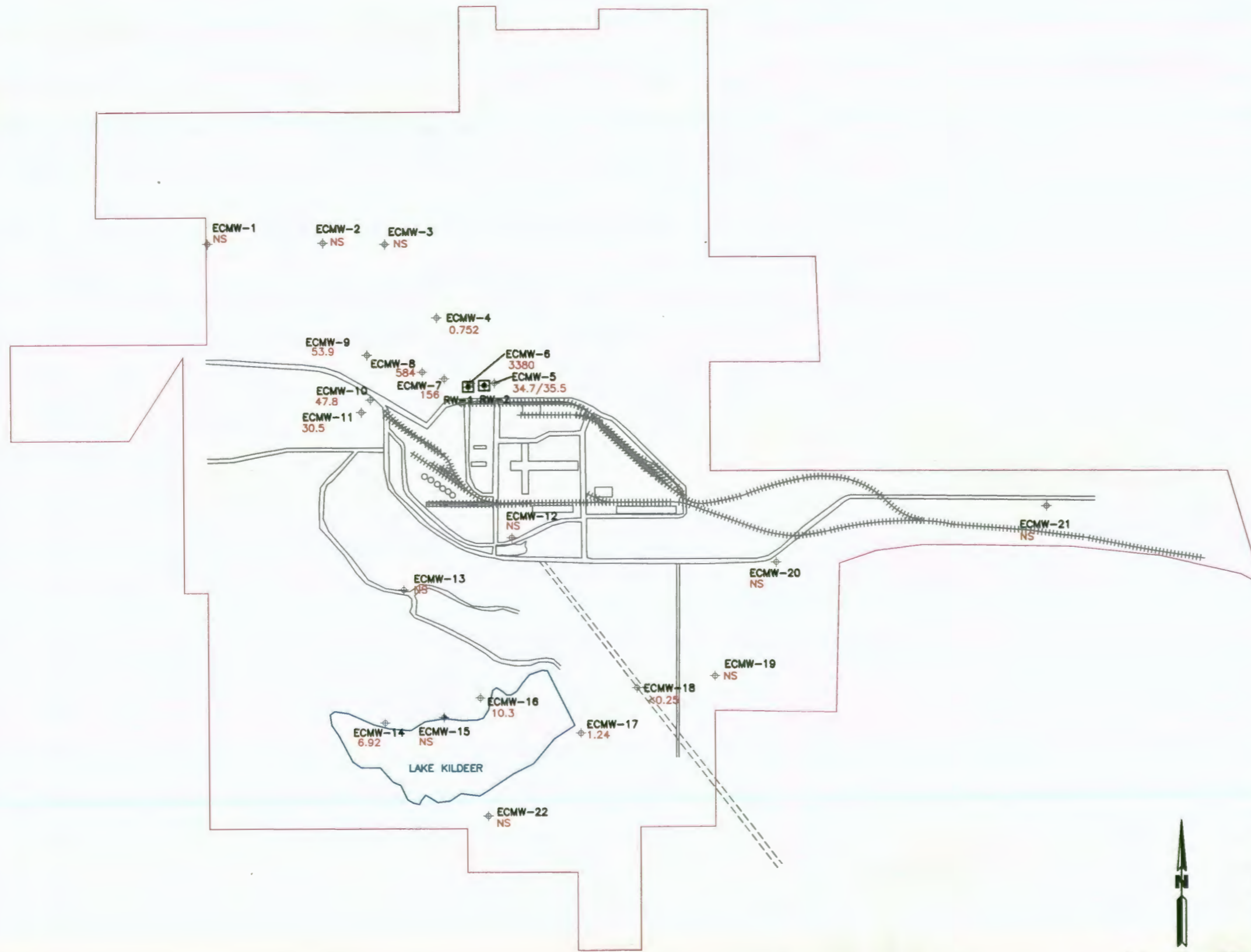


EL DORADO

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

DATE: 03/17/2014	APPROVED BY: <i>SR</i>	DRAWN BY: LMB	
SCALE: as shown	DATE: 3/22/14	CAD NO. 02ECO100	FIGURE 6

ENVIRONMENTAL
MANAGEMENT SERVICES, INC.



LEGEND

- PROPERTY BOUNDARY
- ⊕ ECMW-4 MONITOR WELL WITH NITRATE CONCENTRATION (mg/L)
- ⊕ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years

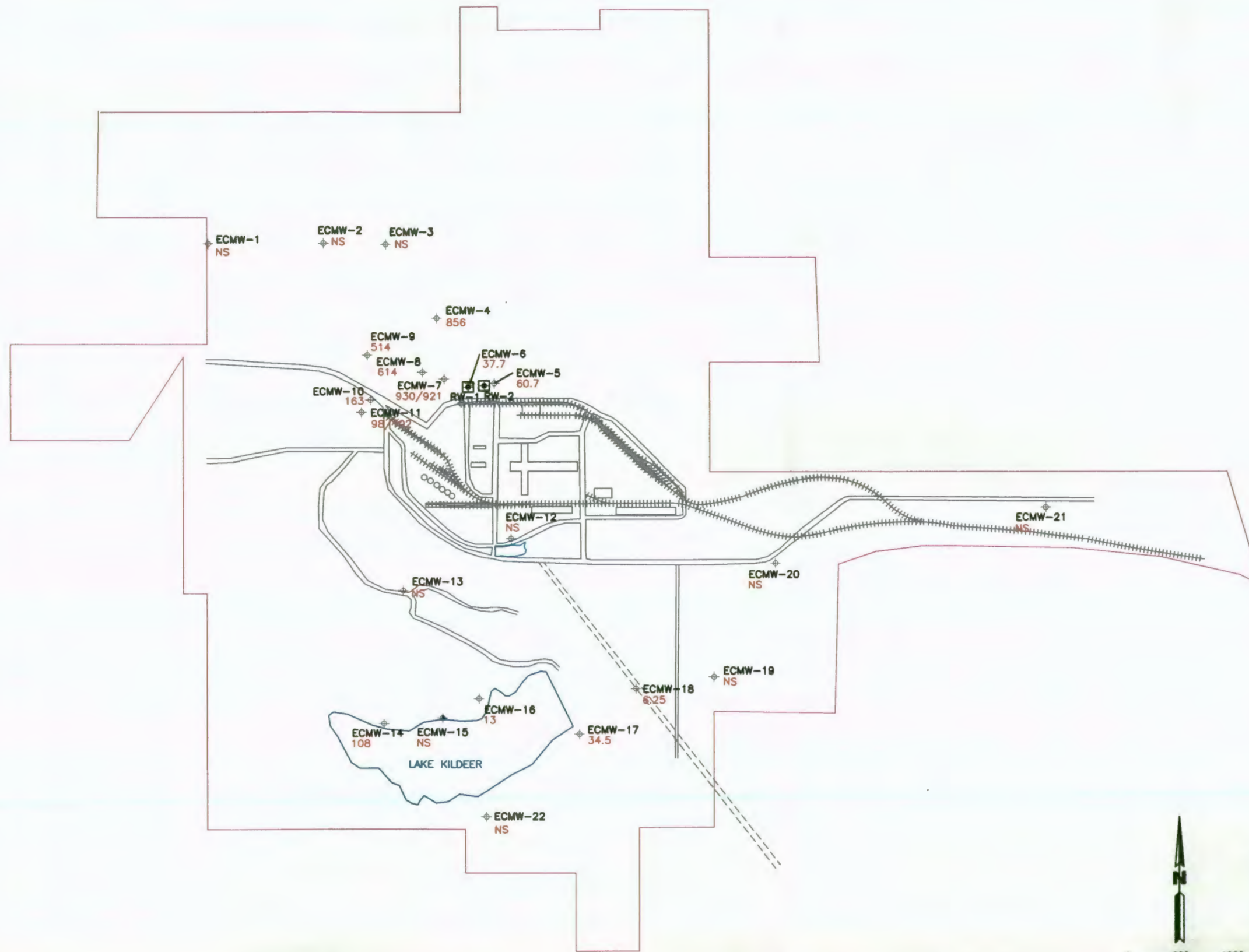


EL DORADO

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

DATE: 03/17/2014	APPROVED BY: <i>SR</i>	DRAWN BY: LMM	
SCALE: as shown	DATE: <i>3/17/14</i>	CAD NO. 02E00100	FIGURE 7

ENVIRONMENTAL
MANAGEMENT SERVICES, INC.



LEGEND

- PROPERTY BOUNDARY
- ◆ ECMW-4 MONITOR WELL WITH SULFATE CONCENTRATION (mg/L)
856
- ◻ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years

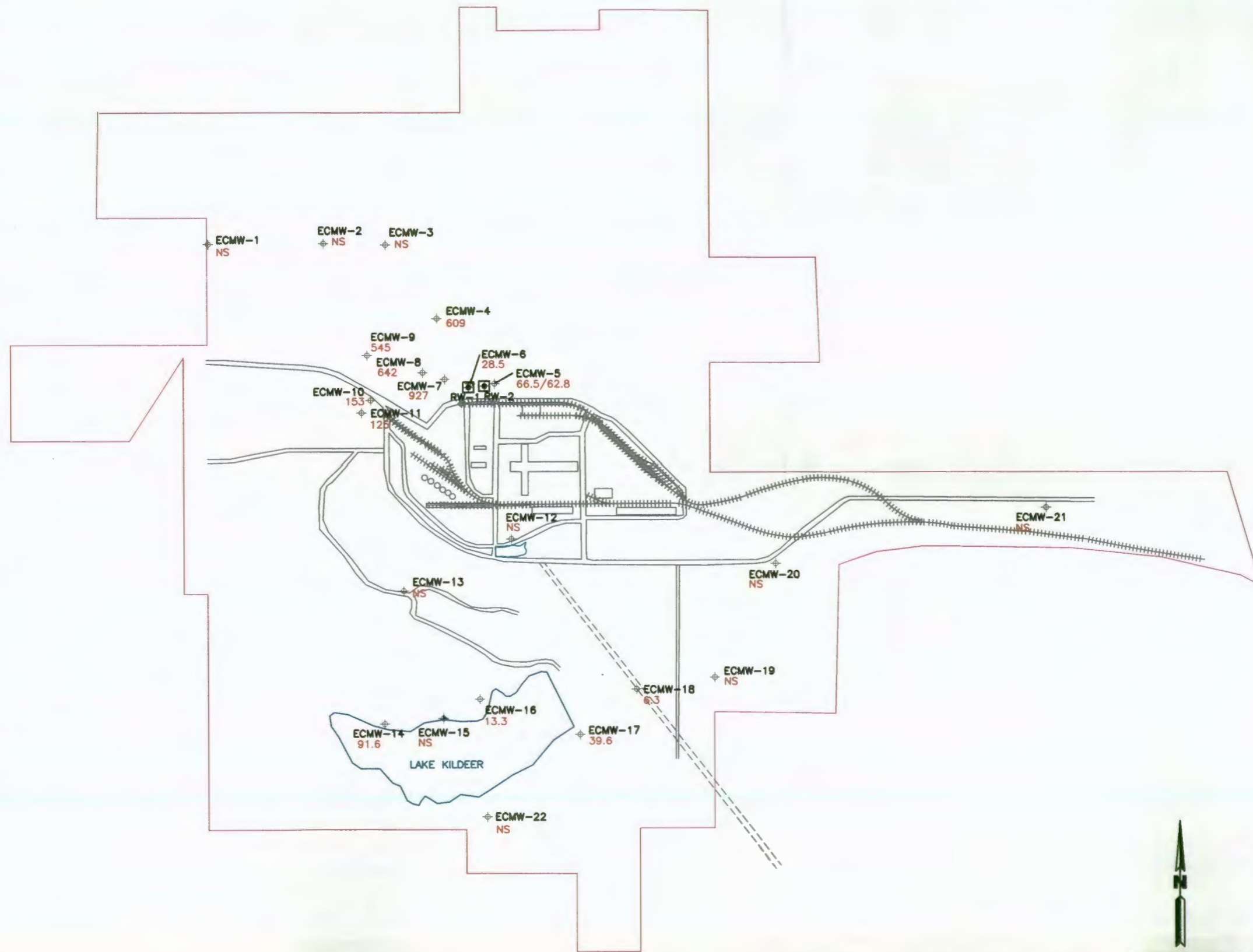
EL DORADO

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

DATE: 03/17/2014	APPROVED: <i>SK</i>	DRAWN BY: LMM	
SCALE: as shown	DATE: 5/27/14	CAD NO. 02E00100	FIGURE 8

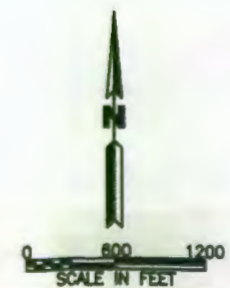
ENVIRONMENTAL
MANAGEMENT SERVICES, INC.





LEGEND

- PROPERTY BOUNDARY
- ⊕ ECMW-4 MONITOR WELL WITH SULFATE CONCENTRATION (mg/L)
609
- ⊕ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years



EL DORADO

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

DATE: 03/17/2014	APPROVED: <i>[Signature]</i>	DRAWN BY: LMM
SCALE: as shown	DATE: <i>[Signature]</i>	CAD NO. 02ECO100

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	<u>5-15-13</u>	Method of Evacuation	<u>12V pump</u>
Top of casing to water level	<u>1086</u> ft	Gallons per well volume	<u>7.42</u> gal
Top of casing to bottom	<u>2238</u> ft	Total gallons evacuated	<u>22.26</u> 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]
<u>16.8</u>	<u>5.12</u>	<u>84.0</u>	_____	<u>8.46</u>
<u>16.2</u>	<u>4.95</u>	<u>67.5</u>	_____	<u>10.25</u>
<u>16.1</u>	<u>5.03</u>	<u>66.6</u>	_____	<u>14.7</u>

GENERAL INFORMATION

Weather conditions at time of sampling: clear light wind

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Recommendations: _____

Certification: Joe Chongear

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
 Colle

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>5-15-18</u>	Method of Evacuation	<u>12V pump</u>
Top of casing to water level	<u>0</u> ft	Gallons per well volume	<u>13.32</u> gal
Top of casing to bottom	<u>2050</u> ft	Total gallons evacuated	<u>39.97</u> 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]
<u>17.3</u>	<u>5.52</u>	<u>309</u>	_____	<u>38.3</u>
<u>16.7</u>	<u>5.60</u>	<u>324</u>	_____	<u>844</u>
<u>16.7</u>	<u>5.25</u>	<u>336</u>	_____	<u>896</u>

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

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 <u>5-15-10</u>	Method of Evacuation <u>12 v pump</u>
Top of casing to water level <u>964</u> ft	Gallons per well volume <u>11.54</u> gal
Top of casing to bottom <u>2740</u> ft	Total gallons evacuated <u>3463</u> 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]
<u>17.7</u>	<u>6.34</u>	<u>216</u>	_____	<u>6.22</u>
<u>17.6</u>	<u>6.83</u>	<u>207</u>	_____	<u>6.81</u>
<u>17.9</u>	<u>6.29</u>	<u>208</u>	_____	<u>6.25</u>

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy 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 _____ Facility EDCC Well No. MW-12
 Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>5-15-13</u>	Method of Evacuation	<u>12 v pump</u>
Top of casing to water level	<u>654</u> ft	Gallons per well volume	<u>8.81</u> gal
Top of casing to bottom	<u>2010</u> ft	Total gallons evacuated	<u>26.44</u> 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]
<u>19.6</u>	<u>6.03</u>	<u>659</u>	_____	<u>58.9</u>
<u>19.4</u>	<u>6.11</u>	<u>690</u>	_____	<u>9.47</u>
<u>19.3</u>	<u>6.02</u>	<u>686</u>	_____	<u>22.2</u>

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

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility EOCC Well No. 13
 Collector Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>5-13-13</u>	Method of Evacuation	<u>12 v pump</u>
Top of casing to water level	<u>620</u> ft	Gallons per well volume	<u>894</u> gal
Top of casing to bottom	<u>1996</u> ft	Total gallons evacuated	<u>26.83</u> 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]
<u>18.1</u>	<u>4.81</u>	<u>1452</u>	_____	<u>11.4</u>
<u>18.6</u>	<u>5.19</u>	<u>1669</u>	_____	<u>9.89</u>
<u>dry</u>				

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
 Collected by Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>5-15-13</u>	Method of Evacuation	<u>12V pump</u>
Top of casing to water level	<u>554</u> ft	Gallons per well volume	<u>7.68</u> gal
Top of casing to bottom	<u>1736</u> ft	Total gallons evacuated	<u>23.04</u> 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]
<u>19.2</u>	<u>6.60</u>	<u>113.7</u>	_____	<u>4.37</u>
<u>19.4</u>	<u>6.21</u>	<u>85.4</u>	_____	<u>11.0</u>
_____	_____	<u>dry</u>	_____	_____

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
 Collected by Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>5-19-13</u>	Method of Evacuation	<u>12" pump</u>
Top of casing to water level	<u>2.06</u> ft	Gallons per well volume	<u>9.12</u> gal
Top of casing to bottom	<u>5.10</u> ft	Total gallons evacuated	<u>22.37</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling Date/Time	_____ ft	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]
<u>17.2</u>	<u>6.80</u>	<u>111.6</u>	_____	<u>17.8</u>
<u>17.2</u>	<u>6.86</u>	<u>159.2</u>	_____	<u>49.9</u>
<u>17.2</u>	<u>6.13</u>	<u>105.6</u>	_____	<u>15.7</u>

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

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site: EDC Facility: _____ Well No. 10 W 20
 Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time: <u>5/1</u>	Method of Evacuation: _____
Top of casing to water level: <u>29.40</u> ft	Gallons per well volume: <u>3.79</u> gal
Top of casing to bottom: <u>53.10</u> ft	Total gallons evacuated: <u>17.32</u> 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]
<u>18.7</u>	<u>5.44</u>	<u>122.9</u>	_____	<u>166</u>
<u>19.4</u>	<u>5.38</u>	<u>104.3</u>	_____	<u>132</u>
<u>18.9</u>	<u>5.29</u>	<u>106.0</u>	_____	<u>120</u>

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
 Collected by: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>5/5/19</u>	Method of Evacuation	<u>elec pump</u>
Top of casing to water level	<u>18.04</u> ft	Gallons per well volume	_____ gal
Top of casing to bottom	<u>30.10</u> 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]
<u>19.7</u>	<u>6.15</u>	<u>63.4</u>	_____	<u>12.4</u>
<u>19.6</u>	<u>5.96</u>	<u>56.4</u>	_____	<u>8.15</u>
<u>19.2</u>	<u>6.09</u>	<u>56.4</u>	_____	<u>7.49</u>

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

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	<u>4/14/13</u>	Method of Evacuation	<u>12 v pump</u>
Top of casing to water level	<u>7.72</u> ft	Gallons per well volume	<u>11.44</u> gal
Top of casing to bottom	<u>79.24</u> ft	Total gallons evacuated	<u>34.32</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling Date/Time	<u>5/13/13 0859</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Dea PVC Driller</u>

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Dissolved Oxygen [mg/l]	Turbidity [NTU]
<u>19.8</u>	<u>6.06</u>	<u>1745</u>	_____	<u>16.1</u>
<u>18.4</u>	<u>6.17</u>	<u>172.5</u>	_____	<u>2.09</u>
<u>18.6</u>	<u>6.19</u>	<u>179.2</u>	_____	<u>4.07</u>

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
 Collected by: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>5-14-93</u>	Method of Evacuation	<u>12V Pump</u>
Top of casing to water level	<u>8.56</u> ft	Gallons per well volume	<u>8.97</u> gal
Top of casing to bottom	<u>22.40</u> ft	Total gallons evacuated	<u>26.98</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time	<u>5-15-93 0944</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Dee PVC Boiler</u>

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Dissolved Oxygen [mg/l]	Turbidity [NTU]
<u>21.3</u>	<u>7.10</u>	<u>6.71</u>	_____	<u>12.0</u>
<u>18.6</u>	<u>4.03</u>	<u>7.37</u>	_____	<u>11.8</u>
_____	_____	<u>dry</u>	_____	_____

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. MWS
 Coll. Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>5/14/13</u>	Method of Evacuation	<u>12V pump</u>
Top of casing to water level	<u>404</u> ft	Gallons per well volume	<u>903</u> gal
Top of casing to bottom	<u>1294</u> ft	Total gallons evacuated	<u>27.10</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time	<u>5/15/13 09:22</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Det PVC Bailor</u>

SAMPLE DATA

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

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

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site El Dorado Facility ECCC Well No. MWG
 Collected by Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time: <u>5/14/13</u>	Method of Evacuation: <u>12V pump</u>
Top of casing to water level: <u>4.42</u> ft	Gallons per well volume: <u>11.49</u> gal
Top of casing to bottom: <u>82.12</u> ft	Total gallons evacuated: <u>34.47</u> gal
Water level after evacuation: _____ ft	Elevation, Top of casing: _____ ft
Sampling: Date/Time: <u>5/15/13 0930</u>	Elevation of well water: _____ ft
Top of casing to water level: _____ ft	Method of Sampling: <u>Ded PVC Port</u>

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Dissolved Oxygen [mg/l]	Turbidity [NTU]
<u>20.1</u>	<u>4.20</u>	<u>0.1</u>		<u>5.39</u>
<u>19.1</u>	<u>4.14</u>	<u>0.1</u>		<u>3.85</u>
<u>21.1</u>	<u>4.15</u>	<u>0.1</u>		<u>2.49</u>

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	<u>5-14-13</u>	Method of Evacuation	<u>12 v. 06 19</u>
Top of casing to water level	<u>7.30</u> ft	Gallons per well volume	<u>11.57</u> gal
Top of casing to bottom	<u>2510</u> ft	Total gallons evacuated	<u>39.71</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling Date/Time	<u>5/15/13 0956</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Dist PVC Bailer</u>

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Dissolved Oxygen [mg/l]	Turbidity [NTU]
<u>20.4</u>	<u>5.09</u>	<u>or</u>		<u>5.71</u>
<u>19.4</u>	<u>5.10</u>	<u>or</u>		<u>1.71</u>
<u>19.7</u>	<u>5.09</u>	<u>or</u>		<u>2.01</u>

GENERAL INFORMATION

Weather conditions at time of sampling: clear windy 80°
 Sample characteristics: _____
 Containers and preservatives: _____
 Comments and observations: _____
 Recommendations: Dup 16 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	<u>5/4/13</u>	Method of Evacuation	<u>12 V pump</u>
Top of casing to water level	<u>724</u> ft	Gallons per well volume	<u>14.78</u> gal
Top of casing to bottom	<u>2998</u> ft	Total gallons evacuated	<u>44.34</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time	<u>5/5/13 10:22</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Dead PVC Bacter</u>

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Dissolved Oxygen [mg/l]	Turbidity [NTU]
<u>18.8</u>	<u>3.99</u>	<u>0.1</u>	_____	<u>3.12</u>
<u>19.3</u>	<u>3.93</u>	<u>0.1</u>	_____	<u>2.93</u>
<u>19.6</u>	<u>3.97</u>	<u>0.1</u>	_____	<u>2.19</u>

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. ② MW 9
 Collector: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>5/14/13</u>	Method of Evacuation	<u>12V pump</u>
Top of casing to water level	<u>9.50</u> ft	Gallons per well volume	<u>1352</u> gal
Top of casing to bottom	<u>30.30</u> ft	Total gallons evacuated	<u>40.56</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time	<u>5/13/10 36</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Deh PVC Boiler</u>

SAMPLE DATA

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

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
 Collected by Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time:	<u>5-14-18</u>	Method of Evacuation	<u>12V pump</u>
Top of casing to water level	<u>1220</u> ft	Gallons per well volume	<u>690</u> gal
Top of casing to bottom	<u>2290</u> ft	Total gallons evacuated	<u>2070</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time:	<u>5-15-18 10:45</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Ded PVC Boiler</u>

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
<u>20.0</u>	<u>4.67</u>	<u>755</u>	_____	<u>9.69</u>
<u>19.9</u>	<u>4.42</u>	<u>822</u>	_____	<u>6.59</u>
<u>19.2</u>	<u>4.44</u>	<u>911</u>	_____	<u>2.00</u>

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

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:	<u>5/14/13</u>	Method of Evacuation:	<u>12 V pump</u>
Top of casing to water level:	<u>1040</u> ft	Gallons per well volume:	<u>6.31</u> gal
Top of casing to bottom:	<u>2012</u> ft	Total gallons evacuated:	<u>18.95</u> gal
Water level after evacuation:	_____ ft	Elevation, Top of casing:	_____ ft
Sampling: Date/Time:	<u>5/15/13 11:02</u>	Elevation of well water:	_____ ft
Top of casing to water level:	_____ ft	Method of Sampling:	<u>Red PVC Bailer</u>

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Dissolved Oxygen [mg/l]	Turbidity [NTU]
<u>18.4</u>	<u>4.45</u>	<u>703</u>		<u>10.30</u>
<u>17.8</u>	<u>4.51</u>	<u>759</u>		<u>19.3</u>
<u>17.9</u>	<u>4.58</u>	<u>894</u>		<u>336</u>

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 MW 24 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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Facility: ERCC Well No.: MW 14
 Colle: Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>9/14/13</u>	Method of Evacuation	<u>12 V Pump</u>
Top of casing to water level	<u>11.04</u> ft	Gallons per well volume	<u>4.84</u> gal
Top of casing to bottom	<u>18.50</u> ft	Total gallons evacuated	<u>14.54</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time	<u>05/15/13 08:33</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Ord PVC Bailer</u>

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	Turbidity [NTU]
<u>17.7</u>	<u>5.59</u>	<u>439</u>	_____	<u>75.1</u>
<u>17.7</u>	<u>5.25</u>	<u>568</u>	_____	<u>43.5</u>
<u>17.8</u>	<u>5.20</u>	<u>533</u>	_____	<u>39.6</u>

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

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	<u>5-14-13</u>	Method of Evacuation	<u>12 V pump</u>
Top of casing to water level	<u>5.96</u> ft	Gallons per well volume	<u>2.55</u> gal
Top of casing to bottom	<u>19.58</u> ft	Total gallons evacuated	<u>26.55</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time	<u>5-15-13 08:35</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Dee PVC Bailor</u>

SAMPLE DATA

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

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
 Colle. Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>5-14-13</u>	Method of Evacuation	<u>12 v pump</u>
Top of casing to water level	<u>544</u> ft	Gallons per well volume	<u>267</u> gal
Top of casing to bottom	<u>1724</u> ft	Total gallons evacuated	<u>2301</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time	<u>5-15-13 0755</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Det PVC Bailer</u>

SAMPLE DATA

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

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

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	<u>5/14/13</u>	Method of Evacuation	<u>12 V pump</u>
Top of casing to water level	<u>29.62</u> ft	Gallons per well volume	<u>351</u> gal
Top of casing to bottom	<u>35.02</u> ft	Total gallons evacuated	<u>1053</u> gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time	<u>5/15/13 09:58</u>	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	<u>Prod PVC Bailer</u>

SAMPLE DATA

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

GENERAL INFORMATION

Weather conditions at time of sampling: clear

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Recommendations: _____

Certification: Joe Muzar

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. EC MW-5
 Colle. R. DURHAM FDUP

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>11-4-13 0840</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>4.06</u> ft	Gallons per well volume	<u>3.9</u>
Top of casing to bottom	<u>17.7</u> ft	Total gallons evacuated	<u>26.5</u>
Water level after evacuation	_____ ft	Elevation, Top of casing	_____
Sampling: Date/Time	<u>11-5-13 6:50</u>	Elevation of well water	_____
Top of casing to water level	_____ ft	Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

Temperature[°C]	pH	Conductivity[μS]	Diss. Oxygen[mg/l]	Turbidity[NT]
<u>20.7</u>	<u>7.87</u>	<u>525 μS</u>	_____	_____
<u>21.0</u>	<u>7.41</u>	<u>485 μS</u>	_____	_____
<u>20.9</u>	<u>7.23</u>	<u>493 μS</u>	_____	_____

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

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 6.29 ft Gallons per well volume 10.3
 Top of casing to bottom 22.0 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]	Diss. Oxygen [mg/l]	Turbidity [NT]
<u>19.8</u>	<u>4.99</u>	<u>30.45 MS</u>		
<u>20.2</u>	<u>4.78</u>	<u>29.62 MS</u>		
<u>20.7</u>	<u>4.49</u>	<u>26.94 MS</u>		

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

GROUNDWATER SAMPLING DATA FORM El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No.: ECMW-4
 Collector: R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>11-4-13 10:25</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>10.31</u> ft	Gallons per well-volume	<u>2.2</u>
Top of casing to bottom	<u>22.1</u> ft	Total gallons evacuated	<u>23.1</u>
Water level after evacuation	_____ ft	Elevation, Top of casing	_____
Sampling: Date/Time	<u>11-5-13 8:25</u>	Elevation of well water	<u>1</u>
Top of casing to water level	_____ ft	Method of Sampling	<u>PVC BAILER</u>

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	Turbidity [NT]
<u>19.3</u>	<u>5.94</u>	<u>8.27 MS</u>	_____	_____
<u>19.8</u>	<u>5.43</u>	<u>7.07 MS</u>	_____	_____
<u>20.7</u>	<u>4.63</u>	<u>6.96 MS</u>	_____	_____

GENERAL INFORMATION

Weather conditions at time of sampling: CLOUDY/Cool

Sample characteristics: BEAR

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECALW-7
 Collected by R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time 11-4-14 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]	Diss. Oxygen [mg/l]	Turbidity [NT]
<u>19.3</u>	<u>5.07</u>	<u>85.1 MS</u>		
<u>26.2</u>	<u>5.98</u>	<u>34.10 MS</u>		
<u>20.3</u>	<u>5.81</u>	<u>27.12 MS</u>		

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

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-8
 Colle. 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 [µS]	Diss. Oxygen [mg/l]	Turbidity [NT]
<u>19.0</u>	<u>4.23</u>	<u>19.72 MS</u>		
<u>18.6</u>	<u>4.18</u>	<u>18.42 MS</u>		
<u>19.3</u>	<u>4.06</u>	<u>20.63 MS</u>		

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time 11-4-13 12:35 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 09:20 Elevation of well water _____
 Top of casing to water level _____ ft Method of Sampling PVC BAILER

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Diss. [mg/l]	Oxygen [mg/l]	Turbidity [NT]
<u>18.5</u>	<u>5.29</u>	<u>2528 µS</u>			
<u>19.4</u>	<u>5.42</u>	<u>2199 µS</u>			
<u>19.9</u>	<u>5.51</u>	<u>2198 µS</u>			

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-10
 Colle: 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]	Dissc	Oxygen [mg/l]	Turbidity [NT]
<u>21.4</u>	<u>5.61</u>	<u>840 µS</u>			
<u>21.2</u>	<u>5.22</u>	<u>730 µS</u>			
<u>21.5</u>	<u>4.91</u>	<u>708 µS</u>			

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-11
 Colle. 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 19.0 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 BAULER

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	Turbidity [NT]
<u>21.2</u>	<u>4.70</u>	<u>761 µS</u>		
<u>22.1</u>	<u>4.55</u>	<u>746 µS</u>		
<u>22.1</u>	<u>4.48</u>	<u>706 µS</u>		

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

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No.: EC MW-14
 Colle: 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 25.9
 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 DATA

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	Turbidity [NTU]
<u>21.2</u>	<u>5.30</u>	<u>477.40</u>		
<u>21.8</u>	<u>5.34</u>	<u>370.2</u>		
<u>22.0</u>	<u>5.46</u>	<u>369.4</u>		

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. 2cmw-16
 Colle. R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time 11-4-13 1510 Method of Evacuation ELEC. PUMP
 Top of casing to water level 6.50 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]	Diss. Oxygen [mg/l]	Turbidity [NT]
<u>21.4</u>	<u>4.93</u>	<u>146.9 µS</u>	_____	_____
<u>20.2</u>	<u>4.60</u>	<u>148.0 µS</u>	_____	_____
<u>22.5</u>	<u>4.60</u>	<u>153.5 µS</u>	_____	_____

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECM00-17
 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 2.7
 Top of casing to bottom 34.7 ft Total gallons evacuated 8.1
 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 BAILEY

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	Turbidity [NT]
<u>18.5</u>	<u>5.37</u>	<u>233.9 uS</u>		
<u>18.7</u>	<u>5.01</u>	<u>244.9 uS</u>		
<u>18.9</u>	<u>4.77</u>	<u>241.5 uS</u>		

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

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

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Dissl. Oxygen [mg/l]	Turbidity [NT]
<u>19.5</u>	<u>6.79</u>	<u>94.4 µS</u>		
<u>19.6</u>	<u>6.53</u>	<u>98.5 µS</u>		
<u>19.7</u>	<u>6.28</u>	<u>83.6 µS</u>		

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time 11-5-13 12:15 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]	Disse	Oxygen [mg/l]	Turbidity [NT]
<u>19.4</u>	<u>6.37</u>	<u>78.6 µS</u>	_____	_____	_____
<u>18.7</u>	<u>6.23</u>	<u>67.9 µS</u>	_____	_____	_____
<u>18.8</u>	<u>6.00</u>	<u>67.9 µS</u>	_____	_____	_____

GENERAL INFORMATION

Weather conditions at time of sampling: PCLOUDY/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

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>11-5-13</u>	<u>1145</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>5.84</u>	ft	Gallons per well-volume	<u>8.9</u>
Top of casing to bottom	<u>61.5</u>	ft	Total gallons evacuated	<u>26.7</u>
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	<u>PVC BAILER</u>

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	Turbidity [NT]
<u>19.6</u>	<u>5.86</u>	<u>75.4 µS</u>		
<u>18.7</u>	<u>6.74</u>	<u>75.1 µS</u>		
<u>18.5</u>	<u>6.73</u>	<u>73.4 µS</u>		

GENERAL INFORMATION

Weather conditions at time of sampling: PCLOUDY/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

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time <u>11-4-13 1620</u>	Method of Evacuation <u>ELEC. PUMP</u>
Top of casing to water level <u>6.82</u> ft	Gallons per well volume <u>8.5</u>
Top of casing to bottom <u>19.9</u> ft	Total gallons evacuated <u>76.5</u>
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 <u>PVC BAILER</u>

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Dissc.	Oxygen [mg/l]	Turbidity [NT]
<u>20.8</u>	<u>5.64</u>	<u>786 µS</u>			
<u>21.5</u>	<u>5.84</u>	<u>622 µS</u>			
<u>22.0</u>	<u>5.84</u>	<u>251 µS</u>			

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

GROUNDWATER SAMPLING DATA FORM El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time: <u>11-4-13 10:45</u>	Method of Evacuation: <u>ELEC. PUMP</u>
Top of casing to water level: <u>13.52</u> ft	Gallons per well volume: <u>3.8</u>
Top of casing to bottom: <u>27.1</u> ft	Total gallons evacuated: <u>26.4</u>
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: <u>PVC BAILER</u>

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Dissolved Oxygen [mg/l]	Turbidity [NT]
<u>18.6</u>	<u>5.84</u>	<u>441.2 µS</u>		
<u>18.7</u>	<u>5.81</u>	<u>278.5 µS</u>		
<u>18.1</u>	<u>5.72</u>	<u>273.5 µS</u>		

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>11-4-13 11:00</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>2.33</u> ft	Gallons per well volume	<u>8.4</u>
Top of casing to bottom:	<u>20.2</u> ft	Total gallons evacuated	<u>28.2</u>
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	<u>PVC BAILER</u>

SAMPLE D.

Temperature[°C]	pH	Conductivity[μS]	Diss. Oxygen[^{mg} /l]	Turbidity[NT]
<u>19.0</u>	<u>5.72</u>	<u>320.4 μS</u>	_____	_____
<u>19.2</u>	<u>5.80</u>	<u>312.7 μS</u>	_____	_____
<u>19.0</u>	<u>5.91</u>	<u>309.5 μS</u>	_____	_____

GENERAL INFORMATION

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-1
 Collector R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>11/4/3 1140</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>16.43</u> ft	Gallons per well volume:	
Top of casing to bottom	<u>22.1</u> ft	Total gallons evacuated	<u>PUMPED DRY</u>
Water level after evacuation		Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	<u>1</u>
Top of casing to water level		Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

<u>Temperature [°C]</u>	<u>pH</u>	<u>Conductivity [µS]</u>	<u>Diss. Oxygen [mg/l]</u>	<u>Turbidity [NT]</u>
<u>18.7</u>	<u>6.36</u>	<u>68.0 µS</u>		
<u>19.0</u>	<u>5.56</u>	<u>55.4 µS</u>		
<u>19.4</u>	<u>5.21</u>	<u>54.5 µS</u>		

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECM W-13
 Colle. R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time 11-2-13 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 25.7
 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]	Disse	Oxygen [mg/l]	Turbidity [NT]
<u>20.1</u>	<u>4.87</u>	<u>1567 µs</u>			
<u>20.6</u>	<u>4.87</u>	<u>1543 µs</u>			
<u>20.8</u>	<u>4.83</u>	<u>1526 µs</u>			

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. EC MW-15
 Colle. R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>11-4-13 14:35</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>6.79</u> ft	Gallons per well volume	<u>6.6</u>
Top of casing to bottom	<u>17.0</u> ft	Total gallons evacuated	<u>19.8</u>
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	<u>PVC BAILER</u>

SAMPLE D.

<u>Temperature [°C]</u>	<u>pH</u>	<u>Conductivity [µS]</u>	<u>Dissc.</u>	<u>Oxygen [mg/l]</u>	<u>Turbidity [NT]</u>
<u>21.3</u>	<u>5.30</u>	<u>26.9</u>	_____	_____	_____
<u>21.8</u>	<u>4.67</u>	<u>66.2</u>	_____	_____	_____
<u>22.1</u>	<u>4.56</u>	<u>66.0</u>	_____	_____	_____

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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No ECMW-22
 Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time 11-4-13 1535 Method of Evacuation: EWEC PUMP
 Top of casing to water level 9.64 ft Gallons per well volume 11.2
 Top of casing to bottom 79.8 ft Total gallons evacuated 53.6
 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]
<u>19.4</u>	<u>5.36</u>	<u>148.9 µS</u>			
<u>18.1</u>	<u>5.54</u>	<u>147.6 µS</u>			
<u>19.0</u>	<u>5.64</u>	<u>150.1 µS</u>			

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. EC-MW-21
 Colle. R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>11-5-13 1235</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>20.31</u> ft	Gallons per well volume	<u>1.0</u>
Top of casing to bottom	<u>34.9</u> ft	Total gallons evacuated	<u>3.0</u>
Water level after evacuation	_____ ft	Elevation, Top of casing	_____
Sampling: Date/Time	_____	Elevation of well water	<u>1</u>
Top of casing to water level	_____ ft	Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

<u>Temperature[°C]</u>	<u>pH</u>	<u>Conductivity[μS]</u>	<u>Diss. Oxygen[m%]</u>	<u>Turbidity [NT]</u>
<u>18.7</u>	<u>6.04</u>	<u>21.6 ud</u>	_____	_____
<u>19.6</u>	<u>5.92</u>	<u>50.3 ud</u>	_____	_____
<u>19.6</u>	<u>5.68</u>	<u>48.6 ud</u>	_____	_____

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



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

This document is intended only for the use of the person(s) to whom it is expressly addressed. This document may contain information that is confidential and legally privileged. If you are not the intended recipient, you are notified that any disclosure, distribution, or copying of this document is strictly prohibited. If you have received this document in error, please destroy.

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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

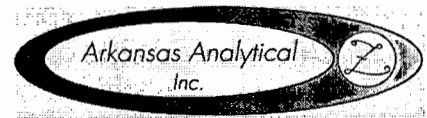
<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	930		5/16/13 18:29	A305211	300.0, 2.1-1993
Nitrate as N	mg/L	141		5/16/13 18:29	A305211	300.0, 2.1-1993
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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)

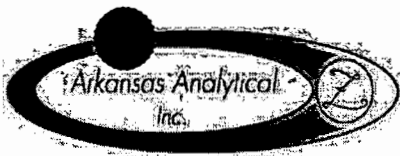
*%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria
*E20: Estimated Result Due to Matrix Spike and/or Matrix Spike Duplicate Failure; This sample was used as the "parent sample" in MS/MSD prep.

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.

A rectangular box containing a handwritten signature in cursive script that reads "Norma James".

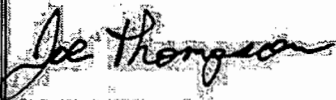

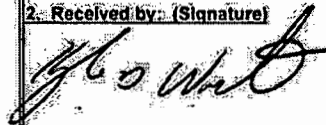
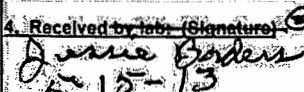
Reviewed by:

Norma James
President



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		Preservation Codes:											
El Dorado Chemical Inc.		El Dorado Chemical Inc.		Groundwater Samples		24 Hour		1. Cool, 4 Degrees Centigrade.				4. Thiosulfate for Dechlorination							
4500 Northwest Ave.		P.O. Box 231				48 Hour		2. Sulfuric Acid (H ₂ SO ₄), pH < 2				5. Hydrochloric Acid (HCl)							
El Dorado, AR 71731		El Dorado, AR 71731		Reporting Information		72 Hour		3. Nitric Acid (HNO ₃), pH < 2				6. Sodium Hydroxide (NaOH), pH > 12							
Attn: Larken Pennington				Telephone: 870-863-1484		Routine (5 Day)		TEST PARAMETERS								Bottle Type Code			
				Fax: 870-863-1499		Preservative Code:		1		1;2						G = Glass; P = Plastic			
				Email: LPennington@edc-ark.com		Bottle Type		P		P						V = Septum; A = Amber			
 Sampler(s) Signature				Joe Thompson Sampler(s) Printed						Nitrate, Sulfate		Ammonia						Arkansas Analytical Work Order Number:	
Field Number	SAMPLE COLLECTION		Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION		Nitrate	Sulfate	Ammonia								
	5/15/13	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)		SAMPLE CONDITION UPON RECEIPT IN LAB				REMARKS / SAMPLE COMMENTS									
		5/15/13				1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				delivered via Goldstar -									
						2. CONTAINERS CORRECT: <input type="checkbox"/> Yes <input type="checkbox"/> No				received in lab -									
						3. COC/LABELS AGREE: <input type="checkbox"/> Yes <input type="checkbox"/> No				Sydney Sims, 5/15/13, 1536									
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature)		4. PRESERVATION CONFIRMED: <input type="checkbox"/> Yes <input type="checkbox"/> No													
						5. RECEIVED ON ICE: <input type="checkbox"/> Yes <input type="checkbox"/> No													
				5-15-13		6. TEMPERATURE ON RECEIPT: 14°C													
				12:10		FOR COMPLETION BY LAB ONLY													



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		Preservation Codes:									
El Dorado Chemical Inc. 4500 Northwest Ave. El Dorado, AR 71731		El Dorado Chemical Inc. P.O. Box 231 El Dorado, AR 71731		Groundwater Samples		24 Hour 48 Hour 72 Hour		1. Cool, 4 Degrees Centigrade 2. Sulfuric Acid (H ₂ SO ₄), pH < 2 3. Nitric Acid (HNO ₃), pH < 2				4. Thiosulfate for Dechlorination 5. Hydrochloric Acid (HCl) 6. Sodium Hydroxide (NaOH), pH > 12					
Attn: Larken Pennington		Telephone: 870-863-1484 Fax: 870-863-1499 Email: LPennington@edc-ark.com		Reporting Information		Routine (5 Day) Preservative Code: Bottle Type:		TEST PARAMETERS								Bottle Type Code G = Glass, P = Plastic V = Septum, A = Amber	
Joe Thompson		Joe Thompson		Sampler(s) Signature		Sampler(s) Printed										Arkansas Analytical Work Order Number: 1805201	
Field Number	SAMPLE COLLECTION Date/s Time/s		Grab	Comp.	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION		Nitrate, Sulfate	Ammonia							
	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) Joe Thompson		Date/Time 5/15/13		2. Received by: (Signature) [Signature]		SAMPLE CONDITION UPON RECEIPT IN LAB				REMARKS / SAMPLE COMMENTS							
						1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				delivered via Goldstar- received in lab- Sydney James - 5/15/13 1530							
						2. CONTAINERS CORRECT: <input type="checkbox"/> Yes <input type="checkbox"/> No											
						3. COC/LABELS AGREE: <input type="checkbox"/> Yes <input type="checkbox"/> No											
						4. PRESERVATION CONFIRMED: <input type="checkbox"/> Yes <input type="checkbox"/> No											
						5. RECEIVED ON ICE: <input type="checkbox"/> Yes <input type="checkbox"/> No											
						6. TEMPERATURE ON RECEIPT: 14°C											
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature) & (Date/Time) Jemie Bader 5-15-13 12:10		FOR COMPLETION BY LAB ONLY											



11701 Interstate 30, Bldg. 1, Ste. 115
 Little Rock, AR 72209
 PHONE: 501-455-3233
 FAX: 501-455-8118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes:											
El Dorado Chemical Inc.		El Dorado Chemical Inc.		Groundwaters		24 Hour		1. Cool, 4 Degree Centigrade				4. Thiosulfate for Dechlorination							
4500 Northwest Ave.		P.O. Box 231				48 Hour		2. Sulfuric Acid (H ₂ SO ₄), pH < 2				5. Hydrochloric Acid (HCl)							
El Dorado, AR 71731		El Dorado, AR 71731		Reporting Information		72 Hour		3. Nitric Acid (HNO ₃), pH < 2				6. Sodium Hydroxide (NaOH), pH > 12							
Attn: Brent Parker				Telephone: 870-863-1484		Routine (5 Day)		TEST PARAMETERS								Bottle Type Code			
				Fax: 870-863-1499		Preservative Code:		1	1	1	1,2	1,2	1,5					G = Glass; P = Plastic	
				Email: BParker@edc-ark.com		Bottle Type:		P	P	P	P	P	GV					V = Septum; A = Amber	
 Sampler(s) Signature				Joe Thompson Sampler(s) Printed															
Field Number	SAMPLE COLLECTION		Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	NO ₂ Alkalinity	NO ₂ , NO ₃ , SO ₄ Alkalinity	NO ₂ , NO ₃ Alkalinity	T. Phosphorus	Ammonia	TOC	Nitrate - Sulfate	Arkansas Analytical Work Order Number:				
	Date/s	Time/s																	
	5/13/13	1010	X		2	W	MW-23 is Dup of 7												
	1	1115	X		2	W	MW-24 is Dup of 11												
			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-												
1. Relinquished by: (Signature)		Date/Time		2. Received by: (Signature)		SAMPLE CONDITION UPON RECEIPT IN LAB						REMARKS / SAMPLE COMMENTS							
						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: Yes ___ No ___						P.O. Number:							
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature)		FOR COMPLETION BY LAB ONLY													



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,

A handwritten signature in cursive script that reads "Norma James". The signature is written in dark ink on a light-colored background.

Norma James
President

This document is intended only for the use of the person(s) to whom it is expressly addressed. This document may contain information that is confidential and legally privileged. If you are not the intended recipient, you are notified that any disclosure, distribution, or copying of this document is strictly prohibited. If you have received this document in error, please destroy.

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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

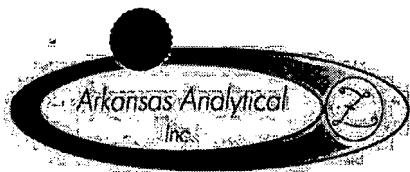
Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	95.9% / NA	97.4% / 96.6%		0.790%	

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



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

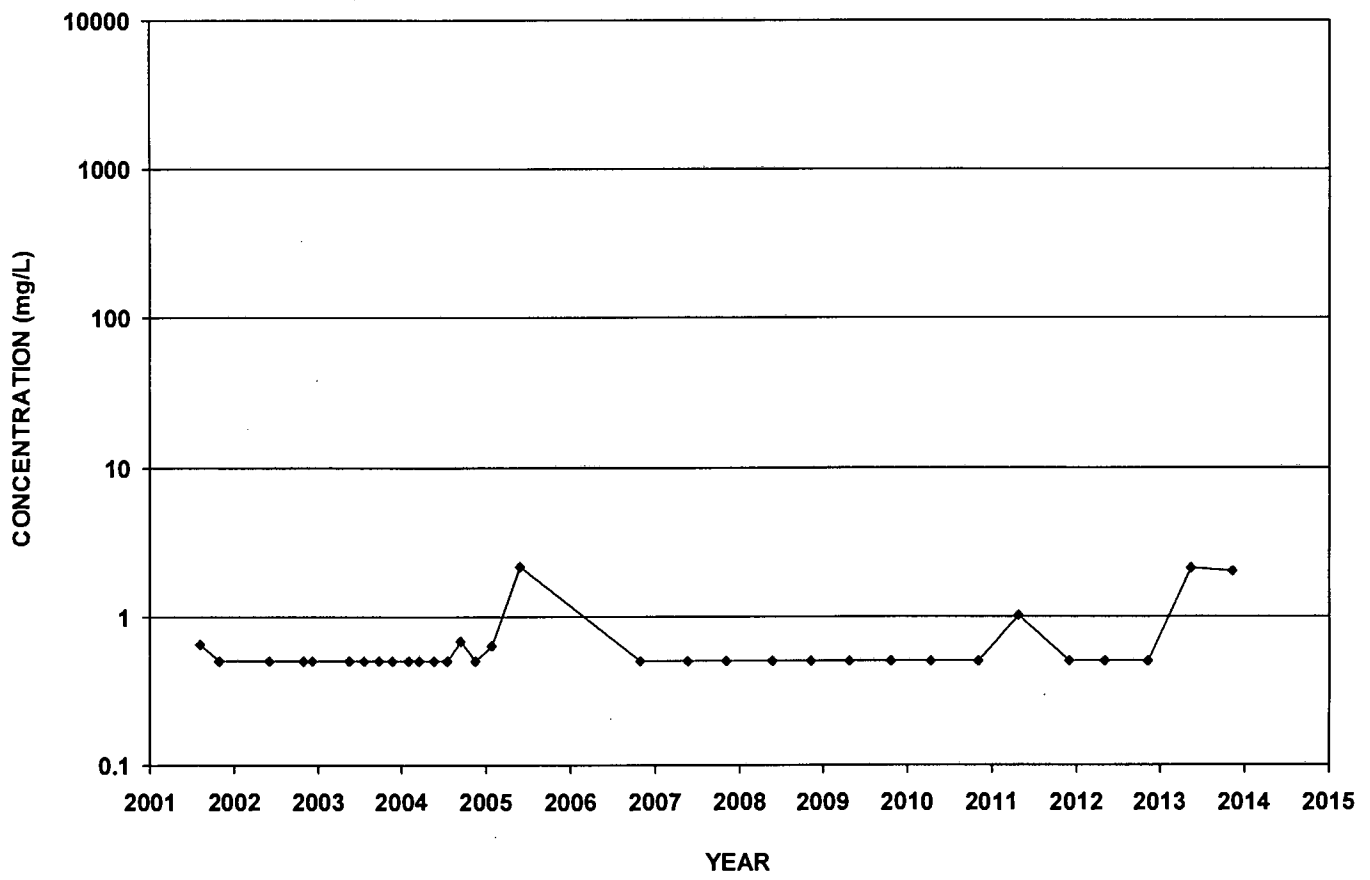
CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes:											
El Dorado Chemical Inc.		El Dorado Chemical Inc.		Groundwater Samples		24 Hour		1. Cool, 4 Degrees Centigrade				4. Thiosulfate for Dechlorination							
4500 Northwest Ave.		P.O. Box 231				48 Hour		2. Sulfuric Acid (H ₂ SO ₄), pH < 2				5. Hydrochloric Acid (HCl)							
El Dorado, AR 71731		El Dorado, AR 71731		Reporting Information		72 Hour		3. Nitric Acid (HNO ₃), pH < 2				6. Sodium Hydroxide (NaOH), pH > 12							
Attn: Larken Pennington				Telephone: 870-863-1484		Routine (5 Day)		TEST PARAMETERS								Bottle Type Code			
				Fax: 870-863-1499		Preservative Code:		1	1,2									O = Glass; P = Plastic	
				Email: LPennington@edc-ark.com		Bottle Type:		P	P									V = Septum; A = Amber	
<i>R. Durham</i> EM9 Inc Sampler(s) Signature				R. DURHAM EM9 Inc Sampler(s) Printed															
Field Number	SAMPLE COLLECTION		Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION		Nitrate, Sulfate	Ammonia									Arkansas Analytical Work Order Number:
	11-5-13	0750	X		2	Water	ECMW- 5	X	X										1311064-
		0810	X		2	Water	ECMW- 6	X	X										01
		0825	X		2	Water	ECMW- 4	X	X										02
		0850	X		2	Water	ECMW- 7	X	X										03
		0905	X		2	Water	ECMW- 8	X	X										04
		0920	X		2	Water	ECMW- 9	X	X										05
		0945	X		2	Water	ECMW- 10	X	X										06
		1005	X		2	Water	ECMW- 11	X	X										07
		1025	X		2	Water	ECMW- 14	X	X										08
		1050	X		2	Water	ECMW- 16	X	X										09
		1110	X		2	Water	ECMW- 17	X	X										10
		1125	X		2	Water	ECMW- 18	X	X										11
1. Relinquished by: (Signature)		Date/Time		2. Received by: (Signature)		SAMPLE CONDITION UPON RECEIPT IN LAB:						REMARKS / SAMPLE COMMENTS							
<i>R. Durham</i> EM9 Inc		11-5-13 1115		<i>Larken Pennington</i> 11/5/13		1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes ___ No						Dup sample = 13							
						2. CONTAINERS CORRECT: <input checked="" type="checkbox"/> Yes ___ No						11/5/13							
						3. COC LABELS AGREE: <input checked="" type="checkbox"/> Yes ___ No													
3. Relinquished by: (Signature)		Date/Time		4. Received by: (Signature)		4. PRESERVATION CONFIRMED: <input checked="" type="checkbox"/> Yes ___ No						Added Dup to COC per							
<i>Jessie Borders</i> 11-5-13		11-5-13 1615		<i>Sydney James</i>		5. RECEIVED ON ICE: <input checked="" type="checkbox"/> Yes ___ No						sample containers received							
						6. TEMPERATURE ON RECEIPT: 5°C						11/5/13-(8)							
Revision 1						FOR COMPLETION BY LAB ONLY													

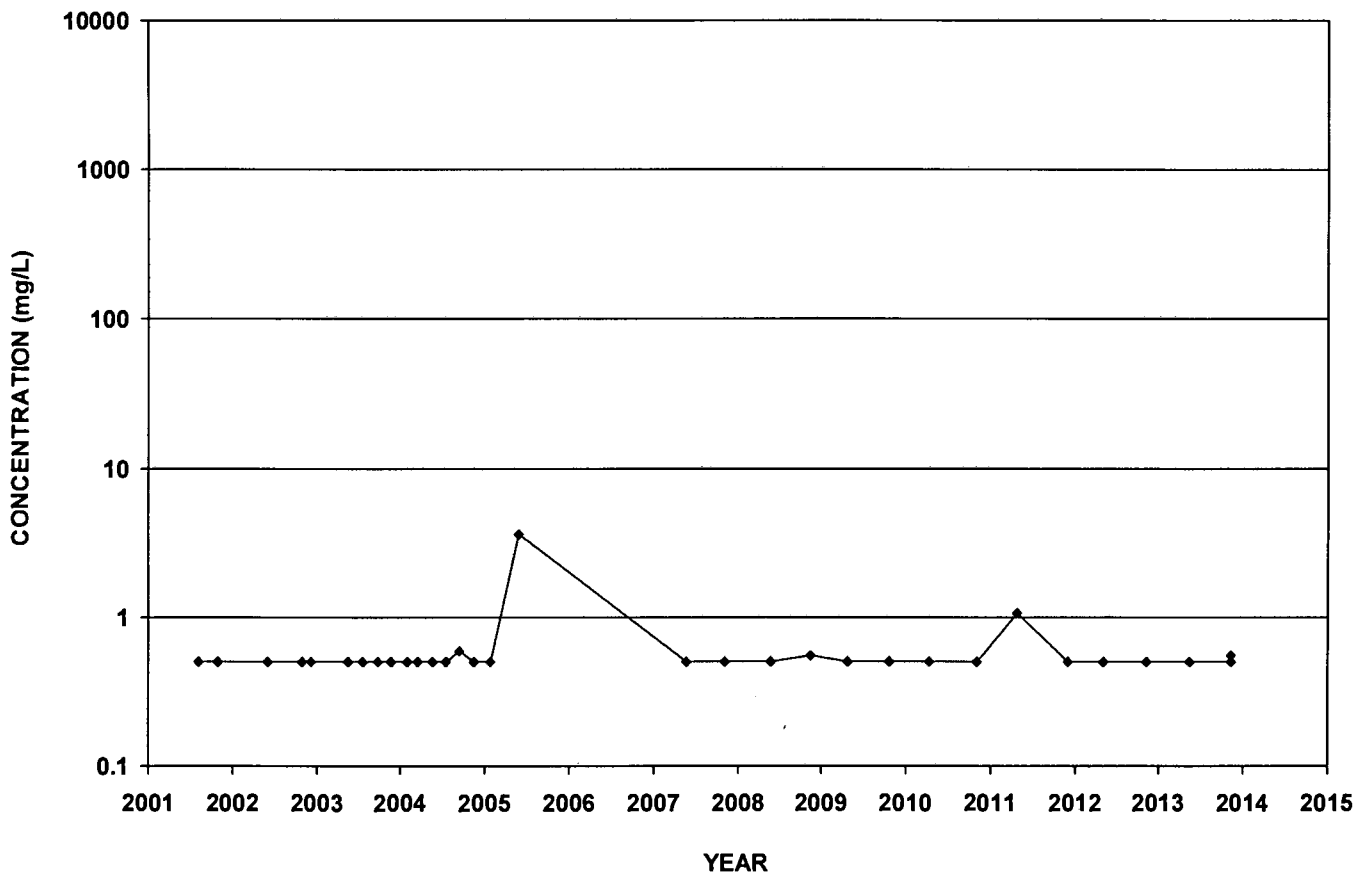
Delivered via Goldstar Courier

APPENDIX B
TREND GRAPHS

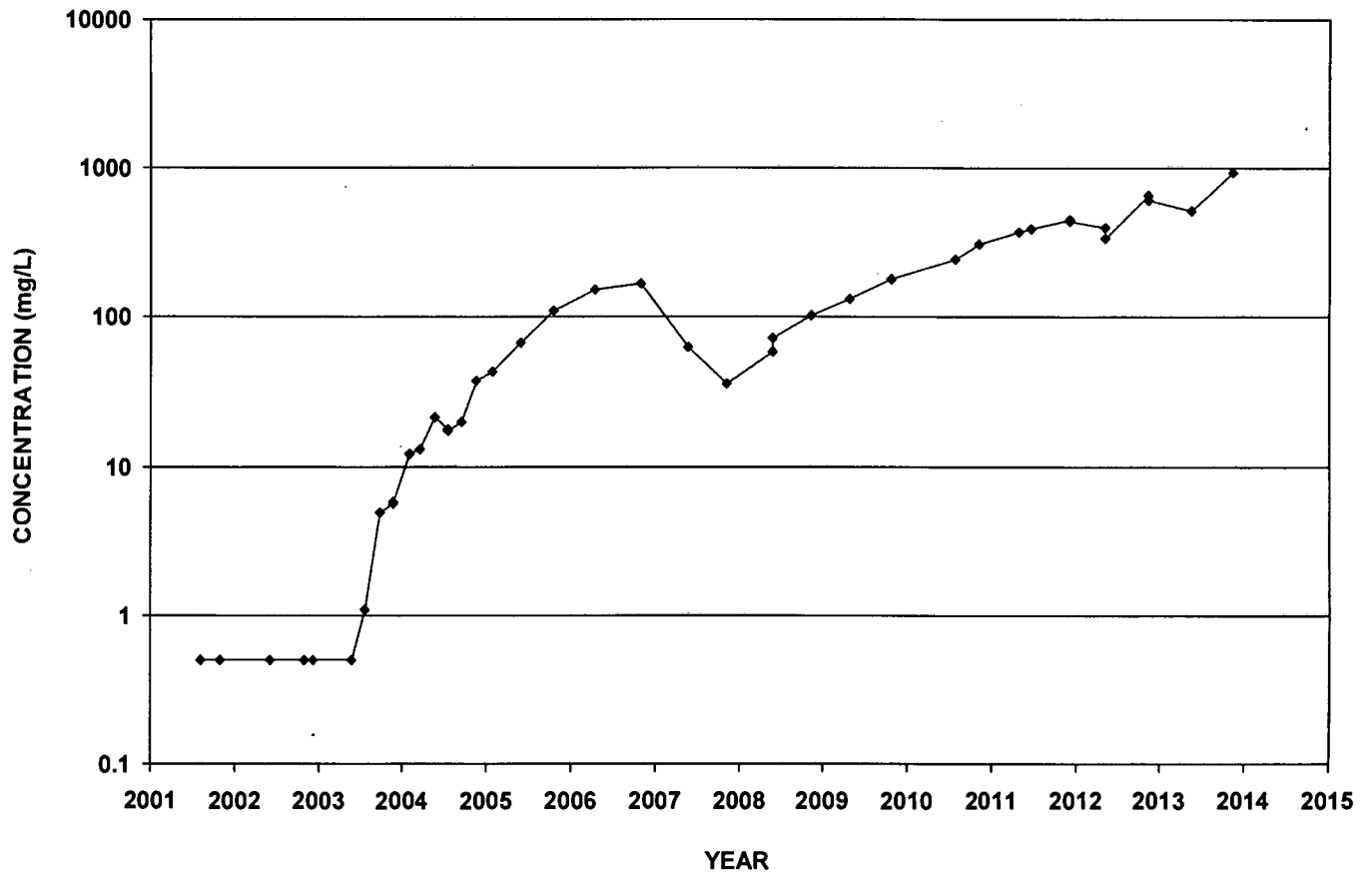
ECMW-4
Ammonia-N



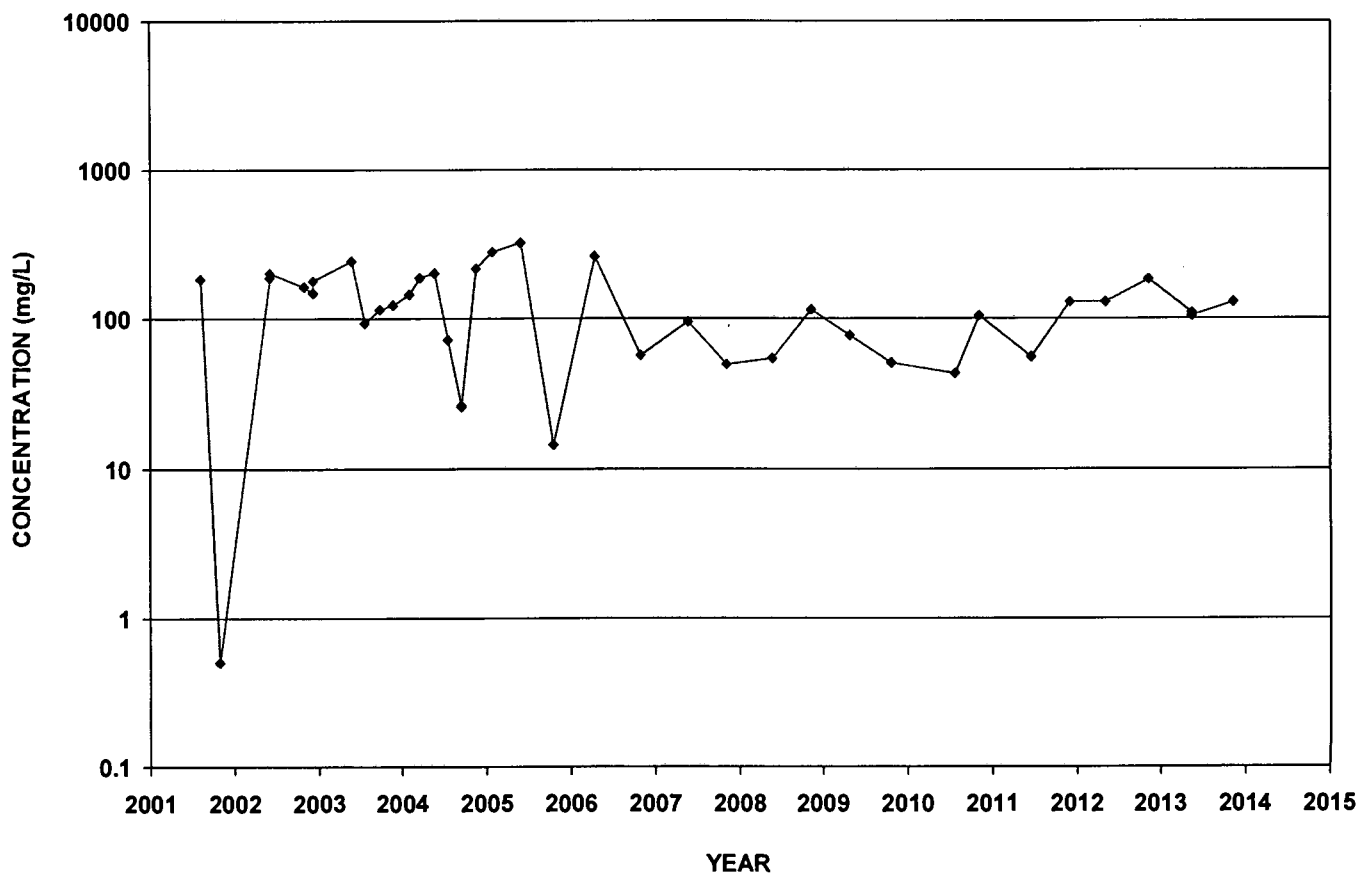
ECMW-5
Ammonia-N



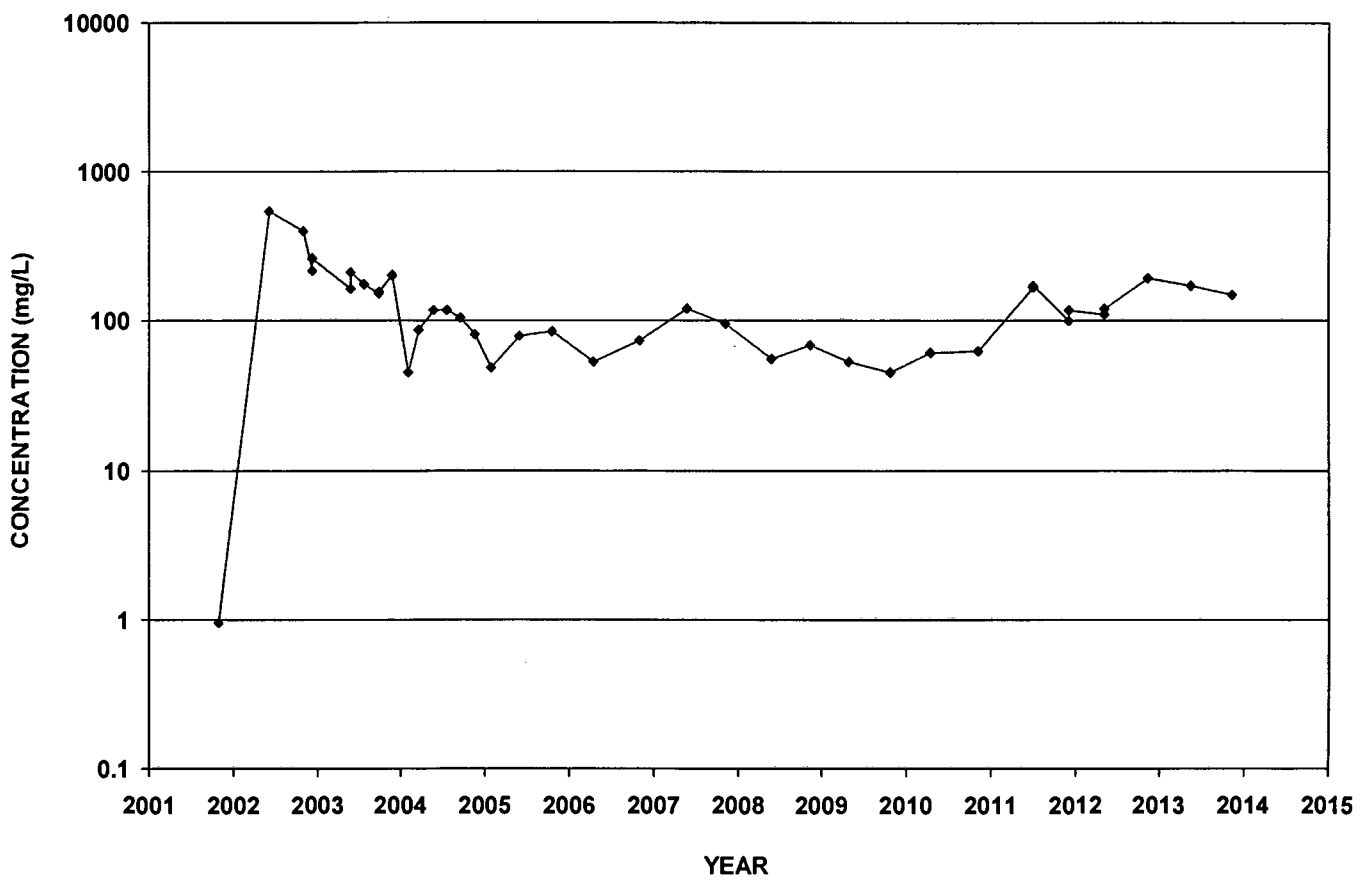
ECMW-6
Ammonia-N



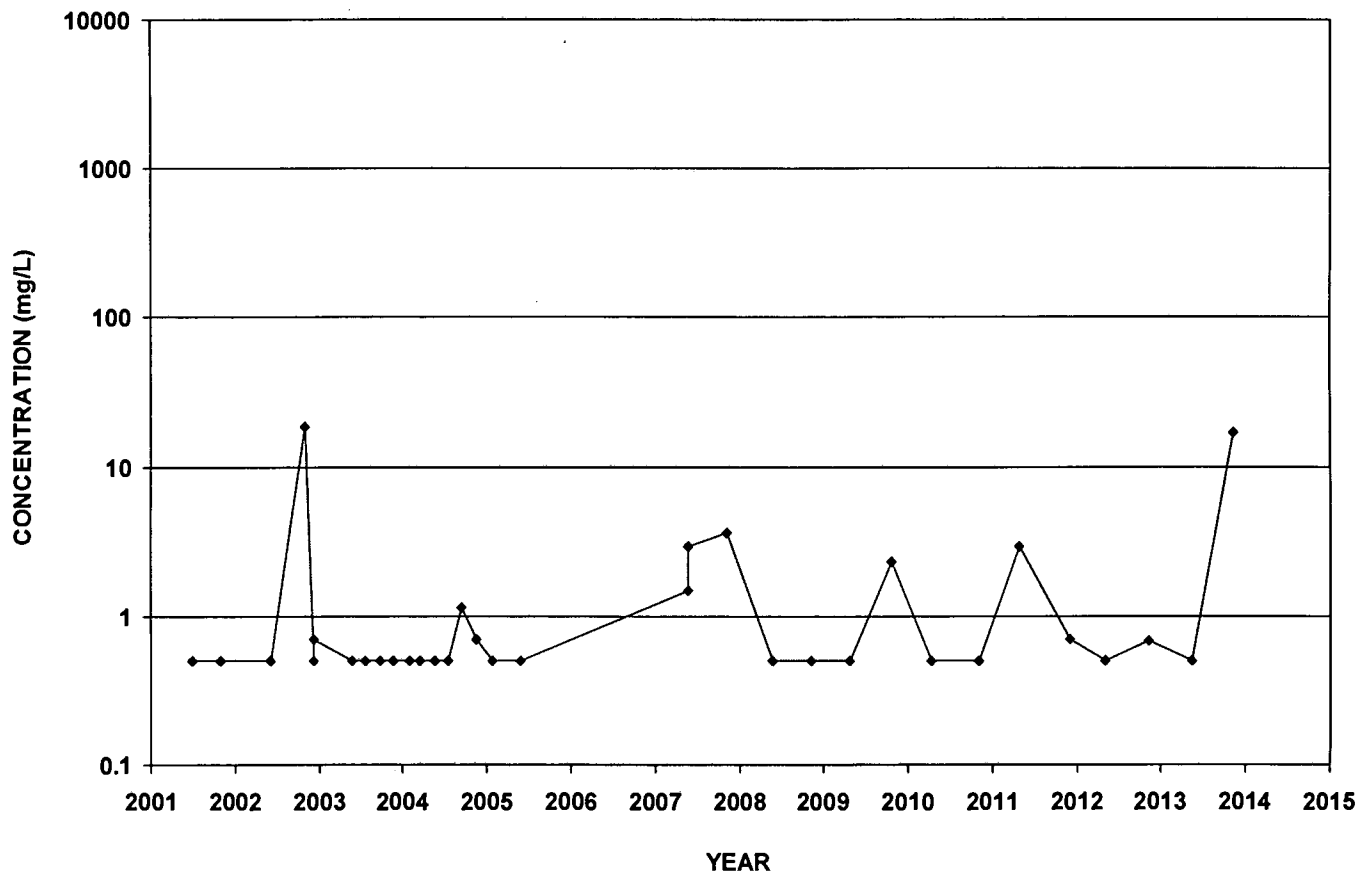
ECMW-7
Ammonia-N



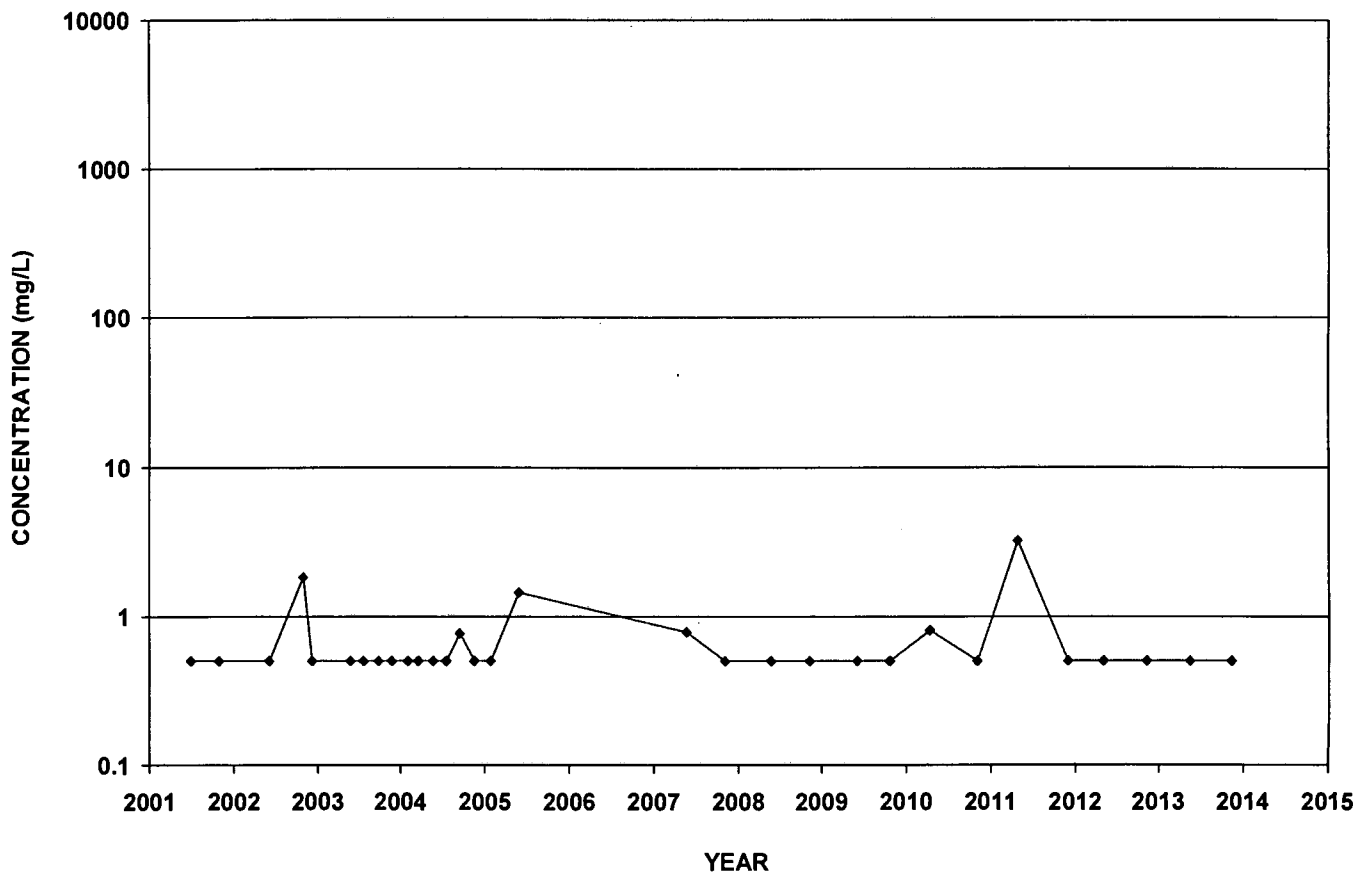
ECMW-8
Ammonia-N



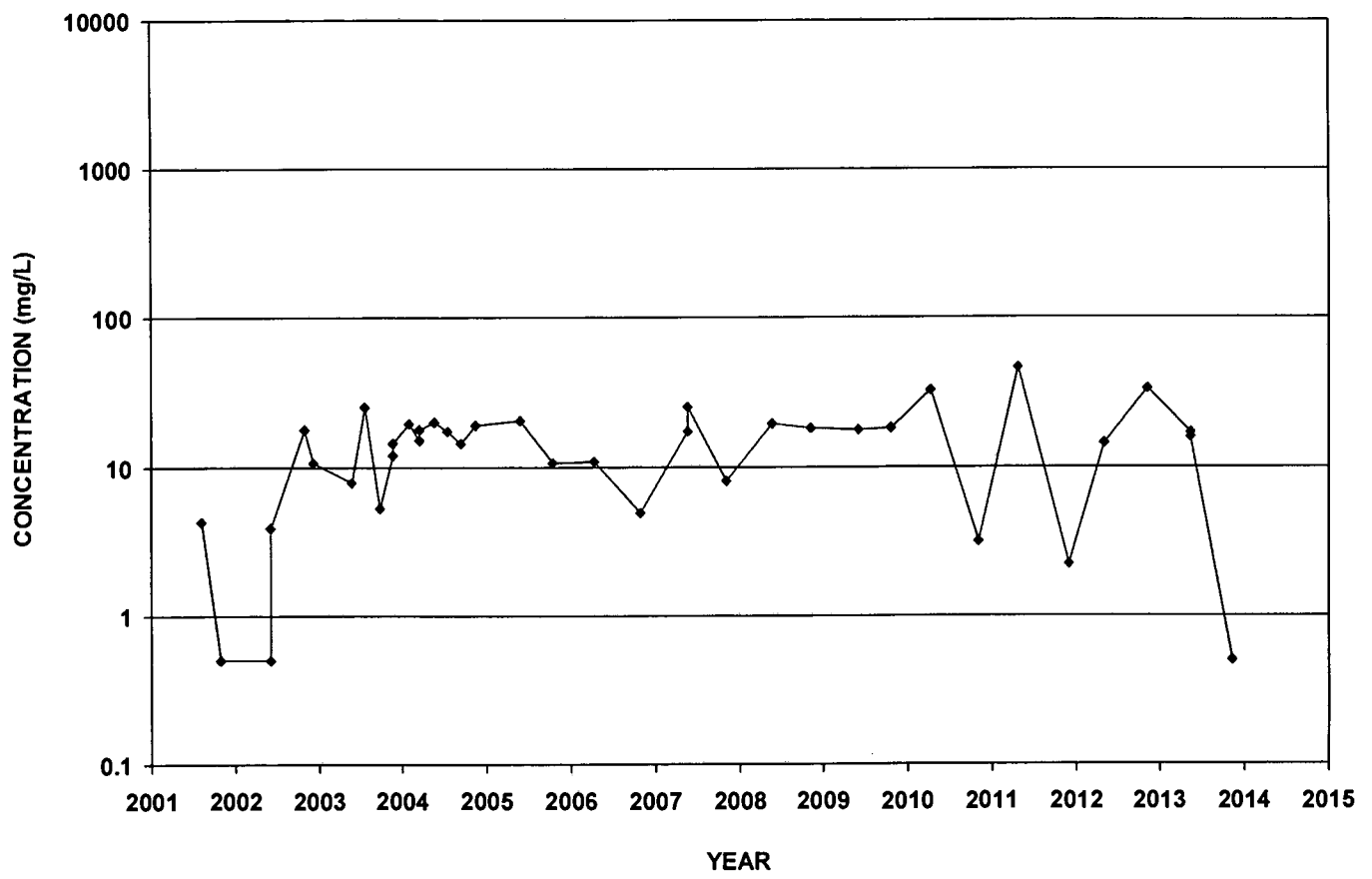
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Ammonia-N



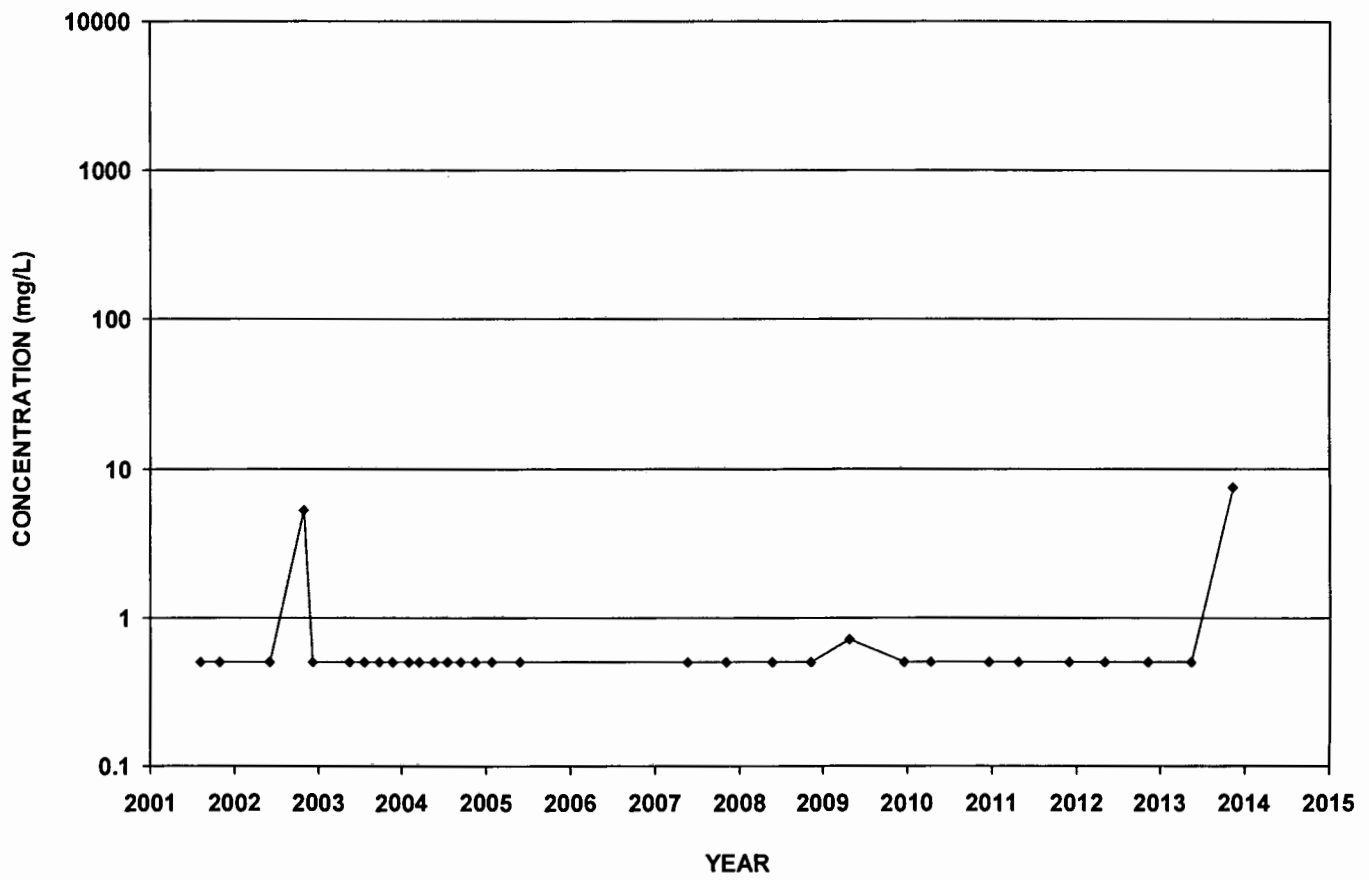
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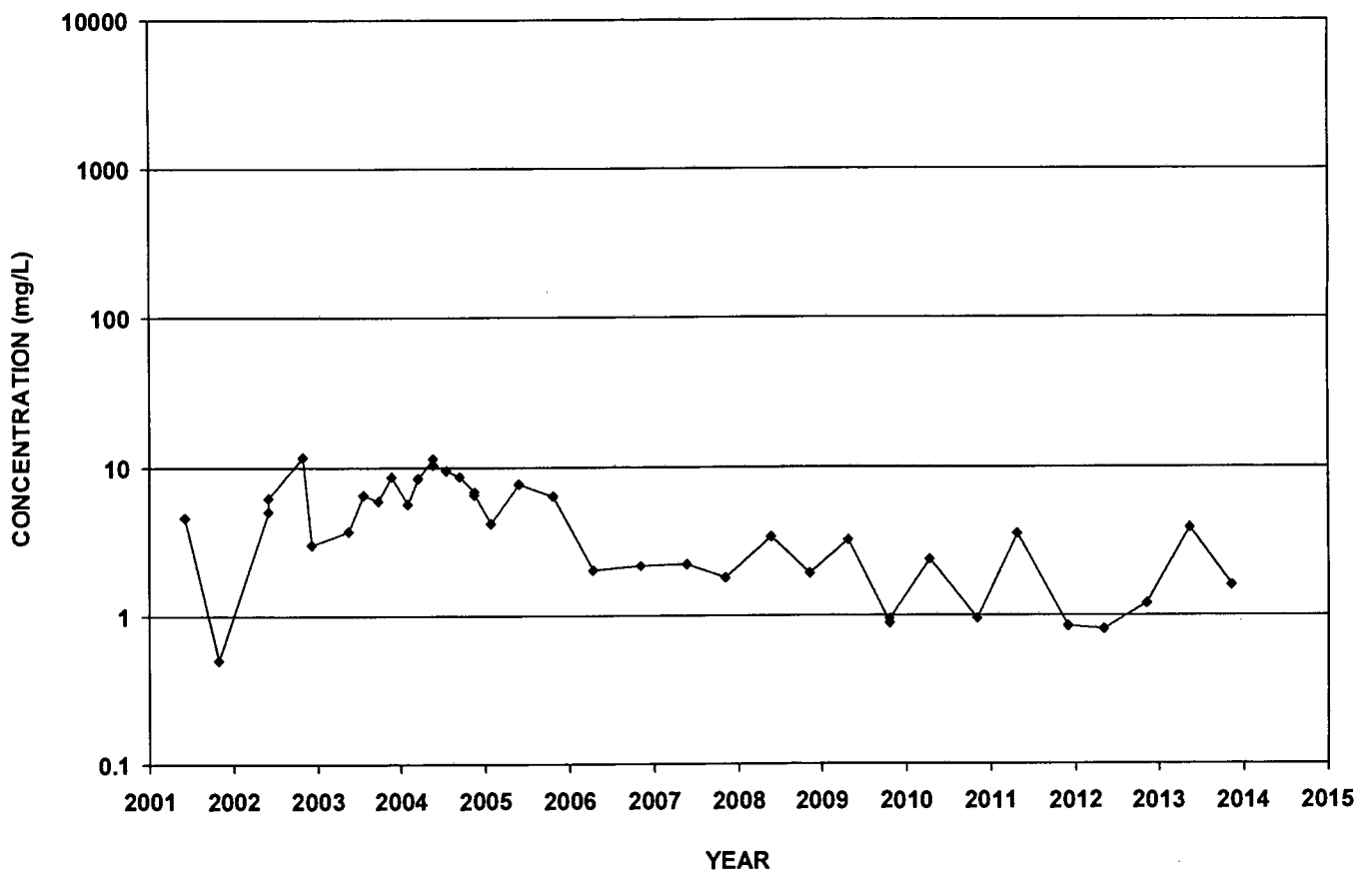
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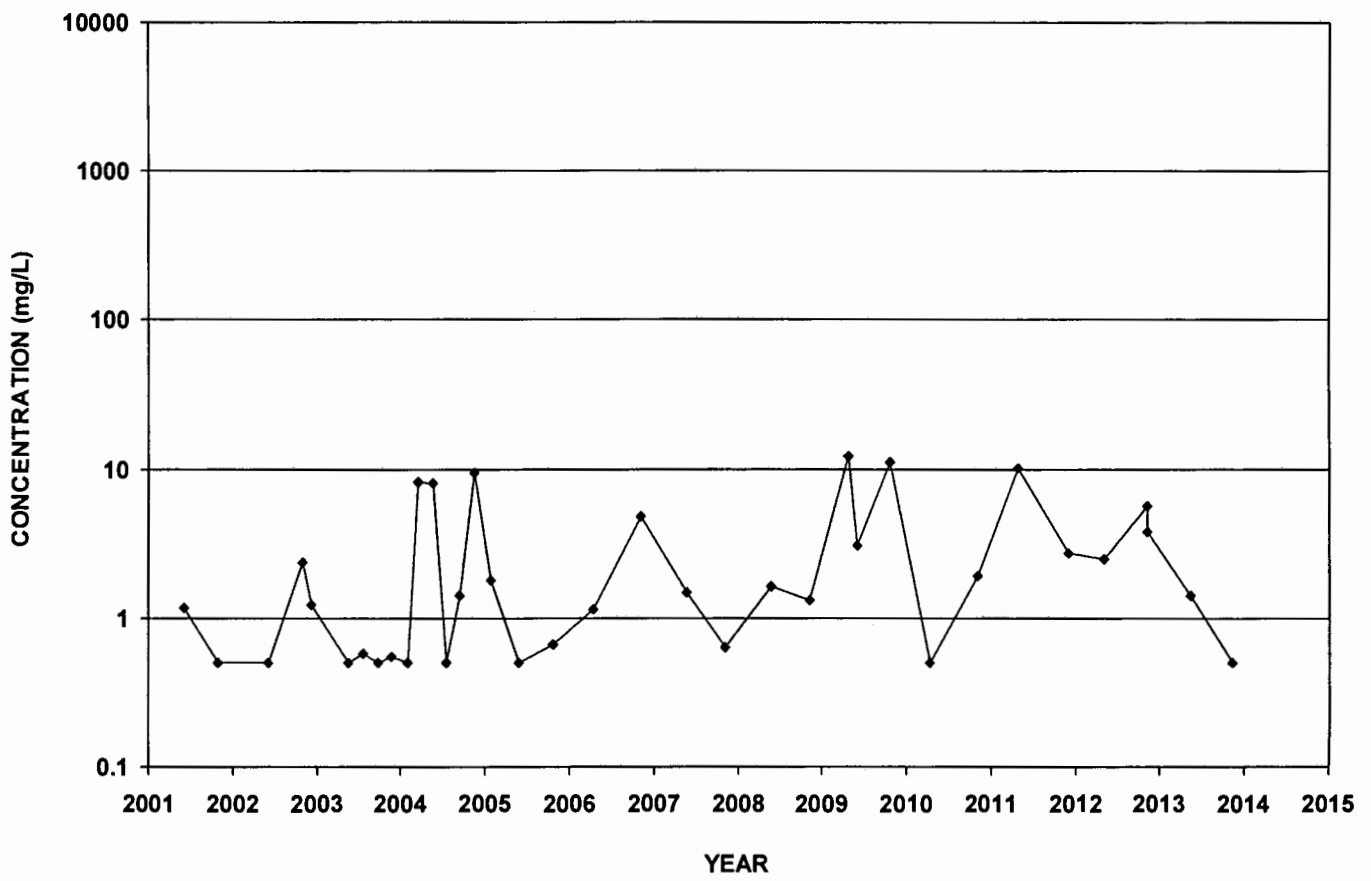
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Ammonia-N



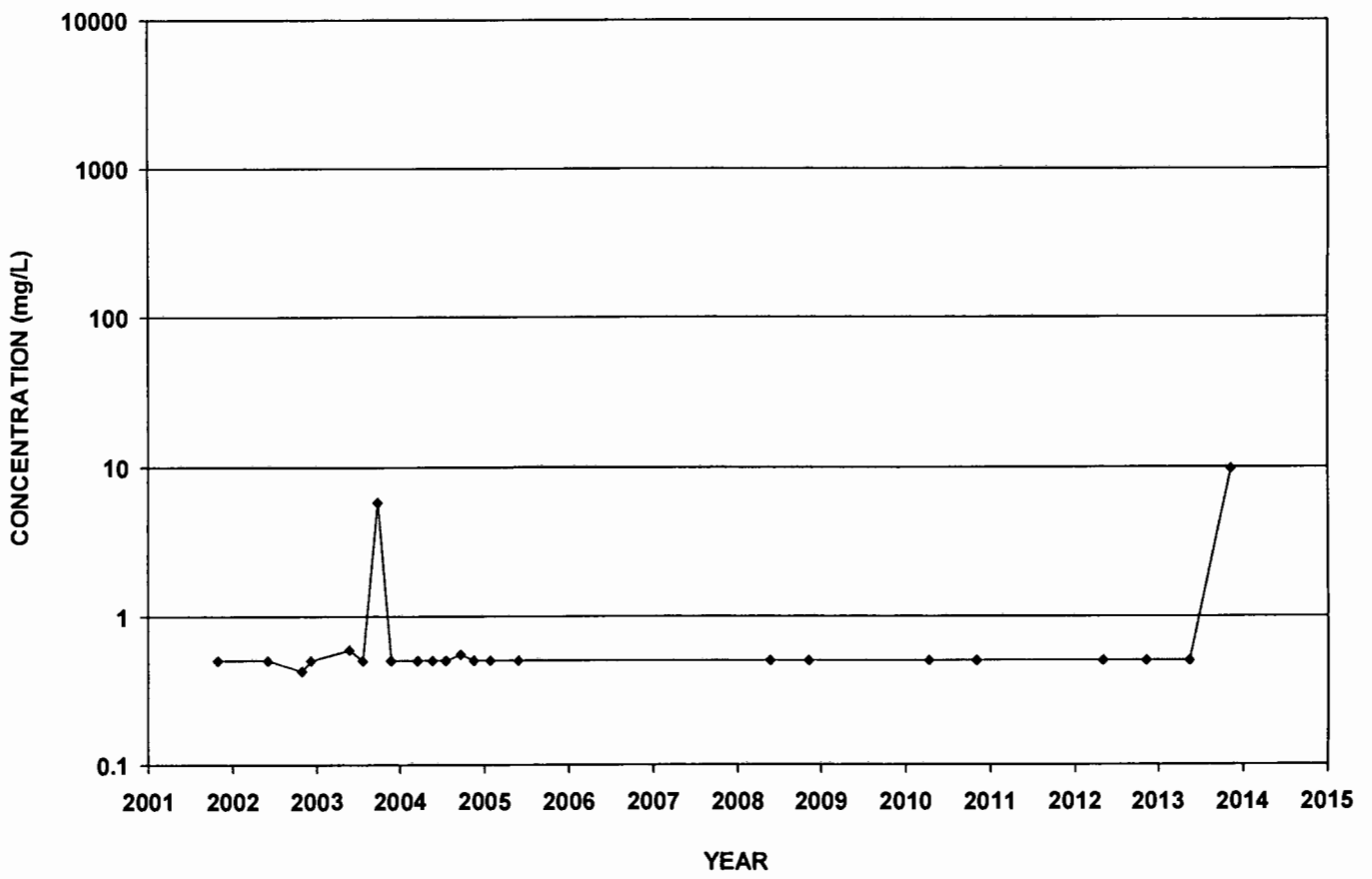
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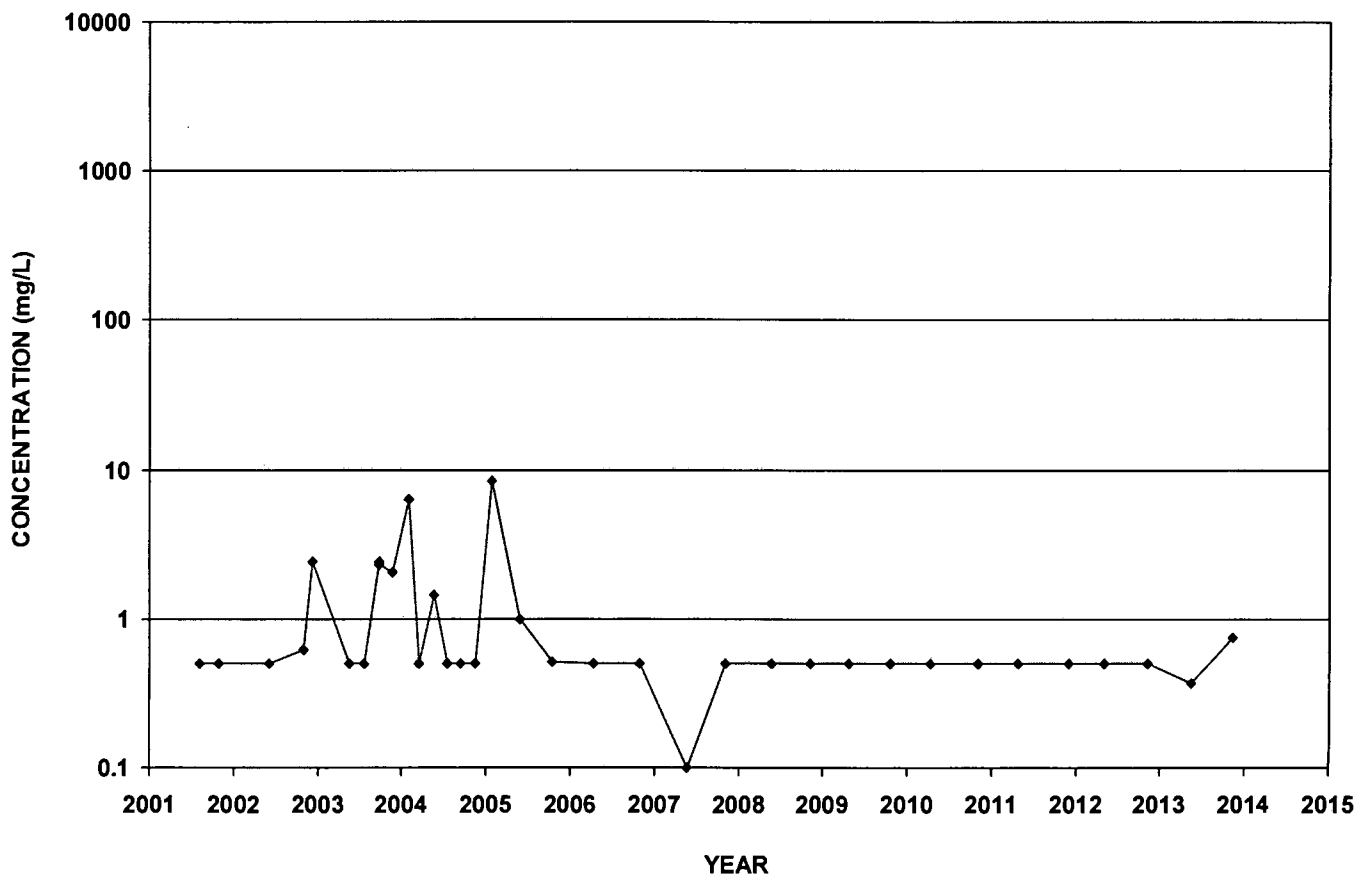
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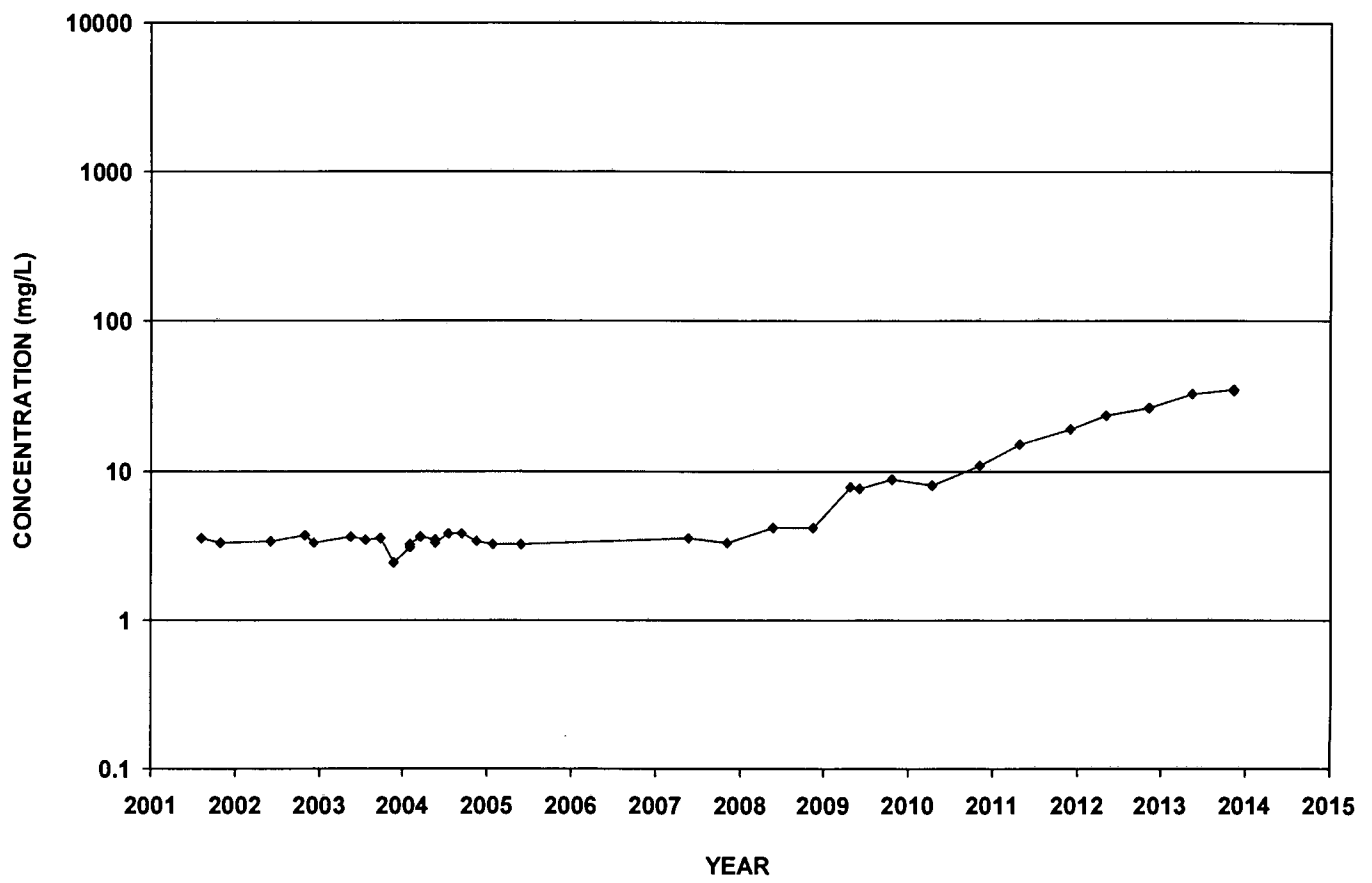
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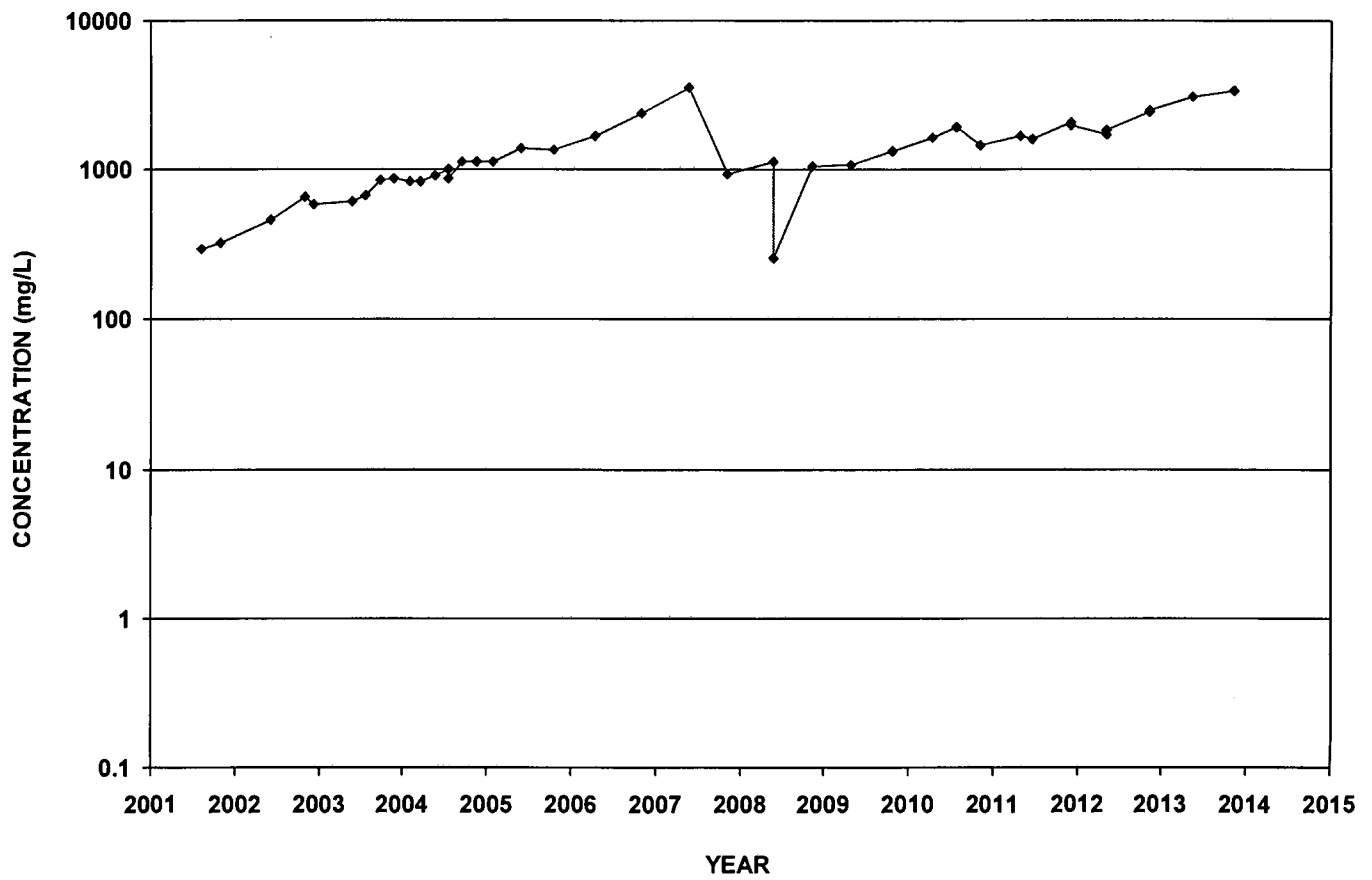
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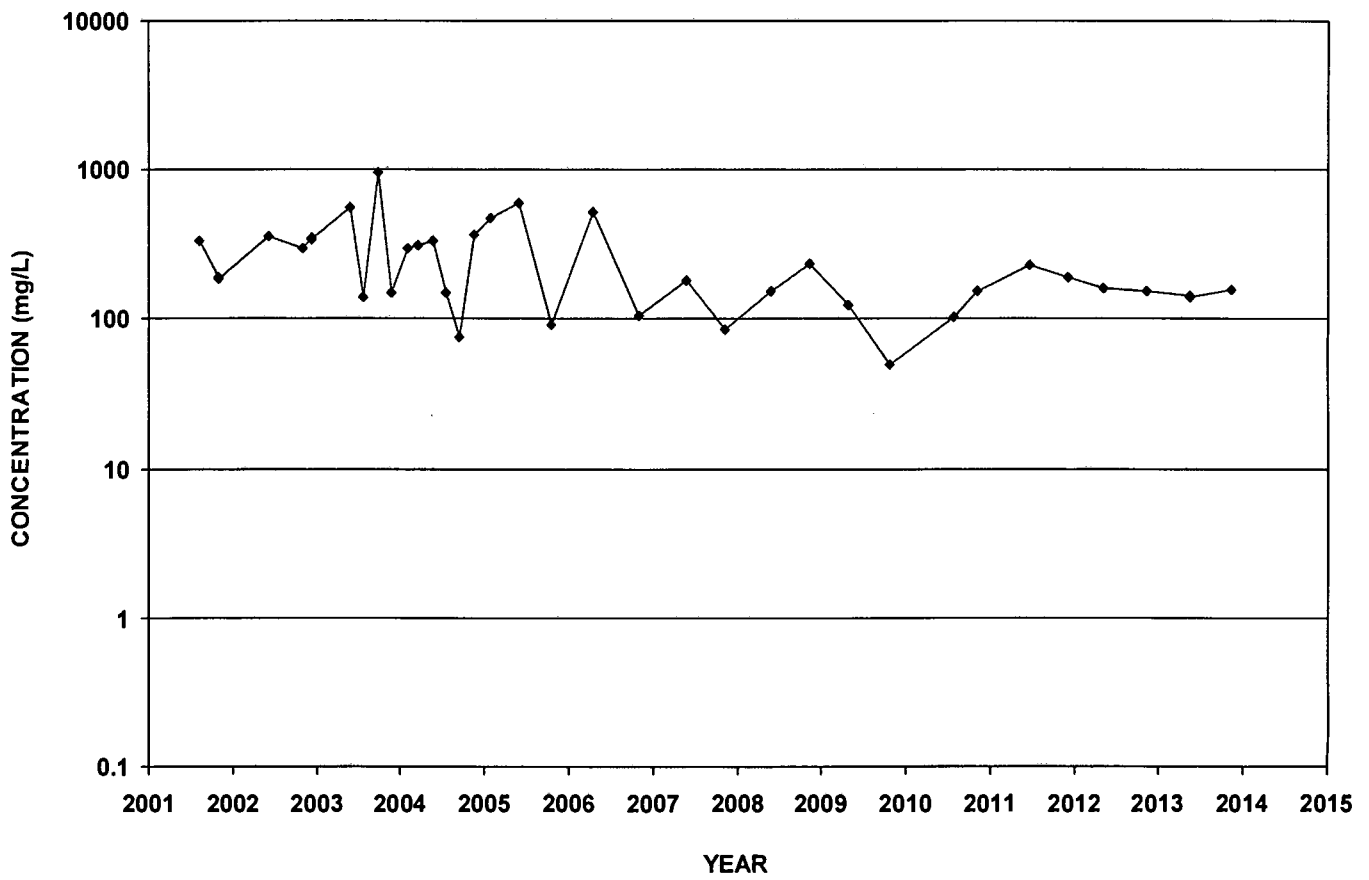
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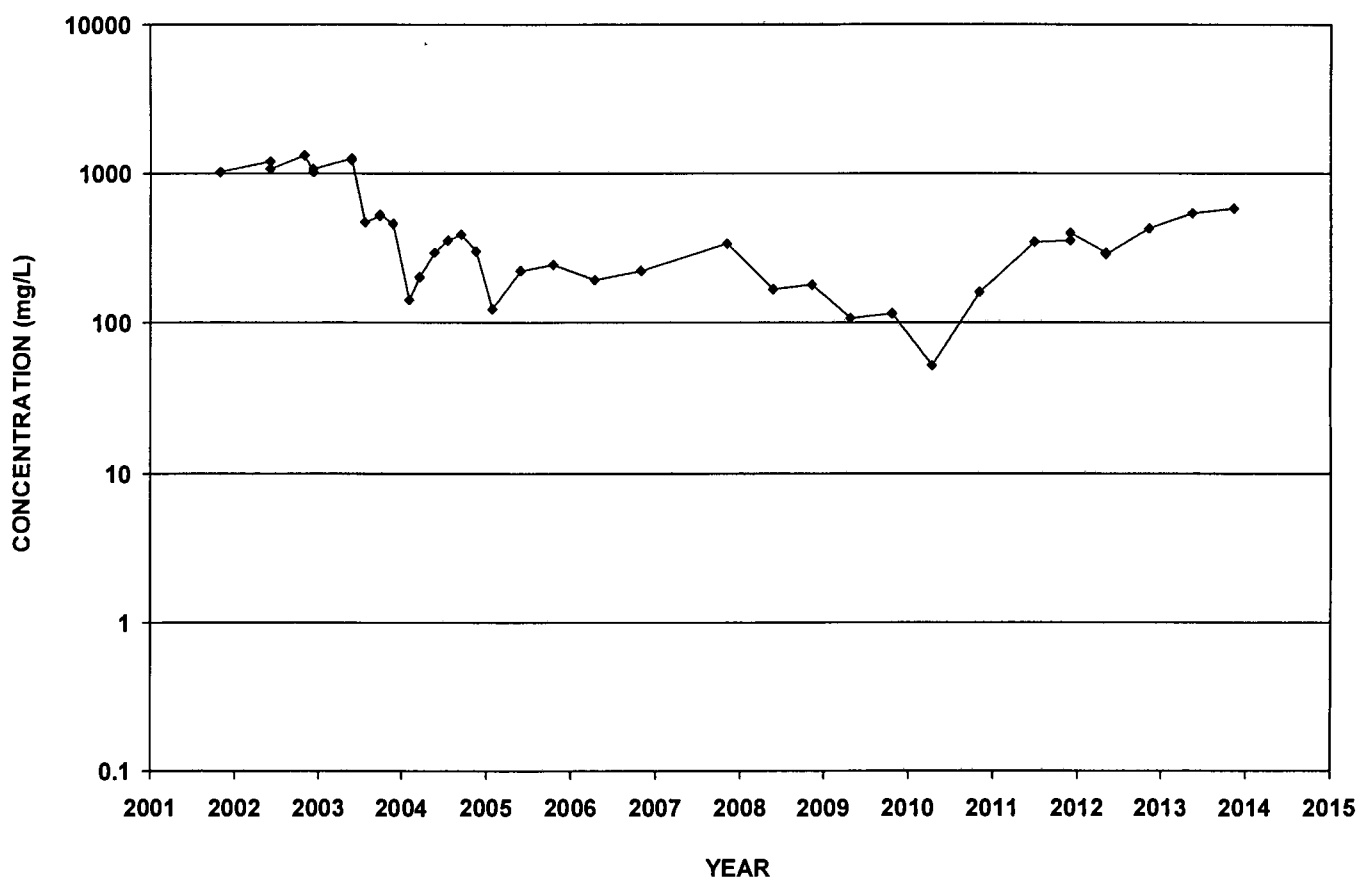
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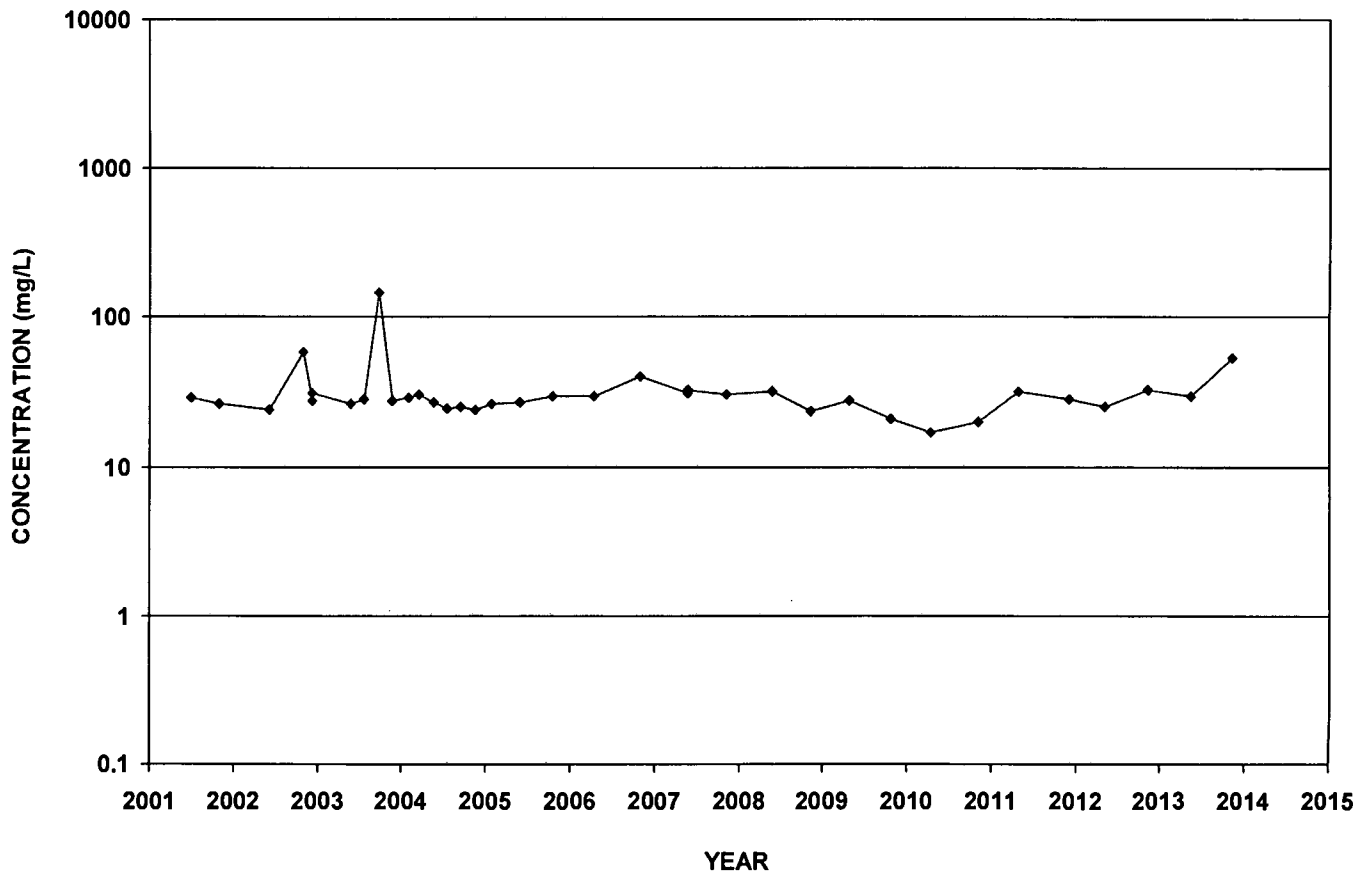
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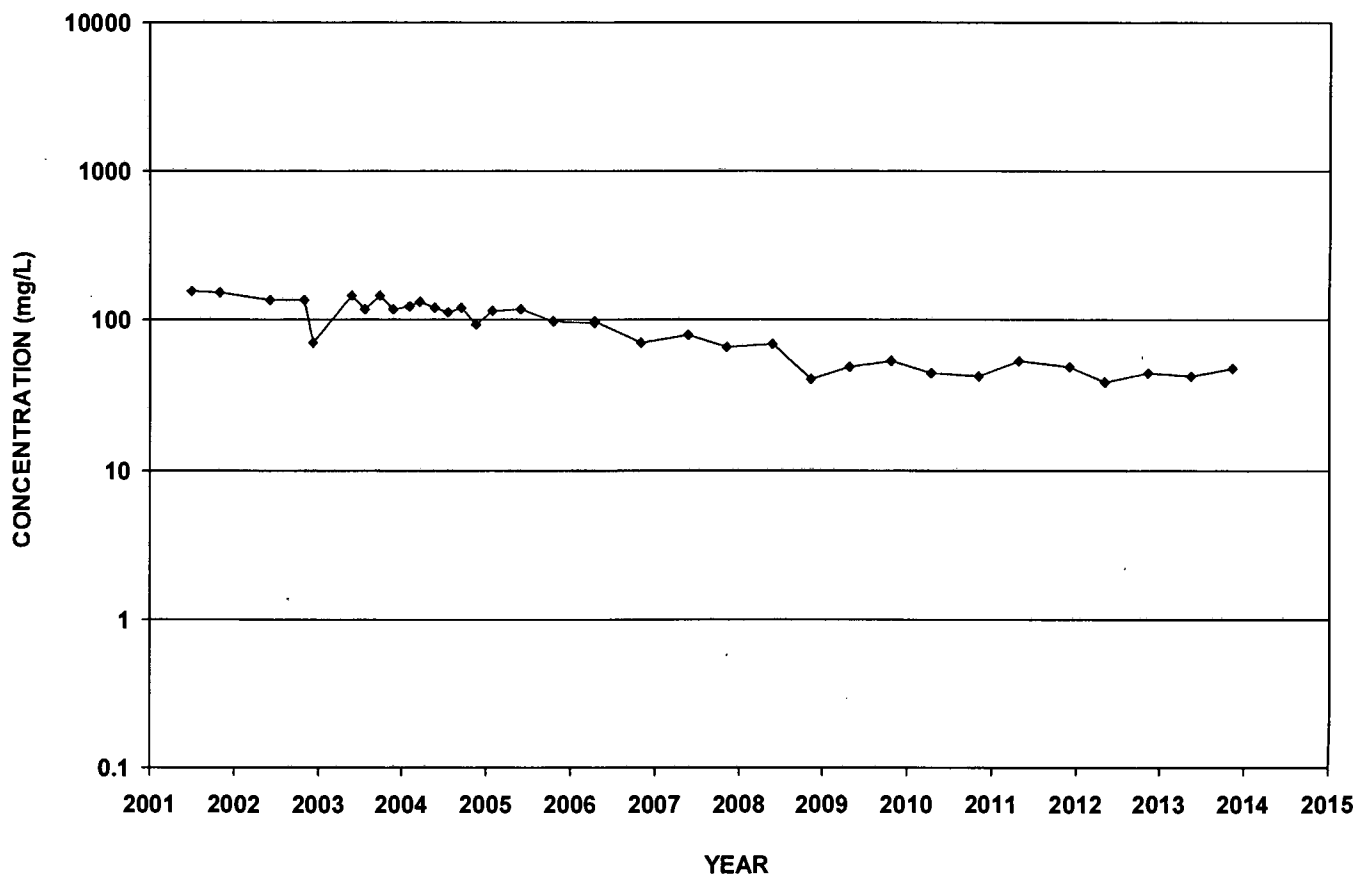
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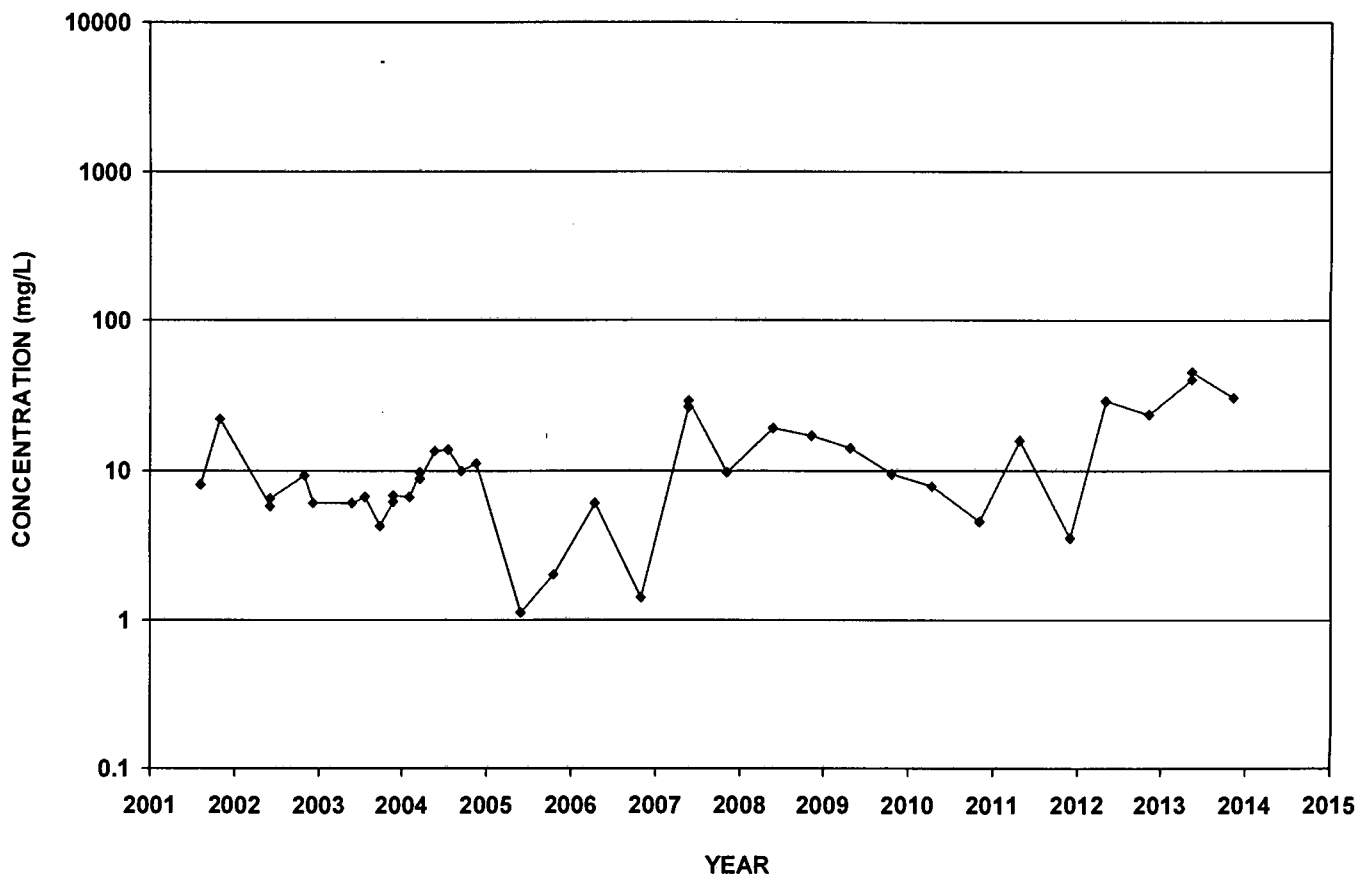
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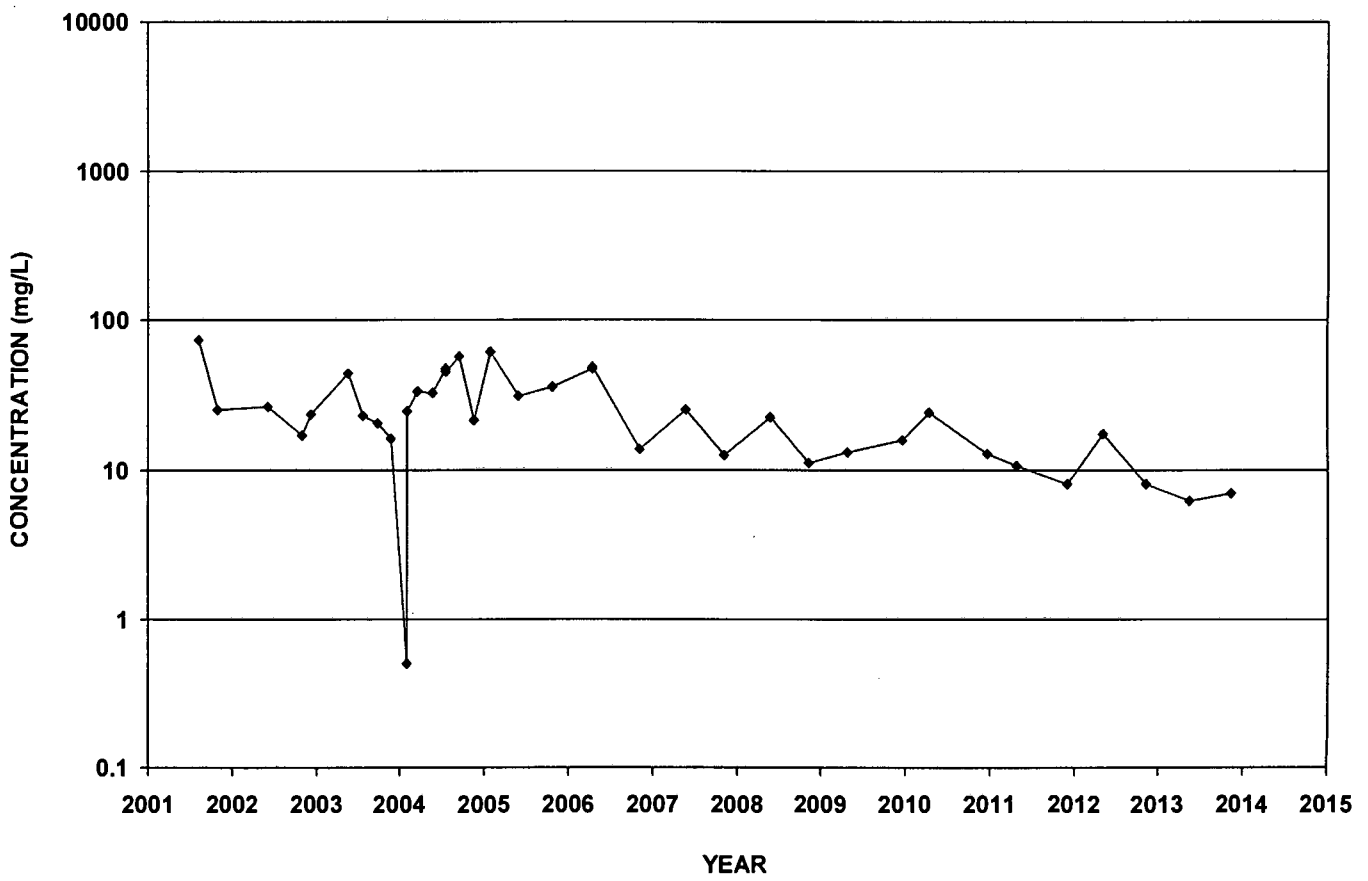
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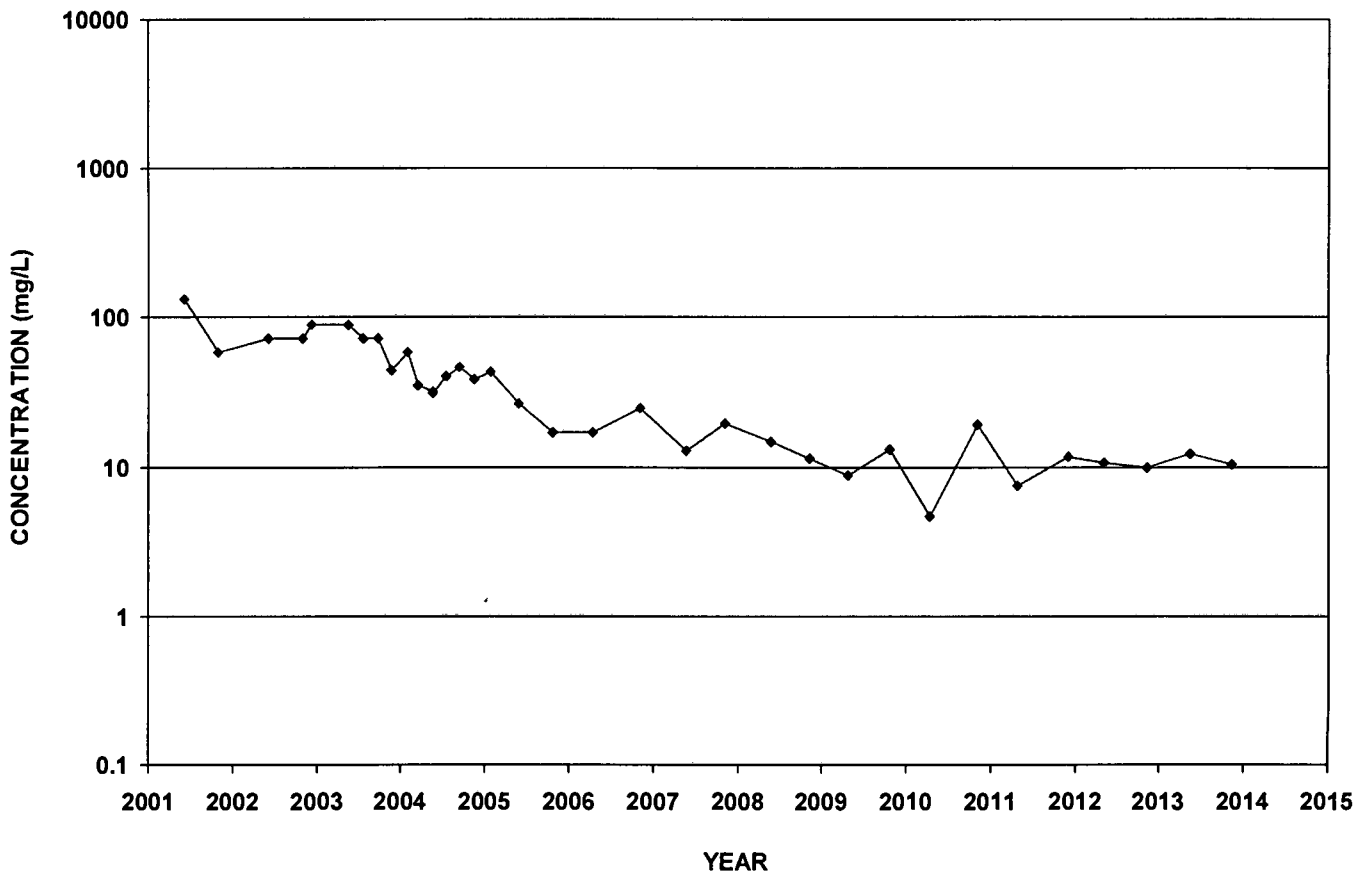
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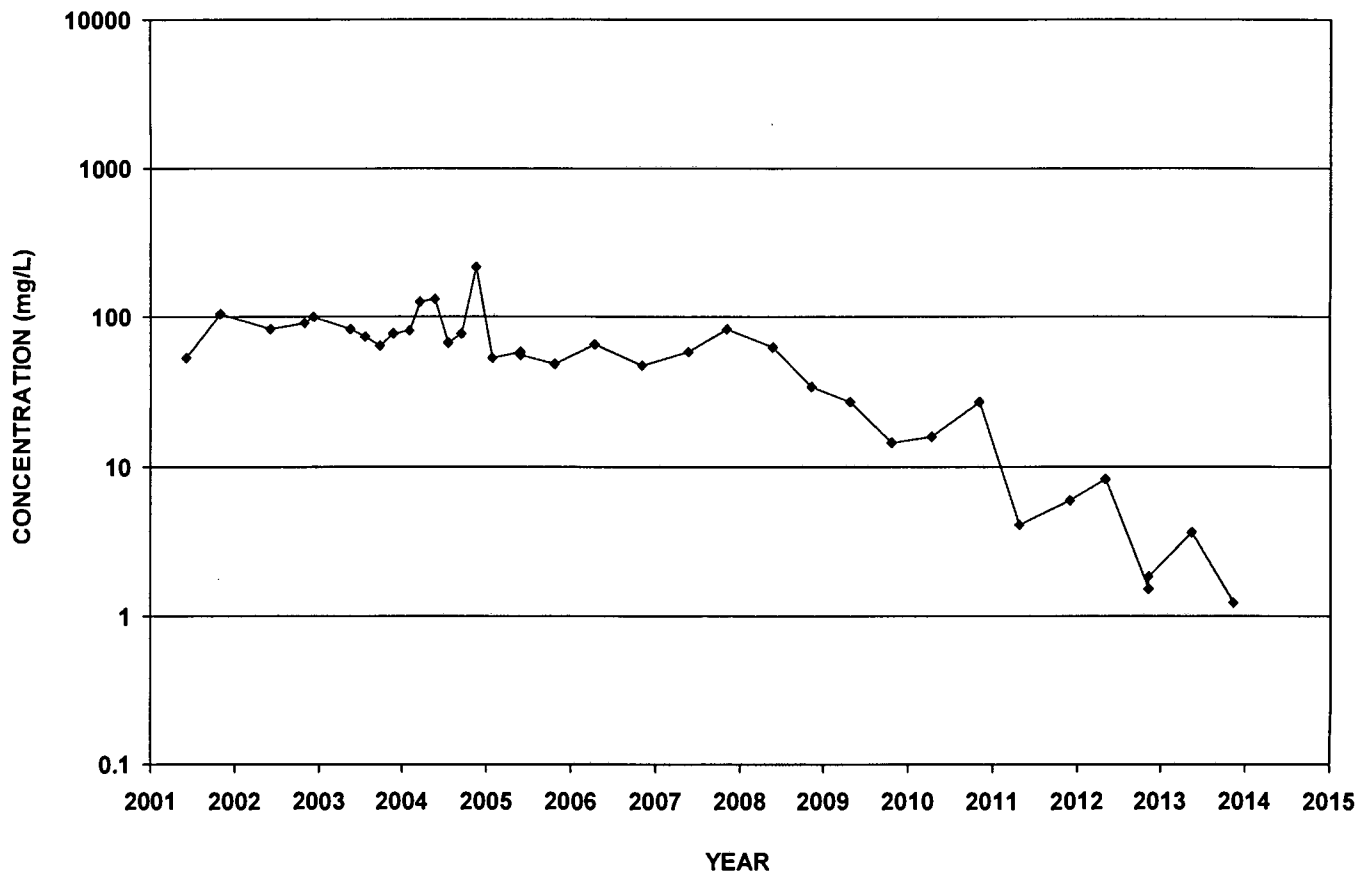
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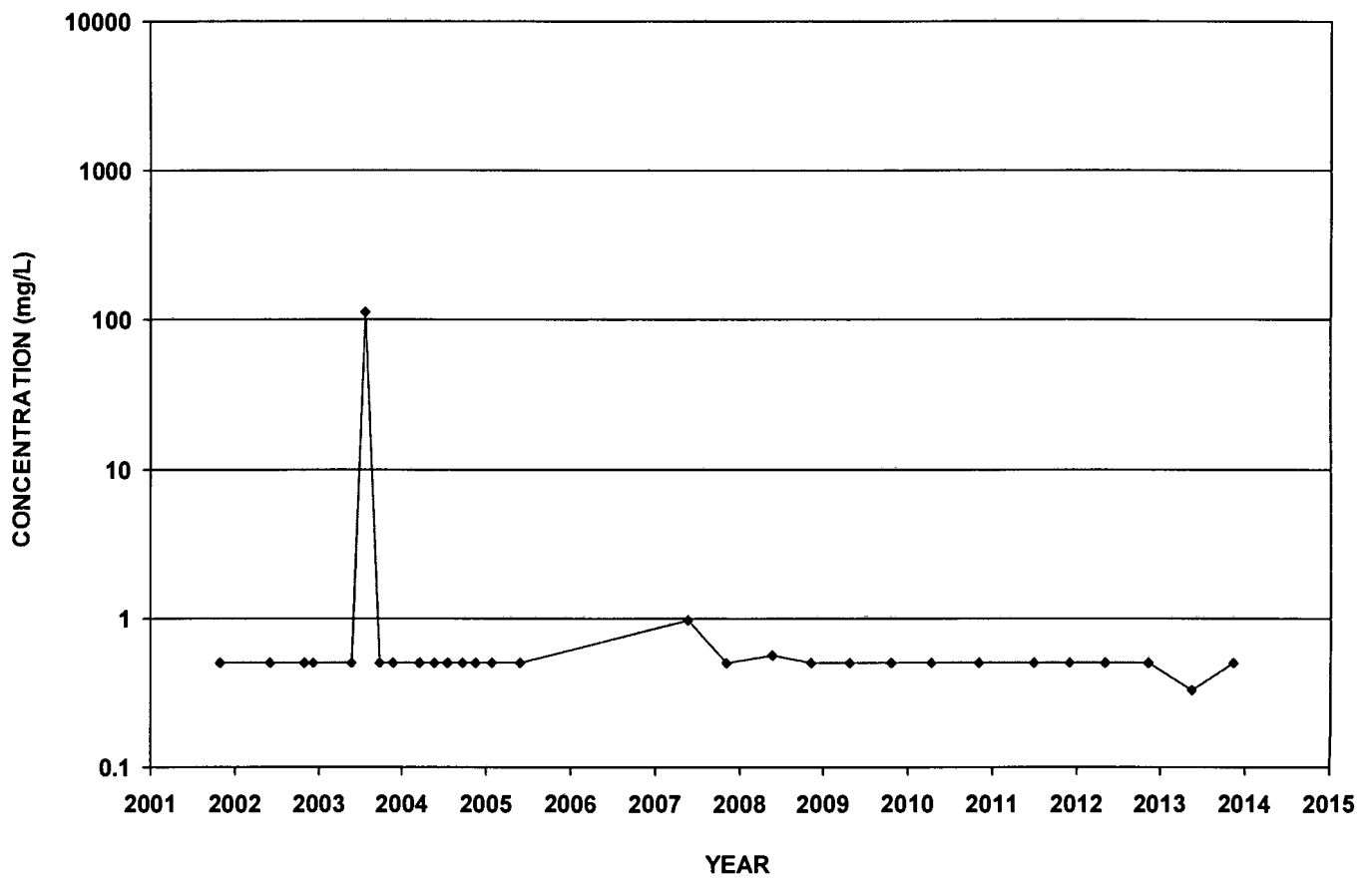
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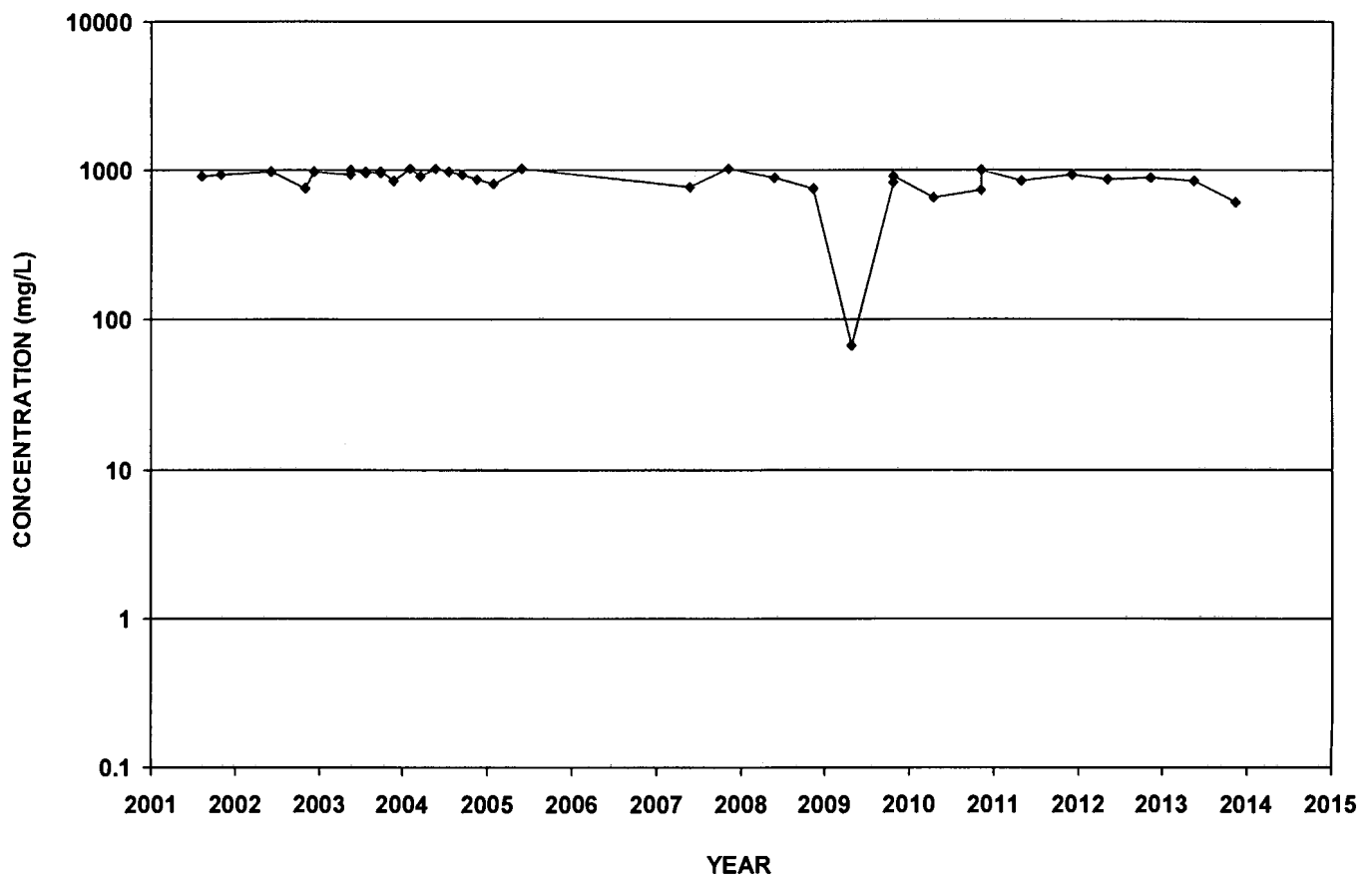
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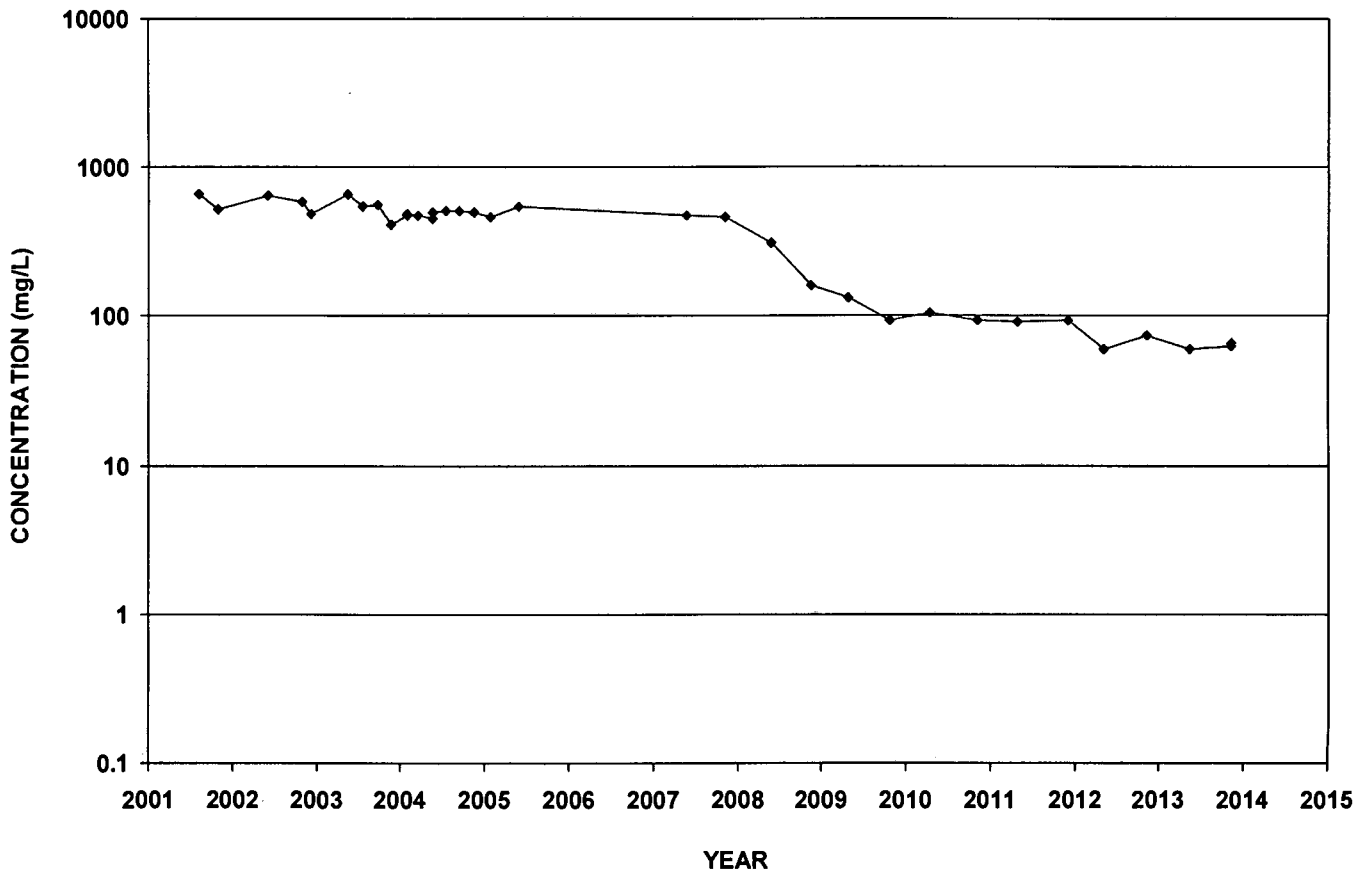
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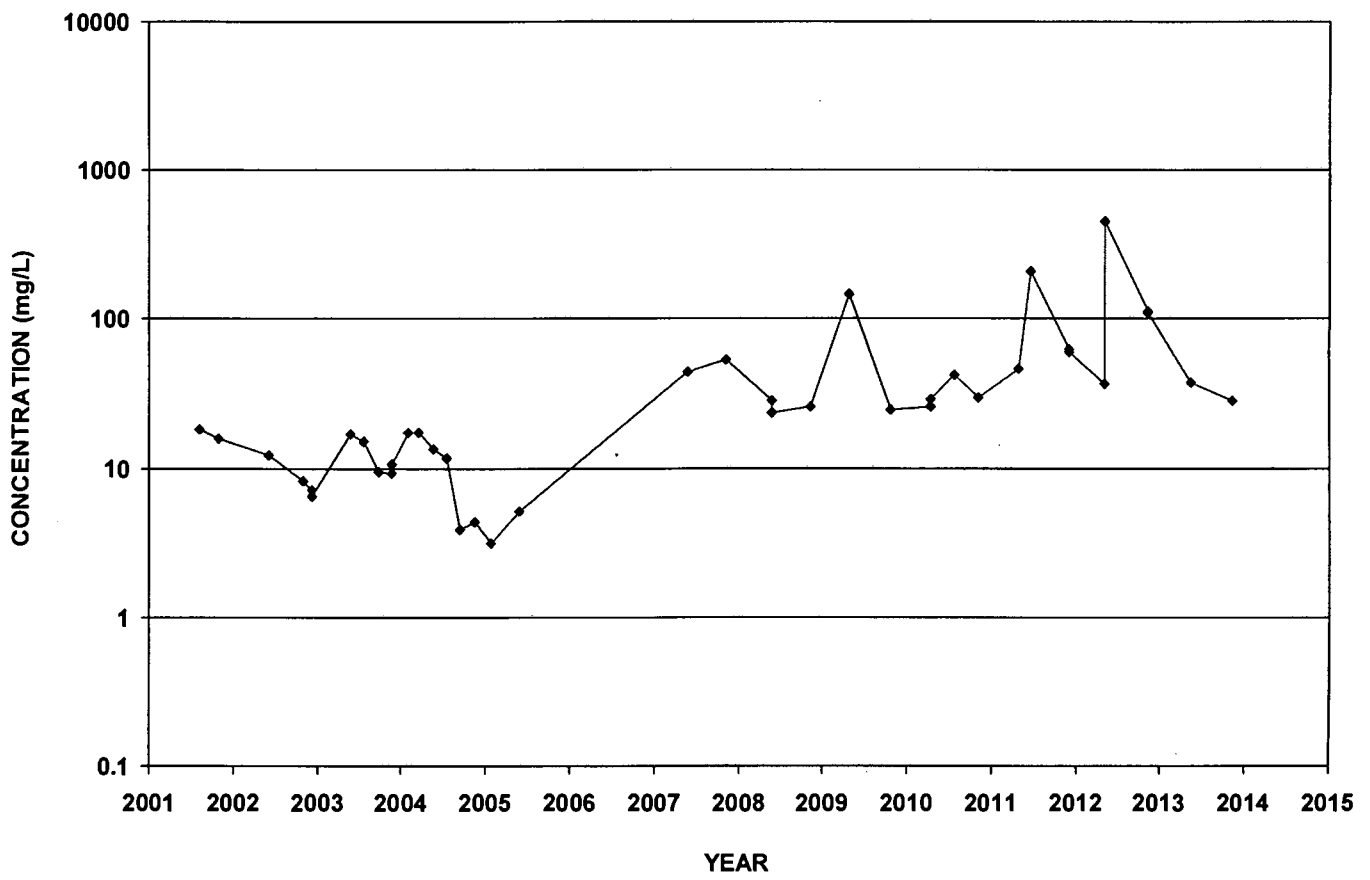
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Sulfate as SO4



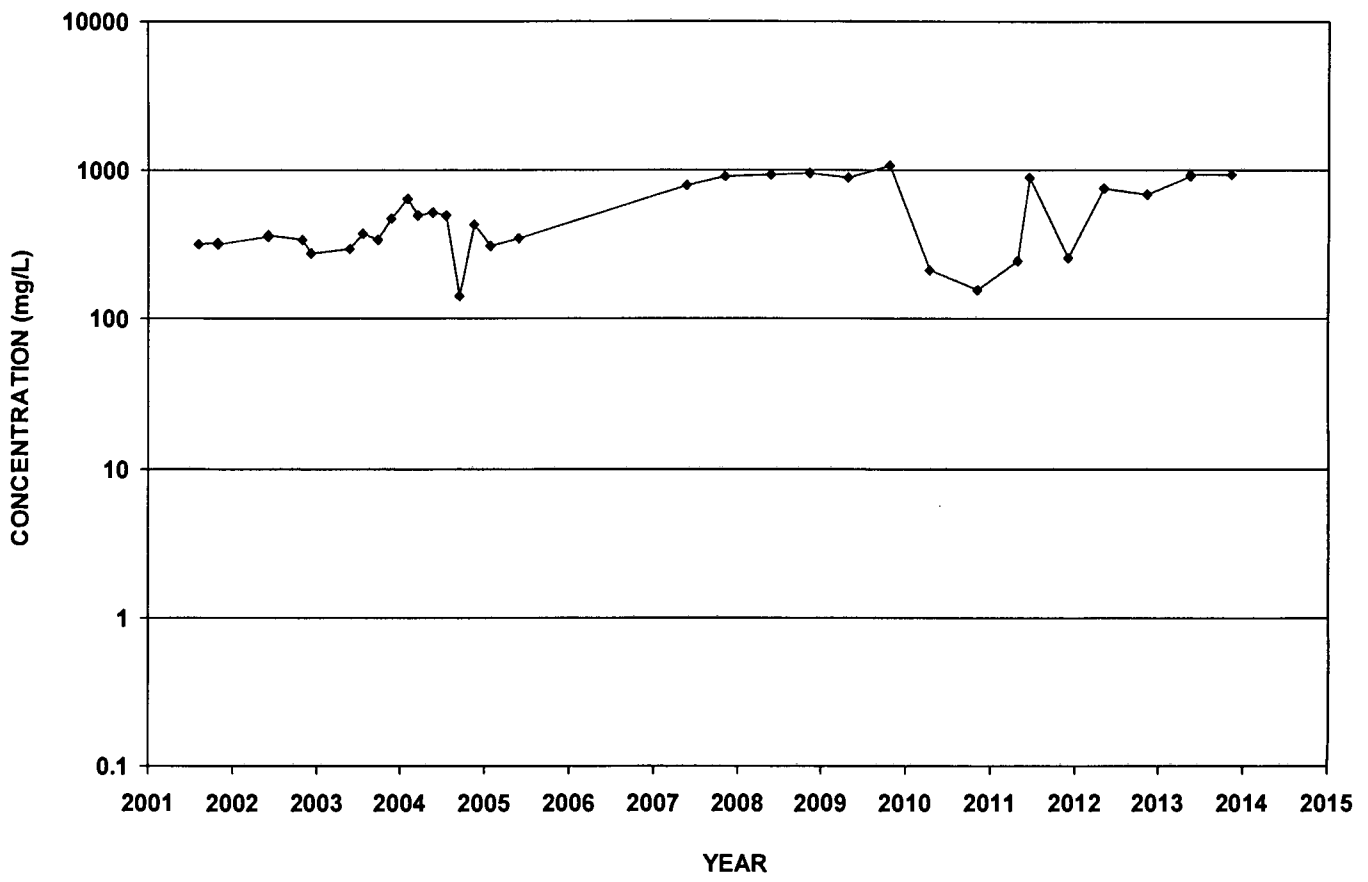
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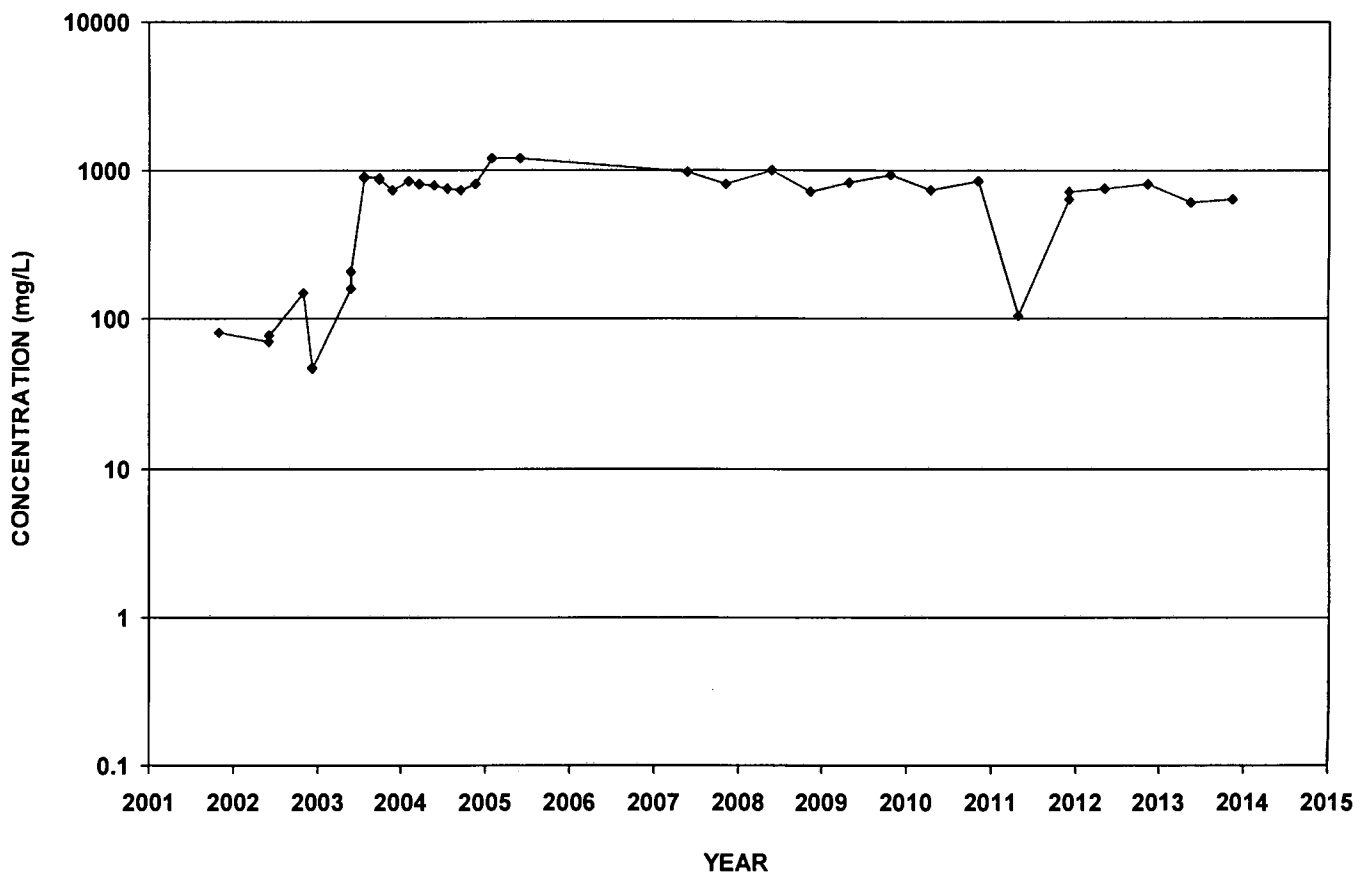
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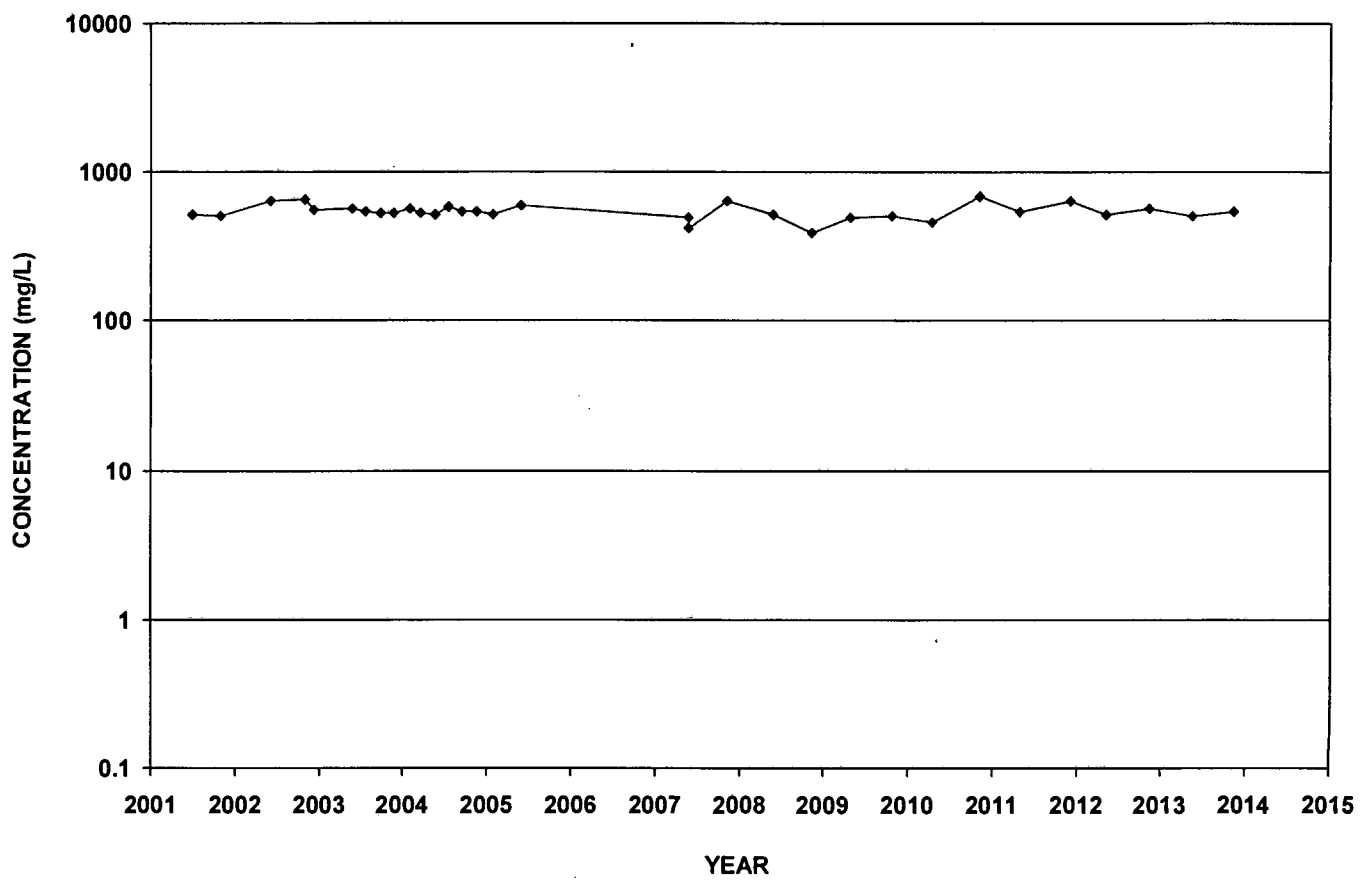
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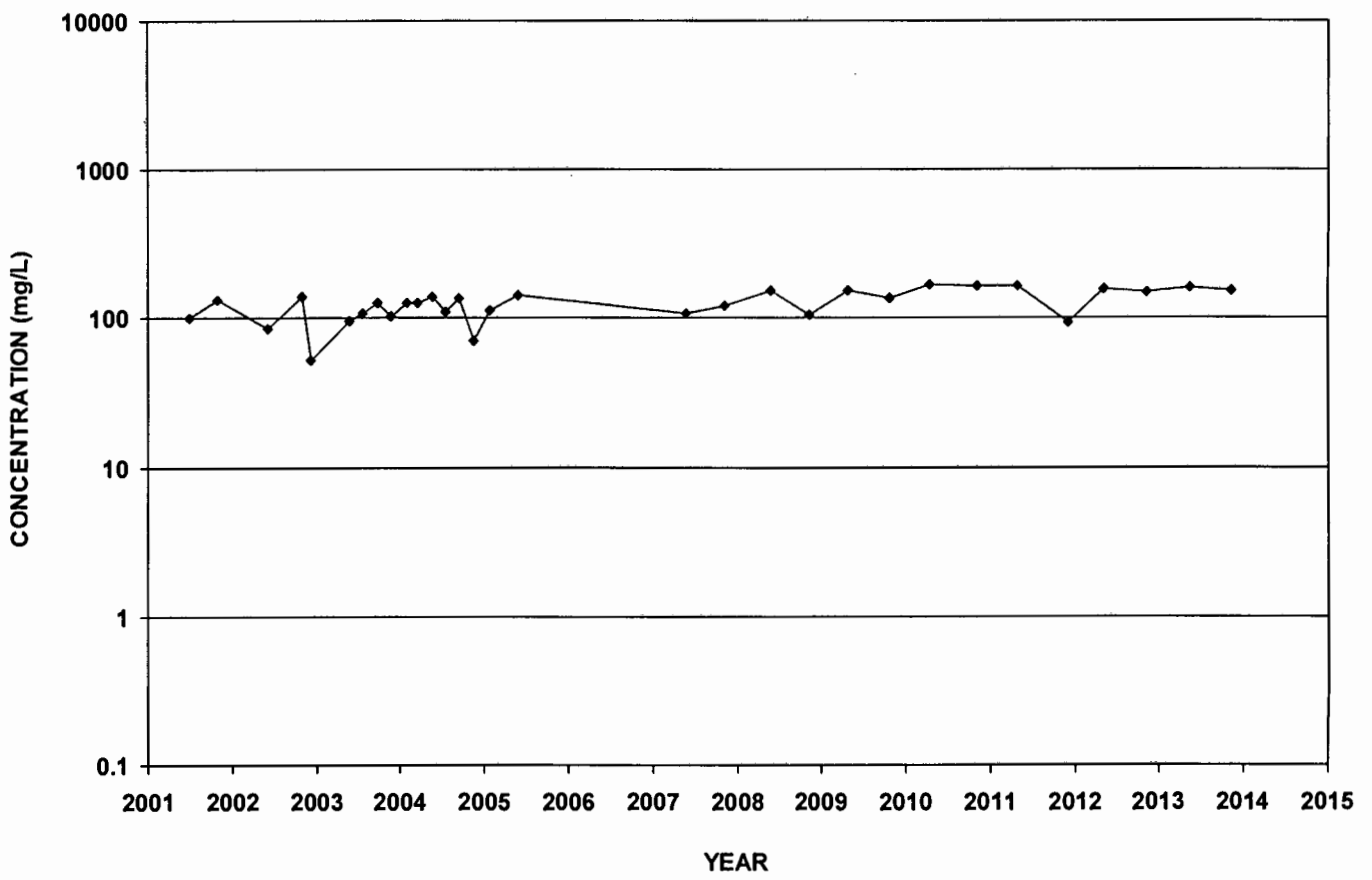
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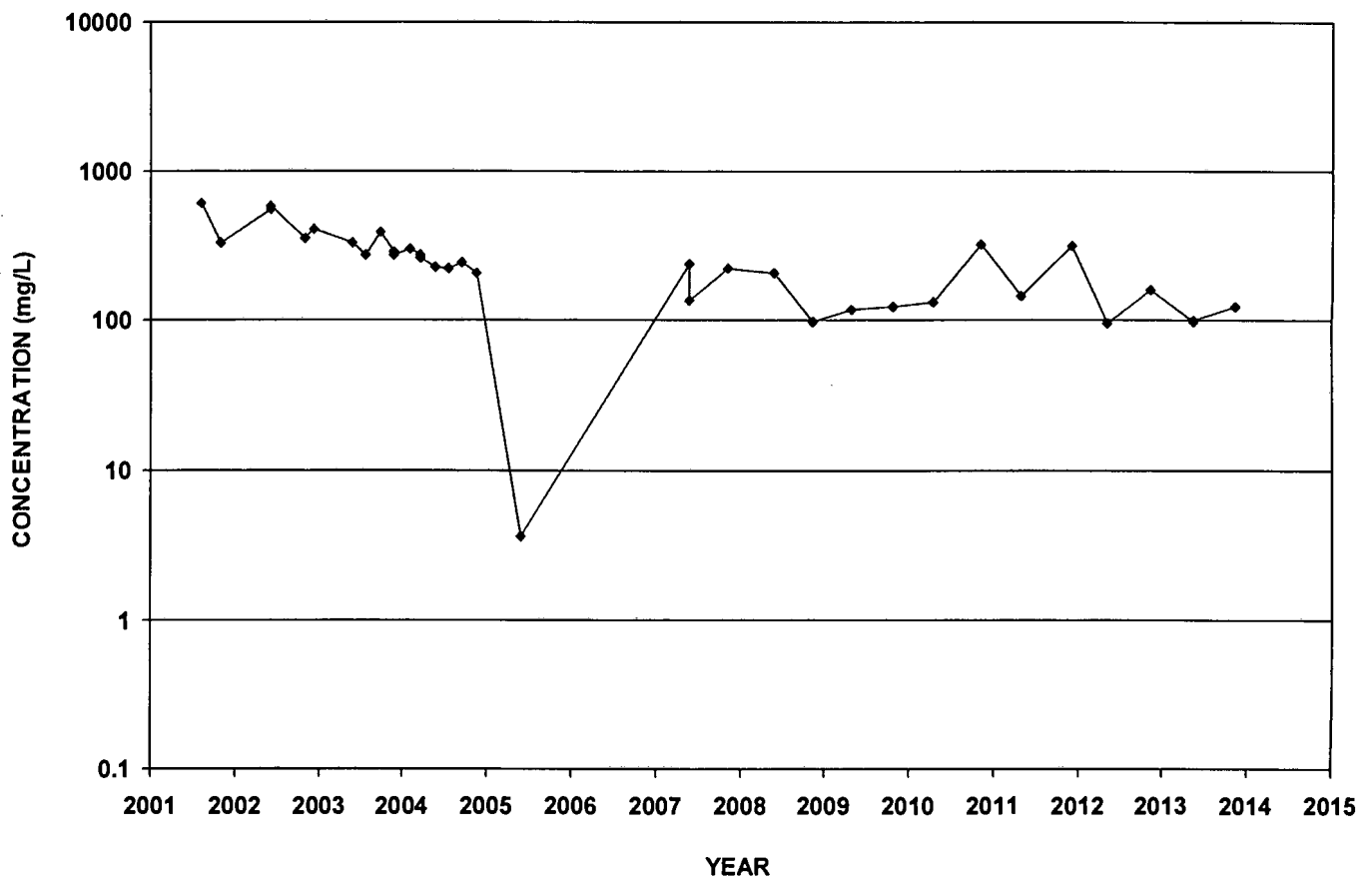
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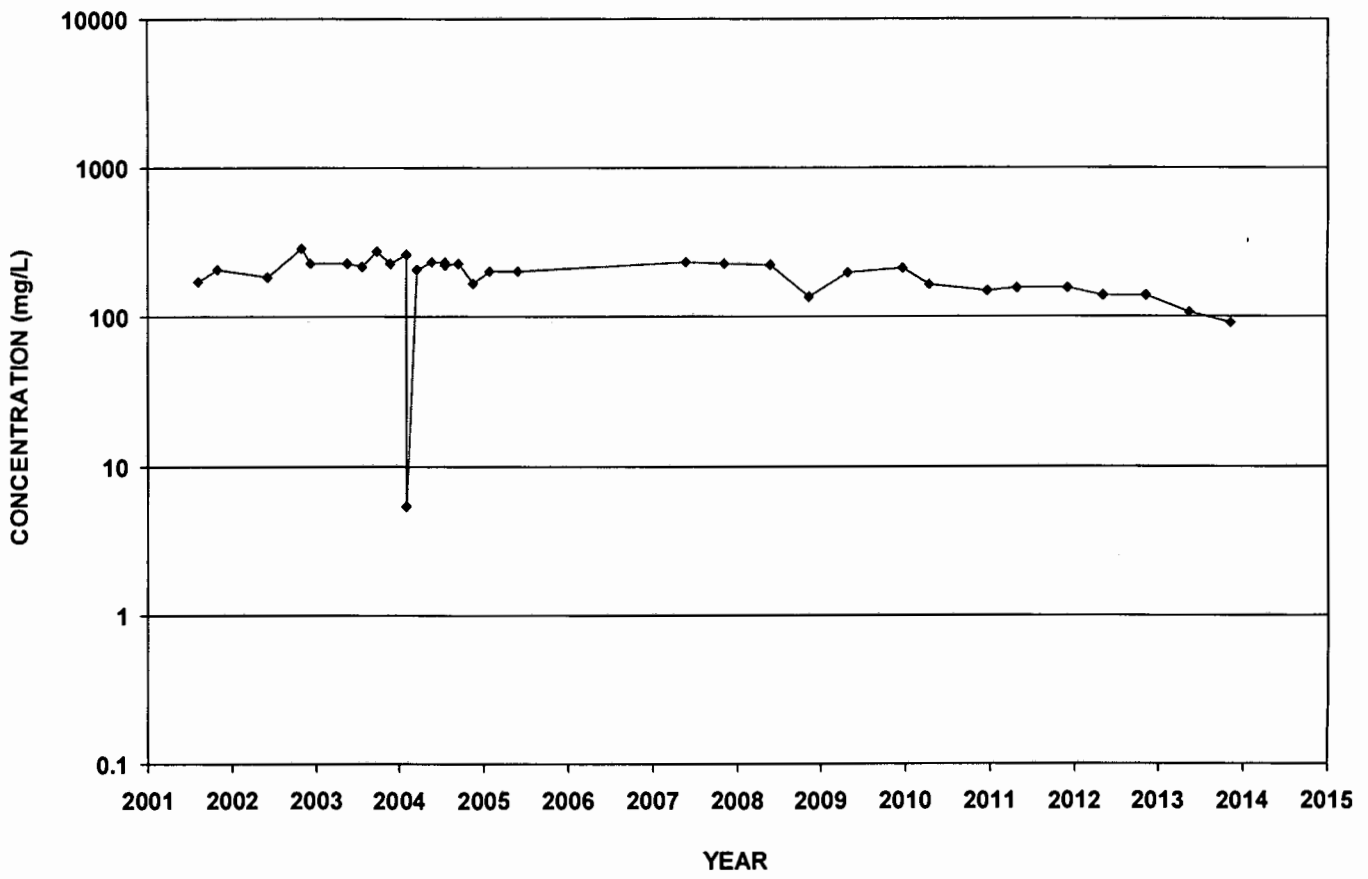
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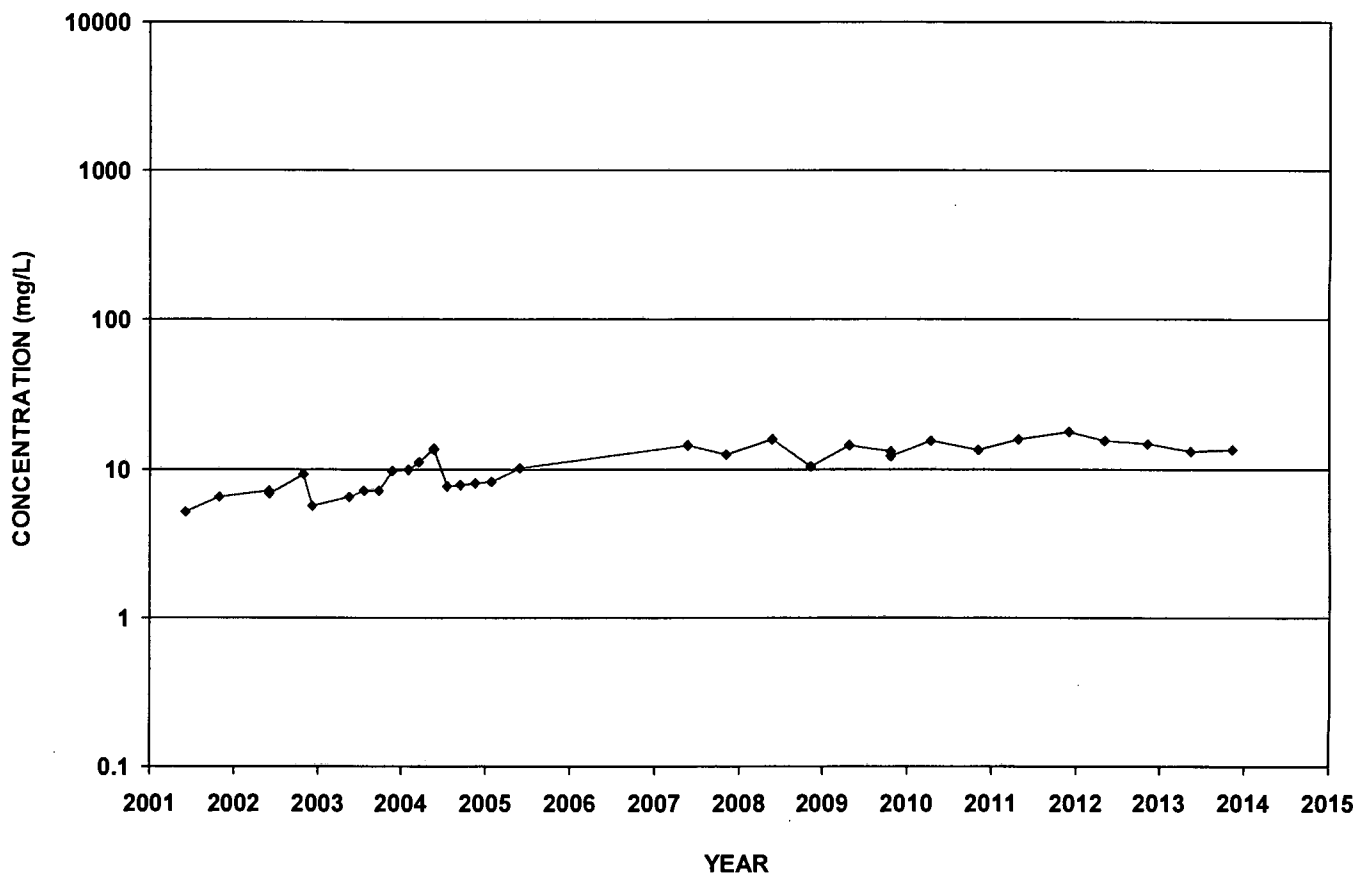
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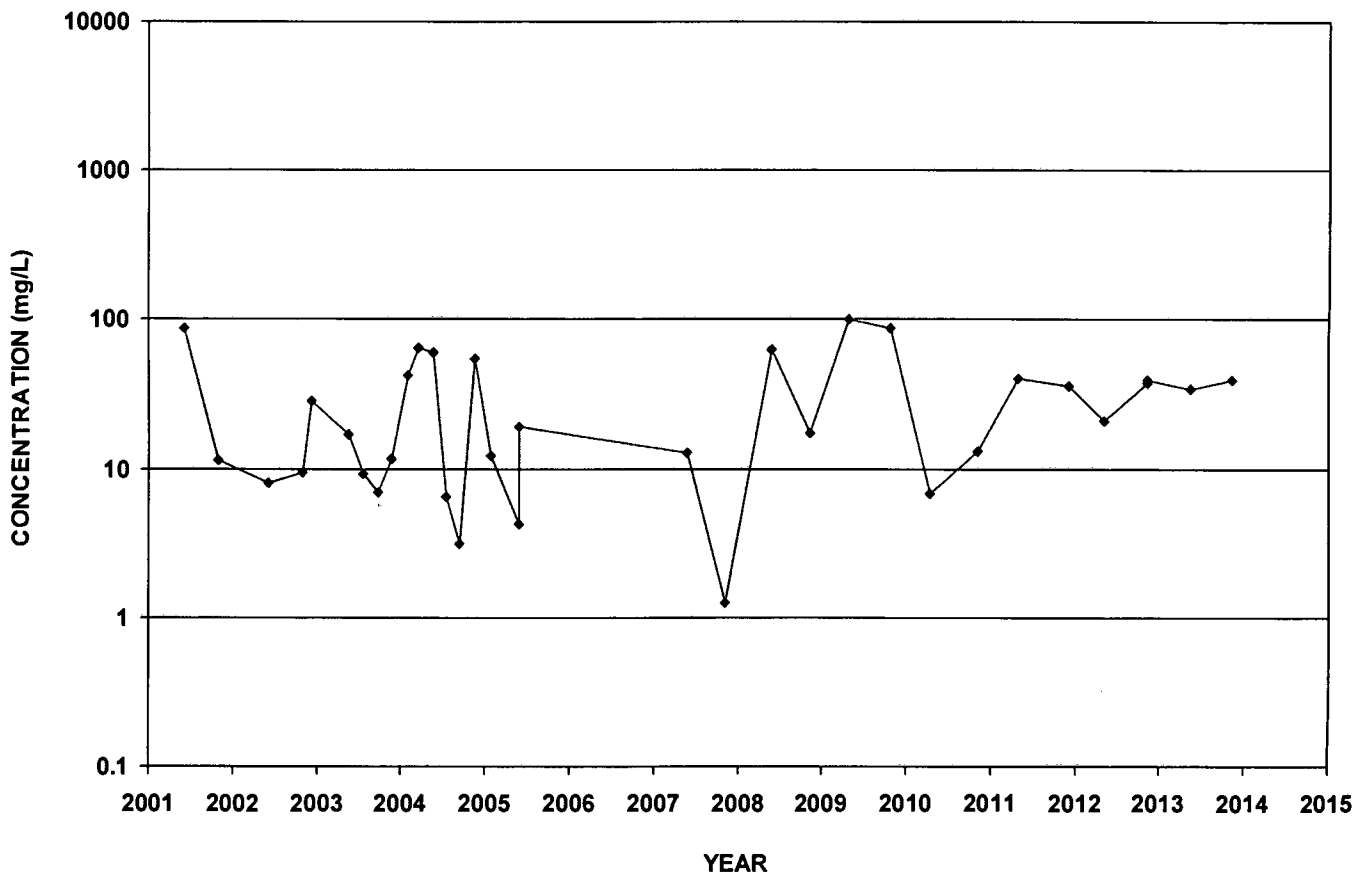
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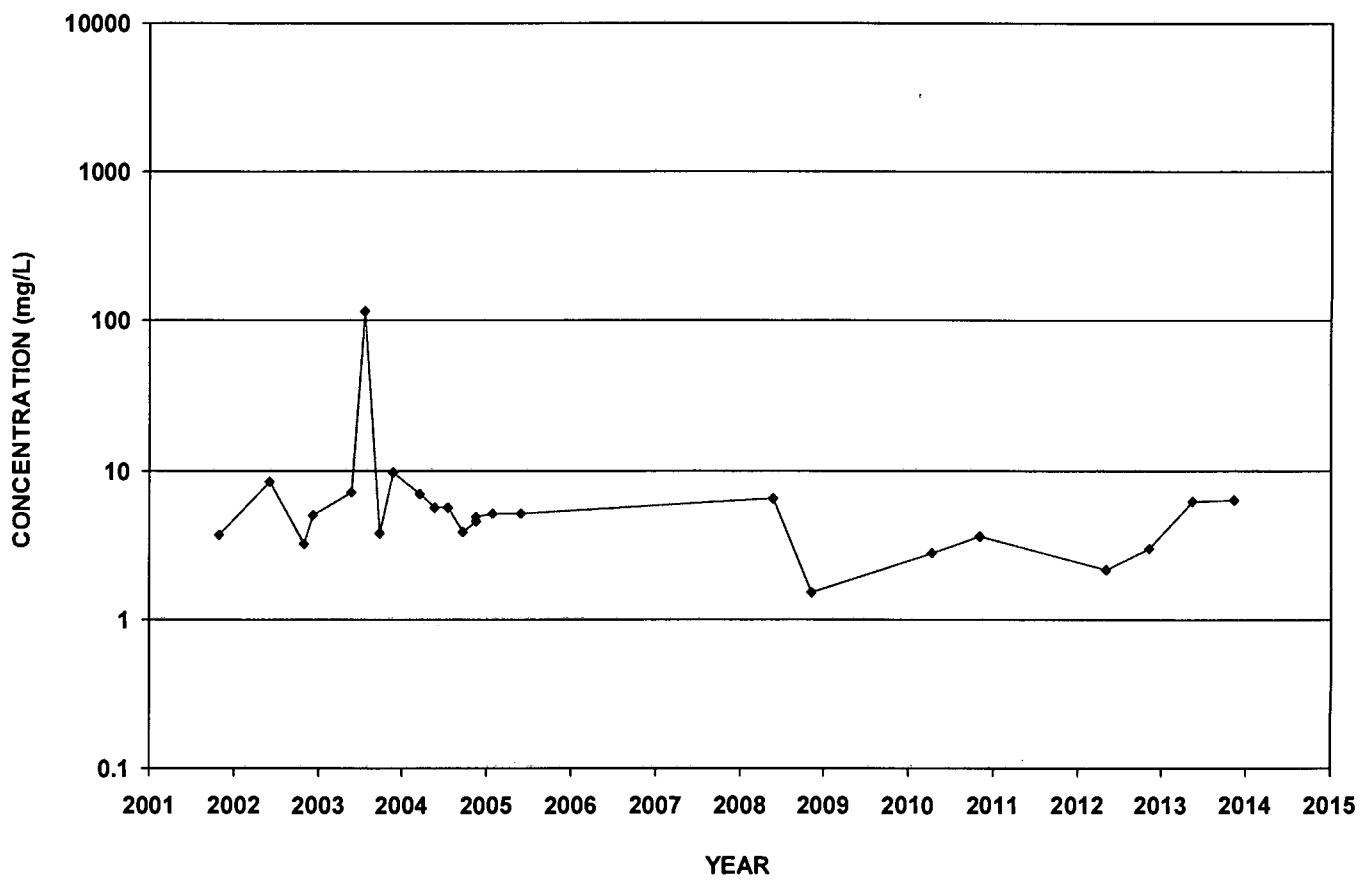
ECMW-16
Sulfate as SO4



ECMW-17
Sulfate as SO4



ECMW-18
Sulfate as SO4



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 ENVIRONMENTAL MGT. SERVICES, INC
 12232 INDUSTRIPLEX BLVD
 SUITE 27
 Baton Rouge, LA 70809



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Linda Hanson, P.G.
Arkansas Dept of Env Quality
Water Division
5301 Northshore Dr.
North Little Rock, AR 72118

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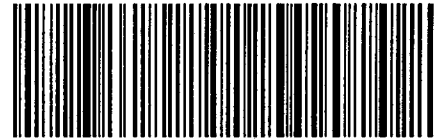
Ref # ELD002001
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