

2017 ANNUAL GROUND WATER REPORT

Prepared For:



El Dorado Chemical Company
4500 North West Ave, El Dorado, AR 71730

Prepared By:



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

February 23, 2018

**2017 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS**

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	SITE GEOLOGY.....	1
3.0	GROUND WATER MONITORING	1
3.1	MONITORING PARAMETERS	1
3.2	FIELD SAMPLING.....	3
3.3	LABORATORY ANALYSIS	4
4.0	SAMPLING RESULTS.....	4
4.1	GROUND WATER FLOW	4
4.2	GROUND WATER QUALITY	5
	4.2.1 Field Parameters.....	5
	4.2.2 Analytical Results	5
	4.2.3 Quality Assurance/Quality Control Results.....	6
5.0	GROUND WATER REMEDIATION	7

TABLES

Monitoring Well Construction Details.....	1
Ground Water Elevation Data.....	2
Ground Water Indicator Parameter Data	3
ECMW-1 Analytical Summary.....	4
ECMW-2 Analytical Summary.....	5
ECMW-3 Analytical Summary.....	6
ECMW-4 Analytical Summary.....	7
ECMW-5 Analytical Summary.....	8
ECMW-6 Analytical Summary.....	9
ECMW-7 Analytical Summary.....	10
ECMW-8 Analytical Summary.....	11
ECMW-9 Analytical Summary.....	12
ECMW-10 Analytical Summary.....	13
ECMW-11 Analytical Summary.....	14
ECMW-12 Analytical Summary.....	15
ECMW-13 Analytical Summary.....	16
ECMW-14 Analytical Summary.....	17
ECMW-15 Analytical Summary.....	18
ECMW-16 Analytical Summary.....	19

**2017 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS**

TABLE OF CONTENTS

TABLES (continued)

ECMW-17 Analytical Summary.....	20
ECMW-18 Analytical Summary.....	21
ECMW-19 Analytical Summary.....	22
ECMW-20 Analytical Summary.....	23
ECMW-21 Analytical Summary.....	24
ECMW-22 Analytical Summary.....	25

FIGURES

Site Map.....	1
March/May 2017 Ground Water Elevation Map.....	2
September 2017 Ground Water Elevation Map.....	3
March/May 2017 Ammonia Concentration Map.....	4
September 2017 Ammonia Concentration Map.....	5
March/May 2017 Nitrate Concentration Map.....	6
September 2017 Nitrate Concentration Map.....	7
March/May 2017 Sulfate Concentration Map.....	8
September 2017 Sulfate Concentration Map.....	9


APPENDICES

Sampling Forms and Laboratory Analytical Reports.....	A
Trend Graphs.....	B

**2017 ANNUAL GROUND WATER REPORT
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:



Date: February 23, 2018

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

**2017 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 2017. 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

Semiannual ground water sampling events were conducted in March and September of 2017, with a repeat sampling of wells ECMW-6, ECMW-7 and ECMW-8 performed in May 2017. 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 2017 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. All wells with the exception of ECMW-21 were purged of three well volumes or until the well became dry using a Mini-Monsoon electric pump. ECMW-21, constructed as a 1-inch diameter well, was purged using a bailer. 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 2017 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. Water removed during purging 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 delivered to the laboratories under chain-of-custody. Samples collected in March and September 2017 were analyzed by Arkansas Analytical, Inc. in Little Rock Arkansas. Repeat samples collected in May 2017 were analyzed by SGS Accutest in Scott, Louisiana and Houston, Texas.

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. A blind duplicate was also collected for the repeat sampling event in May 2017. 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 2017 for the following constituents:

Parameter	Test Method Arkansas Analytical	Test Method SGS Accutest
Ammonia-N	4500-NH3 B,D,C-1997	SM21 4500 NH3B
Nitrate-N	300.0, 2.1-1993	SW846 9056A
Sulfate	300.0, 2.1-1993	SW846 9056A
pH, Temperature, Specific Conductance	Field	

4.0 SAMPLING RESULTS

The following sections present ground water flow and analytical data collected in 2017.

4.1 GROUND WATER FLOW

Ground water elevations from March and September 2017 were used to construct the potentiometric maps included as Figures 2 and 3. The average ground water elevation was approximately one-half foot higher in March (177.65 ft) than in September (177.14 ft). 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

The following sections provide an analysis of ground water analytical results from the 2017 sampling events.

4.2.1 Field Parameters

Indicator parameter data collected during well purging are summarized on Table 3. In 2017, pH values ranged from 2.61 standard units in ECMW-6 to 6.17 s.u. in ECMW-9, with an average of 4.77 s.u. The average of pH readings for 2017 (4.77 s.u.) did not differ significantly than 2016 (5.05 s.u.). Specific conductance values ranged from 39.7 (ECMW-1) to 51,200 (ECMW-6) micro-Siemens/cm ($\mu\text{S}/\text{cm}$) in 2017. The average of specific conductance readings for 2017 (7675 $\mu\text{S}/\text{cm}$) is higher than 2016 (5893 $\mu\text{S}/\text{cm}$) with the highest readings in 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 2017, ammonia concentrations ranged from below the laboratory reporting limit (0.5 mg/L) to 6950 mg/L (ECMW-7). 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 2017, no concentration contour 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 the second half of 2017 are provided in Appendix B. Wells ECMW-4, ECMW-5 and ECMW-9 show slight increases with ECMW-6, ECMW-7 and ECMW-8 having pronounced increasing trends. Well ECMW-16 shows a distinct decreasing trend. Wells ECMW-10, ECMW-11, ECMW-14, ECMW-17 and ECMW-18 concentrations fluctuate over time, but historical results show an overall steady trend.

Nitrate

For the year 2017, nitrate concentrations ranged from below the detection limit (0.25 mg/L) to 12,100 mg/L (ECMW-7). 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 2017, no concentration contour 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-10, ECMW-14 and ECMW-16 show decreasing trends. Wells ECMW-7, ECMW-8, and ECMW-17, while previously showing overall steady or decreasing trends, recently have shown increasing concentrations. Nitrate concentration trends in the remaining wells (ECMW-9 and ECMW-18) are relatively constant.

Sulfate

For the year 2017, sulfate concentrations ranged from 1.29 mg/L in ECMW-18 to 1400 mg/L in ECMW-8. ECMW-4, ECMW-6, 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 2017, no concentration contour 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 in Wells ECMW-6 and ECMW-7 show increasing trends. Wells ECMW-5, ECMW-14 and ECMW-18 show decreasing trends. Sulfate in ECMW-11, while previously showing an overall decreasing trend, has recently contained slightly elevated concentrations.

Sulfate concentrations in Wells ECMW-7, ECMW-8, and ECMW-17 fluctuate over time; however, historical results show an overall steady trend. Sulfate concentrations, with the exception of likely outliers, in the remaining wells (ECMW-4, ECMW-9, ECMW-10, and ECMW-16) are relatively consistent.

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. Three duplicate samples were collected in 2017 and analyzed for ammonia, nitrate and sulfate. RPD values were calculated as follows:

Well and Duplicate	Date	Ammonia	Nitrate	Sulfate
		RPD (%)		
ECMW-7 & Dup	3/21/2017	73	56	64
ECMW-6 & Dup	5/1/2017	7.2	8.5	44
ECMW-7 & Dup	9/12/2017	7.3	6.5	5.6

The RPDs for the three parameters tested in ECMW-7 during March 2017 and sulfate in the May 2017 sample exceeded the upper limit of 30%. All duplicate samples analyzed in September 2017 were within acceptable limits.

5.0 GROUND WATER REMEDIATION

Recovery Wells ECRW-1 and ECRW-2 operated consistently throughout 2017. Well ECRW-1 recovered 262,800 gallons of groundwater at a rate of approximately 0.5 gallons per minute (gpm) and ECRW-2 pumped 210,240 gallons at a rate of approximately 0.4 gpm during 2017.

TABLES

TABLE 1
MONITORING WELL CONSTRUCTION DETAILS
2017 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. ECMW-1 through ECMW-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. ECMW-19, ECMW-20 and ECMW-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
3. ECMW-21 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
2017 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Monitor Well	Top of Casing Elevation (ft above Mean Sea Level)	Measurement Date			
		March 20-22, 2017		September 11-13, 2017	
		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	10.25	203.03	12.64	200.64
ECMW-2	196.25	0.03	196.22	0.13	196.12
ECMW-3	192.11	9.23	182.88	9.73	182.38
ECMW-4	194.84	8.53	186.31	8.54	186.30
ECMW-5	182.69	4.01	178.68	4.08	178.61
ECMW-6	191.87	4.45	187.42	4.31	187.56
ECMW-6 ⁽¹⁾	191.87	4.21	187.66	--	--
ECMW-7	195.88	7.20	188.68	6.73	189.15
ECMW-7 ⁽¹⁾	195.88	6.77	189.11	--	--
ECMW-8	197.34	7.01	190.33	6.67	190.67
ECMW-8 ⁽¹⁾	197.34	6.69	190.65	--	--
ECMW-9	198.39	9.30	189.09	10.33	188.06
ECMW-10	205.75	14.28	191.47	14.11	191.64
ECMW-11	201.65	11.10	190.55	10.49	191.16
ECMW-12	184.97	6.04	178.93	5.50	179.47
ECMW-13	177.26	5.39	171.87	6.51	170.75
ECMW-14	178.48	6.11	172.37	6.14	172.34
ECMW-15	180.84	4.85	175.99	5.43	175.41
ECMW-16	180.14	4.40	175.74	4.92	175.22
ECMW-17	185.40	28.11	157.29	28.90	156.50
ECMW-18	155.46	5.04	150.42	5.95	149.51
ECMW-19	150.41	2.14	148.27	2.52	147.89
ECMW-20	192.77	27.59	165.18	28.34	164.43
ECMW-21	176.29	16.78	159.51	20.59	155.70
ECMW-22	173.55	5.50	168.05	5.95	167.60

Note:

(1) ECMW-6, 7 and 8 were resampled May 1, 2017 to verify anomalous results.

TABLE 3
GROUNDWATER INDICATOR PARAMETER DATA
2017 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

WELL	TEMPERATURE (C)		pH (s.u.)		CONDUCTIVITY (uS)	
	Date		Date		Date	
	3/20- 3/22/2017	9/11 - 9/13/2017	3/20- 3/22/2017	9/11 - 9/13/2017	3/20- 3/22/2017	9/11 - 9/13/2017
ECMW-1	17.2	19.4	4.05	4.82	39.7	44.6
ECMW-2	18.6	19.6	5.45	5.26	258.4	334.9
ECMW-3	19.4	19.3	5.91	5.66	195.3	233.1
ECMW-4	20.2	21.1	4.46	3.59	6640	6510
ECMW-5	18.4	22.1	4.55	4.41	578	651
ECMW-6	20.6	22.4	2.61	3.42	42430	44850
ECMW-6 ⁽¹⁾	18.4	--	3.79	--	51200	--
ECMW-7	20.8	21.7	5.46	5.46	27900	28370
ECMW-7 ⁽¹⁾	18.0	--	5.51	--	35830	--
ECMW-8	20.2	21.4	3.61	3.50	30830	31510
ECMW-8 ⁽¹⁾	18.8	--	3.70	--	38120	--
ECMW-9	21.0	22.8	6.17	5.05	2189	2053
ECMW-10	18.9	22.9	4.65	4.26	747	862
ECMW-11	18.8	23.2	4.07	4.03	822	919
ECMW-12	18.1	22.5	5.90	5.97	550	640
ECMW-13	17.1	21.7	4.80	5.04	1257	1248
ECMW-14	20.6	23.9	5.43	4.62	479	503
ECMW-15	17.6	23.3	4.67	4.54	74.5	76
ECMW-16	19.6	24.6	4.44	4.13	240	133.6
ECMW-17	20.3	19.9	4.60	4.32	259.8	195.9
ECMW-18	18.8	20.3	5.35	5.11	87	82.2
ECMW-19	19.1	21.1	5.52	5.55	86	83.2
ECMW-20	19.8	19.8	5.39	5.28	90.1	85.7
ECMW-21	19.0	20.4	4.72	4.18	63.5	61.4
ECMW-22	18.2	20.2	5.64	5.71	151.1	157.2

Note:

(1) ECMW-6, 7 and 8 were resampled May 1, 2017 to verify anomalous results.

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	--
11/5/2008	4.63	< 0.5	0.732	4.34	--	< 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									
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	--	--	--	--	--	--	--	--	--	--
6/3/2014	4.74	<0.5	0.986	3.98	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	3.97	<0.5	0.674	6.29	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	4.83	--	--	--	--	--	--	--	--	--	--
11/18/2015	5.57	--	--	--	--	--	--	--	--	--	--
5/24/2016	4.46	<0.5	1.79	5.56	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	6.84	<0.5	0.951	5.41	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/22/2017	4.05	--	--	--	--	--	--	--	--	--	--
9/13/2017	4.82	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--	--	--	--
6/3/2014	5.10	<0.5	3.95	30.7	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	4.45	<0.5	0.635	21.9	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	5.43	--	--	--	--	--	--	--	--	--	--
11/18/2015	5.84	--	--	--	--	--	--	--	--	--	--
5/24/2016	5.15	1.37	0.645	19.8	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	6.55	<0.5	<0.25	22.2	--	<0.0156	<0.0156	0.0212	<0.0104	--	--
3/22/2017	5.45	--	--	--	--	--	--	--	--	--	--
9/13/2017	5.26	--	--	--	--	--	--	--	--	--	--

"--" - 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	--
4/22/2009	--	< 0.5	< 0.5	10.5	--	--	--	--	--	< 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									
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	--	--	--	--	--	--	--	--	--	--
6/3/2014	5.86	<0.5	<0.25	9.14	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	4.97	<0.5	0.239	12.8	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	6.18	--	--	--	--	--	--	--	--	--	--
11/18/2015	6.11	--	--	--	--	--	--	--	--	--	--
5/24/2016	6.26	<0.5	0.252	9.88	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	6.45	<0.5	<0.25	16.2	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/22/2017	5.91	--	--	--	--	--	--	--	--	--	--
9/13/2017	5.66	--	--	--	--	--	--	--	--	--	--

"--" - 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	--
5/21/2008	3.89	< 0.5	< 0.5	896	--	0.017	--	< 0.02	--	< 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									
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	--	--	--	--	--	--	--
6/3/2014	4.50	<0.5	0.431	737	--	<0.0156	<0.016	<0.0104	<0.021	--	--
6/3/2014	--	0.69	0.383	707	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	3.01	1.31	1.29	772	--	<0.0156	<0.015	<0.0104	<0.02	--	--
11/4/2014	--	1.31	4.24	762	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	3.29	3.5	1.6	915	--	--	--	--	--	--	--
11/18/2015	4.04	0.53	0.332	722	--	--	--	--	--	--	--
5/24/2016	3.83	1.13	0.666	843	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	3.75	<0.5	<0.25	973	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	4.46	<0.5	<0.25	954	--	--	--	--	--	--	--
9/12/2017	3.59	<0.5	<0.25	758	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--
6/3/2014	7.26	<0.5	38	65	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	4.13	1	43.4	55.6	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	5.27	1.27	44.6	54.5	--	--	--	--	--	--	--
11/18/2015	5.59	0.73	27	61.2	--	--	--	--	--	--	--
5/24/2016	5.30	<0.5	41.9	49.4	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	5.60	<0.5	47.2	59	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
11/10/2016	--	<0.5	42.1	43.8	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	4.55	<0.5	42.9	54.8	--	--	--	--	--	--	--
9/12/2017	4.41	9.58	56.3	43.8	--	--	--	--	--	--	--

"--" - 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	--
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	--

"--" - 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									
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	--	--	--	--	--	--	--
6/3/2014	3.99	1110	3560	28.9	--	0.0339	0.034	<0.0104	<0.021	--	--
11/4/2014	3.29	1110	3550	33.7	--	0.036	0.031	<0.0104	<0.02	--	--
5/20/2015	3.91	2550	2960	39.8	--	--	--	--	--	--	--
11/18/2015	3.96	2280	3930	40.2	--	--	--	--	--	--	--
5/24/2016	3.83	1390	4120	30.8	--	0.0379	0.038	<0.0104	<0.021	--	--
11/10/2016	3.71	1890	5780	62.6	--	0.058	0.0634	<0.0104	<0.0104	--	--
3/21/2017	2.61	1680	5160	119	--	--	--	--	--	--	--
5/1/2017	3.79	3500	6590	449	--	--	--	--	--	--	--
5/1/2017	--	3760	6050	702	--	--	--	--	--	--	--
9/12/2017	3.42	895	5710	49.2	--	--	--	--	--	--	--

"--" - 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	--
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	--

"--" - 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									
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	--	--	--	--	--	--	--
6/3/2014	5.24	100	169	858	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	4.56	77	99.6	816	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	4.06	61	63.6	866	--	--	--	--	--	--	--
11/18/2015	5.31	66.2	104	758	--	--	--	--	--	--	--
5/24/2016	5.30	91.1	135	740	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	4.92	1450	2300	165	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	5.46	6950	12100	134	--	--	--	--	--	--	--
3/21/2017	--	3230	6840	259	--	--	--	--	--	--	--
5/1/2017	5.51	947	1910	998	--	--	--	--	--	--	--
9/12/2017	5.46	1060	10400	184	--	--	--	--	--	--	--
9/12/2017	--	1140	11100	174	--	--	--	--	--	--	--

--" - 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	--
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	--

"--" - 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									
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	--	--	--	--	--	--	--
6/3/2014	4.33	157	712	516	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	3.09	198	697	466	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	4.56	158	791	470	--	--	--	--	--	--	--
11/18/2015	3.70	143	751	431	--	--	--	--	--	--	--
11/18/2015	--	139	654	385	--	--	--	--	--	--	--
5/24/2016	3.61	2020	4060	81	--	0.065	0.065	<0.0104	<0.021	--	--
8/4/2016	3.74	2270	4310	83.6	--	0.0686	0.065	<0.0104	<0.021	--	--
8/4/2016	--	2040	4300	82.9	--	0.0693	0.064	<0.0104	<0.021	--	--
11/10/2016	3.61	1020	1830	270	--	0.0341	0.0313	<0.0104	<0.0104	--	--
3/21/2017	3.61	877	2210	157	--	--	--	--	--	--	--
5/1/2017	3.70	1320	2430	1400	--	--	--	--	--	--	--
9/12/2017	3.50	654	3490	83.4	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--
6/3/2014	5.47	3.23	35.6	525	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	4.81	4.61	37.6	484	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	5.52	4.13	31.9	540	--	--	--	--	--	--	--
11/18/2015	5.36	2.36	32.7	526	--	--	--	--	--	--	--
5/24/2016	5.32	0.888	29.1	581	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	5.87	4.08	29.1	616	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	6.17	1.5	32	531	--	--	--	--	--	--	--
9/12/2017	5.05	<0.5	27.3	463	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--
6/3/2014	4.93	2.2	50.6	136	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	3.07	<0.5	39.8	172	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	4.65	1.91	50	148	--	--	--	--	--	--	--
5/20/2015	--	1.33	49.1	149	--	--	--	--	--	--	--
11/18/2015	4.22	<0.5	61.2	99.9	--	--	--	--	--	--	--
5/25/2016	3.99	<0.5	51.2	134	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	4.25	<0.5	44.1	141	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
11/10/2016	--	<0.5	42.6	136	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	4.65	<0.5	43.5	170	--	--	--	--	--	--	--
9/12/2017	4.26	0.601	47.2	140	--	--	--	--	--	--	--

"--" - 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	--
11/6/2007	3.94	8.01	9.75	223	--	--	--	--	--	< 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									
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	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	--	--	--	--	--	--	--
6/3/2014	4.18	26	30.7	105	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	3.08	13.9	30.5	117	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	4.19	3.12	28.8	134	--	--	--	--	--	--	--
11/18/2015	4.13	39	35.7	93.4	--	--	--	--	--	--	--
5/25/2016	4.04	5.86	19.5	233	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	4.42	3.86	18.3	245	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	4.07	5.87	16.7	268	--	--	--	--	--	--	--
9/12/2017	4.03	4.08	16	266	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--	--	--	--
6/3/2014	5.56	3.11	0.334	5.04	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/4/2014	4.53	2.15	<0.25	20.6	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	6.02	--	--	--	--	--	--	--	--	--	--
11/18/2015	5.73	--	--	--	--	--	--	--	--	--	--
5/25/2016	5.58	2.24	<0.25	17	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/10/2016	5.18	2.22	<0.25	33	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/22/2017	5.90	--	--	--	--	--	--	--	--	--	--
9/13/2017	5.97	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--	--	--	--
6/4/2014	5.33	<0.5	0.255	374	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/5/2014	4.03	<0.5	<0.25	425	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	5.20	--	--	--	--	--	--	--	--	--	--
11/18/2015	4.68	--	--	--	--	--	--	--	--	--	--
5/25/2016	4.39	<0.5	<0.25	529	--	0.0183	<0.016	<0.0104	<0.021	--	--
11/9/2016	5.06	<0.5	<0.25	439	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/22/2017	4.80	--	--	--	--	--	--	--	--	--	--
9/13/2017	5.04	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--
6/4/2014	5.73	<0.5	4.31	54.2	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/5/2014	4.09	<0.5	5.12	98.3	--	<0.0156	<0.015	<0.0104	<0.02	--	--
9/8/2015	4.89	<0.5	9.58	77.8	--	--	--	--	--	--	--
11/18/2015	5.15	0.63	17.2	45.6	--	--	--	--	--	--	--
7/6/2016	4.93	<0.5	8.76	91.2	--	<0.0156	<0.016	<0.0104	<0.021	--	--
7/6/2016	--	<0.5	8.92	106	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/9/2016	5.37	<0.5	4.4	116	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	5.43	0.782	5.3	102	--	--	--	--	--	--	--
9/12/2017	4.62	<0.5	2.76	123	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--	--	--	--
6/4/2014	5.36	<0.5	1.74	12.4	--	<0.0156	<0.016	0.0122	<0.021	--	--
11/5/2014	2.75	<0.5	3.07	9.58	--	<0.0156	<0.015	<0.0104	<0.02	--	--
11/5/2014	--	<0.5	2.92	9.66	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	4.68	--	--	--	--	--	--	--	--	--	--
11/18/2015	5.14	--	--	--	--	--	--	--	--	--	--
5/25/2016	4.29	<0.5	4.52	9.67	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/9/2016	5.04	<0.5	4.07	9.96	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/22/2017	4.67	--	--	--	--	--	--	--	--	--	--
9/13/2017	4.54	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--
6/4/2014	5.07	1.8	10.9	10.7	--	<0.0156	<0.016	<0.0104	<0.021	--	--
6/4/2014	--	1.18	10.4	11.4	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/5/2014	2.64	1.27	9.2	11.2	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	4.54	6.2	8.65	12.9	--	--	--	--	--	--	--
11/18/2015	4.64	0.5	8.43	15.9	--	--	--	--	--	--	--
5/25/2016	4.28	<0.5	10.2	15.4	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/9/2016	5.30	<0.5	8.86	13.6	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	4.44	<0.5	7.88	15.3	--	--	--	--	--	--	--
9/12/2017	4.13	<0.5	8.74	12.1	--	--	--	--	--	--	--

"--" - 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	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	--	--	--	--	--	--	--
6/4/2014	4.62	2.46	7.19	29.3	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/5/2014	2.73	3.46	7.5	34.3	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	4.10	6.53	10.4	18.7	--	--	--	--	--	--	--
11/18/2015	4.04	3.67	14.3	22.9	--	--	--	--	--	--	--
5/25/2016	3.86	<0.5	14.3	6.64	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/9/2016	6.42	0.826	12.2	6.86	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	4.60	5.16	19.2	21.2	--	--	--	--	--	--	--
9/12/2017	4.32	0.865	13.4	11.3	--	--	--	--	--	--	--

"--" - 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	--
10/21/2009	7.16	--	< 0.5	--	--	--	--	--	--	--	--

"--" - 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									
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	--	--	--	--	--	--	--
6/4/2014	5.82	<0.5	0.299	7.15	--	0.0274	<0.016	0.0531	<0.021	--	--
11/5/2014	4.71	<0.5	0.254	2.64	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/20/2015	5.64	--	0.295	5.63	--	--	--	--	--	--	--
11/18/2015	5.70	--	<0.25	--	--	--	--	--	--	--	--
5/25/2016	5.33	<0.5	<0.25	1.78	--	0.0167	<0.016	<0.0104	<0.021	--	--
11/10/2016	6.42	0.788	<0.25	1.29	--	0.0248	<0.0156	<0.0104	<0.0104	--	--
3/21/2017	5.35	--	<0.25	--	--	--	--	--	--	--	--
9/12/2017	5.11	<0.5	<0.25	1.29	--	--	--	--	--	--	--

"--" - 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 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									
6/4/2014	5.92	<0.5	<0.25	2.78	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/5/2014	5.05	<0.5	<0.25	2.97	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	5.95	--	--	--	--	--	--	--	--	--	--
11/18/2015	6.13	--	--	--	--	--	--	--	--	--	--
5/25/2016	5.06	<0.5	<0.25	2.26	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/9/2016	6.56	<0.5	<0.25	2.25	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/22/2017	5.52	--	--	--	--	--	--	--	--	--	--
9/13/2017	5.55	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--	--	--	--
6/4/2014	5.63	<0.5	<0.25	8.17	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/5/2014	3.61	<0.5	0.262	9.87	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	5.61	--	--	--	--	--	--	--	--	--	--

"--" - 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									
11/18/2015	6.08	--	--	--	--	--	--	--	--	--	--
5/25/2016	5.37	<0.5	<0.25	9.46	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/9/2016	5.18	<0.5	2.31	4.59	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/22/2017	5.39	--	--	--	--	--	--	--	--	--	--
9/13/2017	5.28	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--	--	--	--	--	--	--	--
6/4/2014	5.22	<0.5	1.63	4.57	--	<0.0156	<0.016	0.0105	<0.021	--	--
11/5/2014	3.81	<0.5	1.62	5.25	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	5.37	--	--	--	--	--	--	--	--	--	--

"--" - 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									
11/18/2015	5.39	--	--	--	--	--	--	--	--	--	--
5/25/2016	4.88	<0.5	2.25	3.62	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/9/2016	6.25	<0.5	<0.25	21.4	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/22/2017	4.72	--	--	--	--	--	--	--	--	--	--
9/13/2017	4.18	--	--	--	--	--	--	--	--	--	--

"--" - 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".

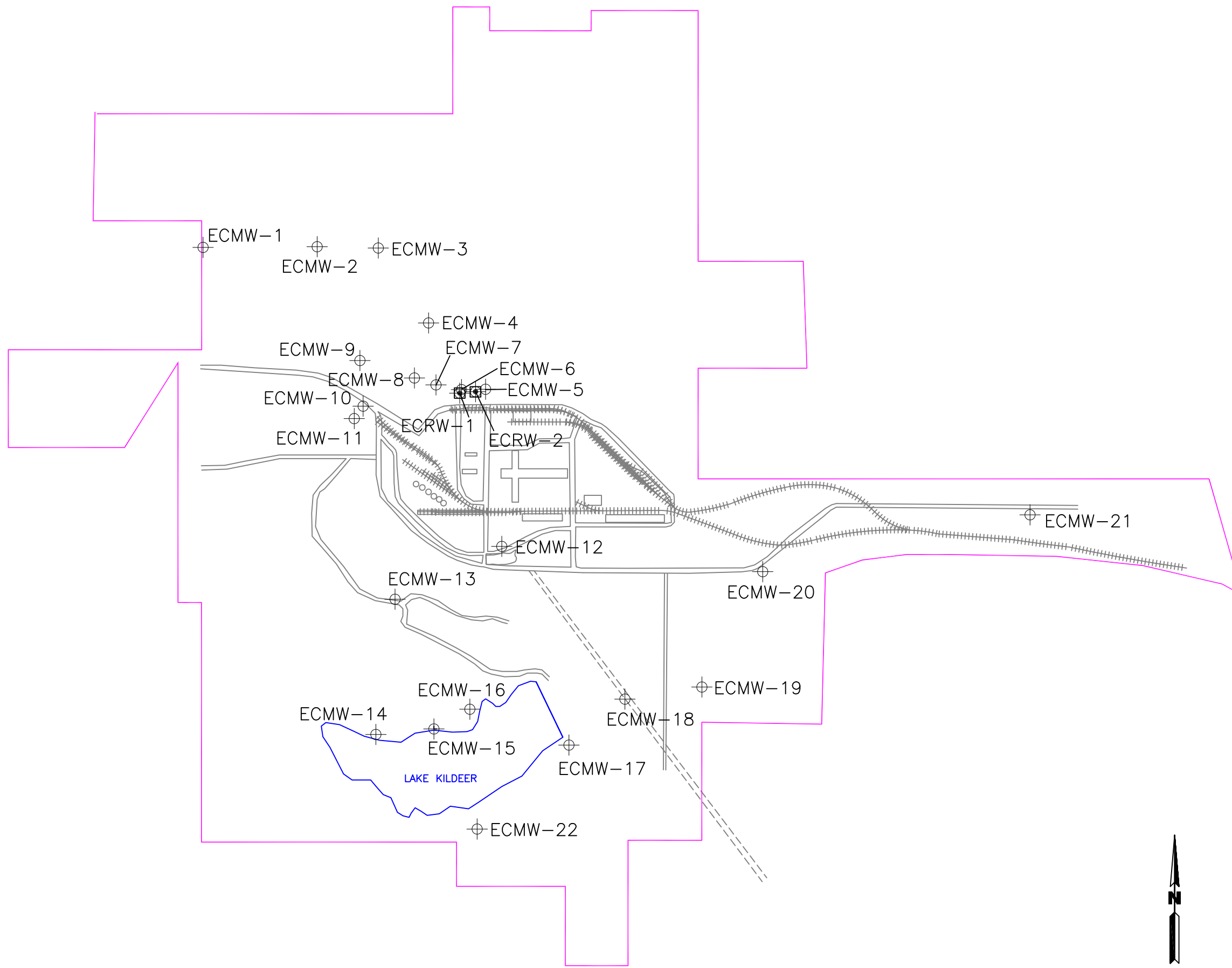
TABLE 25
ECMW-22 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

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									
6/4/2014	5.79	<0.5	1.75	5.05	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/5/2014	4.42	0.61	2.58	5.66	--	<0.0156	<0.015	<0.0104	<0.02	--	--
5/22/2015	6.28	--	--	--	--	--	--	--	--	--	--
11/18/2015	6.07	--	--	--	--	--	--	--	--	--	--
5/25/2016	5.50	1.25	4.37	11.8	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/9/2016	6.04	<0.5	0.53	5.16	--	<0.0156	<0.0156	<0.0104	<0.0104	--	--
3/22/2017	5.64	--	--	--	--	--	--	--	--	--	--
9/13/2017	5.71	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed

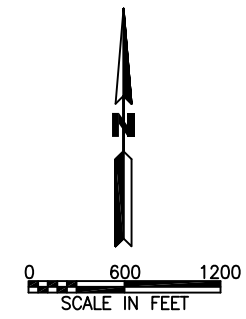
E3 - Incorrect preservation, results qualified as "estimated".

FIGURES



LEGEND

- ⊕ MONITOR WELLS
- ⊠ RECOVERY WELLS
- PROPERTY BOUNDARY



EL DORADO

SITE MAP
2017 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 02/12/2018	APPROVED: LMM	DRAWN BY: LMM	
SCALE: see above	BY: LMM	DATE: 02/12/2018	CAD NO. 02EC0100

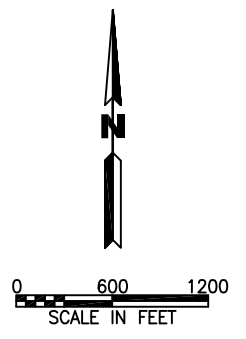
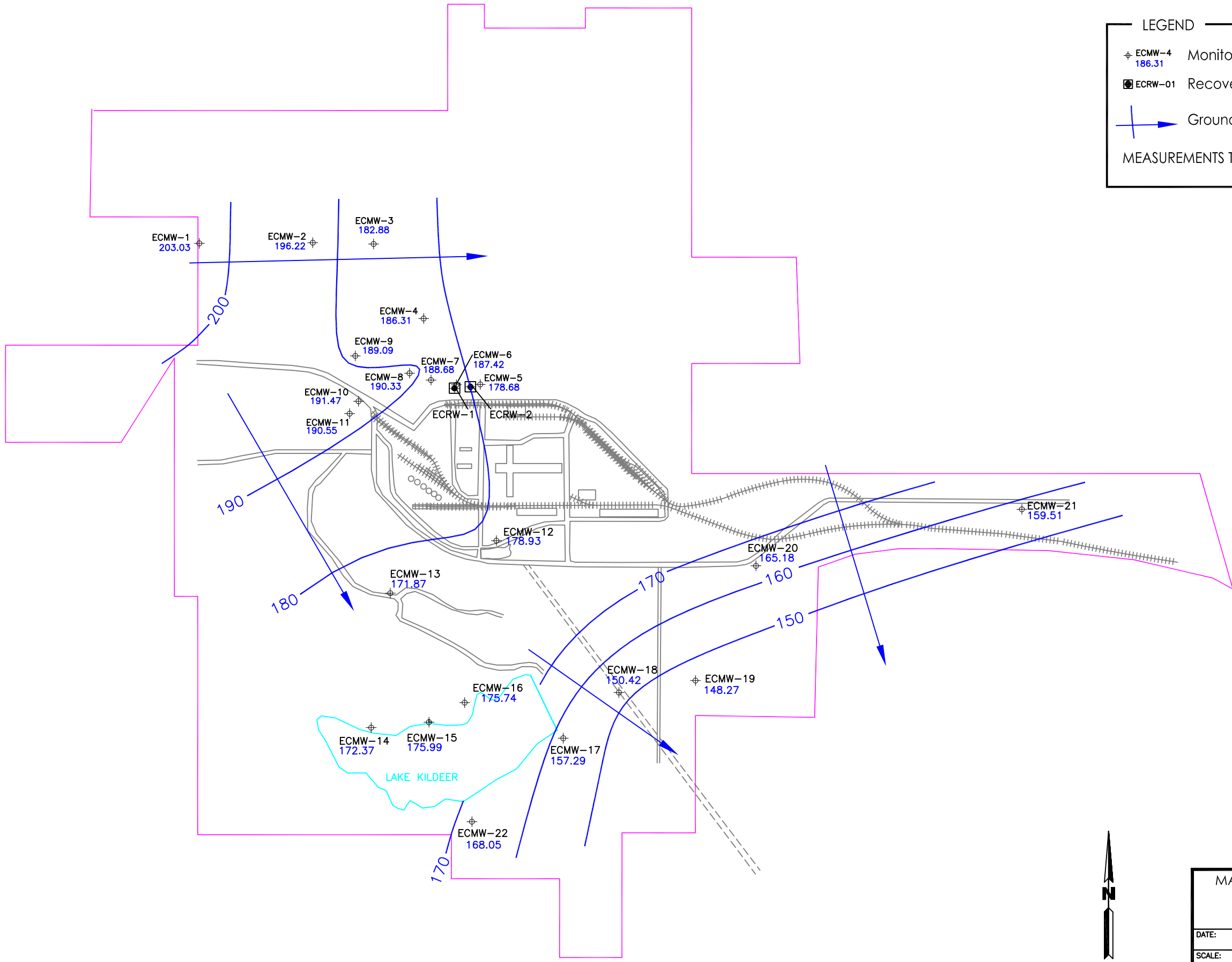
ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

FIGURE
1

LEGEND

- ⊕ ECMW-4 186.31 Monitor Well with Water Elevation (feet MSL)
- ⊕ ECRW-01 Recovery Well
- ➔ Ground Water Flow Direction

MEASUREMENTS TAKEN MARCH 20-22, 2017



EL DORADO

MARCH 2017 GROUND WATER ELEVATION MAP
2017 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 02/20/2018	APPROVED: LMM	DRAWN BY: LMM
SCALE: as shown	DATE: 02/20/2018	CAD NO. 02EC0100

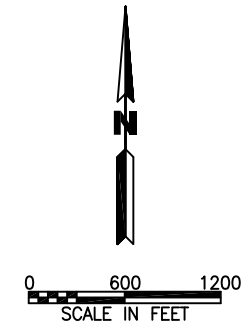
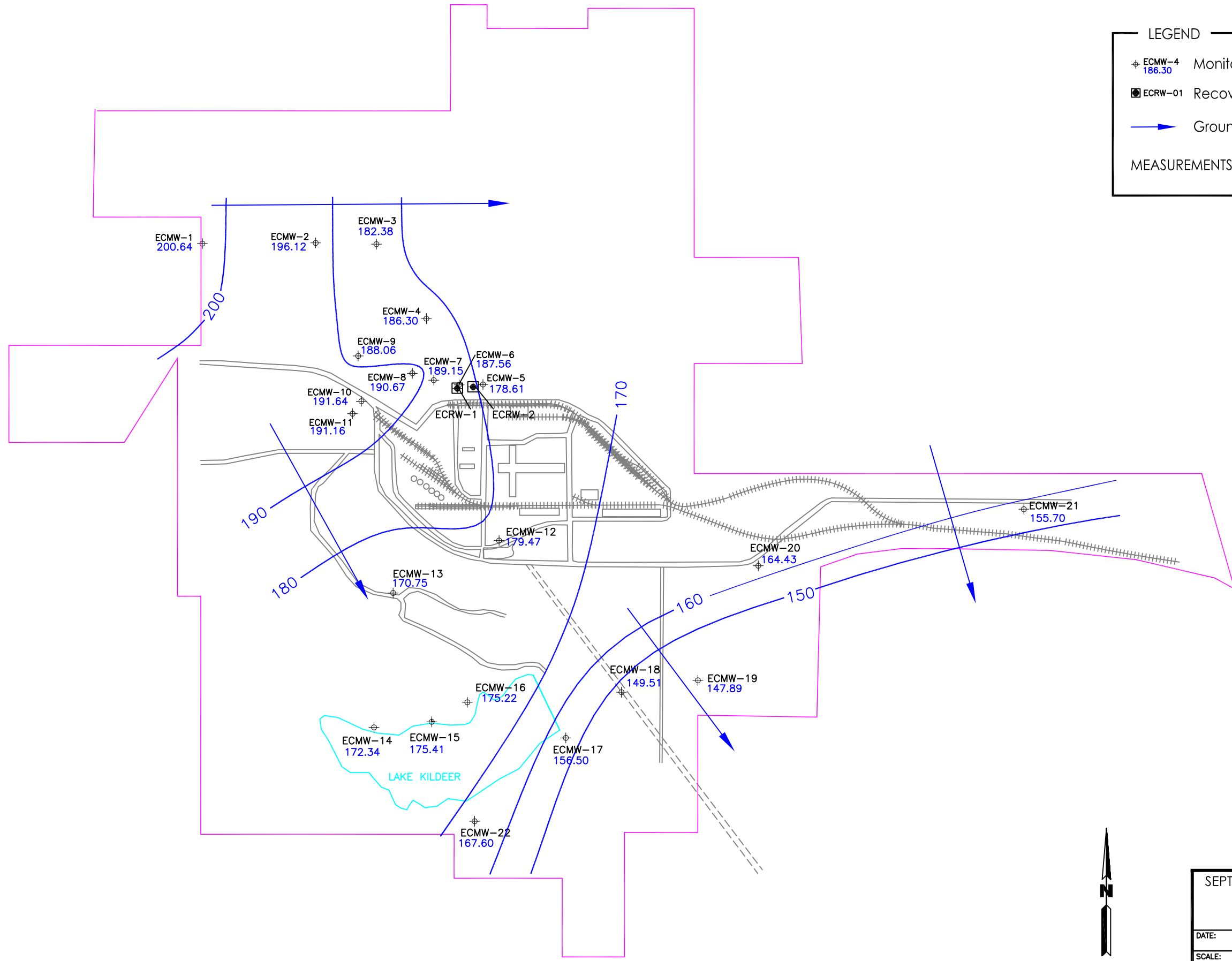
ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

FIGURE
2

LEGEND

- ⊕ ECMW-4 186.30 Monitor Well with Water Elevation (feet MSL)
- ⊕ ECRW-01 Recovery Well
- Ground Water Flow Direction

MEASUREMENTS TAKEN SEPTEMBER 12, 2017



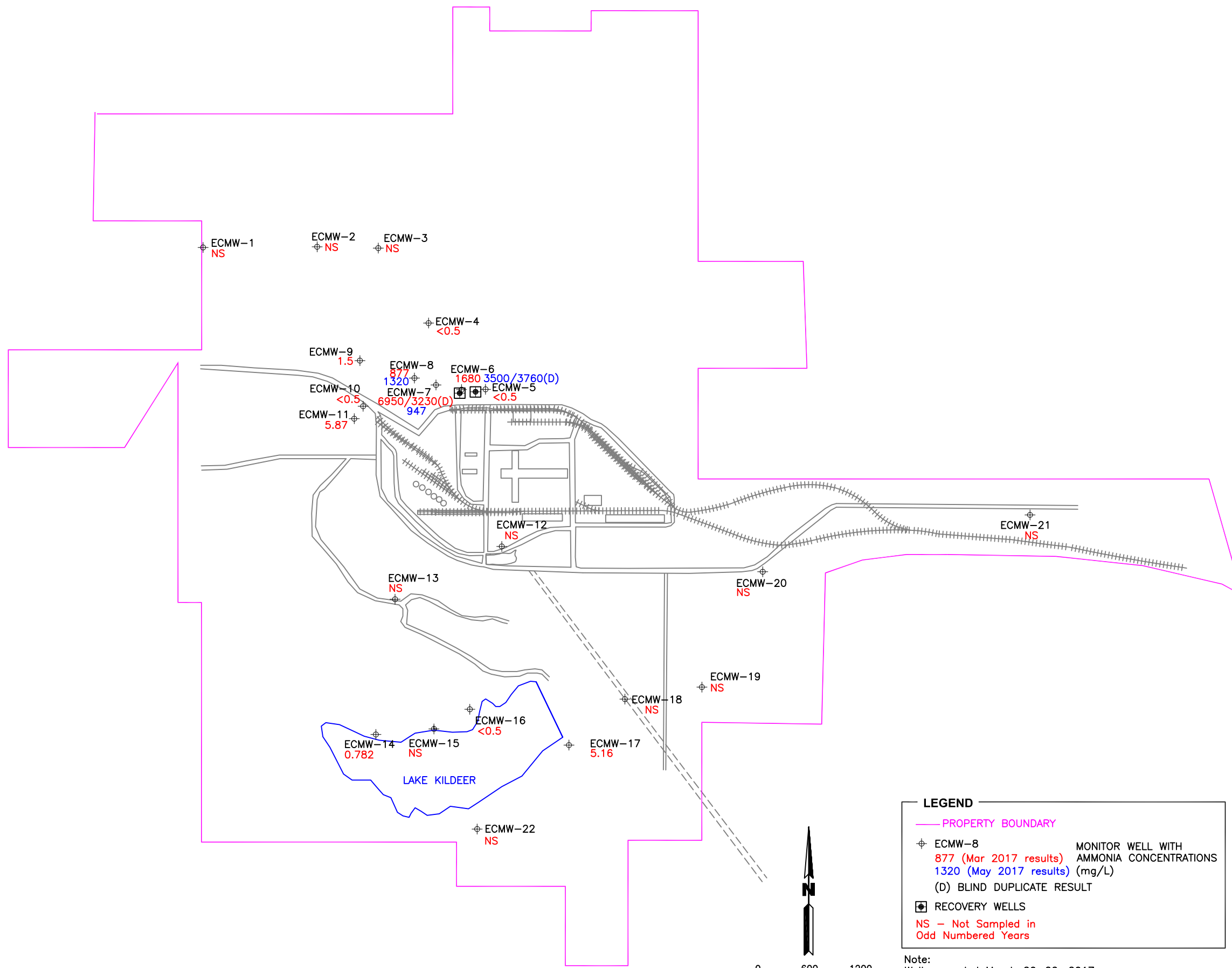
EL DORADO

SEPTEMBER 2017 GROUND WATER ELEVATION MAP
2017 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 02/20/2018	APPROVED: LMM	DRAWN BY: LMM
SCALE: as shown	DATE: 02/20/2018	CAD NO. 02EC0100

ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

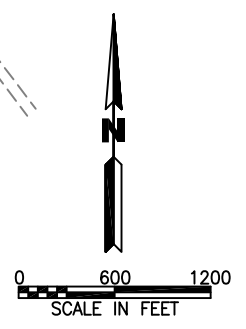
FIGURE
3



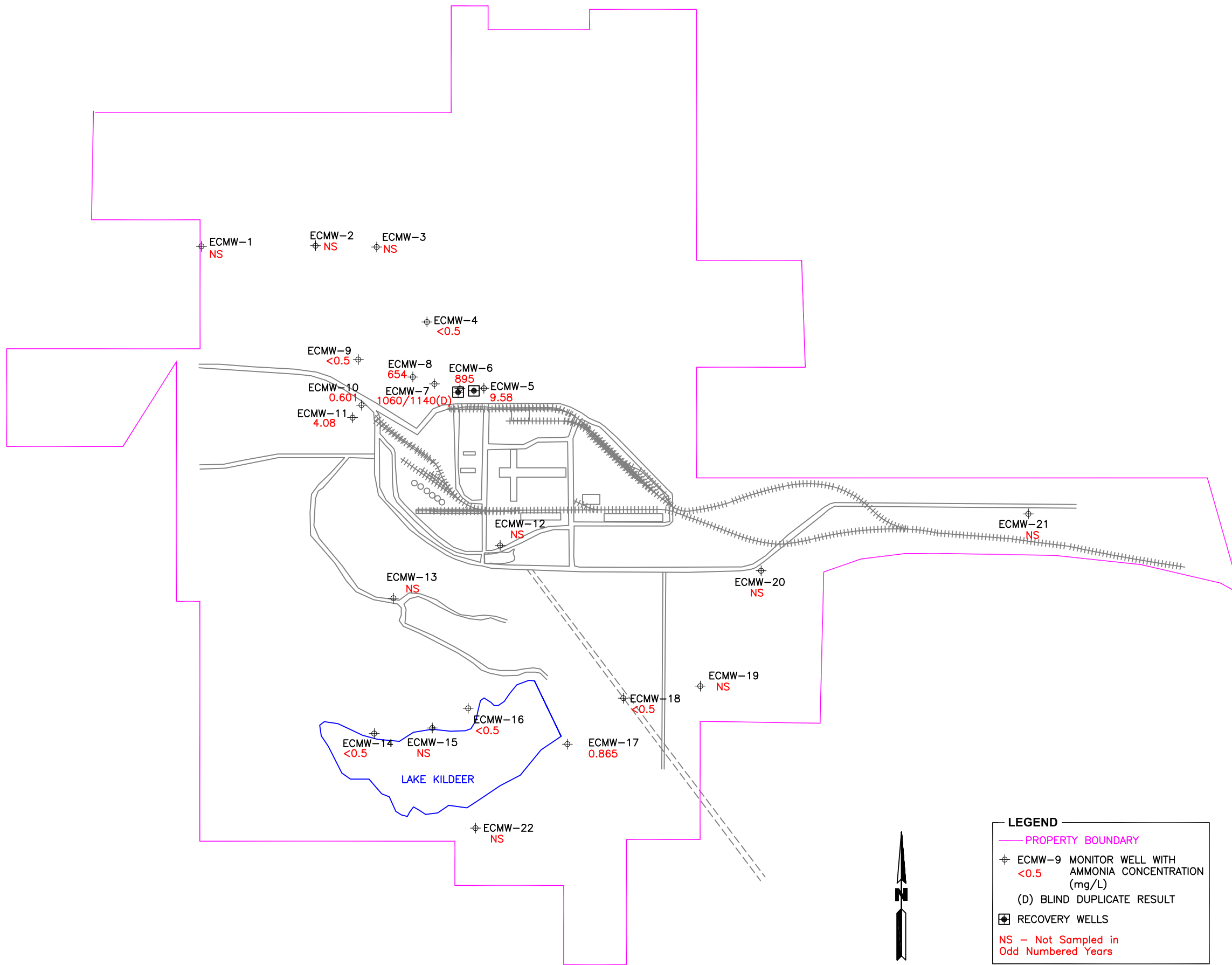
LEGEND

- PROPERTY BOUNDARY
- ⊕ ECMW-8 MONITOR WELL WITH AMMONIA CONCENTRATIONS
 877 (Mar 2017 results) (mg/L)
 1320 (May 2017 results) (mg/L)
 (D) BLIND DUPLICATE RESULT
- ⊕ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years

Note:
 Wells sampled March 20–22, 2017
 ECMW-6, ECMW-7 and ECMW-8 resampled May 1, 2017.

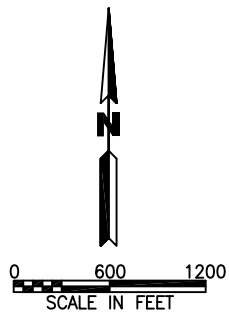


MARCH/MAY 2017 AMMONIA CONCENTRATION MAP 2017 ANNUAL GROUND WATER REPORT EL DORADO CHEMICAL COMPANY EL DORADO, ARKANSAS		
DATE: 02/20/2018	APPROVED: LMM	DRAWN BY: LMM
SCALE: as shown	DATE: 02/20/2018	CAD NO. 02EC0100
		FIGURE 4



LEGEND

- PROPERTY BOUNDARY
- ⊕ ECMW-9 MONITOR WELL WITH AMMONIA CONCENTRATION (mg/L)
- (D) BLIND DUPLICATE RESULT
- ⊕ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years



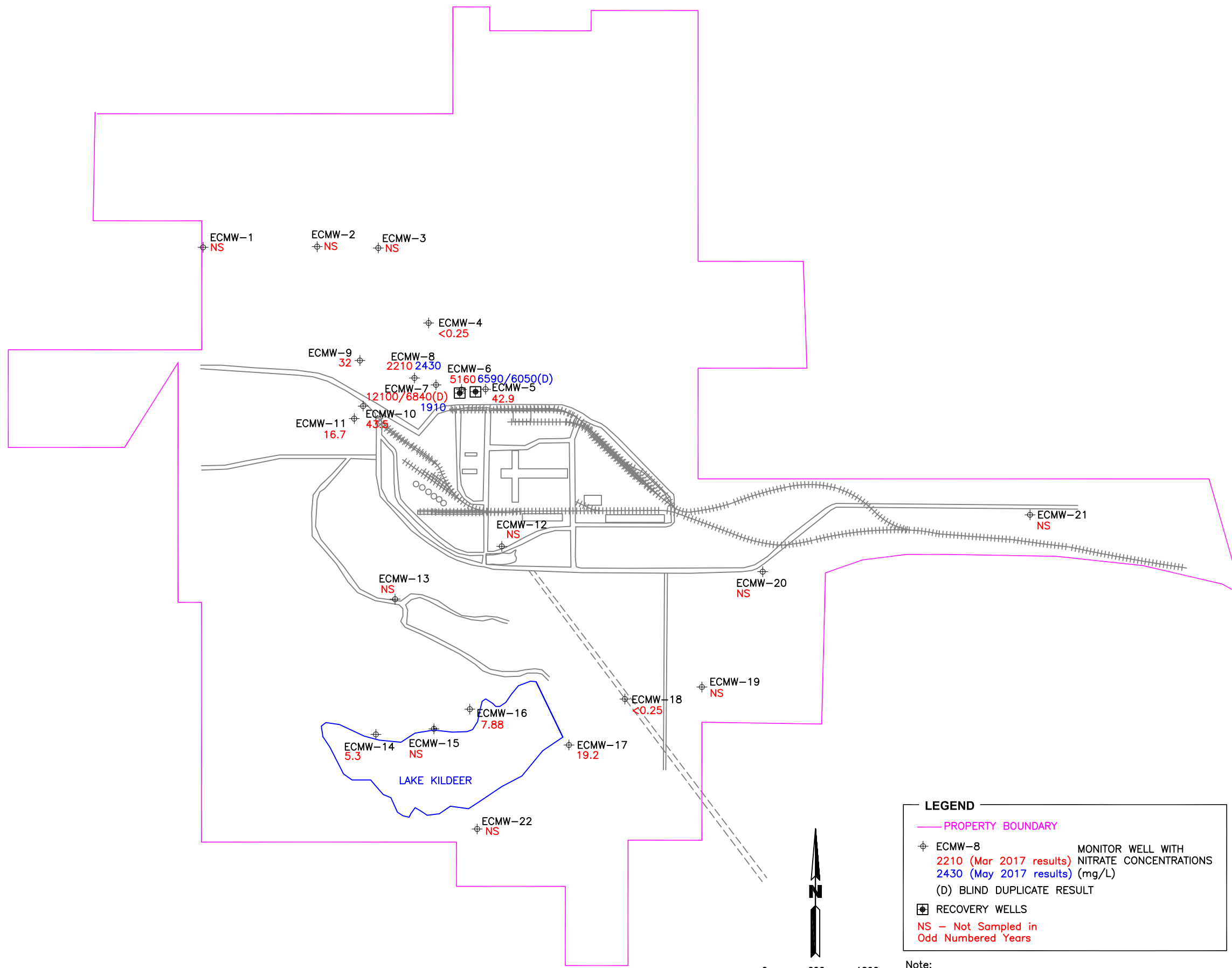
Note:
Wells sampled September 12, 2017



SEPTEMBER 2017 AMMONIA CONCENTRATION MAP
2017 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

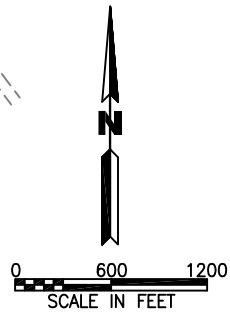
DATE: 02/20/2018	APPROVED: LMM	DRAWN BY: LMM
SCALE: as shown	DATE: 02/20/2018	CAD NO. 02EC0100

ENVIRONMENTAL MANAGEMENT SERVICES, INC.  FIGURE 5



LEGEND

- PROPERTY BOUNDARY
- ⊕ ECMW-8 MONITOR WELL WITH NITRATE CONCENTRATIONS
 2210 (Mar 2017 results) (mg/L)
 2430 (May 2017 results) (mg/L)
 (D) BLIND DUPLICATE RESULT
- ⊕ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years



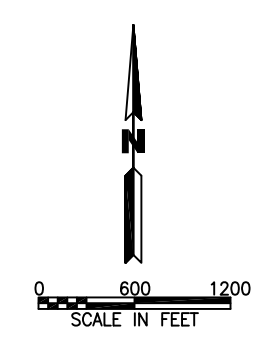
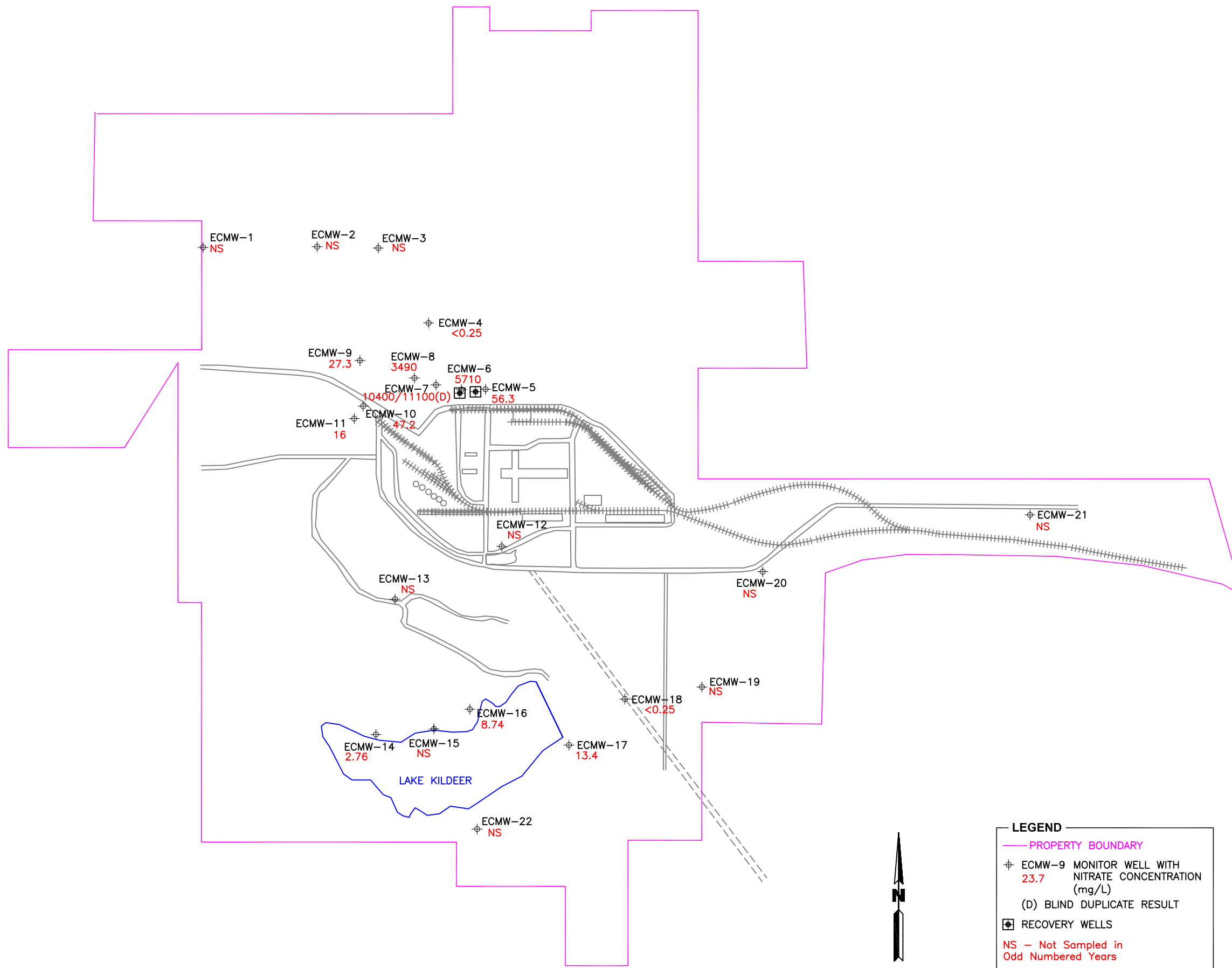
Note:
 Wells sampled March 20-22, 2017
 ECMW-6, ECMW-7 and ECMW-8 resampled May 1, 2017.



MARCH/MAY 2017 NITRATE CONCENTRATION MAP
 2017 ANNUAL GROUND WATER REPORT
 EL DORADO CHEMICAL COMPANY
 EL DORADO, ARKANSAS

DATE: 02/20/2018	APPROVED: LMM	DRAWN BY: LMM
SCALE: as shown	DATE: 02/20/2017	CAD NO. 02EC0100





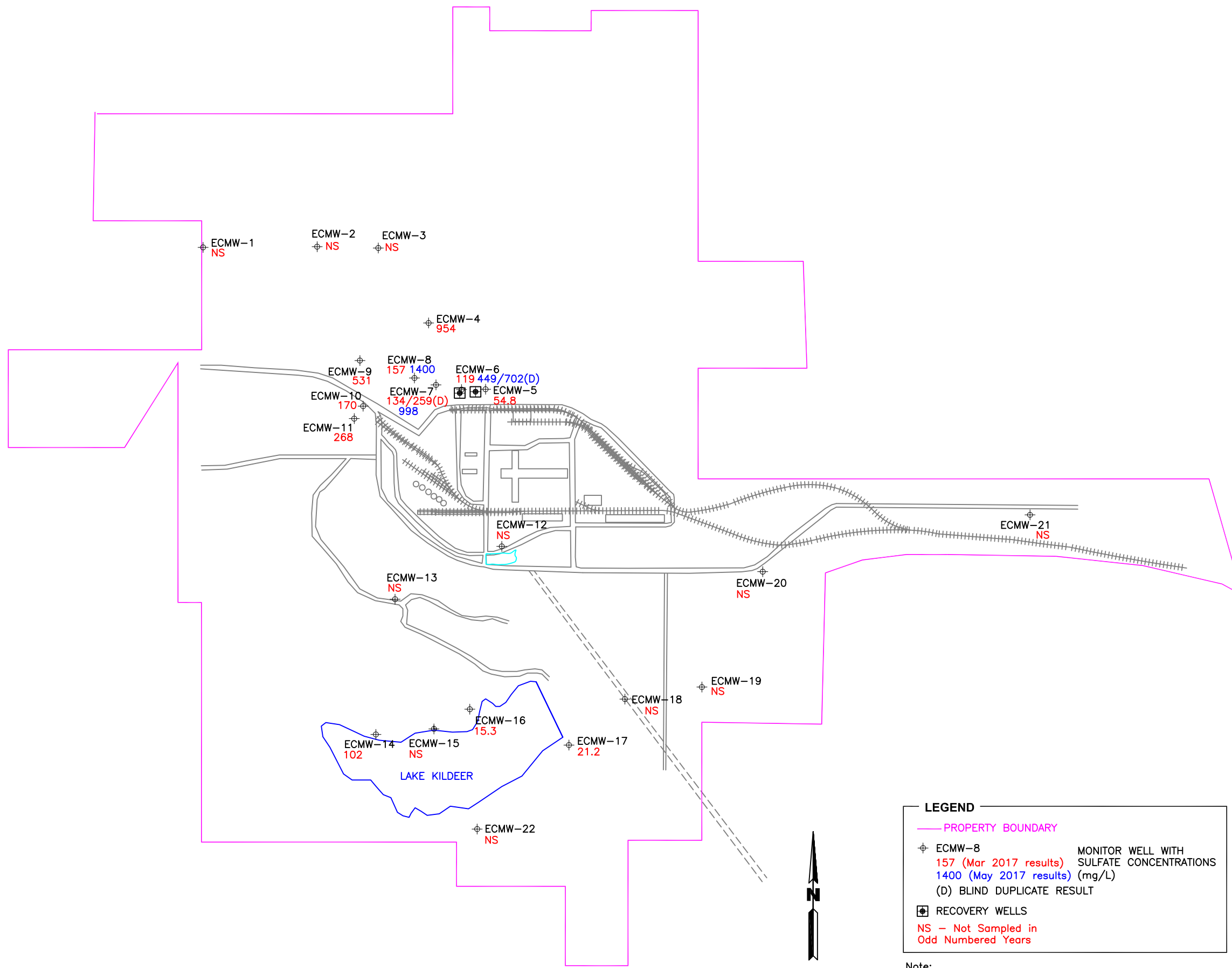
LEGEND

- PROPERTY BOUNDARY
- ⊕ ECMW-9 MONITOR WELL WITH 23.7 NITRATE CONCENTRATION (mg/L)
- (D) BLIND DUPLICATE RESULT
- ⊕ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years

Note:
Wells sampled September 12, 2017



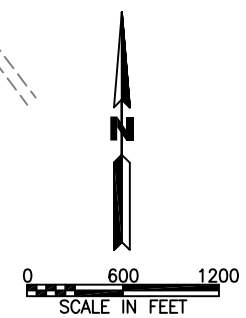
SEPTEMBER 2017 NITRATE CONCENTRATION MAP 2017 ANNUAL GROUND WATER REPORT EL DORADO CHEMICAL COMPANY EL DORADO, ARKANSAS		
DATE: 02/20/2018	APPROVED: LMM	DRAWN BY: LMM
SCALE: as shown	BY: LMM DATE: 02/20/2018	CAD NO. 02EC0100
		FIGURE 7



LEGEND

- PROPERTY BOUNDARY
- ⊕ ECMW-8 MONITOR WELL WITH SULFATE CONCENTRATIONS
 157 (Mar 2017 results)
 1400 (May 2017 results) (mg/L)
 (D) BLIND DUPLICATE RESULT
- ⊕ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years

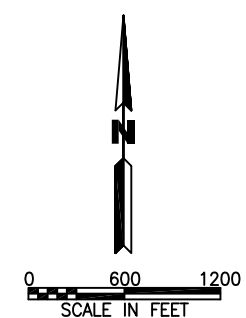
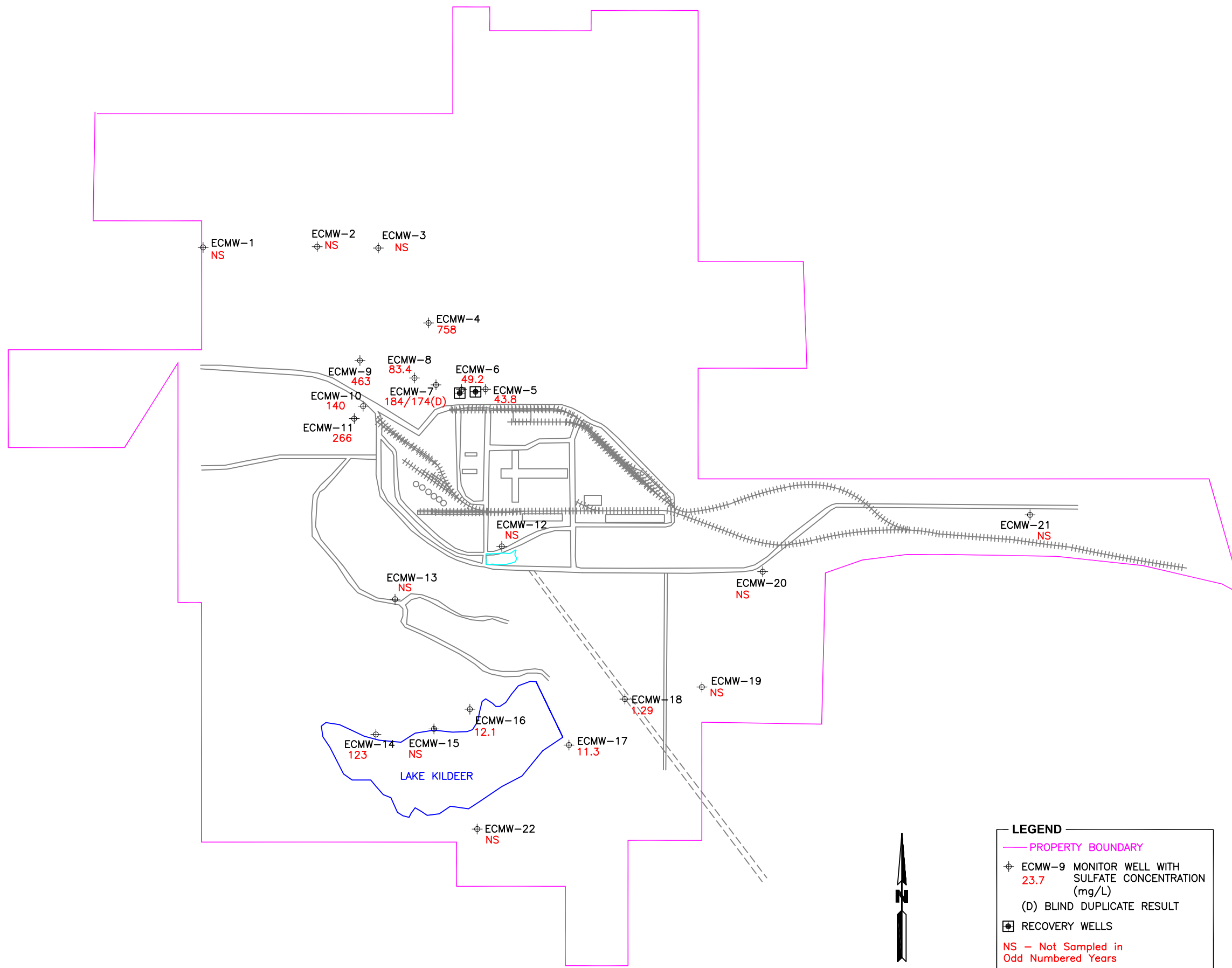
Note:
 Wells sampled March 20-22, 2017
 ECMW-6, ECMW-7 and ECMW-8 resampled May 1, 2017.



MARCH/MAY 2017 SULFATE CONCENTRATION MAP
 2017 ANNUAL GROUND WATER REPORT
 EL DORADO CHEMICAL COMPANY
 EL DORADO, ARKANSAS

DATE: 02/20/2018	APPROVED: LMM	DRAWN BY: LMM
SCALE: as shown	DATE: 02/20/2018	CAD NO. 02EC0100





LEGEND

- PROPERTY BOUNDARY
- ⊕ ECMW-9 MONITOR WELL WITH SULFATE CONCENTRATION (mg/L)
- (D) BLIND DUPLICATE RESULT
- ⊕ RECOVERY WELLS
- NS - Not Sampled in Odd Numbered Years

Note:
Wells sampled September 12, 2017



SEPTEMBER 2017 SULFATE CONCENTRATION MAP
2017 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 02/20/2018	APPROVED: LMM	DRAWN BY: LMM
SCALE: as shown	DATE: 02/20/2018	CAD NO. 02EC0100



APPENDIX A

SAMPLING FORMS AND LABORATORY ANALYTICAL REPORTS



8100 National Dr. - Little Rock, AR 72209
501-455-3233 Fax 501-455-6118

27 March 2017

David Sartain
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

Project: Groundwater Sample(s)
Project Number: March 2017
SDG Number: 1703345

Enclosed are the results of analyses for samples received by the laboratory on 22-Mar-17 07:53. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

<u>Custody Seals</u>	✓
<u>Containers Correct</u>	✓
<u>COC/Labels Agree</u>	✓
<u>Received On Ice</u>	✓
Temperature on Receipt	4.0°C

Sincerely,

A handwritten signature in blue ink that reads "Norma James / Teresa Coins".

Norma James and/or Teresa Coins
Technical Director and/or QA Officer

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.

David Sartain
 El Dorado Chemical Inc.
 4500 North West Ave.
 El Dorado, AR 71731
 Project: Groundwater Sample(s)
 Project Number: March 2017
 Date Received: 22-Mar-17 07:53

ANALYTICAL RESULTS

Lab Number: 1703345-01
 Sample Name: ECMW-4
 Date/Time Collected: 3/21/17 9:19
 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	954		3/23/17 10:18	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	< 0.250		3/22/17 13:56	B703401	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	< 0.500		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1703345-02
 Sample Name: ECMW-5
 Date/Time Collected: 3/21/17 8:44
 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	54.8		3/22/17 13:32	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	42.9		3/22/17 13:32	B703401	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	< 0.500		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1703345-03
 Sample Name: ECMW-6
 Date/Time Collected: 3/21/17 12:02
 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	119		3/22/17 14:19	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	5160		3/22/17 14:19	B703401	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	1680		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

David Sartain
 El Dorado Chemical Inc.
 4500 North West Ave.
 El Dorado, AR 71731
 Project: Groundwater Sample(s)
 Project Number: March 2017
 Date Received: 22-Mar-17 07:53

ANALYTICAL RESULTS

Lab Number: 1703345-04
 Sample Name: ECMW-7
 Date/Time Collected: 3/21/17 12:05
 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	134		3/22/17 12:22	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	12100		3/22/17 21:00	B703401	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	6950		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1703345-05
 Sample Name: ECMW-8
 Date/Time Collected: 3/21/17 10:33
 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	157		3/22/17 14:43	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	2210		3/22/17 14:43	B703401	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	877		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1703345-06
 Sample Name: ECMW-9
 Date/Time Collected: 3/21/17 10:44
 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	531		3/22/17 15:07	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	32.0		3/22/17 15:07	B703401	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	1.50		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

David Sartain
 El Dorado Chemical Inc.
 4500 North West Ave.
 El Dorado, AR 71731
 Project: Groundwater Sample(s)
 Project Number: March 2017
 Date Received: 22-Mar-17 07:53

ANALYTICAL RESULTS

Lab Number: 1703345-07
 Sample Name: ECMW-10
 Date/Time Collected: 3/21/17 12:25
 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	170		3/22/17 16:17	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	43.5		3/22/17 16:17	B703401	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	< 0.500		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1703345-08
 Sample Name: ECMW-11
 Date/Time Collected: 3/21/17 7:48
 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	268		3/23/17 11:53	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	16.7		3/22/17 12:45	B703401	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	5.87		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1703345-09
 Sample Name: ECMW-14
 Date/Time Collected: 3/21/17 13:09
 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	102		3/23/17 12:16	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	5.30		3/22/17 16:41	B703401	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	0.782		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

David Sartain
 El Dorado Chemical Inc.
 4500 North West Ave.
 El Dorado, AR 71731
 Project: Groundwater Sample(s)
 Project Number: March 2017
 Date Received: 22-Mar-17 07:53

ANALYTICAL RESULTS

Lab Number: 1703345-10
 Sample Name: ECMW-16
 Date/Time Collected: 3/21/17 13:33
 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	15.3		3/22/17 17:04	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	7.88		3/22/17 17:04	B703401	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	< 0.500		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1703345-11
 Sample Name: ECMW-17
 Date/Time Collected: 3/21/17 13:25
 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	21.2		3/22/17 17:28	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	19.2		3/22/17 17:28	B703401	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	5.16		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1703345-12
 Sample Name: ECMW-18
 Date/Time Collected: 3/21/17 13:57
 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>
Nitrate as N	mg/L	< 0.250		3/22/17 17:52	B703401	300.0, 2.1-1993

ANALYTICAL RESULTS

Lab Number: 1703345-13
 Sample Name: BD-1
 Date/Time Collected: 3/21/17 0:00
 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	259		3/23/17 11:29	B703401	300.0, 2.1-1993
Nitrate as N	mg/L	6840		3/22/17 21:24	B703401	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	3230		3/24/17 9:00	B703412	4500-NH3 B,D,C-1997

27 March 2017



David Sartain
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)
Project Number: March 2017
Date Received: 22-Mar-17 07:53

QUALITY CONTROL RESULTS

Anions -- Batch: B703401 (Water)

Prepared: 22-Mar-17 11:18 By: MB -- Analyzed: 22-Mar-17 19:02 By: MB


<u>Analyte</u>	<u>BLK</u>	<u>LCS / LCSD</u>	<u>MS / MSD</u>	<u>Dup</u>	<u>RPD</u>	<u>Qualifiers</u>
Nitrate as N	<0.250 mg/L	95.1% / NA	96.0% / 97.3%		1.40%	
Sulfate as SO4	<0.500 mg/L	99.7% / NA	106% / 101%		2.00%	

Wet Chemistry -- Batch: B703412 (Water)

Prepared: 23-Mar-17 11:00 By: SC -- Analyzed: 24-Mar-17 09:00 By: SC

<u>Analyte</u>	<u>BLK</u>	<u>LCS / LCSD</u>	<u>MS / MSD</u>	<u>Dup</u>	<u>RPD</u>	<u>Qualifiers</u>
Ammonia as N	<0.500 mg/L	99.2% / NA	97.6% / 93.9%		3.84%	

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 and/or Teresa Coins
Technical Director and/or QA Officer



8100 National Dr.
 Little Rock, AR 72209
 PHONE: 501-455-3233
 FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		Project Description		Turnaround Time		Preservation Codes:			
EI Dorado Chemical Corporation 4500 N West Ave EI Dorado, AR 71730		EI Dorado Chemical Corp GW Samp		1 Day (100%) 2 Day (50%) 3 Day (25%)		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			
Reporting Information		Telephone: 225-753-3631		5 Day (Refrigerated)		TEST PARAMETERS			
Fax:		Email: marcella@env-mgl.com		Preservative Code: 2		Bottle Type Code			
Sampler(s) Signature: <i>Mick Sr</i>		Sampler(s) Printed: Tyler Lollis & Christina Sellers		Ammonia		Sulfate & Nitrate			
Field Number	SAMPLE COLLECTION Dates	Grab	Comp	Number of Bottles	Sample Matrix	IDENTIFICATION/ DESCRIPTION		SAMPLE	
	3/21/2017	X		2	GW	ECMW-4		X	
	3/21/2017	X		2	GW	ECMW-5		X	
	3/21/2017	X		2	GW	ECMW-6		X	
	3/21/2017	X		2	GW	ECMW-7		X	
	3/21/2017	X		2	GW	ECMW-8		X	
	3/21/2017	X		2	GW	ECMW-9		X	
	3/21/2017	X		2	GW	ECMW-10		X	
	3/21/2017	X		2	GW	ECMW-11		X	
	3/21/2017	X		2	GW	ECMW-14		X	
	3/21/2017	X		2	GW	ECMW-16		X	
1. Relinquished by: (Signature) <i>Mick Sr</i>		Date/Time: 3/21/17		2. Received by: (Signature)		3. Relinquished by: (Signature)		Date/Time	
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature) <i>Sydney James</i>		5. TEMPERATURE ON RECEIPT: 4 °C		HHT# 2	
1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2. CONTAINERS CORRECT: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3. COC/LABELS AGREE: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		4. RECEIVED ON ICE: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		5. TEMPERATURE ON RECEIPT: 4 °C	
6. TEMPERATURE GUN ID: HHT# 2		FOR COMPLETION BY LAB ONLY		REMARKS / SAMPLE COMMENTS		17023415		Arkansas Analytical Work Order Number:	



8100 National Dr.
 Little Rock, AR 72209
 PHONE: 501-455-3233
 FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		Project Description		Turnaround Time		Preservation Codes:						
EI Dorado Chemical Corporation 4500 N West Ave EI Dorado, AR 71730		EI Dorado Chemical Corp GW Samp		1 Day (100%) 2 Day (50%) 3 Day (25%)		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						
Reporting Information		Telephone: 225-753-3631		5 Day (Round)		TEST PARAMETERS						
Fax:		Email: lmarcella@env-mgt.com		Preservative Code:		Bottle Type Code						
Sampler(s) Signature: <i>Amster</i>		Sampler(s) Printed: Tyler Lollis & Christina Sellers		P		V - Septum; A - Amber						
Field Number	SAMPLE COLLECTION Dates	Times	Grab	Comp	Number of Bottles	Sample Matrix	IDENTIFICATION/ DESCRIPTION	SAMPLE	Ammonia	Sulfate & Nitrate	Nitrates Only	Arkansas Analytical Work Order Number:
	3/21/2017	1325	X		2	GW	ECMW-17		X	X		11
	3/21/2017	1351	X		2	GW	ECMW-18				X	12
	3/21/2017	00:00	X		2	GW	BD-1		X	X		13
1. Relinquished by: (Signature) <i>Amster</i>		Date/Time 3/22/17		2. Received by: (Signature) <i>Sydney James</i>		Date/Time 0753		SAMPLE CONDITION UPON RECEIPT IN LAB 1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes ___ No 2. CONTAINERS CORRECT: <input checked="" type="checkbox"/> Yes ___ No 3. COC/LABELS AGREE: <input checked="" type="checkbox"/> Yes ___ No 4. RECEIVED ON ICE: <input checked="" type="checkbox"/> Yes ___ No 5. TEMPERATURE ON RECEIPT: 4 °C 6. TEMPERATURE GUN ID: HHT# 2		REMARKS / SAMPLE COMMENTS		
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature)								

Technical Report for

Environmental Management Services

El Dorado Chemical Corp GW Sampling-El Dorado, AR

SGS Accutest Job Number: LA33009

Sampling Date: 05/01/17

Report to:

Environmental Management Services
12232 Industriplex Boulevard
Baton Rouge, LA 70816
lmarcella@env-mgt.com; csellers@env-mgt.com

ATTN: Laurie Marcella

Total number of pages in report: 25



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Ron Benjamin
Lab Director

Client Service contact: Ralph Frye 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-15-7), WV(257)

This report shall not be reproduced, except in its entirety, without the written approval of SGS Accutest.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	5
3.1: LA33009-1: ECMW-6	6
3.2: LA33009-2: ECMW-7	7
3.3: LA33009-3: ECMW-8	8
3.4: LA33009-4: DUP	9
Section 4: Misc. Forms	10
4.1: Chain of Custody	11
Section 5: General Chemistry - QC Data Summaries	14
5.1: Method Blank and Spike Results Summary	15
5.2: Duplicate Results Summary	16
Section 6: Misc. Forms (SGS Accutest Gulf Coast)	17
6.1: Chain of Custody	18
Section 7: General Chemistry - QC Data (SGS Accutest Gulf Coast)	22
7.1: Method Blank and Spike Results Summary	23
7.2: Duplicate Results Summary	24
7.3: Matrix Spike Results Summary	25

1

2

3

4

5

6

7



Sample Summary

Environmental Management Services

Job No: LA33009

El Dorado Chemical Corp GW Sampling-El Dorado, AR

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
LA33009-1	05/01/17	10:49 TL	05/02/17	AQ	Ground Water	ECMW-6
LA33009-2	05/01/17	10:02 TL	05/02/17	AQ	Ground Water	ECMW-7
LA33009-3	05/01/17	09:17 TL	05/02/17	AQ	Ground Water	ECMW-8
LA33009-4	05/01/17	08:43 TL	05/02/17	AQ	Ground Water	DUP

Summary of Hits

Job Number: LA33009
Account: Environmental Management Services
Project: El Dorado Chemical Corp GW Sampling-El Dorado, AR
Collected: 05/01/17

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA33009-1	ECMW-6					
Nitrogen, Ammonia ^a		3500	100		mg/l	SM21 4500 NH3B
Nitrogen, Nitrate		6590	100		mg/l	SW846 9056A
Sulfate ^a		449	30		mg/l	SW846 9056A
LA33009-2	ECMW-7					
Nitrogen, Ammonia ^a		947	50		mg/l	SM21 4500 NH3B
Nitrogen, Nitrate		1910	100		mg/l	SW846 9056A
Sulfate ^a		998	60		mg/l	SW846 9056A
LA33009-3	ECMW-8					
Nitrogen, Ammonia ^a		1320	50		mg/l	SM21 4500 NH3B
Nitrogen, Nitrate		2430	100		mg/l	SW846 9056A
Sulfate ^a		1400	120		mg/l	SW846 9056A
LA33009-4	DUP					
Nitrogen, Ammonia ^a		3760	200		mg/l	SM21 4500 NH3B
Nitrogen, Nitrate		6050	100		mg/l	SW846 9056A
Sulfate ^a		702	30		mg/l	SW846 9056A

(a) Analysis performed at SGS Accutest, Houston, TX.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: ECMW-6	Date Sampled: 05/01/17
Lab Sample ID: LA33009-1	Date Received: 05/02/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: El Dorado Chemical Corp GW Sampling-El Dorado, AR	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Ammonia ^a	3500	100	mg/l	1000	05/08/17	ATX	SM21 4500 NH3B
Nitrogen, Nitrate	6590	100	mg/l	2000	05/02/17 21:36	LG	SW846 9056A
Sulfate ^a	449	30	mg/l	50	05/05/17 00:58	ATX	SW846 9056A

(a) Analysis performed at SGS Accutest, Houston, TX.

RL = Reporting Limit

Report of Analysis

32
3

Client Sample ID: ECMW-7	Date Sampled: 05/01/17
Lab Sample ID: LA33009-2	Date Received: 05/02/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: El Dorado Chemical Corp GW Sampling-El Dorado, AR	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Ammonia ^a	947	50	mg/l	500	05/08/17	ATX	SM21 4500 NH3B
Nitrogen, Nitrate	1910	100	mg/l	2000	05/02/17 21:26	LG	SW846 9056A
Sulfate ^a	998	60	mg/l	100	05/05/17 01:13	ATX	SW846 9056A

(a) Analysis performed at SGS Accutest, Houston, TX.

RL = Reporting Limit

Report of Analysis

Client Sample ID: ECMW-8		Date Sampled: 05/01/17
Lab Sample ID: LA33009-3		Date Received: 05/02/17
Matrix: AQ - Ground Water		Percent Solids: n/a
Project: El Dorado Chemical Corp GW Sampling-El Dorado, AR		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Ammonia ^a	1320	50	mg/l	500	05/09/17	ATX	SM21 4500 NH3B
Nitrogen, Nitrate	2430	100	mg/l	2000	05/02/17 21:11	LG	SW846 9056A
Sulfate ^a	1400	120	mg/l	200	05/05/17 01:29	ATX	SW846 9056A

(a) Analysis performed at SGS Accutest, Houston, TX.

RL = Reporting Limit

Report of Analysis

Client Sample ID: DUP	Date Sampled: 05/01/17
Lab Sample ID: LA33009-4	Date Received: 05/02/17
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: El Dorado Chemical Corp GW Sampling-El Dorado, AR	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Ammonia ^a	3760	200	mg/l	2000	05/08/17	ATX	SM21 4500 NH3B
Nitrogen, Nitrate	6050	100	mg/l	2000	05/02/17 20:32	LG	SW846 9056A
Sulfate ^a	702	30	mg/l	50	05/04/17 16:11	ATX	SW846 9056A

(a) Analysis performed at SGS Accutest, Houston, TX.

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



ACCUTEST

CHAIN OF CUSTODY

SGS Accutest Gulf Coast-Lafayette
500 Ambassador Caffery Pkwy Scott, LA 70583
TEL: 337-237-4775 FAX: 337-237-7838
www.accutest.com

Nitrate 05/01/17 LAB
PAGE 1 OF 1

FED-EX Tracking # 0221790647848334 Bottle Order Control # EM-4-19-2017-7
Accutest Quote # LA33009
Accutest Job # LA33009

Client / Reporting Information		Project Information				Requested Analyses														Matrix Codes							
Company Name Environmental Management Services, Inc		Project Name EI Dorado Chemical Corp GW Sampling				Nitrate by 9056														DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Release Blank TB - Trip Blank							
Street Address 12232 Industritplex Blvd		Street AR																									
City State Zip Baton Rouge LA 70809		City State EI Dorado AR																									
Project Contact Laurie Marcella		Project # ELD002001																									
E-mail lmarcella@env-mgt.com		Client Purchase Order # PO Box 15369																									
Phone # 225-753-3631		City State Zip Hattiesburg MS # 39404				Ammonia Sulfate Nitrate	LAB USE ONLY																				
Sampler(s) Name(s) Tyler Lollis		Attention Laurie Marcella																									
Phone # 228-219-9234		Project Manager Laurie Marcella																									
Field ID / Point of Collection		Date		Time				Sampled By		Matrix		# of bottles		Number of preserved bottles													
Turnaround Time (Business days)		Data Deliverable Information														Comments / Special Instructions											

<input checked="" type="checkbox"/> Standard <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 4 Day RUSH <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day EMERGENCY <small>Emergency & Rush T/A data available VIA Lablink</small>		Approved By (Accutest PM) / Date: _____		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> TRRP <input checked="" type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> EDD Format <input type="checkbox"/> FULT1 (Level 3+4) <input type="checkbox"/> Other _____ <input type="checkbox"/> REDT1 (Level 3+4) <input type="checkbox"/> Commercial "C" <small>Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial "C" = Results + QC & Surrogate Summary</small>		Comments / Special Instructions <div style="text-align: center;"> </div>			
Sample Custody must be documented below each time samples change possession, including courier delivery.									
Relinquished by Sampler: 1 Tyler Lollis		Date Time: 5/1/17		Received By: FEDEX		Date Time: 05/01/17 09:00		Received By: London	
Relinquished by Sampler: 3 La Marcella		Date Time: 5/2/17 09:50		Received By: [Signature]		Date Time: 5/2/17 09:50		Received By: [Signature]	
Relinquished by: 5		Date Time: 5/2/17 09:50		Received By: 5		Date Time: 5/2/17 09:50		Received By: 5	
Custody Seal # 65 or cool		<input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not intact		Preserved where applicable <input checked="" type="checkbox"/>		On Ice <input checked="" type="checkbox"/>		Cooler Temp. (3.1 DRY)	

ORIGIN ID:ELDA (225) 753-3631
CHRISTINA SELLERS
ENVIRONMENTAL MANAGEMENT SERVICES
3103 W. HILLSBORO

SHIP DATE: 19APR17
ACTWGT: 30.00 LB
CAD: 107391612/NET3850

EL DORADO, AR 71730
UNITED STATES US

TO **SAMPLE MANAGEMENT**
SGS ACCUTEST-LAFAYETTE
109 COMMISSION BLVD

54620CF0665C1

LAFAYETTE LA 70508

(337) 237-4775

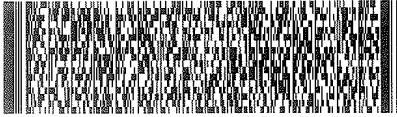
REF: WELLS 6, 7, 8

INV:

PC:

DEPT:

RMA:



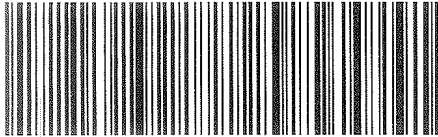
07111024100

RETURNS MON-SAT
PRIORITY OVERNIGHT
HLD
70508

TRK# **7906 4764 8334**

0221

LA-US



1. Select the 'Print' button to print 1 copy of each label.
2. The Return Shipment instructions, which provide your recipient with information on the returns process, will be printed with the label(s).
3. After printing, select your next step by clicking one of the displayed buttons.

Note: To review or print individual labels, select the Label button under each label image above.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

SGS Accutest Sample Receipt Summary

Job Number: LA33009 Client: ENVIRONMENTAL MANAGEMENT SERV Project: EL DORADO CHEMICAL CORP GW SAMPLING

Date / Time Received: 5/2/2017 9:50:00 AM Delivery Method: FedEx Airbill #'s: 790647648334

Cooler Temps (Initial/Adjusted): #1: (3.1/3.1);

<u>Cooler Security</u>	<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Thermometer ID:	_____ ; _____	
3. Cooler media:	<u>Ice (direct contact)</u>	
4. No. Coolers:	<u>1</u>	

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	<u>Intact</u>		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

4.1
4

LA33009: Chain of Custody

Page 3 of 3

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA33009
Account: EMSLABR - Environmental Management Services
Project: El Dorado Chemical Corp GW Sampling-El Dorado, AR

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Nitrate	GP5346/GN10475	0.050	0.0	mg/l	2.5	2.48	99.2	90-110%

Associated Samples:

Batch GP5346: LA33009-1, LA33009-2, LA33009-3, LA33009-4

(*) Outside of QC limits

5.1
5

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA33009
Account: EMSLABR - Environmental Management Services
Project: El Dorado Chemical Corp GW Sampling-El Dorado, AR

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate	GP5346/GN10475	LA33009-4	mg/l	6050	6140	1.5	0-20%

Associated Samples:

Batch GP5346: LA33009-1, LA33009-2, LA33009-3, LA33009-4

(*) Outside of QC limits

5.2
5

Misc. Forms

Custody Documents and Other Forms

(SGS Accutest Gulf Coast)

Includes the following where applicable:

- Chain of Custody



ACCUTEST

CHAIN OF CUSTODY

500 Ambassador Caffery Parkway, Scott, LA 70583
Phone: 800-304-5227 Fax: 337-237-7838
www.sgs.com

Form containing tracking information, client details, project information, requested analysis, and a table of sample collection data with columns for date, time, matrix, and various chemical parameters.

LA33009: Chain of Custody
Page 1 of 4
SGS Accutest Gulf Coast

Cooler 3

Date / Time: 5/2/2017 11:23:35 AM
CSR: ralph
Job #: LA33009
Client Project: El Dorado Chemical Corp GW Sampling-El Dorado
Deliverable: COMMB
TAT: Due 5/12/2017

Sub Lab: Accutest Gulf Coast
Address: 10165 Harwin Drive
City: Houston
State: TX Zip: 77036
Contact: Sample Management
Phone: (713) 692-9151

SGS Accutest Sample #	Client Sample Description	Analysis	Location	Sampled By	Date Sampled	Time Sampled	Aliquot
LA33009-1 ✓	ECMW-6	AMN4500_SO4IC9056	14_OL	TL	5/1/2017	10:49:00 AM	2
LA33009-2 ✓	ECMW-7	AMN4500_SO4IC9056	14_OL	TL	5/1/2017	10:02:00 AM	2
LA33009-3 ✓	ECMW-8	AMN4500_SO4IC9056	14_OL	TL	5/1/2017	9:17:00 AM	2
LA33009-4 ✓	DUP	AMN4500_SO4IC9056	14_OL	TL	5/1/2017	8:43:00 AM	2

Comments:

Sample Management Receipt: *[Signature]*

Date: 1220 5/3/17

4-500ml ^{amb} w/ Surf
4-500ml

6.1
6

SGS Accutest Sample Receipt Summary

Job Number: LA33009 **Client:** SGS ACCUTEST **Project:** EL DORADO CHEMICAL
Date / Time Received: 5/3/2017 12:20:00 PM **Delivery Method:** _____ **Airbill #'s:** _____
No. Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** 0;
Cooler Temps (Initial/Adjusted): #1: (2.5/2.5);

Cooler Security Y or N Y or N
 1. Custody Seals Present: 3. COC Present:
 2. Custody Seals Intact: 4. Smpl Dates/Time OK

Cooler Temperature Y or N
 1. Temp criteria achieved:
 2. Cooler temp verification: _____
 3. Cooler media: Ice (Bag)

Quality Control Preservation Y or N N/A WTB STB
 1. Trip Blank present / cooler:
 2. Trip Blank listed on COC:
 3. Samples preserved properly:
 4. VOCs headspace free:

Sample Integrity - Documentation Y or N
 1. Sample labels present on bottles:
 2. Container labeling complete:
 3. Sample container label / COC agree:

Sample Integrity - Condition Y or N
 1. Sample recvd within HT:
 2. All containers accounted for:
 3. Condition of sample: Intact

Sample Integrity - Instructions Y or N N/A
 1. Analysis requested is clear:
 2. Bottles received for unspecified tests
 3. Sufficient volume recvd for analysis:
 4. Compositing instructions clear:
 5. Filtering instructions clear:

Comments

6.1
6

Sample Receipt Log

Job #: LA33009

Date / Time Received: 5/3/2017 12:20:00 PM 12:20:

Initials: DS

Client: SGS ACCUTEST

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	LA33009-1	250mlA	1	M2A	H2SO4	pH < 2	IR-4	2.5	0	2.5
1	LA33009-1	250ml	2	M1D	N/P	Note #2 - Preservative check not applicable.	IR-4	2.5	0	2.5
1	LA33009-2	250mlA	1	M2A	H2SO4	pH < 2	IR-4	2.5	0	2.5
1	LA33009-2	250ml	2	M1D	N/P	Note #2 - Preservative check not applicable.	IR-4	2.5	0	2.5
1	LA33009-3	250mlA	1	M2A	H2SO4	pH < 2	IR-4	2.5	0	2.5
1	LA33009-3	250ml	2	M1D	N/P	Note #2 - Preservative check not applicable.	IR-4	2.5	0	2.5
1	LA33009-4	250mlA	1	M2A	H2SO4	pH < 2	IR-4	2.5	0	2.5
1	LA33009-4	250ml	2	M1D	N/P	Note #2 - Preservative check not applicable.	IR-4	2.5	0	2.5

6.1
6

LA33009: Chain of Custody

Page 4 of 4

General Chemistry

QC Data Summaries

(SGS Accutest Gulf Coast)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA33009
Account: ALLA - SGS Accutest Lafayette
Project: EMSLABR: El Dorado Chemical Corp GW Sampling-El Dorado, AR

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Ammonia	GP42129/GN81602	0.10	0.0	mg/l	2	1.93	96.5	90-110%
Nitrogen, Ammonia	GP42163/GN81648	0.10	0.0	mg/l	2	1.96	98.0	90-110%
Sulfate	GP42105/GN81565	0.60	0.0	mg/l	10	9.22	92.2	90-110%

Associated Samples:

Batch GP42105: LA33009-1, LA33009-2, LA33009-3, LA33009-4

Batch GP42129: LA33009-1, LA33009-2, LA33009-4

Batch GP42163: LA33009-3

(*) Outside of QC limits

7.1
7

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA33009
Account: ALLA - SGS Accutest Lafayette
Project: EMSLABR: El Dorado Chemical Corp GW Sampling-El Dorado, AR

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Ammonia	GP42129/GN81602	LA33128-1	mg/l	0.57	0.59	3.4	0-20%
Nitrogen, Ammonia	GP42163/GN81648	LA33159-1	mg/l	35.4	34.7	2.0	0-20%
Sulfate	GP42105/GN81565	LA33009-4	mg/l	702	692	1.4	0-20%

Associated Samples:

Batch GP42105: LA33009-1, LA33009-2, LA33009-3, LA33009-4

Batch GP42129: LA33009-1, LA33009-2, LA33009-4

Batch GP42163: LA33009-3

(*) Outside of QC limits

7.2
7

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: LA33009
Account: ALLA - SGS Accutest Lafayette
Project: EMSLABR: El Dorado Chemical Corp GW Sampling-El Dorado, AR

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Ammonia	GP42129/GN81602	LA33128-1	mg/l	0.57	2	2.6	101.5	90-110%
Nitrogen, Ammonia	GP42163/GN81648	LA33159-1	mg/l	35.4	40	78.2	107.0	90-110%
Sulfate	GP42105/GN81565	LA33009-4	mg/l	702	500	475	-45.4N(a)	80-120%

Associated Samples:

Batch GP42105: LA33009-1, LA33009-2, LA33009-3, LA33009-4

Batch GP42129: LA33009-1, LA33009-2, LA33009-4

Batch GP42163: LA33009-3

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Outside control limits due to matrix interference.

7.3

7



8100 National Dr. - Little Rock, AR 72209
501-455-3233 Fax 501-455-6118

18 September 2017

David Sartain
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

Project: Groundwater Sample(s)
Project Number: September 2017
SDG Number: 1709124

Enclosed are the results of analyses for samples received by the laboratory on 12-Sep-17 16:00. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

<u>Custody Seals</u>	✓
<u>Containers Correct</u>	✓
<u>COC/Labels Agree</u>	✓
<u>Received On Ice</u>	✓
Temperature on Receipt	9.0°C

Sincerely,

A handwritten signature in blue ink that reads "Norma James / Teresa Coins".

Norma James and/or Teresa Coins
Technical Director and/or QA Officer

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.



David Sartain
 El Dorado Chemical Inc.
 4500 North West Ave.
 El Dorado, AR 71731
 Project: Groundwater Sample(s)
 Project Number: September 2017
 Date Received: 12-Sep-17 16:00

ANALYTICAL RESULTS

Lab Number: 1709124-01
 Sample Name: ECMW-17
 Date/Time Collected: 9/12/17 7:12
 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	11.3		9/12/17 17:20	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	13.4		9/12/17 17:20	B709123	EPA 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	0.865		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1709124-02
 Sample Name: ECMW-16
 Date/Time Collected: 9/12/17 7:24
 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	12.1		9/12/17 17:39	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	8.74		9/12/17 17:39	B709123	EPA 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	< 0.500		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1709124-03
 Sample Name: ECMW-14
 Date/Time Collected: 9/12/17 7:32
 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	123		9/13/17 11:47	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	2.76		9/12/17 17:59	B709123	EPA 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	< 0.500		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

David Sartain
 El Dorado Chemical Inc.
 4500 North West Ave.
 El Dorado, AR 71731
 Project: Groundwater Sample(s)
 Project Number: September 2017
 Date Received: 12-Sep-17 16:00

ANALYTICAL RESULTS

Lab Number: 1709124-04
 Sample Name: ECMW-18
 Date/Time Collected: 9/12/17 7:58
 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	1.29		9/12/17 18:18	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	< 0.250		9/12/17 18:18	B709123	EPA 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	< 0.500		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1709124-05
 Sample Name: ECMW-11
 Date/Time Collected: 9/12/17 8:19
 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	266		9/13/17 14:24	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	16.0		9/12/17 18:38	B709123	EPA 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	4.08		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1709124-06
 Sample Name: ECMW-10
 Date/Time Collected: 9/12/17 8:30
 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	140		9/12/17 18:57	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	47.2		9/12/17 18:57	B709123	EPA 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	0.601		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

David Sartain
 El Dorado Chemical Inc.
 4500 North West Ave.
 El Dorado, AR 71731
 Project: Groundwater Sample(s)
 Project Number: September 2017
 Date Received: 12-Sep-17 16:00

ANALYTICAL RESULTS

Lab Number: 1709124-07
 Sample Name: ECMW-9
 Date/Time Collected: 9/12/17 8:42
 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	463		9/13/17 14:44	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	27.3		9/12/17 19:17	B709123	EPA 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	< 0.500		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1709124-08
 Sample Name: ECMW-4
 Date/Time Collected: 9/12/17 8:48
 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	758		9/13/17 15:03	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	< 0.250		9/12/17 19:37	B709123	EPA 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	< 0.500		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1709124-09
 Sample Name: ECMW-8
 Date/Time Collected: 9/12/17 8:57
 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	83.4		9/13/17 10:33	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	3490		9/12/17 19:56	B709123	EPA 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	654		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

David Sartain
 El Dorado Chemical Inc.
 4500 North West Ave.
 El Dorado, AR 71731
 Project: Groundwater Sample(s)
 Project Number: September 2017
 Date Received: 12-Sep-17 16:00

ANALYTICAL RESULTS

Lab Number: 1709124-10
 Sample Name: ECMW-7
 Date/Time Collected: 9/12/17 9:08
 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	184		9/12/17 20:16	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	10400		9/12/17 21:14	B709123	EPA 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	1060		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1709124-11
 Sample Name: ECMW-6
 Date/Time Collected: 9/12/17 9:18
 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	49.2		9/13/17 15:23	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	5710		9/12/17 21:34	B709123	EPA 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	895		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

ANALYTICAL RESULTS

Lab Number: 1709124-12
 Sample Name: ECMW-5
 Date/Time Collected: 9/12/17 9:24
 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	43.8		9/12/17 21:54	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	56.3		9/12/17 21:54	B709123	EPA 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	9.58		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

18 September 2017



David Sartain
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)
Project Number: September 2017
Date Received: 12-Sep-17 16:00

ANALYTICAL RESULTS

Lab Number: 1709124-13
Sample Name: ECMW-Dup
Date/Time Collected: 9/12/17 0:00
Sample Matrix: Water

Table with 7 columns: Anions, Units, Result, Qualifier(s), Date/Time Analyzed, Batch, Method. Rows include Sulfate as SO4, Nitrate as N, and Ammonia as N.

QUALITY CONTROL RESULTS

Anions -- Batch: B709123 (Water)
Prepared: 12-Sep-17 16:57 By: TB -- Analyzed: 13-Sep-17 11:28 By: TB

Table with 7 columns: Analyte, BLK, LCS / LCSD, MS / MSD, Dup, RPD, Qualifiers. Rows include Nitrate as N and Sulfate as SO4.

Wet Chemistry -- Batch: B709146 (Water)
Prepared: 14-Sep-17 10:00 By: SC -- Analyzed: 15-Sep-17 13:30 By: SC

Table with 7 columns: Analyte, BLK, LCS / LCSD, MS / MSD, Dup, RPD, Qualifiers. Row includes Ammonia as N.

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: [Signature]
Norma James and/or Teresa Coins
Technical Director and/or QA Officer



8100 National Dr.
 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:					
EI Dorado Chemical Inc. 4500 Northwest Ave. EI Dorado, AR 71731		EI Dorado Chemical Inc. P.O. Box 231 EI Dorado, AR 71731		Groundwater Samples		1 Day (100%) 2 Day (50%) 3 Day (25%) 5 Day (routine)		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: David Sartain		Telephone: 870-863-1484		Reporting Information		Preservative Code: 1		TEST PARAMETERS					
Email: dsartain@dc-ar.com; opsarson@dc-ar.com; hmcrcell@emv-ang.com		Fax: 870-863-1499		Groundwater Samples		Bottle Type: P		Bottle Type Code					
Sampler(s) Signature: <i>Chris Sar</i>		Sampler(s) Printed: <i>Christina Sellers</i>		Groundwater Samples		G = Glass, P = Plastic V = Spigot, A = Amber		Arkansas Analytical Work Order Number: 1709124					
Field Number	SAMPLE COLLECTION Dates	Times	Grab	Comp	Number of Bottles	Sample Matrix	IDENTIFICATION/DESCRIPTION		NITRATE, SULFATE		AMMONIA		REMARKS / SAMPLE COMMENTS
	9/12/17	0712	X		2	Water	ECMW-17	X	X				
	9/12/17	0724	X		2	Water	ECMW-16	X	X				
	9/12/17	0738	X		2	Water	ECMW-14	X	X				
	9/12/17	07:58	X		2	Water	ECMW-18	X	X				
	9/12/17	08:19	X		2	Water	ECMW-11	X	X				
	9/12/17	08:30	X		2	Water	ECMW-10	X	X				
	9/12/17	0842	X		2	Water	ECMW-9	X	X				
	9/12/17	0848	X		2	Water	ECMW-4	X	X				
	9/12/17	0857	X		2	Water	ECMW-8	X	X				
	9/12/17	0908	X		2	Water	ECMW-7	X	X				
1. Relinquished by: (Signature) <i>Chris Sar</i>		Date/Time: 9/12/17		2. Received by: (Signature) <i>Christina Sellers</i>		Date/Time: 9-12-17		3. COC/LABELS AGREE: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		4. RECEIVED ON ICE: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		5. TEMPERATURE ON RECEIPT: 9 °C	
3. Relinquished by: (Signature) <i>Chris Sar</i>		Date/Time: 9-12-17		4. Received by lab: (Signature) <i>Christina Sellers</i>		Date/Time: 16:00		6. TEMPERATURE GUN ID: HHT# 2		FOR COMPLETION BY LAB ONLY			



8100 National Dr.
 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:				
EI Dorado Chemical Inc. 4500 Northwest Ave. EI Dorado, AR 71731		EI Dorado Chemical Inc. P.O. Box 231 EI Dorado, AR 71731		Groundwater Samples		1 Day (100%) 2 Day (50%) 3 Day (25%)		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: David Sartain		Telephone: 870-863-1484		Reporting Information		5 Day (routine)		TEST PARAMETERS				
Email: dsartain@edc-ark.com; epsarson@edc-ark.com; mncrallie@svr-riqtl.com		Fax: 870-863-1499		Sample Matrix		Preservative Code:		Bottle Type Code				
Sampler(s) Signature: <i>David Sartain</i>		Sampler(s) Printed: Christina Sellers		IDENTIFICATION/ DESCRIPTION		P		G = Glass, P = Plastic V = Septum, A = Amber				
Field Number	SAMPLE COLLECTION Dates/ Times	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION		NITRATE, SULFATE		AMMONIA		Order Number
	9/12/17 0918	X		2	Water	ECMW-V		X	X			11
	9/12/17 0934	X		2	Water	ECMW-5		X	X			12
	9/12/17 00:00	X		2	Water	ECMW-DUP		X	X			13
		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) <i>David Sartain</i>		Date/Time		2. Received by: (Signature) <i>Christina Sellers</i>		Date/Time		3. RECEIVED ON RECEIPT:		REMARKS / SAMPLE COMMENTS		
		9/12/17				9-12-17 15:29		1. CUSTODY SEALS: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
3. Relinquished by: (Signature) <i>David Sartain</i>		Date/Time		4. Received by lab: (Signature) <i>Christina Sellers</i>		Date/Time		2. CONTAINERS CORRECT: Yes <input type="checkbox"/> No <input type="checkbox"/>				
		9-12-17 1600						3. COCLABELS AGREE: Yes <input type="checkbox"/> No <input type="checkbox"/>				
								4. RECEIVED ON ICE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
								5. TEMPERATURE ON RECEIPT: 9 °C				
								6. TEMPERATURE GUN ID: HHT# 2				
								FOR COMPLETION BY LAB ONLY				

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-1
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 3/22/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 12:31
 Top of casing to water level ft 10.25 Gallons per well volume gal 7.95
 Top of casing to bottom ft 22.48 Total gallons evacuated gal 24
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[μS]	
0	<u>18.6</u>	<u>4.91</u>	<u>102.5</u>	<u>slightly cloudy grey</u>
1	<u>17.2</u>	<u>4.82</u>	<u>46.3</u>	<u>more translucent than before</u>
2	<u>17.1</u>	<u>4.09</u>	<u>39.9</u>	<u>very slightly cloudy, mostly clear</u>
3	<u>17.2</u>	<u>4.05</u>	<u>39.7</u>	<u>" "</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____
 Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: Installed new bailer & string

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-2
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 3/22/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 11:38
 Top of casing to water level ft 0.03 Gallons per well volume gal 13.33
 Top of casing to bottom ft 20.53 Total gallons evacuated gal 40
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

<u>WV</u>	<u>Temperature[°C]</u>	<u>pH</u>	<u>Conductivity[μS]</u>	
<u>0</u>	<u>17.8</u>	<u>4.86</u>	<u>258.8</u>	<u>slightly cloudy</u>
<u>1</u>	<u>17.1</u>	<u>5.11</u>	<u>258.6</u>	<u>milky grey</u>
<u>2</u>	<u>18.0</u>	<u>5.07</u>	<u>290.8</u>	<u>thick milky cream color</u>
<u>3</u>	<u>18.6</u>	<u>5.45</u>	<u>258.4</u>	<u>" "</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____
 Sample characteristics: _____
 Containers and preservatives: _____
 Comments and observations: Installed new bailer & string

Certification: Tyler Lollis Chris Jones

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 3
 Sampling Personnel Tyler Lellis

MONITORING WELL INFORMATION

Evacuation Date 3/22/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 10:39
 Top of casing to water level ft 9.23 Gallons per well volume gal 11.87
 Top of casing to bottom ft 27.49 Total gallons evacuated gal 35.5
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[μS]	
0	<u>19.3</u>	<u>5.23</u>	<u>214.9</u>	<u>clear</u>
1	<u>17.6</u>	<u>5.38</u>	<u>204.4</u>	<u>clear</u>
2	<u>18.0</u>	<u>5.60</u>	<u>203.6</u>	<u>clear</u>
3	<u>19.4</u>	<u>5.91</u>	<u>195.3</u>	<u>Slight gray/yellow tint</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____
 Sample characteristics: _____
 Containers and preservatives: _____
 Comments and observations: Installed new boiler & string

Certification: Tyler Lellis Chris [Signature]

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 4
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 3/21/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 08:10
 Top of casing to water level ft 8.53 Gallons per well volume gal 9.04
 Top of casing to bottom ft 22.43 Total gallons evacuated gal 17 gal
 Sampling Date/Time 3/21/17 09:19 Method of Sampling Bailer - new

SAMPLE DATA

<u>WV</u>	<u>Temperature[°C]</u>	<u>pH</u>	<u>Conductivity[μS]</u>	
<u>0</u>	<u>18.1</u>	<u>4.27</u>	<u>5.55 mS</u>	<u>clear vinegar smell</u>
<u>1</u>	<u>18.0</u>	<u>4.26</u>	<u>6.17 mS</u>	<u>clear vinegar smell</u>
<u>2</u>	<u>20.2</u>	<u>4.46</u>	<u>6.64 mS</u>	<u>" " well ran dry on 8th gal</u>
<u>3</u>				

GENERAL INFORMATION

Weather conditions at time of sampling: Sunny, light clear breeze, cool
 Sample characteristics: clear, vinegar smell, no SS

Containers and preservatives: 1 8oz plastic w/H₂SO₄, 1 4oz plastic w/no pres.

Comments and observations: Installed new bailer & string, used new bailer to sample

Certification: Tyler Lollis

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 5
 Sampling Personnel _____

MONITORING WELL INFORMATION

Evacuation Date 3/21/17 Method of Evacuation Mini Monsoon
 Evacuation Time 0813
 Top of casing to water level ft 4.01 Gallons per well volume gal 9.08
 Top of casing to bottom ft 17.90 Total gallons evacuated gal 27
 Sampling Date/Time 3/21/17 0844 Method of Sampling Bailer

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[µS]	
0	<u>17.8</u>	<u>4.52</u>	<u>549</u>	<u>clear, nonnoticeable odor or SS</u>
1	<u>17.7</u>	<u>4.38</u>	<u>544</u>	<u>"</u>
2	<u>17.9</u>	<u>4.58</u>	<u>547</u>	<u>"</u>
3	<u>18.4</u>	<u>4.55</u>	<u>578</u>	<u>"</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Sunny, clear, slight breeze, cool
 Sample characteristics: clear, no noticeable odor or SS

Containers and preservatives: 1x 8oz Plastic w/H₂SO₄, 1x 4oz Plastic
w/NO PRES

Comments and observations: Replaced bailer & string, used new bailer
to sample

Certification: Chris Jon

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 6
 Sampling Personnel _____

MONITORING WELL INFORMATION

Evacuation Date 3/21/17 Method of Evacuation Mini Monsoon
 Evacuation Time 11:20
 Top of casing to water level ft 4.45 Gallons per well volume gal 11.58
 Top of casing to bottom ft 22.28 Total gallons evacuated gal 36
 Sampling Date/Time 3/21/17 12:02 Method of Sampling Bailer

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[μS]	
0	<u>20.7</u>	<u>3.54</u>	<u>45.7 mS</u>	<u>Clear, no discernable SS or odor</u>
1	<u>20.2</u>	<u>3.64</u>	<u>41.59 mS</u>	<u>"</u>
2	<u>20.5</u>	<u>3.11</u>	<u>42.12 mS</u>	<u>"</u>
3	<u>20.4</u>	<u>2.61</u>	<u>42.43 mS</u>	<u>"</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Bright, Sunny clear, warm w/light breeze
 Sample characteristics: clear, no discernable SS or odor

Containers and preservatives: 1 x 8oz Plastic w/H₂SO₄, 1 x 4oz plastic w/no pres

Comments and observations: Installed new bailer & string; used new bailer for sampling

Certification: Chris [Signature]

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-7
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 3/21/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 11:18
 Top of casing to water level ft 7.20 Gallons per well volume gal 11.65
 Top of casing to bottom ft 25.13 Total gallons evacuated gal 35
 Sampling Date/Time 3/21/17 12:05 Method of Sampling Bailer

SAMPLE DATA


WV	Temperature [°C]	pH	Conductivity [µS]			
0	<u>22.5</u>	<u>5.67</u>	<u>7.78mS</u>	<u>clear</u>	<u>vinegar</u>	<u>smell</u>
1	<u>20.7</u>	<u>5.12</u>	<u>19.47mS</u>	<u>"</u>	<u>"</u>	<u>"</u>
2	<u>21.9</u>	<u>5.17</u>	<u>25.56mS</u>	<u>"</u>	<u>"</u>	<u>"</u>
3	<u>20.8</u>	<u>5.46</u>	<u>27.90mS</u>	<u>"</u>	<u>"</u>	<u>"</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Bright, sunny, clear warm w/light breeze
 Sample characteristics: clear, vinegar odor, no SS

Containers and preservatives: 2 8oz plastic w/H₂SO₄, 2 4oz plastic w/ no pres.

Comments and observations: Installed new bailer & string, used new bailer for sampling; Blind dup. taken here

Certification: Tyler Lollis 

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-8
 Sampling Personnel _____

MONITORING WELL INFORMATION

Evacuation Date 3/21/17 Method of Evacuation Mini Monsoon
 Evacuation Time 09:56
 Top of casing to water level ft 7.01 Gallons per well volume gal 15.06
 Top of casing to bottom ft 30.18 Total gallons evacuated gal 45 gal
 Sampling Date/Time 3/21/17 10:33 Method of Sampling Bailing

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[µS]	
0	<u>20.1</u>	<u>3.55</u>	<u>24.65ms</u>	<u>clear, no obvious SS or odor</u>
1	<u>20.0</u>	<u>3.60</u>	<u>28.48ms</u>	<u>"</u>
2	<u>20.0</u>	<u>3.56</u>	<u>30.25ms</u>	<u>"</u>
3	<u>20.2</u>	<u>3.61</u>	<u>30.83ms</u>	<u>"</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Bright, clear, light breeze
 Sample characteristics: clear, no obvious odor or SS

Containers and preservatives: 1x 8oz Plastic w/H₂SO₄, 1x 4oz plastic w/no pres.

Comments and observations: Replaced bailer & string, used new bailer to sample

Certification: *Chris Jon*

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 9
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 3/21/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 0948
 Top of casing to water level ft 9.30 Gallons per well volume gal 13.67
 Top of casing to bottom ft 30.33 Total gallons evacuated gal 40.5
 Sampling Date/Time 3/21/17 10:44 Method of Sampling Bailer

SAMPLE DATA

<u>WV</u>	<u>Temperature[°C]</u>	<u>pH</u>	<u>Conductivity[µS]</u>	
<u>0</u>	<u>20.7</u>	<u>6.27</u>	<u>2162</u>	<u>clear, no odor</u>
<u>1</u>	<u>21.4</u>	<u>6.23</u>	<u>2254</u>	<u>clear, no odor</u>
<u>2</u>	<u>21.0</u>	<u>6.01</u>	<u>2157</u>	<u>clear, no odor</u>
<u>3</u>	<u>21.0</u>	<u>6.17</u>	<u>2189</u>	<u>clear, no odor</u>

GENERAL INFORMATION

Weather conditions at time of sampling: SUNNY, no clouds, light breeze
 Sample characteristics: clear, no discernable odor or SS

Containers and preservatives: 1 8oz plastic w/H₂SO₄, 1 4oz plastic w/no pres.

Comments and observations: Installed new bailer & string, used new bailer for sampling

Certification: Tyler Lollis

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-10
 Sampling Personnel Christina Sellers

MONITORING WELL INFORMATION

Evacuation Date 08/21/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 06:57
 Top of casing to water level ft 14.28 Gallons per well volume gal 5.62
 Top of casing to bottom ft 22.93 Total gallons evacuated gal 14
 Sampling Date/Time 3/21/17 1225 Method of Sampling Bailer

SAMPLE DATA

WU	Temperature[°C]	pH	Conductivity[μS]		
0	<u>18.7</u>	<u>4.36</u>	<u>750</u>	<u>clear</u>	
1	<u>19.5</u>	<u>4.49</u>	<u>756</u>	<u>very light brown</u>	<u>cloudy</u>
2	<u>19.5</u>	<u>4.60</u>	<u>751</u>	<u>"</u>	<u>"</u>
3	<u>18.9</u>	<u>4.65</u>	<u>747</u>	<u>"</u>	<u>"</u>

well ran dry on 3rd WU @ 3 gal

GENERAL INFORMATION

Weather conditions at time of sampling: warm, no clouds, light breeze
 Sample characteristics: _____

Containers and preservatives: 1 8oz plastic w/H₂SO₄, 1 4oz plastic w/no pres.

Comments and observations: Installed new bailer & string, used new bailer to sample

Certification: *Christina Sellers*

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 11
 Sampling Personnel _____

MONITORING WELL INFORMATION

Evacuation Date 3/21/17 Method of Evacuation Mini Monsoon
 Evacuation Time 0707
 Top of casing to water level ft 11.10 Gallons per well volume gal 5.92
 Top of casing to bottom ft 20.21 Total gallons evacuated gal 18
 Sampling Date/Time 3/21/17 0748 Method of Sampling Bailer

SAMPLE DATA


	Temperature[°C]	pH	Conductivity[μS]	
0	<u>17.8</u>	<u>3.86</u>	<u>687</u>	<u>Clear, no discernable odor or SS</u>
1	<u>16.6</u>	<u>3.06</u>	<u>613</u>	<u>"</u>
2	<u>18.3</u>	<u>4.12</u>	<u>688</u>	<u>"</u>
3	<u>18.8</u>	<u>4.07</u>	<u>822</u>	<u>"</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Clear, just turning daylight, cool, slight breeze
 Sample characteristics: Clear, no discernable odors or SS

Containers and preservatives: 1 x 8oz w/H₂SO₄, 1 x 4oz w/no pres

Comments and observations: Installed new bailer & string, used new bailer to sample

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-12
 Sampling Personnel Tyler Lellis

MONITORING WELL INFORMATION

Evacuation Date 3/22/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 0717
 Top of casing to water level ft 6.04 Gallons per well volume gal 9.24
 Top of casing to bottom ft 20.25 Total gallons evacuated gal 20
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[µS]	
0	<u>14.9</u>	<u>5.22</u>	<u>480</u>	<u>orange color, slight brown, opaque</u>
1	<u>17.2</u>	<u>5.42</u>	<u>528</u>	<u>almost clear, slight yellow tint</u>
2	<u>18.1</u>	<u>5.72</u>	<u>587</u>	<u>" "</u>
3	<u>18.1</u>	<u>5.90</u>	<u>550</u>	<u>" " well ran dry at 1 gal on 3rd WV</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: Installed new bailer & string

Certification:

Tyler Lellis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-13
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 3/22/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 0810
 Top of casing to water level ft 5.39 Gallons per well volume gal 9.59
 Top of casing to bottom ft 20.14 Total gallons evacuated gal 21.5
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[μS]	
0	15.6	4.30	919	clear, vinegar smel
1	16.5	4.68	915	" "
2	17.2	4.67	1226	" "
3	17.1	4.80	1257	slight brown tint, well ran dry at 2.5 gal

GENERAL INFORMATION

Weather conditions at time of sampling: _____
 Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: Installed new bailer & string

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 14
 Sampling Personnel Christina Sellers

MONITORING WELL INFORMATION

Evacuation Date 3/20/17 Method of Evacuation Mini-Monobon
 Evacuation Time 17:19
 Top of casing to water level ft 6.11 Gallons per well volume gal 8.09
 Top of casing to bottom ft 18.55 Total gallons evacuated gal 24.921
 Sampling Date/Time 3/21/17 13:09 Method of Sampling _____

SAMPLE DATA

<u>WV</u>	Temperature[°C]	pH	Conductivity[µS]	
<u>0</u>	<u>21.0</u>	<u>5.03</u>	<u>500</u>	<u>clear</u>
<u>1</u>	<u>20.1</u>	<u>5.28</u>	<u>459</u>	<u>clear</u>
<u>2</u>	<u>20.5</u>	<u>5.34</u>	<u>529</u>	<u>clear</u>
<u>3</u>	<u>20.6</u>	<u>5.43</u>	<u>479</u>	<u>clear</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Sunny, warm, no clouds, light breeze
 Sample characteristics: Clear, no discernable odor or SS

Containers and preservatives: 1 8oz plastic w/H₂SO₄, 1 4oz plastic w/no pres.

Comments and observations: Installed new bailer & string, Used new bailer to sample

Certification: *Christina Sellers*

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 15
 Sampling Personnel Tyler Collis

MONITORING WELL INFORMATION

Evacuation Date 3/22/17 Method of Evacuation Mini Monsoon
 Evacuation Time 08:48
 Top of casing to water level ft 4.85 Gallons per well volume gal 8.18
 Top of casing to bottom ft 17.44 Total gallons evacuated gal 24.6
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[µS]	
0	<u>16.5</u>	<u>4.40</u>	<u>107.5</u>	<u>clear</u>
1	<u>16.3</u>	<u>4.47</u>	<u>79.7µS</u>	<u>clear</u>
2	<u>16.8</u>	<u>4.46</u>	<u>81.9</u>	<u>clear</u>
3	<u>17.6</u>	<u>4.67</u>	<u>74.5</u>	<u>clear</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____
 Sample characteristics: _____
 Containers and preservatives: _____
 Comments and observations: Installed new bailer & string

Certification: Tyler Collis 

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-16
 Sampling Personnel Christina Sellers

MONITORING WELL INFORMATION

Evacuation Date 3/20/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 16:23
 Top of casing to water level ft 4.4 Gallons per well volume gal 9.87
 Top of casing to bottom ft 19.57 Total gallons evacuated gal 30
 Sampling Date/Time 3/21/17 13:33 Method of Sampling Bailer

SAMPLE DATA


WV	Temperature [°C]	pH	Conductivity [µS]	
0	22.3	4.49	122.1	clear
1	19.2	4.42	130.3	clear
2	19.5	4.54	140.2	clear
3	19.6	4.44	140.0	clear

GENERAL INFORMATION

Weather conditions at time of sampling: warm, no clouds, light breeze
 Sample characteristics: clear w/no discernable odor or SS

Containers and preservatives: 1 80z plastic w/H₂SO₄, 1 40z plastic w/no pres.

Comments and observations: Installed new bailer & string, used new bailer to sample

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 17
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 3/21/17 Method of Evacuation Mini-Mensoon
 Evacuation Time 12:35
 Top of casing to water level ft 28.11 Gallons per well volume gal 4.60
 Top of casing to bottom ft 35.19 Total gallons evacuated gal 13.5
 Sampling Date/Time 3/21/17 13:25 Method of Sampling Bailer

SAMPLE DATA

<u>WV</u>	<u>Temperature [°C]</u>	<u>pH</u>	<u>Conductivity [µS]</u>	<u>Appearance</u>	<u>Odor</u>
<u>0</u>	<u>23.2</u>	<u>6.28</u>	<u>282.6</u>	<u>clear</u>	<u>no odor</u>
<u>1</u>	<u>21.0</u>	<u>5.35</u>	<u>343.6</u>	<u>clear</u>	<u>no odor</u>
<u>2</u>	<u>20.2</u>	<u>5.03</u>	<u>283.2</u>	<u>" "</u>	<u>" "</u>
<u>3</u>	<u>20.3</u>	<u>4.60</u>	<u>259.8</u>	<u>" "</u>	<u>" "</u>

GENERAL INFORMATION

Weather conditions at time of sampling: warm, breezy, sunny, no clouds
 Sample characteristics: clear, no odor or SS

Containers and preservatives: 1 8oz plastic w/H₂SO₄, 1 4oz plastic w/no preservative

Comments and observations: Installed new bailer & string, used bailer (new one) to sample

Certification: Tyler Lollis

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 18
 Sampling Personnel Christina Sellers

MONITORING WELL INFORMATION

Evacuation Date 3/20/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 18:03
 Top of casing to water level ft 5.04 Gallons per well volume gal 7.97
 Top of casing to bottom ft 17.30 Total gallons evacuated gal 17.5
 Sampling Date/Time 3/21/17 13:57 Method of Sampling Bailer

SAMPLE DATA

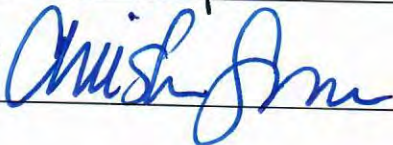
<u>WV</u>	<u>Temperature[°C]</u>	<u>pH</u>	<u>Conductivity[μS]</u>	
<u>0</u>	<u>23.9</u>	<u>5.31</u>	<u>83.6</u>	<u>light-brown, cloudy, vinegar smell</u>
<u>1</u>	<u>19.7</u>	<u>5.24</u>	<u>74.2</u>	<u>light-brown, turbid</u>
<u>2</u>	<u>20.2</u>	<u>5.32</u>	<u>81.0</u>	<u>light-brown, cloudy</u>
<u>3</u>	<u>18.8</u>	<u>5.35</u>	<u>87.0</u>	<u>cloudier than prev., well ran dry at 1.5 gal. on 3rd WV</u>

GENERAL INFORMATION

Weather conditions at time of sampling: warm, no clouds, light breeze
 Sample characteristics: cloudy, organics, no odor, clouds are whitish gray

Containers and preservatives: 1 4oz unpreserved plastic

Comments and observations: Installed new bailer & string, Used new bailer to sample

Certification: 

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 19
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 3/22/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 14:55
 Top of casing to water level ft 2.14 Gallons per well volume gal 13.75
 Top of casing to bottom ft 59.44 Total gallons evacuated gal 41.25
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[µS]	
0	<u>23.6</u>	<u>5.49</u>	<u>92.3</u>	<u>slight brown tint</u>
1	<u>20.0</u>	<u>5.47</u>	<u>88.1</u>	<u>mostly clear/slight brown tint</u>
2	<u>18.7</u>	<u>5.58</u>	<u>85.0</u>	<u>clear</u>
3	<u>19.1</u>	<u>5.52</u>	<u>86.0</u>	<u>" "</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: Installed new bailer & string

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 20
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION


Evacuation Date 3/22/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 16:27
 Top of casing to water level ft 27.59 Gallons per well volume gal 6.19
 Top of casing to bottom ft 53.38 Total gallons evacuated gal 8
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[μS]	
0	<u>22.3</u>	<u>5.18</u>	<u>128.7</u>	<u>clear</u>
1	<u>20.1</u>	<u>5.48</u>	<u>83.7</u>	<u>slight yellow tint</u>
2	<u>19.8</u>	<u>5.39</u>	<u>90.1</u>	<u>" " went dry at 2 gal</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____
 Sample characteristics: _____
 Containers and preservatives: _____
 Comments and observations: Installed new boiler & string

Certification: Tyler Lollis 

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 21
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 3/22/17 Method of Evacuation ~~Mini-Monsoon~~
Bailer
 Evacuation Time 15:39
 Top of casing to water level ft 16.78 Gallons per well volume gal 1.05
 Top of casing to bottom ft 30.43 Total gallons evacuated gal 0.75
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

<u>WV</u>	<u>Temperature [°C]</u>	<u>pH</u>	<u>Conductivity [µS]</u>	
<u>0</u>	<u>19.3</u>	<u>4.62</u>	<u>64.1</u>	<u>clear</u>
<u>.75</u>	<u>19.0</u>	<u>4.72</u>	<u>63.5</u>	<u>light brown/golden tint</u>
				<u>↳ well ran dry at 0.75 gal</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____
 Sample characteristics: _____
 Containers and preservatives: _____
 Comments and observations: Installed new bailer & string, used new bailer to ~~so~~ evacuate

Certification: Tyler Lollis Chris Jm

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 22
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION


Evacuation Date 3/28/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 09:25
 Top of casing to water level ft 5.50 Gallons per well volume gal 17.73
 Top of casing to bottom ft 79.38 Total gallons evacuated gal 53
 Sampling Date/Time _____ Method of Sampling _____

SAMPLE DATA

WV	Temperature [°C]	pH	Conductivity [µS]	
0	<u>16.2</u>	<u>5.68</u>	<u>166.3</u>	<u>clear, no odor</u>
1 1/2	<u>18.1</u>	<u>5.32</u>	<u>150.5</u>	<u>clear, no odor</u>
2	<u>17.8</u>	<u>5.58</u>	<u>151.1</u>	<u>clear, no odor</u>
3	<u>18.2</u>	<u>5.64</u>	<u>151.1</u>	<u>clear, no odor</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____
 Sample characteristics: _____
 Containers and preservatives: _____
 Comments and observations: Installed new bailer & string

Certification: Tyler Lollis 

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 6
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 5/1/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 1017
 Top of casing to water level ft 4.21 Gallons per well volume gal 11.71
 Top of casing to bottom ft 22.22 Total gallons evacuated gal 36.00
 Sampling Date/Time 5/1/17 1049 Method of Sampling Beiler

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[μS]	
0	<u>18.4</u>	<u>3.91</u>	<u>38.60ms</u>	<u>clear, no odor</u>
1	<u>18.7</u>	<u>3.80</u>	<u>52.60ms</u>	<u>clear, no odor</u>
2	<u>18.4</u>	<u>3.79</u>	<u>51.40ms</u>	<u>clear, no odor</u>
3	<u>18.4</u>	<u>3.79</u>	<u>51.20ms</u>	<u>clear, no odor</u>

GENERAL INFORMATION

Weather conditions at time of sampling: clear, cool, light breeze, sunny
 Sample characteristics: clear, no discernable odor or SS.

Containers and preservatives: (2) 1002 Amber w/H₂SO₄, (2) 500 mL plastic unpreserved

Comments and observations: DUP taken here

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 7
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 5/1/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 0931
 Top of casing to water level ft 6.77 Gallons per well volume gal 11.88
 Top of casing to bottom ft 25.05 Total gallons evacuated gal 36.00
 Sampling Date/Time 10.02 Method of Sampling Bailer

SAMPLE DATA

<u>WV</u>	<u>Temperature[°C]</u>	<u>pH</u>	<u>Conductivity[μS]</u>	
<u>0</u>	<u>17.9</u>	<u>5.67</u>	<u>34.64 mS</u>	<u>slightly cloudy, no odor</u>
<u>1</u>	<u>17.9</u>	<u>5.49</u>	<u>58.8 mS</u>	<u>slight yellow tint, no odor</u>
<u>2</u>	<u>17.9</u>	<u>5.10</u>	<u>36.70 mS</u>	<u>clear, no odor</u>
<u>3</u>	<u>18.0</u>	<u>5.51</u>	<u>35.83 mS</u>	<u>clear, no odor</u>

GENERAL INFORMATION

Weather conditions at time of sampling: mild breeze, cool, sunny, no clouds
 Sample characteristics: clear, no discernable odor or SS

Containers and preservatives: (1) 16 oz Amber w/H₂SO₄, (1) 500 mL plastic unpreserved

Comments and observations: _____

Certification: Tyler Lollis

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-8
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 5/1/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 0826
 Top of casing to water level ft 6.69 Gallons per well volume gal 15.22
 Top of casing to bottom ft 30.11 Total gallons evacuated gal 46.00
 Sampling Date/Time 0917 5/1/17 Method of Sampling Railer

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[µS]			
0	<u>18.0</u>	<u>3.84</u>	<u>19.01mS</u>	<u>clear, no discernable odor</u>		
1	<u>17.8</u>	<u>3.65</u>	<u>37.62mS</u>	<u>"</u>	<u>"</u>	
2	<u>17.2</u>	<u>3.71</u>	<u>36.19mS</u>	<u>"</u>	<u>"</u>	
3	<u>18.8</u>	<u>3.70</u>	<u>38.12mS</u>	<u>"</u>	<u>"</u>	

GENERAL INFORMATION

Weather conditions at time of sampling: clear, no clouds, light breeze, cool
 Sample characteristics: clear, no discernable odor or SS

Containers and preservatives: (1) 10 oz Amber w/H₂SO₄, (1) 500 mL plastic unpreserved

Comments and observations: _____

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 1
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 0836 Pump
 Top of casing to water level ft 12.64 Gallons per well volume gal 6.40
 Top of casing to bottom ft 22.48 Total gallons evacuated gal 16.8
 Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[µS]	
0	<u>19.9</u>	<u>4.02</u>	<u>83.7</u>	<u>clear, no odor</u>
1	<u>20.0</u>	<u>4.45</u>	<u>42.6</u>	<u>" "</u>
2	<u>19.5</u>	<u>4.79</u>	<u>44.4</u>	<u>" "</u>
<u>2WV + 4 gal</u>	<u>19.4</u>	<u>4.82</u>	<u>44.6</u>	<u>light brown tint, ran dry</u>

GENERAL INFORMATION

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

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 2
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 0900 Pump
 Top of casing to water level ft 0.13 Gallons per well volume gal 20.4
 Top of casing to bottom ft 20.53 Total gallons evacuated gal 24.4
 Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[μS]	
0	19.7	4.46	258.9	very light brown tint no odor
1	19.7	4.87	268.2	milky grey color, salty odor
1WV + 4 gal	19.6	5.26	334.9	" " ran dry

GENERAL INFORMATION

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

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 3
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Win-Monsoon
 Evacuation Time 0929 Pump
 Top of casing to water level ft 9.23 Gallons per well volume gal 11.54
 Top of casing to bottom ft 27.49 Total gallons evacuated gal 21.5
 Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

<u>WV</u>	<u>Temperature [°C]</u>	<u>pH</u>	<u>Conductivity [µS]</u>	<u>Notes</u>
<u>0</u>	<u>20.4</u>	<u>5.02</u>	<u>207.6</u>	<u>clear, no odor</u>
<u>1</u>	<u>19.2</u>	<u>5.37</u>	<u>232.0</u>	<u>" "</u>
<u>wv + 10 gal</u>	<u>19.3</u>	<u>5.66</u>	<u>232.1</u>	<u>" " w/ some black ss, ran dry</u>

GENERAL INFORMATION

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

Certification: Tyler Lollis

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 4
 Sampling Personnel C Sellers

MONITORING WELL INFORMATION

Evacuation Date 9-11-17 Method of Evacuation Mini-Monsoon Pump
 Evacuation Time 1025
 Top of casing to water level ft 8.54 Gallons per well volume gal 9.04
 Top of casing to bottom ft 22.36 Total gallons evacuated gal 15.0
 Sampling Date/Time 9/12/17 0848 Method of Sampling Bailer

SAMPLE DATA

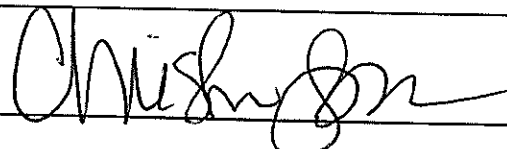
	Temperature[°C]	pH	Conductivity[μS]	
0	<u>24.4</u>	<u>3.80</u>	<u>5.73mS</u>	<u>clear, salty odor</u>
1	<u>21.2</u>	<u>3.63</u>	<u>6.50mS</u>	<u>" " "</u>
1WV + 6 gal	<u>21.1</u>	<u>3.59</u>	<u>6.51mS</u>	<u>" " ran dry</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Cool, cloudy & overcast, light breeze, light humidity
 Sample characteristics: Clear, w/ some brown & black suspended solids

Containers and preservatives: 1 x 4oz plastic w/ H₂SO₄, 1 x 4oz plastic unpres

Comments and observations: _____

Certification: 

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 5
 Sampling Personnel C Sellers

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 17:36 Pump
 Top of casing to water level ft 4.08 Gallons per well volume gal 9.04
 Top of casing to bottom ft 17.98 Total gallons evacuated gal 27.00
 Sampling Date/Time 9/12/17 0924 Method of Sampling Bailer

SAMPLE DATA

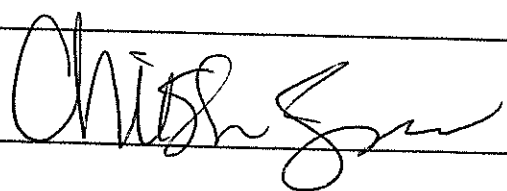
<u>W</u>	<u>Temperature[°C]</u>	<u>pH</u>	<u>Conductivity[μS]</u>	<u></u>
<u>0</u>	<u>23.6</u>	<u>4.12</u>	<u>691</u>	<u>clear, no odor</u>
<u>1</u>	<u>22.3</u>	<u>4.14</u>	<u>695</u>	<u>" "</u>
<u>2</u>	<u>21.8</u>	<u>4.31</u>	<u>647</u>	<u>" "</u>
<u>3</u>	<u>22.1</u>	<u>4.41</u>	<u>651</u>	<u>" "</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Cool, cloudy & overcast, light breeze, light humidity
 Sample characteristics: Clear, no odor

Containers and preservatives: 1x4oz plastic w/ H₂SO₄, 1x4oz plastic unpres

Comments and observations: _____

Certification: 

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 6
 Sampling Personnel _____

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 11:22 Pump
 Top of casing to water level ft 4.31 Gallons per well volume gal 11.71
 Top of casing to bottom ft 22.32 Total gallons evacuated gal 35.1
 Sampling Date/Time 9/12/17 0908 Method of Sampling Bailer

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[µS]
0	<u>22.4</u>	<u>3.26</u>	<u>46.39 mS</u>
1	<u>22.4</u>	<u>3.41</u>	<u>44.39 mS</u>
2	<u>22.4</u>	<u>3.38</u>	<u>44.32 mS</u>
3	<u>22.4</u>	<u>3.42</u>	<u>44.85 mS</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Cool, cloudy & overcast, light breeze, light humidity
 Sample characteristics: Clear, no odor

Containers and preservatives: 1 x 4oz plastic w/ H₂SO₄, 1 x 4oz plastic unpres.

Comments and observations: _____

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 7
 Sampling Personnel CSSellers

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 11:15 Pump
 Top of casing to water level ft 6.73 Gallons per well volume gal 11.9
 Top of casing to bottom ft 25.06 Total gallons evacuated gal 36.0
 Sampling Date/Time 9/12/17 0857 Method of Sampling Boiler

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[µS]		
0	<u>24.9</u>	<u>4.40</u>	<u>6.73ms</u>	<u>clear</u>	<u>no odor</u>
1	<u>21.2</u>	<u>4.54</u>	<u>18.74ms</u>	<u>✓</u>	<u>ll</u>
2	<u>21.7</u>	<u>5.39</u>	<u>27.45ms</u>	<u>✓</u>	<u>ll</u>
3	<u>21.7</u>	<u>5.44</u>	<u>28.37ms</u>	<u>✓</u>	<u>ll</u>

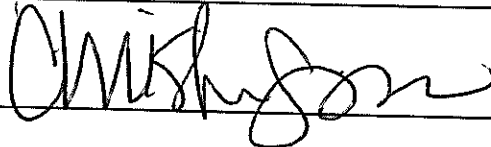
GENERAL INFORMATION

Weather conditions at time of sampling: Cool, cloudy & overcast, light breeze, light humidity

Sample characteristics: Clear w/ slight yellow/brown tint, no odor

Containers and preservatives: 1 X 4oz plastic w/H₂SO₄, 1 X 4oz plastic unpres

Comments and observations: Duplicate sample pulled here; strong skunk odor in area

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 8
 Sampling Personnel C. Sellers

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 0936 Pump
 Top of casing to water level ft 6.67 Gallons per well volume gal 15.24
 Top of casing to bottom ft 30.12 Total gallons evacuated gal 45.75
 Sampling Date/Time 9/12/17 0857 Method of Sampling Bailer

SAMPLE DATA

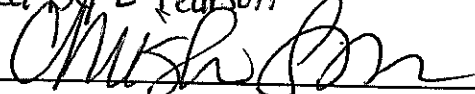
WV	Temperature[°C]	pH	Conductivity[µS]			
0	<u>23.7</u>	<u>3.64</u>	<u>15.83 mS</u>	<u>clear</u>	<u>vinegar</u>	<u>odor</u>
1	<u>21.0</u>	<u>3.54</u>	<u>26.48 mS</u>	<u>"</u>	<u>"</u>	<u>"</u>
2	<u>21.2</u>	<u>3.51</u>	<u>30.02 mS</u>	<u>"</u>	<u>"</u>	<u>"</u>
	<u>21.4</u>	<u>3.50</u>	<u>31.51 mS</u>	<u>"</u>	<u>"</u>	<u>"</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Cool, cloudy & overcast, light breeze, light humidity
 Sample characteristics: Clear, no odor

Containers and preservatives: 1 x 4oz plastic w/H₂SO₄, 1 x 4oz plastic in pres

Comments and observations: Well cap COVERED in fire ants. Knocked ants off well cap, pulled sample. Replaced well cap, sprayed ants w/spray provided by E Pearson

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 9
 Sampling Personnel C. Sellers

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation mini monsoon
 Evacuation Time 0930 Pump
 Top of casing to water level ft 10.23 Gallons per well volume gal 13.05
 Top of casing to bottom ft 30.31 Total gallons evacuated gal 40
 Sampling Date/Time 9/12/17 0842 Method of Sampling Bailer

SAMPLE DATA

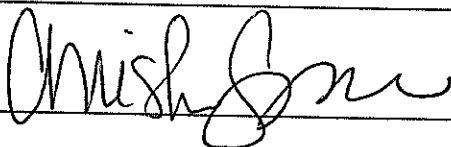
	Temperature[°C]	pH	Conductivity[μS]		
0	<u>20.4</u>	<u>4.68</u>	<u>2016</u>		
1	<u>21.3</u>	<u>4.52</u>	<u>2035</u>		
2	<u>21.3</u>	<u>4.96</u>	<u>2006</u>		
3	<u>22.8</u>	<u>5.05</u>	<u>2053</u>		

GENERAL INFORMATION

Weather conditions at time of sampling: Cool, cloudy & overcast, light breeze, light humidity
 Sample characteristics: Clear, no odor

Containers and preservatives: 1x 4oz plastic w/H₂SO₄, 1x 4oz plastic unpres

Comments and observations: _____

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 10
 Sampling Personnel _____

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 12:38 Pump
 Top of casing to water level ft 14.11 Gallons per well volume gal 5.72
 Top of casing to bottom ft 22.92 Total gallons evacuated gal 12.0
 Sampling Date/Time 9/12/17 0830 Method of Sampling Bailer

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[μS]	
0	<u>25.9</u>	<u>4.18</u>	<u>1184</u>	<u>clear, no odor</u>
1	<u>22.9</u>	<u>4.17</u>	<u>809</u>	<u>slightly cloudy, no odor</u>
2	<u>22.9</u>	<u>4.26</u>	<u>862</u>	<u>light grey tint, no odor; ran dry</u>

GENERAL INFORMATION

Weather conditions at time of sampling: cool, cloudy & overcast, light breeze, light humidity

Sample characteristics: clear, no odor

Containers and preservatives: 1 x 4oz plastic w/H₂SO₄, 1 x 4oz plastic unpres.

Comments and observations: _____

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 11
 Sampling Personnel C Sellers

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 13:51 Pump
 Top of casing to water level ft 10.49 Gallons per well volume gal 0.26
 Top of casing to bottom ft 20.12 Total gallons evacuated gal 18.75
 Sampling Date/Time 9/12/17 0819 Method of Sampling Bailer

SAMPLE DATA

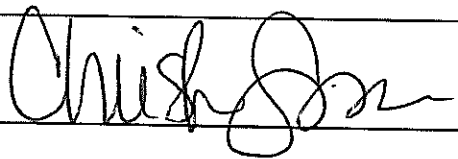
WV	Temperature [°C]	pH	Conductivity [µS]		
0	<u>23.8</u>	<u>4.55</u>	<u>700 µS</u>	<u>clear, no odor</u>	
1	<u>22.9</u>	<u>4.21</u>	<u>746</u>	<u>" "</u>	
2	<u>22.9</u>	<u>4.08</u>	<u>831</u>	<u>" "</u>	<u>solid</u>
3	<u>23.2</u>	<u>4.03</u>	<u>919</u>	<u>clear w/small</u>	<u>black particles</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Cool, cloudy & overcast, light breeze, light
 Sample characteristics: Clear, no odor, some organics (dead ants) humidity

Containers and preservatives: 1x 4oz plastic w/H₂SO₄, 1x 4oz plastic
unpres.

Comments and observations: _____

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 12
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 10:02 Pump
 Top of casing to water level ft 5.50 Gallons per well volume gal 9.59
 Top of casing to bottom ft 20.25 Total gallons evacuated gal 21.0
 Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[μS]	
0	<u>23.4</u>	<u>4.96</u>	<u>509.0</u>	<u>clear, no odor</u>
1	<u>23.2</u>	<u>5.43</u>	<u>611.0</u>	<u>" "</u>
2	<u>22.6</u>	<u>5.84</u>	<u>768</u>	<u>light brown tint</u>
<u>mw + 2 gal</u>	<u>22.5</u>	<u>5.97</u>	<u>640</u>	<u>light brown/orange color, ran dry</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 13
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 10:29 Pump
 Top of casing to water level ft 6.51 Gallons per well volume gal 8.86
 Top of casing to bottom ft 20.14 Total gallons evacuated gal 19.5
 Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

<u>WV</u>	<u>Temperature[°C]</u>	<u>pH</u>	<u>Conductivity[μS]</u>	
<u>0</u>	<u>21.2</u>	<u>4.65</u>	<u>1069</u>	<u>clear, no odor</u>
<u>1</u>	<u>22.9</u>	<u>4.74</u>	<u>577</u>	<u>" "</u>
<u>2</u>	<u>21.1</u>	<u>4.93</u>	<u>1379</u>	<u>" "</u>
<u>2WV + 2 gal</u>	<u>21.7</u>	<u>5.04</u>	<u>1248</u>	<u>light brown tint, can dry</u>

GENERAL INFORMATION

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

Certification: Tyler Lollis

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 14
 Sampling Personnel C Sellers

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 16:34 Pump
 Top of casing to water level ft 6.14 Gallons per well volume gal 8.07
 Top of casing to bottom ft 18.55 Total gallons evacuated gal 24.0
 Sampling Date/Time 9/12/17 07:32 Method of Sampling Bailer

SAMPLE DATA

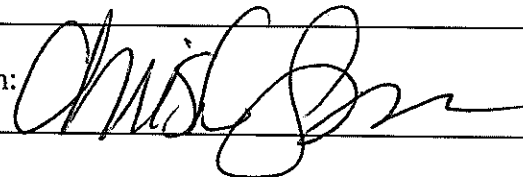
WV	Temperature[°C]	pH	Conductivity[μS]	
0	<u>26.3</u>	<u>4.51</u>	<u>369.9</u>	<u>Clear, no odor</u>
1	<u>25.7</u>	<u>4.73</u>	<u>436.3</u>	<u>Clear, no odor</u>
2	<u>24.7</u>	<u>4.84</u>	<u>498.0</u>	<u>" "</u>
3	<u>23.9</u>	<u>4.62</u>	<u>503</u>	<u>" "</u>

GENERAL INFORMATION

Weather conditions at time of sampling: cool, light breeze, overcast & cloudy, light humidity
 Sample characteristics: Clear, no odor, no suspended solids

Containers and preservatives: ~~2x 4oz plastic, 1x w/H₂SO₄ (2 containers total)~~ CS S
1x 4oz plastic w/H₂SO₄, 1x 4oz plastic unpres

Comments and observations: Needs new lock

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 15
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Mini-Monsoon Pump
 Evacuation Time 10:53
 Top of casing to water level ft 5.43 Gallons per well volume gal 7.81
 Top of casing to bottom ft 17.44 Total gallons evacuated gal 18.1 gal
 Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

WV	Temperature [°C]	pH	Conductivity [µS]	
0	23.4	4.27	103.4	Clear, no odor
1	23.7	4.43	83	" "
2	22.5	4.43	79.8	" "
2WV + 2.5 gal	23.3	4.54	76	light brown tint, ran dry

GENERAL INFORMATION

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

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 16
 Sampling Personnel C Sellers

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 1611 Pump
 Top of casing to water level ft 4.92 Gallons per well volume gal 9.52
 Top of casing to bottom ft 19.57 Total gallons evacuated gal 28.5
 Sampling Date/Time 9/12/17 07:24 Method of Sampling Bailer

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[μS]	
0	<u>26.8</u>	<u>4.07</u>	<u>176.5</u>	<u>clear, no odor</u>
1	<u>24.6</u>	<u>4.06</u>	<u>129.9</u>	<u>" "</u>
2	<u>24.2</u>	<u>4.13</u>	<u>126.3</u>	<u>" "</u>
3	<u>24.5</u>	<u>4.13</u>	<u>133.6</u>	<u>" "</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Cool, light breeze, light humidity, cloudy & overcast
 Sample characteristics: Clear, no odor

Containers and preservatives: 2 x 4 oz plastic, 1 w/ H₂SO₄ (CSS)
1 x 4 oz plastic w/ H₂SO₄, 1 x 4 oz plastic unpres

Comments and observations: _____

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

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No: ECMW- 17
 Sampling Personnel C Sellers

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 17:00 Pump
 Top of casing to water level ft 28.9 Gallons per well volume gal 4.67
 Top of casing to bottom ft 35.19 Total gallons evacuated gal 13.5
 Sampling Date/Time 9/12/17, 07:12 Method of Sampling Bailer

SAMPLE DATA

WV	Temperature [°C]	pH	Conductivity [µS]	
0	<u>25.1</u>	<u>4.11</u>	<u>240.6</u>	<u>clear, no odor</u>
1	<u>20.9</u>	<u>5.24</u>	<u>207.6</u>	<u>" "</u>
2	<u>20.2</u>	<u>4.68</u>	<u>184.3</u>	<u>" "</u>
3	<u>19.9</u>	<u>4.32</u>	<u>195.9</u>	<u>" "</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Cool, overcast, light humidity, light breeze
 Sample characteristics: Clear, no odor, some suspended solids
 Containers and preservatives: ~~2 x 4oz plastic~~ 1 with CS8
1 x 4oz plastic with SO4, 1 x 4oz plastic, unpres.
 Comments and observations:

Certification: *[Signature]*

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 18
 Sampling Personnel C Sellers

MONITORING WELL INFORMATION

Evacuation Date 9/11/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 18:25 Pump
 Top of casing to water level ft 5.95 Gallons per well volume gal 7.38
 Top of casing to bottom ft 17.30 Total gallons evacuated gal 17.5
 Sampling Date/Time 9/12/17, 07:50 Method of Sampling Boiler

SAMPLE DATA

WV	Temperature [°C]	pH	Conductivity [µS]	
0	23.4	4.75	93.3	slightly cloudy grey
1	21.8	4.91	75.0	" " " "
2	20.7	5.03	76.1	milk light brown
WV + 2.5 gal	20.3	5.11	82.2	" " ran dry

GENERAL INFORMATION

Weather conditions at time of sampling: Cool, cloudy & overcast, light humidity
 Sample characteristics: cloudy, light brown, opaque, w/no odor

Containers and preservatives: 1x4oz plastic w/H₂SO₄, 1x4oz plastic unpres

Comments and observations: _____

Certification: *[Signature]*

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 19
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 13:53 Pump
 Top of casing to water level ft 2.52 Gallons per well volume gal 9.17
 Top of casing to bottom ft 59.44 Total gallons evacuated gal 27.33
 Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[μS]	
0	<u>23.9</u>	<u>4.87</u>	<u>86.7</u>	<u>clear, vinegar odor</u>
1	<u>20.4</u>	<u>5.31</u>	<u>84.9</u>	<u>clear, no odor</u>
2	<u>20.6</u>	<u>5.54</u>	<u>84.1</u>	<u>" "</u>
3	<u>21.1</u>	<u>5.55</u>	<u>83.2</u>	<u>" "</u>

GENERAL INFORMATION

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

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 20
 Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Mini-Monsoon
 Evacuation Time 14:25 Pump
 Top of casing to water level ft 28.34 Gallons per well volume gal 4.01
 Top of casing to bottom ft 58.38 Total gallons evacuated gal 4
 Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

<u>WV</u>	<u>Temperature[°C]</u>	<u>pH</u>	<u>Conductivity[µS]</u>	
<u>0</u>	<u>21.7</u>	<u>4.89</u>	<u>86.9</u>	<u>slightly cloudy grey, rotten egg smell</u>
<u>1</u>	<u>19.8</u>	<u>5.28</u>	<u>85.7</u>	<u>" " ran dry</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Certification: Tyler Lollis

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



GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 21
Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Bailing
Evacuation Time 14:41
Top of casing to water level ft 20.59 Gallons per well volume gal 0.78
Top of casing to bottom ft 30.43 Total gallons evacuated gal 0.78
Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[μS]	
0	<u>21.6</u>	<u>4.16</u>	<u>64.3</u>	<u>slight grey tint</u>
1	<u>20.4</u>	<u>4.18</u>	<u>61.4</u>	<u>" " can dry</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Certification: Tyler Lollis

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

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 22
Sampling Personnel Tyler Lollis

MONITORING WELL INFORMATION

Evacuation Date 9/13/17 Method of Evacuation Mini-Monsoon
Evacuation Time 11:21 Pump
Top of casing to water level ft 5.95 Gallons per well volume gal N/A 11.74
Top of casing to bottom ft 79.38 Total gallons evacuated gal 35.25
Sampling Date/Time N/A Method of Sampling N/A

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[μS]	
0	<u>24.1</u>	<u>5.12</u>	<u>166.7</u>	<u>clear, no odor</u>
1	<u>20.4</u>	<u>5.42</u>	<u>155.9</u>	<u>" "</u>
2	<u>20.2</u>	<u>5.53</u>	<u>142.6</u>	<u>" "</u>
3	<u>20.2</u>	<u>5.71</u>	<u>157.2</u>	<u>" "</u>

GENERAL INFORMATION

Weather conditions at time of sampling: _____

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

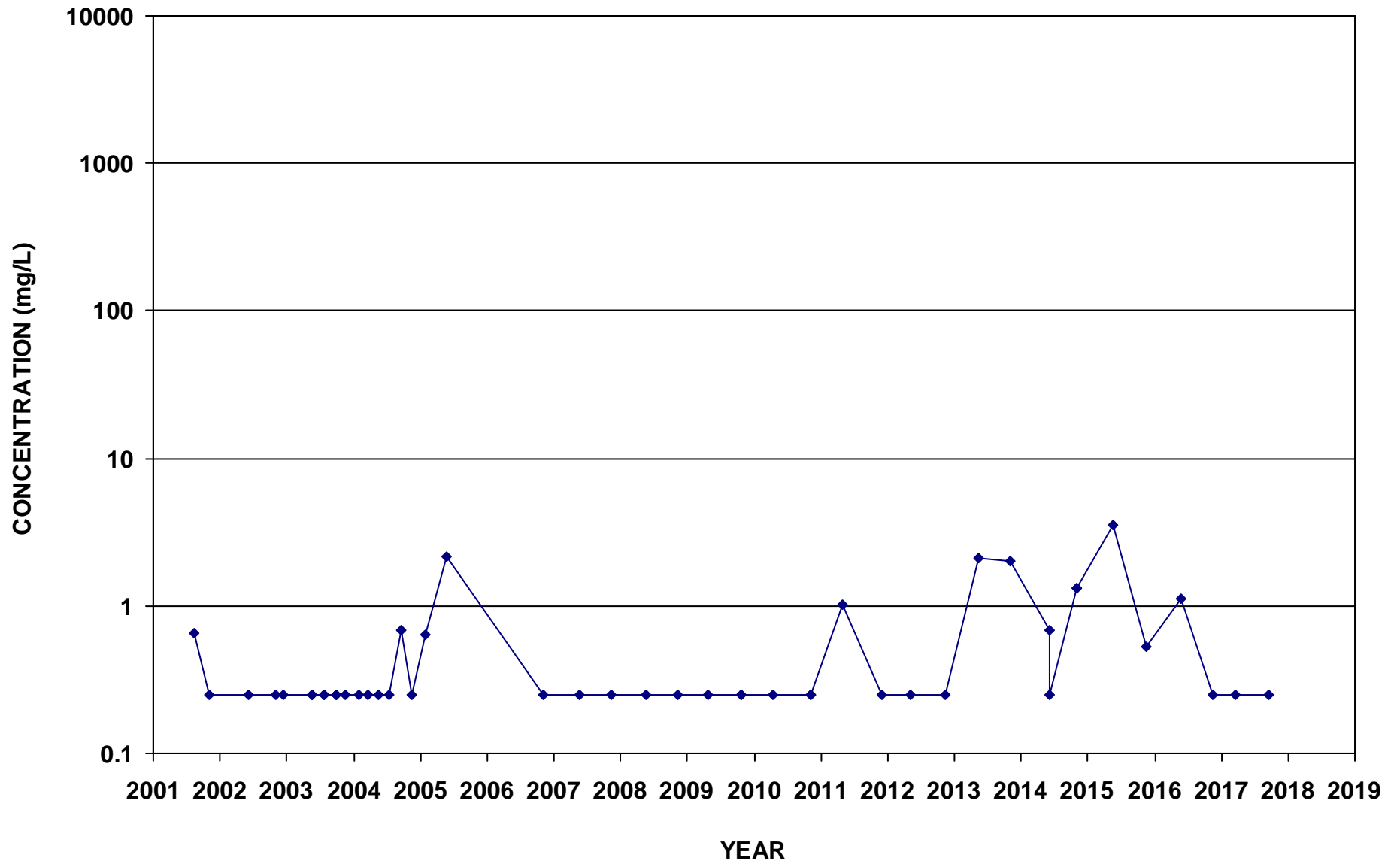
Certification: Tyler Lollis

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

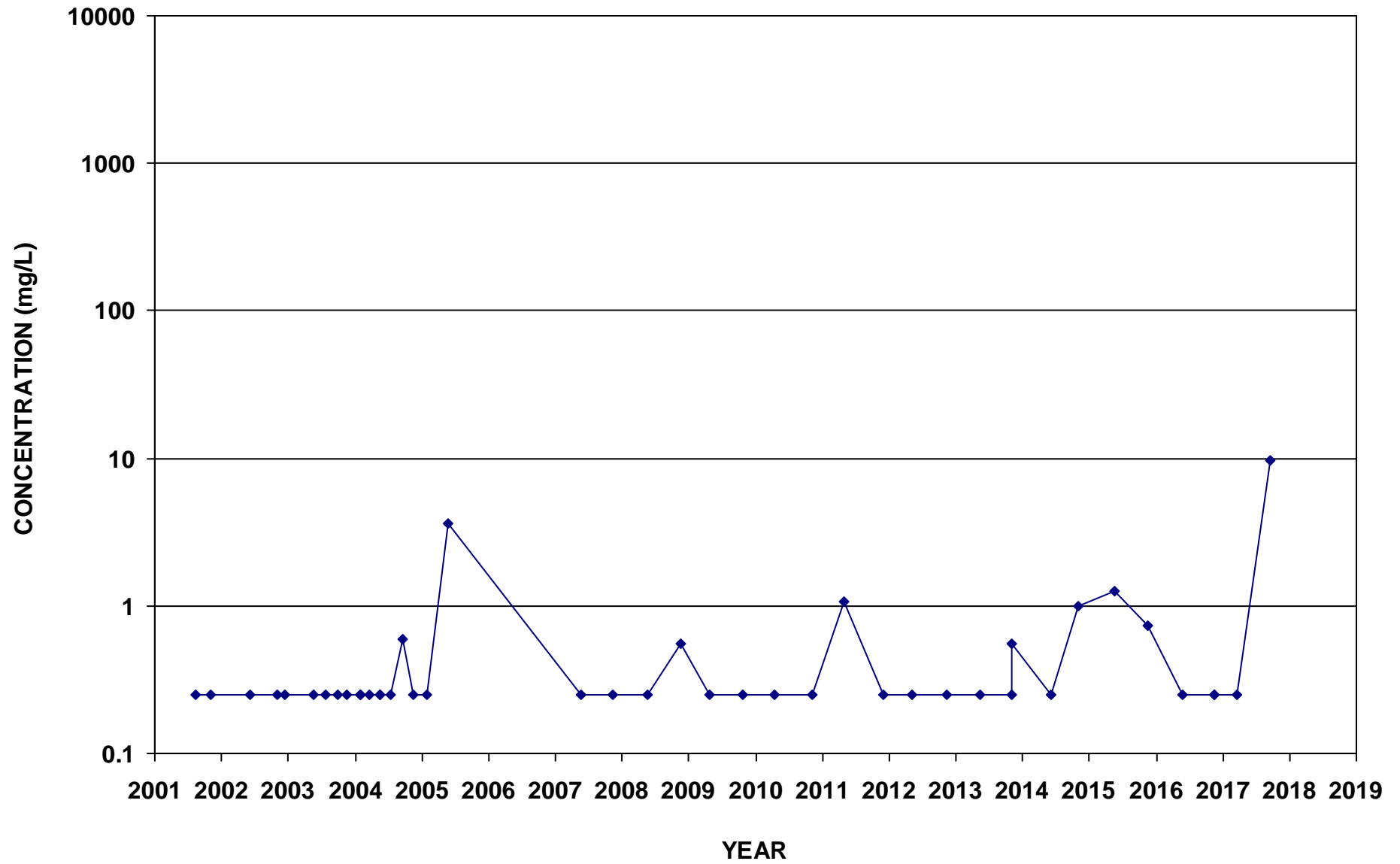
APPENDIX B

TREND GRAPHS

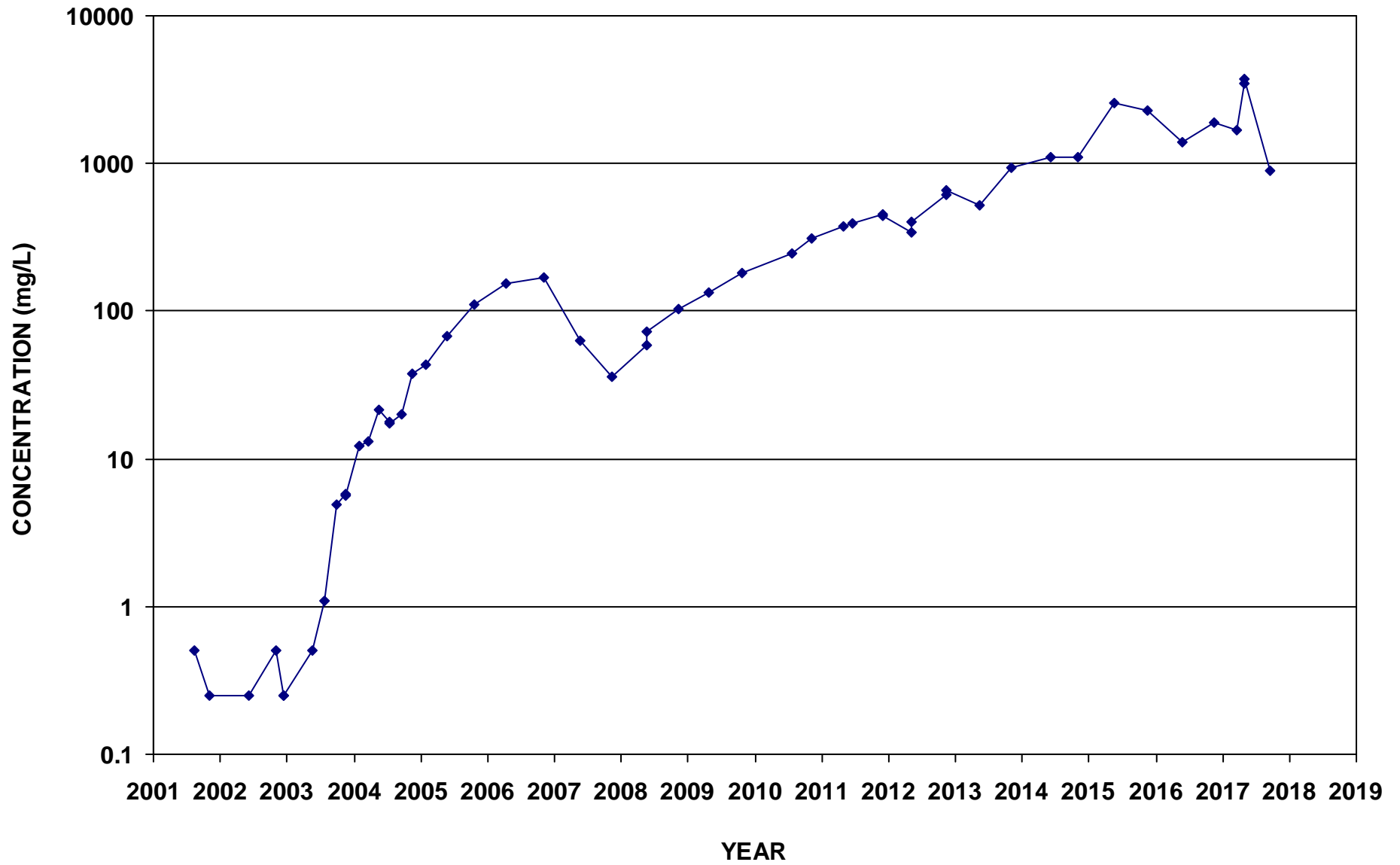
ECMW-4
Ammonia-N



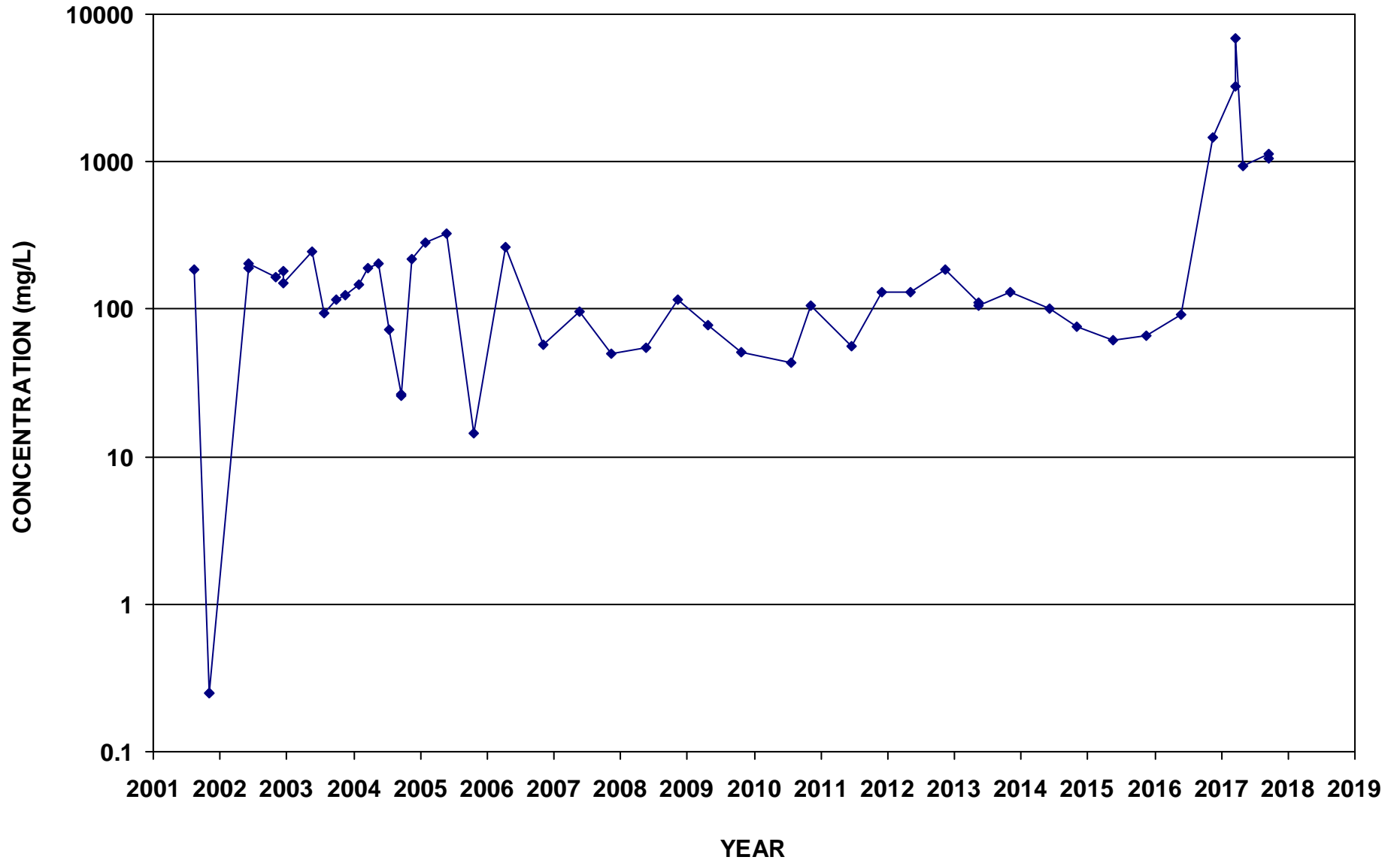
ECMW-5
Ammonia-N



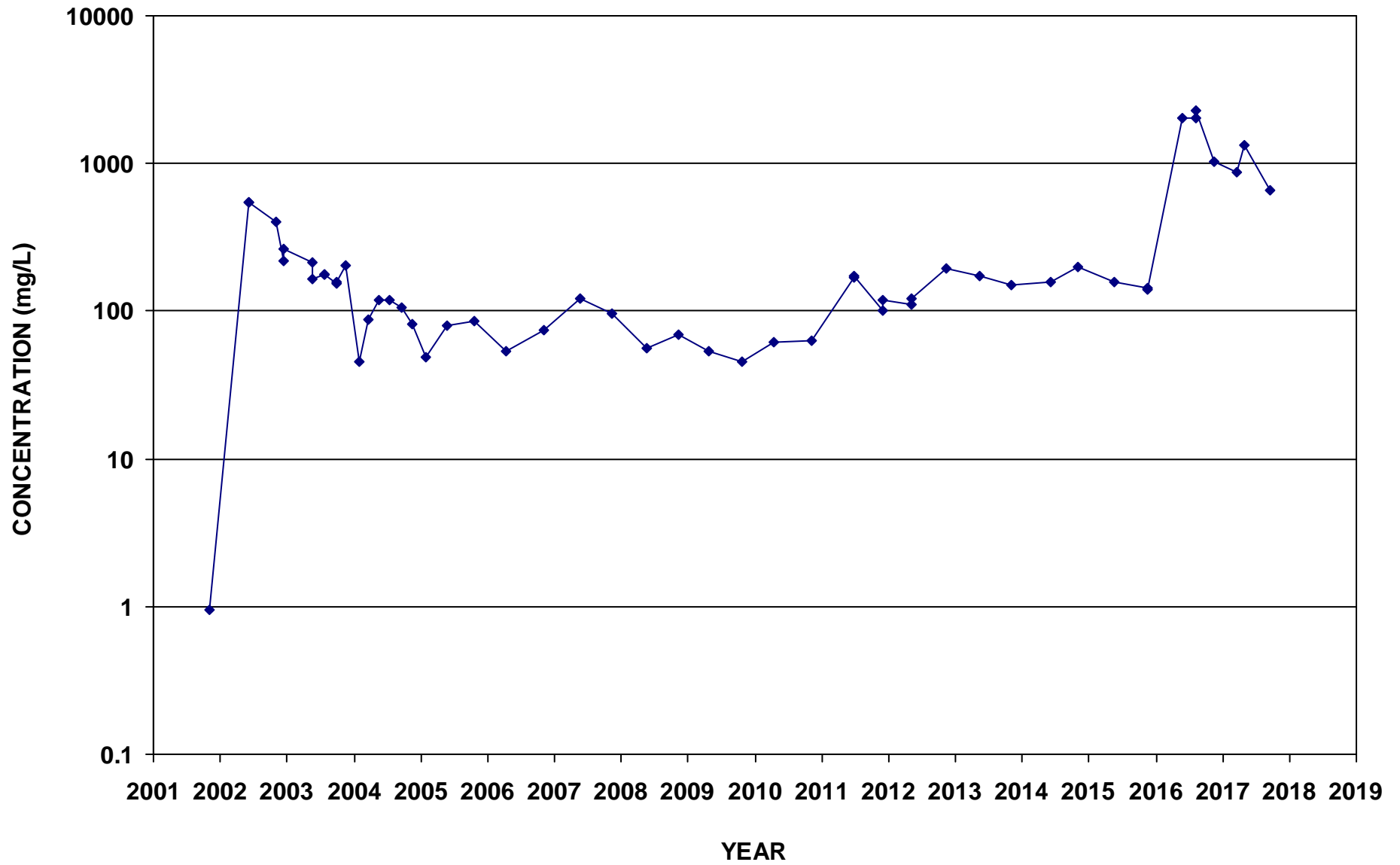
ECMW-6
Ammonia-N



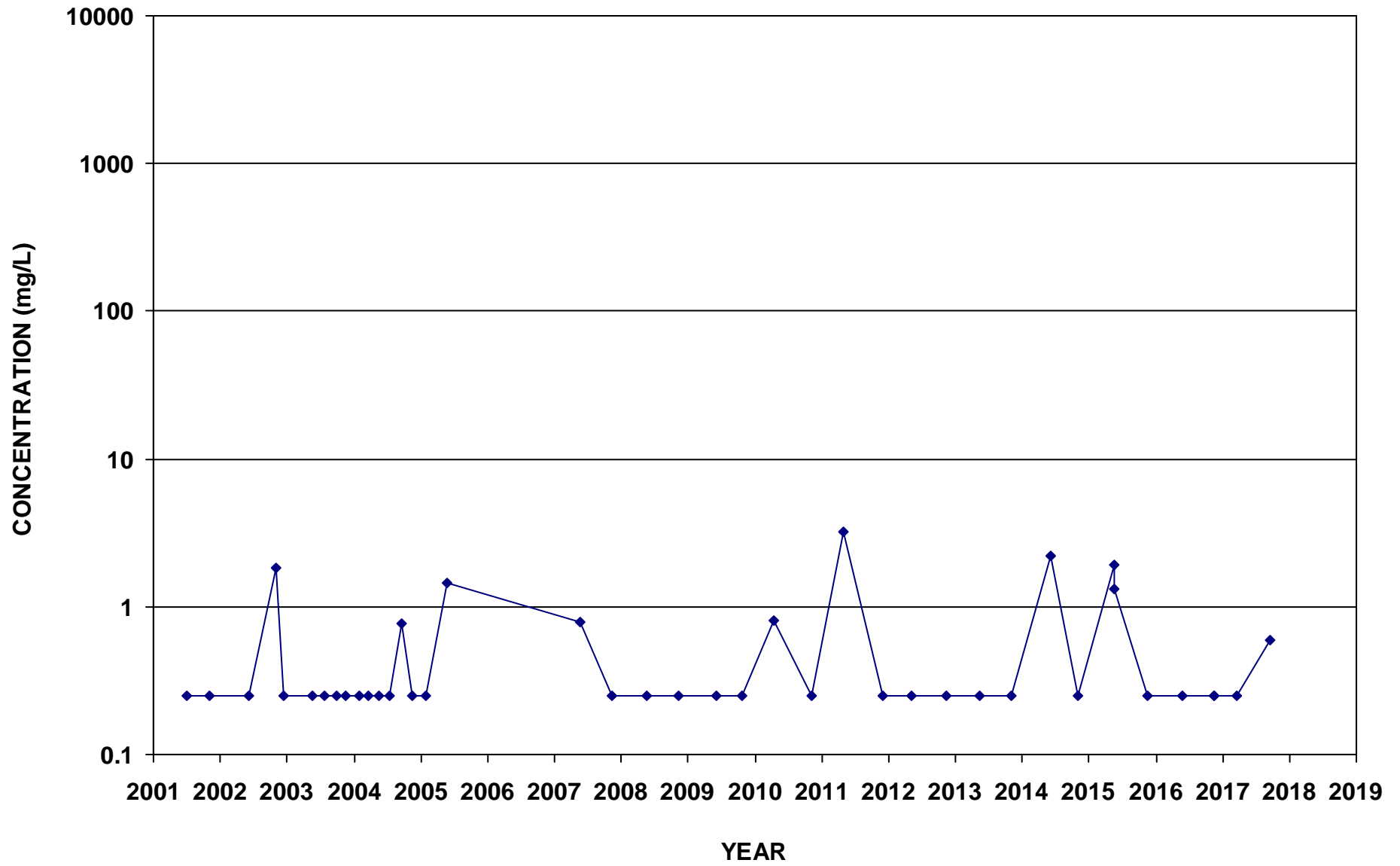
ECMW-7
Ammonia-N



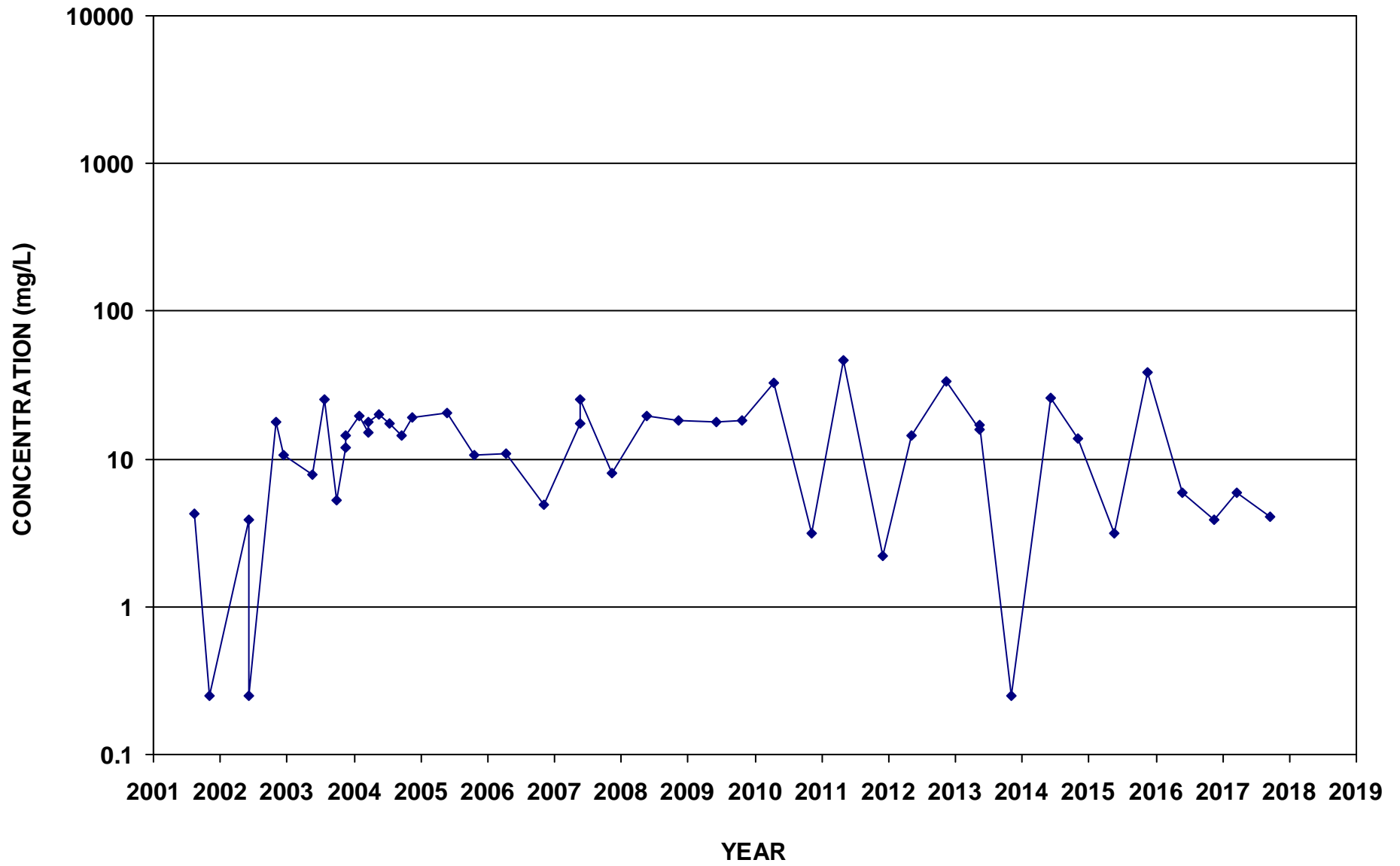
ECMW-8
Ammonia-N



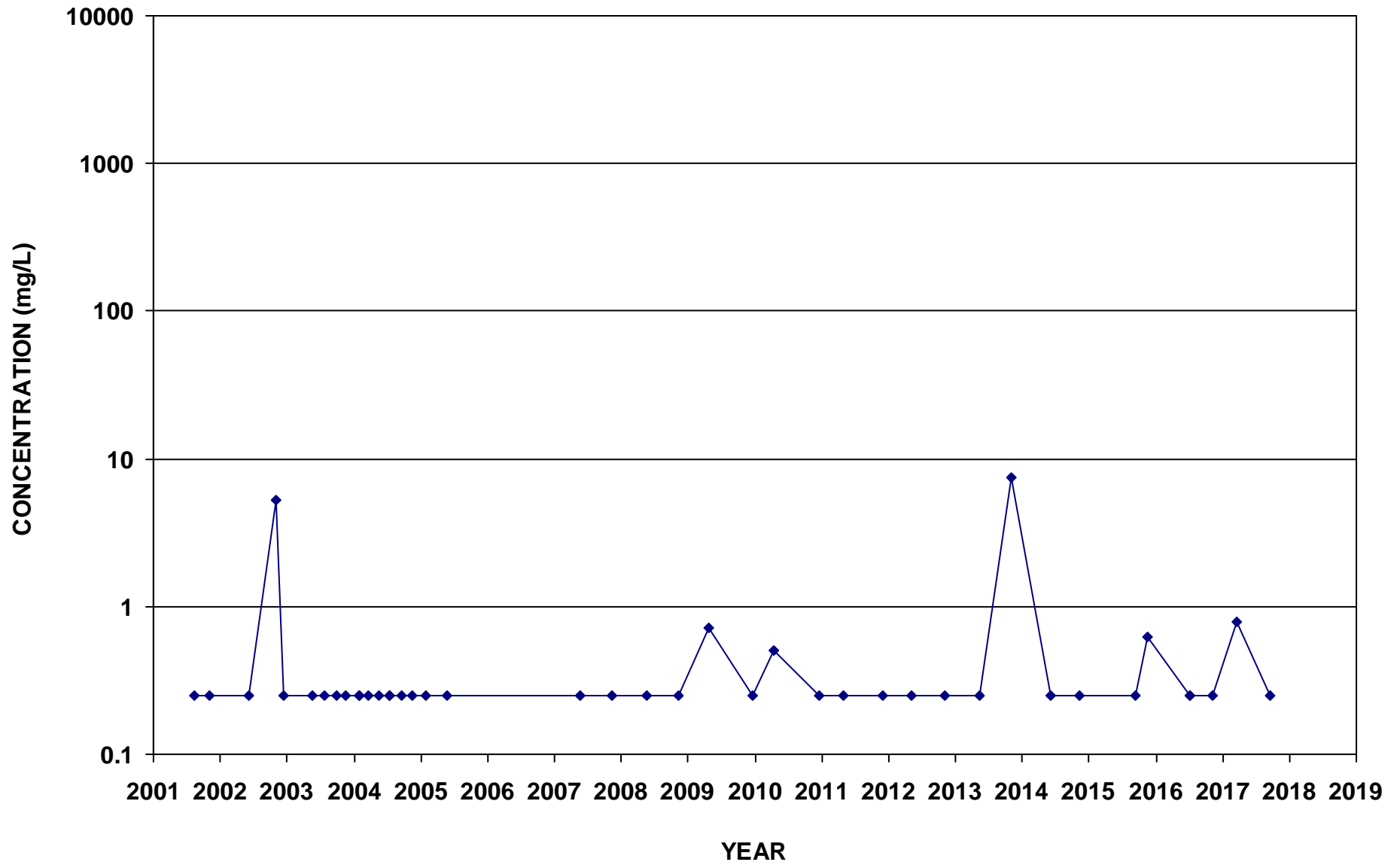
ECMW-10
Ammonia-N



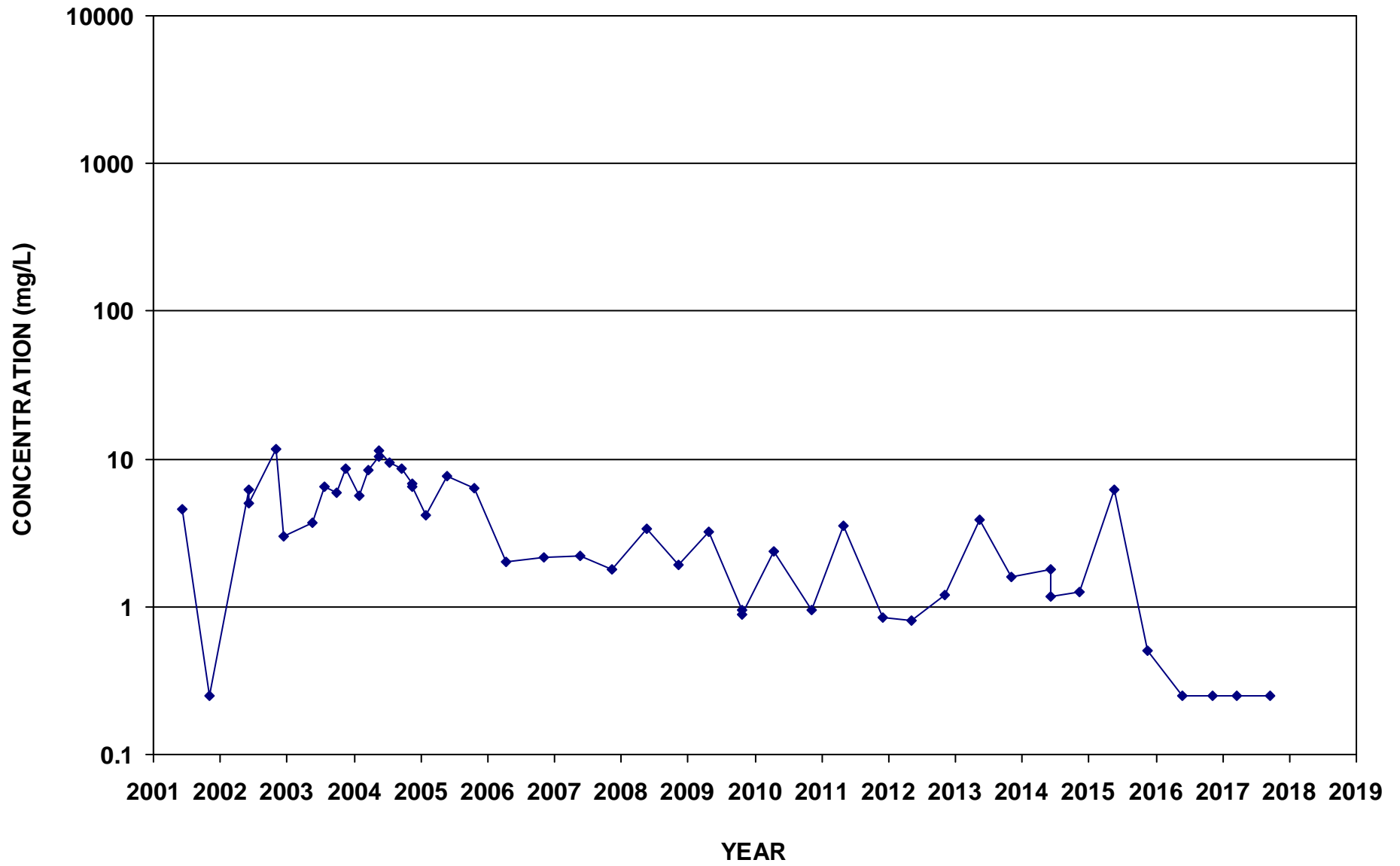
ECMW-11
Ammonia-N



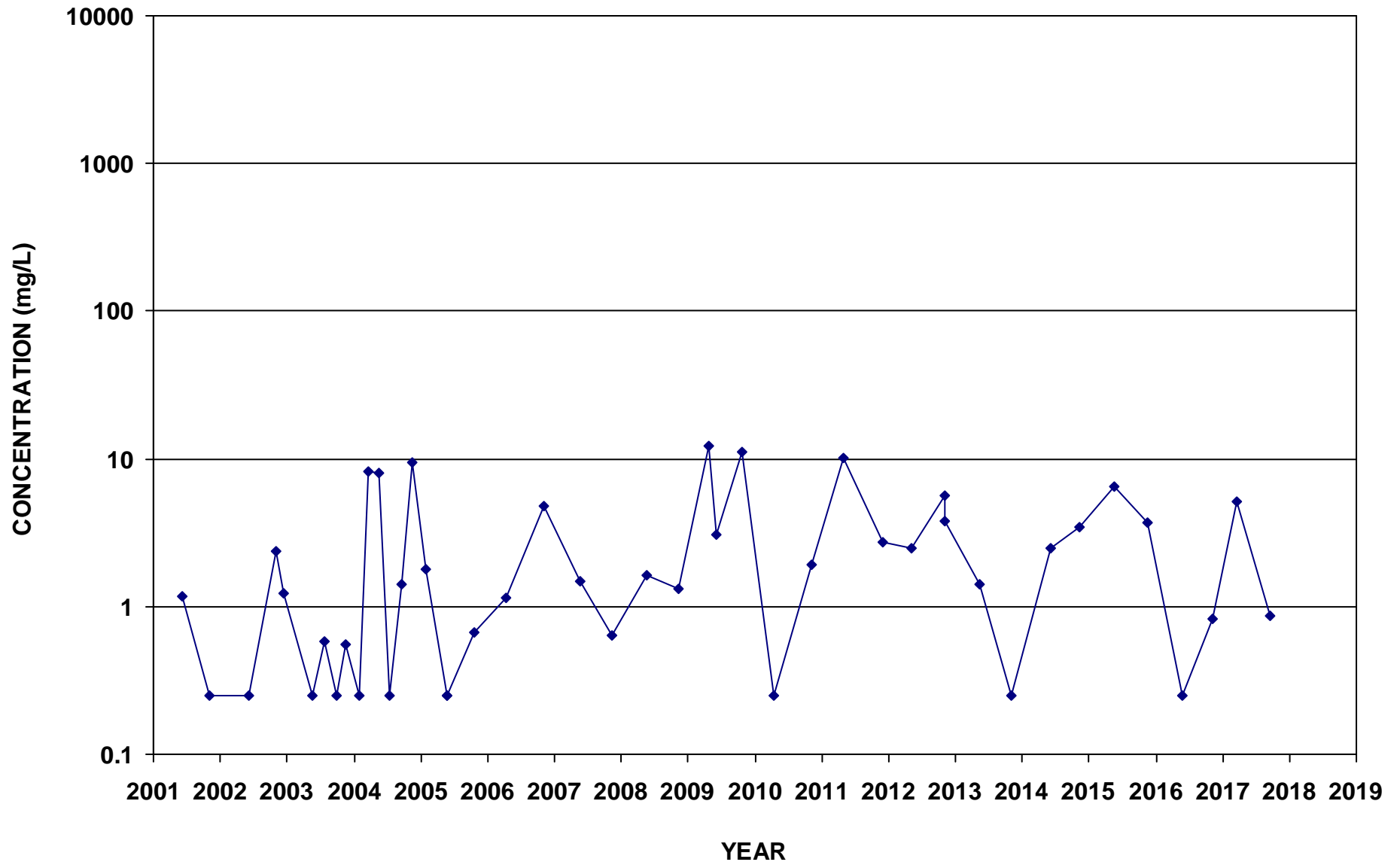
ECMW-14
Ammonia-N



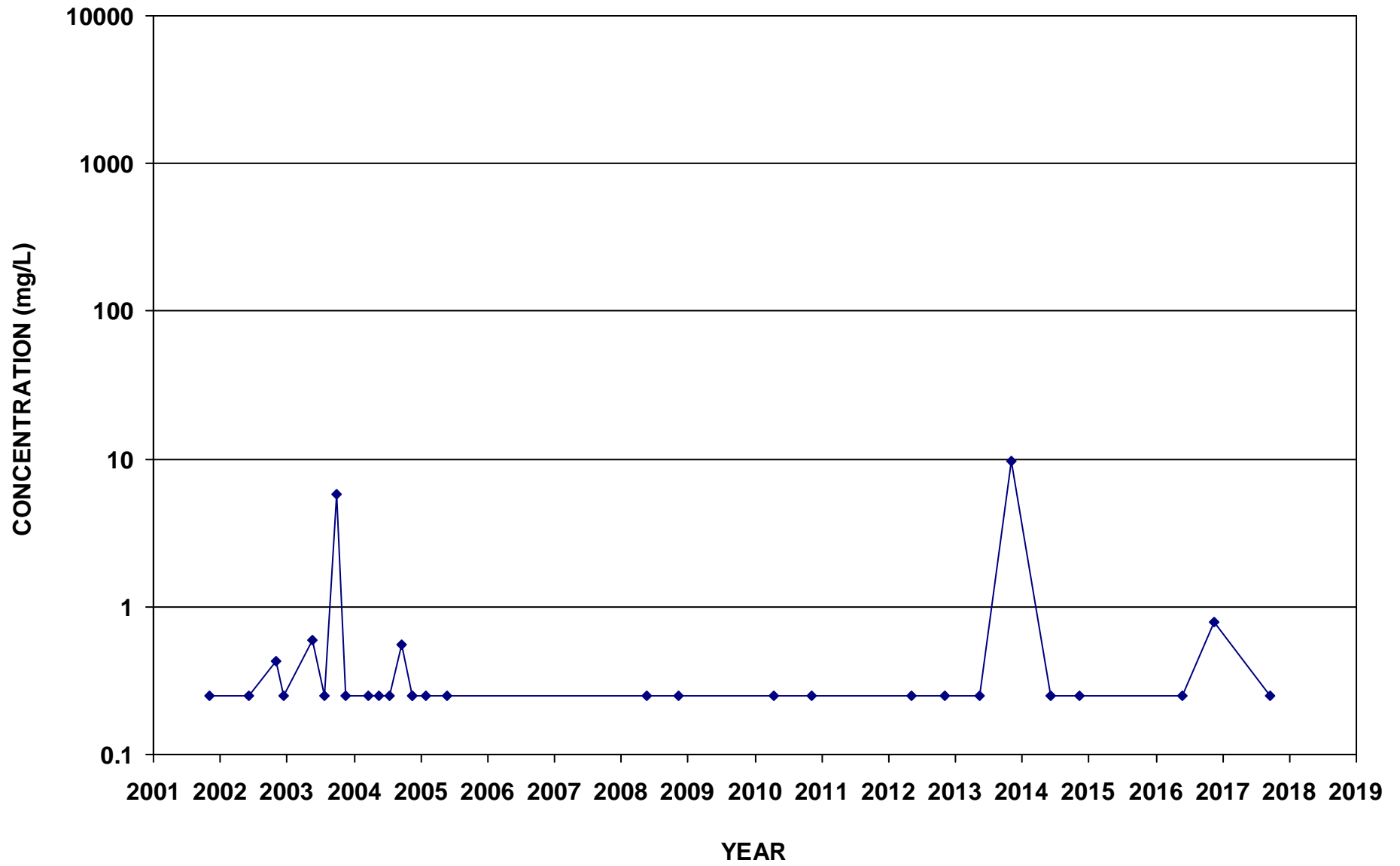
ECMW-16
Ammonia-N



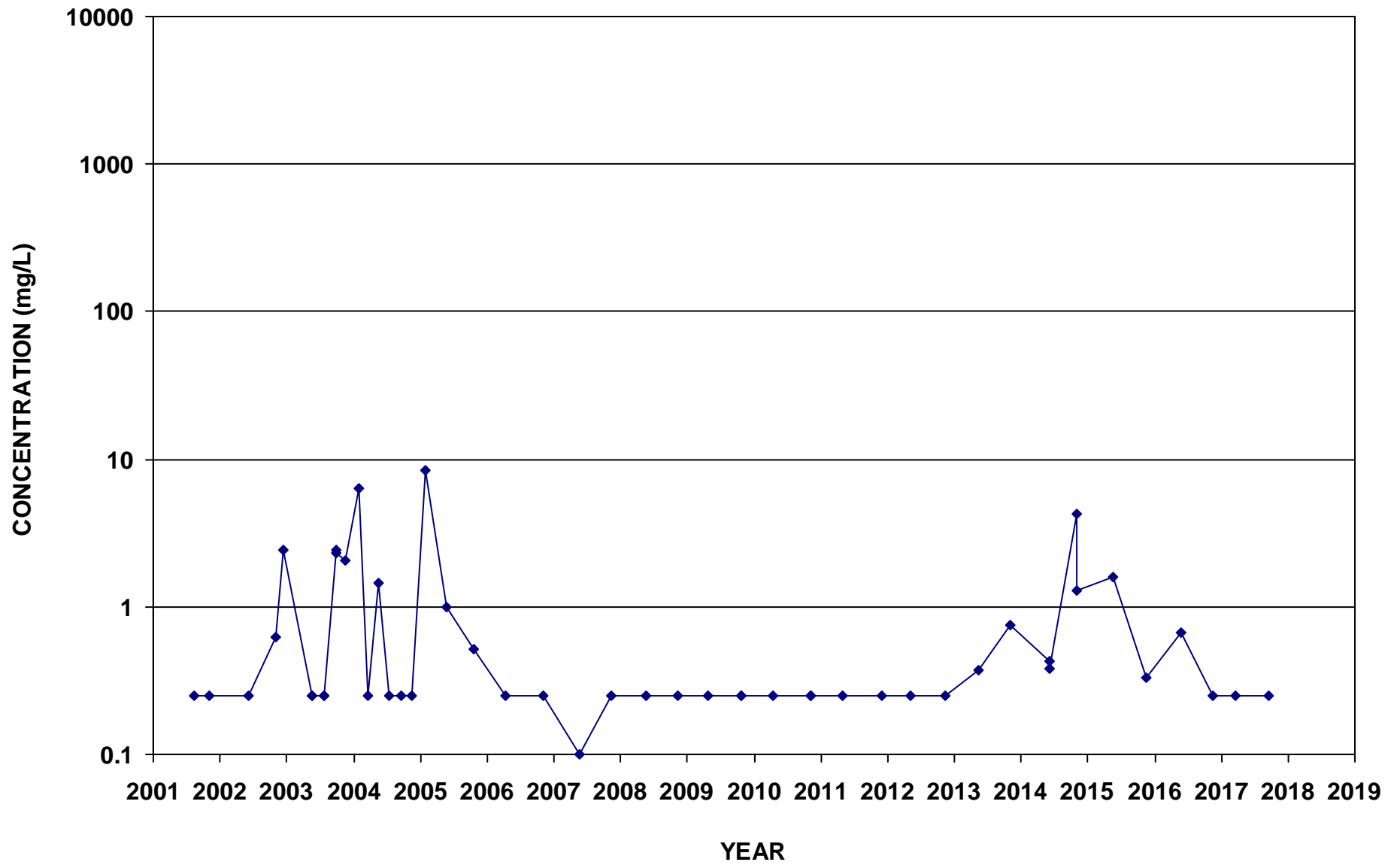
ECMW-17
Ammonia-N



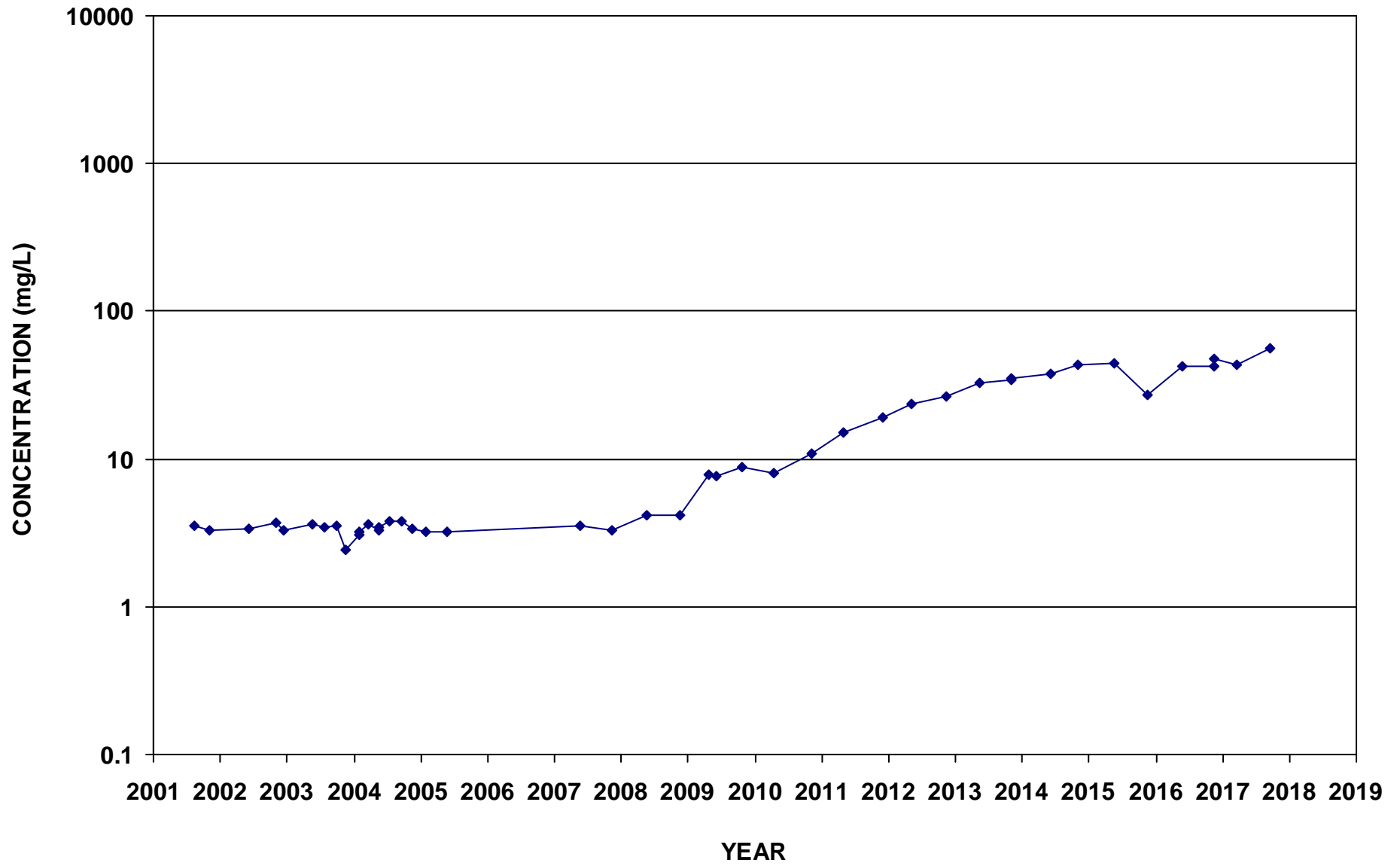
ECMW-18
Ammonia-N



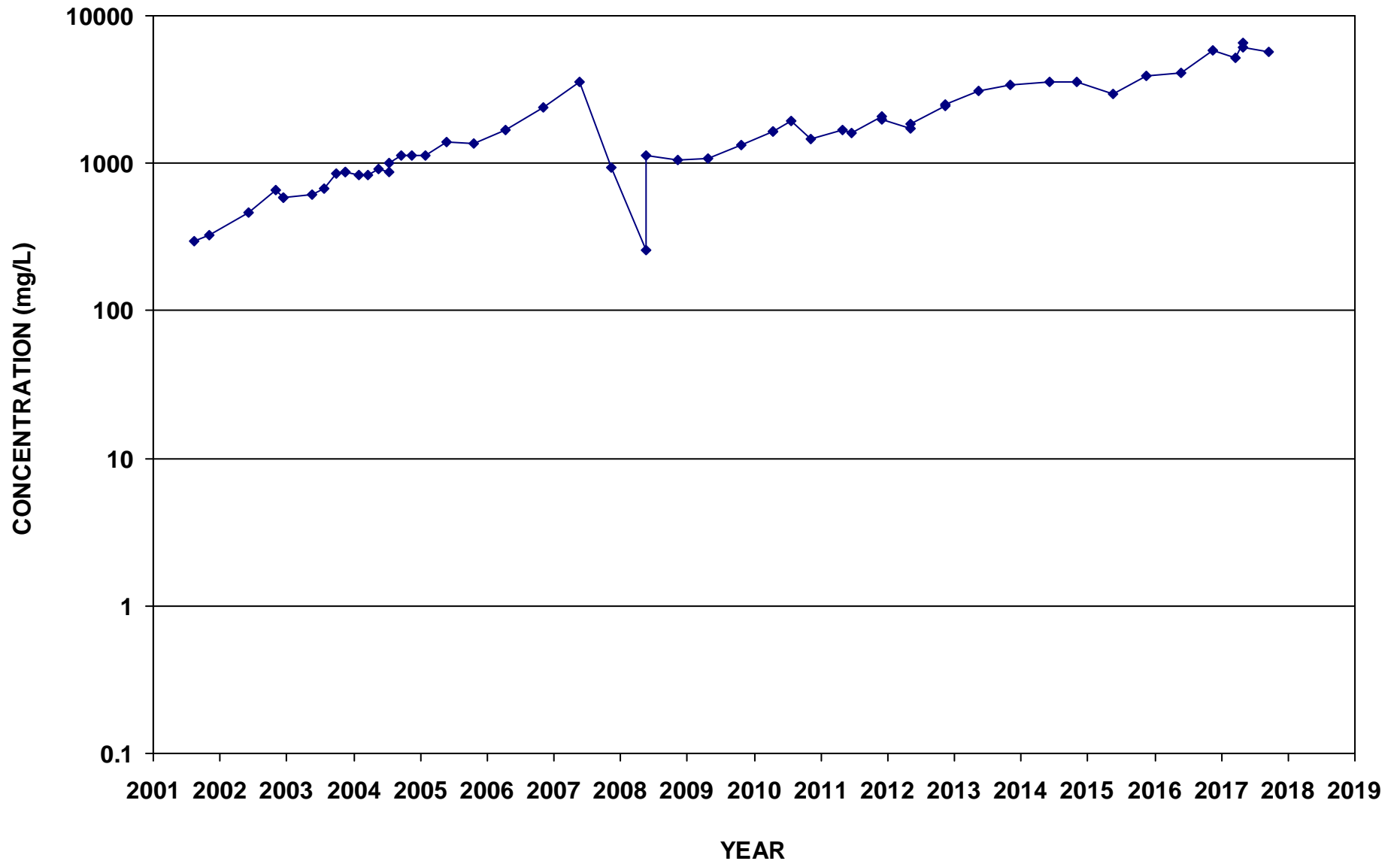
ECMW-4
Nitrate-N



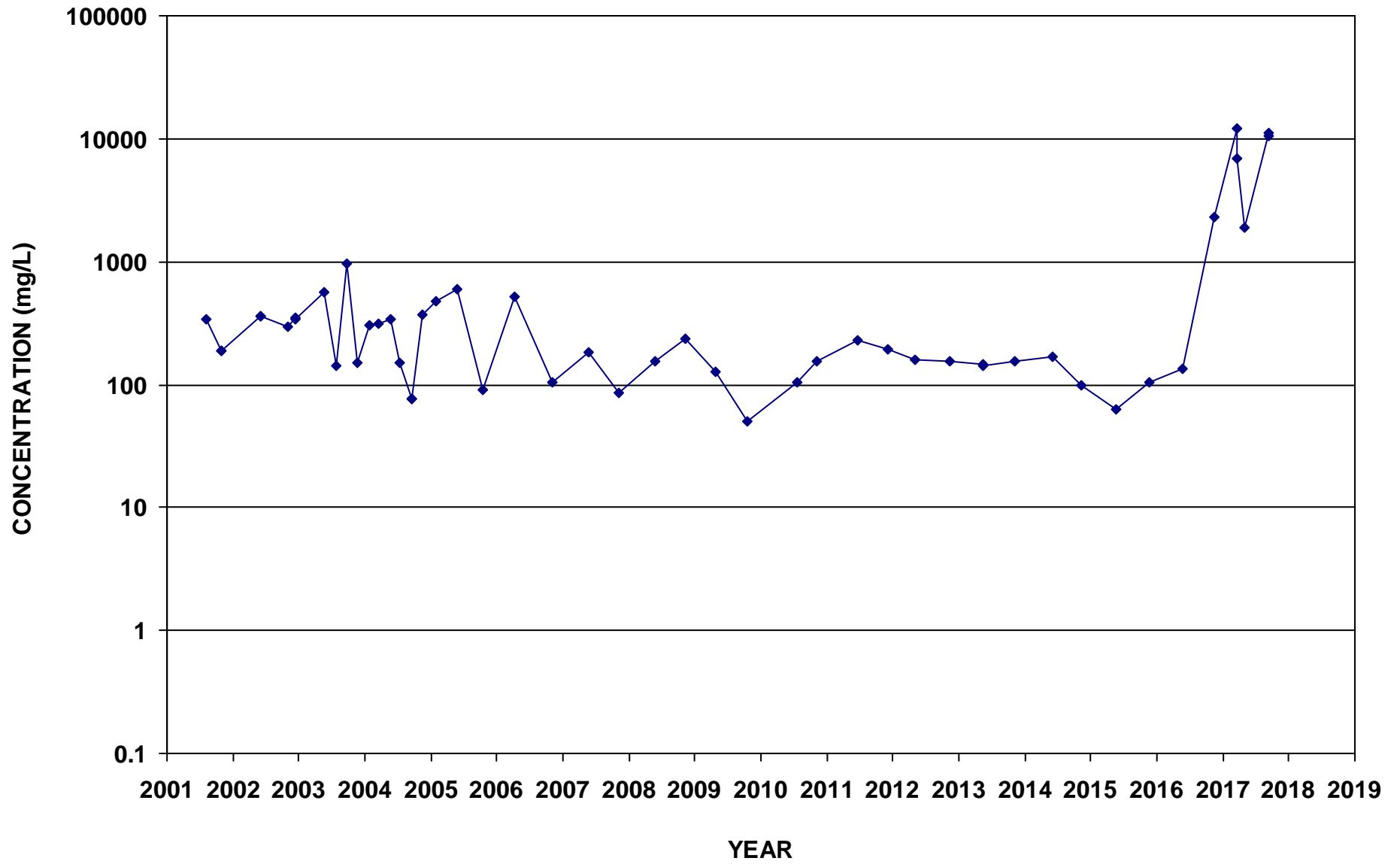
ECMW-5
Nitrate-N



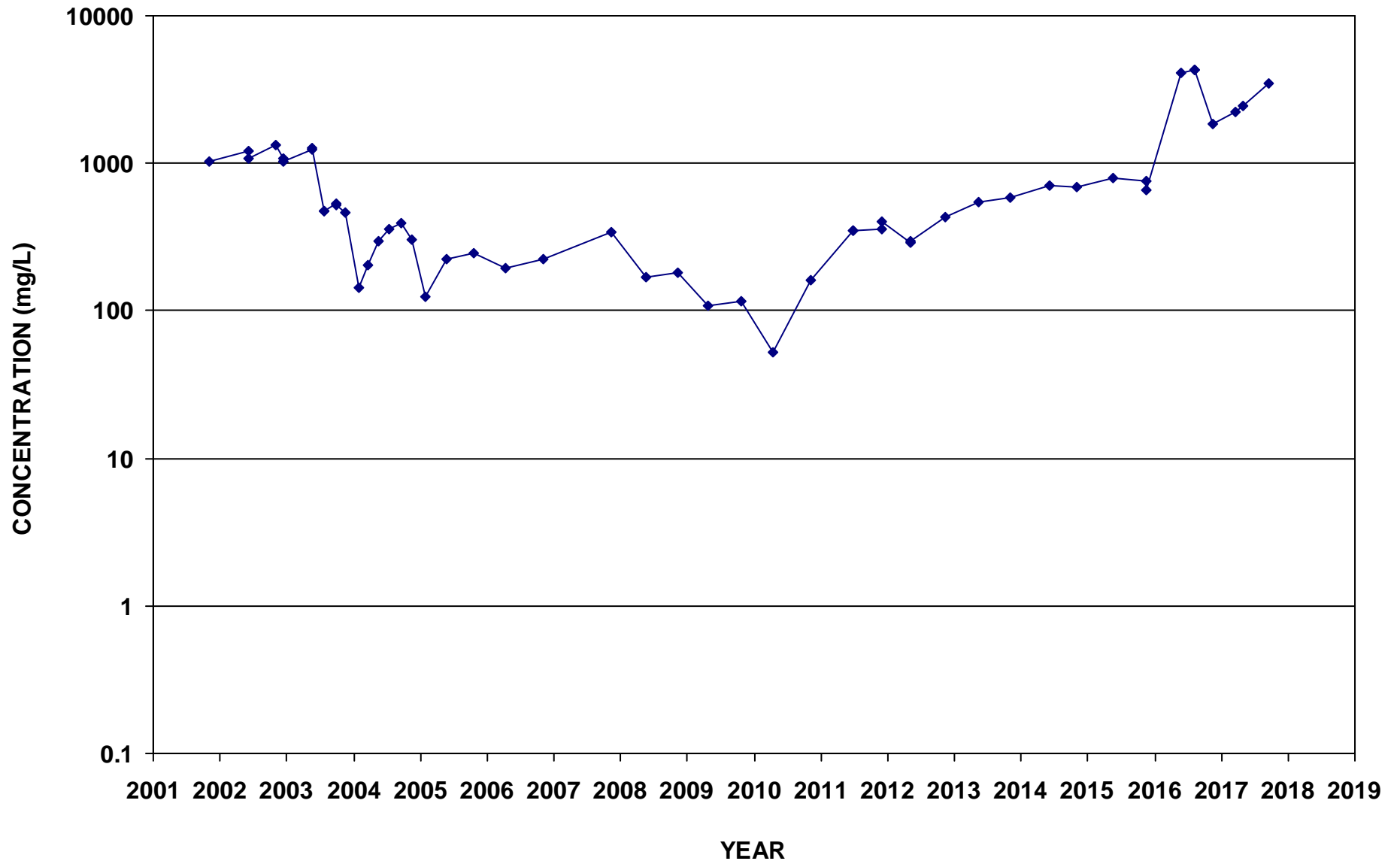
ECMW-6
Nitrate-N



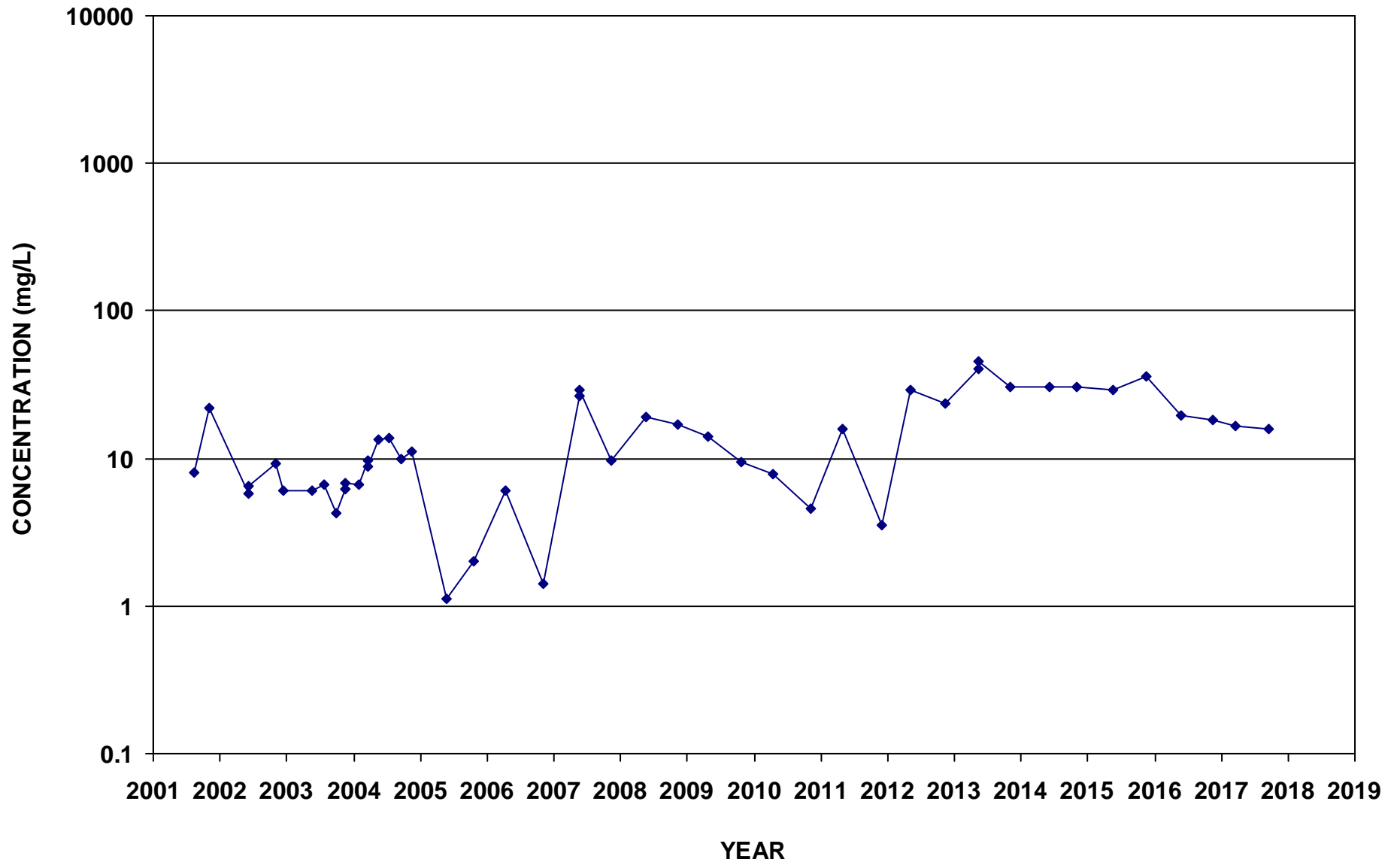
ECMW-7
Nitrate-N



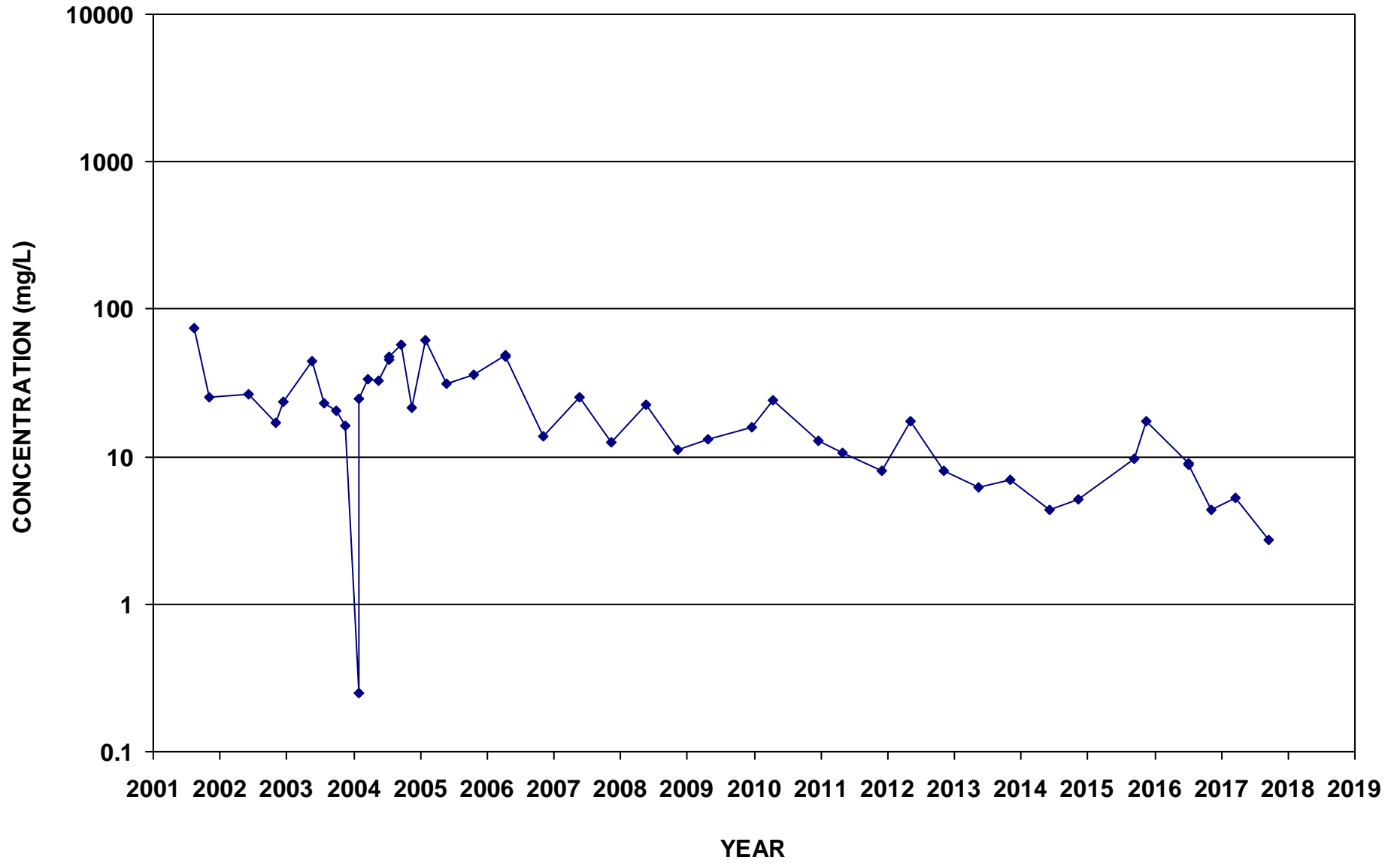
ECMW-8
Nitrate-N



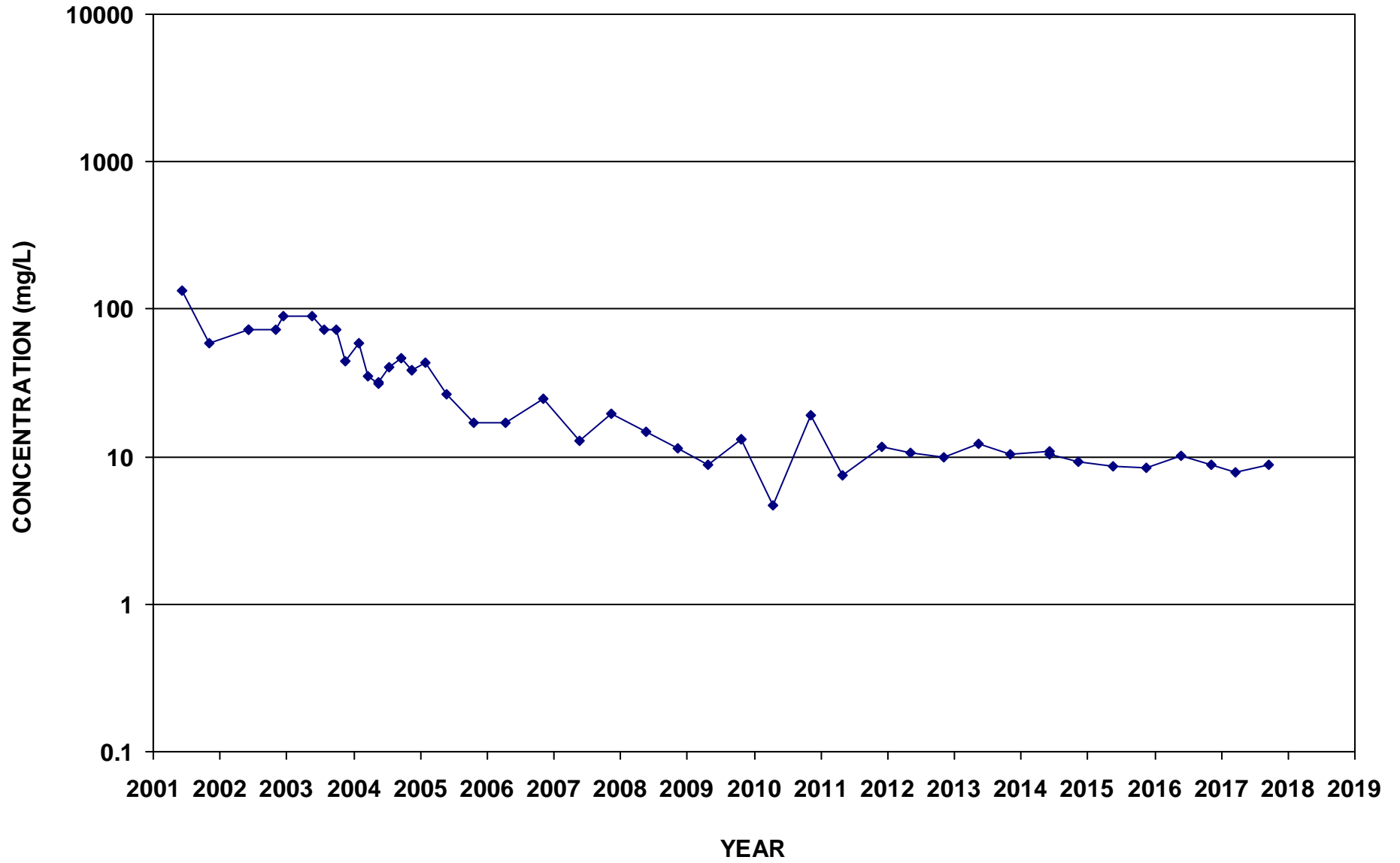
ECMW-11
Nitrate-N



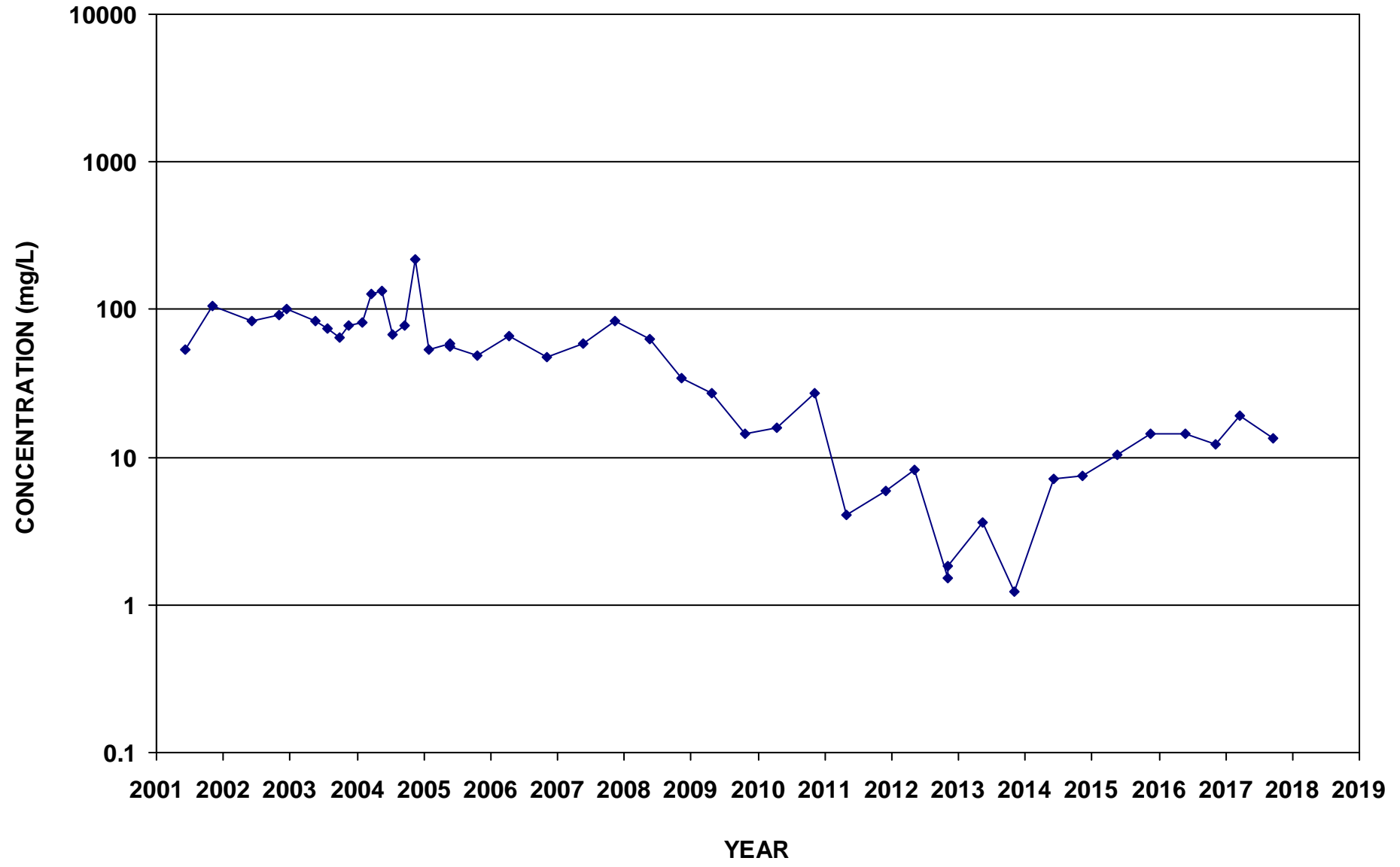
ECMW-14
Nitrate-N



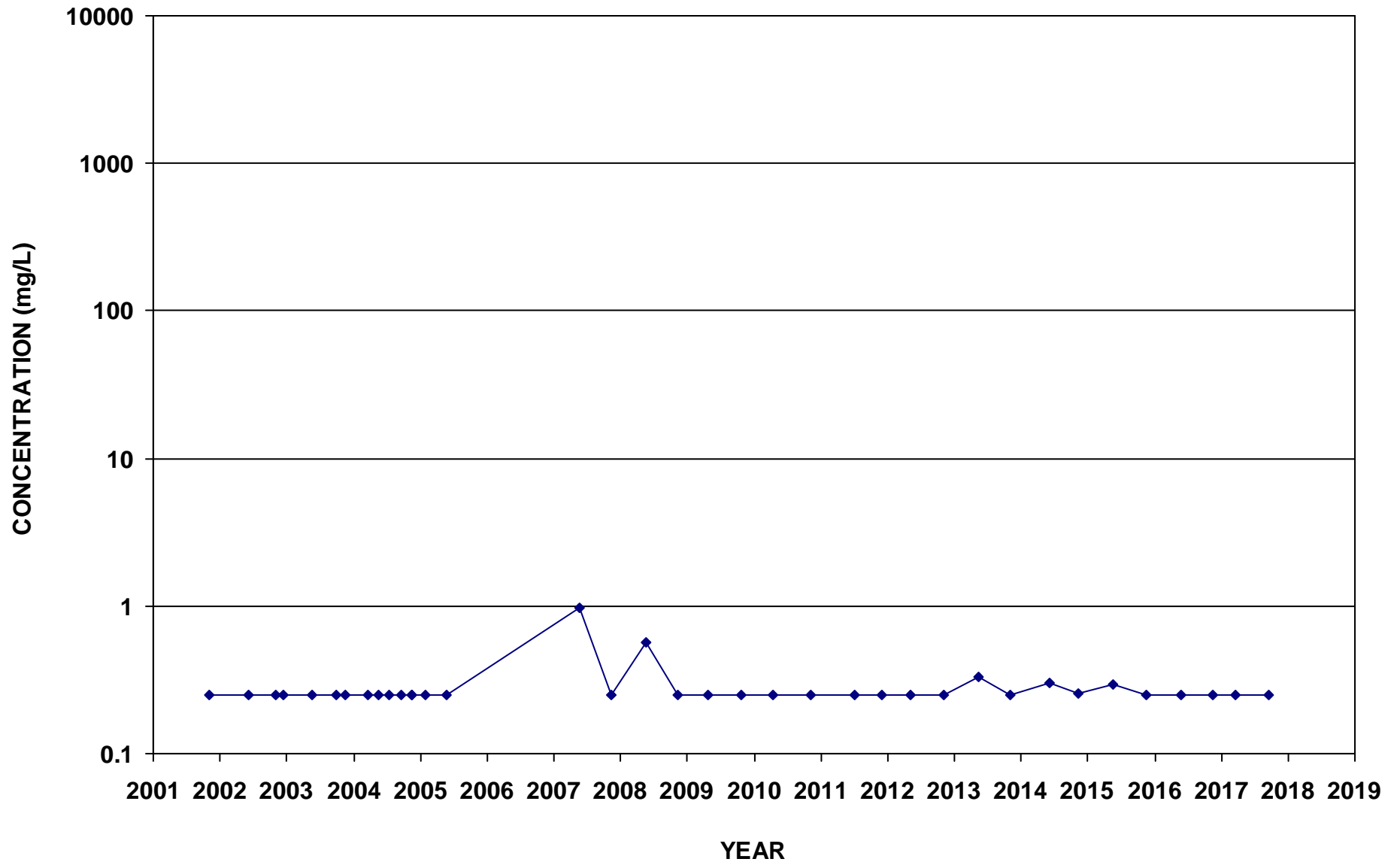
ECMW-16
Nitrate-N



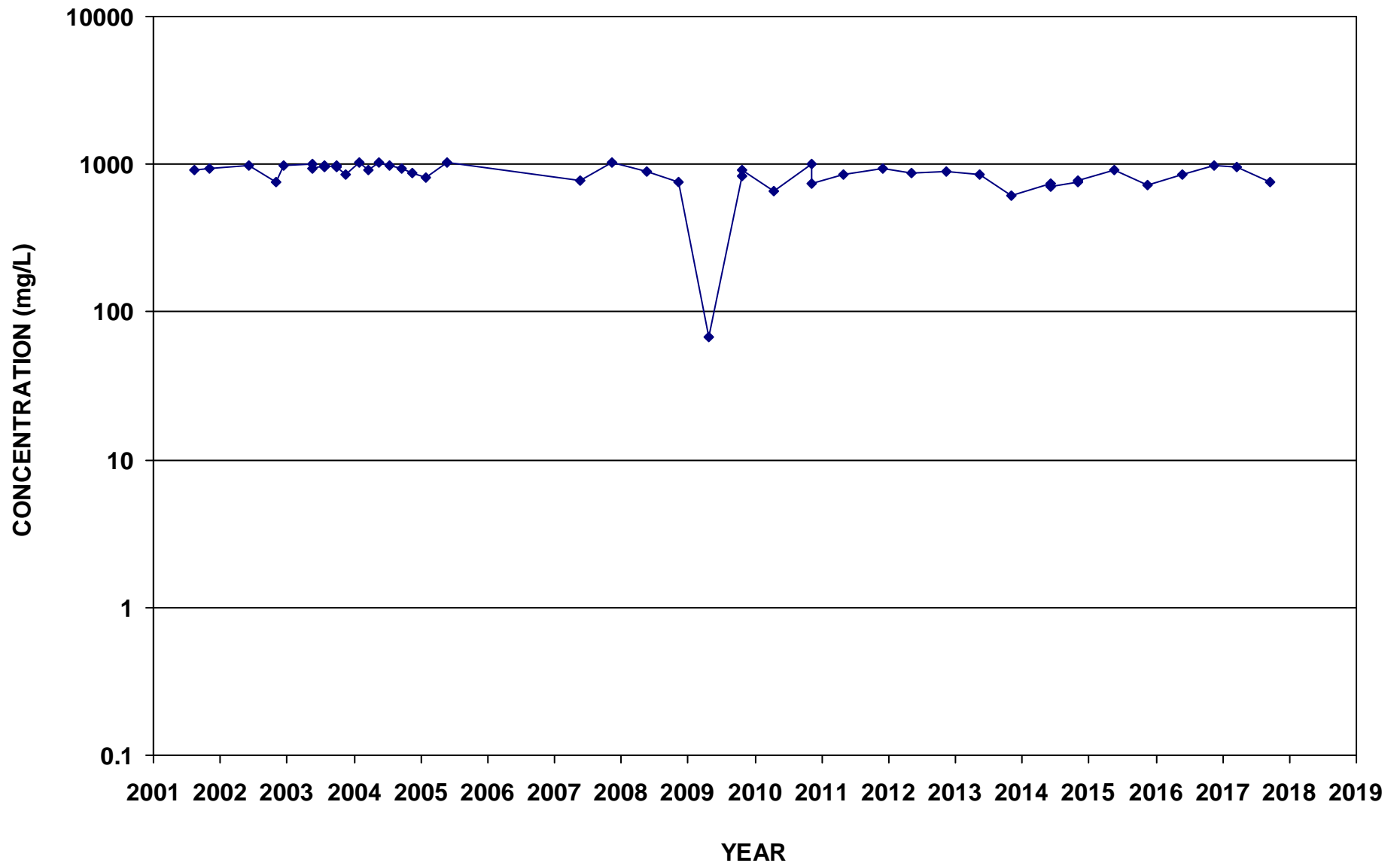
ECMW-17
Nitrate-N



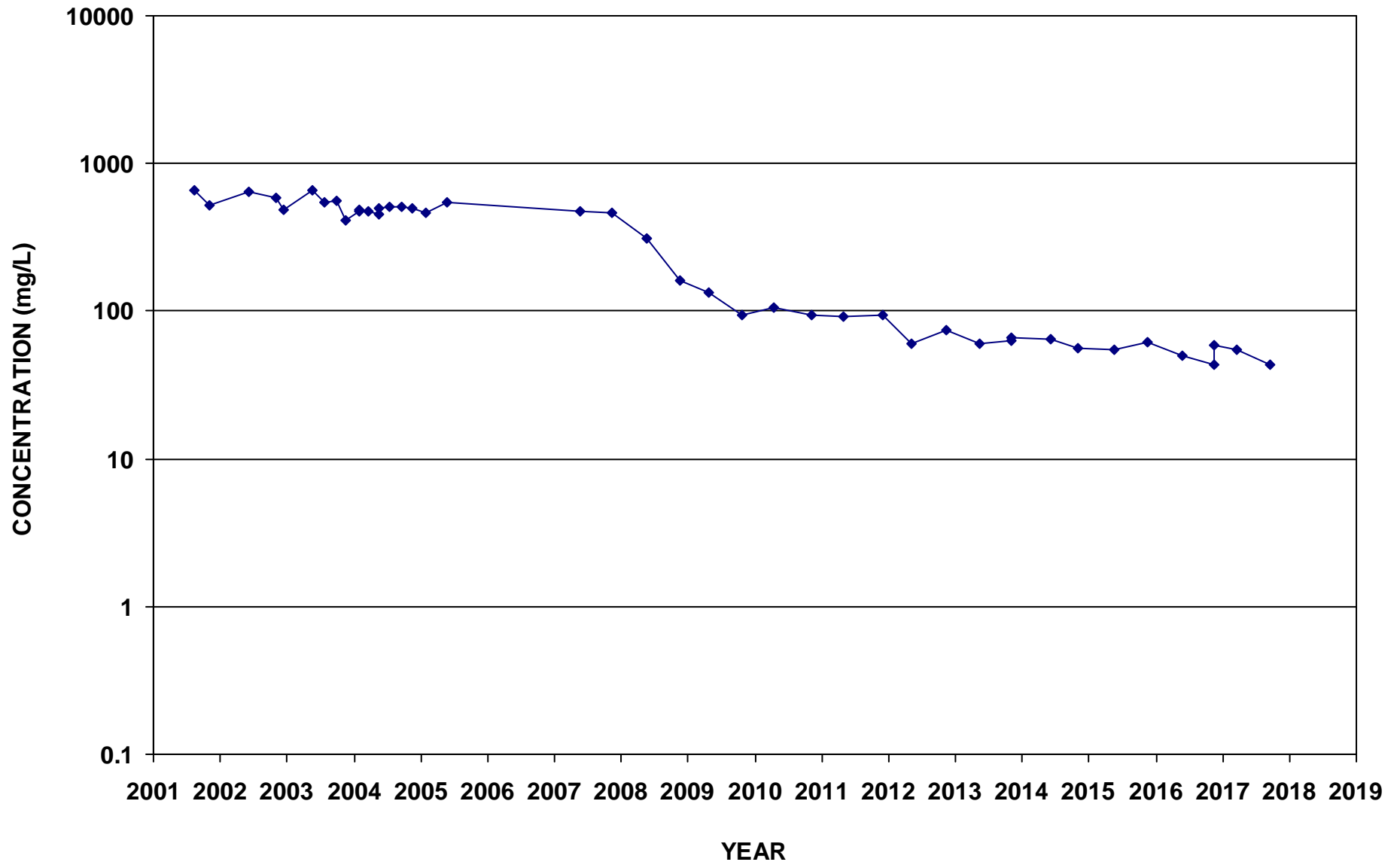
ECMW-18
Nitrate-N



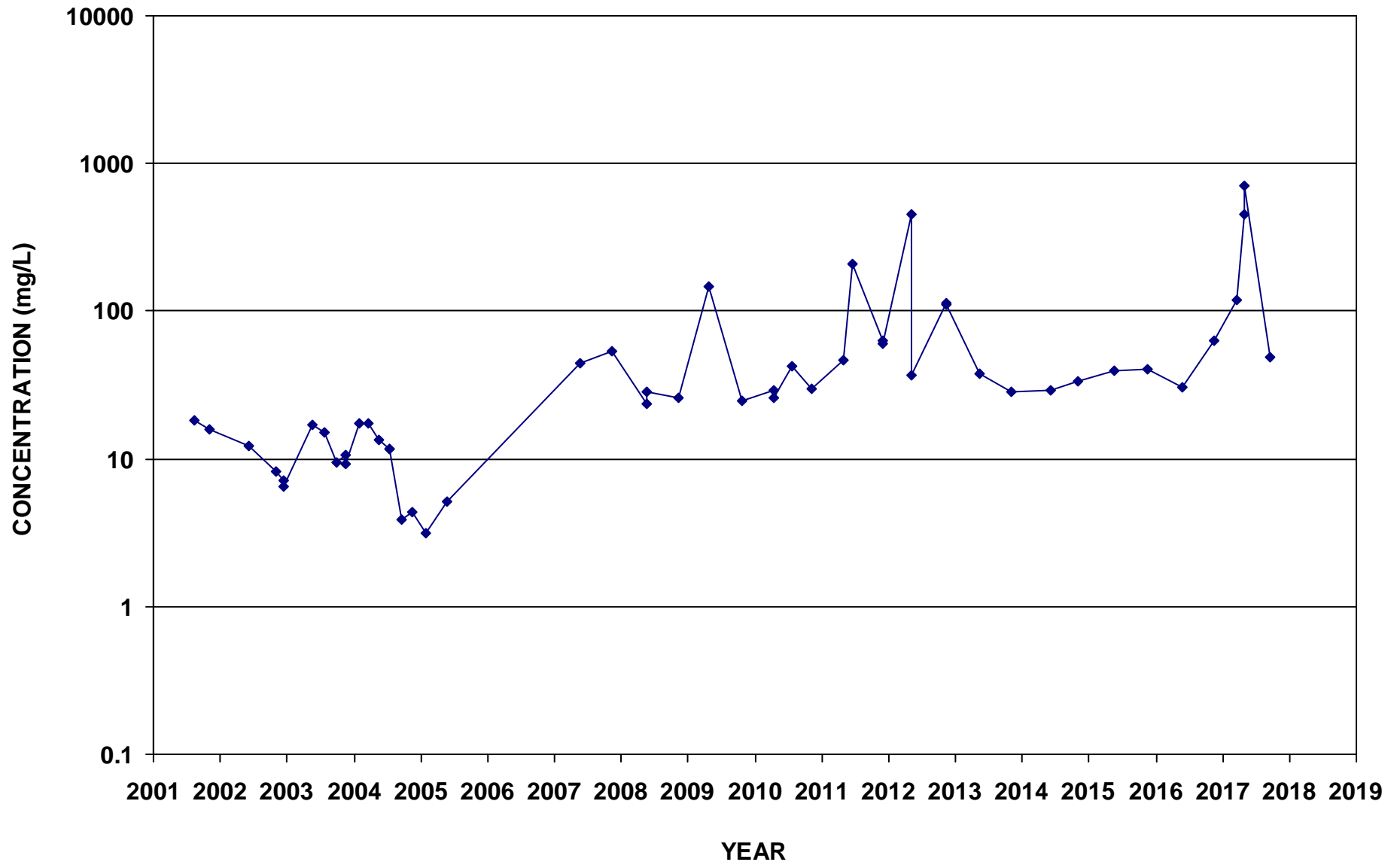
ECMW-4
Sulfate as SO4



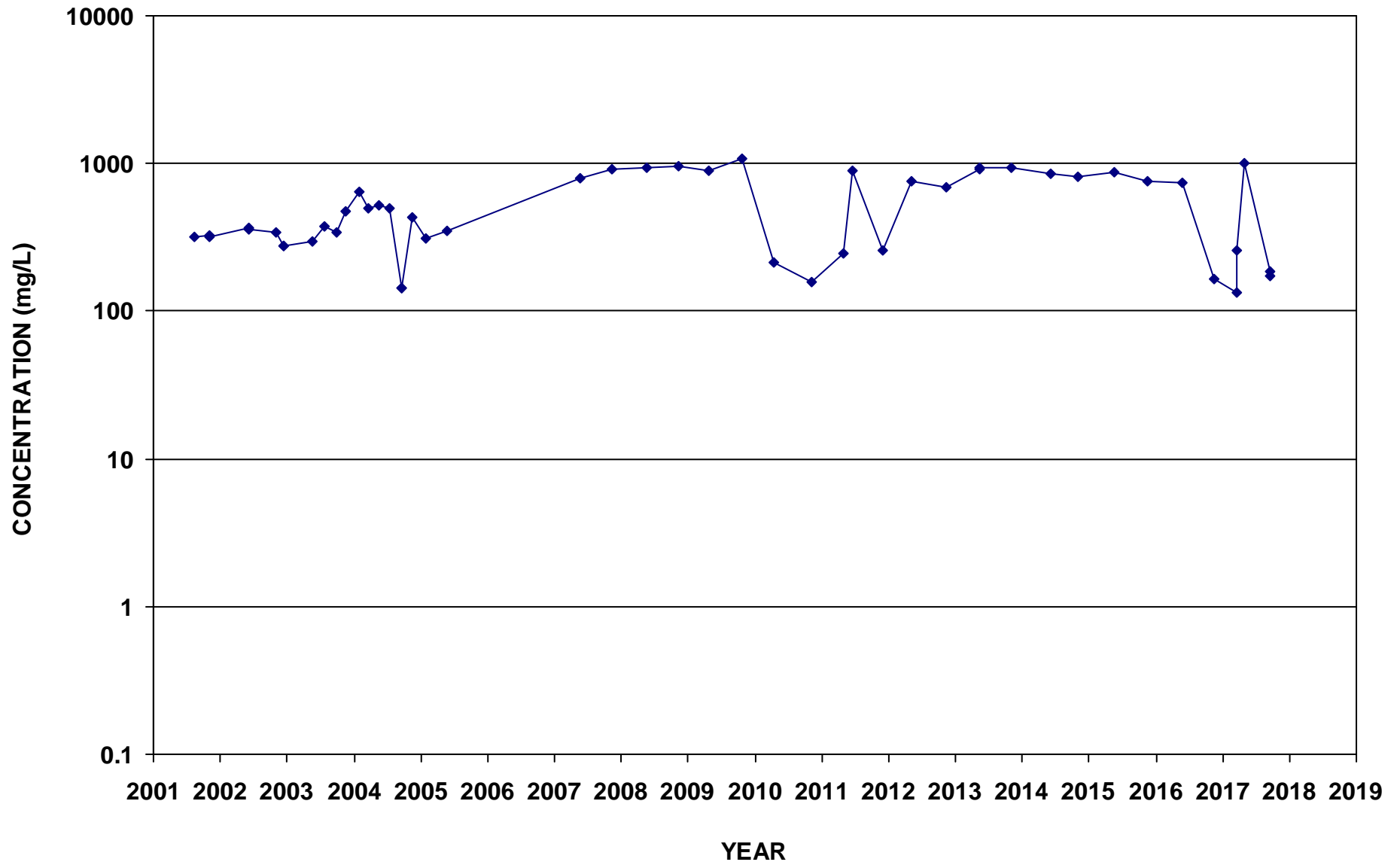
ECMW-5
Sulfate as SO4



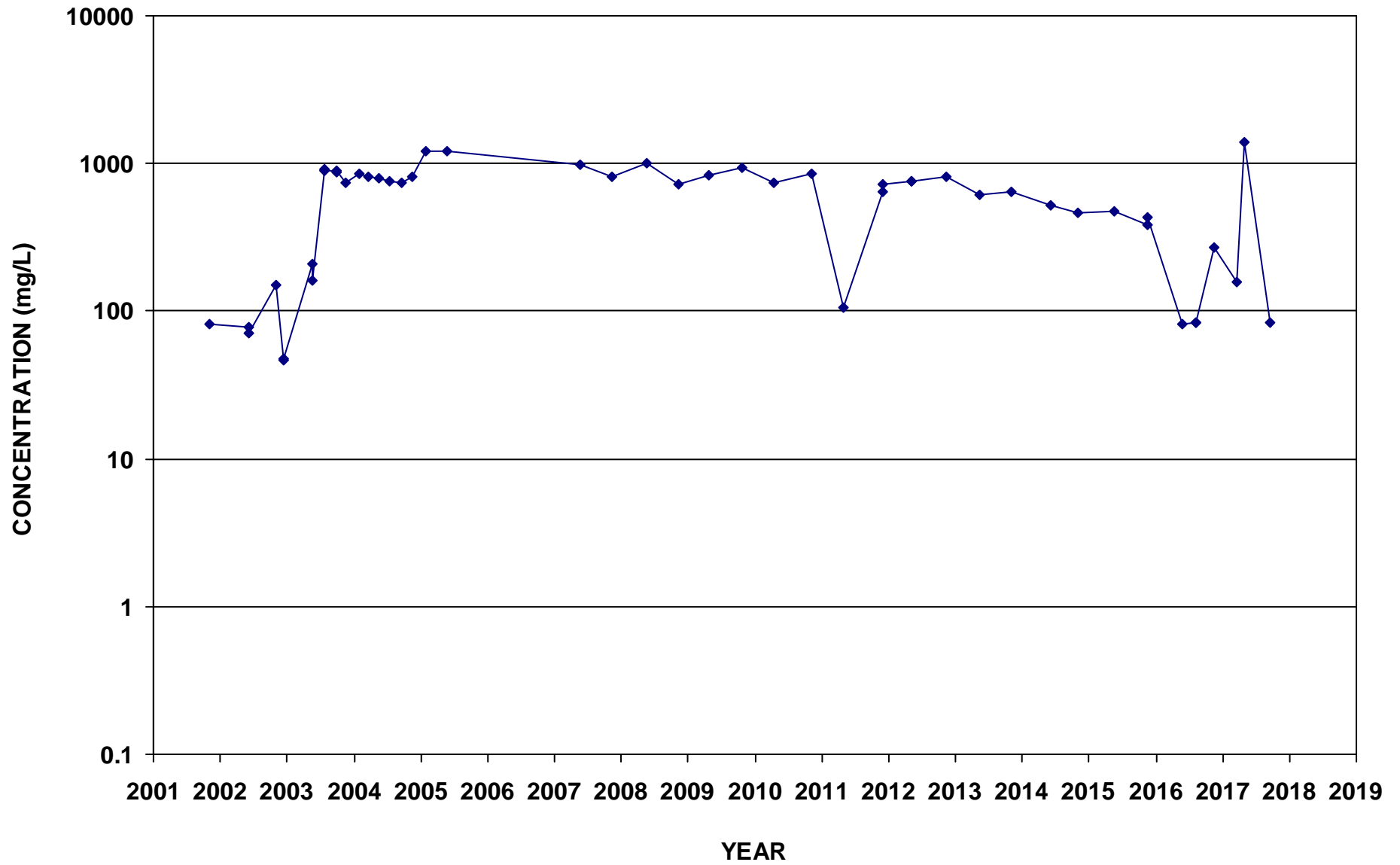
ECMW-6
Sulfate as SO4



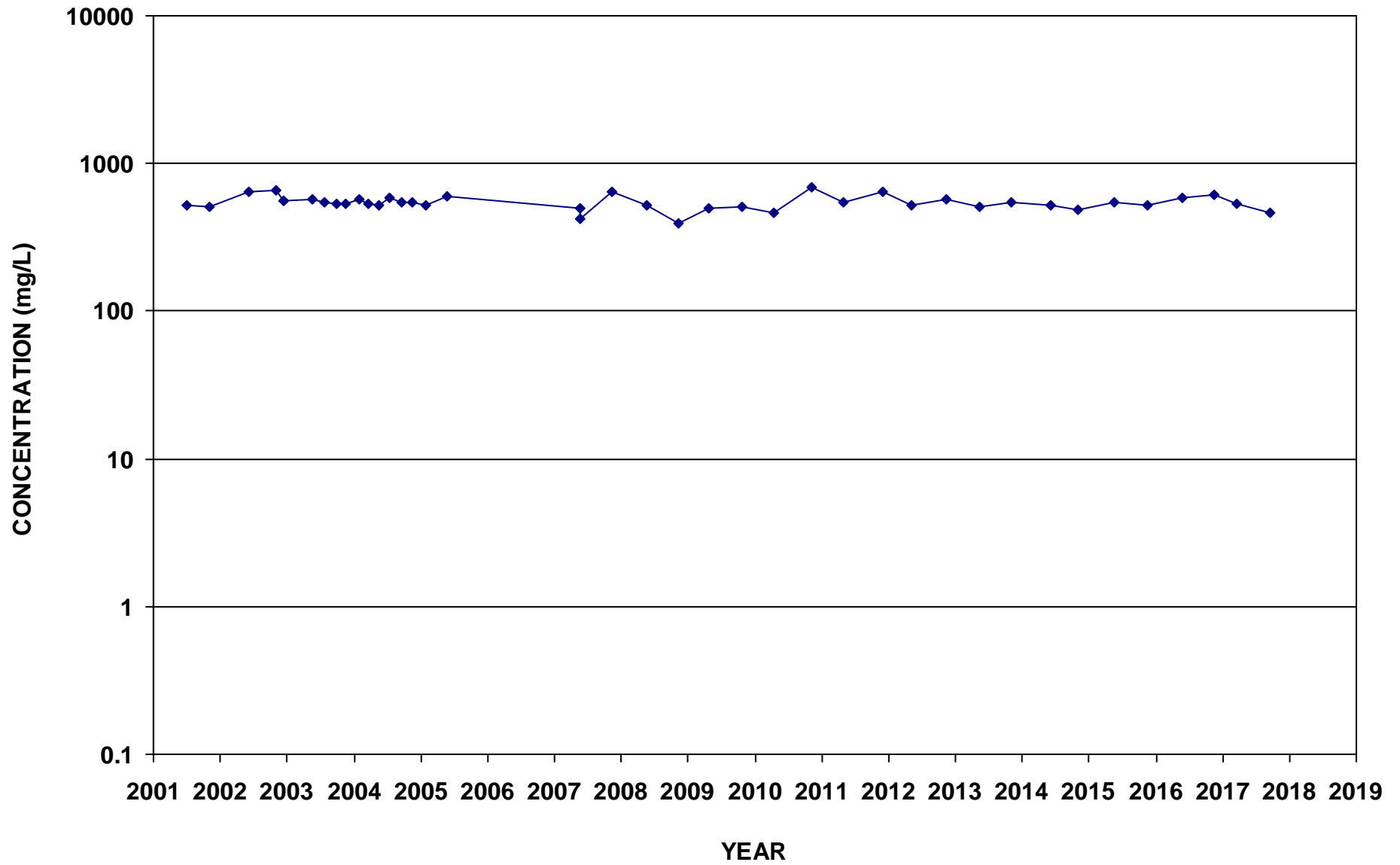
ECMW-7
Sulfate as SO4



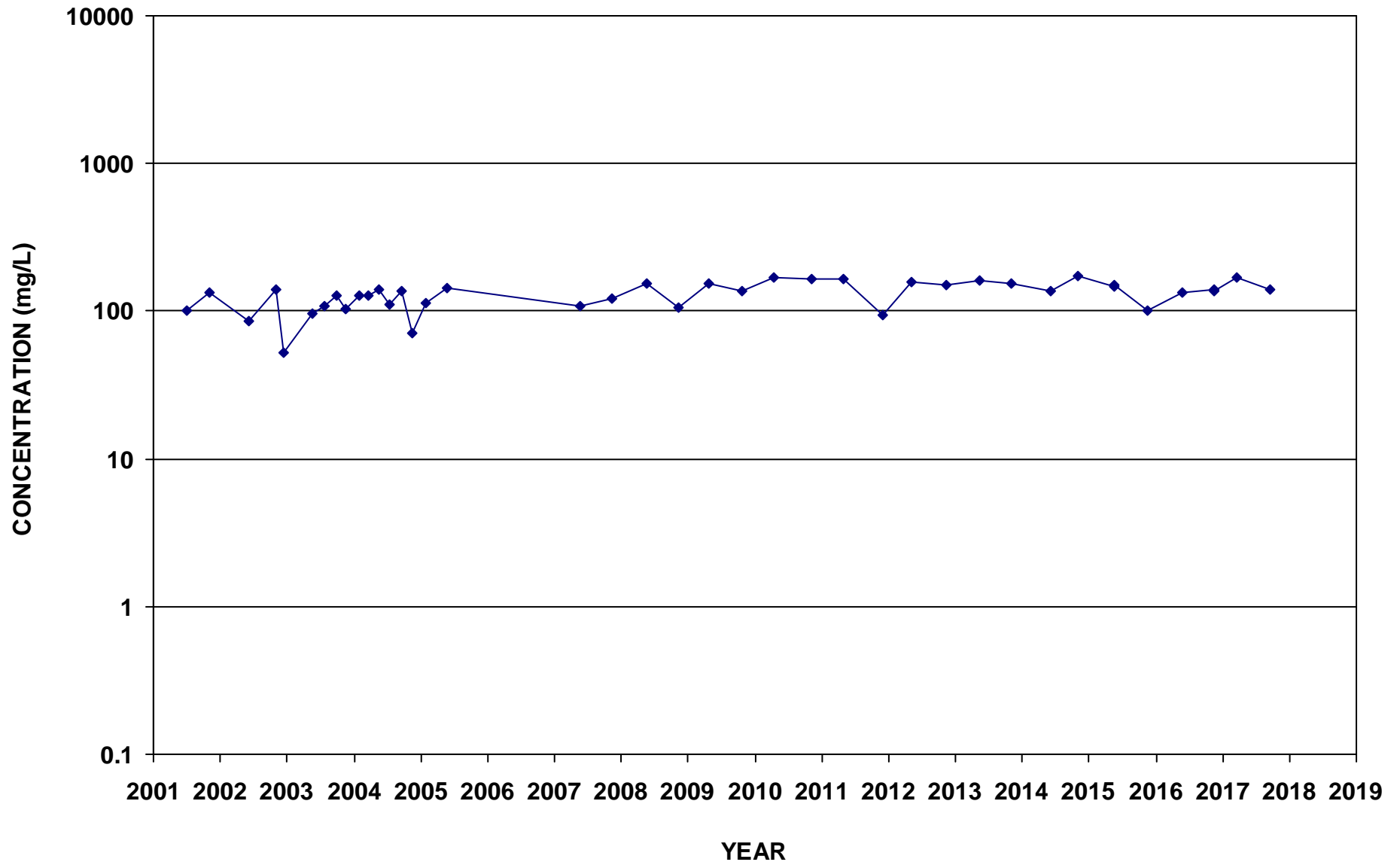
ECMW-8
Sulfate as SO4



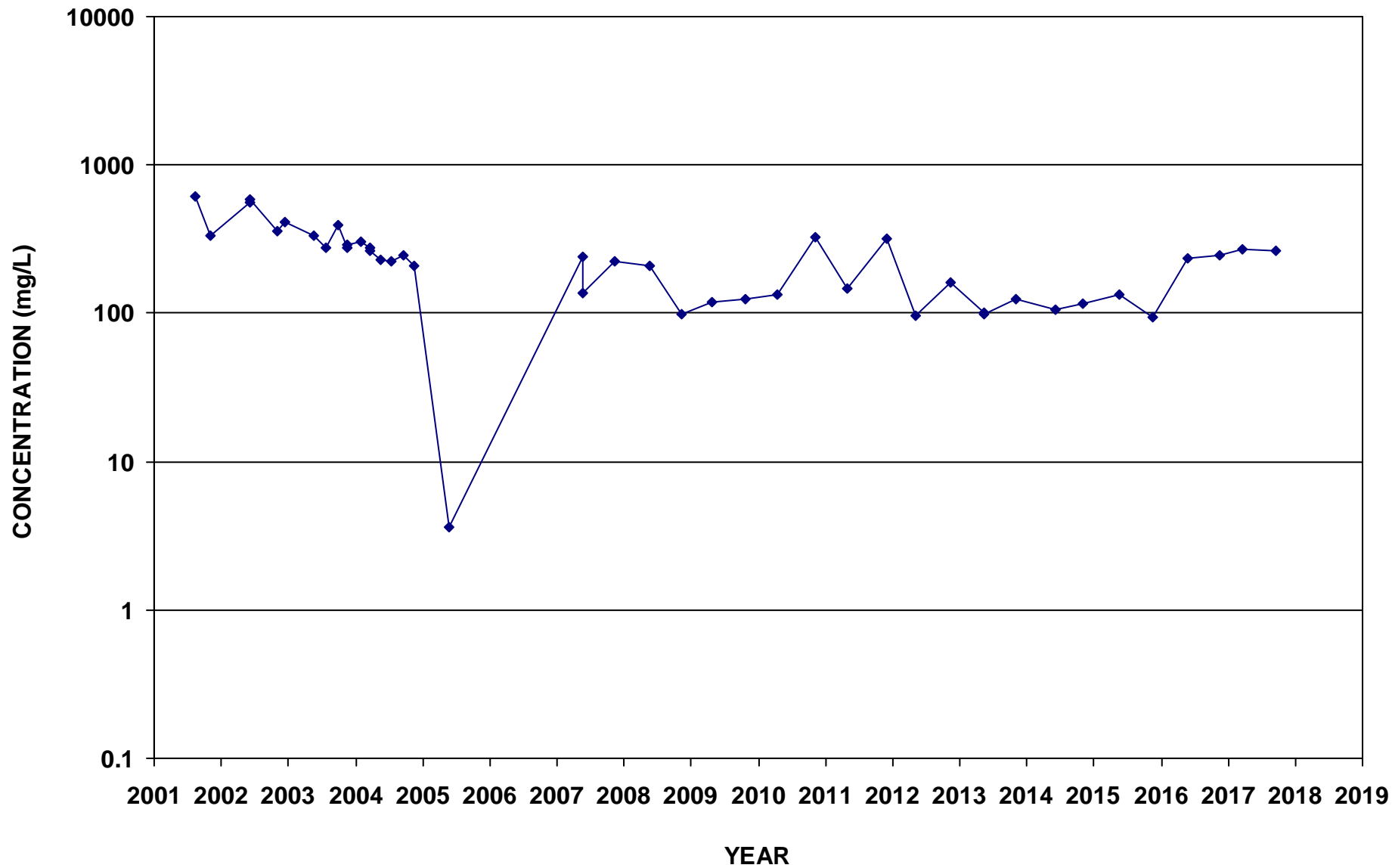
ECMW-9
Sulfate as SO4



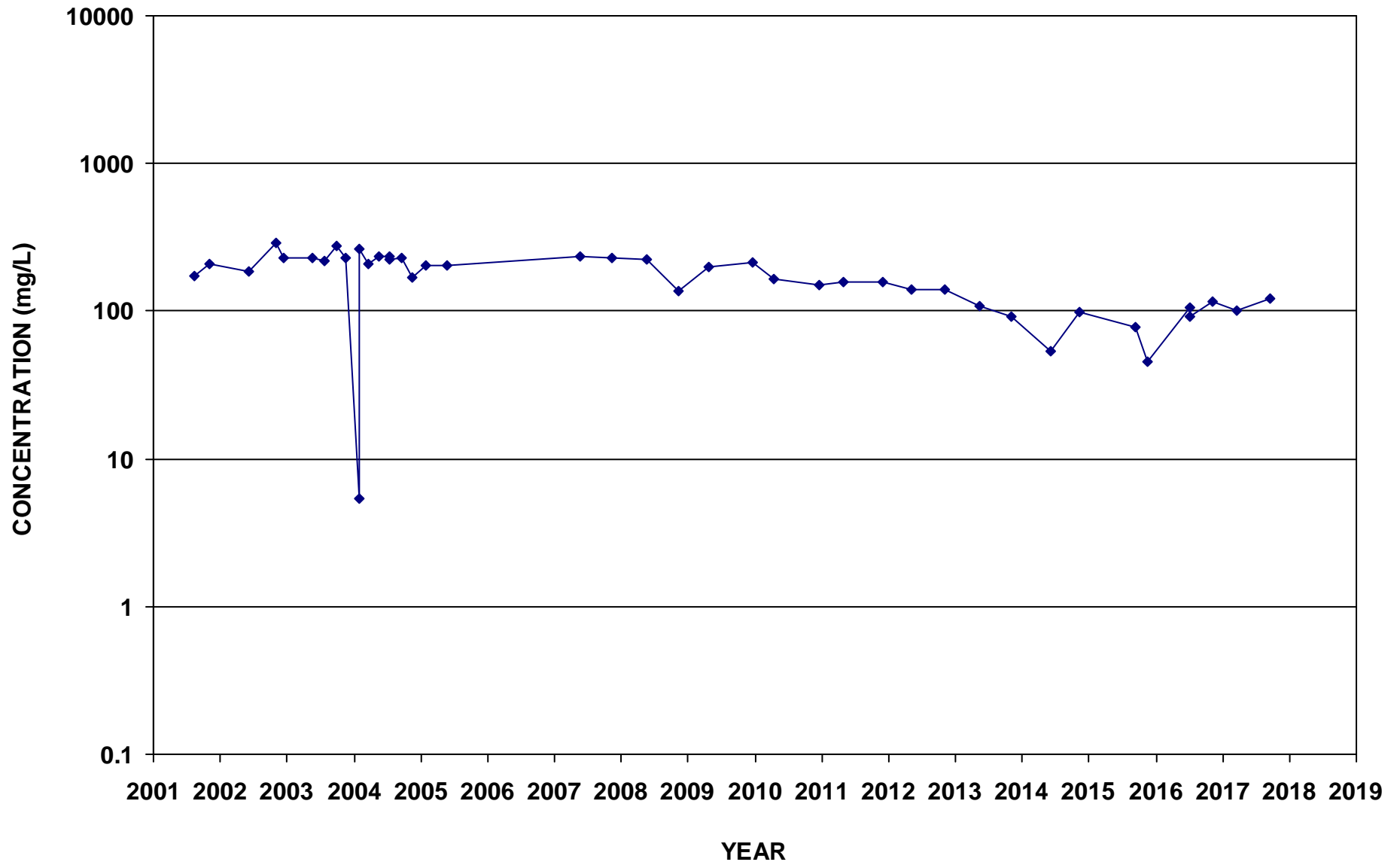
ECMW-10
Sulfate as SO4



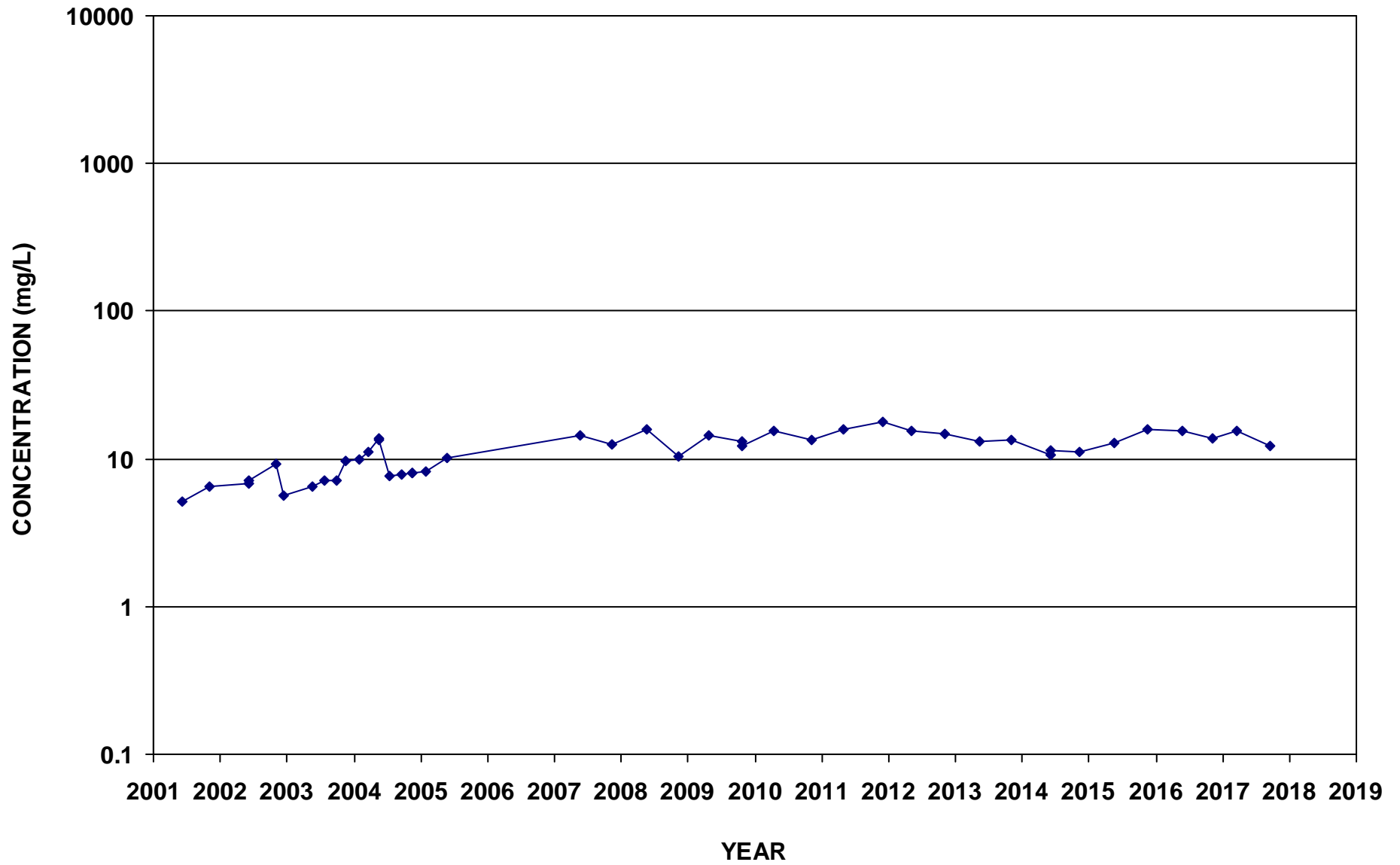
ECMW-11
Sulfate as SO4



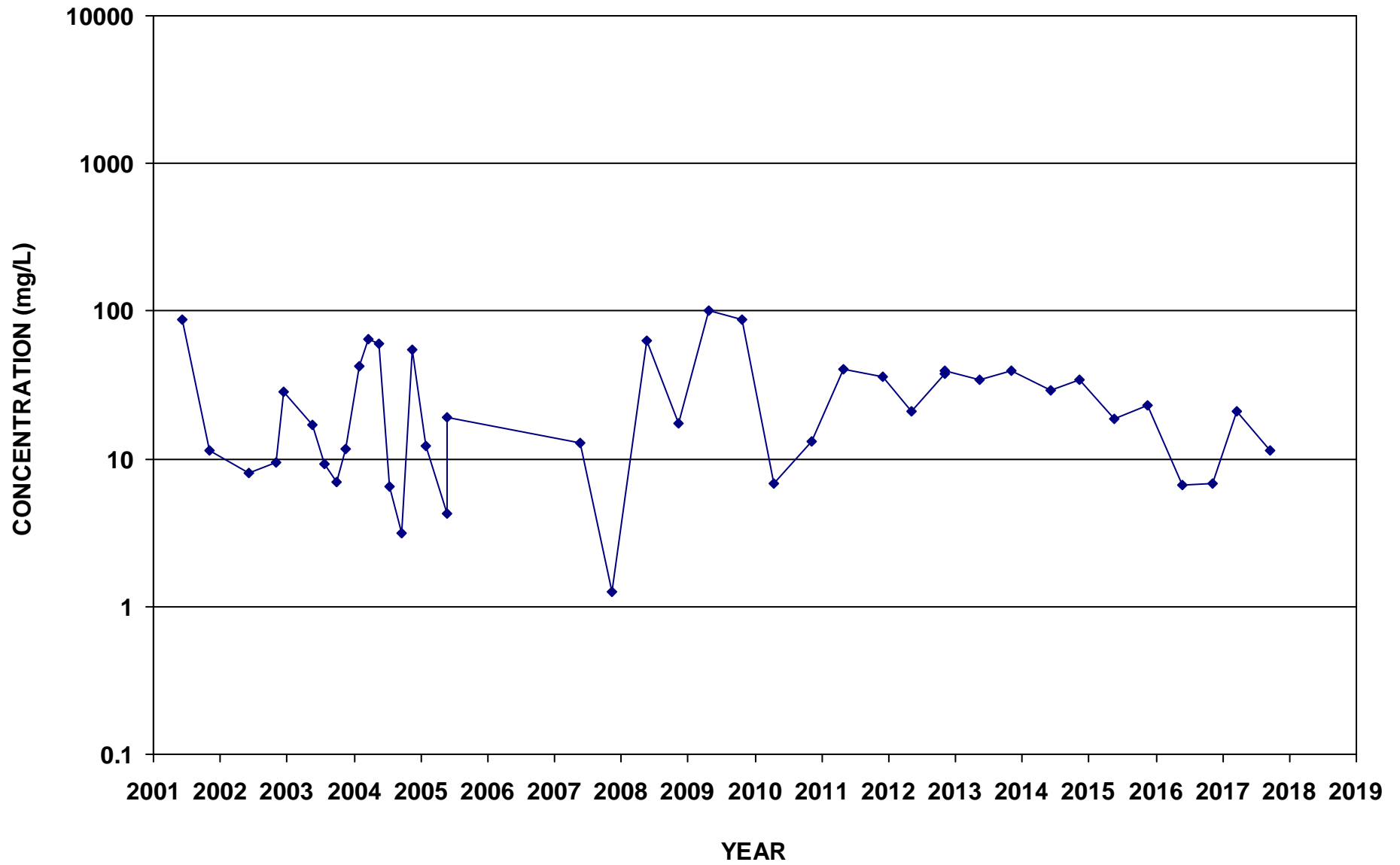
ECMW-14
Sulfate as SO4



ECMW-16
Sulfate as SO4



ECMW-17
Sulfate as SO4



ECMW-18
Sulfate as SO4

