4500 NORTH WEST AVE. • P.O. BOX 231 • EL DORADO, AR. 71731 • (870) 863-1400

EL DORADO
CHEMICAL COMPANY

February 27,2018

Mr. Jerry Neill
Senior Geologist
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Mr. Neill:

Please find the enclosed El Dorado Chemical Company 2017 Groundwater Monitoring Report. This report is being submitted in accordance with CAO LIS Number 06-0153. If you have any questions, please contact Edward L Pearson at (870) 863-1400.

Sincerely,

Greg Withrow

Greg Withrow

General Manager

2017 ANNUAL GROUND WATER REPORT

Prepared For:

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

Prepared By:

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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

TABLES

TABLE OF CONTENTS

TABLES (continued)

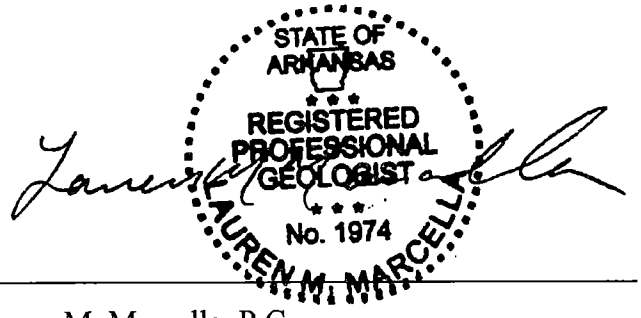
FIGURES

APPENDICES

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 (µS/cm) in 2017. The average of specific conductance readings for 2017 (7675 µS/cm) is higher than 2016 (5893 µS/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 diamater screens, 10-foot length and 0.01-inch openings, casing risers are approximately 3 feet above ground surface, drilled with hollow-stem auger (Data from Woodward-Clyde June 1996 Report)

2. ECMW-19, ECMW-20 and ECMW-22 constructed of 2-inch Sch. 40 PVC flush threaded pipe with 2-inch diamater screens, 10-foot length and 0.01-inch openings, casing risers are approximately 2.5 to 3 feet above ground surface, drilled with rotary wash procedures

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

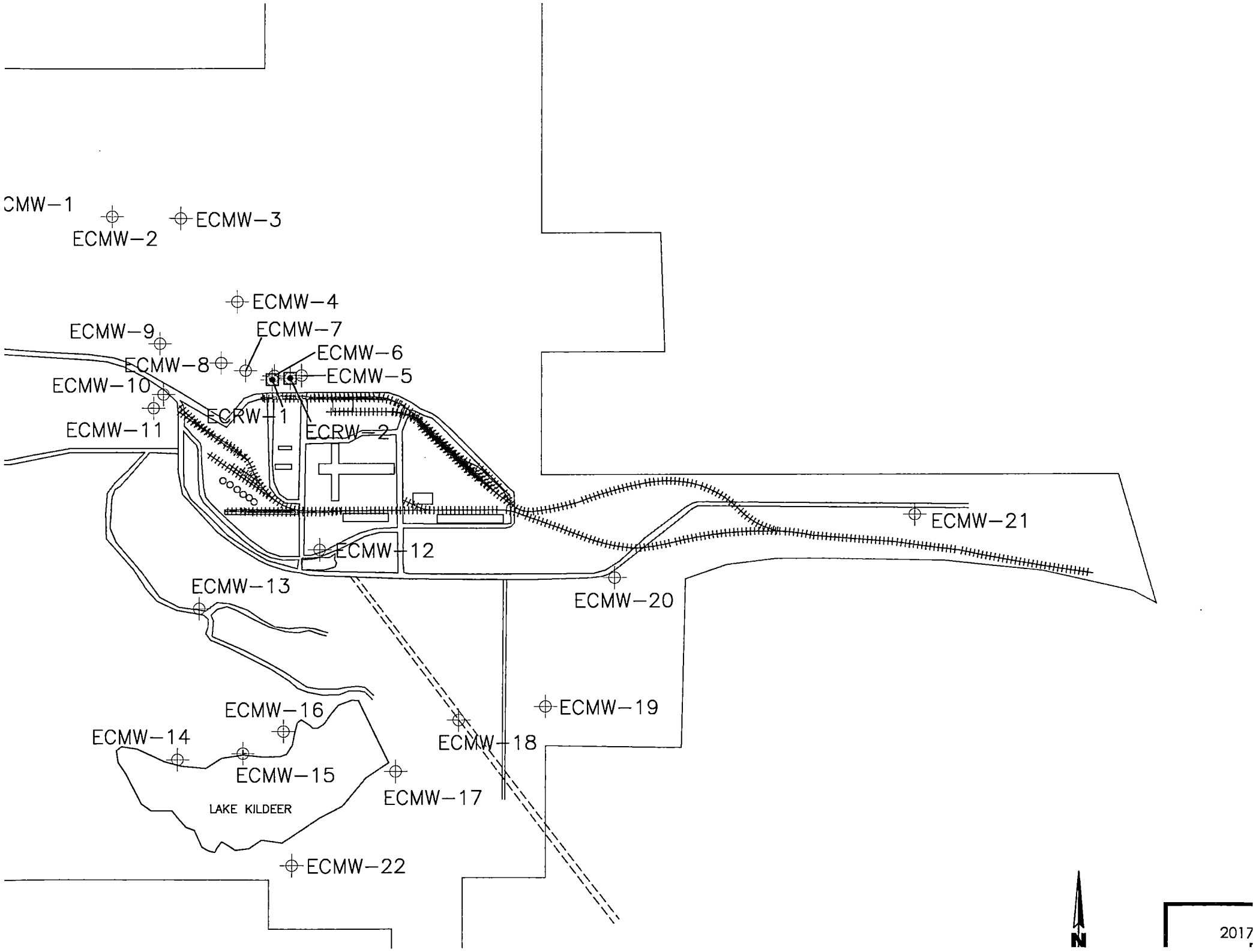
"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

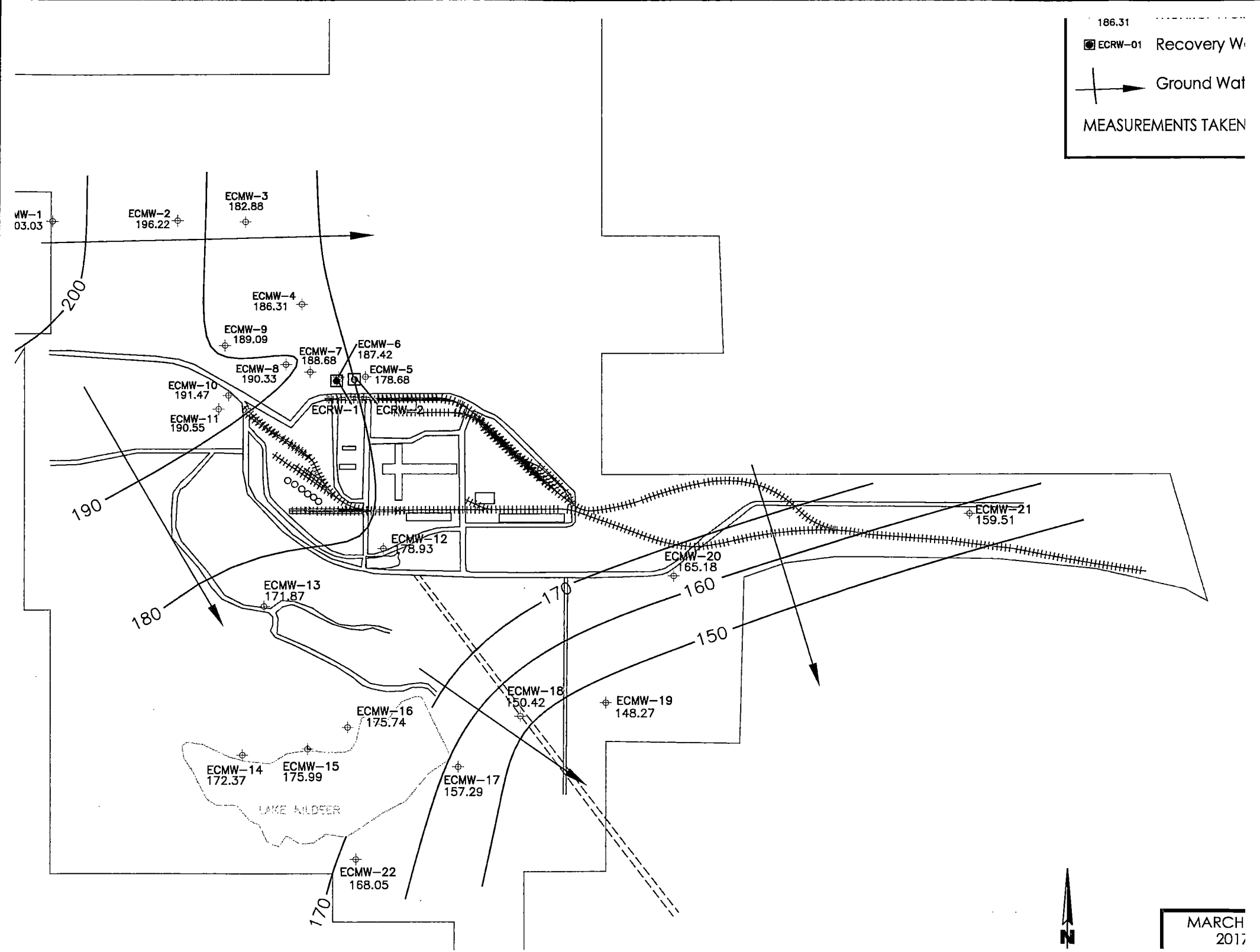
TABLE 25
ECMW-22 ANALYTICAL SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

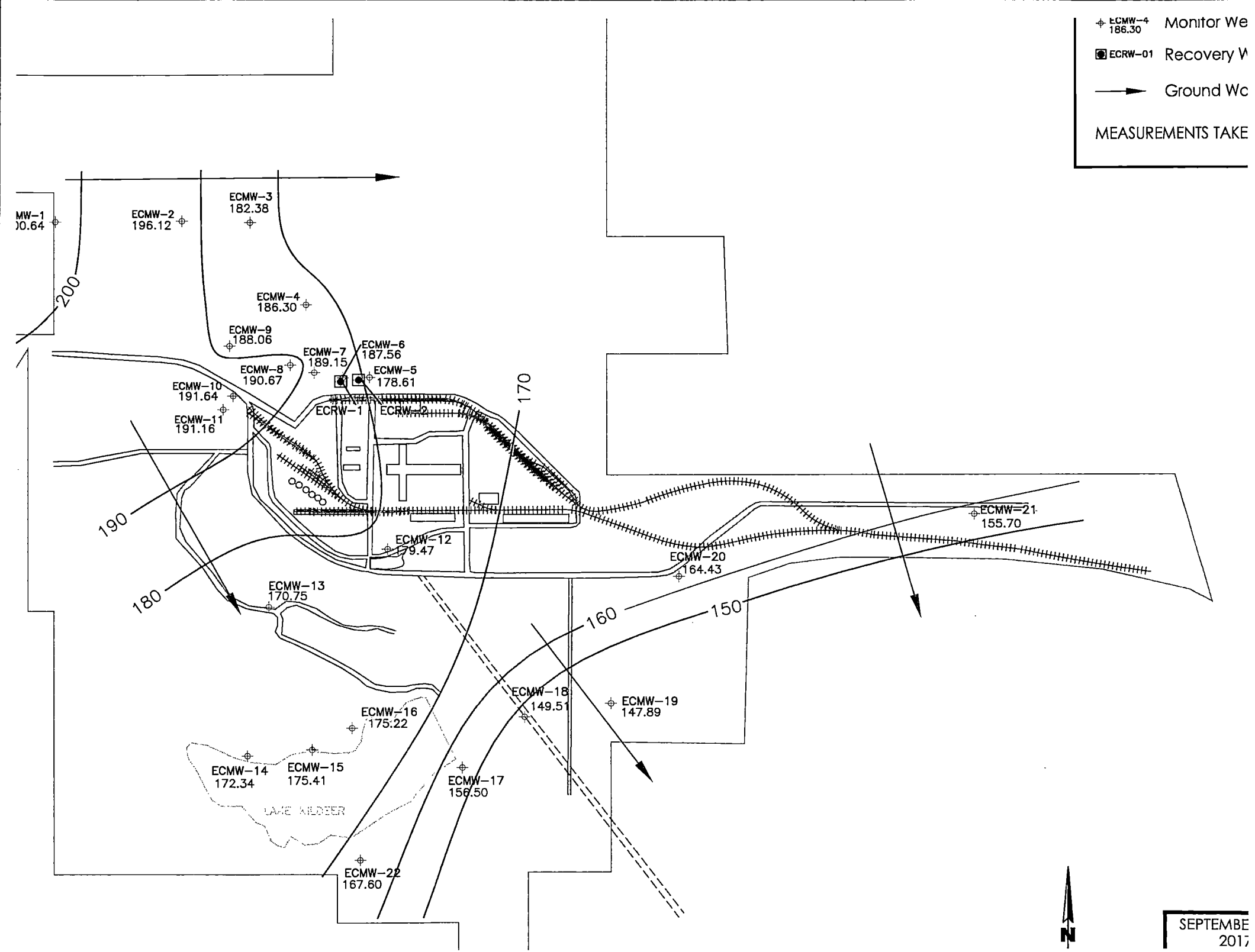
Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
6/4/2014	5.79	<0.5	1.75	5.05	--	<0.0156	<0.016	<0.0104	<0.021	--	--
11/5/2014	4.42	0.61	2.58	5.66	--	<0.0156	<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	--	--	--	--	--	--	--	--	--	--

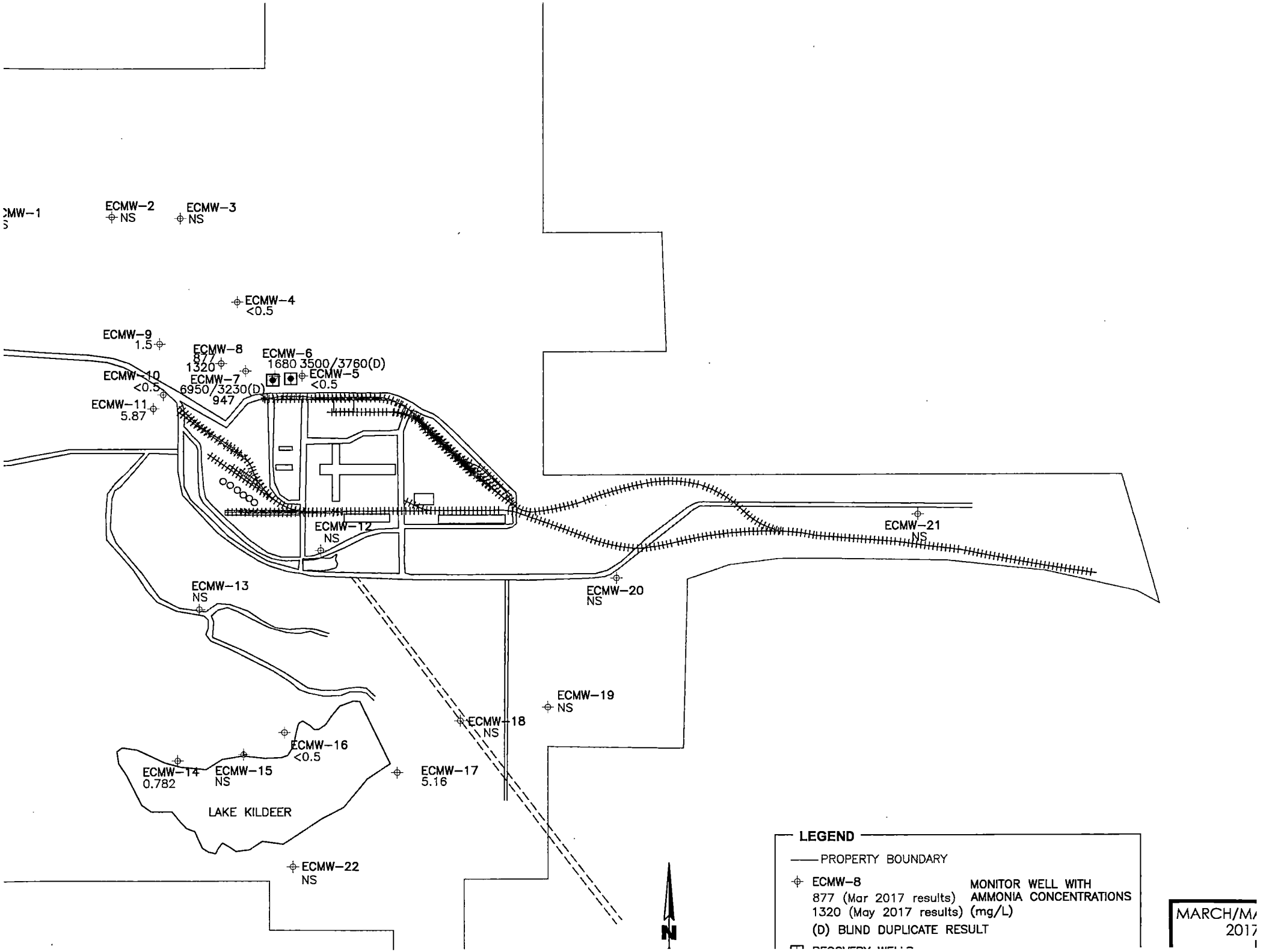
"--" - Parameter not analyzed
E3 - Incorrect preservation, results qualified as "estimated".

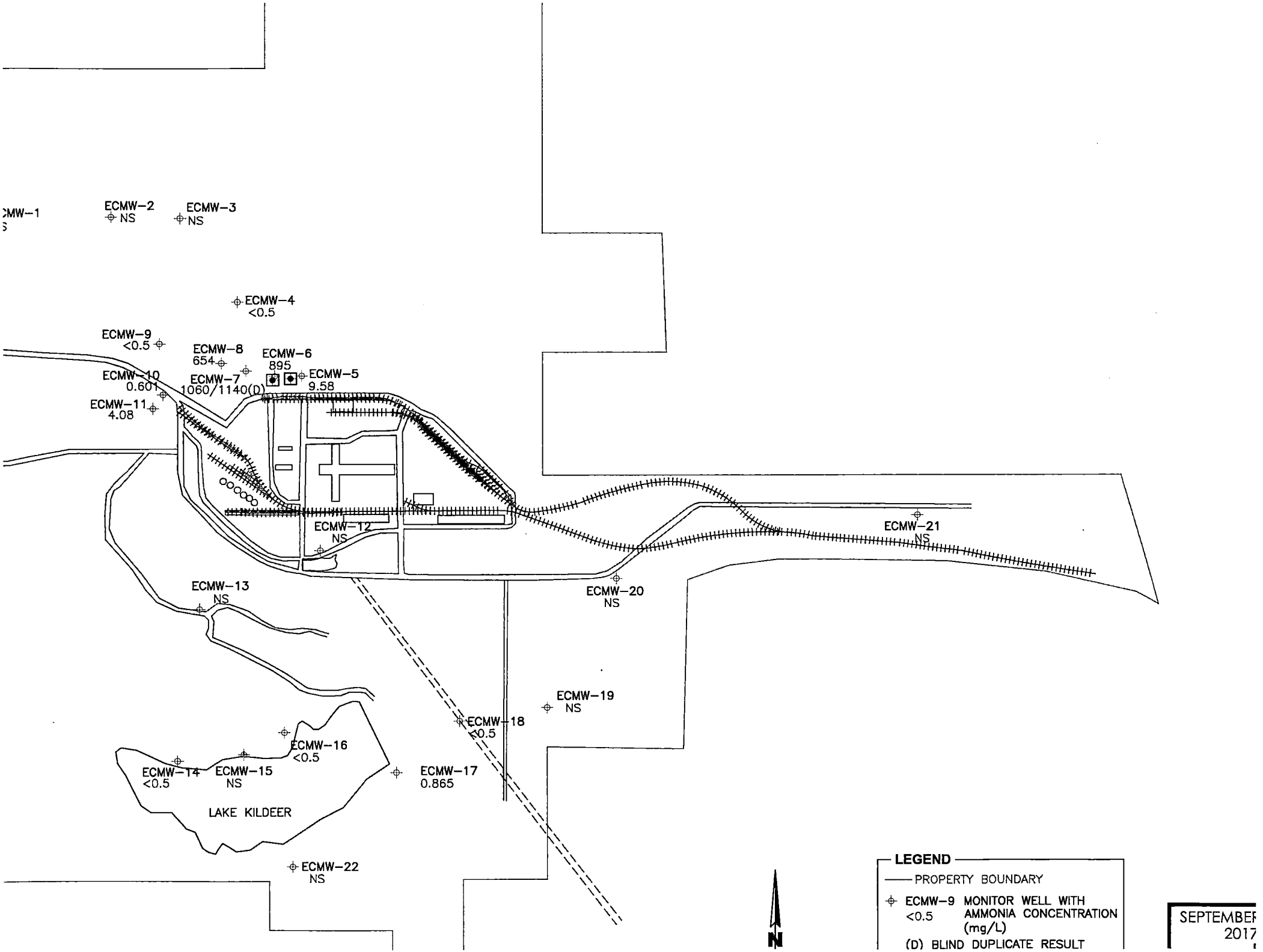
FIGURES

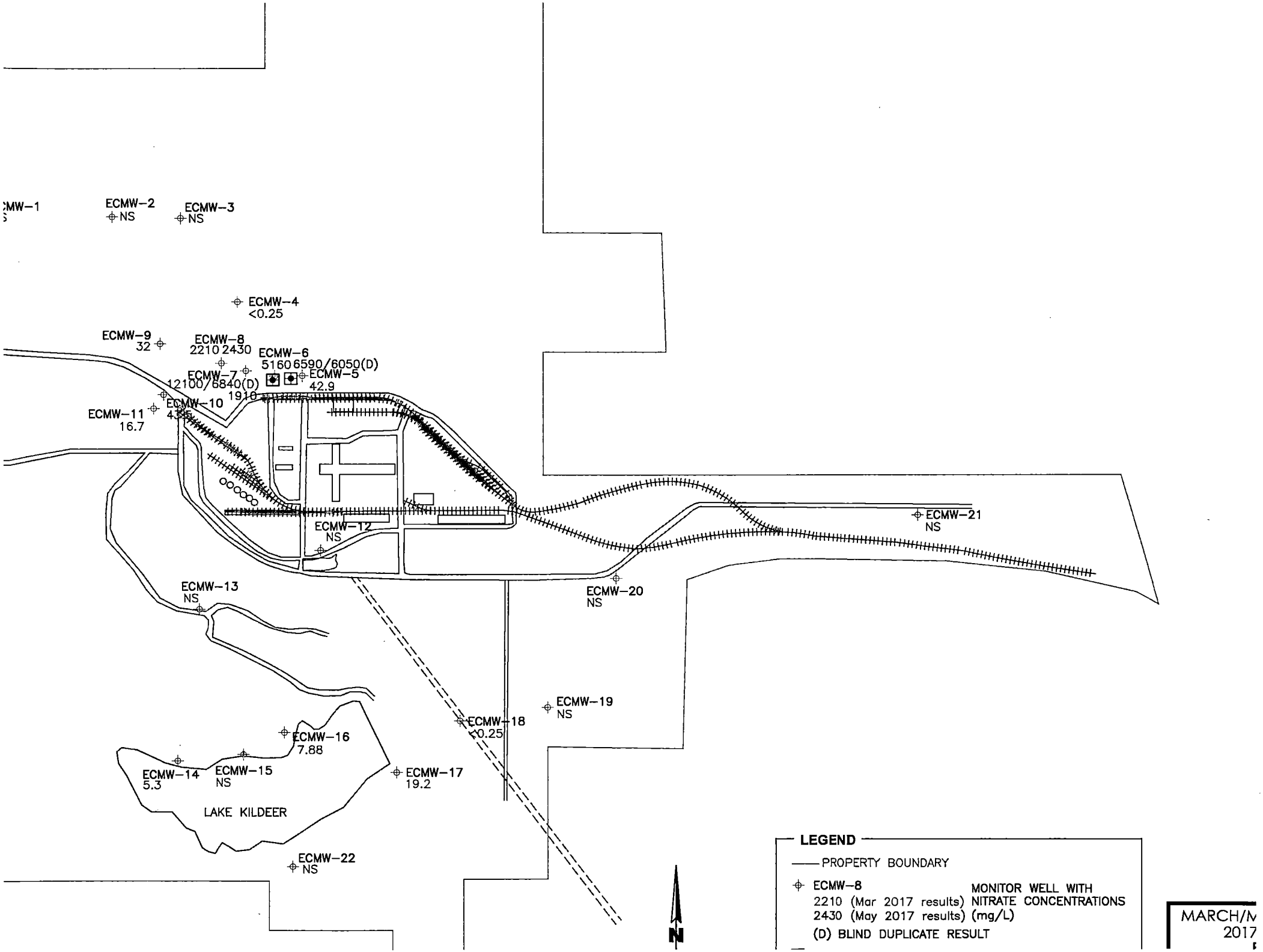

CMW–1
ECMW–2
ECMW–3
ECMW–4
ECMW–9
ECMW–7
ECMW–8
ECMW–6
ECMW–5
ECMW–10
ECRW–1
ECRW–2
ECMW–11
ECMW–21
ECMW–12
ECMW–13
ECMW–20
ECMW–16
ECMW–19
ECMW–14
ECMW–18
ECMW–15
ECMW–17
LAKE KILDEER
ECMW–22
N
2017

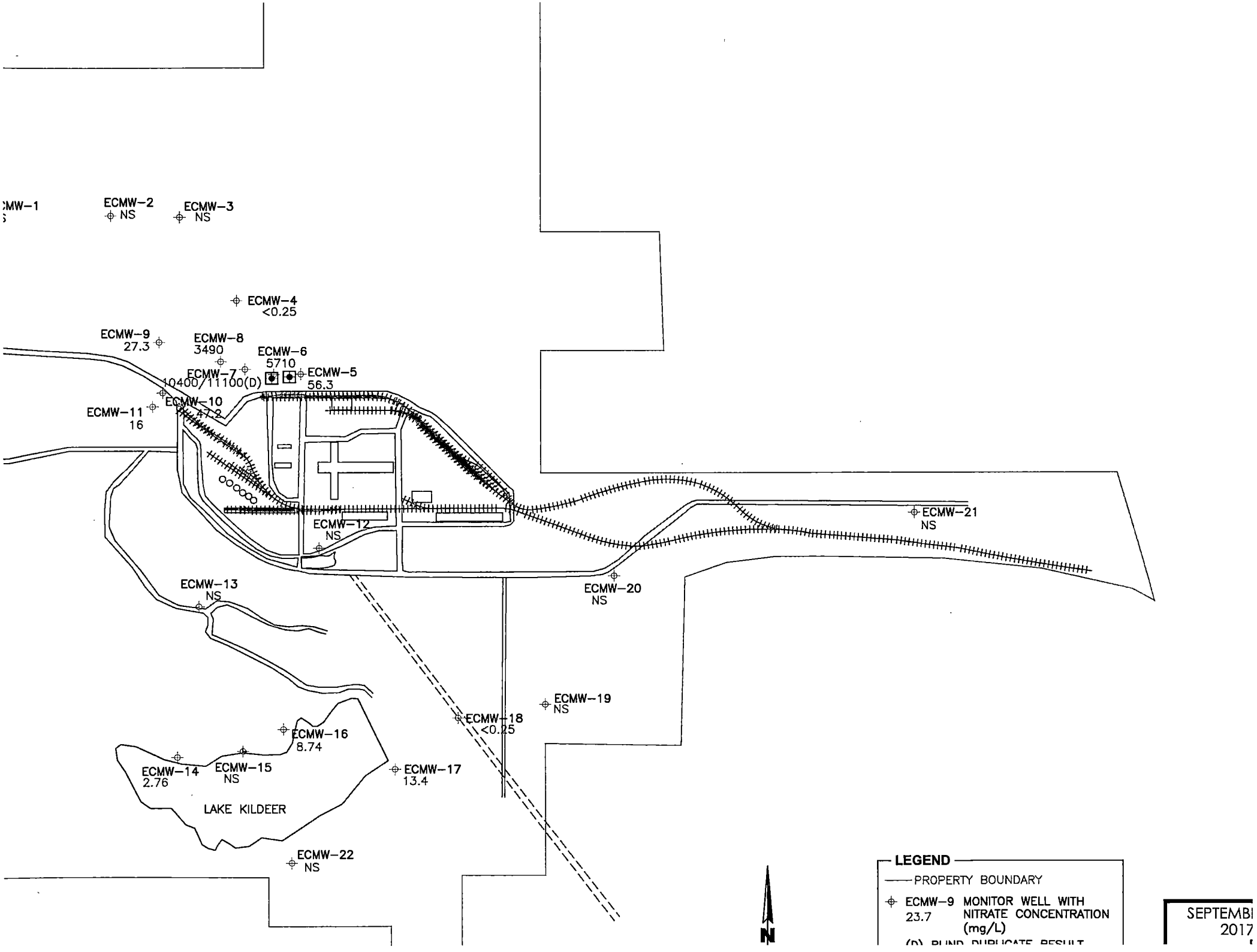

186.31
ECRW-01 Recovery W
Ground Wat
MEASUREMENTS TAKEN
ECMW-1
03.03
ECMW-2
196.22
ECMW-3
182.88
ECMW-4
186.31
ECMW-9
189.09
ECMW-7
188.68
ECMW-6
187.42
ECMW-8
190.33
ECMW-5
178.68
ECMW-10
191.47
ECMW-11
190.55
ECRW-1
ECRW-2
200
190
180
170
160
150
ECMW-12
178.93
ECMW-13
171.87
ECMW-20
165.18
ECMW-21
159.51
ECMW-18
150.42
ECMW-19
148.27
ECMW-16
175.74
ECMW-14
172.37
ECMW-15
175.99
ECMW-17
157.29
LAKE WILDSER
ECMW-22
168.05
N
MARCH
2017

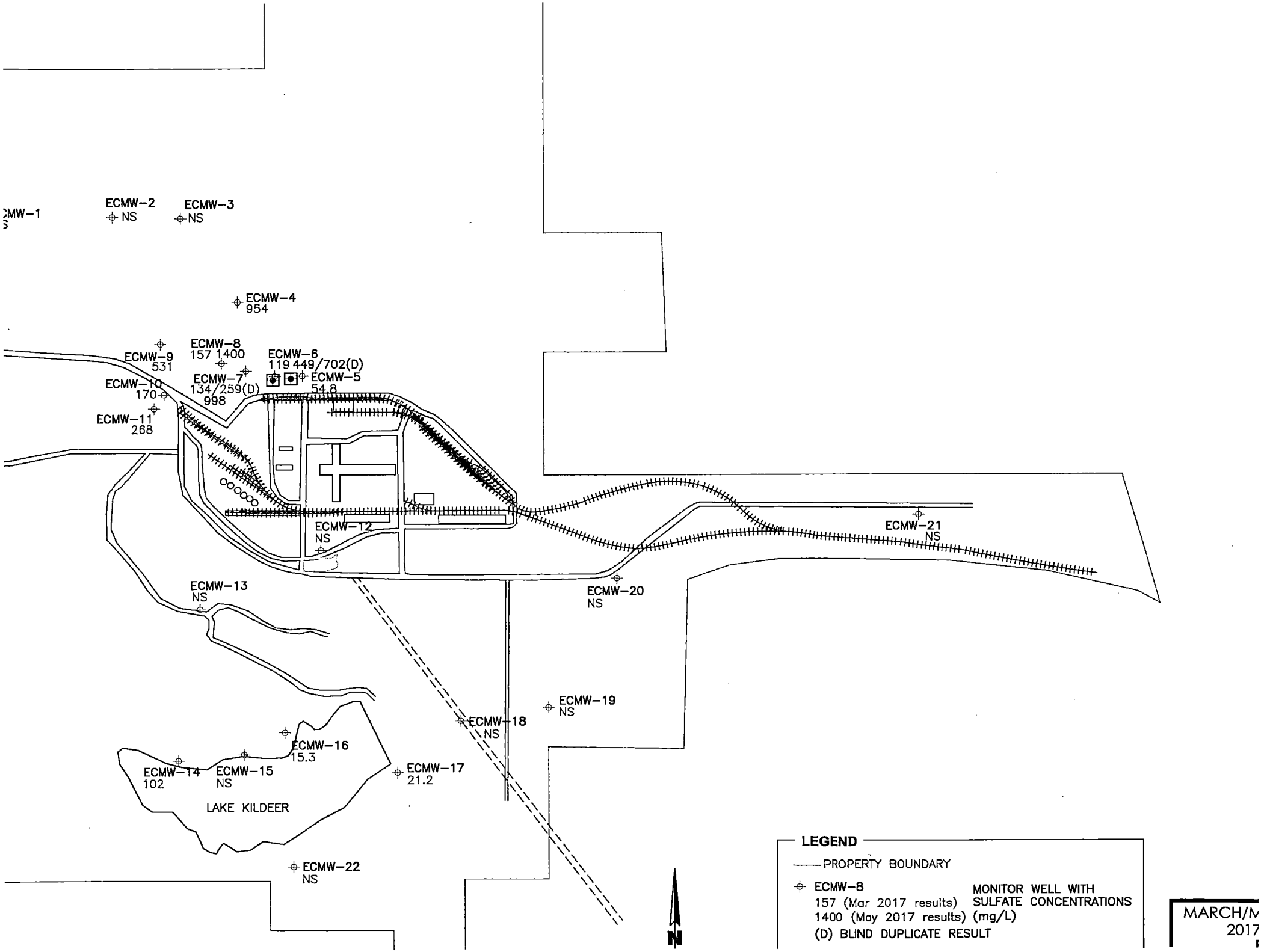

ECMW-4 186.30 Monitor We
ECRW-01 Recovery W
Ground Wc
MEASUREMENTS TAKE
MW-1 00.64
ECMW-2 196.12
ECMW-3 182.38
ECMW-4 186.30
ECMW-9 188.06
ECMW-7 189.15
ECMW-6 187.56
ECMW-8 190.67
ECMW-5 178.61
ECMW-10 191.64
ECMW-11 191.16
ECRW-1
ECRW-2
200
190
180
170
160
150
ECMW-12 179.47
ECMW-13 170.75
ECMW-20 164.43
ECMW-21 155.70
ECMW-16 175.22
ECMW-14 172.34
ECMW-15 175.41
ECMW-17 156.50
ECMW-18 149.51
ECMW-19 147.89
ECMW-22 167.60
LAKE ALDEER
N
SEPTEMBE
2017

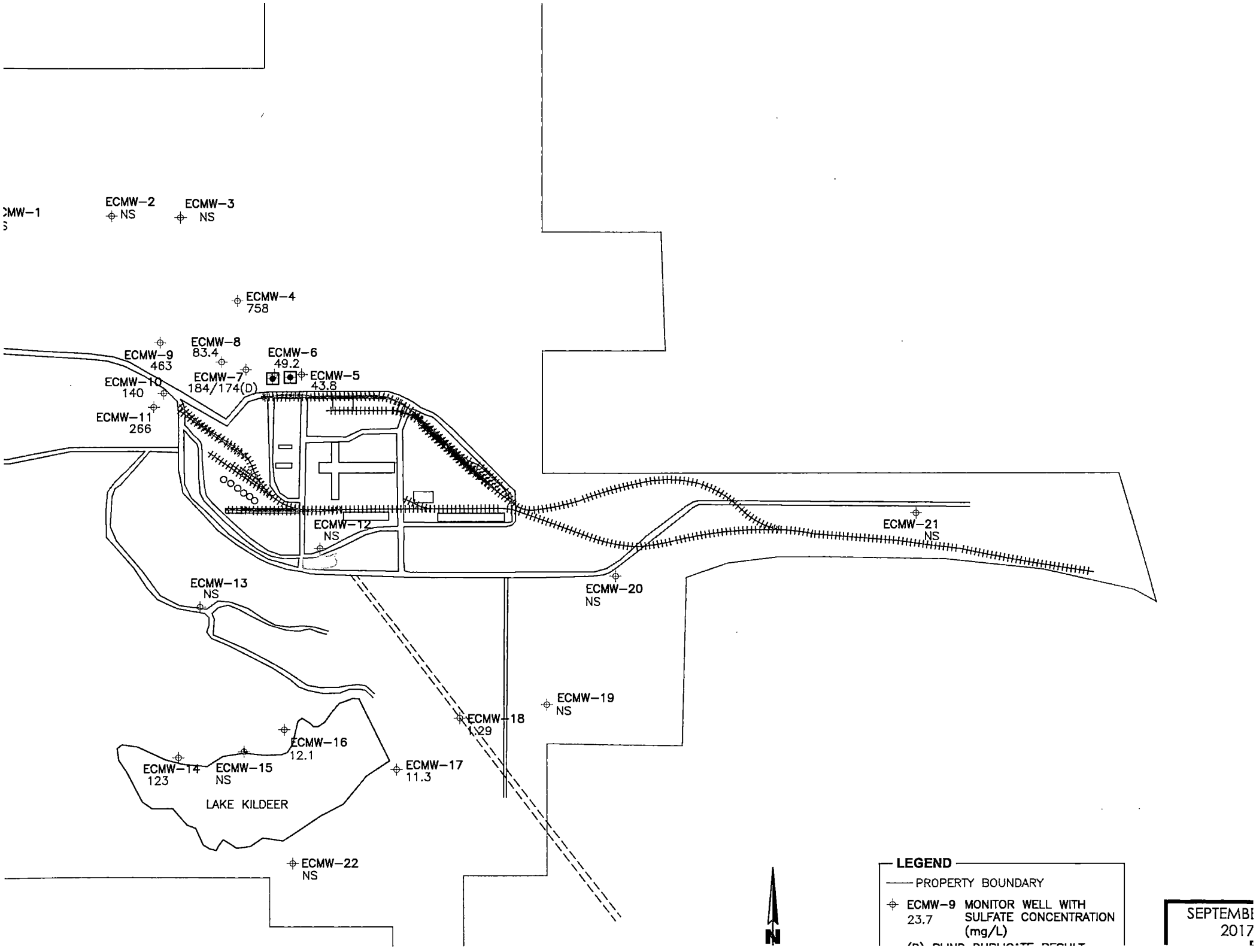

ECMW-1
5
ECMW-2
NS
ECMW-3
NS
ECMW-4
<0.5
ECMW-9
1.5
ECMW-8
877
1320
ECMW-6
1680 3500/3760(D)
ECMW-10
<0.5
ECMW-7
6950/3230(D)
947
ECMW-5
<0.5
ECMW-11
5.87
ECMW-12
NS
ECMW-21
NS
ECMW-13
NS
ECMW-20
NS
ECMW-19
NS
ECMW-18
NS
ECMW-16
<0.5
ECMW-14
0.782
ECMW-15
NS
ECMW-17
5.16
LAKE KILDEER
ECMW-22
NS
N
LEGEND
PROPERTY BOUNDARY
ECMW-8
877 (Mar 2017 results)
1320 (May 2017 results)
(D) BLIND DUPLICATE RESULT
MONITOR WELL WITH AMMONIA CONCENTRATIONS (mg/L)
MARCH/MA
2017


ECMW-1
S
ECMW-2
NS
ECMW-3
NS
ECMW-4
<0.5
ECMW-9
<0.5
ECMW-8
654
ECMW-6
895
ECMW-5
9.58
ECMW-10
0.601
ECMW-7
1060/1140(D)
ECMW-11
4.08
ECMW-12
NS
ECMW-21
NS
ECMW-13
NS
ECMW-20
NS
ECMW-19
NS
ECMW-18
<0.5
ECMW-16
<0.5
ECMW-14
<0.5
ECMW-15
NS
ECMW-17
0.865
LAKE KILDEER
ECMW-22
NS
N
LEGEND
PROPERTY BOUNDARY
ECMW-9 MONITOR WELL WITH
<0.5 AMMONIA CONCENTRATION
(mg/L)
(D) BLIND DUPLICATE RESULT
SEPTEMBER
2017


ECMW-1
ECMW-2
NS
ECMW-3
NS
ECMW-4
<0.25
ECMW-9
32
ECMW-8
2210 2430
ECMW-6
5160 6590/6050(D)
ECMW-7
12100/6840(D)
1910
ECMW-5
42.9
ECMW-10
435
ECMW-11
16.7
ECMW-12
NS
ECMW-21
NS
ECMW-13
NS
ECMW-20
NS
ECMW-19
NS
ECMW-18
<0.25
ECMW-16
7.88
ECMW-14
5.3
ECMW-15
NS
ECMW-17
19.2
LAKE KILDEER
ECMW-22
NS
N
LEGEND
PROPERTY BOUNDARY
ECMW-8
2210 (Mar 2017 results)
2430 (May 2017 results)
(D) BLIND DUPLICATE RESULT
MONITOR WELL WITH NITRATE CONCENTRATIONS (mg/L)
MARCH/M
2017


ECMW-1
ECMW-2
NS
ECMW-3
NS
ECMW-4
<0.25
ECMW-9
27.3
ECMW-8
3490
ECMW-6
5710
ECMW-7
10400/11100(D)
ECMW-5
56.3
ECMW-10
47.2
ECMW-11
16
ECMW-12
NS
ECMW-21
NS
ECMW-13
NS
ECMW-20
NS
ECMW-19
NS
ECMW-18
<0.25
ECMW-16
8.74
ECMW-14
2.76
ECMW-15
NS
ECMW-17
13.4
LAKE KILDEER
ECMW-22
NS
N
LEGEND
PROPERTY BOUNDARY
ECMW-9 MONITOR WELL WITH
23.7 NITRATE CONCENTRATION
(mg/L)
SEPTEMBI
2017


ECMW-1
5
ECMW-2
NS
ECMW-3
NS
ECMW-4
954
ECMW-9
531
ECMW-8
157 1400
ECMW-6
119 449/702(D)
ECMW-7
134/259(D)
998
ECMW-5
54.8
ECMW-10
170
ECMW-11
268
ECMW-12
NS
ECMW-21
NS
ECMW-13
NS
ECMW-20
NS
ECMW-19
NS
ECMW-18
NS
ECMW-16
15.3
ECMW-14
102
ECMW-15
NS
ECMW-17
21.2
LAKE KILDEER
ECMW-22
NS
N
LEGEND
PROPERTY BOUNDARY
ECMW-8
157 (Mar 2017 results)
1400 (May 2017 results)
(D) BLIND DUPLICATE RESULT
MONITOR WELL WITH SULFATE CONCENTRATIONS (mg/L)
MARCH/M
2017


ECMW-1
ECMW-2
NS
ECMW-3
NS
ECMW-4
758
ECMW-9
463
ECMW-8
83.4
ECMW-6
49.2
ECMW-7
184/174(D)
ECMW-5
43.8
ECMW-10
140
ECMW-11
266
ECMW-12
NS
ECMW-21
NS
ECMW-13
NS
ECMW-20
NS
ECMW-19
NS
ECMW-18
1.29
ECMW-16
12.1
ECMW-14
123
ECMW-15
NS
ECMW-17
11.3
LAKE KILDEER
ECMW-22
NS
N
LEGEND
PROPERTY BOUNDARY
ECMW-9 MONITOR WELL WITH
23.7 SULFATE CONCENTRATION
(mg/L)
SEPTEMBE
2017

APPENDIX A

SAMPLING FORMS AND LABORATORY ANALYTICAL REPORTS

Arkansas Analytical Inc.

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:

Custody Seals	✔
Containers Correct	✔
COC/Labels Agree	✔
Received On Ice	✔
Temperature on Receipt	4.0°C

Sincerely,

Norma James / Teresa Coins

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

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

ANALYTICAL RESULTS

Lab Number: 1703345-01
Sample Name: ECMW-4
Date/Time Collected: 3/21/17 9:19
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1680**		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

ANALYTICAL RESULTS

Lab Number: 1703345-04
Sample Name: ECMW-7
Date/Time Collected: 3/21/17 12:05
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1.50**		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

ANALYTICAL RESULTS

Lab Number: 1703345-07
Sample Name: ECMW-10
Date/Time Collected: 3/21/17 12:25
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**0.782**		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

ANALYTICAL RESULTS

Lab Number: 1703345-10
Sample Name: ECMW-16
Date/Time Collected: 3/21/17 13:33
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
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

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
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 / Teresa Coins

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

Arkansas Analytical Inc.

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
El Dorado Chemical Corporation	El Dorado Chemical Corp GW Samp	1 Day (100%)
4500 N West Ave		2 Day (50%)
El Dorado, AR 71730	Reporting Information	3 Day (25%)
	Telephone: 225-753-3631	5 Day (Routine)
	Fax:	Preservative Code: 2 1
	Email: lmarcelia@env-mgt.com	Bottle Type: P P

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

Sampler(s) Signature

Sampler(s) Printed: Tyler Lollis & Christina Sellers

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: Ammonia	Sulfate & Nitrate	Bottle Type Code
	3/21/2017	09:19	X		2	GW	ECMW-4	X	X	01
	3/21/2017	08:44	X		2	GW	ECMW-5	X	X	02
	3/21/2017	12:02	X		2	GW	ECMW-6	X	X	03
	3/21/2017	~~12:05~~ 11:55	X		2	GW	ECMW-7	X	X	04
	3/21/2017	10:33	X		2	GW	ECMW-8	X	X	05
	3/21/2017	10:44	X		2	GW	ECMW-9	X	X	06
	3/21/2017	12:25	X		2	GW	ECMW-10	X	X	07
	3/21/2017	07:48	X		2	GW	ECMW-11	X	X	08
	3/21/2017	13:09	X		2	GW	ECMW-14	X	X	09
	3/21/2017	13:33	X		2	GW	ECMW-16	X	X	10

Arkansas Analytical Work Order Number: 17033415

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
	3/22/17 0753	
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)
		Sydney Jahns

SAMPLE CONDITION UPON RECEIPT IN LAB

1. CUSTODY SEALS:	✓ Yes ___ No
2. CONTAINERS CORRECT:	✓ Yes ___ No
3. COC/LABELS AGREE:	✓ Yes ___ No
4. RECEIVED ON ICE:	✓ Yes ___ No
5. TEMPERATURE ON RECEIPT:	4 °C
6. TEMPERATURE GUN ID:	HHT# 2

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

Arkansas Analytical Inc.

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:
El Dorado Chemical Corporation	El Dorado Chemical Corp GW Samp	1 Day (100%)	1. Cool, 4 Degrees Centigrade; 4. Thiosulfate for Dechlorination
4500 N West Ave		2 Day (50%)	2. Sulfuric Acid (H_2SO_4), pH < 2; 5. Hydrochloric Acid(HCl)
El Dorado, AR 71730	Reporting Information	3 Day (25%)	3. Nitric Acid (HNO_3), pH < 2; 6. Sodium Hydroxide (NaOH), pH > 12
	Telephone: 225-753-3631	5 Day (Routine)	TEST PARAMETERS
	Fax:	Preservative Code:	2 / 1 / 1
	Email: lmarcella@env-mgt.com	Bottle Type:	P / P / P

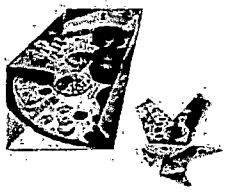
Sampler(s) Signature

Sampler(s) Printed: Tyler Lollis & Christina Sellers

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	Ammonia	Sulfate & Nitrate	Nitrates Only	Bottle Type Code	Arkansas Analytical Work Order Number: 17032845
	3/21/2017	1325	X		2	GW	ECMW-17	X	X			11
	3/21/2017	1357	X		2	GW	ECMW-18			X		12
	3/21/2017	00:00	X		2	GW	BD-1	X	X			13

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)	SAMPLE CONDITION UPON RECEIPT IN LAB	REMARKS / SAMPLE COMMENTS
	3/22/17 0753		1. CUSTODY SEALS: ✓ Yes ___ No	
			2. CONTAINERS CORRECT: ✓ Yes ___ No	
			3. COC/LABELS AGREE: ✓ Yes ___ No	
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)	4. RECEIVED ON ICE: ✓ Yes ___ No	
		Sydney James	5. TEMPERATURE ON RECEIPT: 4 °C	
			6. TEMPERATURE GUN ID: HHT# 2	
			FOR COMPLETION BY LAB ONLY	

e-Hardcopy 2.0
Automated Report



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
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)

Sections: 1 2 3 4 5 6 7

Table of Contents

Sample Summary

Environmental Management Services

Job No: LA33009

El Dorado Chemical Corp GW Sampling-El Dorado, AR

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
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

2

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

Lab Sample ID / Analyte	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

3.1
3

Client Sample ID:	ECMW-6		
Lab Sample ID:	LA33009-1	**Date Sampled:**	05/01/17
Matrix:	AQ - Ground Water	**Date Received:**	05/02/17
		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

Client Sample ID:	ECMW-7		
Lab Sample ID:	LA33009-2	**Date Sampled:**	05/01/17
Matrix:	AQ - Ground Water	**Date Received:**	05/02/17
		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

3.3

Client Sample ID:	ECMW-8		
Lab Sample ID:	LA33009-3	**Date Sampled:**	05/01/17
Matrix:	AQ - Ground Water	**Date Received:**	05/02/17
		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		
Lab Sample ID:	LA33009-4	**Date Sampled:**	05/01/17
Matrix:	AQ - Ground Water	**Date Received:**	05/02/17
		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

Nitrate 05/01/17 LAB

CHAIN OF CUSTODY

SGS ACCUTEST

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

PAGE _1_ OF _1_

FED-EX Tracking # 0221 7906 4764 8334 | Bottle Order Control # EM-4-19-2017-7
Accutest Quote # | Accutest Job # LA33009

Client / Reporting Information

Company Name: Environmental Management Services, Inc
Street Address: 12232 Industriplex Blvd
City: Baton Rouge State: LA Zip: 70809
Project Contact: Laurie Marcella E-mail: lmarcella@env-mgt.com
Phone #: 225-753-3631 Fax #:
Sampler(s) Name(s): Tyler Lollis Phone #: 228-219-9234

Project Information

Project Name: El Dorado Chemical Corp GW Sampling
Street:
City: El Dorado State: AR
Project #: ELD002001
Client Purchase Order #:
Project Manager: Laurie Marcella

Billing Information (if different from Report to)

Company Name: Environmental Management Services, Inc
Street Address: PO Box 15369
City: Hattiesburg State: MS Zip: 39404
Attention: Laurie Marcella

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED - Sediment; OL - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB - Equipment Blank; RB - Rinse Blank; TB - Trip Blank

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MeOH	TBP	NaHSO4	ENCORE	OTHER	Ammonia	Sulfate, Nitrate by 9056														LAB USE ONLY
1	ECMW-6	5/1/2017	10:49	TL	GW	2					X	X							X	X														2
2	ECMW-7	5/1/2017	10:02	TL	GW	2					X	X							X	X														2
3	ECMW-8	5/1/2017	9:17	TL	GW	2					X	X							X	X														2
4	DUP	5/1/2017	8:43	TL	GW	2					X	X							X	X														2

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [X] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

OL) (14)

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Tyler Lollis	5/1/17	FEDEX			
2					05-02-17 0900	
3		5/2/17 0950				
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal # CS on Cool	Intact / Not Intact	Preserved where applicable

On Ice: ☐ Cooler Temp. (3.1 D) (4.8)

4.1 4

LA33009: Chain of Custody
Page 1 of 3

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

EL DORADO, AR 71730
UNITED STATES US

SHIP DATE: 19APR17
ACTWGT: 30.00 LB
CAD: 107391612/INET3850

TO SAMPLE MANAGEMENT
SGS ACCUTEST-LAFAYETTE
109 COMMISSION BLVD

LAFAYETTE LA 70508
(337) 237-4775 REF: WELLS 6, 7, 8
INV:
PO: DEPT:

546J2/CFD65/3C1

RMA:

FedEx Express

RETURNS MON-SAT
PRIORITY OVERNIGHT
HLD
70508

TRK# 0221 7906 4764 8334

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 ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

LA33009: Chain of Custody
Page 2 of 3

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);

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. Thermometer ID:	;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
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

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

6

Custody Documents and Other Forms

(SGS Accutest Gulf Coast)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS ACCUTEST

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

FED-EX Tracking #: | Bottle Order Control #:
SGS Accutest Quote #: | SGS Accutest Job #: LA33009

Client / Reporting Information

Company Name: SGS Accutest
Street Address: 500 Ambassador Caffery Parkway
City: Scott State: LA Zip: 70583
Project Contact: ralph.frye@sgs.com E-mail:
Phone #: 800-304-5227 Fax #:
Sampler(s) Name(s): TL Phone:

Project Information

Project Name: El Dorado Chemical Corp GW Sampling-El Dorado, AR
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; 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- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	AMMN4500_SO4IC9056	LAB USE ONLY
1	ECMW-6		5/1/17	10:49:00 AM	TL	AQ										X	
2	ECMW-7		5/1/17	10:02:00 AM	TL	AQ										X	
3	ECMW-8		5/1/17	9:17:00 AM	TL	AQ										X	
4	DUP		5/1/17	8:43:00 AM	TL	AQ										X	

TAGGED BY:

VERIFIED BY:

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 5/12/2017

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULL-T1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C" X COMMB
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

1 Relinquished by: Sampler	Date Time: 5-2-17	1 Received By:	2 Relinquished By:	Date Time: 5-3-17	Received By:
3 Relinquished by: Sampler	Date Time: 5-3-17 1220	3 Received By:	4 Relinquished By:	Date Time:	Received By: 4
5 Relinquished by:	Date Time:	5 Received By:	Custody Seal #	[ ] Intact [ ] Not Intact	Preserved where applicable: [ ] On Ice [ ] Cooler Temp 2.5

6.1
6

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

Cooler 3

Date / Time: 5/2/2017 11:23:35 AM
CSR: ralphf
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 ,	2	14 ,OL ,	TL	5/1/2017	10:49:00 AM	
LA33009-2	ECMW-7	AMN4500 ,SO4IC9056 ,	2	14 ,OL ,	TL	5/1/2017	10:02:00 AM	
LA33009-3	ECMW-8	AMN4500 ,SO4IC9056 ,	2	14 ,OL ,	TL	5/1/2017	9:17:00 AM	
LA33009-4	DUP	AMN4500 ,SO4IC9056 ,	2	14 ,OL ,	TL	5/1/2017	8:43:00 AM	

Comments:

Sample Management Receipt: Jessica Date: 1220 5/3/17

4-500ml Amb w/ Surf
4-500ml

6.1
6

LA33009: Chain of Custody
Page 2 of 4

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

LA33009: Chain of Custody
Page 3 of 4

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

LA33009: Chain of Custody
Page 4 of 4

General Chemistry

7

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

Arkansas Analytical Inc.

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:

Custody Seals	✔
Containers Correct	✔
COC/Labels Agree	✔
Received On Ice	✔
Temperature on Receipt	9.0°C

Sincerely,

Norma James / Teresa Coins

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

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: 1709124-01
Sample Name: ECMW-17
Date/Time Collected: 9/12/17 7:12
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.500		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: 1709124-04
Sample Name: ECMW-18
Date/Time Collected: 9/12/17 7:58
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**0.601**		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: 1709124-07
Sample Name: ECMW-9
Date/Time Collected: 9/12/17 8:42
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**654**		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: 1709124-10
Sample Name: ECMW-7
Date/Time Collected: 9/12/17 9:08
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
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
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
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**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**174**		9/13/17 15:42	B709123	EPA 300.0, 2.1-1993
Nitrate as N	mg/L	**11100**		9/13/17 8:55	B709123	EPA 300.0, 2.1-1993

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**1140**		9/15/17 13:30	B709146	SM 4500-NH3 B,D,C-1997

QUALITY CONTROL RESULTS

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

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.250 mg/L	98.2% / NA	107% / 106%		0.403%	
Sulfate as SO4	<0.500 mg/L	103% / NA	102% / 104%		1.98%	

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

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.500 mg/L	81.1% / NA	81.1% / 86.6%		5.63%	

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 / Teresa Coins

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

Arkansas Analytical Inc.

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

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION	BILLING INFORMATION
El Dorado Chemical Inc.	El Dorado Chemical Inc.
4500 Northwest Ave.	P.O. Box 231
El Dorado, AR 71731	El Dorado, AR 71731
Attn: David Sartain	

Project Description: Groundwater Samples

Reporting Information
Telephone: 870-863-1484
Fax: 870-863-1499
Email: dsartain@edc-ark.com; epearson@edc-ark.com; lmarcella@env-mgt.com

Turnaround Time: 1 Day (100%) | 2 Day (50%) | 3 Day (25%) | 5 Day (Routine)

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

Sampler(s) Signature: Christina Sellers

Sampler(s) Printed: Christina Sellers

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	Nitrate, Sulfate	Ammonia	TEST PARAMETERS	Arkansas Analytical Work Order Number: 1709124
							Preservative Code:	1	1,2		Bottle Type Code
							Bottle Type:	P	P		G = Glass; P = Plastic; V = Septum; A = Amber
	9/12/17	0712	X		2	Water	ECMW- 17	X	X		01
	9/12/17	0724	X		2	Water	ECMW- 16	X	X		02
	9/12/17	0732	X		2	Water	ECMW- 14	X	X		03
	9/12/17	0758	X		2	Water	ECMW- 18	X	X		04
	9/12/17	0819	X		2	Water	ECMW- 11	X	X		05
	9/12/17	0830	X		2	Water	ECMW- 10	X	X		06
	9/12/17	0842	X		2	Water	ECMW- 9	X	X		07
	9/12/17	0848	X		2	Water	ECMW- 4	X	X		08
	9/12/17	0857	X		2	Water	ECMW- 8	X	X		09
	9/12/17	0908	X		2	Water	ECMW- 7	X	X		10

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
	9/12/17	9-12-17 13:29
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)
	9-12-17 16:00	

SAMPLE CONDITION UPON RECEIPT IN LAB

1. CUSTODY SEALS:	✓ Yes	No
2. CONTAINERS CORRECT:	✓ Yes	No
3. COC/LABELS AGREE:	✓ Yes	No
4. RECEIVED ON ICE:	✓ Yes	No
5. TEMPERATURE ON RECEIPT:	9 °C	
6. TEMPERATURE GUN ID:	HHT# 2	

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

Arkansas Analytical Inc.

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

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION	BILLING INFORMATION
El Dorado Chemical Inc.	El Dorado Chemical Inc.
4500 Northwest Ave.	P.O. Box 231
El Dorado, AR 71731	El Dorado, AR 71731
Attn: David Sartain	

Project Description: Groundwater Samples

Reporting Information
Telephone: 870-863-1484
Fax: 870-863-1499
Email: dsartain@edc-ark.com; epearson@edc-ark.com; lmarcelle@env-mgt.com

Turnaround Time: 1 Day (100%) / 2 Day (50%) / 3 Day (25%) / 5 Day (Routine)

Preservative Code: 1 | 1,2
Bottle Type: P | P

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

Sampler(s) Signature: Christina Sellers

Sampler(s) Printed: Christina Sellers

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: Nitrate, Sulfate	Ammonia	Bottle Type Code	Arkansas Analytical Work Order Number: 1709124
	9/12/17	0918	X		2	Water	ECMW-6	X	X		11
	9/12/17	0924	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		
			X		2	Water	ECMW-	X	X		

1. Relinquished by: (Signature) — Date/Time: 9/12/17
2. Received by: (Signature) — 9-12-17 13:29
3. Relinquished by: (Signature) — Date/Time: 9-12-17 1600
4. Received by lab: (Signature)

SAMPLE CONDITION UPON RECEIPT IN LAB

1. CUSTODY SEALS:	___Yes	___No
2. CONTAINERS CORRECT:	✓ Yes	___No
3. COC/LABELS AGREE:	✓ Yes	___No
4. RECEIVED ON ICE:	✓ Yes	___No
5. TEMPERATURE ON RECEIPT:	9 °C	
6. TEMPERATURE GUN ID:	HHT# 2	

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	18.6	4.91	102.5	slightly cloudy grey
1	17.2	4.82	46.3	more translucent than before
2	17.1	4.09	39.9	very slightly cloudy, mostly clear
3	17.2	4.05	39.7	" "

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	1:38		
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

WV	Temperature[°C]	pH	Conductivity[µS]	
0	17.8	4.86	258.8	slightly cloudy
1	17.1	5.11	258.6	milky grey
2	18.0	5.07	290.8	thick milky cream color
3	18.6	5.45	288.4	" "

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site **El Dorado Chemical Company** Well No. **ECMW-3**

Sampling Personnel Tyler Lollis

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	19.3	5.23	214.9	clear	
1	17.6	5.38	204.4	clear	
2	18.0	5.60	203.6	clear	
3	19.4	5.91	195.3	Slight gray/yellow tint	

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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

WV	Temperature[°C]	pH	Conductivity[µS]	
0	18.1	4.37	5.55 mS	clear vinegar smell
1	18.0	4.26	6.17 mS	clear vinegar smell
2	20.2	4.46	6.64 mS	" " well ran dry on 8th gal
3				

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/ H_2SO_4, 1 4oz plastic w/no pres.

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

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 4.61	Gallons per well volume	gal 9.08
Top of casing to bottom	ft 17.98	Total gallons evacuated	gal 27
Sampling Date/Time	3/21/17 0844	Method of Sampling	Bailer

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[µS]	
0	17.8	4.52	549	Clear, noticable odor or SS
1	17.7	4.38	544	"
2	17.9	4.58	547	"
3	18.4	4.65	578	"

GENERAL INFORMATION

Weather conditions at time of sampling: Sunny, clear, slight breeze, cool

Sample characteristics: Clear, no noticable odor or SS

Containers and preservatives: 1x 8oz Plastic w/ H_2SO_4, 1x 4oz Plastic w/ No Pres

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

Certification: Chris Son

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	20.7	3.54	45.1 mS	Clear, no discernable SS or odor	
1	20.2	3.64	41.59 mS	"	
2	20.5	3.11	42.12 mS	"	
3	20.4	2.61	42.43 mS	"	

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: 1x8oz Plastic w/H_2SO_4, 1x4oz plastic w/no pres

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

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	22.5	5.67	7.78mS	clear, vinegar	smell
1	20.7	6.12	19.47mS	"	"
2	21.9	5.19	25.56mS	"	"
3	20.8	5.46	27.90mS	"	"

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/H_2SO_4, 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	MiniMonsoon
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	20.1	3.55	24.65mS	clear, no obvious SS or odor
1	20.0	3.60	28.48mS	"
2	20.0	3.56	30.25mS	"
3	20.2	3.61	30.83mS	"

GENERAL INFORMATION

Weather conditions at time of sampling: Bright, clear, light breeze

Sample characteristics: Clear, no obvious odor or SS

Containers and preservatives: 1x8oz Plastic w/H_2SO_4, 1x4oz plastic w/no pres.

Comments and observations: Replaced 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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

WV	Temperature[°C]	pH	Conductivity[µS]	
0	20.7	6.27	2162	clear, no odor
1	21.4	6.23	2254	clear, no odor
2	21.0	6.01	2257	clear, no odor
3	~1.0	6.17	2189	clear, no odor

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/H_2SO_4, 1 4oz plastic w/no pres.

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

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	06:67		
Top of casing to water level ft	14.28	Gallons per well volume gal	5.65
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

WV	Temperature[°C]	pH	Conductivity[µS]		
0	18.7	4.30	750	clear	
1	19.5	4.49	756	very light brown	cloudy
2	19.5	4.60	751	"	"
3	18.9	4.65	747	"	well ran dry on 3rd WV @ 3 gal

GENERAL INFORMATION

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

Sample characteristics:

Containers and preservatives: 1 8oz plastic w/ H_2SO_4, 1 4oz 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	17.8	3.86	687	Clear, no discernable odor or SS
1	16.6	3.06	613	"
2	18.3	4.12	698	"
3	18.8	4.07	822	"

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/H_2SO_4, 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site **El Dorado Chemical Company** Well No. **ECMW-12**

Sampling Personnel Tyler Lollis

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	20.26	Total gallons evacuated gal	20
Sampling Date/Time		Method of Sampling	

SAMPLE DATA

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

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site: **El Dorado Chemical Company** Well No. **ECMW-13**

Sampling Personnel: Tyler Collis

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 smell
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 2.5gal

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 - Monsoon
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	24.21
Sampling Date/Time	3/21/17 13:09	Method of Sampling	

SAMPLE DATA

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

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/ H_2SO_4, 1 4oz 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	16.5	4.40	107.5	clear	
1	16.3	4.47	79.7µS	clear	
2	16.8	4.46	81.9	clear	
3	17.6	4.67	74.5	clear	

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	1623		
Top of casing to water level ft	4.4	Gallons per well volume gal	9.89
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 8oz plastic w/H_2SO_4, 1 4oz 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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-Monsoon
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

WV	Temperature[°C]	pH	Conductivity[µS]	
0	23.2	6.28	282.6	clear, no odor
1	21.6	5.35	343.6	clear, no odor
2	20.2	5.03	283.2	" "
3	20.3	4.60	259.8	" "

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/ H_2SO_4, 1 4oz plastic w/no preservative

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

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	15:03		
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

WV	Temperature[°C]	pH	Conductivity[µS]	
0	23.9	5.31	83.6	light-brown, cloudy, vinegar smell
1	19.7	5.24	74.2	light-brown, turbid
2	20.2	5.32	81.0	light-brown, cloudy
3	18.8	5.35	87.6	cloudier than prev., well ran dry at 1.5 gal. on 3rd WV

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: 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	23.6	5.49	92.3	slight brown tint
1	20.0	5.47	88.1	Mostly clear/slight brown tint
2	18.7	5.58	85.0	clear
3	19.1	5.52	86.0	" "

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	22.3	5.18	128.7	clear
1	20.1	5.48	83.7	slight yellow tint
2	19.8	5.39	90.1	" " went dry at 2 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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

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

GENERAL INFORMATION

Weather conditions at time of sampling:

Sample characteristics:

Containers and preservatives:

Comments and observations: Installed new bailer & string; used new bailer to evacuate

Certification: Tyler Lollis Chris Jones

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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

WV

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[µS]		
0	16.2	5.08	166.3	clear, no odor	
111½ 1	18.1	5.32	150.5	clear, no odor	
111½ 2	17.8	5.58	151.1	clear, no odor	
111½ 3	18.2	5.64	151.1	clear, no odor	

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	Bailer

SAMPLE DATA

	Temperature[°C]	pH	Conductivity[µS]	
0	18.4	3.91	58.60mS	clear, no odor
1	18.7	3.80	52.60mS	clear, no odor
2	18.4	3.79	51.40mS	clear no odor
3	18.4	3.79	51.20mS	Clear, no odor

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) 160z Amber w/ H_2SO_4, (2) 500mL 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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

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

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/ H_2SO_4, (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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	Bailer

SAMPLE DATA

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

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) 16 oz Amber w/H_2SO_4, (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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	0836		
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	19.9	4.02	83.7	clear, no odor	
1	20.0	4.45	42.6	" "	
2	19.5	4.79	44.4	" "	
WV+4821	19.4	4.82	44.6	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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	0900		
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 + 4gal	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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	Mini-Monsoon Pump
Evacuation Time	0929		
Top of casing to water level ft	9.73	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

WV	Temperature[°C]	pH	Conductivity[µS]		
0	20.4	5.02	209.6	clear, no odor	
1	19.2	5.37	233.0	" "	
WV + 10gal	19.3	5.66	238.1	" w/some black SS, 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	24.4	3.80	5.93mS	clear, salty odor	
1	21.2	3.63	6.50mS	" " IW	
WV + 6 gal	21.1	3.59	6.51mS	" " ran	dry

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: 1x 4oz plastic w/H_2SO_4, 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	17:36		
Top of casing to water level ft	4.08	Gallons per well volume gal	8.04
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

MW

	Temperature[°C]	pH	Conductivity[µS]	
0	23.6	4.12	631	clear, no odor
1	22.3	4.14	695	" "
2	21.8	4.31	647	" "
3	22.1	4.41	6.51	" "

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/ H_2SO_4, 1x4oz 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	11:22		
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	22.4	3.26	46.39 mS		
1	22.4	3.41	44.39 mS		
2	22.4	3.38	44.32 mS		
3	22.4	3.42	44.85 mS		

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 40z plastic w/ H_2SO_4, 1 x 40z 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW- 7

Sampling Personnel CS Sellers

MONITORING WELL INFORMATION

Evacuation Date	9/11/17	Method of Evacuation	Mini-Monsoon Pump
Evacuation Time	11:15		
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	Bailer

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[µS]		
0	24.9	4.40	6.79mS	clear no odor	
1	21.2	4.54	18.74mS	" "	
2	21.7	5.39	27.45mS	" "	
3	21.7	5.46	28.37mS	" "	

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/H_2SO_4, 1x4oz plastic unprs

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~~

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	0936		
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	23.7	3.64	15.53mS	clear, vinegar odor
1	21.0	3.54	26.48 mS	" " "
2	21.2	3.51	30.02 mS	" " "
	21.4	3.50	31.51 mS	" " "

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/ H_2SO_4, 1x4oz plastic unpres

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 pump
Evacuation Time	0930		
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 0843	Method of Sampling	Bailer

SAMPLE DATA

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

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/ H_2SO_4, 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time		12:38			
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	25.9	4.18	1184	clear, no odor
1	22.9	4.17	809	slightly cloudy, no odor
2	23.9	4.26	862	light grey tint, no odor; ran dry

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/H_2SO_4, 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	13:51		
Top of casing to water level ft	10.49	Gallons per well volume gal	6.16
Top of casing to bottom ft	26.12	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	23.8	4.55	706 µS	clear, no odor	
1	22.9	4.21	746	" "	
2	22.9	4.08	831	" "	
3	23.2	4.03	919	clear w/small	black particles, solid

GENERAL INFORMATION

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

Sample characteristics: Clear, no odor, some organics (dead ants)

Containers and preservatives: 1 x 4oz plastic w/H_2SO_4, 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site El Dorado Chemical Company Well No. ECMW-12

Sampling Personnel Tyler Collins

MONITORING WELL INFORMATION

Evacuation Date	9/13/17	Method of Evacuation	Mini-Monsoon Pump
Evacuation Time	10:02		
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	23.4	4.96	509.0	clear, no odor
1	23.2	5.43	611.0	" "
2	22.6	5.84	768	light brown tint
MW+2021	22.5	5.97	640	light brown/orange color, ran dry

GENERAL INFORMATION

Weather conditions at time of sampling:

Sample characteristics:

Containers and preservatives:

Comments and observations:

Certification: Tyler Collins

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	10:29		
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 17.5
Sampling Date/Time	N/A	Method of Sampling	N/A

SAMPLE DATA

WV	Temperature[°C]	pH	Conductivity[µS]		
0	21.2	4.65	1069	clear, no odor	
1	22.9	4.74	577	" "	
2	21.1	4.93	1379	" "	
3WV+3gal	24.7	5.04	1348	light brown tint, can 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	26.3	4.51	369.9	Clear, no odor
1	25.7	4.73	436.3	Clear, no odor
2	24.7	4.64	498.0	" "
3	23.9	4.62	503	" "

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/ H_2SO_4 (2 containers total)~~ CSS
1x 4oz plastic w/ H_2SO_4, 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	23.5	4.43	79.8	" "	
WV + 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

GROUNDWATER SAMPLING DATA FORM

FIELD LOG

Site **El Dorado Chemical Company** Well No. **ECMW-** 16

Sampling Personnel CS/ES

MONITORING WELL INFORMATION

Evacuation Date	9/11/17	Method of Evacuation	Mini-Monsoon Pump
Evacuation Time	1611		
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	26.8	4.07	176.5	clear, no odor	
1	24.6	4.06	129.9	" "	
2	24.2	4.13	126.3	" "	
3	24.5	4.13	133.6	" "	

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 4oz plastic, 1 w/ H_2SO_4~~ CSS
1 x 4oz plastic w/ H_2SO_4, 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	17:00		
Top of casing to water level	ft 28.09	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	22.1	4.11	240.6	clear, no odor	
1	20.9	5.24	207.6	" "	
2	20.2	4.68	184.3	" "	
3	19.9	4.32	195.9	" "	

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: ~~2x4oz plastic, 1 with~~ CSS 1x4oz plastic with H_2SO_4, 1x4oz 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	18:25		
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, 07:58	Method of Sampling	Bailer

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	milky light brown
WV+2.5 gal	20.3	5.11	82.2	" " tan 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: 1x40z plastic w/ H_2SO_4, 1x4oz 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	13:53		
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	23.9	4.87	86.7	clear, vinegar odor	
1	20.4	5.31	84.9	clear, no odor	
2	20.6	5.54	84.1	" "	
3	21.1	5.55	83.2	" "	

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	14:25		
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

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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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	21.6	4.16	64.3	slight grey tint	
1	20.4	4.18	61.4	" " 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

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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 Pump
Evacuation Time	11:21		
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	24.1	5.12	166.7	clear, no odor	
1	20.4	5.42	155.9	" "	
2	20.2	5.53	142.6	" "	
3	20.2	5.71	157.2	" "	

GENERAL INFORMATION

Weather conditions at time of sampling:

Sample characteristics:

Containers and preservatives:

Comments and observations:

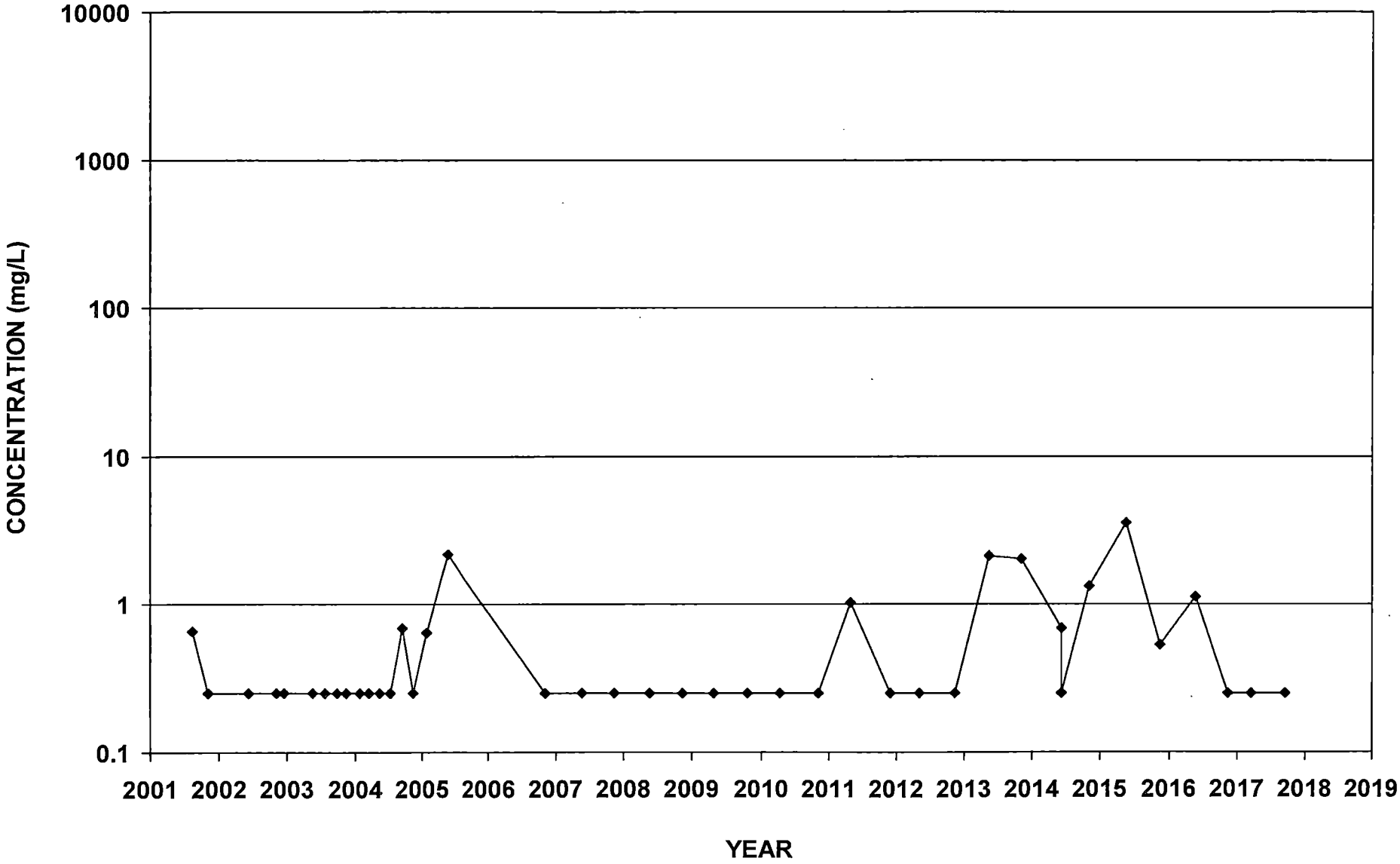
Certification: Tyler Lollis

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

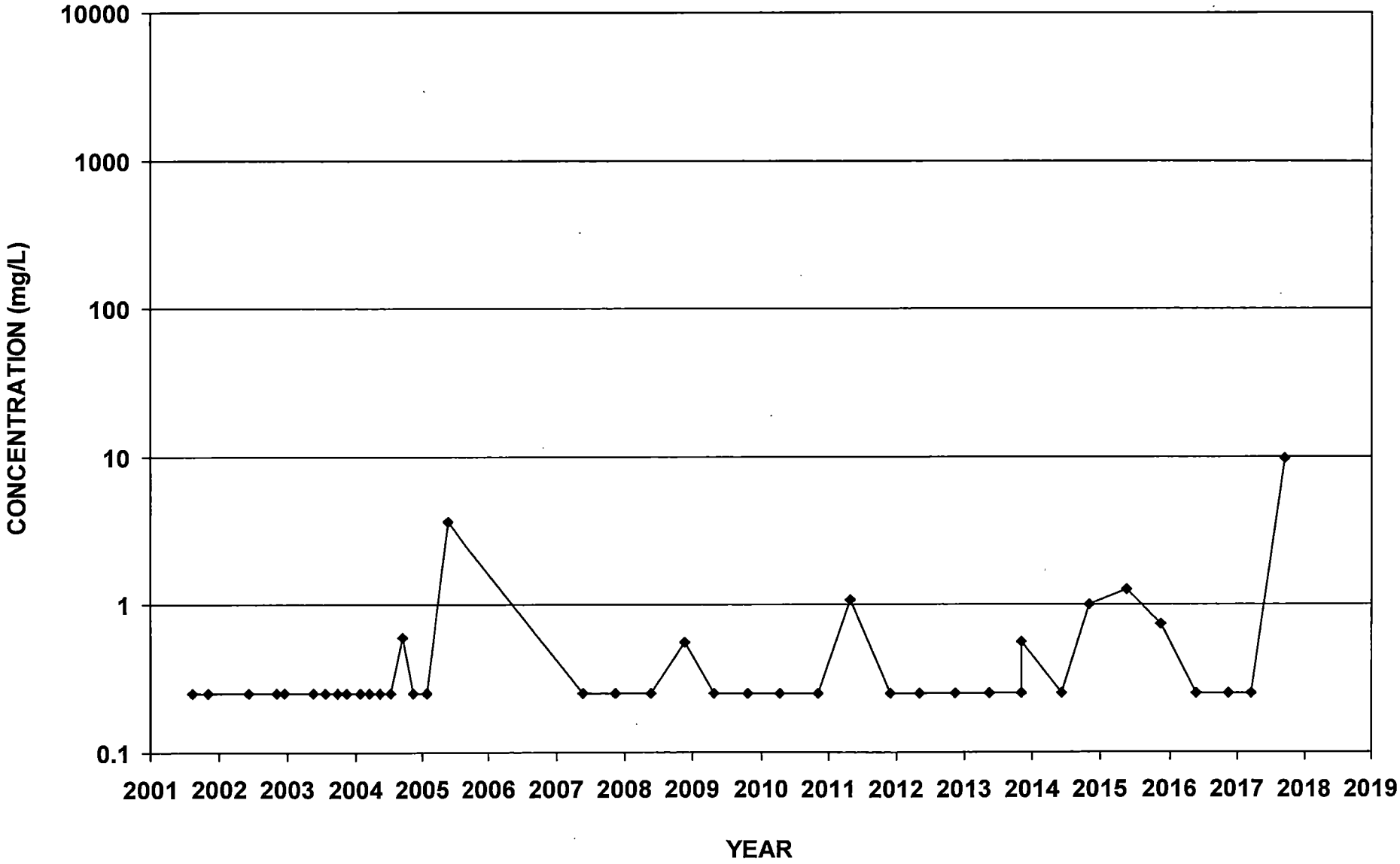
APPENDIX B

TREND GRAPHS

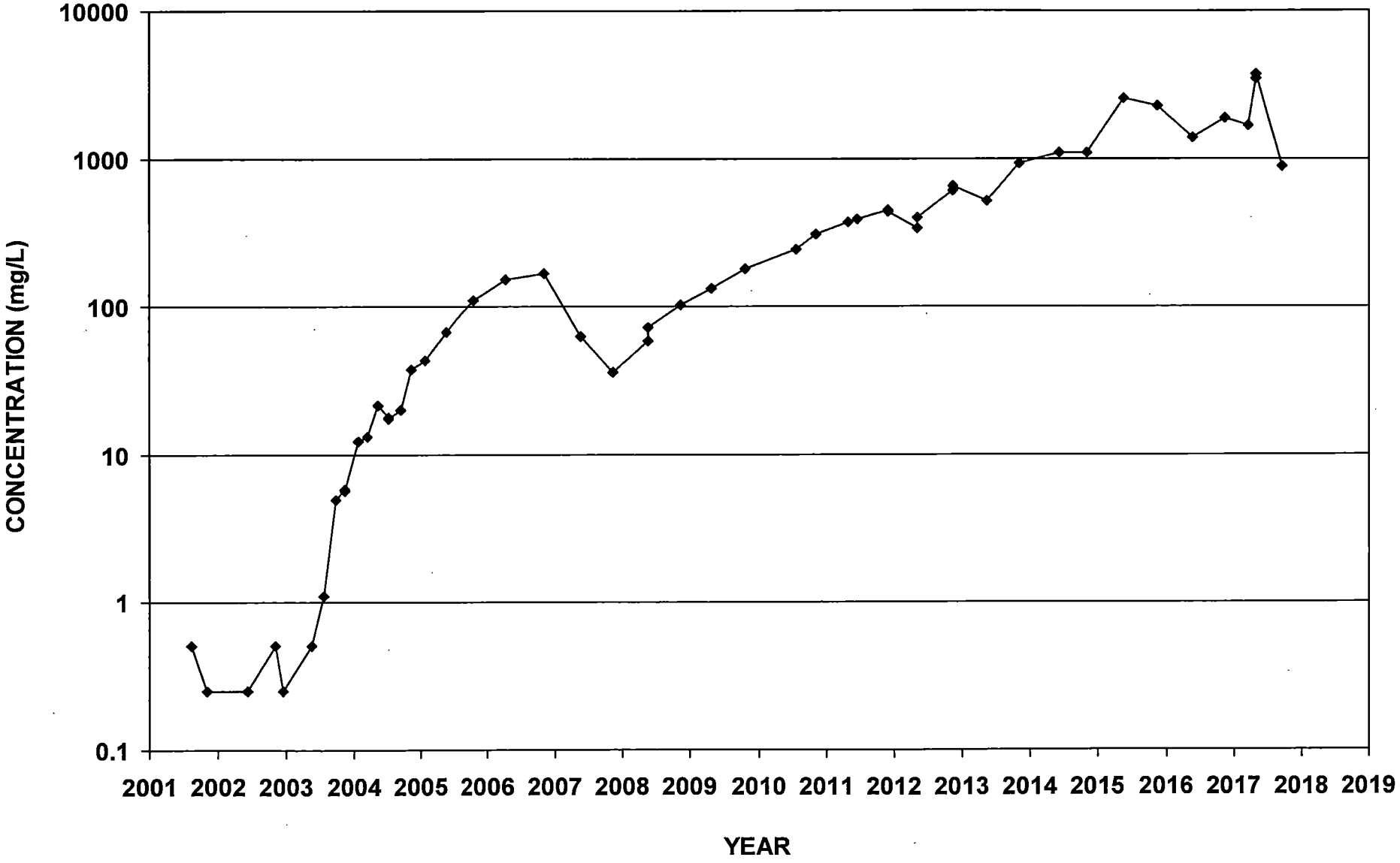
ECMW-4
Ammonia-N



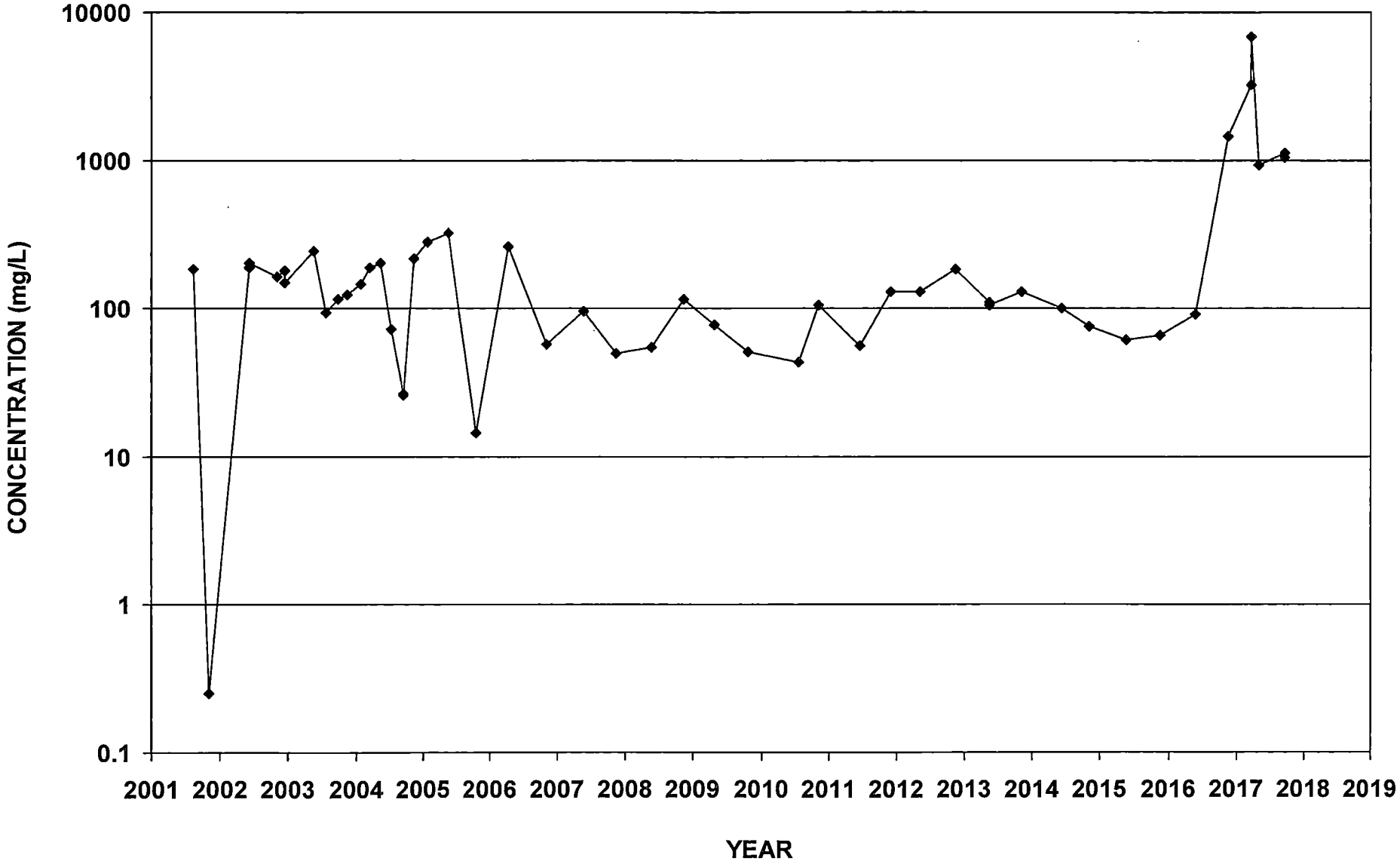
ECMW-5
Ammonia-N



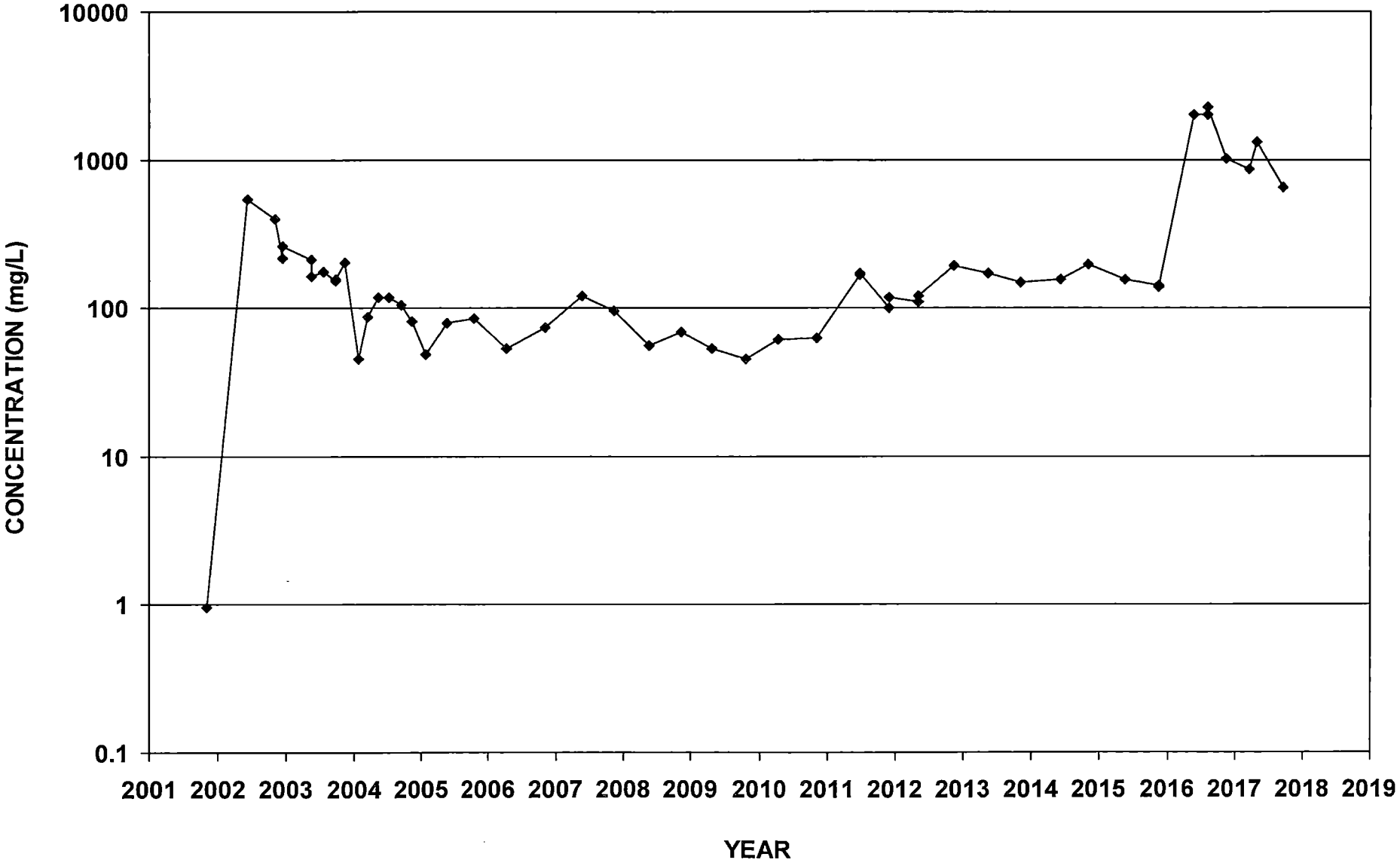
ECMW-6
Ammonia-N



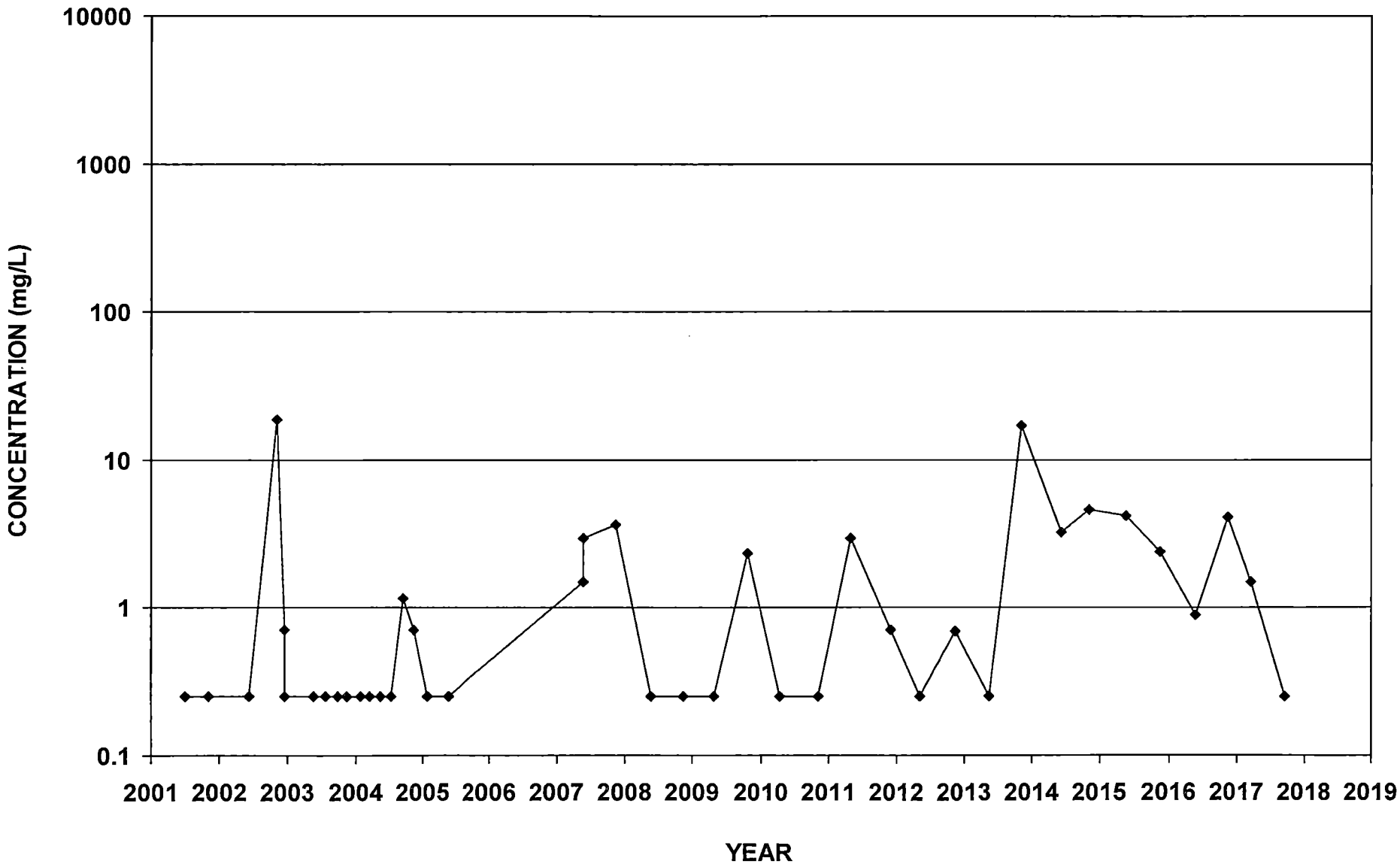
ECMW-7
Ammonia-N



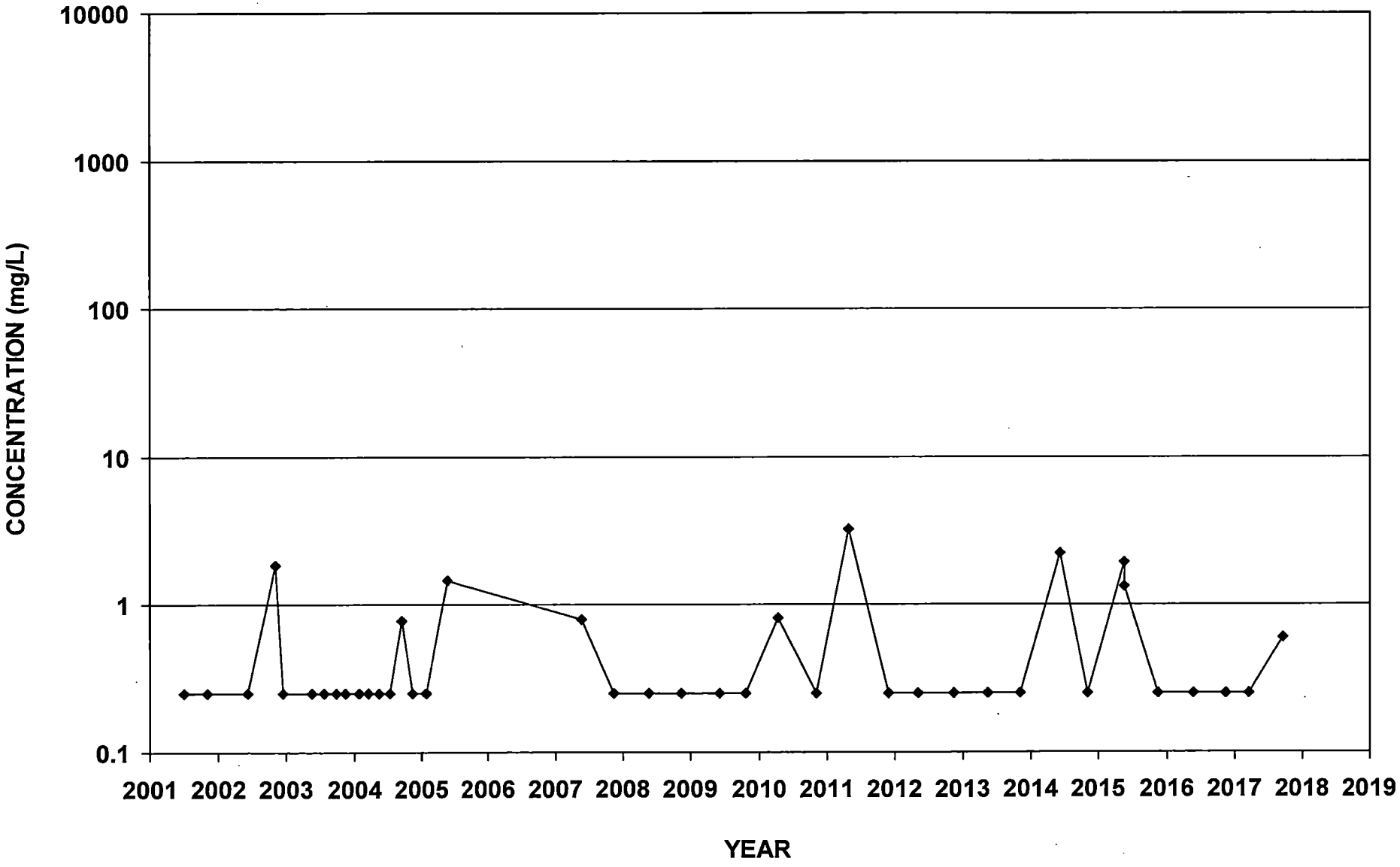
ECMW-8
Ammonia-N

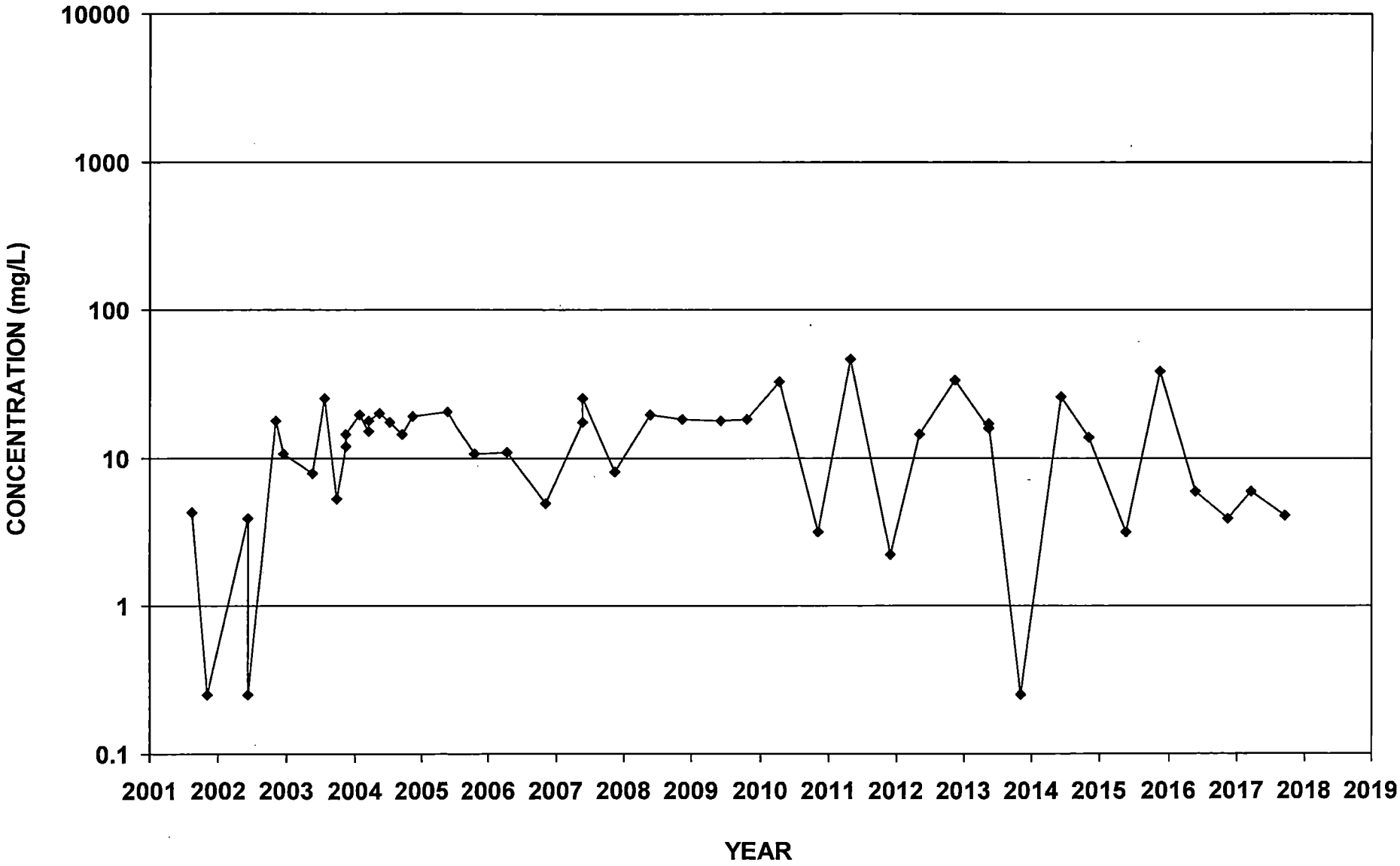


ECMW-9
Ammonia-N

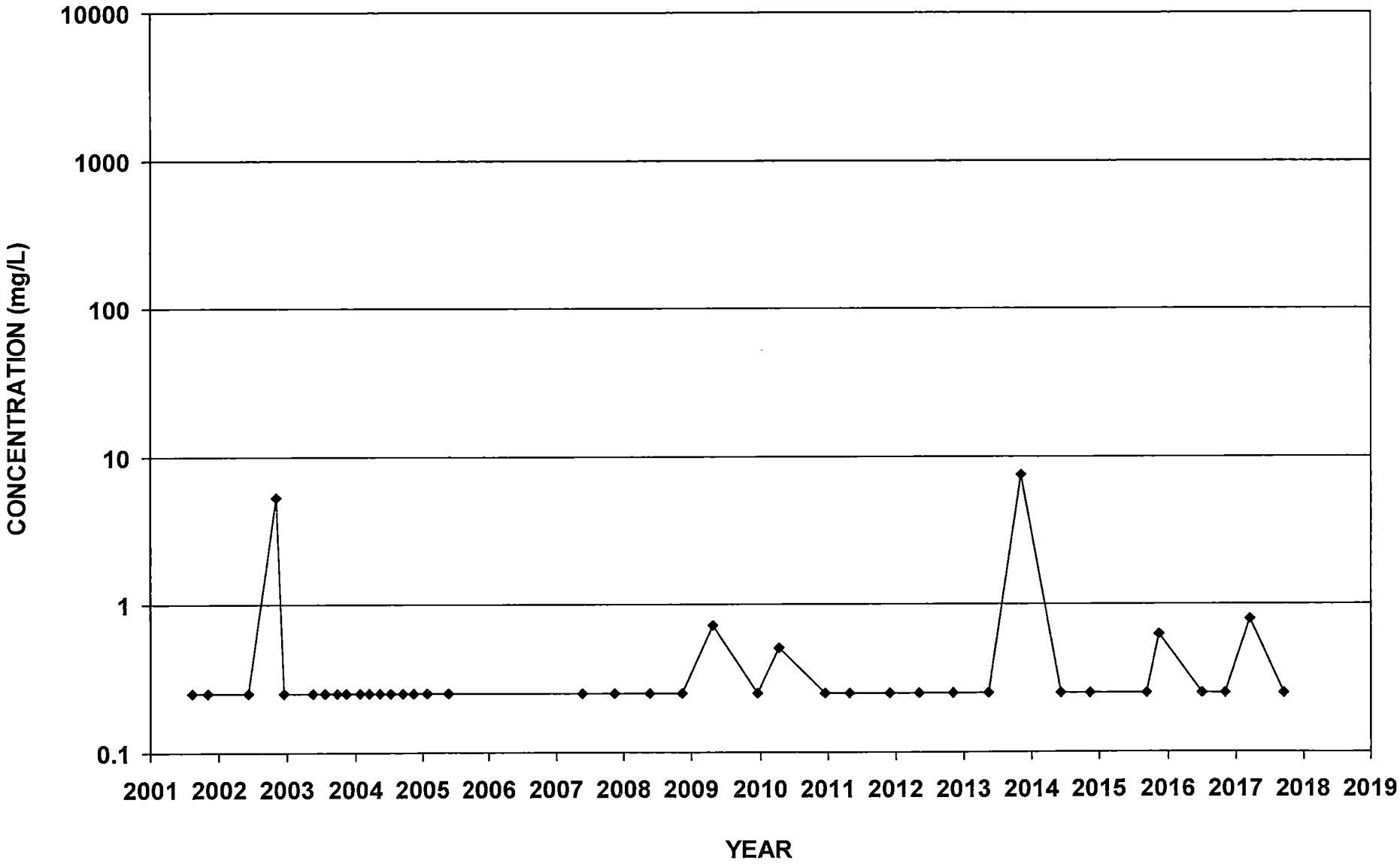


ECMW-10
Ammonia-N

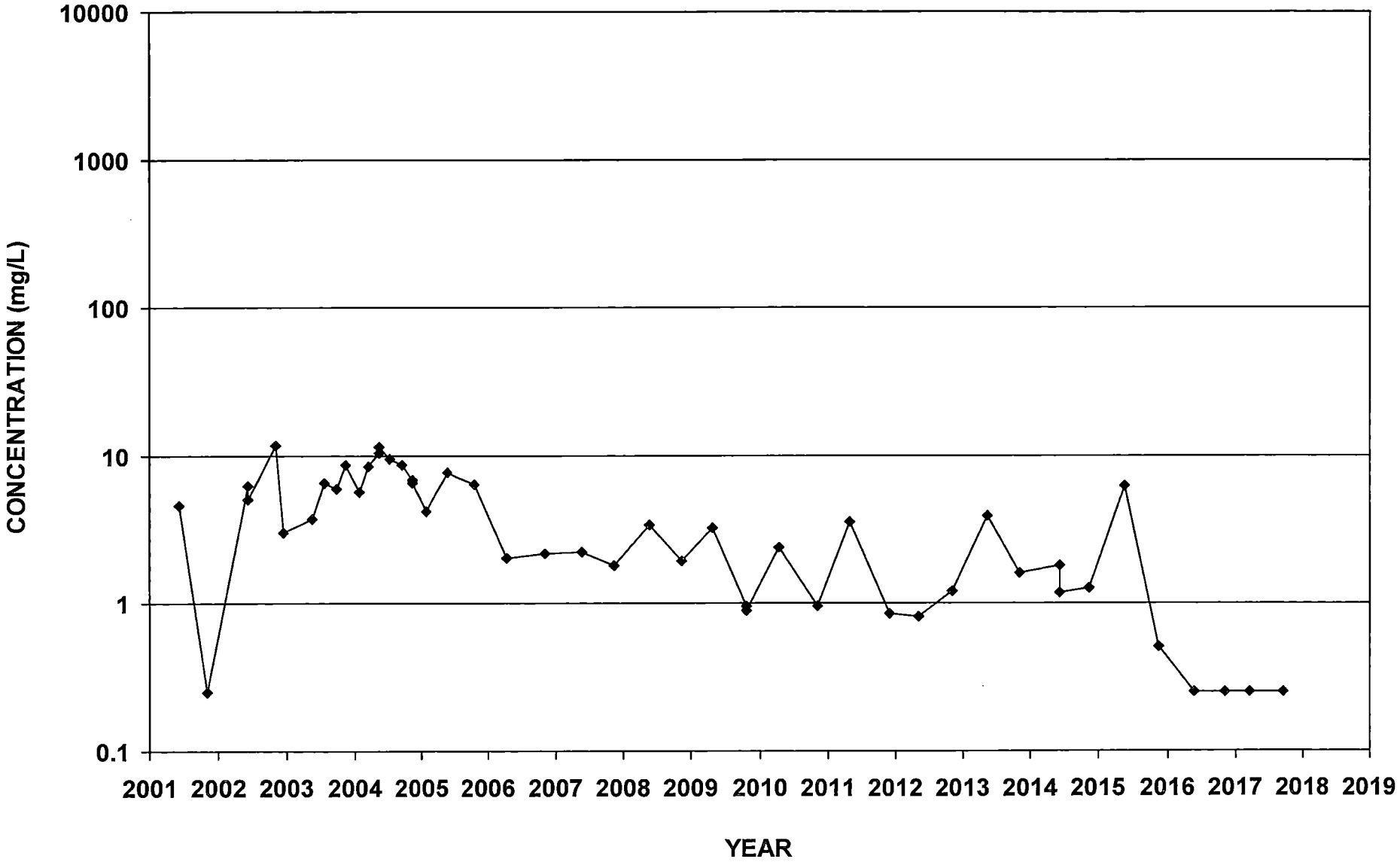



ECMW-11
Ammonia-N
10000
1000
100
10
1
0.1
CONCENTRATION (mg/L)
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
YEAR

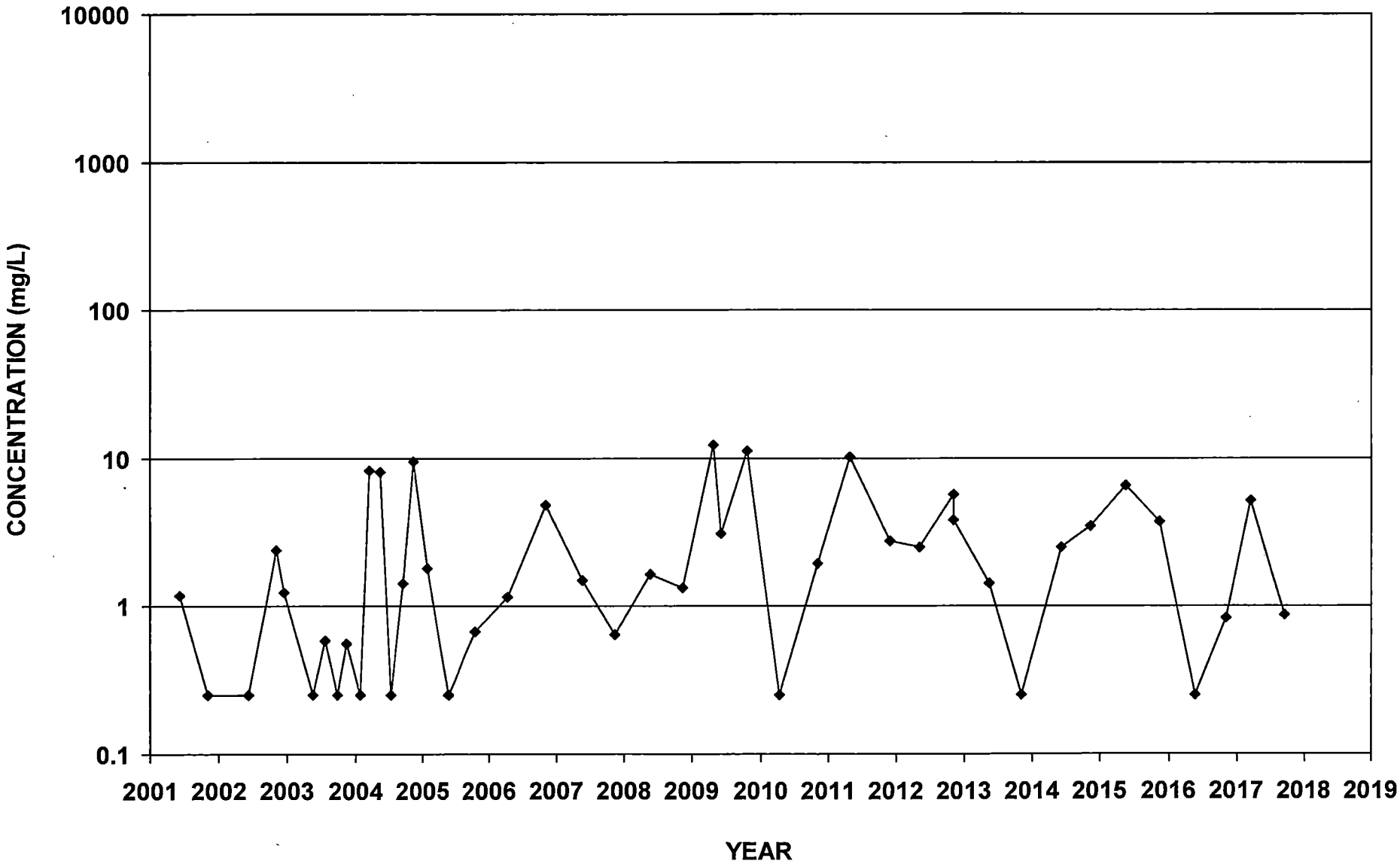
ECMW-14
Ammonia-N



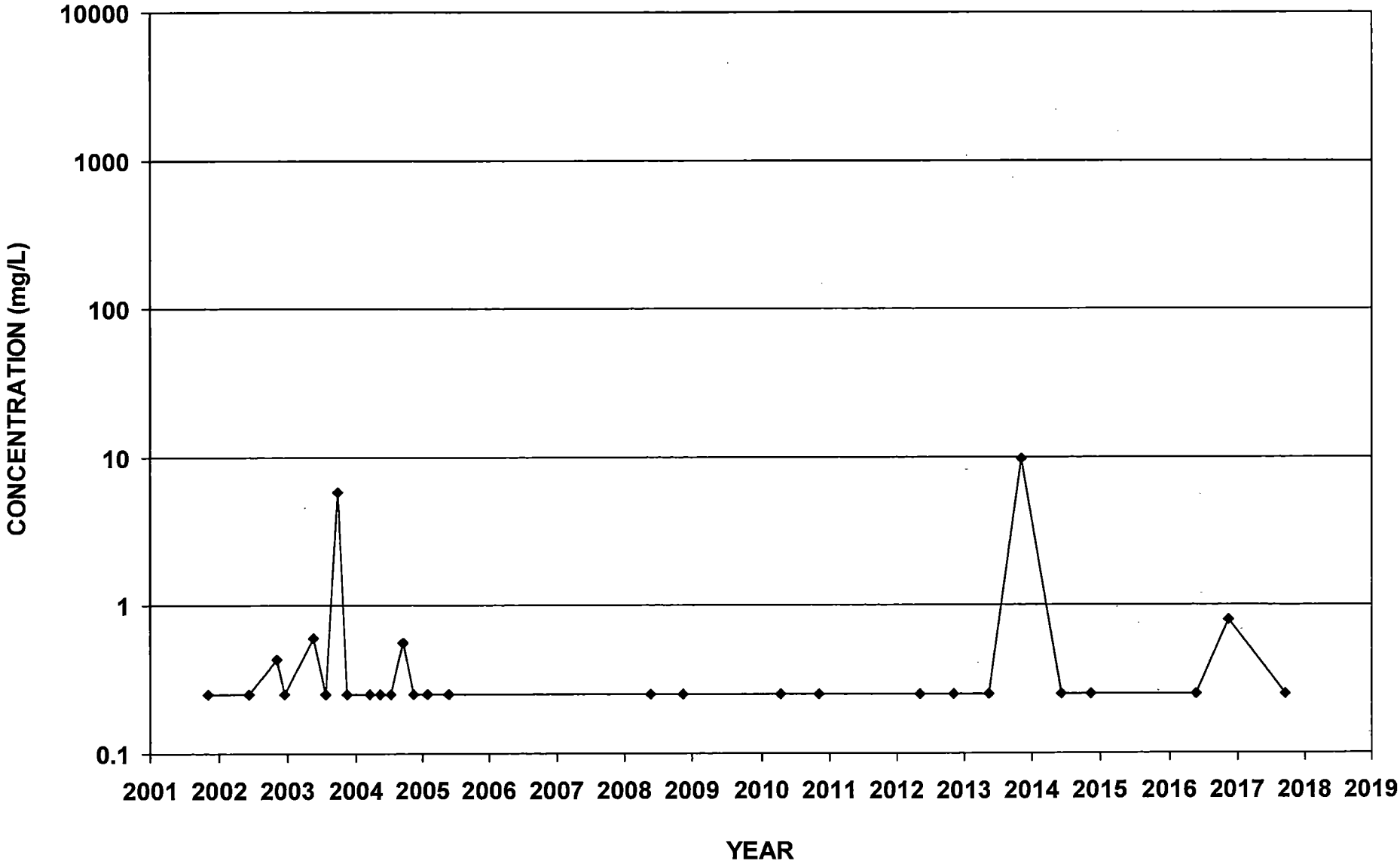
ECMW-16
Ammonia-N



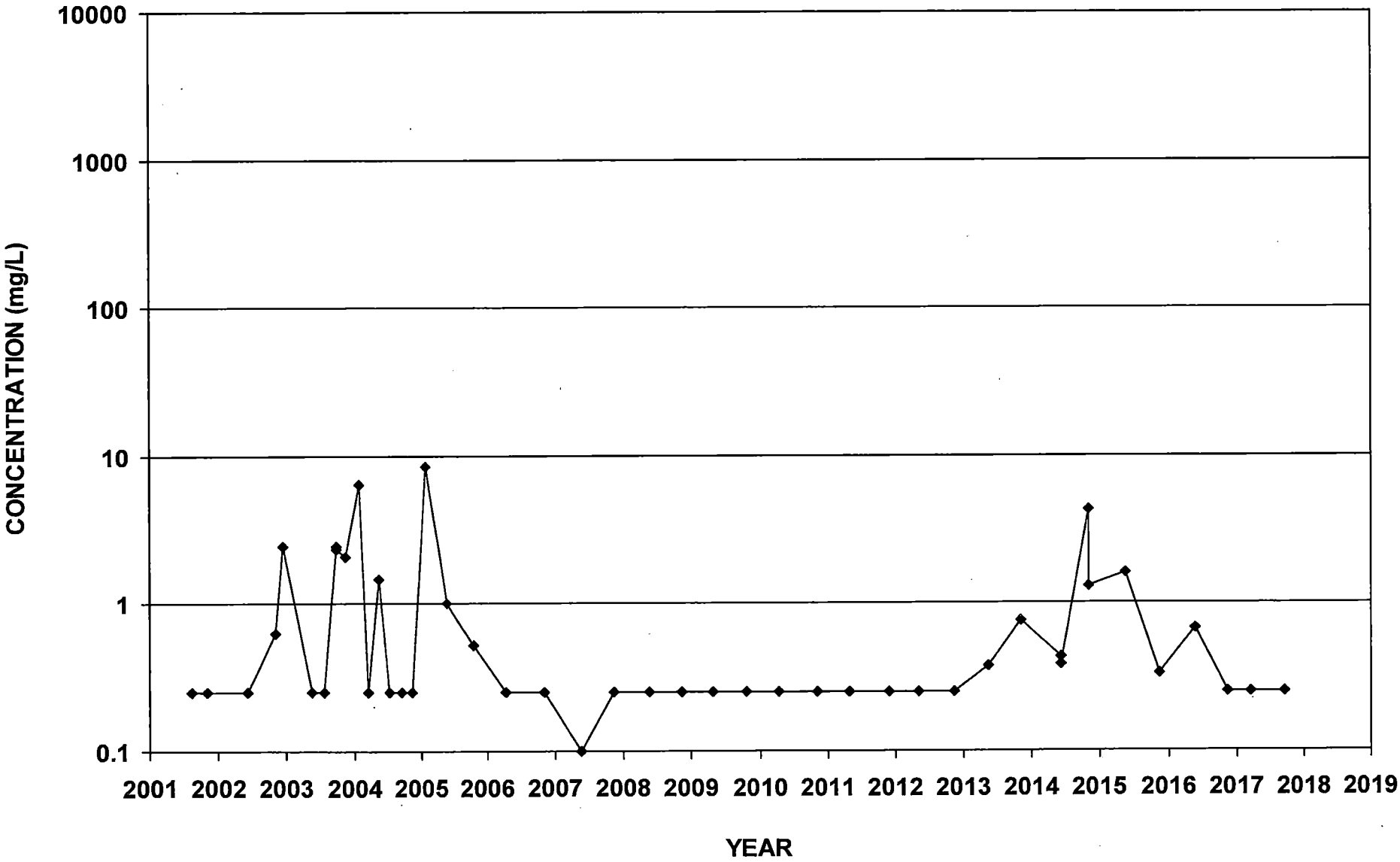
ECMW-17
Ammonia-N



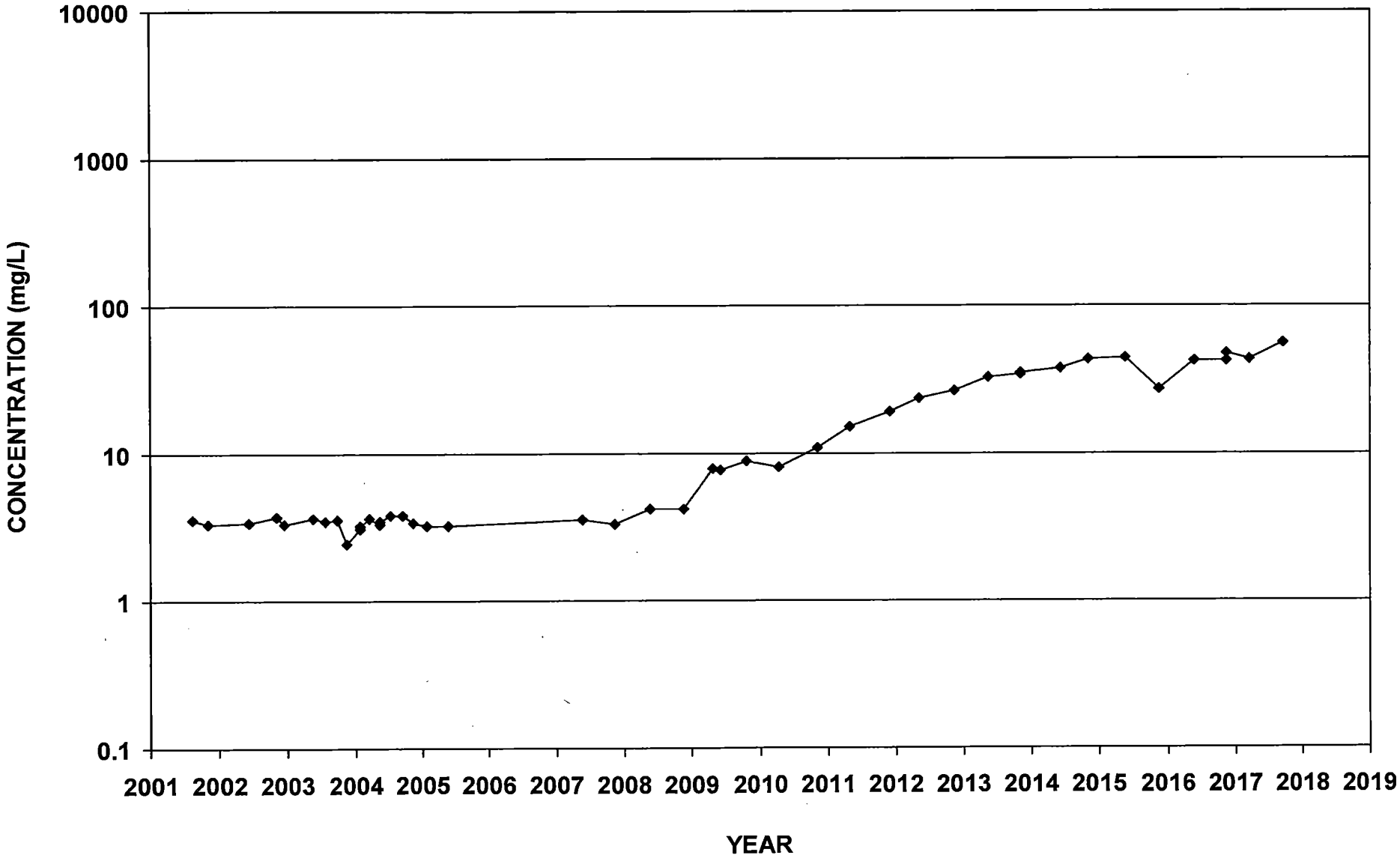
ECMW-18
Ammonia-N



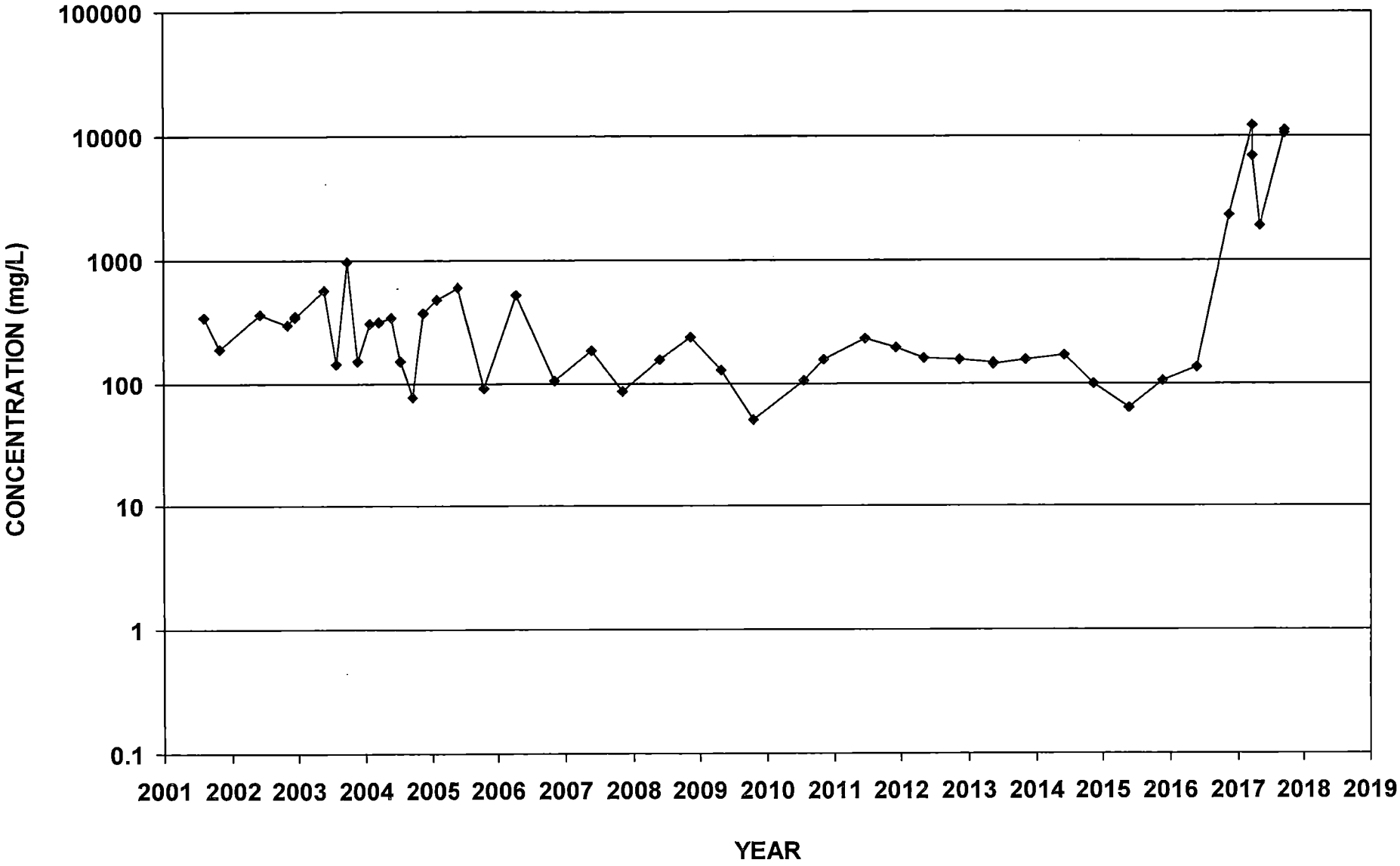
ECMW-4
Nitrate-N



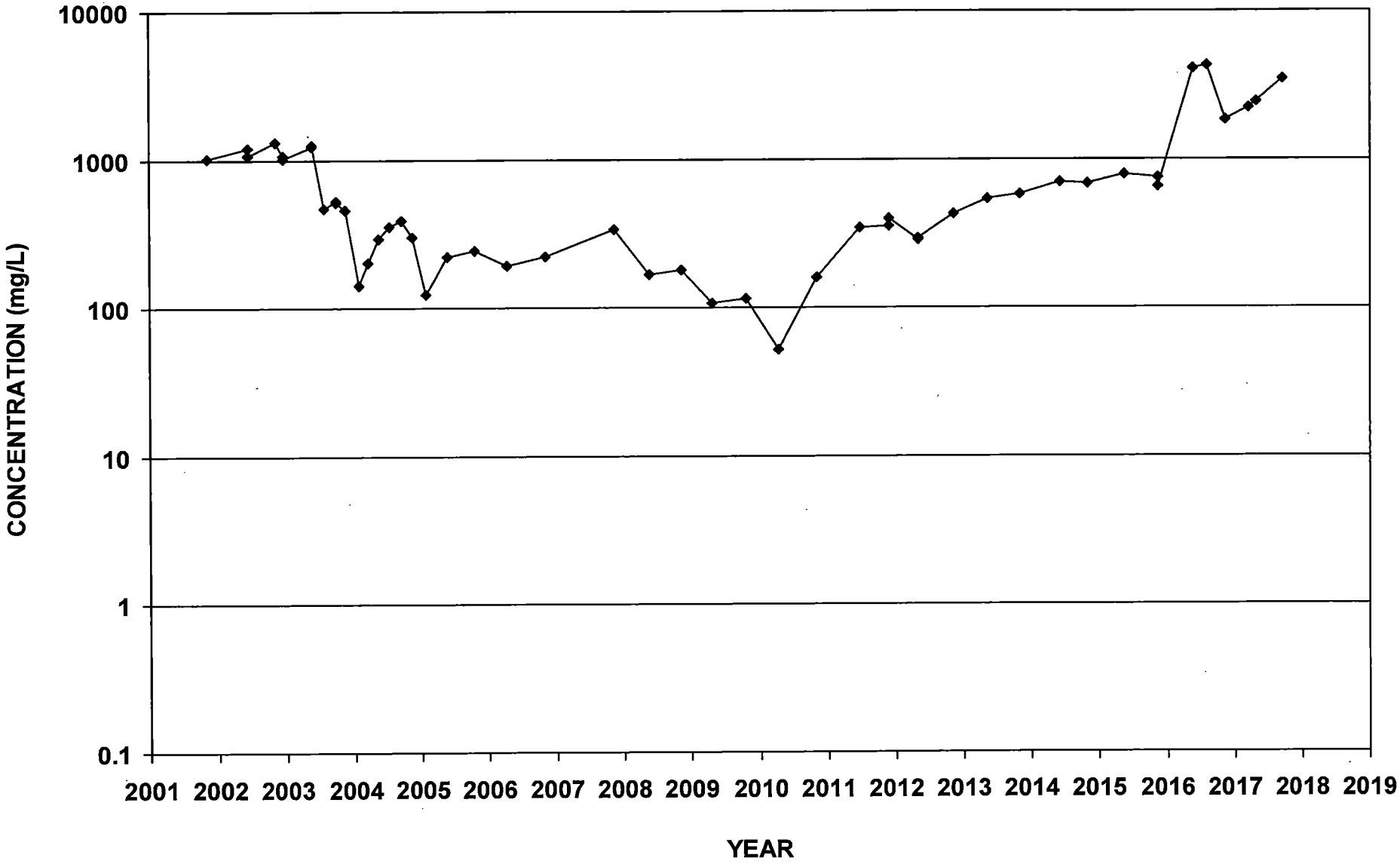
ECMW-5
Nitrate-N



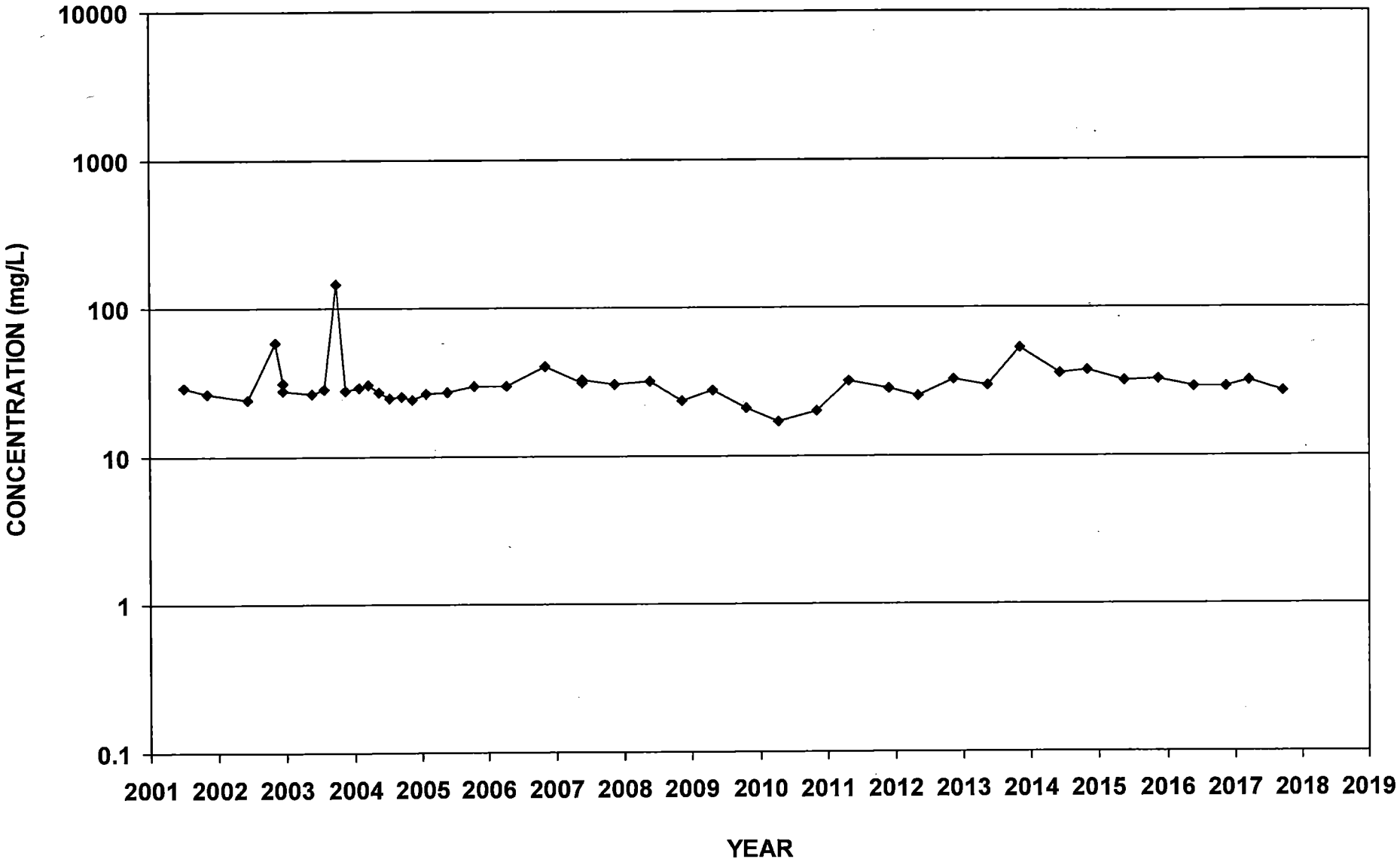
ECMW-7
Nitrate-N



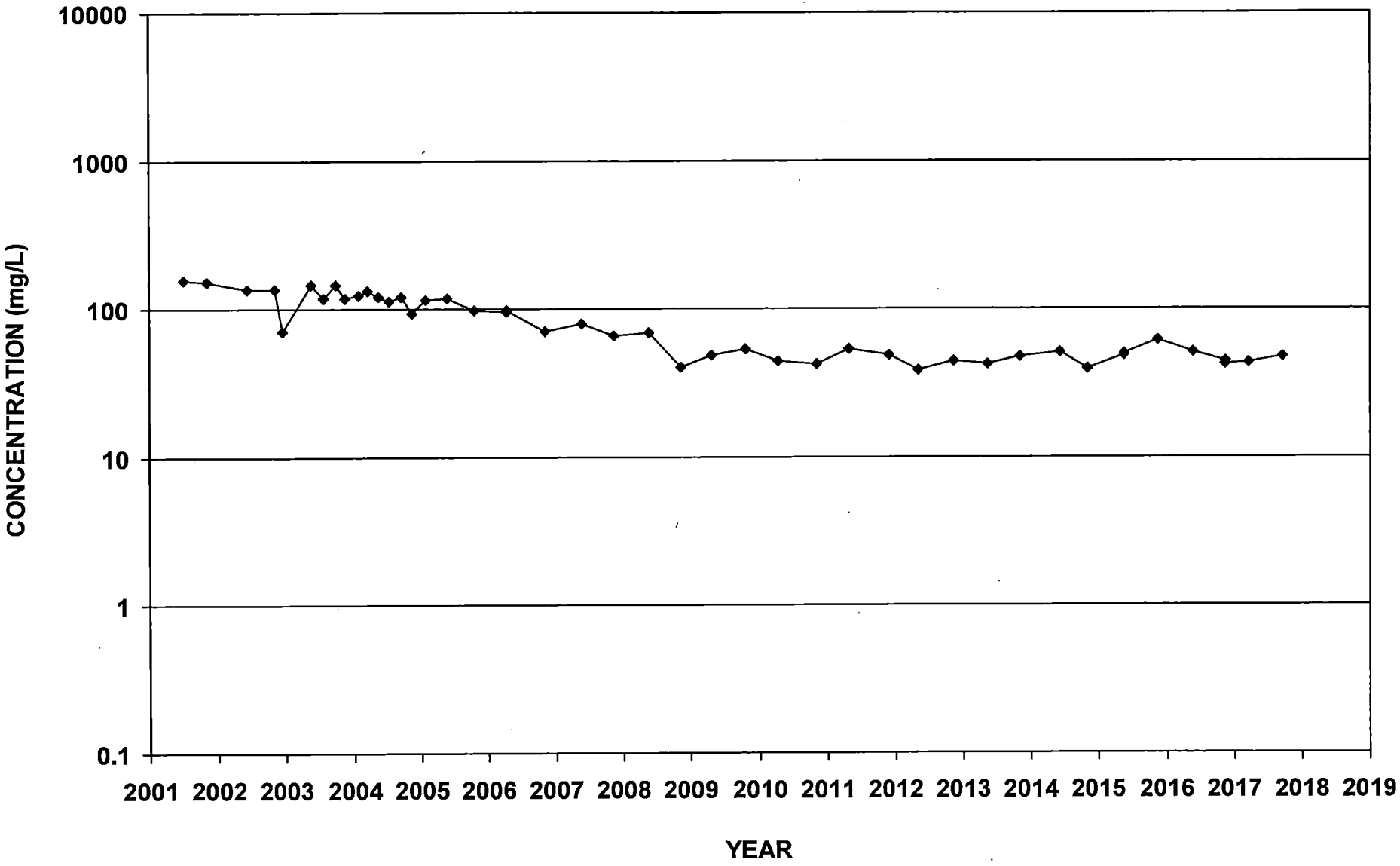
ECMW-8
Nitrate-N

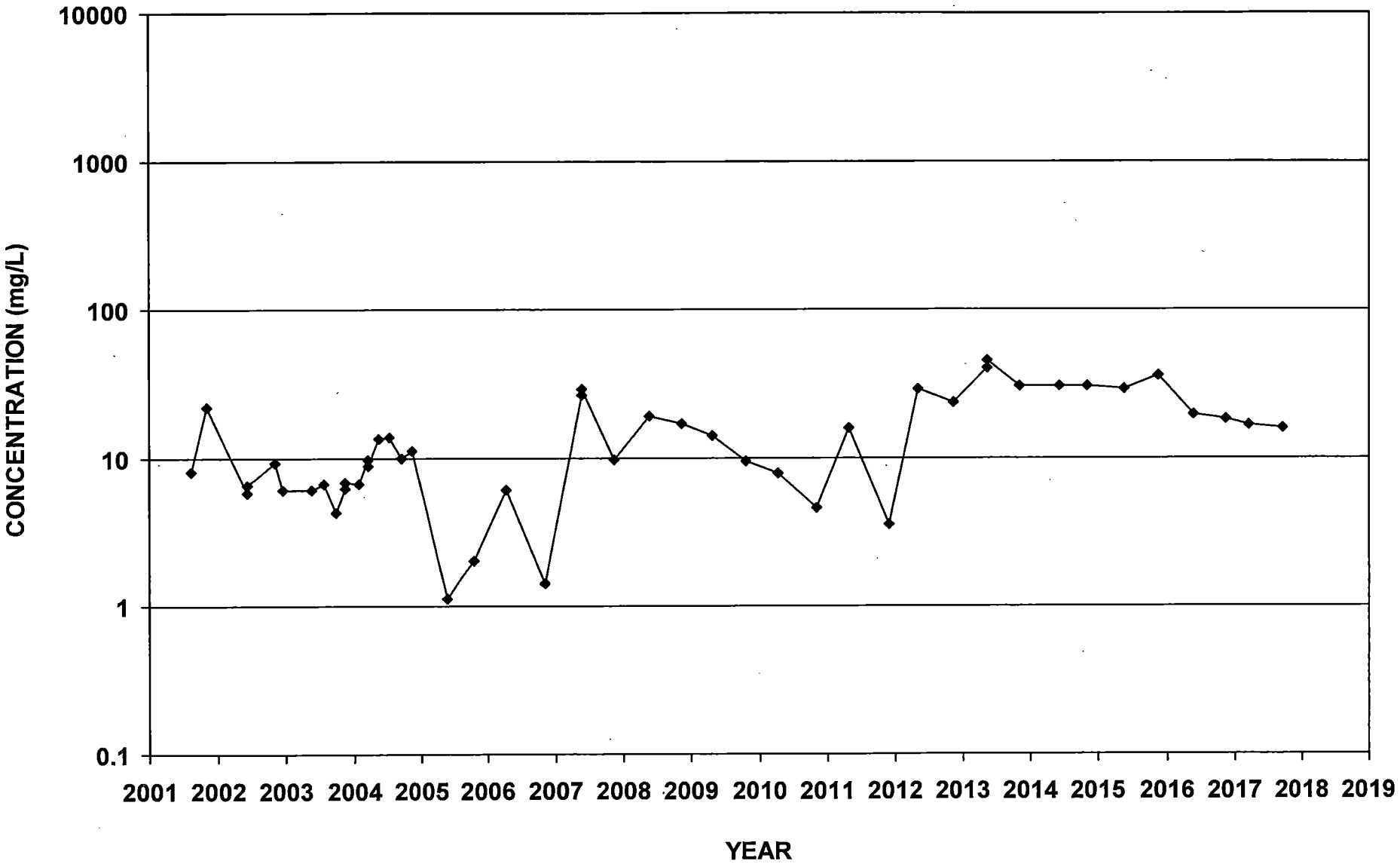


ECMW-9
Nitrate-N

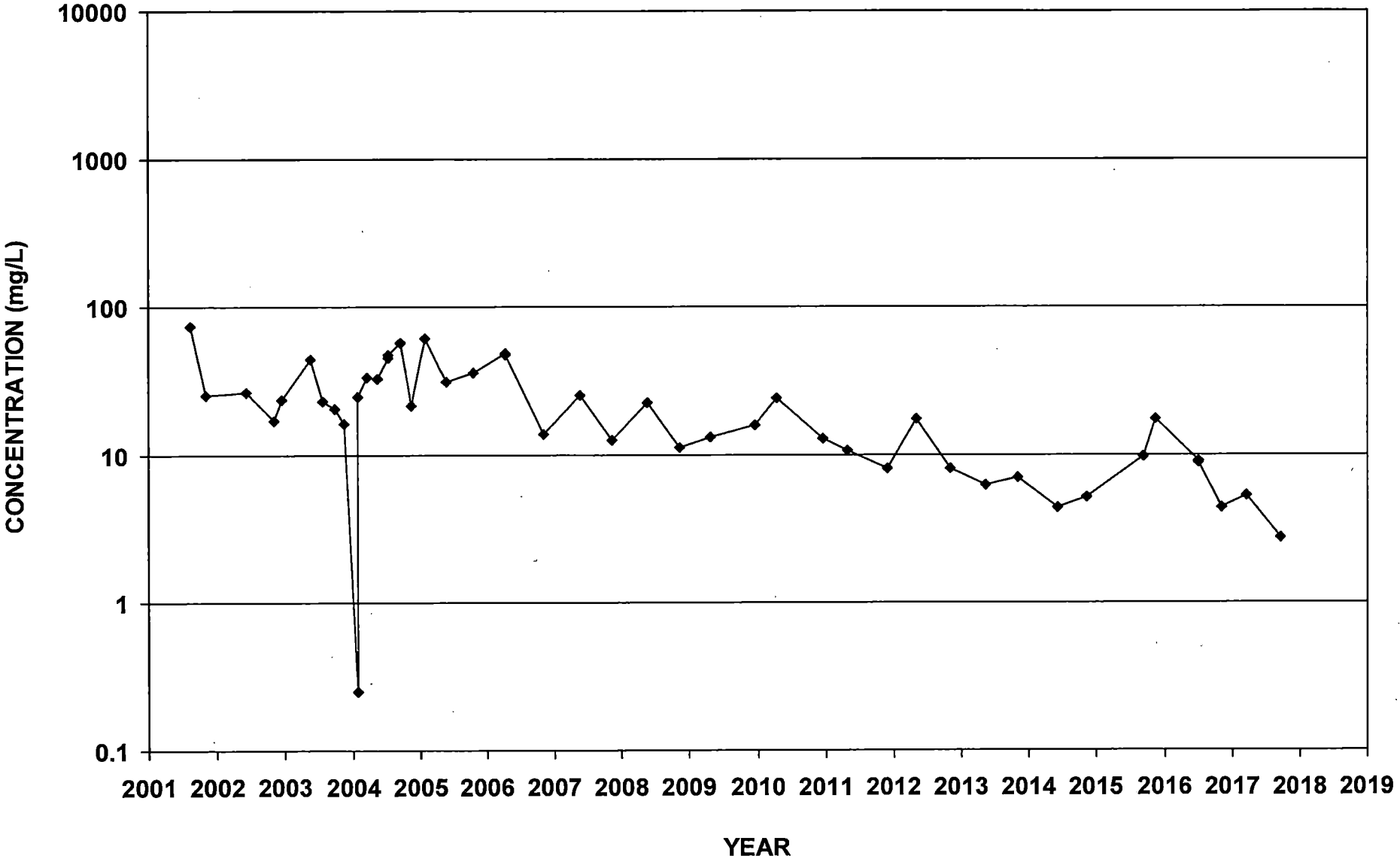


ECMW-10
Nitrate-N

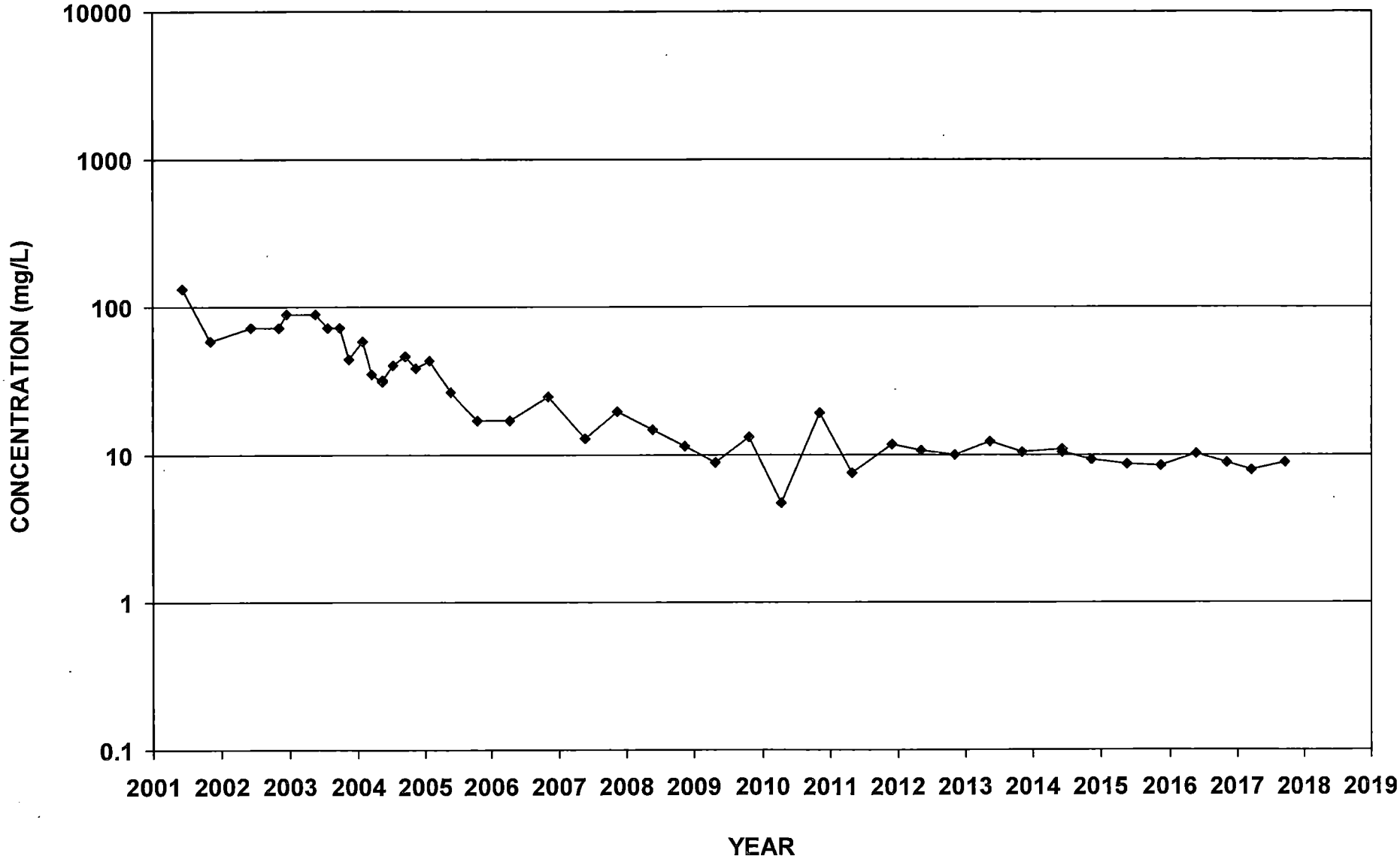



ECMW-11
Nitrate-N
10000
1000
100
10
1
0.1
CONCENTRATION (mg/L)
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
YEAR

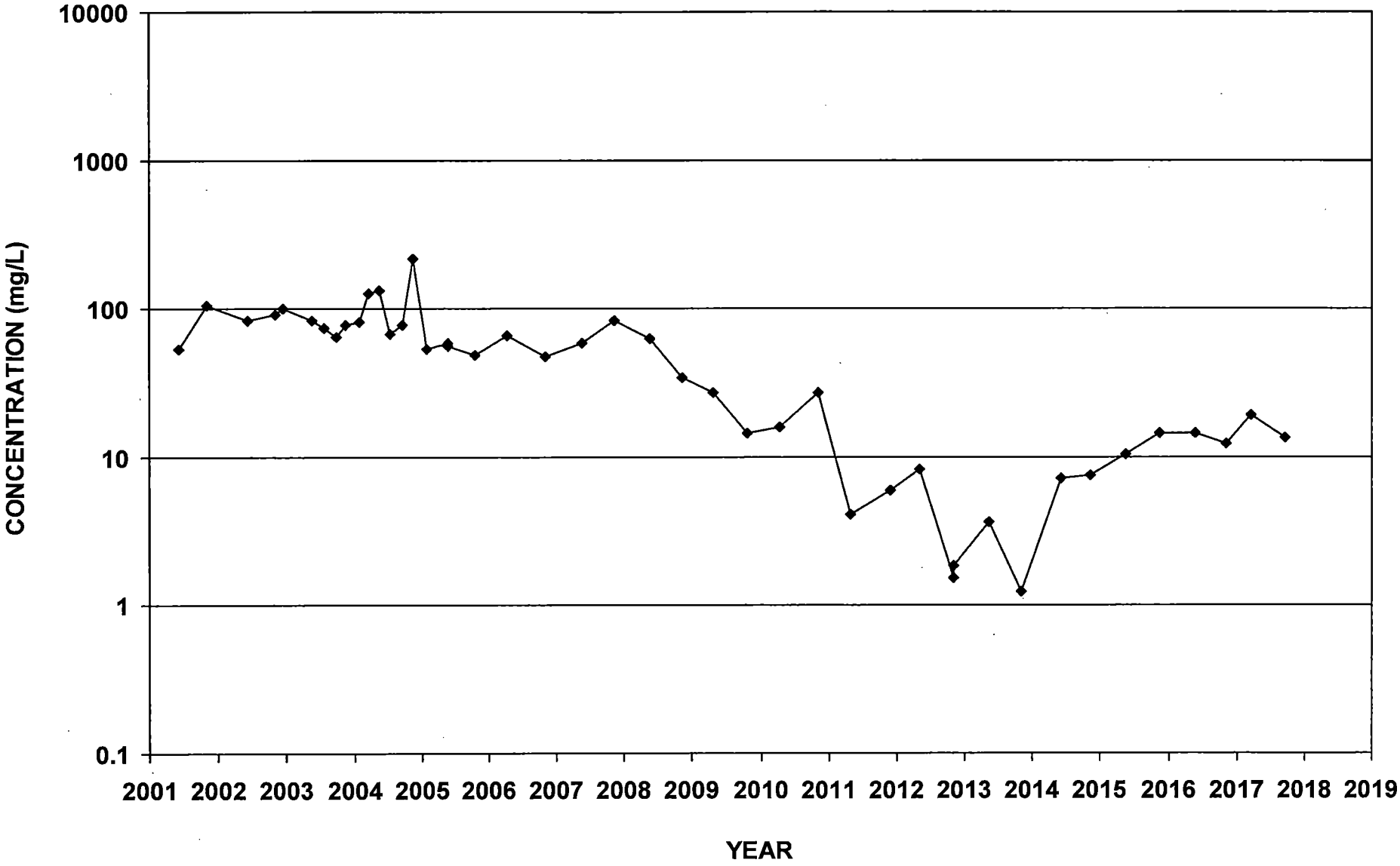
ECMW-14
Nitrate-N



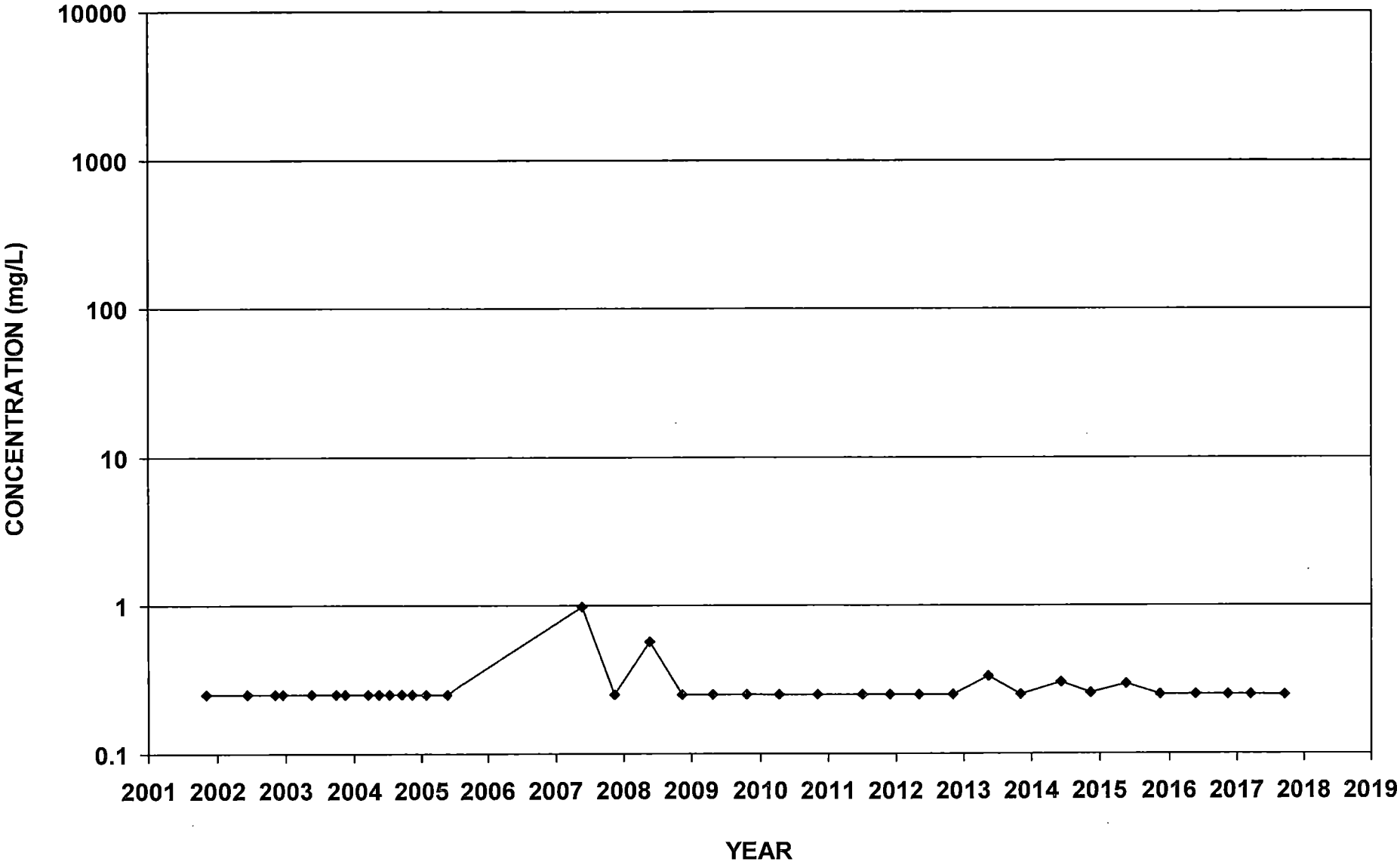
ECMW-16
Nitrate-N



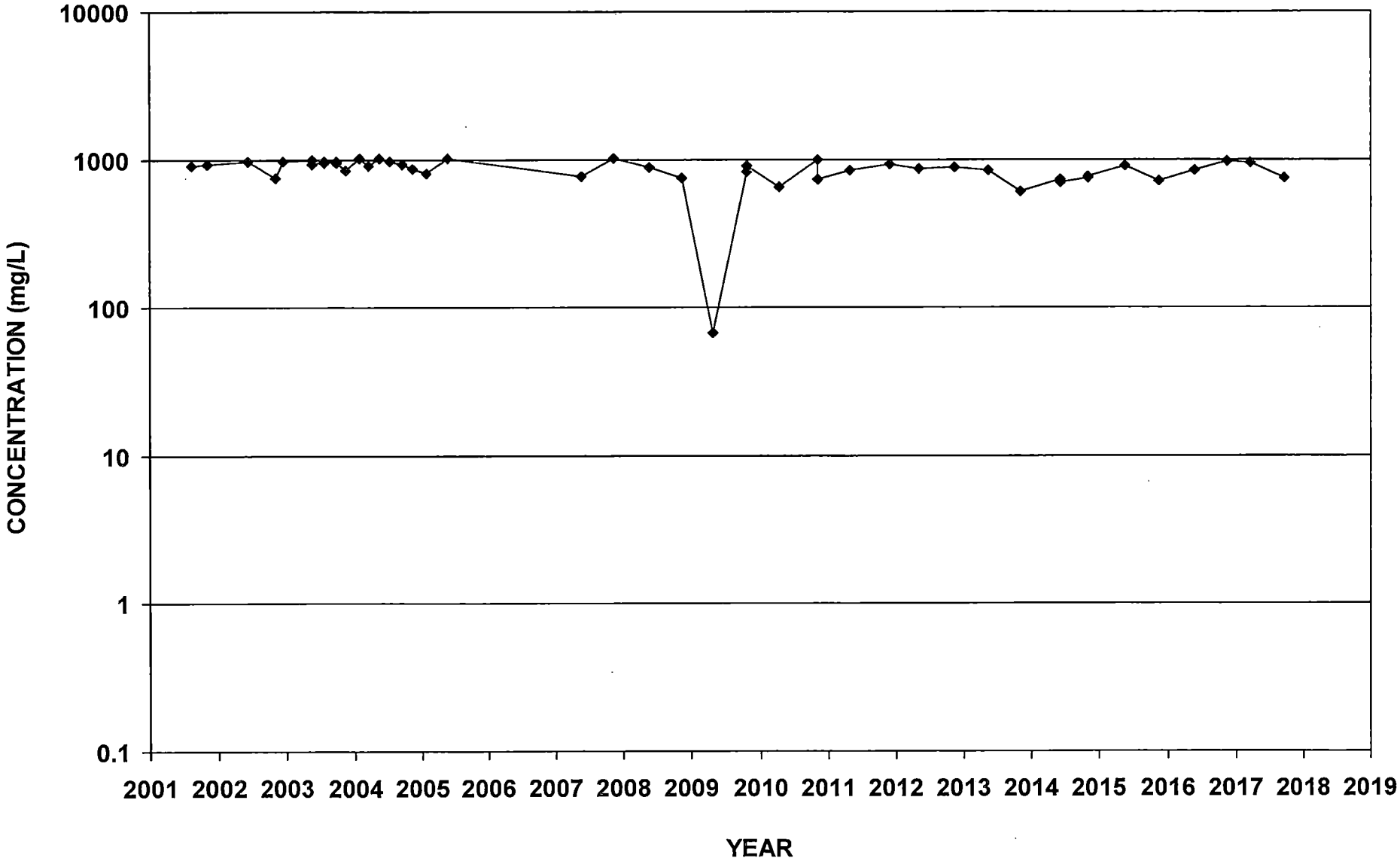
ECMW-17
Nitrate-N

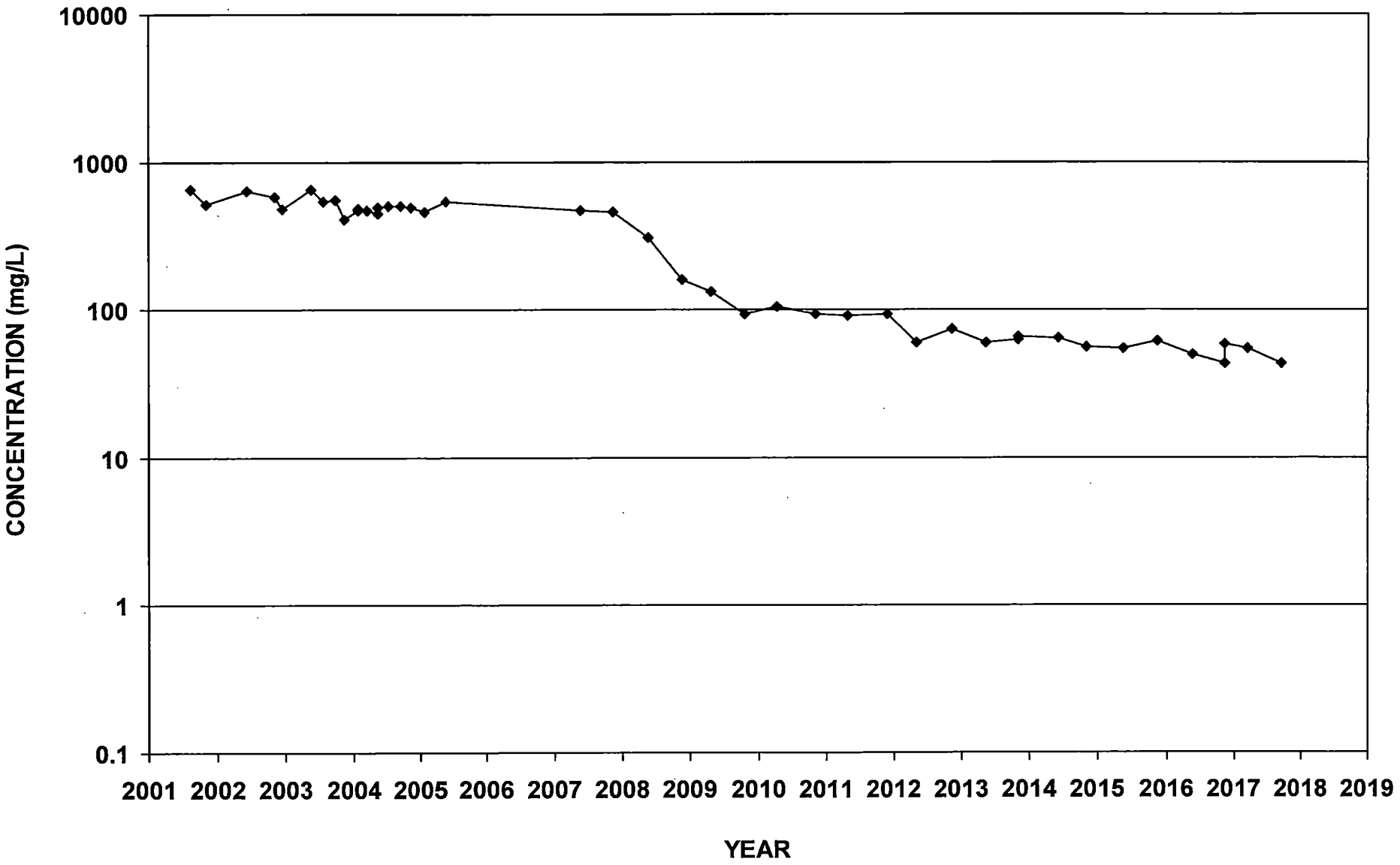


ECMW-18
Nitrate-N

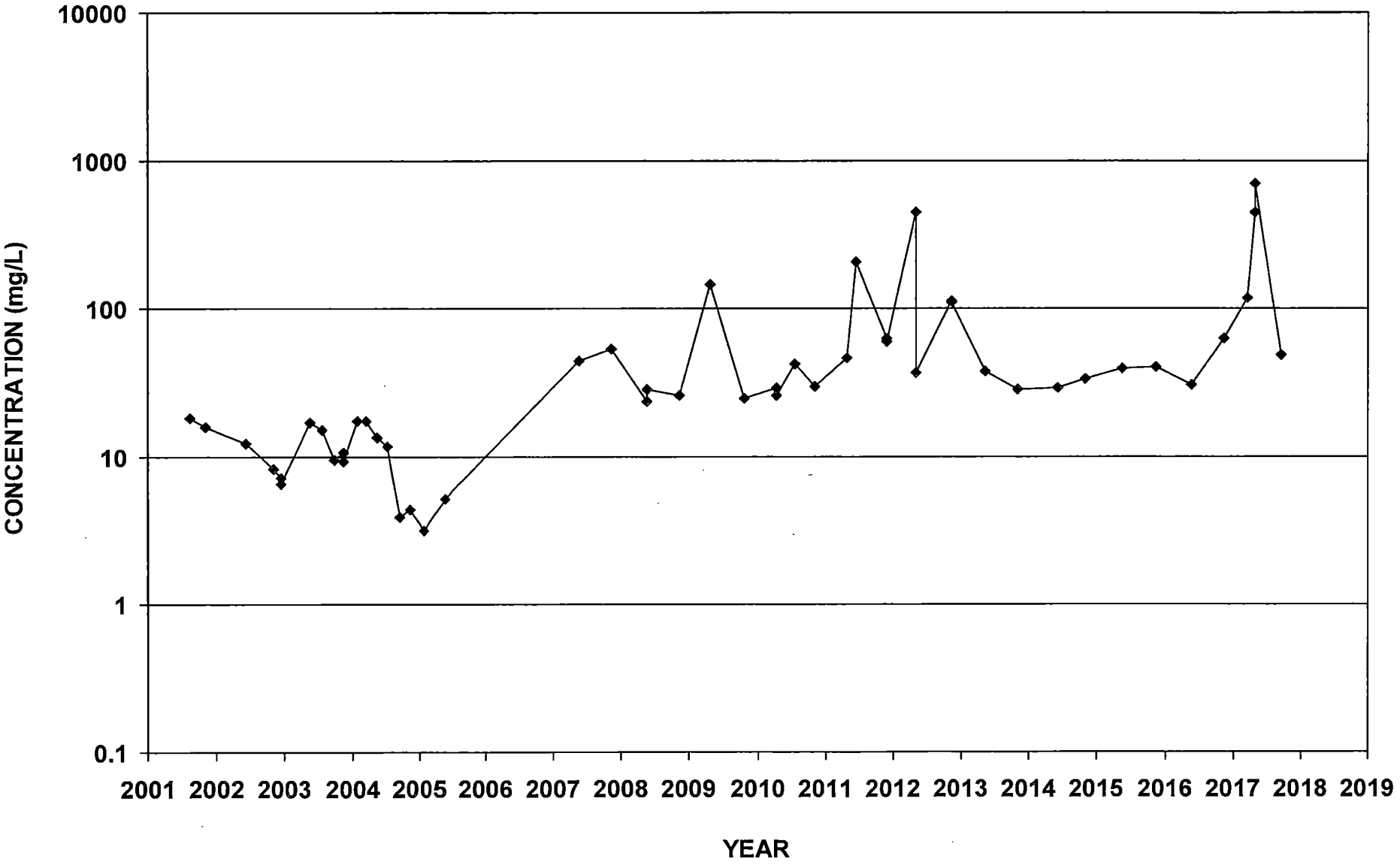


ECMW-4
Sulfate as SO4

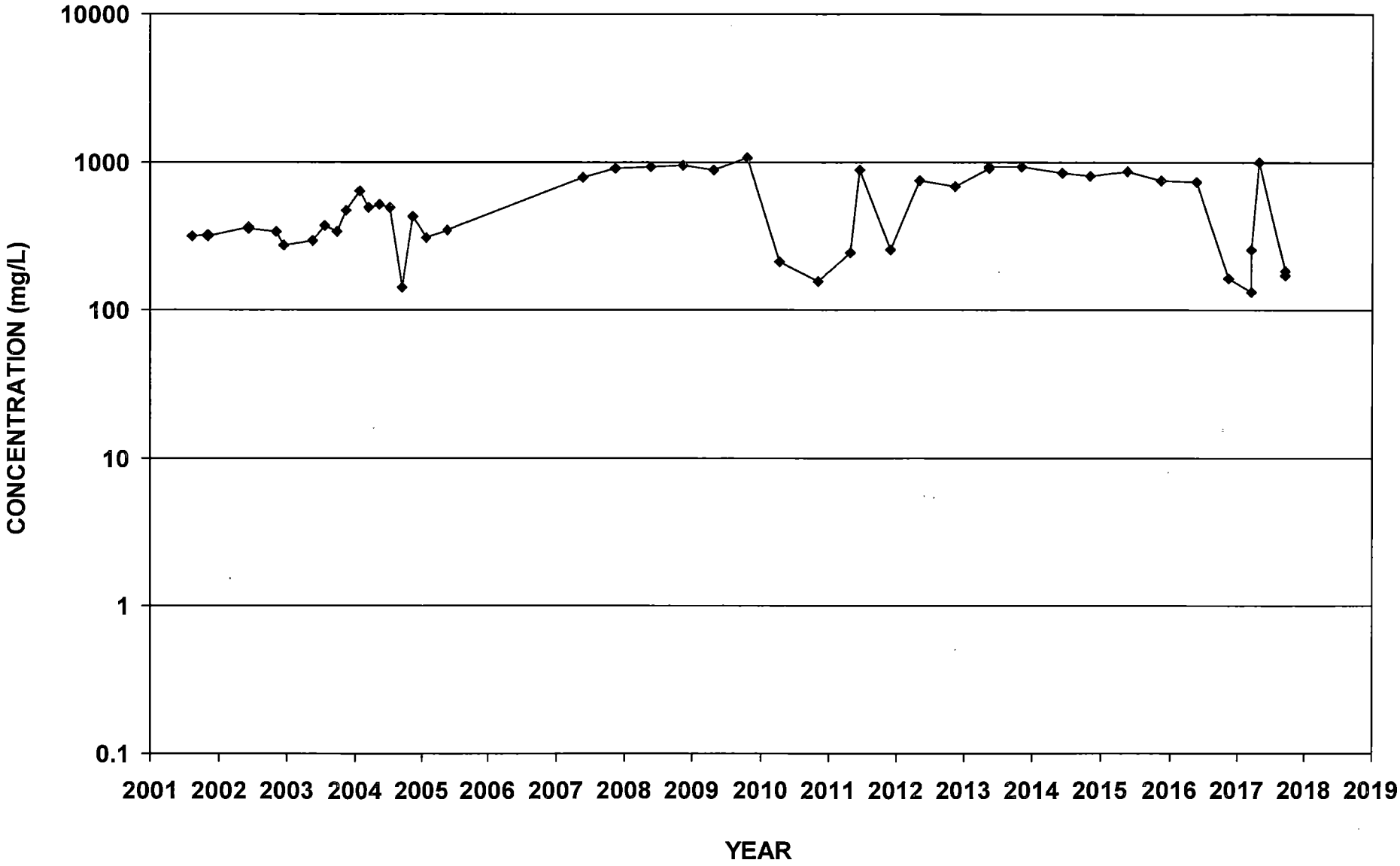


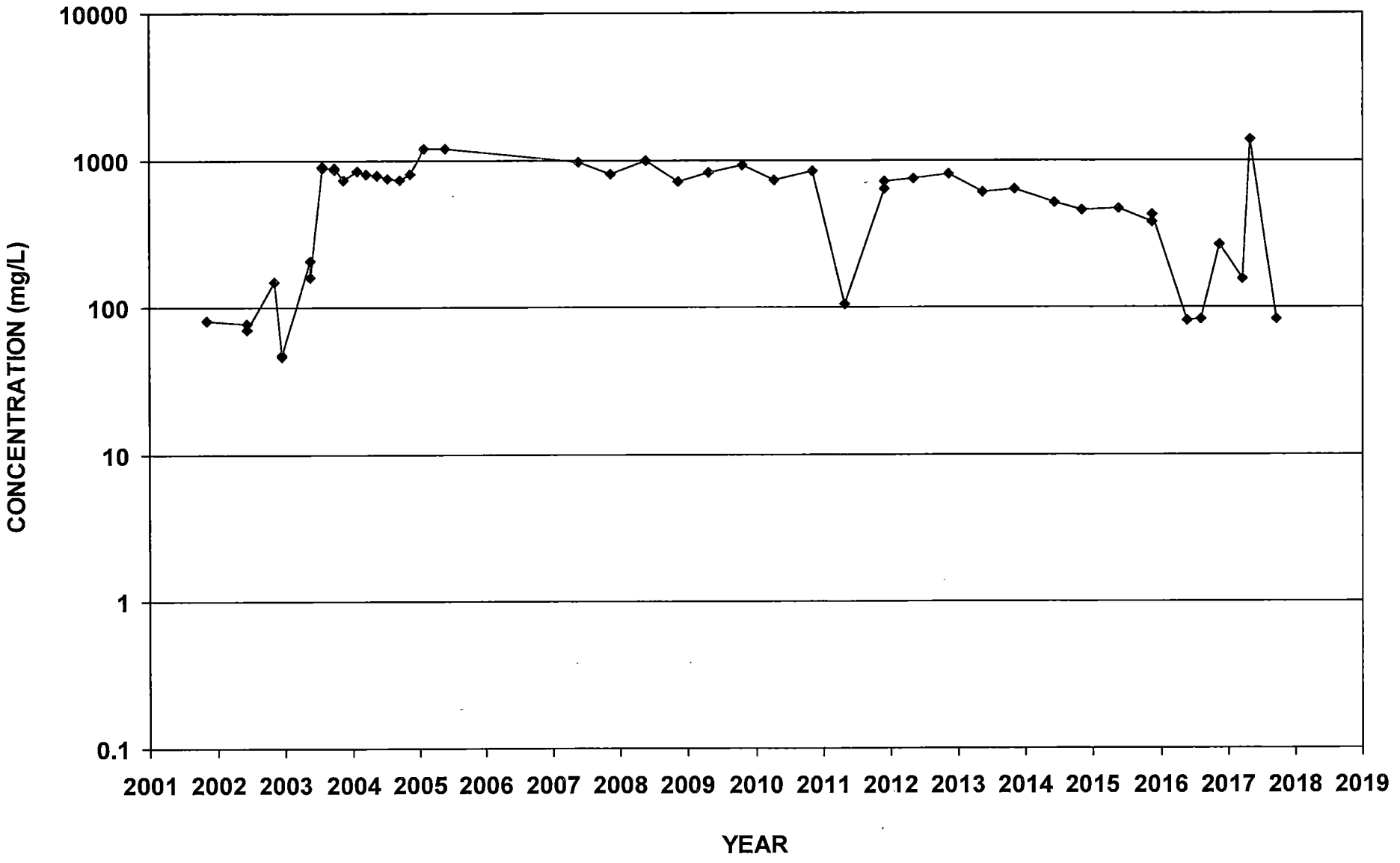

ECMW-5
Sulfate as SO4
10000
1000
100
10
1
0.1
CONCENTRATION (mg/L)
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
YEAR

ECMW-6
Sulfate as SO4

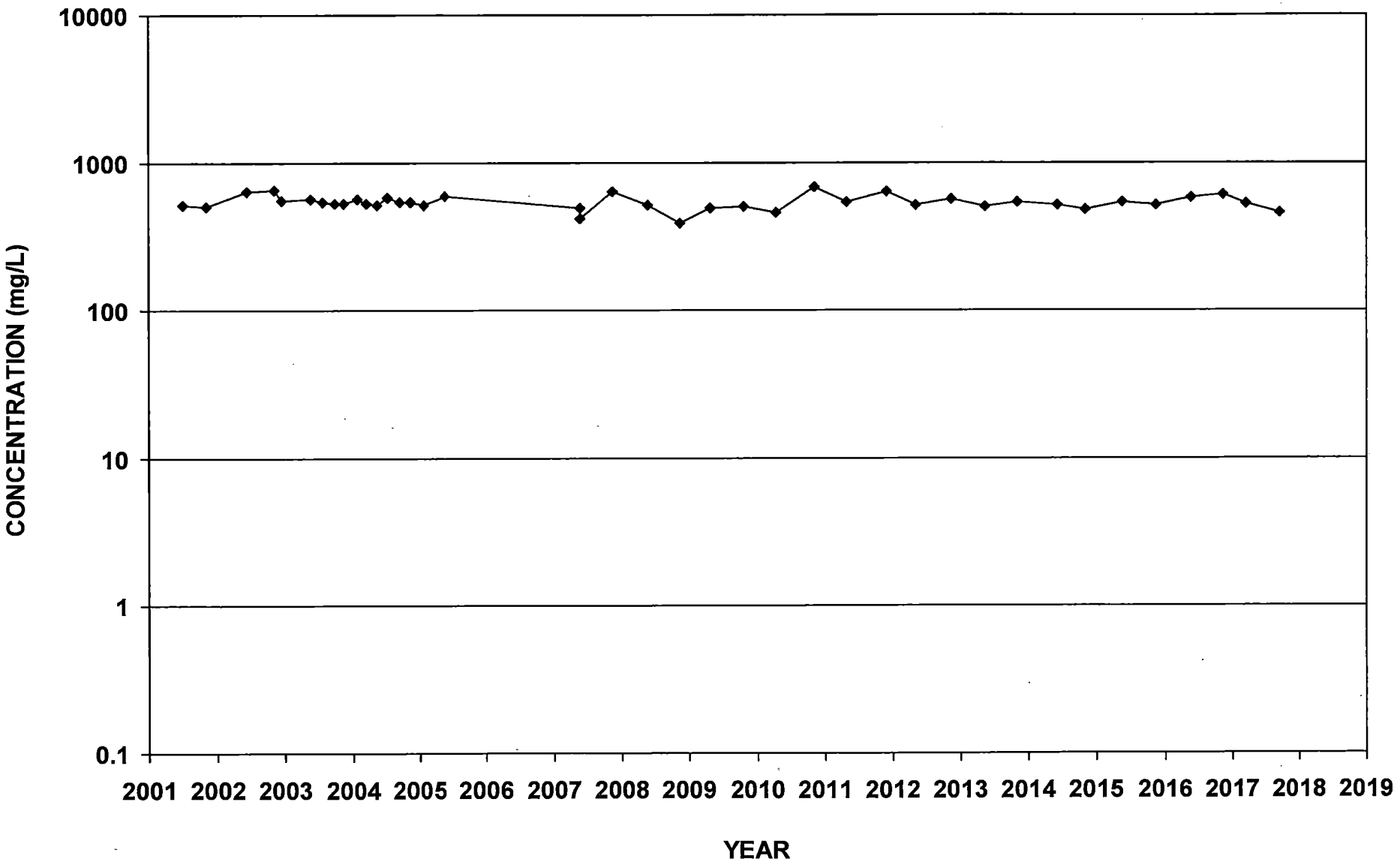


ECMW-7
Sulfate as SO4

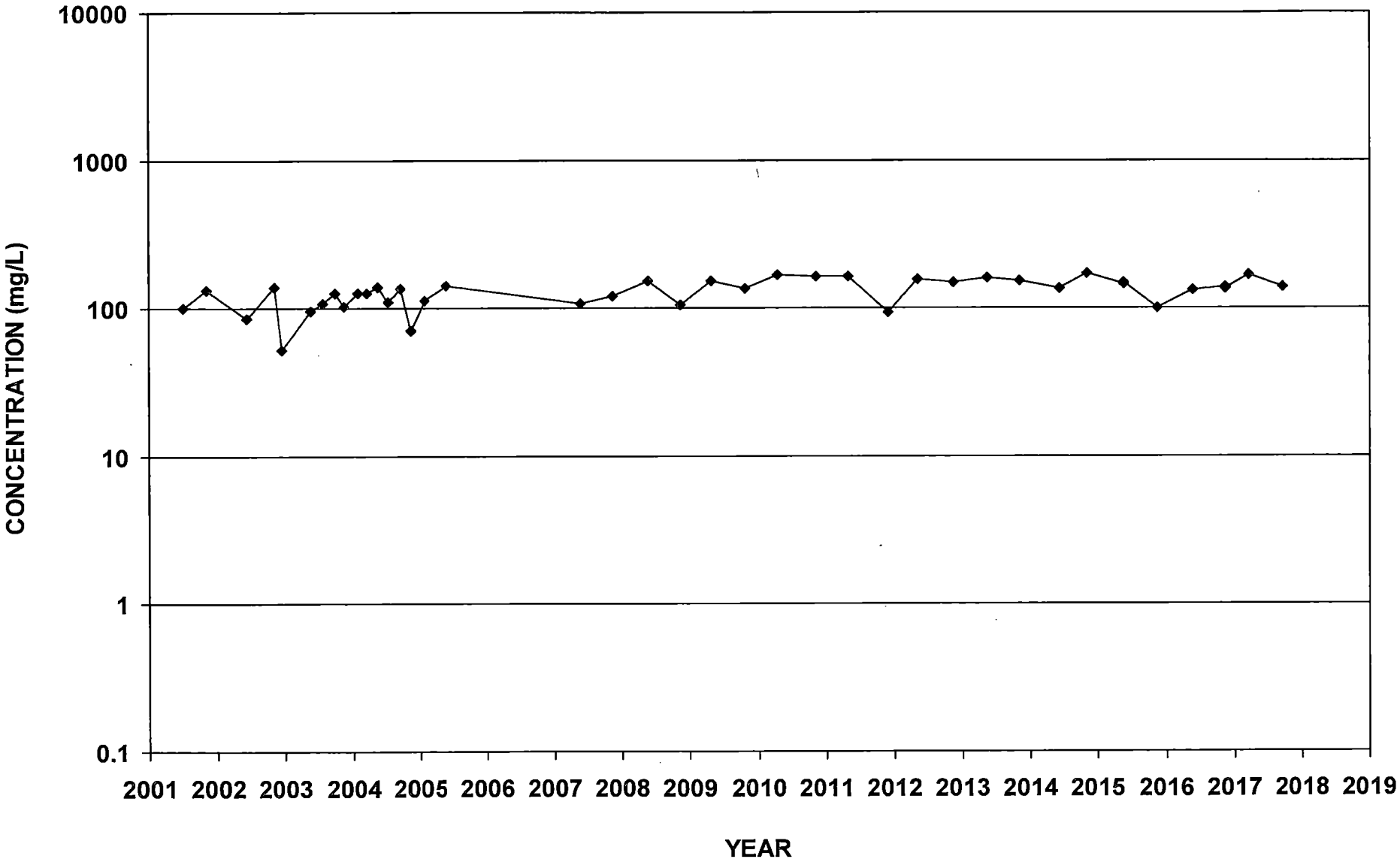



ECMW-8
Sulfate as SO4
10000
1000
100
10
1
0.1
CONCENTRATION (mg/L)
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
YEAR

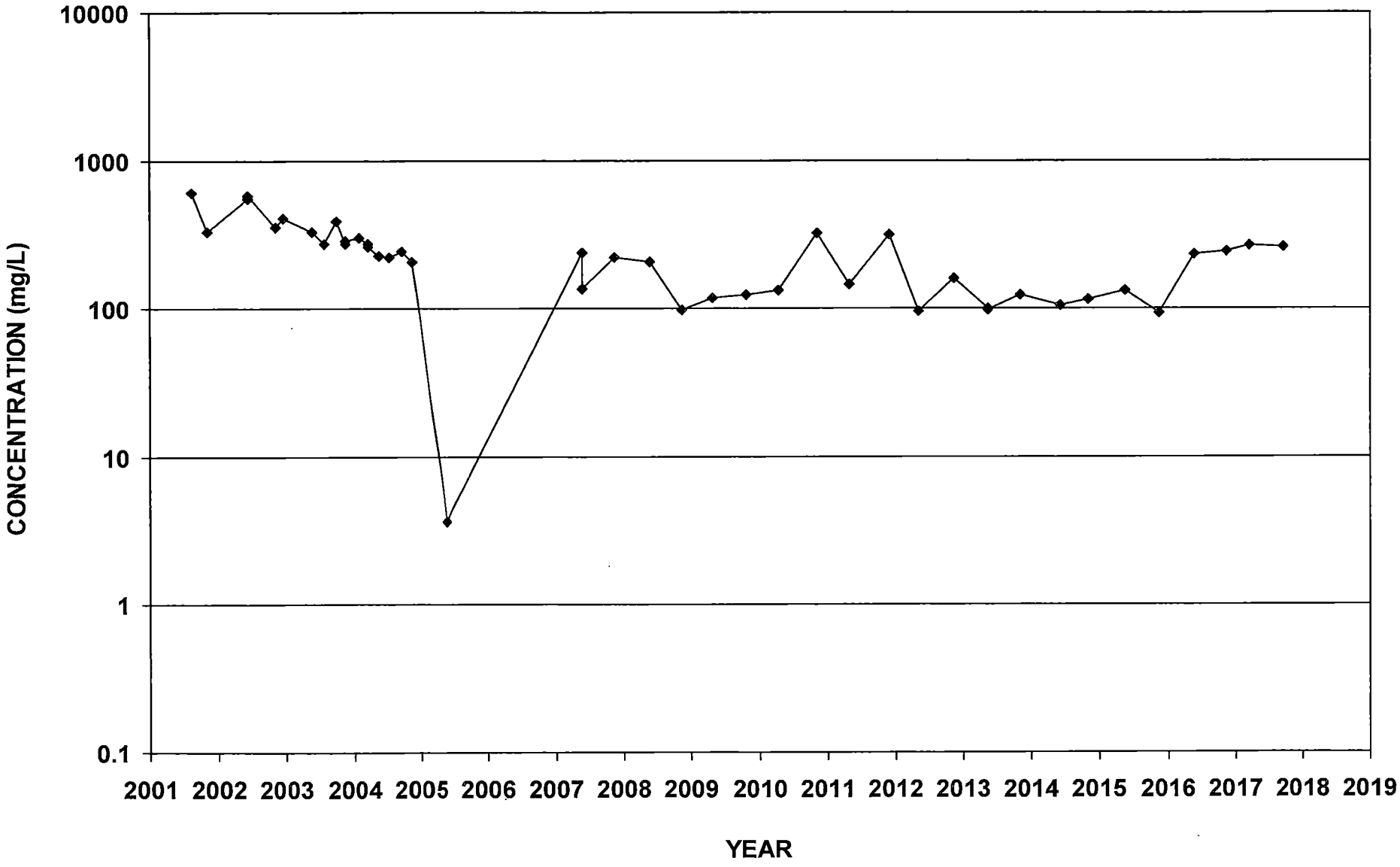
ECMW-9
Sulfate as SO4

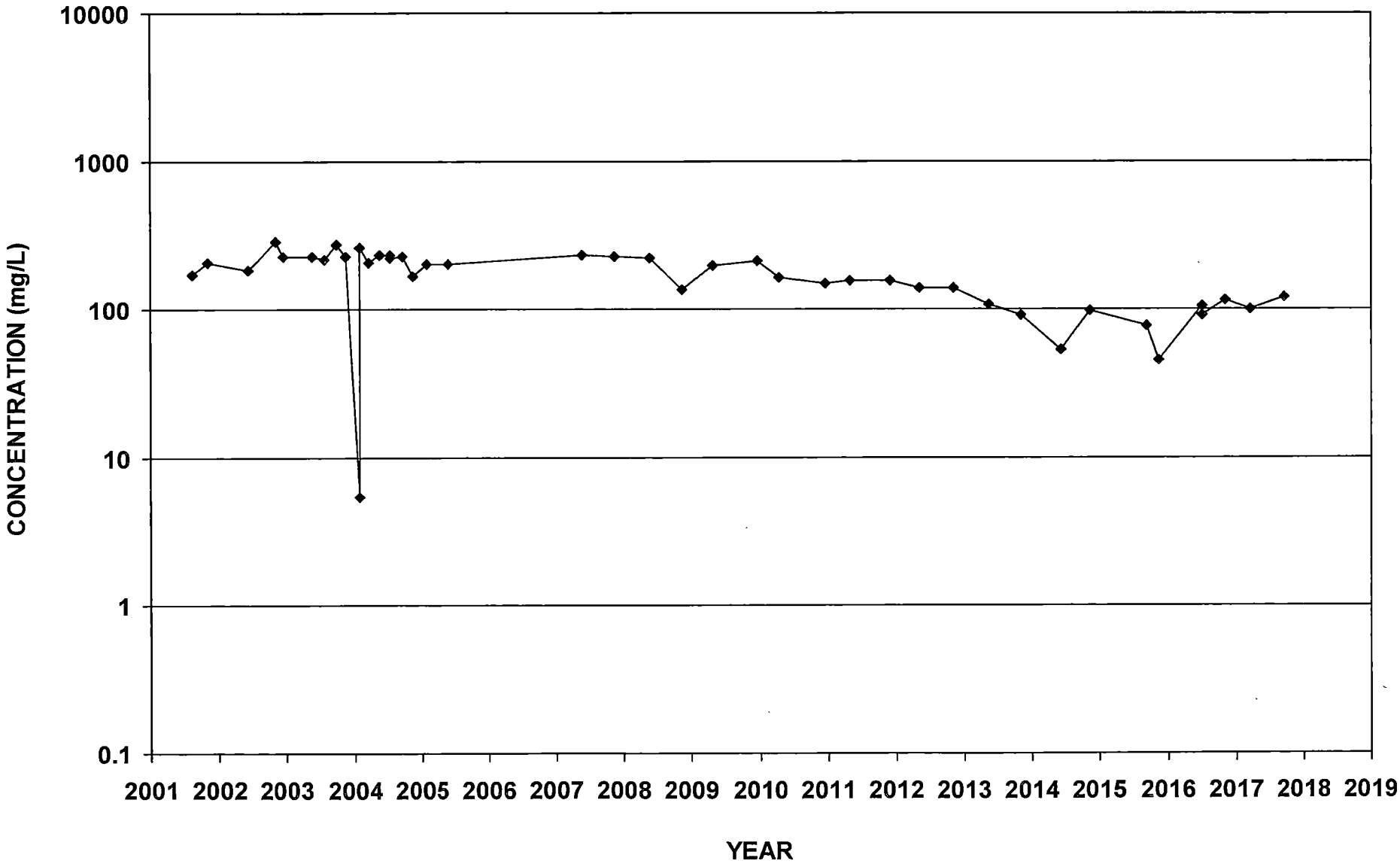


ECMW-10
Sulfate as SO4

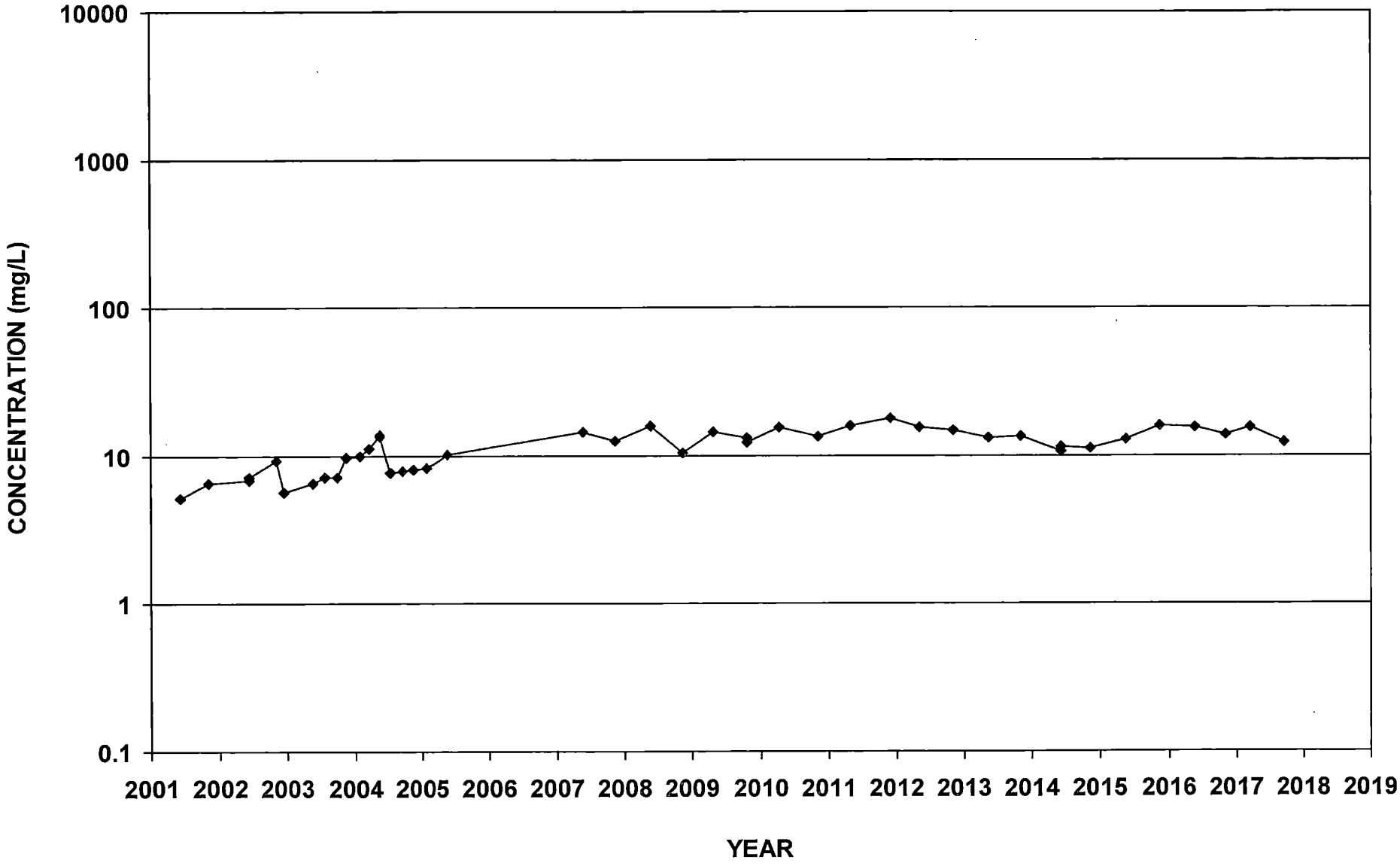


ECMW-11
Sulfate as SO4

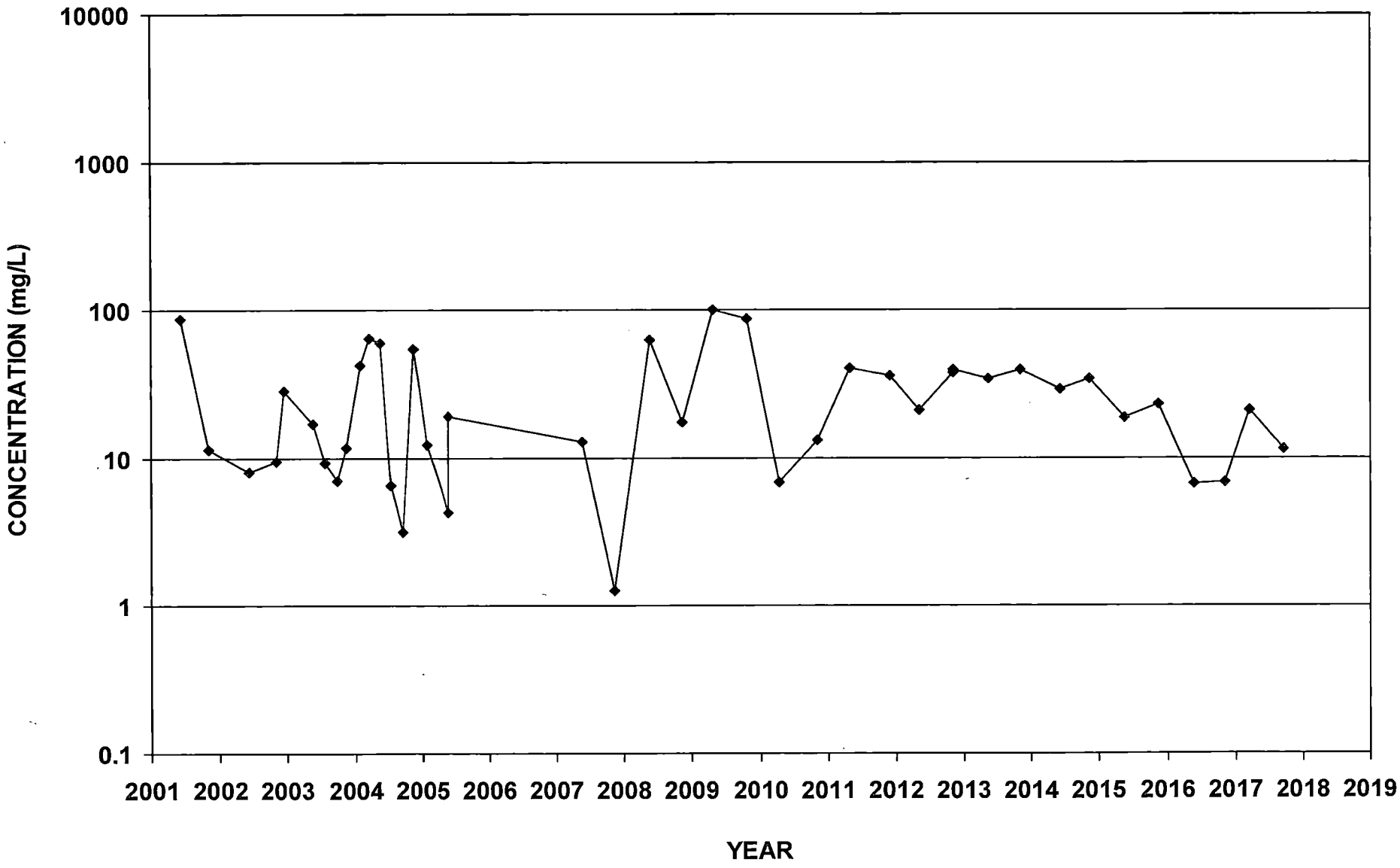



ECMW-14
Sulfate as SO4
10000
1000
100
10
1
0.1
CONCENTRATION (mg/L)
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
YEAR

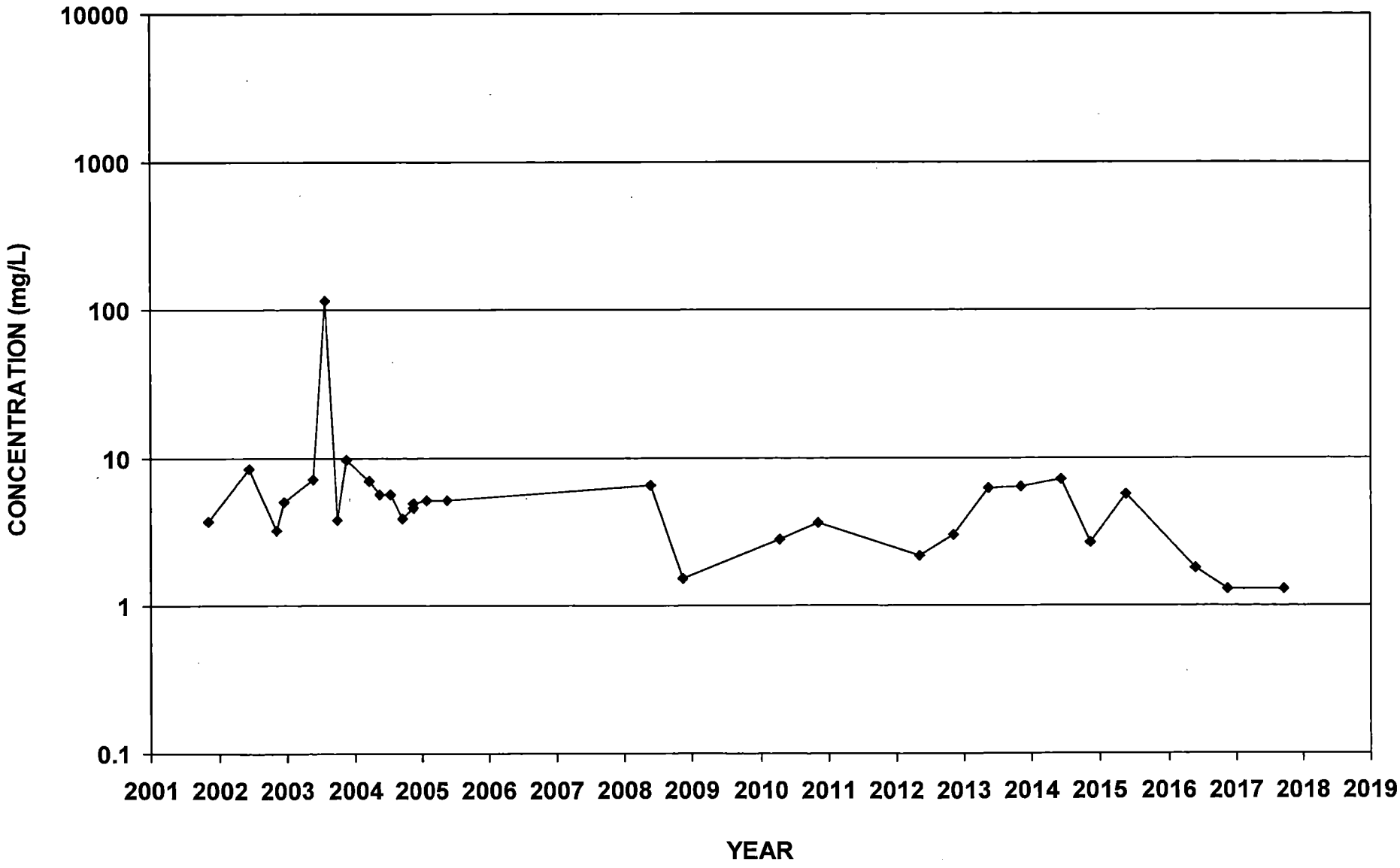
ECMW-16
Sulfate as SO4



ECMW-17
Sulfate as SO4



ECMW-18
Sulfate as SO4



ORIGIN ID:ELDA (870) 863-1400
EDDIE PEARSON
ELDORADO CHEMICAL COMPANY
4500 NORTH WEST AVE

ELDORADO, AR 71730
UNITED STATES US

SHIP DATE: 27FEB18
ACTWGT: 5.00 LB
CAD: 5887030/INET3980

BILL SENDER

TO **JERRY NEIL, SENIOR GEOLOGIST**
ARK. DEPT. OF ENVIRONMENTAL QUALITY
5301 N SHORE DR

NORTH LITTLE ROCK AR 72118
(870) 863-1403 REF:
INV:
PO: DEPT:

552J107F5/DCA5

FedEx Express

J181118012501ur

WED - 28 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7716 0667 7130**

X2 LITA

72118
AR-US **LIT**

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
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 $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.