2010 ANNUAL GROUND WATER REPORT

Prepared For:

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2010 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

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1.0 INTRODUCTION

This report presents the results of ground water sampling activities conducted at the El Dorado Chemical Company (EDCC) facility during 2010. 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

Statistical analyses were performed on ground water data to compare downgradient well data to upgradient (background) data to determine if the site constituents of concern are present at statistically significant levels. As a result of the statistical analyses, the monitoring program has been revised. 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. The monitoring program was revised in 2005, 2006, 2007 and again in 2009.

Revisions 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 are as follows:

- ***Lead and chromium:*** These parameters were removed from the monitoring program during 2007; these parameters will be sampled semiannually every two years starting in 2008.

- ***Background Wells***: There is sufficient data to establish the background levels of ammonia, nitrate, lead and chromium in the three background wells ECMW-1, ECMW-2 and ECMW-3. These four parameters were dropped from the annual parameter list but will be sampled semiannually every two years starting in 2008 to verify the current data set.

- ***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 will be sampled semiannually every two years starting in 2008. Nitrate will continue to be analyzed 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 will be sampled semiannually every two years starting in 2008. 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

will be sampled semiannually every two years starting in 2008. 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. All monitor wells will continue to be analyzed for vanadium until a sufficient amount of data is collected to statistically evaluate this parameter.

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 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. These parameters were analyzed again during the 2010 sampling events.

3.2 FIELD SAMPLING

Ground water sampling events were conducted in April and November of 2010. Wells ECMW-6 and ECMW-7 were resampled and analyzed for ammonia and nitrate due to anomalous results for the April analyses. In the second half of 2010, ECMW-14 was sampled in December 2010 due to flooding in the area of the well during the November 2010 sampling period. ECMW-20 was sampled in December 2010 because the well was dry during November. The results of the sampling are discussed in detail in Section 4.2.2.

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 2010 sampling events are summarized on Table 2.

The depth-to-water measurements were used to calculate the volume of water within each well and determine the amount to be purged prior to sampling. Three well volumes were removed from each well or until the well became dry using a Redi-Flo electric pump. Dedicated polyethylene tubing was used for each well to minimize the potential for cross-contamination. The field parameters were recorded on the sampling forms during the 2010 sampling events (see Appendix A) to demonstrate when aquifer parameters have stabilized sufficiently prior to sampling. Meters used to measure field data were calibrated each day during sampling. Ground water indicator parameter data (final readings only) are summarized on Table 3. Purge water was containerized for proper disposal.

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

Field quality assurance/quality control samples collected consisted of four (4) blind duplicates.

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 for the following constituents:

PARAMETER	ANALYTICAL METHODS
Ammonia-N	4500-NH3 D
Nitrate-N	EPA 300.0/9056A
Nitrite	EPA 300.0/9056A
Sulfate	EPA 300.0/9056A
Chromium (total)	EPA 200.7
Iron (total)	EPA 200.7
Lead (total)	EPA 200.7
Manganese (Dissolved)	EPA 200.7
Total Phosphorus	EPA 4500-P B5,E
Alkalinity	2320 B
Total Organic Carbon	5310/9060A

4.0 SAMPLING RESULTS

The following sections present ground water flow and analytical data collected in 2010.

4.1 GROUND WATER FLOW

Ground water elevations from April and October were used to construct the maps on Figures 2 and 3. The average of the April ground water elevations (177.82 feet MSL) was almost 4 feet higher than the average of the November measurements (173.98 feet) due to very low rainfall amounts at the site during the second half of 2010. The November 2010 readings had elevations ranging from 144.38 feet MSL (compared to 150.41 feet in October 2009) in ECMW-19 to 197.37 feet (compared to 206.15 feet in October 2009) in ECMW-1. Although the November elevations were markedly lower than usual, the general ground water flow direction from northwest to southeast is consistent with previous measurements.

4.2 GROUND WATER QUALITY

4.2.1 Field Parameters

Indicator parameter data are summarized on Table 3. In the first half of 2010, pH values ranged from 3.53 in ECMW-7 to 6.20 in ECMW-3 with an average of 4.82, which is consistent with previous readings. However, the pH readings during the second half of 2010 were higher, ranging from 4.92 to 8.28, with an average of 6.53. Specific conductance values ranged from 26

(ECMW-15) to 22,270 (ECMW-7) microSiemens/cm (μS/cm) in 2010 and were consistent between both 2010 sampling events and previous readings.

4.2.2 Analytical Results

The analytical results are summarized in Tables 4 through 26 and the laboratory reports are provided in Appendix A. Isoconcentration maps of ammonia and nitrate results are presented on Figures 5 through 8. A discussion of each constituent is provided below:

Ammonia

Wells ECMW-6 and ECMW-7 were resampled in July 2010 because the April ammonia results were not consistent with previous data. As shown on Tables 9 and 10, the resample analytical data indicate the April 2010 results for ECMW-6 and ECMW-7 are likely outliers and are not included in the following discussion.

During the year 2010, ammonia concentrations ranged from below the detection limit (0.5 mg/L) to 311 mg/L (ECMW-6). As with previous years, results from ECMW-6, ECMW-7 and ECMW-8 exhibited the highest concentrations. As shown on Figures 4 and 5, the highest ammonia concentrations are located north of the acid and nitrate process areas known as the Production Area.

Trend graphs of ammonia concentrations through 2010 are provided in Appendix B. ECMW-6 shows a clear increasing trend. Wells ECMW-7, ECMW-8 and ECMW-16 show a slight decreasing trend. Ammonia concentration trends in all other wells are fairly constant.

Nitrate

Well ECMW-7 was resampled in July 2010 because the April nitrate results were not consistent with previous data. As shown on Table 10, the resample analytical data indicate the April 2010 result ECMW-7 is likely an outlier and is not included in the following discussion.

For the year 2010, nitrate concentrations ranged from below the detection limit (0.5 mg/L) to 1940 mg/L (ECMW-6). ECMW-6, ECMW-7 and ECMW-8 exhibited the highest concentrations

throughout the year. As shown on Figures 6 and 7, the highest nitrate concentrations are located north of the Production Area.

Trends graphs for nitrate are provided in Appendix B. Although nitrate concentrations in ECMW-6 show an overall increasing trend, the more recent data indicate a decreasing and more constant trend. The trend for well ECMW-5 shows an increase in concentration over the last two years.

Wells ECMW-7, ECMW-8, ECMW-10, ECMW-15, ECMW-16 and ECMW-17 nitrate data show decreasing trends. Nitrate concentration trends in the remaining wells are fairly constant.

Sulfate

For the year 2010, sulfate concentrations ranged from 2.14 mg/L in ECMW-12 to 3490 mg/L (ECMW-7, 7/22/2010). However, the 3490 mg/L is not consistent with previous readings and may be an outlier. The April and November 2010 results in ECMW-7 were 214 and 156 mg/L, respectively. The second highest sulfate value analyzed in 2010 was 1000 mg/L, from well ECMW-4. ECMW-4, ECMW-8, ECMW-9 and ECMW-13 exhibited the highest concentrations throughout the year.

Chromium

Chromium was detected in ECMW-6 at a concentration of 0.011 mg/L. Historically, the highest chromium concentration detected on site was 0.837 mg/L, below the EPA chromium III ground water screening standard of 55 mg/L.

Lead

Lead was detected in ECMW-4, ECMW-6 and ECMW-7 at concentrations ranging from 0.023 and 0.06 mg/L.

In Situ Remediation Parameters

Samples were analyzed for alkalinity, nitrite, manganese, iron, phosphorus and total organic carbon in 2010. The analytical results of these parameters are summarized on Table 26.

5.0 GROUND WATER REMEDIATION

Approximately 533,952 gallons of ground water were recovered from ECRW #2 in 2010. The well operated 7416 hours during 2010 at a rate of about 1.2 gallons per minute. Recovery well ECRW #1 was not used during 2010. Operating both wells simultaneously caused the wells to quickly become dry resulting in frequent damage to the pump and motor assemblies. Well ECRW #2 has operated efficiently since ECRW #1 was taken out of service.

TABLES

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

Notes:

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

TABLE 2
GROUNDWATER ELEVATION DATA
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EL DORADO, ARKANSAS

Monitor Well	Top of Casing Elevation (ft above Mean Sea Level)	Measurement Date					
		4/12/2010 - 4/13/2010		7/22/2010		11/01/2010 - 11/02/2010	
		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)	Depth to Water (ft from top of casing)	Ground Water Elevation (ft above MSL)
ECMW-1	213.28	8.62	204.66			15.91	197.37
ECMW-2	196.25	0.00	196.25			2.51	193.74
ECMW-3	192.11	8.75	183.36			15.16	176.95
ECMW-4	194.84	8.83	186.01			13.13	181.71
ECMW-5	182.69	4.29	178.40			4.95	177.74
ECMW-6	191.87	5.16	186.71	4.86	187.01	7.96	183.91
ECMW-7	195.88	7.69	188.19	7.60	188.28	10.18	185.70
ECMW-8	197.34	7.61	189.73			9.57	187.77
ECMW-9	198.39	8.76	189.63			14.96	183.43
ECMW-10	205.75	12.26	193.49			16.61	189.14
ECMW-11	201.65	10.43	191.22			14.08	187.57
ECMW-12	184.97	7.01	177.96			7.72	177.25
ECMW-13	177.26	6.18	171.08			13.55	163.71
ECMW-14	178.48	6.93	171.55			5.72*	172.76
ECMW-15	180.84	5.11	175.73			5.11	175.73
ECMW-16	180.14	4.88	175.26			4.14	176.00
ECMW-17	185.40	27.46	157.94			28.51	156.89
ECMW-18	155.46	5.69	149.77			10.13	145.33
ECMW-19	150.41	0.00	150.41			6.03	144.38
ECMW-20	192.77	27.46	165.31			44.68*	148.09
ECMW-21	176.29	15.24	161.05			19.16	157.13
ECMW-22	173.55	5.24	168.31			8.32	165.23

*** Sampled December 21, 2010**

TABLE 3
GROUNDWATER INDICATOR PARAMETER DATA
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WELL	TEMPERATURE (C)		pH (s.u.)		CONDUCTIVITY (uS)	
	Date		Date		Date	
	4/12-13/2010	11/01-02/2010 *12/21/2010	4/12-13/2010	11/01-02/2010 *12/21/2010	4/12-13/2010	11/01-02/2010 *12/21/2010
ECMW-1	14.9	19.0	4.53	7.69	42	55
ECMW-2	15.8	19.1	5.23	8.28	326	341
ECMW-3	16.9	18.5	6.20	6.97	232	300
ECMW-4	16.1	20.6	3.75	6.57	8116	7565
ECMW-5	16.4	21.8	4.75	5.64	480	434
ECMW-6	16.9	20.7	4.04	5.71	16210	15390
ECMW-7	17.7	20.5	3.53	4.92	19910	22270
ECMW-8	18.2	18.8	4.56	6.35	17430	18980
ECMW-9	17.9	19.3	5.44	7.04	2440	2240
ECMW-10	18.0	21.4	4.08	6.42	1021	747
ECMW-11	16.0	21.9	4.32	5.67	619	1025
ECMW-12	17.6	22.8	5.95	6.64	725	678
ECMW-13	15.5	20.6	4.75	6.44	1550	45
ECMW-14	16.8	19.42*	4.54	5.68*	1008	744*
ECMW-15	16.8	22.5	4.39	5.30	100	26
ECMW-16	15.7	22.5	4.42	5.98	182	59
ECMW-17	18.2	18.4	4.07	7.02	253	397
ECMW-18	15.4	19.9	5.50	8.22	84	88
ECMW-19	16.89	17.6	5.62	6.87	94	84
ECMW-20	18.33	17.92*	5.64	5.02*	92	94*
ECMW-21	19.41	17.6	4.88	7.13	70	61
ECMW-22	18.35	18.6	5.84	8.15	159	150

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

ECMW-1

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	9.7	--	1.7	4.1	--	0.0037	< 0.002	< 0.005	< 0.005	--	--
5/29/2001	5.1	< 0.5	1.83	3.67	42	< 0.04	--	< 0.02	--	--	--
11/1/2001	4.8	< 0.5	2.74	3.34	43	< 0.04	--	< 0.02	--	--	--
6/3/2002	5.5	< 0.5	2.01	4.66	83	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.6	0.66	1.56	4.63	44	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	6.1	< 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	--
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			

"--" - Parameter not analyzed

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

ECMW-2

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	9.7	--	< 0.2	17	--	0.018	< 0.002	0.0342	< 0.005	--	--
5/29/2001	5.4	< 0.5	< 0.5	19.6	340	< 0.04	--	0.032	--	--	--
11/1/2001	5.3	< 0.5	< 0.5	22.9	300	< 0.04	--	< 0.02	--	--	--
6/3/2002	6.0	< 0.5	< 0.5	20	396	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.1	< 0.5	< 0.5	25.7	517	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	6.7	< 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	5.2	<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	5.4	<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	5.2	--	--	--	--	--	--	--	--	<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	--
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	--	--	--

"--" - Parameter not analyzed

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

ECMW-3

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	8.0	--	< 0.2	10	--	0.0027	< 0.002	< 0.005	< 0.005	--	--
5/29/2001	6.2	< 0.5	< 0.5	10.6	180	< 0.04	--	< 0.02	--	--	--
11/1/2001	5.4	< 0.5	< 0.5	22.5	240	< 0.04	--	< 0.02	--	--	--
6/3/2002	6.4	< 0.5	< 0.5	11.4	228	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.5	< 0.5	< 0.5	21.6	295	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	6.0	< 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	--
10/20/2009	5.83	--	--	--	--	--	--	--	--	--	--
4/13/2010	6.2	<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	--	--	--

"--" - Parameter not analyzed

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

ECMW-4

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	8.1	--	1.3	728	--	0.0025	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.1	0.66	< 0.5	925	5100	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.3	< 0.5	< 0.5	936	5200	0.06	--	0.04	--	--	--
6/3/2002	5.2	< 0.5	< 0.5	979	4862	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	4.8	< 0.5	0.62	756	4240	0.02	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	4.4	< 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	4.1	<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	--
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	--	--	--

"--" - Parameter not analyzed

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

ECMW-5

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	5.8	--	4.4	441	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.6	< 0.5	3.54	657	1000	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.7	< 0.5	3.27	526	980	< 0.04	--	< 0.02	--	--	--
6/3/2002	6.3	< 0.5	3.35	650	934	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.4	< 0.5	3.66	582	929	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.2	< 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	6.7	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	--
11/12/2008	2.4	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	--	--	--

"--" - Parameter not analyzed

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

ECMW-6

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	7.7	--	51.1	24	--	0.0026	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.3	0.5	298	18.3	2100	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.3	< 0.5	326	15.7	2700	< 0.04	--	< 0.02	--	--	--
6/3/2002	6.1	< 0.5	459	12.1	290	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.0	0.51	661	8.13	3840	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	4.6	< 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	4.4	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	4.5	59.1	1130	23.7	--	<0.015	--	<0.02	--	<0.02	--
5/21/2008		72.5	256	28.3	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	3.89	103	1060	26.1	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.47	135	1070	148	--	--	--	--	--	<0.02	--
10/20/2009	4.16	181	1330	24.7	--	--	--	--	--	--	--
4/13/2010	4.04	92.8	1660	29.2	--	<0.015	--	<0.02	--	--	--
4/13/2010	--	566	1640	25.7	--	0.023	--	<0.02	--	--	--
7/22/2010	--	246	1940	42.3	--	<0.015	--	<0.02	--	--	--
11/2/2010	5.71	311	1460	29.6	--	<0.015	--	0.011	--	--	--

"--" - Parameter not analyzed

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

ECMW-7

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	8.1	--	282	380	--	0.0221	0.0185	0.0078	< 0.005	--	--
8/8/2001	9.7	184	336	316	1300	< 0.04	--	< 0.02	--	--	--
10/30/2001	3.5	< 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	4.4	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	4.2	167	294	345	1080	0.017	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	3.7	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	3.9	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	4.3	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	3.4	115	237	962	--	<0.015		<0.02	--	<0.02	--
4/21/2009	4.13	77.8	126	895	--	--	--	--	--	<0.02	--
10/20/2009	3.55	51.2	49.9	1090	--	--	--	--	--	--	--
4/13/2010	3.53	1000	1080	214	--	0.06	--	<0.02	--	--	--
7/22/2010	--	43.2	103	3490	--	<0.015	--	<0.02	--	--	--
11/2/2010	4.92	107	155	156	--	<0.015	--	<0.01	--	--	--

"--" - Parameter not analyzed

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

ECMW-8

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	7.9	--	1010	68.3	--	0.0234	0.0238	< 0.005	< 0.005	--	--
10/30/2001	3.9	0.94	1030	81.1	5000	< 0.04	--	< 0.02	--	--	--
6/3/2002	5.4	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	4.4	406	1330	151	4560	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	4.0	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	3.7	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	--
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	--	--	--

"--" - Parameter not analyzed

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

ECMW-9

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	--	37.3	621	--	0.004	< 0.002	< 0.005	< 0.005	--	--
6/27/2001	5.4	< 0.5	28.8	520	1600	< 0.04	--	< 0.02	--	--	--
10/30/2001	5.5	< 0.5	26.7	514	2600	< 0.04	--	< 0.02	--	--	--
6/3/2002	6	< 0.5	24.4	639	1597	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6	18.8	59	655	1630	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.2	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	--	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	--
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	--	--	--

"--" - Parameter not analyzed

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

ECMW-10

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	7.7	--	257	89	--	0.0052	0.0039	< 0.005	< 0.005	--	--
6/27/2001	4.4	< 0.5	156	100	1300	< 0.04	--	0.025	--	--	--
10/30/2001	3.9	< 0.5	153	134	1400	< 0.04	--	0.04	--	--	--
6/3/2002	5.3	< 0.5	138	84.9	1122	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.6	1.84	137	140	968	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	4.5	< 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	4.6	<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	4.7	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	4.3	--	97.7	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	4.4	--	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	--
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	--	--	--

"--" - Parameter not analyzed

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

ECMW-11

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	--
5/21/2008	5.26	19.5	18.9	208	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	4.34	18.4	16.9	98.6	--	<0.015	--	<0.02	--	<0.02	--
4/21/2009	4.09	<0.5 outlier	14	119	--	--	--	--	--	<0.02	--
6/3/2009	6.10	17.7	--	--	--	--	--	--	--	--	--
10/20/2009	4.28	18.2	9.44	125	--	--	--	--	--	--	--
4/13/2010	4.32	32.6	7.78	135	--	<0.015	--	<0.02	--	--	--
11/2/2010	5.67	3.17	4.52	325	--	<0.015	--	<0.01	--	--	--

"--" - Parameter not analyzed

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

ECMW-12

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	6.1	--	< 0.2	9.6	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
6/27/2001	5.9	2.2	< 0.5	13	330	< 0.04	--	< 0.02	--	--	--
6/4/2002	6	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	6.1	4.2	< 0.5	21.6	382	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.8	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	5.8	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	5.8	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	5.3	1.06	--	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	6.12	1.58	--	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	5.3	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	--
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	--	--	--

"--" - Parameter not analyzed

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

ECMW-13

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	5.6	--	0.2	809	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
6/5/2001	5.6	< 0.5	< 0.5	538	1400	< 0.04	--	< 0.02	--	--	--
10/30/2001	5.3	< 0.5	< 0.5	606	1300	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.7	< 0.5	< 0.5	372	718	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.1	1.28	< 0.5	538	1030	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.5	< 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	--
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	--	--	--

"--" - Parameter not analyzed

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

ECMW-14

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	4.6	--	11.9	139	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.3	< 0.5	75	175	1000	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.5	< 0.5	25.2	211	790	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.6	< 0.5	26.5	187	675	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	6.3	5.32	17	288	669	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.3	< 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	4.6	<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	--
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	--	--	--

"--" - Parameter not analyzed

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

ECMW-15

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	6.4	--	34.5	4.4	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
8/8/2001	4.3	< 0.5	19.1	7.8	140	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.3	< 0.5	12.6	10.2	110	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.4	< 0.5	10.7	11.1	100	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.4	1.16	18.2	9.22	120	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.8	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	--
10/20/2009	4.36	--	--	--	--	--	--	--	--	--	--
4/14/2010	4.39	<0.5	2.99	10.7	--	<0.015	--	<0.02	--	--	--
11/3/2010	5.3	<0.5	1.9	13.2	--	<0.015	--	<0.01	--	--	--

"--" - Parameter not analyzed

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

ECMW-16

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	5.7	--	137	4.6	--	0.0036	0.0034	< 0.005	< 0.005	--	--
6/5/2001	4.3	4.61	134	5.09	1100	< 0.04	--	< 0.02	--	--	--
10/30/2001	3.9	< 0.5	58.4	6.44	330	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.0	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	5.0	11.6	72	9.21	263	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.9	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	5.5	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	4.3	1.77	19.6	12.6	--	--	--	--	--	<0.02	--
5/21/2008	6.08	3.35	14.8	15.9	--	<0.015	--	<0.02	--	<0.02	--
11/5/2008	6.5	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	--	--	--

"--" - Parameter not analyzed

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

ECMW-17

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	4.9	--	45	145	--	< 0.002	< 0.002	< 0.005	< 0.005	--	--
6/5/2001	4.4	1.16	54.2	87.7	600	< 0.04	--	< 0.02	--	--	--
10/30/2001	4.1	< 0.5	106	11.5	760	< 0.04	--	< 0.02	--	--	--
6/4/2002	5.1	< 0.5	83.4	8.04	603	< 0.02	< 0.02	< 0.02	< 0.02	--	--
10/30/2002	5.1	2.36	92	9.53	540	< 0.015	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	5.6	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	4.4	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	3.7	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	--
4/21/2009	4.25	12.2 outlier	27.1	99.9	--	--	--	--	--	<0.02	--
6/3/2009	5.84	3.04	--	--	--	--	--	--	--	--	--
10/21/2009	4.68	11.2	14.4	87.1	--	--	--	--	--	--	--
4/14/2010	4.07	<0.5	15.9	6.73	--	<0.015	--	<0.02	--	--	--
11/3/2010	7.02	1.94	27.2	13.1	--	<0.015	--	<0.01	--	--	--

"--" - Parameter not analyzed

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

ECMW-18

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	6.6	--	0.4	3.3	--	0.017	< 0.002	0.0194	< 0.005	--	--
10/30/2001	5.4	< 0.5	< 0.5	3.74	300	< 0.04	--	0.05	--	--	--
6/4/2002	6.2	< 0.5	< 0.5	8.38	796	0.115	< 0.02	0.147	0.137	--	--
10/30/2002	6.3	0.43	< 0.5	3.22	258	0.018	< 0.015	< 0.02	< 0.02	--	--
12/10/2002	6.4	< 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	6.4	<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	5.9	<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	--	--	--	--	--	--	--	--
4/14/2010	5.5	<0.5	<0.5	2.82	--	<0.015	--	<0.02	--	--	--
11/3/2010	8.22	<0.5	<1	3.65	--	<0.015	--	<0.01	--	--	--

"--" - Parameter not analyzed

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

ECMW-19

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	6.1	<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	5.8	--	--	--	--	--	--	--	--	<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	5.9	<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	--	--	--

"--" - Parameter not analyzed

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

ECMW-20

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	5.8	<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	6.2	<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	8.6	<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	--	--	--

"--" - Parameter not analyzed

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

ECMW-21

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	--	--	--

"--" - Parameter not analyzed

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

ECMW-22

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	5.8	--	--	--	--	--	--	--	--	<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	--	--	--

"--" - Parameter not analyzed

TABLE 26
IN SITU REMEDIATION PARAMETERS SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Well	Sample Date	Dissolved Oxygen (mg/L)	REDOX (mV)	Total Alkalinity (mg/L)	Total Organic Carbon (mg/L)	Nitrite (mg/L)	Total Phosporus (mg/L)	Iron (mg/L)	Manganese (mg/L)
ECMW-1	4/13/2010	6.75	316.2	<5	<1	<0.5	0.02	0.084	0.011
ECMW-1	11/2/2010	6.05	-169.3	9	1.16	<0.5	<0.02	0.131	<0.01
ECMW-2	4/13/2010	5.11	205.5	22	2.3	<0.5	0.077	0.175	<0.01
ECMW-2	11/2/2010	7.79	-64.3	16	2.83	<0.5	0.185	0.178	0.01
ECMW-3	4/13/2010	4.89	307.3	55	2.7	<0.5	0.236	0.054	0.025
ECMW-3	11/2/2010	5.71	-215.4	59	5.62	<0.5	0.181	0.406	0.084
ECMW-4	4/13/2010	5.96	483	<5	25.1	<0.5	<0.02	5.31	1.96
ECMW-4	11/2/2010	7.99	-111.4	<5	25.2	<0.5	<0.02	5.93	2.12
ECMW-4 D	11/2/2010	--	--	<5	25.4	<0.5	<0.02	5.77	2.11
ECMW-5	4/13/2010	4.63	289.9	15	1.3	<0.5	<0.02	0.024	0.693
ECMW-5	11/2/2010	5.73	-151.8	6	1.11	<0.5	<0.02	<0.01	0.717
ECMW-6	4/13/2010	4.36	385	<5	1.56	<0.5	<0.02	<0.01	2.33
ECMW-6	7/22/2010	--	--	<5	1.38	<0.5	<0.02	0.065	3.31
ECMW-6	11/2/2010	8.92	-37.6	<5	1.69	<0.5	<0.02	0.026	2.14
ECMW-6 D	4/13/2010	--	--	<5	1.58	<0.5	<0.02	0.029	2.41
ECMW-7	4/13/2010	4.31	427.4	<5	5.08	<0.5	<0.02	0.22	0.376
ECMW-7	7/22/2010	--	--	5	15.7	<0.5	0.071	0.058	0.087
ECMW-7	11/2/2010	5.17	60.5	<5	17.3	<0.5	0.091	0.072	0.091
ECMW-8	4/13/2010	6.16	315.3	250	10.4	<0.5	<0.02	<0.01	0.839
ECMW-8	11/2/2010	10.04	-45.3	115	9.72	<0.5	<0.02	0.035	0.563
ECMW-9	4/13/2010	6.22	273.8	30	18.6	<0.5	0.133	<0.01	0.297
ECMW-9	11/2/2010	5.29	-91.9	25	20.5	<0.5	0.144	0.046	0.321
ECMW-10	4/13/2010	5.21	335.9	<5	7.2	<0.5	<0.02	0.013	0.154
ECMW-10	11/2/2010	4.03	-78.6	<5	7.34	<0.5	<0.02	0.027	0.166
ECMW-11	4/13/2010	3.91	335.4	<5	9.25	<0.5	0.035	<0.01	0.017
ECMW-11	11/2/2010	4.7	-60.7	<5	15.3	<0.5	<0.02	0.012	0.032
ECMW-12	4/13/2010	2.97	-30	310	15.3	<0.5	0.426	63.3	0.239
ECMW-12	11/3/2010	5.32	-155.7	160	21	<0.5	0.057	39.4	0.21

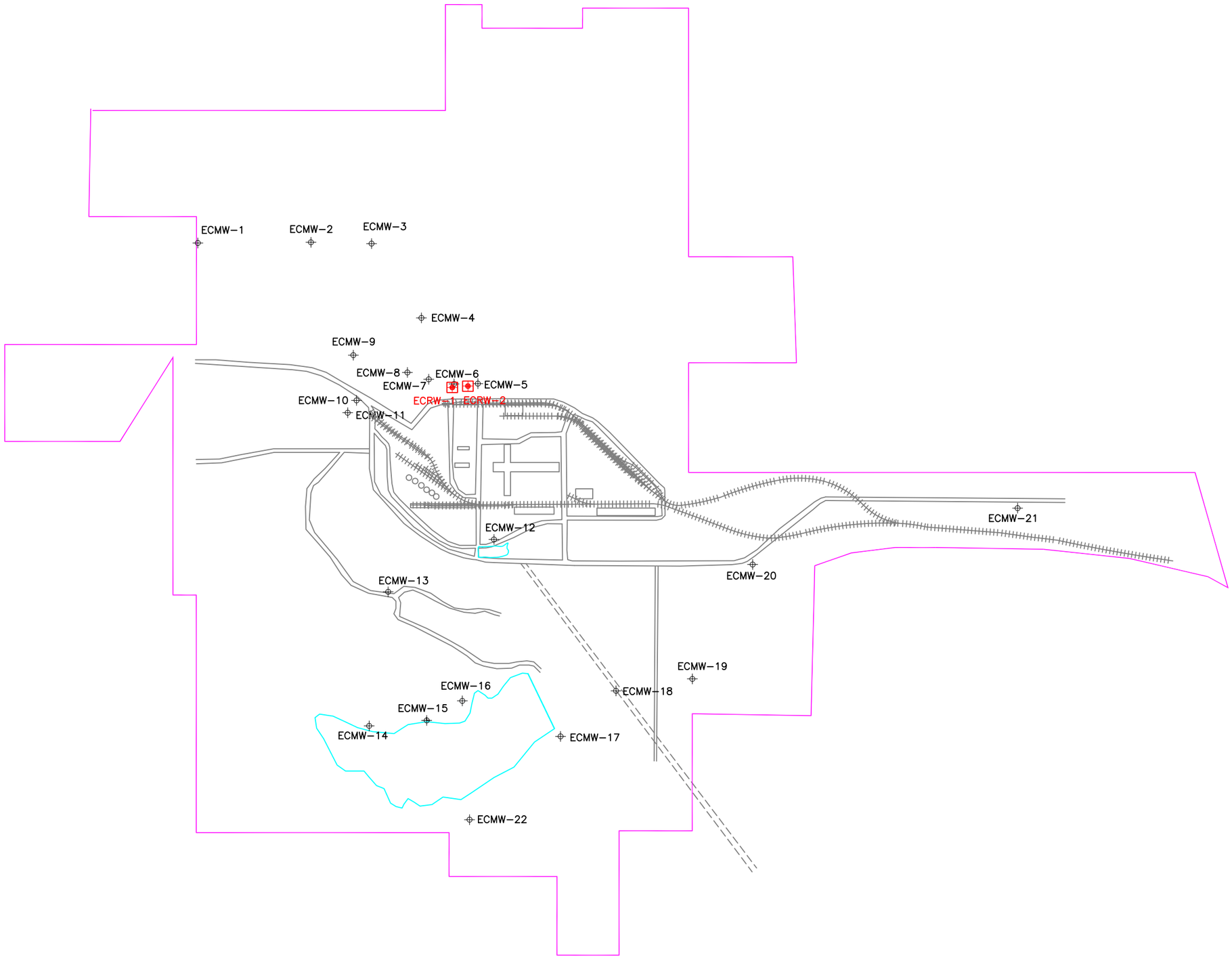
"--" - Parameter not analyzed

TABLE 26
IN SITU REMEDIATION PARAMETERS SUMMARY
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Well	Sample Date	Dissolved Oxygen (mg/L)	REDOX (mV)	Total Alkalinity (mg/L)	Total Organic Carbon (mg/L)	Nitrite (mg/L)	Total Phosporus (mg/L)	Iron (mg/L)	Manganese (mg/L)
ECMW-12 D	11/3/2010	--	--	168	21.7	<0.5	0.221	41.4	0.214
ECMW-13	4/14/2010	6.02	330.9	20	6.6	<0.5	<0.02	0.941	2.87
ECMW-13	11/3/2010	7.62	-133.4	49	6.68	<0.5	<0.02	0.045	3.54
ECMW-14	4/14/2010	4.86	383.7	15	16.2	<0.5	0.159	0.035	0.048
ECMW-14	12/21/2010	3.42	91.5	24	12.6	<0.5	<0.02	0.025	0.07
ECMW-15	4/14/2010	4.38	322.4	<5	1.53	<0.5	<0.02	0.045	0.02
ECMW-15	11/3/2010	7.21	-19	<5	1.59	<0.5	0.023	<0.01	0.024
ECMW-16	4/14/2010	4.06	266.2	<5	2.91	<0.5	<0.02	<0.01	0.105
ECMW-16	11/3/2010	5.7	-154.4	<5	1.75	<0.5	<0.02	<0.01	0.111
ECMW-17	4/14/2010	6.66	259.7	<5	<1	<0.5	<0.02	<0.01	0.048
ECMW-17	11/3/2010	9.91	-125.3	<5	1.48	<0.5	<0.02	0.025	0.121
ECMW-18	4/14/2010	6.66	179.9	15	<1	<0.5	0.379	0.505	0.024
ECMW-18	11/3/2010	3.41	130.1	21	1.51	<1	0.613	0.915	0.017
ECMW-19	4/14/2010	4.89	88.1	32	<1	<0.5	0.307	4.5	0.075
ECMW-19	11/3/2010	2.5	-205.5	28	<1	<0.5	0.154	0.037	0.069
ECMW-19 D	4/14/2010	--	--	30	<1	<0.5	0.281	5.17	0.074
ECMW-20	4/14/2010	5.36	112.3	30	<1	<0.5	0.129	2.07	0.187
ECMW-20	12/21/2010	3.18	74.2	26	<1	<0.5	0.238	5.88	0.254
ECMW-21	4/14/2010	4.73	292.6	5	<1	<0.5	<0.02	<0.01	0.027
ECMW-21	11/3/2010	5.16	-47.1	<5	<1	<0.5	0.025	<0.01	0.025
ECMW-22	4/14/2010	5.04	118.3	30	1.45	<0.5	0.046	0.603	0.168
ECMW-22	11/3/2010	9.87	-189.7	42	<1	<0.5	0.063	0.042	0.152

"--" - Parameter not analyzed

FIGURES



LEGEND

- MONITOR WELLS
- RECOVERY WELLS
- PROPERTY BOUNDARY

N

0 600 1200

SCALE IN FEET

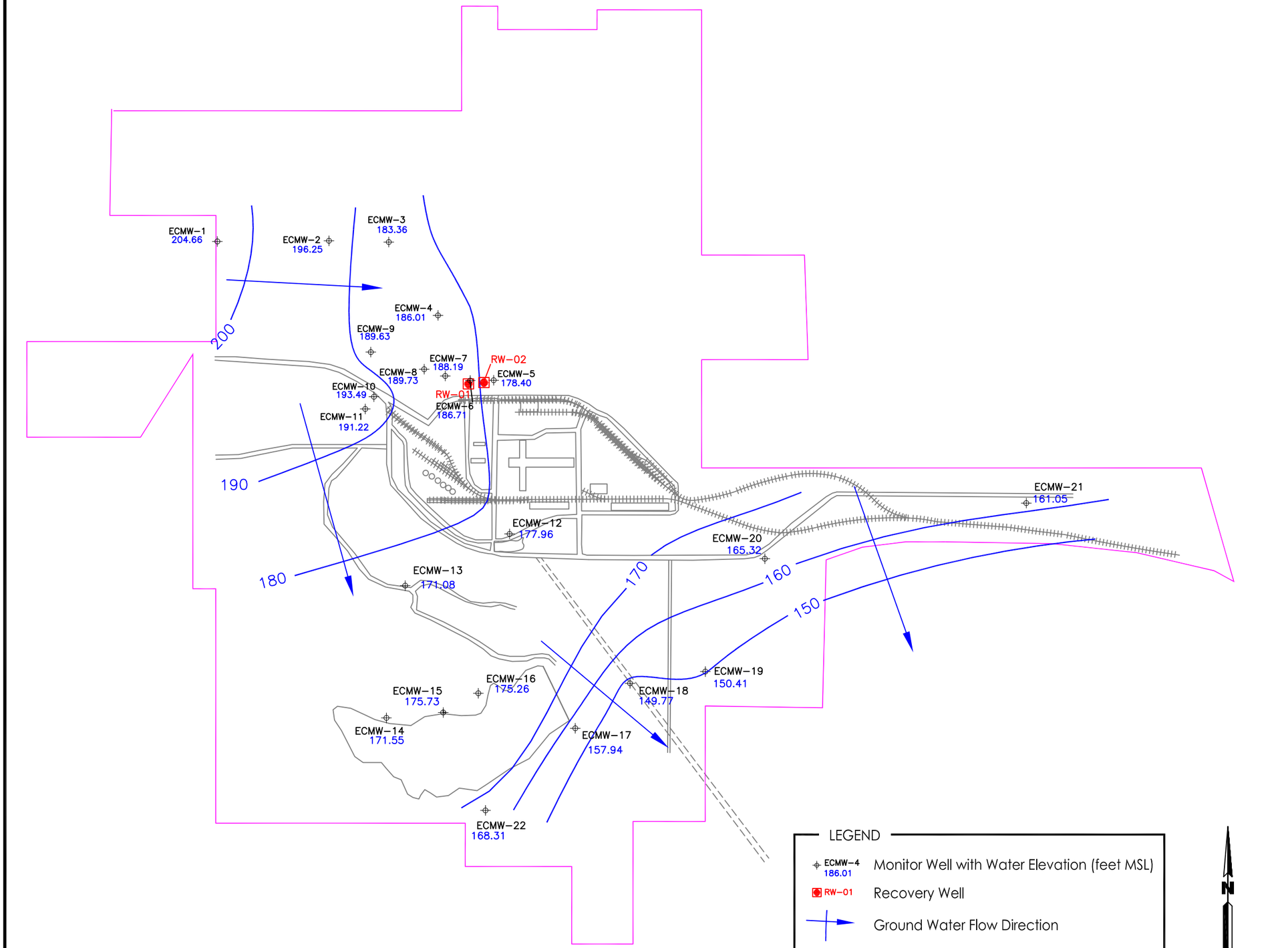
ELDORADO

SITE MAP
2010 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/19/2010	APPROVED: BY: DATE:	DRAWN BY: LMM
SCALE: see above		CAD NO. 02EC0100

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 1



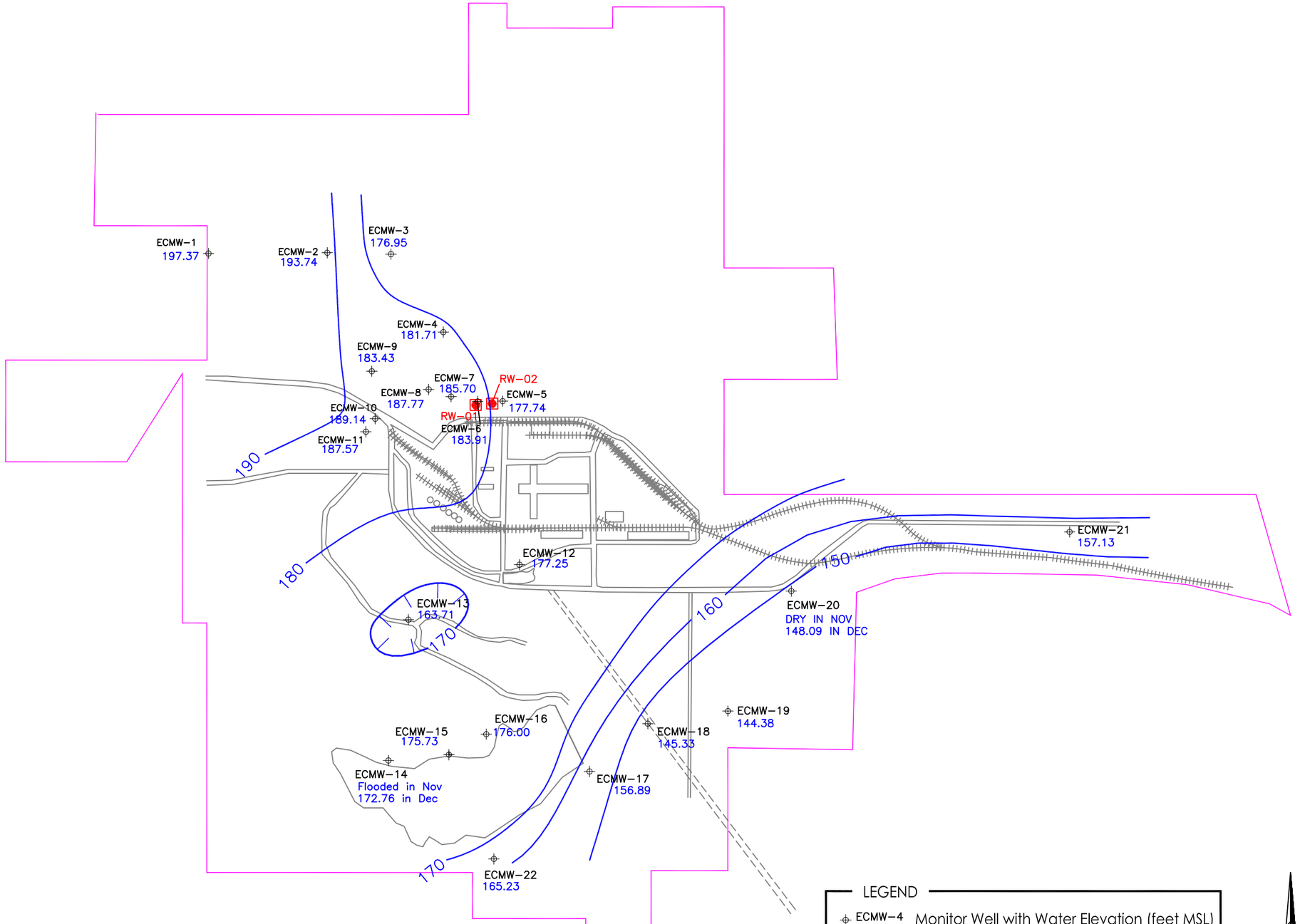
EL DORADO

GROUND WATER ELEVATION MAP
APRIL 2010
2010 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 12/29/2010	APPROVED: BY: DATE:	DRAWN BY: LMM	
SCALE: see above		CAD NO. 02EC0100	

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 2



LEGEND

ECMW-4 181.71 — Monitor Well with Water Elevation (feet MSL)

RW-01 — Recovery Well

Ground Water Flow Direction

MEASUREMENTS TAKEN NOV 1-2, 2010
ECMW-14 AND ECMW-20 MEASURED DEC 21, 2010

N

0 600 1200
SCALE IN FEET

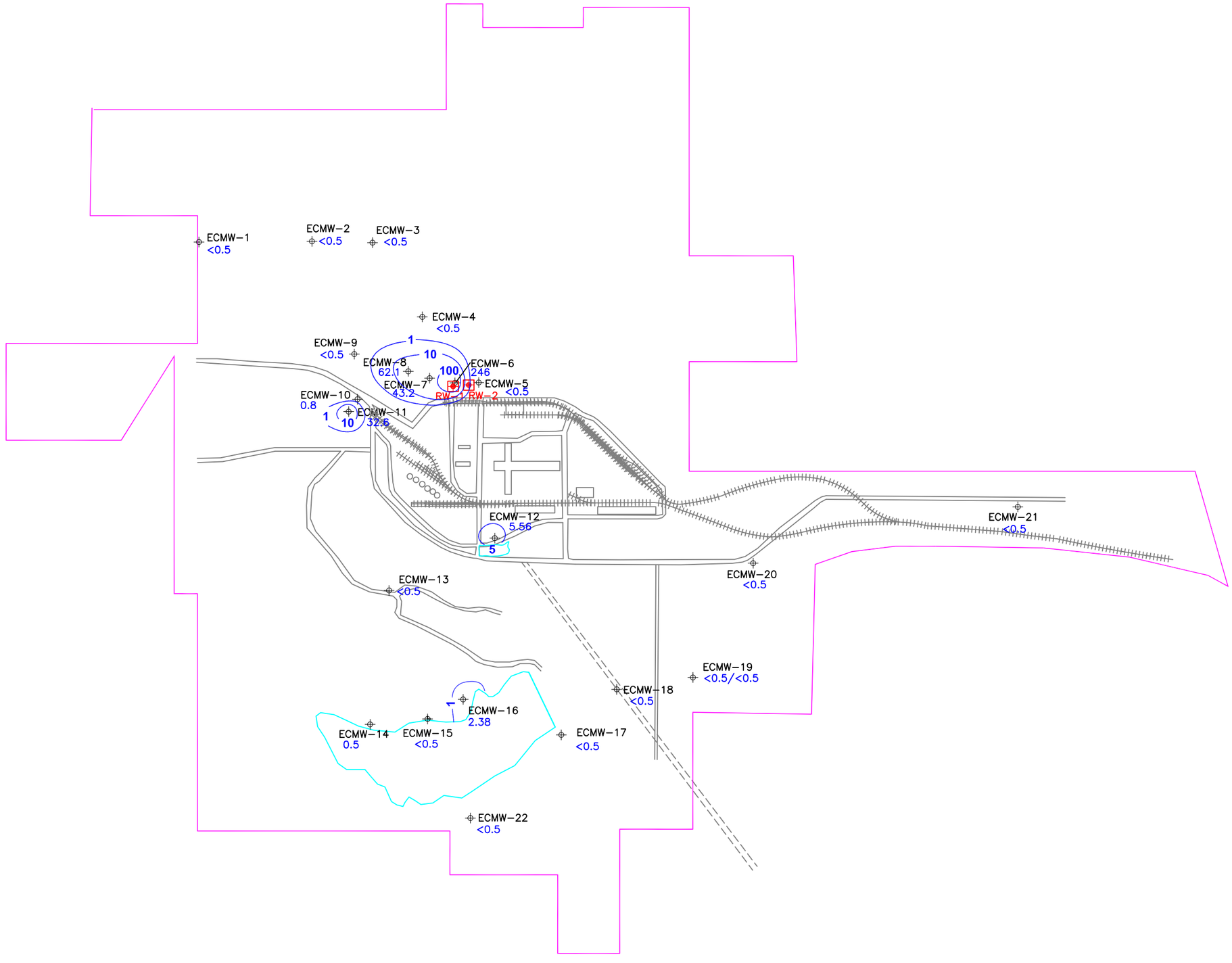
EL DORADO

GROUND WATER ELEVATION MAP
NOVEMBER/DECEMBER 2010
2010 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 12/29/2010	APPROVED: BY: DATE:	DRAWN BY: LMM	
SCALE: 1 in = 1200 ft		CAD NO. 02EC0100	

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 3



LEGEND

- PROPERTY BOUNDARY
- ECMW-5 <0.5 MONITOR WELL WITH AMMONIA CONCENTRATION (mg/L)
- RECOVERY WELLS
- APRIL 2010 AMMONIA ISOCONCENTRATION CONTOURS (mg/L)

N

0 600 1200
SCALE IN FEET

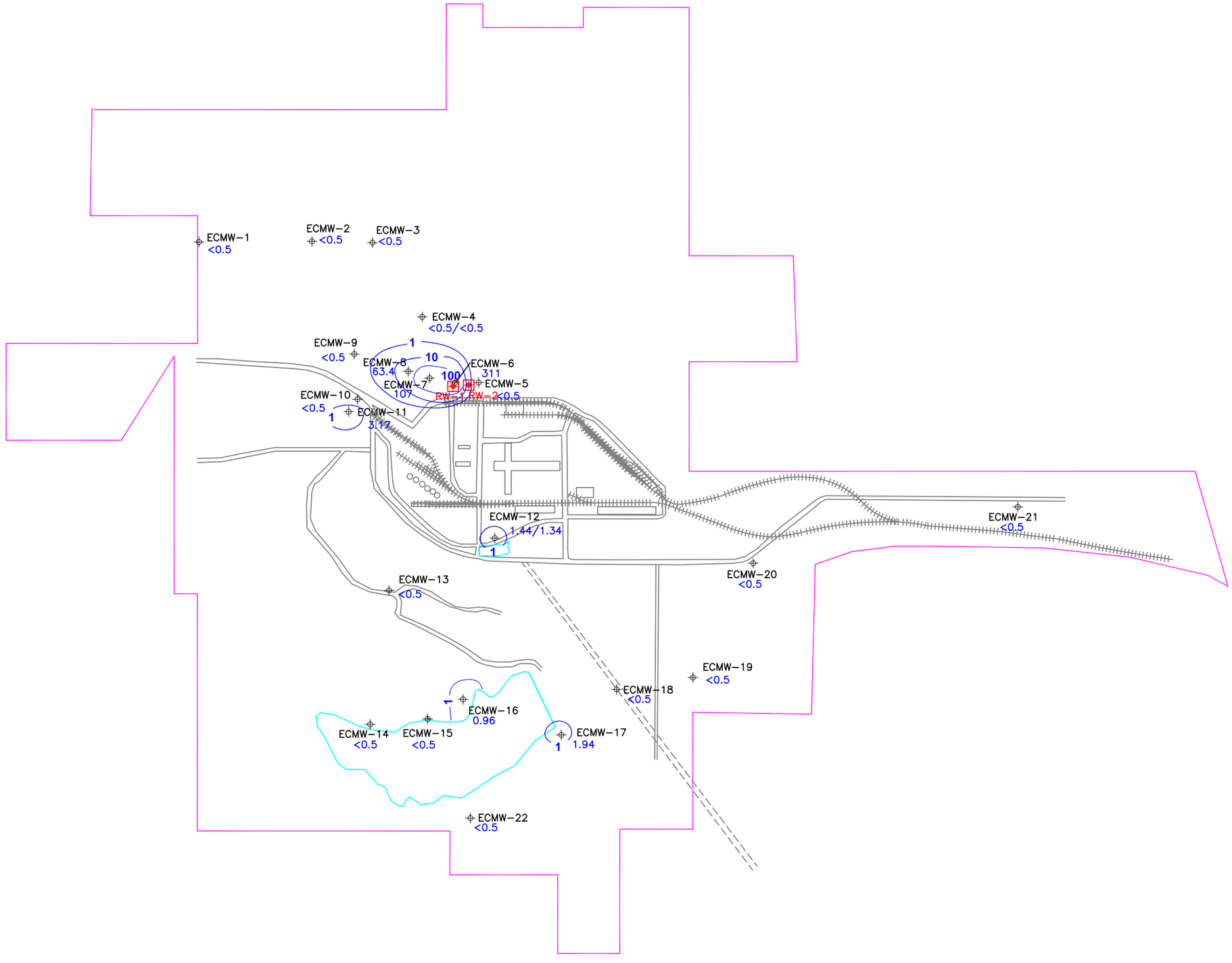
ELDORADO

APRIL 2010 AMMONIA ISOCONCENTRATION MAP
2010 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 06/09/2010	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM
SCALE: see above		CAD NO. 02EC0100

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 4



LEGEND

- PROPERTY BOUNDARY
- ECMW-5 <0.5 MONITOR WELL WITH AMMONIA CONCENTRATION (mg/L)
- RECOVERY WELLS
- NOV/DEC 2010 AMMONIA ISOCONCENTRATION CONTOURS (mg/L)

N

0 600 1200
SCALE IN FEET

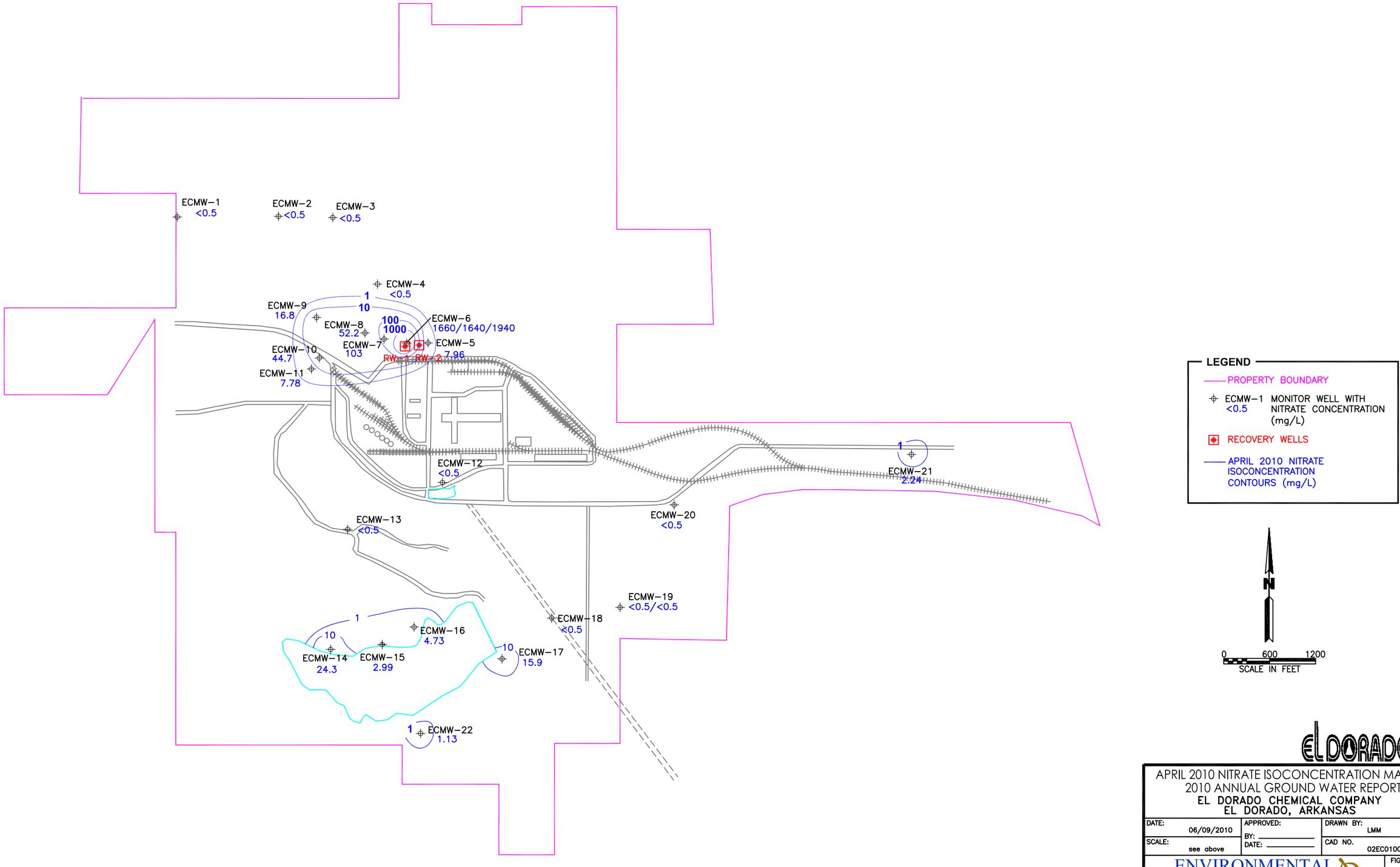
ELDORADO

NOVEMBER/DECEMBER 2010 AMMONIA ISOCONCENTRATION MAP
2010 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 12/29/2010	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM
SCALE: see above		CAD NO. 02EC0100

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 5



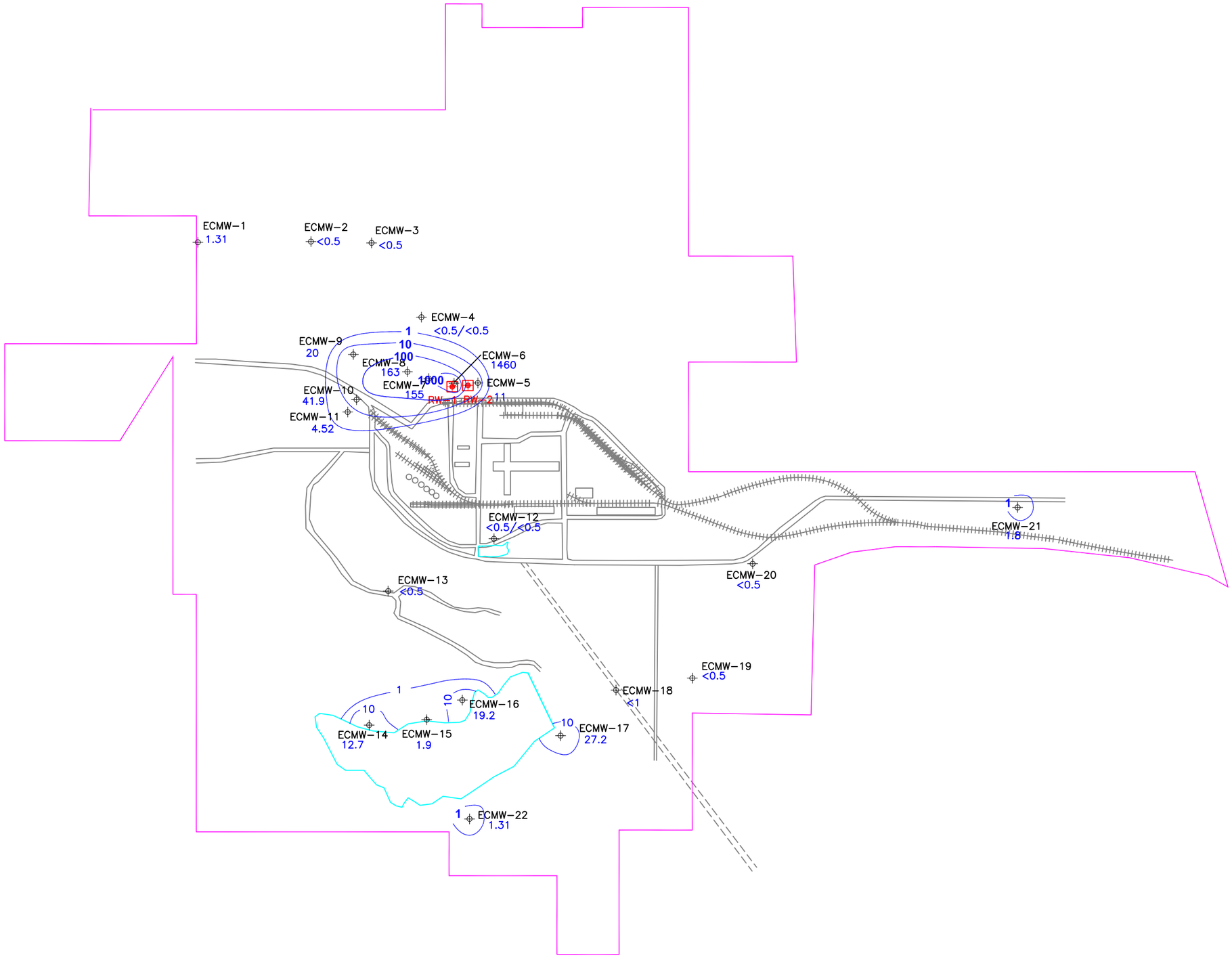
EL DORADO

APRIL 2010 NITRATE ISOCONCENTRATION MAP
2010 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 06/09/2010	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM	
SCALE: see above		CAD NO. 02EC0100	

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 6



LEGEND

- PROPERTY BOUNDARY
- ECMW-1 1.31 MONITOR WELL WITH NITRATE CONCENTRATION (mg/L)
- RECOVERY WELLS
- NOV/DEC 2010 NITRATE ISOCONCENTRATION CONTOURS (mg/L)

N

0 600 1200
SCALE IN FEET

ELDORADO

NOVEMBER/DECEMBER 2010 NITRATE ISOCONCENTRATION MAP
2010 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 12/29/2010	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM
SCALE: see above		CAD NO. 02EC0100

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 7

APPENDIX A

SAMPLING FORMS AND LABORATORY ANALYTICAL REPORTS

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 1:10	Method of Evacuation	ELEC. PUMP
Top of casing to water level	8.62 ft	Gallons per well volume	8.8
Top of casing to bottom	22.1 ft	Total gallons evacuated	26.4
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-13-10 7:45	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[%]	Turbidity [NT
16.67	4.80	.055 MS	13.84	285.5
15.28	4.54	.041	8.47	308.3
14.91	4.53	.042	6.75	316.2

GENERAL INFORMATION

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

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10	12:45	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	0.00	ft	Gallons per well volume	17.0	
Top of casing to bottom	20.2	ft	Total gallons evacuated	41.0	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	4-13-10	8:00	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss.	Oxygen[%]	Turbidity [NT
17.68	5.51	.344 MS		9.90	189.1
15.79	5.29	.330 MS		4.34	202.1
15.78	5.23	.326		5.11	205.5

GENERAL INFORMATION

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

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10	12:20	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	8.75	ft	Gallons per well volume	11.9	
Top of casing to bottom	27.1	ft	Total gallons evacuated	35.7	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	4-13-10	8:15	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Dissolved Oxygen[mg/l]	Turbidity [NT
18.73	6.34	0.280 mS	13.35	324.1
17.37	6.21	.235	8.83	323.1
16.92	6.20	.232	4.89	307.3

GENERAL INFORMATION

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

Certification: R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10	11:55	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	8.83	ft	Gallons per well volume	8.6	
Top of casing to bottom	22.1	ft	Total gallons evacuated	25.8	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	4-13-10	8:30	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[%]	Turbidity [NT
18.58	3.93	8.117 mS	13.05	448.6
16.69	3.78	8.135	7.86	475.3
16.12	3.75	8.116	5.96	483.0

GENERAL INFORMATION

Weather conditions at time of sampling Clear / Warm
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-5
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 1:45	Method of Evacuation	ELEC. PUMP
Top of casing to water level	4.29 ft	Gallons per well volume	8.7
Top of casing to bottom	17.7 ft	Total gallons evacuated	26.1
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-13-10 8:50	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss.	Oxygen[ ]	Turbidity [NT
18.62	4.96	0.585 ms		3.92	281.0
16.79	4.82	.481		4.08	288.5
16.38	4.75	.480		4.63	289.9

GENERAL INFORMATION

Weather conditions at time of sampling clear/warm
Sample characteristics: clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-6 + DUP
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10	11:35	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	5.16	ft	Gallons per well volume	10.9	
Top of casing to bottom	22.0	ft	Total gallons evacuated	32.7	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	4-13-10	9:10	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	Turbidity [NT
19.51	4.24	18.37 mS	11.15	390.7
18.08	4.07	17.48	4.98	390.3
16.85	4.04	16.21	4.36	385.0

GENERAL INFORMATION

Weather conditions at time of sampling Clear/Warm
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham

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

FIGUI

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

Groundwater Sampling Field Log

Site ELCC Well Number 6

Collector/Operator Joe Thompson

Monitoring Well Information

Evacuation date/time	7/22/10 7:55	Sampling date/time	7/22/10 09:56
Method of evacuation	12v pump	Method of sampling	Ded PVC Bailer
Top of casing to water	4.86	Gallons per well volume	11.20
Top of casing to bottom	22.10	Total gallons evacuated	33.61
Water level after evacuation	8.90		

Sample Data

Well Volume	NTU's	Temp [°C]	Conductivity [µs/cm]	DO [mg/l]	pH	ORP	Appearance
0		23.3	2200		5.51		
1		20.6	3600		4.31		
2		19.7	3600		4.17		
3		19.6	4000		4.14		

General Information

Weather Condition: Clear 81°

Sample Characteristics:

Containers/Amounts

Recommend/Observations: Ph meter standard with 7.00 and 4.01 Conductivity red line

Sampler/Collector Joe Thompson

Stabilization recommendations: Three successive readings within +/- 0.1 for pH, +/- 3% for conductivity, +/- 10 mV for ORP, and +/- 10% for turbidity and DO. *these are rough estimates*

Well Casing Volumes[gal/ft]				
1/2"=0.0205	1"=0.041	2"=0.16	3"=0.37	4"=0.65
3/4"=0.3075	1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	4 1/2"=1.46

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10	11:10	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	7.68	ft	Gallons per well volume	10.5	
Top of casing to bottom	23.9	ft	Total gallons evacuated	31.5	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	4-13-10	9:30	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	Turbidity [NT
26.25	3.72	68.08 mS	7.11	411.6
17.93	3.57	21.04	5.45	424.8
17.72	3.53	19.91	4.31	427.4

GENERAL INFORMATION

Weather conditions at time of sampling Clear/Warm
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham

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

FIGUI

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

Groundwater Sampling Field Log

Site EICC Well Number 7

Collector/Operator Joe Thompson

Monitoring Well Information

Evacuation date/time	7-22-10 09:20	Sampling date/time	7-22-10
Method of evacuation	12v pump	Method of sampling	Ded
Top of casing to water	7.60	Gallons per well volume	11.37 gal
Top of casing to bottom	25.10	Total gallons evacuated	34.12 gal
Water level after evacuation	9.46		

Sample Data

Well Volume	NTU's	Temp [°C]	Conductivity [µs/cm]	DO [mg/l]	pH	ORP	Appearance
0		21.7	3000		383		
1		20.2	2500		371		
2		19.8	2600		368		
3		19.8	3000		367		

General Information

Weather Condition: Clear 95°

Sample Characteristics:

Containers/Amounts

Recommend/Observations

Sampler/Collector Joe Thompson

Stabilization recommendations: Three successive readings within +/- 0.1 for pH, +/- 3% for conductivity, +/- 10 mV for ORP, and +/- 10% for turbidity and DO. *these are rough estimates*

Well Casing Volumes[gal/ft]				
1/2"=0.0205	1"=0.041	2"=0.16	3"=0.37	4"=0.65
3/4"=0.3075	1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	4 1/2"=1.46

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 10:50	Method of Evacuation	ELEC. PUMP
Top of casing to water level	7.61 ft	Gallons per well volume	14.5
Top of casing to bottom	29.9 ft	Total gallons evacuated	46.5
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-13-10 9:45	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[ ]	Turbidity [NT
19.37	3.93	17.63 mS	5.71	328.8
18.19	4.61	16.49	4.24	315.4
18.16	4.56	17.43	6.16	315.3

GENERAL INFORMATION

Weather conditions at time of sampling Clear/Warm
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 10:25	Method of Evacuation	ELEC. PUMP
Top of casing to water level	8.76 ft	Gallons per well volume	13.8
Top of casing to bottom	30.0 ft	Total gallons evacuated	41.4
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-13-10 10:05	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg]	Turbidity [NT
19.70	5.72	2.461 MS	14.55	279.8
18.31	5.46	2.439	8.07	281.3
17.91	5.44	2.440	6.22	273.8

GENERAL INFORMATION

Weather conditions at time of sampling Clear/Warm
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 2:10	Method of Evacuation	ELEC. PUMP
Top of casing to water level	12.26 ft	Gallons per well volume	6.7
Top of casing to bottom	22.6 ft	Total gallons evacuated	20.1
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-13-10 10:30	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[%]	Turbidity [NT
19.90	4.28	1.022 MS	10.60	314.1
18.52	4.10	1.024	5.47	327.5
18.02	4.08	1.021	5.21	335.9

GENERAL INFORMATION

Weather conditions at time of sampling Clear/Warm
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham

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

FIGUE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-11
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 2:45	Method of Evacuation	ELEC. PUMP
Top of casing to water level	10.43 ft	Gallons per well volume	6.1
Top of casing to bottom	19.8 ft	Total gallons evacuated	18.3
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-13-10 10:50	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	Turbidity [NT
17.46	4.38	.816 MS	7.21	343.9
16.42	4.44	.754	5.07	328.7
16.04	4.32	.619	3.91	335.4

GENERAL INFORMATION

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

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 3:15	Method of Evacuation	ELEC. PUMP
Top of casing to water level	7.01 ft	Gallons per well volume	8.4
Top of casing to bottom	19.9 ft	Total gallons evacuated	25.2
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-13-10 11:15	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[%]	Turbidity [NT
18.98	5.95	.738 MS	8.54	5.2
18.12	5.96	.728	4.32	-11.8
17.55	5.95	.725	2.97	-30.0

GENERAL INFORMATION

Weather conditions at time of sampling Clear/Warm
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10	10:00	Method of Evacuation	Elec. Pump	
Top of casing to water level	6.18	ft	Gallons per well volume	8.9	
Top of casing to bottom	19.8	ft	Total gallons evacuated	26.7	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	4-14-10	8:10	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC Bailer	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	Turbidity [NT
17.54	4.95	1.962 MS	14.48	300.9
16.32	4.86	1.873	7.20	306.4
15.51	4.75	1.550	6.02	330.4

GENERAL INFORMATION

Weather conditions at time of sampling Clear / Warm
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-14
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 9:40	Method of Evacuation	ELEC. PUMP
Top of casing to water level	6.93 ft	Gallons per well volume	7.3
Top of casing to bottom	18.2 ft	Total gallons evacuated	21.9
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-14-10 8:30	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	Turbidity [NT
17.64	4.75	1.006 ms	7.72	301.7
16.95	4.54	1.004	4.42	331.9
16.77	4.54	1.008	4.86	383.7

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 9:15	Method of Evacuation	ELEC. PUMP
Top of casing to water level	5.11 ft	Gallons per well volume	7.7
Top of casing to bottom	17.0 ft	Total gallons evacuated	23.1
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-14-10 8:50	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	Turbidity [NT
18.19	4.49	.167	9.28	320.4
16.27	4.37	.104	3.51	327.9
16.83	4.39	.100	4.38	322.4

GENERAL INFORMATION

Weather conditions at time of sampling Clear/Warm
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 8:55	Method of Evacuation	ELEC. PUMP
Top of casing to water level	4.88 ft	Gallons per well volume	9.4
Top of casing to bottom	19.3 ft	Total gallons evacuated	28.2
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-14-10 9:10	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[%]	Turbidity [NT
17.37	4.46	.190	6.73	236.1
15.84	4.48	.178	3.22	254.2
15.70	4.42	.182	4.06	266.2

GENERAL INFORMATION

Weather conditions at time of sampling Clear/Warm.
Sample characteristics: Clear

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUR

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10	7:45	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	27.46	ft	Gallons per well volume	4.7	
Top of casing to bottom	34.7	ft	Total gallons evacuated	14.1	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	4-14-10	9:30	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/L]	Turbidity [NT
18.73	4.15	6.322 MS	10.50	242.6
18.29	4.02	.294	7.15	253.8
18.15	4.07	.253	6.66	259.7

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4.13.10 2:25	Method of Evacuation	ELEC PUMP
Top of casing to water level	5.69 ft	Gallons per well volume	7.5
Top of casing to bottom	17.2 ft	Total gallons evacuated	22.5
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4.14.10 10:30	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso Oxygen[mg/l]	Turbidity [NT
18.78	5.79	.090 MS	5.14	164.2
15.60	5.53	.083	7.90	179.8
15.41	5.50	.084	6.66	179.9

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-13-10	2:50	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	2.00	ft	Gallons per well volume	9.8	
Top of casing to bottom	61.5	ft	Total gallons evacuated	29.4	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	4-14-10	11:05	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	Turbidity [NT
18.56	5.83	.097 MS	8.14	103.1
17.32	5.68	.095	3.79	89.9
16.89	5.62	.094	4.89	88.1

GENERAL INFORMATION

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

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-13-10 1:20	Method of Evacuation	ELEC. PUMP
Top of casing to water level	27.46 ft	Gallons per well volume	4.3
Top of casing to bottom	54.4 ft	Total gallons evacuated	12.9
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-14-10 7:50	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/L]	Turbidity [NT
20.27	5.62	.099 ms	6.06	110.2
18.52	5.70	.091	6.03	107.1
18.33	5.64	.092	5.56	112.2

GENERAL INFORMATION

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

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-13-10	12:20	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	15.24	ft	Gallons per well volume	3.1	
Top of casing to bottom	34.9	ft	Total gallons evacuated	9.3	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	4-14-10	7:30	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso Oxygen[ ]	Turbidity [NT
19.06	5.08	.080 ms	10.11	228.4
19.69	5.04	.070	5.92	276.1
19.41	4.88	.070	4.73	292.6

GENERAL INFORMATION

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

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4-12-10 8:20	Method of Evacuation	ELEC. PUMP
Top of casing to water level	5.24 ft	Gallons per well volume	11.9
Top of casing to bottom	79.8 ft	Total gallons evacuated	35.7
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4-14-10 10:00	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso Oxygen[ ]	Turbidity [NT
18.52	6.14	.170 ms	7.80	274.7
18.39	5.96	.163	4.22	270.6
18.35	5.84	.159	5.04	118.3

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. EC MW-1
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 1214	Method of Evacuation	ELEC. PUMP
Top of casing to water level	15.91 ft	Gallons per well volume	4.0
Top of casing to bottom	22.1 ft	Total gallons evacuated	12.0
Water level after evacuation	ft	Elevation, Top of casing	PUMPED DRY
Sampling: Date/Time	11-2-10 0930	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso Oxygen[mg/l]	ORP Turbidity[NT
19.39	8.01	.064 MS	7.59	-22.1
18.92	6.97	.056	7.22	-89.2
18.99	7.69	.055	6.05	-69.3

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 1210	Method of Evacuation	ELEC. PUMP
Top of casing to water level	2.51 ft	Gallons per well volume	11.5
Top of casing to bottom	20.2 ft	Total gallons evacuated	34.5
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-2-10 0945	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Dissolved Oxygen[mg/l]	ORP Turbidity[NT
19.86	9.70	.345 MS	8.28	-103.6
19.30	9.12	.340	8.15	-106.3
19.13	8.28	.341	7.79	-64.3

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 1145	Method of Evacuation	ELEC. PUMP
Top of casing to water level	15.16 ft	Gallons per well volume	7.8
Top of casing to bottom	27.1 ft	Total gallons evacuated	23.4
Water level after evacuation	ft	Elevation, Top of casing	PUMPED DRY
Sampling: Date/Time	11-2-10 1000	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[%]	ORP Turbidity[NT
20.05	7.55	.515 ms	6.80	-226.9
18.60	7.39	.307	4.84	-236.8
18.52	6.97	.300	5.71	-215.4

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-4 +DUP
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10	1120	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	13.13	ft	Gallons per well volume	5.7	
Top of casing to bottom	22.1	ft	Total gallons evacuated	17.1	
Water level after evacuation		ft	Elevation, Top of casing	PUMPED DRY	
Sampling: Date/Time	11-2-10	1015	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss.	Oxygen[mg/l]	ORP Turbidity[NTU]
20.81	7.10	7.974 MS		8.43	-80.6
20.28	6.83	7.851		8.77	-119.7
20.59	4.57	7.565		7.99	-111.4

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAIN
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-5
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 1535	Method of Evacuation	ELEC. PUMP
Top of casing to water level	4.95 ft	Gallons per well volume	8.3
Top of casing to bottom	17.7 ft	Total gallons evacuated	24.9
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-2-10 1130	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	ORP ~~Turbidity [NT~~
21.66	6.04	.541 ms	11.34	-130.7
21.75	5.88	.439	7.98	-150.6
21.80	5.64	.434	5.73	-151.8

GENERAL INFORMATION

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

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-6
Colle . . R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 0835	Method of Evacuation	ELEC. PUMP
Top of casing to water level	7.96 ft	Gallons per well volume	9.1
Top of casing to bottom	22.0 ft	Total gallons evacuated	27.3
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-2-10 1115	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	~~Turbidity~~ ORP [NT]
19.44	6.29	16.82 ms	15.31	-92.5
20.11	5.95	15.87	12.36	-56.7
20.68	5.71	15.39	8.92	-37.6

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
L. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 0855	Method of Evacuation	ELEC. PUMP
Top of casing to water level	10.18 ft	Gallons per well volume	8.9
Top of casing to bottom	23.9 ft	Total gallons evacuated	26.7
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-2-10 1100	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	ORP Turbidity[NTU]
19.91	6.15	73.76 WS	5.18	-19.2
20.22	5.29	24.92	5.21	27.3
20.49	4.92	22.27	5.17	60.5

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECM-8
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 0920	Method of Evacuation	ELEC. PUMP
Top of casing to water level	9.57 ft	Gallons per well volume	13.2
Top of casing to bottom	29.9 ft	Total gallons evacuated	39.6
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-2-10 1045	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso	Oxygen[ ]	ORP Turbidity[NT
18.95	6.40	20.45		18.19	-63.6
18.84	6.35	19.35		12.48	-65.9
18.82	6.35	18.98		10.04	-45.3

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 0945	Method of Evacuation	ELEC. PUMP
Top of casing to water level	14.96 ft	Gallons per well volume	9.8
Top of casing to bottom	30.0 ft	Total gallons evacuated	29.4
Water level after evacuation	ft	Elevation, Top of casing	PUMPED DRY
Sampling: Date/Time	11-2-10 1030	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso	Oxygen[mg/l]	ORP ~~Turbidity[NT~~
18.11	7.69	2.615 MS		2.02	-104.0
18.12	7.10	2.257		4.94	-103.9
19.26	7.04	2.240		5.29	-91.9

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10	1005	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	16.61	ft	Gallons per well volume	3.9	
Top of casing to bottom	22.6	ft	Total gallons evacuated	~~8~~ 11.7	
Water level after evacuation		ft	Elevation, Top of casing	PUMPED DRY	
Sampling: Date/Time	11-2-10	1145	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	ORP Turbidity[NT
20.76	6.81	.937 ms	4.83	-120.1
21.24	6.46	.751	3.73	-60.9
21.38	6.42	.747	4.03	-79.6

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-11
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 1035	Method of Evacuation	ELEC. PUMP
Top of casing to water level	14.08 ft	Gallons per well volume	3.7
Top of casing to bottom	19.8 ft	Total gallons evacuated	4.1
Water level after evacuation	ft	Elevation, Top of casing	PUMPED DRY
Sampling: Date/Time	11-2-10 1200	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss.	Oxygen[ ]	ORP Turbidity[NT
21.82	6.24	1.067 ms		8.66	-92.3
21.67	5.72	.985		5.37	-55.2
21.91	5.67	1.025		4.70	-60.70

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 1050	Method of Evacuation	ELEC. PUMP
Top of casing to water level	7.72 ft	Gallons per well volume	7.9
Top of casing to bottom	19.9 ft	Total gallons evacuated	23.7
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-3-10 0900	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	ORP Turbidity[NT
22.58	7.09	.971 ms	6.54	-181.2
22.47	6.71	.692	5.96	-149.7
22.75	6.64	.678	5.32	-155.7

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 1515	Method of Evacuation	ELEC. PUMP
Top of casing to water level	13.55 ft	Gallons per well volume	4.1
Top of casing to bottom	19.8 ft	Total gallons evacuated	12.3
Water level after evacuation	ft	Elevation, Top of casing	PUMPED DRY
Sampling: Date/Time	11-3-10 1045	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[%]	ORP Turbidity[NT]
20.29	6.71	.047 ms	20.80	-80.7
20.25	6.61	.044	10.24	-140.6
20.61	6.44	.045	7.62	-133.4

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-14
Collector R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10	Method of Evacuation	ELEC. PUMP
Top of casing to water level	ft	Gallons per well volume	
Top of casing to bottom	ft	Total gallons evacuated	
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss.	Oxygen[mg/l]	Turbidity [NT

GENERAL INFORMATION

Weather conditions at time of sampling
Sample characteristics:
Containers and preservatives:
Comments and observations: COULD NOT SAMPLE DUE TO HIGH WATER IN LAKE KILLDEER (HIGH PH CANNOT DISCHARGE)
Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. ECMW-14
Colle R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	12-21-10 0915	Method of Evacuation	ELEC. PUMP
Top of casing to water level	5.72 ft	Gallons per well volume	8.1
Top of casing to bottom	18.2 ft	Total gallons evacuated	24.3
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	12-21-10 0945	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	Turbidity [NT
19.42	6.02	.853 MS	4.66	38.2
19.36	5.72	.749	5.67	72.7
19.42	5.68	.744	3.42	91.5

GENERAL INFORMATION

Weather conditions at time of sampling CLEAR/WARM
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10	1445	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	5.11	ft	Gallons per well volume	7.7	
Top of casing to bottom	17.0	ft	Total gallons evacuated	23.1	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	11-3-10	1030	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	ORP Turbidity[NT]
21.96	6.09	.027 MS	15.64	-130.5
22.13	5.53	.028	7.42	-97.5
22.47	5.30	.026	7.21	-19.0

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 1420	Method of Evacuation	ELEC. PUMP
Top of casing to water level	4.14 ft	Gallons per well volume	9.8
Top of casing to bottom	19.3 ft	Total gallons evacuated	29.4
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-3-10 1015	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso Oxygen[mg/l]	ORP Turbidity[NT
21.71	6.90	.060 MS	7.72	-164.4
22.29	6.24	.058	6.01	-182.1
22.52	5.98	.059	5.70	-154.4

GENERAL INFORMATION

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

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10	1355		Method of Evacuation	ELEC. PUMP
Top of casing to water level	28.51	ft		Gallons per well volume	4.0
Top of casing to bottom	34.7	ft		Total gallons evacuated	12.0
Water level after evacuation		ft		Elevation, Top of casing	
Sampling: Date/Time	11-3-10	1000		Elevation of well water	
Top of casing to water level		ft		Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso	Oxygen[ ]	ORP Turbidity [NT
19.40	6.72	.418 ms		21.26	-163.7
18.42	7.11	.404		13.76	-157.1
18.40	7.02	.397		9.81	-125.3

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: CLEAR

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-2-10	1345	Method of Evacuation	ELEC. PUMP	
Top of casing to water level	10.13	ft	Gallons per well volume	4.6	
Top of casing to bottom	17.2	ft	Total gallons evacuated	13.8	
Water level after evacuation		ft	Elevation, Top of casing		
Sampling: Date/Time	11-3-10	1100	Elevation of well water		
Top of casing to water level		ft	Method of Sampling	PVC BAILER	

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[%]	ORP Turbidity[NT
19.10	8.68	.091 MS	14.16	-142.4
19.66	7.89	.090	4.95	83.8
19.90	8.22	.088	3.41	130.1

GENERAL INFORMATION

Weather conditions at time of sampling COOL/RAINY
Sample characteristics: VERY CLOUDY

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-2-10 1415	Method of Evacuation	ELEC. PUMP
Top of casing to water level	6.03 ft	Gallons per well volume	8.9
Top of casing to bottom	61.5 ft	Total gallons evacuated	26.7
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-3-10 1115	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	ORP Turbidity[NT
17.07	7.02	.101 MS	4.24	-196.3
17.39	7.11	.092	3.36	-203.2
17.56	6.87	.084	2.50	-205.5

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-2-10 1450	Method of Evacuation	ELEC. PUMP
Top of casing to water level	47.02 ft	Gallons per well volume	
Top of casing to bottom	54.4 ft	Total gallons evacuated	
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso	Oxygen[ ]	Turbidity [NT

GENERAL INFORMATION

Weather conditions at time of sampling
Sample characteristics:
Containers and preservatives:
Comments and observations: WELL HAD NO WATER, ONLY A ~~SUPPY~~ SURPPY MUD. DID NOT SAMPLE
Recommendations:

Certification:
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	12-21-10 10:30	Method of Evacuation	ELEC. PUMP
Top of casing to water level	44.68 ft	Gallons per well volume	1.54
Top of casing to bottom	54.4 ft	Total gallons evacuated	4.68
Water level after evacuation	ft	Elevation, Top of casing	PUMPED DRY
Sampling: Date/Time	12-21-10 10:50	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Disso	Oxygen[ ]	Turbidity [NT
18.10	5.48	.095 ms		3.44	63.4
12.92	5.02	.094		3.18	74.2

GENERAL INFORMATION

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

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-2-10 1315	Method of Evacuation	ELEC. PUMP
Top of casing to water level	19.16 ft	Gallons per well volume	1.1
Top of casing to bottom	34.9 ft	Total gallons evacuated	3.3
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-3-10 0845	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	ORP ~~Turbidity [NT~~
17.11	8.07	.077 MS	7.08	-25.1
17.35	8.07	.055	6.92	-23.2
17.56	7.13	.061	5.16	-47.1

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	11-1-10 1320	Method of Evacuation	ELEC. PUMP
Top of casing to water level	8.32 ft	Gallons per well volume	11.4
Top of casing to bottom	79.8 ft	Total gallons evacuated	34.2
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11-3-10 0915	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	ORP ~~Turbidity~~ [NT
19.40	8.41	.152 MS	21.54	-208.0
18.74	7.96	.155	12.50	-198.1
18.54	8.15	.150	9.87	-189.7

GENERAL INFORMATION

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

Certification:
K. Durham

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

FIGUI

Arkansas Analytical Inc.
11701 Interstate
Little Rock, AR 72209
PHONE: 501-455-3233
FAX: 501-455-6118

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: Brent Parker	

Project Description: Groundwaters

Reporting Information
Telephone: 870-863-1484
Fax: 870-863-1499
Email: BParker@edc-ark.com; DSartain@edc-ark.com

Turnaround Time: 24 Hour / 48 Hour / 72 Hour / Routine (5 Day)

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

TEST PARAMETERS

Preservative Code:	1	1,2	1,5	1,3
Bottle Type:	P	P	GV	P
	NO_3, NO_2, SO_4, Alkalinity, d Fe, d Mn	Ammonia, T. Phosphorus	TOC	Cr, Pb

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

R. Durham — Sampler(s) Signature

R. DURHAM ENS INC. — Sampler(s) Printed

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	Arkansas Analytical Work Order Number
1	11-3-10	0845	✓		3		EcMW-21	
2	"	0900	✓		3		EcMW-12	
3		0915	✓		3		EcMW-22	
4		1000	✓		3		EcMW-17	
5		1015	✓		3		EcMW-16	
6		1030	✓		3		EcMW-15	
7		1045	✓		3		EcMW-13	
8		1100	✓		3		EcMW-18	
9		1115	✓		3		EcMW-19	
10			✓		3		DUP	

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
R. Durham	11-5-10 1205	
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)

SAMPLE CONDITION UPON RECEIPT IN LAB

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

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

P.O. Number:

Arkansas Analytical Inc.

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

CHAIN OF CUSTODY RECORD

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

Preservation Codes:

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

TEST PARAMETERS									Bottle Type Code
1	1,2	1,5	1,3						G = Glass; P = Plastic
P	P	GV	P						V = Septum; A = Amber

J. Durham EMS Inc	R. DURHAM EMS INC
npler(s) Signature	Sampler(s) Printed

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	NO_3, NO_2, SO_4, Alkalinity, d Fe, d Mn	Ammonia, T. Phosphorus	TOC	Cr, Pb						Arkansas Analytical Work Order Number:
1	11-2-10	0930	✓		3		ECMW #1										
2		0945	✓		3		ECMW #2										
3		1000	✓		3		ECMW #3										
4		1015	✓		3		ECMW #4										
5		1030	✓		3		ECMW #9										
6		1045	✓		3		ECMW #8										
7		1100	✓		3		ECMW #7										
8		1115	✓		3		ECMW #6										
9		1130	✓		3		ECMW #5										
10		1145	✓		3		ECMW #10										
11		1200	✓		3		ECMW #11										
12			✓		3		DUP										

telinquished by: (Signature)	Date/Time	2. Received by: (Signature)
J. Durham	11.2-10 1225	
telinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)

SAMPLE CONDITION UPON RECEIPT IN LAB

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

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

P.O. Number:

Arkansas Analytical Inc.

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

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

RE: Groundwaters

SDG Number: 1004142

Enclosed are the results of analyses for samples received by the laboratory on 13-Apr-10 14:55. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

Custody Seals	✔
Containers Intact	✔
COC/Labels Agree	✔
Preservation Confirmed	✔
Received On Ice	✔
Temperature on Receipt	16.0°C

Sincerely,

Norma James
President

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

ANALYTICAL RESULTS

Lab Number: 1004142-01
Sample Name: MW-1
Date/Time Collected: 4/13/10 7:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**6.46**		4/13/10 16:49	A004123	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/13/10 16:49	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 16:49	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.084**		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.011**		4/19/10 19:53	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 18:19	A004146	200.7
Lead	mg/L	< 0.015		4/19/10 18:19	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**1.00**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	**0.020**		4/19/10 16:14	A004196	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1004142-02
Sample Name: MW-2
Date/Time Collected: 4/13/10 8:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**16.9**		4/14/10 9:22	A004123	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/13/10 17:11	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 17:11	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.175**		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.010**		4/19/10 19:46	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 18:34	A004146	200.7
Lead	mg/L	< 0.015		4/19/10 18:34	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**2.30**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	**22.0**		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	**0.077**		4/19/10 16:14	A004196	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

ANALYTICAL RESULTS

Lab Number:	**1004142-03**
Sample Name:	**MW-3**
Date/Time Collected:	**4/13/10 8:15**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**9.39**		4/13/10 17:33	A004123	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/13/10 17:33	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 17:33	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.054**		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.025**		4/19/10 19:56	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 18:37	A004146	200.7
Lead	mg/L	< 0.015		4/19/10 18:37	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**2.70**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	**55.0**		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	**0.236**		4/19/10 16:14	A004196	4500-P B5,E

ANALYTICAL RESULTS

Lab Number:	**1004142-04**
Sample Name:	**MW-4**
Date/Time Collected:	**4/13/10 8:30**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**655**		4/14/10 9:44	A004123	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/13/10 17:55	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 17:55	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**5.31**		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**1.96**		4/19/10 20:02	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 18:56	A004146	200.7
Lead	mg/L	**0.029**		4/19/10 18:56	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**25.1**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:14	A004196	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

ANALYTICAL RESULTS

Lab Number: 1004142-05
Sample Name: MW-5
Date/Time Collected: 4/13/10 8:50
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**105**		4/14/10 10:07	A004123	300.0/9056A
Nitrate as N	mg/L	**7.96**		4/14/10 10:07	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 18:17	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.024**		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.693**		4/19/10 20:04	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 18:59	A004146	200.7
Lead	mg/L	< 0.015		4/19/10 18:59	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**1.30**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	**15.0**		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:14	A004196	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1004142-06
Sample Name: MW-6
Date/Time Collected: 4/13/10 9:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**29.2**		4/14/10 10:29	A004123	300.0/9056A
Nitrate as N	mg/L	**1660**		4/14/10 11:13	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 18:40	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	< 0.010		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**2.33**		4/19/10 20:10	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 19:02	A004146	200.7
Lead	mg/L	< 0.015		4/19/10 19:02	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**92.8**		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**1.56**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:14	A004196	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

ANALYTICAL RESULTS

Lab Number:	**1004142-07**
Sample Name:	**MW-7**
Date/Time Collected:	**4/13/10 9:30**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**214**		4/14/10 10:51	A004123	300.0/9056A
Nitrate as N	mg/L	**1080**		4/14/10 11:35	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 19:02	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.220**		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.376**		4/19/10 20:28	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 19:05	A004146	200.7
Lead	mg/L	**0.060**		4/19/10 19:05	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**1000**		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**5.08**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:14	A004196	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

ANALYTICAL RESULTS

Lab Number:	**1004142-08**
Sample Name:	**MW-8**
Date/Time Collected:	**4/13/10 9:45**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**737**		4/14/10 11:57	A004123	300.0/9056A
Nitrate as N	mg/L	**52.2**		4/14/10 11:57	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 20:08	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	< 0.010		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.839**		4/19/10 20:30	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 19:08	A004146	200.7
Lead	mg/L	< 0.015		4/19/10 19:08	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**62.1**		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**10.4**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	**250**		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:14	A004196	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

ANALYTICAL RESULTS

Lab Number:	**1004142-09**
Sample Name:	**MW-9**
Date/Time Collected:	**4/13/10 10:05**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**462**		4/14/10 12:19	A004123	300.0/9056A
Nitrate as N	mg/L	**16.8**		4/14/10 12:19	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 20:30	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	< 0.010		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.297**		4/19/10 20:33	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 19:11	A004146	200.7
Lead	mg/L	**0.015**		4/19/10 19:11	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**18.6**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	**30.0**		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	**0.133**		4/19/10 16:14	A004196	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

ANALYTICAL RESULTS

Lab Number:	**1004142-10**
Sample Name:	**MW-10**
Date/Time Collected:	**4/13/10 10:30**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**170**		4/14/10 12:42	A004123	300.0/9056A
Nitrate as N	mg/L	**44.7**		4/14/10 12:42	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 20:52	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.013**		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.154**		4/19/10 20:35	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 19:14	A004146	200.7
Lead	mg/L	< 0.015		4/19/10 19:15	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**0.80**		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**7.20**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:14	A004196	4500-P B5,E

ANALYTICAL RESULTS

Lab Number:	**1004142-11**
Sample Name:	**MW-11**
Date/Time Collected:	**4/13/10 10:50**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**135**		4/14/10 13:48	A004123	300.0/9056A
Nitrate as N	mg/L	**7.78**		4/13/10 21:15	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 21:15	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	< 0.010		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.017**		4/19/10 20:37	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 19:17	A004146	200.7
Lead	mg/L	< 0.015		4/19/10 19:18	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**32.6**		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**9.25**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	**0.035**		4/19/10 16:14	A004196	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

ANALYTICAL RESULTS

Lab Number:	**1004142-12**
Sample Name:	**MW-12**
Date/Time Collected:	**4/13/10 11:15**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**2.14**		4/13/10 21:37	A004123	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/13/10 21:37	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 21:37	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**63.3**		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**0.239**		4/19/10 20:40	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 19:20	A004146	200.7
Lead	mg/L	< 0.015		4/19/10 19:21	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**5.56**		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**15.3**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	**310**		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	**0.426**		4/19/10 16:14	A004196	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

ANALYTICAL RESULTS

Lab Number:	**1004142-13**
Sample Name:	**Duplicate**
Date/Time Collected:	**4/13/10 0:00**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**25.7**		4/14/10 15:12	A004123	300.0/9056A
Nitrate as N	mg/L	**1640**		4/14/10 15:34	A004123	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/13/10 21:59	A004123	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.029**		4/22/10 16:53	A004160	200.7
Manganese	mg/L	**2.41**		4/19/10 20:46	A004160	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/19/10 19:24	A004146	200.7
Lead	mg/L	**0.023**		4/19/10 19:24	A004146	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**566**		4/15/10 10:05	A004133	4500-NH3D
TOC	mg/L	**1.58**		4/15/10 13:30	A004135	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/16/10 13:19	A004171	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:14	A004196	4500-P B5,E

23 April 2010

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El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

QUALITY CONTROL RESULTS

Anions -- Batch: A004123 (Water)
Prepared: 13-Apr-10 12:00 By: MG -- Analyzed: 13-Apr-10 14:14 By: MEL

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	97.8% / NA	99.6% / 99.9%		0.341%	
Nitrite as N	<0.500 mg/L	91.6% / NA	87.0% / 85.6%		1.62%	
Sulfate as SO4	<0.500 mg/L	93.2% / NA	90.7% / 91.2%		0.525%	

Wet Chemistry -- Batch: A004133 (Water)
Prepared: 14-Apr-10 08:46 By: SB -- Analyzed: 15-Apr-10 10:05 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	95.6% / NA	107% / 112%		3.50%	

Wet Chemistry -- Batch: A004135 (Water)
Prepared: 14-Apr-10 10:52 By: SB -- Analyzed: 15-Apr-10 13:30 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	99.9% / NA	105% / 108%		2.53%	

Total Metals -- Batch: A004146 (Water)
Prepared: 14-Apr-10 11:55 By: RH -- Analyzed: 20-Apr-10 09:13 By: TT

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Chromium	<0.020 mg/L	87.0% / NA	88.6% / 87.1%		1.68%	
Lead	<0.015 mg/L	106% / NA	83.6% / 81.7%		2.18%	

Dissolved Metals -- Batch: A004160 (Water)
Prepared: 14-Apr-10 15:08 By: RH -- Analyzed: 22-Apr-10 16:53 By: TT

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Iron	<0.010 mg/L	95.0% / NA	124% / 116%		4.92%	
Manganese	<0.010 mg/L	90.5% / NA	91.6% / 90.1%		1.57%	

Wet Chemistry -- Batch: A004171 (Water)
Prepared: 16-Apr-10 13:19 By: SB -- Analyzed: 16-Apr-10 13:19 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Alkalinity	<5.0 mg/L	102% / 100%	NA / NA		1.98%	

Wet Chemistry -- Batch: A004196 (Water)
Prepared: 19-Apr-10 08:00 By: KP -- Analyzed: 19-Apr-10 16:14 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	101% / NA	135% / 133%		0.803%	%D1

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

QUALIFIER(S)

*%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria

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, 20th Edition.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by: 

Norma James
President

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Arkansas Analytical Inc.

Date Received: 13-Apr-10 14:55

CHAIN OF CUSTODY FORM(S)

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

CHAIN OF CUSTODY RECORD

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

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

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

Sampler(s) Signature: R. Durham EDCC Inc

Sampler(s) Printed: R. DURHAM

TEST PARAMETERS

Parameter	Preservative Code	Bottle Type
NO_3, NO_2, SO_4, Alkalinity, d ~~Pb~~ Fe, d Mn	1	P
Ammonia, T. Phosphorus	1,2	P
TOC	1,5	GV
Cr, Pb	1,3	P

Field Number	Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	Arkansas Analytical Work Order Number: 1004142
1	4-13-10	7:45	X			W	MW-1	-01
2		8:00	X			W	MW-2	-02
3		8:15	X			W	MW-3	-03
4		8:30	X			W	MW-4	-04
5		8:50	X			W	MW-5	-05
6		9:10	X			W	MW-6	-06
7		9:30	X			W	MW-7	-07
8		9:45	X			W	MW-8	-08
9		10:05	X			W	MW-9	-09
10		10:30	X			W	MW-10	-10
11		10:50	X			W	MW-11	-11
12		11:15	X			W	MW-12	-12

Per R Strickland

	Date/Time		Date/Time
1. Relinquished by: (Signature) R. Durham	4-13-10 11:45	2. Received by: (Signature) Donna Humphrey	4-13-10 11:45 PM
3. Relinquished by: (Signature) Donna Humphrey 4-13-10 2:55 PM	4/13/10 1455	4. Received by lab: (Signature) Sarah Dorsel	

SAMPLE CONDITION UPON RECEIPT IN LAB

1. CUSTODY SEALS: ✓ Yes ___ No
2. CONTAINERS CORRECT: ✓ Yes ___ No
3. COC/LABELS AGREE: ✓ Yes ___ No
4. PRESERVATION CONFIRMED: ✓ Yes ___ No
5. RECEIVED ON ICE: ✓ Yes ___ No
6. TEMPERATURE ON RECEIPT: 16°C

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

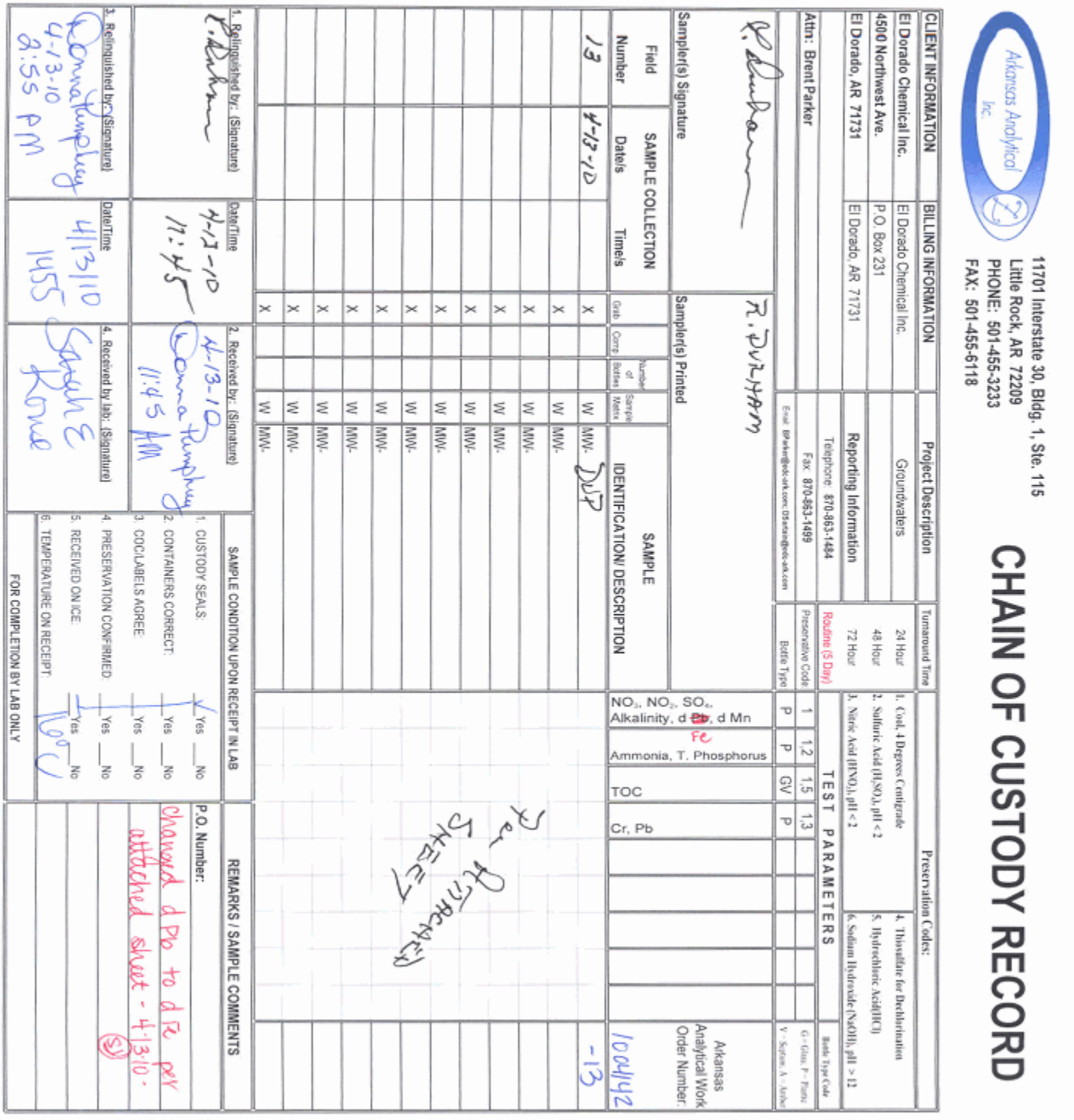
P.O. Number:

Changed d Pb to d Fe per attached sheet - 4-13-10 (SD)

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55



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

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION: El Dorado Chemical Inc. / 4500 Northwest Ave. / El Dorado, AR 71731
Attn: Brent Parker
Telephone: 870-863-1484
Fax: 870-863-1499
Email: BParker@eldk-ark.com; DSasan@eldk-ark.com
BILLING INFORMATION: El Dorado Chemical Inc. / P.O. Box 231 / El Dorado, AR 71731
Project Description: Groundwaters
Reporting Information
Turnaround Time: 24 Hour; 48 Hour; 72 Hour; Routine (5 Day)
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: R. Dunham
Sampler(s) Printed: R. Dunham

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	Bottle Type	Preservative Code	TEST PARAMETERS						Bottle Type Code
13	4-12-10		X		W	MW-	DUP	P	1	NO_3, NO_2, SO_4, Alkalinity, d Pb, d Mn						
			X		W	MW-		P	1,2	Ammonia, T. Phosphorus						
			X		W	MW-		GV	1,5	TOC						
			X		W	MW-		P	1,3	Cr, Pb						
			X		W	MW-										
			X		W	MW-										
			X		W	MW-										
			X		W	MW-										
			X		W	MW-										
			X		W	MW-										
			X		W	MW-										
			X		W	MW-										

Arkansas Analytical Work Order Number: 1004142
Bottle Type Code: G - Glass, P - Plastic, V - Sulfuric, A - Amber

1. Relinquished by: (Signature) R. Dunham — Date/Time 4-13-10 11:45
2. Received by: (Signature) Donna Dunphy — 4-13-10 11:45 AM
3. Relinquished by: (Signature) Donna Dunphy — Date/Time 4/13/10 1455
4. Received by lab: (Signature) Sarah E Rowe

SAMPLE CONDITION UPON RECEIPT IN LAB
1. CUSTODY SEALS: X Yes ___ No
2. CONTAINERS CORRECT: ___ Yes ___ No
3. COC/LABELS AGREE: ___ Yes ___ No
4. PRESERVATION CONFIRMED: ___ Yes ___ No
5. RECEIVED ON ICE: ___ Yes ___ No
6. TEMPERATURE ON RECEIPT: 10° C
FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS
P.O. Number:
Changed d Pb to d Fe per attached sheet - 4-13-10 - (SJ)

SEE ATTACHED SHEET

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 13-Apr-10 14:55

☒ Parameters for Semi-Annual (May & October) Sampling Frequency each year
■ Parameters for Semi-Annual (May & October) Sampling Frequency every other year (2008, 2010, etc.)

Monitor Well ID	Water level measurements	Temperature	Conductivity	pH	Remediation Parameters (Alkalinity, Nitrite, Phosphorus, TOC)	Remediation Parameters (DO, redox, dissolved Fe, dissolved Mn)	Nitrate	Ammonia	Sulfate	Lead	Chromium	
ECMW-1	☒	☒	☒	☒	☒	■	■	■	■	■	■	
ECMW-2	☒	☒	☒	☒	☒	■	■	■	■	■	■	
ECMW-3	☒	☒	☒	☒	☒	■	■	■	■	■	■	
ECMW-4	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-5	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-6	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-7	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-8	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-9	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-10	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-11	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-12	☒	☒	☒	☒	☒	■	■	■	■	■	■	
ECMW-13	☒	☒	☒	☒	☒	■	■	■	■	■	■	
ECMW-14	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-15	☒	☒	☒	☒	☒	■	■	■	■	■	■	
ECMW-16	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-17	☒	☒	☒	☒	☒	■	☒	☒	☒	■	■	
ECMW-18	☒	☒	☒	☒	☒	■	☒	■	■	■	■	
ECMW-19	☒	☒	☒	☒	☒	■	■	■	■	■	■	
ECMW-20	☒	☒	☒	☒	☒	■	■	■	■	■	■	
ECMW-21	☒	☒	☒	☒	☒	■	■	■	■	■	■	
ECMW-22	☒	☒	☒	☒	☒	■	■	■	■	■	■	

Arkansas Analytical Inc.

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

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

RE: Groundwaters

SDG Number: 1004163

Enclosed are the results of analyses for samples received by the laboratory on 14-Apr-10 14:06. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,

Norma James
President

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

ANALYTICAL RESULTS

Lab Number: 1004163-01
Sample Name: MW-20
Date/Time Collected: 4/14/10 7:50
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**10.1**		4/14/10 17:03	A004147	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/14/10 17:03	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 17:03	A004147	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**2.07**		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.187**		4/22/10 16:48	A004162	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	< 1.00		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	**30.0**		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	**0.129**	E20	4/19/10 16:23	A004197	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1004163-02
Sample Name: MW-21
Date/Time Collected: 4/14/10 7:30
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**3.70**		4/14/10 17:25	A004147	300.0/9056A
Nitrate as N	mg/L	**2.24**		4/14/10 17:25	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 17:25	A004147	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	< 0.010		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.027**		4/22/10 16:48	A004162	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	< 1.00		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	**5.0**		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:23	A004197	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

ANALYTICAL RESULTS

Lab Number:	**1004163-03**
Sample Name:	**MW-13**
Date/Time Collected:	**4/14/10 8:10**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**470**		4/15/10 11:18	A004147	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/14/10 18:31	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 18:31	A004147	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.941**		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**2.87**		4/22/10 16:48	A004162	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	**6.60**		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	**20.0**		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:23	A004197	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

ANALYTICAL RESULTS

Lab Number:	**1004163-04**
Sample Name:	**MW-14**
Date/Time Collected:	**4/14/10 8:30**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**166**		4/15/10 11:40	A004147	300.0/9056A
Nitrate as N	mg/L	**24.3**		4/15/10 11:40	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 18:54	A004147	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.035**		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.048**		4/22/10 16:48	A004162	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**0.50**		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	**16.2**		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	**15.0**		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	**0.159**		4/19/10 16:23	A004197	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

ANALYTICAL RESULTS

Lab Number: **1004163-05**
Sample Name: **MW-15**
Date/Time Collected: **4/14/10 8:55**
Sample Matrix: **Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**10.7**		4/15/10 12:02	A004147	300.0/9056A
Nitrate as N	mg/L	**2.99**		4/14/10 19:16	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 19:16	A004147	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.045**		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.020**		4/22/10 16:48	A004162	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	**1.53**		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:23	A004197	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: **1004163-06**
Sample Name: **MW-16**
Date/Time Collected: **4/14/10 9:10**
Sample Matrix: **Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**15.3**		4/15/10 12:24	A004147	300.0/9056A
Nitrate as N	mg/L	**4.73**		4/14/10 19:38	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 19:38	A004147	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	< 0.010		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.105**		4/22/10 16:48	A004162	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**2.38**		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	**2.91**		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:23	A004197	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

ANALYTICAL RESULTS

Lab Number:	**1004163-07**
Sample Name:	**MW-17**
Date/Time Collected:	**4/14/10 9:30**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**6.73**		4/14/10 20:00	A004147	300.0/9056A
Nitrate as N	mg/L	**15.9**		4/15/10 12:46	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 20:00	A004147	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	< 0.010		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.048**		4/22/10 16:48	A004162	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	< 1.00		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	< 0.020		4/19/10 16:23	A004197	4500-P B5,E

ANALYTICAL RESULTS

Lab Number:	**1004163-08**
Sample Name:	**MW-22**
Date/Time Collected:	**4/14/10 10:00**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**7.73**		4/14/10 20:22	A004147	300.0/9056A
Nitrate as N	mg/L	**1.13**		4/14/10 20:22	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 20:22	A004147	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.603**		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.168**		4/22/10 16:48	A004162	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	**1.45**		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	**30.0**		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	**0.046**		4/19/10 16:23	A004197	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

ANALYTICAL RESULTS

Lab Number: 1004163-09
Sample Name: MW-18
Date/Time Collected: 4/14/10 10:30
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**2.82**		4/14/10 20:44	A004147	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/14/10 20:44	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 20:44	A004147	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.505**		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.024**		4/22/10 16:48	A004162	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	< 1.00		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	**15.0**		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	**0.379**		4/19/10 16:23	A004197	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1004163-10
Sample Name: MW-19
Date/Time Collected: 4/14/10 11:05
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**2.46**		4/14/10 21:06	A004147	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/14/10 21:06	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 21:06	A004147	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**4.50**		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.075**		4/22/10 16:48	A004162	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	< 1.00		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	**32.0**		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	**0.307**		4/19/10 16:23	A004197	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

ANALYTICAL RESULTS

Lab Number:	**1004163-11**
Sample Name:	**Duplicate**
Date/Time Collected:	**4/14/10 0:00**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**2.43**		4/14/10 21:29	A004147	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/14/10 21:29	A004147	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/14/10 21:29	A004147	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**5.17**		4/22/10 16:44	A004162	200.7
Manganese	mg/L	**0.074**		4/22/10 16:48	A004162	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		4/22/10 16:37	A004161	200.7
Lead	mg/L	< 0.015		4/23/10 9:13	A004161	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/21/10 10:12	A004227	4500-NH3D
TOC	mg/L	< 1.00		4/19/10 9:19	A004167	5310/9060A
Total Alkalinity	mg/L	**30.0**		4/19/10 13:05	A004188	2320 B
Total Phosphorus	mg/L	**0.281**		4/19/10 16:23	A004197	4500-P B5,E

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

QUALITY CONTROL RESULTS

Anions -- Batch: A004147 (Water)
Prepared: 15-Apr-10 10:11 By: MG -- Analyzed: 15-Apr-10 14:15 By: MEL

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	108% / NA	96.2% / 96.3%		0.101%	
Nitrite as N	<0.500 mg/L	90.2% / NA	83.0% / 82.5%		0.604%	
Sulfate as SO4	<0.500 mg/L	99.4% / NA	86.5% / 87.2%		0.769%	

Total Metals -- Batch: A004161 (Water)
Prepared: 15-Apr-10 11:50 By: RH -- Analyzed: 22-Apr-10 16:37 By: TT

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Chromium	<0.020 mg/L	92.9% / NA	89.8% / 90.4%		0.674%	
Lead	<0.015 mg/L	103% / NA	98.7% / 97.2%		1.45%	

Dissolved Metals -- Batch: A004162 (Water)
Prepared: 15-Apr-10 15:42 By: RH -- Analyzed: 22-Apr-10 16:44 By: TT

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Iron	<0.010 mg/L	93.4% / NA	87.7% / 91.5%		4.25%	
Manganese	<0.010 mg/L	90.3% / NA	84.2% / 86.9%		2.99%	

Wet Chemistry -- Batch: A004167 (Water)
Prepared: 16-Apr-10 10:19 By: SB -- Analyzed: 19-Apr-10 09:19 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	101% / NA	106% / 106%		0.645%	

Wet Chemistry -- Batch: A004188 (Water)
Prepared: 19-Apr-10 13:05 By: SB -- Analyzed: 19-Apr-10 13:05 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Alkalinity	<5.0 mg/L	104% / 100%	NA / NA		3.92%	

Wet Chemistry -- Batch: A004197 (Water)
Prepared: 19-Apr-10 08:00 By: KP -- Analyzed: 19-Apr-10 16:23 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	102% / NA	91.6% / 73.2%		13.7%	%D1

Wet Chemistry -- Batch: A004227 (Water)
Prepared: 21-Apr-10 10:11 By: SB -- Analyzed: 21-Apr-10 10:12 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	105% / NA	92.7% / 90.8%		1.90%	

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

QUALIFIER(S)

*%D1:	Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria
*E20:	Estimated result due to matrix spike and or matrix spike duplicate failure; this sample was used as "parent sample" in MS/MSD prep.

All Analysis performed according to EPA approved methodology when available:
SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by: 

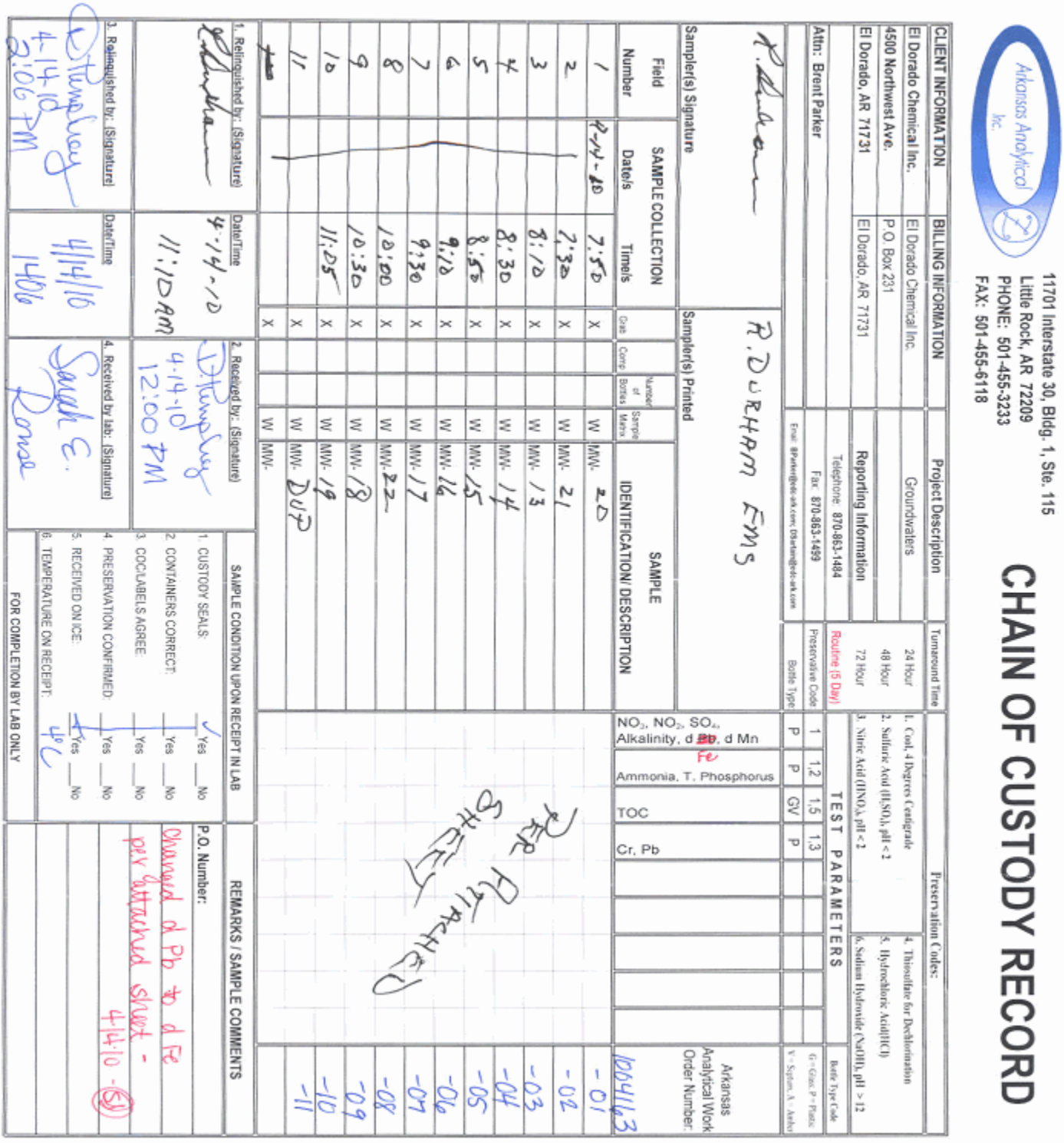
Norma James
President

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

CHAIN OF CUSTODY FORM(S)



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

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION: El Dorado Chemical Inc. / 4500 Northwest Ave. / El Dorado, AR 71731
Attn: Brent Parker
Email: BParker@eldc-ark.com; DSartain@eldc-ark.com
BILLING INFORMATION: El Dorado Chemical Inc. / P.O. Box 231 / El Dorado, AR 71731
Reporting Information: Telephone: 870-863-1484 / Fax: 870-863-1499
Project Description: Groundwaters
Turnaround Time: 24 Hour / 48 Hour / 72 Hour / Routine (5 Day)
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: R. Dunham EMS
Sampler(s) Printed: R. Dunham EMS

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	Bottle Type	Preservative Code	TEST PARAMETERS					Bottle Type Code (G = Glass, P = Plastic, V = Septum, A = Amber)
										NO_3, NO_2, SO_4, Alkalinity, d Pb, d Mn / Fe	Ammonia, T. Phosphorus	TOC	Cr, Pb		
1	4-14-10	7:45	X		W	MW- 20		P	1	P	1,2	1,5	1,3		
2		7:30	X		W	MW- 21		P	1	P	1,2	GV	P		G
3		8:10	X		W	MW- 13		P	1	P	1,2	GV	P		G
4		8:30	X		W	MW- 14		P	1	P	1,2	GV	P		G
5		8:50	X		W	MW-15		P	1	P	1,2	GV	P		G
6		9:10	X		W	MW-16		P	1	P	1,2	GV	P		G
7		9:30	X		W	MW-17		P	1	P	1,2	GV	P		G
8		10:00	X		W	MW-22		P	1	P	1,2	GV	P		G
9		10:30	X		W	MW-18		P	1	P	1,2	GV	P		G
10		11:05	X		W	MW-19		P	1	P	1,2	GV	P		G
11			X		W	MW- Dup		P	1	P	1,2	GV	P		G
					W	MW-									

Arkansas Analytical Work Order Number: 1004163

1. Relinquished by: (Signature) — Date/Time: 4-14-10 11:10AM
2. Received by: (Signature) — D. Humphrey 4-14-10 12:00 PM
1. Relinquished by: (Signature) — Date/Time: 4/14/10 1406
2. Received by Lab: (Signature) — Sarah E. Ponce

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

REMARKS / SAMPLE COMMENTS
P.O. Number:
Changed d Pb to d Fe per attached sheet - 4-14-10 (SJ)

FOR COMPLETION BY LAB ONLY

23 April 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 14-Apr-10 14:06

EDCC - 2006 Annual Ground Water Report & Modification Request
May 31, 2007

⊠ Parameters for Semi-Annual (May & October) Sampling Frequency each year
■ Parameters for Semi-Annual (May & October) Sampling Frequency every other year (2008, 2010, etc.)

Monitor Well ID	Water level measurements	Temperature	Conductivity	pH	Remediation Parameters (Alkalinity, Nitrite, Phosphorus, TOC)	Remediation Parameters (DO, redox, dissolved Fe, dissolved Mn)	Nitrate	Ammonia	Sulfate	Lead	Chromium
ECMW-1	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■
ECMW-2	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■
ECMW-3	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■
ECMW-4	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-5	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-6	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-7	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-8	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-9	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-10	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-11	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-12	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■
ECMW-13	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■
ECMW-14	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-15	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■
ECMW-16	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-17	⊠	⊠	⊠	⊠	⊠	■	⊠	⊠	⊠	■	■
ECMW-18	⊠	⊠	⊠	⊠	⊠	■	⊠	■	■	■	■
ECMW-19	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■
ECMW-20	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■
ECMW-21	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■
ECMW-22	⊠	⊠	⊠	⊠	⊠	■	■	■	■	■	■

Page 3 of 4

Arkansas Analytical Inc.

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

29 July 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

RE: Groundwaters

SDG Number: 1007258

Enclosed are the results of analyses for samples received by the laboratory on 22-Jul-10 15:19. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,

Norma James
President

29 July 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 22-Jul-10 15:19

ANALYTICAL RESULTS

Lab Number:	**1007258-01**
Sample Name:	**MW-6 (Resample)**
Date/Time Collected:	**7/22/10 9:56**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**42.3**		7/22/10 16:55	A007278	300.0/9056A
Nitrate as N	mg/L	**1940**		7/23/10 9:14	A007278	300.0/9056A
Nitrite as N	mg/L	< 0.500		7/22/10 16:30	A007278	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.065**	E20	7/27/10 16:30	A007303	200.7
Manganese	mg/L	**3.31**	E20	7/27/10 10:34	A007303	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		7/27/10 10:34	A007300	200.7
Lead	mg/L	< 0.015		7/27/10 10:34	A007300	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**246**		7/28/10 9:34	A007346	4500-NH3D
TOC	mg/L	**1.38**		7/28/10 9:22	A007338	5310/9060A
Total Alkalinity	mg/L	< 5.0		7/29/10 9:25	A007360	2320 B
Total Phosphorus	mg/L	< 0.020	E20	7/23/10 14:05	A007297	4500-P B5,E

29 July 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 22-Jul-10 15:19

ANALYTICAL RESULTS

Lab Number:	**1007258-02**
Sample Name:	**MW-7 (Resample)**
Date/Time Collected:	**7/22/10 10:10**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**3490**		7/23/10 9:38	A007278	300.0/9056A
Nitrate as N	mg/L	**103**		7/22/10 17:43	A007278	300.0/9056A
Nitrite as N	mg/L	< 0.500		7/22/10 17:19	A007278	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.058**		7/27/10 16:41	A007303	200.7
Manganese	mg/L	**0.087**		7/27/10 10:38	A007303	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.020		7/27/10 10:38	A007300	200.7
Lead	mg/L	< 0.015		7/27/10 10:38	A007300	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**43.2**		7/28/10 9:34	A007346	4500-NH3D
TOC	mg/L	**15.7**		7/28/10 9:22	A007338	5310/9060A
Total Alkalinity	mg/L	**5.0**		7/29/10 9:25	A007360	2320 B
Total Phosphorus	mg/L	**0.071**		7/23/10 14:05	A007297	4500-P B5,E

29 July 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 22-Jul-10 15:19

QUALITY CONTROL RESULTS

Anions -- Batch: A007278 (Water)
Prepared: 22-Jul-10 10:25 By: MG -- Analyzed: 22-Jul-10 13:17 By: MEL

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	97.0% / NA	92.6% / 92.9%		0.312%	
Nitrite as N	<0.500 mg/L	103% / NA	68.9% / 68.6%		0.480%	%D1
Sulfate as SO4	<0.500 mg/L	95.4% / NA	MBA / MBA		0.0348%	MBA

Wet Chemistry -- Batch: A007297 (Water)
Prepared: 23-Jul-10 09:50 By: KP -- Analyzed: 23-Jul-10 14:05 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	104% / NA	76.8% / 33.6%		78.3%	%D1, D

Total Metals -- Batch: A007300 (Water)
Prepared: 23-Jul-10 13:45 By: TC -- Analyzed: 27-Jul-10 14:28 By: TC

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Chromium	<0.020 mg/L	96.4% / NA	93.1% / 95.8%		2.89%	
Lead	<0.015 mg/L	97.8% / NA	92.3% / 94.8%		2.67%	

Dissolved Metals -- Batch: A007303 (Water)
Prepared: 23-Jul-10 14:19 By: TC -- Analyzed: 27-Jul-10 16:38 By: TC

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Iron	<0.010 mg/L	102% / NA	59.1% / 59.5%		0.574%	%D1
Manganese	<0.010 mg/L	109% / NA	5.07% / 9.58%		0.673%	%D1

Wet Chemistry -- Batch: A007338 (Water)
Prepared: 27-Jul-10 13:52 By: SB -- Analyzed: 28-Jul-10 09:22 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	94.0% / NA	97.9% / 103%		3.92%	

Wet Chemistry -- Batch: A007346 (Water)
Prepared: 28-Jul-10 09:34 By: SB -- Analyzed: 28-Jul-10 09:34 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	104% / NA	70.5% / 70.9%		0.381%	

Wet Chemistry -- Batch: A007360 (Water)
Prepared: 29-Jul-10 09:25 By: SB -- Analyzed: 29-Jul-10 09:25 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Alkalinity	<5.0 mg/L	102% / 102%	NA / NA		0.00%	

29 July 2010

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Project: Groundwaters

Date Received: 22-Jul-10 15:19

QUALIFIER(S)

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

All Analysis performed according to EPA approved methodology when available:
SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by: 

Norma James
President

29 July 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwaters

Date Received: 22-Jul-10 15:19

CHAIN OF CUSTODY FORM(S)

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

CHAIN OF CUSTODY RECORD

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

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

Joe Thompson
Sampler(s) Signature

Joe Thompson
Sampler(s) Printed

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: NO_3, NO_2, SO_4, Alkalinity, d Fe, d Mn	Ammonia, T. Phosphorus	TOC	Cr, Pb	Bottle Type Code	Arkansas Analytical Work Order Number:
								1	1,2	1,5	1,3	G = Glass; P = Plastic V = Septum, A = Amber	1007258
								P	P	GV	P		
	7/22/10	09:56	X			Water	MW-6 (Resample)	X	X	X	X		-01
	7/22/10	10:10	X			Water	MW-7 (Resample)	X	X	X	X		-02

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
Joe Thompson	7/22/10 1020	Debbie Roberts
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)
Debbie Roberts	7-22-10 3:19	Sarah E. Ponce

SAMPLE CONDITION UPON RECEIPT IN LAB

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

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

P.O. Number:

Arkansas Analytical Inc.

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

10 November 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

RE: Groundwater Sample(s)

SDG Number: 1011020

Enclosed are the results of analyses for samples received by the laboratory on 02-Nov-10 15:00. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,

Norma James
President

10 November 2010

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

Date Received: 02-Nov-10 15:00

ANALYTICAL RESULTS

Lab Number: 1011020-01
Sample Name: ECMW#1
Date/Time Collected: 11/2/10 9:30
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**5.55**		11/3/10 9:48	A011034	300.0/9056A
Nitrate as N	mg/L	**1.31**		11/3/10 9:48	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 9:48	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.131**	E20	11/8/10 11:36	A011075	200.7
Manganese	mg/L	< 0.010		11/8/10 11:36	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 17:42	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 17:42	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**1.16**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	**9.0**		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 13:57	A011083	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011020-02
Sample Name: ECMW#2
Date/Time Collected: 11/2/10 9:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**22.6**		11/3/10 17:51	A011034	300.0/9056A
Nitrate as N	mg/L	< 0.500		11/3/10 10:13	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 10:13	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.178**		11/8/10 11:48	A011075	200.7
Manganese	mg/L	**0.010**		11/8/10 11:48	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 17:54	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 17:54	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**2.83**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	**16.0**		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	**0.185**		11/8/10 13:57	A011083	4500-P B5,E

10 November 2010

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

Date Received: 02-Nov-10 15:00

ANALYTICAL RESULTS

Lab Number: 1011020-03
Sample Name: ECMW#3
Date/Time Collected: 11/2/10 10:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**17.5**		11/3/10 18:15	A011034	300.0/9056A
Nitrate as N	mg/L	< 0.500		11/3/10 10:37	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 10:37	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.406**		11/8/10 11:52	A011075	200.7
Manganese	mg/L	**0.084**		11/8/10 11:52	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 17:58	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 17:58	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**5.62**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	**59.0**		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	**0.181**		11/8/10 13:57	A011083	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011020-04
Sample Name: ECMW#4
Date/Time Collected: 11/2/10 10:15
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**745**		11/3/10 19:52	A011034	300.0/9056A
Nitrate as N	mg/L	< 0.500		11/3/10 11:01	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 11:01	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**5.93**		11/8/10 11:56	A011075	200.7
Manganese	mg/L	**2.12**		11/8/10 11:56	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 18:02	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 18:02	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**25.2**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 13:57	A011083	4500-P B5,E

10 November 2010

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

Date Received: 02-Nov-10 15:00

ANALYTICAL RESULTS

Lab Number: 1011020-05
Sample Name: ECMW#9
Date/Time Collected: 11/2/10 10:30
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**684**		11/3/10 15:26	A011034	300.0/9056A
Nitrate as N	mg/L	**20.0**		11/3/10 15:26	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 11:25	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.046**		11/8/10 12:00	A011075	200.7
Manganese	mg/L	**0.321**		11/8/10 12:00	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 18:06	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 18:06	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**20.5**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	**25.0**		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	**0.144**		11/8/10 13:57	A011083	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011020-06
Sample Name: ECMW#8
Date/Time Collected: 11/2/10 10:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**860**		11/3/10 15:50	A011034	300.0/9056A
Nitrate as N	mg/L	**163**		11/3/10 15:50	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 11:49	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.035**		11/8/10 12:15	A011075	200.7
Manganese	mg/L	**0.563**		11/8/10 12:15	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 18:21	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 18:21	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**63.4**		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**9.72**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	**115**		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 13:57	A011083	4500-P B5,E

10 November 2010

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

Date Received: 02-Nov-10 15:00

ANALYTICAL RESULTS

Lab Number: 1011020-07
Sample Name: ECMW#7
Date/Time Collected: 11/2/10 11:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**156**		11/3/10 16:15	A011034	300.0/9056A
Nitrate as N	mg/L	**155**		11/3/10 16:15	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 12:13	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.072**		11/8/10 12:19	A011075	200.7
Manganese	mg/L	**0.091**		11/8/10 12:19	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 18:25	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 18:25	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**107**		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**17.3**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	**0.091**		11/8/10 13:57	A011083	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011020-08
Sample Name: ECMW#6
Date/Time Collected: 11/2/10 11:15
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**29.6**		11/3/10 19:28	A011034	300.0/9056A
Nitrate as N	mg/L	**1460**		11/3/10 16:39	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 12:37	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.026**		11/8/10 12:23	A011075	200.7
Manganese	mg/L	**2.14**		11/8/10 12:23	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	**0.011**		11/8/10 18:29	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 18:29	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**311**		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**1.69**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 13:57	A011083	4500-P B5,E

10 November 2010

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

Date Received: 02-Nov-10 15:00

ANALYTICAL RESULTS

Lab Number: 1011020-09
Sample Name: ECMW#5
Date/Time Collected: 11/2/10 11:30
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**94.7**		11/3/10 17:03	A011034	300.0/9056A
Nitrate as N	mg/L	**11.0**		11/3/10 17:03	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 13:02	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	< 0.010		11/8/10 12:27	A011075	200.7
Manganese	mg/L	**0.717**		11/8/10 12:27	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 18:33	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 18:33	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**1.11**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	**6.0**		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 13:57	A011083	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011020-10
Sample Name: ECMW#10
Date/Time Collected: 11/2/10 11:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**164**		11/3/10 17:27	A011034	300.0/9056A
Nitrate as N	mg/L	**41.9**		11/3/10 17:27	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 13:26	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.027**		11/8/10 12:31	A011075	200.7
Manganese	mg/L	**0.166**		11/8/10 12:31	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 18:37	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 18:37	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**7.34**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 13:57	A011083	4500-P B5,E

10 November 2010

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

Date Received: 02-Nov-10 15:00

ANALYTICAL RESULTS

Lab Number: 1011020-11
Sample Name: ECMW#11
Date/Time Collected: 11/2/10 12:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**325**		11/3/10 20:16	A011034	300.0/9056A
Nitrate as N	mg/L	**4.52**		11/3/10 14:38	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 14:38	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.012**		11/8/10 12:34	A011075	200.7
Manganese	mg/L	**0.032**		11/8/10 12:34	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 18:41	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 18:41	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**3.17**		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**15.3**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 13:57	A011083	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011020-12
Sample Name: Dup
Date/Time Collected: 11/2/10 0:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**1000**		11/3/10 20:40	A011034	300.0/9056A
Nitrate as N	mg/L	< 0.500		11/3/10 15:02	A011034	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/3/10 15:02	A011034	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**5.77**		11/8/10 12:38	A011075	200.7
Manganese	mg/L	**2.11**		11/8/10 12:38	A011075	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/8/10 18:45	A011063	200.7
Lead	mg/L	< 0.015		11/8/10 18:45	A011063	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/3/10 15:55	A011041	4500-NH3D
TOC	mg/L	**25.4**		11/8/10 8:14	A011072	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/4/10 14:30	A011081	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 13:57	A011083	4500-P B5,E

10 November 2010

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

Date Received: 02-Nov-10 15:00

QUALITY CONTROL RESULTS

Anions -- Batch: A011034 (Water)
Prepared: 04-Nov-10 08:40 By: MG -- Analyzed: 04-Nov-10 12:21 By: MEL

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	90.1% / NA	92.5% / 93.3%		0.732%	
Nitrite as N	<0.500 mg/L	101% / NA	97.9% / 98.8%		0.914%	
Sulfate as SO4	<0.500 mg/L	92.3% / NA	97.2% / 97.8%		0.454%	

Wet Chemistry -- Batch: A011041 (Water)
Prepared: 03-Nov-10 13:00 By: SB -- Analyzed: 03-Nov-10 15:55 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	99.8% / NA	100% / 103%		2.67%	

Total Metals -- Batch: A011063 (Water)
Prepared: 04-Nov-10 10:25 By: RH -- Analyzed: 08-Nov-10 17:50 By: TC

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Chromium	<0.010 mg/L	101% / NA	99.1% / 98.1%		1.01%	
Lead	<0.015 mg/L	103% / NA	99.8% / 98.9%		0.873%	

Wet Chemistry -- Batch: A011072 (Water)
Prepared: 08-Nov-10 08:14 By: SB -- Analyzed: 08-Nov-10 08:14 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	103% / NA	97.5% / 98.7%		1.09%	

Dissolved Metals -- Batch: A011075 (Water)
Prepared: 08-Nov-10 10:55 By: TC -- Analyzed: 08-Nov-10 11:44 By: TC

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Iron	<0.010 mg/L	96.5% / NA	74.8% / 68.2%		6.81%	%D1
Manganese	<0.010 mg/L	97.0% / NA	94.3% / 89.6%		4.94%	

Wet Chemistry -- Batch: A011081 (Water)
Prepared: 04-Nov-10 14:30 By: AP -- Analyzed: 04-Nov-10 14:30 By: AP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Alkalinity	<5.0 mg/L	98.0% / 100%	NA / NA		2.02%	

Wet Chemistry -- Batch: A011083 (Water)
Prepared: 08-Nov-10 08:15 By: KP -- Analyzed: 08-Nov-10 13:57 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	98.0% / NA	97.2% / 95.2%		1.14%	

10 November 2010

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

Date Received: 02-Nov-10 15:00

QUALIFIER(S)

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

All Analysis performed according to EPA approved methodology when available:
SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by: 

Norma James
President

10 November 2010

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

Date Received: 02-Nov-10 15:00

CHAIN OF CUSTODY FORM(S)

Arkansas Analytical Inc.

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

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION	BILLING INFORMATION	Project Description
El Dorado Chemical Inc.	El Dorado Chemical Inc.	Groundwaters
4500 Northwest Ave.	P.O. Box 231	
El Dorado, AR 71731	El Dorado, AR 71731	Reporting Information
		Telephone: 870-863-1484
Attn: Brent Parker		Fax: 870-863-1499
		Email: BParker@edc-ark.com; DSartain@edc-ark.com

Turnaround Time: 24 Hour / 48 Hour / 72 Hour / Routine (5 Day)

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

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

Sampler(s) Signature: R. Durham EMS Inc

Sampler(s) Printed: R. DURHAM EMS INC

Arkansas Analytical Work Order Number: 1011026

TEST PARAMETERS	NO_3, NO_2, SO_4, Alkalinity, d Fe, d Mn	Ammonia, T. Phosphorus	TOC	Cr, Pb
Preservative Code	1	1,2	1,5	1,3
Bottle Type	P	P	GV	P

Field Number	Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	NO_3, NO_2, SO_4, Alkalinity, d Fe, d Mn	Ammonia, T. Phosphorus	TOC	Cr, Pb	Work Order Number
1	1-2-10	0930	✓		3		ECMW #1					-01
2		0945	✓		3		ECMW #2					-02
3		1000	✓		3		ECMW #3					-03
4		1015	✓		3		ECMW #4					-04
5		1030	✓		3		ECMW #9					-05
6		1045	✓		3		ECMW #8					-06
7		1100	✓		3		ECMW #7					-07
8		1115	✓		3		ECMW #6					-08
9		1130	✓		3		ECMW #5					-09
10		1145	✓		3		ECMW #10					-10
11		1200	✓		3		ECMW #11					-11
12			✓		3		DUP					-12

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
R. Durham	11-2-10 1225	Donna Pumphrey
3. Relinquished by: (Signature)	**Date/Time**	**4. Received by lab: (Signature)**
Donna Pumphrey	11-2-10 1500	[illegible]

SAMPLE CONDITION UPON RECEIPT IN LAB
1. CUSTODY SEALS: ✓ Yes ___ No
2. CONTAINERS CORRECT: ✓ Yes ___ No
3. COC/LABELS AGREE: ✓ Yes ___ No
4. PRESERVATION CONFIRMED: ✓ Yes ___ No
5. RECEIVED ON ICE: ✓ Yes ___ No
6. TEMPERATURE ON RECEIPT: 9°C

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

P.O. Number:

Arkansas Analytical Inc.

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

10 November 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

RE: Groundwater Sample(s)

SDG Number: 1011032

Enclosed are the results of analyses for samples received by the laboratory on 03-Nov-10 15:24. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,

Norma James
President

10 November 2010

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

Date Received: 03-Nov-10 15:24

ANALYTICAL RESULTS

Lab Number: 1011032-01
Sample Name: ECMW-21
Date/Time Collected: 11/3/10 8:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**6.07**		11/4/10 13:35	A011048	300.0/9056A
Nitrate as N	mg/L	**1.80**		11/4/10 13:35	A011048	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/4/10 13:35	A011048	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	< 0.010		11/8/10 12:50	A011076	200.7
Manganese	mg/L	**0.025**		11/8/10 12:50	A011076	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	**0.010**		11/4/10 21:04	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 21:04	A011057	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	< 1.00		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	**0.025**		11/8/10 14:13	A011084	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011032-02
Sample Name: ECMW-12
Date/Time Collected: 11/3/10 9:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**21.5**		11/4/10 18:24	A011048	300.0/9056A
Nitrate as N	mg/L	< 0.500		11/4/10 13:59	A011048	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/4/10 13:59	A011048	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**39.4**		11/8/10 15:14	A011076	200.7
Manganese	mg/L	**0.210**		11/8/10 15:14	A011076	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/4/10 21:34	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 21:34	A011057	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1.44**		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	**21.0**		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	**160**		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	**0.057**		11/8/10 14:13	A011084	4500-P B5,E

10 November 2010

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

Date Received: 03-Nov-10 15:24

ANALYTICAL RESULTS

Lab Number: 1011032-03
Sample Name: ECMW-22
Date/Time Collected: 11/3/10 9:15
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**6.68**		11/4/10 14:23	A011048	300.0/9056A
Nitrate as N	mg/L	**1.31**		11/4/10 14:23	A011048	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/4/10 14:23	A011048	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.042**		11/8/10 13:23	A011076	200.7
Manganese	mg/L	**0.152**		11/8/10 13:23	A011076	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/4/10 21:44	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 21:44	A011057	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	< 1.00		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	**42.0**		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	**0.063**		11/8/10 14:13	A011084	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011032-04
Sample Name: ECMW-17
Date/Time Collected: 11/3/10 10:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**13.1**		11/4/10 18:48	A011048	300.0/9056A
Nitrate as N	mg/L	**27.2**		11/4/10 18:48	A011048	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/4/10 14:47	A011048	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.025**		11/8/10 13:27	A011076	200.7
Manganese	mg/L	**0.121**		11/8/10 13:27	A011076	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/4/10 21:54	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 21:54	A011057	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1.94**		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	**1.48**		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 14:13	A011084	4500-P B5,E

10 November 2010

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

Date Received: 03-Nov-10 15:24

ANALYTICAL RESULTS

Lab Number: 1011032-05
Sample Name: ECMW-16
Date/Time Collected: 11/3/10 10:15
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**13.4**		11/4/10 19:12	A011048	300.0/9056A
Nitrate as N	mg/L	**19.2**		11/4/10 19:12	A011048	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/4/10 15:11	A011048	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.010**		11/8/10 13:31	A011076	200.7
Manganese	mg/L	**0.111**		11/8/10 13:31	A011076	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/4/10 21:58	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 21:58	A011057	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**0.96**		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	**1.75**		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 14:13	A011084	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011032-06
Sample Name: ECMW-15
Date/Time Collected: 11/3/10 10:30
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**13.2**		11/4/10 19:37	A011048	300.0/9056A
Nitrate as N	mg/L	**1.90**		11/4/10 15:35	A011048	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/4/10 15:35	A011048	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	< 0.010		11/8/10 13:35	A011076	200.7
Manganese	mg/L	**0.024**		11/8/10 13:35	A011076	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/4/10 22:02	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 22:02	A011057	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	**1.59**		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	< 5.0		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	**0.023**		11/8/10 14:13	A011084	4500-P B5,E

10 November 2010

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

Date Received: 03-Nov-10 15:24

ANALYTICAL RESULTS

Lab Number: 1011032-07
Sample Name: ECMW-13
Date/Time Collected: 11/3/10 10:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**589**		11/5/10 10:05	A011048	300.0/9056A
Nitrate as N	mg/L	< 0.500		11/4/10 15:59	A011048	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/4/10 15:59	A011048	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.045**		11/8/10 13:39	A011076	200.7
Manganese	mg/L	**3.54**		11/8/10 13:39	A011076	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.010		11/4/10 22:19	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 22:19	A011057	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	**6.68**		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	**49.0**		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	< 0.020		11/8/10 14:13	A011084	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011032-08
Sample Name: ECMW-18
Date/Time Collected: 11/3/10 11:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**3.65**		11/4/10 16:23	A011048	300.0/9056A
Nitrate as N	mg/L	< 1.00	EDL	11/4/10 16:23	A011048	300.0/9056A
Nitrite as N	mg/L	< 1.00	EDL	11/4/10 16:23	A011048	300.0/9056A

Dissolved Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Iron	mg/L	**0.915**		11/8/10 13:43	A011076	200.7
Manganese	mg/L	**0.017**		11/8/10 13:43	A011076	200.7

Total Metals	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Chromium	mg/L	< 0.010		11/4/10 22:29	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 22:29	A011057	200.7

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	**1.51**		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	**21.0**		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	**0.613**		11/8/10 14:13	A011084	4500-P B5,E

10 November 2010

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

Date Received: 03-Nov-10 15:24

ANALYTICAL RESULTS

Lab Number: 1011032-09
Sample Name: ECMW-19
Date/Time Collected: 11/3/10 11:15
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**2.97**		11/4/10 16:48	A011048	300.0/9056A
Nitrate as N	mg/L	< 0.500		11/4/10 16:48	A011048	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/4/10 16:48	A011048	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.037**		11/8/10 13:47	A011076	200.7
Manganese	mg/L	**0.069**		11/8/10 13:47	A011076	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/4/10 22:33	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 22:33	A011057	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	< 1.00		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	**28.0**		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	**0.154**		11/8/10 14:13	A011084	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1011032-10
Sample Name: Dup
Date/Time Collected: 11/3/10 0:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**20.5**		11/5/10 10:29	A011048	300.0/9056A
Nitrate as N	mg/L	< 0.500		11/4/10 17:12	A011048	300.0/9056A
Nitrite as N	mg/L	< 0.500		11/4/10 17:12	A011048	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**41.4**		11/8/10 15:18	A011076	200.7
Manganese	mg/L	**0.214**		11/8/10 15:18	A011076	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		11/4/10 22:43	A011057	200.7
Lead	mg/L	< 0.015		11/4/10 22:43	A011057	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1.34**		11/9/10 11:47	A011096	4500-NH3D
TOC	mg/L	**21.7**		11/10/10 8:38	A011090	5310/9060A
Total Alkalinity	mg/L	**168**		11/5/10 13:45	A011082	2320 B
Total Phosphorus	mg/L	**0.221**		11/8/10 14:13	A011084	4500-P B5,E

10 November 2010

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

Date Received: 03-Nov-10 15:24

QUALITY CONTROL RESULTS

Anions -- Batch: A011048 (Water)
Prepared: 04-Nov-10 12:16 By: MG -- Analyzed: 05-Nov-10 13:59 By: MEL

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	90.2% / NA	96.0% / 95.8%		0.142%	
Nitrite as N	<0.500 mg/L	90.5% / NA	90.4% / 90.6%		0.165%	
Sulfate as SO4	<0.500 mg/L	90.6% / NA	97.7% / 97.0%		0.390%	

Total Metals -- Batch: A011057 (Water)
Prepared: 04-Nov-10 10:45 By: RH -- Analyzed: 04-Nov-10 21:12 By: TC

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Chromium	<0.010 mg/L	98.6% / NA	101% / 93.3%		7.63%	
Lead	<0.015 mg/L	100% / NA	102% / 94.9%		6.90%	

Dissolved Metals -- Batch: A011076 (Water)
Prepared: 08-Nov-10 10:55 By: TC -- Analyzed: 08-Nov-10 13:05 By: TC

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Iron	<0.010 mg/L	94.8% / NA	99.7% / NA		NA	
Manganese	<0.010 mg/L	94.8% / NA	98.3% / NA		NA	

Wet Chemistry -- Batch: A011082 (Water)
Prepared: 05-Nov-10 13:45 By: AP -- Analyzed: 05-Nov-10 13:45 By: AP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Alkalinity	<5.0 mg/L	99.0% / 100%	NA / NA		1.01%	

Wet Chemistry -- Batch: A011084 (Water)
Prepared: 08-Nov-10 08:15 By: KP -- Analyzed: 08-Nov-10 14:13 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	99.2% / NA	94.8% / 110%		9.36%	

Wet Chemistry -- Batch: A011090 (Water)
Prepared: 09-Nov-10 08:51 By: SB -- Analyzed: 10-Nov-10 08:38 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	99.8% / NA	99.0% / 99.4%		0.283%	

Wet Chemistry -- Batch: A011096 (Water)
Prepared: 09-Nov-10 11:47 By: SB -- Analyzed: 09-Nov-10 11:47 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	98.2% / NA	99.0% / 105%		5.95%	

10 November 2010

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

Date Received: 03-Nov-10 15:24

QUALIFIER(S)

*EDL: Elevated Detection Limit Due to Necessary Sample Dilution

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, 20th Edition.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by: 

Norma James
President

10 November 2010

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

Date Received: 03-Nov-10 15:24

CHAIN OF CUSTODY FORM(S)

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

CHAIN OF CUSTODY RECORD

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

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

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

Sampler(s) Signature: R. Durham
Sampler(s) Printed: R. DURHAM EMS INC.

TEST PARAMETERS

Field Number	Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	NO_3, NO_2, SO_4, Alkalinity, d Fe, d Mn	Ammonia, T. Phosphorus	TOC	Cr, Pb						Arkansas Analytical Work Order Number: 1011032
Preservative Code:								1	1,2	1,5	1,3						
Bottle Type:								P	P	GV	P						
1	11-3-10	0845	✓		3		EDMW-21	✓	✓	✓	✓						-01
2	〃	0900	✓		3		EcMW-12	✓	✓	✓	✓						-02
3	〃	0915	✓		3		EcMW-22	✓	✓	✓	✓						-03
4	〃	1000	✓		3		EcMW-17	✓	✓	✓	✓						-04
5	〃	1015	✓		3		EcMW-16	✓	✓	✓	✓						-05
6	〃	1030	✓		3		EcMW-15	✓	✓	✓	✓						-06
7	〃	1045	✓		3		EcMW-13	✓	✓	✓	✓						-07
8	〃	1100	✓		3		EcMW-18	✓	✓	✓	✓						-08
9	〃	1115	✓		3		EcMW-19	✓	✓	✓	✓						-09
10	〃		✓		3		DUP	✓	✓	✓	✓						-10

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
R. Durham	11-3-10 1205	Donna Humphrey
3. Relinquished by: (Signature)	**Date/Time**	**4. Received by lab: (Signature)**
Donna Humphrey	11/3/10 1524	Sarah E. Jones

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

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS
P.O. Number:

Arkansas Analytical Inc.

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

28 December 2010

Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731

RE: Groundwater Sample(s)

SDG Number: 1012221

Enclosed are the results of analyses for samples received by the laboratory on 21-Dec-10 14:15. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

Custody Seals	✔
Containers Intact	✔
COC/Labels Agree	✔
Preservation Confirmed	✔
Received On Ice	✔
Temperature on Receipt	16.0°C

Sincerely,

Norma James
President

28 December 2010

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

Date Received: 21-Dec-10 14:15

ANALYTICAL RESULTS

Lab Number: 1012221-01
Sample Name: MW-14
Date/Time Collected: 12/21/10 9:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**152**		12/22/10 14:54	A012292	300.0/9056A
Nitrate as N	mg/L	**12.7**		12/22/10 12:54	A012292	300.0/9056A
Nitrite as N	mg/L	< 0.500		12/22/10 12:05	A012292	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**0.025**		12/22/10 1:22	A012286	200.7
Manganese	mg/L	**0.070**		12/22/10 1:22	A012286	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	< 0.010		12/22/10 1:22	A012273	200.7
Lead	mg/L	< 0.015		12/22/10 1:22	A012273	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		12/22/10 10:36	A012291	4500-NH3D
TOC	mg/L	**12.6**		12/22/10 14:13	A012295	5310/9060A
Total Alkalinity	mg/L	**24.0**		12/27/10 15:12	A012316	2320 B
Total Phosphorus	mg/L	< 0.020		12/28/10 13:47	A012330	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1012221-02
Sample Name: MW-20
Date/Time Collected: 12/21/10 10:50
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**8.95**		12/22/10 12:29	A012292	300.0/9056A
Nitrate as N	mg/L	< 0.500		12/22/10 12:29	A012292	300.0/9056A
Nitrite as N	mg/L	< 0.500		12/22/10 12:29	A012292	300.0/9056A
Dissolved Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Iron	mg/L	**5.88**		12/22/10 1:32	A012286	200.7
Manganese	mg/L	**0.254**		12/22/10 1:32	A012286	200.7
Total Metals	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Chromium	mg/L	**0.010**		12/22/10 1:32	A012273	200.7
Lead	mg/L	< 0.015		12/22/10 1:32	A012273	200.7
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		12/22/10 10:36	A012291	4500-NH3D
TOC	mg/L	< 1.00		12/22/10 14:13	A012295	5310/9060A
Total Alkalinity	mg/L	**26.0**		12/27/10 15:12	A012316	2320 B
Total Phosphorus	mg/L	**0.238**		12/28/10 13:47	A012330	4500-P B5,E

28 December 2010

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

Date Received: 21-Dec-10 14:15

QUALITY CONTROL RESULTS

Total Metals -- Batch: A012273 (Water)
Prepared: 21-Dec-10 09:45 By: TC -- Analyzed: 22-Dec-10 00:53 By: TC

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Chromium	<0.010 mg/L	101% / NA	91.0% / 92.8%		1.03%	
Lead	<0.015 mg/L	98.9% / NA	92.0% / 91.6%		0.425%	

Dissolved Metals -- Batch: A012286 (Water)
Prepared: 21-Dec-10 15:15 By: TC -- Analyzed: 22-Dec-10 09:31 By: TC

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Iron	<0.010 mg/L	111% / NA	103% / 105%		1.57%	
Manganese	<0.010 mg/L	106% / NA	98.5% / 100%		1.68%	

Wet Chemistry -- Batch: A012291 (Water)
Prepared: 22-Dec-10 10:36 By: SB -- Analyzed: 22-Dec-10 10:36 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	101% / NA	110% / 104%		5.39%	

Anions -- Batch: A012292 (Water)
Prepared: 22-Dec-10 12:00 By: MG -- Analyzed: 22-Dec-10 14:30 By: MELIS

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	91.7% / NA	90.8% / 91.3%		0.547%	
Nitrite as N	<0.500 mg/L	100% / NA	98.9% / 100%		1.05%	
Sulfate as SO4	<0.500 mg/L	104% / NA	102% / 100%		1.80%	

Wet Chemistry -- Batch: A012295 (Water)
Prepared: 22-Dec-10 14:13 By: SB -- Analyzed: 22-Dec-10 14:13 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	99.2% / NA	99.7% / 99.5%		0.0886%	

Wet Chemistry -- Batch: A012316 (Water)
Prepared: 27-Dec-10 15:12 By: SB -- Analyzed: 27-Dec-10 15:12 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Alkalinity	<5.0 mg/L	100% / 102%	NA / NA		1.98%	

Wet Chemistry -- Batch: A012330 (Water)
Prepared: 28-Dec-10 08:15 By: KP -- Analyzed: 28-Dec-10 13:47 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	101% / NA	98.4% / 99.2%		0.763%	

28 December 2010

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

Date Received: 21-Dec-10 14:15

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, 20th Edition.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by: 

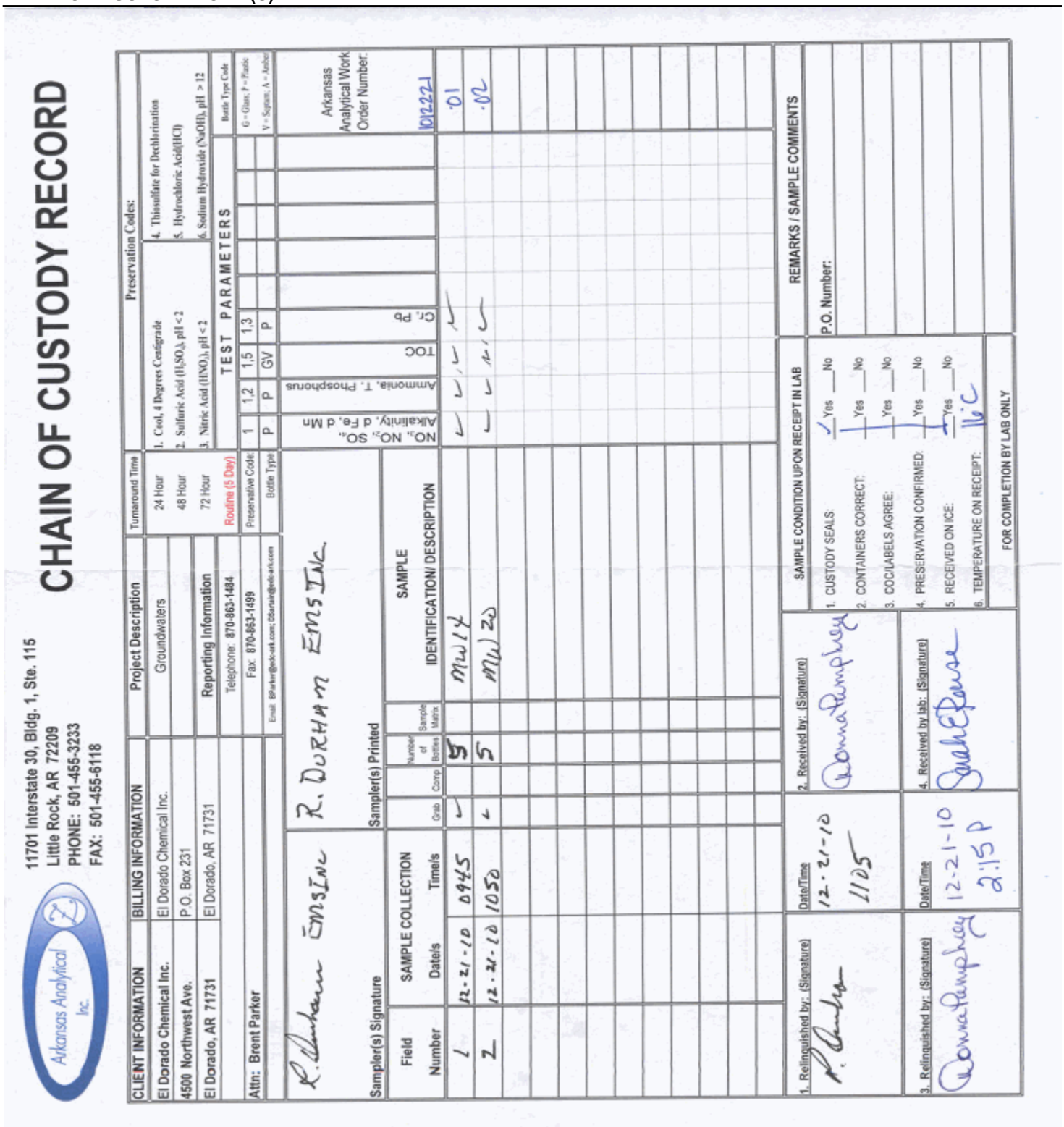
Norma James
President

28 December 2010

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

Date Received: 21-Dec-10 14:15

CHAIN OF CUSTODY FORM(S)



CHAIN OF CUSTODY RECORD

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

CLIENT INFORMATION	BILLING INFORMATION	Project Description	Turnaround Time	Preservation Codes:
El Dorado Chemical Inc.	El Dorado Chemical Inc.	Groundwaters	24 Hour	1. Cool, 4 Degrees Centigrade
4500 Northwest Ave.	P.O. Box 231		48 Hour	2. Sulfuric Acid (H_2SO_4), pH < 2
El Dorado, AR 71731	El Dorado, AR 71731	Reporting Information	72 Hour	3. Nitric Acid (HNO_3), pH < 2
		Telephone: 870-863-1484	Routine (5 Day)	4. Thiosulfate for Dechlorination
Attn: Brent Parker		Fax: 870-863-1499	Preservative Code	5. Hydrochloric Acid(HCl)
		Email: BParker@edc-ark.com; DBarlain@edc-ark.com	Bottle Type	6. Sodium Hydroxide (NaOH), pH > 12

Sampler(s) Signature: R. Durham ENSI Inc.
Sampler(s) Printed: R. Durham ENSI Inc.

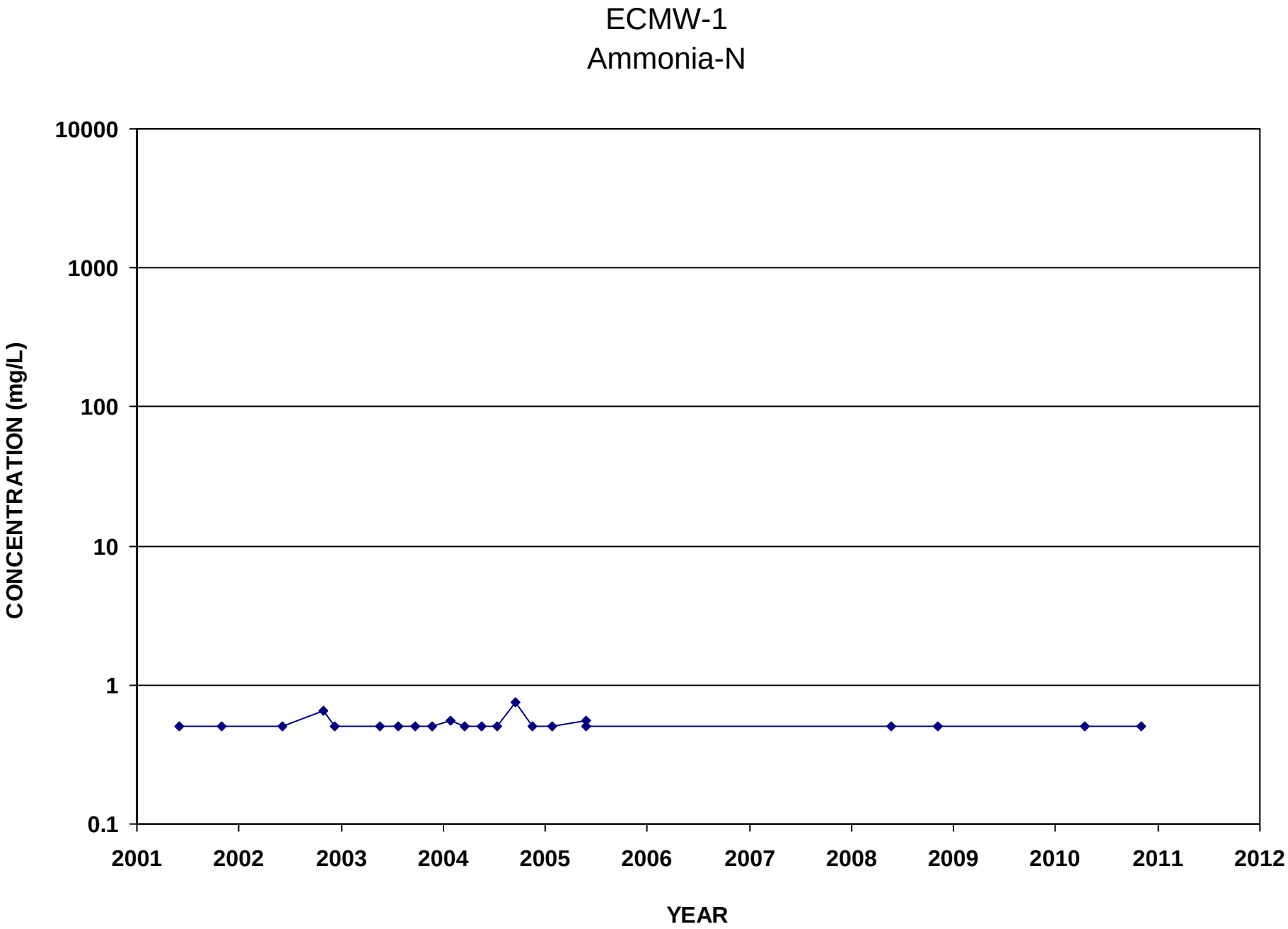
Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: NO3, NO2, SO4, Alkalinity, d Fe, d Mn	Ammonia, T. Phosphorus	TOC	Cr, Pb					Arkansas Analytical Work Order Number: 10222
								1	1,2	1,5	1,3					
								P	P	GV	P					
1	12-21-10	0945	✓		5		MW14	✓	✓	✓	✓					01
2	12-21-10	1050	✓		5		MW20	✓	✓	✓	✓					02

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

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)	SAMPLE CONDITION UPON RECEIPT IN LAB	REMARKS / SAMPLE COMMENTS
R. Durham	12-21-10 1125	Donna Pumphrey	1. CUSTODY SEALS: ✓ Yes ___ No	P.O. Number:
			2. CONTAINERS CORRECT: ___ Yes ___ No	
			3. COC/LABELS AGREE: ___ Yes ___ No	
3. Relinquished by: (Signature)	Date/Time	4. Received by lab: (Signature)	4. PRESERVATION CONFIRMED: ___ Yes ___ No	
Donna Pumphrey	12-21-10 2:15 P	Sarah E Pierce	5. RECEIVED ON ICE: ✓ Yes ___ No	
			6. TEMPERATURE ON RECEIPT: 1.6 C	
			FOR COMPLETION BY LAB ONLY	

APPENDIX B

TREND GRAPHS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Ammonia-N
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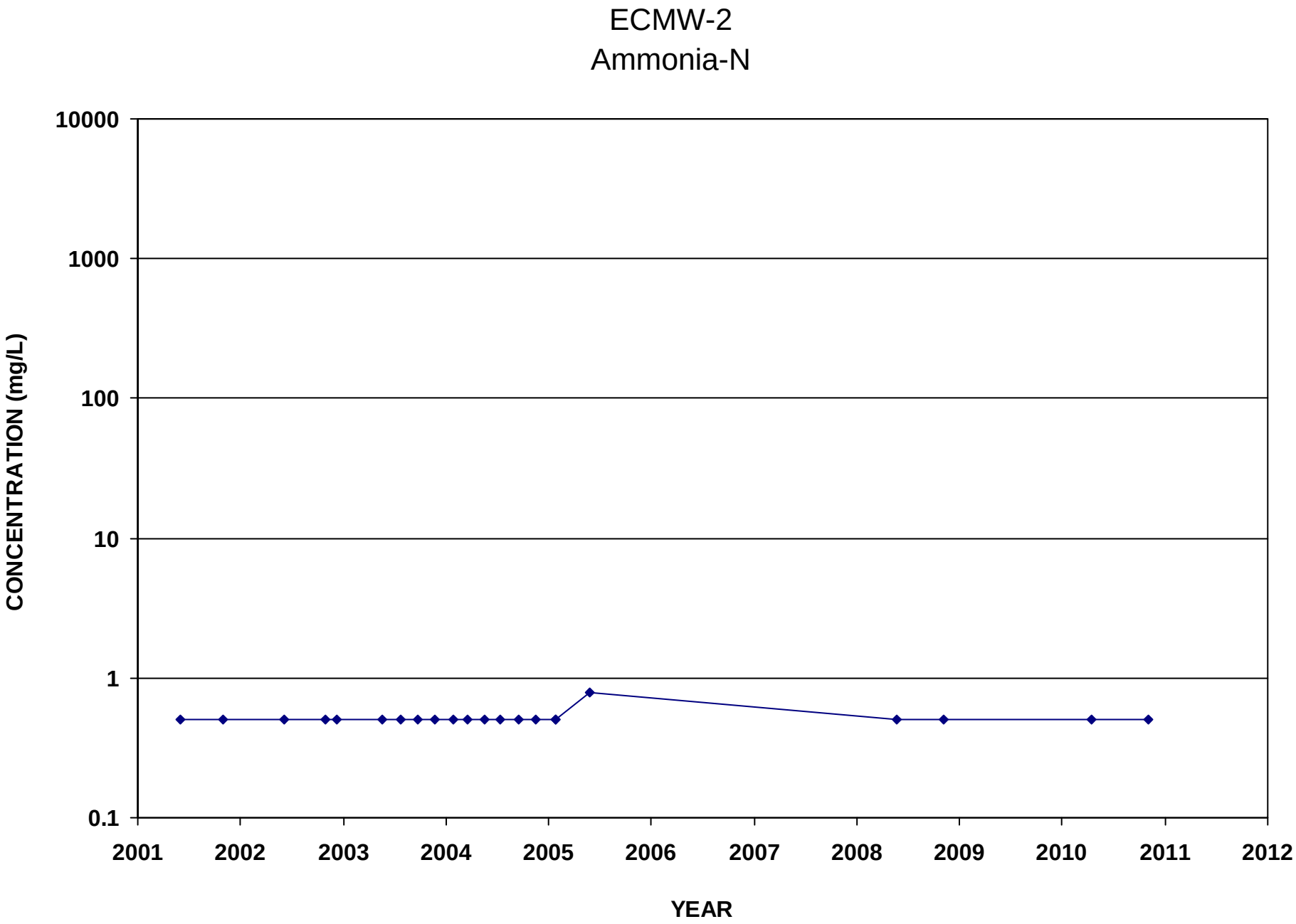
2010
2011
2012
YEAR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2012
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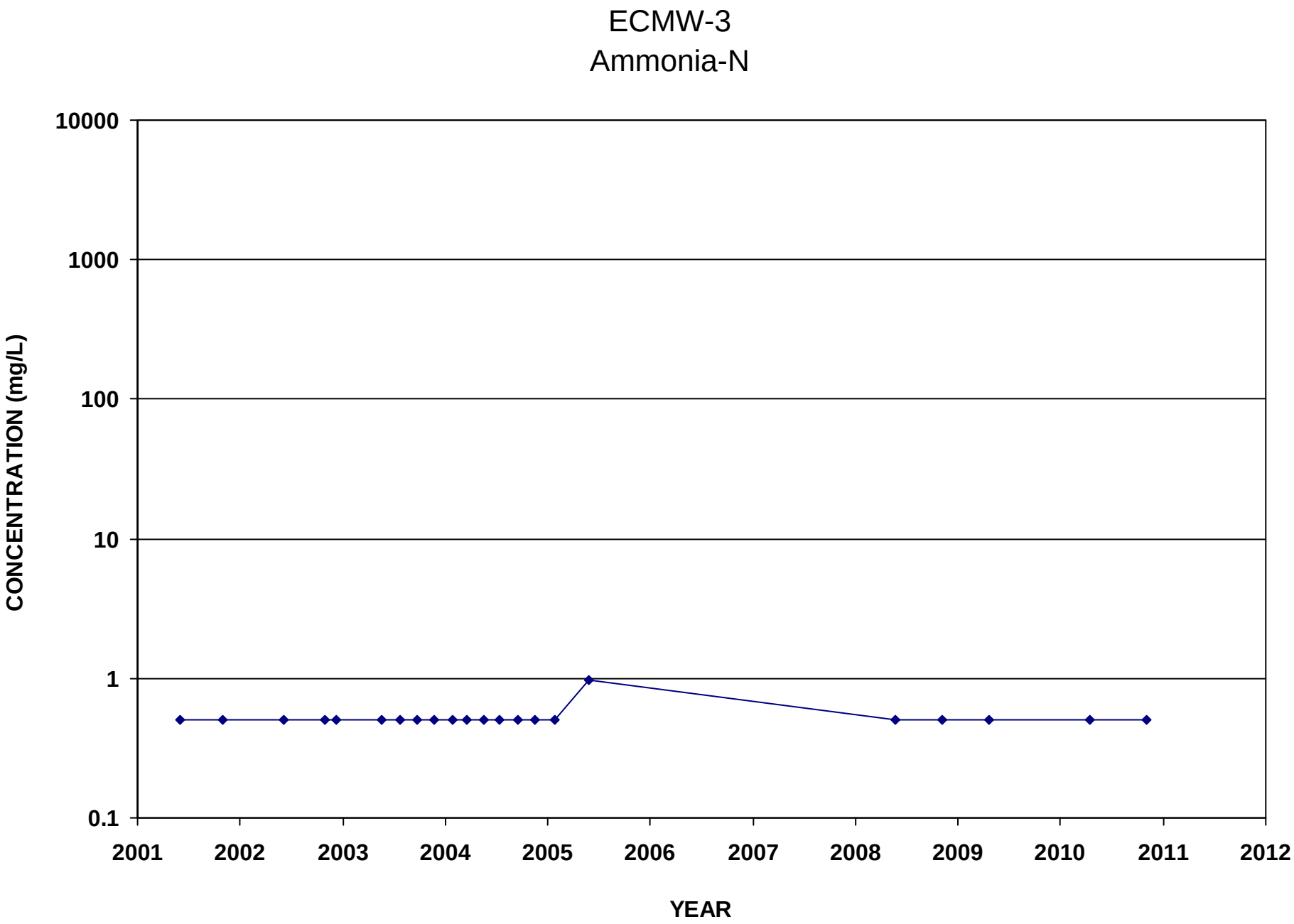
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CONCENTRATION (mg/L)
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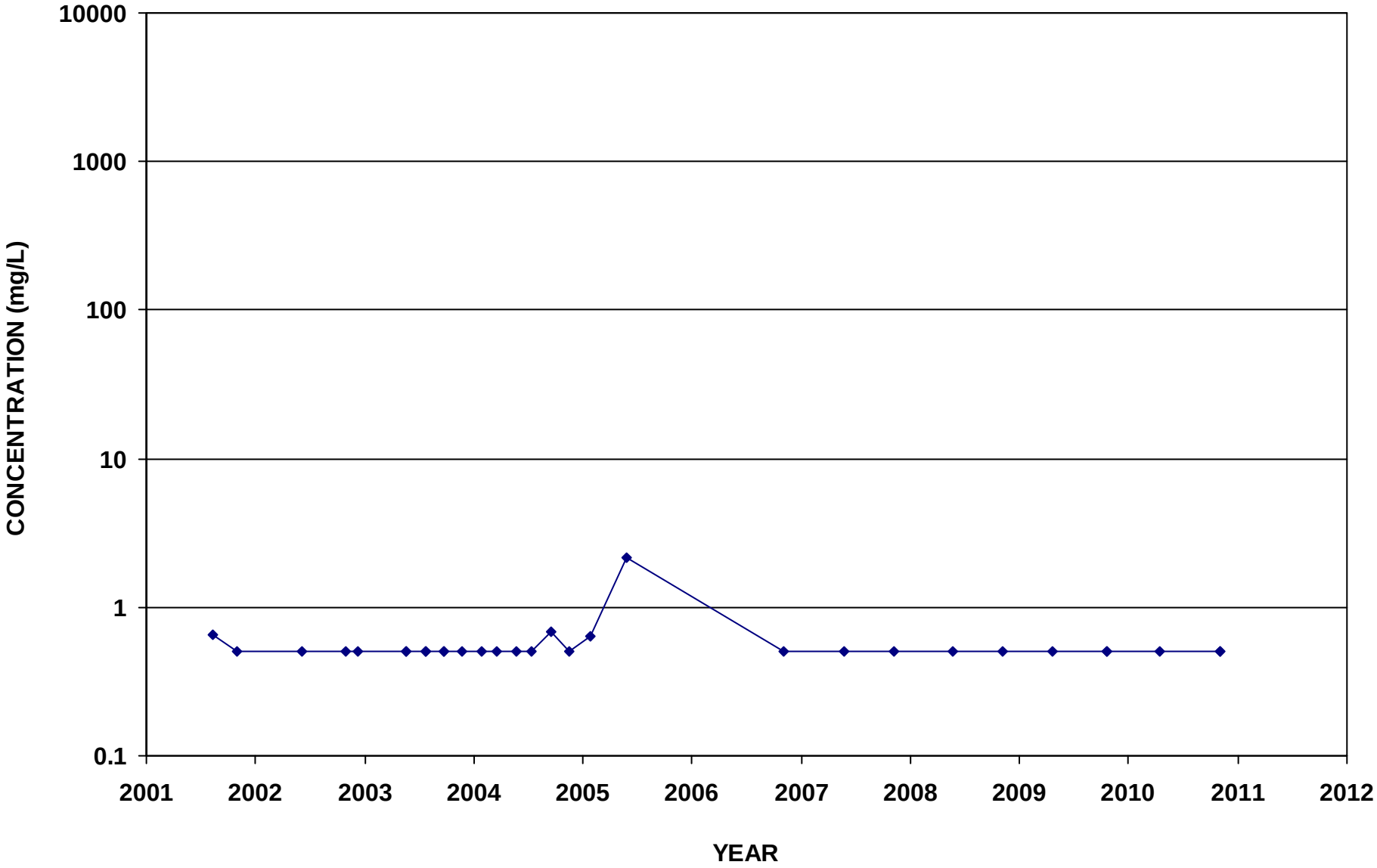
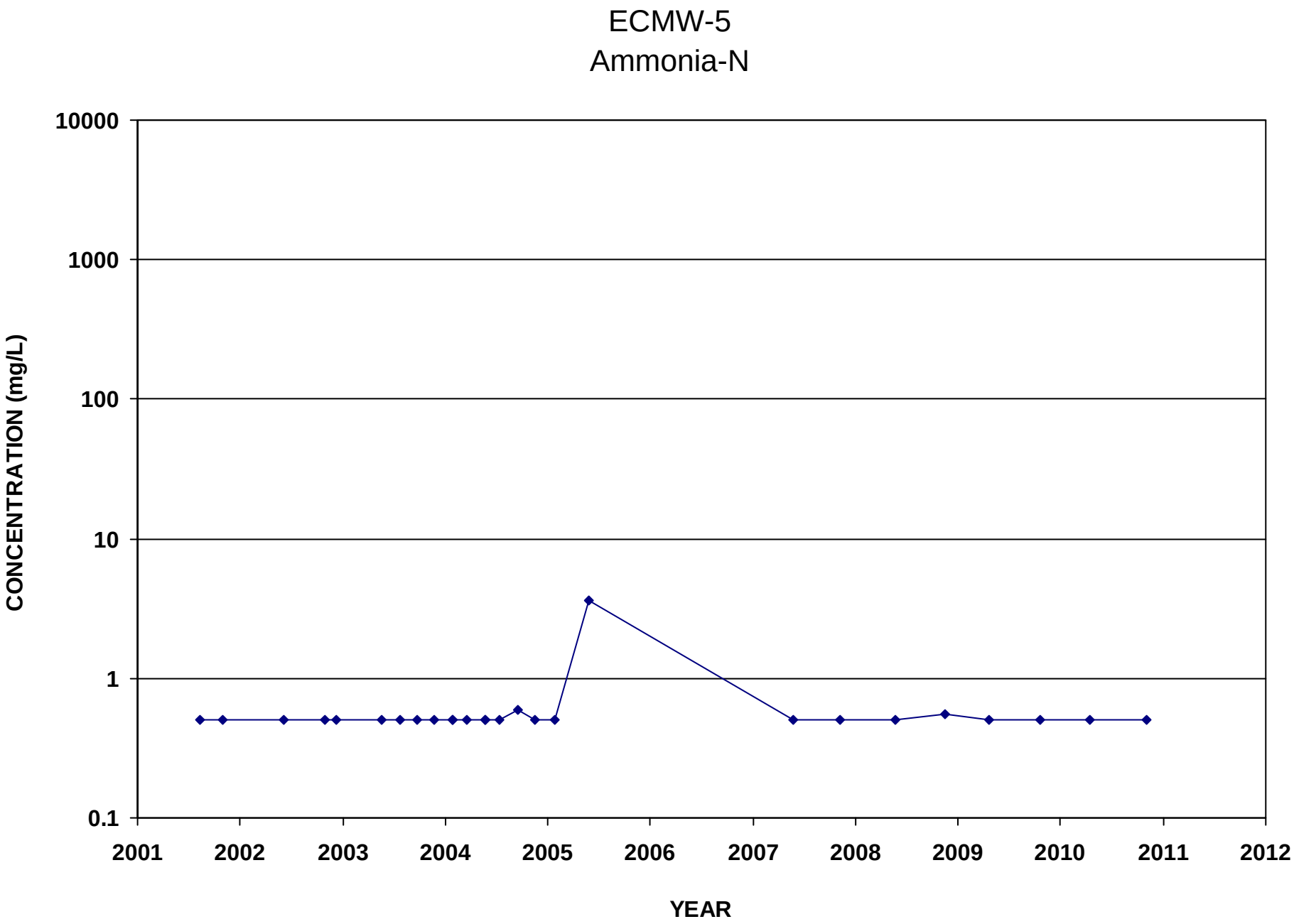
YEAR

ECMW-4
Ammonia-N

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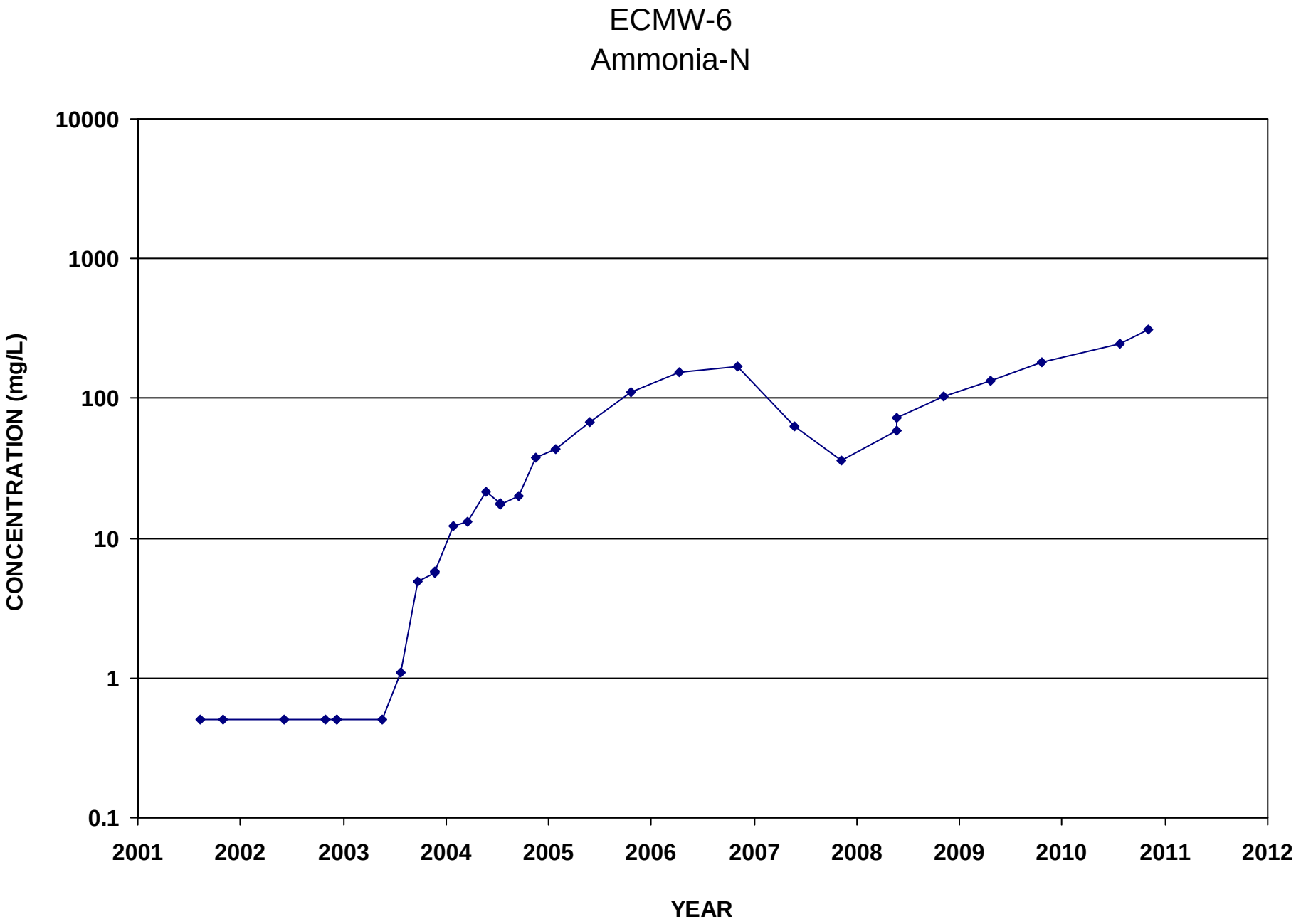
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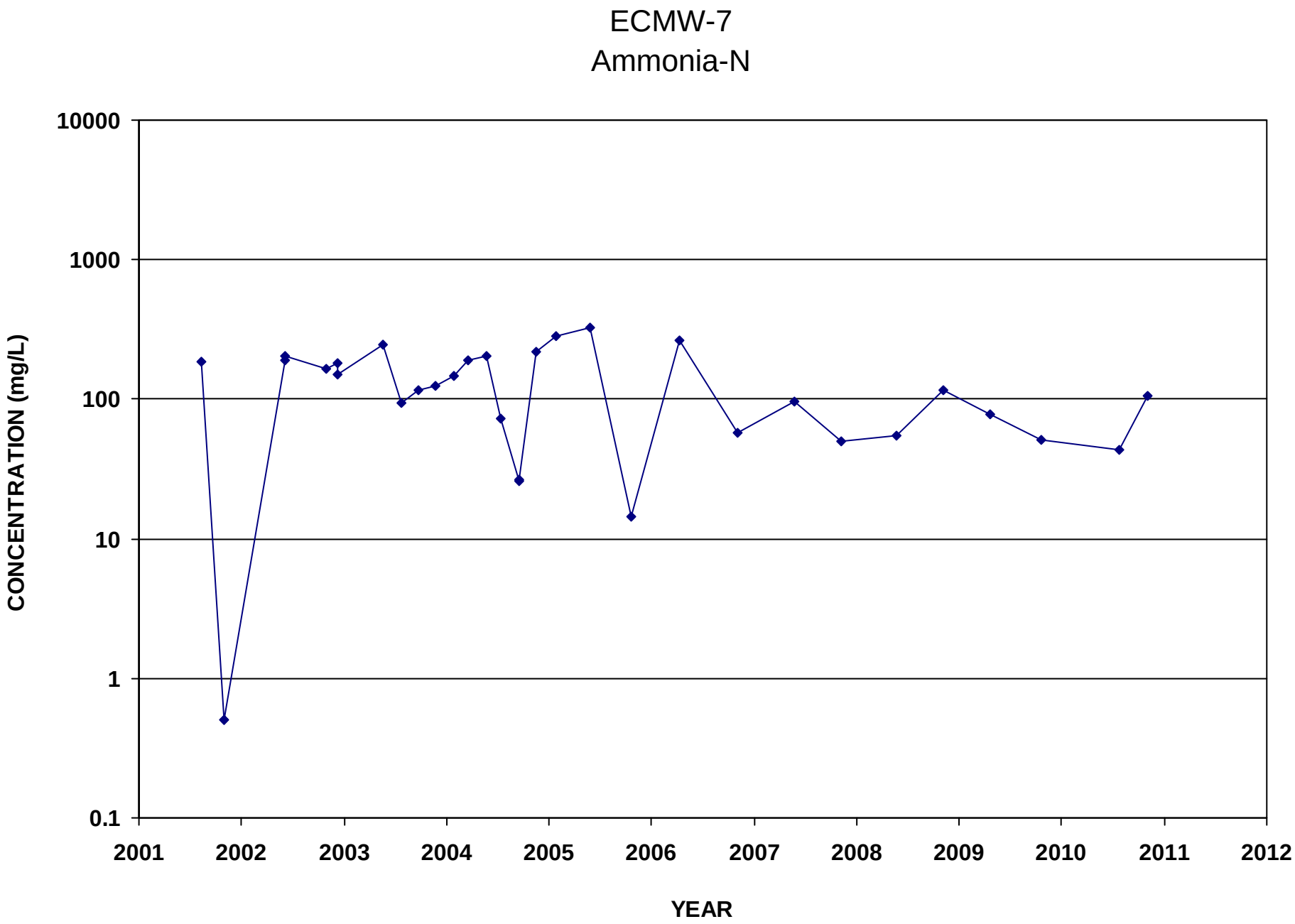
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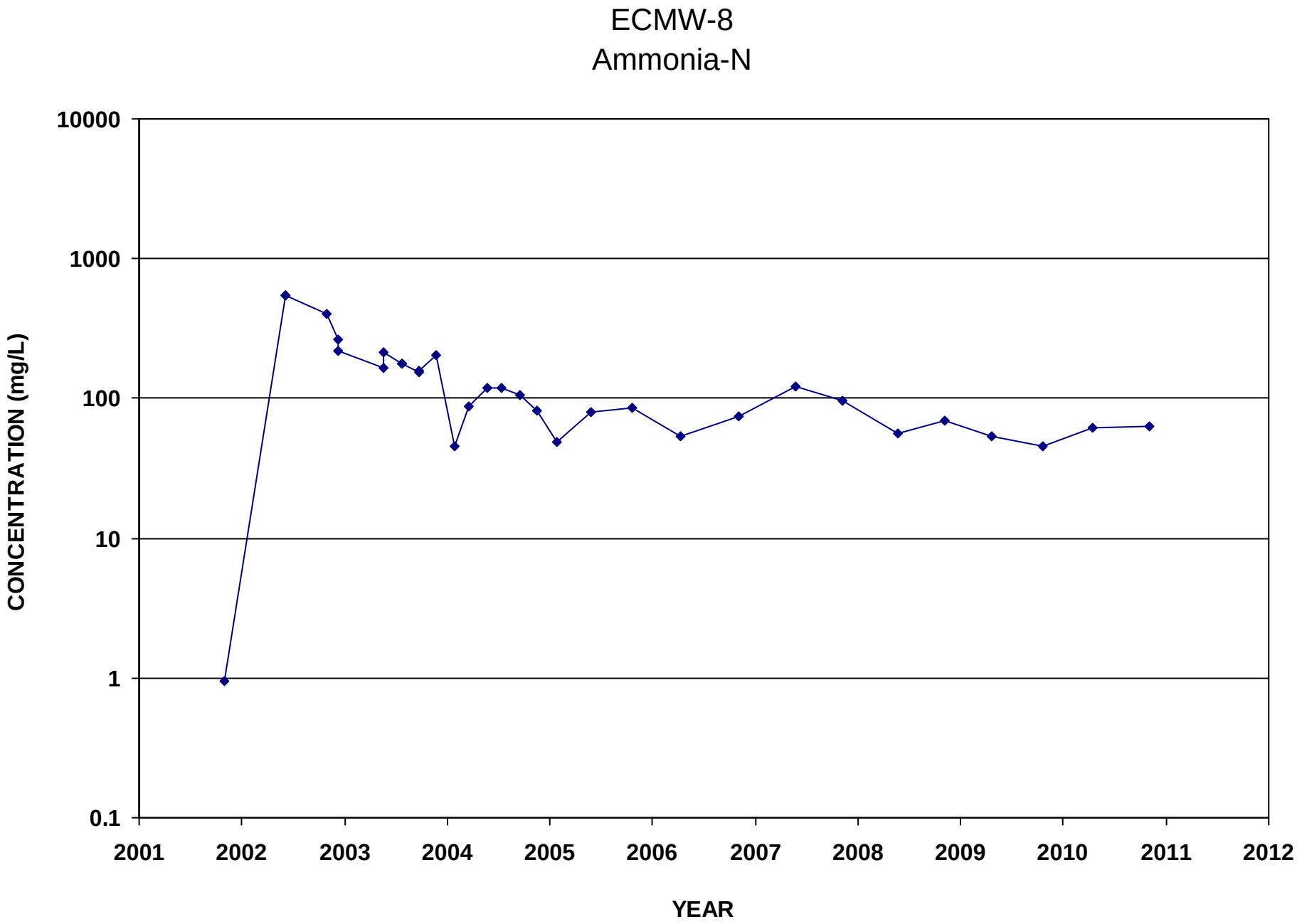
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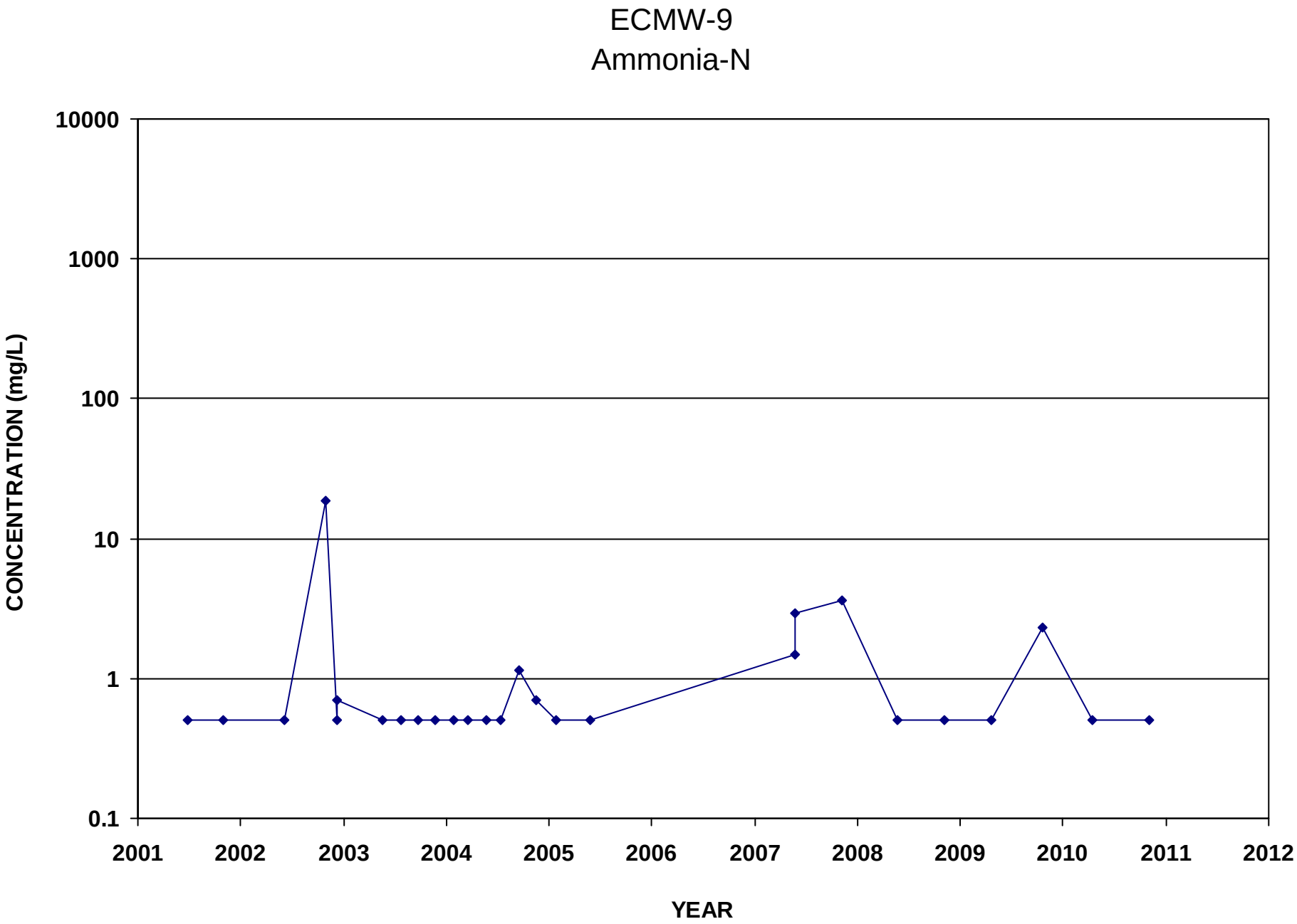
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2012
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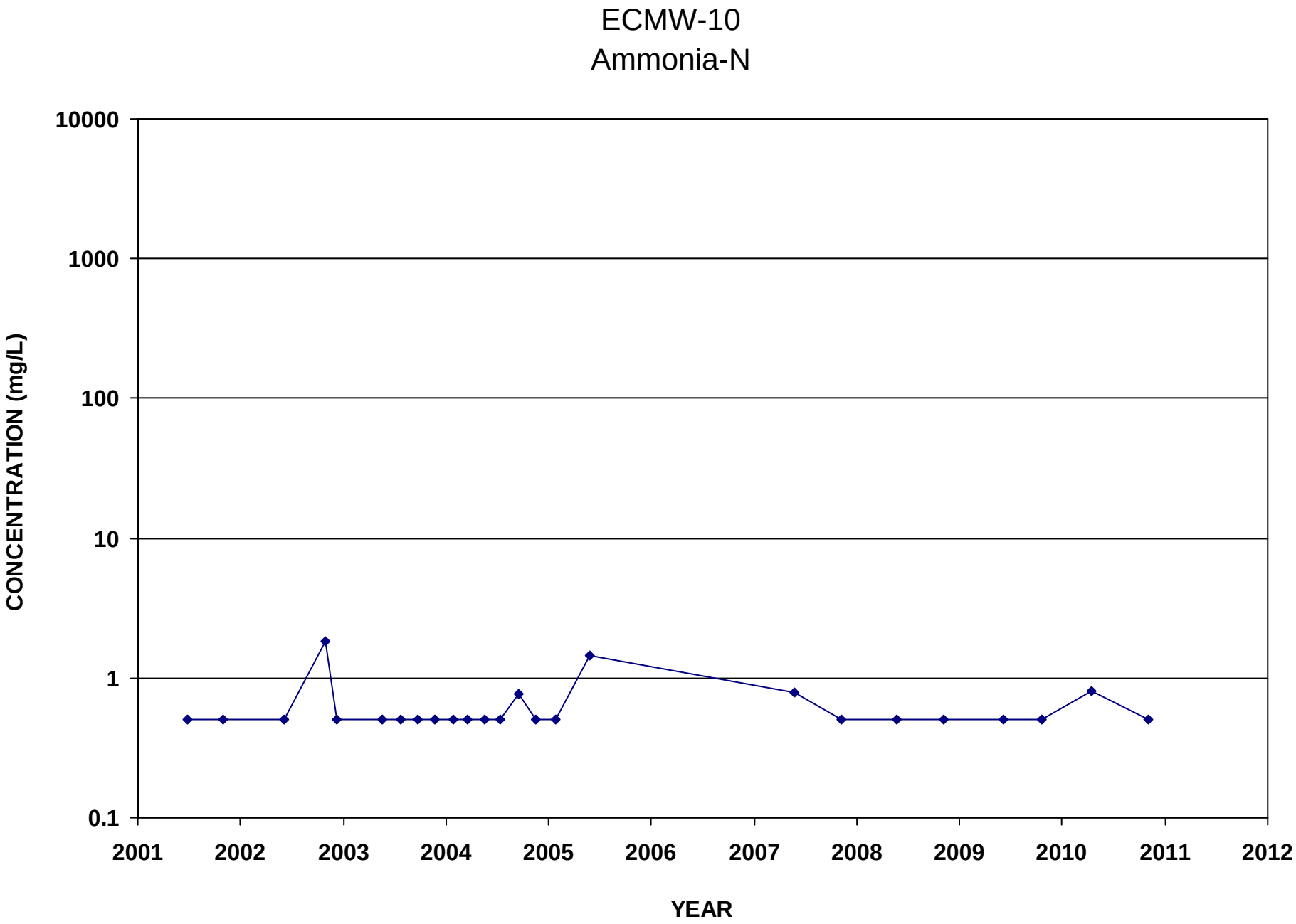
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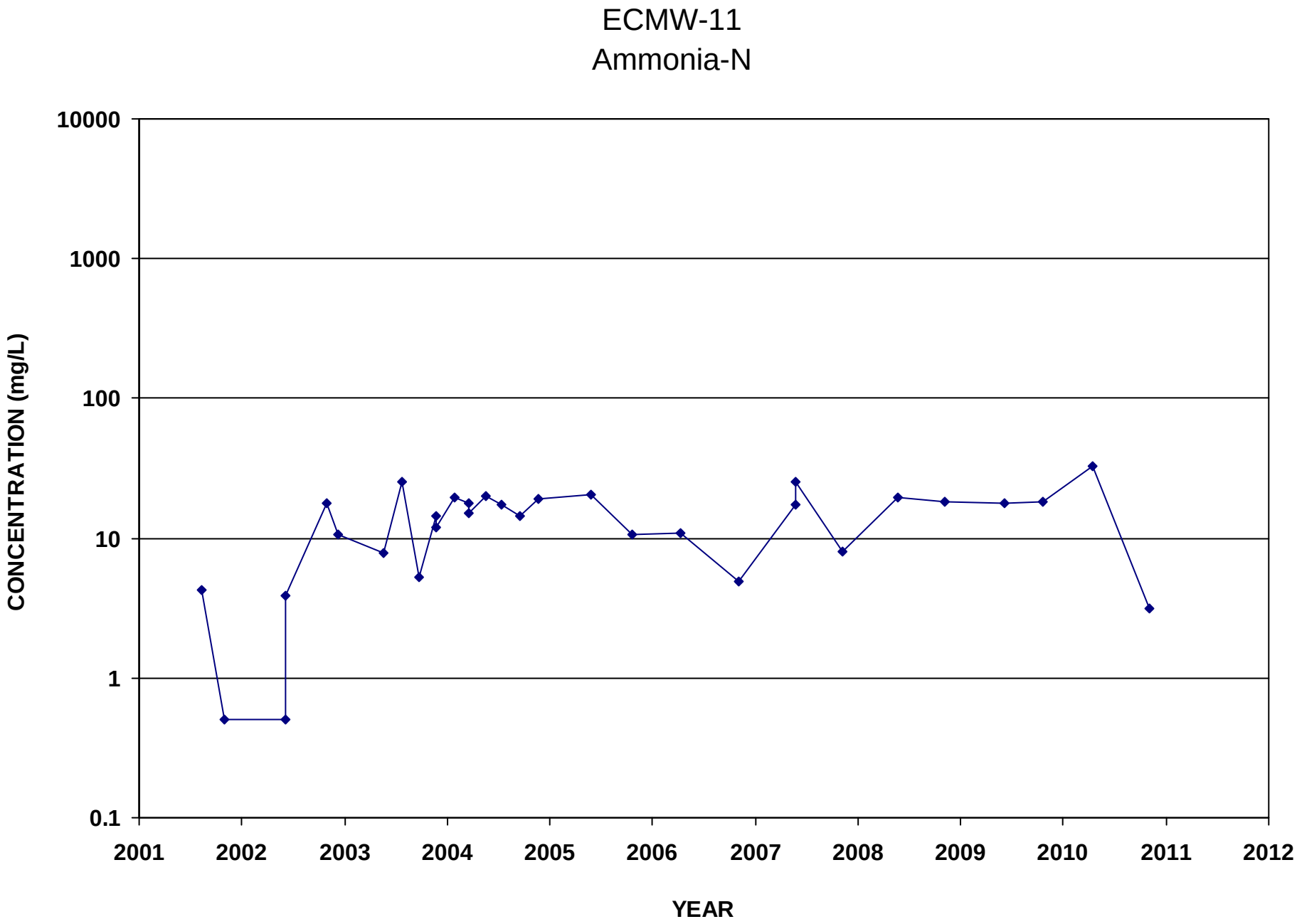
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CONCENTRATION (mg/L)
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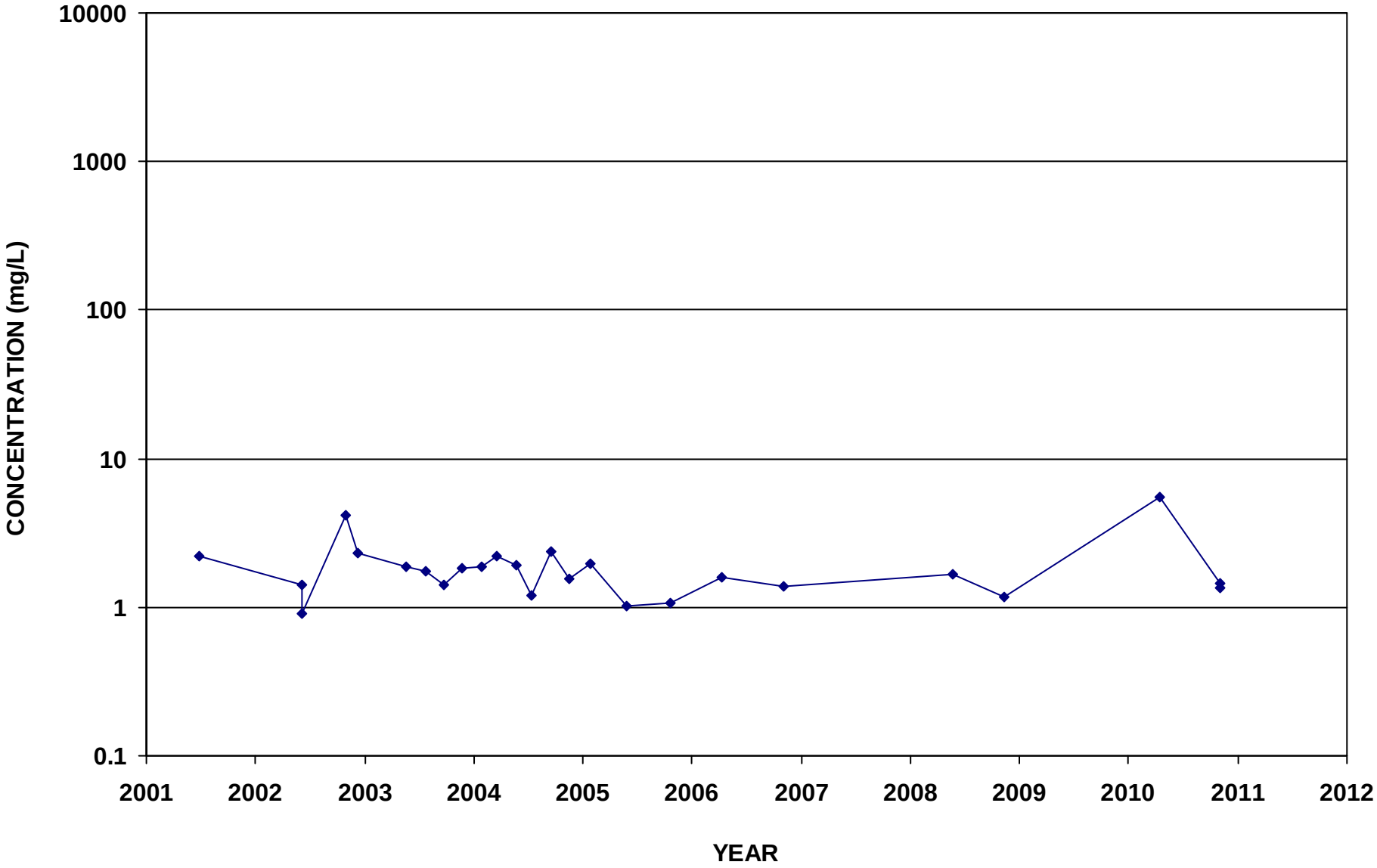
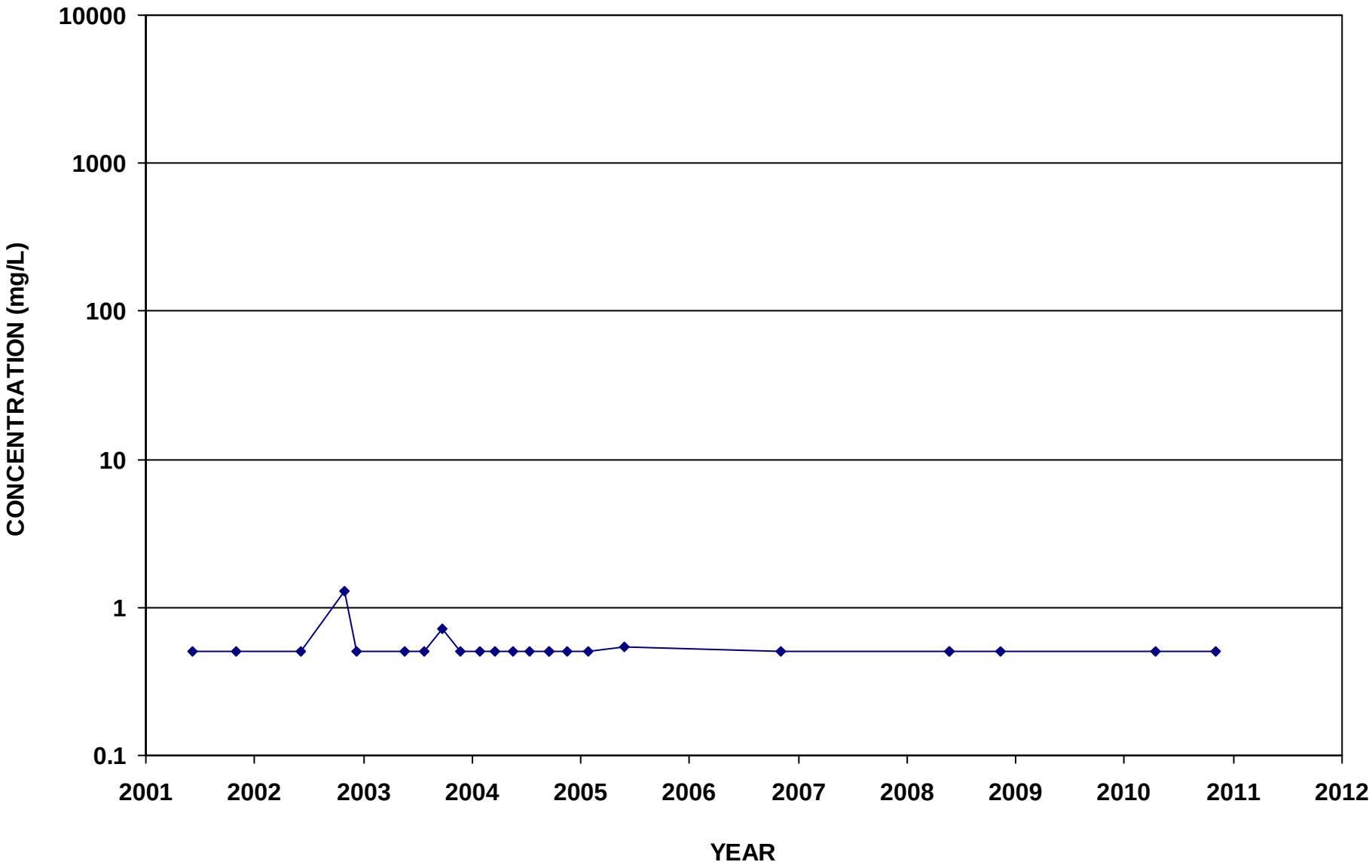
2012
YEAR

ECMW-12
Ammonia-N

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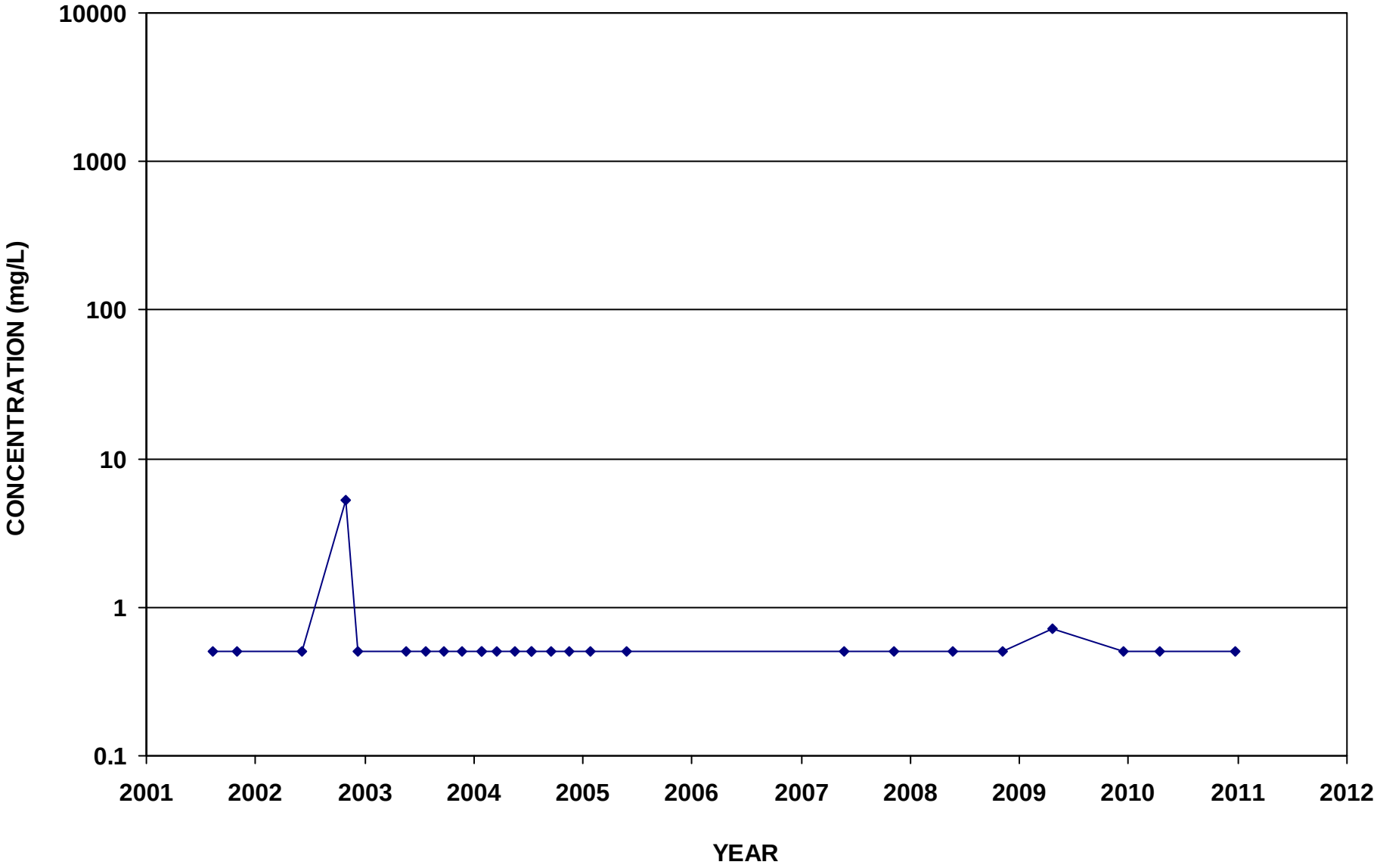
2012
YEAR

ECMW-14
Ammonia-N



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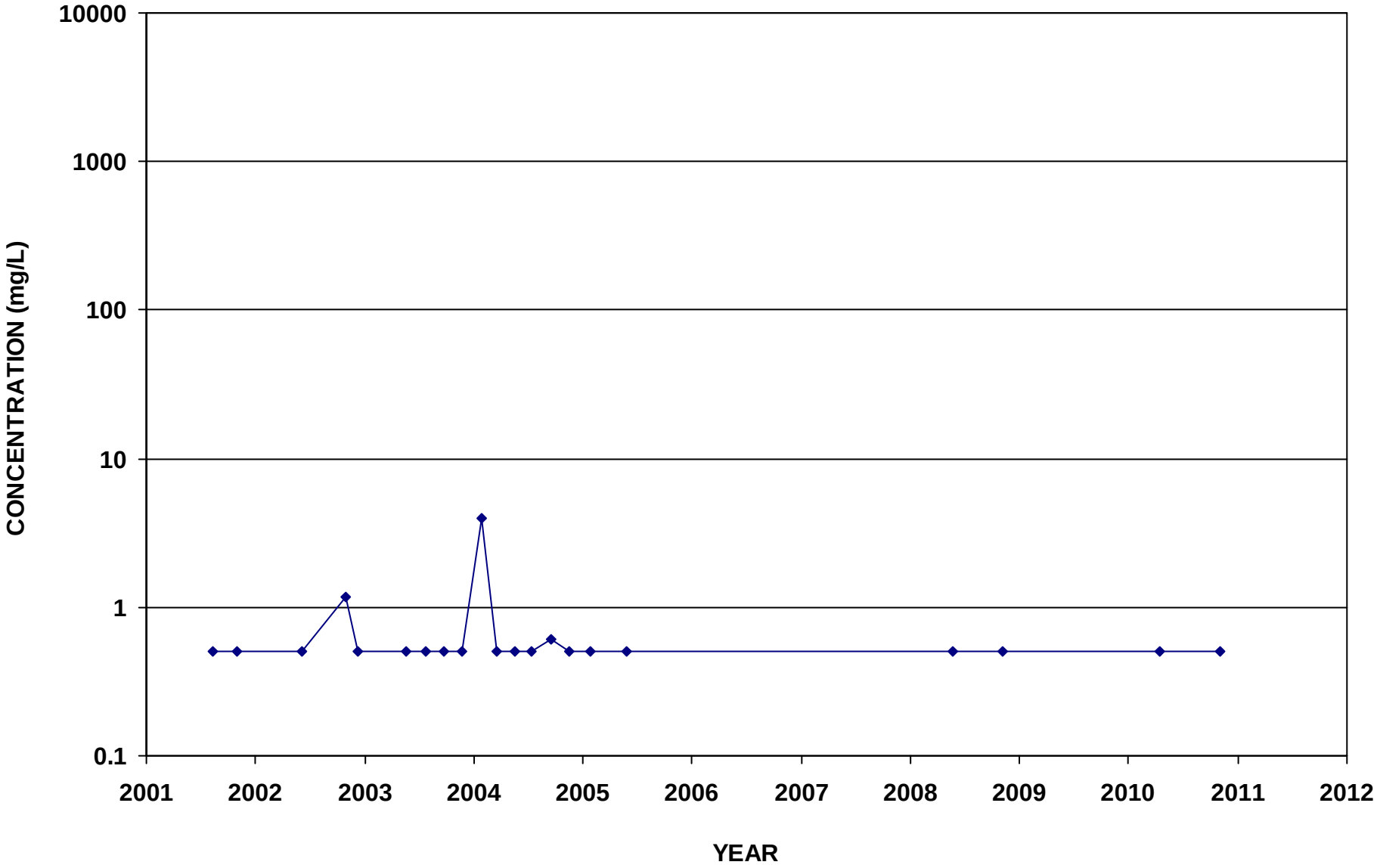

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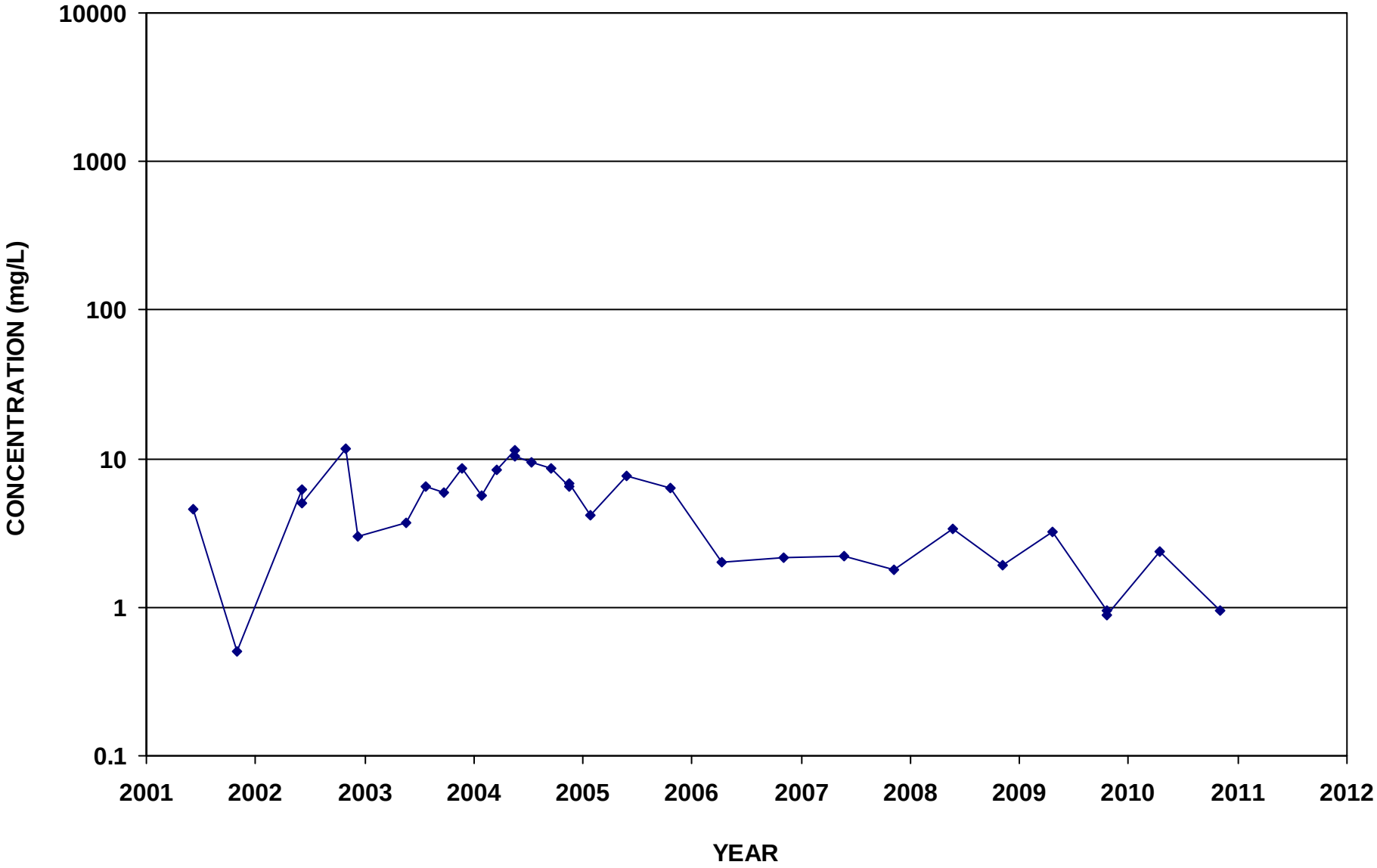

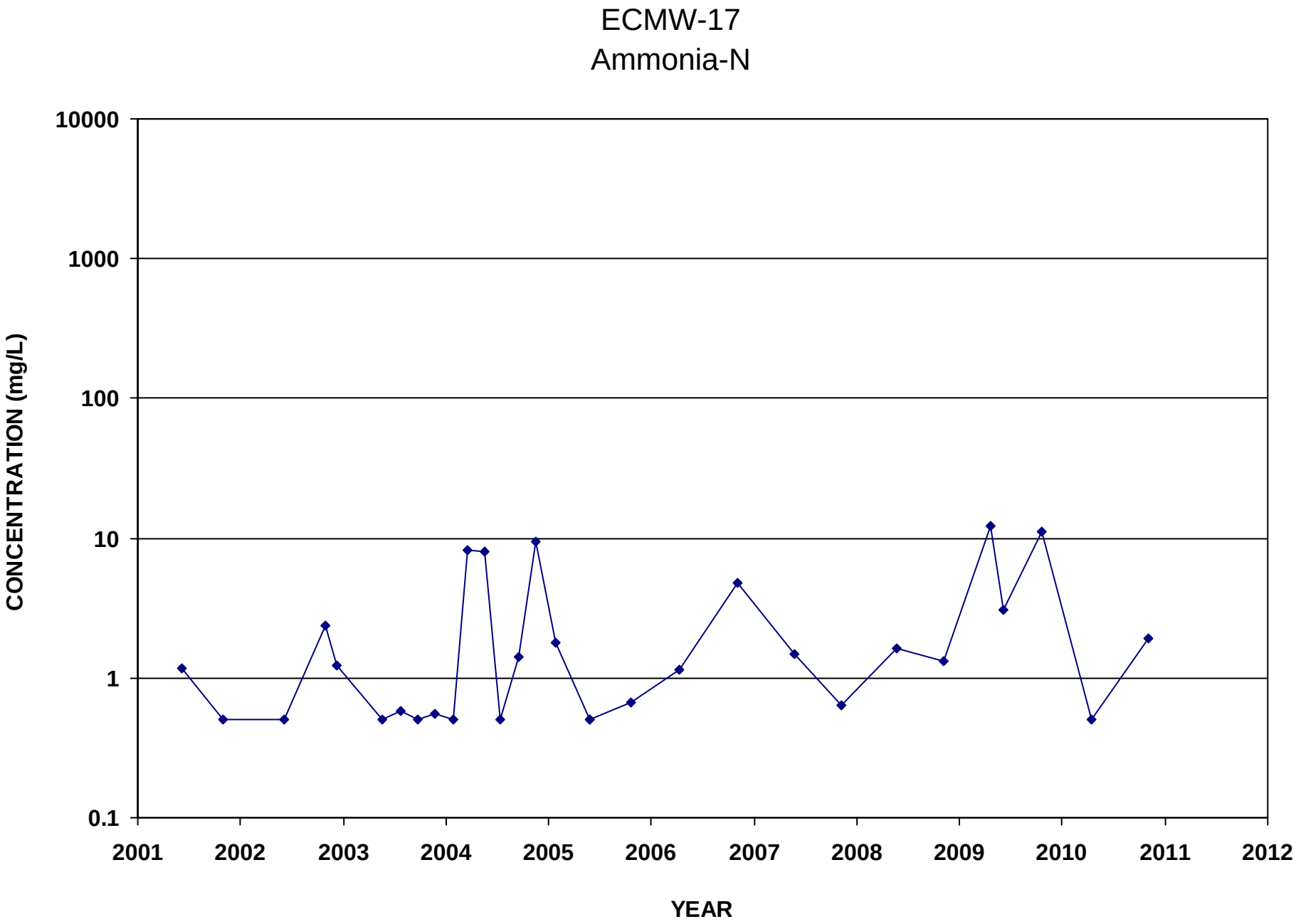
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CONCENTRATION (mg/L)
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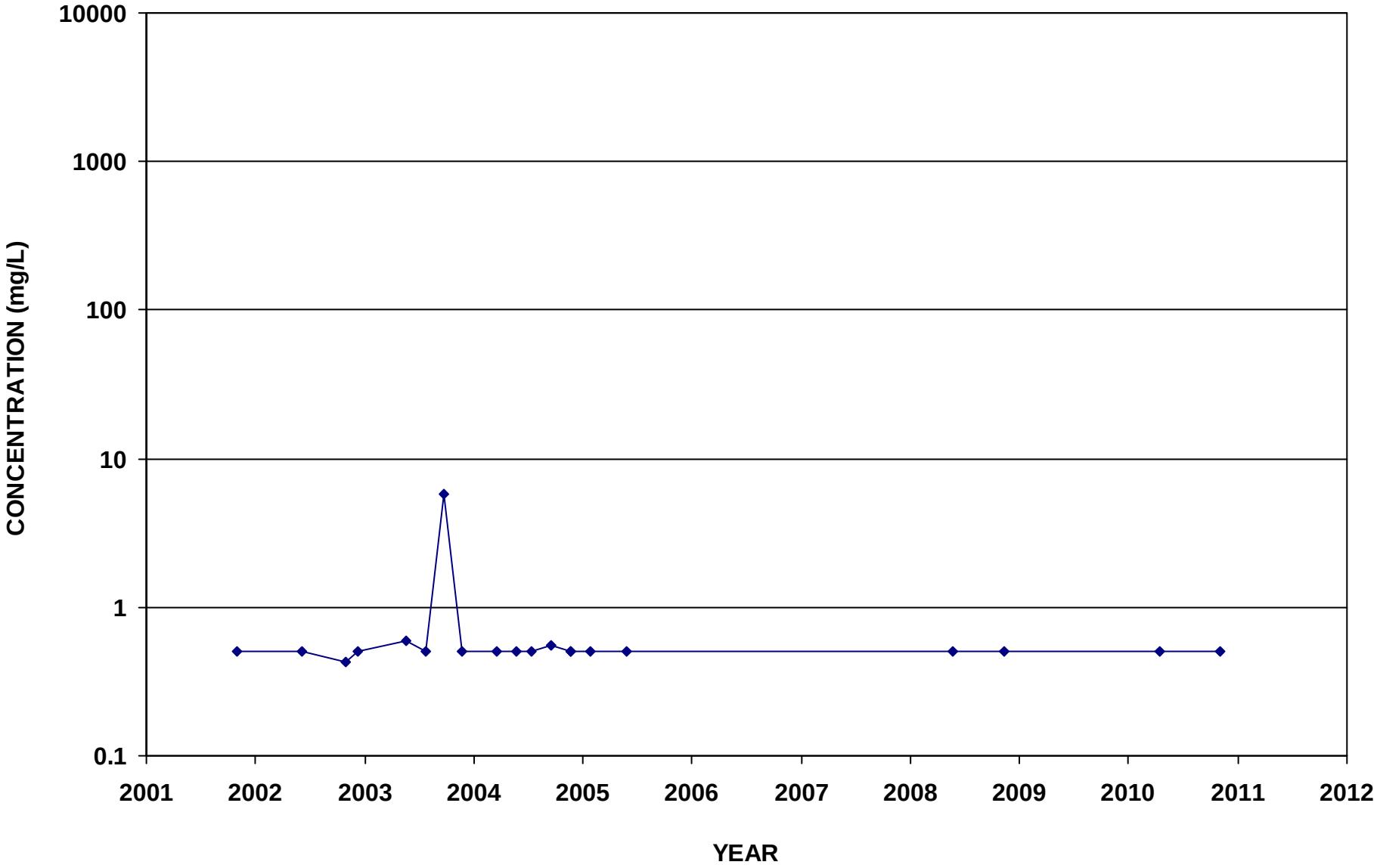
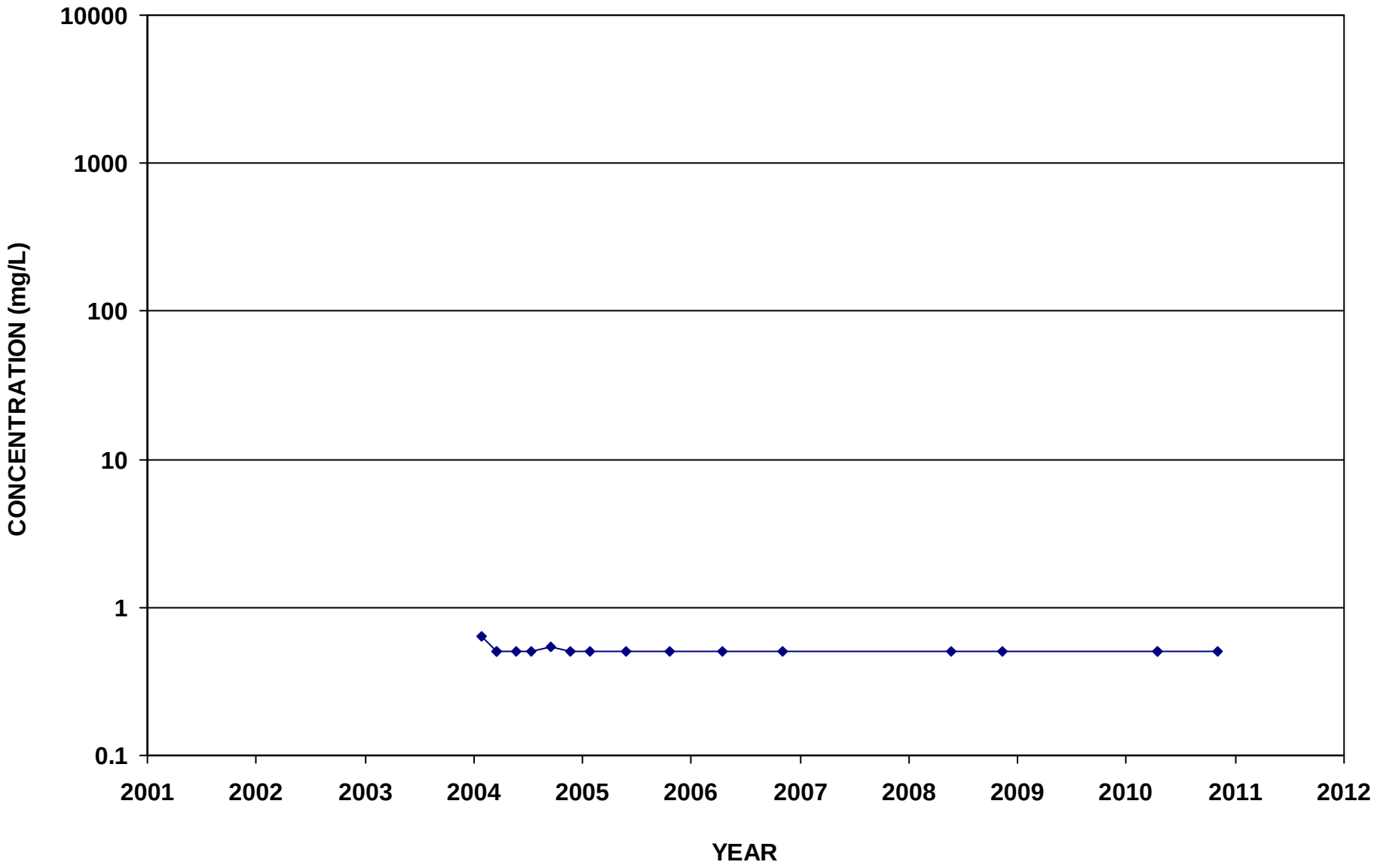
2012
YEAR

ECMW-18
Ammonia-N

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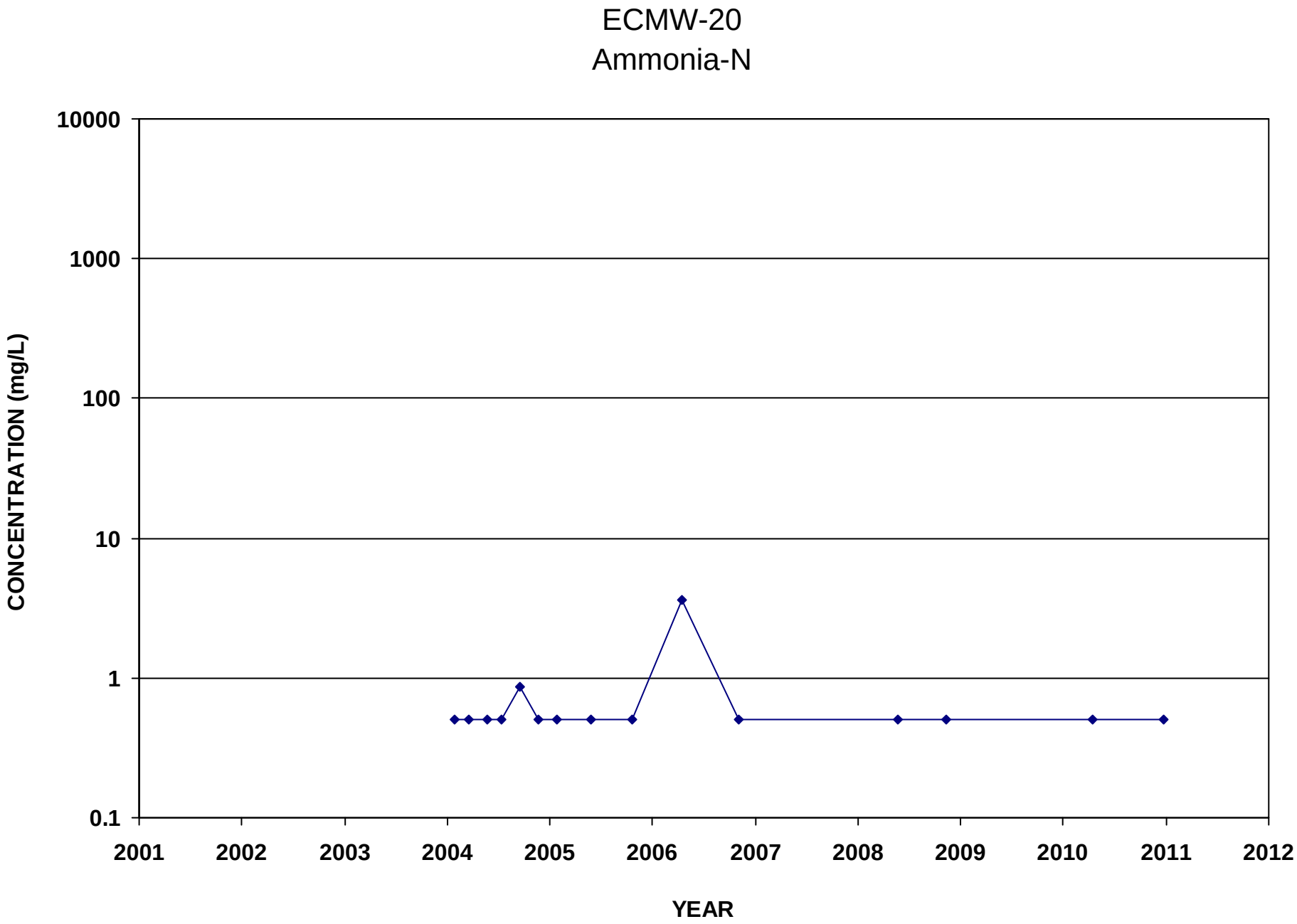
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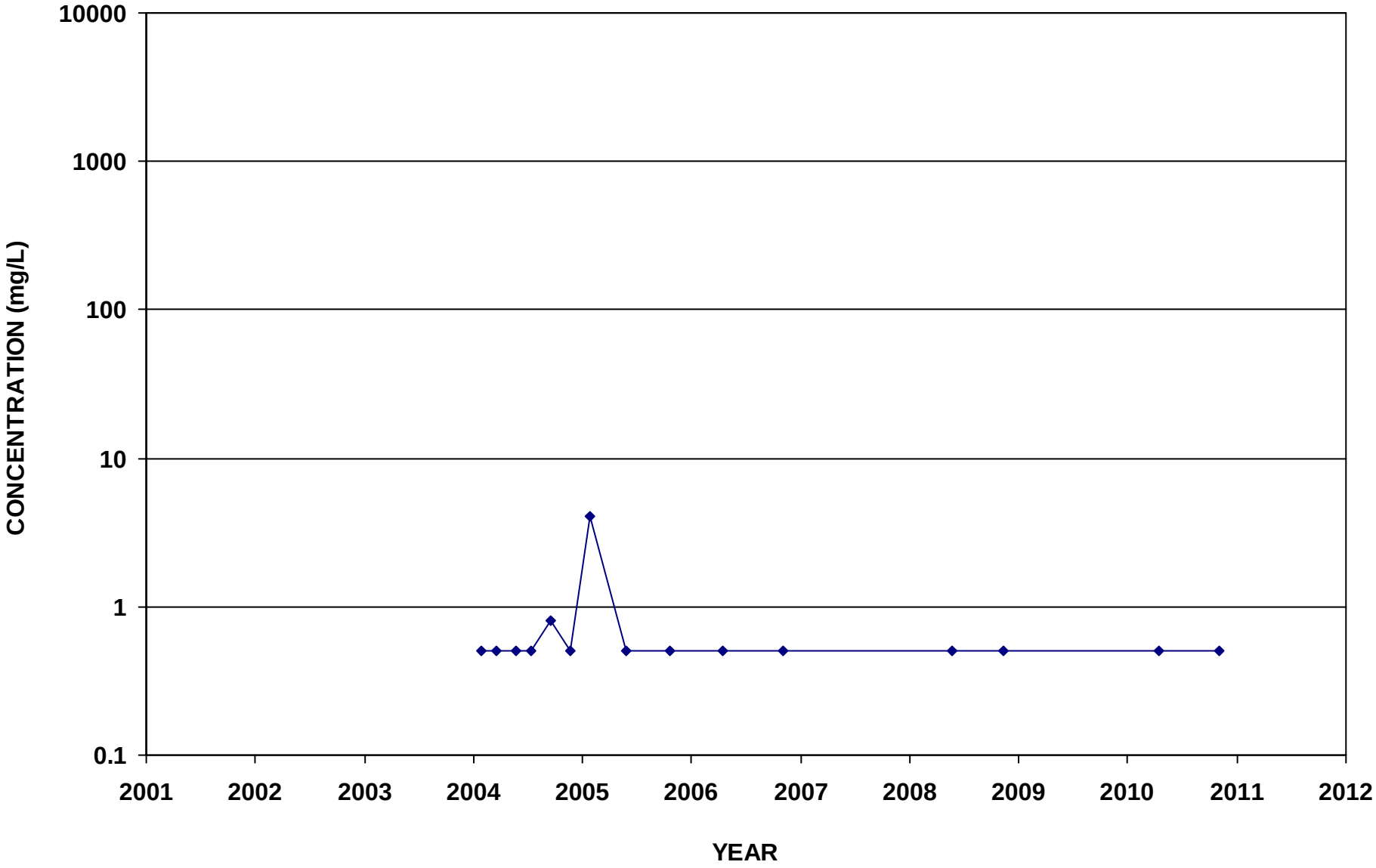
YEAR

ECMW-21
Ammonia-N



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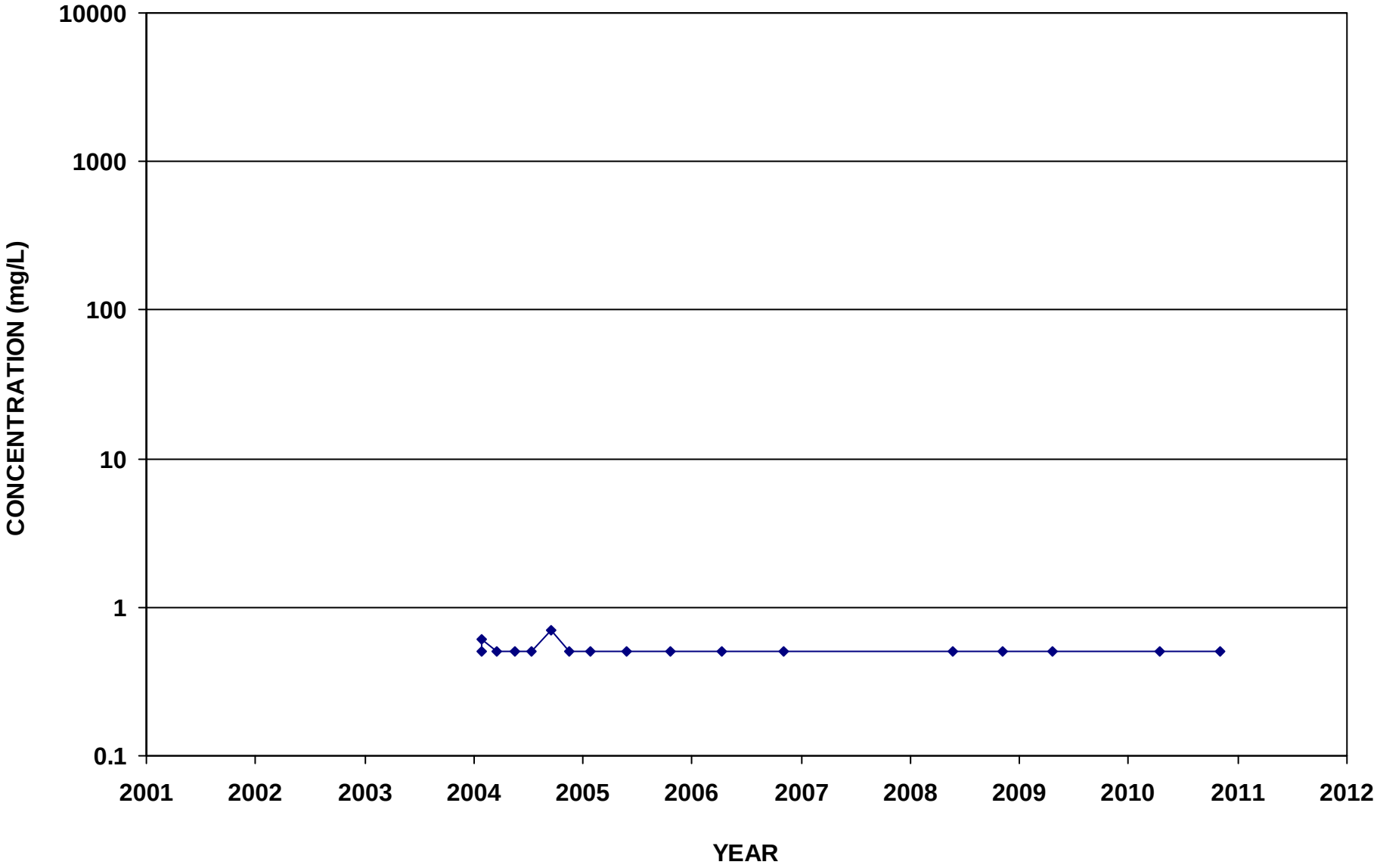
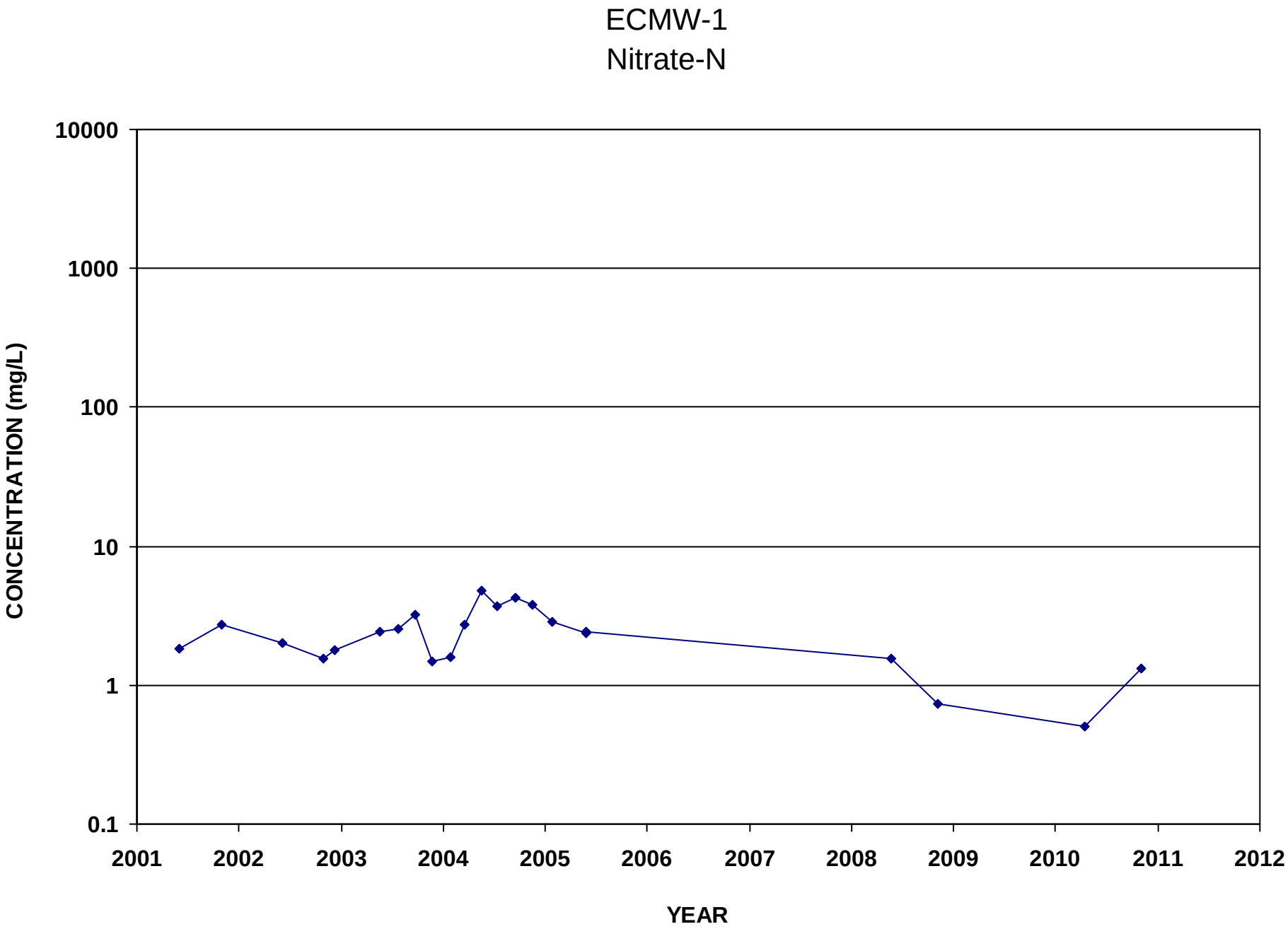
Ammonia-N

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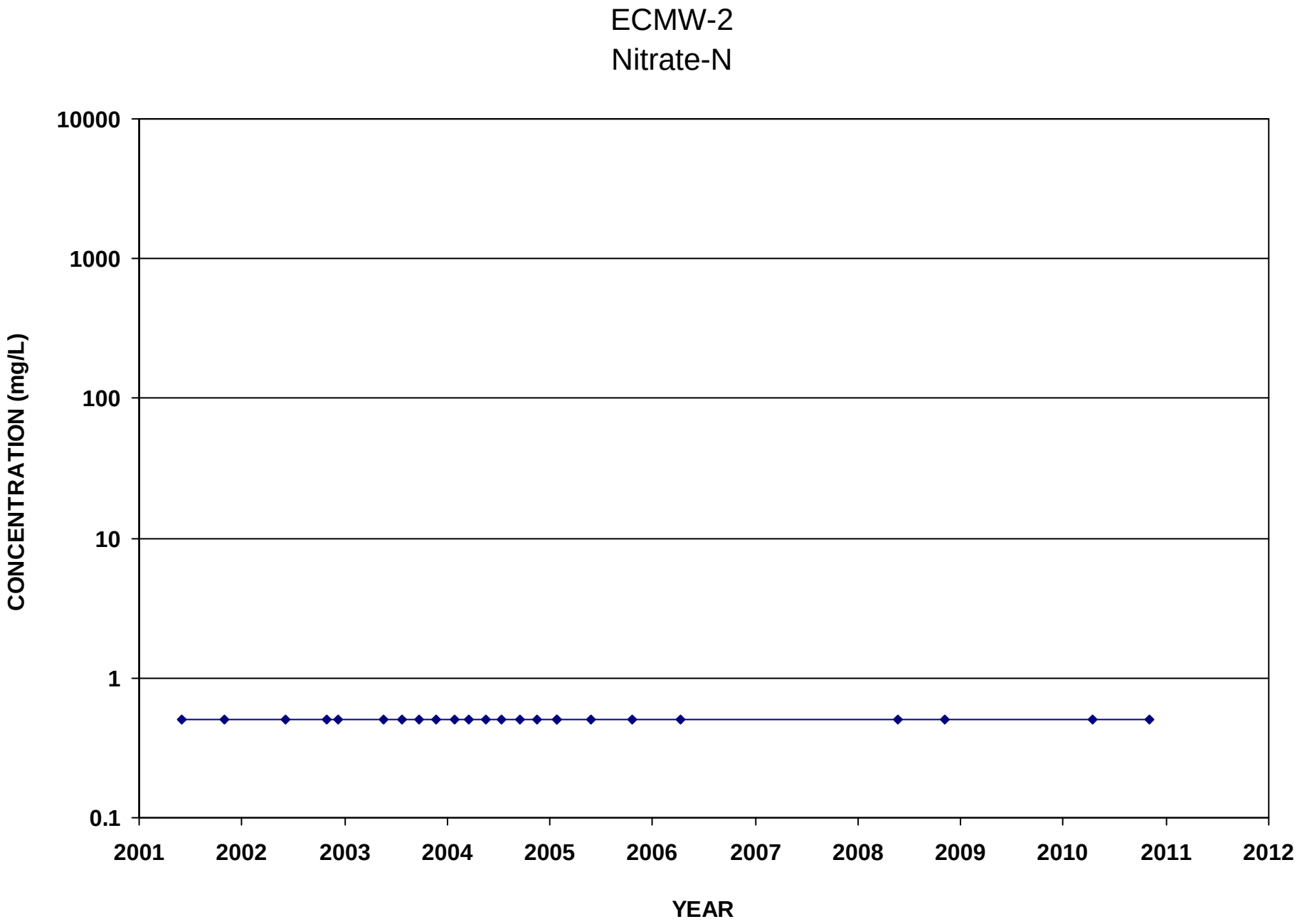
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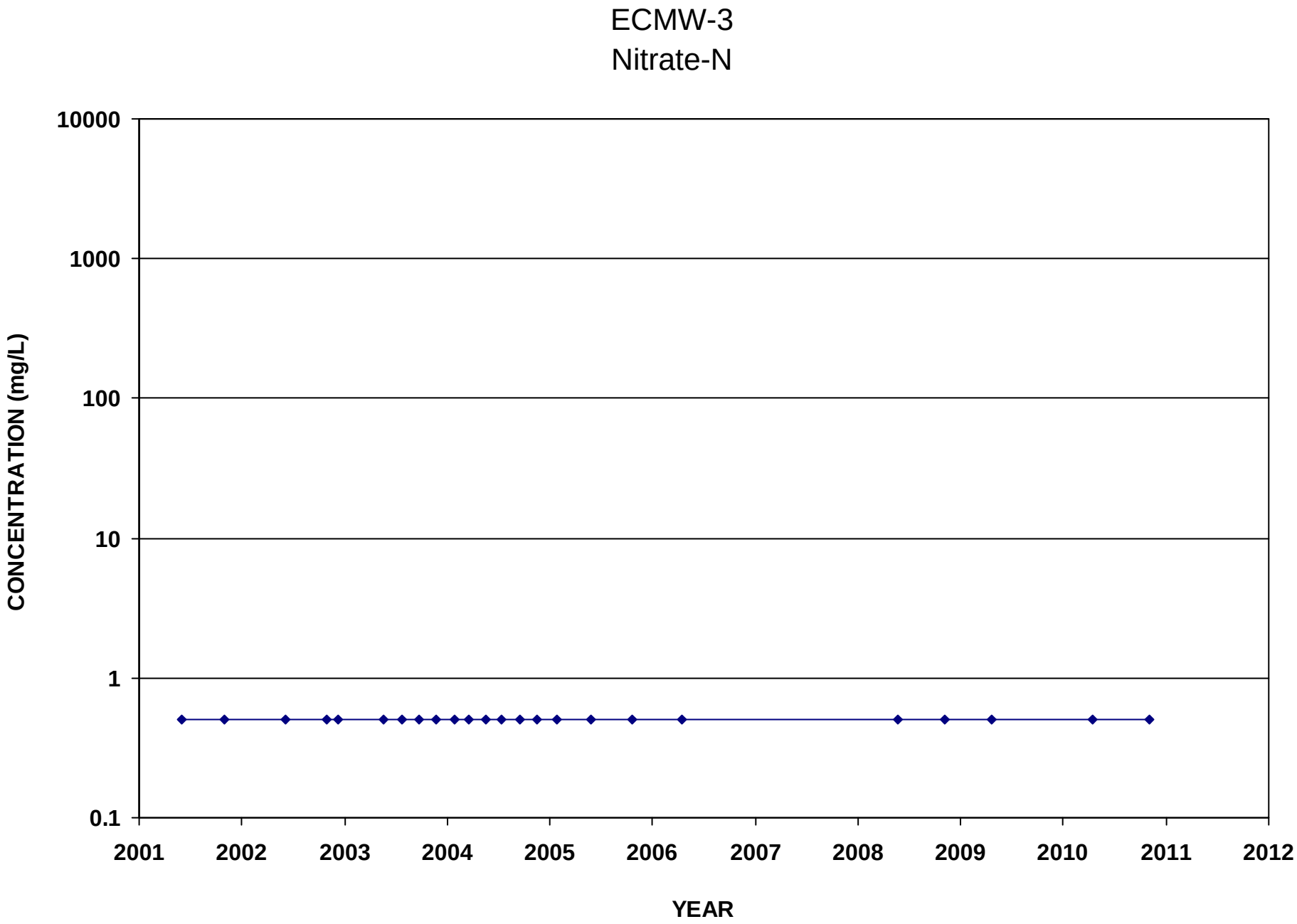
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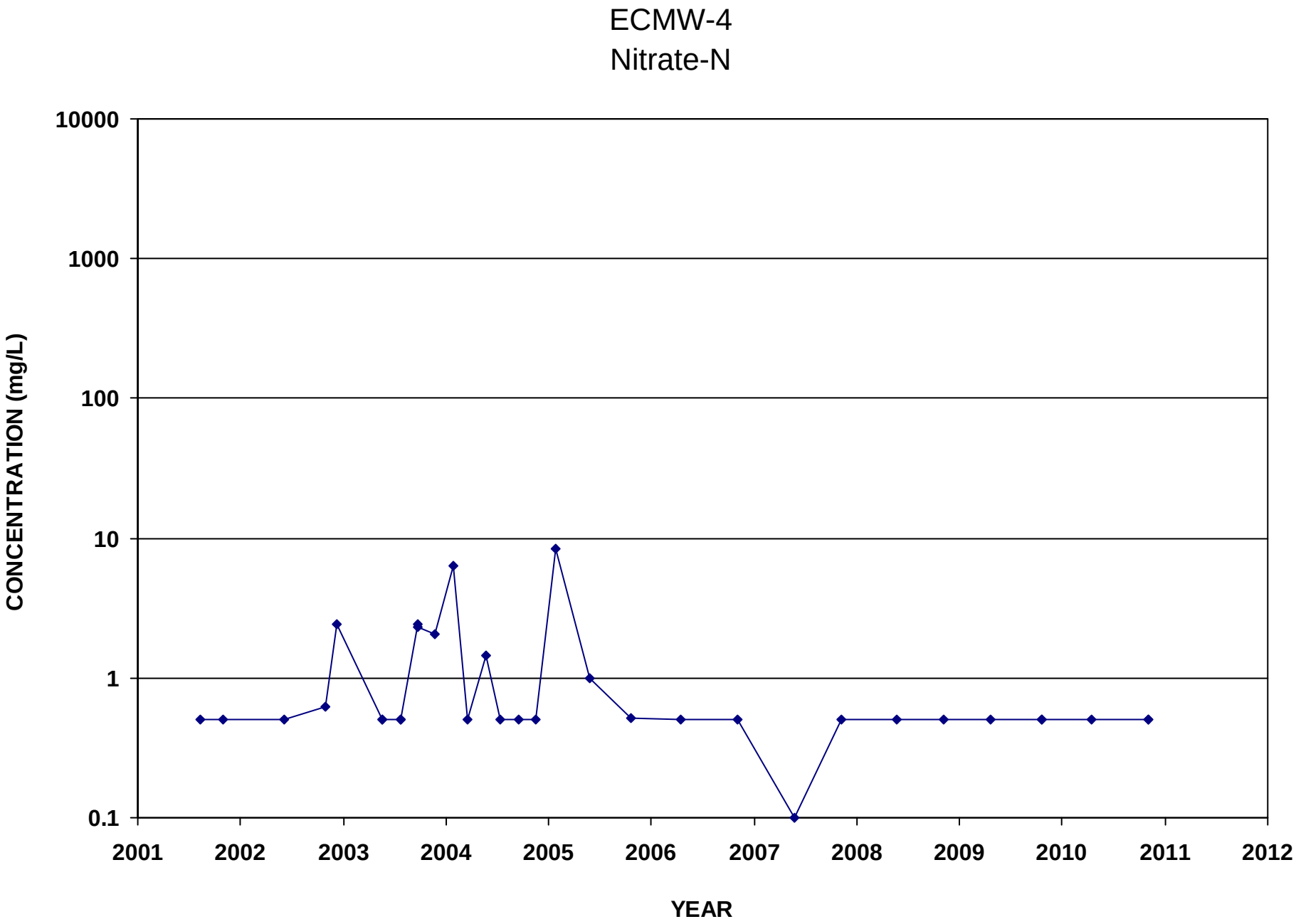
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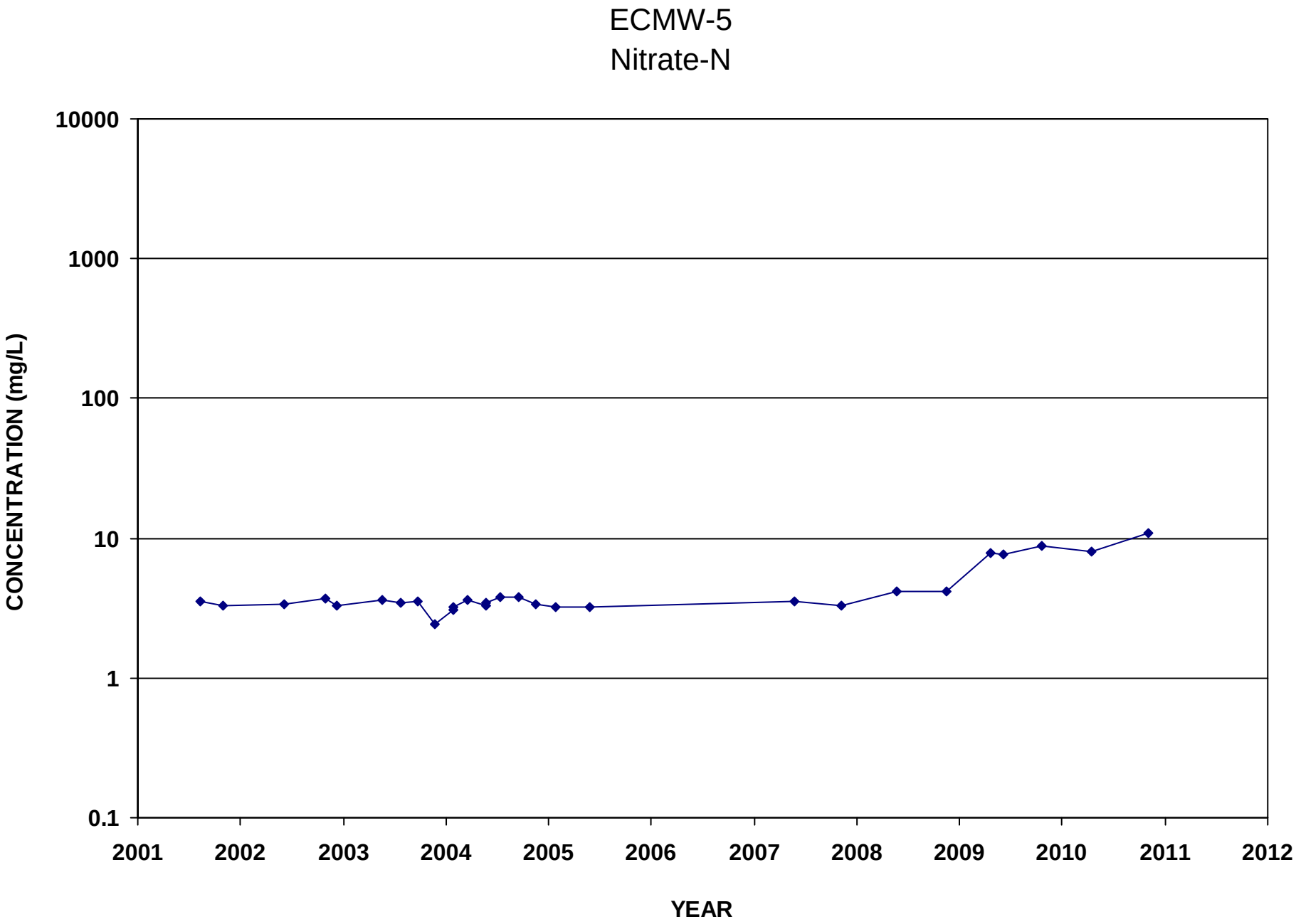
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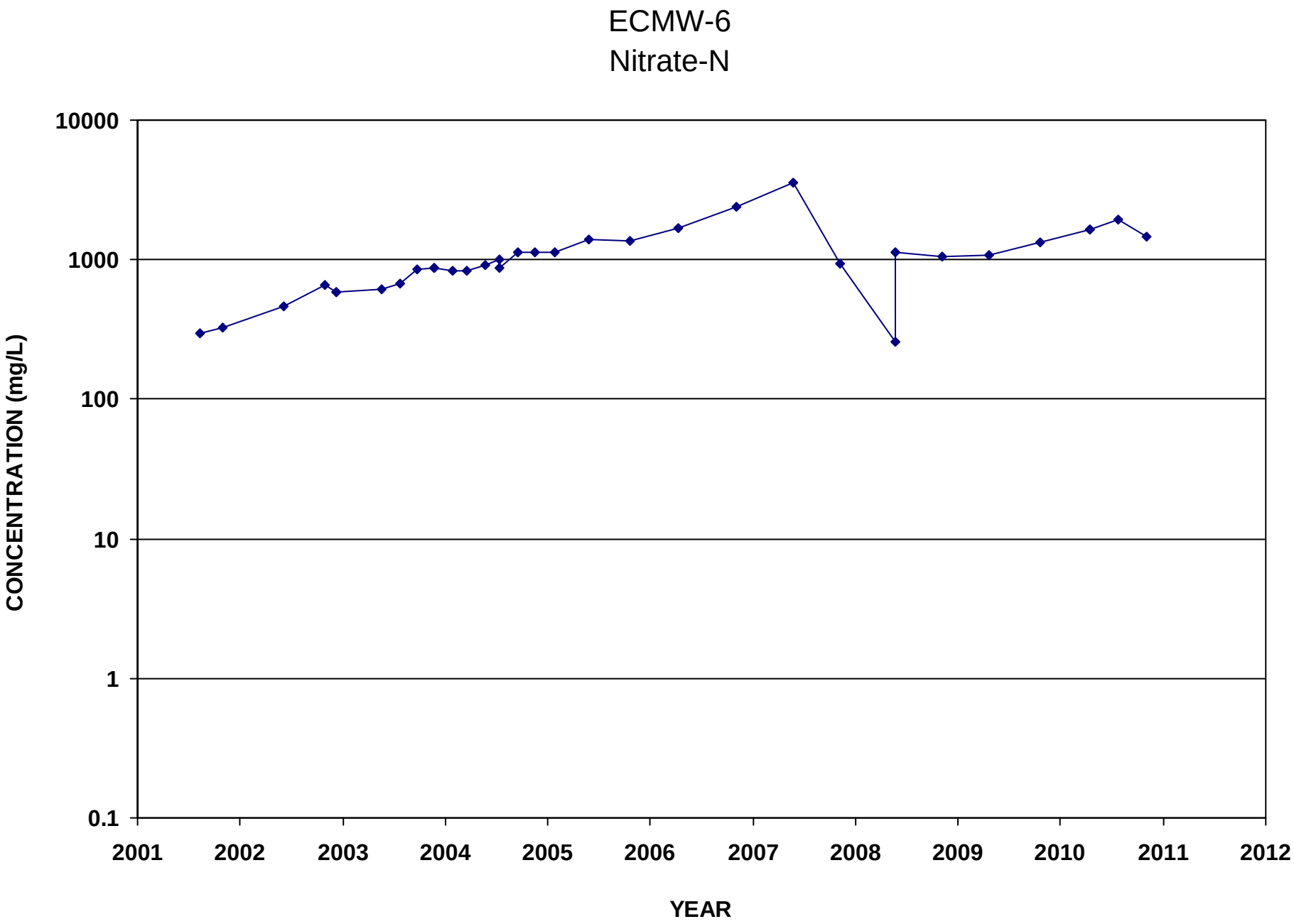
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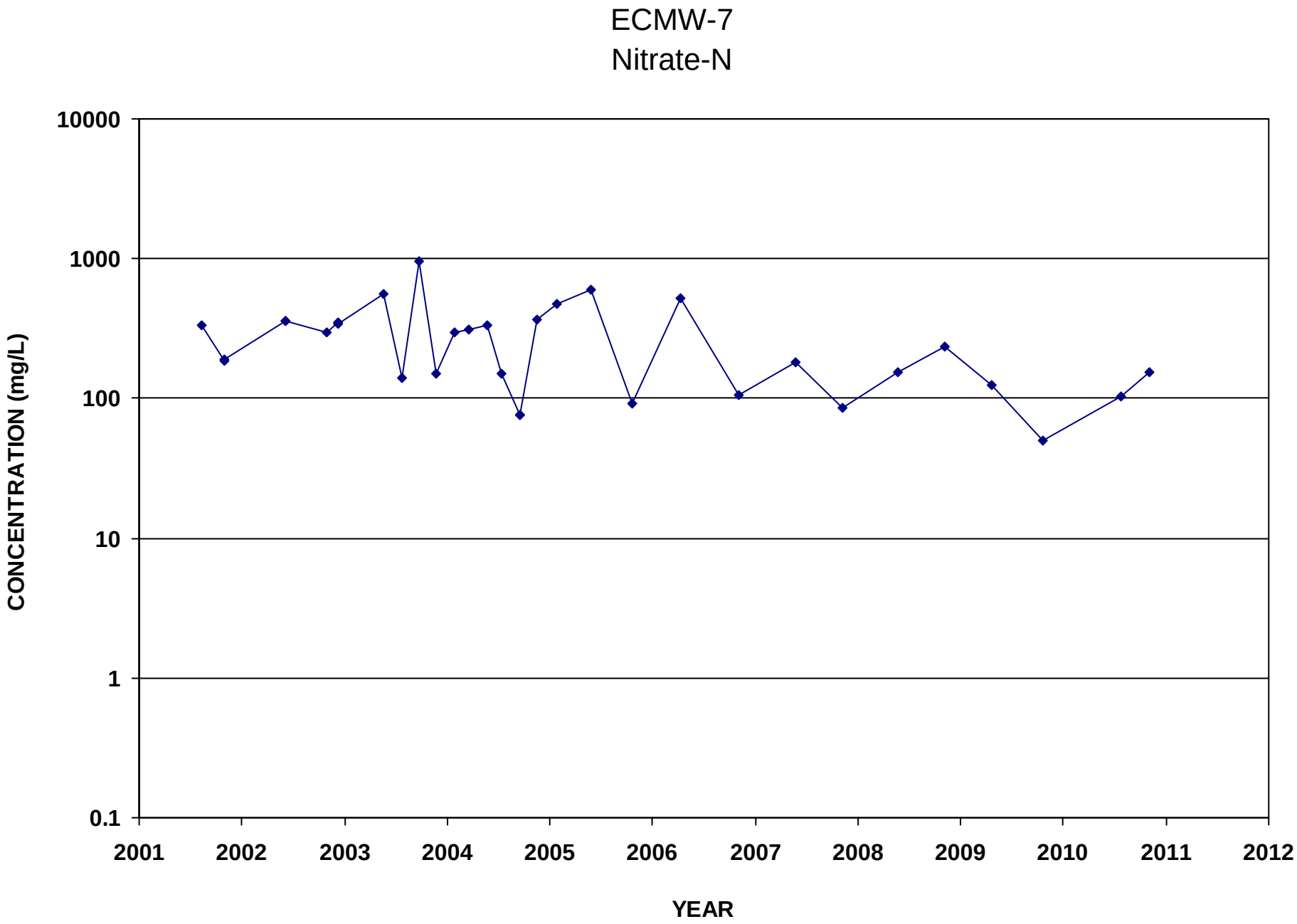
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CONCENTRATION (mg/L)
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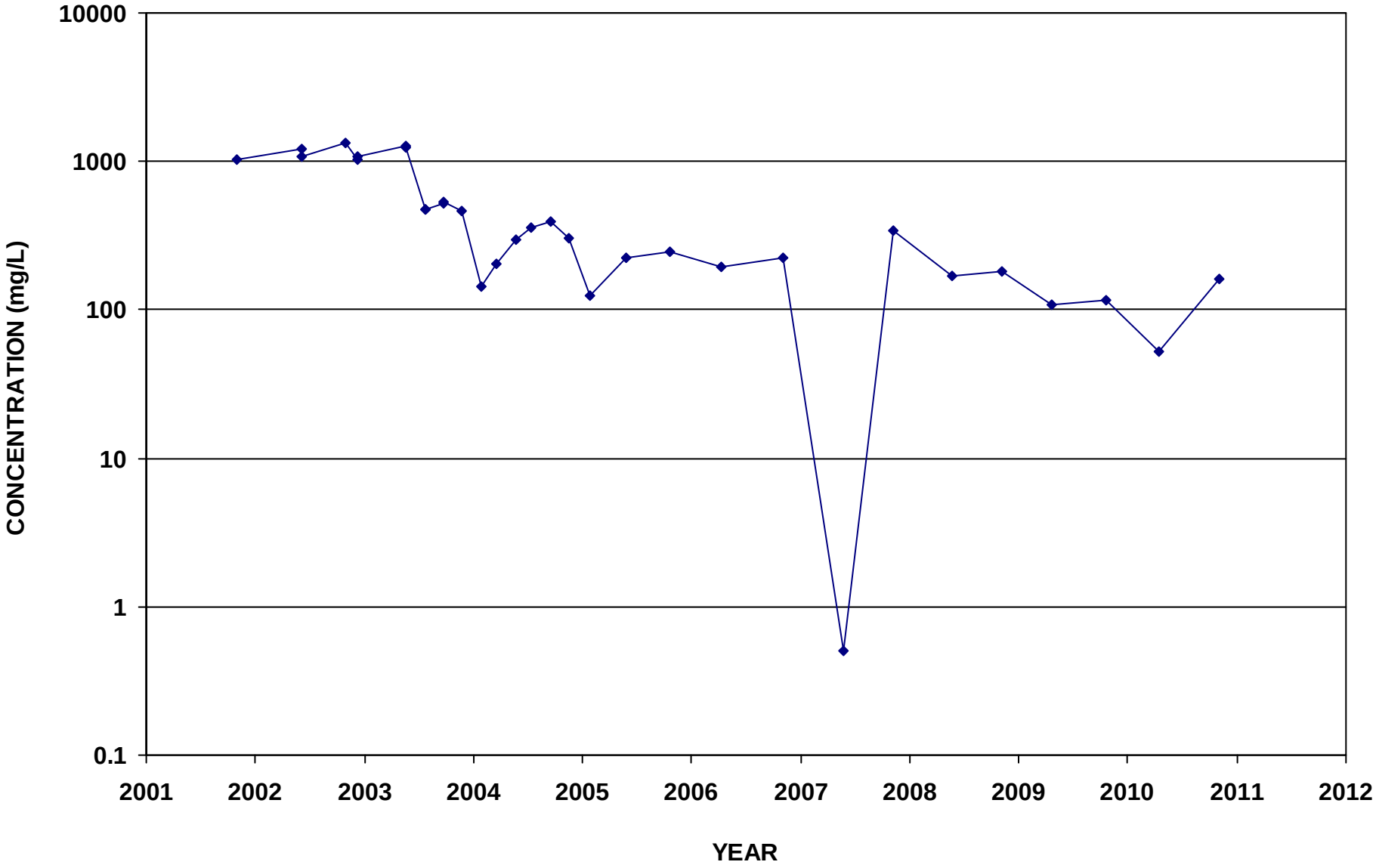
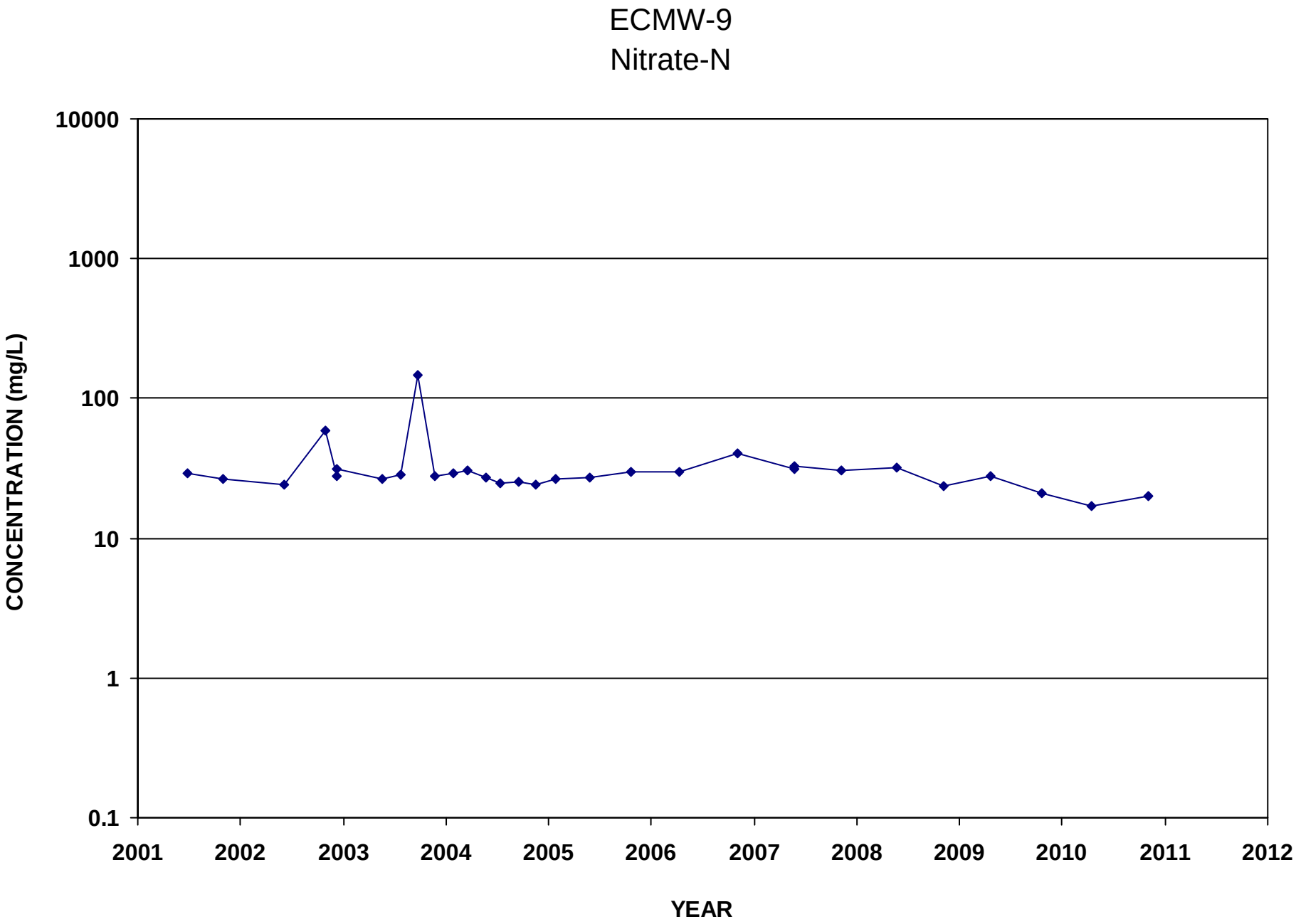
2012
YEAR

ECMW-8
Nitrate-N

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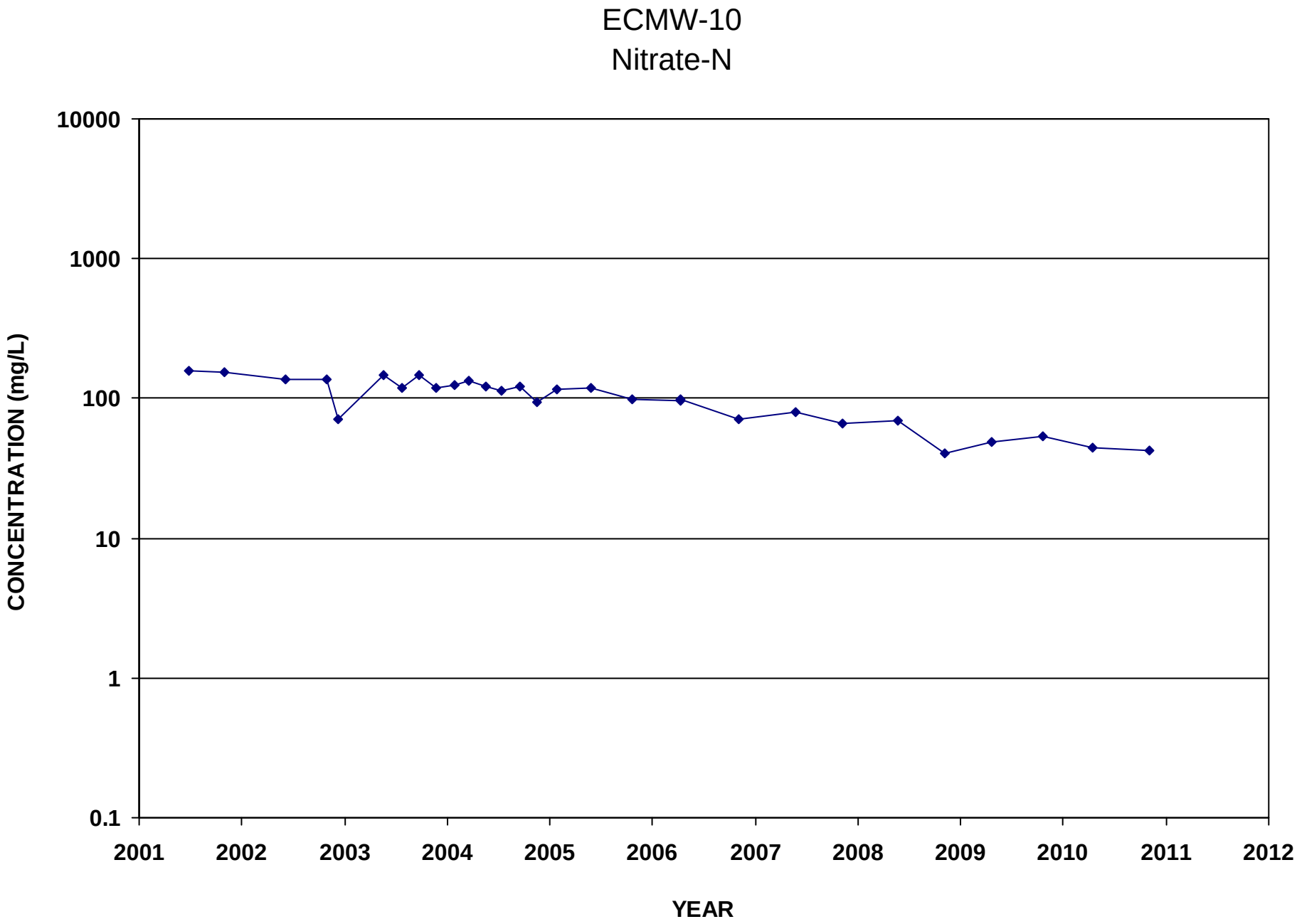
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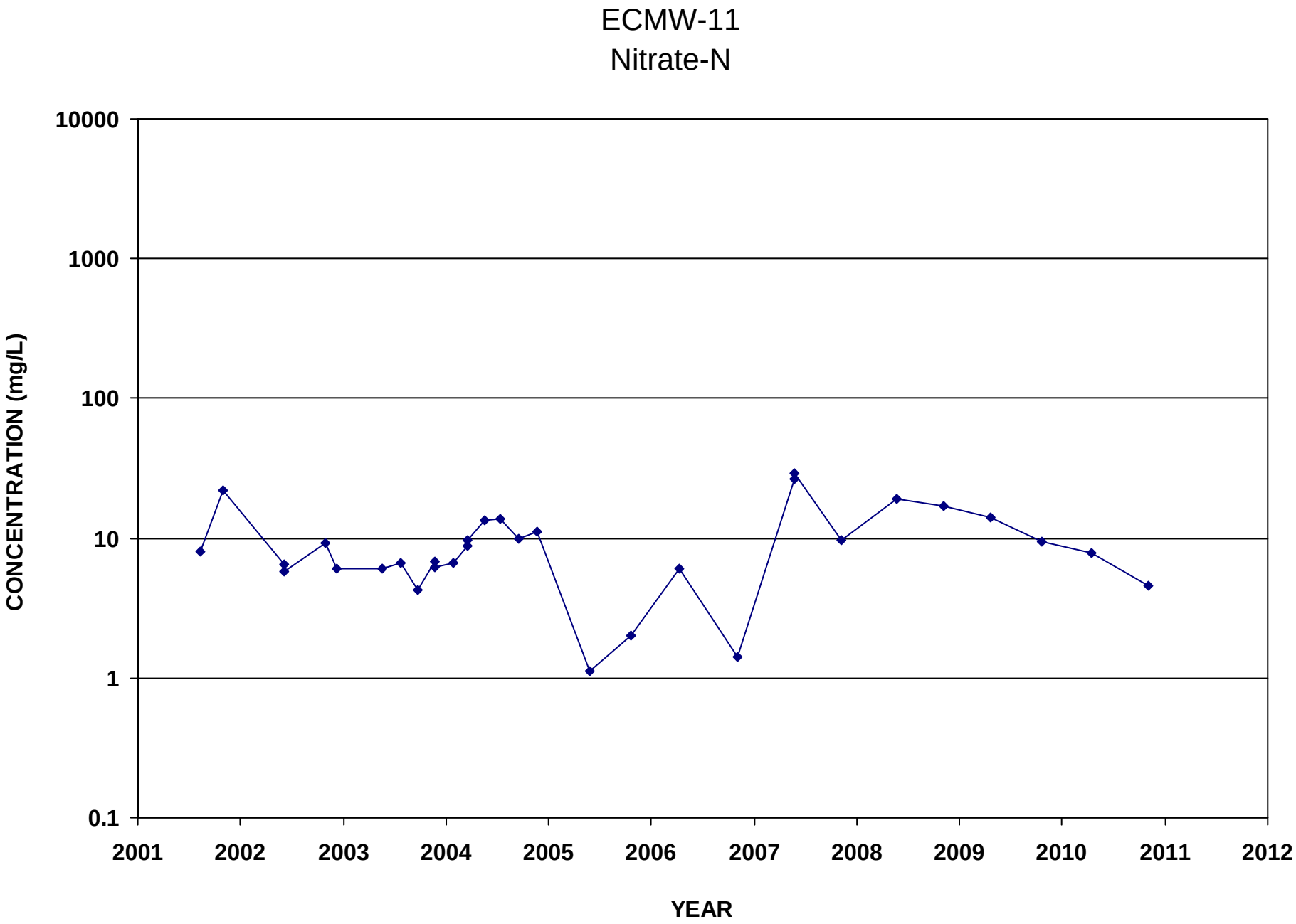
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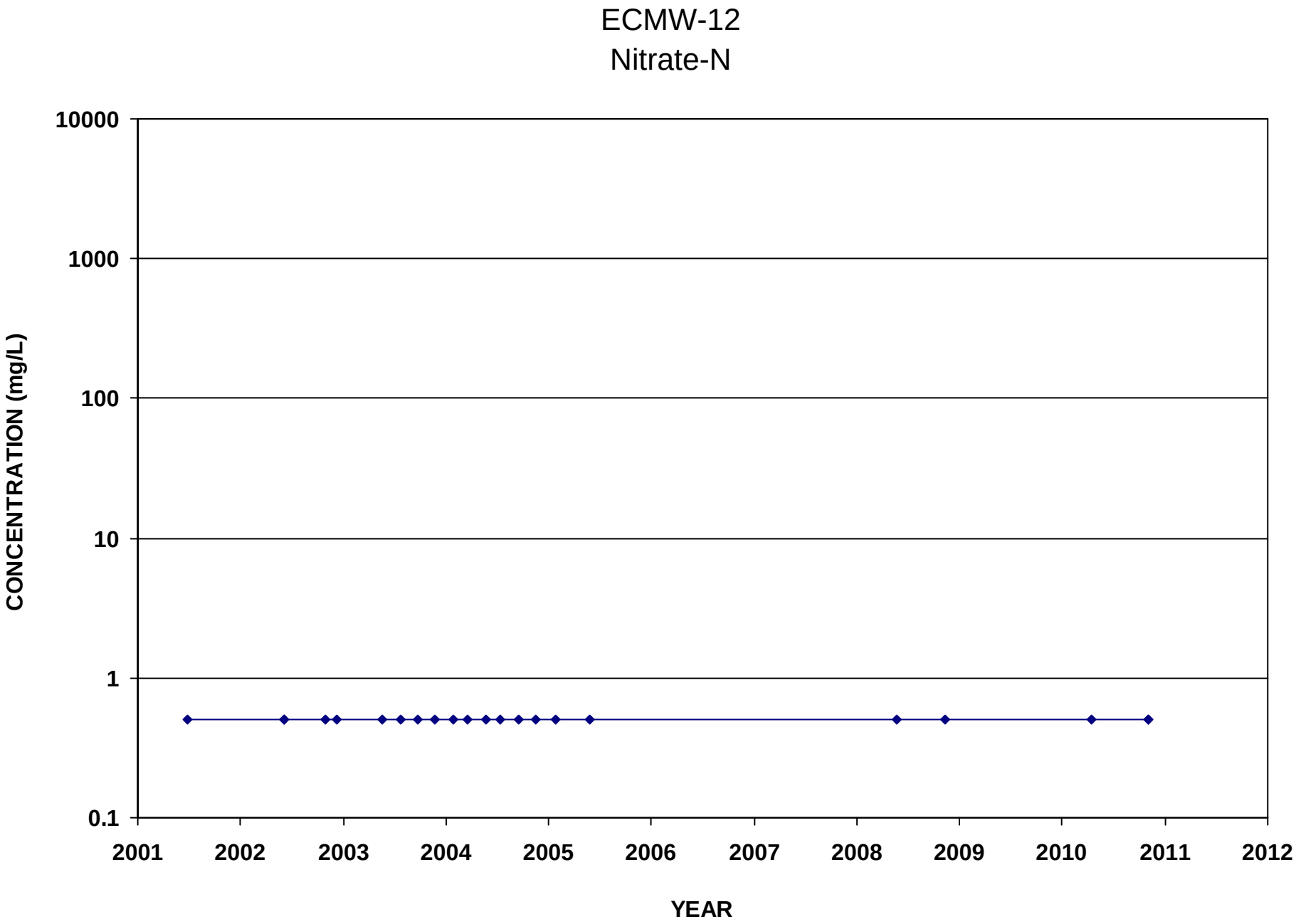
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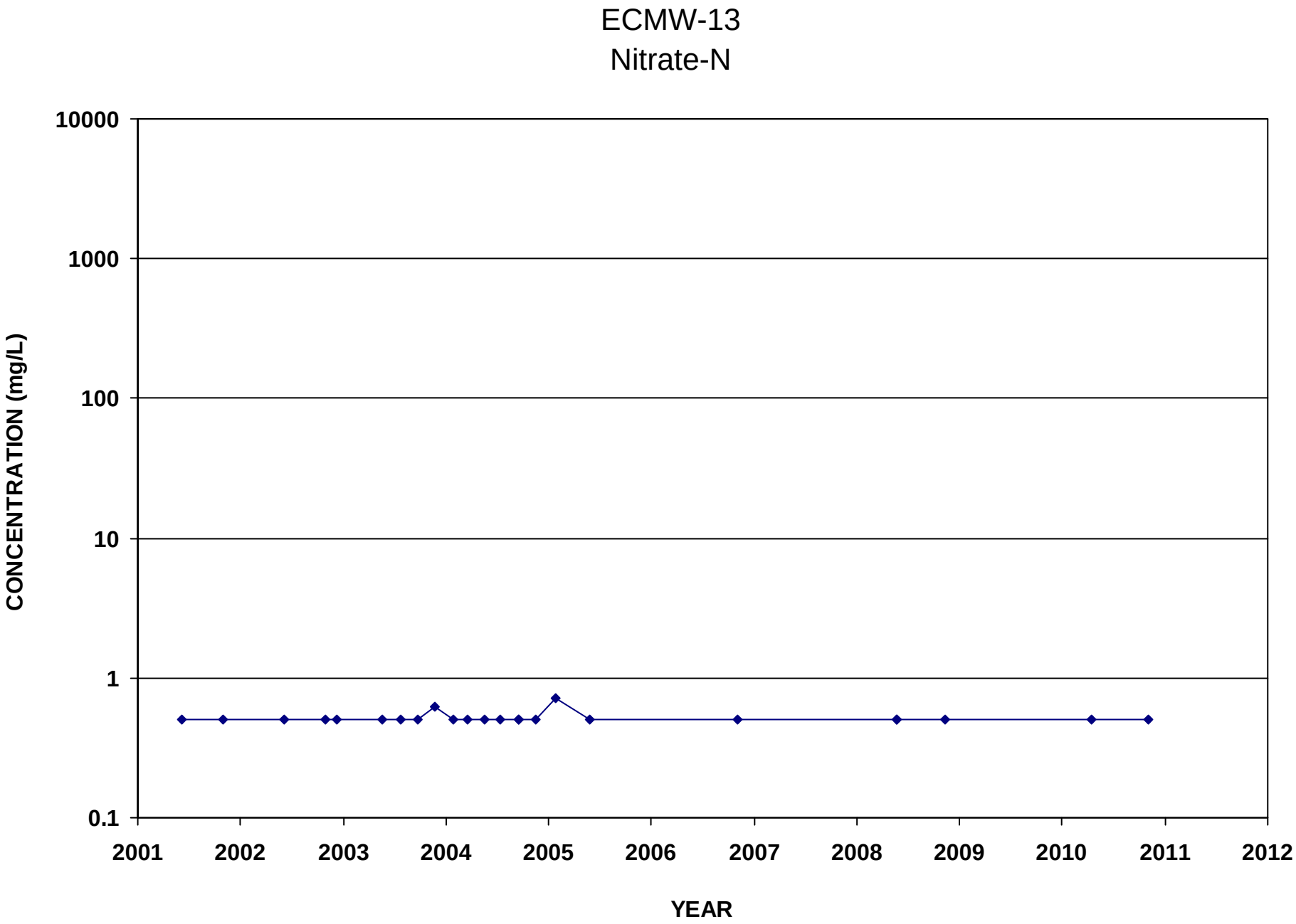
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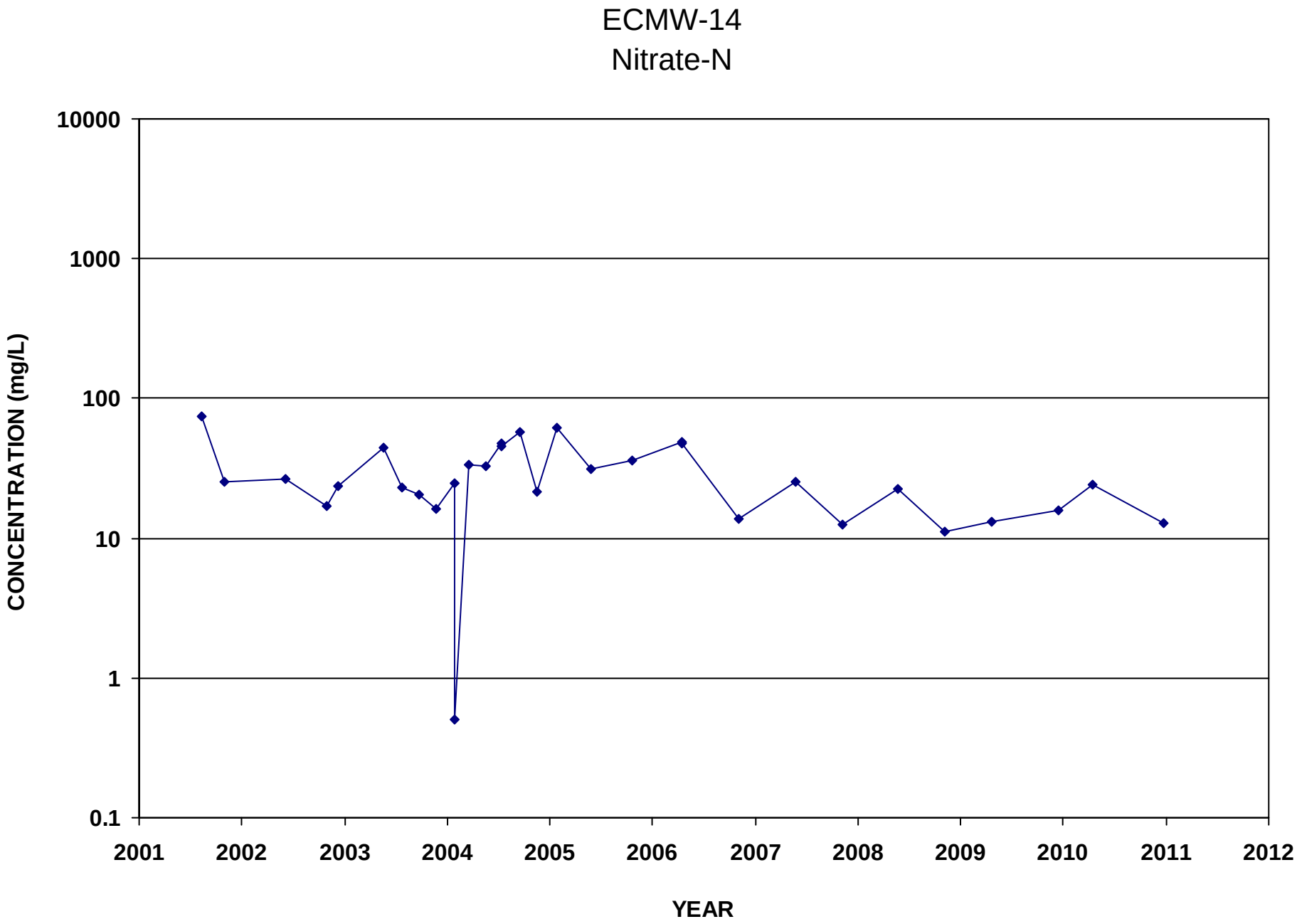
YEAR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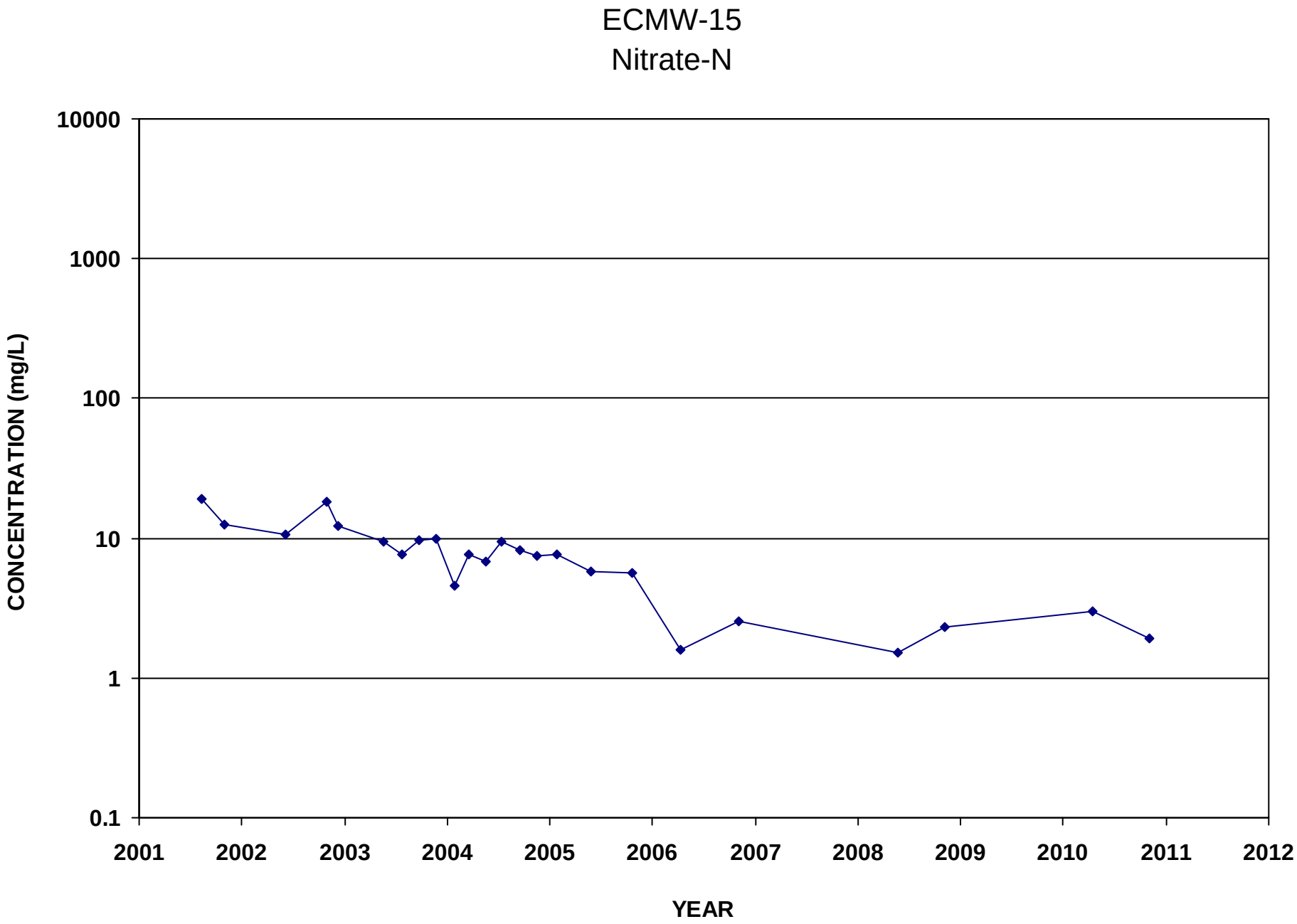
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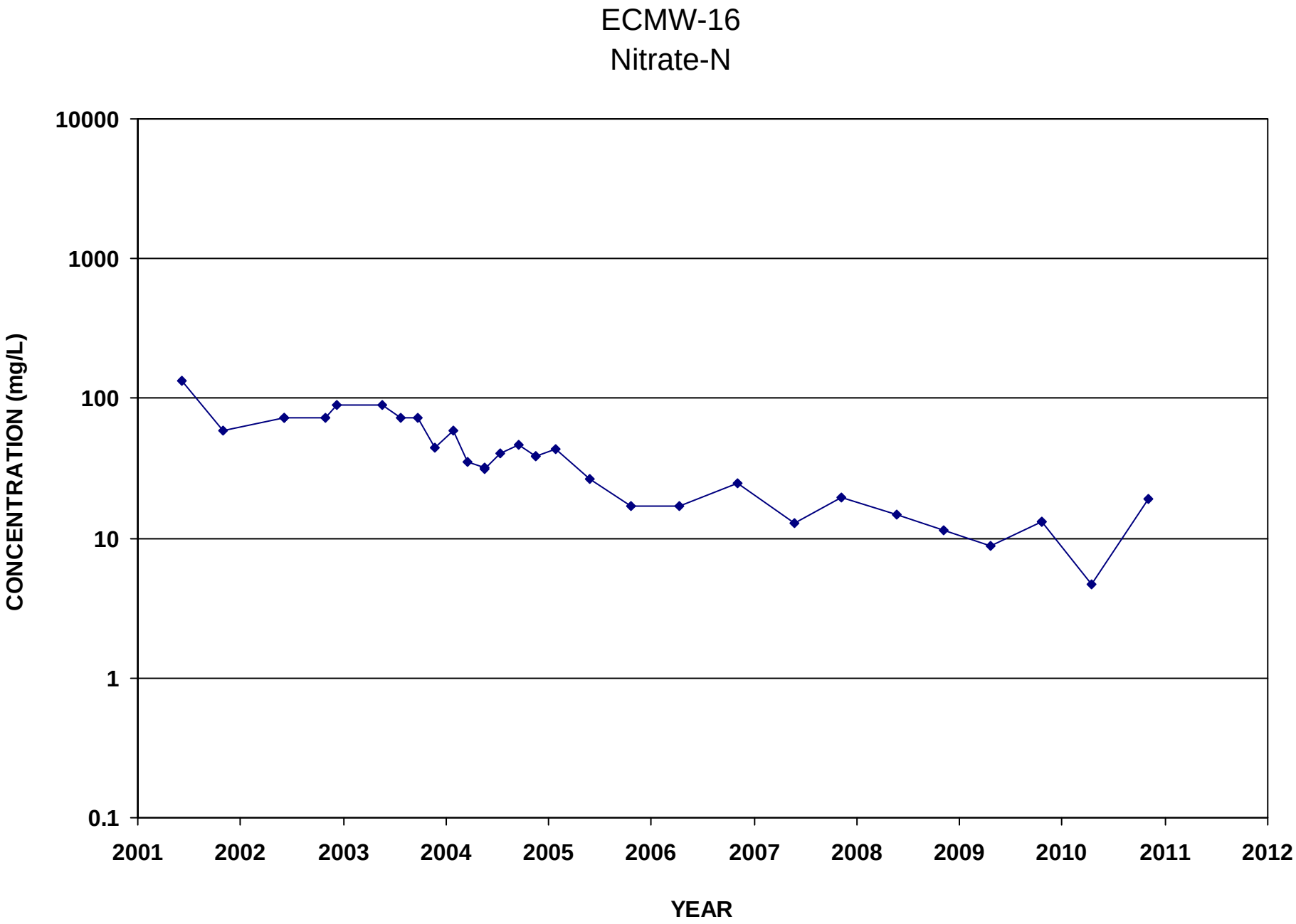
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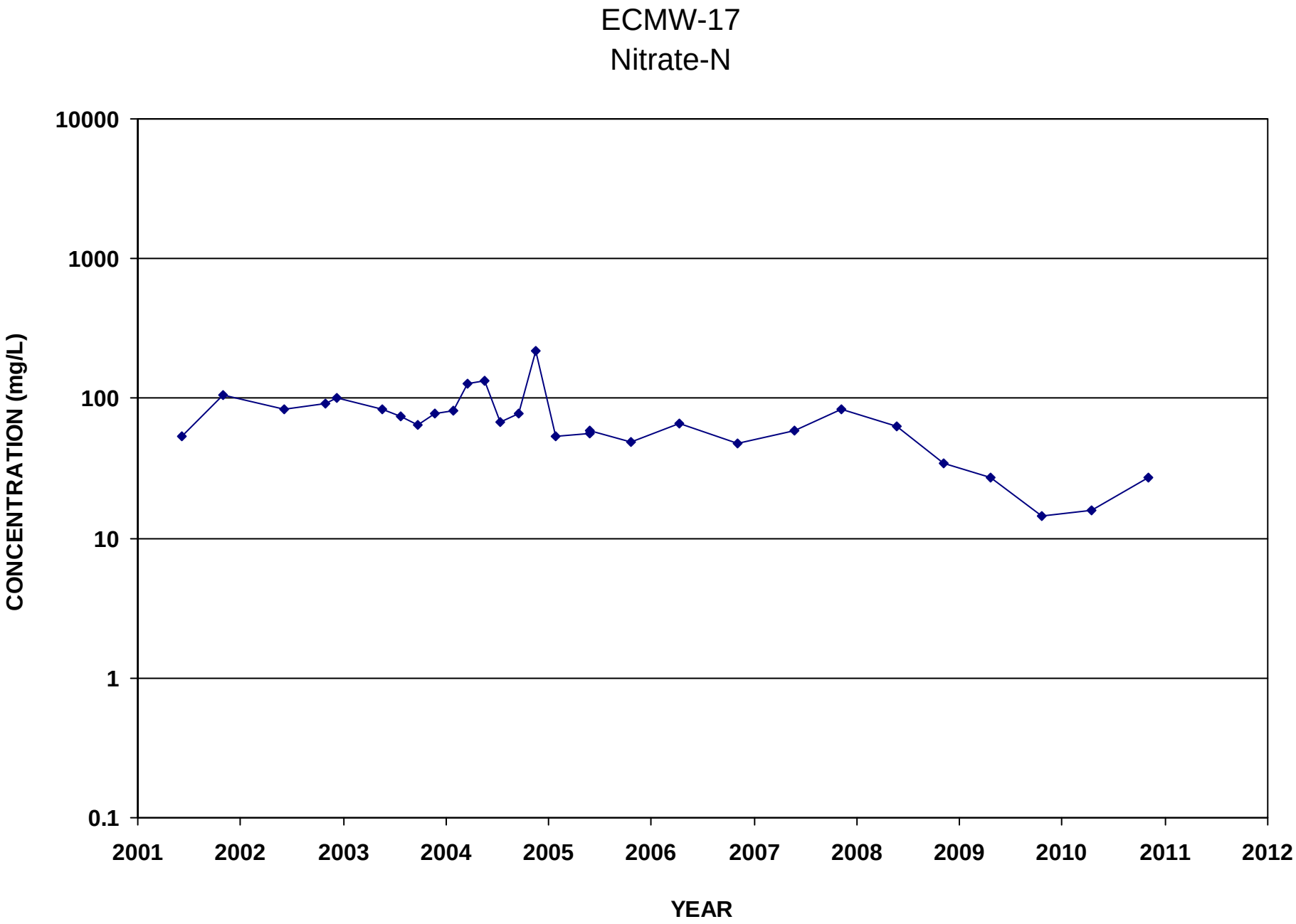
CONCENTRATION (mg/L)
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
YEAR


ECMW-17
Nitrate-N
10000
1000
100
10
1
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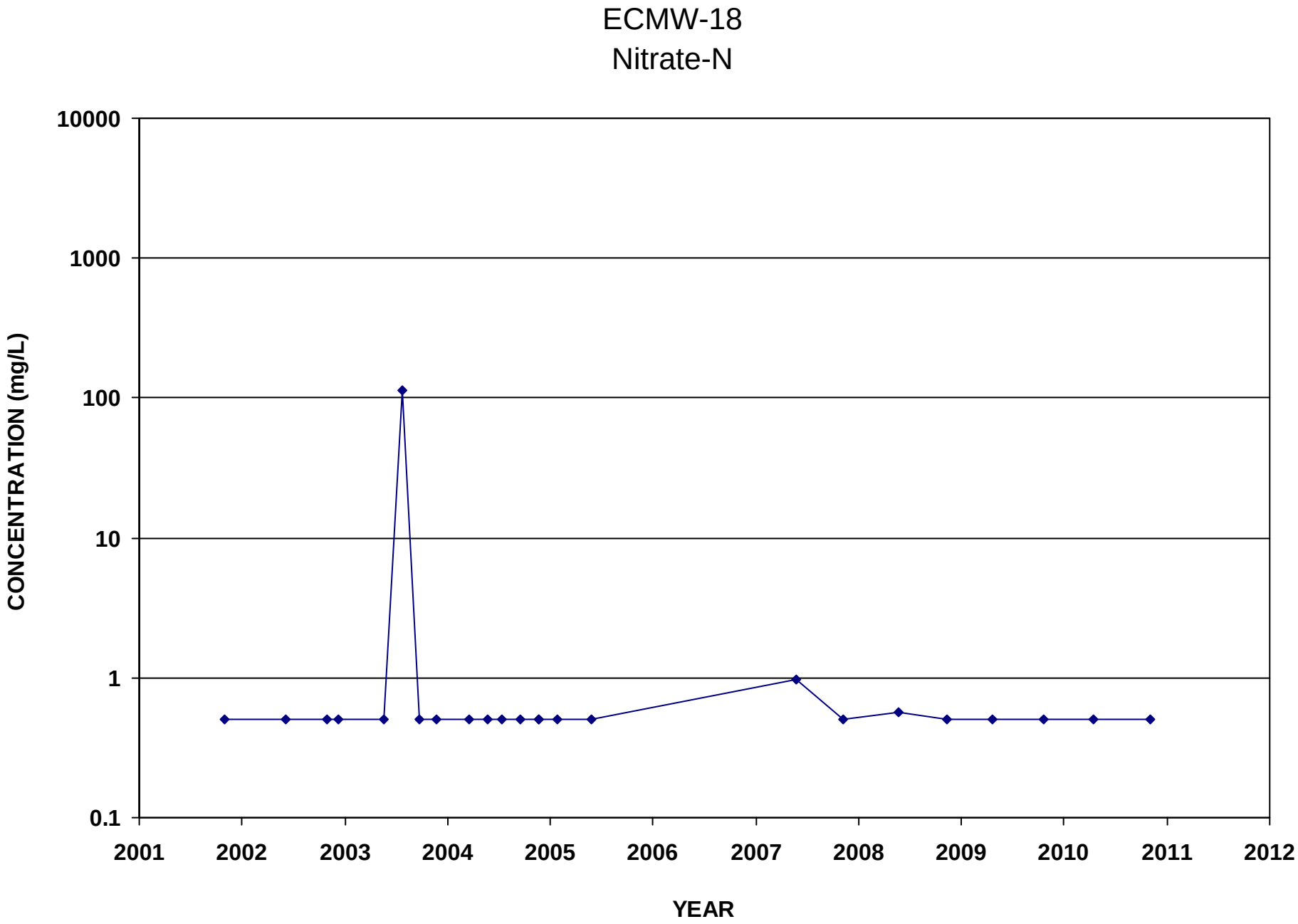
CONCENTRATION (mg/L)
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
YEAR


ECMW-18
Nitrate-N
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1000
100
10
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CONCENTRATION (mg/L)
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2002
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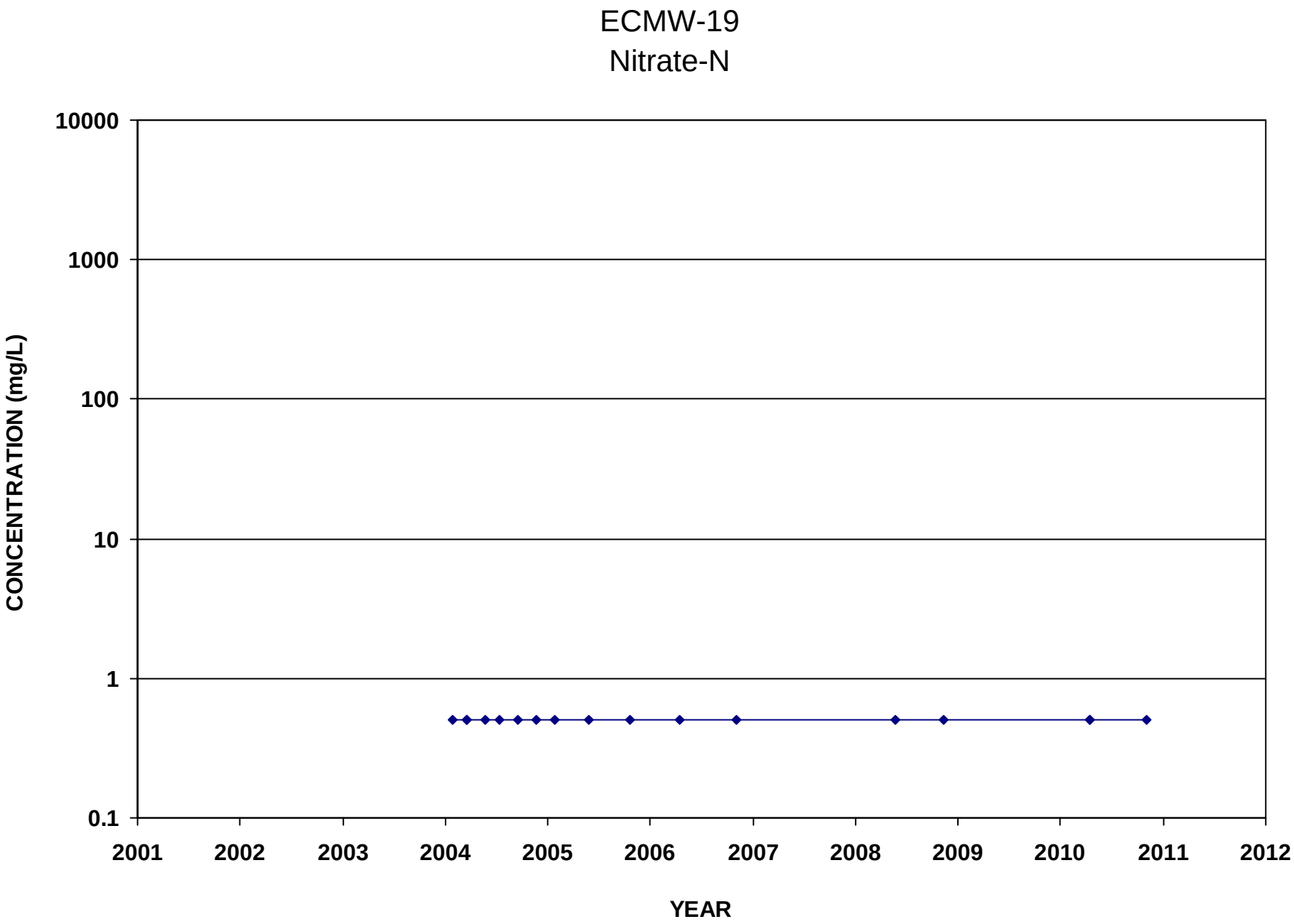
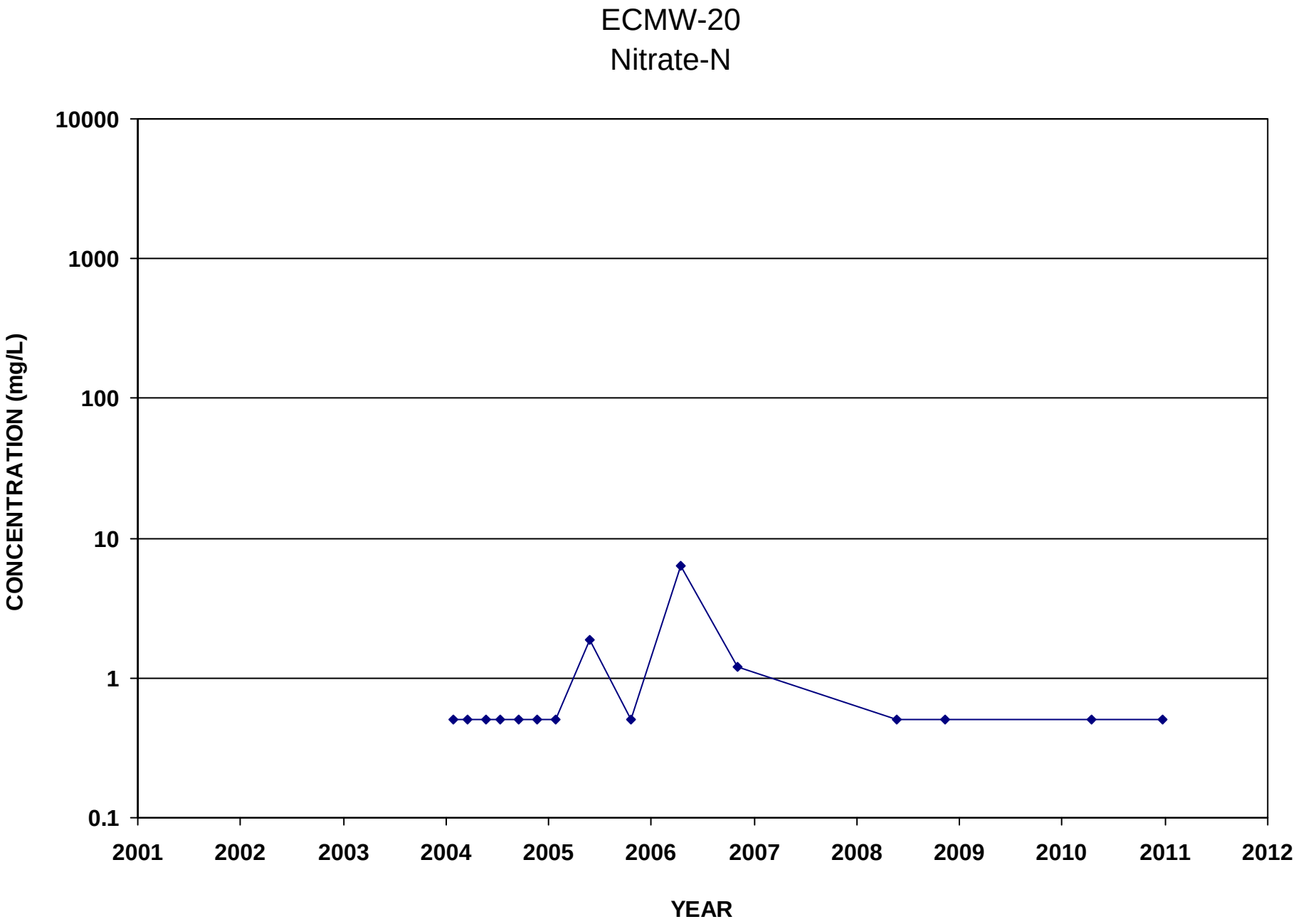
2006
2007
2008
2009
2010
2011
2012
YEAR


ECMW-19
Nitrate-N
10000
1000
100
10
1
0.1
CONCENTRATION (mg/L)
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
YEAR


ECMW-20
Nitrate-N
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1000
100
10
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0.1
CONCENTRATION (mg/L)
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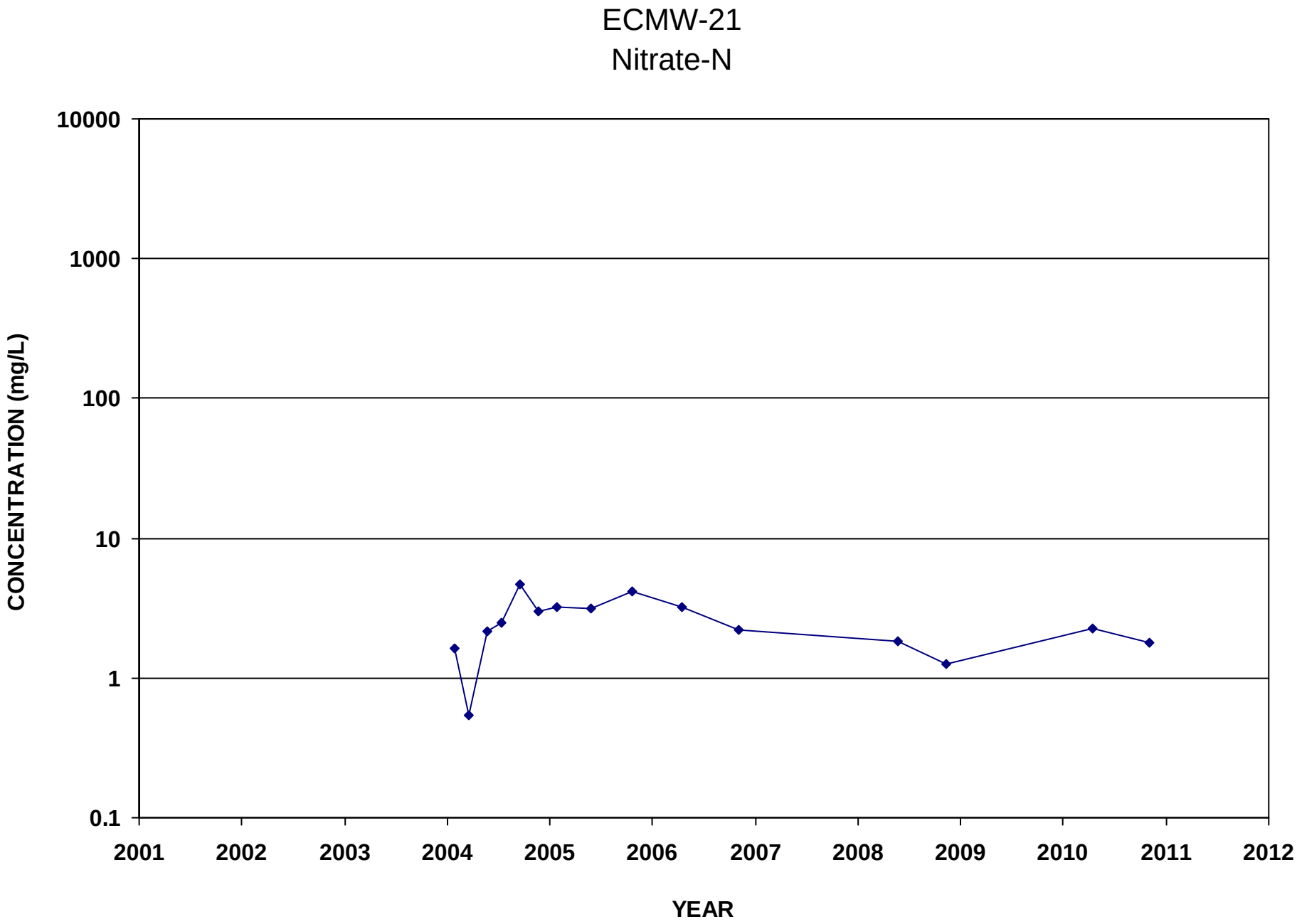
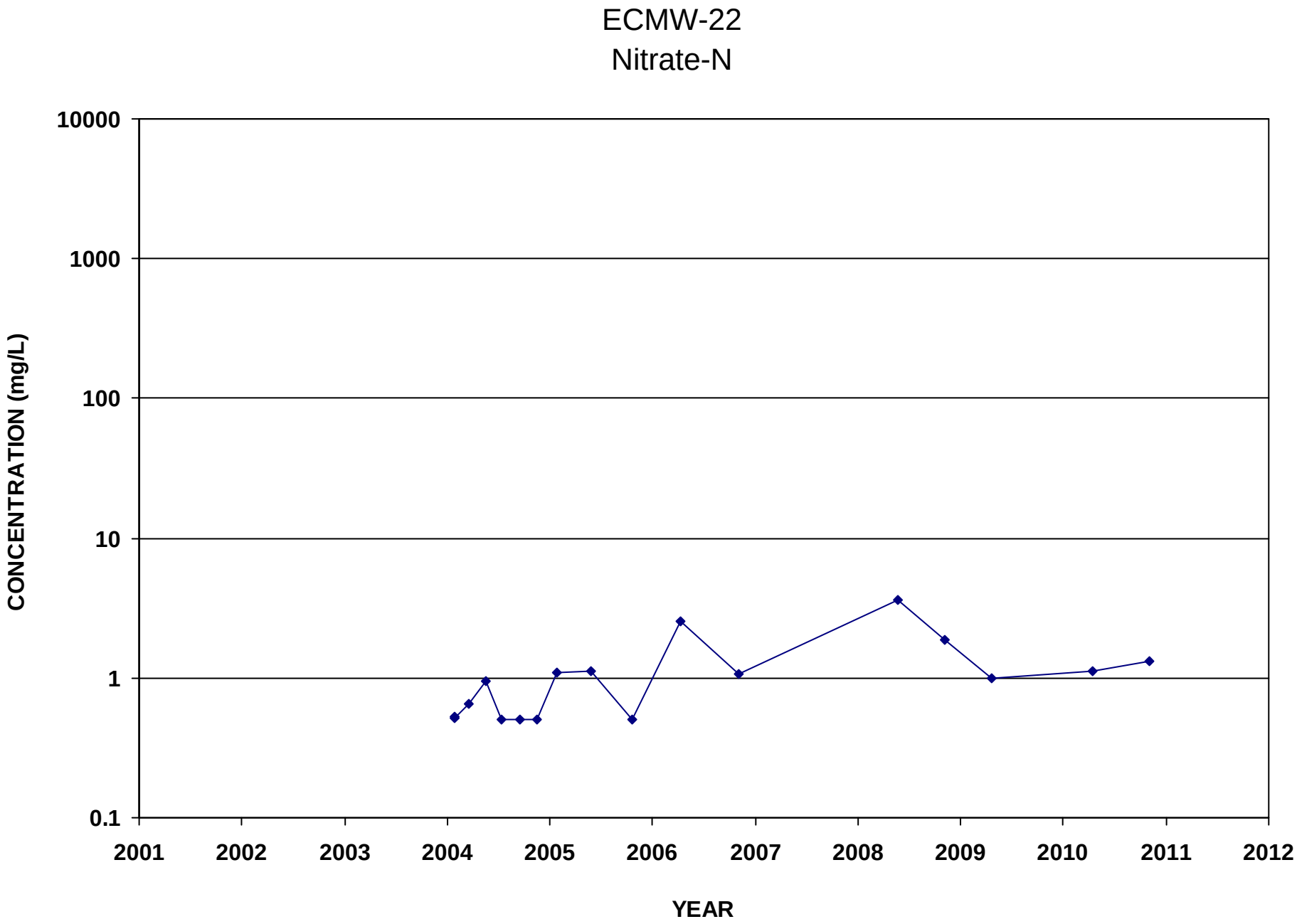
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
YEAR


ECMW-21
Nitrate-N
10000
1000
100
10
1
0.1
CONCENTRATION (mg/L)
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
YEAR


ECMW-22
Nitrate-N
10000
1000
100
10
1
0.1
CONCENTRATION (mg/L)
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
YEAR