ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

April 23, 2012

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

Dear Ms. Hanson:

On behalf of El Dorado Chemical Company, Environmental Management Services, Inc. is resubmitting the 2011 Annual Ground Water Report. This report was revised to incorporate a stamped and signed certification from an Arkansas registered professional geologist.

Should you have any questions concerning this report please contact me at (225) 751-5386 or Brent Parker at (870) 863-1400.

Sincerely,

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

12232 Industriplex Boulevard, Suite 27, Baton Rouge, LA 70809 • (225) 751-5386 • (225) 751-5387 (fax)

2011 ANNUAL GROUND WATER REPORT

Prepared For:

EL DORADO

El Dorado Chemical Company

Prepared By:

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

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

March 30, 2012
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2011 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

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

Prepared By:

C. Winston Russell, P.G.

Vice President

AR Professional Geologist No. 187

Date: 17 April 2012

2011 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

1.0 INTRODUCTION

This report presents the results of ground water sampling activities conducted at the El Dorado Chemical Company (EDCC) facility during 2011. Field sampling techniques, ground water flow and ground water quality are discussed. A site map is provided as Figure 1.

2.0 SITE GEOLOGY

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

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

3.0 GROUND WATER MONITORING

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

3.1 MONITORING PARAMETERS

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

Further revisions to the monitoring program were proposed in a letter dated April 25, 2007 and approved by the Arkansas Department of Environmental Quality (ADEQ) on June 8, 2007. The changes to the monitoring program that were implemented in 2007 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 for the evaluation of in situ remediation from all wells during the October 2005 sampling event. Field testing was conducted to collect measurements for dissolved oxygen, and redox. In addition, samples were shipped to the laboratory and analyzed for alkalinity, nitrite, dissolved manganese, dissolved iron, total phosphorus and Total Organic Carbon. The remediation parameters were analyzed again during the first half of 2011 sampling events. In a letter to ADEQ dated June 3, 2011, EDCC requested additional changes to the monitoring program which included removal of these parameters from the list of constituents. The request was approved August 9, 2011 and was effective for the second half of 2011 sampling event.

3.2 FIELD SAMPLING

Ground water sampling events were conducted in April and November of 2011. Wells ECMW-6, ECMW-7 and ECMW-8 were resampled and analyzed for ammonia and nitrate due to anomalous results for the April analyses. Due to the removal of the "remediation parameters" from the monitoring program, only wells ECMW-4, ECMW-5, ECMW-6, ECMW-7, ECMW-8, ECMW-9, ECMW-10, ECMW-11, ECMW-14, ECMW-16, ECMW-17, ECMW-18 were

sampled in the second half of 2011. 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 2011 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 2011 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 three (3) 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 in 2011 for the following constituents:

PARAMETER	ANALYTICAL METHODS	EVENT TESTED
Ammonia-N	4500-NH3 D	1st/2nd Half
Nitrate-N	EPA 300.0/9056A	1st/2nd Half
Nitrite	EPA 300.0/9056A	1st Half
Sulfate	EPA 300.0/9056A	1st/2nd Half
Total Phosphorus	EPA 4500-P B5,E	1st Half
Alkalinity	2320 B	1st Half
Total Organic Carbon	5310/9060A	1st Half

4.0 SAMPLING RESULTS

The following sections present ground water flow and analytical data collected in 2011.

4.1 GROUND WATER FLOW

Ground water elevations from April and October were used to construct the potentiometric map included as Figure 2. The average of the April 2011 ground water elevations (176.87 feet MSL) was approximately 1 foot lower than the average of the readings (177.82 feet MSL) from April of the previous year. 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 2011, pH values ranged from 3.85 in ECMW-8 to 6.19 in ECMW-3 with an average of 5.07, which is slightly higher than the average of pH readings in 2010 (4.82). Readings from wells sampled during 2H11 were consistent with first half 2011 pH data. Specific conductance values ranged from 48 (ECMW-1) to 22,482 (ECMW-8) micro-Siemens/cm (µS/cm) in 2011 and were consistent between both 2011 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. A discussion of each constituent is provided below:

Ammonia

Wells ECMW-7 and ECMW-8 were resampled in June 2011 because the April ammonia results were not consistent with previous data. As shown on Tables 10 and 11, the resample analytical data indicate the April 2011 results for ECMW-7 and ECMW-8 are likely outliers and are not included in the following discussion.

During the year 2011, ammonia concentrations ranged from below the detection limit (0.5 mg/L) to 455 mg/L (ECMW-6). As with previous years, results from ECMW-6, ECMW-7 and ECMW-8 exhibited the highest concentrations. The highest ammonia concentrations continue to be located north of the acid and nitrate process areas known as the Production Area.

Trend graphs of ammonia concentrations through 2011 are provided in Appendix B. Wells ECMW-6, ECMW-11 and ECMW-17 show an 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

Wells ECMW-7 and ECMW-8 were resampled in June 2011 because the April nitrate results were not consistent with previous data. As shown on Tables 10 and 11, the resample analytical data indicate the April 2011 results from ECMW-7 and ECMW-8 are likely outliers and are not considered in the following discussion.

For the year 2011, nitrate concentrations ranged from below the detection limit (0.5 mg/L) to 2060 mg/L (ECMW-6). ECMW-6, ECMW-7 and ECMW-8 exhibited the highest concentrations throughout the year. As with ammonia, the highest nitrate concentrations are located north of the Production Area.

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

Sulfate

For the year 2011, sulfate concentrations ranged from 15.8 mg/L in ECMW-16 to 930 mg/L (ECMW-4). The second highest sulfate value analyzed in 2011 was 899 mg/L, from well ECMW-7. ECMW-8, ECMW-9 and ECMW-11 exhibited the highest concentrations throughout the year.

In Situ Remediation Parameters

Samples were analyzed for alkalinity, nitrite, manganese, iron, phosphorus and total organic carbon in the first half of 2011. The analytical results of these parameters are summarized on Table 26.

5.0 GROUND WATER REMEDIATION

Approximately 156,197 gallons of ground water were recovered from recovery wells ECRW #1 and ECRW #2 in 2011. In 2011 ECRW #1 was placed back in service after not operating during 2009-2010, but at a lower pumping rate than ECRW #2. The recovery rate for ECRW #2 averaged 429 gallons per day (gpd); whereas, the rate for ECRW #1 was lower, averaging 2.6 gpd. Combined daily recovery volumes for the wells ranged from 1.5 gpd during maintenance activities to a maximum of 1086 gpd. Over 2011, the combined average recovery rate was approximately 0.3 gallons per minute.

TABLES

TABLE 1
MONITORING WELL CONSTRUCTION DETAILS
2011 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

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

Notes:

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

TABLE 2
GROUNDWATER ELEVATION DATA
2011 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

Monitor Well	Top of Casing Elevation (ft above Mean Sea Level)	Measurement Date			
		4/25/2011 - 4/26/2011		11/29/2011	
		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	12.54	200.74	Not Sampled	
ECMW-2	196.25	2.08	194.17	Not Sampled	
ECMW-3	192.11	11.50	180.61	Not Sampled	
ECMW-4	194.84	8.68	186.16	12.40	182.44
ECMW-5	182.69	2.88	179.81	4.06	178.63
ECMW-6	191.87	4.50	187.37	5.76	186.11
ECMW-7	195.88	7.30	188.58	8.60	187.28
ECMW-8	197.34	7.38	189.96	8.60	188.74
ECMW-9	198.39	10.60	187.79	14.96	183.43
ECMW-10	205.75	12.90	192.85	16.30	189.45
ECMW-11	201.65	11.30	190.35	14.62	187.03
ECMW-12	184.97	5.40	179.57	Not Sampled	
ECMW-13	177.26	7.30	169.96	Not Sampled	
ECMW-14	178.48	7.12	171.36	10.52	167.96
ECMW-15	180.84	6.30	174.54	Not Sampled	
ECMW-16	180.14	4.42	175.72	6.38	173.76
ECMW-17	185.40	28.68	156.72	30.60	154.80
ECMW-18	155.46	5.05	150.41	9.96	145.50
ECMW-19	150.41	2.62	147.79	Not Sampled	
ECMW-20	192.77	30.18	162.59	Not Sampled	
ECMW-21	176.29	18.92	157.37	Not Sampled	
ECMW-22	173.55	6.84	166.71	Not Sampled	

TABLE 3
GROUNDWATER INDICATOR PARAMETER DATA
2011 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

WELL	TEMPERATURE (C)		pH (s.u.)		CONDUCTIVITY (uS)	
	Date		Date		Date	
	4/25/2011-4/26/2011	11/29/2011	4/25/2011-4/26/2011	11/29/2011	4/25/2011-4/26/2011	11/29/2011
ECMW-1	16.8	Not Sampled	5.04	Not Sampled	48	Not Sampled
ECMW-2	16.4	Not Sampled	5.51	Not Sampled	306	Not Sampled
ECMW-3	18.4	Not Sampled	6.19	Not Sampled	197	Not Sampled
ECMW-4	18.0	19.4	3.91	3.72	7070	7397
ECMW-5	18.2	20.7	5.03	4.67	401	417.6
ECMW-6	19.5	20.0	4.30	3.88	14540	15399
ECMW-7	19.6	20.8	4.47	4.18	22220	19195
ECMW-8	19.1	19.1	3.85	3.44	20650	22482
ECMW-9	19.2	19.6	5.74	5.37	204	2145
ECMW-10	19.6	19.5	4.30	3.97	900	754
ECMW-11	18.8	21.4	4.57	4.11	910	1086
ECMW-12	19.3	Not Sampled	5.67	Not Sampled	600	Not Sampled
ECMW-13	17.3	Not Sampled	4.68	Not Sampled	1610	Not Sampled
ECMW-14	18.5	20.8	5.04	4.50	690	650
ECMW-15	17.8	Not Sampled	4.86	Not Sampled	73	Not Sampled
ECMW-16	17.7	21.3	4.50	4.12	204	197.1
ECMW-17	19.0	17.8	4.34	4.65	228	205.4
ECMW-18	17.9	18.0	5.77	5.64	80	77.2
ECMW-19	18.1	Not Sampled	5.82	Not Sampled	82	Not Sampled
ECMW-20	22.1	Not Sampled	6.03	Not Sampled	111	Not Sampled
ECMW-21	19	Not Sampled	5.85	Not Sampled	73	Not Sampled
ECMW-22	18.3	Not Sampled	6.05	Not Sampled	132	Not Sampled

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	--	--	--
4/26/2011	5.04	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	5.51	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/27/2011	6.19	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/27/2011	3.91	1.02	<0.5	845	--	--	--	--	--	--	--
11/30/2011	3.72	<0.5	<0.5	930	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/27/2011	5.03	1.08	15	92.4	--	--	--	--	--	--	--
11/30/2011	4.67	<0.5	19	94.4	--	--	--	--	--	--	--

"--" - Parameter not analyzed

ECMW-6

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

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	7.7	--	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	--	--	--
4/27/2011	4.3	371	1680	46.8	--	--	--	--	--	--	--
6/16/2011	4.01	393	1620	207	--	--	--	--	--	--	--
11/30/2011	3.88	445	1970	60.5	--	--	--	--	--	--	--
11/30/2011	--	455	2060	63.8	--	--	--	--	--	--	--

"–" - 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	--	--	--
4/27/2011	4.47	1630	2640	248	--	--	--	--	--	--	--
6/16/2011	4.17	56.6	227	899	--	--	--	--	--	--	--
11/30/2011	4.18	132	192	259	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/27/2011	3.85	1980	3310	106	--	--	--	--	--	--	--
6/29/2011	4.1	175	350	--	--	--	--	--	--	--	--
6/29/2011	--	168	352	--	--	--	--	--	--	--	--
11/30/2011	3.44	120	401	727	--	--	--	--	--	--	--
11/30/2011	--	101	361	637	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/27/2011	5.74	2.96	32.1	542	--	--	--	--	--	--	--
11/30/2011	5.37	0.7	28.5	650	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/27/2011	4.3	3.18	54.1	166	--	--	--	--	--	--	--
11/30/2011	3.97	<0.5	49.2	94.8	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/27/2011	4.57	47	15.8	146	--	--	--	--	--	--	--
11/30/2011	4.11	2.19	3.56	318	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/27/2011	5.67	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	4.68	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	5.04	<0.5	10.7	159	--	--	--	--	--	--	--
11/30/2011	4.50	<0.5	8.09	156	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	4.86	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	4.5	3.56	7.5	15.8	--	--	--	--	--	--	--
11/30/2011	4.12	0.84	11.6	17.9	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	4.34	10.1	4.03	40.2	--	--	--	--	--	--	--
11/30/2011	4.65	2.75	5.95	36.1	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	5.77	--	--	--	--	--	--	--	--	--	--
6/30/2011	5.71	--	<0.5	--	--	--	--	--	--	--	--
11/30/2011	5.64	--	<0.5	--	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	5.82	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	6.03	--	--	--	--	--	--	--	--	--	--

"--" - 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	--	--	--
4/26/2011	5.85	--	--	--	--	--	--	--	--	--	--

"--" - Parameter not analyzed

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

ECMW-22

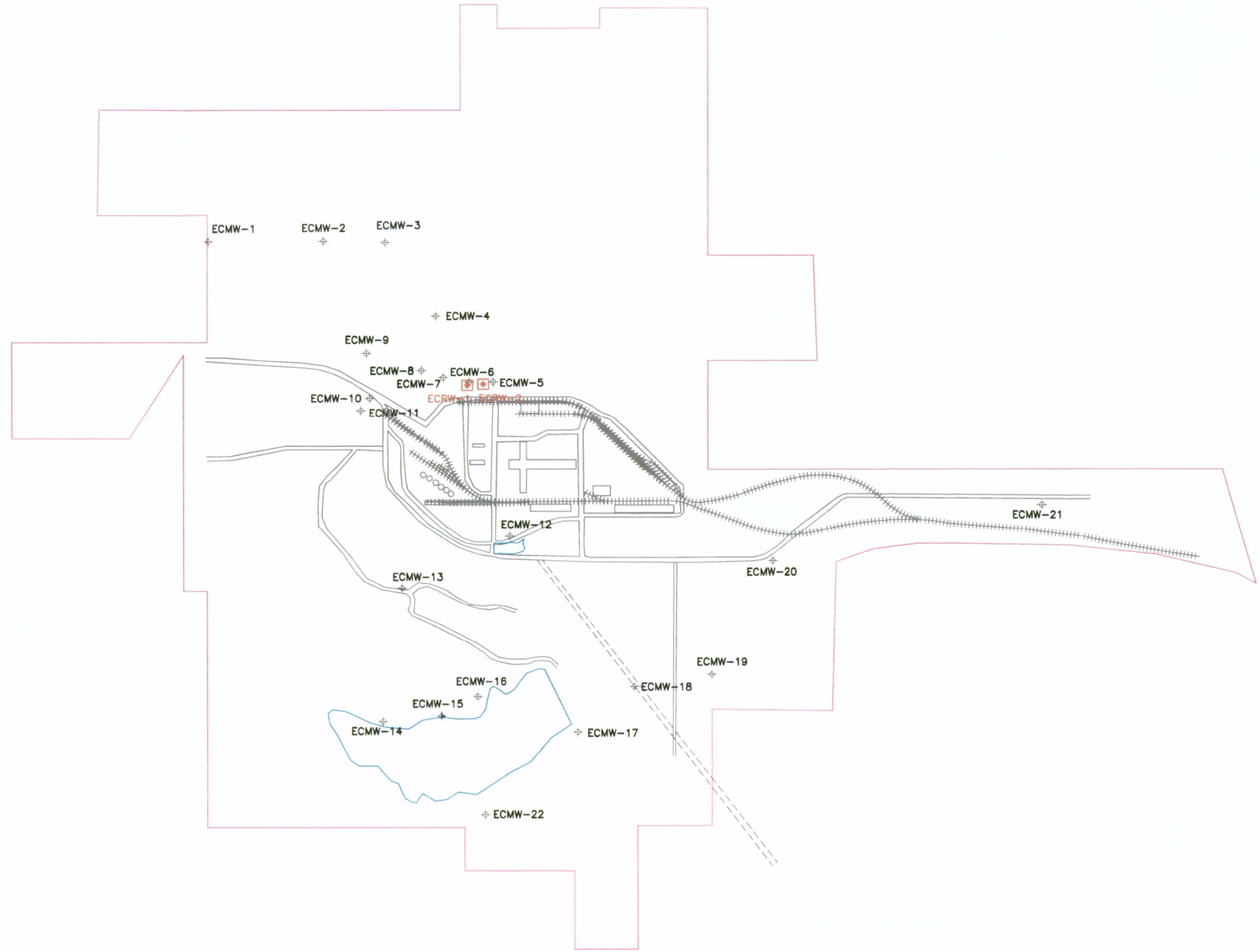
Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
1/28/2004	7.68	0.61	0.53	6.62	540	0.021	<0.015	0.021	<0.02	--	--
1/28/2004	--	<0.5	0.52	6.62	610	0.021	<0.015	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	--	--	--
4/26/2011	6.05	--	--	--	--	--	--	--	--	--	--

"--" - 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)
ECMW-1	4/26/2011	3.01	4.3	<5	<1	<0.5	0.161
ECMW-2	4/26/2011	1.73	-2.7	15	2.75	<0.5	0.342
ECMW-3	4/27/2011	1.68	-20.9	56	2.67	<0.5	0.265
ECMW-4	4/27/2011	3.29	116.8	<5	25.3	<0.5	<0.02
ECMW-5	4/27/2011	2.12	55.1	5	1.22	<0.5	<0.02
ECMW-6	4/27/2011	1.6	76.6	<5	1.69	<0.5	<0.02
ECMW-7	4/27/2011	2.11	131.7	<5	7.25	<0.5	<0.02
ECMW-8	4/27/2011	1.75	133.2	<5	6.18	<0.5	<0.02
ECMW-9	4/27/2011	1.78	60.7	25	21.9	<0.5	0.379
ECMW-10	4/27/2011	0.97	56.8	5	6.73	<0.5	0.037
ECMW-11	4/27/2011	1.94	49.5	<5	9.46	<0.5	0.026
ECMW-12	4/27/2011	0.66	-13.8	174	23	<0.5	0.116
ECMW-13	4/26/2011	0.9	-172	12	7.15	<0.5	0.054
ECMW-14	4/26/2011	1.7	-113.7	14	11.9	<0.5	<0.02
ECMW-15	4/26/2011	1.01	195.4	<5	1.5	<0.5	<0.02
ECMW-16	4/26/2011	0.41	153	<5	2.68	<0.5	<0.02
ECMW-17	4/26/2011	0.99	74.8	<5	1.88	<0.5	<0.02
ECMW-18	4/26/2011	5.98	-165.5	15	<1	<0.5	<0.02
ECMW-19	4/26/2011	0.51	257.6	26	<1	<0.5	0.132
ECMW-20	4/26/2011	2.25	149.9	42	<1	<0.5	0.087
ECMW-21	4/26/2011	4.58	-110.7	<5	<1	<0.5	<0.02
ECMW-22	4/26/2011	0.9	-5.1	50	<1	<0.5	0.181

FIGURES



LEGEND

- MONITOR WELLS
- RECOVERY WELLS
- PROPERTY BOUNDARY

N

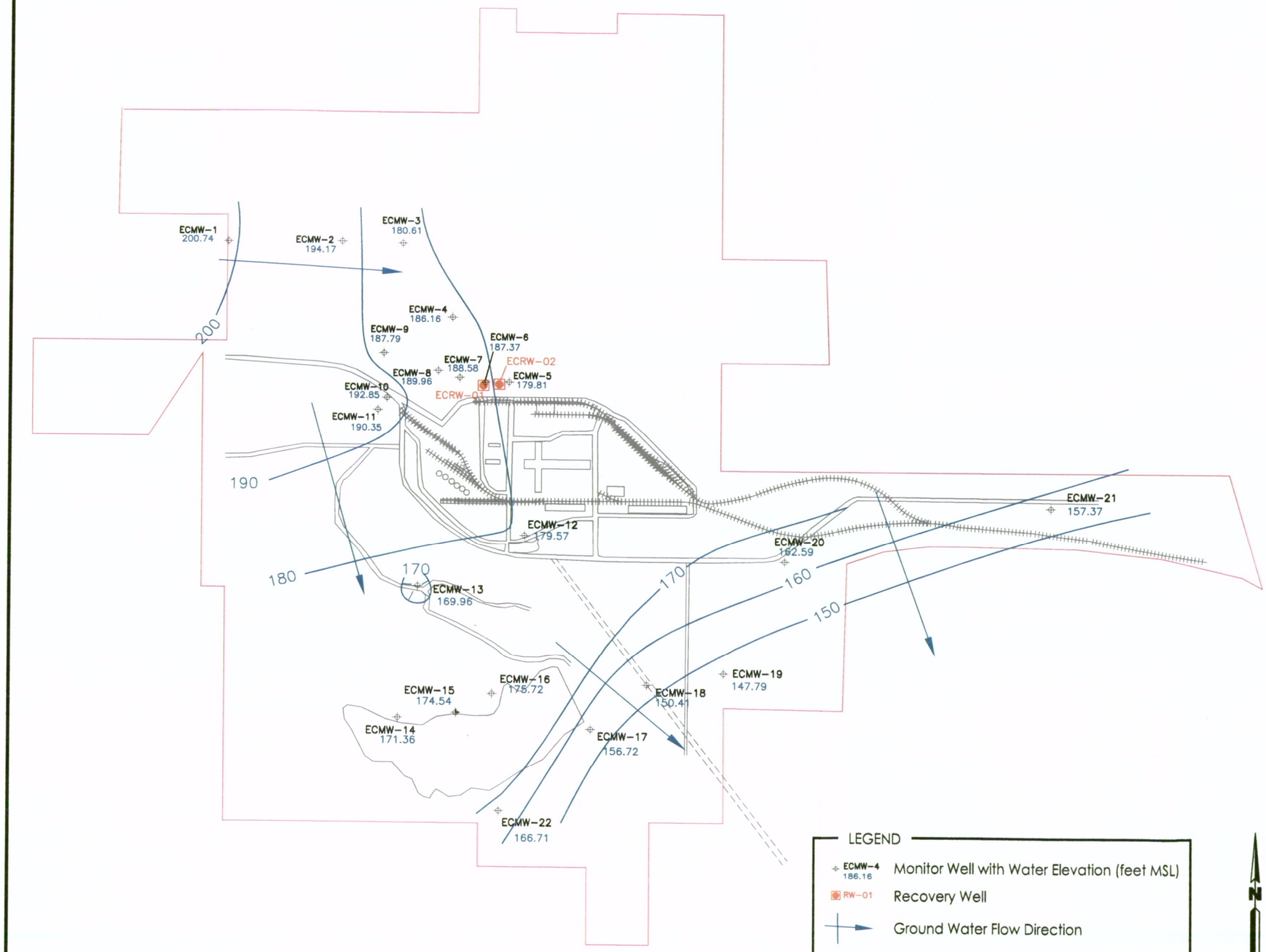
0 600 1200

SCALE IN FEET

EL DORADO

SITE MAP
2011 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

DATE: 03/28/2011	APPROVED BY: SR DATE: 3/30/12	DRAWN BY: LMM	
SCALE: see above		CAD NO. 02EC0100	
ENVIRONMENTAL MANAGEMENT SERVICES, INC.			FIGURE 1


ECMW-1
200.74
ECMW-2
194.17
ECMW-3
180.61
ECMW-4
186.16
ECMW-9
187.79
ECMW-6
187.37
ECMW-7
188.58
ECRW-02
ECMW-8
189.96
ECMW-5
179.81
ECRW-01
ECMW-10
192.85
ECMW-11
190.35
ECMW-12
179.57
ECMW-21
157.37
ECMW-20
162.59
ECMW-13
169.96
ECMW-15
174.54
ECMW-16
175.72
ECMW-18
150.41
ECMW-19
147.79
ECMW-14
171.36
ECMW-17
156.72
ECMW-22
166.71
200
190
180
170
170
160
150
LEGEND
ECMW-4 186.16 Monitor Well with Water Elevation (feet MSL)
RW-01 Recovery Well
Ground Water Flow Direction
MEASUREMENTS TAKEN APRIL 25-26, 2011
N
0 600 1200
SCALE IN FEET
EL DORADO
GROUND WATER ELEVATION MAP
2011 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS
DATE: 05/25/2011
APPROVED: BY: SR DATE: 5/30/12
DRAWN BY: LMM
SCALE: see above
CAD NO. 02EC0100
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
FIGURE 2

APPENDIX A

SAMPLING FORMS AND LABORATORY ANALYTICAL REPORTS

Arkansas Analytical Inc.

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

03 May 2011

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

RE: Groundwater Sample(s)

SDG Number: 1104312

Enclosed are the results of analyses for samples received by the laboratory on 26-Apr-11 15:51. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,

Norma James
President

03 May 2011

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

Date Received: 26-Apr-11 15:51

ANALYTICAL RESULTS

Lab Number: 1104312-01
Sample Name: MW-21
Date/Time Collected: 4/26/11 7:52
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/27/11 9:15	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TOC	mg/L	< 1.00		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104312-02
Sample Name: MW-20
Date/Time Collected: 4/26/11 8:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/27/11 9:37	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TOC	mg/L	< 1.00		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**42.0**		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	**0.087**		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104312-03
Sample Name: MW-19
Date/Time Collected: 4/26/11 8:28
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/27/11 10:00	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TOC	mg/L	< 1.00		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**26.0**		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	**0.132**		5/2/11 15:16	A105002	4500-P B5,E

03 May 2011

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

Date Received: 26-Apr-11 15:51

ANALYTICAL RESULTS

Lab Number: 1104312-04
Sample Name: MW-18
Date/Time Collected: 4/26/11 8:42
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/27/11 10:23	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TOC	mg/L	< 1.00		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**15.0**		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104312-05
Sample Name: MW-13
Date/Time Collected: 4/26/11 9:12
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/27/11 10:45	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TOC	mg/L	**7.15**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**12.0**		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	**0.054**		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104312-06
Sample Name: MW-14
Date/Time Collected: 4/26/11 9:22
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**159**		4/27/11 14:54	A104301	300.0/9056A
Nitrate as N	mg/L	**10.7**		4/27/11 14:31	A104301	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/27/11 11:08	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	< 0.50		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**11.9**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**14.0**		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

03 May 2011

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

Date Received: 26-Apr-11 15:51

ANALYTICAL RESULTS

Lab Number: 1104312-07
Sample Name: MW-15
Date/Time Collected: 4/26/11 9:38
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/27/11 11:30	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TOC	mg/L	**1.50**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104312-08
Sample Name: MW-16
Date/Time Collected: 4/26/11 9:58
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**15.8**		4/27/11 15:16	A104301	300.0/9056A
Nitrate as N	mg/L	**7.50**		4/27/11 11:53	A104301	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/27/11 11:53	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**3.56**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**2.68**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104312-09
Sample Name: MW-17
Date/Time Collected: 4/26/11 10:30
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**40.2**		4/27/11 15:39	A104301	300.0/9056A
Nitrate as N	mg/L	**4.03**		4/27/11 12:15	A104301	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/27/11 12:15	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**10.1**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**1.88**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

03 May 2011

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

Date Received: 26-Apr-11 15:51

ANALYTICAL RESULTS

Lab Number:	**1104312-10**
Sample Name:	**MW-22**
Date/Time Collected:	**4/26/11 11:08**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/27/11 12:38	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TOC	mg/L	< 1.00		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**50.0**		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	**0.181**		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number:	**1104312-11**
Sample Name:	**MW-1**
Date/Time Collected:	**4/26/11 11:32**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/27/11 13:46	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TOC	mg/L	< 1.00		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	< 5.0		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	**0.161**		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number:	**1104312-12**
Sample Name:	**MW-2**
Date/Time Collected:	**4/26/11 12:05**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/27/11 14:09	A104301	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TOC	mg/L	**2.75**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**15.0**		4/29/11 16:17	A104351	2320 B
Total Phosphorus	mg/L	**0.342**		5/2/11 15:16	A105002	4500-P B5,E

03 May 2011

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

Date Received: 26-Apr-11 15:51

QUALITY CONTROL RESULTS

Anions -- Batch: A104301 (Water)
Prepared: 27-Apr-11 08:20 By: MG -- Analyzed: 27-Apr-11 17:09 By: MG

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	99.9% / NA	101% / 99.7%		1.26%	
Nitrite as N	<0.500 mg/L	99.4% / NA	108% / 106%		1.87%	
Sulfate as SO4	<0.500 mg/L	109% / NA	107% / 109%		1.38%	

Wet Chemistry -- Batch: A104327 (Water)
Prepared: 28-Apr-11 10:48 By: SB -- Analyzed: 28-Apr-11 10:48 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	106% / NA	103% / 106%		1.82%	

Wet Chemistry -- Batch: A104341 (Water)
Prepared: 28-Apr-11 14:00 By: SB -- Analyzed: 29-Apr-11 11:35 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	108% / NA	111% / 104%		6.91%	D

Wet Chemistry -- Batch: A104351 (Water)
Prepared: 29-Apr-11 16:17 By: SB -- Analyzed: 29-Apr-11 16:17 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Alkalinity	<5.0 mg/L	101% / 100%	NA / NA		0.995%	

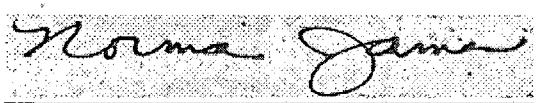
Wet Chemistry -- Batch: A105002 (Water)
Prepared: 02-May-11 08:25 By: KP -- Analyzed: 02-May-11 15:16 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	102% / NA	95.6% / 98.0%		2.33%	

QUALIFIER(S)

*D: RPD Value 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: 

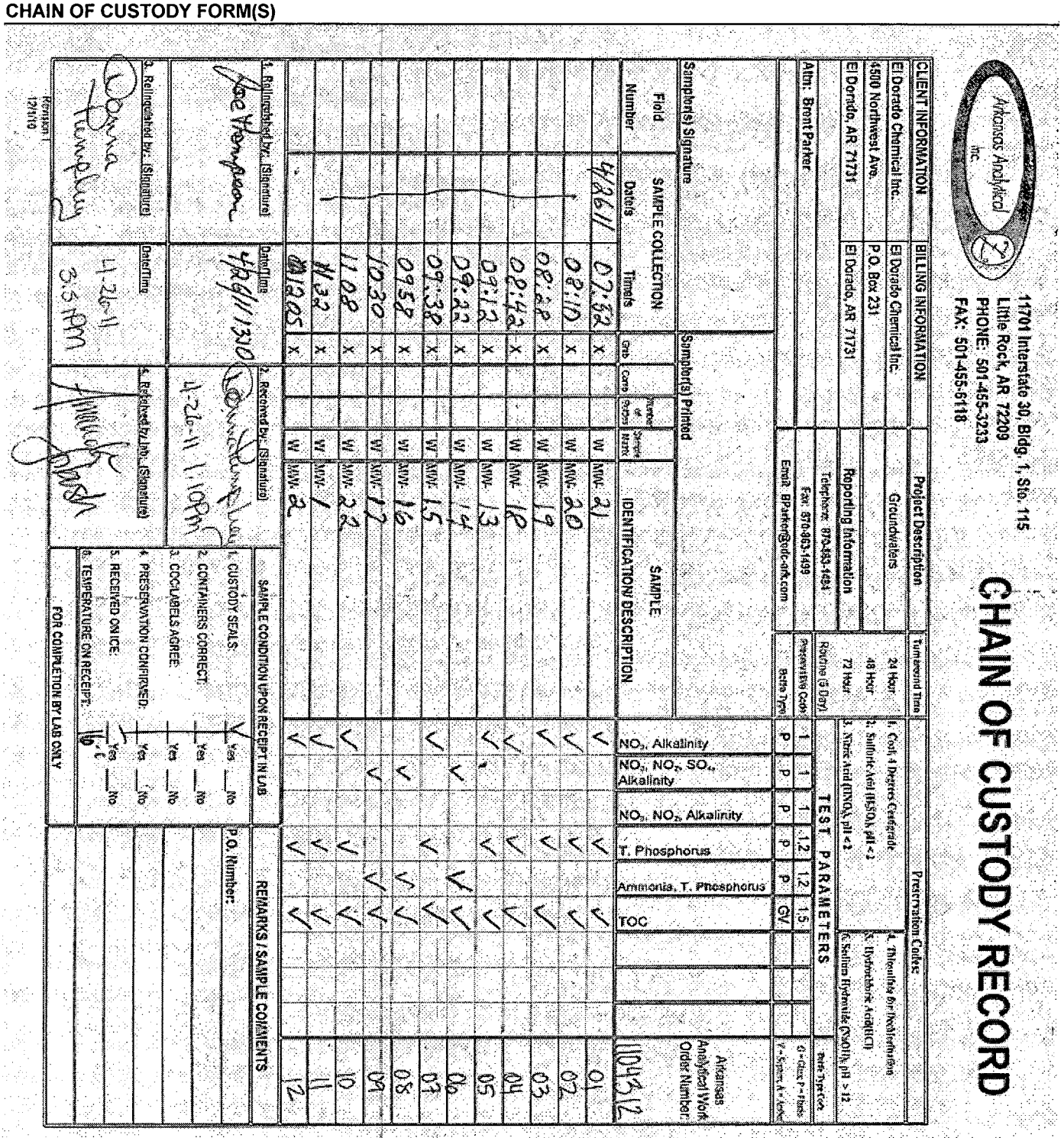
Norma James
President

03 May 2011

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

Date Received: 26-Apr-11 15:51

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

BILLING INFORMATION: El Dorado Chemical Inc. / P.O. Box 231 / El Dorado, AR 71731

Project Description: Groundwaters

Reporting Information: Telephone: 870-863-4494 / Fax: 870-863-1499 / EMail: BParker@edc-ark.com

Turnaround Time: 24 Hour / 48 Hour / 73 Hour / Routine (5 Day)

Preservation Codes: 4. Thiosulfate for Dechlorination; 5. Hydrochloric Acid(HCl); 6. Sodium Hydroxide (NaOH), pH > 12

Sampler(s) Signature / Sampler(s) Printed

Field Sample Number	Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	Bottle Type	Preservative Code	NO_3, Alkalinity	NO_3, NO_2, SO_4, Alkalinity	NO_3, NO_2, Alkalinity	T. Phosphorus	Ammonia, T. Phosphorus	TOC					Arkansas Analytical Work Order Number
	4/26/11	07:52	x			W	MW-21	P	1	✓		✓	✓	✓	✓					1104312 01
		08:10	x			W	MW-20	P	1	✓		✓	✓	✓	✓					02
		08:22	x			W	MW-19	P	1	✓		✓	✓	✓	✓					03
		08:42	x			W	MW-18	P	1	✓		✓	✓	✓	✓					04
		09:12	x			W	MW-13	P	1	✓		✓	✓	✓	✓					05
		09:22	x			W	MW-14	P	1	✓		✓	✓	✓	✓					06
		09:38	x			W	MW-15	P	1	✓		✓	✓	✓	✓					07
		0958	x			W	MW-16	P	1		✓		✓	✓	✓					08
		10:30	x			W	MW-17	P	1		✓		✓	✓	✓					09
		11:02	x			W	MW-22	P	1	✓		✓	✓	✓	✓					10
		1132	x			W	MW-1	P	1	✓		✓	✓	✓	✓					11
		1205	x			W	MW-2	P	1	✓		✓	✓	✓	✓					12

TEST PARAMETERS

1. Relinquished by: (Signature) — Date/Time: 4/26/11 1310 — 2. Received By: (Signature) — Joe Thompson

3. Relinquished by: (Signature) — Date/Time: 4-26-11 — 4. Received by Lab: (Signature) — Donna Humphries 4-26-11 1:10PM

5. Relinquished by: (Signature) — Date/Time: 4-26-11 3:51PM — 6. Received by Lab: (Signature) — Donna Humphries

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: 1.6 °C

REMARKS / SAMPLE COMMENTS

P.O. Number:

FOR COMPLETION BY LAB ONLY

Revision 12/1/10

Arkansas Analytical Inc.

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

04 May 2011

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

RE: Groundwater Sample(s)

SDG Number: 1104331

Enclosed are the results of analyses for samples received by the laboratory on 28-Apr-11 08:15. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,

Norma James
President

04 May 2011

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

Date Received: 28-Apr-11 08:15

CASE NARRATIVE

SAMPLE DELIVERY GROUP 1104331:

Quality control excursions resulting in data qualification are discussed below.

Total Phosphorus Analysis:
Matrix Spike/Matrix Spike Duplicate (MS/MSD) Failure: Total phosphorus failed to recover within lab acceptance criteria in the MS and/or MSD. Total phosphorus was qualified as "estimated" (E20) in the parent sample 1104331-08.

Sulfate as SO4 Analysis:
Matrix Spike/Matrix Spike Duplicate (MS/MSD) Failure: Sulfate failed to recover within lab acceptance criteria in the MS and/or MSD. Sulfate was qualified as "estimated" (E20) in the parent sample 1104331-09.

04 May 2011

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

Date Received: 28-Apr-11 08:15

ANALYTICAL RESULTS

Lab Number: 1104331-01
Sample Name: MW-3
Date/Time Collected: 4/27/11 9:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/28/11 10:15	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
TOC	mg/L	**2.67**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**56.0**		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	**0.265**		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104331-02
Sample Name: MW-4
Date/Time Collected: 4/27/11 10:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**845**		4/28/11 14:45	A104348	300.0/9056A
Nitrate as N	mg/L	< 0.500		4/28/11 10:37	A104348	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/28/11 10:37	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1.02**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**25.3**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	< 5.0		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104331-03
Sample Name: MW-5
Date/Time Collected: 4/27/11 10:25
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**92.4**		4/28/11 15:08	A104348	300.0/9056A
Nitrate as N	mg/L	**15.0**		4/28/11 15:08	A104348	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/28/11 11:00	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1.08**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**1.22**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**5.0**		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

04 May 2011

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

Date Received: 28-Apr-11 08:15

ANALYTICAL RESULTS

Lab Number:	**1104331-04**
Sample Name:	**MW-6**
Date/Time Collected:	**4/27/11 10:40**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**46.8**		4/28/11 15:31	A104348	300.0/9056A
Nitrate as N	mg/L	**1680**		4/28/11 18:09	A104348	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/28/11 11:22	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**371**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**1.69**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	< 5.0		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number:	**1104331-05**
Sample Name:	**MW-7**
Date/Time Collected:	**4/27/11 11:20**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**248**		4/28/11 15:53	A104348	300.0/9056A
Nitrate as N	mg/L	**2640**		4/28/11 19:16	A104348	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/28/11 11:45	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1630**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**7.25**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	< 5.0		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

04 May 2011

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

Date Received: 28-Apr-11 08:15

ANALYTICAL RESULTS

Lab Number: 1104331-06
Sample Name: MW-9
Date/Time Collected: 4/27/11 12:20
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**542**		4/28/11 16:16	A104348	300.0/9056A
Nitrate as N	mg/L	**32.1**		4/28/11 16:16	A104348	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/28/11 12:08	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**2.96**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**21.9**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**25.0**		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	**0.379**		5/2/11 15:16	A105002	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104331-07
Sample Name: MW-8
Date/Time Collected: 4/27/11 13:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**106**		4/28/11 16:38	A104348	300.0/9056A
Nitrate as N	mg/L	**3310**		4/28/11 17:01	A104348	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/28/11 12:30	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**1980**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**6.18**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	< 5.0		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	< 0.020		5/2/11 15:16	A105002	4500-P B5,E

04 May 2011

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

Date Received: 28-Apr-11 08:15

ANALYTICAL RESULTS

Lab Number: 1104331-08
Sample Name: MW-10
Date/Time Collected: 4/27/11 13:25
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**166**		4/28/11 17:23	A104348	300.0/9056A
Nitrate as N	mg/L	**54.1**		4/28/11 17:23	A104348	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/28/11 12:53	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**3.18**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**6.73**		4/28/11 10:48	A104327	5310/9060A
Total Alkalinity	mg/L	**5.0**		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	**0.037**	E20	5/2/11 15:09	A105003	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104331-09
Sample Name: MW-11
Date/Time Collected: 4/27/11 13:40
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**146**	E20	4/28/11 17:46	A104348	300.0/9056A
Nitrate as N	mg/L	**15.8**		4/28/11 17:46	A104348	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/28/11 13:15	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**47.0**		4/29/11 11:35	A104341	4500-NH3D
TOC	mg/L	**9.46**		5/1/11 11:21	A105001	5310/9060A
Total Alkalinity	mg/L	< 5.0		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	**0.026**		5/2/11 15:09	A105003	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1104331-10
Sample Name: MW-12
Date/Time Collected: 4/27/11 13:55
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		4/28/11 13:38	A104348	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
TOC	mg/L	**23.0**		5/1/11 11:21	A105001	5310/9060A
Total Alkalinity	mg/L	**174**		5/3/11 14:43	A105039	2320 B
Total Phosphorus	mg/L	**0.116**		5/2/11 15:09	A105003	4500-P B5,E

04 May 2011

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

Date Received: 28-Apr-11 08:15

QUALITY CONTROL RESULTS

Wet Chemistry -- Batch: A104327 (Water)
Prepared: 28-Apr-11 10:48 By: SB -- Analyzed: 28-Apr-11 10:48 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	106% / NA	103% / 106%		1.82%	

Wet Chemistry -- Batch: A104341 (Water)
Prepared: 28-Apr-11 14:00 By: SB -- Analyzed: 29-Apr-11 11:35 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	108% / NA	111% / 104%		6.91%	D

Anions -- Batch: A104348 (Water)
Prepared: 28-Apr-11 10:00 By: MG -- Analyzed: 28-Apr-11 20:46 By: MG

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	104% / NA	106% / 107%		0.776%	
Nitrite as N	<0.500 mg/L	105% / NA	99.4% / 101%		1.45%	
Sulfate as SO4	<0.500 mg/L	110% / NA	113% / 114%		0.281%	%D1

Wet Chemistry -- Batch: A105001 (Water)
Prepared: 01-May-11 11:21 By: SB -- Analyzed: 01-May-11 11:21 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	102% / NA	102% / 102%		0.356%	

Wet Chemistry -- Batch: A105002 (Water)
Prepared: 02-May-11 08:25 By: KP -- Analyzed: 02-May-11 15:16 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	102% / NA	95.6% / 98.0%		2.33%	

Wet Chemistry -- Batch: A105003 (Water)
Prepared: 02-May-11 08:27 By: KP -- Analyzed: 02-May-11 15:09 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	97.6% / NA	87.6% / 83.2%		4.39%	%D1

Wet Chemistry -- Batch: A105039 (Water)
Prepared: 03-May-11 14:43 By: SB -- Analyzed: 03-May-11 14:43 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Alkalinity	<5.0 mg/L	100% / 100%	NA / NA		0.00%	

04 May 2011

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

Date Received: 28-Apr-11 08:15

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.

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

Norma James
President

Arkansas Analytical Inc.

04 May 2011

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

Date Received: 28-Apr-11 08:15

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
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

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:

Sampler(s) Printed:

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: NO_2, Alkalinity	NO_3, SO_4, Alkalinity	NO_3, NO_2, Alkalinity	T. Phosphorus	Ammonia, T. Phosphorus	TOC				Arkansas Analytical Work Order Number: 11C4331
	4/27/11	0945	X			W	MW-3	✓			✓		✓				01
		10:00	X			W	MW-4		✓			✓	✓				02
		10:35	X			W	MW-5		✓			✓	✓				03
		1040	X			W	MW-6		✓			✓	✓				04
		11:20	X			W	MW-7		✓			✓	✓				05
		12:20	X			W	MW-9		✓			✓	✓				06
		13:10	X			W	MW-8		✓			✓	✓				07
		13:25	X			W	MW-10		✓			✓	✓				08
		13:40	X			W	MW-11		✓			✓	✓				09
		13:55	X			W	MW-12	✓			✓		✓				10
			X			W	MW-										
			X			W	MW-										

Container Type Code: G = Glass, P = Plastic, S = Septum, A = Amber

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
Joe Thompson	4/27/11 1415	
3. Relinquished by: (Signature)	Date/Time 0815 4-28-11	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:	4c	

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

P.O. Number:

Revision 1
12/1/10

Arkansas Analytical Inc.

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

22 June 2011

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

RE: Groundwater Sample(s)

SDG Number: 1106209

Enclosed are the results of analyses for samples received by the laboratory on 16-Jun-11 08:50. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,

Norma James
President

22 June 2011

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

Date Received: 16-Jun-11 08:50

CASE NARRATIVE

SAMPLE DELIVERY GROUP 1106209:

Quallity control excursions resulting in data qualification are discussed below.

TOC Analysis:
The TOC results for all samples in this sample delivery group were qualified as "estimated" (E3) on the final report. The samples were received unpreserved and in incorrect containers.

22 June 2011

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

Date Received: 16-Jun-11 08:50

ANALYTICAL RESULTS

Lab Number: 1106209-01
Sample Name: MW-18
Date/Time Collected: 6/15/11 11:36
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrite as N	mg/L	< 0.500		6/16/11 14:25	A106177	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
TOC	mg/L	**19.3**	E3	6/21/11 9:53	A106213	5310/9060A
Total Alkalinity	mg/L	**12.0**		6/20/11 13:37	A106218	2320 B
Total Phosphorus	mg/L	**0.820**		6/22/11 8:51	A106233	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1106209-02
Sample Name: MW-6
Date/Time Collected: 6/15/11 13:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**207**		6/16/11 15:32	A106177	300.0/9056A
Nitrate as N	mg/L	**1620**		6/16/11 15:32	A106177	300.0/9056A
Nitrite as N	mg/L	< 0.500		6/16/11 14:47	A106177	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**393**		6/16/11 13:35	A106190	4500-NH3D
TOC	mg/L	**1.68**	E3	6/21/11 9:53	A106213	5310/9060A
Total Alkalinity	mg/L	< 5.0		6/20/11 13:37	A106218	2320 B
Total Phosphorus	mg/L	< 0.020		6/22/11 8:51	A106233	4500-P B5,E

ANALYTICAL RESULTS

Lab Number: 1106209-03
Sample Name: MW-7
Date/Time Collected: 6/15/11 14:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**899**		6/16/11 15:55	A106177	300.0/9056A
Nitrate as N	mg/L	**227**		6/16/11 15:55	A106177	300.0/9056A
Nitrite as N	mg/L	< 0.500		6/16/11 15:10	A106177	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**56.6**		6/16/11 13:35	A106190	4500-NH3D
TOC	mg/L	**17.3**	E3	6/21/11 9:53	A106213	5310/9060A
Total Alkalinity	mg/L	< 5.0		6/20/11 13:37	A106218	2320 B
Total Phosphorus	mg/L	**0.102**		6/22/11 8:51	A106233	4500-P B5,E

22 June 2011

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

Date Received: 16-Jun-11 08:50

QUALITY CONTROL RESULTS

Anions -- Batch: A106177 (Water)
Prepared: 17-Jun-11 09:00 By: MG -- Analyzed: 17-Jun-11 14:01 By: MG

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	90.2% / NA	90.0% / 90.4%		0.388%	
Nitrite as N	<0.500 mg/L	90.4% / NA	92.9% / 93.6%		0.804%	
Sulfate as SO4	<0.500 mg/L	108% / NA	108% / 109%		0.786%	

Wet Chemistry -- Batch: A106190 (Water)
Prepared: 16-Jun-11 13:35 By: SB -- Analyzed: 16-Jun-11 13:35 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	103% / NA	115% / 110%		4.30%	

Wet Chemistry -- Batch: A106213 (Water)
Prepared: 20-Jun-11 11:07 By: SB -- Analyzed: 21-Jun-11 09:53 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TOC	<1.00 mg/L	98.4% / NA	99.4% / 101%		0.358%	E3

Wet Chemistry -- Batch: A106218 (Water)
Prepared: 20-Jun-11 13:37 By: SB -- Analyzed: 20-Jun-11 13:37 By: SB

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

Wet Chemistry -- Batch: A106233 (Water)
Prepared: 21-Jun-11 09:43 By: KP -- Analyzed: 22-Jun-11 08:51 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Total Phosphorus	<0.020 mg/L	103% / NA	64.8% / 91.6%		22.5%	D

QUALIFIER(S)

*D: RPD Value Does Not Meet Laboratory Acceptance Criteria
*E3: Estimated Result Due to Incorrect Sample Preservation or Container

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

Norma James
President

Arkansas Analytical Inc.

22 June 2011

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

Date Received: 16-Jun-11 08:50

CHAIN OF CUSTODY FORM(S)

El Dorado Chemical Company

4500 Northwest Ave
El Dorado, Arkansas 71730

EDC3

Client/Billing Information		SPECIAL INSTRUCTIONS/PRECAUTIONS:
Client:	EDCC *********	
Company:	EDCC	
Address:	4500 Northwest Ave	
	El Dorado, AR 71730	Project Name / Number:
Phone No.:	870-863-1400	
Fax No.:	870-863-1499	

Sample ID	Sample Description	Date	Time	Matrix S=Sed/Soil W=Water	Number of Containers	Composite or Grab	Parameters for Analysis/Methods: NO2, Alk, TOC	NO3, NO2, SO4, Alk, TOC	T. Phosphorus	NH3, T. Phosphorus			1106209-		
MW16	Groundwater	6/15/11	1136	W	2	Grab	X		X					01	
MW6	Groundwater	6-15-11	1310	W	2	Grab		X		X				02	
MW7	Groundwater	6-15-11	1410	W	2	Grab		X		X				03	

Preservative (Sulfuric acid =S, Nitric acid =N, NaOH =B, Ice =I)

Sampler(s): Joe Thompson Shipment Method: Courier Turnaround Time Required: Normal

COC Completed by: Joe Thompson Date: 6-15-11 Time: 1420 COC Checked by: _____ Date: _____ Time: _____

Relinquished by: Joe Thompson Date: 6-15-11 Time: 1420 Received by: Brent Parker Date: 6-15-11 Time: 1420

Relinquished by: Bob Smith Date: 6/15/11 Time: 2:55 Received in lab by: Sydney James Date: 6/16/11 Time: 0850

LABORATORY USE ONLY: Samples Received On Ice? (YES) or NO Sample Temperature: 5°C

	Yes	No
Custody Seals:		
Containers Correct:		
COC/Labels Agree:		
Preservation Confirmed:		
Received on Ice:	+	
Temperature on Receipt:	5°C	

delivered via Goldstar

* analysis added based on previous report - 6/16/11 - ®

Arkansas Analytical Inc.

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

05 July 2011

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

RE: Groundwater Sample(s)

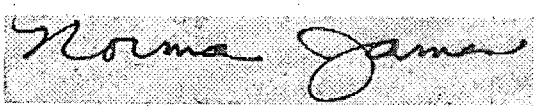
SDG Number: 1106404

Enclosed are the results of analyses for samples received by the laboratory on 29-Jun-11 17:00. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,



Norma James
President

05 July 2011

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

Date Received: 29-Jun-11 17:00

ANALYTICAL RESULTS

Lab Number: 1106404-01
Sample Name: MW-8
Date/Time Collected: 6/29/11 12:58
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrate as N	mg/L	350		7/1/11 8:36	A107003	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	175		7/1/11 9:00	A107007	4500-NH3D

ANALYTICAL RESULTS

Lab Number: 1106404-02
Sample Name: Duplicate
Date/Time Collected: 6/29/11 12:58
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrate as N	mg/L	352		7/1/11 8:58	A107003	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	168		7/1/11 9:00	A107007	4500-NH3D

QUALITY CONTROL RESULTS

Anions -- Batch: A107003 (Water)
Prepared: 01-Jul-11 09:00 By: MG -- Analyzed: 01-Jul-11 10:51 By: MG

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	93.8% / NA	91.8% / 120%		24.4%	%D1, D

Wet Chemistry -- Batch: A107007 (Water)
Prepared: 01-Jul-11 09:00 By: SB -- Analyzed: 01-Jul-11 09:00 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	102% / NA	111% / 113%		1.94%	

QUALIFIER(S)

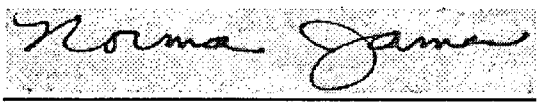
*%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria
*D: RPD Value Does Not Meet Laboratory Acceptance Criteria

05 July 2011

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

Date Received: 29-Jun-11 17:00

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

Arkansas Analytical Inc.

05 July 2011

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

Date Received: 29-Jun-11 17:00

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

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

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

Sampler(s) Signature | Sampler(s) Printed

TEST PARAMETERS

Field Number	Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	NO_3, Alkalinity	NO_3, NO_2, SO_4, Alkalinity	NO_2, NO_3, Alkalinity	T. Phosphorus	Ammonia, T. Phosphorus	TOC	Nitrate	NH3		Arkansas Analytical Work Order Number: 1106404
Preservative Code								1	1	1	1,2	1,2	1,5				
Bottle Type								P	P	P	P	P	GV				
	6-29-11	12:58	X		[illegible]	W	MW-8		[illegible]			[illegible]		✓	X		01
	6-29-11	12:58	X		[illegible]	W	~~MW-~~ Duplicate		[illegible]			[illegible]		X	X		02
	~~6-29-11~~	~~13:50~~	~~X~~		~~[illegible]~~	~~W~~	~~MW-18~~							~~✓~~	~~X~~		
			X			W	MW-										
			X			W	MW-										
			X			W	MW-										
			X			W	MW-										
			X			W	MW-										
			X			W	MW-										
			X			W	MW-										
			X			W	MW-										
			X			W	MW-										
			X			W	MW-										

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
Joe Hoigson [signature]	6-29-11	Brent Parker [signature]
3. Relinquished by: (Signature)	**Date/Time**	**4. Received by lab: (Signature)**
Lara Pennington [signature]	6-29-11	Amanda Parrish [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: 5°C

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

P.O. Number:

Amended COC per Brent Parker - 6/30/11 (S)

Lab poured remaining sample for MW-18 out - EDC will resample - removed from COC - 6/30/11 (S)

Revision 1
12/1/10

Arkansas Analytical Inc.

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

05 July 2011

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

RE: Groundwater Sample(s)

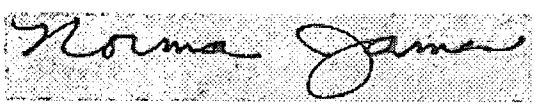
SDG Number: 1106412

Enclosed are the results of analyses for samples received by the laboratory on 30-Jun-11 14:49. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,



Norma James
President

05 July 2011

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

Date Received: 30-Jun-11 14:49

CASE NARRATIVE

SAMPLE DELIVERY GROUP 1106412:

Quality control excursions resulting in data qualification are discussed below.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Failure: Nitrate failed to recover within acceptance criteria in the MSD sample. Nitrate was qualified as "estimated" (E20) in the parent sample, 1106412-01 (MW-18).

05 July 2011

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

Date Received: 30-Jun-11 14:49

ANALYTICAL RESULTS

Lab Number:	**1106412-01**
Sample Name:	**MW-18**
Date/Time Collected:	**6/30/11 10:05**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrate as N	mg/L	< 0.500	E20	7/1/11 9:21	A107003	300.0/9056A

QUALITY CONTROL RESULTS

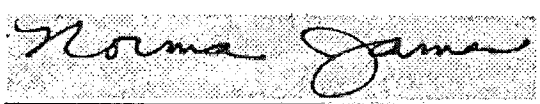
Anions -- Batch: A107003 (Water)
Prepared: 01-Jul-11 09:00 By: MG -- Analyzed: 01-Jul-11 10:51 By: MG

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	93.8% / NA	91.8% / 120%		24.4%	%D1, D

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.

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

05 July 2011

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

Date Received: 30-Jun-11 14:49

CHAIN OF CUSTODY FORM(S)

El Dorado Chemical Company

4500 Northwest Ave
El Dorado, Arkansas 71730

EDC3

Client/Billing Information	
Client:	EDCC Larken Pennington
Company:	EDCC
Address:	4500 Northwest Ave
	El Dorado, AR 71730
Phone No.:	870-863-1400
Fax No.:	870-863-1499

SPECIAL INSTRUCTIONS/PRECAUTIONS

Project Name / Number:

Sample ID	Sample Description	Date	Time	Matrix S=Sed/Soil W=Water	Number of Containers	Composite or Grab	NO3-N,
MW18	MW18	06-30-11	10:05	W	1	GRAB	X

Handwritten in the Sample Description column: 1100412 / 01

Custody Seals: Yes
Containers Correct:
COC/Labels Agree:
Preservation Confirmed:
Received on Ice:
Temperature on Receipt:

Preservative (Sulfuric acid =S, Nitric acid =N, NaOH =B, Ice =I) I,S

Sampler(s): Rodney Durham EMS Inc.
Shipment Method: ~~Courier~~ Jarrod Perry
Turnaround Time Required: Normal

COC Completed by: [illegible] Date: 06/30/11 Time: 10:25 am
COC Checked by: ______ Date: ______ Time: ______
Relinquished by: [signature] Date: 6-30-11 Time: 10:30
Received by: [signature] Date: 6/30/11 Time: 10:30
Relinquished by: [signature] Date: 6/30/11 Time: 1040
Received in lab by: [signature] Date: [illegible] Time: [illegible]

LABORATORY USE ONLY: Samples Received On Ice? YES or NO Sample Temperature:

Arkansas Analytical Inc.

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

06 December 2011

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

RE: Groundwater Sample(s)

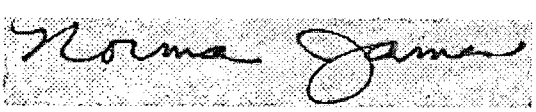
SDG Number: 1112006

Enclosed are the results of analyses for samples received by the laboratory on 01-Dec-11 08:00. If you have any questions concerning this report, please feel free to contact me.

Sample Receipt Information:

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

Sincerely,



Norma James
President

06 December 2011

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

Date Received: 01-Dec-11 08:00

ANALYTICAL RESULTS

Lab Number: 1112006-01
Sample Name: ECMW-18
Date/Time Collected: 11/30/11 7:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Nitrate as N	mg/L	< 0.500		12/1/11 10:05	A112001	300.0/9056A

ANALYTICAL RESULTS

Lab Number: 1112006-02
Sample Name: ECMW-17
Date/Time Collected: 11/30/11 7:58
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**36.1**		12/2/11 9:58	A112001	300.0/9056A
Nitrate as N	mg/L	**5.95**		12/1/11 10:27	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**2.75**		12/5/11 13:39	A112016	4500-NH3D

ANALYTICAL RESULTS

Lab Number: 1112006-03
Sample Name: ECMW-16
Date/Time Collected: 11/30/11 7:45
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**17.9**		12/1/11 18:31	A112001	300.0/9056A
Nitrate as N	mg/L	**11.6**		12/1/11 18:31	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**0.84**		12/5/11 13:39	A112016	4500-NH3D

ANALYTICAL RESULTS

Lab Number: 1112006-04
Sample Name: ECMW-14
Date/Time Collected: 11/30/11 7:30
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**156**		12/2/11 10:21	A112001	300.0/9056A
Nitrate as N	mg/L	**8.09**		12/1/11 11:13	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		12/5/11 13:39	A112016	4500-NH3D

06 December 2011

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

Date Received: 01-Dec-11 08:00

ANALYTICAL RESULTS

Lab Number: 1112006-05
Sample Name: ECMW-10
Date/Time Collected: 11/30/11 8:20
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**94.8**		12/1/11 11:35	A112001	300.0/9056A
Nitrate as N	mg/L	**49.2**		12/1/11 11:35	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		12/5/11 13:39	A112016	4500-NH3D

ANALYTICAL RESULTS

Lab Number: 1112006-06
Sample Name: ECMW-11
Date/Time Collected: 11/30/11 8:35
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**318**		12/2/11 10:43	A112001	300.0/9056A
Nitrate as N	mg/L	**3.56**		12/1/11 11:58	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**2.19**		12/5/11 13:39	A112016	4500-NH3D

ANALYTICAL RESULTS

Lab Number: 1112006-07
Sample Name: ECMW-4
Date/Time Collected: 11/30/11 8:50
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**930**		12/2/11 11:06	A112001	300.0/9056A
Nitrate as N	mg/L	< 0.500		12/1/11 12:20	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		12/5/11 13:39	A112016	4500-NH3D

06 December 2011

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

Date Received: 01-Dec-11 08:00

ANALYTICAL RESULTS

Lab Number: 1112006-08
Sample Name: ECMW-5
Date/Time Collected: 11/30/11 9:10
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**94.4**		12/1/11 13:28	A112001	300.0/9056A
Nitrate as N	mg/L	**19.0**		12/1/11 13:28	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	< 0.50		12/5/11 13:39	A112016	4500-NH3D

ANALYTICAL RESULTS

Lab Number: 1112006-09
Sample Name: ECMW-6
Date/Time Collected: 11/30/11 9:25
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**60.5**		12/1/11 13:51	A112001	300.0/9056A
Nitrate as N	mg/L	**1970**		12/1/11 18:54	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**445**		12/5/11 13:39	A112016	4500-NH3D

ANALYTICAL RESULTS

Lab Number: 1112006-10
Sample Name: ECMW-7
Date/Time Collected: 11/30/11 9:40
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**259**		12/1/11 14:23	A112001	300.0/9056A
Nitrate as N	mg/L	**192**		12/1/11 14:23	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**132**		12/5/11 13:39	A112016	4500-NH3D

06 December 2011

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

Date Received: 01-Dec-11 08:00

ANALYTICAL RESULTS

Lab Number: 1112006-11
Sample Name: ECMW-8
Date/Time Collected: 11/30/11 9:55
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**727**		12/2/11 9:36	A112001	300.0/9056A
Nitrate as N	mg/L	**401**		12/2/11 9:36	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**120**		12/5/11 13:39	A112016	4500-NH3D

ANALYTICAL RESULTS

Lab Number: 1112006-12
Sample Name: ECMW-9
Date/Time Collected: 11/30/11 10:15
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**650**		12/2/11 11:28	A112001	300.0/9056A
Nitrate as N	mg/L	**28.5**		12/1/11 15:08	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**0.70**		12/5/11 13:39	A112016	4500-NH3D

ANALYTICAL RESULTS

Lab Number: 1112006-13
Sample Name: Dup 1
Date/Time Collected: 11/30/11 0:00
Sample Matrix: Water

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**63.8**		12/1/11 15:31	A112001	300.0/9056A
Nitrate as N	mg/L	**2060**		12/1/11 19:16	A112001	300.0/9056A
Wet Chemistry	**Units**	**Result**	**Qualifier(s)**	**Date/Time Analyzed**	**Batch**	**Method**
Ammonia as N	mg/L	**455**		12/5/11 13:39	A112016	4500-NH3D

06 December 2011

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

Date Received: 01-Dec-11 08:00

ANALYTICAL RESULTS

Lab Number:	**1112006-14**
Sample Name:	**Dup 2**
Date/Time Collected:	**11/30/11 0:00**
Sample Matrix:	**Water**

Anions	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Sulfate as SO4	mg/L	**637**		12/1/11 19:39	A112001	300.0/9056A
Nitrate as N	mg/L	**361**		12/1/11 19:39	A112001	300.0/9056A

Wet Chemistry	Units	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
Ammonia as N	mg/L	**101**		12/5/11 13:39	A112016	4500-NH3D

QUALITY CONTROL RESULTS

Anions -- Batch: A112001 (Water)
Prepared: 01-Dec-11 09:30 By: MG -- Analyzed: 01-Dec-11 20:24 By: Mel

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Nitrate as N	<0.500 mg/L	106% / NA	106% / 106%		0.112%	
Sulfate as SO4	<0.500 mg/L	108% / NA	53.0% / 57.7%		1.57%	%D1

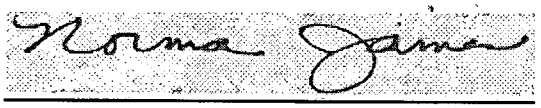
Wet Chemistry -- Batch: A112016 (Water)
Prepared: 01-Dec-11 11:27 By: KP -- Analyzed: 05-Dec-11 13:39 By: KP

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	104% / NA	101% / 101%		0.387%	

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

06 December 2011

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

Date Received: 01-Dec-11 08:00

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

Preservation Codes:

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

TEST PARAMETERS

	Nitrate	Nitrate, Sulfate	Ammonia							Bottle Type Code
Preservative Code	1	1	1,2							G = Glass; P = Plastic
Bottle Type	P	P	P							V = Septum; A = Amber

Sampler(s) Signature

Sampler(s) Printed

Field Number	Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	Nitrate	Nitrate, Sulfate	Ammonia	Arkansas Analytical Work Order Number: 1112006
	11-30	0710	X	1		Water	ECMW-18	✓	⊘		01
	✓	0758	X		2	Water	ECMW-17	~~✓~~	✓	✓	02
	✓	0745	X		2	Water	ECMW-16	~~✓~~	|	✓	03
	✓	0730	X		2	Water	ECMW-14	~~✓~~	|	✓	04
	✓	0820	X		2	Water	ECMW-10	~~✓~~	|	✓	05
	✓	0835	X		2	Water	ECMW-11	~~✓~~	|	✓	06
	✓	0850	X		2	Water	ECMW-4	~~✓~~	|	✓	07
	✓	0910	X		2	Water	ECMW-5	~~✓~~	|	✓	08
	✓	0925	X		2	Water	ECMW-6	~~✓~~	|	✓	09
	✓	0940	X		2	Water	ECMW-7	~~✓~~	|	✓	10
	✓	0955	X		2	Water	ECMW-8	~~✓~~	|	✓	11
	✓	1015	X		2	Water	ECMW-9	~~✓~~	|	✓	12

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)
Joe Thompson	11/30/11 11:00	Larken Pennington 11/30/11 11:00am
3. Relinquished by: (Signature)	**Date/Time**	**4. Received by lab: (Signature)**
Larken Pennington courier: Jesse Borders	11/30/11 2:45PM	Goldstar Courier 12-1-11 0800 Amanda Fairbush

SAMPLE CONDITION UPON RECEIPT IN LAB

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

FOR COMPLETION BY LAB ONLY

REMARKS / SAMPLE COMMENTS

P.O. Number:

Changed analysis per sample containers received - 11/30/11 - [illegible]

Revision 1
12/1/10

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

CHAIN OF CUSTODY RECORD

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

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

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

Sampler(s) Signature

Sampler(s) Printed

Field Number	SAMPLE COLLECTION Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS: Nitrate	Nitrate, Sulfate	Ammonia	Arkansas Analytical Work Order Number: 1112006
	11-30-11		X		2	Water	ECMW- Dup1	~~✓~~	✓	✓	13
	11-30-11		X		2	Water	ECMW- Dup2	~~✓~~	✓	✓	14
			X		2	Water	ECMW-				
			X		2	Water	ECMW-				
			X		2	Water	ECMW-				
			X		2	Water	ECMW-				
			X		2	Water	ECMW-				
			X		2	Water	ECMW-				
			X		2	Water	ECMW-				
			X		2	Water	ECMW-				
			X		2	Water	ECMW-				
			X		2	Water	ECMW-				

1. Relinquished by: (Signature)	Date/Time	2. Received by: (Signature)	SAMPLE CONDITION UPON RECEIPT IN LAB	REMARKS / SAMPLE COMMENTS
Joe Thompson	11-30-11	Lorken Pennington 11/30/11 P.Hoan	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	
Lorken Pennington Courier Jessie Bailey	11-30-11 2:45 PM	Goldstar Courier 12-1-11 0800 Amanda Robbins	5. RECEIVED ON ICE: ___ Yes ___ No	
			6. TEMPERATURE ON RECEIPT: 5°C	
			FOR COMPLETION BY LAB ONLY	

Revision 1
12/1/10

06 December 2011
Brent Parker
El Dorado Chemical Inc.
4500 North West Ave.
El Dorado, AR 71731
Project: Groundwater Sample(s)

Date Received: 01-Dec-11 08:00

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/25/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	12.54 ft	Gallons per well volume	6.21 gal
Top of casing to bottom	22.10 ft	Total gallons evacuated	18.64 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/26/11	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Dissc Oxygen[mg/l]	ORP Turbidity[NT
17.0	5.66	.050	6.16 ms	38.0
16.8	5.04	.048	3.01	4.3

GENERAL INFORMATION

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

Certification
R. Durham
Joe Thompson

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

FIGUE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No. MW-2
Collected: R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/25/11	Method of Evacuation	Elec. Pump
Top of casing to water level	2.08 ft	Gallons per well volume	11.77 gal
Top of casing to bottom	20.20 ft	Total gallons evacuated	35.33 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/26/11 - 11:32	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Dissc ! Oxygen[mg/l]	Turbidity[NT
16.8	5.44	.324	2.09 ms	3.7 mv
17.2	5.63	.327	4.22	2.3
16.4	5.51	.306	1.73	-2.7

GENERAL INFORMATION

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

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. MW-3
Colle R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/26/11	Method of Evacuation	Elec. Pump
Top of casing to water level	11.50 ft	Gallons per well volume	10.14 gal
Top of casing to bottom	27.10 ft	Total gallons evacuated	30.42 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/27/11 0945	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso Oxygen[mg/l]	ORP ~~Turbidity~~[NT
18.8	6.11	.208	1.53	-7.4 mv
18.4	6.19	.197	1.68	-20.9
		Dry		

GENERAL INFORMATION

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

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No: MW-4
Colle R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/26/11 –	Method of Evacuation	ELEC. PUMP
Top of casing to water level	8.68 ft	Gallons per well volume	8.22 gal
Top of casing to bottom	22.10 ft	Total gallons evacuated	26.1 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/27/11 10:00	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	ORP Turbidity [NT
18.1	4.01	6.78	4.58	mg	63.9
18.0	3.91	7.07	3.29		116.8

GENERAL INFORMATION

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

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No: MW-5
Collector: R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/26/11	Method of Evacuation	Elec. Pump
Top of casing to water level	2.88 ft	Gallons per well volume	9.63 gal
Top of casing to bottom	17.70 ft	Total gallons evacuated	28.89 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/27/11 1025	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Dissc	Oxygen[mg/l]	ORP ~~Turbidity~~ NT
19.7	4.98	.56	2.88 ns		78.5
18.9	5.05	408	2.18		63.2
18.2	5.03	401	2.12		55.1

GENERAL INFORMATION

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

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No. MW-6
Colle R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/26/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	4.50 ft	Gallons per well volume	11.37 gal
Top of casing to bottom	22.00 ft	Total gallons evacuated	34.12 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/27/11 1040	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso Oxygen[mg/l]	ORP Turbidity [NT
19.9	5.02	14.65	1.28 ms	111.8 mv
19.5	4.28	14.58	1.07	95.7
19.5	4.30	14.54	1.60	76.6

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy
Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Field EL DORADO, AR Well No. MW8
Collected by R. DURHAM

MONITORING WELL INFORMATION

Evacuation Date/Time	6-15-11 1220	Method of Evacuation	ELEC. PUMP
Top of casing to water level	6.46 ft	Gallons per well volume	10.16 gal
Top of casing to bottom	22.10 ft	Total gallons evacuated	30.48 gal
Water level after evacuation	ft	Elevation Top of casing	
Sampling Date/Time	6-15-11 1340	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 [NTU]
21.3	4.03	1.588 ms		
20.4	4.02	1.478 ms		
20.0	4.01	1.473 ms		

GENERAL INFORMATION

Weather conditions at time of sampling:

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certified By:
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. MW-7
Colle R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/26/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	7.30 ft	Gallons per well volume	10.29 gal
Top of casing to bottom	23.90 ft	Total gallons evacuated	32.37 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/27/11 11.20	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso Oxygen[mg/l]	ORP Turbidity [NT
19.8	4.56	21.33 ms	2.11 mg	89.8 mv
19.6	4.45	21.92	1.87	119.8
19.6	4.47	22.22	2.11	13.17

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy
Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No. MW 7
Collector: R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	6-15-11 1325	Method of Evacuation	ELEC. PUMP
Top of casing to water level	8.78 ft	Gallons per well volume	10.60 gal
Top of casing to bottom	25.10 ft	Total gallons evacuated	31.82 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	6-15-11 14:10	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
20.9	4.25	19.78 ms		
20.4	4.16	19.45 ms		
20.2	4.17	19.83 ms		

GENERAL INFORMATION

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

Certification:
R. Durham

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. MW-8
Collector R. DURHAM, Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/26/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	7.38 ft	Gallons per well volume	14.63 gal
Top of casing to bottom	29.90 ft	Total gallons evacuated	43.91 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/27/11 13:10	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Disso	Oxygen[mg/l]	ORP Turbidity[NTU]
19.3	3.85	18.76 ms/cm	1.51 mg		95.7 mv
19.2	3.81	20.19	1.14		115.1
19.1	3.85	20.65	1.75		133.2

GENERAL INFORMATION

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

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No. MW 8
Colle: R. Durham

MONITORING WELL INFORMATION

Evacuation Date/Time	6-29-11 11:40	Method of Evacuation	Elec. Pump
Top of casing to water level	8.68 ft	Gallons per well volume	13.79 gal
Top of casing to bottom	29.90 ft	Total gallons evacuated	41.37 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	6-29-11 1258	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
21.1	3.61	18.61 ms			
20.7	3.61	OR			
20.9	3.10	4.48 ms			

GENERAL INFORMATION

Weather conditions at time of sampling: clear hot
Sample characteristics:
Containers and preservatives:
Comments and observations: Dup - MW-23
Recommendations:

Certification:
K. Windra
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No. MW-9
Collector: R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/26/11	Method of Evacuation	Elec. Pump
Top of casing to water level	10.60 ft	Gallons per well volume	12.6 gal
Top of casing to bottom	30.00 ft	Total gallons evacuated	37.8 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/27/11 12:20	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Dissc ! Oxygen[mg/l]	ORP Turbidity [NT
19.3	5.55	2.31 ms/cm	3.46 mg/L	925
19.2	5.83	205	2.90	77.2
19.2	5.74	204	1.78	60.7

GENERAL INFORMATION

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

Certification:
K. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No.: MW-10
Collected: R. DURHAM, Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	4/26/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	12.90 ft	Gallons per well volume	6.33 gal
Top of casing to bottom	22.60 ft	Total gallons evacuated	18.91 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	4/27/11 13:25	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature [°C]	pH	Conductivity [uS]	Dissl. Oxygen [ ]	ORP Turbidity [NTU]
19.7	4.49	99 ms	166 ms	69.1
19.6	4.30	.90 ms	.92	56.8

GENERAL INFORMATION

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

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No: MW-11
Collector: R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/26/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	11.30 ft	Gallons per well volume	5.52 gal
Top of casing to bottom	19.80 ft	Total gallons evacuated	16.57 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/27/11 1340	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Disso. Oxygen [mg/l]	ORP Turbidity [NT
19.0	4.41	.540 ms	2.02 mg	55.5 mV
18.2	451	0.77	1.76	51.0
18.8	457	0.91	1.94	49.5

GENERAL INFORMATION

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

Certification:
K. Durham
Joe Thompson

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

FIGUR

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site _____ Facility _____ Well No. MW 12

Colle Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/26/11	Method of Evacuation	12V pump
Top of casing to water level	5.40 ft	Gallons per well volume	9.36 gal
Top of casing to bottom	19.90 ft	Total gallons evacuated	28.08 gal
Water level after evacuation	ft	Elevation, Top of casing	ft
Sampling: Date/Time	4/27/11 13:55	Elevation of well water	ft
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[mg/l]	~~Turbidity~~ ORP [NTU]
19.5	5.75	0.60 ms/cm	2.03 mg	22.1
19.6	6.00	0.63	1.05	-24.6
19.3	5.67	0.60	0.66	-13.8

GENERAL INFORMATION

Weather conditions at time of sampling: Cloudy

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Recommendations: _____

Certification: Joe Thompson

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

FIGURE 2

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. MW 13
Colle R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/25/11	Method of Evacuation	Elec. Pump
Top of casing to water level	7.30 ft	Gallons per well volume	8.12 gal
Top of casing to bottom	19.80 ft	Total gallons evacuated	24.37 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/26/11 0912	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	P/C Bailer

SAMPLE D

Temperature [°C]	pH	Conductivity [µS]	Disso Oxygen [mg/l]	ORP Turbidity [NT
18.4	4.95	1.39	20.8 mg	-116.1
17.3	4.43	1.21	0.87	153.0
17.3	4.68	1.67	090	-172.0

GENERAL INFORMATION

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

Certification
R. Durham
Joe Thompson

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No: MW14
Collector: R. Durham / Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	4/25/11	Method of Evacuation	Elec. Pump
Top of casing to water level	7.12 ft	Gallons per well volume	7.20 gal
Top of casing to bottom	18.20 ft	Total gallons evacuated	21.60 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	4/26/11	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~~ ORP
19.4	4.85	0.70	1.57 mg/l	111.5
18.7	4.96	0.69	1.61 mg/l	145.7
18.5	5.04	0.69	1.70 mg/l	-113.7

GENERAL INFORMATION

Weather conditions at time of sampling:

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:

R. Durham

Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. MW 15
Collector R. DURHAM, Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	4/25/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	6.30 ft	Gallons per well volume	6.63 gal
Top of casing to bottom	17.00 ft	Total gallons evacuated	19.89 gal
Water level after evacuation	ft	Elevation Top of casing	
Sampling Date/Time	4/26/11 09:22	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]
18.5	4.88	.091	1.27	149.7
18.4	4.84	.073	1.01	190.9
17.8	4.86	.073	1.01	195.4

GENERAL INFORMATION

Weather conditions at time of sampling:

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:

R. Durham

Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Fld: EL DORADO, AR Well No. MW 16
Colle R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	4/25/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	4.42 ft	Gallons per well volume	9.67 gal
Top of casing to bottom	19.30 ft	Total gallons evacuated	29.01 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	4/26/11 09:58	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLED

Temperature [°C]	pH	Conductivity [uS]	Diss. Oxygen [ ]	ORP Turbidity [NT]
18.2	4.86	.163	2.16 ms	-113.2
17.8	4.74	.199	1.87	99.6
17.7	4.50	.204	0.41	153.0

GENERAL INFORMATION

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

Certification:
K. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No: MW17
Collected: R. DURRARD Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	4/25/11	Method of Evacuation	ELEC PUMP
Top of casing to water level	28.68 ft	Gallons per well volume	
Top of casing to bottom	34.70 ft	Total gallons evacuated	
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	4/26/11 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 [ ]	ORP / ~~Turbidity~~ [NT]
19.1	4.81	.238	2.15	50.7
18.8	4.42	.228	.151	66.5
19.0	4.34	.228	.99	74.8

GENERAL INFORMATION

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

Certification:
R. Durrard
Joe Thompson

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

FIGUR

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility E. DORADO, AR Well No. MW 18
Colle R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/25/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	5.05 ft	Gallons per well volume	7.81
Top of casing to bottom	17.20 ft	Total gallons evacuated	23.69
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/26/11 08.42	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D

Temperature[°C]	pH	Conductivity[µS]	Disso Oxygen[mg/l]	ORP Turbidity [NT
17.2	6.19	.077	3.41 MS	-165.0
17.4	5.74	.072	5.19 MS	-179.1
17.9	5.77	.080	5.98	-165.5

GENERAL INFORMATION

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

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No.: DW 18
Collector: K. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	6/5/11 11:04	Method of Evacuation	ELEC. PUMP
Top of casing to water level	8.50 ft	Gallons per well volume	5.53 gal
Top of casing to bottom	17.02 ft	Total gallons evacuated	16.61 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	6/5/11 11:36	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLED

Temperature [°C]	pH	Conductivity [uS]	Diss. Oxygen [ ]	Turbidity [NT
19.7	5.68	140.6 µs		
19.8	5.66	98.4 µs		
20.0	5.76	97.6 µs		

GENERAL INFORMATION

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

Certification:

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No MW-18
Collector R. DURHAM

MONITORING WELL INFORMATION

Evacuation: Date/Time	6-29-11 1320	Method of Evacuation	ELEC. PUMP
Top of casing to water level	9.42 ft	Gallons per well volume	5.05 gal
Top of casing to bottom	17.80 ft	Total gallons evacuated	15.17 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	6-29-11 1350	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
22.4	5.43	114.0 us			
21.1	6.57	90.8 us			
20.9	5.71	89.7 us			

GENERAL INFORMATION

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

Certification
R. Durham

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No. MW-19
Collected: R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/25/11	Method of Evacuation	Elec. Pump
Top of casing to water level	2.62 ft	Gallons per well volume	9.42
Top of casing to bottom	61.50 ft	Total gallons evacuated	28.26 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/26/11 08:28	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Dissc. Oxygen [mg/l]	ORP Turbidity [NT
17.8	6.02	.085	1.80	-232.4
18.2	6.03	.082	0.91	261.1
18.1	5.82	.082	0.51	257.2

GENERAL INFORMATION

Weather conditions at time of sampling: Clear

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:

K. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. MW 20
Colle R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	4/25/11	Method of Evacuation	ELEC. PUMP
Top of casing to water level	30.18 ft	Gallons per well volume	
Top of casing to bottom	54.40 ft	Total gallons evacuated	
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	4/26/11 0810	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
19.6	5.82	.091	2.10 ms	-106.9
22.1	6.03	.111	2.25	149.9
		dry		

GENERAL INFORMATION

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

Certification:
K. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. 21
Collector R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time		Method of Evacuation	ELEC. PUMP
Top of casing to water level	18.92 ft	Gallons per well volume	0.81
Top of casing to bottom	34.9 ft	Total gallons evacuated	2.44
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time		Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D.

Temperature[°C]	pH	Conductivity[µS]	Disso. Oxygen[mg/l]	ORP Turbidity[NT
18.7	6.19	.081 ms	3.99	113.3
19.0	5.85	.073 ms	4.58	-110.7

GENERAL INFORMATION

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

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Field: El Dorado, AR Well No: MW-22
Colle: R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	4/25/11	Method of Evacuation	Elec. Pump
Top of casing to water level	6.84 ft	Gallons per well volume	11.67 gal
Top of casing to bottom	19.80 ft	Total gallons evacuated	35.02 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	4/26/11 1108	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 [NTU]
18.7	5.89	.136	2.02	48.7
18.6	6.06	.137	0.69	22.6
18.3	6.05	.132	.90	-5.1

GENERAL INFORMATION

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

Certification:
R. Durham
Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Field: El Dorado, AR Well No. 4
Collected: R. Durham, Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	11/29/11 1310	Method of Evacuation	Elec. Pump
Top of casing to water level	12.40 ft	Gallons per well volume	6.37 gal
Top of casing to bottom	22.20 ft	Total gallons evacuated	19.11 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11/30/11 08:50	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	P/C Bailer

SAMPLE D

Temperature [°C]	pH	Conductivity [uS]	Diss. Oxygen [mg/l]	Turbidity [NT]
19.5	3.69	7426 uS/cm	0.63 mg/l	288.0 mV
20.4	3.48	6065	3.21	260.1
19.4	3.72	7397	1.26	269.2

GENERAL INFORMATION

Weather conditions at time of sampling: clear mid 50
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: R. Durham Joe Thompson

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

FIGUR

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No. 5
Collected: K. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	11/29/11 1420	Method of Evacuation	Elec. Pump
Top of casing to water level	4.06 ft	Gallons per well volume	13.24 gal
Top of casing to bottom	17.80 ft	Total gallons evacuated	26.79 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	11/30/11 09.10	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 [ ]	ORP Turbidity [N]
20.1	5.36	422.6 us/cm	1.59 mg/L	186.5 mV
19.8	4.88	423.1	1.03	192.8
20.7	4.67	417.6	1.08	199.5

GENERAL INFORMATION

Weather conditions at time of sampling: clear Upper 50
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certified by: K. Durham Joe Thompson

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No: 6

Collector: R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	11/29/11 13:48	Method of Evacuation	ELEC. PUMP
Top of casing to water level	5.76 ft	Gallons per well volume	10.62 gal
Top of casing to bottom	22.10 ft	Total gallons evacuated	31.86 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11/30/11 09:25	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLE D

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/L]	Turbidity [NT
19.9	4.31	17133 µS/cm	0.78	268.0
20.0	3.86	15402	0.23	267.6
20.0	3.88	15399	0.18	267.9

GENERAL INFORMATION

Weather conditions at time of sampling:

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: L. Durham Joe Thompson

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No: 7
Coile: R. Durham

MONITORING WELL INFORMATION

Evacuation Date/Time	11/29/11 15:12	Method of Evacuation	Elec. Pump
Top of casing to water level	8.60 ft	Gallons per well volume	10.72 gal
Top of casing to bottom	25.10 ft	Total gallons evacuated	32.17 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	11/30/11 09:40	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	P/C BAILER

SAMPLE D

Temperature [°C]	pH	Conductivity [uS]	Diss. Oxygen [%]	ORP Turbidity [NT]
20.4	4.87	21850 uS/cm	0.49 mg	263.5 mV
20.8	4.16	19150	0.12	289.9
20.8	4.18	19195	0.09	307.7

GENERAL INFORMATION

Weather conditions at time of sampling: Clear approx. 50
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: R. Durham Lee Thompson

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No. 8
Colle: R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	11/29/30 15:52	Method of Evacuation	Elec. Pump
Top of casing to water level	8.60 ft	Gallons per well volume	14.09 gal
Top of casing to bottom	30.20 ft	Total gallons evacuated	42.12 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11/30/11 0955	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]
19.0	3.52	19866 us/cm	0.44	318.3
19.0	3.43	21948	0.13	317.2
19.1	3.44	22482	0.10	317.0

GENERAL INFORMATION

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

Certification: R. Durham Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No. 9

Colle R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	11/29/11 16.45	Method of Evacuation	Elec Pump
Top of casing to water level	14.96 ft	Gallons per well volume	9.97 gal
Top of casing to bottom	38.50 ft	Total gallons evacuated	2991 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11/30/11 10:15	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 [mg/l]	ORP Turbidity [NT]
19.2	5.66	2206 us	0.56 mg	247.2 mv
19.7	5.58	2164	0.81	248.8
19.6	5.37	2145	0.51	249.6

GENERAL INFORMATION

Weather conditions at time of sampling: Clear

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: R. Durham Joe Thompson

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility: El Dorado, AR Well No. 10
Collr K. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	11/29/11 1052	Method of Evacuation	Elec. Pump
Top of casing to water level	16.30 ft	Gallons per well volume	4.35 gal
Top of casing to bottom	23.00 ft	Total gallons evacuated	13.06 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11/30/11 0820	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]
20.5	4.08	6.52 ms/cm	2.42 mg/L	176.9 ORP mV
21.0	3.99	777	0.83	189.4
19.5	3.97	754	4.26	196.7

GENERAL INFORMATION

Weather conditions at time of sampling: Clear Low 40
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: K. Durham Joe Thompson

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site E. DORADO CHEMICAL Facility E. DORADO, AR Well No. 11
Colle R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	11/29/11 11:22	Method of Evacuation	ELEC. PUMP
Top of casing to water level	14.62 ft	Gallons per well volume	3.62 gal
Top of casing to bottom	20.20 ft	Total gallons evacuated	1088 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	11/30/11 0835	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]
21.2	4.22	911 uS/cm	2.49 mg/L	202.1
21.7	4.18	975	0.97	202.5
21.4	4.11	1086	2.09	212.0

GENERAL INFORMATION

Weather conditions at time of sampling: Clear mid 30
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: K. Durham Joe Thompson

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. 14
Collector R. DURHAM JOE THOMPSON

MONITORING WELL INFORMATION

Evacuation Date/Time	11/29/11 0908	Method of Evacuation	ELEC. PUMP
Top of casing to water level	10.52 ft	Gallons per well volume	2.44 gal
Top of casing to bottom	17.60 ft	Total gallons evacuated	7.32 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	11/30/11 0730	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLED

Temperature [°C]	pH	Conductivity [uS]	Diss. Oxygen [%]	Turbidity [NT]
19.4	4.80	629 us/cm	1.92 mg/L	162.7 mv
20.5	4.58	637	1.60	163.7
20.8	4.50	650	0.63	176.3

GENERAL INFORMATION

Weather conditions at time of sampling clear mid 30

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification: R. Durham Joe Thompson

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: El Dorado Chemical Facility: El Dorado, AR Well No. 16
Colle R. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	11/29/10 9HR	Method of Evacuation	Elec. Pump
Top of casing to water level	6.38 ft	Gallons per well volume	8.52 gal
Top of casing to bottom	19.50 ft	Total gallons evacuated	25.50 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling: Date/Time	11/30/11 0745	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC Bailer

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	Turbidity [NT]
19.9	4.17	1732 µS/cm	1.66 mg	143.6 mv
21.0	4.13	1856	0.34	139.8
21.3	4.12	1971	0.23	140.7

GENERAL INFORMATION

Weather conditions at time of sampling: Clear low 30
Sample characteristics:
Containers and preservatives:
Comments and observations:
Recommendations:

Certification: L. Durham Joe Thompson

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

FIGUI

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. 17
Collector R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	11/29/11 10:15	Method of Evacuation	ELEC PUMP
Top of casing to water level	30.60 ft	Gallons per well volume	2.86 gal
Top of casing to bottom	35.60 ft	Total gallons evacuated	8.58 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	11/30/11 07:58	Elevation of well water	
Top of casing to water level	ft	Method of Sampling	PVC BAILER

SAMPLED

Temperature[°C]	pH	Conductivity[uS]	Diss. Oxygen[mg/l]	Turbidity [NTU]
16.2	4.20	200.3 us/cm	1.99 mg	153.0 ORP mv
17.6	4.07	209.4	1.78	155.1
17.8	4.65	205.4	2.48	160.0

GENERAL INFORMATION

Weather conditions at time of sampling: clear cold mid 20

Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification:

R. Durham

Joe Thompson

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

FIGU

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site El Dorado Chemical Facility El Dorado, AR Well No. 18
Collc K. Durham Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	11/29/11 8:00	Method of Evacuation	Elec. Pump
Top of casing to water level	9.96 ft	Gallons per well volume	4.70 gal
Top of casing to bottom	17.20 ft	Total gallons evacuated	14.11 gal
Water level after evacuation	ft	Elevation, Top of casing	
Sampling Date/Time	11/30/11 07:10	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]	Turbidity [NT]
17.1	3.54	77.5 ms	3.03 mg	102.5 mv
18.0	5.64	72.2 ms	1.06 mg	109.7 mv
		dry		

GENERAL INFORMATION

Weather conditions at time of sampling Clear Cold Low 30
Sample characteristics:

Containers and preservatives:

Comments and observations:

Recommendations:

Certification K. Durham Joe Thompson

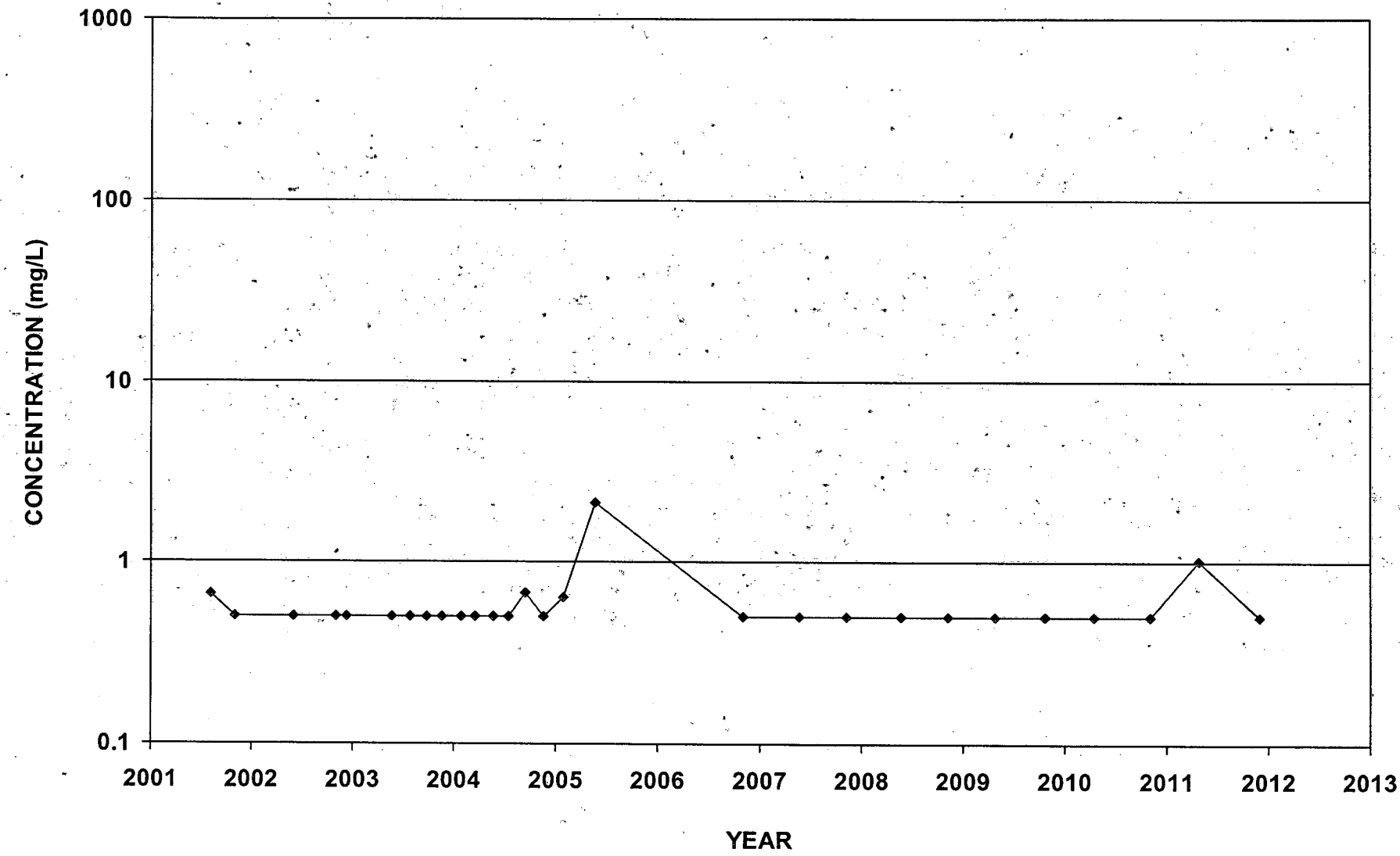
Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

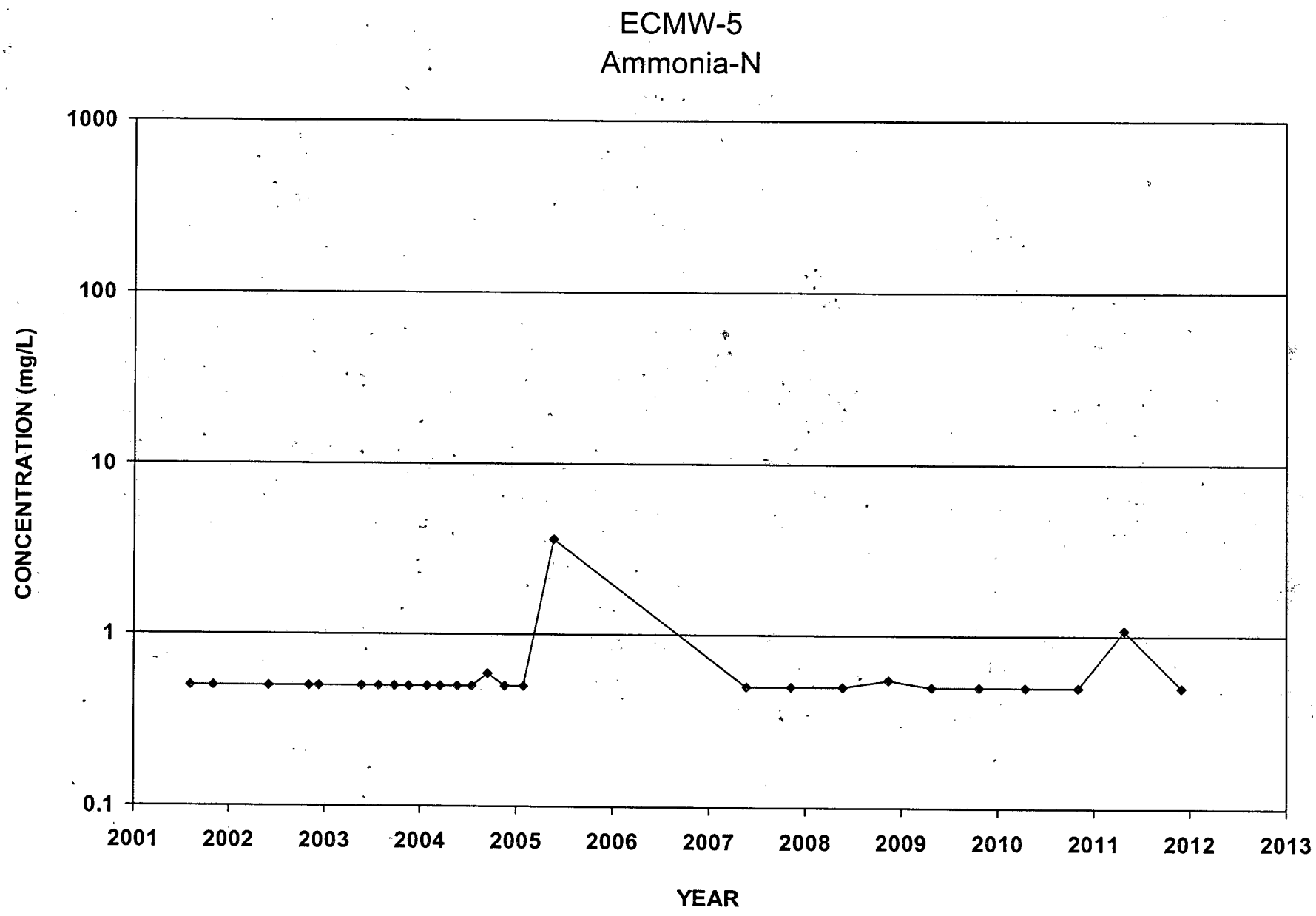
FIGUI

APPENDIX B

TREND GRAPHS

ECMW-4
Ammonia-N

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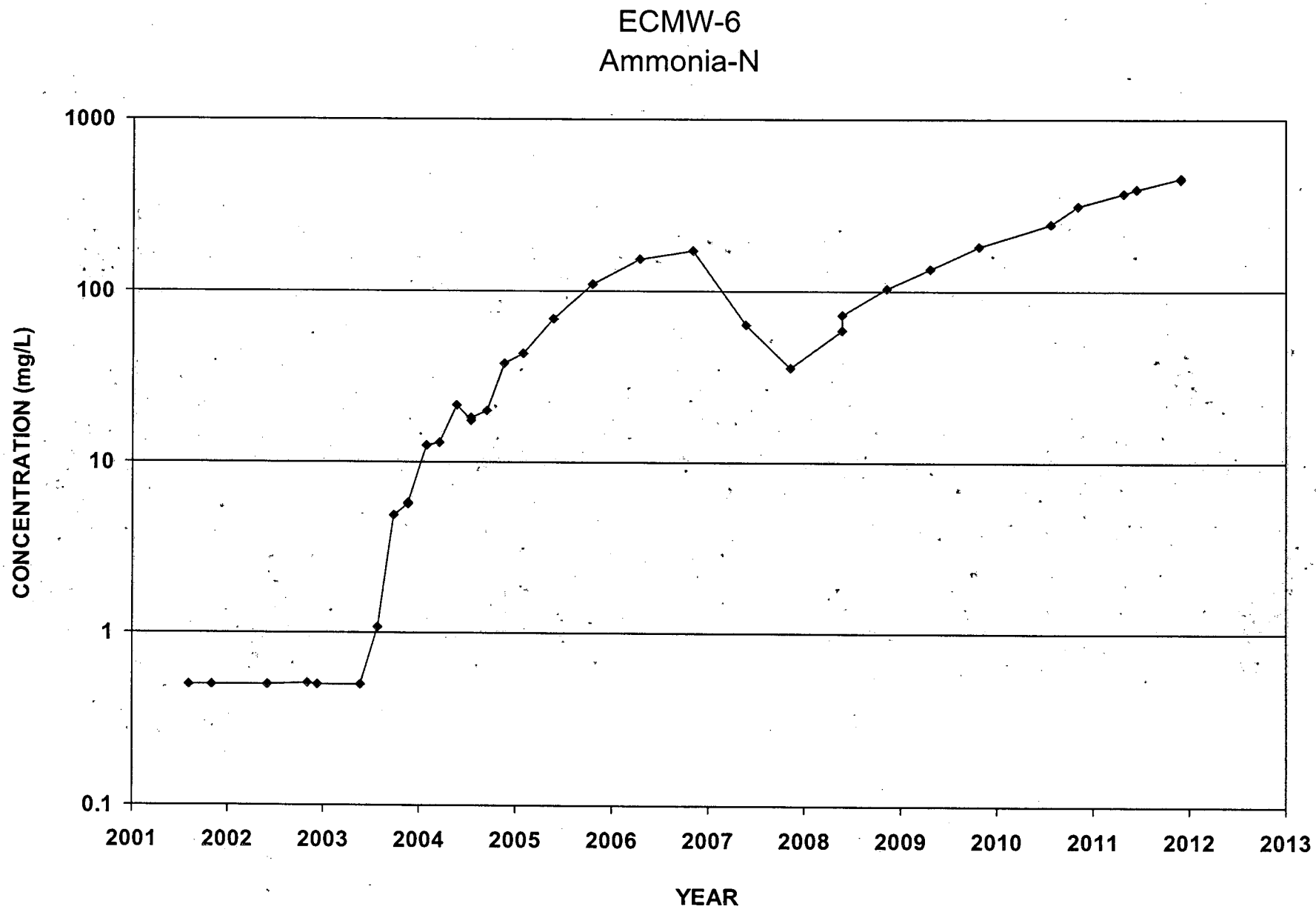
YEAR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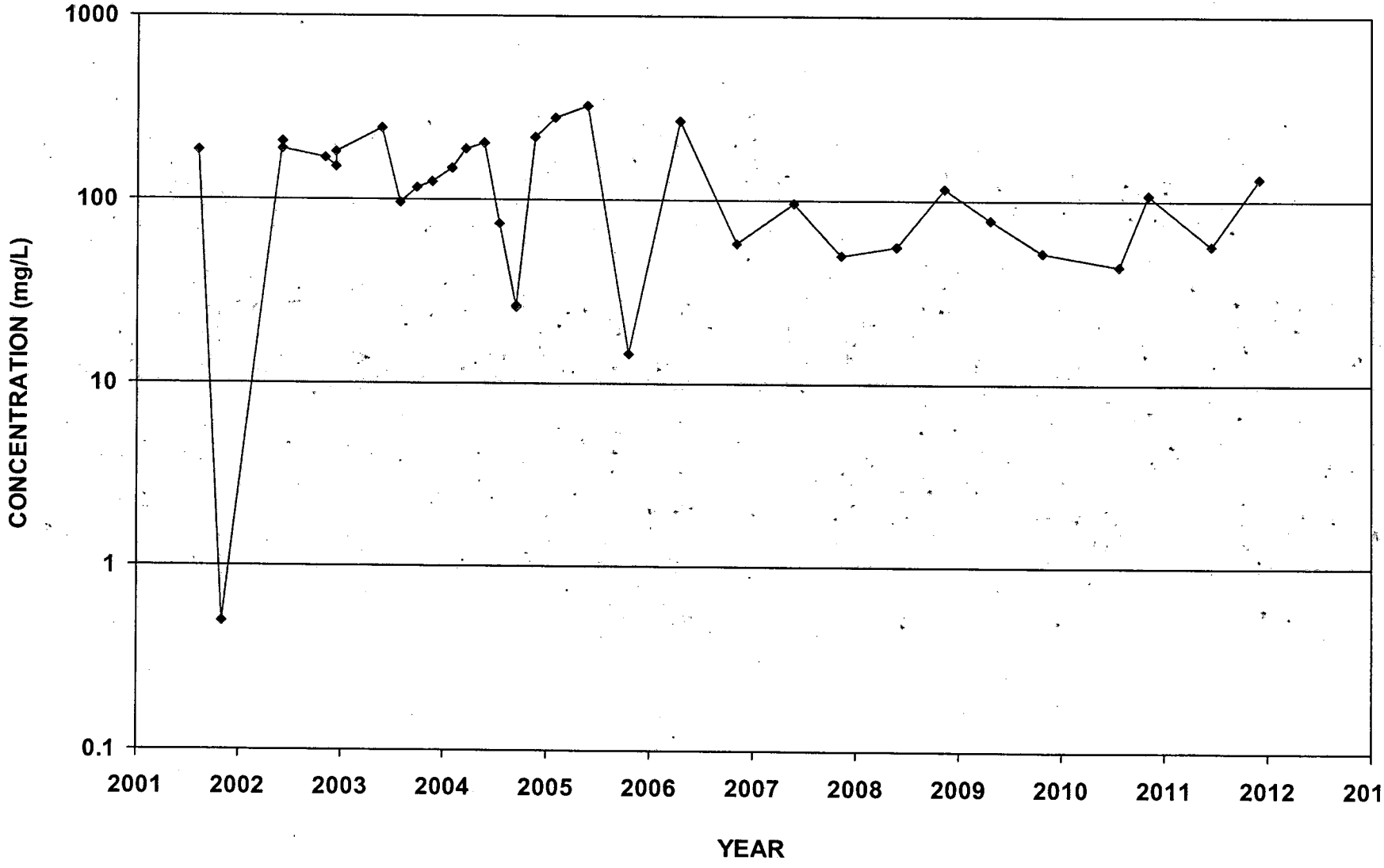
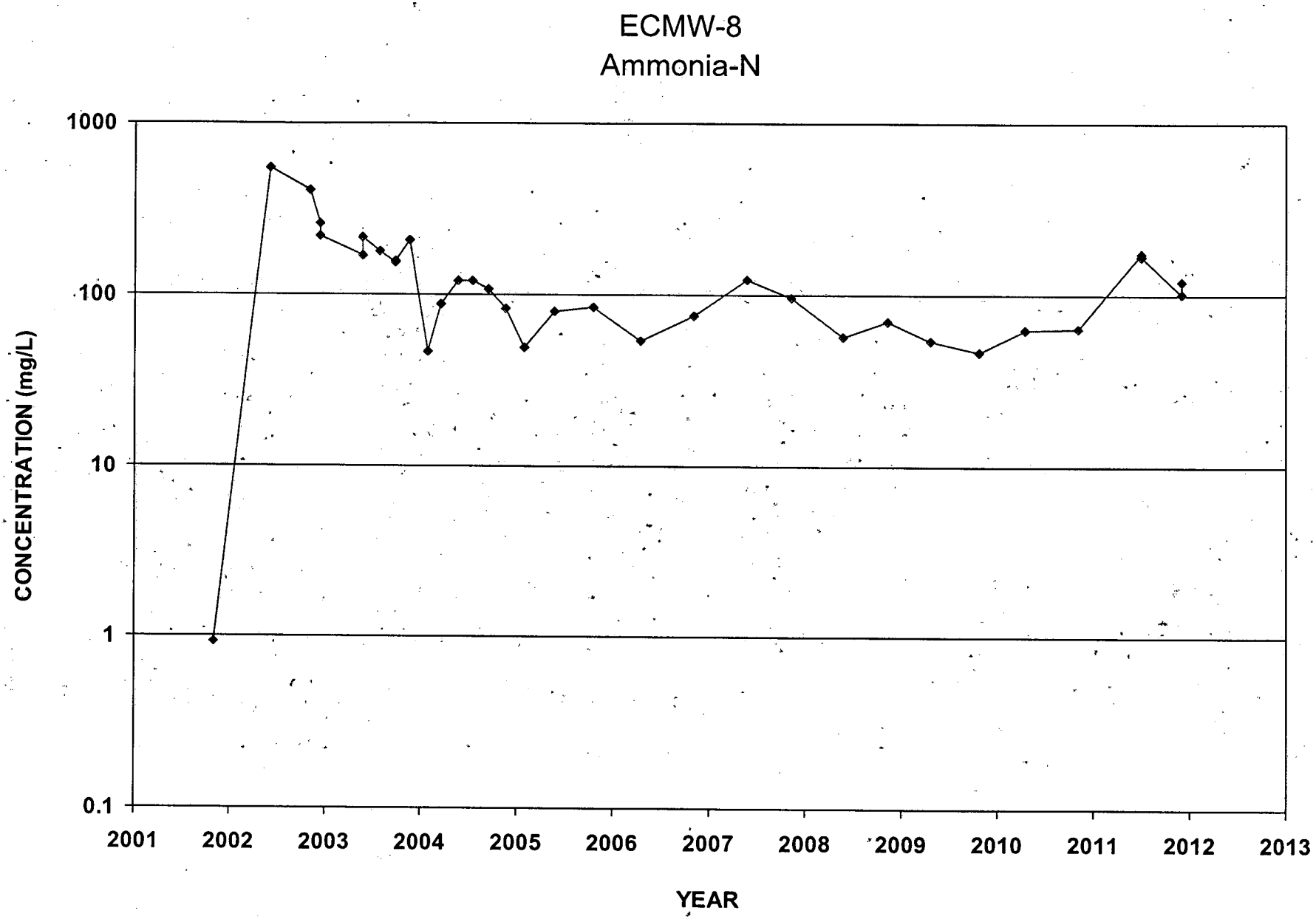
YEAR

ECMW-7
Ammonia-N

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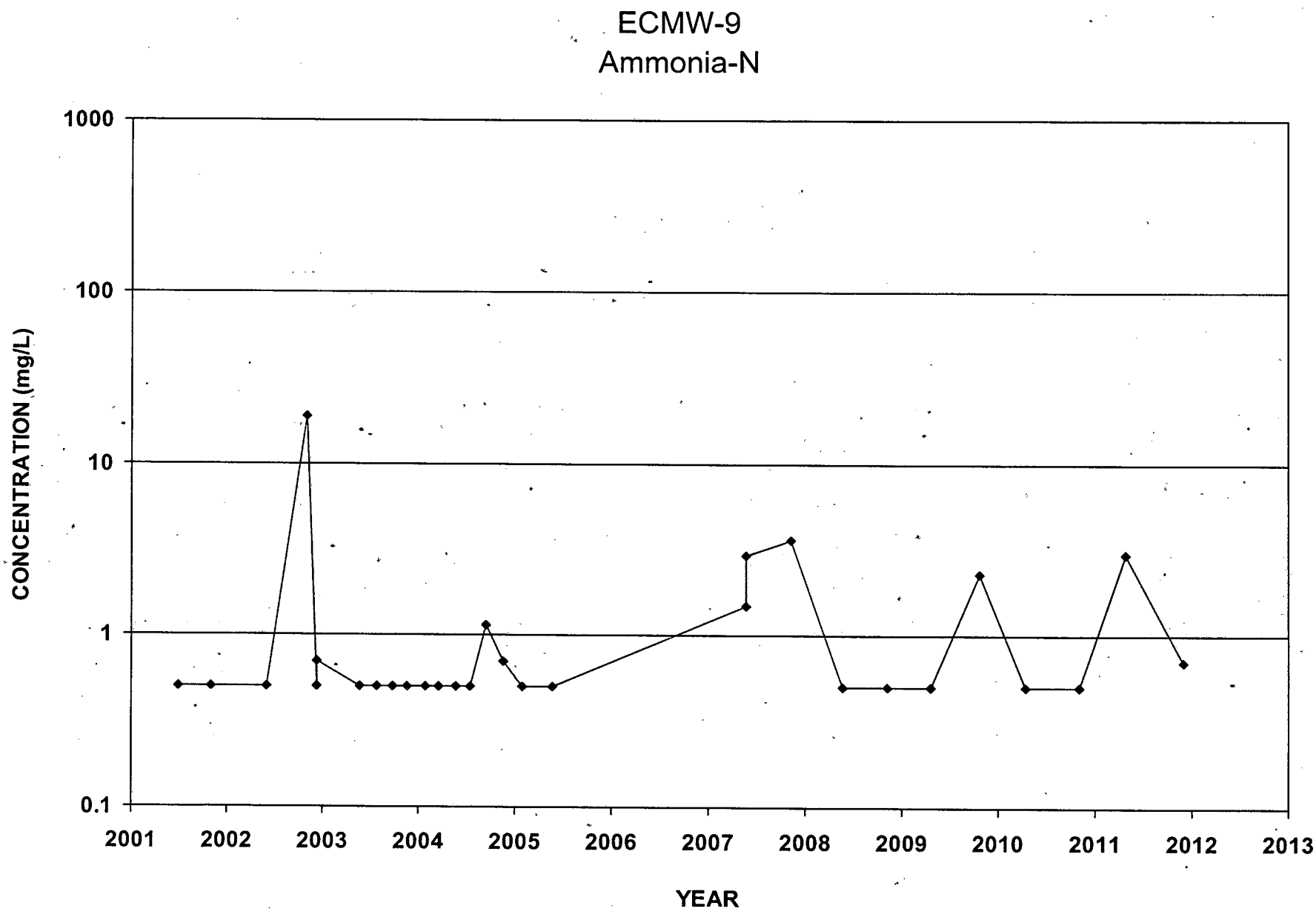
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CONCENTRATION (mg/L)
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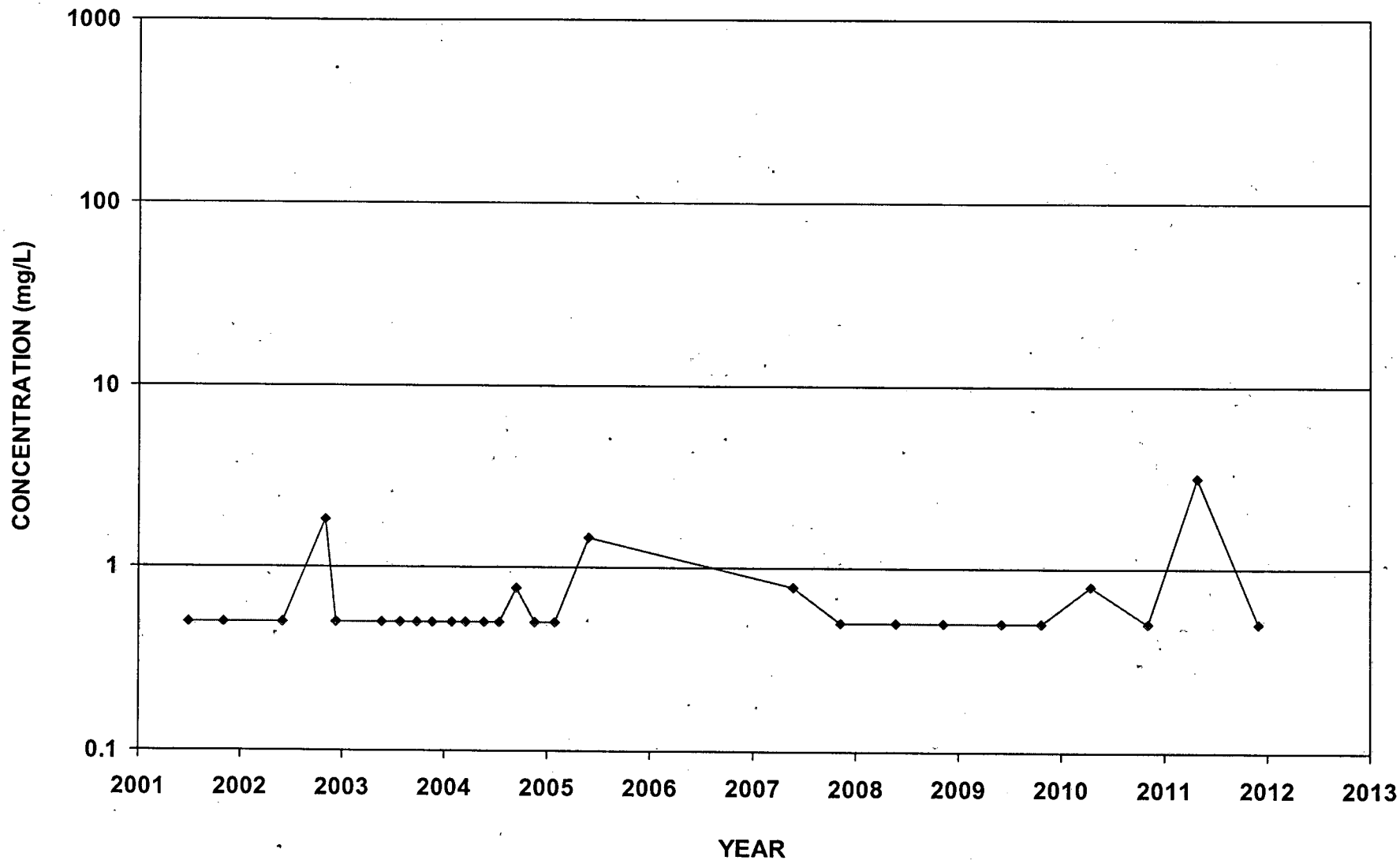
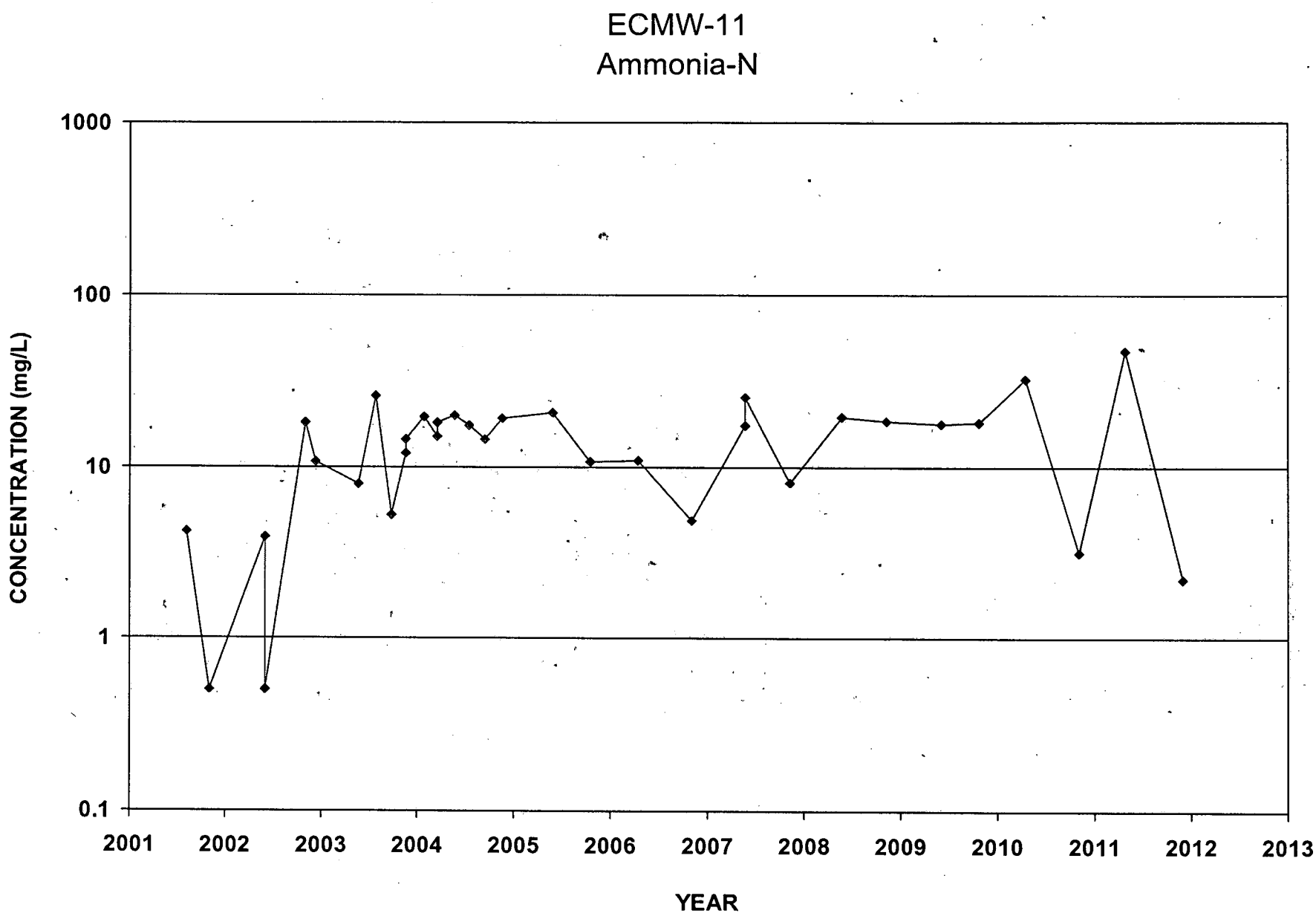
YEAR

ECMW-10
Ammonia-N

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CONCENTRATION (mg/L)
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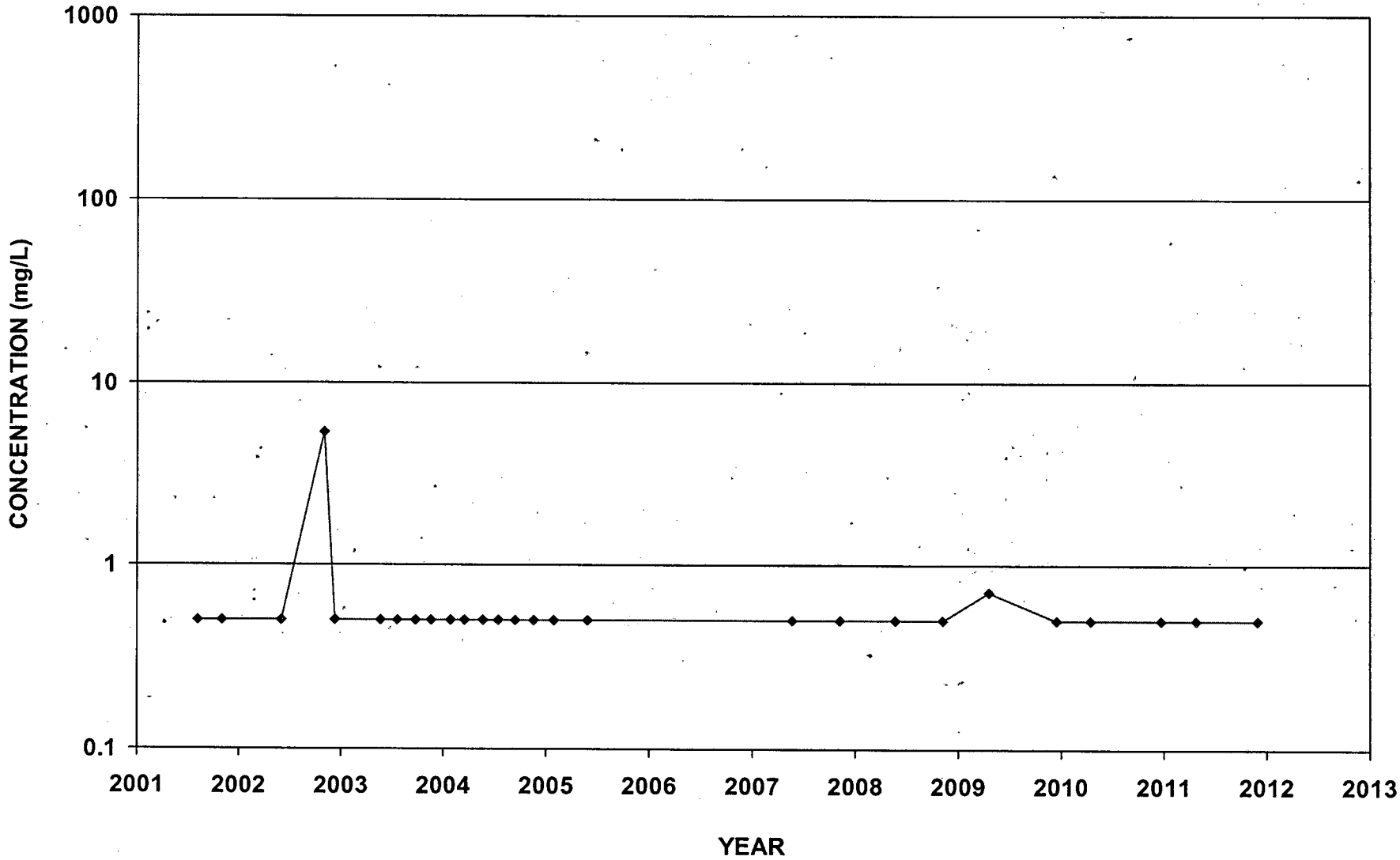
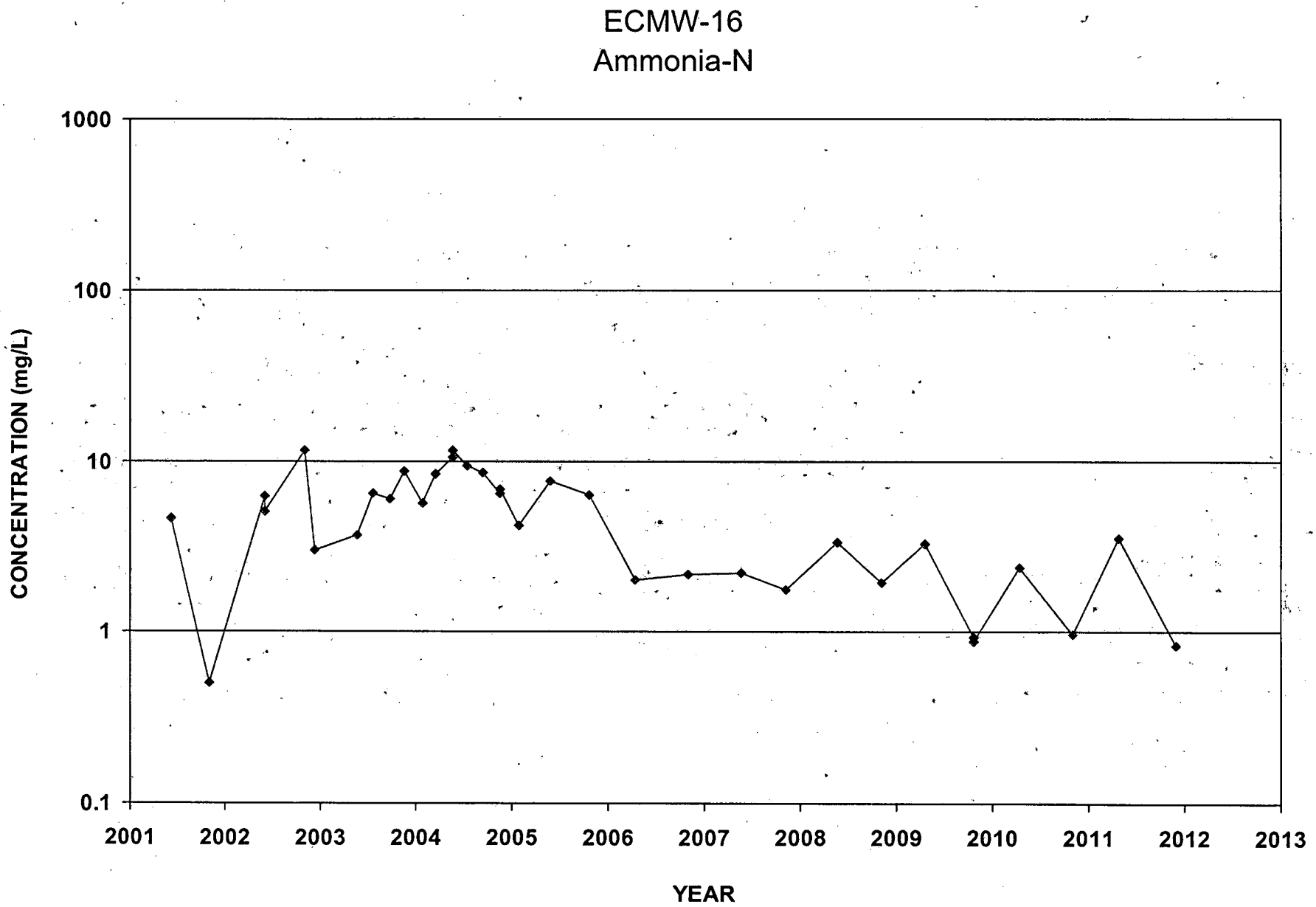
YEAR

ECMW-14
Ammonia-N

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CONCENTRATION (mg/L)
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YEAR

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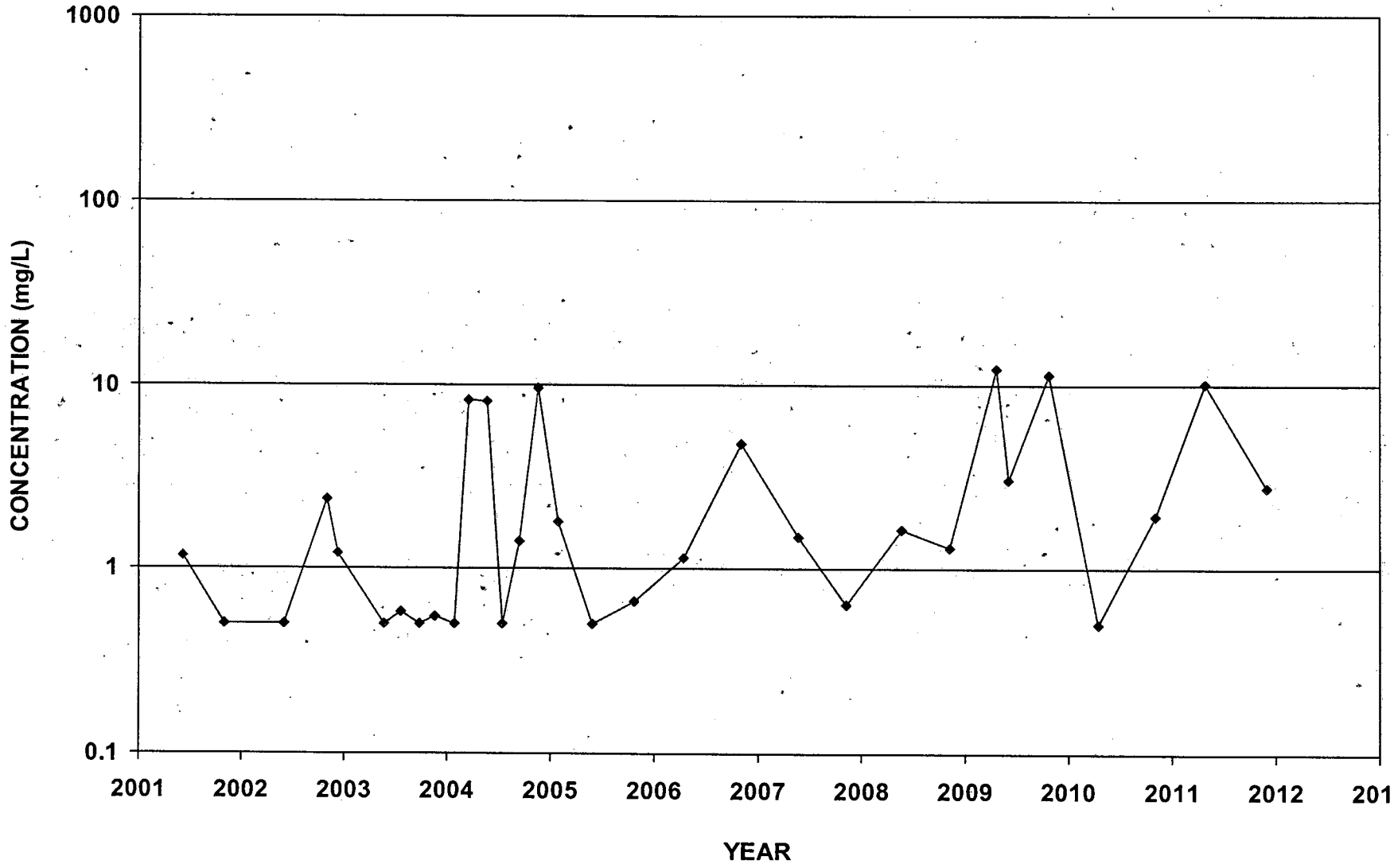
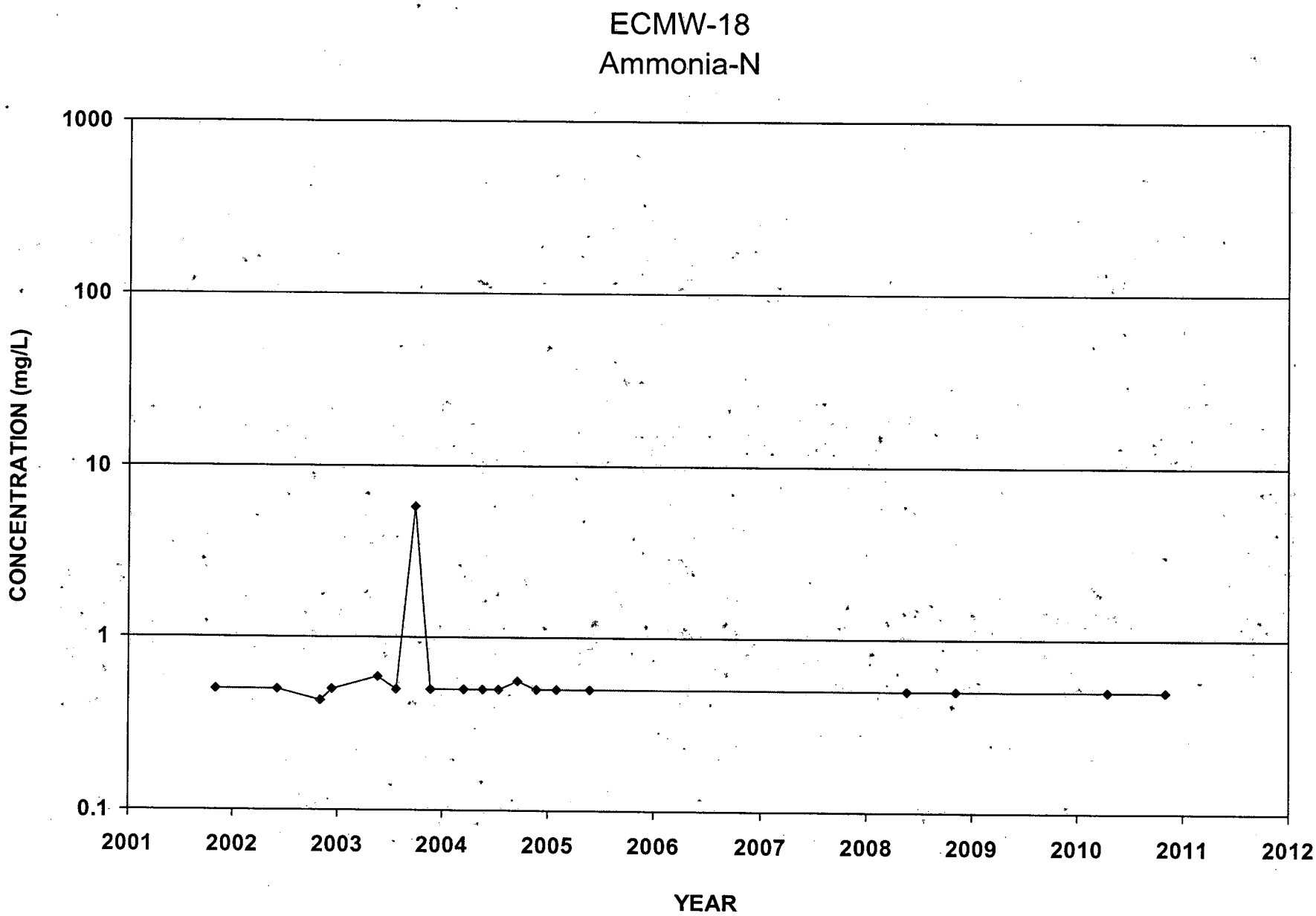
Ammonia-N

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YEAR

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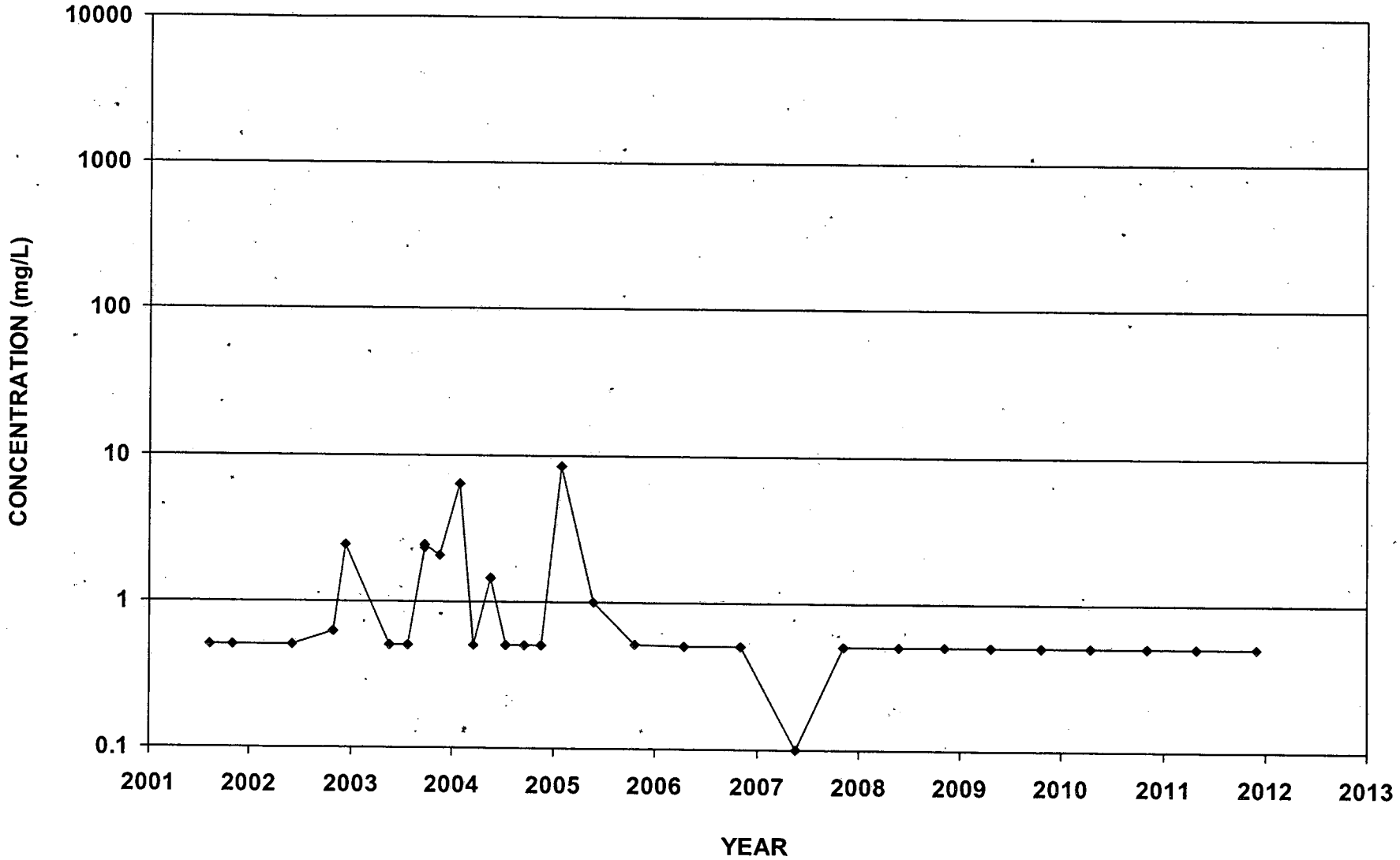
Nitrate-N



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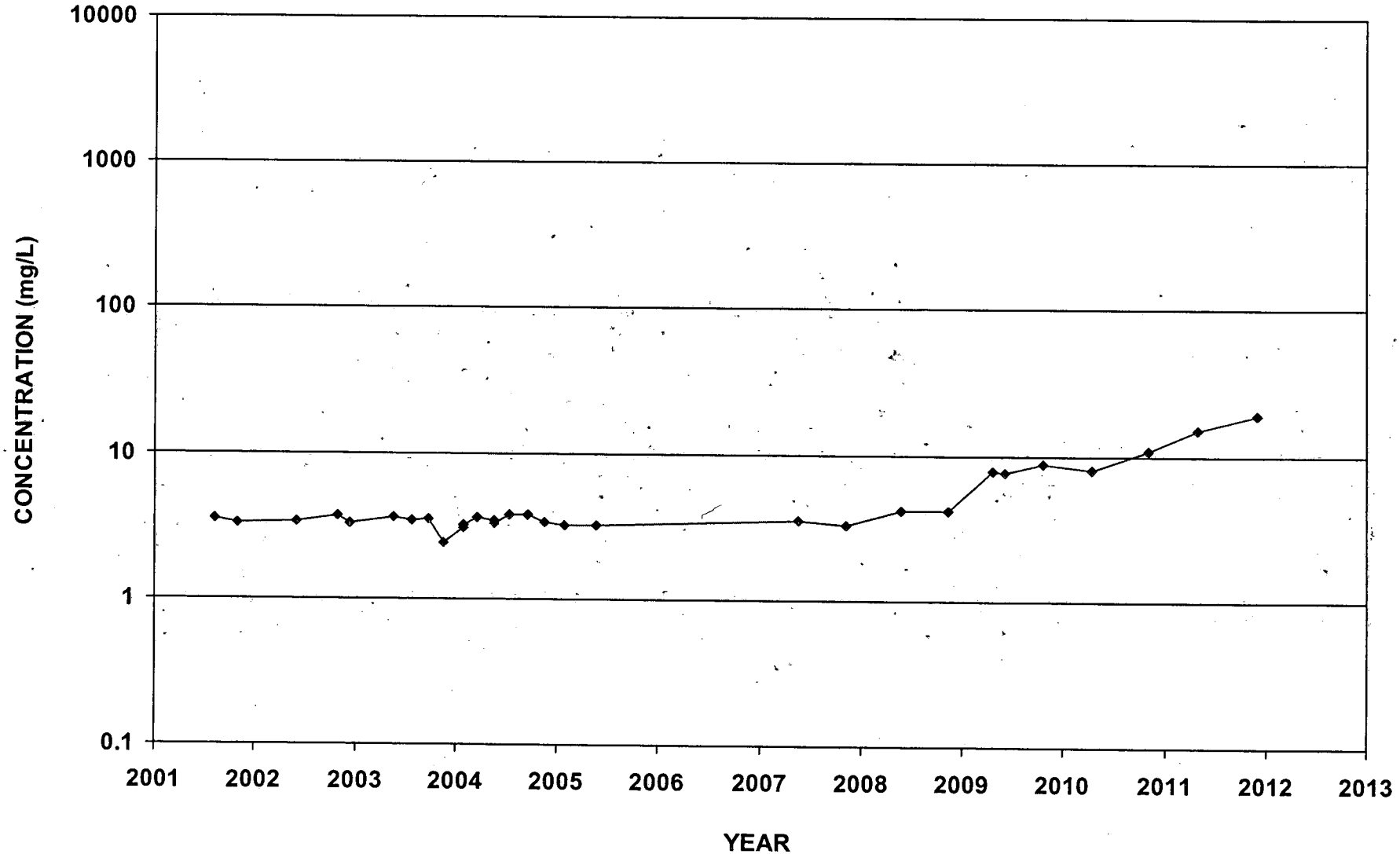

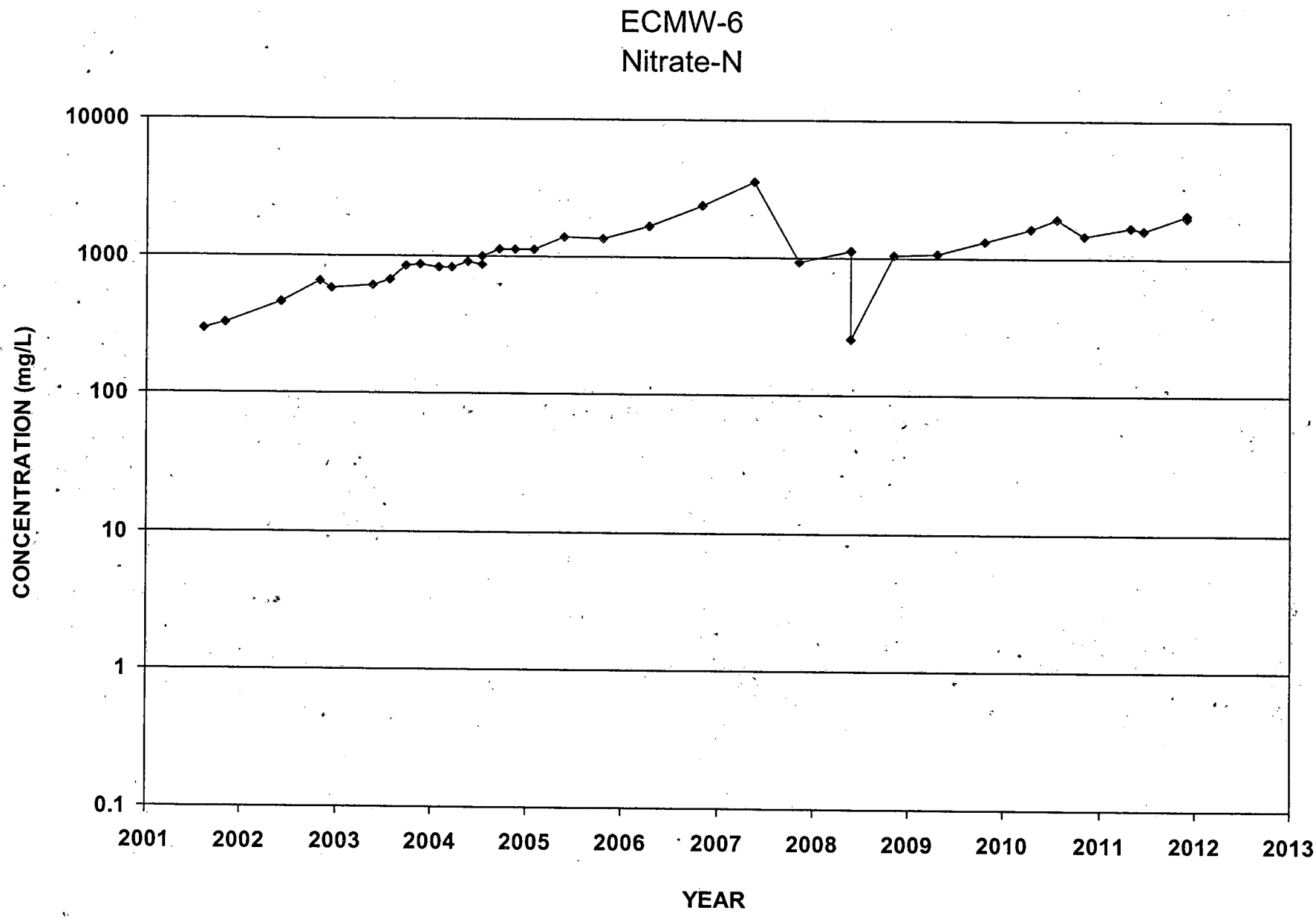
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YEAR

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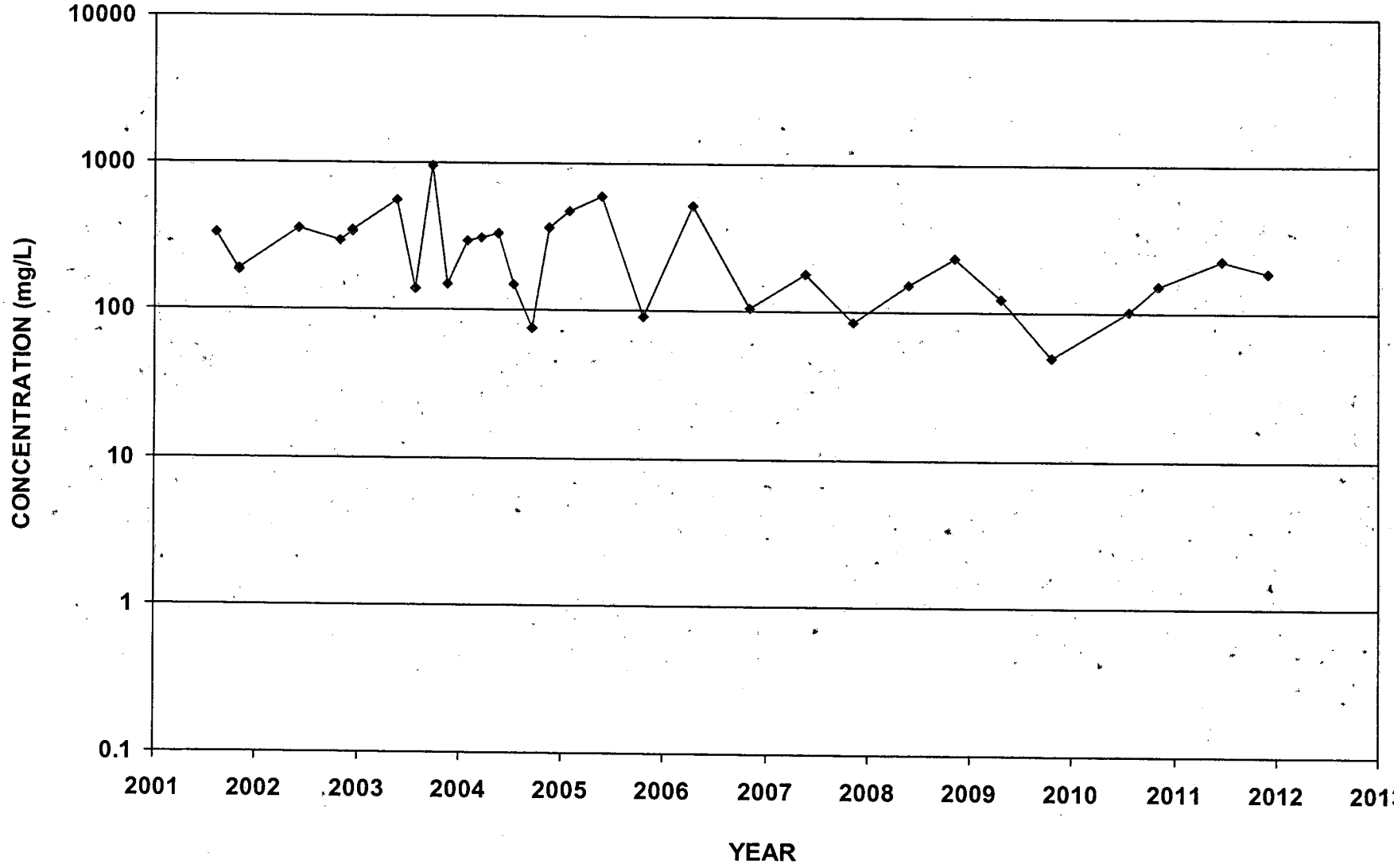
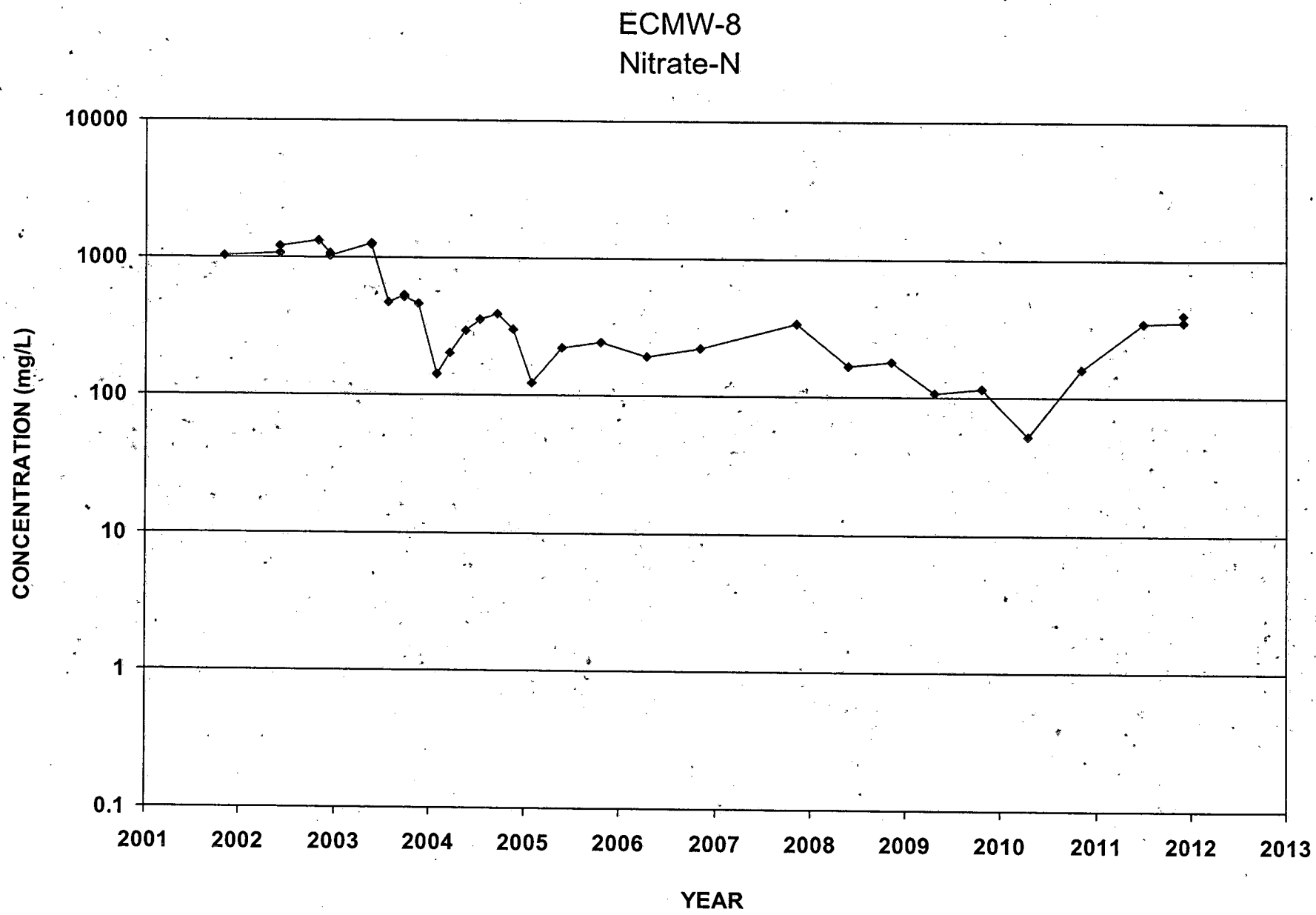
Nitrate-N

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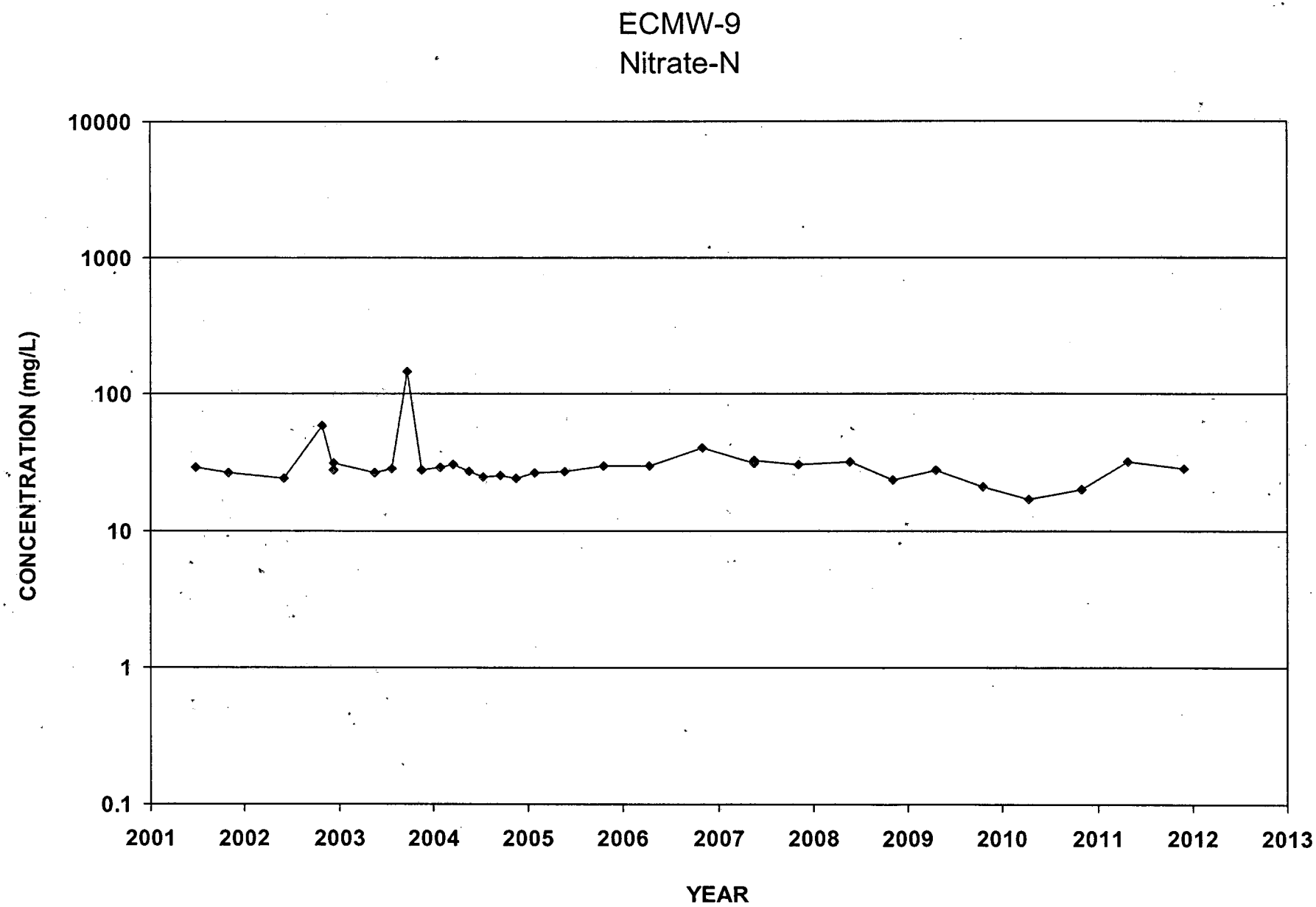
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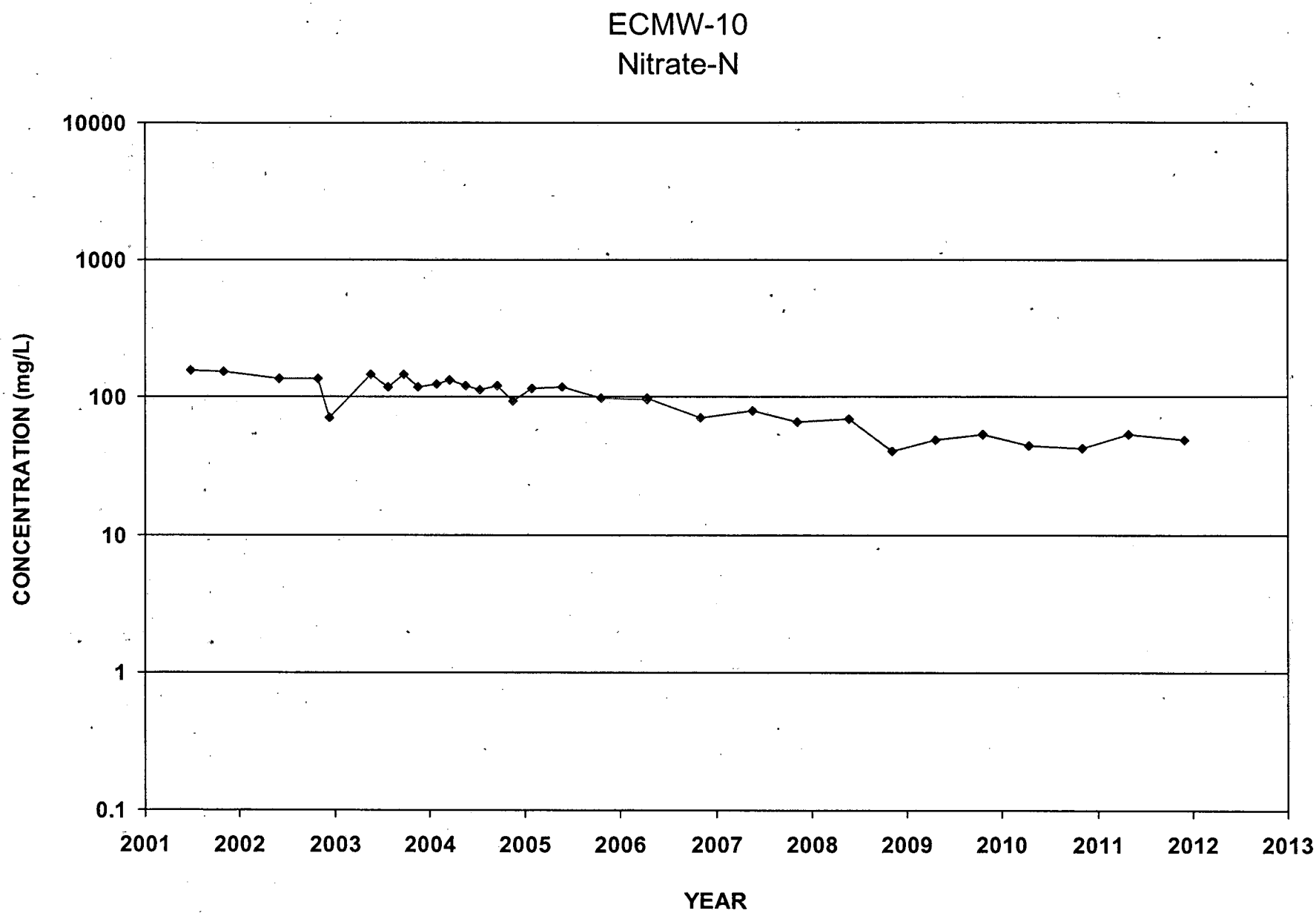
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CONCENTRATION (mg/L)
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YEAR

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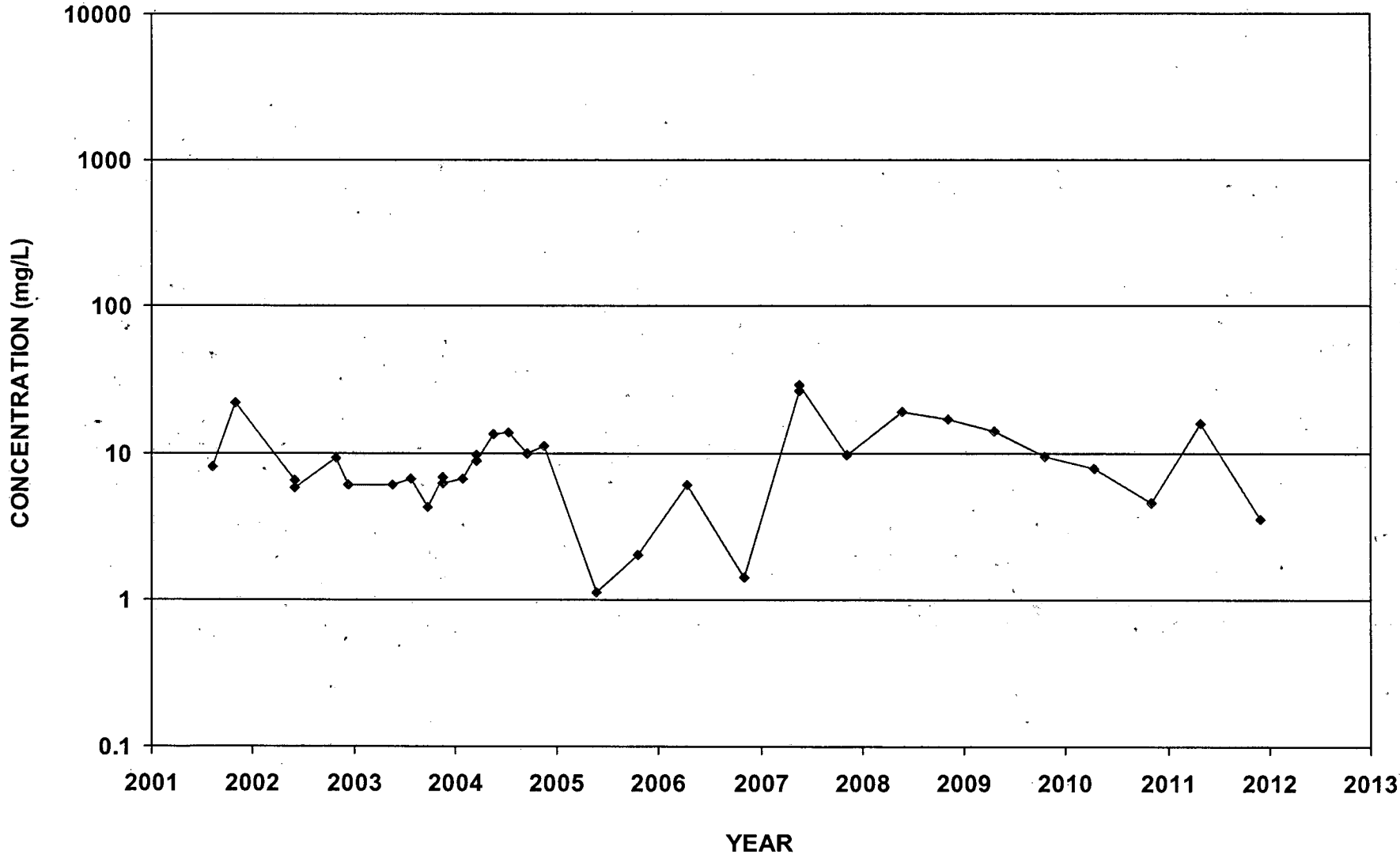
Nitrate-N



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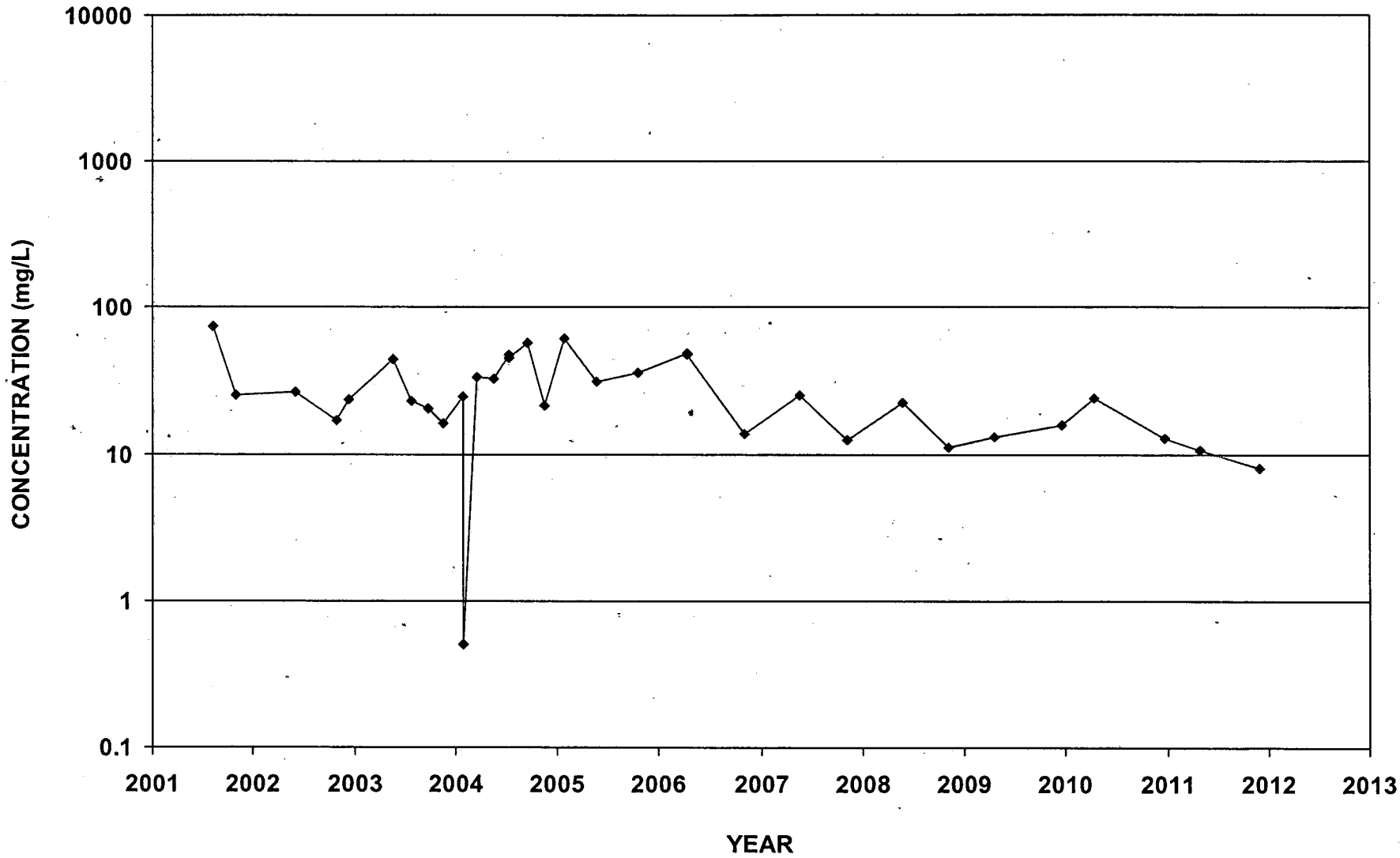
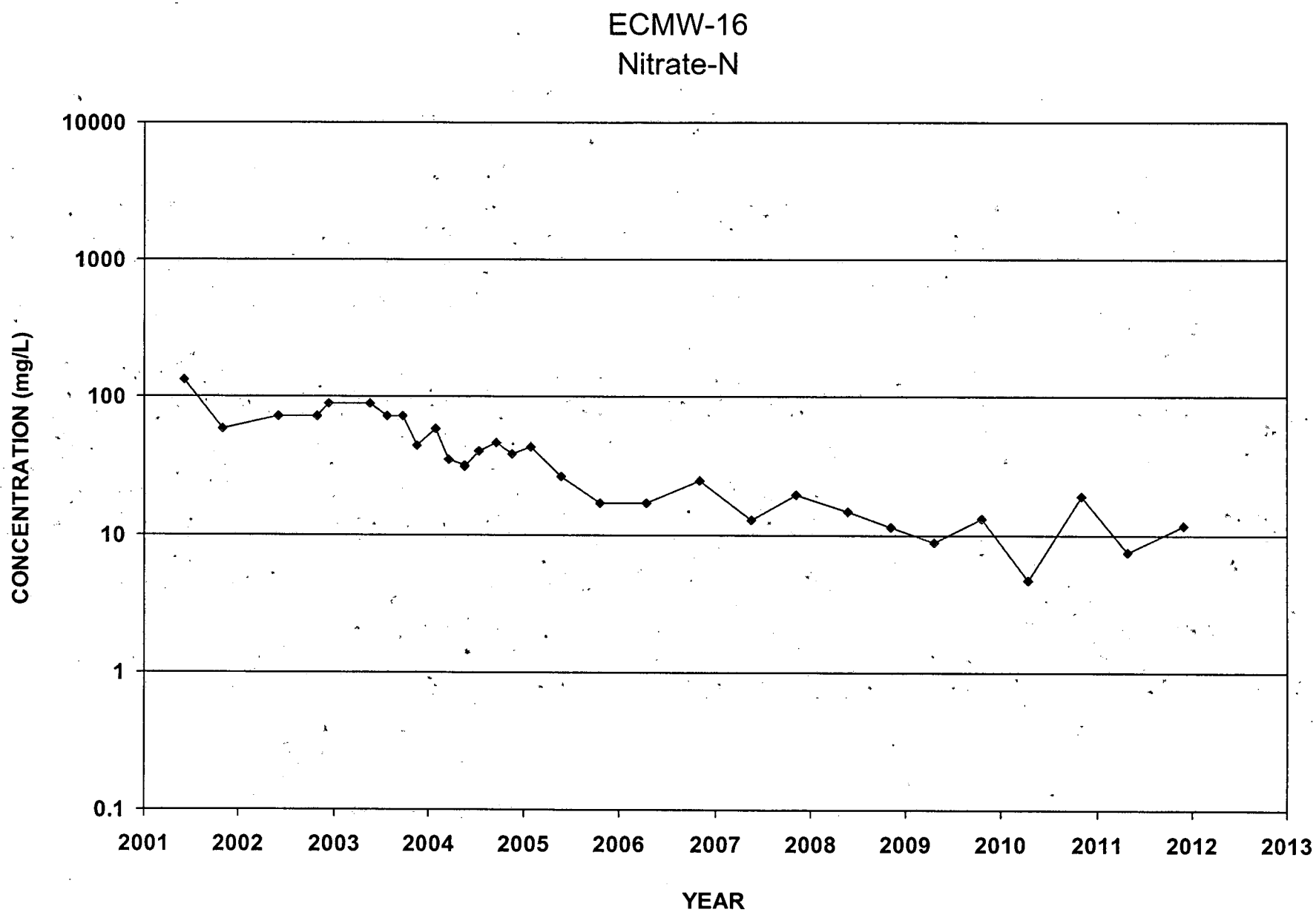
Nitrate-N

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CONCENTRATION (mg/L)
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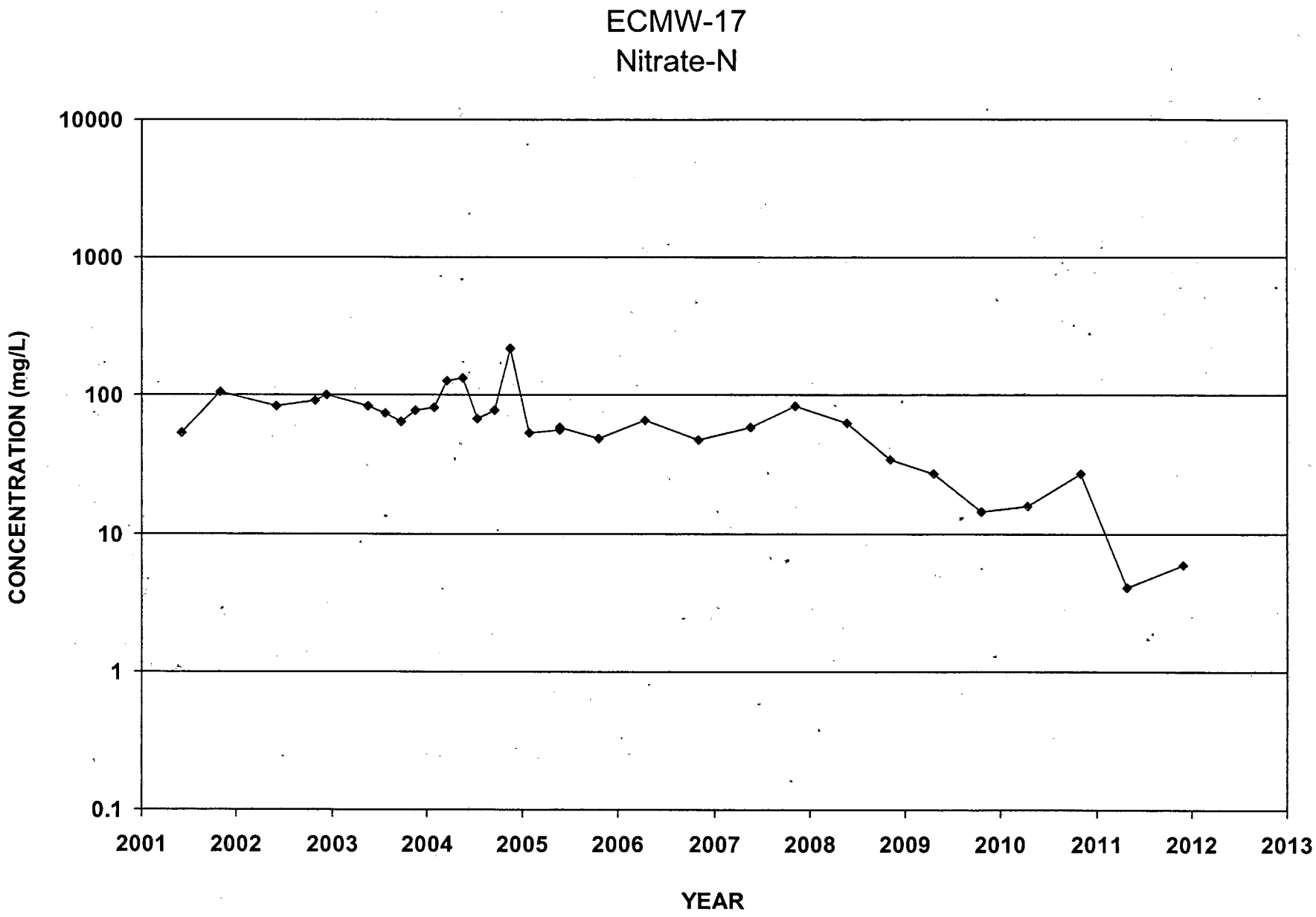
YEAR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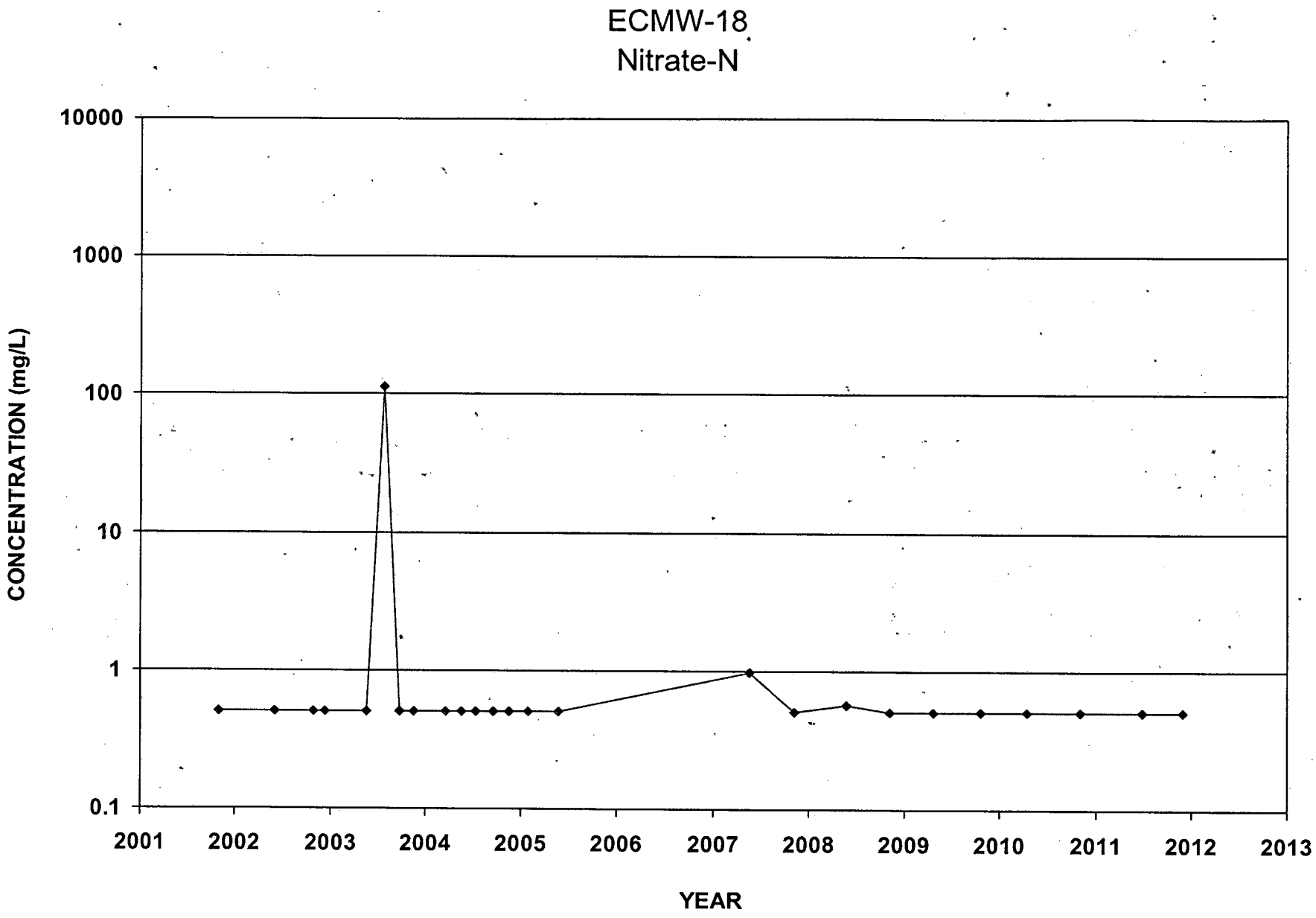
YEAR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Nitrate-N
10000
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0.1
CONCENTRATION (mg/L)
2001
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2013
YEAR

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

FedEx Express

J12101112190225

Ship Date: 23APR12
ActWgt: 1.0 LB
CAD: 5105217/INET3250

Delivery Address Bar Code

Ref # ELD002001
Invoice #
PO #
Dept #

SHIP TO: (501) 682-0805 BILL SENDER
Linda Hanson, P.G.
Arkansas Dept of Env Quality
Water Division
5301 Northshore Drive
North Little Rock, AR 72118

WED - 25 APR A4
** 2DAY **

TRK# 0201 7983 1472 7557

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