

ENVIRONMENTAL 
MANAGEMENT SERVICES, INC.

April 23, 2012

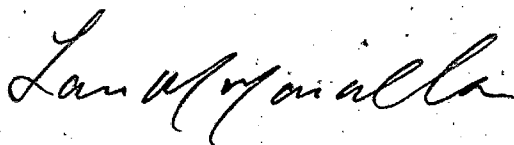
Linda Hanson, P.G.
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

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.

2011 ANNUAL GROUND WATER REPORT

Prepared For:

EL DORADO

El Dorado Chemical Company

Prepared By:

ENVIRONMENTAL 
MANAGEMENT SERVICES, INC.

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March 30, 2012
Revised April 17, 2012

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

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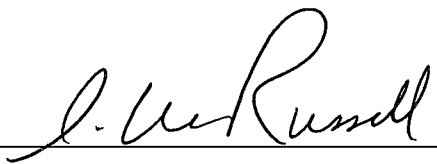
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2011 ANNUAL GROUND WATER REPORT
EL DORADO CHEMICAL COMPANY
EL DORADO, ARKANSAS

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

Prepared By:



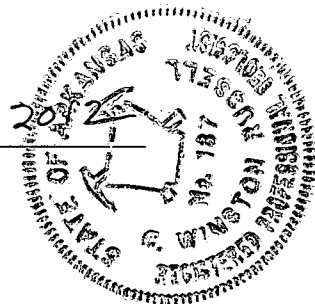
C. Winston Russell, P.G.

Vice President

AR Professional Geologist No. 187

Date: _____

17 April



**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	1 st /2 nd Half
Nitrate-N	EPA 300.0/9056A	1 st /2 nd Half
Nitrite	EPA 300.0/9056A	1 st Half
Sulfate	EPA 300.0/9056A	1 st /2 nd Half
Total Phosphorus	EPA 4500-P B5,E	1 st Half
Alkalinity	2320 B	1 st Half
Total Organic Carbon	5310/9060A	1 st 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 ($\mu\text{S}/\text{cm}$) 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 diameter screens, 10-foot length and 0.01-inch openings, casing risers are approximately 3 feet above ground surface, drilled with hollow-stem auger
(Data from Woodward-Clyde June 1996 Report)
2. EDC-MW-19, EDC-MW-20 and EDC-MW-22 constructed of 2-inch Sch. 40 PVC flush threaded pipe with 2-inch diameter screens, 10-foot length and 0.01-inch openings, casing risers are approximately 2.5 to 3 feet above ground surface, drilled with rotary wash procedures
2. EDC-MW-20 constructed of 1-inch Sch. 40 PVC flush threaded pipe with 1-inch diameter screen, 10-foot length and 0.01-inch opening, casing riser approximately 2.5 feet above ground surface, drilled with Geoprobe

TABLE 2
GROUNDWATER ELEVATION DATA
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

ECMW-7

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

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	8.1	--	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

ECMW-8

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

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	7.9	--	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

ECMW-11

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

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	11.10	--	22.1	578	--	<0.002	<0.002	<0.005	<0.005	--	--
8/8/2001	4.30	4.21	7.99	611	1100	<0.04	--	<0.02	--	--	--
10/30/2001	4.00	<0.5	21.9	334	610	<0.04	--	<0.02	--	--	--
6/3/2002	5.40	<0.5	6.46	565	897	<0.02	<0.02	<0.02	<0.02	--	--
6/3/2002	--	3.9	5.81	586	968	<0.02	<0.015	<0.02	<0.02	--	--
10/30/2002	4.80	18	9.22	362	625	<0.015	<0.015	<0.02	<0.02	--	--
12/10/2002	4.50	10.73	6.12	414	809	<0.015	<0.015	<0.02	<0.02	--	--
5/21/2003	4.45	7.84	6.02	333	576	<0.015	<0.015	<0.02	<0.02	--	--
7/24/2003	6.66	25.6	6.68	278	540	<0.015	<0.015	<0.02	<0.02	--	--
9/23/2003	4.29	5.25	4.24	397	660	<0.015	<0.015	<0.02	<0.02	--	--
11/19/2003	4.61	12.0	6.26	289	570	<0.015	<0.015	<0.02	<0.02	--	--
11/19/2003	--	14.3	6.85	276	340	<0.015	<0.015	<0.02	<0.02	--	--
1/28/2004	5.04	19.6	6.72	303	520	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	5.00	15	9.63	262	511	<0.015	<0.015	<0.02	<0.02	--	--
3/16/2004	--	18	8.79	278	535	<0.015	<0.015	<0.02	<0.02	--	--
5/18/2004	5.17	19.9	13.5	228	452	<0.015	<0.015	<0.02	<0.02	--	--
7/13/2004	4.53	17.4	13.6	222	480	<0.015	<0.015	<0.02	<0.02	--	--
9/14/2004	4.61	14.5	9.85	247	480	<0.015	<0.015	<0.02	<0.02	<0.02	--
11/17/2004	4.86	19.1	11.1	209	450	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
1/25/2005	4.64	--	--	--	--	--	--	--	--	--	--
5/25/2005	5.05	20.6	1.12	3.58	410	<0.015	<0.015	<0.02	<0.02	<0.02	<0.02
10/18/2005	4.42	10.6	2.02	--	--	--	--	--	--	<0.02	<0.02
4/11/2006	4.63	10.9	6.01	--	--	--	--	--	--	<0.02	<0.02
11/1/2006	4.06	4.88	1.43	--	--	--	--	--	--	<0.02	--
5/23/2007	4.23	25.4	29.2	137	--	--	--	--	--	<0.02	--
5/23/2007		17.4	26.4	242	--	--	--	--	--	<0.02	--
11/6/2007	3.94	8.01	9.75	223	--	--	--	--	--	<0.02	--
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	<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

ECMW-16

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

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
3/13/1996	5.7	--	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	<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

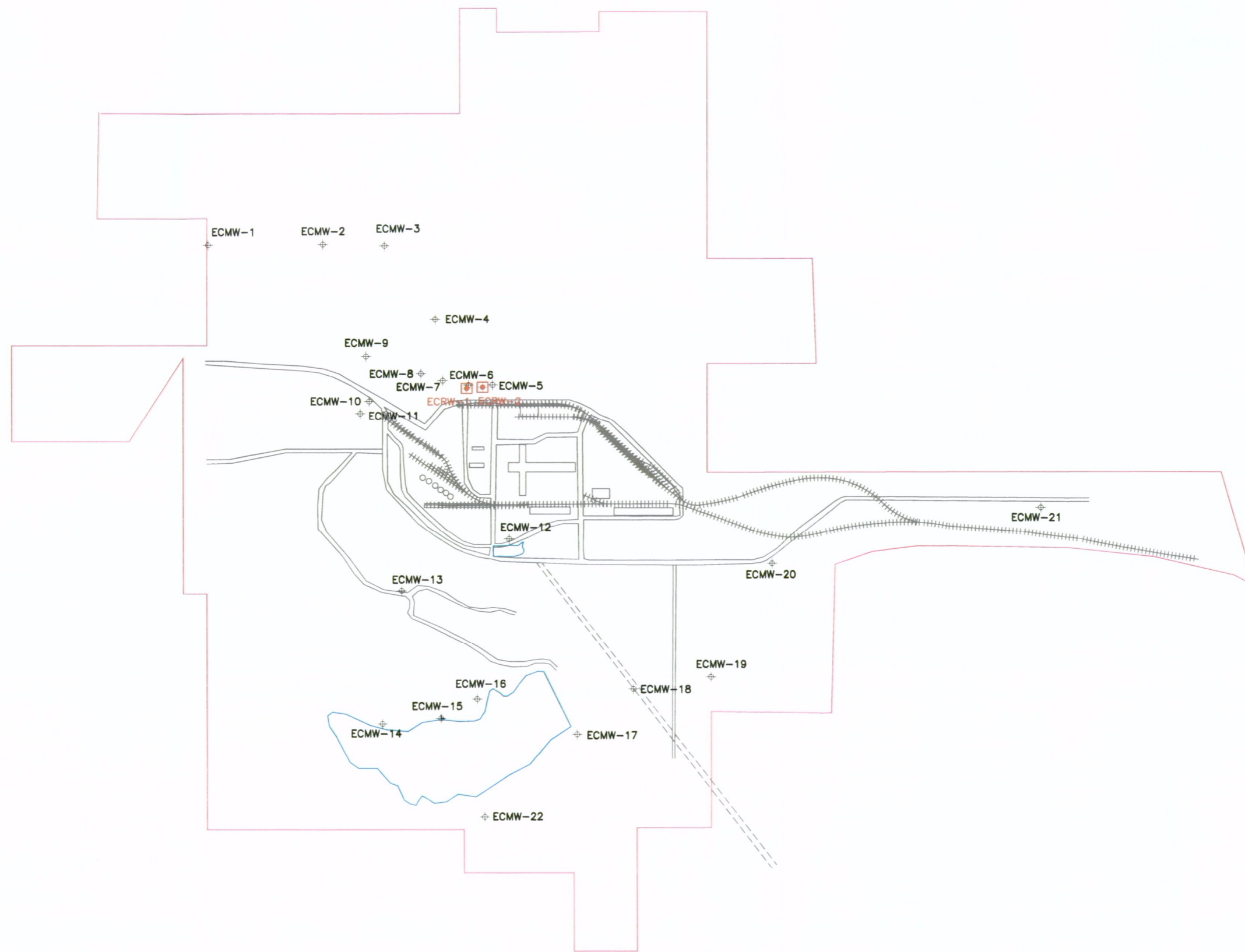
Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Lead (Total)	Lead (Dissolved)	Chromium (Total)	Chromium (Dissolved)	Vanadium (Total)	Vanadium (Dissolved)
	s.u.	mg/L									
1/28/2004	7.68	0.61	0.53	6.62	540	0.021	<0.015	0.021	<0.02	--	--
1/28/2004	--	<0.5	0.52	6.62	610	0.021	<0.015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

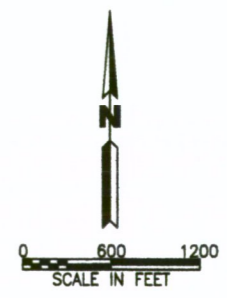
Well	Sample Date	Dissolved Oxygen (mg/L)	REDOX (mV)	Total Alkalinity (mg/L)	Total Organic Carbon (mg/L)	Nitrite (mg/L)	Total Phosphorus (mg/L)
ECMW-1	4/26/2011	3.01	4.3	<5	<1	<0.5	0.161
ECMW-2	4/26/2011	1.73	-2.7	15	2.75	<0.5	0.342
ECMW-3	4/27/2011	1.68	-20.9	56	2.67	<0.5	0.265
ECMW-4	4/27/2011	3.29	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



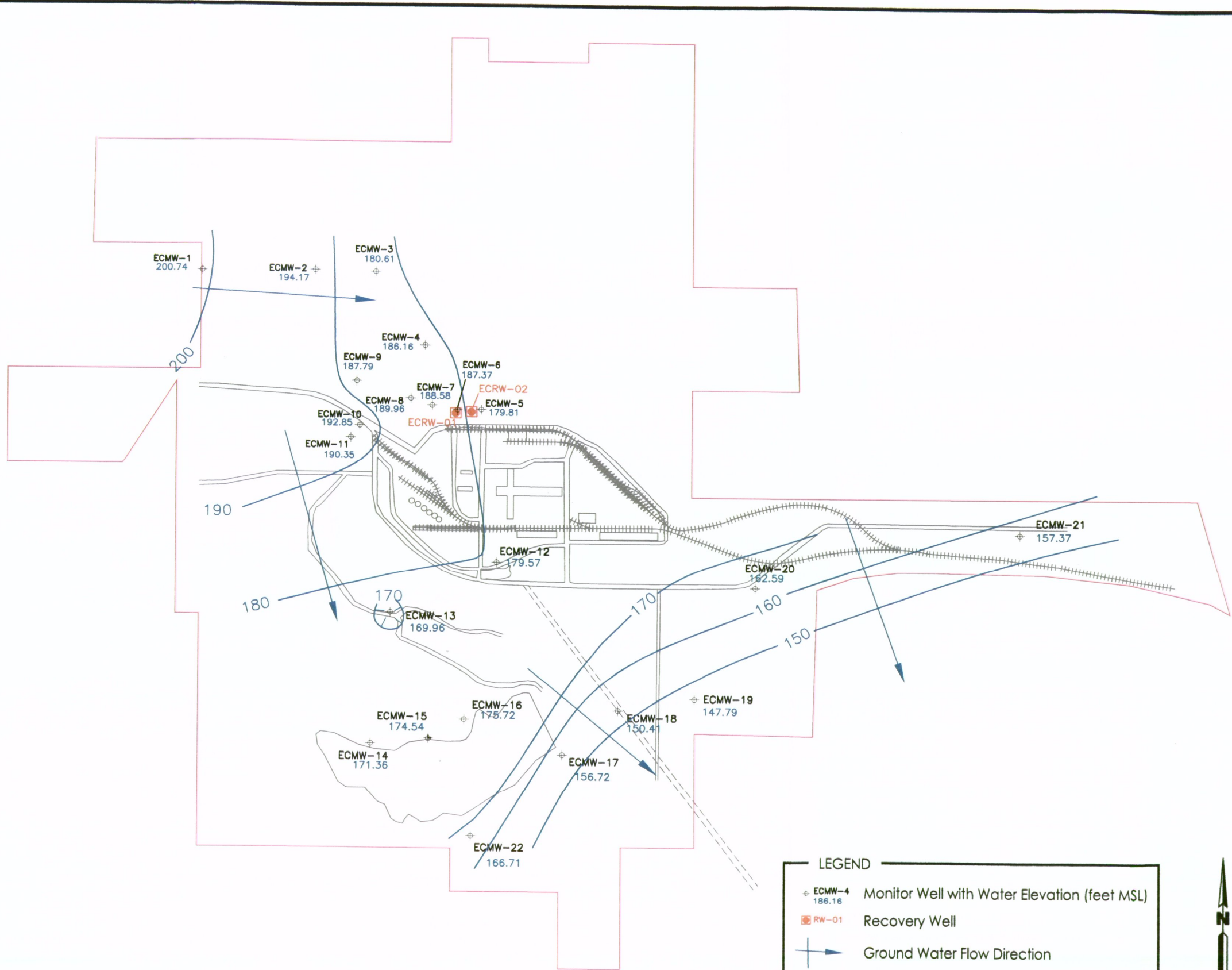
LEGEND

- ⊕ MONITOR WELLS
- ⊕ RECOVERY WELLS
- PROPERTY BOUNDARY



EL DORADO

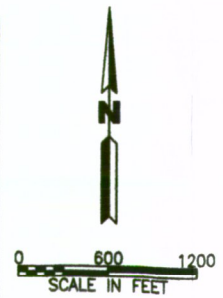
SITE MAP 2011 ANNUAL GROUND WATER REPORT EL DORADO CHEMICAL COMPANY EL DORADO, ARKANSAS			
DATE: 03/26/2011	APPROVED: BY: SR DATE: 5/5/11	DRAWN BY: LMM	FIGURE 1
SCALE: see above	CAD NO. 02EC0100		



LEGEND

- ⊕ ECMW-4 186.16 Monitor Well with Water Elevation (feet MSL)
- ⊕ RCRW-01 Recovery Well
- ➔ Ground Water Flow Direction

MEASUREMENTS TAKEN APRIL 25-26, 2011



EL DORADO

GROUND WATER ELEVATION MAP

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

DATE: 05/25/2011	APPROVED: By: <i>SR</i> DATE: <i>5/30/12</i>	DRAWN BY: LMM	
SCALE: see above		CAD NO. 02EC0100	FIGURE 2

ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

APPENDIX A

SAMPLING FORMS AND LABORATORY ANALYTICAL REPORTS



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,

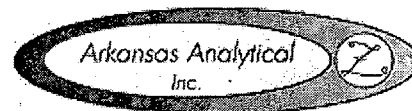
A handwritten signature in cursive script that reads "Norma James". The signature is written in black ink on a light-colored background.

Norma James
President

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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

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

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

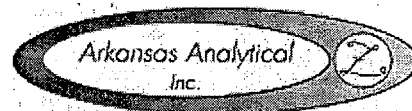
ANALYTICAL RESULTS

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

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

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

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

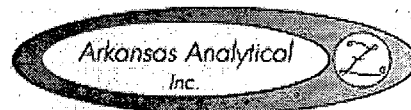
ANALYTICAL RESULTS

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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	< 0.50		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

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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	15.8		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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	3.56		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

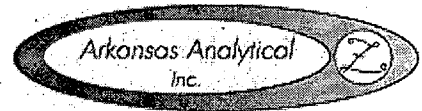
ANALYTICAL RESULTS

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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	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

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

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

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

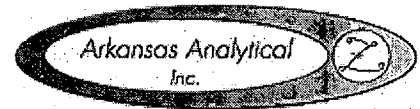
*D: RPD Value Does Not Meet Laboratory Acceptance Criteria

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

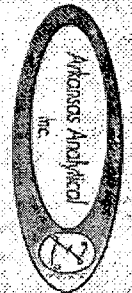
03 May 2011

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)



17701 Interstate 30, Bldg. 1, Ste. 115
 Little Rock, AR 72209
 PHONE: 501-455-3233
 FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes																	
El Dorado Chemical Inc. 4500 Northwest Ave. El Dorado, AR 71731		El Dorado Chemical Inc. P.O. Box 231 El Dorado, AR 71731		Groundwaters		24 Hour 48 Hour 72 Hour		1. Cool & Dark Storage 2. Sulphuric Acid (H2SO4) pH < 2 3. Nitric Acid (HNO3) pH < 2 4. Thionyl Chloride (SO2Cl2) 5. Hydrochloric Acid (HCl) 6. Sodium Hydroxide (NaOH) pH > 12																	
Attn: Brent Parker		Reporting Information Telephone: 870-493-4491 Fax: 870-493-4493 Email: BParker@elc-ar.com		Reporting Information Telephone: 870-493-4491 Fax: 870-493-4493 Email: BParker@elc-ar.com		Receiving Date Receiving Code Receiving Time		TEST PARAMETERS 1. <input type="checkbox"/> NO ₂ 2. <input type="checkbox"/> NO ₃ 3. <input type="checkbox"/> NO ₂ , NO ₃ , Alkalinity 4. <input type="checkbox"/> NO ₂ , NO ₃ , Alkalinity 5. <input type="checkbox"/> T. Phosphorus 6. <input type="checkbox"/> Ammonia, T. Phosphorus 7. <input type="checkbox"/> TOC																	
1. Collected by: Signature <i>Joe Thompson</i> Date/Time 4/26/11 13:10												2. Received by: Signature <i>Donna Thompson</i> Date/Time 4-26-11 1:10 PM		3. Relinquished by: Signature <i>Donna Thompson</i> Date/Time 4-26-11 3:51 PM		4. Released by: Signature <i>Amberlynn Smith</i>		SAMPLE CONDITION UPON RECEIPT IN LAB 1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 2. CONTAINERS CORRECT: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 3. COOL LABELS AGREE: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 4. PRESERVATION COMPROMISED: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 5. RECEIVED ON ICE: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 6. TEMPERATURE ON RECEIPT: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No FOR COMPLETION BY LAB ONLY						REMARKS / SAMPLE COMMENTS P.O. Number:	
Samplers Signature: _____ Sample(s) Printed: _____ Field Number: 488611 Date/Time: 07:32 Temp: 08:10 Depth: 08:22 Location: 08:42 Direction: 09:12 Flow: 09:22 Volume: 09:38 Filter: 09:58 Method: 10:30 Notes: 11:08 Remarks: 11:32 Date: 12:05												NO ₂ , Alkalinity NO ₂ , NO ₃ , SO ₄ , Alkalinity NO ₂ , NO ₃ , Alkalinity T. Phosphorus Ammonia, T. Phosphorus TOC		1104512 01 02 03 04 05 06 07 08 09 10 11 12		Arkansas Analytical Work Order Number									



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

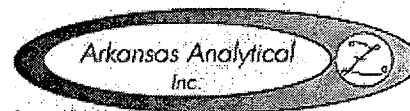
Sincerely,

Norma James
President

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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:

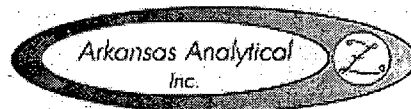
Matrix Spike/Matrix Spike Duplicate (MS/MSD) Failure: Total phosphorus failed to recover within lab acceptance criteria in the MS and/or MSD. Total phosphorus was qualified as "estimated" (E20) in the parent sample 1104331-08.

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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Nitrite as N	mg/L	< 0.500		4/28/11 10:15	A104348	300.0/9056A
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	1.02		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

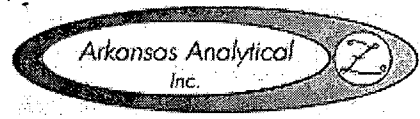
ANALYTICAL RESULTS

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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	1.08		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>						
<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>	
Ammonia as N	mg/L	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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>						
<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>	
Ammonia as N	mg/L	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

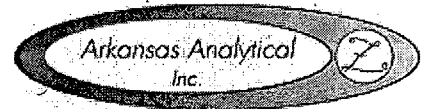
<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	542		4/28/11 16:16	A104348	300.0/9056A
Nitrate as N	mg/L	32.1		4/28/11 16:16	A104348	300.0/9056A
Nitrite as N	mg/L	< 0.500		4/28/11 12:08	A104348	300.0/9056A
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	2.96		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>						
<u>Ammonia as N</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	3.18		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>						
<u>Ammonia as N</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	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

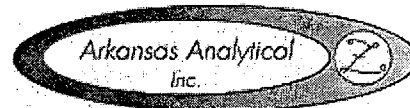
ANALYTICAL RESULTS

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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Nitrite as N	mg/L	< 0.500		4/28/11 13:38	A104348	300.0/9056A
<u>Wet Chemistry</u>						
<u>TOC</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
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

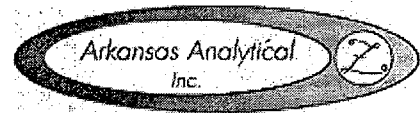
Wet Chemistry -- Batch: A105039 (Water)

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)

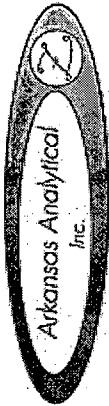
- *%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria
 - *D: RPD Value Does Not Meet Laboratory Acceptance Criteria
 - *E20: Estimated Result Due to Matrix Spike and/or Matrix Spike Duplicate Failure; This sample was used as "parent sample" in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

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

Norma James
President



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

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes									
El Dorado Chemical Inc.		El Dorado Chemical Inc.		Groundwaters		24 Hour		1. Cool, 4 Degrees Centigrade			4. Thioculfate for Dechlorination						
4500 Northwest Ave.		P.O. Box 231				48 Hour		2. Sulfuric Acid (H ₂ SO ₄) pH < 2			5. Hydrochloric Acid (HCl)						
El Dorado, AR 71731		El Dorado, AR 71731		Reporting Information		72 Hour		3. Nitric Acid (HNO ₃) pH < 2			6. Sodium Hydroxide (NaOH) pH > 11						
Attn: Brent Parker				Telephone: 870-853-1484		Routine (5 Day)		TEST PARAMETERS						Bottle Type Code			
				Fax: 870-853-1492		Preservative Code:		1	1	1	1,2	1,2	1,5			G = Glass, P = Plastic	
				Email: BParker@edc-ark.com		Bottle Type:		P	P	P	P	P	GV			V = Septum, A = Amber	
Sampler(s) Signature				Sampler(s) Printed													
Field Number	SAMPLE COLLECTION		Ent	Comp	Number of Batches	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION		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:		
	4/27/11	09:45	X			W	MW-3	✓			✓					1111331	
		10:00	X			W	MW-4		✓			✓	✓			01	
		10:25	X			W	MW-5		✓			✓	✓			02	
		10:40	X			W	MW-6		✓			✓	✓			03	
		11:20	X			W	MW-7		✓			✓	✓			04	
		12:20	X			W	MW-9		✓			✓	✓			05	
		13:10	X			W	MW-8		✓			✓	✓			06	
		13:25	X			W	MW-10		✓			✓	✓			07	
		13:40	X			W	MW-11		✓			✓	✓			08	
		13:55	X			W	MW-12	✓			✓		✓			09	
			X			W	MW-									10	
1. Relinquished by: (Signature)		Date/Time		2. Received by: (Signature)		SAMPLE CONDITION UPON RECEIPT IN LAB				REMARKS / SAMPLE COMMENTS							
<i>Joe Thomas</i>		4/27/11 1415		<i>J. Kowalski</i>		1. CUSTODY SEALS: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				P.O. Number:							
						2. CONTAINERS CORRECT: Yes <input type="checkbox"/> No <input type="checkbox"/>											
						3. CDC LABELS AGREE: Yes <input type="checkbox"/> No <input type="checkbox"/>											
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature)		4. PRESERVATION CONFIRMED: Yes <input type="checkbox"/> No <input type="checkbox"/>											
<i>Joe Walsh</i>		0815 4-28-11		<i>Amalga Tolush</i>		5. RECEIVED ON ICE: Yes <input type="checkbox"/> No <input type="checkbox"/>											
						6. TEMPERATURE ON RECEIPT: 4°C											
FOR COMPLETION BY LAB ONLY																	

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)

Revision 1
 12/1/10



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,

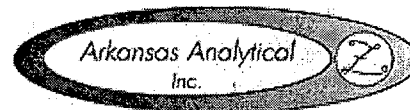
A handwritten signature in cursive script that reads "Norma James". The signature is written in black ink on a light-colored background.

Norma James
President

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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

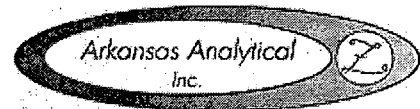
SAMPLE DELIVERY GROUP 1106209:

Quality 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

Table with 7 columns: Anions, Units, Result, Qualifier(s), Date/Time Analyzed, Batch, Method. Rows include Nitrite as N, TOC, Total Alkalinity, and Total Phosphorus.

ANALYTICAL RESULTS

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

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

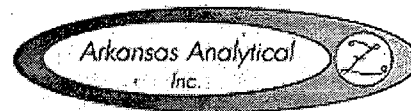
ANALYTICAL RESULTS

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

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

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

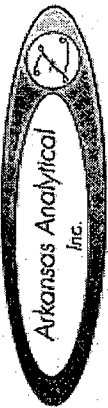
QUALIFIER(S)

- *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
President



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:				Parameters for Analysis/Methods															
Phone No.:	870-863-1400							No ₃ AIX TOC	No ₃ NO ₂ -SO ₄ AIX TOC	T. Phosphorus	NH ₃ -T. Phosphorus												
Fax No.:	870-863-1499																						
Sample ID	Sample Description	Date	Time	Matrix S=Soil/Soil W=Water	Number of Containers	Composi te or Grab	No ₃ AIX TOC	No ₃ NO ₂ -SO ₄ AIX TOC	T. Phosphorus	NH ₃ -T. Phosphorus													
MW 16	Groundwater	6-15-11	1136	W	2	Grab	X		X		1106209-												
MW 6	Groundwater	6-15-11	1310	W	2	Grab		X		X													
MW 7	Groundwater	6-15-11	1410	W	2	Grab		X		X													
Preservative (Sulfuric acid =S, Nitric acid =N, NaOH =B, Ice =I)																							
Sampler(s): Joe Thompson				Shipment Method: Currier				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: 1400			
Relinquished by: Dale Smith				Date: 6/15/11				Time: 2:55				Received in lab by: Sidney James				Date: 6/16/11				Time: 0850			
LABORATORY USE ONLY:				Samples Received On Ice? (YES) or NO				Sample Temperature: 5°C															

[Handwritten signature]

Custody Seals:	Yes	No
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 - ②

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)



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,

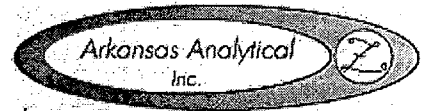
A handwritten signature in cursive script that reads "Norma James". The signature is written in black ink on a light-colored background.

Norma James
President

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

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

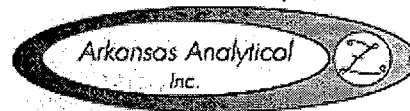
Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Ammonia as N	<0.50 mg/L	102% / NA	111% / 113%		1.94%	

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)



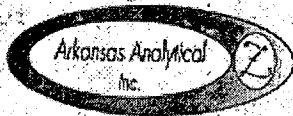
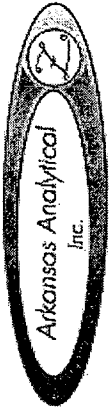
Date Received: 29-Jun-11 17:00

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.

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

Reviewed by:

Norma James
President



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

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes:																	
El Dorado Chemical Inc.		El Dorado Chemical Inc.		Groundwaters		24 Hour		1. Cool, 4 Degrees Centigrade			4. Thiosulfate for Dechlorination														
4500 Northwest Ave.		P.O. Box 231				48 Hour		2. Sulfuric Acid (H ₂ SO ₄), pH < 2			5. Hydrochloric Acid (HCl)														
El Dorado, AR 71731		El Dorado, AR 71731		Reporting Information:		72 Hour		3. Nitric Acid (HNO ₃), pH < 2			6. Sodium Hydroxide (NaOH), pH > 12														
Attn: Brent Parker				Telephone: 870-863-1484		Routine (5 Day)		TEST PARAMETERS						Bottle Type Code											
				Fax: 870-393-1459		Preservation Code:		1	1	1	1,2	1,2	1,5												
				Email: BParker@edo-ark.com		Bottle Type:		P	P	P	P	P	GV												
Sampler(s) Signature				Sampler(s) Printed				NO ₃ - Alkalinity		NO ₂ , NO ₃ , SO ₄ Alkalinity		NO ₂ , NO ₃ , Alkalinity		T. Phosphorus		Ammonia, T. Phosphorus		TOC		Nitrate		NH ₃		Arkansas Analytical Work Order Number:	
Field Number		SAMPLE COLLECTION		Grab		Number of Samples		Sample Matrix		IDENTIFICATION/ DESCRIPTION												1100404			
		Date/Time		X		2		W		MW-8												01			
		6-29-11 12:58		X		2		W		Duplicate												02			
		6-29-11 13:50		X		2		W		MW-18															
				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)		SAMPLE CONDITION UPON RECEIPT IN LAB						REMARKS / SAMPLE COMMENTS													
Joe Thompson		6-29-11		Brent Parker		1. CUSTODY SEALS: Yes No						P.O. Number:													
						2. CONTAINERS CORRECT: Yes No						Amended COC per Brent Parker - 6/30/11													
						3. COC LABELS AGREE: Yes No						(2)													
3. Relinquished by: (Signature)		Date/Time		4. Received by: (Signature)		4. PRESERVATION CONFIRMED: Yes No						Lab poured remaining sample for MW-18 act - EOC will resample - removed from COC - 6/30/11													
Amanda Farnish		6-29-11		Amanda Farnish		5. RECEIVED ON ICE: Yes No																			
						5. TEMPERATURE ON RECEIPT: 5°																			
FOR COMPLETION BY LAB ONLY																									

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)

Revision 12/1/10



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,

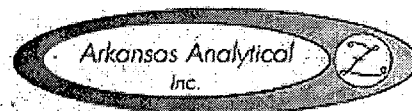
A handwritten signature in cursive script that reads "Norma James".

Norma James
President

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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

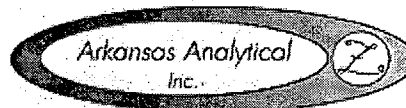
CASE NARRATIVE

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.

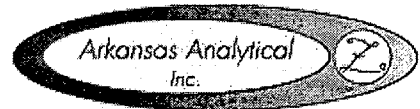
All Analysis performed according to EPA approved methodology when available:
SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

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				Special Instructions/Precautions			
Client:	EDCC Larkan Pennington						
Company:	EDCC						
Address:	4500 Northwest Ave						
Phone No.:	870-863-1400			Project Name / Number			
Fax No.:	870-863-1499			Parameters for Analysis/Methods			
Sample ID	Sample Description	Date	Time	Matrix S-Seed/Sol W-Water	Number of Containers	Composite or Grab	
MMW18	MMW18 01	06-30-11	10:05	W	1	GRAB	X NO3-N
Preservative: (Sulfuric acid =S, Nitric acid =N, NaOH =B, Ice =I) Sample(s): Rodney Durham EMS Inc. Shipment Method: <i>Ground Perry</i> Turnaround Time Required: Normal COC Completed by: _____ Date: 08/30/11 Time: 10:25 am COC Checked by: _____ Date: _____ Time: _____ Requisitioned by: <i>Brent Parker</i> Date: <i>6-30-11</i> Time: <i>10:05 am</i> Received by: <i>Brent Parker</i> Date: <i>6/30/11</i> Time: <i>10:30 am</i> Requisitioned by: <i>Brent Parker</i> Date: <i>6/30/11</i> Time: <i>10:02</i> Received in lab by: <i>JMACK</i> Date: <i>6/30/11</i> Time: <i>10:30</i> LABORATORY USE ONLY: Samples Received On (M/D/Y) YES or NO Sample Temperature: _____							



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:

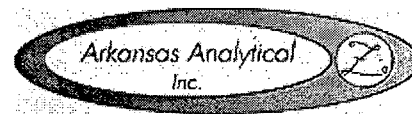
Custody Seals	✓
Containers Correct	✓
COC/Labels Agree	✓
Preservation Confirmed	✓
Received On Ice	✓
Temperature on Receipt	5.0°C

Sincerely,

Norma James
President

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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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Nitrate as N	mg/L	< 0.500		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	2.75		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

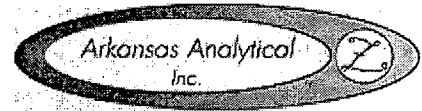
<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	17.9		12/1/11 18:31	A112001	300.0/9056A
Nitrate as N	mg/L	11.6		12/1/11 18:31	A112001	300.0/9056A
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	0.84		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	< 0.50		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>						
<u>Ammonia as N</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	< 0.50		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>						
<u>Ammonia as N</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	2.19		12/5/11 13:39	A112016	4500-NH3D

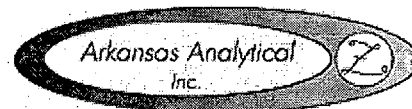
ANALYTICAL RESULTS

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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	930		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
<u>Wet Chemistry</u>						
<u>Ammonia as N</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	< 0.50		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	< 0.50		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

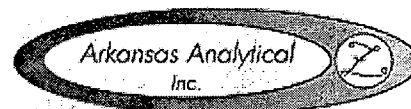
<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	60.5		12/1/11 13:51	A112001	300.0/9056A
Nitrate as N	mg/L	1970		12/1/11 18:54	A112001	300.0/9056A
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	259		12/1/11 14:23	A112001	300.0/9056A
Nitrate as N	mg/L	192		12/1/11 14:23	A112001	300.0/9056A
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	132		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	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

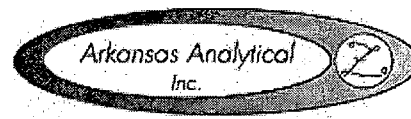
<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	650		12/2/11 11:28	A112001	300.0/9056A
Nitrate as N	mg/L	28.5		12/1/11 15:08	A112001	300.0/9056A
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	0.70		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

<u>Anions</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Sulfate as SO4	mg/L	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
<u>Wet Chemistry</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Ammonia as N	mg/L	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

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

QUALITY CONTROL RESULTS

Anions -- Batch: A112001 (Water)

Prepared: 01-Dec-11 09:30 By: MG -- Analyzed: 01-Dec-11 20:24 By: Mel

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

Wet Chemistry -- Batch: A112016 (Water)

Prepared: 01-Dec-11 11:27 By: KP -- Analyzed: 05-Dec-11 13:39 By: KP

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

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.

Handwritten signature of Norma James

Reviewed by: Norma James
President



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

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes:											
El Dorado Chemical Inc.		El Dorado Chemical Inc.		Groundwater Samples		24 Hour		1. Cool, 4 Degrees Centigrade				4. Thiosulfate for Dechlorination							
4500 Northwest Ave.		P.O. Box 231				48 Hour		2. Sulfuric Acid (H ₂ SO ₄), pH < 2				5. Hydrochloric Acid (HCl)							
El Dorado, AR 71731		El Dorado, AR 71731		Reporting Information		72 Hour		3. Nitric Acid (HNO ₃), pH < 2				6. Sodium Hydroxide (NaOH), pH > 12							
Attn: Brent Parker				Telephone: 870-863-1484		Routine (5 Day)		TEST PARAMETERS								Bottle Type Code			
				Fax: 870-863-1498		Preservative Code		1	1	1,2								Q = Glass; P = Plastic	
				Email: BParker@edc-ark.com		Bottle Type		P	P	P								V = Squared; A = Amber	
Sampler(s) Signature				Sampler(s) Printed															
Field Number	SAMPLE COLLECTION		Gas	Excep	Number of Bottles	Seals/Matrix	SAMPLE IDENTIFICATION/DESCRIPTION		Nitrate	Nitrate, Sulfate	Ammonia						Arkansas Analytical Work Order Number		
	11-30	0710	X		1	Water	ECMW-18	✓									112006		
	✓	0758	X		2	Water	ECMW-17	✓	✓								01		
	✓	0745	X		2	Water	ECMW-16	✓		✓							02		
	✓	0730	X		2	Water	ECMW-14	✓		✓							03		
	✓	0820	X		2	Water	ECMW-10	✓		✓							04		
	✓	0835	X		2	Water	ECMW-11	✓		✓							05		
	✓	0850	X		2	Water	ECMW-4	✓		✓							06		
	✓	0910	X		2	Water	ECMW-5	✓		✓							07		
	✓	0925	X		2	Water	ECMW-6	✓		✓							08		
	✓	0940	X		2	Water	ECMW-7	✓		✓							09		
	✓	0955	X		2	Water	ECMW-8	✓		✓							10		
	✓	1015	X		2	Water	ECMW-9	✓		✓							11		
1. Relinquished by: (Signature)		Date/Time		2. Received by: (Signature)		SAMPLE CONDITION UPON RECEIPT IN LAB				REMARKS / SAMPLE COMMENTS									
<i>Joe Langston</i>		11/30/11 11:00		<i>Jancken Pennington</i>		1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				P.O. Number:									
				<i>11/30/11 11:00am</i>		2. CONTAINERS CORRECT: <input type="checkbox"/> Yes <input type="checkbox"/> No				Changed Analysis per									
						3. COC/TAGS AGREE: <input type="checkbox"/> Yes <input type="checkbox"/> No				sample containers									
						4. PRESERVATION CONFIRMED: <input type="checkbox"/> Yes <input type="checkbox"/> No				received - 11/30/11 - 8									
						5. RECEIVED ON ICE: <input type="checkbox"/> Yes <input type="checkbox"/> No													
						6. TEMPERATURE ON RECEIPT: 5°C													
3. Relinquished by: (Signature)		Date/Time		4. Received by Lab: (Signature)		FOR COMPLETION BY LAB ONLY													
<i>Jancken Pennington</i>		11/30/11		<i>Goldstar Courier</i>															
<i>owner: Jennie Borders</i>		2:45 PM		<i>12-1-11 1:50</i>															

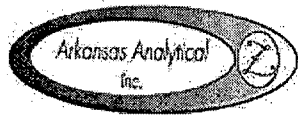
06 December 2011

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)

12/1/10



11701 Interstate 30, Bldg. 1, Ste. 115
 Little Rock, AR 72209
 PHONE: 501-455-3293
 FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes:									
El Dorado Chemical Inc.		El Dorado Chemical Inc.		Groundwater Samples		24 Hour		1. Cool, 4 Degrees Centigrade			4. Thiosulfate for Dechlorination						
4500 Northwest Ave.		P.O. Box 231				48 Hour		2. Sulfuric Acid (H ₂ SO ₄), pH < 1			5. Hydrochloric Acid (HCl)						
El Dorado, AR 71731		El Dorado, AR 71731		Reporting Information		72 Hour		3. Nitric Acid (HNO ₃), pH < 1			6. Sodium Hydroxide (NaOH), pH > 12						
Attn: Brent Parker				Telephone: 870-863-1484		Routine (5 Day)		TEST PARAMETERS						Bottle Type Code			
				Fax: 870-863-1488		Preservative Code:		1	1	1,2						G - Glass, P - Plastic	
				Email: BParker@edc-ark.com		Bottle Type:		P	P	P						V - Squares, A - Asbs	
Sampler(s) Signature				Sampler(s) Printed													
Field Number	SAMPLE COLLECTION		Grab	Comp	Number of Bottles	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION		Nitrate	Nitrate, Sulfate	Ammonia					Arkansas Analytical Work Order Number:	
	Date/s	Time/s														1112006	
	11-30-11		X		2	Water	ECMW- Dup 1		✓	✓	✓					13	
	11-30-11		X		2	Water	ECMW- Dup 2		✓	✓	✓					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-										
1. Requisitioned by: (Signature)		Date/Time		2. Received by: (Signature)		SAMPLE CONDITION UPON RECEIPT IN LAB				REMARKS / SAMPLE COMMENTS							
<i>Joe Thompson</i>		11-30-11		<i>Brent Parker</i> 11/30/11 11:00am		1. CUSTODY SEALS: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				P.O. Number:							
						2. CONTAINERS CORRECT: Yes <input type="checkbox"/> No <input type="checkbox"/>											
						3. COCLABELS AGREE: Yes <input type="checkbox"/> No <input type="checkbox"/>											
3. Requisitioned by: (Signature)		Date/Time		4. Received by Lab: (Signature)		4. PRESERVATION CONFIRMED: Yes <input type="checkbox"/> No <input type="checkbox"/>											
<i>Brent Parker</i>		11-30-11		<i>Goldstar Courier</i> 12-1-11 0800		5. RECEIVED ON ICE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>											
<i>Aurier Denise Borden</i>		2:45 PM		<i>Amanda Fobush</i>		6. TEMPERATURE ON RECEIPT: 5°C											
FOR COMPLETION BY LAB ONLY																	

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

Revision 1
 12/1/10

This report must be reproduced in its entirety.

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	<u>4/25/11</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>12.54</u> ft	Gallons per well volume	<u>6.21 gal</u>
Top of casing to bottom	<u>2210</u> ft	Total gallons evacuated	<u>18.64 gal</u>
Water level after evacuation	_____ ft	Elevation, Top of casing	_____
Sampling: Date/Time	<u>4/26/11</u>	Elevation of well water	_____
Top of casing to water level	_____ ft	Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Diss. ^{ms}	Oxygen [mg/l]	ORP	Turbidity [NTU]
<u>17.0</u>	<u>5.66</u>	<u>0.050</u>	<u>6.16</u>	<u>3.01</u>	<u>38.0</u>	<u>4.3</u>
<u>16.8</u>	<u>5.04</u>	<u>0.048</u>	<u>3.01</u>			

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. MW-2
 Collected by 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]	Diss. Oxygen [mg/l]	Turbidity [NTU]
<u>16.8</u>	<u>5.44</u>	<u>324</u>	<u>2.09</u>	<u>3.7</u>
<u>17.0</u>	<u>5.63</u>	<u>327</u>	<u>4.22</u>	<u>2.3</u>
<u>16.4</u>	<u>5.51</u>	<u>306</u>	<u>1.73</u>	<u>2.7</u>

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

FIGURE

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 4/24/11 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]	Diss. Oxygen [mg/l]	ORP Imbidity [NT]
<u>18.8</u>	<u>6.11</u>	<u>208</u>	<u>1.53</u>	<u>-7.4 mv</u>
<u>18.4</u>	<u>6.19</u>	<u>197</u>	<u>1.68</u>	<u>-20.9</u>

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

FIGURE

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 8.72 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

Temperature [°C]	pH	Conductivity [µS]	Diss.	Oxygen [mg/l]	ORP Turbidity [NTU]
<u>18.1</u>	<u>4.01</u>	<u>6.78</u>	<u>4.58</u>	<u>ms</u>	<u>63.9</u>
<u>18.0</u>	<u>3.91</u>	<u>7.07</u>	<u>3.29</u>		<u>116.8</u>

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		

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No.: MW-5
 Collected by: R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>4/26/11</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>2.88</u> ft	Gallons per well volume	<u>963 gal</u>
Top of casing to bottom	<u>17.70</u> ft	Total gallons evacuated	<u>28.89 gal</u>
Water level after evacuation		Elevation, Top of casing	
Sampling Date/Time	<u>4/27/11 1025</u>	Elevation of well water	
Top of casing to water level		Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	ORP [mV]
<u>19.7</u>	<u>4.98</u>	<u>56</u>	<u>2.88</u>	<u>78.5</u>
<u>18.9</u>	<u>5.05</u>	<u>408</u>	<u>2.18</u>	<u>63.2</u>
<u>18.2</u>	<u>5.03</u>	<u>401</u>	<u>2.12</u>	<u>55.1</u>

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

FIGURE

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 P/C BAILER

SAMPLE D.					ORP
Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/L]		Turbidity [NT]
<u>19.9</u>	<u>5.08</u>	<u>14.65</u>	<u>1.28^{ms}</u>		<u>111.8^{nr}</u>
<u>19.5</u>	<u>4.28</u>	<u>14.58</u>	<u>1.07</u>		<u>95.7</u>
<u>19.3</u>	<u>4.30</u>	<u>14.54</u>	<u>1.60</u>		<u>76.6</u>

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		

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation Date/Time: 6-15-11 1220 Method of Evacuation: ELEC. PUMP
 Top of casing to water level: 16.46 ft Gallons per well volume: 10.16 gal
 Top of casing to bottom: 2210 ft Total gallons evacuated: 30.49 gal
 Water level after evacuation: _____ ft Elevation, Top of casing: _____
 Sampling Date/Time: 6-15-11 1310 Elevation of well water: _____
 Top of casing to water level: _____ ft Method of Sampling: PVC BAULDER

SAMPLE D

Temperature (°C)	pH	Conductivity (µS)	Diss.	Oxygen (%)	Turbidity (NTU)
<u>21.3</u>	<u>40.3</u>	<u>15.88 ms</u>			
<u>20.4</u>	<u>40.2</u>	<u>14.78 ms</u>			
<u>20.0</u>	<u>40.1</u>	<u>14.73 ms</u>			

GENERAL INFORMATION

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

Certification: _____
R. Durham

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

FIGURE

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 4/24/11 Method of Evacuation ELEC. PUMP
 Top of casing to water level 7.30 ft Gallons per well volume 10.79 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]	Dissolved Oxygen [mg/l]	ORP Turbidity [NT]
<u>19.8</u>	<u>4.56</u>	<u>21.33</u> ^{ms}	<u>2.11</u> ^{mg}	<u>89.8</u> ^{mv}
<u>19.6</u>	<u>4.45</u>	<u>21.92</u>	<u>1.87</u>	<u>119.8</u>
<u>19.6</u>	<u>4.47</u>	<u>22.22</u>	<u>2.11</u>	<u>13.17</u>

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

FIGURE

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

MONITORING WELL INFORMATION

Evacuation Date/Time: 6-15-11 13:25 Method of Evacuation: ELEC PUMP
 Top of casing to water level: 8.28 ft Gallons per well volume: 10.60 gal
 Top of casing to bottom: 2510 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 [µS]	Diss.	Oxygen [ml]	Turbidity [NT]
<u>20.9</u>	<u>4.25</u>	<u>19.78 ms</u>			
<u>20.4</u>	<u>4.16</u>	<u>19.45 ms</u>			
<u>20.2</u>	<u>4.17</u>	<u>19.83 ms</u>			

GENERAL INFORMATION

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

Certification: R. Durham

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

FIGURE

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 Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time 4/26/11 Method of Evacuation ELEC. PUMP
 Top of casing to water level 2.38 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]	Disse	Oxygen [mg/l]	ORP	Turbidity [NTU]
<u>19.3</u>	<u>3.85</u>	<u>18.76</u> ^{ns} _{cm}	<u>1.51</u> _{mg}			<u>95.7</u> _{mg}
<u>19.2</u>	<u>3.81</u>	<u>20.19</u>	<u>1.14</u>			<u>115.1</u>
<u>19.1</u>	<u>3.85</u>	<u>20.65</u>	<u>1.75</u>			<u>133.2</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No: MW 8
 Collected by: 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 12:58 Elevation of well water: _____
 Top of casing to water level: _____ ft Method of Sampling: PVC BAILER

SAMPLE D:

Temperature [°C]	pH	Conductivity [µS]	Diss. Sol.	Oxygen [mg/l]	Turbidity [NT]
<u>21.1</u>	<u>361</u>	<u>18.61 ms</u>			
<u>20.7</u>	<u>361</u>	<u>OR</u>			
<u>20.9</u>	<u>410</u>	<u>4.48 ms</u>			

GENERAL INFORMATION

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

Certified by:

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. MW-9
 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 10.60 ft Gallons per well volume 12.61 gal
 Top of casing to bottom 30.00 ft Total gallons evacuated 37.83 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 PIC BAILER

SAMPLE D

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]	ORP	Turbidity [NT]
<u>19.3</u>	<u>5.55</u>	<u>2.31</u> ^{MS} _{cm}	<u>3.46</u> ^{MS} _l		<u>9.25</u>
<u>19.2</u>	<u>5.83</u>	<u>2.05</u>	<u>2.90</u>		<u>77.2</u>
<u>19.2</u>	<u>5.74</u>	<u>2.04</u>	<u>1.78</u>		<u>60.7</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Family: EL DORADO, AR Well No.: MW-10
 Coils: 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 [µS]	Diss.	Oxygen [%]	ORP Turbidity [NTU]
<u>19.7</u>	<u>4.49</u>	<u>99.56</u> ms	<u>166</u> ms		<u>69.1</u>
<u>19.6</u>	<u>4.30</u>	<u>90</u> ms	<u>97</u>		<u>56.8</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No: MW-11
 Colle: R. DURHAM JOE THOMPSON

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>4/26/11</u>	Method of Evacuation	<u>ELEC PUMP</u>
Top of casing to water level	<u>11:30</u> ft	Gallons per well volume	<u>5.52 gal</u>
Top of casing to bottom	<u>19:80</u> ft	Total gallons evacuated	<u>16.57 gal</u>
Water level after evacuation		Elevation, Top of casing	
Sampling: Date/Time	<u>4/27/11 1340</u>	Elevation of well water	
Top of casing to water level		Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Dissc	Oxygen [mg/l]	ORP Turbidity [NT]
<u>19.0</u>	<u>4.41</u>	<u>5.40</u> ns		<u>2.02</u> mg	<u>55.5</u> mV
<u>18.2</u>	<u>4.51</u>	<u>0.77</u>		<u>1.76</u>	<u>51.0</u>
<u>18.8</u>	<u>4.57</u>	<u>0.91</u>		<u>1.94</u>	<u>49.5</u>

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		

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site: _____ Facility: _____ Well No. MW 12
 Collector: 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 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 Bore

SAMPLE DATA

Temperature [°C]	pH	Conductivity [µS]	Dissolved Oxygen [mg/l]	ORP Turbidity [NTU]
<u>19.5</u>	<u>5.75</u>	<u>0.60</u> ^m	<u>2.03</u> ^m	<u>22.1</u>
<u>19.6</u>	<u>6.00</u>	<u>0.63</u>	<u>6.05</u>	<u>-24.6</u>
<u>19.3</u>	<u>5.67</u>	<u>0.60</u>	<u>0.66</u>	<u>-13.8</u>

GENERAL INFORMATION

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

Certification: _____
Joe Thompson

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

FIGURE 2

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Family EL DORADO, AR Well No. MW 13
 Colle. R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>4/25/11</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>730</u> ft	Gallons per well volume	<u>812 gal</u>
Top of casing to bottom	<u>1980</u> ft	Total gallons evacuated	<u>2437 gal</u>
Water level after evacuation		Elevation, Top of casing	
Sampling: Date/Time	<u>4/26/11 0912</u>	Elevation of well water	
Top of casing to water level		Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Disse. Oxygen [mg/l]	ORP Turbidity [NT]
<u>18.4</u>	<u>4.95</u>	<u>1.39</u>	<u>20.8 mg</u>	<u>-116.1</u>
<u>17.3</u>	<u>4.93</u>	<u>1.21</u>	<u>0.87</u>	<u>153.0</u>
<u>17.3</u>	<u>4.68</u>	<u>1.67</u>	<u>0.90</u>	<u>-172.0</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Firm: EL DORADO, AR Well No: MW14
 Colle: R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>4/25/11</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>2.12</u> ft	Gallons per well volume	<u>720 gal</u>
Top of casing to bottom	<u>18.20</u> ft	Total gallons evacuated	<u>2160 gal</u>
Water level after evacuation	_____ ft	Elevation, Top of casing	_____
Sampling Date/Time	<u>4/26/11</u>	Elevation of well water	_____
Top of casing to water level	_____ ft	Method of Sampling	<u>PVC BAILER</u>

SAMPLE DATA

ORP

Temperature (°C)	pH	Conductivity (µS)	Diss. Oxygen (mg/l)	Turbidity (NTU)
<u>19.4</u>	<u>4.85</u>	<u>0.70</u>	<u>1.57</u> mg	<u>111.5</u>
<u>18.7</u>	<u>4.96</u>	<u>0.69</u>	<u>1.61</u> mg	<u>145.7</u>
<u>18.5</u>	<u>5.04</u>	<u>0.69</u>	<u>1.70</u> mg	<u>113.7</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Family: EL DORADO, AR Well No. MW 15
 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: 6.30 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 DATA

Temperature [°C]	pH	Conductivity [µS]	Diss. [OR/gal]	OR/gal [OR/gal]	Turbidity [NT]
<u>18.5</u>	<u>4.88</u>	<u>.091</u>	<u>1.27</u>		<u>149.7</u>
<u>18.4</u>	<u>4.84</u>	<u>.073</u>	<u>1.01</u>		<u>190.9</u>
<u>17.8</u>	<u>4.86</u>	<u>.073</u>	<u>1.01</u>		<u>195.4</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility 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 [µS]	Diss. Oxygen [%]	ORP	Turbidity [NT]
<u>18.2</u>	<u>4.86</u>	<u>163</u>	<u>2.16</u>		<u>-113.2</u>
<u>17.8</u>	<u>4.74</u>	<u>199</u>	<u>1.87</u>		<u>99.6</u>
<u>17.7</u>	<u>4.50</u>	<u>204</u>	<u>0.41</u>		<u>153.0</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Family: EL DORADO, AR Well No: MW 17
 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 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 BAULER

SAMPLE D.

Temperature [°C]	pH	Conductivity [uS]	Diss. Oxygen [%]	ORP Turbidity [NTU]
<u>19.1</u>	<u>4.81</u>	<u>.238</u>	<u>2.15</u>	<u>50.7</u>
<u>18.8</u>	<u>4.42</u>	<u>.228</u>	<u>1.51</u>	<u>66.5</u>
<u>19.0</u>	<u>4.34</u>	<u>.228</u>	<u>.99</u>	<u>74.8</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>4/25/11</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>505</u> ft	Gallons per well volume	<u>7.81</u>
Top of casing to bottom	<u>1720</u> ft	Total gallons evacuated	<u>23.69</u>
Water level after evacuation		Elevation, Top of casing	
Sampling: Date/Time	<u>4/26/11 08:42</u>	Elevation of well water	
Top of casing to water level		Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

Temperature [°C]	pH	Conductivity [uS]	Diss. Oxygen [mg/l]	ORP	Turbidity [NT]
<u>17.2</u>	<u>6.19</u>	<u>0.77</u>	<u>3.41^{mg}</u>		<u>-165.0</u>
<u>17.4</u>	<u>5.74</u>	<u>0.72</u>	<u>5.19^{mg}</u>		<u>-179.1</u>
<u>17.9</u>	<u>5.77</u>	<u>0.80</u>	<u>5.98</u>		<u>-165.5</u>

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		

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No: DAW 18
 Coll: R. DURHAM

MONITORING WELL INFORMATION

Evacuation Date/Time: 6/15/11 11:04 Method of Evacuation: ELEC PUMP
 Top of casing to water level: 850 ft Gallons per well volume: 5.53 gal
 Top of casing to bottom: 1700 ft Total gallons evacuated: 16.61 gal
 Water level after evacuation: _____ ft Elevation, Top of casing: _____
 Sampling Date/Time: 6/15/11 11:36 Elevation of well water: _____
 Top of casing to water level: _____ ft Method of Sampling: PVC BAILEY

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Diss.	Oxygen [ml]	Turbidity [NT]
<u>19.7</u>	<u>5.68</u>	<u>140.6 µs</u>			
<u>19.8</u>	<u>5.66</u>	<u>98.4 µs</u>			
<u>20.0</u>	<u>5.76</u>	<u>97.6 µs</u>			

GENERAL INFORMATION

Weather conditions at time of sampling: clear hot

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Recommendations: _____

Certification:

R. Durham
J. Morgan

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

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	<u>6-29-11</u>	<u>1300</u>	Method of Evacuation:	<u>ELEC. PUMP</u>
Top of casing to water level	<u>942</u>	ft	Gallons per well volume	<u>5.03 gal</u>
Top of casing to bottom	<u>1700</u>	ft	Total gallons evacuated	<u>15.17 gal</u>
Water level after evacuation		ft	Elevation, Top of casing	
Sampling: Date/Time	<u>6-29-11</u>	<u>1350</u>	Elevation of well water	
Top of casing to water level		ft	Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

Temperature [°C]	pH	Conductivity [µS]	Dissc.	Oxygen [mg/l]	Turbidity [NT]
<u>22.4</u>	<u>5.43</u>	<u>114.0 µs</u>			
<u>21.1</u>	<u>5.57</u>	<u>90.8 µs</u>			
<u>20.9</u>	<u>5.71</u>	<u>88.7 µs</u>			

GENERAL INFORMATION

Weather conditions at time of sampling: _____

Sample characteristics: _____

Containers and preservatives: _____

Comments and observations: _____

Recommendations: _____

Certification:

R. Durham

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No: 19
 Collected by: R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation: Date/Time: 4/25/11 Method of Evacuation: ELEC PUMP
 Top of casing to water level: 262 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 [%]	ORP Turbidity [NT]
<u>17.8</u>	<u>6.02</u>	<u>.085</u>	<u>1.80</u>	<u>0.91</u>	<u>232.4</u>
<u>18.2</u>	<u>6.03</u>	<u>.082</u>	<u>0.91</u>		<u>261.1</u>
<u>18.1</u>	<u>5.82</u>	<u>.082</u>	<u>0.51</u>		<u>257.6</u>

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

FIGURE

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 08:10 Elevation of well water _____
 Top of casing to water level _____ ft Method of Sampling PVC BAILER

SAMPLE D.

Temperature [°C]	pH	Conductivity [uS]	Disse.	Oxygen [%]	ORP	Turbidity [NT]
<u>19.6</u>	<u>5.82</u>	<u>0.091</u>	<u>2.10</u> ^{mg/l}			<u>1.06.9</u>
<u>22.4</u>	<u>6.03</u>	<u>111</u>	<u>2.25</u>			<u>1.49.9</u>

dry

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

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time	Method of Evacuation <u>ELEC. PUMP</u>
Top of casing to water level <u>18.92</u> ft	Gallons per well volume <u>0.81</u>
Top of casing to bottom <u>39.9</u> ft	Total gallons evacuated <u>2.44</u>
Water level after evacuation _____ ft	Elevation, Top of casing _____
Sampling: Date/Time _____	Elevation of well water _____
Top of casing to water level _____ ft	Method of Sampling <u>PVC BAILER</u>

SAMPLE DATA					ORP
Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/l]		Turbidity [NT]
<u>18.7</u>	<u>6.19</u>	<u>0.81</u> ms	<u>399</u>		<u>113.3</u>
<u>19.0</u>	<u>5.85</u>	<u>0.73</u> ms	<u>458</u>		<u>110.7</u>

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

FIGURE

0.51

1.548

GROUNDWATER SAMPLING DATA FORM
 El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No: MW-22
 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: 6.84 ft Gallons per well volume: 11.67 gal
 Top of casing to bottom: 79.80 ft Total gallons evacuated: 35.02 gal
 Water level after evacuation: _____ ft Elevation, Top of casing: _____
 Sampling Date/Time: 4/24/11-11:08 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]	ORP	Turbidity [NTU]
<u>18.7</u>	<u>5.84</u>	<u>.136</u>	<u>2.02</u>		<u>48.7</u>
<u>18.6</u>	<u>6.06</u>	<u>.137</u>	<u>0.69</u>		<u>22.6</u>
<u>18.3</u>	<u>6.05</u>	<u>.132</u>	<u>.90</u>		<u>5.1</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. 4
 Collected by R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>11/29/11 13:10</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>12.40</u> ft	Gallons per well volume	<u>6.37 gal</u>
Top of casing to bottom	<u>22.20</u> ft	Total gallons evacuated	<u>19.11 gal</u>
Water level after evacuation		Elevation, Top of casing	
Sampling Date/Time	<u>11/30/11 08:50</u>	Elevation of well water	
Top of casing to water level		Method of Sampling	<u>P/C BAILER</u>

SAMPLE D

Temperature [°C]	pH	Conductivity [µS]	Diss. ^{mg/l}	Oxygen ^{mg/l}	Turbidity [NTU]
<u>19.5</u>	<u>369</u>	<u>7426</u> ^{µS/cm}	<u>0.63</u>	<u>2</u> ^{mg/l}	<u>258.0</u> ^{ntu}
<u>20.4</u>	<u>348</u>	<u>6065</u>	<u>3.21</u>		<u>260.1</u>
<u>19.4</u>	<u>372</u>	<u>7397</u>	<u>1.26</u>		<u>249.2</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL DORADO, AR Well No. 5
 Colle R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time 11/29/11 1420 Method of Evacuation ELEC PUMP
 Top of casing to water level 406 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 (µS)	Diss. Oxygen (%)	ORP Turbidity (NT)
<u>20.1</u>	<u>5.36</u>	<u>422.6</u> ^{µS} / _{cm}	<u>15.9</u> %	<u>186.5</u> mV
<u>19.8</u>	<u>4.88</u>	<u>423.1</u>	<u>10.3</u>	<u>192.8</u>
<u>20.7</u>	<u>4.67</u>	<u>417.6</u>	<u>10.8</u>	<u>199.5</u>

GENERAL INFORMATION

Weather conditions at time of sampling clear upper 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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Facility: EL DORADO, AR Well No: 6
 Colle: 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: 576 ft Gallons per well volume: 10.62 gal
 Top of casing to bottom: 2210 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 BAULER

SAMPLE D

Temperature (°C)	pH	Conductivity (µS/cm)	Diss. Oxygen (%)	Turbidity (NTU)
<u>19.9</u>	<u>4.31</u>	<u>17133</u>	<u>0.78</u>	<u>268.0</u>
<u>20.0</u>	<u>3.86</u>	<u>15402</u>	<u>0.23</u>	<u>267.0</u>
<u>20.0</u>	<u>3.88</u>	<u>15399</u>	<u>0.18</u>	<u>267.9</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Family: EL DORADO, AR Well No: 7
 Coils: R. DURHAM

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>11/29/11 15:12</u>	Method of Evacuation	<u>Electric Pump</u>
Top of casing to water level	<u>860</u> ft	Gallons per well volume	<u>1072 gal</u>
Top of casing to bottom	<u>2510</u> ft	Total gallons evacuated	<u>3207 gal</u>
Water level after evacuation		Elevation, Top of casing	
Sampling Date/Time	<u>11/30/11 09:40</u>	Elevation of well water	
Top of casing to water level		Method of Sampling	<u>PVC BAILER</u>

SAMPLE D

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [%]	ORP Turbidity [NT]
<u>20.4</u>	<u>4.87</u>	<u>21850</u> <small>µS/cm</small>	<u>0.49</u> <small>mg/L</small>	<u>263.5</u> <small>NT</small>
<u>20.8</u>	<u>4.16</u>	<u>19150</u>	<u>0.12</u>	<u>289.9</u>
<u>20.8</u>	<u>4.18</u>	<u>19195</u>	<u>0.09</u>	<u>307.7</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Clear Upper 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

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Field: EL DORADO, AR Well No. 8
 Colle: R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>11/30/30 15:52</u>	Method of Evacuation	<u>ELEC PUMP</u>
Top of casing to water level	<u>860</u> ft	Gallons per well volume	<u>14.09 gal</u>
Top of casing to bottom	<u>3020</u> ft	Total gallons evacuated	<u>42.12 gal</u>
Water level after evacuation	_____ ft	Elevation, Top of casing	_____
Sampling Date/Time	<u>11/30/11 09:55</u>	Elevation of well water	_____
Top of casing to water level	_____ ft	Method of Sampling	<u>PVC BAILER</u>

SAMPLE D

DHP

Temperature (°C)	pH	Conductivity (µS)	Diss. Oxygen (mg/l)	Turbidity (NTU)
<u>19.0</u>	<u>3.52</u>	<u>19866</u> ^{µS}	<u>0.44</u> ^{mg}	<u>318.3</u>
<u>19.0</u>	<u>3.40</u>	<u>21940</u>	<u>0.13</u>	<u>317.2</u>
<u>19.1</u>	<u>3.44</u>	<u>22482</u>	<u>0.10</u>	<u>317.0</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site: EL DORADO CHEMICAL Firm: EL DORADO, AR Well No. 9
 Coll: 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: 1496 ft Gallons per well volume: 997 gal
 Top of casing to bottom: 3030 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 BAULER

SAMPLE D.

Temperature (°C)	pH	Conductivity (µS)	Diss. Oxygen (mg/L)	ORP Turbidity (NT)
<u>19.2</u>	<u>5.66</u>	<u>2206 us</u>	<u>0.56</u>	<u>247.2 mv</u>
<u>19.7</u>	<u>5.58</u>	<u>2164</u>	<u>0.81</u>	<u>248.8</u>
<u>19.6</u>	<u>5.37</u>	<u>2145</u>	<u>0.51</u>	<u>249.6</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>11/29/11 10:52</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>1630</u> ft	Gallons per well volume	<u>4.35 gal</u>
Top of casing to bottom	<u>2300</u> ft	Total gallons evacuated	<u>13.06 gal</u>
Water level after evacuation	_____ ft	Elevation, Top of casing	_____
Sampling Date/Time	<u>11/30/11 08:20</u>	Elevation of well water	_____
Top of casing to water level	_____ ft	Method of Sampling	<u>PVC BAILER</u>

SAMPLE D.

Temperature (°C)	pH	Conductivity (µS/cm)	Diss. Oxygen (mg/l)	Turbidity (NT)
<u>20.5</u>	<u>4.08</u>	<u>652</u>	<u>2.42</u>	<u>176.9</u> <small>ORP</small>
<u>21.0</u>	<u>3.99</u>	<u>777</u>	<u>0.83</u>	<u>189.4</u> <small>MP</small>
<u>19.5</u>	<u>3.97</u>	<u>754</u>	<u>4.26</u>	<u>196.7</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Clear Nov 40

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	

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Facility EL 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 10.88 gal
 Water level after evacuation _____ ft Elevation, Top of casing _____
 Sampling Date/Time 11/30/11 08:35 Elevation of well water _____
 Top of casing to water level _____ ft Method of Sampling PVC BAILER

SAMPLE D

Temperature [°C]	pH	Conductivity [µS]	Diss. Oxygen [mg/L]	Turbidity [NT]
<u>21.2</u>	<u>4.22</u>	<u>9.11</u> <small>µS/cm</small>	<u>2.49</u> <small>mg/L</small>	<u>202.1</u>
<u>21.7</u>	<u>4.18</u>	<u>9.75</u>	<u>0.97</u>	<u>202.5</u>
<u>21.4</u>	<u>4.11</u>	<u>10.86</u>	<u>2.09</u>	<u>212.0</u>

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

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

Site EL DORADO CHEMICAL Family EL DORADO, AR Well No. 14
 Collected by R. DURHAM Joe Thompson

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>11/27/10 9:08</u>	Method of Evacuation	<u>ELEC. PUMP</u>
Top of casing to water level	<u>1052</u> ft	Gallons per well volume	<u>2.44 gal</u>
Top of casing to bottom	<u>1760</u> ft	Total gallons evacuated	<u>7.32 gal</u>
Water level after evacuation	_____ ft	Elevation, Top of casing	_____
Sampling Date/Time	<u>11/30/11 10:30</u>	Elevation of well water	_____
Top of casing to water level	_____ ft	Method of Sampling	<u>PVC BAILER</u>

SAMPLE D

Temperature (°C)	pH	Conductivity (µS)	Diss. Oxygen (mg/l)	Turbidity (NT)
<u>19.4</u>	<u>4.80</u>	<u>629</u> <small>µm</small>	<u>1.92</u> <small>mg</small>	<u>162.7</u> <small>NT</small>
<u>20.5</u>	<u>4.58</u>	<u>637</u>	<u>1.60</u>	<u>163.7</u>
<u>20.8</u>	<u>4.50</u>	<u>650</u>	<u>1.63</u>	<u>176.3</u>

GENERAL INFORMATION

Weather conditions at time of sampling Clear 40-50

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation: Date/Time 11/29/09 14H 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 (NTU)
<u>19.9</u>	<u>4.17</u>	<u>173.2</u>	<u>1.6</u>	<u>143.6</u>
<u>21.0</u>	<u>4.13</u>	<u>185.6</u>	<u>0.34</u>	<u>139.8</u>
<u>21.3</u>	<u>4.12</u>	<u>197.1</u>	<u>0.23</u>	<u>140.7</u>

GENERAL INFORMATION

Weather conditions at time of sampling: Clear low 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

FIGURE

GROUNDWATER SAMPLING DATA FORM

El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>11/29/11 10:15</u>	Method of Evacuation	<u>ELEC PUMP</u>
Top of casing to water level	<u>30.60</u> ft	Gallons per well volume	<u>2.86 gal</u>
Top of casing to bottom	<u>35.00</u> ft	Total gallons evacuated	<u>858 gal</u>
Water level after evacuation	_____ ft	Elevation, Top of casing	_____
Sampling Date/Time	<u>11/30/11 07:58</u>	Elevation of well water	_____
Top of casing to water level	<u>1</u> ft	Method of Sampling	<u>PYC BAWLER</u>

SAMPLE D

Temperature (°C)	pH	Conductivity (µS)	Diss. Oxygen (%)	Turbidity (NTU)
<u>16.3</u>	<u>4.20</u>	<u>200.3</u> ^{µS}	<u>1.99</u> ^{mg}	<u>153.0</u> ^{NTU}
<u>17.6</u>	<u>4.07</u>	<u>209.4</u> ^{µS}	<u>1.78</u> ^{mg}	<u>155.1</u> ^{NTU}
<u>17.8</u>	<u>4.65</u>	<u>205.4</u> ^{µS}	<u>2.48</u> ^{mg}	<u>160.0</u> ^{NTU}

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

FIGURE

GROUNDWATER SAMPLING DATA FORM
El Dorado Chemical Company

FIELD LOG

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

MONITORING WELL INFORMATION

Evacuation Date/Time	<u>11/29/11 8:00</u>	Method of Evacuation	<u>ELEC PUMP</u>
Top of casing to water level	<u>9.96</u> ft	Gallons per well volume	<u>4.70 gal</u>
Top of casing to bottom	<u>1720</u> ft	Total gallons evacuated	<u>14.11 gal</u>
Water level after evacuation		Elevation, Top of casing	
Sampling Date/Time	<u>11/30/11 0710</u>	Elevation of well water	
Top of casing to water level		Method of Sampling	<u>PVC BAILER</u>

SAMPLE D

Temperature (°C)	pH	Conductivity (µS)	Diss. Oxygen (%)	Turbidity (NTU)
<u>17.1</u>	<u>5.54</u>	<u>77.5</u> ms	<u>3.03</u> ms	<u>10.15</u> mv
<u>18.0</u>	<u>5.64</u>	<u>77.2</u> ms	<u>1.06</u> mg	<u>109.7</u> mv
		<u>dry</u>		

GENERAL INFORMATION

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

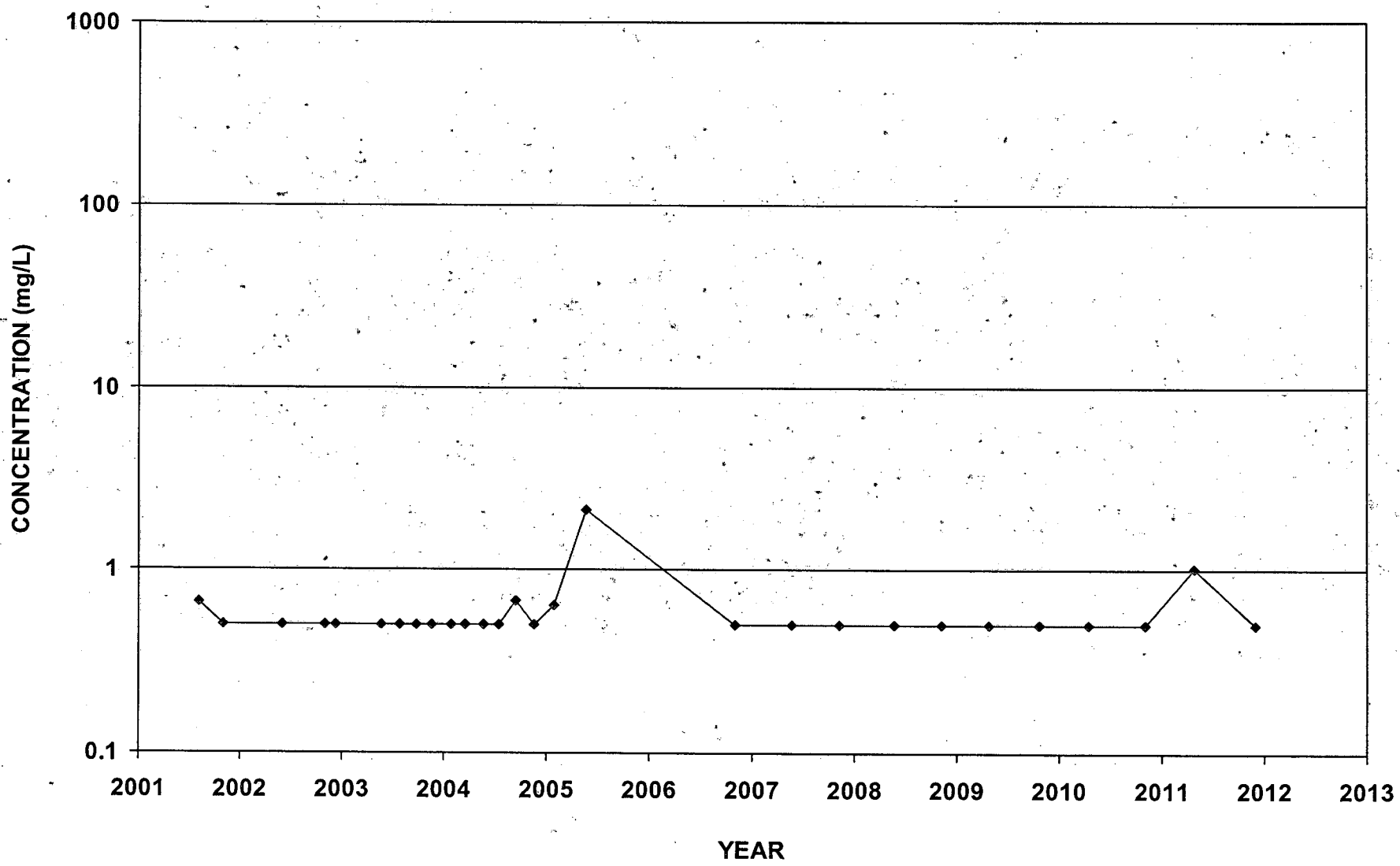
Certification: R. Durham Joe Thompson

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

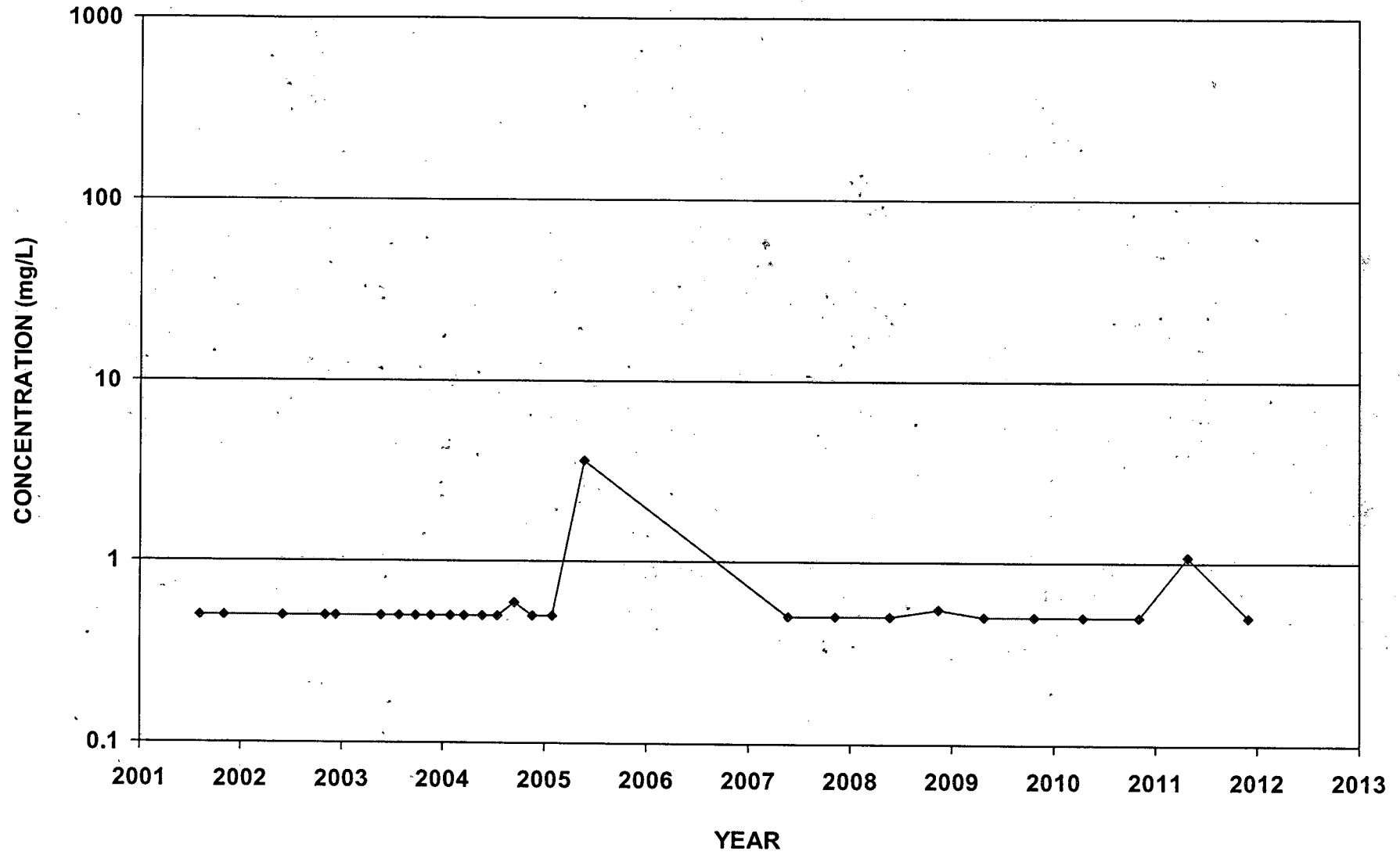
FIGURE

APPENDIX B
TREND GRAPHS

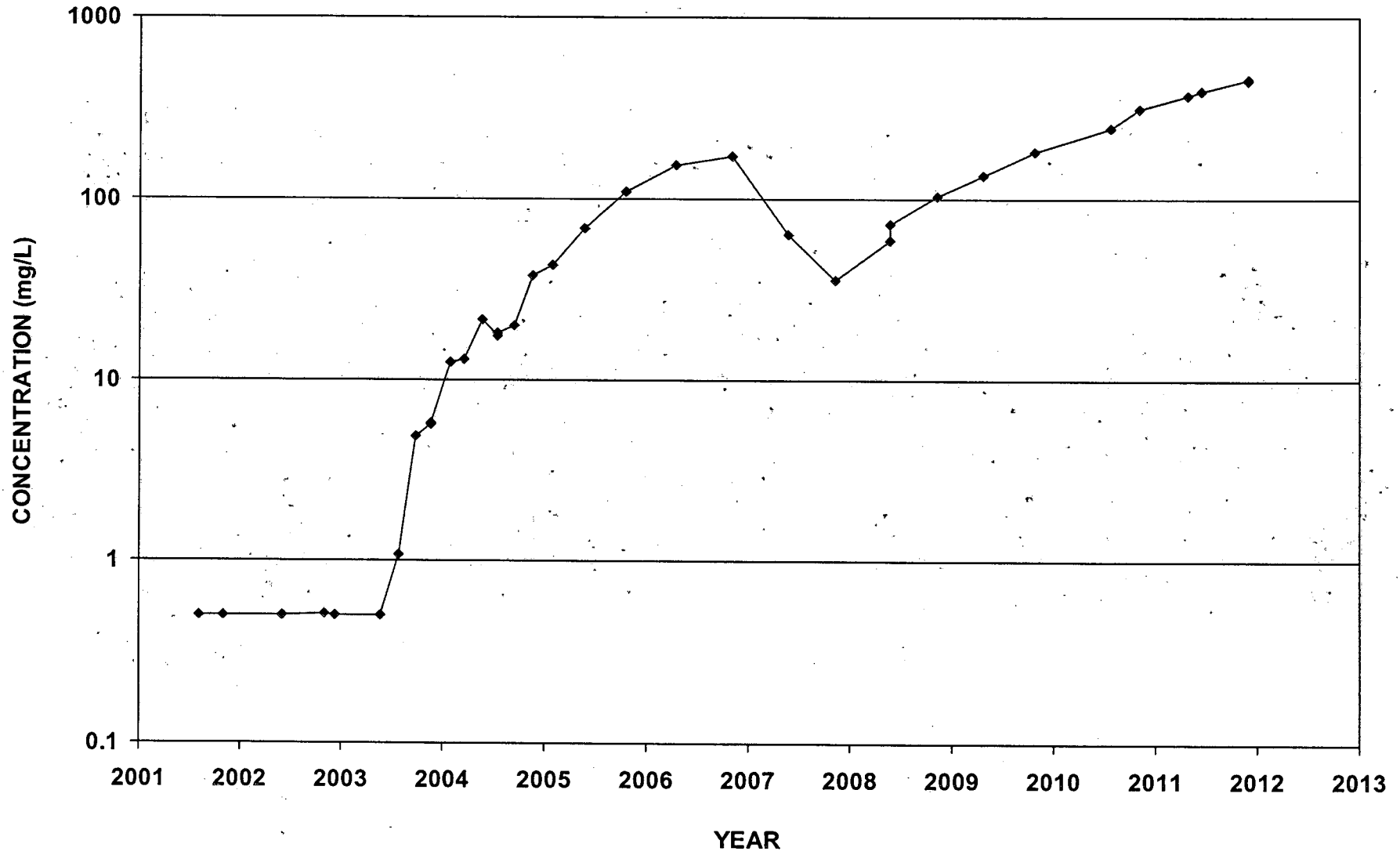
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Ammonia-N



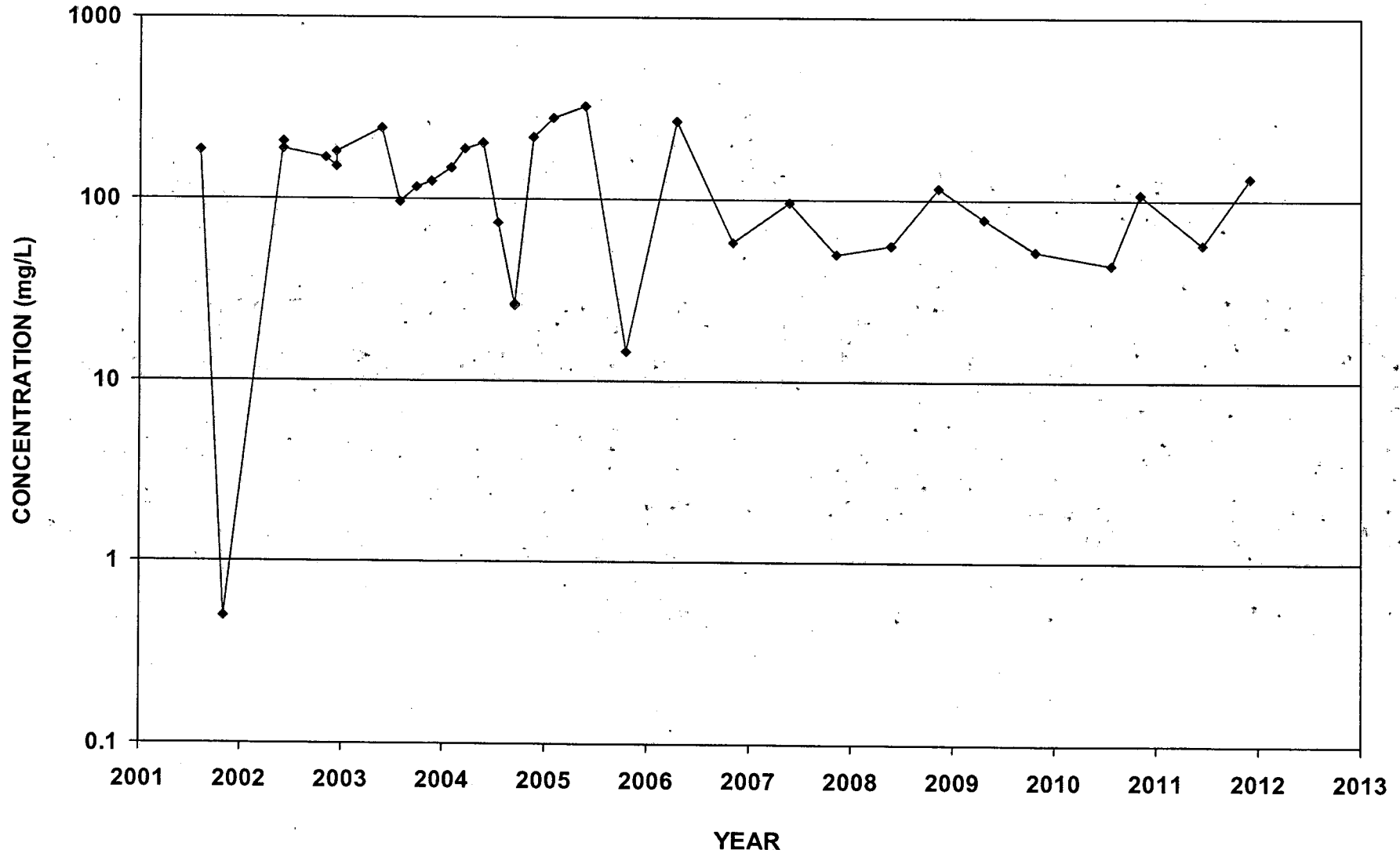
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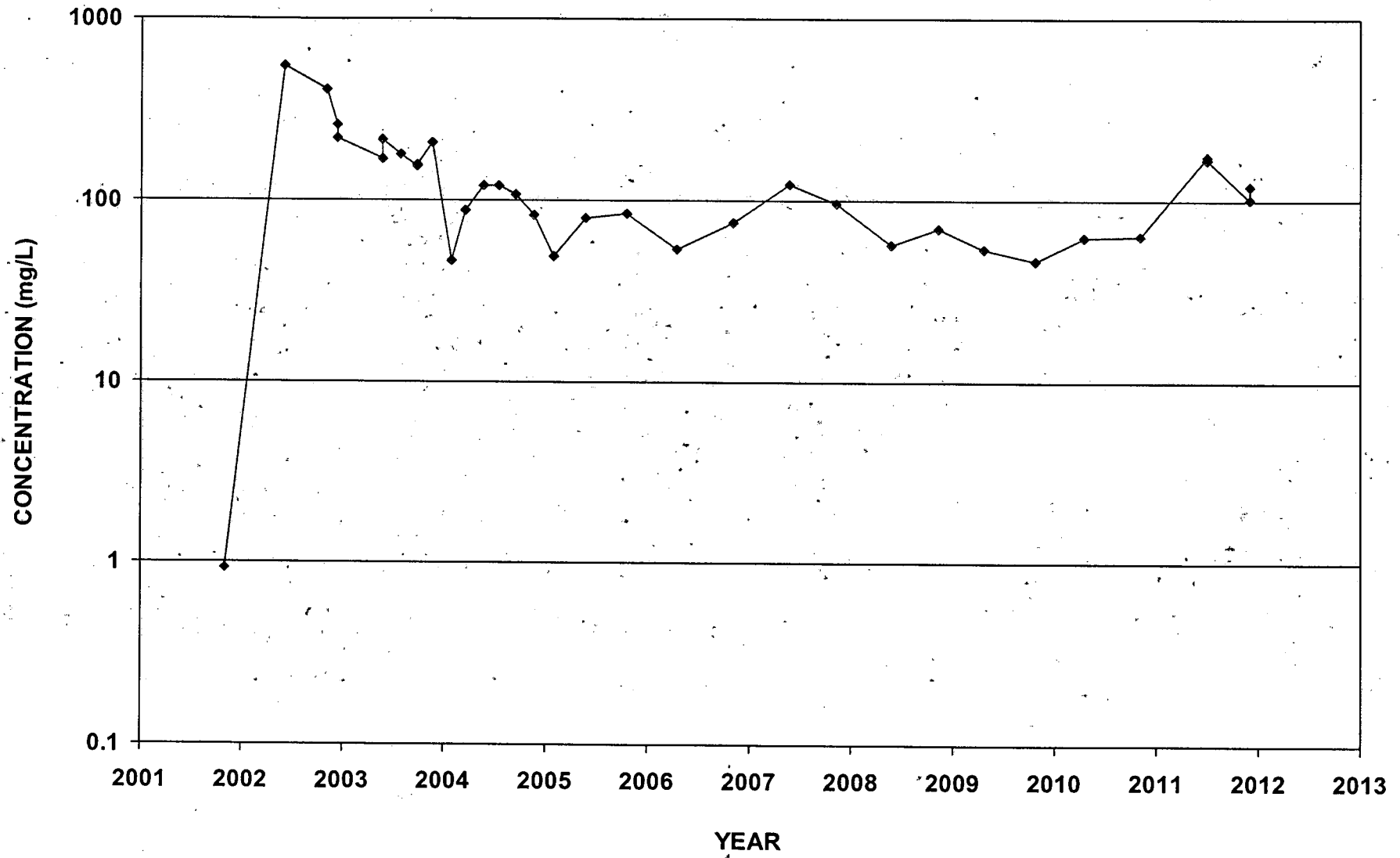
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Ammonia-N



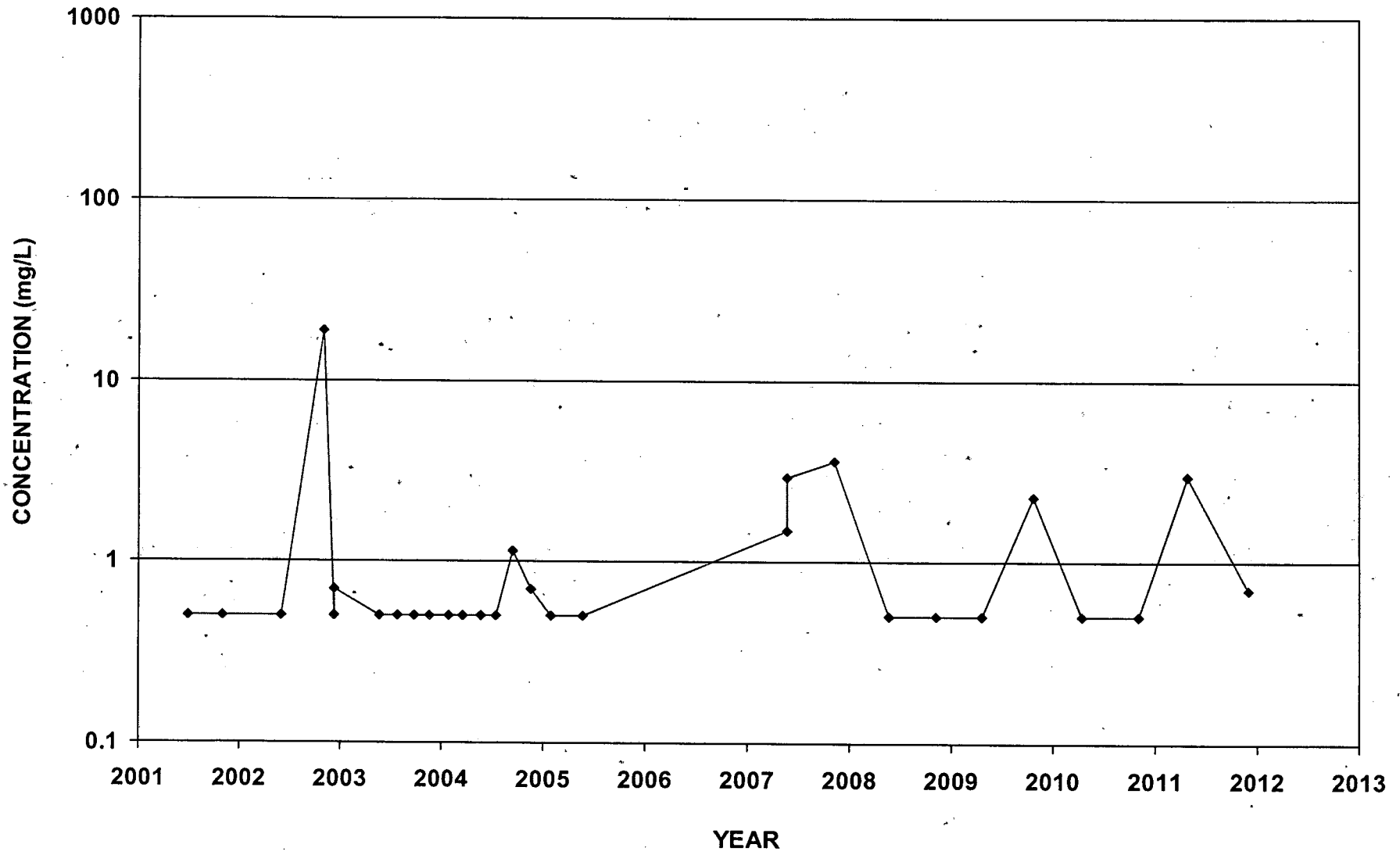
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Ammonia-N



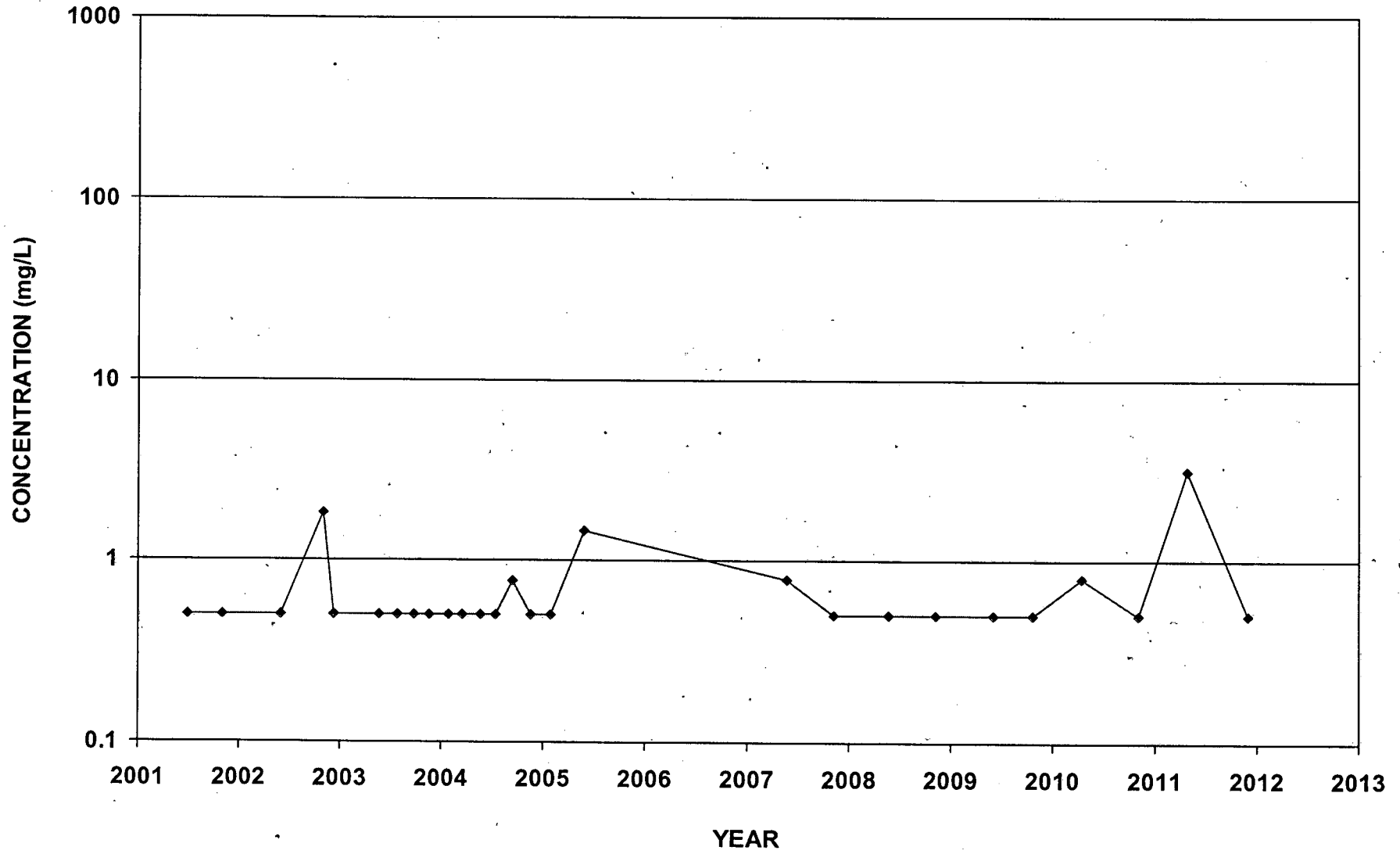
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Ammonia-N



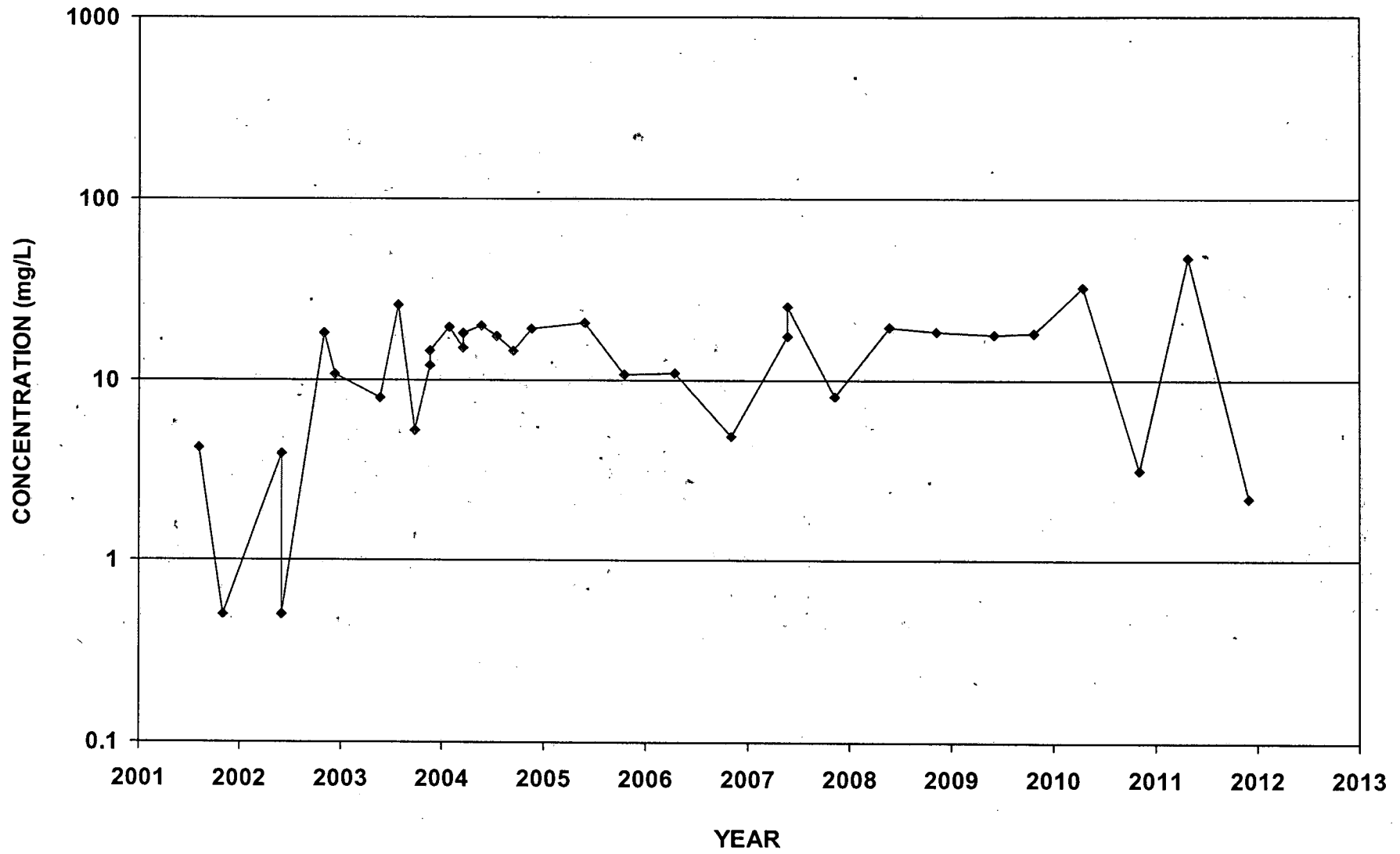
ECMW-9
Ammonia-N



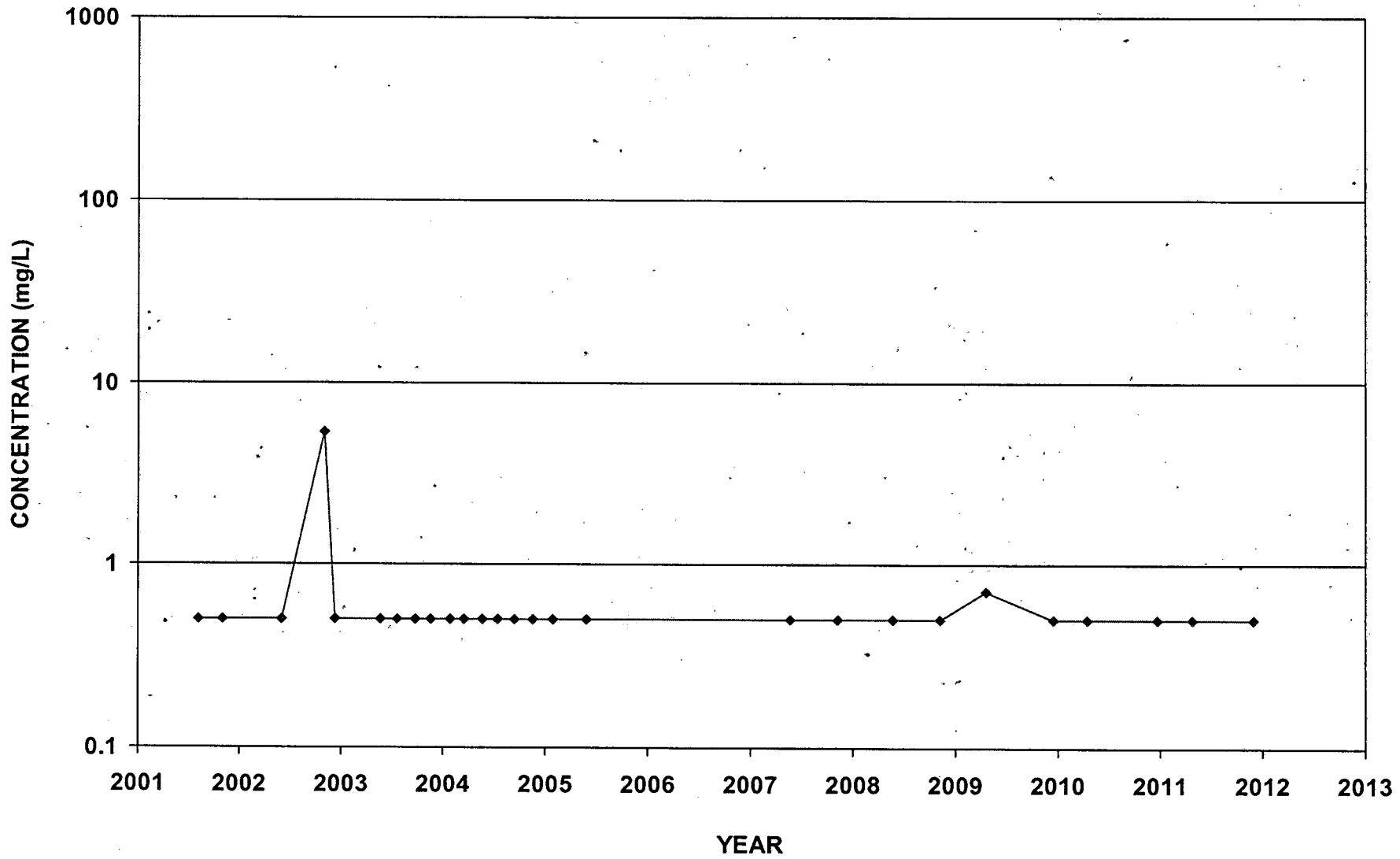
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Ammonia-N



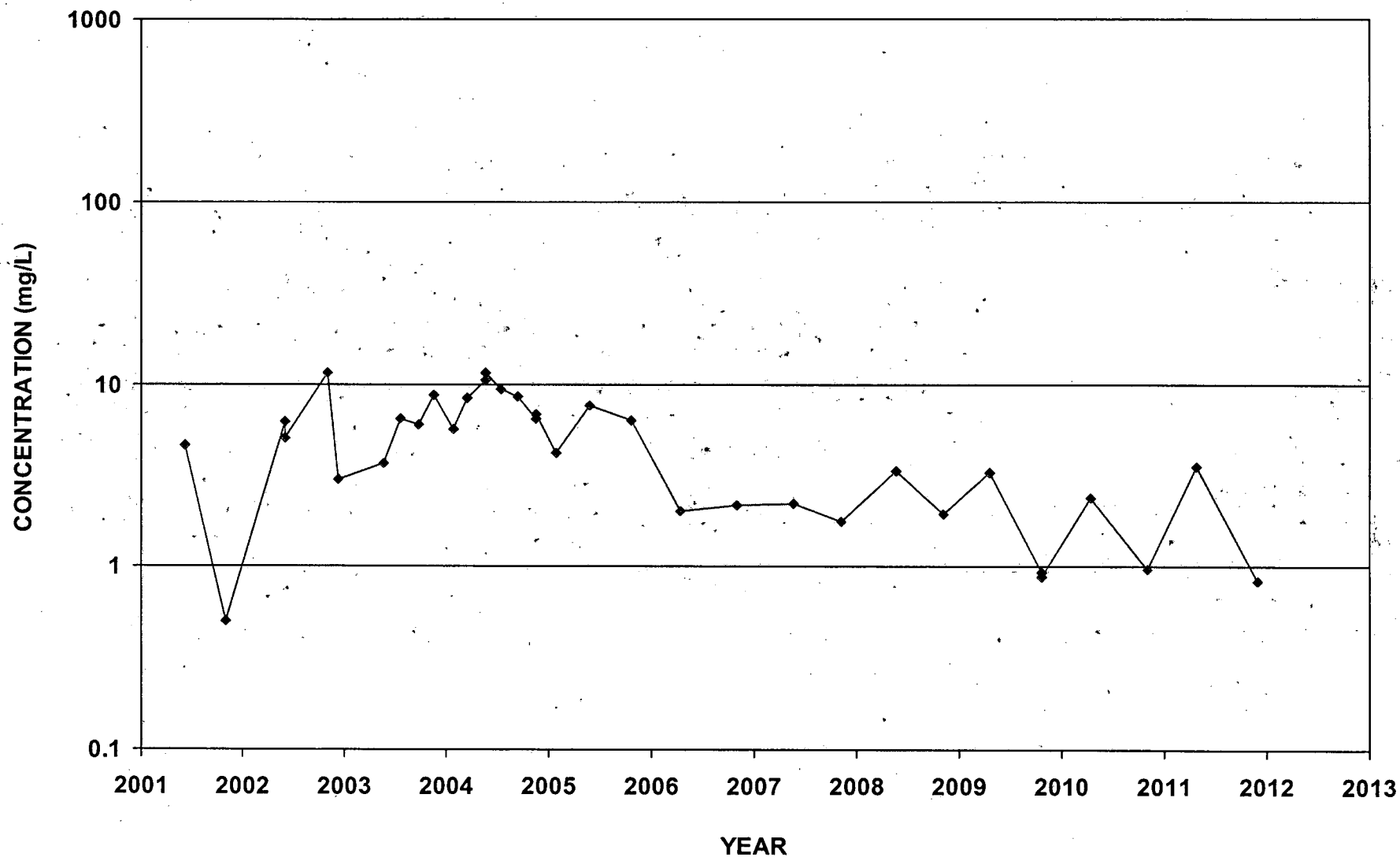
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Ammonia-N



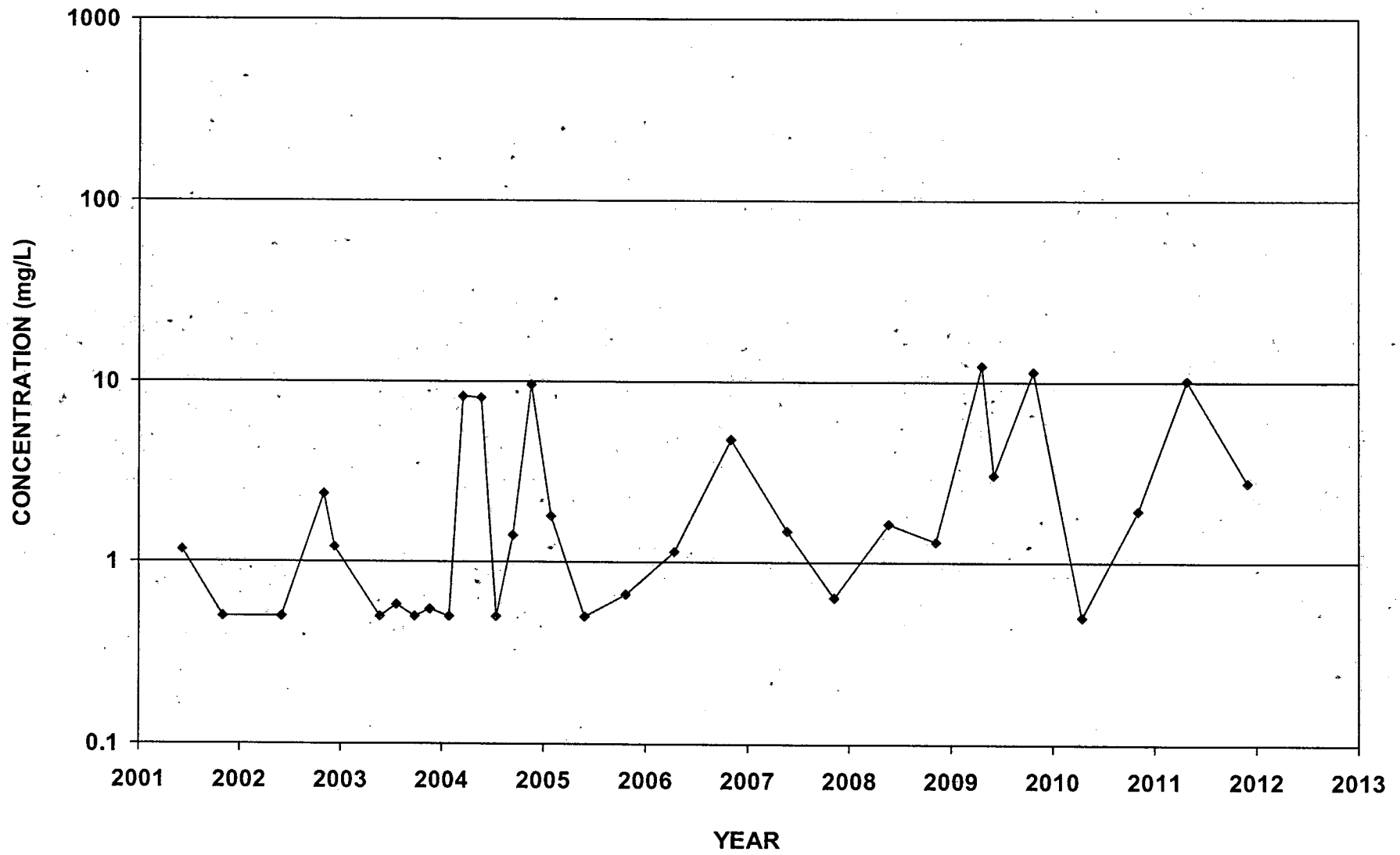
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Ammonia-N



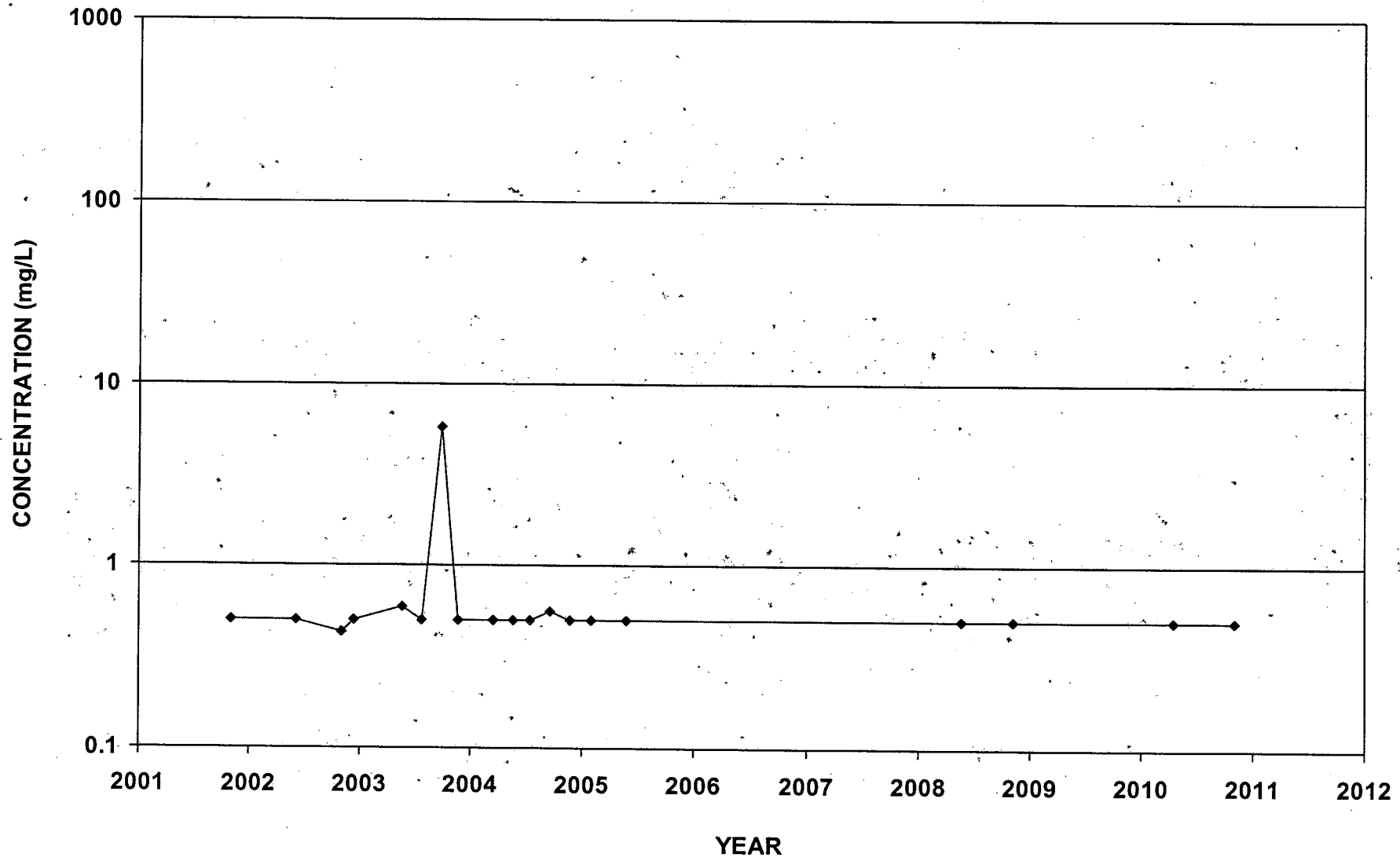
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Ammonia-N



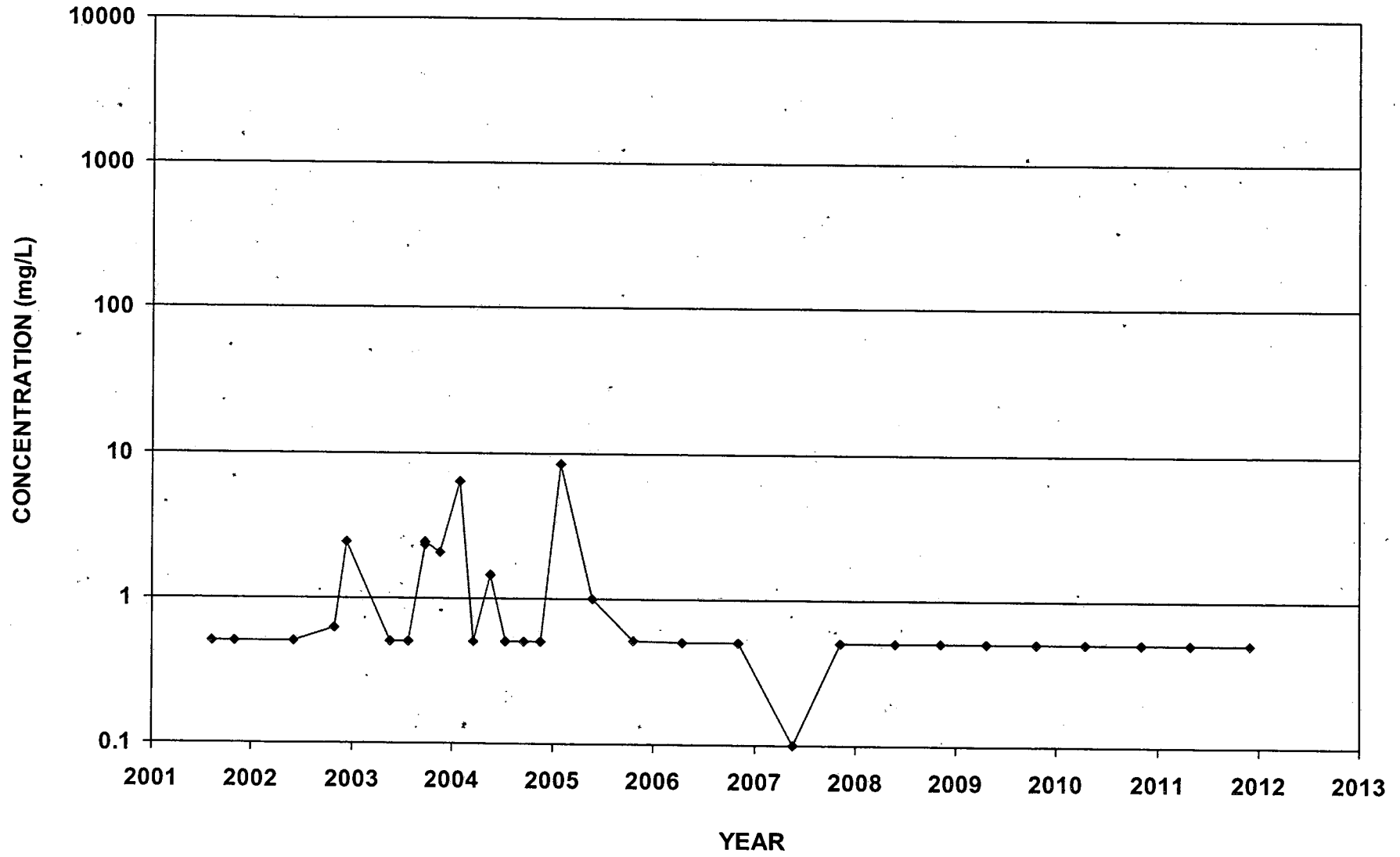
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Ammonia-N



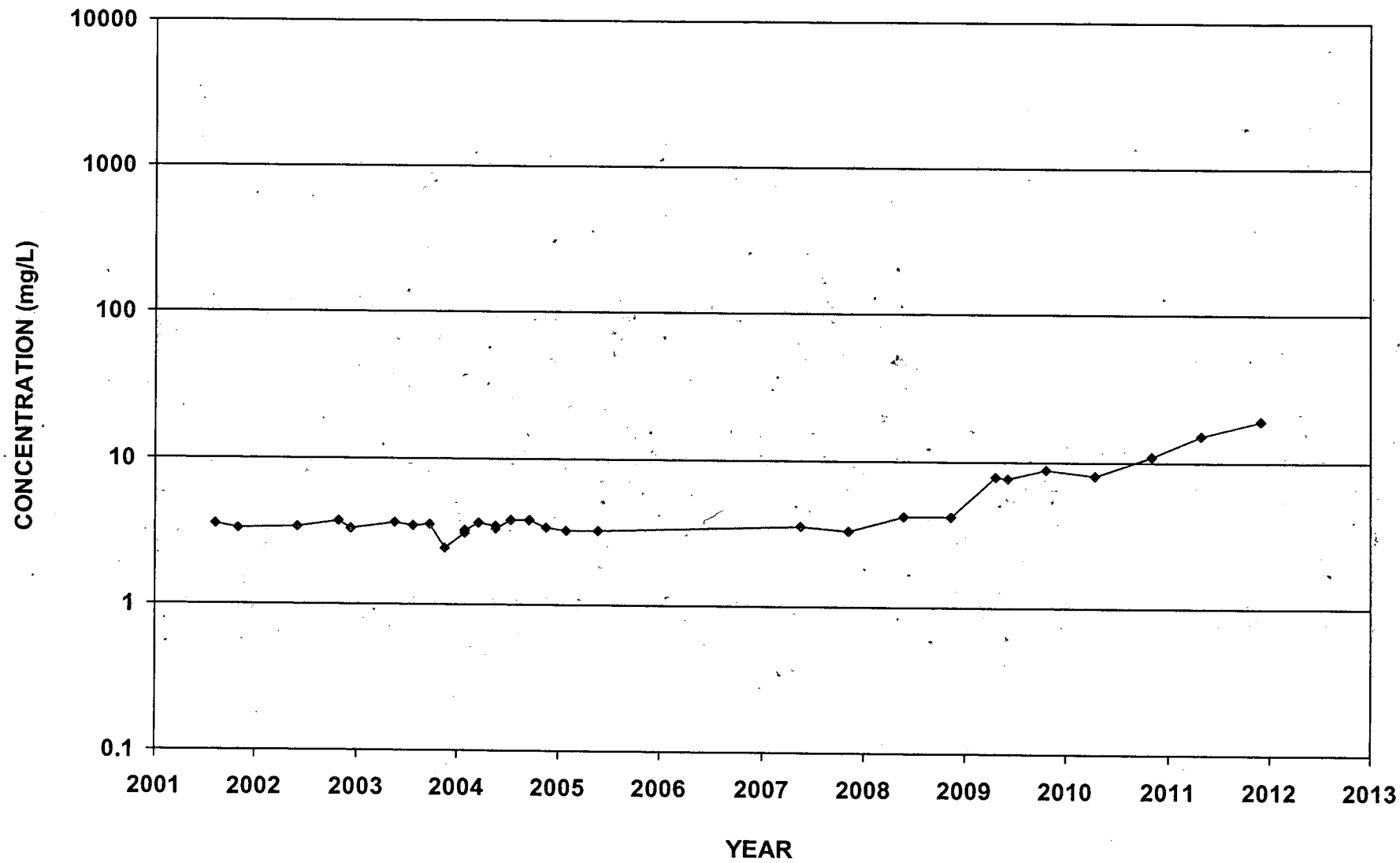
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Ammonia-N



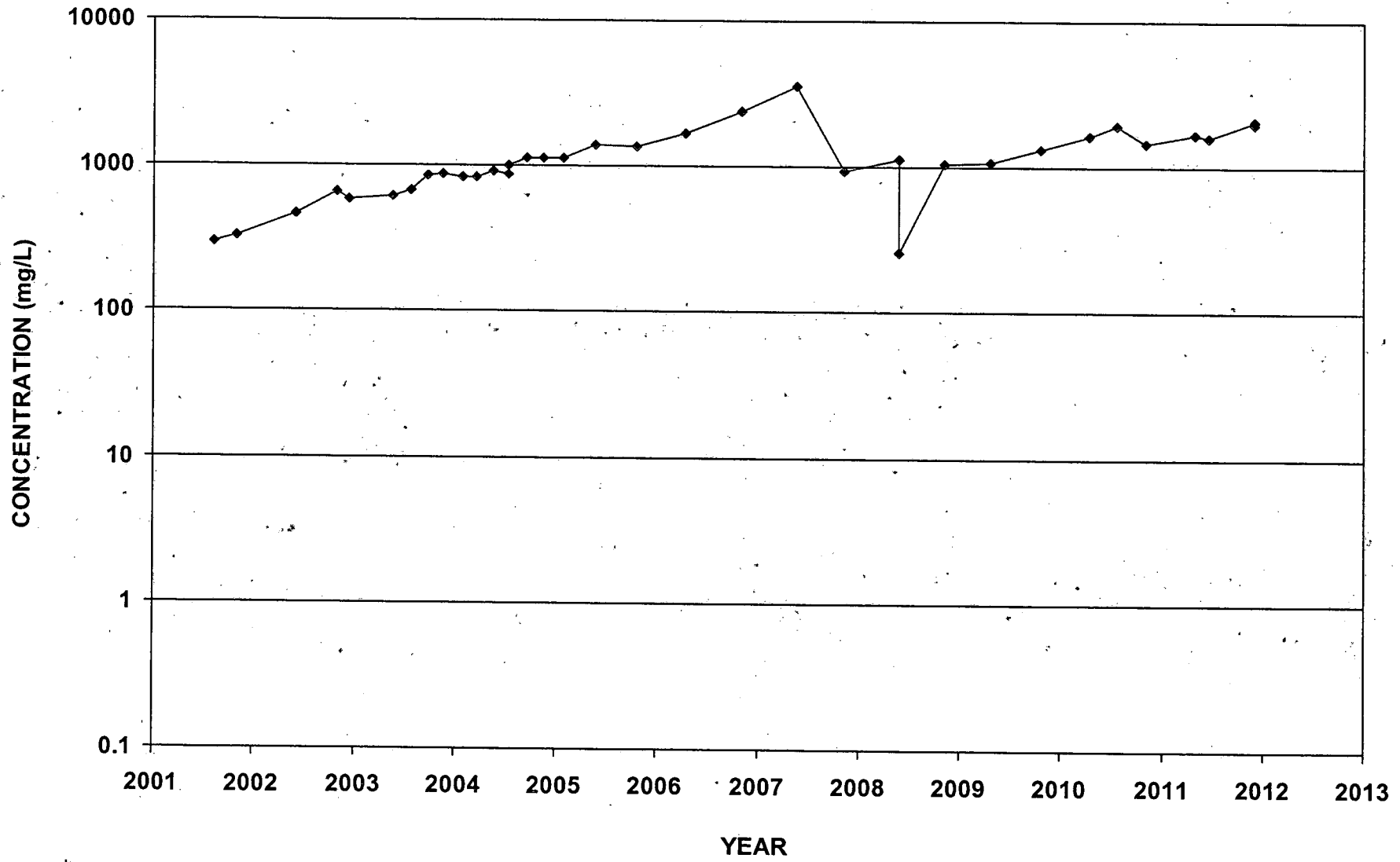
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Nitrate-N



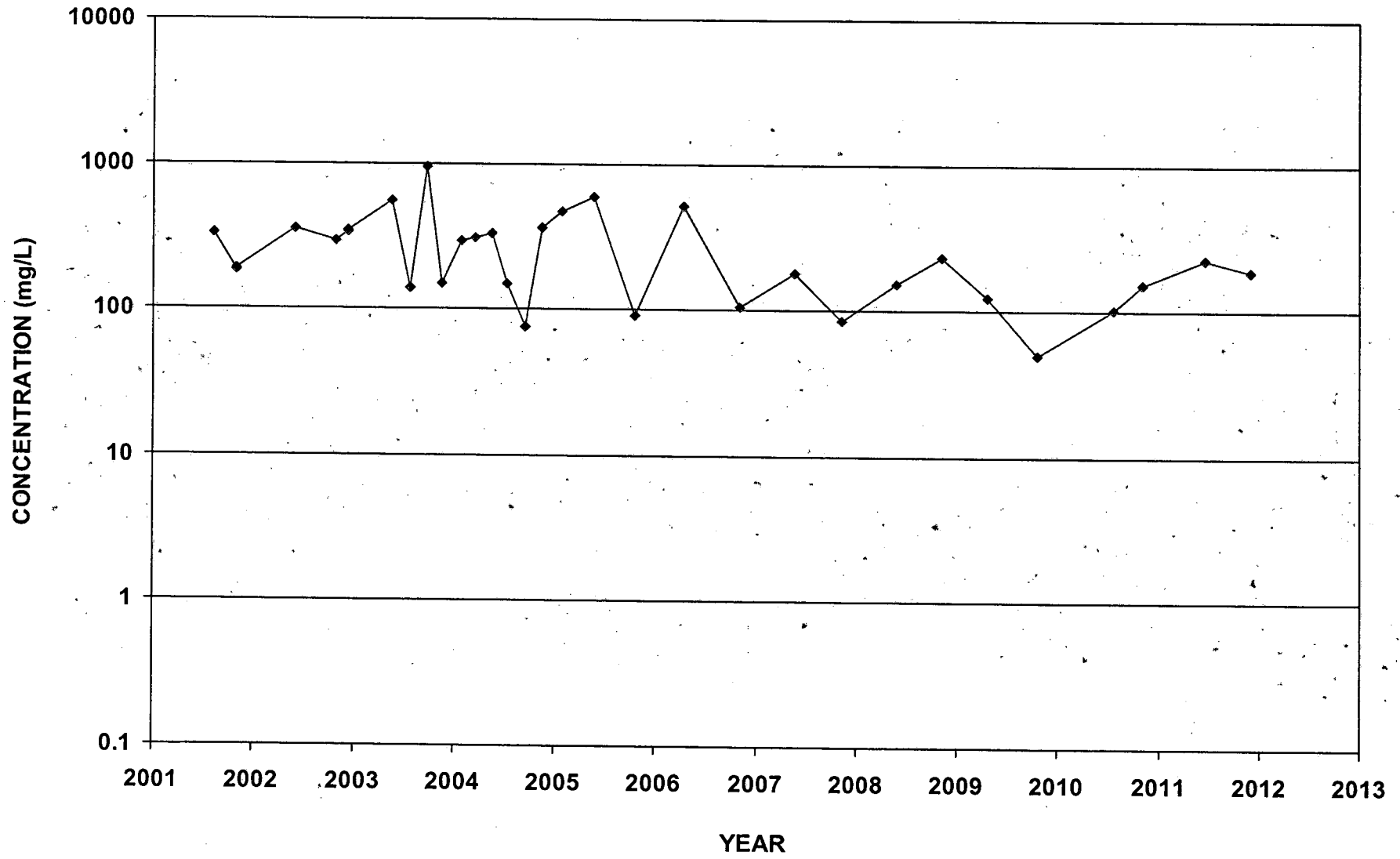
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Nitrate-N



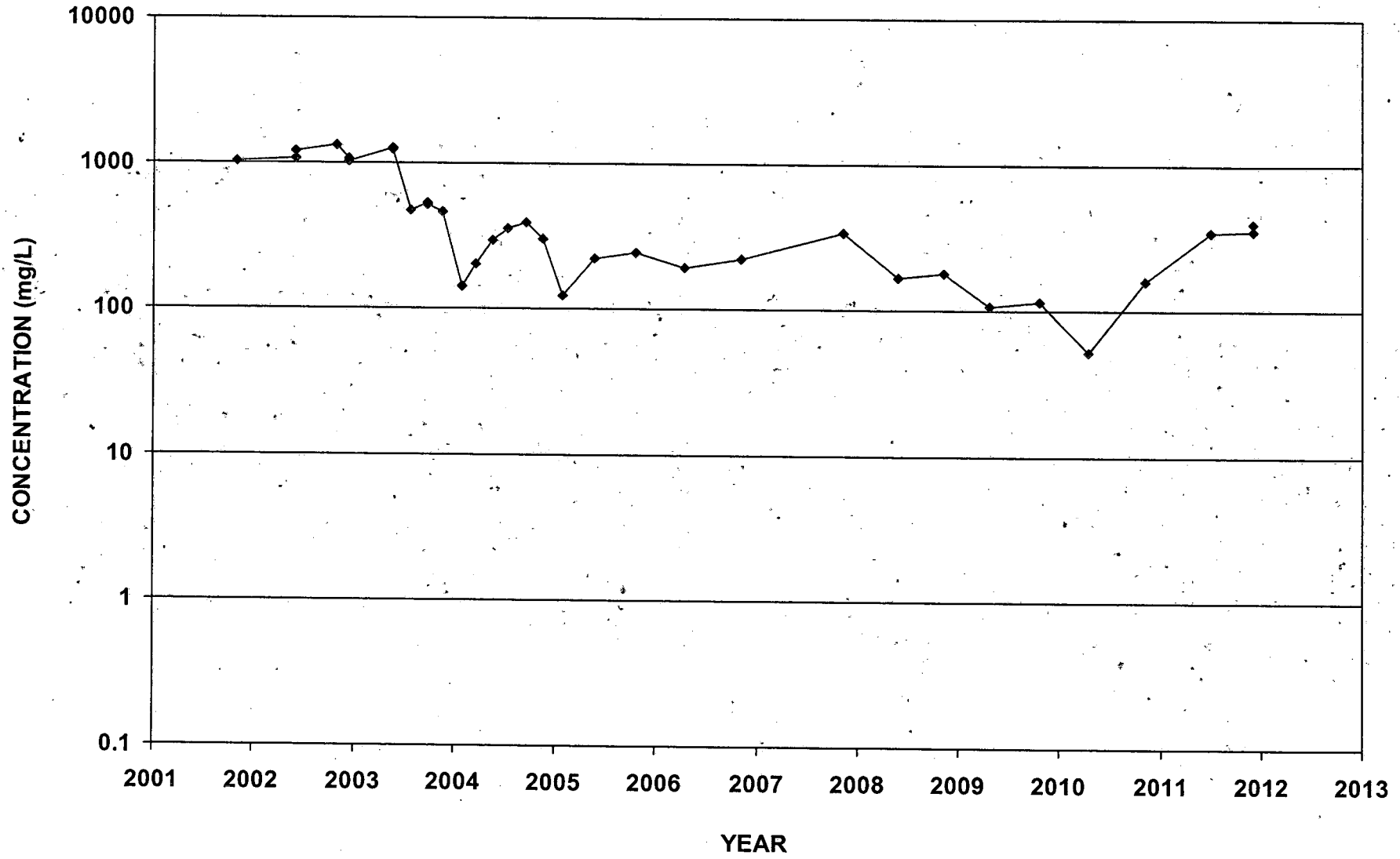
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Nitrate-N



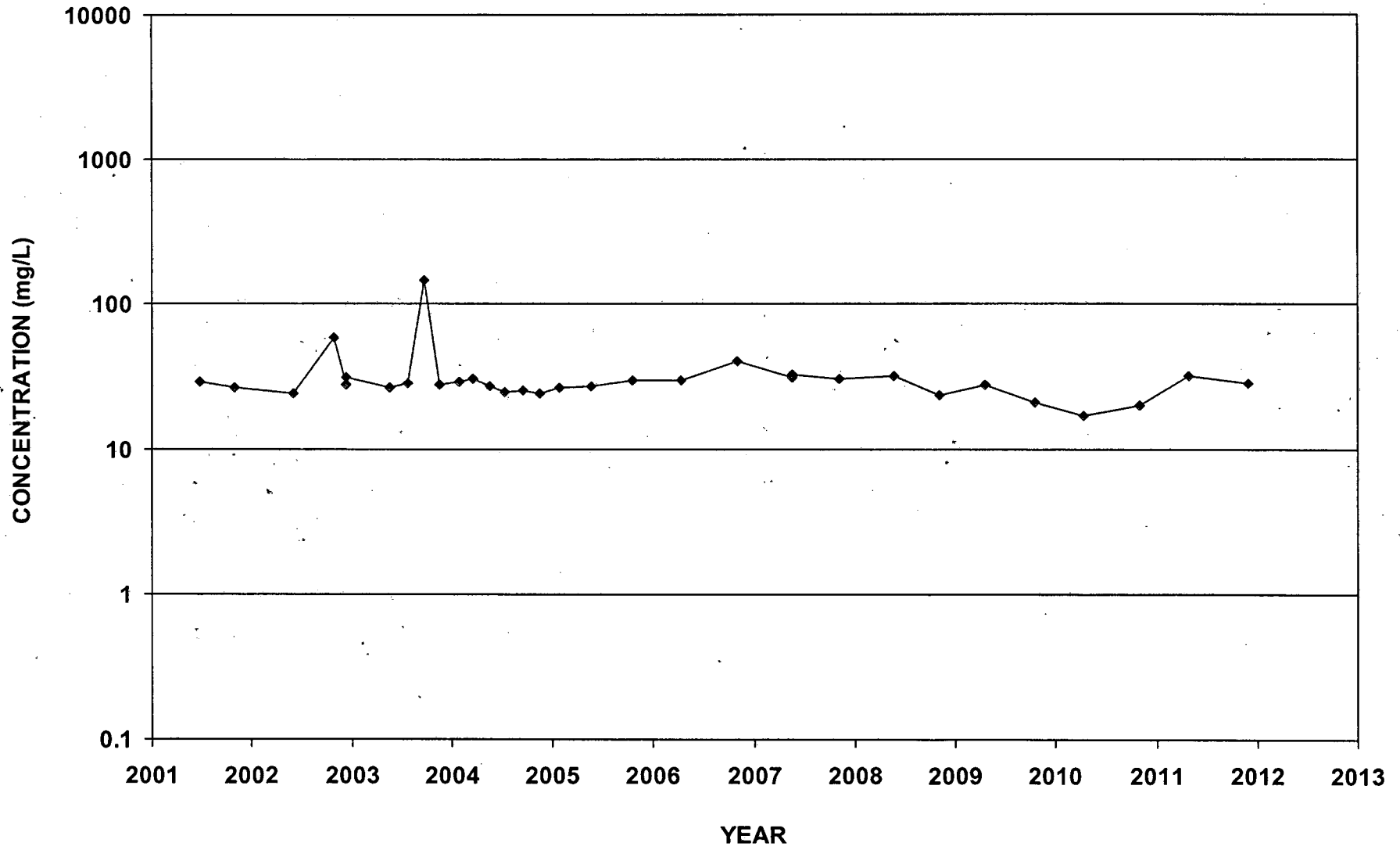
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Nitrate-N



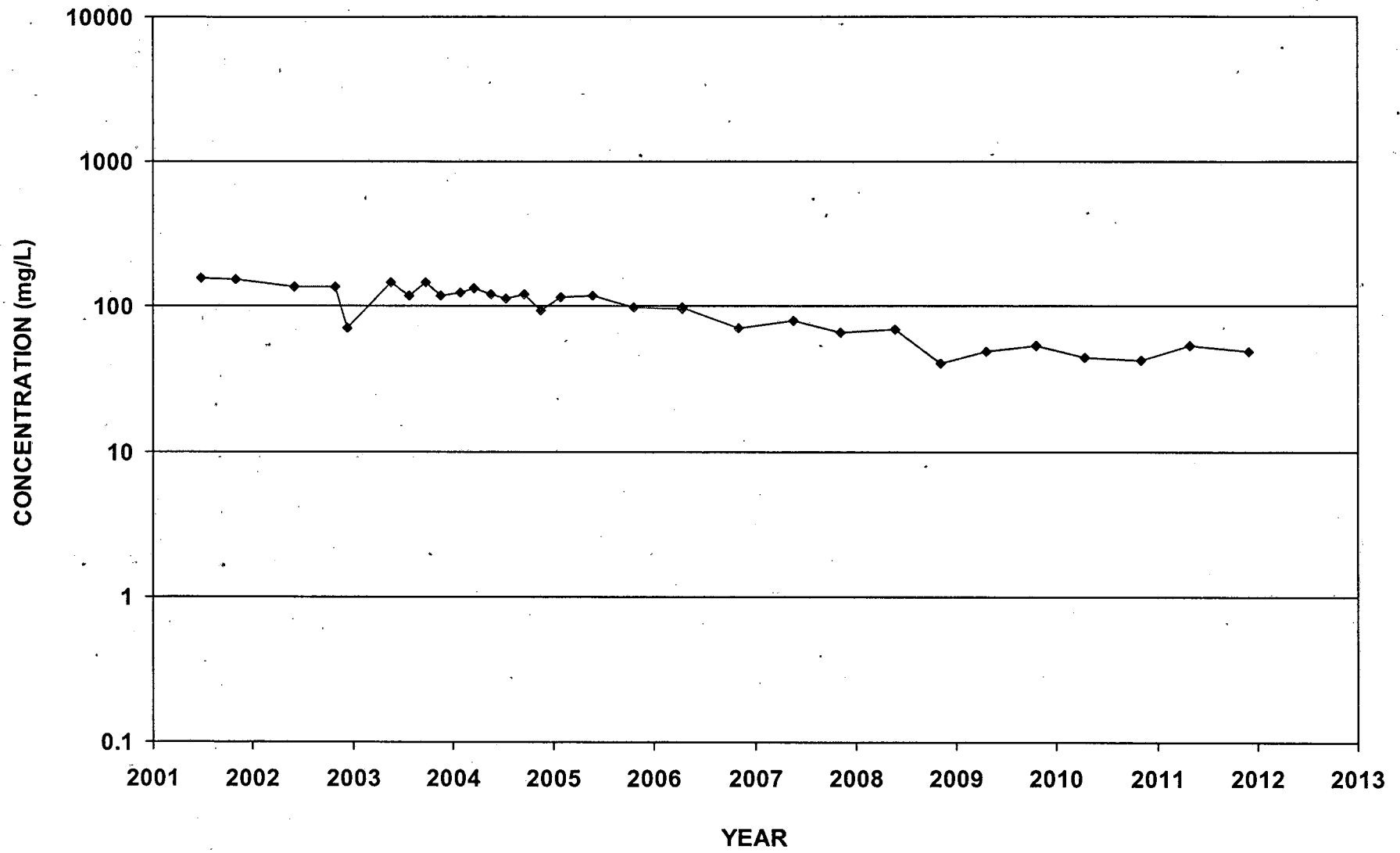
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Nitrate-N



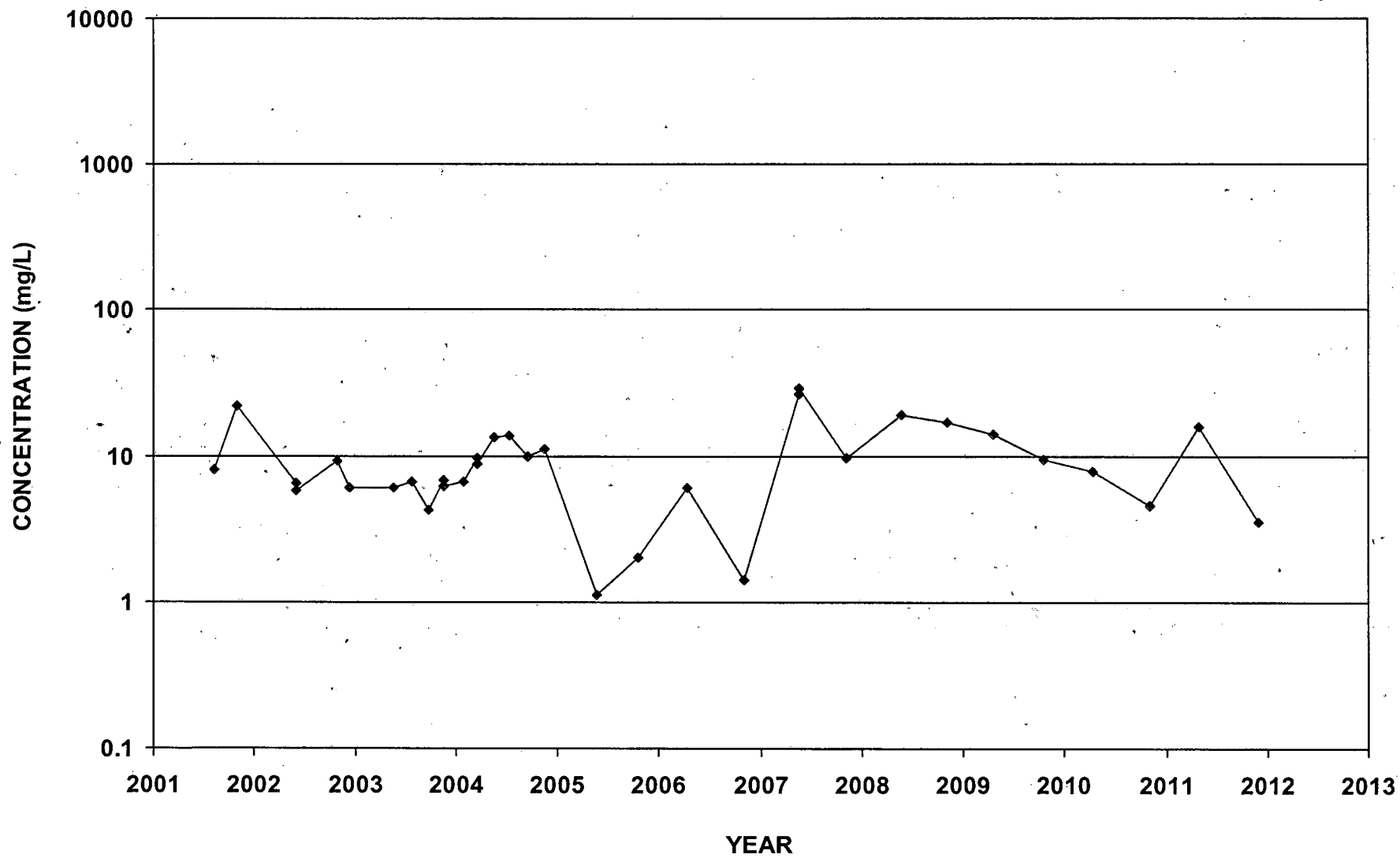
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Nitrate-N



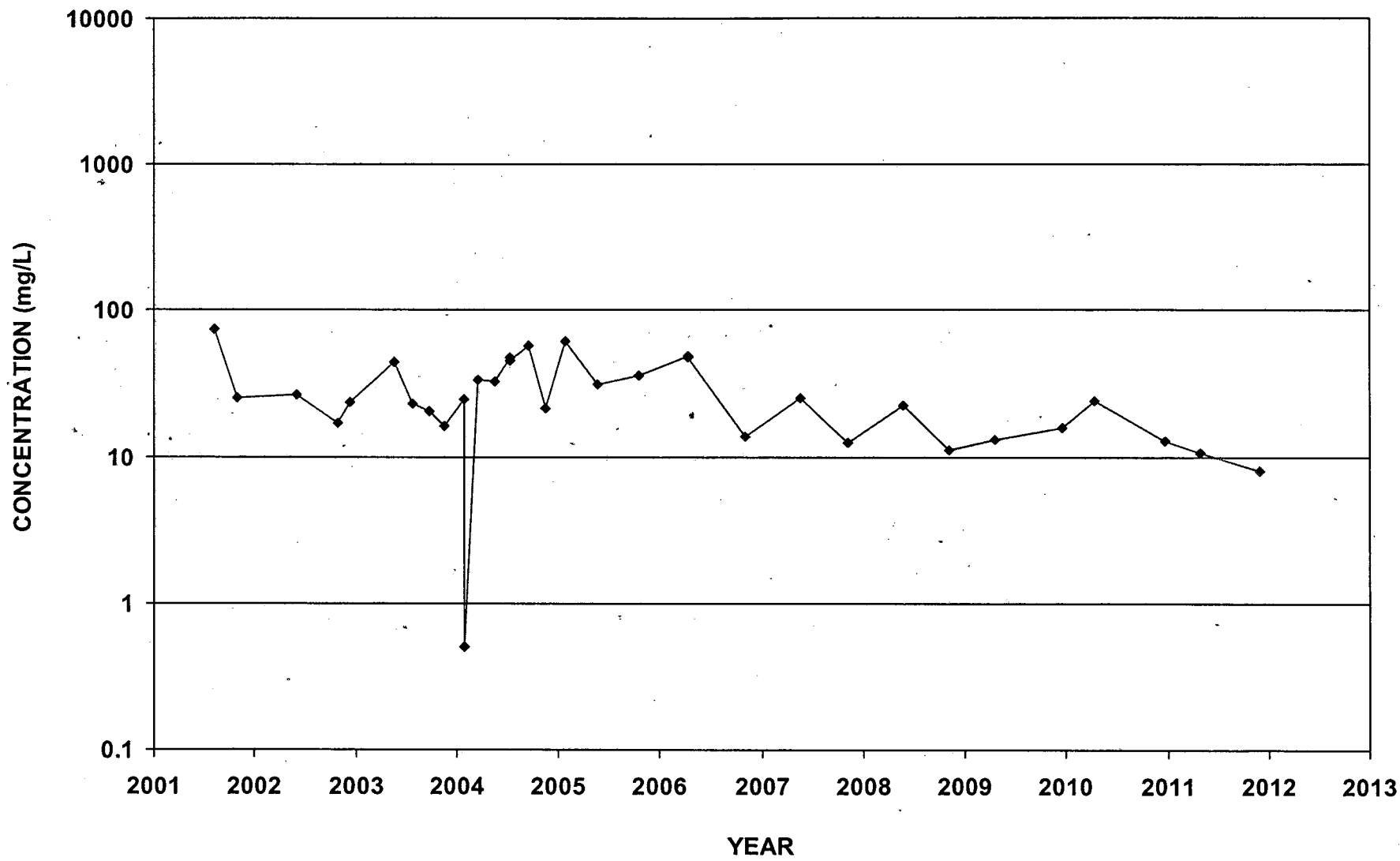
ECMW-10
Nitrate-N



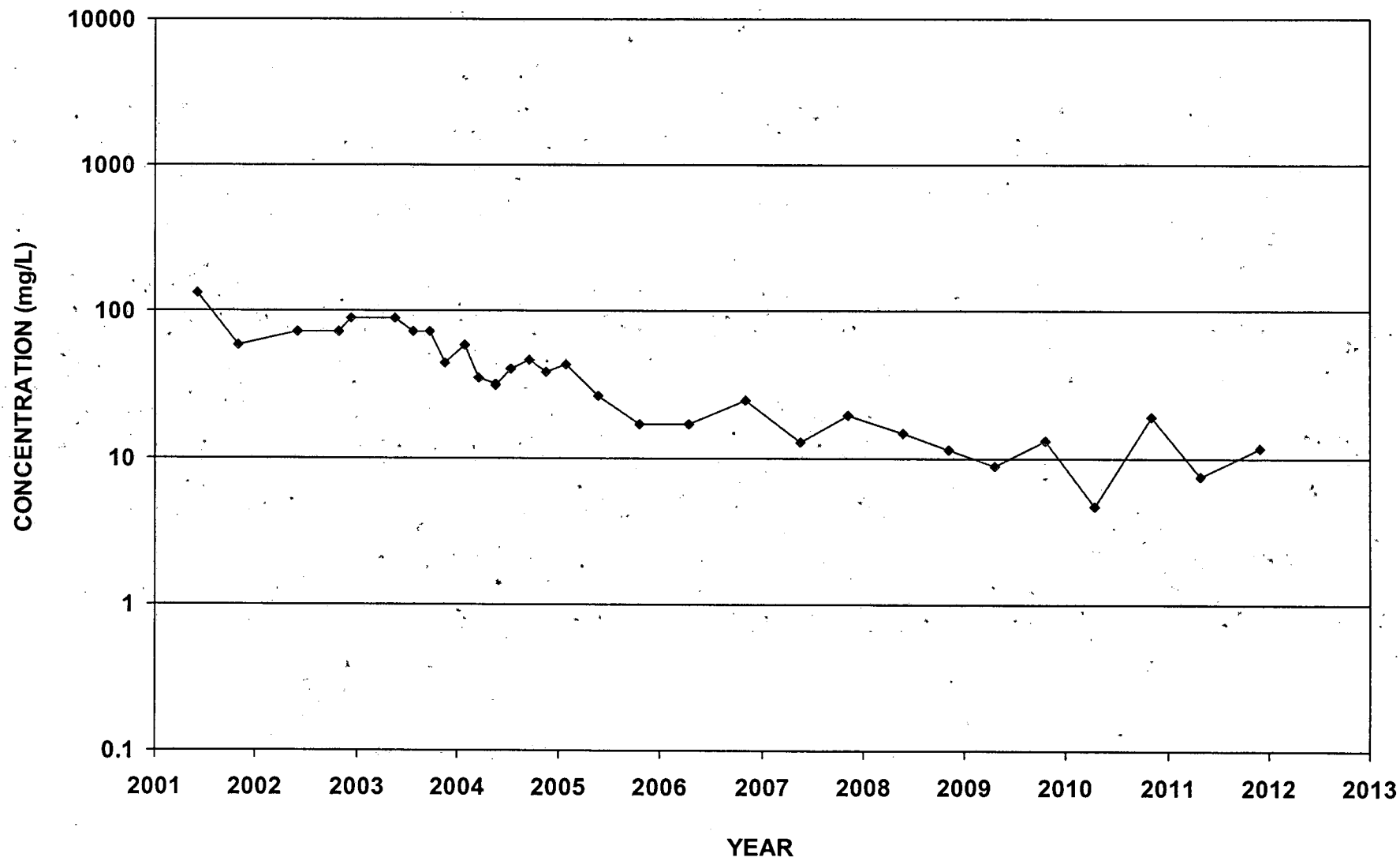
ECMW-11
Nitrate-N



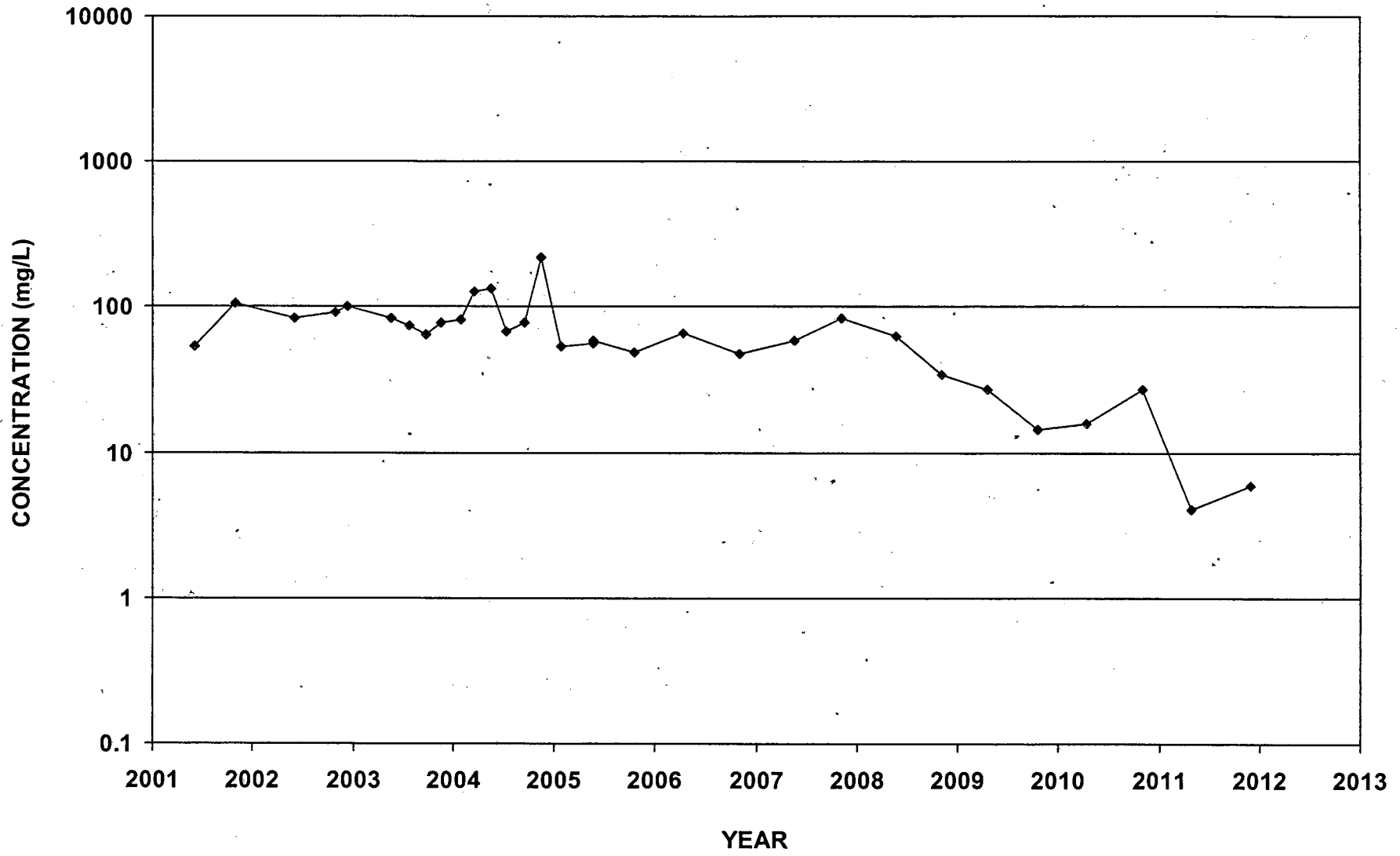
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Nitrate-N



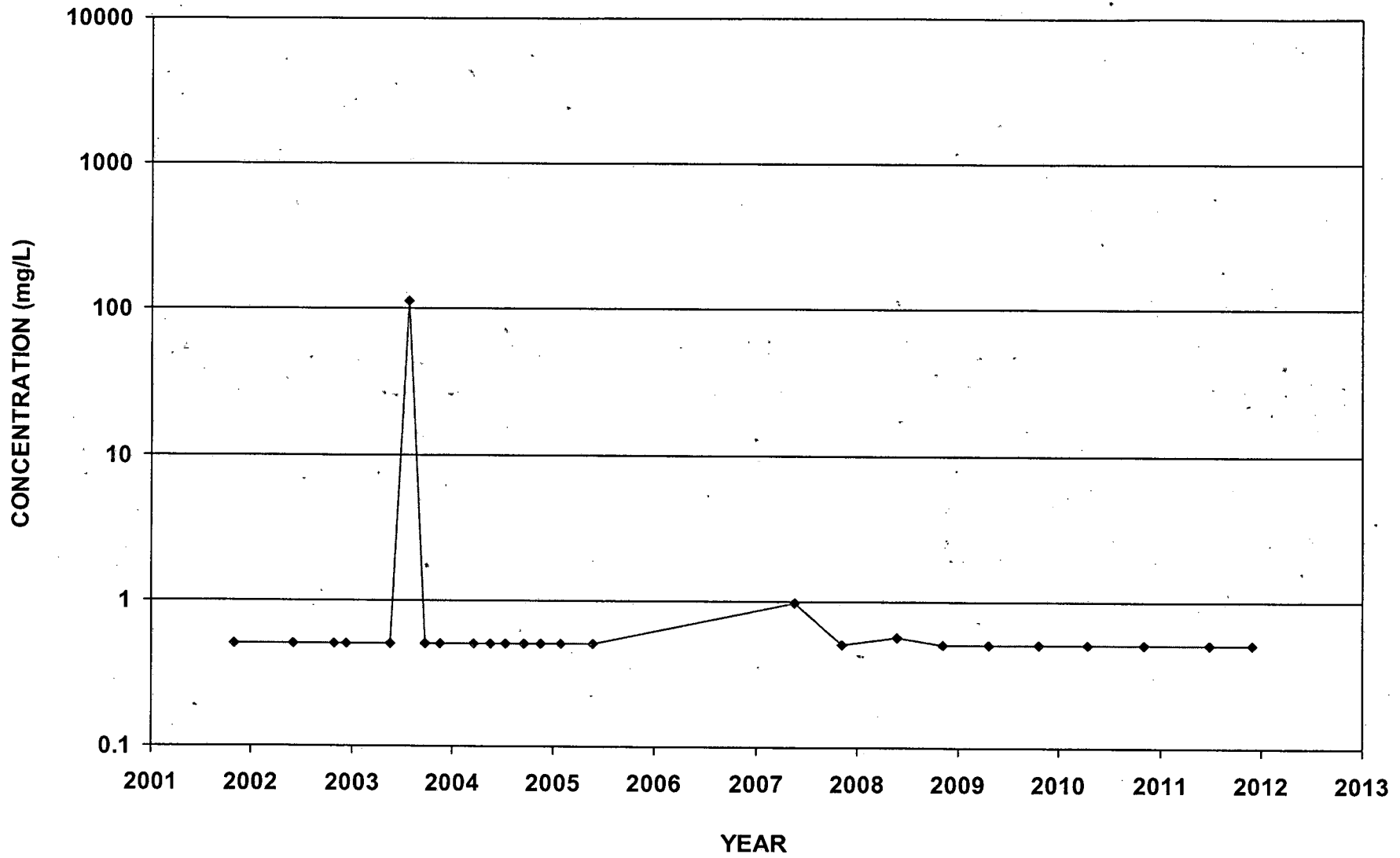
ECMW-16
Nitrate-N



ECMW-17
Nitrate-N



ECMW-18
Nitrate-N



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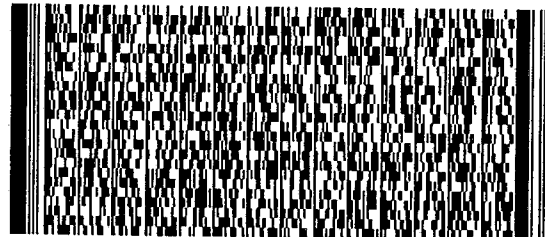
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