

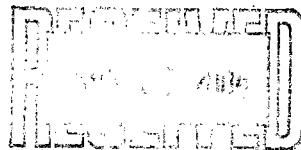
4500 NORTH WEST AVE. • P. O. BOX 231 • EL DORADO, AR 71731 • (501) 863-1400



CHEMICAL COMPANY

April 6, 2004

Ms. Laura Stewart  
State Permits Branch – Water Division  
Arkansas Department of Environmental Quality  
P.O. Box 8913  
Little Rock, AR 72219-8913



Re: 2003 Groundwater Monitoring Report for El Dorado Chemical Company

Dear Ms. Stewart:

Enclosed is a report detailing the results of our groundwater sampling for 2003. We are very near completion of the report on our 2004 groundwater investigation work. We investigating methods of geophysical logging that may assist in better defining the near surface strata at the plant site. I will call you in the within the next few weeks to set up a meeting to discuss our findings and future plans.

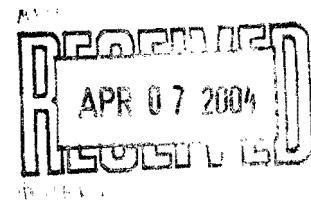
If you have any questions or comments please contact me at 870-863-1498 or email at [rwhitmore@edc-ark.com](mailto:rwhitmore@edc-ark.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Randall Whitmore".

EL DORADO CHEMICAL COMPANY

Randall Whitmore  
Responsible Care® Manager



# EL DORADO

**2003 ANNUAL GROUND WATER REPORT**

**EL DORADO CHEMICAL COMPANY  
EL DORADO, ARKANSAS**

***PREPARED BY:***

**ENVIRONMENTAL**   
MANAGEMENT SERVICES, INC.

**Baton Rouge, Louisiana**

**April 2004**

**2003 ANNUAL GROUND WATER REPORT  
EL DORADO CHEMICAL COMPANY  
EL DORADO, ARKANSAS**

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**2003 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 (EDC) facility during 2003. 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 EDC 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 SAMPLING**

**3.1 FIELD SAMPLING**

Ground water sampling events were conducted in May, July, September and November of 2003. Ground water elevations used to construct the maps on Figures 2 through 5 were obtained on

May 20-21, July 22-23, September 23-24 and November 18, 2003. 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 2003 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 either a disposable bailer or a Redi-Flo electric pump. When a pump was used, dedicated polyethylene tubing was used for each well to minimize the potential for cross-contamination. Field indicator parameters (pH, conductivity and temperature) were recorded after removal of each well volume. Field 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.

### **3.2 LABORATORY ANALYSIS**

Ground water samples were analyzed by Arkansas Analytical, Inc. in Little Rock, Arkansas. Arkansas Analytical is certified by the Arkansas Department of Environmental Quality. The analytical reports are provided in Appendix A.

Ground water samples were analyzed for the following constituents:

PARAMETER	ANALYTICAL METHOD
Ammonia-N	350.3
Nitrate-N	300.0
Sulfate	300.0
Total Dissolved Solids (TDS)	160.1
Lead (Total and Dissolved)	200.7
Chromium (Total and Dissolved)	200.7

Field quality assurance/quality control (QA/QC) samples consisted of eight duplicate samples, two collected during each sampling event. In addition, eight field blanks (two per sampling event) were collected and analyzed in 2003. Ammonia was detected in one field blank collected in May. Five trip blanks were collected and analyzed in 2003. One trip blank collected in May contained nitrate just above the detection limit. Low levels of dissolved solids (12 to 18 mg/L) were also detected in some field and trip blanks.

Nitrate results in May and September are estimated, as the samples were analyzed outside of the holding time. Samples collected for total dissolved solids in May were also analyzed outside the holding time.

#### **4.0    RESULTS**

##### **4.1    GROUND WATER FLOW**

The May ground water elevations were the highest recorded in 2003, ranging from 150.26 feet (MSL) in MW-EDC-18 (located east of Lake Kildeer) to 201.03 feet in MW-EDC-1 (located northwest of the facility). In July 2003, ground water elevations ranged from 148.06 feet in MW-EDC-18 to 199.38 feet in MW-EDC-1. The September and November 2003 readings were similar with minimum elevations of 148.46 and 149.71 feet, respectively in MW-EDC-18 and maximum elevations of 198.63 and 197.98 feet in MW-EDC-1. Consistent with previous measurements, the ground water flow direction is from northwest to southeast with the exception of localized areas where shallow perched ground water likely exists. Ground water elevation maps for each sampling event are presented on Figures 2 through 5.

## **4.2 GROUND WATER QUALITY**

### **4.2.1 Field Parameters**

Indicator parameter data are summarized on Table 3. In 2003, pH values ranged from 3.66 in MW-EDC-7 to 9.08 in MW-EDC-4. Most readings are consistent with the previous measurements; however, the MW-EDC-4 reading appears higher than normal. The highest pH values recorded at the site are typically around 6.0. Conductivities ranged from 54 to 2027 microSiemens ( $\mu\text{S}$ ) in 2003. Wells MW-EDC-9 and MW-EDC-10 had the highest conductivity readings.

### **4.2.2 Analytical Results**

The analytical results are summarized in Tables 4 through 21 and the laboratory reports are provided in Appendix A. A discussion of each constituent is provided below:

#### Ammonia

The May 2003 analytical results show ammonia values ranging from below detection (<0.5) to a maximum of 244 mg/L detected in MW-EDC-7. Seven of the eighteen wells sampled had concentrations above the detection limit. In July 2003, seven wells had detections of ammonia with a maximum concentration of 179 mg/L in MW-EDC-8. The September 2003 analytical results show ammonia in eight wells ranging from 0.71 mg/L to a maximum of 157.5 mg/L detected in MW-EDC-8. In November, there were detections in 7 wells with MW-EDC-8 having the maximum concentration at 206 mg/L. Ammonia isoconcentration contours for all four sampling events are presented on Figures 6 through 9. As shown on all four figures, the highest ammonia concentrations are located north of the acid and nitrate process areas known as the Production Area. There were also detections on the north and southeast sides of Lake Kildeer.

#### Nitrate

Analytical results from the May 2003 sampling event show values ranging from below the detection limit of 0.5 mg/L to 1250 mg/L (MW-EDC-8). Twelve of the eighteen wells had

detections of nitrate. July analytical results show a maximum concentration of 681 mg/L in MW-EDC-6 with thirteen wells having detections. The September results indicate MW-EDC-7 had the highest concentration with 953 mg/L. This is an unusual reading, MW-EDC-7 nitrate concentrations are typically lower. The November results show concentrations ranging from below detection to 865 mg/L (MW-EDC-6). Trends in the wells with the highest concentrations indicate nitrates in MW-EDC-6 appear to be increasing, whereas MW-EDC-8 concentrations show a decrease. Isoconcentration contours for each sampling event are illustrated on Figures 10 through 13. The distribution of nitrate is consistent with previous data, with the exception of MW-EDC-18, which appears to be an outlier. As shown on the figures, the highest nitrate concentrations are located north of the acid and nitrate process areas known as the Production Area. Elevated nitrate levels were also present on the north and south sides of Lake Kildeer during all sampling periods.

#### Sulfate

Analytical results show concentrations ranging from 3.79 mg/L (MW-EDC-1) to 989 mg/L (MW-EDC-4) in 2003. Wells MW-EDC-4, MW-EDC-5, MW-EDC-8, MW-EDC-9, and MW-EDC-13 typically have the highest concentrations; whereas, MW-EDC-1 and MW-EDC-18 have the lowest. Results from all four sampling periods were generally consistent.

#### Total Dissolved Solids

TDS concentrations ranged from 46 mg/L (MW-EDC-1) to 5300 mg/L (MW-EDC-4) during 2003. Wells MW-EDC-4, MW-EDC-6 and MW-EDC-8 (located north of the Production Area) consistently have the highest TDS levels; whereas, MW-EDC-1, MW-EDC-3 and MW-EDC-15 have the lowest. Results from all four sampling periods were generally consistent.

#### Lead (Total and Dissolved)

Total lead was detected in two wells during the May 2003 sampling event. Wells MW-EDC-7 and MW-EDC-8 had concentrations of 0.02 and 0.019 mg/L, respectively. A duplicate sample for MW-EDC-8 contained a total lead concentration of 0.019 mg/L. Dissolved lead was also detected in these wells. In July, total lead was detected in MW-EDC-18 (0.029 mg/L). The

September sampling event showed detections of both total and dissolved lead in MW-EDC-7 (0.02 mg/L total, 0.018 mg/L dissolved) and MW-EDC-18 (0.025 mg/L, 0.026 mg/L). No total or dissolved lead was detected in November.

### Chromium

Total chromium was detected in MW-EDC-18 at concentrations of 0.047 mg/L (July) and 0.036 mg/L (September). Dissolved chromium was detected in MW-EDC-18 in September at a concentration of 0.026 mg/L.

**TABLE 1**  
**MONITORING WELL CONSTRUCTION DETAILS**  
**2002 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)
EDC-MW-1	2/14/1996	22.1	12.1 to 22.2	213.28
EDC-MW-2	2/14/1996	20.2	10.2 to 20.2	196.25
EDC-MW-3	2/15/1996	27.1	17.1 to 27.1	192.11
EDC-MW-4	2/15/1996	22.1	12.1 to 22.1	194.84
EDC-MW-5	2/21/1996	17.7	7.7 to 17.7	182.69
EDC-MW-6	2/21/1996	22.0	12 to 22	191.87
EDC-MW-7	2/20/1996	23.9	13.9 to 23.9	195.88
EDC-MW-8	2/20/1996	29.9	19.9 to 29.9	197.34
EDC-MW-9	2/15/1996	30.0	20 to 30	198.39
EDC-MW-10	2/19/1996	22.6	12.6 to 22.6	205.75
EDC-MW-11	2/19/1996	19.8	9.8 to 19.8	201.65
EDC-MW-12	2/19/1996	19.9	9.9 to 19.9	184.97
EDC-MW-13	2/14/1996	19.8	9.8 to 19.8	177.26
EDC-MW-14	2/13/1996	18.2	8.2 to 18.2	178.48
EDC-MW-15	2/13/1996	17.0	7 to 17	180.84
EDC-MW-16	2/12/1996	19.3	9.3 to 19.3	180.14
EDC-MW-17	2/13/1996	34.7	24.7 to 34.7	185.40
EDC-MW-18	2/22/1996	17.2	7.2 to 17.2	155.46

Notes:

1. All wells constructed of 4-inch Sch. 40 PVC flush threaded pipe
2. All well screens are 4-inch diameter, 10-foot length and 0.01-inch openings
3. All casing risers are approximately 3 feet above ground surface
4. All wells drilled with hollow-stem auger
5. Data from Woodward-Clyde June 1996 Report

**TABLE 2**  
**GROUNDWATER ELEVATION DATA**  
**2002 ANNUAL GROUND WATER REPORT**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

Monitoring Well	Top of Casing Elevation (ft above Mean Sea Level)	Measurement Date							
		5/20/2003 - 5/21/2003		7/22/2003 - 7/23/2003		9/23/2003 - 9/24/2003		11/18/2003	
		Depth to Water (ft from top of casing)	Ground Water Elevation (ft above MSL)	Depth to Water (ft from top of casing)	Ground Water Elevation (ft above MSL)	Depth to Water (ft from top of casing)	Ground Water Elevation (ft above MSL)	Depth to Water (ft from top of casing)	Ground Water Elevation (ft above MSL)
MW-EDC-1	213.28	12.25	201.03	13.90	199.38	14.65	198.63	15.30	197.98
MW-EDC-2	196.25	0.00	196.25	0.00	196.25	1.25	195.00	1.35	194.90
MW-EDC-3	192.11	8.85	183.26	10.95	181.16	11.55	180.56	12.10	180.01
MW-EDC-4	194.84	8.30	186.54	9.15	185.69	9.25	185.59	10.00	184.84
MW-EDC-5	182.69	4.40	178.29	4.95	177.74	4.35	178.34	3.45	179.24
MW-EDC-6	191.87	4.00	187.87	4.20	187.67	4.30	187.57	4.10	187.77
MW-EDC-7	195.88	6.95	188.93	7.15	188.73	7.25	188.63	7.25	188.63
MW-EDC-8	197.34	7.00	190.34	7.10	190.24	7.55	189.79	7.80	189.54
MW-EDC-9	198.39	8.90	189.49	10.45	187.94	11.80	186.59	12.65	185.74
MW-EDC-10	205.75	11.55	194.20	12.10	193.65	13.45	192.30	15.30	190.45
MW-EDC-11	201.65	10.10	191.55	10.70	190.95	11.35	190.30	12.10	189.55
MW-EDC-12	184.97	5.95	179.02	7.70	177.27	6.55	178.42	6.85	178.12
MW-EDC-13	177.26	5.35	171.91	6.35	170.91	7.60	169.66	7.40	169.86
MW-EDC-14	178.48	9.10	169.38	10.15	168.33	9.75	168.73	10.60	167.88
MW-EDC-15	180.84	4.70	176.14	6.70	174.14	6.85	173.99	5.55	175.29
MW-EDC-16	180.14	5.25	174.89	6.65	173.49	6.20	173.94	5.40	174.74
MW-EDC-17	185.40	28.10	157.30	28.80	156.60	28.90	156.50	30.40	155.00
MW-EDC-18	155.46	5.20	150.26	7.40	148.06	7.00	148.46	5.75	149.71

**TABLE 3**  
**GROUNDWATER INDICATOR PARAMETER DATA**  
**2002 ANNUAL GROUND WATER REPORT**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

WELL	TEMPERATURE (F)				pH (s.u.)				CONDUCTIVITY (uS)			
	Date				Date				Date			
	5/20-5/21/03	7/24/2003	9/24/2003	11/18/2003	5/20-5/21/03	7/24/2003	9/24/2003	11/18/2003	5/20-5/21/03	7/24/2003	9/24/2003	11/18/2003
MW-1	60.3	65.1	68.0	66.6	4.77	7.10	5.26	5.11	534	562	61	54
MW-2	64.6	73.2	70.0	66.9	5.31	7.26	5.50	5.42	433	375	443	420
MW-3	65.3	66.0	71.2	68.2	6.05	6.23	5.97	5.81	243	211	255	256
MW-4	66.4	66.6	74.8	67.8	4.33	9.08	4.78	4.13	708	683	531	890
MW-5	63.3	68.9	71.8	69.4	4.75	6.85	4.82	4.79	1209	937	784	932
MW-6	63.0	70.5	70.5	68.4	4.30	7.41	4.28	4.53	507	525	451	747
MW-7	64.6	71.8	70.7	70.9	3.66	7.05	3.84	4.03	946	418	468	346
MW-8	64.4	66.6	71.2	66.9	3.99	6.04	3.93	4.99	942	929	843	604
MW-9	63.7	66.6	70.7	68.4	5.33	7.05	5.24	5.72	2027	1846	1555	1944
MW-10	64.4	71.4	72.3	68.9	4.08	5.56	4.18	4.38	1512	1304	879	1062
MW-11	62.2	70.0	72.7	68.4	4.45	6.66	4.29	4.61	892	744	699	902
MW-12	67.5	72.1	76.3	71.4	5.71	4.76	5.45	5.79	783	763	482	679
MW-13	65.5	67.3	72.7	66.6	5.51	6.05	4.70	4.91	925	703	935	1230
MW-14	67.0	73.0	75.0	67.5	4.85	4.62	5.00	4.92	950	487	730	914
MW-15	67.5	74.8	73.6	67.3	4.75	4.77	4.49	4.89	129	101	135	157
MW-16	67.1	72.9	73.0	68.0	4.42	4.81	4.31	4.99	614	651	538	634
MW-17	66.6	66.2	66.6	66.7	4.54	4.74	5.25	5.28	868	629	509	697
MW-18	61.3	67.3	69.3	64.8	6.01	5.38	5.54	5.90	971	104	1437	93.6

**TABLE 4**  
**MW-EDC-1 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-1**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/14/1996	9.7	--	1.7	4.1	--	0.0037	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	6.1	< 0.5	1.8	6.73	108	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	4.77	< 0.5	2.40	3.79	46	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	7.10	< 0.5	2.55	5.05	59	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	5.26	< 0.5	3.18	6.52	68	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	5.11	< 0.5	1.47	5.85	64	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 5**  
**MW-EDC-2 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-2**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/14/1996	9.7	--	< 0.2	17	--	0.018	0.0342	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	6.7	< 0.5	< 0.5	24	305	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	5.31	< 0.5	< 0.5	22.1	309	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	7.26	< 0.5	< 0.5	22.9	370	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	5.50	< 0.5	< 0.5	24.9	380	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	5.42	< 0.5	< 0.5	28.2	360	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 6**  
**MW-EDC-3 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-3**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/14/1996	8.0	--	< 0.2	10	--	0.0027	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	6.0	< 0.5	< 0.5	16.4	242	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	6.05	< 0.5	< 0.5	12.5	207	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	6.23	< 0.5	< 0.5	11.8	210	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	5.97	< 0.5	< 0.5	27.7	250	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	5.81	< 0.5	< 0.5	23.5	220	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 7**  
**MW-EDC-4 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-4**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/14/1996	8.1	--	1.3	728	--	0.0025	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	4.4	< 0.5	2.4	976	5360	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	4.33	< 0.5	< 0.5	936	4800	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	--	< 0.5	< 0.5	1000	5150	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	9.08	< 0.5	< 0.5	978	5300	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	--	< 0.5	< 0.5	958	5400	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	4.78	< 0.5	2.42	989	5200	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	--	< 0.5	2.31	952	5200	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.13	< 0.5	2.05	848	5300	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 8**  
**MW-EDC-5 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-5**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	5.8	--	4.4	441	--	< 0.002	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	5.2	< 0.5	3.26	489	901	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	4.75	< 0.5	3.60	654	845	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	6.85	< 0.5	3.47	546	950	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	4.82	< 0.5	3.53	560	950	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.79	< 0.5	2.40	416	780	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 9**  
**MW-EDC-6 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-6**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	7.7	--	51.1	24	--	0.0026	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	4.6	< 0.5	580	7.15	3360	< 0.015	< 0.02	< 0.015	< 0.02
12/10/2002	--	< 0.5	588	6.45	3280	< 0.015	< 0.02	< 0.015	< 0.02
5/21/2003	4.30	0.5	608	17.0	4020	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	7.41	1.09	681	15.0	4600	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	4.28	4.88	857	9.35	5100	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.53	5.72	865	10.7	4700	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	--	5.60	866	9.21	4900	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 10**  
**MW-EDC-7 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-7**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	8.1	--	282	380	--	0.0221	0.0078	0.0185	< 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	< 0.02	< 0.015	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	3.7	180	344	275	1316	< 0.015	< 0.02	0.016	< 0.02
12/10/2002	--	149	349	276	1350	< 0.015	< 0.02	< 0.015	< 0.02
5/21/2003	3.66	244	563	298	1850	0.02	< 0.02	0.017	< 0.02
7/24/2003	7.05	95.1	141	378	1400	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	3.84	116	953	341	1700	0.02	< 0.02	0.018	< 0.02
11/19/2003	4.03	124	152	476	1500	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 11**  
**MW-EDC-8 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-8**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	7.9	--	1010	68.3	--	0.0234	< 0.005	0.0238	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	4.0	220	1080	46.2	5120	< 0.015	< 0.02	< 0.015	< 0.02
12/10/2002	--	261	1030	47.6	5140	< 0.015	< 0.02	< 0.015	< 0.02
5/21/2003	3.99	214	1250	209	4200	0.019	< 0.02	0.019	< 0.02
5/21/2003	--	167	1270	162	4010	0.019	< 0.02	0.019	< 0.02
7/24/2003	6.04	179	472	904	3700	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	--	177	478	913	3700	< 0.015	< 0.02	< 0.015	< 0.02
9/23/2003	3.93	157.5	524	870	3400	< 0.015	< 0.02	< 0.015	< 0.02
9/23/2003	--	153	539	899	3400	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.99	206	464	738	3200	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 12**  
**MW-EDC-9 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-9**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/14/1996	9	--	37.3	621	--	0.004	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	5.2	0.7	28.1	556	1680	< 0.015	< 0.02	< 0.015	< 0.02
12/10/2002	--	< 0.5	31.5	555	1640	< 0.015	< 0.02	< 0.015	< 0.02
5/21/2003	5.33	< 0.5	26.3	568	1600	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	7.05	< 0.5	28.4	547	1500	< 0.015	< 0.02	< 0.015	< 0.02
9/23/2003	5.24	< 0.5	146	531	1500	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	5.72	< 0.5	28.0	532	1600	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 13**  
**MW-EDC-10 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-10**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	7.7	--	257	89	--	0.0052	< 0.005	0.0039	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	4.5	< 0.5	70.4	52.2	1120	< 0.015	< 0.02	< 0.015	< 0.02
5/21/2003	4.08	< 0.5	148	96.0	1140	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	5.56	< 0.5	118	108	1000	< 0.015	< 0.02	< 0.015	< 0.02
9/23/2003	4.18	< 0.5	147	127	1000	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.38	< 0.5	119	104	970	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 14**  
**MW-EDC-11 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

### **MW-EDC-11**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	11.1	--	22.1	578	--	< 0.002	< 0.005	< 0.002	< 0.005
8/8/2001	4.3	4.21	7.99	611	1100	< 0.04	< 0.02	--	--
10/30/2001	4	< 0.5	21.9	334	610	< 0.04	< 0.02	--	--
6/3/2002	5.4	< 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	< 0.02	< 0.015	< 0.02
10/30/2002	4.8	18	9.22	362	625	< 0.015	< 0.02	< 0.015	< 0.02
12/10/2002	4.5	10.73	6.12	414	809	< 0.015	< 0.02	< 0.015	< 0.02
5/21/2003	4.45	7.84	6.02	333	576	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	6.66	25.6	6.68	278	540	< 0.015	< 0.02	< 0.015	< 0.02
9/23/2003	4.29	5.25	4.24	397	660	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.61	12.0	6.26	289	570	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	--	14.3	6.85	276	340	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 15**  
**MW-EDC-12 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-12**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	6.1	--	< 0.2	9.6	--	< 0.002	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	5.8	2.3	< 0.5	12.5	424	< 0.015	< 0.02	< 0.015	< 0.02
5/21/2003	5.71	1.89	< 0.5	5.31	307	< 0.015	< 0.02	< 0.015	< 0.02
7/24/2003	4.76	1.74	< 0.5	18.7	380	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	5.45	1.43	< 0.5	26	440	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	5.79	1.83	< 0.5	30.6	460	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 16**  
**MW-EDC-13 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-13**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	5.6	--	0.2	809	--	< 0.002	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	5.5	< 0.5	< 0.5	598	1320	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	5.51	< 0.5	< 0.5	697	1330	< 0.015	< 0.02	< 0.015	< 0.02
7/23/2003	6.05	< 0.5	< 0.5	358	820	< 0.015	< 0.02	< 0.015	< 0.02
9/24/2003	4.70	0.71	< 0.5	458	920	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.91	< 0.5	0.62	310	680	< 0.015	< 0.02	< 0.015	< 0.02

"--" - Parameter not analyzed

**TABLE 17**  
**MW-EDC-14 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-14**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	4.6	--	11.9	139	--	< 0.002	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	5.3	< 0.5	23.4	230	709	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	4.85	< 0.5	44.9	227	865	< 0.015	< 0.02	< 0.015	< 0.02
7/23/2003	4.62	< 0.5	23.1	221	750	< 0.015	< 0.02	< 0.015	< 0.02
9/23/2003	5.00	< 0.5	20.3	275	700	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.92	< 0.5	16.1	227	740	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 18**  
**MW-EDC-15 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-15**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	6.4	--	34.5	4.4	--	< 0.002	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	5.8	0.5	12.2	10.8	120	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	4.75	< 0.5	9.45	13	66	< 0.015	< 0.02	< 0.015	< 0.02
7/23/2003	4.77	< 0.5	7.63	12.8	100	< 0.015	< 0.02	< 0.015	< 0.02
9/23/2003	4.49	< 0.5	9.62	11.8	180	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.89	< 0.5	9.81	12.6	100	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 19**  
**MW-EDC-16 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-16**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	5.7	--	137	4.6	--	0.0036	< 0.005	0.0034	< 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	< 0.02	< 0.015	< 0.02
10/30/2002	5.0	11.6	72	9.21	263	< 0.015	< 0.02	< 0.015	< 0.02
12/10/2002	5.9	2.99	89.4	5.64	595	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	4.42	3.69	90.8	6.55	555	< 0.015	< 0.02	< 0.015	< 0.02
7/23/2003	4.81	6.45	72.3	7.15	430	< 0.015	< 0.02	< 0.015	< 0.02
9/23/2003	4.31	5.97	72.8	7.09	400	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	4.99	8.61	44.3	9.78	230	< 0.015	< 0.02	< 0.015	< 0.02

-- - Parameter not analyzed

**TABLE 20**  
**MW-EDC-17 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-17**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/13/1996	4.9	--	45	145	--	< 0.002	< 0.005	< 0.002	< 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	< 0.02	< 0.015	< 0.02
12/10/2002	5.6	1.22	101	28.2	751	< 0.015	< 0.02	< 0.015	< 0.02
5/20/2003	4.54	< 0.5	83.6	17.1	603	< 0.015	< 0.02	< 0.015	< 0.02
7/23/2003	4.74	0.58	74.7	9.31	548	< 0.015	< 0.02	< 0.015	< 0.02
9/23/2003	5.25	< 0.5	64.3	6.98	400	< 0.015	< 0.02	< 0.015	< 0.02
11/19/2003	5.28	0.55	77.3	11.8	530	< 0.015	< 0.02	< 0.015	< 0.02

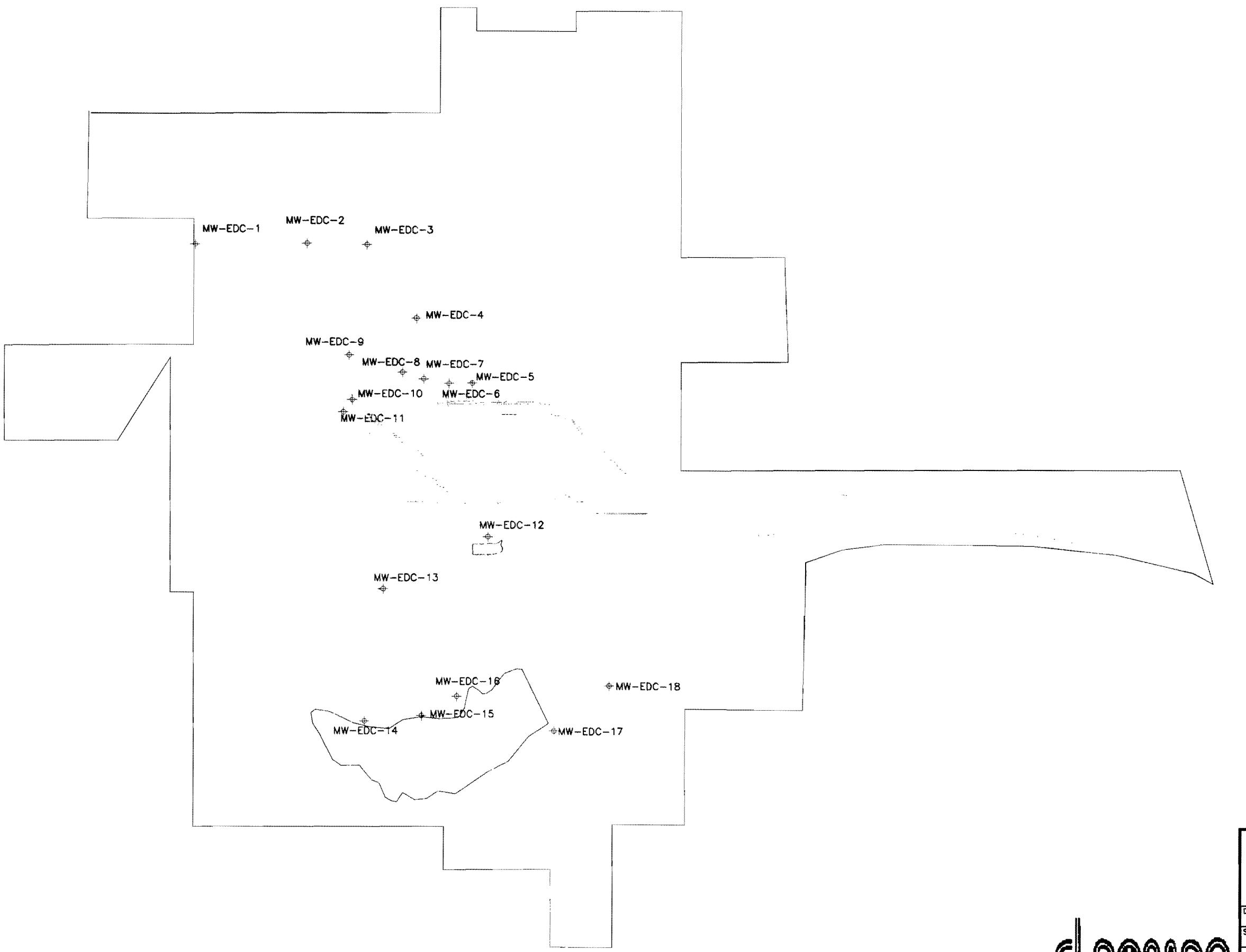
-- - Parameter not analyzed

**TABLE 21**  
**MW-EDC-18 ANALYTICAL SUMMARY**  
**EL DORADO CHEMICAL COMPANY**  
**EL DORADO, ARKANSAS**

**MW-EDC-18**

Sample Date	pH	Ammonia-N	Nitrate-N	Sulfate	Total Dissolved Solids	Total Lead	Total Chromium	Dissolved Lead	Dissolved Chromium
	s.u.	mg/L							
3/14/1996	6.6	--	0.4	3.3	--	0.017	0.0194	< 0.002	< 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	0.147	< 0.02	0.137
10/30/2002	6.3	0.43	< 0.5	3.22	258	0.018	< 0.02	< 0.015	< 0.02
12/10/2002	6.4	< 0.5	< 0.5	5.01	495	< 0.015	0.02	< 0.015	< 0.02
5/21/2003	6.01	0.59	< 0.5	7.08	786	0.029	0.02	< 0.015	< 0.02
7/23/2003	5.38	< 0.5	113	115	2000	0.029	0.047	< 0.015	< 0.02
9/24/2003	5.54	5.79	< 0.5	3.81	590	0.025	0.036	< 0.015	0.026
11/19/2003	5.90	< 0.5	< 0.5	9.68	300	< 0.015	< 0.02	< 0.015	< 0.02

"--" - Parameter not analyzed

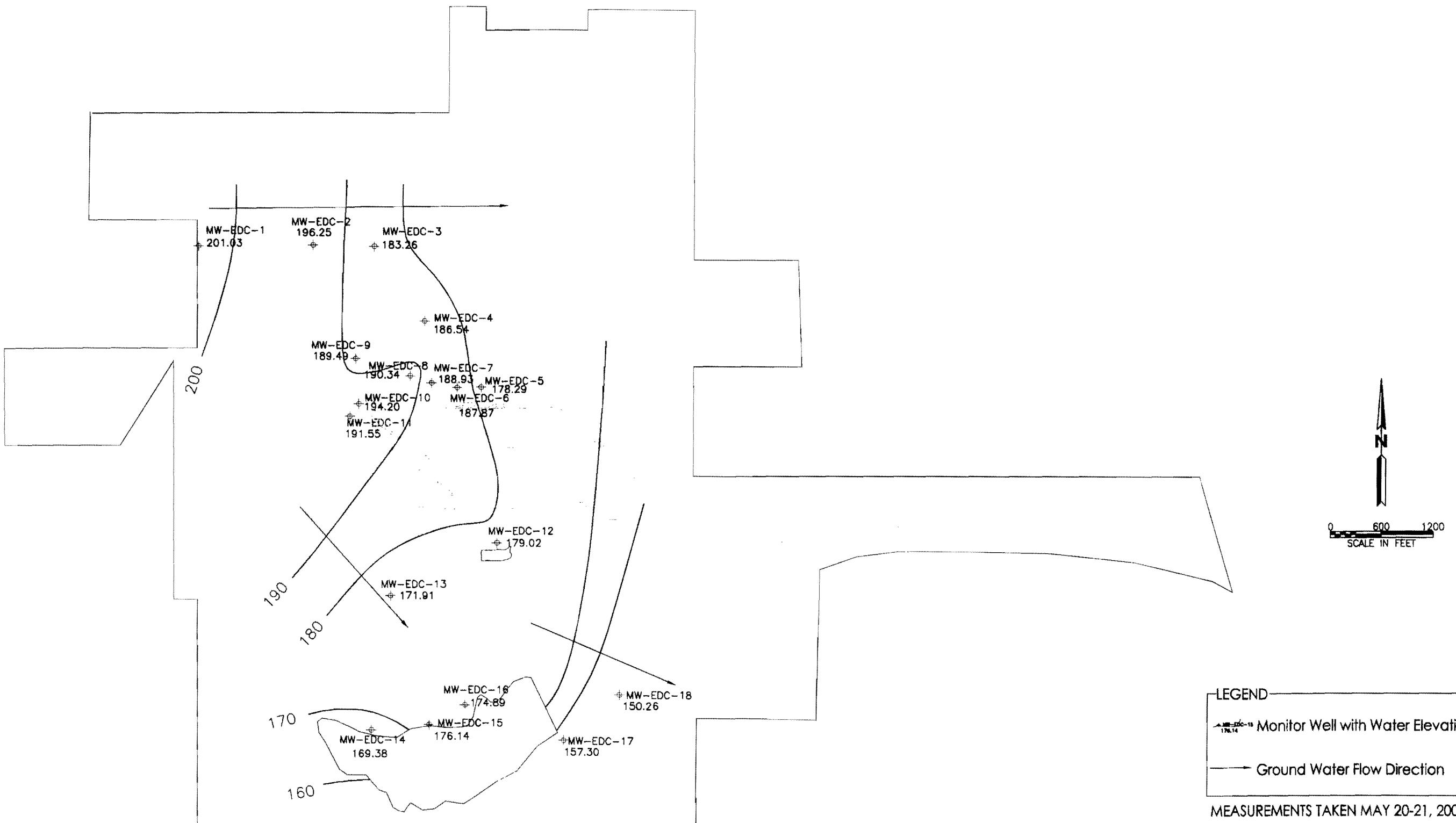


#### SITE MAP

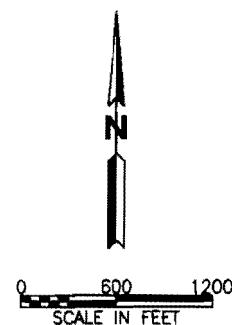
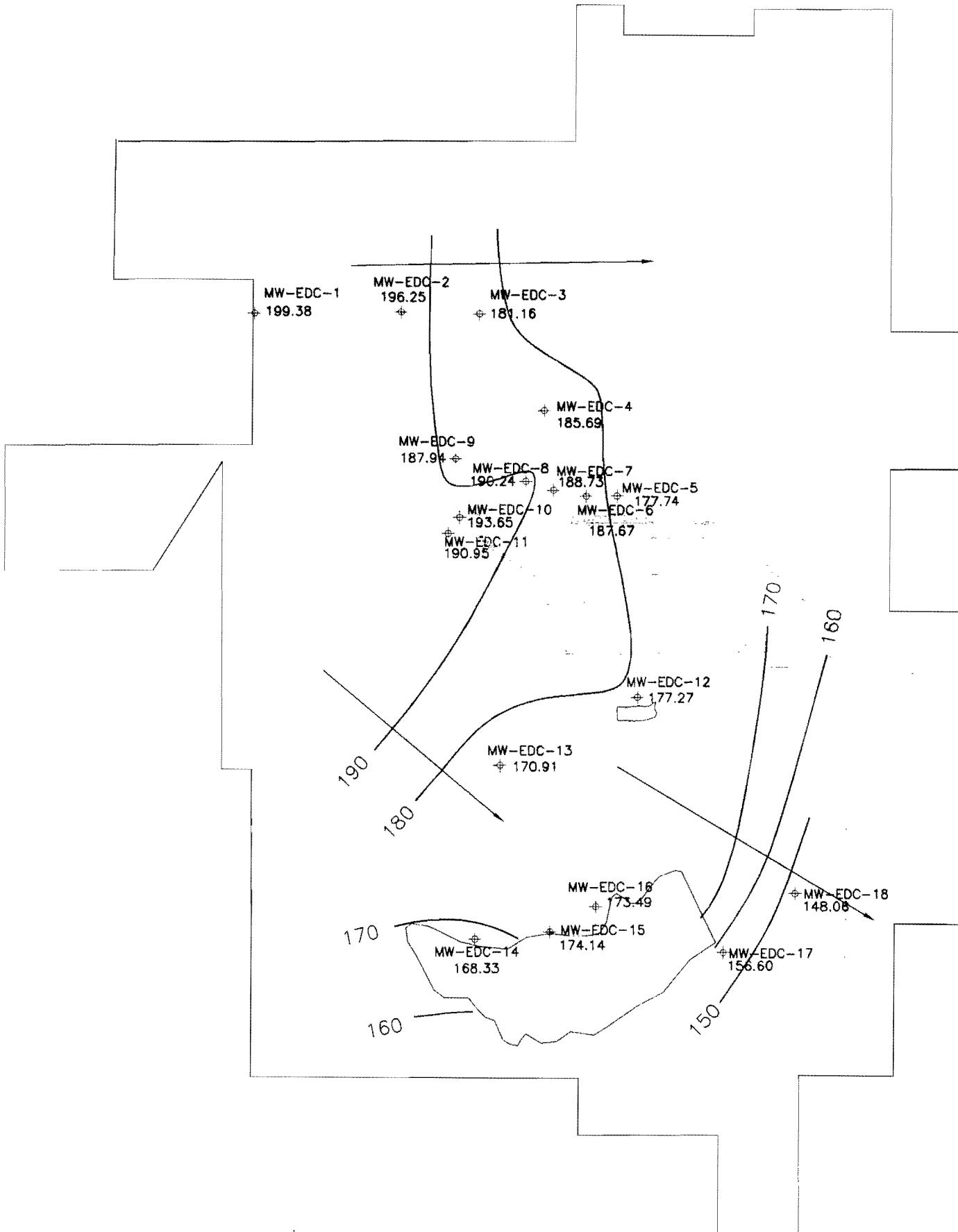
2003 ANNUAL GROUND WATER REPORT  
EL DORADO CHEMICAL COMPANY  
EL DORADO, ARKANSAS

DATE:	2-10-04	APPROVED:	LMM
SCALE:	see above	BY:	CJL

ELDORADO  
ENVIRONMENTAL  
MANAGEMENT SERVICES, INC.



POTENTIOMETRIC MAP MAY 2003		
2003 ANNUAL GROUND WATER REPORT EL DORADO CHEMICAL COMPANY EL DORADO, ARKANSAS		
DATE: 2-10-04	APPROVED: <i>CE</i>	DRAWN BY: LNM
SCALE: see above	DATE: 4/1/04	CAD NO. OJEC200
EL DORADO		ENVIRONMENTAL MANAGEMENT SERVICES, INC.
		FIGURE 2



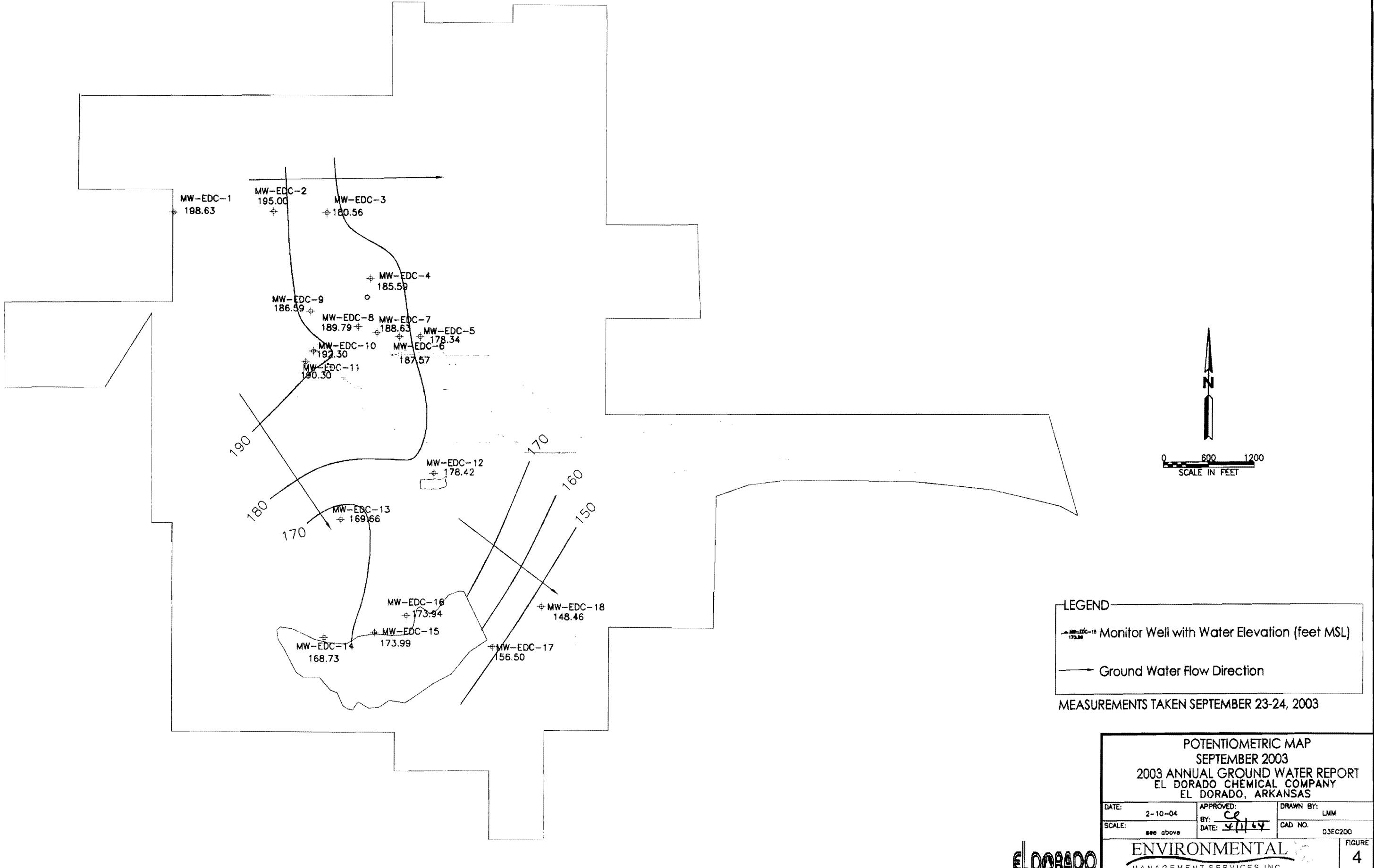
LEGEND

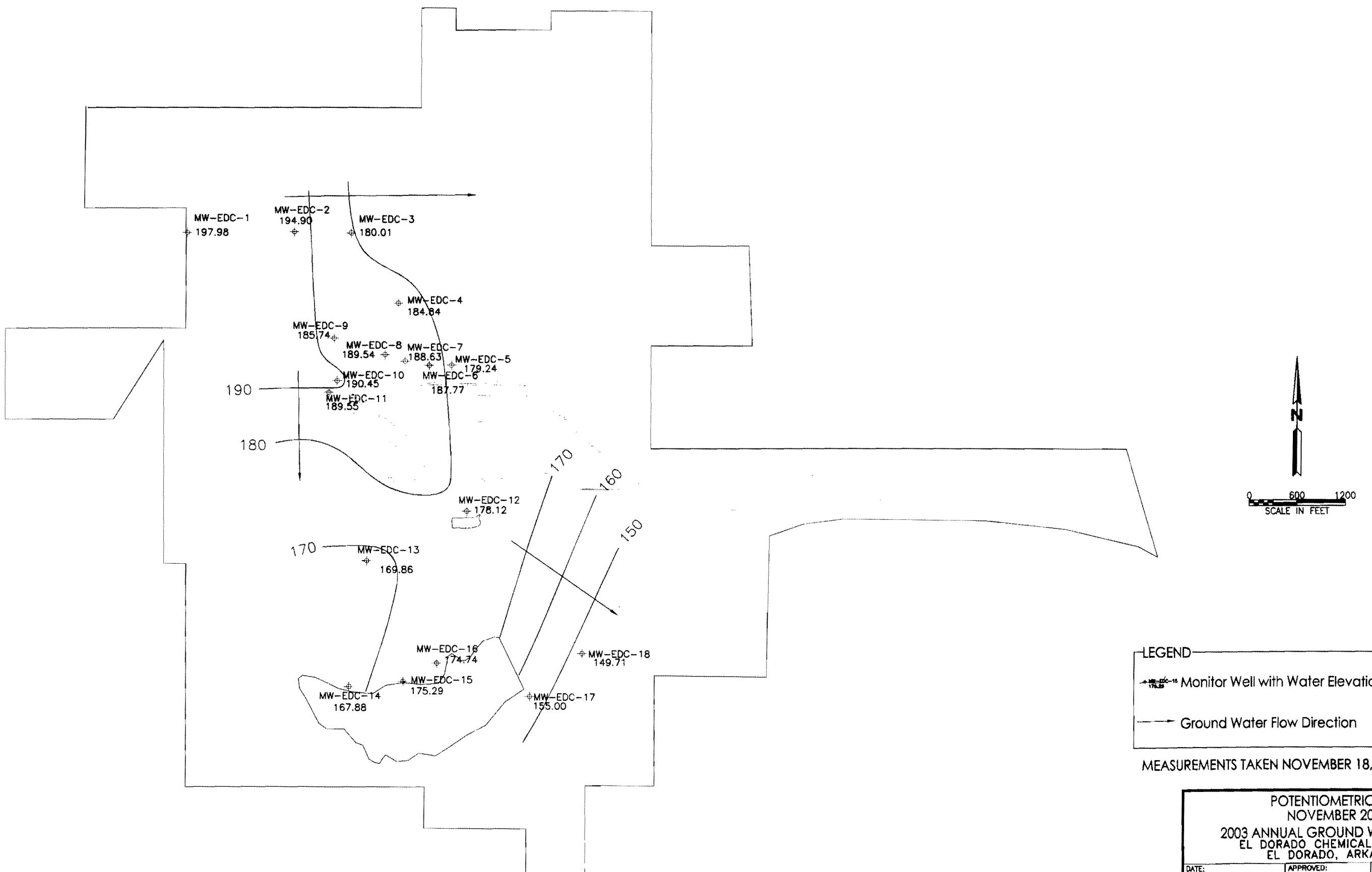
- Monitor Well with Water Elevation (feet MSL)
- Ground Water Flow Direction

MEASUREMENTS TAKEN JULY 22-23, 2003

POTENIOMETRIC MAP  
JULY 2003  
2003 ANNUAL GROUND WATER REPORT  
EL DORADO CHEMICAL COMPANY  
EL DORADO, ARKANSAS

DATE:	2-10-04	APPROVED:	By: <i>CJ</i>	DRAWN BY:	LWN
SCALE:	see above	DATE:	5/1/04	CAD NO.:	03EC200

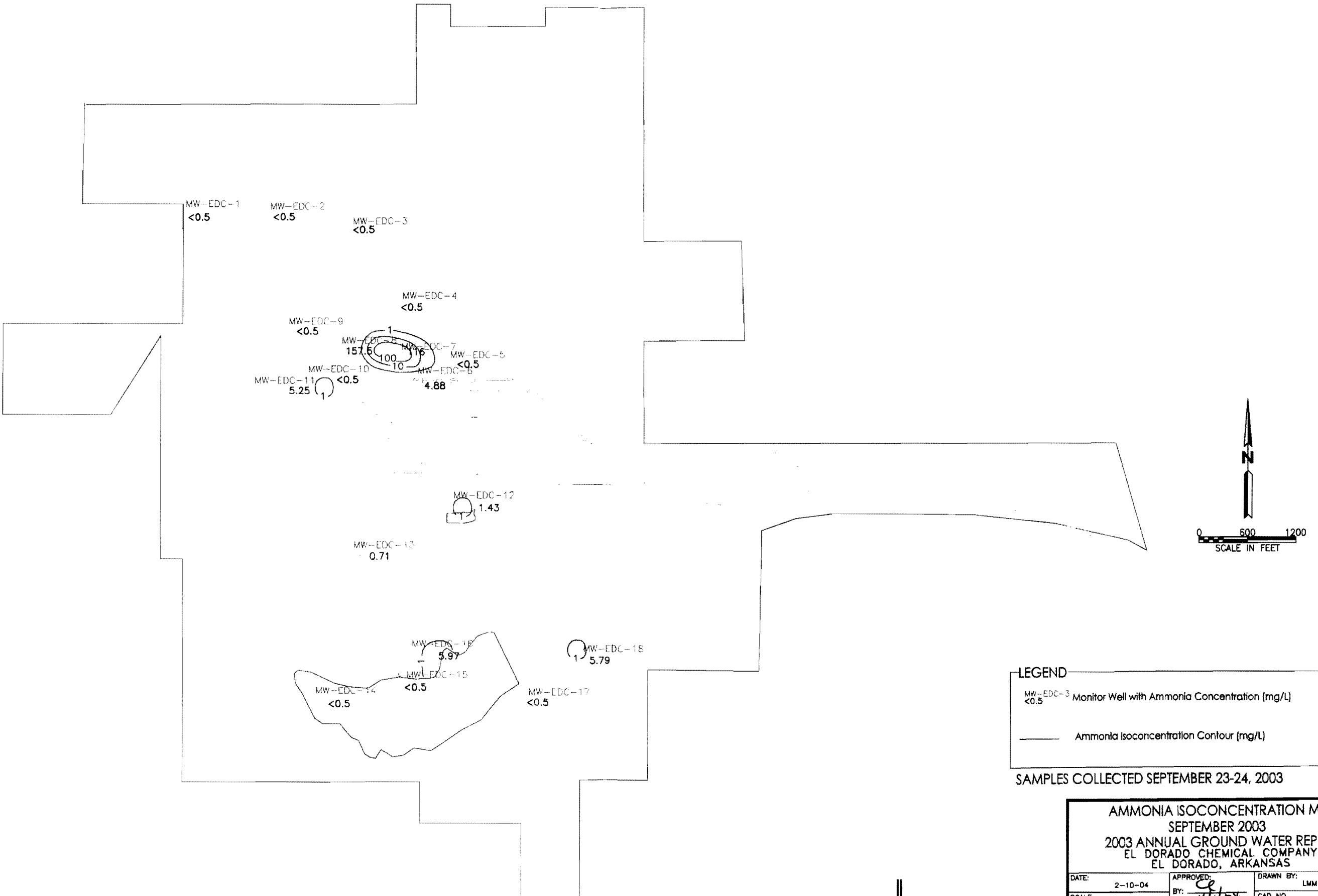




POTENTIOMETRIC MAP NOVEMBER 2003		
2003 ANNUAL GROUND WATER REPORT EL DORADO CHEMICAL COMPANY EL DORADO, ARKANSAS		
DATE:	2-10-04	APPROVED: <i>SP</i> BY: <i>SP</i> DATE: <i>4/11/04</i>
SCALE:	see above	DRAWN BY: LMN CAD NO. 03EC200
EL DORADO ENVIRONMENTAL MANAGEMENT SERVICES, INC.		



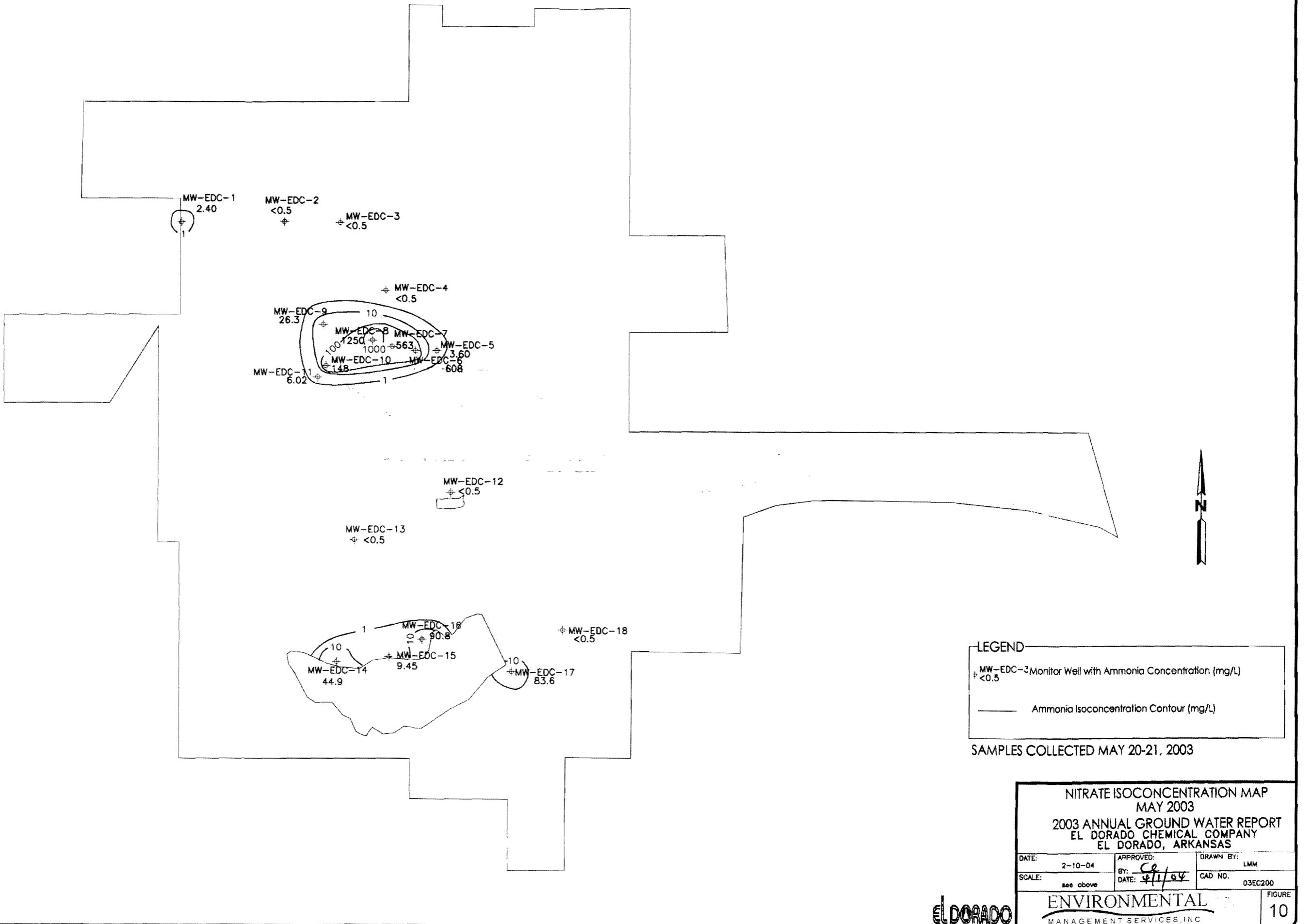


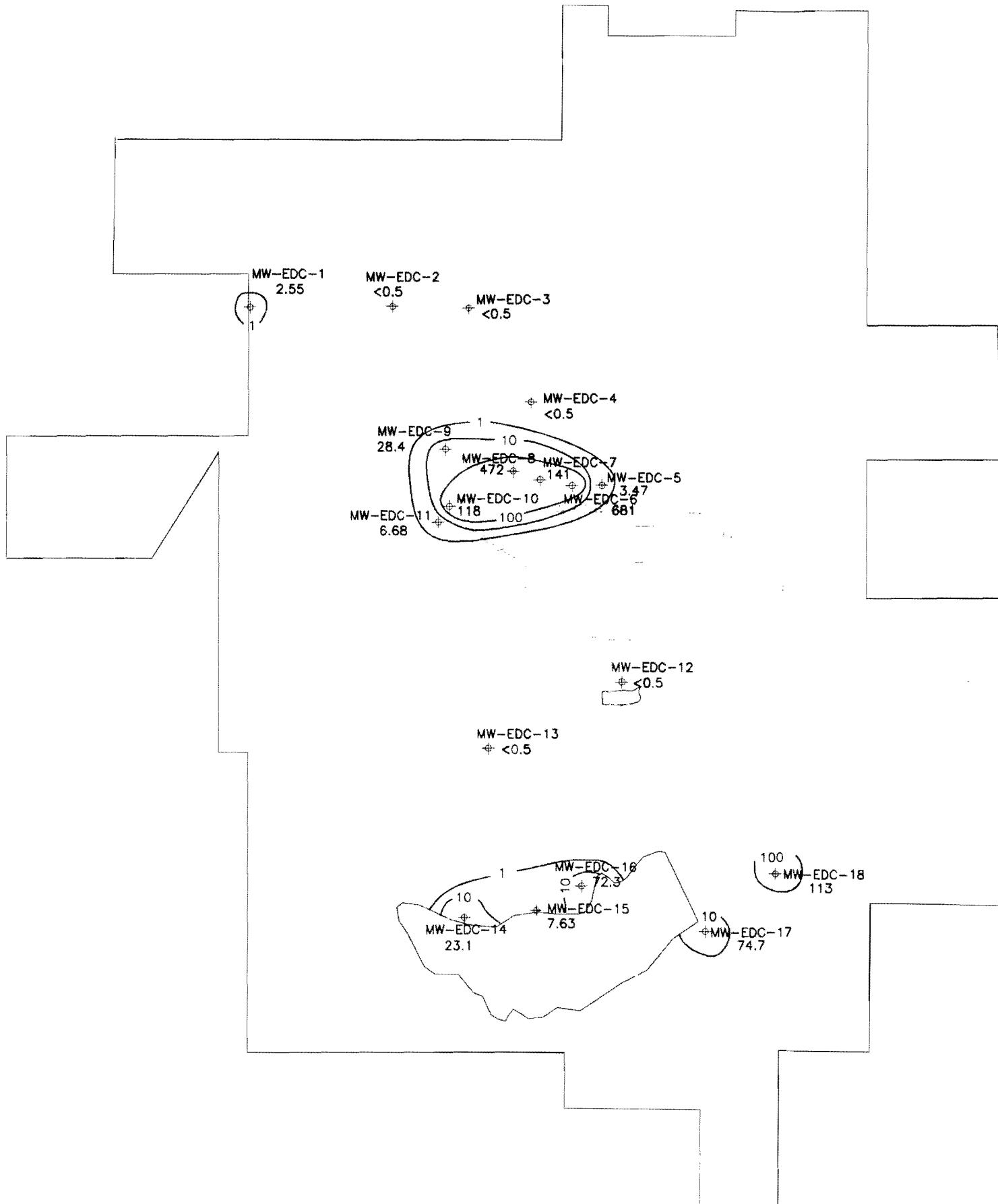


ELDORADO

ENVIRONMENTAL  
MANAGEMENT SERVICES, INC.





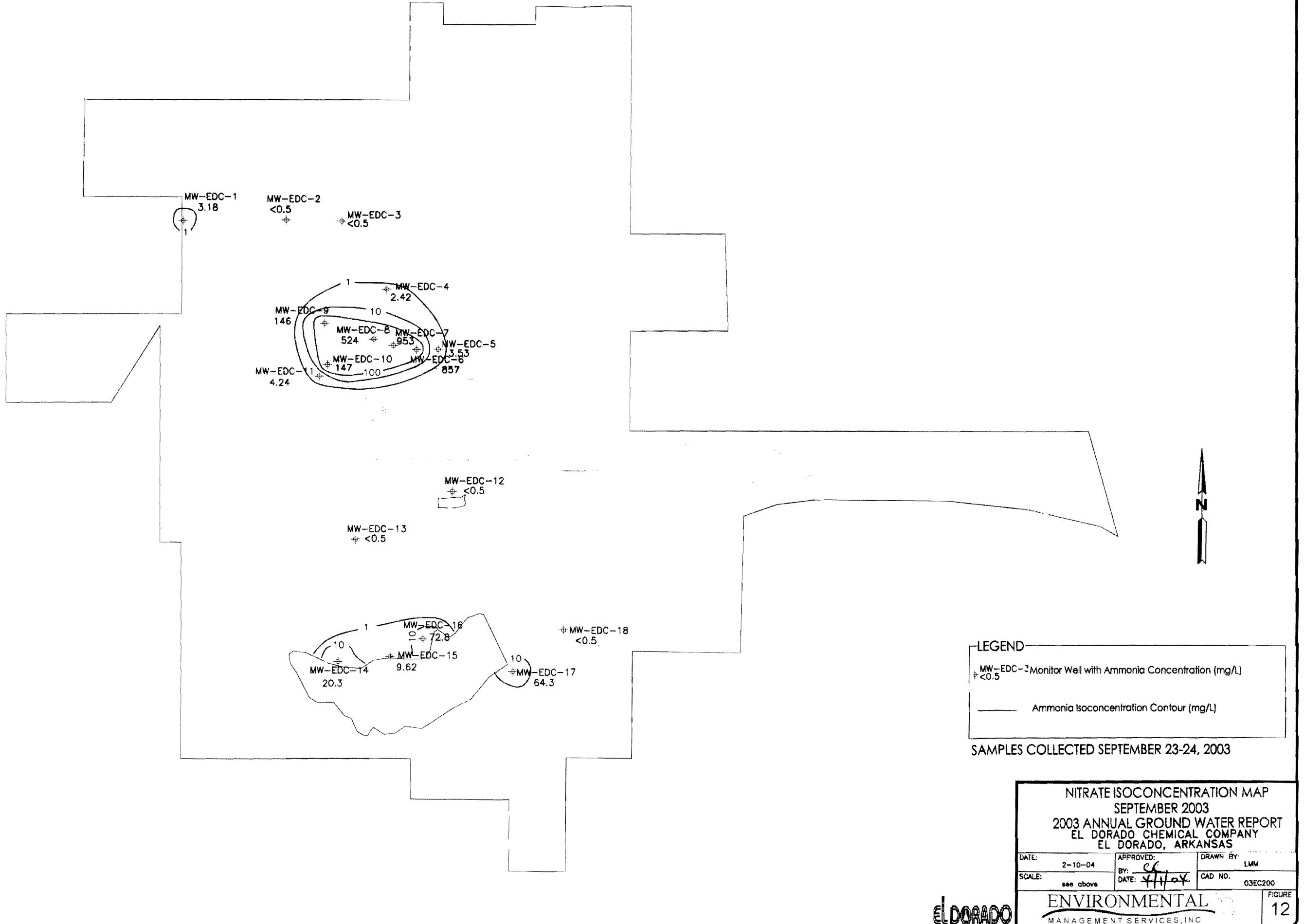


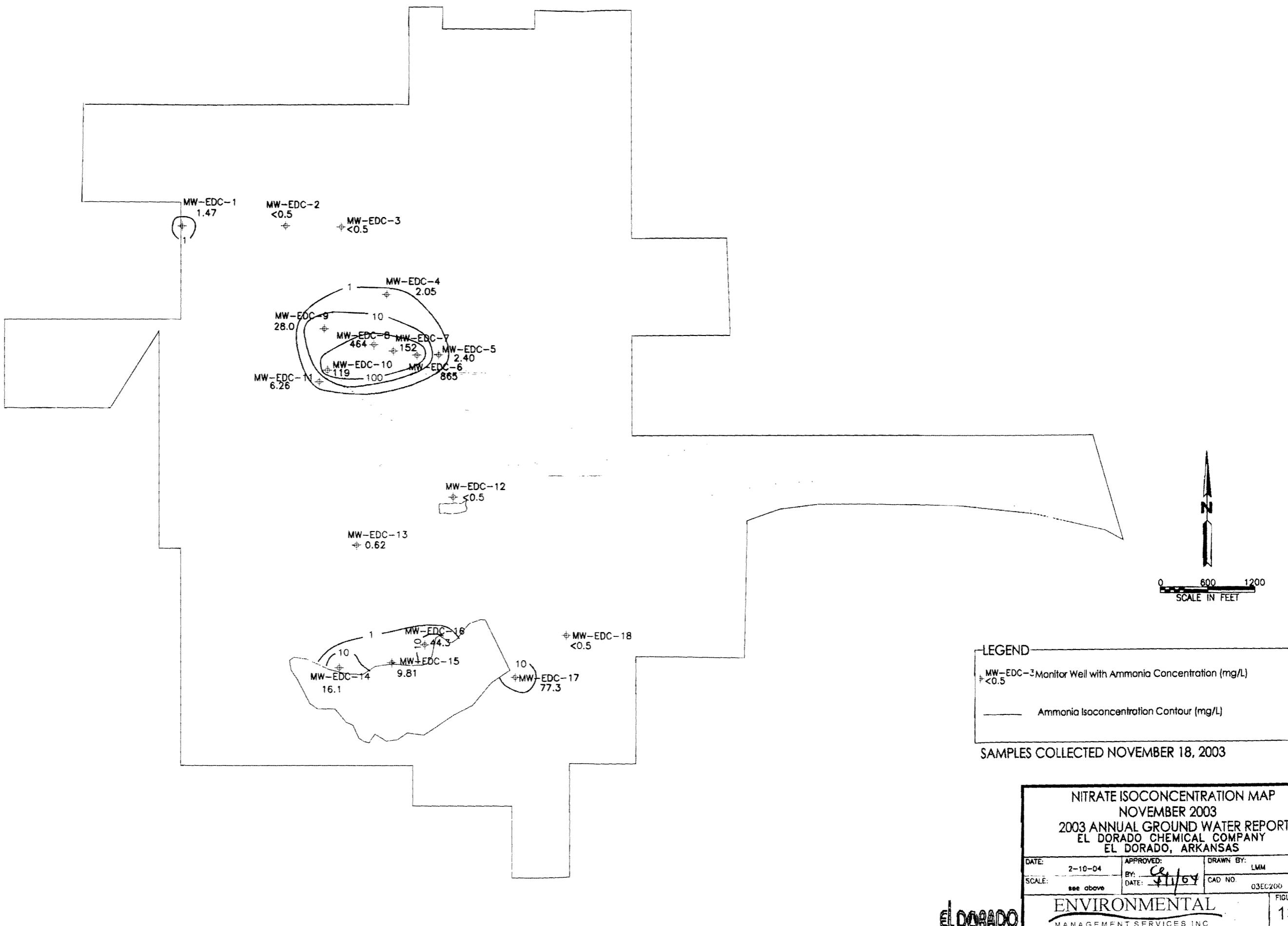
**LEGEND**

- MW-EDC-3 Monitor Well with Ammonia Concentration (mg/L)
- > 0.5
- Ammonia Isoconcentration Contour (mg/L)

SAMPLES COLLECTED JULY 22-23, 2003

NITRATE ISOCONCENTRATION MAP JULY 2003		
2003 ANNUAL GROUND WATER REPORT EL DORADO CHEMICAL COMPANY EL DORADO, ARKANSAS		
DATE: 2-10-04	APPROVED: BY: DATE: 4/1/04	DRAWN BY: LWM CAD NO.: 03EC200
SCALE: see above		
ELDORADO ENVIRONMENTAL MANAGEMENT SERVICES, INC.		FIGURE 11





**APPENDIX A**

**LABORATORY ANALYTICAL REPORTS**

6/20/03

Arkansas Analytical  
Inc.

**EI Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**EI Dorado, AR 71731**  
**Attn: Wes Morgan**

11701 1-30 Bldg. 1, Ste. 115 • Little Rock, AR 72209  
 501.455.3233 • Fax 501.455.6118

Re: 2nd Quarter Groundwaters

Description: Twenty four water samples received 6/2/03

**ANALYTICAL RESULTS**

Lab Number:	K306005	K306006	K306007	K306008
Sample ID:	EDCW-13	EDCW-17	EDCW-16	EDCW-15
Date/Time Collected:	5/20/03,1455	5/20/03,1410	5/20/03,1420	5/20/03,1450
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	< 0.5	< 0.5	< 0.5
Date/Time Analyzed		6/9/03,1130	6/9/03,1130	6/9/03,1130
TDS	mg/L	1330	603	555
Date/Time Analyzed		6/4/03,1530	6/4/03,1530	6/4/03,1530
<b>Anions</b>				
Nitrate-N	mg/L	< 0.5	83.6	90.8
Sulfate	mg/L	697	17.1	6.55
Date/Time Analyzed		6/3/03,2133	6/3/03,2159	6/3/03,2226
				9.45
				13.0
				6/3/03,2252
Lab Number:	K306009	K306010	K306011	K306012
Sample ID:	EDCW-14	EDCW-4	EDCW-4DUP	EDCW-3
Date/Time Collected:	5/20/03,1425	5/20/03,1430	5/20/03,1435	5/20/03,1450
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	< 0.5	< 0.5	< 0.5
Date/Time Analyzed		6/9/03,1130	6/9/03,1130	6/9/03,1130
TDS	mg/L	865	4800	5150
Date/Time Analyzed		6/4/03,1530	6/4/03,1530	6/4/03,1530
				207
<b>Anions</b>				
Nitrate-N	mg/L	44.9	< 0.5	< 0.5
Sulfate	mg/L	227	936	1000
Date/Time Analyzed		6/3/03,2318	6/3/03,2344	6/4/03,0010
				12.5
				6/4/03,0036

6/20/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 2nd Quarter Groundwaters

Description: Twenty four water samples received 6/20/03

**ANALYTICAL RESULTS**

	Lab Number:	K306013	K306014	K306015	K306016
	Sample ID:	EDCW-2	EDCW-1	EDCW-5	Field Blank
Date/Time Collected:		5/20/03,1535	5/20/03,1525	5/20/03,1540	5/20/03,1400
<b>Wet Chemistry</b>					
Ammonia-N	mg/L	< 0.5	< 0.5	< 0.5	< 0.5
Date/Time Analyzed		6/9/03,1130	6/9/03,1130	6/9/03,1130	6/9/03,1130
TDS	mg/L	309	46	845	14
Date/Time Analyzed		6/4/03,1530	6/4/03,1530	6/4/03,1530	6/4/03,1530
<b>Anions</b>					
Nitrate-N	mg/L	< 0.5	2.40	3.60	< 0.5
Sulfate	mg/L	22.1	3.79	654	< 0.5
Date/Time Analyzed		6/4/03,0103	6/4/03,0129	6/4/03,0222	6/4/03,0248
	Lab Number:	K306017	K306018	K306019	K306020
	Sample ID:	Trip Blank	EDCW-18	EDCW-12	EDCW-11
Date/Time Collected:		5/20/03,1400	5/21/03,0915	5/21/03,0935	5/21/03,0950
<b>Wet Chemistry</b>					
Ammonia-N	mg/L	< 0.5	0.59	1.89	7.84
Date/Time Analyzed		6/9/03,1130	6/9/03,1130	6/9/03,1130	6/9/03,1130
TDS	mg/L	10	786	307	576
Date/Time Analyzed		6/5/03,1600	6/5/03,1600	6/5/03,1600	6/5/03,1600
<b>Anions</b>					
Nitrate-N	mg/L	0.54	< 0.5	< 0.5	6.02
Sulfate	mg/L	< 0.5	7.08	5.31	333
Date/Time Analyzed		6/4/03,0407	6/4/03,0433	6/4/03,0459	6/4/03,0526

6/20/03

**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

**Re: 2nd Quarter Groundwaters**

**Description: Twenty four water samples received 6/2/03**

**ANALYTICAL RESULTS**

Lab Number:	K306021	K306022	K306023	K306024	
Sample ID:	EDCW-10	EDCW-9	EDCW-8	EDCW-8DUP	
Date/Time Collected:	5/21/03,1000	5/21/03,1020	5/21/03,1055	5/21/03,1035	
<b>Wet Chemistry</b>					
Ammonia-N Date/Time Analyzed	mg/L	< 0.5 6/9/03,1130	< 0.5 6/9/03,1130	214 6/9/03,1130	167 6/9/03,1130
TDS Date/Time Analyzed	mg/L	1140 6/5/03,1600	1600 6/5/03,1600	4200 6/5/03,1600	4010 6/5/03,1600
<b>Anions</b>					
Nitrate-N Date/Time Analyzed	mg/L	148 6/4/03,0552	26.3 6/4/03,0618	1250 6/4/03,0644	1270 6/4/03,0711
Lab Number:	K306025	K306026	K306027	K306028	
Sample ID:	EDCW-7	EDCW-6	Field Blank	Trip Blank	
Date/Time Collected:	5/21/03,1100	5/21/03,1130	5/21/03,0845	5/21/03,0900	
<b>Wet Chemistry</b>					
Ammonia-N Date/Time Analyzed	mg/L	244 6/9/03,1130	0.5 6/9/03,1130	0.73 6/9/03,1130	< 0.5 6/9/03,1130
TDS Date/Time Analyzed	mg/L	1850 6/6/03,1630	4020 6/6/03,1630	< 1 6/6/03,1630	< 1 6/6/03,1630
<b>Anions</b>					
Nitrate-N Date/Time Analyzed	mg/L	563 6/6/03,0315	608 6/6/03,0343	< 0.5 6/6/03,0411	< 0.5 6/6/03,0535
Sulfate Date/Time Analyzed	mg/L	298 6/6/03,0315	17.0 6/6/03,0343	< 0.5 6/6/03,0411	< 0.5 6/6/03,0535

6/20/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 2nd Quarter Groundwaters

Description: Twenty four water samples received 6/2/03

**ANALYTICAL RESULTS**

Lab Number:	K306005	K306006	K306007	
Sample ID:	EDCW-13	EDCW-17	EDCW-16	Date/Time
Date/Time Collected:	5/20/03,1455	5/20/03,1410	5/20/03,1420	Analyzed

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	6/4/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	6/4/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	6/4/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	6/4/03,1000

Lab Number:	K306008	K306009	K306010	
Sample ID:	EDCW-15	EDCW-14	EDCW-4	Date/Time
Date/Time Collected:	5/20/03,1450	5/20/03,1425	5/20/03,1430	Analyzed

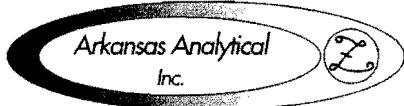
**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	6/4/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	6/4/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	6/4/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	6/4/03,1000

Lab Number:	K306011	K306012	K306013	
Sample ID:	EDCW-4DUP	EDCW-3	EDCW-2	Date/Time
Date/Time Collected:	5/20/03,1435	5/20/03,1450	5/20/03,1535	Analyzed

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	6/4/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	6/4/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	6/4/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	6/4/03,1000



6/20/03

**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

**Re: 2nd Quarter Groundwaters**

**Description: Twenty four water samples received 6/2/03**

**ANALYTICAL RESULTS**

Lab Number:	K306014	K306015	K306016	Date/Time Analyzed
Sample ID:	EDCW-1	EDCW-5	Field Blank	
Date/Time Collected:	5/20/03,1525	5/20/03,1540	5/20/03,1400	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 6/4/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015 6/4/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 6/4/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 6/4/03,1000
Lab Number:	K306017	K306018	K306019	Date/Time Analyzed
Sample ID:	Trip Blank	EDCW-18	EDCW-12	
Date/Time Collected:	5/20/03,1400	5/21/03,0915	5/21/03,0935	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	0.02	< 0.02 6/4/03,1400
Total Lead	mg/L	< 0.015	0.029	< 0.015 6/4/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 6/4/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 6/4/03,1000
Lab Number:	K306020	K306021	K306022	Date/Time Analyzed
Sample ID:	EDCW-11	EDCW-10	EDCW-9	
Date/Time Collected:	5/21/03,0950	5/21/03,1000	5/21/03,1020	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 6/4/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015 6/4/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 6/4/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 6/4/03,1000

6/20/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 2nd Quarter Groundwaters

Description: Twenty four water samples received 6/2/03

**ANALYTICAL RESULTS**

Lab Number:	K306023	K306024	K306025	Date/Time Analyzed
Sample ID:	EDCW-8	EDCW-8DUP	EDCW-7	
Date/Time Collected:	5/21/03,1055	5/21/03,1035	5/21/03,1100	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 6/4/03,1400
Total Lead	mg/L	0.019	0.019	0.020 6/4/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 6/4/03,1000
Dissolved Lead	mg/L	0.019	0.019	0.017 6/4/03,1000
Lab Number:	K306026	K306027	K306028	Date/Time Analyzed
Sample ID:	EDCW-6	Field Blank	Trip Blank	
Date/Time Collected:	5/21/03,1130	5/21/03,0845	5/21/03,0900	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 6/4/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015 6/4/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 6/4/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 6/4/03,1000

6/20/03

**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

**Re: 2nd Quarter Groundwaters**

**Description: Twenty four water samples received 6/2/03**

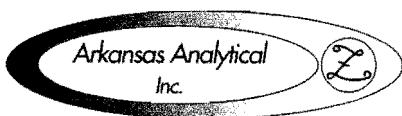
**QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
<b>Wet Chemistry</b>					
<b>Batch Number: K0326</b>					
	Ammonia-N	mg/L < 0.5	1.92	105	104
<b>Batch Number: K0327</b>					
	Ammonia-N	mg/L < 0.5	0.00	107	113
<b>Batch Number: 0604-1</b>					
	TDS	mg/L < 1.0	18.0	NA	105
<b>Batch Number: 0605-1</b>					
	TDS	mg/L < 1.0	0.00	NA	105
<b>Anions</b>					
<b>Batch Number: K3069</b>					
	Nitrate-N	mg/L < 0.5	0.00	104	108
	Sulfate	mg/L < 1.0	0.908	98.8	99.2
<b>Batch Number: K3070</b>					
	Nitrate-N	mg/L < 0.5	0.00	112	112
	Sulfate	mg/L < 1.0	0.966	98.8	104

NA means not analyzed.

Methods are from EPA 600/4-79-020, Revised March, 1983.

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



6/20/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 2nd Quarter Groundwaters  
Description: Twenty four water samples received 6/20/03

**QUALITY CONTROL RESULTS**

		Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
	Blank				
<b>Metals</b>					
<b>Batch Number: 0604WA</b>	<b>mg/L</b>				
Chromium	< 0.02	0.439/0.030	91.2	101	EPA 200.7
Lead	< 0.02	0.483/1.64	90.2	105	EPA 200.7
<b>Batch Number: 0604DISSA</b>	<b>mg/L</b>				
Dissolved Chromium	< 0.02	6.15/0.659	103	104	EPA 200.7
Dissolved Lead	< 0.02	5.67/1.31	104	105	EPA 200.7
<b>Batch Number: 0604WB</b>					
Chromium	< 0.02	0.78/5.50	81.3	90.9	EPA 200.7
Lead	< 0.02	1.12/4.60	81.4	91.0	EPA 200.7
<b>Batch Number: 0604DISSB</b>					
Dissolved Chromium	< 0.02	3.14/1.45	102	105	EPA 200.7
Dissolved Lead	< 0.02	2.48/1.20	102	106	EPA 200.7

Methods are from EPA 600/4-79-020, Revised March, 1983.

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

Ammonia-N analyzed by: Amy Daniel  
Amy Daniel

TDS analyzed by: Teresa Canfield  
Teresa Canfield

Anions analyzed by: Mark Wilson  
Mark Wilson

Metals analyzed by: Rodney Williams Joel Ledbetter  
Rodney Williams, Joel Ledbetter

# CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		Billing			Project Description		Turnaround Time (CIRCLE ONE)	Preservation Codes:												
El Dorado Chemical Inc.	El Dorado Chemical Inc.				Reporting Information			24 hour	1. Cool, 4 degrees Centigrade				4. Thiosulfate for dechlorination							
4500 Northwest Ave.	P.O. Box 231				Telephone: 1-870-863-1484		48 hour	2. Sulfuric Acid, pH <2				5. Hydrochloric Acid for VOA								
El Dorado, AR 71731	El Dorado, AR 71731				FAX: 1-870-863-1499		routine	3. Nitric Acid, pH <2				6. Sodium Hydroxide, pH >12								
Attn:					Bill to/P.O.		Preservative Code:	TEST PARAMETERS								Bottle type code G=glass;P=HDPE V=septum;A=amber				
							Bottle Type	<input checked="" type="checkbox"/> P	<input type="checkbox"/> L	<input type="checkbox"/> T	<input type="checkbox"/> B	<input type="checkbox"/> 1	<input type="checkbox"/> 1,2	<input type="checkbox"/> 1,3	<input type="checkbox"/> 1,3	<input type="checkbox"/> Total	<input type="checkbox"/> Total			
<i>Wes</i>					<i>Wes Morgan</i>			<input type="checkbox"/> V	<input type="checkbox"/> S	<input type="checkbox"/> P	<input type="checkbox"/> Cr	<input type="checkbox"/> Dissolve	<input type="checkbox"/> Cr	<input type="checkbox"/> TO <sub>S</sub>	<input type="checkbox"/> UH <sub>S</sub>	<input type="checkbox"/> Cr	<input type="checkbox"/> Pb			
Samplers:(Signature/s)		Samplers:(Printed)														Arkansas				
Field Number	Sample Collection			Grab	Comp	# of Containers	Sample Matrix	SAMPLE		IDENTIFICATION/DESCRIPTION								Analytical Lab #		
	Date/s	Time/s																		
1	5-20	12:55	—		3	V		EDCW-13		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1C306005
2		14:10	—		3	W		EDCW-12		—	—	—	—	—	—	—	—	—	—	000
3		14:20	—		3	V		EDCW-16		—	—	—	—	—	—	—	—	—	—	007
4		14:50	—		3	W		EDCW-15		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	008
5		14:25	—		3	W		EDCW-14		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	009
6		14:50	—		3	W		EDCW-4		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	010
7		14:35	—		3	W		EDCW-4 DUE		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	011
8		14:50	—		3	V		EDCW-3		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	012
9		15:35	—		3	W		EDCW-2		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	013
10		15:25	—		3	W		EDCW-1		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	014
11		15:40	—		3	W		EDCW-5		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	015
12		14:00	—		3	W		FIELD BLANK		—	—	—	—	—	—	—	—	—	—	016
1. Relinquished by:(Signature)	Date/Time		1. Received by:(Signature)			For completion by laboratory								REMARKS						
<i>R. Lubbar</i>	5-21-03		<i>_____</i>			Condition of samples: A. Containers Correct?: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no B. Preservation Correct?: <input checked="" type="checkbox"/> yes <input type="checkbox"/> C. Seals Intact?: <input checked="" type="checkbox"/> yes <input type="checkbox"/>														
2. Relinquished by:(Signature)	Date/Time		2. Received by laboratory :(Signature)																	
<i>_____</i>	6/2/03 0800		<i>Ron Jarry</i>																	

# CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		Billing		Project Description		Turnaround Time (CIRCLE ONE)	Preservative Code:	Preservation Codes:							
El Dorado Chemical Inc.	El Dorado Chemical Inc.	P.O. Box 231		Reporting Information				24 hour	1. Cool, 4 degrees Centigrade	4. Thiosulfate for dechlorination					
4500 Northwest Ave.				Telephone: 1-870-863-1484				48 hour	2. Sulfuric Acid, pH <2	5. Hydrochloric Acid for VOA					
El Dorado, AR 71731	El Dorado, AR 71731			FAX: 1-870-863-1499				routine	3. Nitric Acid, pH <2	6. Sodium Hydroxide, pH >12					
Attn:		Bill to/P.O.		Bottle Type	TEST PARAMETERS						Bottle type code G=glass;P=HDPE V=septum;A=amber				
<i>Wes</i>					<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>		
Samplers:(Signature/s)					<i>No3</i>	<i>Soy</i>	<i>Pb dissolved</i>	<i>Cr dissolved</i>	<i>TDS</i>	<i>Alk/H</i>	<i>Cr Total</i>	<i>Pb Total</i>			
Samplers:(Printed)													Arkansas		
Field Number	Sample Collection			# of Containers	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION								Analytical Lab #	
Date/s	Time/s	Grab	Comp												
13	5-20	14:00	✓	3	W	TRIP BLANK		-	-	-	-	-	-	k306017	
14	5-21	09:15	✓	3	W	EDCW-18		-	-	-	-	-	-	018	
15		09:35	✓	3	W	EDCW-12		-	-	-	-	-	-	019	
16		09:50	✓	3	W	EDCW-11		-	-	-	-	-	-	020	
17		10:00	✓	3	W	EDCW-10		-	-	-	-	-	-	021	
18		10:20	✓	3	W	EDCW-9		-	-	-	-	✓	✓	022	
19		10:35	✓	3	W	EDCW-8		✓	✓	✓	✓	✓	✓	023	
20		10:35	✓	3	W	EDCW-8 DUP		✓	-	-	-	-	-	024	
21		10:50	✓	3	W	EDCW-7		✓	✓	-	-	-	-	025	
22		11:30	✓	3	V	EDCW-6		-	✓	-	-	✓	✓	026	
23		08:45	✓	3	W	FIELD BLANK		✓	-	-	-	✓	✓	027	
24		09:00	✓	3	W	TRIP BLANK		✓	✓	✓	-	-	-	028	
1 Relinquished by:(Signature)	Date/Time	1.Received by:(Signature)			For completion by laboratory				REMARKS						
<i>R. Dunham</i>	5-21-03	<i></i>							Condition of samples:	yes <input checked="" type="checkbox"/>	no <input type="checkbox"/>				
2.Relinquished by:(Signature)	Date/Time	2.Received by laboratory :(Signature)							A. Containers Correct:?	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
	6/2/03 08:00	<i>Bruce Jany</i>							B. Preservation Correct:?	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
									C. Seals Intact:?	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

8/5/03

Arkansas Analytical  
Inc.



**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

11701 I-30 Bldg. 1, Ste. 115 • Little Rock, AR 72209  
 501.455.3233 • Fax 501.455.6118

**Re: 3rd Quarter Groundwaters**

**Description:** Twenty three water samples received 7/25/03

**ANALYTICAL RESULTS**

	Lab Number:	K307500	K307501	K307502	K307503
	Sample ID:	EDCW-9	EDCW-8	EDCW-8DUP	EDCW-7
	Date/Time Collected:	7/24/03,1145	7/24/03,1135	7/24/03,1135	7/24/03,1125
<b>Wet Chemistry</b>					
Ammonia-N	mg/L	< 0.5	179	177	95.1
Date/Time Analyzed		7/29/03,1300	7/29/03,1300	7/29/03,1300	7/29/03,1300
TDS	mg/L	1500	3700	3700	1400
Date/Time Analyzed		7/29/03,1500	7/29/03,1500	7/29/03,1500	7/29/03,1500
<b>Anions</b>					
Nitrate-N	mg/L	28.4	472	478	141
Sulfate	mg/L	547	904	913	378
Date/Time Analyzed		7/25/03,1833	7/25/03,1850	7/25/03,1921	7/25/03,1938
	Lab Number:	K307504	K307505	K307506	K307507
	Sample ID:	EDCW-6	EDCW-4	EDCW-4DUP	EDCW-5
	Date/Time Collected:	7/24/03,1115	7/24/03,1105	7/24/03,1105	7/24/03,1045
<b>Wet Chemistry</b>					
Ammonia-N	mg/L	1.09	< 0.5	< 0.5	< 0.5
Date/Time Analyzed		7/29/03,1300	7/29/03,1300	7/29/03,1300	7/29/03,1300
TDS	mg/L	4600	5300	5400	950
Date/Time Analyzed		7/29/03,1500	7/29/03,1500	7/29/03,1500	7/29/03,1500
<b>Anions</b>					
Nitrate-N	mg/L	681	< 0.5	< 0.5	3.47
Sulfate	mg/L	15.0	978	958	546
Date/Time Analyzed		7/25/03,1954	7/25/03,2011	7/25/03,2027	7/25/03,2044

8/5/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 3rd Quarter Groundwaters  
Description: Twenty three water samples received 7/25/03

**ANALYTICAL RESULTS**

Lab Number:	K307508	K307509	K307510	K307511
Sample ID:	EDCW-3	EDCW-2	EDCW-1	EDCW-10
Date/Time Collected:	7/24/03,1045	7/24/03,1035	7/24/03,1020	7/24/03,1010
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	< 0.5	< 0.5	< 0.5
Date/Time Analyzed		7/29/03,1300	7/29/03,1300	7/29/03,1300
TDS	mg/L	210	370	59
Date/Time Analyzed		7/29/03,1500	7/29/03,1500	7/29/03,1500
<b>Anions</b>				
Nitrate-N	mg/L	< 0.5	< 0.5	2.55
Sulfate	mg/L	11.8	22.9	5.05
Date/Time Analyzed		7/25/03,2101	7/25/03,2117	7/25/03,2134
Lab Number:	K307512	K307513	K307514	K307515
Sample ID:	EDCW-11	EDCW-12	EDCW-17	EDCW-15
Date/Time Collected:	7/24/03,0955	7/24/03,0940	7/23/03,1520	7/23/03,1445
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	25.6	1.74	0.58
Date/Time Analyzed		7/29/03,1300	7/29/03,1300	7/29/03,1300
TDS	mg/L	540	380	548
Date/Time Analyzed		7/29/03,1500	7/29/03,1500	7/29/03,1500
<b>Anions</b>				
Nitrate-N	mg/L	6.68	< 0.5	74.7
Sulfate	mg/L	278	18.7	9.31
Date/Time Analyzed		7/25/03,2207	7/25/03,2223	7/25/03,2240
				7.63
				12.8
				7/25/03,2256



8/5/03

**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

**Re: 3rd Quarter Groundwaters**  
**Description: Twenty three water samples received 7/25/03**

**ANALYTICAL RESULTS**

Lab Number:	K307516	K307517	K307518	K307519
Sample ID:	EDCW-16	EDCW-13	EDCW-18	EDCW-14
Date/Time Collected:	7/23/03,1415	7/23/03,1355	7/23/03,1120	7/23/03,1510
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	6.45	< 0.5	< 0.5
Date/Time Analyzed		7/30/03,0800	7/30/03,0800	7/30/03,0800
TDS	mg/L	430	820	2000
Date/Time Analyzed		7/29/03,1500	7/29/03,1500	7/29/03,1500
<b>Anions</b>				
Nitrate-N	mg/L	72.3	< 0.5	113
Sulfate	mg/L	7.15	358	115
Date/Time Analyzed		7/25/03,2313	7/25/03,2330	7/25/03,2345
<b>Lab Number:</b>				
Sample ID:	K307520	K307521	K307522	
Date/Time Collected:	Trip Blank	Field Blank	Field Blank	7/23/03,1430
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	< 0.5	< 0.5	< 0.5
Date/Time Analyzed		7/30/03,0800	7/30/03,0800	7/30/03,0800
TDS	mg/L	5	6	< 1
Date/Time Analyzed		7/31/03,1600	7/31/03,1600	7/31/03,1600
<b>Anions</b>				
Nitrate-N	mg/L	< 0.5	< 0.5	< 0.5
Sulfate	mg/L	< 0.5	< 0.5	< 0.5
Date/Time Analyzed		7/26/03,0215	7/26/03,0232	7/26/03,0248



8/5/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 3rd Quarter Groundwaters  
Description: Twenty three water samples received 7/25/03

**ANALYTICAL RESULTS**

Lab Number:	K307500	K307501	K307502	Date/Time
Sample ID:	EDCW-9	EDCW-8	EDCW-8DUP	Analyzed
Date/Time Collected:	7/24/03,1145	7/24/03,1135	7/24/03,1135	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 7/25/03,1000
Total Lead	mg/L	< 0.015	< 0.015	< 0.015 7/25/03,1000
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 7/30/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 7/30/03,1000
Lab Number:	K307503	K307504	K307505	Date/Time
Sample ID:	EDCW-7	EDCW-6	EDCW-4	Analyzed
Date/Time Collected:	7/24/03,1125	7/24/03,1115	7/24/03,1105	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 7/25/03,1000
Total Lead	mg/L	< 0.015	< 0.015	< 0.015 7/25/03,1000
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 7/30/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 7/30/03,1000
Lab Number:	K307506	K307507	K307508	Date/Time
Sample ID:	EDCW-4DUP	EDCW-3	EDCW-3	Analyzed
Date/Time Collected:	7/24/03,1105	7/24/03,1045	7/24/03,1045	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 7/25/03,1000
Total Lead	mg/L	< 0.015	< 0.015	< 0.015 7/25/03,1000
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 7/30/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 7/30/03,1000



**El Dorado Chemical Inc.**  
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**Re: 3rd Quarter Groundwaters**

**Description: Twenty three water samples received 7/25/03**

**ANALYTICAL RESULTS**

Lab Number:	K307509	K307510	K307511	Date/Time
Sample ID:	EDCW-2	EDCW-1	EDCW-10	Analyzed
Date/Time Collected:	7/24/03,1035	7/24/03,1020	7/24/03,1010	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	7/28/03,1000
Total Lead	mg/L	< 0.015	< 0.015	7/28/03,1000
Dissolved Chromium	mg/L	< 0.02	< 0.02	7/30/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	7/30/03,1000

Lab Number:	K307512	K307513	K307514	Date/Time
Sample ID:	EDCW-11	EDCW-12	EDCW-17	Analyzed
Date/Time Collected:	7/24/03,0955	7/24/03,0940	7/23/03,1520	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	7/28/03,1000
Total Lead	mg/L	< 0.015	< 0.015	7/28/03,1000
Dissolved Chromium	mg/L	< 0.02	< 0.02	7/30/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	7/30/03,1000

Lab Number:	K307515	K307516	K307517	Date/Time
Sample ID:	EDCW-15	EDCW-16	EDCW-13	Analyzed
Date/Time Collected:	7/23/03,1445	7/23/03,1415	7/23/03,1355	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	7/28/03,1000
Total Lead	mg/L	< 0.015	< 0.015	7/28/03,1000
Dissolved Chromium	mg/L	< 0.02	< 0.02	7/30/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	7/30/03,1000



8/5/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 3rd Quarter Groundwaters  
Description: Twenty three water samples received 7/25/03

**ANALYTICAL RESULTS**

Lab Number:	K307518	K307519	K307520	Date/Time Analyzed
Sample ID:	EDCW-18	EDCW-14	Trip Blank	
Date/Time Collected:	7/23/03,1120	7/23/03,1510	7/24/03,1205	
<b>Metals</b>				
Total Chromium	mg/L	0.047	< 0.02	< 0.02 7/28/03,1000
Total Lead	mg/L	0.029	< 0.015	< 0.015 7/28/03,1000
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 7/30/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 7/30/03,1000
Lab Number:	K307521	K307522		
Sample ID:	Field Blank	Field Blank		Date/Time Analyzed
Date/Time Collected:	7/24/03,1030	7/23/03,1430		
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	7/28/03,1000
Total Lead	mg/L	< 0.015	< 0.015	7/28/03,1000
Dissolved Chromium	mg/L	< 0.02	< 0.02	7/30/03,1000
Dissolved Lead	mg/L	< 0.015	< 0.015	7/30/03,1000

**El Dorado Chemical Inc.**  
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**El Dorado, AR 71731**  
**Attn: Wes Morgan**

**Re: 3rd Quarter Groundwaters**

**Description: Twenty three water samples received 7/25/03**

**QUALITY CONTROL RESULTS**

		Percent Variance Blank	Percent Recovery Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
<b>Wet Chemistry</b>						
<b>Batch Number:</b> K3034	<b>mg/L</b>					
Ammonia-N	< 0.5	0.943	96.2	106	EPA 350.3	
<b>Batch Number:</b> K3035	<b>mg/L</b>					
Ammonia-N	< 0.5	1.96	87.2	102	EPA 350.3	
<b>Batch Number:</b> 0729-1	<b>mg/L</b>					
TDS	< 1.0	3.70	NA	108	EPA 160.1	
<b>Batch Number:</b> 0731-1	<b>mg/L</b>					
TDS	< 1.0	0.00	NA	103	EPA 160.1	
<b>Anions</b>						
<b>Batch Number:</b> K3092	<b>mg/L</b>					
Nitrate-N	< 0.5	0.100	101	99.8	EPA 300.0	
Sulfate	< 0.5	0.190	104	105	EPA 300.0	
<b>Batch Number:</b> K3093	<b>mg/L</b>					
Nitrate-N	< 0.5	0.102	97.2	98.2	EPA 300.0	
Sulfate	< 0.5	0.291	100	103	EPA 300.0	
<b>Batch Number:</b> K3094	<b>mg/L</b>					
Nitrate-N	< 0.5	0.210	99.5	95.4	EPA 300.0	
Sulfate	< 0.5	0.602	99.8	99.7	EPA 300.0	

NA means not analyzed.

Methods are from EPA 600/4-79-020, Revised March, 1983.

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



**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

**Re: 3rd Quarter Groundwaters**  
**Description: Twenty three water samples received 7/25/03**

**QUALITY CONTROL RESULTS**

		Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
<b>Metals</b>						
<b>Batch Number: 0725W</b>	<b>mg/L</b>					
Chromium	< 0.02	0.256/3.35	99.2	105	EPA 200.7	
Lead	< 0.015	0.852/3.88	93.0	98.1	EPA 200.7	
<b>Batch Number: 0728W</b>	<b>mg/L</b>					
Chromium	< 0.02	3.85/0.445	86.9	97.9	EPA 200.7	
Lead	< 0.015	3.08/1.49	86.5	98.5	EPA 200.7	
<b>Batch Number: 0730Diss</b>	<b>mg/L</b>					
Dissolved Chromium	< 0.02	3.36/0.529	91.3	92.7	EPA 200.7	
Dissolved Lead	< 0.015	0.827/0.189	88.5	91.1	EPA 200.7	
<b>Batch Number: 0730BDiss</b>	<b>mg/L</b>					
Dissolved Chromium	< 0.02	0.749/0.759	92.9	94.9	EPA 200.7	
Dissolved Lead	< 0.015	1.57/0.236	92.2	95.9	EPA 200.7	

Methods are from EPA 600/4-79-020, Revised March, 1983.

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

Ammonia-N analyzed by: Teresa Canfield  
 Teresa Canfield

TDS analyzed by: Teresa Canfield  
 Teresa Canfield

Anions analyzed by: Mark Wilson  
 Mark Wilson

Metals analyzed by: Joel Ledbetter, Wendy Harston  
 Joel Ledbetter, Wendy Harston



## HAIN OF CUSTODI RECORD

JENT INFORMATION			Project Description		Turnaround Time (CIRCLE ONE)		Preservation Codes:					
Dorado Chemical Company 00 Northwest Avenue			Reporting Information		24 hour		1. Cool, 4 degrees Centigrade			4. Thiosulfate for dechlorination		
Dorado AR., 71901			Telephone: 870-863-1484		48 hour		2. Sulfuric Acid, pH <2			5. Hydrochloric Acid for VOA		
			FAX: 870-863-1499		routine		3. Nitric Acid, pH <2			6. Sodium Hydroxide, pH >12		
tn: Wes Morgan			Bill to/P.O.		Preservative Code:		TEST PARAMETERS					

Field Number	Sample Collection			Grab	Comp	# of Containers	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION		TDS	NO3	SO4	NH3	T.Pb & Pb, T.Cr & Cr	Arkansas Analytical Lab #
	Date/s	Time/s													
1	7-24-03	1145	—	3		3		EDCW9		✓	✓	✓	✓	✓	K307500
2		1135	—	3		3		EDCW8							501
3		1135	—	3		3		EDCW8 DUP							502
4		1125	—	3		3		EDCW7							503
5		1115	—	3		3		EDCW6							504
6		1105	—	3		3		EDCW4							505
7		1105	—	3		3		EDCW4 DUP							506
8		1055	—	3		3		EDCW5							507
9		1045	—	3		3		EDCW3							508
10		1035	—	3		3		EDCW2							509
11		1020	—	3		3		EDCW1							510
12		1010	—	3		3		EDCW10							511

1. Relinquished by:(Signature)	Date/Time	1. Received by:(Signature)	For completion by laboratory			REMARKS		
Rodney Lumber EMS Inc	7-24-03 12:30	Pel Morgan	Condition of samples:	yes <input checked="" type="checkbox"/>	no <input type="checkbox"/>	The lids on the bottles were loose upon receipt of samples. 7-25-03		
2. Relinquished by:(Signature)	Date/Time	2. Received by laboratory : (Signature)	A. Containers Correct?:	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Velocity	7-25-03, 0844	Sydney James	B. Preservation Correct?:	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
			C. Seals Intact?:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	COC was not correctly filled in with parameters. (82)		

## LINE OF CUSTODY RECORD

ENT INFORMATION			Project Description		Turnaround Time (CIRCLE ONE)  24 hour 48 hour routine	Preservation Codes:					
Dorado Chemical Company 0 Northwest Avenue Dorado AR., 71901			Reporting Information Telephone: 870-863-1484 FAX: 870-863-1499 Bill to/P.O.			1. Cool, 4 degrees Centigrade 2. Sulfuric Acid, pH <2 3. Nitric Acid, pH <2 4. Thiosulfate for dechlorination 5. Hydrochloric Acid for VOA 6. Sodium Hydroxide, pH >12					
n: Wes Morgan											

Samplers (Signature/s)

Samplers (Printed)

Field umber	Sample Collection			# of Containers	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION	TEST PARAMETERS						Arkansas Analytical Lab #	
	Date/s	Time/s	Grab				TDS	NO3	SO4	NH3	T.Pb	d Pb	T.Cr	
13	7-24-03	0955	—	3		EDCW11	✓	—	—	✓	✓	—	—	K301572
14		940	—	3		EDCW12	—	—	—	—	—	—	—	513
15	7-23-03	1520	—	3		EDCW17	—	—	—	—	—	—	—	514
16		1445	—	3		EDCW15	—	—	—	—	—	—	—	515
17		1415	—	3		EDCW16	—	—	—	—	—	—	—	516
18		1355	—	3		EDCW13	—	—	—	—	—	—	—	517
19		1120	—	3		EDCW18	—	—	—	—	—	—	—	518
20		1510	—	3		EDCW14	—	—	—	—	—	—	—	519
21	7-24-03	1205	—	3		TRIP BLANK	—	—	—	—	—	—	—	520
22	7-24-03	10:30	—	3		FIELD BLANK	—	—	—	—	—	—	—	521
23	7-23-03	14:30	—	3		FIELD BLANK	—	—	—	—	—	—	—	522

Relinquished by: (Signature)	Date/Time	1. Received by: (Signature)	For completion by laboratory			REMARKS
Rodney Lankham TMS Inc.	7-24-03 12:30	Pet M'Chesney	Condition of samples:	yes <input checked="" type="checkbox"/>	no <input type="checkbox"/>	The lids on the bottles were loose upon receipt of samples.
Relinquished by: (Signature)	Date/Time	2. Received by laboratory: (Signature)	A. Containers Correct?:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1-25-03
Velocity	7-25-03, 0844	Sydney James	B. Preservation Correct?:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	COC was not correctly filled in with parameters. (SD)
			C. Seals Intact?:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

10/9/03

Arkansas Analytical  
Inc.



**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

11701 I-30 Bldg. 1, Ste. 115 • Little Rock, AR 72209  
 501.455.3233 • Fax 501.455.6118

**Re: 3rd Quarter Groundwaters**

**Description: Twenty three water samples received 9/25/03**

**ANALYTICAL RESULTS**

Lab Number:	K309690	K309691	K309692	K309693
Sample ID:	Field Blank	Trip Blank	EDCW 11	EDCW 8
Date/Time Collected:	9/23/03,2:00	9/3/03	9/23/03,4:05	9/23/03,3:20
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	< 0.5	< 0.5	5.25
Date/Time Analyzed		9/26/03,0730	9/26/03,0730	9/26/03,0730
TDS	mg/L	1	< 1	660
Date/Time Analyzed		9/26/03,1115	9/26/03,1115	9/26/03,1115
<b>Anions</b>				
Nitrate-N	mg/L	< 0.5	< 0.5	4.24
Sulfate	mg/L	< 0.5	< 0.5	397
Date/Time Analyzed		9/26/03,1112	9/26/03,1128	9/26/03,1145
				524
				870
				9/26/03,1201
				9/26/03,2231
<hr/>				
Lab Number:	K309694	K309695	K309696	K309697
Sample ID:	EDCW 8 DUP	EDCW 9	EDCW 10	EDCW 16
Date/Time Collected:	9/23/03,3:20	9/23/03,3:40	9/23/03,3:50	9/23/03,4:25
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	153	< 0.5	< 0.5
Date/Time Analyzed		9/26/03,0730	9/26/03,0730	9/26/03,0730
TDS	mg/L	3400	1500	1000
Date/Time Analyzed		9/26/03,1115	9/26/03,1115	9/26/03,1115
				400
<b>Anions</b>				
Nitrate-N	mg/L	539	146	147
Sulfate	mg/L	899	531	127
Date/Time Analyzed		9/26/03,1218	9/26/03,1234	9/26/03,1251
		9/26/03,2247	9/26/03,2320	9/26/03,2337
				9/26/03,1308
				9/26/03,2353
				9/29/03,1130

NOTE: Nitrate values are estimated; Analyzed out of holding time.

10/9/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 3rd Quarter Groundwaters  
Description: Twenty three water samples received 9/25/03

**ANALYTICAL RESULTS**

		K309698	K309699	K309700	K309701
	Lab Number:	K309698	K309699	K309700	K309701
	Sample ID:	EDCW 15	EDCW 14	EDCW 17	EDCW 13
	Date/Time Collected:	9/23/03,4:40	9/23/03,4:55	9/23/03,4:15	9/24/03,9:10
<b>Wet Chemistry</b>					
Ammonia-N	mg/L	< 0.5	< 0.5	< 0.5	0.71
Date/Time Analyzed		9/26/03,0730	9/26/03,0730	9/29/03,1000	9/29/03,1000
TDS	mg/L	180	700	400	920
Date/Time Analyzed		9/26/03,1115	9/26/03,1115	9/26/03,1115	9/26/03,1115
<b>Anions</b>					
Nitrate-N	mg/L	9.62	20.3	64.3	< 0.5
Sulfate	mg/L	11.8	275	6.98	458
Date/Time Analyzed		9/26/03,1324	9/26/03,1341	9/26/03,1430	9/26/03,1447
			9/27/03,0010	9/27/03,0026	9/29/03,1147
		K309702	K309703	K309704	K309705
	Lab Number:	K309702	K309703	K309704	K309705
	Sample ID:	EDCW 4	EDCW 4 DUP	EDCW 3	EDCW 2
	Date/Time Collected:	9/24/03,1:20	9/24/03,1:20	9/24/03,11:50	9/24/03,11:30
<b>Wet Chemistry</b>					
Ammonia-N	mg/L	< 0.5	< 0.5	< 0.5	< 0.5
Date/Time Analyzed		9/29/03,1000	9/29/03,1000	9/29/03,1000	9/29/03,1000
TDS	mg/L	5200	5200	250	380
Date/Time Analyzed		9/26/03,1115	9/26/03,1115	9/26/03,1115	9/26/03,1115
<b>Anions</b>					
Nitrate-N	mg/L	2.42	2.31	< 0.5	< 0.5
Sulfate	mg/L	989	952	27.7	24.9
Date/Time Analyzed		9/26/03,1503	9/26/03,1520	9/26/03,1537	9/26/03,1553
		9/27/03,0133	9/27/03,0149		

NOTE: Nitrate values are estimated; Analyzed out of holding time.

10/9/03

**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

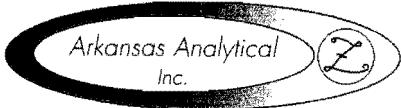
**Re: 3rd Quarter Groundwaters**

**Description: Twenty three water samples received 9/25/03**

**ANALYTICAL RESULTS**

Lab Number:	K309706	K309707	K309708	K309709	
Sample ID:	EDCW 1	EDCW 7	EDCW 6	EDCW 5	
Date/Time Collected:	9/24/03,11:10	9/24/03,10:50	9/24/03,10:35	9/24/03,10:20	
<b>Wet Chemistry</b>					
Ammonia-N Date/Time Analyzed	mg/L 9/29/03,1000	< 0.5 9/29/03,1000	116 9/29/03,1000	4.88 9/29/03,1000	< 0.5 9/29/03,1000
TDS Date/Time Analyzed	mg/L 9/29/03,1600	68 9/29/03,1600	1700 9/29/03,1600	5100 9/29/03,1600	950 9/29/03,1600
<b>Anions</b>					
Nitrate-N Date/Time Analyzed	mg/L 9/26/03,1610	3.18 9/26/03,1626	953 9/26/03,1643	857 9/26/03,1454	3.53 9/26/03,1659
Sulfate Date/Time Analyzed	mg/L 9/27/03,0206	6.52 9/27/03,0206	341 9/29/03,1203	9.35 9/29/03,1451	560 9/29/03,1451
Lab Number:	K309710	K309711	K309712		
Sample ID:	EDCW 18	EDCW 12	Field Blank		
Date/Time Collected:	9/24/03,9:55	9/24/03,9:35	9/24/03,1:45		
<b>Wet Chemistry</b>					
Ammonia-N Date/Time Analyzed	mg/L 9/29/03,1300	5.79 9/29/03,1300	1.43 9/29/03,1300	< 0.5 9/29/03,1300	
TDS Date/Time Analyzed	mg/L 9/29/03,1600	590 9/29/03,1600	440 9/29/03,1600	11 9/29/03,1600	
<b>Anions</b>					
Nitrate-N Date/Time Analyzed	mg/L 9/26/03,1749	< 0.5 3.81	< 0.5 26.0	< 0.5 < 0.5	
Sulfate Date/Time Analyzed	mg/L 9/26/03,1806	9/26/03,1822			

NOTE: Nitrate values are estimated; Analyzed out of holding time.



10/9/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 3rd Quarter Groundwaters  
Description: Twenty three water samples received 9/25/03

**ANALYTICAL RESULTS**

Lab Number:	K309690	K309691	K309692	
Sample ID:	Field Blank	Trip Blank	EDCW 11	Date/Time Analyzed
Date/Time Collected:	9/23/03,2:00	9/3/03	9/23/03,4:05	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 9/26/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015 9/26/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 10/1/03,1400
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 10/1/03,1400
Lab Number:	K309693	K309694	K309695	
Sample ID:	EDCW 8	EDCW 8 DUP	EDCW 9	Date/Time Analyzed
Date/Time Collected:	9/23/03,3:20	9/23/03,3:20	9/23/03,3:40	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 9/26/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015 9/26/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 10/1/03,1400
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 10/1/03,1400
Lab Number:	K309696	K309697	K309698	
Sample ID:	EDCW 10	EDCW 16	EDCW 15	Date/Time Analyzed
Date/Time Collected:	9/23/03,3:50	9/23/03,4:25	9/23/03,4:40	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	< 0.02 9/26/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015 9/26/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02 10/1/03,1400
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015 10/1/03,1400

NOTE: Nitrate values are estimated; Analyzed out of holding time.

10/9/03

**EI Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**EI Dorado, AR 71731**  
**Attn: Wes Morgan**

**Re: 3rd Quarter Groundwaters**

**Description: Twenty three water samples received 9/25/03**

**ANALYTICAL RESULTS**

Lab Number:	K309699	K309700	K309701	
Sample ID:	EDCW 14	EDCW 17	EDCW 13	Date/Time
Date/Time Collected:	9/23/03,4:55	9/23/03,4:15	9/24/03,9:10	Analyzed

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	9/26/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	9/26/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	10/1/03,1400
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	10/1/03,1400

Lab Number:	K309702	K309703	K309704	
Sample ID:	EDCW 4	EDCW 4 DUP	EDCW 3	Date/Time
Date/Time Collected:	9/24/03,1:20	9/24/03,1:20	9/24/03,11:50	Analyzed

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	9/26/03,1400
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	9/26/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	10/1/03,1400
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	10/1/03,1400

Lab Number:	K309705	K309706	K309707	
Sample ID:	EDCW 2	EDCW 1	EDCW 7	Date/Time
Date/Time Collected:	9/24/03,11:30	9/24/03,11:10	9/24/03,10:50	Analyzed

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	9/26/03,1400
Total Lead	mg/L	< 0.015	< 0.015	0.020	9/26/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	10/1/03,1400
Dissolved Lead	mg/L	< 0.015	< 0.015	0.018	10/1/03,1400

NOTE: Nitrate values are estimated; Analyzed out of holding time.



10/9/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 3rd Quarter Groundwaters  
Description: Twenty three water samples received 9/25/03

**ANALYTICAL RESULTS**

Lab Number:	K309708	K309709	K309710	Date/Time
Sample ID:	EDCW 6	EDCW 5	EDCW 18	Analyzed
Date/Time Collected:	9/24/03,10:35	9/24/03,10:20	9/24/03,9:55	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	0.036      9/26/03,1400
Total Lead	mg/L	< 0.015	< 0.015	0.025      9/26/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	0.026      10/1/03,1400
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015      10/1/03,1400
Lab Number:	K309711	K309712	Date/Time	
Sample ID:	EDCW 12	Field Blank	Date/Time	
Date/Time Collected:	9/24/03,9:35	9/24/03,1:45	Analyzed	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	9/26/03,1400
Total Lead	mg/L	< 0.015	< 0.015	9/26/03,1400
Dissolved Chromium	mg/L	< 0.02	< 0.02	10/1/03,1400
Dissolved Lead	mg/L	< 0.015	< 0.015	10/1/03,1400

NOTE: Nitrate values are estimated; Analyzed out of holding time.

10/9/03

**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

**Re: 3rd Quarter Groundwaters**

**Description: Twenty three water samples received 9/25/03**

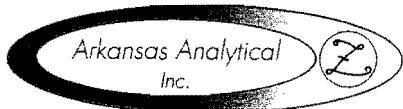
**QUALITY CONTROL RESULTS**

		Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
<b>Wet Chemistry</b>						
<b>Batch Number:</b> K3047	<b>mg/L</b>					
Ammonia-N	< 0.5		2.83	102	106	EPA 350.3
<b>Batch Number:</b> K3048	<b>mg/L</b>					
Ammonia-N	< 0.5		0.00	102	103	EPA 350.3
<b>Batch Number:</b> 0925-1	<b>mg/L</b>					
TDS	< 1.0		2.01	NA	94.6	EPA 160.1
<b>Batch Number:</b> 0929-1	<b>mg/L</b>					
TDS	< 1.0		6.47	NA	102	EPA 160.1
<b>Anions</b>						
<b>Batch Number:</b> K3127	<b>mg/L</b>					
Nitrate-N	< 0.5		0.399	90.8	100	EPA 300.0
Sulfate	< 0.5		0.399	104	100	EPA 300.0
<b>Batch Number:</b> K3128	<b>mg/L</b>					
Nitrate-N	< 0.5		0.694	92.0	101	EPA 300.0
Sulfate	< 0.5		0.693	92.0	101	EPA 300.0
<b>Batch Number:</b> K3129	<b>mg/L</b>					
Nitrate-N	< 0.5		0.196	99.4	102	EPA 300.0
Sulfate	< 0.5		0.392	95.2	102	EPA 300.0

NA means not analyzed.

Methods are from EPA 600/4-79-020, Revised March, 1983.

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



10/9/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 3rd Quarter Groundwaters

Description: Twenty three water samples received 9/25/03

**QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
<b>Metals</b>					
Batch Number: 0926WEDC1	mg/L				
Chromium	< 0.02	1.24/0.419	101	102	EPA 200.7
Lead	< 0.015	0.916/0.647	104	105	EPA 200.7
Batch Number: 0926WEDC2	mg/L				
Chromium	< 0.02	0.137/0.088	84.4	103	EPA 200.7
Lead	< 0.015	1.55/0.691	83.6	105	EPA 200.7
Batch Number: 1001WDISSEDC1	mg/L				
Dissolved Chromium	< 0.02	2.15/0.230	96.2	98.2	EPA 200.7
Dissolved Lead	< 0.015	3.00/0.406	98.3	99.9	EPA 200.7
Batch Number: 1001WDISSEDC2	mg/L				
Dissolved Chromium	< 0.02	1.25/1.59	80.8	98.3	EPA 200.7
Dissolved Lead	< 0.015	1.65/1.72	79.2	100	EPA 200.7

Methods are from EPA 600/4-79-020, Revised March, 1983.

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

Ammonia-N analyzed by: Teresa Canfield, Amy Daniel, Melissa Green  
Teresa Canfield, Amy Daniel, Melissa Green

TDS analyzed by: Teresa Canfield, Amy Daniel, Andrea Fox  
Teresa Canfield, Amy Daniel, Andrea Fox

Anions analyzed by: Tracy Bounds, Jeff Curry, Mark Wilson  
Tracy Bounds, Jeff Curry, Mark Wilson

Metals analyzed by: Wendy Harston, Joel Ledbetter  
Wendy Harston, Joel Ledbetter

## CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		Billing	Project Description		Turnaround Time (CIRCLE ONE)	Preservation Codes:		
El Dorado Chemical Inc.		El Dorado Chemical Inc.			24 hour	1. Cool, 4 degrees Centigrade	4. Thiosulfate for dechlorination	
4500 Northwest Ave.		P.O. Box 231	Reporting Information		48 hour	2. Sulfuric Acid, pH <2	5. Hydrochloric Acid for VOA	
El Dorado, AR 71731		El Dorado, AR 71731	Telephone: 1-870-863-1484		routine	3. Nitric Acid, pH <2	6. Sodium Hydroxide, pH >12	
			FAX: 1-870-863-1499					
Attn:			Bill to/P.O.		Preservative Code:	TEST PARAMETERS		Bottle type code G=glass;P=HDPE V=septum;A=amber
					Bottle Type			
<i>R. Durham</i>								
Samplers:(Signature/s)								
<i>R. Durham</i>								
Samplers:(Printed)								
Field Number	Sample Collection Date/s		Sample	SAMPLE		Arkansas Analytical Lab #		
Number	Date/s	Time/s	Grab	Comp	# of Containers	Matrix	IDENTIFICATION/ DESCRIPTION	
1	9-23-03	2:00			4		FIELD BLANK	K309690
2	9-03-03				4		TRIP BLANK	691
3	9-23-03	4:05			4		EDCW 11	692
4		3:20			4		EDCW 8	693
5		3:20			4		EDCW 8 DUP	694
6		3:40			4		EDCW 9	695
7		3:50			4		EDCW 10	696
8		4:25			4		EDCW 16	697
9		4:40			4		EDCW 15	698
10		4:55			4		EDCW 14	699
11		4:15			4		EDCW 17	700
12	9-24-03	9:10			4		EDCW 13	701
1 Relinquished by:(Signature)	Date/Time	1.Received by/(Signature)	For completion by laboratory				REMARKS	
<i>R. Durham</i>	9-24-03 2:00 PM	<i>Wright</i> 9-25-03 11 AM	Condition of samples: A. Containers Correct?: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no B. Preservation Correct?: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no C. Seals Intact?: <input type="checkbox"/> NA				Parameters filled out by lab - MLS * EDCW11 was labeled on bottle as EDCW12.	
2.Relinquished by:(Signature)	Date/Time	2.Received by laboratory :(Signature)						
	9-25-03 11 AM	<i>Sydney James</i>						

pg. 2 of 2

## CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		Billing	Project Description		Turnaround Time (CIRCLE ONE)	Preservation Codes:			
El Dorado Chemical Inc.	El Dorado Chemical Inc.		Reporting Information				1. Cool, 4 degrees Centigrade	4. Thiosulfate for dechlorination	
4500 Northwest Ave.	P.O. Box 231		Telephone: 1-870-863-1484		2. Sulfuric Acid, pH <2	5. Hydrochloric Acid for VOA			
El Dorado, AR 71731	El Dorado, AR 71731		FAX: 1-870-863-1499		3. Nitric Acid, pH <2	6. Sodium Hydroxide, pH >12			
Attn:		Bill to/P.O.	TEST PARAMETERS		Bottle type code G=glass;P=HDPE V=septum;A=amber				
			Preservative Code:	Bottle Type					
<i>R. Durham</i>		<i>R. DURHAM</i>							
Samplers:(Signature/s)		Samplers:(Printed)				Arkansas			
Field Number	Sample Collection			# of Containers	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION		Cr, Pb, NO <sub>3</sub> , SO <sub>4</sub> , Cd, TDS	Lab #
	Date/s	Time/s	Grab			Comp			
13	9-24-03	11:20	✓	4		EDCW 4			K309702 ✓
14		1:20	✓	4		EDCW 4 DUP			703 ✓
15		11:50	✓	4		EDCW 3			704 ✓
16		11:30	✓	4		EDCW 2			705 ✓
17		11:10	✓	4		EDCW 1			706 ✓
18		10:50	✓	4		EDCW 7			707 ✓
19		10:35	✓	4		EDCW 6			708 ✓
20		10:20	✓	4		EDCW 5			709 ✓
21		9:55	✓	4		EDCW 18			710 ✓
22		9:35	✓	4		EDCW 12			711 ✓
23		1:45	✓	4		FIELD BLANK	† ↓ ↓ ↓		712 ✓
1.Relinquished by:(Signature)	Date/Time	1.Received by:(Signature)	For completion by laboratory				REMARKS		
<i>R. Durham</i>	9-24-03 2:00 PM	<i>Wolf</i> 9-25/03 11 AM	Condition of samples: A. Containers Correct?:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Parameters filled out by lab.-ML			
2.Relinquished by:(Signature)	Date/Time	2.Received by laboratory :(Signature)	B. Preservation Correct?:	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
	9-25/03 10 AM 11:19	<i>Sydney James</i>	C. Seals Intact?:	<input type="checkbox"/> NA	<input type="checkbox"/>				

12/10/03

Arkansas Analytical  
Inc.



**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

11701 I-30 Bldg. 1, Ste. 115 • Little Rock, AR 72209  
 501.455.3233 • Fax 501.455.6118

Re: 4th Quarter Groundwaters

Description: Twenty three water samples received 11/20/03

**ANALYTICAL RESULTS**

Lab Number:	K311508	K311509	K311510	K311511
Sample ID:	Field Blank	Field Blank	EDCW 9	EDCW 5
Date/Time Collected:	11/19/03,3:15	11/19/03,10:00	11/19/03,2:45	11/19/03,3:00
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	< 0.5	< 0.5	< 0.5
Date/Time Analyzed		11/24/03,0900	11/24/03,0900	11/24/03,0900
TDS	mg/L	< 1.0	< 1.0	1600
Date/Time Analyzed		11/24/03,1600	11/24/03,1600	11/24/03,1600
<b>Anions</b>				
Nitrate-N	mg/L	< 0.5	< 0.5	28.0
Sulfate	mg/L	< 0.5	< 0.5	532
Date/Time Analyzed		11/20/03,2149	11/20/03,2203	11/20/03,2218
				11/20/03,2232
				11/21/03,0914
Lab Number:	K311512	K311513	K311514	K311515
Sample ID:	EDCW 8	EDCW 7	EDCW 12	EDCW 18
Date/Time Collected:	11/19/03,2:30	11/19/03,2:15	11/19/03,2:00	11/19/03,1:45
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	206	124	1.83
Date/Time Analyzed		11/24/03,0900	11/24/03,0900	11/24/03,0900
TDS	mg/L	3200	1500	460
Date/Time Analyzed		11/24/03,1600	11/24/03,1600	11/24/03,1600
<b>Anions</b>				
Nitrate-N	mg/L	464	152	< 0.5
Sulfate	mg/L	738	476	30.6
Date/Time Analyzed		11/20/03,2247	11/20/03,2302	11/20/03,2316
				11/20/03,2331
				11/21/03,0929

12/10/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 4th Quarter Groundwaters

Description: Twenty three water samples received 11/20/03

**ANALYTICAL RESULTS**

		K311516	K311517	K311518	K311519
	Lab Number:	K311516	K311517	K311518	K311519
	Sample ID:	EDCW 6	EDCW 6 Dup	EDCW 4	EDCW 3
<b>Date/Time Collected:</b>					
		11/19/03,12:15	11/19/03,12:15	11/19/03,12:00	11/19/03,11:45
<b>Wet Chemistry</b>					
Ammonia-N	mg/L	5.72	5.60	< 0.5	< 0.5
Date/Time Analyzed		11/24/03,0900	11/24/03,0900	11/24/03,0900	11/24/03,0900
TDS	mg/L	4700	4900	5300	220
Date/Time Analyzed		11/24/03,1600	11/24/03,1600	11/24/03,1600	11/24/03,1600
<b>Anions</b>					
Nitrate-N	mg/L	865	866	2.05	< 0.5
Sulfate	mg/L	10.7	9.21	848	23.5
Date/Time Analyzed		11/21/03,0015	11/21/03,0029	11/21/03,0044	11/21/03,0058
		11/21/03,0943	11/21/03,0958	11/21/03,1013	
		K311520	K311521	K311522	K311523
	Lab Number:	K311520	K311521	K311522	K311523
	Sample ID:	EDCW 2	EDCW 1	EDCW 10	EDCW 11
<b>Date/Time Collected:</b>					
		11/19/03,11:30	11/19/03,11:15	11/19/03,11:00	11/19/03,10:45
<b>Wet Chemistry</b>					
Ammonia-N	mg/L	< 0.5	< 0.5	< 0.5	12.0
Date/Time Analyzed		11/24/03,0900	12/1/03,0900	12/1/03,0900	12/1/03,0900
TDS	mg/L	360	64	970	570
Date/Time Analyzed		11/24/03,1600	11/24/03,1600	11/24/03,1600	11/25/03,1645
<b>Anions</b>					
Nitrate-N	mg/L	< 0.5	1.47	119	6.26
Sulfate	mg/L	28.2	5.85	104	289
Date/Time Analyzed		11/21/03,0113	11/21/03,0127	11/21/03,0142	11/21/03,0157
				11/21/03,1027	11/21/03,1042

12/10/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 4th Quarter Groundwaters

Description: Twenty three water samples received 11/20/03

**ANALYTICAL RESULTS**

Lab Number:	K311524	K311525	K311526	K311527
Sample ID:	EDCW 11 Dup	EDCW 13	EDCW 14	EDCW 15
Date/Time Collected:	11/19/03,10:45	11/19/03,10:30	11/19/03,10:15	11/19/03,10:00
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	14.3	< 0.5	< 0.5
Date/Time Analyzed		12/1/03,0900	12/1/03,0900	12/1/03,0900
TDS	mg/L	340	680	740
Date/Time Analyzed		11/25/03,1645	11/25/03,1645	11/25/03,1645
<b>Anions</b>				
Nitrate-N	mg/L	6.85	0.62	16.1
Sulfate	mg/L	276	310	227
Date/Time Analyzed		11/21/03,0211	11/21/03,0226	11/21/03,0353
		11/21/03,1056	11/21/03,1111	11/21/03,1126
Lab Number:	K311528	K311529	K311530	
Sample ID:	EDCW 16	EDCW 17	Trip Blank	
Date/Time Collected:	11/19/03,9:45	11/19/03,9:30	11/3/03,1100	
<b>Wet Chemistry</b>				
Ammonia-N	mg/L	8.61	0.55	< 0.5
Date/Time Analyzed		12/1/03,0900	12/1/03,0900	12/1/03,0900
TDS	mg/L	230	530	44
Date/Time Analyzed		11/25/03,1645	11/25/03,1645	11/25/03,1645
<b>Anions</b>				
Nitrate-N	mg/L	44.3	77.3	< 0.5
Sulfate	mg/L	9.78	11.8	< 0.5
Date/Time Analyzed		11/21/03,0423	11/21/03,0437	11/21/03,0452
		11/21/03,1154	11/21/03,1208	

12/10/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 4th Quarter Groundwaters

Description: Twenty three water samples received 11/20/03

**ANALYTICAL RESULTS**

Lab Number:	K311508	K311509	K311510	
Sample ID:	Field Blank	Field Blank	EDCW 9	Date/Time
Date/Time Collected:	11/19/03,3:15	11/19/03,10:00	11/19/03,2:45	Analyzed

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	11/20/03,1130
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	11/20/03,1130
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	12/2/03,1300
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	12/2/03,1300

Lab Number:	K311511	K311512	K311513	
Sample ID:	EDCW 5	EDCW 8	EDCW 7	Date/Time
Date/Time Collected:	11/19/03,3:00	11/19/03,2:30	11/19/03,2:15	Analyzed

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	11/20/03,1130
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	11/20/03,1130
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	12/2/03,1300
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	12/2/03,1300

Lab Number:	K311514	K311515	K311516	
Sample ID:	EDCW 12	EDCW 18	EDCW 6	Date/Time
Date/Time Collected:	11/19/03,2:00	11/19/03,1:45	11/19/03,12:15	Analyzed

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	11/20/03,1130
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	11/20/03,1130
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	12/2/03,1300
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	12/2/03,1300



12/10/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 4th Quarter Groundwaters

Description: Twenty three water samples received 11/20/03

**ANALYTICAL RESULTS**

Lab Number:	K311517	K311518	K311519	Date/Time
Sample ID:	EDCW 6 Dup	EDCW 4	EDCW 3	Analyzed
Date/Time Collected:	11/19/03,12:15	11/19/03,12:00	11/19/03,11:45	

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	11/20/03,1500
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	11/20/03,1500
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	12/2/03,1300
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	12/2/03,1300

Lab Number:	K311520	K311521	K311522	Date/Time
Sample ID:	EDCW 2	EDCW 1	EDCW 10	Analyzed
Date/Time Collected:	11/19/03,11:30	11/19/03,11:15	11/19/03,11:00	

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	11/20/03,1500
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	11/20/03,1500
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	12/2/03,1300
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	12/2/03,1300

Lab Number:	K311523	K311524	K311525	Date/Time
Sample ID:	EDCW 11	EDCW 11 Dup	EDCW 13	Analyzed
Date/Time Collected:	11/19/03,10:45	11/19/03,10:45	11/19/03,10:30	

**Metals**

Total Chromium	mg/L	< 0.02	< 0.02	< 0.02	11/20/03,1500
Total Lead	mg/L	< 0.015	< 0.015	< 0.015	11/20/03,1500
Dissolved Chromium	mg/L	< 0.02	< 0.02	< 0.02	12/2/03,1300
Dissolved Lead	mg/L	< 0.015	< 0.015	< 0.015	12/2/03,1300



12/10/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 4th Quarter Groundwaters

Description: Twenty three water samples received 11/20/03

**ANALYTICAL RESULTS**

Lab Number:	K311526	K311527	K311528	Date/Time Analyzed
Sample ID:	EDCW 14	EDCW 15	EDCW 16	
Date/Time Collected:	11/19/03,10:15	11/19/03,10:00	11/19/03,9:45	
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	11/20/03,1500
Total Lead	mg/L	< 0.015	< 0.015	11/20/03,1500
Dissolved Chromium	mg/L	< 0.02	< 0.02	12/2/03,1300
Dissolved Lead	mg/L	< 0.015	< 0.015	12/2/03,1300
Lab Number:	K311529	K311530	Date/Time Analyzed	
Sample ID:	EDCW 17	Trip Blank		
Date/Time Collected:	11/19/03,9:30	11/3/03,1100		
<b>Metals</b>				
Total Chromium	mg/L	< 0.02	< 0.02	11/20/03,1500
Total Lead	mg/L	< 0.015	< 0.015	11/20/03,1500
Dissolved Chromium	mg/L	< 0.02	< 0.02	12/2/03,1300
Dissolved Lead	mg/L	< 0.015	< 0.015	12/2/03,1300

**El Dorado Chemical Inc.**  
**4500 Northwest Avenue**  
**El Dorado, AR 71731**  
**Attn: Wes Morgan**

**Re: 4th Quarter Groundwaters**  
**Description: Twenty three water samples received 11/20/03**

**QUALITY CONTROL RESULTS**

		Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
<b>Wet Chemistry</b>						
<b>Batch Number: K3066</b>	<b>mg/L</b>					
Ammonia-N	< 0.5	0.926		118	108	EPA 350.3
<b>Batch Number: K3067</b>	<b>mg/L</b>					
Ammonia-N	< 0.5	0.935		106	107	EPA 350.3
<b>Batch Number: 1124-1</b>	<b>mg/L</b>					
TDS	< 1.0	0.962		NA	104	EPA 160.1
<b>Batch Number: 1125-1</b>	<b>mg/L</b>					
TDS	< 1.0	0.00		NA	110	EPA 160.1
<b>Anions</b>						
<b>Batch Number: K3156</b>	<b>mg/L</b>					
Nitrate-N	< 0.5	0.196		98.9	102	EPA 300.0
Sulfate	< 0.5	0.704		97.6	99.4	EPA 300.0
<b>Batch Number: K3157</b>	<b>mg/L</b>					
Nitrate-N	< 0.5	0.00		94.6	101	EPA 300.0
Sulfate	< 0.5	0.102		100	98.2	EPA 300.0

NA means not analyzed.

Methods are from EPA 600/4-79-020, Revised March, 1983.

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



12/10/03

El Dorado Chemical Inc.  
4500 Northwest Avenue  
El Dorado, AR 71731  
Attn: Wes Morgan

Re: 4th Quarter Groundwaters  
Description: Twenty three water samples received 11/20/03

**QUALITY CONTROL RESULTS**

		Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
	Blank				
<b>Metals</b>					
Batch Number: 1120WEDC1	mg/L				
Chromium	< 0.02	0.540/1.80	90.0	99.8	EPA 200.7
Lead	< 0.015	1.32/1.28	88.4	99.6	EPA 200.7
Batch Number: 1120WEDC2	mg/L				
Chromium	< 0.02	0.416/0.840	85.1	107	EPA 200.7
Lead	< 0.015	2.99/0.946	83.1	110	EPA 200.7
Batch Number: 1120W	mg/L				
Dissolved Chromium	< 0.02	0.182/2.26	95.9	103	EPA 200.7
Dissolved Lead	< 0.015	0.983/2.45	94.6	104	EPA 200.7
Batch Number: 1125EDCW2	mg/L				
Dissolved Chromium	< 0.02	2.13/0.809	89.0	106	EPA 200.7
Dissolved Lead	< 0.015	2.50/0.187	90.4	111	EPA 200.7

Methods are from EPA 600/4-79-020, Revised March, 1983.

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

Ammonia-N analyzed by: Amy Daniel  
Amy Daniel

TDS analyzed by: Teresa Canfield  
Teresa Canfield

Anions analyzed by: Tracy Bounds, Mark Wilson  
Tracy Bounds, Mark Wilson

Metals analyzed by: Wendy Harston, Joel Ledbetter  
Wendy Harston, Joel Ledbetter



## **CHAIN OF CUSTODY RECORD**

CLIENT INFORMATION		Billing	Project Description		Turnaround Time (CIRCLE ONE)	Preservation Codes:									
El Dorado Chemical Inc.		El Dorado Chemical Inc.	Groundwaters			1. Cool, 4 degrees Centigrade	4. Thiosulfate for dechlorination								
4500 Northwest Ave.		P.O. Box 231	Reporting Information			2. Sulfuric Acid, pH <2	5. Hydrochloric Acid for VOA								
El Dorado, AR 71731		El Dorado, AR 71731	Telephone: 1-870-863-1484			3. Nitric Acid, pH <2	6. Sodium Hydroxide, pH >12								
			FAX: 1-870-863-1499												
Attn:			Bill to/P.O. #:		Preservative Code:	1,2	1,3	1	-	-	-				
					Bottle Type	P	P	P							
<i>R. Durham</i>															
Samplers:(Signature/s)															
<i>R. Durham</i>															
Samplers:(Printed)															
Field Number	Sample Collection			Grab	Comp	# of Containers	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION				Ammonia	Cr, Pb	TDS, Nitrate, Sulfate, d Cr, d Pb	Arkansas Analytical Lab #
	Date/s	Time/s													
1	11-19-03	3:15				3		FIELD BURNK	✓						K311509
2	"	10:00				3		FIELD BLANK	✓						509
3		2:45	✓			3		EDCW -9	✓						510
4		3:00	✓			3		EDCW -5	✓						511
5		2:30	✓			3		EDCW -8	✓						512
6		2:15	✓			3		EDCW -7	✓						513
7		2:00	✓			3		EDCW -12	✓						514
8		1:45	✓			3		EDCW -18	✓						515
9		12:15	✓			3		EDCW -6	✓						516
10		12:10	✓			3		EDCW -6 DUP	✓						517
11		12:00	✓			3		EDCW -4	✓						518
12		11:45	✓			3		EDCW -3	✓						519
1 Relinquished by:(Signature)		Date/Time	1 Received by:(Signature)		For completion by laboratory						REMARKS				
<i>R. Durham</i>		11-19-03 3:45 PM	<i>Pauline Chesser</i>		Condition of samples: A. Containers Correct?: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no B. Preservation Correct?: <input checked="" type="checkbox"/> C. Seals Intact?: NA						Lab Number K311509 received out of holding time for Nitrate analysis.				
2 Relinquished by:(Signature)		Date/Time	2 Received by laboratory :(Signature)												
<i>Velocity</i>		11-20-03, 1035	<i>Sydney James</i>												

# CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		Billing	Project Description		Turnaround Time (CIRCLE ONE)	Preservation Codes:						
El Dorado Chemical Inc.	El Dorado Chemical Inc.		Groundwaters				1. Cool, 4 degrees Centigrade	4. Thiosulfate for dechlorination				
4500 Northwest Ave.	P.O. Box 231		Reporting Information		24 hour	2. Sulfuric Acid, pH <2	5. Hydrochloric Acid for VOA					
El Dorado, AR 71731	El Dorado, AR 71731		Telephone: 1-870-863-1484	FAX: 1-870-863-1499	48 hour	3. Nitric Acid, pH <2	6. Sodium Hydroxide, pH >12					
Attn:		Bill to/P.O. #:			routine	TEST PARAMETERS				Bottle type code G=glass;P=HDPE V=septum;A=amber		
					Preservative Code:	1,2 P	1,3 P	1 P	-			
					Bottle Type							
<i>R. Durham</i> Samplers:(Signature/s)		<i>R. DURHAM</i> Samplers:(Printed)				Ammonia	Cr, Pb	TDS, Nitrate, Sulfate, dCr, dPb			Arkansas	
											Analytical	
											Lab #	
Field Number	Sample Collection			# of Containers	Sample Matrix	SAMPLE IDENTIFICATION/ DESCRIPTION						
13	11-19-03	11:30	✓	3		EDCW - 2 ✓						
14		11:15	✓	3		EDCW - 1 ✓						
15		11:00	✓	3		EDCW - 10 ✓						
16		10:45	✓	3		EDCW - 11 ✓						
17		10:45	✓	3		EDCW - 11 DUP ✓						
18		10:30	✓	3		EDCW - 13 ✓						
19		10:15	✓	3		EDCW - 14 ✓						
20		10:00	✓	3		EDCW - 15 ✓						
21		9:45	✓	3		EDCW - 16 ✓						
22		9:30	✓	3		EDCW - 17 ✓						
23	11-30-03	11:00		3		TRIP BLANK ✓						
1 Relinquished by:(Signature)		Date/Time	1.Received by:(Signature)		For completion by laboratory				REMARKS			
<i>R. Durham</i>		11-19-03 3:45 PM	<i>Paul McElroy</i>		Condition of samples: A. Containers Correct: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no				lab numbers K311525-30			
2.Relinquished by:(Signature)		Date/Time	2.Received by laboratory :(Signature)		B. Preservation Correct: <input checked="" type="checkbox"/> yes <input type="checkbox"/> no				received out of holding time for Nitrate analysis ⑤			
<i>Velvety</i>		11-20-03 1035	<i>Sydney James</i>		C. Seals Intact: NA <input type="checkbox"/>							



10mg/l

#### **El Dorado Groundwater Data**

### Nitrate (ppm)

Well No.	Date 3/14/1996	Date 5/29/2001	Date 10/29/2001	Date 6/3/2002	Date 10/30/2002	Date 12/10/2002	Date 5/20/2003	Date 7/24/2003	Date 9/23/2003	Date 11/19/2003	Date 1/28/2004	Date 3/16/2004	Date 5/18/2004
MW-1	1.7	1.83	2.74	2.01	1.56	1.8	2.4	2.55	3.18	1.47	1.6	2.73	4.79
MW-2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	1.3	<0.5	<0.5	<0.5	0.62	2.4	<0.5	<0.5	2.42	2.05	6.39	<0.5	1.45
MW-5	4.4	3.54	3.27	3.35	3.66	3.26	3.60	3.47	3.53	2.4	3.19	3.6	3.41
MW-6	51.1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MW-7	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MW-8	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MW-9	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MW-10	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MW-11	22.1	7.99	21.9	6.46	9.22	6.12	6.02	6.68	4.24	6.26	6.72	9.63	[REDACTED]
MW-12	<0.2	<0.5	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-13	0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	<0.5	<0.5	<0.5
MW-14	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MW-15	[REDACTED]	40.1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MW-16	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MW-17	[REDACTED]	54.2	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MW-18	0.4	NS	<0.5	<0.5	<0.5	<0.5	<0.5	113	<0.5	<0.5	<0.5	<0.5	<0.5
MW-19													
MW-20													
MW-21												1.63	0.54
MW-22												0.53	0.66

El Dorado Groundwater Data

Ammonia (ppm)

Well No.	Date 3/14/1996	Date 5/29/2001	Date 10/29/2001	Date 6/3/2002	Date 10/30/2002	Date 12/10/2002	Date 5/20/2003	Date 7/24/2003	Date 9/23/2003	Date 11/19/2003	Date 1/28/2004	Date 3/16/2004	Date 5/18/2004
MW-1	NS	<0.5	<0.5	<0.5	0.66	<0.5	<0.5	<0.5	<0.5	<0.5	0.56	<0.5	<0.5
MW-2	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-3	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	NS	0.66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-5	NS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-6	NS	0.5	<0.5	<0.5	0.51	<0.5	0.5	1.09	4.88	5.72	12.3	13	21.4
MW-7	NS	184	<0.5	190	167	180	244	65.1	116	124	147	190	204
MW-8	NS	NS	0.94	551	406	220	214	179	157.5	206	45.7	88	120
MW-9	NS	<0.5	<0.5	<0.5	18.8	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-10	NS	<0.5	<0.5	<0.5	1.84	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-11	NS	4.21	<0.5	3.9	18	10.73	7.84	25.6	5.25	12	19.6	15	19.9
MW-12	NS	2.2	NS	<0.5	4.2	2.3	1.89	1.74	1.43	1.83	1.87	2.2	1.94
MW-13	NS	<0.5	<0.5	<0.5	1.28	<0.5	<0.5	<0.5	0.71	<0.5	<0.5	<0.5	<0.5
MW-14	NS	<0.5	<0.5	<0.5	5.32	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-15	NS	<0.5	<0.5	<0.5	1.16	0.5	<0.5	<0.5	<0.5	<0.5	3.96	<0.5	<0.5
MW-16	NS	4.61	<0.5	6.2	11.6	2.99	3.69	6.45	5.97	8.61	5.66	8.39	10.4
MW-17	NS	1.16	<0.5	<0.5	2.36	1.22	<0.5	0.58	<0.5	0.55	0.55	8.14	8.05
MW-18	NS	NS	<0.5	<0.5	0.43	<0.5	0.59	<0.5	5.79	<0.5	<0.5	<0.5	<0.5
MW-19											0.64	<0.5	<0.5
MW-20											<0.5	<0.5	<0.5
MW-21											<0.5	<0.5	<0.5
MW-22											0.61	<0.5	<0.5

**El Dorado Groundwater Data**

**Sulfate (ppm)**

Well No.	Date 3/14/1996	Date 5/29/2001	Date 10/29/2001	Date 6/3/2002	Date 10/30/2002	Date 12/10/2002	Date 5/20/2003	Date 7/24/2003	Date 9/23/2003	Date 11/19/2003	Date 1/28/2004	Date 3/16/2004	Date 5/18/2004
MW-1	4.1	3.67	3.34	4.66	4.63	6.73	3.79	5.05	6.52	5.85	6.19	4.22	6.57
MW-2	17	19.6	22.9	20	25.7	24	22.1	22.9	24.9	28.2	25.3	20.9	24
MW-3	10	10.6	22.5	11.4	21.6	16.4	12.5	11.8	27.7	23.5	26.9	11.2	9.75
MW-4	728	925	936	979	756	976	936	978	989	848	1040	919	1040
MW-5	441	657	526	650	582	489	654	546	560	416	476	472	455
MW-6	24	18.3	15.7	12.1	8.13	7.15	17	15	9.35	10.7	17.2	17.2	13.4
MW-7	380	316	325	363	345	275	298	378	341	476	644	496	524
MW-8	68.3	NS	81.1	77.8	151	46.2	209	904	870	738	854	805	789
MW-9	621	520	514	639	655	556	568	547	531	532	575	528	517
MW-10	89	100	134	84.9	140	52.2	96	108	127	104	129	128	139
MW-11	578	611	334	565	362	414	333	278	397	289	303	262	228
MW-12	9.6	13	NS	4.85	21.6	12.5	5.31	18.7	26	30.6	6.76	4.04	5.11
MW-13	809	538	606	372	538	598	697	358	458	310	656	550	296
MW-14	139	175	211	187	288	230	227	221	275	227	262	211	234
MW-15	4.4	7.8	10.2	11.1	9.22	10.8	13	12.8	11.8	12.6	18.6	13.9	15.2
MW-16	4.6	5.09	6.44	7.19	9.21	5.64	6.55	7.15	7.09	9.78	9.84	11.2	13.3
MW-17	145	87.1	11.5	8.04	9.53	28.2	17.1	9.31	6.98	11.8	42.8	64	60.1
MW-18	3.3	NS	3.74	8.38	3.22	5.01	7.08	115	3.81	9.68	5.41	7.01	5.63
MW-19											8.32	6.38	9.05
MW-20											11.4	15.9	10.6
MW-21											8.17	3.62	4.59
MW-22											6.62	2.88	3.74

**El Dorado Groundwater Data**

**TDS (ppm)**

Well No.	Date 3/14/1996	Date 5/29/2001	Date 10/29/2001	Date 6/3/2002	Date 10/30/2002	Date 12/10/2002	Date 5/20/2003	Date 7/24/2003	Date 9/23/2003	Date 11/19/2003	Date 1/28/2004	Date 3/16/2004	Date 5/18/2004
MW-1	NS	42	43	83	44	108	46	59	68	64	53	56	35
MW-2	NS	340	300	396	517	305	309	370	380	360	490	311	298
MW-3	NS	180	240	228	295	242	207	210	250	220	270	188	176
MW-4	NS	5100	5200	4862	4240	5360	4800	5300	5200	5300	5200	5204	5300
MW-5	NS	1000	980	934	929	901	845	950	950	780	740	780	860
MW-6	NS	2100	2700	290	3840	3360	4020	4600	5100	4700	5300	5106	5800
MW-7	NS	1300	1100	1324	1080	1316	1850	1400	1700	1500	1300	1280	1500
MW-8	NS	NS	5000	4246	4560	5120	4200	3700	3400	3200	1800	2221	2500
MW-9	NS	1600	2600	1597	1630	1680	1600	1500	1500	1600	1500	1524	1800
MW-10	NS	1300	1400	1122	968	1120	1140	1000	1000	970	1000	1078	1055
MW-11	NS	1100	610	897	625	809	576	540	660	570	520	511	452
MW-12	NS	330	330	510	382	424	307	380	440	460	320	252	360
MW-13	NS	1400	1300	718	1030	1320	1330	820	920	680	1100	1175	647
MW-14	NS	1000	790	675	669	709	865	750	700	740	710	792	784
MW-15	NS	140	110	100	120	120	66	100	180	100	81	97	83
MW-16	NS	1100	330	396	263	595	555	430	400	230	280	180	167
MW-17	NS	600	760	603	540	751	603	548	400	530	560	983	944
MW-18	NS	NS	300	796	258	495	786	2000	590	300	270	666	720
MW-19											1400	238	220
MW-20											730	186	140
MW-21											82	130	110
MW-22											540	<1.0	136

**El Dorado Groundwater Data**

**Total Chromium (ppm)**

Well No.	Date 3/14/1996	Date 5/29/2001	Date 10/29/2001	Date 6/3/2002	Date 10/30/2002	Date 12/10/2002	Date 5/20/2003	Date 7/24/2003	Date 9/23/2003	Date 11/19/2003	Date 1/28/2004	Date 3/16/2004	Date 5/18/2004
<b>MW-1</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-2</b>	0.022	0.032	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-3</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-4</b>	<0.005	<0.02	0.001	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-5</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-6</b>	<0.005	<0.02	0.001	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-7</b>	0.0073	<0.02	<0.04	0.0011	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-8</b>	<0.005	NS	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-9</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-10</b>	<0.005	0.001	0.001	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-11</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-12</b>	<0.005	<0.02	NS	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-13</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-14</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.022	<0.02	<0.02
<b>MW-15</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-16</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-17</b>	<0.005	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
<b>MW-18</b>	0.016	NS	0.001	0.015	<0.02	<0.02	<0.02	0.042	0.055	<0.02	<0.02	0.037	0.038
<b>MW-19</b>											0.077	<0.02	<0.02
<b>MW-20</b>											0.034	<0.02	<0.02
<b>MW-21</b>											0.037	0.028	0.027
<b>MW-22</b>											0.033	<0.02	<0.02

El Dorado Groundwater Data

Total Lead (ppm)

Well No.	Date 3/14/1996	Date 5/29/2001	Date 10/29/2001	Date 6/3/2002	Date 10/30/2002	Date 12/10/2002	Date 5/20/2003	Date 7/24/2003	Date 9/23/2003	Date 11/19/2003	Date 1/28/2004	Date 3/16/2004	Date 5/18/2004
MW-1	<0.0037	<0.04	<0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-2	<0.0111	<0.04	<0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-3	<0.0027	<0.04	<0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-4	<0.0022	<0.04	<0.04	<-0.02	<0.012	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-5	<-0.002	<-0.04	<-0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-6	<0.0026	<0.04	<0.03	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-7	<0.0037	<0.04	<-0.04	<0.021	<0.017	<-0.015	<0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-8	<0.0294	NS	<0.04	<-0.02	<-0.015	<-0.015	<0.019	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-9	<0.0031	<0.04	<0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-10	<0.0032	<0.04	<0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-11	<-0.002	<0.04	<0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-12	<-0.002	<0.04	NS	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-13	<-0.002	<0.04	<-0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-14	<-0.002	<0.04	<-0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-15	<-0.002	<0.04	<-0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-16	<0.0036	<0.04	<-0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-17	<-0.002	<0.04	<-0.04	<-0.02	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-18	<0.0031	NS	<-0.04	<0.015	<0.016	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015	<-0.015
MW-19											<0.122	<0.019	<-0.015
MW-20											<0.024	<-0.015	<-0.015
MW-21											<0.105	<-0.015	<0.029
MW-22											<0.021	<-0.015	<-0.015