



ARKANSAS  
Department of Environmental Quality

June 12, 2007

Mr. John Carver  
Vice President Safety & Environmental Compliance  
El Dorado Chemical Company  
P. O. Box 1373  
Oklahoma City, OK 73101

RE: El Dorado Chemical Company  
AFIN-70-00040  
Ground Water Monitoring Program – Sampling Modification Request  
2006 Annual Ground Water Report

Dear Mr. Carver:

The Department has reviewed both the Ground Water Monitoring Program Modification request and the 2006 Annual Ground Water Report. Comments regarding both documents are described in the paragraphs below.

Ground Water Monitoring Program – Sampling Modification Request

The Department received your request dated April 25, 2007 to modify the sampling frequency of parameters during the ground water monitoring events at the El Dorado Chemical Company (EDCC). In accordance with condition no. 3 of the Order and Agreement in the CAO LIS 06-153, modifications can be made to the semi-annual ground water monitoring program based upon data collected at the site. Although we discussed the modifications by phone and e-mail on May 18, 2007 prior to the next scheduled sampling event for the week of May 21<sup>st</sup>, this letter serves as the formal communication for these modifications.

After a review of your request, the 2006 Annual Ground Water Report and the October 2005 sampling program changes, these modifications to the ground water sampling program are indicated in the table below. This sampling schedule was selected based on background well data, wells with historically low levels since monitoring began in 2001, wells with historically higher levels of nitrates, ammonia, sulfates and/or TDS, and the two recovery wells installed in June 2006. Ground Water monitor wells MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10 and MW-11 are located in the vicinity of the recovery wells and data from the ground water monitoring wells will provide data to determine the effectiveness and operation of the recovery system. Lead and chromium were removed from analysis in 2005 and I recommend that they be added to the 2008 event for confirmation that the levels remain at the previously documented background levels. Vanadium was added in 2004 and I recommend that it remain on the list through semi-annual event in 2007 and 2008 in order to obtain enough data for statistical comparison. At that time, we can re-evaluate and determine whether this parameter should be continued or suspended. Analysis for the remediation parameters, as indicated on Table 26 in

the 2006 Annual Ground Water Report, should also be continued according to the schedule listed in the table below.

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

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

Analysis of Total Dissolved Solids (TDS) was suspended in 2005 and conductivity was added. I recommend that we remain with conductivity instead of TDS. Conductivity is a good indicator

of TDS and vice versa, so there is a need to duplicate efforts. If the conductivity measurements indicate something other than background or do not remain historically consistent, TDS may be added.

Should new data become available, we may need to modify this list again and re-evaluate the parameters if site conditions or data suggest changes are necessary.

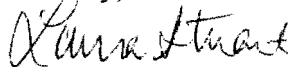
2006 Annual Ground Water Report

The 2006 Annual Ground Water Report was submitted by e-mail on March 29, 2007. Based upon the review of the annual report, please submit the following items for the 2007 report and included in subsequent reports:

- 1) Indicate recovery wells locations on the site map;
- 2) Include data from the operation of the recovery wells, (i.e., volume, treatment and disposal methods, operational and maintenance (O&M) information, such as replacement of filters, pumps, etc., and any other per);
- 3) Include water level measurements of the recovery wells;
- 4) Provide data on the determination of the statistical trends from Appendix A; and
- 5) Plume maps of nitrate, ammonia and sulfate for the 2008 report.

Thank you for your cooperation with this project. Please do not hesitate to contact me with any questions by phone at (501) 682-0642 or by e-mail at [stuart@adeq.state.ar.us](mailto:stuart@adeq.state.ar.us).

Sincerely,



Laura Stuart, P.G.  
Geologist  
Water Division

cc: Brent Parker, EDCC  
Mary Leath, Chief Deputy Director, ADEQ  
Steve Drown, Assistant Chief, Water Division  
Mo Shafii, Manager, Permits, Water Division  
Dennis Benson, Manager, Enforcement, Water Division  
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