Tammie H.
Clark M.
Kin S.
Jay R.
Jim R.
Anne W.
Dara H.

Meeting Agenda
Arkansas Department of Environmental Quality
Little Rock, Arkansas
February 12, 2008

✓1. Discussion of ADEQ comments to the FIWP.
✓2. Investigation Derived Waste
✓3. Schedule Progress
✓4. Offsite Access
✓5. Preliminary discussion of January 2008 Groundwater Monitoring Event
✓6. Status of Group Separate Agreement
✓7. Other PRPs HARCROSS
✓8. Document Management
✓9. Action Items and Meeting Wrap-up/Questions?

FIWP Comments → Notes on letter.

IDW
· Handle in a conventional way ... temp. staging on-site (tho + socks) & then off-site disposal.
· Not utilizing the on-site ponds –
· Question re: listed vs. characteristic type Advised to place text in FIWP ~

Schedule
Next Month → 1yr since Order was signed.
Still on schedule w/ schedule laid out in Section 4.0 of FIWP.

(4) Need for community update since field activities commence in March 2008 ??
We will talk w/ TM + KB + let Group know.

Off-site Access → ① Accessing wells that already exist offsite
② Access to land offsite to install new proposed wells

The group wants to collect samples @ currently existing offsite wells. They are seeking assistance from ADEQ. Main issue is Stephens well (relationship is constrained)
⇒ If Group provided a form, would ADEQ agree to get the access?

Jan. 08 Monitoring Event → Preliminary; Not Validated (hope to have validated by end of Feb. 08)
Handout
Looks like conc. @ most wells are holding steady or decreasing. There are a few exceptions where conc. are increasing.

Separate Agreement → Signature Pages to ADEQ
ADEQ is waiting on final version → Gates will get Dara a copy tomorrow.
Tyco separate Agreement? Dara says correct. The Group has concerns w/ dealing separate agreements – very problematic.

(OVER)

9542274

Harcross → Meet w/ reps in Dec. to exchange info. Discussions re: COPCs
Haven't heard a whole lot from them since.
Harcross shared their interest/plans.
Group has shared all the plans w/ Harcross (Jim Miles)
The group is doing everything they can to cooperate ~
(*) When is their 6 month option up? Don't Recall.

Other PRPs → (1) Located a treasure ---- other PRPs @ the site that are as deep in the site as the Group. The Group has approached them about joining the effort.
(*) Would like help from ADEQ to help get other people to the table —
Dara - would like to look @ documents — Group agrees!
Desire to get people involved before things get too far ~

(2) Sub-group w/ reasonable ties ---- considering seperate agreement w/ them @ the end.

Document Mgmt. → Doc. language in existing CAO. Trying to comply + consider.
(*) Want to take one more pass through the Site + review things (~2 weeks)
Not ready to deliver a plan --- just heads up (similar to past activities)
Timing → ± 1 month
Once that is done they feel they are done w/ doc. access.
Next step would be to store files until 2010 ---- long term needs.
(*) Secure Onsite + Learn Onsite until 2010? OK?

* This mtg is in place of our March Quarterly Mtg ~

ADEQ

A R K A N S A S
Department of Environmental Quality

AFIN: _____ Permit No.: _____
Date: 2-12-08 By: Hynum
Project: Cedar Chemical Group Mtg.

Sheet ____ of ____

Printed on recycled content paper
ADEQ Engineer/Geologist Grid Pad - revised 2002

Action Items

- List of Chemicals to Kelly & Mark
- Review + feedback on IDW (listed vs. characteristics)
- Off-site Access Assistance
  - #1 Priority existing off-site wells (mainly Stephens property)
  - #2 Priority - land to install new wells

  Also, a need to get access to neighboring property to the E. (Group is going to attempt contact w/ everyone but Stephens).

- Discussion on Seperate Agreements that could conflict or be dualing -
  - Gates is requesting a mtg to discuss further.
  - Dara says we would coordinate efforts b/w parties, but there is nothing to prevent multiple agreements.
  - Gates feels E & H have a good relationship -- good progress. To have Tyco off to the side doing something else is damaging. We have real issues + concerns!

  Need to have discussions ~

- Assistance w/ getting other PRPs to the table. The group can draft info request ltr (1st step). Anne + Dara OK w/ that

- Documents Secured onsite until 2010? The group wants to know if this is OK w/ ADEQ. Alternative storage area?

- Community Outreach efforts needed?

AFIN# 54-00068 PERMIT#
MEDIA: HAZARDOUS, SUPERFUND, BROWNFIELD, ENFORCEMENT, COMPLIANCE, PERMITTING
DATE: 2-4-08

ADEQ

ARKANSAS
Department of Environmental Quality

08-S-16927

FIWP discussions on 2/12/08 mtg.

February 4, 2008

Geomatrix
Attn: Kelly Beck
Project Manager
5725 Highway 290 West, Suite 200-B
Austin, Texas 78735-8722

RE: Facility Investigation Workplan for Cedar Chemical Company (January 18, 2008)
EPA ID Number ARD990660649; AFIN 54-00068

Dear Ms. Beck:

The Arkansas Department of Environmental Quality – Hazardous Waste Division (ADEQ) has reviewed the January 18, 2008 Cedar Chemical Company Facility Investigation Workplan (FIWP). Based on our review we offer the following comments and suggestions:

- It is recommended the FIWP contain information on the proposed new monitoring well development if it is still your intent to install new monitoring wells as part of the site investigation. Section 3.1 - will add language ~

- In Section 3.1, paragraph 2, bullet 1, the text mentions the use of rotosonic drilling for the installation of perched wells. However, Section 1 mentions perched wells will be installed using hollow stem augers. This discrepancy should be amended. You should be mindful that the Cedar site has unconsolidated sands and silts. With these types of soils the use of rotosonic drilling can be challenging. However, the rotosonic drilling method has been used at other sites near the Cedar location and has proven to be effective.

- In Section 3.4 sample collection for laboratory analysis in all areas except for the drum vault are proposed to be taken less than 5 feet below the surface. Samples at the drum vault are proposed to be collected about 5 feet below the drum vault foundation. Soil samples collected in 2005 at the drum vault area identified dinoseb concentrations ranging from 38 parts per million (ppm) to 255 ppm between 16 to 23 feet below the surface. Targeting shallow sampling points within the areas identified within this section for further investigation does not seem to meet the objective of filling in data gaps for the future development of a feasibility study. Please amend the sampling investigation approach for each area in order for a full (at depth) investigation to take place. The focus of the FIWP should be to collect enough data to determine the full extent of horizontal and vertical contamination at the site.

  Geo — Trying to characterize the most contaminated zone; not extent of contamination. Already know site wide contamination. Remedy (Proposed) Exposure Control Remedy for subsurface soils

  DPT: rotosonic work — could get more detailed distribution work. Would do this & turn into temp. H2O wells.

  → Too much resource w/o an impact on the remedy.

  (*) GEO WILL PUT THIS IN WRITING FOR US TO REVIEW!

  There is no mention of conducting any further investigation of the existing wastewater treatment ponds. ADEQ feels that sludge samples and sludge thickness would be

  Don't feel this is the right time b/c the ponds are still being used. In the future, if & when the ponds are closed that would be the time -- Assessing them from a SW impact only.

necessary in order for the volume calculations to be complete in the feasibility study. Please amend the FIWP to include investigation of the wastewater treatment ponds.

In paragraph 2 it is stated if waste materials or other evidence of gross contamination is observed, additional data will be collected (note: the FIWP only allows for a minimum of one soil sample to be collected 0 to 5 feet below the drum vault base). There is mention of additional sample collection in areas of suspect intervals. ADEQ feels based on previous sample analysis collected around the drum vault area, more planned sample points, at depth, need to be included in the FIWP.

✓• In Section 3.5, paragraph 2, there is mention of temporary seals on the drum vault floor slab. ADEQ recommends the intrusions into the drum vault be permanently sealed instead of the proposed temporary seal since the roof of the maintenance building, in which the drum vault is located, leaks. Omit reference to temp. seal ; use the grout.

✓• In Section 3.9, paragraph 2, there is discussion of the approach that will be used to collect information to update the well survey. ADEQ has found it helpful to contact the city and county offices to gather land and planning maps and to contact the water user associations in the general area of a site to obtain information regarding the domestic water services offered in the general area.

✓• In Section 3.10 there is discussion about well abandonment. ADEQ has Plug and Abandonment Procedures. These are included as an attachment to this letter. Will modify, as needed.

✓• In the QAPP (Appendix A), Section 3.4.1, the list of groundwater parameters is not consistent with the list of groundwater parameters mentioned in the previous Sampling and Analysis Plan Summary. This discrepancy needs to be corrected and/or justified.

• There is some concern the testing proposed in the QAPP (Appendix A) will not adequately characterize the contamination at the Cedar site. There were several chemicals produced at the site that will not show up by using the analytical methods proposed in the FIWP. At a minimum, the lab should use the EPA Method 8270 to look for herbicides and pesticides. The ADEQ lab uses a separate multicomponent standard when testing for pesticides. ADEQ would be glad to discuss this analytical approach with the selected certified laboratory. Almost have to do both to make sure you get good detections and find all the compds. too.

* Provide list of compds to Geo & they will make a SW-846 set on the 8270. Once Geo gets list, Geo will compare to MDLs ... etc.

Geomatrix needs to respond to each one of the above listed comments and suggestions and submit a revised FIWP no later than February 22, 2008. All of the above items can be discussed in detail during the planned February 12, 2008 meeting. In the meantime, if you have any questions or need additional information, please feel free to contact Tammie J. Hynum of my staff at (501) 682-0856 or hynum@adeq.state.ar.us or myself at (501) 682-0831 or at benefield@adeq.state.ar.us.

Sincerely,

J. Ryan Benefield, P.E.
Hazardous Waste Division Chief

(bullet 3)
CMC → bringing up concern w/ location of DPTs ... doesn't know that they have included samples everywhere needed. He has a file he will share w/ Geo after the meeting.

CMC → Question protocol on agricultural well sampling. Geo will update the text to make sure that drum will

Summary of Chemicals Detected in Groundwater
Cedar Chemical Corporation Facility
Helena - West Helena, Arkansas

Analytical Method	Analyte	Units	Federal Primary Drinking Water Standard (ug/l)	Federal Secondary Drinking Water Standad (ug/l)	TapWater (ug/l)	1MW-1	1MW-1	1MW-2	1MW-2	1MW-3	1MW-3	1MW-4	1MW-4
						07/25/2001	01/15/2008	07/25/2001	01/15/2008	07/25/2001	01/15/2008	07/25/2001	01/15/2008
	Organochlorine Pesticides												
8081A	alpha-BHC	ug/l	--	--	0.011	<0.04	< 0.0053	<0.04	< 0.0053	<0.04	< 0.0053	<0.04	< 0.0053
8081A	beta-BHC	ug/l	--	--	0.037	<0.04	< 0.0087	<0.04	< 0.0087	**0.087**	**< 0.0087**	<0.04	< 0.0087
8081A	Dieldrin	ug/l	--	--	0.0042	<0.08	< 0.0063	<0.08	< 0.0063	**0.24**	**< 0.0063**	<0.08	< 0.0063
	Herbicides												
8151A	Dinoseb	ug/l	7	--	37	ND	< 0.24	ND	< 0.24	ND	< 0.24	ND	< 0.24
	Volatile Organic Compounds												
8260B	1,2-Dichlorobenzene	ug/l	600	--	49	<1	< 0.43	<1	< 0.43	**2**	**< 0.43**	**0.9**	**< 0.43**
8260B	1,2-Dichloroethane	ug/l	5	--	0.12	0.2	< 0.39	**0.8**	**< 0.39**	**10**	1.7	**110**	**33**
8260B	Benzene	ug/l	5	--	0.35	<1	< 0.39	<1	< 0.39	<1	< 0.39	<1	< 0.39
8260B	Chlorobenzene	ug/l	100	--	91	<1	< 0.33	<1	< 0.33	<1	< 0.33	<1	< 0.33
8260B	Chloroethane	ug/l	--	--	3.9	<1	< 0.45	<1	< 0.45	<1	< 0.45	<1	< 0.45
8260B	Chloroform	ug/l	--	--	0.17	<1	< 0.35	<1	< 0.35	<1	< 0.35	<1	< 0.35
8260B	Methylene chloride	ug/l	5	--	4.3	<3	< 0.42	<2	< 0.42	<5	< 0.42	<4	< 0.42
8260B	Vinyl chloride	ug/l	2	--	0.015	<1	< 0.40	<1	< 0.40	<1	< 0.40	<1	< 0.40
	Semivolatile Organic Compounds												
8270C	1,2-Dichlorobenzene	ug/l	600	--	49	<10	< 0.93	<10	< 0.95	<10	< 0.93	<10	< 0.93
8270C	1,3-Dichlorobenzene	ug/l	--	--	15	<10	< 0.95	<10	< 0.97	<10	< 0.95	<10	< 0.95
8270C	3,4-Dichloroaniline	ug/l	--	--	--	ND	< 9.6	ND	< 9.8	ND	6.4 J	ND	8.3 J
8270C	4-Chloroaniline	ug/l	--	--	150	<10	< 1.6	<10	< 1.6	<10	< 1.6	<10	< 1.6
8270C	4-Nitrophenol	ug/l	--	--	290	<25	< 3.9	<25	< 4.0	<25	< 3.9	<25	< 3.9
8270C	bis(2-Chloroethyl) ether	ug/l	--	--	0.0098	<10	< 1.1	<10	< 1.2	<10	< 1.1	<10	< 1.1
8270C	bis(2-Ethylhexyl) phthalate	ug/l	6	--	4.8	<29	< 2.6	<10	< 2.7	<10	< 2.6	<10	< 2.6
8270C	Dinoseb	ug/l	7	--	37	<10	< 0.52	<10	< 0.53	<10	< 0.52	<10	< 0.52
8270C	Hexachlorobutadiene	ug/l	--	--	0.86	<10	< 1.2	<10	< 1.2	<10	< 1.2	<10	< 1.2
8270C	Propanil	ug/l	--	--	180	<10	< 9.6	<10	< 9.8	<10	< 9.6	<10	< 9.6

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						07/25/2001	01/15/2008	07/25/2001	01/15/2008	07/25/2001	01/14/2008	07/31/1997	01/11/2008
	Organochlorine Pesticides												
8081A	alpha-BHC	ug/l	--	--	0.011	<0.04	< 0.0053	<0.04	< 0.0053	<0.04	< 0.0053	ND	0.72 J COL
8081A	beta-BHC	ug/l	--	--	0.037	<0.04	0.014 J COL	<0.04	< 0.0087	<0.04	< 0.0087	ND	< 0.44
8081A	Dieldrin	ug/l	--	--	0.0042	<0.08	< 0.0063	<0.08	< 0.0063	<0.08	< 0.0063	ND	< 0.32
	Herbicides												
8151A	Dinoseb	ug/l	7	--	37	ND	< 0.24	ND	< 0.24	ND	< 0.24	ND	< 0.24
	Volatile Organic Compounds												
8260B	1,2-Dichlorobenzene	ug/l	600	--	49	<1	< 0.43	<1	< 0.43	<1	0.74 J	<10000	1400
8260B	1,2-Dichloroethane	ug/l	5	--	0.12	<1	< 0.39	**39**	**1.6**	**0.2**	**1.6**	**8900**	**410**
8260B	Benzene	ug/l	5	--	0.35	<1	< 0.39	<1	< 0.39	<1	< 0.39	<10000	< 20
8260B	Chlorobenzene	ug/l	100	--	91	<1	< 0.33	**0.7**	**< 0.33**	<1	< 0.33	<10000	190
8260B	Chloroethane	ug/l	--	--	3.9	<1	< 0.45	<1	< 0.45	<1	< 0.45	<10000	< 22
8260B	Chloroform	ug/l	--	--	0.17	<1	< 0.35	<1	< 0.35	<1	< 0.35	<10000	21 J
8260B	Methylene chloride	ug/l	5	--	4.3	<4	< 0.42	<6	< 0.42	<2	< 0.42	**140000**	**3300**
8260B	Vinyl chloride	ug/l	2	--	0.015	<1	< 0.40	<1	< 0.40	<1	< 0.40	<10000	< 20
	Semivolatile Organic Compounds												
8270C	1,2-Dichlorobenzene	ug/l	600	--	49	<10	< 0.97	<10	< 0.92	<10	< 0.94	1200	1200
8270C	1,3-Dichlorobenzene	ug/l	--	--	15	<10	< 0.99	<10	< 0.94	<10	< 0.96	<10	< 0.94
8270C	3,4-Dichloroaniline	ug/l	--	--	--	ND	< 0.0	ND	12	ND	0.85 J	ND	27000
8270C	4-Chloroaniline	ug/l	--	--	150	<10	< 1.7	<10	< 1.6	<10	< 1.6	**28**	**45**
8270C	4-Nitrophenol	ug/l	--	--	290	<25	< 4.1	<25	< 3.9	<25	< 4.0	**860**	**< 3.9**
8270C	bis(2-Chloroethyl) ether	ug/l	--	--	0.0098	<10	< 1.2	<10	< 1.1	<10	< 1.2	<10	< 1.1
8270C	bis(2-Ethylhexyl) phthalate	ug/l	6	--	4.8	<10	< 2.7	<10	< 2.6	<10	< 2.7	<10	< 2.6
8270C	Dinoseb	ug/l	7	--	37	<10	< 0.54	<10	< 0.51	<10	< 0.53	<7	< 0.51
8270C	Hexachlorobutadiene	ug/l	--	--	0.86	<10	< 1.3	<10	< 1.2	<10	< 1.2	<10	< 1.2
8270C	Propanil	ug/l	--	--	180	<10	<9.6	<10	< 9.5	<10	< 9.7	**2800**	**530 J**

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						07/24/2001	01/10/2008	07/26/2001	01/14/2008	07/25/2001	01/11/2008	07/24/2001	01/10/2008
	Organochlorine Pesticides												
8081A	alpha-BHC	ug/l	--	--	0.011	<0.04	< 0.0091	<0.04	< 0.0053	<0.04	< 0.026	<0.053	< 0.0053
8081A	beta-BHC	ug/l	--	--	0.037	<0.04	< 0.015	<0.04	< 0.0087	<0.04	< 0.044	<0.053	< 0.0087
8081A	Dieldrin	ug/l	--	--	0.0042	<0.08	< 0.011	<0.08	< 0.0063	<0.08	< 0.032	<0.11	< 0.0063
	Herbicides												
8151A	Dinoseb	ug/l	7	--	37	ND	< 0.35	ND	0.31 J	ND	< 0.24	ND	< 0.24
	Volatile Organic Compounds												
8260B	1,2-Dichlorobenzene	ug/l	600	--	49	<1	< 0.43	**170**	**30**	**71**	**420**	**4**	**< 0.43**
8260B	1,2-Dichloroethane	ug/l	5	--	0.12	**0.9**	**< 0.39**	**560**	**2.1**	**910**	**1200**	<1	< 0.39
8260B	Benzene	ug/l	5	--	0.35	<1	< 0.39	<25	7.3	<50	9.6 J	<1	< 0.39
8260B	Chlorobenzene	ug/l	100	--	91	0.3	< 0.33	**28**	**11**	**94**	**180**	<1	< 0.33
8260B	Chloroethane	ug/l	--	--	3.9	<1	< 0.45	**170**	**7.4**	<50	< 9.0	<1	< 0.45
8260B	Chloroform	ug/l	--	--	0.17	<1	< 0.35	<25	< 0.35	<50	< 7.0	<0.9	0.87 J
8260B	Methylene chloride	ug/l	5	--	4.3	<3	< 0.42	<61	< 0.42	<150	< 8.4	<2	< 0.42
8260B	Vinyl chloride	ug/l	2	--	0.015	<1	< 0.40	<25	< 0.40	<50	< 8.0	<1	< 0.40
	Semivolatile Organic Compounds												
8270C	1,2-Dichlorobenzene	ug/l	600	--	49	<10	< 1.5	92	23	**34**	**430**	<10	< 0.93
8270C	1,3-Dichlorobenzene	ug/l	--	--	15	<10	< 1.5	<10	< 0.95	<10	< 9.6	<10	< 0.95
8270C	3,4-Dichloroaniline	ug/l	--	--	--	ND	< 15	ND	110	ND	2800	ND	8.8 J
8270C	4-Chloroaniline	ug/l	--	--	150	<10	< 2.6	**34**	**7.9 J**	7	**260**	<10	< 1.6
8270C	4-Nitrophenol	ug/l	--	--	290	<25	< 6.3	<25	< 3.9	<25	< 39	<25	< 3.9
8270C	bis(2-Chloroethyl) ether	ug/l	--	--	0.0098	<10	< 1.8	**180**	**20**	<10	< 12	<10	< 1.1
8270C	bis(2-Ethylhexyl) phthalate	ug/l	6	--	4.8	<10	7.2 J B	<10	< 2.6	<10	< 26	<10	3.1 J B
8270C	Dinoseb	ug/l	7	--	37	4	**12 J**	**5**	**< 0.52**	<10	< 5.2	**15**	**22**
8270C	Hexachlorobutadiene	ug/l	--	--	0.86	<10	< 2.0	<10	< 1.2	<10	< 12	<10	< 1.2
8270C	Propanil	ug/l	--	--	180	<10	< 15	6	< 9.6	<10	< 96	<10	< 9.6

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						07/24/2001	01/14/2008	07/24/2001	01/11/2008	07/25/2001	01/11/2008	07/24/2001	01/14/2008
	Organochlorine Pesticides												
8081A	alpha-BHC	ug/l	--	--	0.011	<0.04	< 0.0053	<0.04	< 0.0053	<0.04	< 0.0053	<0.04	< 0.0053
8081A	beta-BHC	ug/l	--	--	0.037	<0.04	< 0.0087	<0.04	< 0.0087	<0.04	< 0.0087	<0.04	< 0.0087
8081A	Dieldrin	ug/l	--	--	0.0042	<0.08	< 0.0063	<0.08	< 0.0063	<0.08	< 0.0063	<0.08	< 0.0063
	Herbicides												
8151A	Dinoseb	ug/l	7	--	37	ND	0.64 COL	ND	0.40 J	ND	< 0.24	ND	0.50 J
	Volatile Organic Compounds												
8260B	1,2-Dichlorobenzene	ug/l	600	--	49	**28**	**6.0**	<1	< 0.43	<50	0.50 J	0.4	< 0.87
8260B	1,2-Dichloroethane	ug/l	5	--	0.12	**1**	**< 0.39**	<1	< 0.39	**1500**	**15**	**820**	**110**
8260B	Benzene	ug/l	5	--	0.35	<1	< 0.39	<1	< 0.39	<50	< 0.39	<1	< 0.78
8260B	Chlorobenzene	ug/l	100	--	91	<1	< 0.33	<1	< 0.33	<50	< 0.33	**16**	**11**
8260B	Chloroethane	ug/l	--	--	3.9	<1	< 0.45	<1	< 0.45	<50	< 0.45	**<1**	**1.3 J**
8260B	Chloroform	ug/l	--	--	0.17	<1	0.43 J	<1	< 0.35	<50	0.56 J	<1	< 0.70
8260B	Methylene chloride	ug/l	5	--	4.3	<2	< 0.42	<2	< 0.42	<140	< 0.42	<2	< 0.84
8260B	Vinyl chloride	ug/l	2	--	0.015	<1	< 0.40	<1	< 0.40	<50	< 0.40	**<1**	**1.2 J**
	Semivolatile Organic Compounds												
8270C	1,2-Dichlorobenzene	ug/l	600	--	49	**11**	**4.4 J**	<10	1.2 J	<10	< 0.93	<10	< 0.95
8270C	1,3-Dichlorobenzene	ug/l	--	--	15	<10	< 0.96	<10	< 0.97	**<10**	**53**	<10	< 0.97
8270C	3,4-Dichloroaniline	ug/l	--	--	--	ND	4.9 J	ND	49	ND	< 9.6	ND	3.9 J
8270C	4-Chloroaniline	ug/l	--	--	150	<10	< 1.6	<10	< 1.6	<10	< 1.6	<10	2.6 J
8270C	4-Nitrophenol	ug/l	--	--	290	<25	< 4.0	<25	< 4.0	<25	< 3.9	<25	< 4.0
8270C	bis(2-Chloroethyl) ether	ug/l	--	--	0.0098	<10	< 1.2	<10	< 1.2	<10	< 1.1	**<10**	**28**
8270C	bis(2-Ethylhexyl) phthalate	ug/l	6	--	4.8	<10	< 2.7	<10	< 2.7	<10	< 2.6	<10	4.0 J
8270C	Dinoseb	ug/l	7	--	37	<10	< 0.53	<10	< 0.53	**65**	**< 0.52**	<10	< 0.53
8270C	Hexachlorobutadiene	ug/l	--	--	0.86	<10	< 1.2	<10	< 1.2	<10	< 1.2	<10	< 1.2
8270C	Propanil	ug/l	--	--	180	<10	< 9.7	<10	< 9.8	<10	< 9.6	<10	< 9.8

Notes:

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BOLD - Indicates an increasing or decreasing concentration between 2001 and 2008.

COL - More than 40% RPD between columns (dual column verification). The laboratory reported the lower of the two concentrations.

J - Concentration is estimated

B - Possible laboratory contamination as indicated by the contracted laboratory

-- No Regulatory Number available for the chemical

Summary of Chemicals Detected in Groundwater
Cedar Chemical Corporation Facility
Helena - West Helena, Arkansas

Analytical Method	Analyte	Units	Federal Primary Drinking Water Standard (ug/l)	Federal Secondary Drinking Water Standad (ug/l)	TapWater (ug/l)	9MW-1	9MW-1	EMW-1	EMW-1	EMW-2	EMW-2	EMW-4	EMW-4
						07/26/2001	01/10/2008	07/26/2001	01/14/2008	07/25/2001	01/11/2008	07/24/2001	01/14/2008
	Organochlorine Pesticides												
8081A	alpha-BHC	ug/l	--	--	0.011	<0.04	< 0.0053	<0.04	< 0.0053	<0.04	< 0.0053	<0.04	< 0.0053
8081A	beta-BHC	ug/l	--	--	0.037	<0.04	< 0.0087	<0.04	< 0.0087	<0.04	< 0.0087	**<0.04**	**0.092 COL**
8081A	Dieldrin	ug/l	--	--	0.0042	<0.08	< 0.0063	<0.08	< 0.0063	<0.08	< 0.0063	<0.08	< 0.0063
	Herbicides												
8151A	Dinoseb	ug/l	7	--	37	ND	< 0.24	ND	0.83	ND	< 0.24	ND	0.73
	Volatile Organic Compounds												
8260B	1,2-Dichlorobenzene	ug/l	600	--	49	**62**	**41**	<1	< 0.43	**1**	**< 0.43**	**48**	**33**
8260B	1,2-Dichloroethane	ug/l	5	--	0.12	**420**	**600**	**2**	**0.60 J**	**2**	**< 0.39**	**660**	**85**
8260B	Benzene	ug/l	5	--	0.35	<25	< 3.9	<1	< 0.39	<1	< 0.39	**4**	**2.3**
8260B	Chlorobenzene	ug/l	100	--	91	<25	19	<1	< 0.33	**0.5**	**< 0.33**	**79**	**74**
8260B	Chloroethane	ug/l	--	--	3.9	<25	< 4.5	<1	< 0.45	<1	< 0.45	<1	< 0.45
8260B	Chloroform	ug/l	--	--	0.17	<15	< 3.5	<1	< 0.35	<1	< 0.35	<1	< 0.35
8260B	Methylene chloride	ug/l	5	--	4.3	<88	< 4.2	<8	< 0.42	<2	< 0.42	<3	< 0.42
8260B	Vinyl chloride	ug/l	2	--	0.015	<25	< 4.0	<1	< 0.40	<1	< 0.40	<1	< 0.40
	Semivolatile Organic Compounds												
8270C	1,2-Dichlorobenzene	ug/l	600	--	49	36	28	<10	< 0.93	<10	< 0.92	26	27 J
8270C	1,3-Dichlorobenzene	ug/l	--	--	15	<10	< 0.96	<10	< 0.95	<10	< 0.94	<10	< 4.8
8270C	3,4-Dichloroaniline	ug/l	--	--	--	ND	41	ND	< 9.6	ND	9.0 J	ND	100
8270C	4-Chloroaniline	ug/l	--	--	150	7	**30**	<10	< 1.6	<10	< 1.6	**300**	**430**
8270C	4-Nitrophenol	ug/l	--	--	290	<25	< 4.0	<25	< 3.9	<25	< 3.9	<25	< 20
8270C	bis(2-Chloroethyl) ether	ug/l	--	--	0.0098	<10	< 1.2	<10	< 1.1	<10	< 1.1	<10	< 5.8
8270C	bis(2-Ethylhexyl) phthalate	ug/l	6	--	4.8	<10	3.1 J B	<10	< 2.6	<10	< 2.6	<10	< 13
8270C	Dinoseb	ug/l	7	--	37	<10	< 0.53	**11**	**8.5 J**	**28**	**< 0.51**	<10	< 2.6
8270C	Hexachlorobutadiene	ug/l	--	--	0.86	<10	< 1.2	<10	< 1.2	<10	< 1.2	<10	< 6.1
8270C	Propanil	ug/l	--	--	180	<10	< 9.7	<10	< 9.6	<10	< 9.5	**<10**	**19 J**

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Summary of Chemicals Detected in Groundwater
Cedar Chemical Corporation Facility
Helena - West Helena, Arkansas

Analytical Method	Analyte	Units	Federal Primary Drinking Water Standard (ug/l)	Federal Secondary Drinking Water Standad (ug/l)	TapWater (ug/l)	EMW-6	EMW-6	EMW-6A	EMW-6A	EMW-6B	EMW-6B	EMW-7	EMW-7
						11/30/1994	01/09/2008	11/30/1994	01/09/2008	11/30/1994	01/09/2008	07/24/2001	01/10/2008
	Organochlorine Pesticides												
8081A	alpha-BHC	ug/l	--	--	0.011	<0.03	< 0.0053	<0.03	< 0.0053	**<0.03**	**0.11 J COL**	<0.04	< 0.0053
8081A	beta-BHC	ug/l	--	--	0.037	<0.06	< 0.0087	<0.06	< 0.0087	**<0.06**	**0.96 COL**	<0.04	< 0.0087
8081A	Dieldrin	ug/l	--	--	0.0042	<0.02	< 0.0063	<0.02	< 0.0063	<0.02	< 0.032	<0.08	< 0.0063
	Herbicides												
8151A	Dinoseb	ug/l	7	--	37	ND	< 0.24	ND	0.29 J COL	ND	< 0.24	ND	0.47 J COL
	Volatile Organic Compounds												
8260B	1,2-Dichlorobenzene	ug/l	600	--	49	ND	< 0.43	ND	< 4.3	ND	85	**2**	< 11
8260B	1,2-Dichloroethane	ug/l	5	--	0.12	**360**	**0.55 J**	**49**	**620**	**1500**	**13**	**24000**	**2100**
8260B	Benzene	ug/l	5	--	0.35	<10	< 0.39	<5	< 3.9	**14**	**0.84 J**	<1	< 9.8
8260B	Chlorobenzene	ug/l	100	--	91	<10	< 0.33	<5	< 3.3	**48**	**25**	**1**	< 8.3
8260B	Chloroethane	ug/l	--	--	3.9	<20	< 0.45	<10	< 4.5	<10	< 0.45	<1	< 11
8260B	Chloroform	ug/l	--	--	0.17	<10	< 0.35	<5	< 3.5	<5	< 0.35	<1	< 8.7
8260B	Methylene chloride	ug/l	5	--	4.3	<40	< 0.42	<20	< 4.2	<20	< 0.42	<4	< 11
8260B	Vinyl chloride	ug/l	2	--	0.015	<20	< 0.40	<10	< 4.0	<10	< 0.40	5	< 10
	Semivolatile Organic Compounds												
8270C	1,2-Dichlorobenzene	ug/l	600	--	49	<10	< 0.92	<10	< 0.97	120	51 J	<10	< 1.0
8270C	1,3-Dichlorobenzene	ug/l	--	--	15	<10	< 0.94	<10	< 0.99	<100	< 9.8	<10	< 1.0
8270C	3,4-Dichloroaniline	ug/l	--	--	--	ND	8.7 J	ND	200	ND	51000	ND	< 10
8270C	4-Chloroaniline	ug/l	--	--	150	<20	< 1.6	**<20**	**530**	**6900**	**4800 J**	<10	< 1.7
8270C	4-Nitrophenol	ug/l	--	--	290	<50	< 3.9	<50	< 4.1	<500	< 41	<25	< 4.3
8270C	bis(2-Chloroethyl) ether	ug/l	--	--	0.0098	<10	< 1.1	<10	< 1.2	<100	< 12	<10	< 1.3
8270C	bis(2-Ethylhexyl) phthalate	ug/l	6	--	4.8	<10	< 2.6	<10	3.3 J B	<100	< 27	<10	3.8 J B
8270C	Dinoseb	ug/l	7	--	37	<7	< 0.51	<7	< 0.54	<70	< 5.4	<10	< 0.57
8270C	Hexachlorobutadiene	ug/l	--	--	0.86	<10	< 1.2	<10	< 1.3	<100	< 13	<10	< 1.3
8270C	Propanil	ug/l	--	--	180	ND	< 9.5	ND	2.9 J	ND	1.0 J	<10	< 10

Notes:

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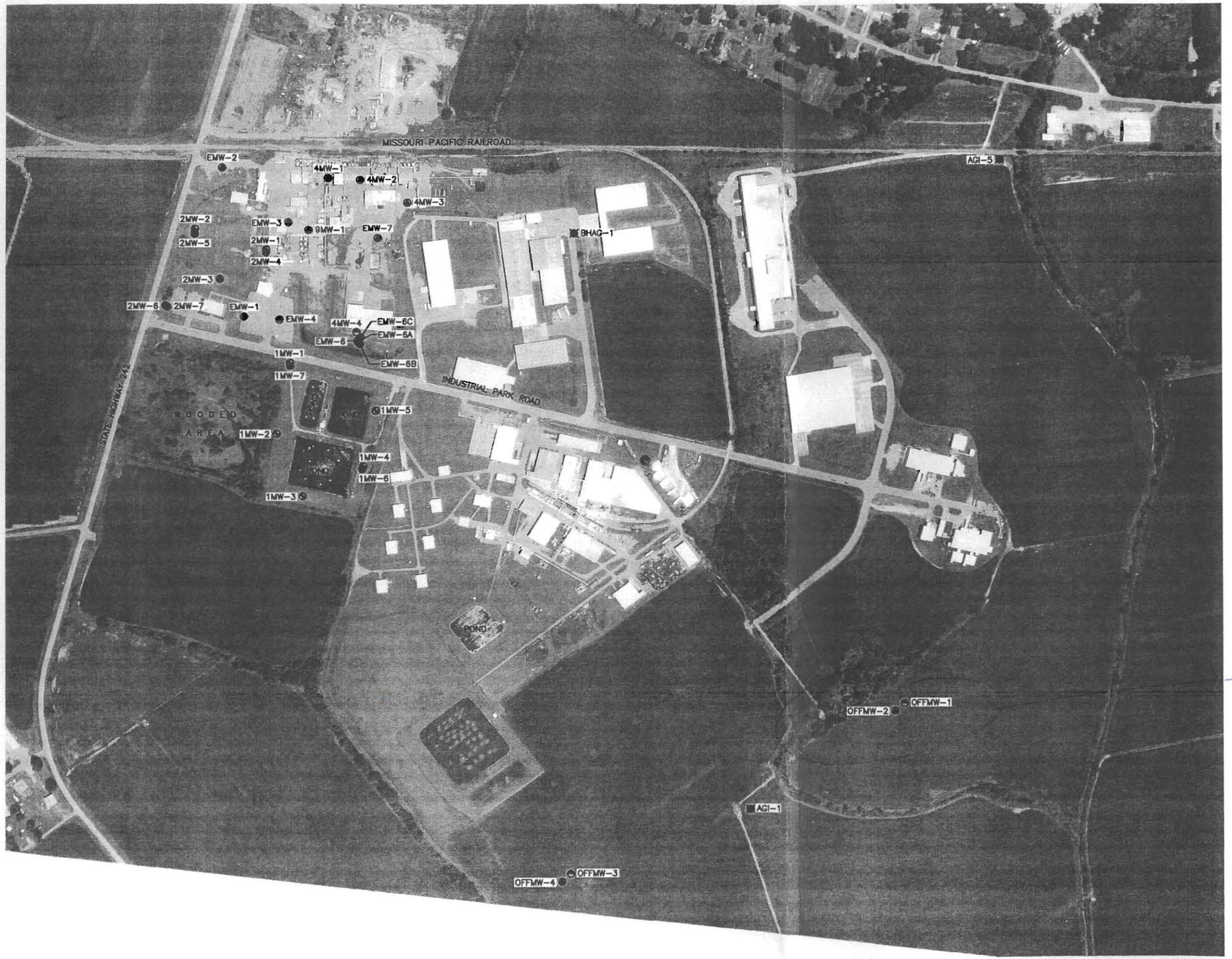

EXPLANATION

- DEEP MONITORING WELL (LOWER ALLUVIUM)
- SHALLOW MONITORING WELL (UPPER ALLUVIUM)
- PERCHED ZONE MONITORING WELL
- AGRICULTURAL IRRIGATION WELL

WELLS NOT SHOWN DUE TO UNKNOWN LOCATIONS:

AGI-2
AGI-3
AGI-4
AGI-6
AGI-7

APPROXIMATE LOCATION OF WELL COVERED BY ASPHALT:

4MW-2

Stephens Wells

0 500
APPROXIMATE SCALE IN FEET

BASE MAP MODIFIED FROM:
EnSafe, 1996-Phase III FI, 2001 Groundwater Monitoring Report, & December 2007 Site Reconnaissance
Drawings C2162GWS and C2162VC7

WELL LOCATION MAP

Cedar Chemical
Helena-West Helena, Arkansas

By: HCS	Date: 12-17-07	Project No. 13636
Geomatrix		Figure 1

12/17/07 ALLUVIAL-01.Dwg

ADEQ

ARKANSAS
Department of Environmental Quality

AFIN: _____ Permit No.: _____
Date: 2-12-08 By: _____
Project: Cedar Chemical Grmp Meeting
Sheet ____ of ____

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