State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES
Carroll D. Besadny
Secretary

BOX 7921
MADISON, WISCONSIN 53707

February 25, 1988 File Code: 4430

Ms. Laura Lodisio (5HS-12)
RCRA Enforcement
US EPA - Region V
230 S. Dearborne St.
Chicago, IL 60604

SUBJECT: Review of Freeman Chemical Corp. Task 3 Report

Dear Ms. Lodisio:

The following are my comments on the Task 3 report. Since I had previously sent you a copy of my draft comments, I've highlighted the new comments.

The sampling plan is to provide guidance for all field work. The Task 3 omits a few details on this field work. Theses omissions are listed in the following outline.

1. Purging - Include a table on purging to include the following information:
   a. the well's bottom elevation,
   b. typical water level elevations,
   c. typical purge volumes,
   d. water volume per linear foot and
   e. special notes (e.g. this well is usually bailed dry).

2. Field measurements - Include the following information
   a. the sequence of observations,
   b. decontamination procedures and
   c. calibration procedures.

3. Field logbook - Include the following information in the logbook:
   a. measured well depth (Measure well depths up to 50 feet. Well deeper than 50 feet would be recorded as > 50),
   b. deviations from the sampling plan (include reason for deviation),
   c. field instrument calibration notes and
   d. names of the sampling team.

The objectives of the sampling program relies on trend analysis to document the effectiveness of the interim measures. This trend

analysis does not separate contamination that is captured by the interim measures from contamination that continues to move off-site. Prepare a sampling plan to evaluate the capture zone of the interim measures in the glacial till, shallow dolomite, and deep dolomite based on monitoring well water level elevations. Any additional wells required to define the capture zones shall be proposed in Task 4 "WORK TO BE PERFORMED".

Task 4 shall include an evaluation of the contamination not intercepted by the interim measures. The evaluation shall be based on existing and proposed EPA drinking water standards, and Chapter NR 140 preventative action limits and enforcement standards. Should the evaluation conclude that significant contamination is not intercepted by the interim measures, Task 4 shall include a plan to define this contamination and evaluate alternatives to remediate the contamination.

Page 8 states that well 7 would be used for detailed analyses of shallow dolomite water. The field notes from the December sampling indicates that well 7 was bailed dry. Bailing a dolomite well dry indicates that it is completed in competent dolomite and effectively isolated from any water moving eastward. In order to provide timely detection of contaminants moving eastward, this piezometer shall be reconstructed to intercept a more porous section of the dolomite aquifer.

Given the eastward regional gradient, the monitoring program needs additional downgradient coverage. Include well 23 and well 20 with the wells receiving quarterly method 624 VOC sampling.

Page 13 proposes an alternate analytical program. The proposal cannot be adequately reviewed until the Total VOC Screen method and sampling round results, using the screen and method 624, are submitted. Until these items are submitted and approved, continue with the current sampling program **as modified by the preceding paragraph.**

Revise the POTW sampling plan to incorporate quarter sampling of the influent, effluent and digested sludge for method 624/HSL VOCs and total recoverable phenolics.

Revise the POTW sampling plan to include at least one sample round of the influent, effluent and digested sludge for method 625/HSL organics and HSL metals.

Page 28 - Sampling of PW-8 states that purging the well would consist of removing 5 gallons. This is inadequate as this is a 6 inch well with a 70 foot casing. This sampling procedure would sample casing water and this water may not be representative of formation water. Since the well is in a permeable formation, we will accept an a limited purging procedure. If a bailer is used in purging and collecting a water sample, purge at least 3 casing volumes. If a submersible pump is used for sampling, place the pump at least 30

feet below the bottom of the casing and purge at least 3 sampling hose volumes.

Inadequate purging of PW-8 may have biased sampling results. Review the PW-8 sampling notes and provide a table of total VOCs (summing the detected VOCs) and purge volumes for sampling conducted since February 1986.

Page 27 states that a transfer vessel would be used in sampling. Why is a transfer vessel used for the VOC samples?

As part of data management, sampling results will be submitted for the Department's Turn Around Document (TAD) system. Data can be submitted to the Department by transcribing the results to the TAD form or by using DBASE to reformat the data to the Department's required format. We have included a blank TAD form and information on using electronic media for your review. The summer 1988 sampling round shall be submitted on the TAD form or electronic media. Please contact Mark Tusler to set up an ID number for Freeman and a set of well numbers.

page 41 - As expressed above, we will also use piezometric surfaces to evaluate the interim remedial measures. Include piezometric surfaces with the graphical submittals.

page 43 - The model description states that the Milwaukee River will be treated as a constant head boundary. Since MW-3 is across the river, using the model in this manner guarantees that the model will show that Freeman activities will not affect this water supply well. To effect a more realistic modeling effort, treat the river as induced infiltration as described on page 33 of Illinois State Water Survey Bulletin 55. **Treating the river in this manner will also require at least two measurements of the river's elevation within the modeled boundary.** Model boundaries should be chosen so that pumping activities do not affect the boundary and the boundaries show the regional eastward gradient of 25 feet per mile.

page 43 - include water elevations surfaces to hydraulically evaluate the effectiveness of the remediation system.

I believe that after these comments are addressed, we can approve Task 3. Please let me know if you've got any questions on my comments.

Sincerely,

Mark Tusler

Mark Tusler, Hydrogeologist
Hazardous Waste Management Section
Bureau of Solid Waste Management

enc.

cc: Frank Schultz - SED
Greg Pilarski - SED
Jeff Bode - SED
Lee Bouchon - WS/2
Pat Jesse - SW/3