Attachment 1
Comments on RMT Workplan Submittal

RMT, Inc. has proposed a restructuring of both the groundwater monitoring and remediation program as well as Task V B, Evaluation of Corrective Measures, of the CAO. The purpose of Task 5B is to evaluate the corrective measures implemented at the site. The modifications of the groundwater monitoring and remediation that are proposed by RMT will be considered a function of Task 5B. It must be noted that regardless which proposed modifications are approved, the Appendix IX analysis and the pump test will most likely require further modification of the groundwater monitoring and remediation program. Specific comments are as follows:

Comment 1: Page 1, Introduction: The listed correspondence on page one does not include several key letters sent to CCP (Freeman) outlining conditions for approval and the conditional approval of the Hatcher-Sayre Workplan. To complete the record, the following letters need to be included in the list of correspondence on page 1: 1) letter dated May 9, 1988, Task 3 Conditional Approval; 2) Letter dated June 30, 1988, Task 1 and 3 Comments; 3) letter dated October 13, 1988, Task 3 Project Plans (this letter may already be included on this list as "EPA comments received on October 19, 1988"); 4) Letter dated December 21, 1988, Task 3 Project Plans; 5) letter dated February 10, 1989, Annual Report; and 6) letter dated March 2, 1989, Task 3 Project Plans. The previous Hatcher-Sayre Workplan was given final conditional approval by U.S. EPA in the March 2, 1989 letter. Subsequent work plan submittals by Hatcher-Sayre were to include the requirements of these letters. These letters are found in Attachment 3.

Certain conditions of the letters have been met while other conditions are no longer valid. The most important requirement listed in these letters includes the final approved wells for site-wide Appendix IX sampling. This is discussed in comment 6. The soil analysis by the EP Toxicity Procedure is now invalid and the Toxic Characteristic Leaching Procedure (TCLP) is now required.

Comment 2: Section 1.1.2, Project Background, Page 4: This section outlines six major components of previous remedial actions taken at the facility. Additional work is necessary to address the present groundwater remedial system (point 1) and the source contamination removal or repair (point 2). It is stated that the remedial measures were addressed by July 1987. It also refers to Task I which goes into more detail on the corrective measures taken at the site. However, it is apparent that the groundwater system needs modification and potential sources of contamination need to be addressed more completely. This is outlined in Attachment 2, Scope of Work for Additional Work.

Comment 3: Page 11, Table 2: Table 2 will have to be modified with respect to the comments on the proposed groundwater monitoring and remediation program.

Comment 4: Program Scope and Rationale, Section 2.3.1, Page 12: The groundwater sampling proposed by RMT will have to be modified. Annual perimeter monitoring is not fully protective of human health and the environment. Therefore, the perimeter must continue with a quarterly schedule. The proposed semi-annual sampling has potential problems. The quarterly sampling in the past has given enough detailed information to show slugs of contamination that were created after the infrequent rainfall events over the last four years. Many of these peaks would not have been detected if the wells were sampled on a semiannual schedule during this period. The proposed sampling plan cannot be approved without modification and after discussing the adequacy of the proposed sampling system's integration to the Additional Work outlined in Attachment 2.

Comment 5: Program Scope Rationale, Section 2.3.1, Page 16: The purpose of Appendix IX sampling is to characterize the site. As proposed by RMT, the Appendix IX analysis will characterize a specific plume only. The Appendix IX sampling will remain as stated in the June 30, 1988 and the October 13, 1988 letters from U.S. EPA to Freeman (CCP). The wells to be sampled for the full Appendix IX are: glacial wells 6A, 44 and 47; shallow dolomite wells 21A, 24A, 28, 29; and a deep dolomite sample from well 30. Considering that well 44 has been dry, it will be replaced as outlined in Attachment 2, Additional Work. The area where well 44 is located showed heavy contamination which is why the Appendix IX sampling is essential in this location.

Comment 6: Objectives, Section 2.12.2, Page 59: An additional objective of the pump test is to more thoroughly understand the interrelationship between the Dolomite Aquifer and the glacial Aquifer. This is stated on page 63 in the Step I Test discussion.

Comment 7: Hydrogeologic Testing Program, Section 2.12.3, Subsection "Step I Test", Page 62: Paragraph 2 states that the eight (minimum) driven well points that are proposed to be used to monitor the capture zone of the Ranney Collectors during the pump test are shown on Figure 5. Paragraph 3 states that the exact number of well points will be determined in the field and that a minimum of eight driven well points will be utilized. Figure 5 does not show any location of driven well points. The points need to be determined and located on Figure 5.

Comment 8: Hydrogeologic Testing Program, Section 2.12.3, Subsection "Monitoring Program", Page 64: Six groups or nests of monitoring wells have been chosen to evaluate the pump test. Wells 43 and 16A have been dry recently (refer to the 1991 Annual Report). The pump test needs to address the possibility of dry wells at the time of the test.

Comment 9: Upon correction of the deficiencies in the pump test, the test is approved.

Comment 10: Data Reports, Section 3.4, Page 74: The perimeter wells will be sampled semiannually. The correction needs to be made.

Comment 11: General: U.S. EPA now requires all groundwater monitoring data to be submitted in an electronic format in addition to the hard copy. Starting with the next groundwater monitoring round, CCP must also submit the data on computer disc. Any size disc and format is acceptable. CCP must submit the data in disc form for the past sampling events that RMT has conducted.

Attachment 2
Scope of Work for Additional Work
Cook Composites and Polymers
Saukville, Wisconsin

Cook Composites and Polymers (CCP) must submit a Workplan, for approval by the United States Environmental Protection Agency (U.S. EPA), in consultation with the Wisconsin Department of Natural Resources (WDNR). The Workplan will address additional work needed at CCP's Saukville facility to more fully protect human health and the environment. The components to be addressed in the workplan are detailed below.

TASK 1: GROUNDWATER MONITORING WELL REPLACEMENT AND ADDITIONAL WELLS

The following wells must be replaced: 43, 44, 4A, 7A, and 8A. These wells are consistently dry and need to be replaced. Wells 43 and 44 defined a contamination plume during the early sampling events in 1986 and 1987. During this time, the wells were able to produce groundwater samples and thereafter well 44 was dry. Well 43 began to produce samples again in the Summer 1989 sampling round and the contamination plume was seen again by the Spring 1990 sampling round. Reliable coverage is needed in the glacial aquifer in this area. If it is determined that no replacement well will be capable of producing a constant groundwater sample in the glacial aquifer in this area (that area that was covered by wells 43 and 44), CCP must document this fact.

Additional wells are necessary to monitor to the east of the sink hole determined by the seismic survey conducted by Hatcher-Sayre. Coverage is also missing at the southern end of the facility, especially between RC-2 and shallow dolomite well 23. This area includes the truck wash and a spill area as identified in Figure 1 of the Corrective Action Order. All contour maps show contamination to be located north of well 48 but no wells are located in the area that "show no contamination."

CCP must provide a workplan that details the construction and locations of the replacement wells. CCP must comply with WDNR's standards regarding well installation, plugging and abandoning wells (ch. NR 141, Wis. Adm. Code) or U.S. EPA's Technical Enforcement Guidance Document (TEGD), OSWER 9950.1, September 1986, or Handbook of Suggested Practices for the Design and Installation of Ground-Water Monitoring Wells, EPA/600/4-89/034, March 1989.

TASK 2: POTENTIAL SOURCES OF GROUNDWATER CONTAMINATION

Figure 1, Potential Sources of Groundwater Contamination, of the Corrective Action Order on Consent (CAO) identifies 18 Hazardous Waste Management Units (HWMUs), Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOC). Several have been addressed prior to the CAO and the method of remediation has been documented in Task 1 of the CAO. The remedial actions taken prior to the CAO are considered by U.S. EPA to be "interim measures" and not final solutions. Review of Task 1, Annual Reports (Task 5), and quarterly groundwater monitoring reports supports the need for further work that will determine the final solution to each of these 18 units. Each unit in Figure 1

of the CAO is listed and described below in the order found in Figure 1, which is reproduced as Attachment 6.

Each unit must be described as it presently exists. Task 1 included only those units that had been addressed in pre-CAO remediation. In every case, there was a brief description and little post-remedial information is available. For example, much of the site is paved over which may include some of the old HWMUs, SWMUs, and AOCs listed in Figure 1 of the CAO. This may be an influencing factor in the investigation of the site and potential remediation of the sources of contamination. This factor must be addressed in the workplan.

CCP shall conduct an investigation, sampling for Appendix IX compounds, to characterize the contamination of the soil and rock units above the water table in the vicinity of the known or suspected contaminant releases listed in Figure 1 of the CAO. The investigation shall include, but not be limited to, the following information for each unit that requires additional work:

a. A description of the vertical and horizontal extent of contamination in the soil;

b. A description of contaminant and soil chemical properties within the contaminant source area and plume. This includes contaminant solubility, speciation, adsorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation, and other factors that might affect contaminant migration and transformation;

c. Specific contaminant concentrations;

d. The velocity and direction of contaminant movement;

e. An extrapolation of future contaminant movement;

f. Pursuant to Task 4.D of the CAO, contaminated soil that was managed on-site was to be in compliance with letters dated August 8, 1986 and June 10, 1987 from WDNR to Freeman Chemical. Task 1 gives little information with regards to the ultimate fate of the waste storage pile generated as a result of this activity. For each of the units below that have had contaminated soil excavated, describe the ultimate fate of the contaminated soil that was transported to the "storage pile.";

g. Unit specific concerns are addressed in their respective listings; and

h. If possible, link each source of groundwater contamination to a specific plume of groundwater contamination.

As identified in Figure 1, Page 7, of the Corrective Action Order, the potential sources of groundwater contamination that must be addressed in the workplan for Additional Work are:

1) "Barrel Storage Areas": There are a minimum of six barrel storage areas that are pinpointed on this map. None of the six barrel storage areas are described in Task 1 and it appears that no remediation has occurred in any of the six storage areas nor has any work been done to determine if any release has occurred from these units. The following work needs to be done to address these units:

- Locate and describe each barrel storage area identified on Figure 1 of the CAO. If additional areas are known, they must be included as well. Include each barrel storage area in the workplan. Include each unit with contamination in the CMS Work Plan. Include any historical remedial information on each site, if available.

- Paragraph 11.c of the CAO identifies soil adjacent to a barrel storage area along the southwest property line as contaminated. The soil sample was collected during soil boring and groundwater monitoring well installation. This location is also known to be located in a major hotspot of groundwater contamination adjacent to the old dry well. This area must be addressed in the workplan.

- Paragraph 11.e identifies a solvent storage area north of the truck scales as having known soil contamination. The soil was collected during soil boring and groundwater monitoring well installation. This area must be addressed in the workplan.

2) "Buried Incinerator location (?)": The old incinerator is not included in Task 1 as having been addressed prior to the CAO.

- Locate the incinerator and include the area in the workplan. If contamination is found, include the old incinerator in the CMS Work Plan. Include any historical remedial information on this site including any closure data.

3A) "Old Farm Well": The Old Farm Well was located and remediated as detailed in Task 1, Section 3.10. According to Task 1, "the well was located, plugged with a grout mix and abandoned". If this work was done in accordance with WDNR regulations, supply copies of the appropriate paperwork to U.S. EPA. It appears that no additional work is necessary with the "Old Farm Well".

3B) "Old Dry Well": The "Old Dry Well" is included in Task 1, Section 3.9. The well was located, described (physically), fluid was removed from the well (but not totally drained), sludge was removed by backhoe, and the well was backfilled with road bond size gravel and compacted. It appears that no samples were taken to determine the extent of contamination or to characterize the contamination. It appears that the Old Dry Well has the potential to continue to be a potential source of groundwater contamination and that the soil in and around this well is likely to be contaminated.

- The Old Dry Well is to be included in the workplan. At a minimum, the Old Dry Well is to be located and the backfill excavated. The contaminated soil in the dry well must be characterized and the extent of contamination must be determined. If contamination is found, this unit must be included in the CMS Work Plan. If any additional historical remedial information exists beyond that which was included in Task 1, it must be incorporated into the workplan.

- Paragraph 11.d of the CAO identifies the soil in the area of the "abandoned dry well" as having known soil contamination. The old dry well is located in a major hotspot of groundwater contamination.

4A) "Buried Caustic Tank": Task 1, Section 3.11, states that "the tank was located, the liquid within diluted and drained, sediment removed and taken to the storage pile, and the tank was filled with four yards of concrete after inspection."

- Include this unit in the workplan. At a minimum, the soils around and beneath the tank must be sampled to determine the extent of contamination, if any. Determine the fate of the contaminated soil that was taken to the storage pile. If contamination is found, this area must be included in the CMS Work Plan.

4B) "Buried Diesel Tank": Task 1, Section 3.15.1, states that "the tank was excavated intact in August 1986 and 'no contaminated soil or water was present'. The tank was disposed of as scrap metal and the hole filled with concrete."

- Submit any soil and/or groundwater analysis that was conducted to make this determination. Submit any report generated pursuant to the excavation. If no sampling occurred, include this area in the workplan. If contamination is found, this area must be included in the CMS Work Plan.

4C) "Buried Tank": This may be the styrene tank described in Task 1, Section 3.12.1. Task 1 states that "the tank was removed by Jacque's Welding and Crane Service of Port Washington. Contaminated soil was moved to the soil handling area for treatment, analysis, and disposition by the prescribed means."

- Submit information on the means in which the contamination was characterized, how the extent of contamination was determined in the excavation, the results of any sampling conducted in the soils adjacent and below the tank, any soil analysis that may have been conducted on the soils once they were stored in the "handling area" and the "proscribed means" in which the soil was disposed of. If the procedure has left contamination in place, include this area in the workplan the CMS Work Plan.

5) "Tank Farm": Task 1 does not mention this unit and thus, it appears that the tank farm was not addressed in pre-CAO remediation.

- This area must be included in the workplan. At a minimum, any release must be documented and soils analyzed to characterize the release, if any, and the extent of the release. If contamination is found, include this area in the CMS Work Plan.

- Paragraph 11.a of the CAO identifies the tank farm as an area of known soil contamination. The contamination was identified during soil boring and groundwater monitoring well installation. This possibly is the area that monitoring wells 43 and 44 have identified a major hotspot of groundwater contamination.

6) "Basement Sumps": The basement sumps were addressed in Task 1, Section 3.14. Task 1 states that "the sump was excavated, discarded and no contaminated soil or water was detected."

- Submit any soil and groundwater sample analysis used in the determination of "no contamination." If no sampling occurred, this area must be included in the workplan.

7) "Present Incinerator": Task 1 does not mention this unit and thus, it appears that no pre-CAO remediation was conducted at this unit.

- This unit must be included in the workplan. If contamination is found, include this area in the CMS Work Plan.

8) "Location of Former Tanks": Task 1 does not mention this unit, and thus, it appears that this area was not addressed in pre-CAO remediation.

- Include this area in the workplan. If contamination is found, include this area in the CMS Work Plan.

9) "Underground route of 'acid H2O' line": Task 1 does not mention this unit and thus, it appears that this was not addressed in pre-CAO remediation.

- Include this Area in the workplan. If contamination is found, include this area in the CMS Work Plan.

10) "Broken linseed (?) oil line: This was addressed in pre-CAO remediation and is covered in Task 1, Section 3.13. Task 1 states that "Contaminated water collected from the area was incinerated and contaminated soil was moved to the soil handling area for treatment and approved disposal."

- Submit any soil and groundwater analysis used in the determination of contaminant characterization and extent of contamination. Determine the fate of the removed soil and define "approved disposal". This area must be included in the workplan. If

contamination is found, this area must be included in the CMS Work Plan.

11) "Pit for Tank Scales": Task 1 does not mention this unit and thus, it appears that this area was not addressed in pre-CAO remediation. (Figure 1 of the CAO is taken from a previous Hatcher-Sayre submittal and the word "tank" is used to identify this area. However, "tank" should probably be replaced with "truck".

- This area must be addressed in the workplan. If contamination is found, this area must be included in the CMS Work Plan.

12) "Truck Washing Area": It appears that this area was not addressed in pre-CAO remediation.

- This area must be addressed in the workplan. If contamination is found, this area must be included in the CMS Work Plan.

13) "Acid Water and Other Product Spill Areas": A minimum of five areas are defined as spill areas on Figure 1. No spill area was specifically addressed in the pre-CAO remediation as outlined in Task 1.

- Each area in Figure 1 and any other area identified by CCP must be included in the workplan. Each area where contamination is found must be included in the CMS Work Plan.

14) "Storm Sewer": It appears that this area was not addressed in pre-CAO remediation.

- This area must be addressed in the workplan. If contamination is found, this area must be included in the CMS Work Plan.

15) "Tanker Parking Areas": Two areas are identified in Figure 1 as being "tanker parking areas". The tanker parking area near the Church yard may be the source of spills that flowed off-site to the Church yard. The tanker parking areas were not listed as having been remediated or investigated prior to the CAO.

- The two tanker parking areas and any other tanker parking area must be included in the workplan. If contamination is found, this area must be included in the CMS Work Plan.

16) "Contamination plume in the glacial aquifer as defined by wells 43 and 44, 1987": This is not listed in Figure 1 of the CAO and may be a newly defined Area of Concern which could be associated with the tank farm immediately north of the plume area (area 5 above). This area indicated a third major hot spot in the facility's groundwater as seen in the 1986 and/or 1987 groundwater sampling data. When wells 43 and 44 were no longer producing water samples due to the drought, this plume disappeared off of isocontour maps produced for the annual report (Task 5). (The Trend Analysis of the 1991 Annual Report shows well 43 as being dry between summer 1987 and summer 1989 with samples being taken

until summer 1991 and well 43 became dry afterwards. Approximate contamination is 150,000 ppb.) The soils are likely to be contaminated in this location and must be investigated as source of contamination to the groundwater. If contamination is found, this area must be included in the CMS Work Plan.

TASK 3: OFF-SITE CONTAMINATION

CCP may propose an improved sampling plan for the off-site contaminated soils (e.g Logeman Property and the Church Yard). A sampling plan which included each of the two sites, The Logeman property and the Church yard, was included in a conditionally approved workplan (Tasks 3A, 3B, and 3C) generated by Hatcher-Sayre. Since the conditional approval of the workplan, more advanced investigatory technologies have become available which may be beneficial to the investigation of the two contaminated off-site areas. CCP may propose improvements on the investigation contained in the conditionally approved workplan. Paragraph 11.b of the CAO identifies the Church yard as having known soil contamination.

TASK 4: BIOREMEDIATION/BIOVENTING/VAPOR EXTRACTION

Table 2-1, Page 2-3 of Task 1 lists the Saukville site's major organic contaminants and their susceptibility to bioremediation. The benzene, ethypbenzene, toluene, and xylene that comprises the greatest amount of known site contamination may be remediated through biological means. Site remediation through the present groundwater system in only "containing" the contamination. Additional work to remediate the site may include bioremediation and/or vapor extraction in addition to actual physical removal of remaining soil contamination. CCP must propose a study which will determine the feasibility of bioremediation of the groundwater and/or soils at the Saukville facility.

TASK 5: COMPLETION AND UPDATE OF TASK 4, WORK TO BE PERFORMED, CAO

Task 4 of the Corrective Action Order has not been approved by U.S. EPA. Generally, certain requirements have been met by the Hatcher-Sayre submittal. However, additional work is necessary to complete and update this task.

- Task 4A, Village of Saukville Water Supply: At the time of the Hatcher-Sayre submittal, Task 4 A, 4.b.iii, construction of 100,000 gallon storage/siltation basin had not been completed. Report on the completion of this portion of the task. The pump test will provide more information to complete this task.

- Task 4B, Exposure Information (Potential Receptors): Review the information submitted in the Hatcher-Sayre submittal and update the information where "no available information" was available. This information may be used in a Risk Assessment for the proposal of Alternate Concentration Limits (ACLs) in Task 4C and 4D.

- Task 4C. Groundwater Protection Standard: A groundwater protection standard was to be established after the Appendix IX sampling was completed as stated in the CAO and the Task 4 submittal. This task is to be completed after the Appendix IX sampling has been completed at the site. If an Alternate Concentration Limit (ACL) is to be proposed, a Risk Assessment would be necessary to support the ACL.

- Task 4D. Soil Protection Standard: The CAO based the soil protection standard on letters to Freeman Chemical Corporation from WDNR dated August 8, 1986 and June 10, 1987. The letters required that reliable field notes be taken during the soil excavation and treatment so that the information on soil handling be available on request. Rather than supplying redundant information, Task 2 of this Additional Work Scope of Work has requested that information be supplied to U.S. EPA on the fate and treatment of the excavated soil and Freeman's compliance with the two letters as required in Task 4D of the CAO.

TASK 6: QUALITY ASSURANCE PROJECT PLAN (QAPjP)

All additional work conducted and all work yet to be completed pursuant to the Corrective Action Order must be conducted pursuant to the Attached Region V Quality Assurance Project Plan and accompanying guidance documents. Specifically, all soil samples and groundwater sampling (Appendix IX) must be conducted pursuant to an approved QAPjP. The Region V Model QAPjP and appropriate guidance is attached to this Order.

TASK 7: CORRECTIVE MEASURES STUDY

CCP must conduct a Corrective Measures Study (CMS) pursuant to Attachment 5. The CMS must address the facility's contaminated soils, and the potential for bioremediation/bioventing/vapor extraction at the facility. Re-evaluation of the groundwater monitoring system is covered separately. The CMS may propose a modified groundwater system if a modification is necessary to implement other site remediations.

TASK 8. EVALUATION OF THE GROUNDWATER REMEDIATION SYSTEM

Task 5 of the CAO requires the evaluation of the groundwater remediation system in place. At the time the remediation was begun, one goal of the system was to "dewater the glacial aquifer". Due to a combination of the drought-like conditions of the past five years and the pumping of the dolomite aquifer, the glacial aquifer has shown signs that dewatering has occurred. However, it is necessary to re-evaluate the groundwater remediation system with respect to its compatibility with the removal and/or bioremediation that will address remaining sources of contamination on site. This task may be conducted as part of the Corrective Measures Study.

TASK 9. REPORTS

A. Workplan

Respondent shall submit to the U.S. EPA a workplan on Tasks 1 through 4. Included in the workplan is a Quality Assurance Project Plan (QAPjP) for the Additional Work and for the Appendix IX sampling to be conducted at the facility.

B. Progress

Respondent shall at a minimum provide U.S. EPA with signed, bi-monthly progress reports containing:

1. A description and estimate of the percentage of Additional Work completed;

2. Summaries of all findings;

3. Summaries of all changes made in the Additional Work investigation during the reporting period;

4. Summaries of all contacts with representatives of local community public interest groups or State government during the reporting period;

5. Summaries of all problems or potential problems encountered during the reporting period;

6. Actions being taken to rectify problems;

7. Changes in personnel during the reporting period;

8. Projected work for the next reporting period; and

9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

C. Draft and Final Additional Work Report

Upon U.S. EPA approval, Respondent shall prepare a Report detailing the findings of the Additional Work conducted pursuant to this workplan. The Report shall be developed in draft form for U.S. EPA review. The Additional Work Report shall be developed in final format incorporating comments received on the Draft Additional Work Report.

Draft and Final CMS Report

As determined in the CMS Work Plan schedule.

Three copies of all reports, including the workplan, and both the Draft and Final RCRA Facility Investigation Reports shall be provided to U.S. EPA and three copies shall be provided to WDNR.

Facility Submission Summary

A summary of the information reporting requirements contained in the Additional Work Scope of Work is presented below.

Facility Submission	Due Date
Workplan for Additional Work (Tasks 1 through 4)	45 days upon Receipt of this letter
Quality Assurance Project Plan (QAPjP) (Task 6)	45 days upon Receipt of this letter
Draft Report for Additional Work (Tasks 1 through 4 and Task 5)	Within 30 days of completion of additional work as imposed by schedule in approved workplan
Final Report for Additional Work (Tasks 1 through 4 and Task 5)	30 days after receiving comments on Draft Report
CMS Workplan (Tasks 7 and 8)	Concurrent with Workplan for Additional Work (Tasks 1-4)
CMS Draft Report	Contingent on schedule imposed in CMS Plan
CMS Final Report	30 days after receiving final comments on Draft Report
Progress Reports on Tasks 1 through 8	Bi-monthly

Attachment 3
Letters sent to Freeman Chemical Company from U.S. EPA

a. Letter dated May 9, 1988, entitled "Task 3 Conditional Approval" with attachment.

b. Letter dated June 30, 1988, entitled "Task I and III Comments" with attachment.

c. Letter dated October 13, 1988, entitled "Task 3 Project Plan" with attachment.

d. Letter dated December 21, 1988, entitled "Task 3 Project Plans".

e. Letter dated February 10, 1989, entitled "Annual Report".

f. Letter dated March 2, 1989, entitled "Task 3 Project Plans" with attachment.

MAY 09 1988

5HS-12

Mr. Russell Cerk
Freeman Chemical Corporation
217 Freeman Drive
Port Washington, Wisconsin 53074

Re: Freeman Chemical Corporation
Corrective Action Order
Task 3 Conditional Approval

Dear Mr. Cerk:

On April 4, 1988, Hatcher, Incorporated on behalf of Freeman Chemical Corporation (Freeman) submitted a response to Mr. William Muno's letter of February 29, 1988, regarding the Task 3 report as required by the Corrective Action Order for Freeman's Saukville, Wisconsin facility. This second set of comments has been reviewed by staff of the Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (U.S. EPA). Task 3 is hereby approved conditional on the incorporation of the modifications included in the attachment to this letter. Please note that the items are numbered as in the U.S. EPA letter of February 29, 1988 and the April 4, 1988 letter from Hatcher, Incorporated.

As indicated in you letter of April 4, 1988, please submit a revised plan incorporating the above comments within 20 days of receipt of this letter. If you have questions or concerns on this matter please contact Laura Lodisio at (312) 886-7090 or Mark Tusler of the WDNR at (608) 266-5798.

Sincerely yours,

Joseph M. Boyle
RCRA Enforcement

Enclosure

cc: Mark Tusler, WDNR
Roger Hatcher, Hatcher, Inc.

bcc: R. Smith, REB
J. Baker, REB
C. Cuchalski, ORC

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5/6/88 EPA Response to Freeman

ATTACHMENT

A. SAMPLING PLAN

1 and 2.) The capture zone of the groundwater removal system as well as the extent of off-site contamination has not yet been clearly defined. This task will still need to be performed. Additional wells may be required to accomplish this task. The proposed pump test, in itself, will not eliminate the need to further define zone of capture and extent of off-site contamination. You have not addressed the evaluation of contamination based on existing and proposed U.S. EPA drinking water standards and Chapter NR 140 Wisconsin Administrative Code preventative action limits and enforcement standards.

In conclusion, the original items numbered 1 and 2 in the February 29, 1988, letter stand unchanged.

3.) Well number 7 is considered to be in a key location because it lies between the site and the river as well as a municipal well. However, the well is clearly not in a permeable formation and should be reconstructed in a more porous section of the dolomite aquifer.

4.) Based on past sampling and analytical data, well 20 has shown increasing levels of contamination. It is also in a key location as it is located between the site and the municipal water supply. Second, well 23 can also be considered to be a downgradient well and would serve to give useful data. Third, the statement that the well is "fairly far removed" from the contamination is irrelevant since this makes unverifiable assumptions. The comment stands, unchanged.

5.) All waste streams spills and contamination have not been adequately characterized through chemical analysis. Therefore, it is necessary that sampling be conducted for constituents listed at Appendix IX to 40 CFR Part 264, as was agreed to in the Consent Order. Second, this characterization is not intended for the purpose of determining compliance with the WPDES discharge permit. It is the purpose of characterizing hazardous constituents in groundwater.

The following wells are to be sampled for constituents listed at Appendix IX to 40 CFR Part 264.

6A
47
RC-3
~~21A~~
~~24A~~
~~28~~
~~29~~
~~30~~
33

Compositing of samples will not be acceptable unless compositing methods can be documented to maintain sample integrity (i.e. - prevention of loss of Volatile Organic Compounds) according to approved sampling and analytical methods. These are distinct sampling points. Your comment regarding common discharge points is not clear.

6.) Your response to this item is acceptable.

7.) Your response to this item is acceptable.

8.) Based on your comments, it is acceptable to delete the Hazardous Substance List metals from the analysis. The method 625/HSL organics however, should be sampled and analyzed.

9.) Sampling with an intermediate vessel is unacceptable. It will be necessary for you to employ an alternate sampling method to alleviate the need to transfer the sample.

10.) Well 8 was originally proposed as part of the sampling program. It does not seem appropriate that this well be dropped from the monitoring system because proper purging methods are required. Comment stands unchanged.

11.) Comment stands unchanged. See item 10.

12.) Your response to this item is acceptable.

13.) This table will be useful by the field sampling team in properly developing the wells and should be developed as stated. Your response to the second two items is acceptable.

14.) Whenever sampling is conducted for constituents listed at Appendix IX to 40 CFR Part 264, field and trip blanks should be analyzed. Our comment stands.

15.) Though you indicated samples will be shipped every other day, it is not clear when the holding times begin. Also, you need to specify the holding times for the Appendix IX sampling.

16.) You will need to submit the required documentation regarding this matter.

17.) Task 4 will determine if additional wells will be required. We request, therefore, that you postpone scheduling the pump test until Task 4 has been approved.

18.) Your response to this item is acceptable.

19.) Your response to this item is acceptable.

DATA MANAGEMENT

1. Your response to this item is acceptable.

2. Your response to this item is acceptable.

3. a.) Your response to this item is acceptable.

   b.) These factors can change over time, and therefore should be done on an ongoing basis.

   c.) These factors can change over time, and therefore should be done on an ongoing basis.

   d.) Your response is acceptable.

4. Your response to this item is acceptable.

5. Your response to this item is acceptable.

6. Your response to this item is acceptable.

7. Your response to this item is acceptable.

8. Section 3.4 indicates that the quarterly reports will consist of a summary of results, pertinent observations, changes to the anticipated program, why they occurred and other pertinent comments. These changes should be shown as indicated in Section 3.3 according to the graphics the Lotus 1-2-3 system is capable of producing (p. 41 of original sampling plan). Since this graphical data is readily available, it should not be difficult to include it in the quarterly as well as annual reports. This is especially important when exceedances are noted.

COMMUNITY RELATIONS PLAN

Your responses to this section are acceptable.

OPERATION & MAINTENANCE

Your responses to this section are acceptable.

JUN 30 1988

5HS-12

Mr. Russell Cerk
Freeman Chemical Corporation
217 Freeman Drive
Port Washington, Wisconsin 53074

Re: Freeman Chemical Corporation
Corrective Action Order
Tasks I and III Comments

Dear Mr. Cerk:

On June 10, 1988, a meeting was held in Chicago, Illinois to discuss the United States Environmental Protection Agency's (U.S. EPA) and the Wisconsin Department of Natural Resource's (WDNR) comments on Tasks I and III as required by the above-referenced Corrective Action Consent Order. The following were in attendance:

Russell Cerk; Freeman Chemical Corp.
Craig Bostwick; Freeman Chemical Corp.
Roger Hatcher; Hatcher, Inc.
Steve Werner; Hatcher, Inc.
Glenn Sternard; U.S. EPA
Connie Puchalski; U.S. EPA
Laura Lodisio; U.S. EPA
Joseph Baker; U.S. EPA
Robert Smith; U.S. EPA
Mark Tusler; WDNR
Barbara Zellmer; WDNR (speaker phone)
Ed Lynch; WDNR (speaker phone)

At the time of the meeting it was agreed that U.S. EPA and WDNR would respond in writing to several issues in the Tasks I and III conditional approvals that remained unclear. It was further agreed that Freeman Chemical Corporation would be submitting a written proposal regarding four issues that were not adequately addressed in the original submittals. Attached are the two agencies joint comments. These should be incorporated into the conditional approvals for Tasks I and III.

Upon receipt of the Freeman Chemical Corporation submittal, U.S. EPA and WDNR shall review the proposals and respond on their adequacy within thirty (30) days. We anticipate that this response will be a final conditional approval of Tasks I and III. As discussed and agreed upon at the time of the meeting, Freeman Chemical Corporation shall re-submit a revised set of Support Plans as required in Task III, incorporating all changes as agreed upon during this period of discussion and exchange of information. This plan is to be submitted within fifteen (15) days of receipt of the Agency's final approval.

Second, in a letter from Mr. Joseph M. Boyle, Acting Chief, RCRA Enforcement Branch on April 27, 1988, it was indicated that the Task IV comments would be forwarded to you no later than June 30, 1988. In light of the additional time necessary to clarify outstanding issues in Tasks I and III, however, this time schedule is no longer appropriate. In order to maintain the orderly progress of events it is necessary that we resolve issues under Task I and III before proceeding to Task IV. As we see it at this time, therefore, comments on Task IV will be submitted to you by August 30, 1988.

There is one issue relating to Task IV that arose during the June 10, 1988, meeting, however, which may be beneficial to discuss at this time. That is, the lack of a time frame for clean-up of the contamination on and off the Freeman site. Up to this point, there has not been an estimate of how long complete remediation will take. In order for the parties involved to make a decision on the adequacy of your remediation methods it will be necessary that you demonstrate not only the attainment of specific health based protection standards, but the length of time it will take to attain those standards.

As stated above, we expect that the attached comments will be incorporated into the revised Sampling plan. We will respond to your submittal, which is due by July 1, 1988, within thirty (30) days of receipt.

It is hopeful that this provides you with sufficient information to clarify our concerns. If you have questions please contact Laura Lodisio of my staff at (312) 886-7090.

Sincerely,

Sally K. Swanson, Acting Chief
RCRA Enforcement Branch

Enclosure

cc: Mark Tusler, WDNR
Roger Hatcher; Hatcher, Inc.

ATTACHMENT

MODIFICATIONS TO CONDITIONAL APPROVAL OF TASKS I & III

LOGEMANN PROPERTY

As agreed, we would use information previously collected in determining whether additional work would be required. Information concerning the Logemann property was found in the "Summary 1985 Interim Remedial Investigations Report". The report documents that no detectable levels of VOCs were present in pz-26 (boring log or well construction documentation was not found) and provides a narrative of geophysical work that was done on the property.

The above-referenced piezometer was located about 150 feet to the northeast of the incinerator. This northeasterly direction was apparently chosen because of the conductivity anomaly emanating from the incinerator. Since regional groundwater flow is to the east or east-southeast the location of this well may be cross gradient to possible contamination from the incinerator.

To complete our investigation of the incinerator, it is required that at least two borings be placed near the incinerator. One boring shall be installed within 10 feet of the east side of the incinerator, the other shall be installed approximately 50 feet east of the incinerator. The borings shall continue to the water table. Soil samples shall be HNU (or equivalent) screened at 5 foot intervals. The soil sample with the highest HNU reading from each boring shall be analyzed for method 624/HSL parameters. At the water table, a temporary screen shall be installed in each boring. The temporary well shall be purged and sampled for method 624/HSL parameters. An additional soil sample shall be collected in the area where the ash was removed from the incinerator. This sample shall be collected at a depth of 0 to 6 inches and analyzed for method 625/HSL, HSL metals and EP metals.

At the meeting, Hatcher, Inc. stated that there were no anomalies that would indicate the metal that would be contained in the wastepile located on the Logemann property. This statement contradicts what is stated in the 1985 summary. The 1985 summary notes the high readings observed in an old solid waste area located on the southwest end of the Logemann property and states that the "readings indicate the probable presence of metallic trash". As documented by the road leading from the incinerator to this solid waste area (Aerial Photographic Analysis of Hazardous Waste Disposal Areas, U.S. EPA, TS-AMD-82005f, November 1982), this is the probable location where the incinerator ash was disposed.

To complete the investigation of the wastepile on the Logemann property, it is required that three shallow borings be taken in the wastepile to characterize the waste. In each of the borings, bore through any existing cover material. Continuously sample the boring. Continue boring through the waste until native soils are encountered. From each boring prepare a composite sample of the waste. Analyze the samples for method 624/HSL, method 625/HSL, HSL metals and EP metals.

CAPTURE ZONE FOR RANNEY COLLECTORS

Based on changes in water level elevation, it's possible to make a rough estimate of the impact of remedial action in the glacial deposits. By comparing the volume of water due to the change in elevation to the volume of water pumped, it's possible to compare dewatering due to the Ranney collectors versus the dolomite extraction wells. The volume of water due to the change in elevation is estimated by comparing the water table maps from December 15, 1986 and October 9, 1987. Looking at Ranney collectors RC-1 and RC-3 their total estimated withdrawal rate is 0.22 gpm. Over the period of December 15 to October 9, these collectors extracted 89,000 gallons. Assuming an effective area of about 500 ft. by 400 ft., a porosity of 0.4 and a water elevation change of 5 feet, approximately 3 million gallons were removed. Due to this volume discrepancy, it appears that the dolomite extraction system is having a significant effect on water levels in the glacial deposits.

The larger flow from RC-2 (5 gpm) has been ignored in the above calculations. Given the lack of generation between RC-2 and the area around RC-1 and RC-3, and the low permeability of the glacial deposits, it's physically impossible for RC-2 to have caused the observed elevation change.

Another reason that the dolomite extraction system is having a significant impact on the glacial deposits is the hydraulic gradient. The horizontal gradient in the glacial deposits is approximately 0.02 ft/ft. Due to the deep extraction well, the vertical magnitude of the differences in the gradients, the dolomite extraction system will be the major cause of dewatering in glacial deposits.

Since it appears that the dolomite extraction system is causing most of the dewatering in the glacial deposits, we do not have a good measure for the effectiveness of the Ranney collectors. The water table surface maps do not provide sufficient detail to determine the capture zones of the Ranney collectors. For this reason, additional monitoring near the Ranney collectors are required to establish their effectiveness.

To estimate the capture zone of the Ranney collectors the monitoring of the areas highlighted on the attached map is proposed. These areas will be assumed to be representative of other areas served by the Ranney collectors. The objective of the monitoring is to determine the area of influence by the collectors and to find the approximate location of the groundwater divide downgradient of the Ranney collector. This divide is the capture zone of the collector because only contaminants upgradient of the divide can be intercepted by the collector.

Since only water elevation measurements are needed in determining the capture zone, driven piezometers or well points are adequate. The well points would be installed to a depth of 755 to 760 depending on the depth of the Ranney collector. The exact number of well points must be determined in the field. A minimum of 8 wells is required. The attached map shows recommended locations. A 25 foot spacing should be able to locate the groundwater divide to within 25 feet.

APPENDIX IX SAMPLING LOCATIONS

In consideration of the concerns raised by Hatcher Inc., during the June 10, 1988, meeting relating to the proposed locations for Appendix IX monitoring, U.S. EPA proposes the following Appendix IX sampling scheme. It is hopeful that this revised scheme will satisfy the concerns of all parties involved.

Sampling of the shallow and deep dolomite aquifers shall remain as proposed by Hatcher Inc. in their Task 3A, 3B, and 3C Project Plan dated December 17, 1987. Specifically, the shallow dolomite sample shall be obtained by manually operating pumps in wells 21A, 24A, 28, and 29 simultaneously. The deep dolomite water sample shall be obtained from deep well 30. Sampling Ranney collectors for analyzing the shallow aquifer is not acceptable. To provide more detailed water information, monitoring wells designed to determine point water quality data horizontally and vertically are desired. Care must be taken to collect water samples that will not bias analytical results through the loss of volatile organics. Degassing, aeration and temperature variations can cause significant changes in the solubility of volatile compounds and can alter the chemical speciation of many dissolved chemical constituents. The method proposed for sampling the Ranney collectors does not provide a means of collecting a representative sample while at the same time minimizing the above detrimental effects. U.S. EPA, therefore proposes that monitoring wells 6A, 47, and 29 be sampled for Appendix IX constituents. These wells are located in areas of concern and have shown significant contamination during previous rounds of sampling. Detection limits for all Appendix IX constituents should be included as a part of the Amendment to the Quality Assurance Project Plan (QAPP) for the site.

In addition the Agency disagrees with the assertion by Hatcher, Inc. made during the meeting that there is little or no chance that organic contamination will migrate or leach from contaminated soils at the Freeman site. Several recent studies (e.g., Roy and Griffin, 1985) indicated that several of the organic contaminants found in the groundwater at Freeman possess moderate to high mobilities in water saturated soil environments thus increasing the threat of contaminant migration. Compounds analyzed in these studies include, Benzene, Carbon Tetrachloride, Ethylbenzene, 1,1,1 Trichloroethane and Toluene.

Reference:

Roy W.R., and Griffin, R.A., Mobility of Organic Solvents in Water Saturated Soil Materials, Environ, Geol, Water Sci., Vol, 7, No. 4, pp. 241-247

Pz-7

To reiterate the last two comments regarding this matter, U.S. EPA feels it is necessary that there be at least one well able to sample the upper portion of the dolomite aquifer in the vicinity of Monitoring Well 7. A well in this location is important because it will detect contamination moving eastward toward the river. Bearing in mind that the mode of transport in the upper dolomite aquifer is most likely through fracture zones and/or solution channels, it is not impossible to locate a useable monitoring well in the general area of the present Pz-7. Due to the slow recovery rates in Pz-7 it is apparent that the well is placed within a less permeable zone of the upper dolomitic aquifer. Though we do not disagree with your statement that the well may still be an effective monitoring station, the extremely slow recovery of this well indicates that the well may not provide a truly accurate representation of groundwater quality in this aquifer. In order to assess the situation it is required that Pz-7 be included in the proposed pump test. If comparison of drawdown in Pz-7 to other wells in the aquifer indicate that the permeability of Pz-7 is not adequate, an additional well in the vicinity of Pz-7 will be required. Also, it is suggested that you pursue additional hydraulic information (i.e. slug test,...) to get a more accurate picture of site conditions.

CHURCH PROPERTY

In our original review of Task I, we asked for additional detail concerning the level of contaminants left on the church property. The February 15, 1988, addendum responded with HNU readings collected during the construction of the Ranney system. As expressed in our meeting, in order to properly evaluate the contamination in the soils, we must have analytical results to document levels of contamination. In our meeting, Hatcher, Inc. stated that groundwater results could be used as an indication of the contamination in the soils. Based on the sampling results from last April's sampling, the VOCs in the groundwater range between zero (well 16a) and 300 ug/l benzene, 15,000 ug/l toluene, 24,000 ethyl benzene, 160,000 ethyl benzene and 200 ug/l t - 1, 2 dichloroethylene (well 47). The levels from well 47 represent a significant threat to public health and the environment.

Of immediate concern is the levels of contaminants in the shallow soils (0 - 3 feet). Only qualitative information (odor and HNU values) is available for the church property soils. No quantitative analytical data has been presented. If the shallow soils are as contaminated as the groundwater, we will need additional remedial action.

5HR-12

OCT 13 1988

Mr. Russell Cerk
Freeman Chemical Corporation
217 Freeman Drive
Port Washington, Wisconsin 53074

Re: Freeman Chemical Corporation
Corrective Action Order
Task 3 Project Plans

Dear Mr. Cerk:

This is in response to the submittal of August 26, 1988, from Hatcher, Incorporated on behalf of Freeman Chemical Corporation. The submittal consisted of revised project plans for tasks 3A, 3B, 3C and 3D as required by the above-referenced Corrective Action Order. The plans have been reviewed by the Wisconsin Department of Natural Resources and the United States Environmental Protection Agency.

Please be advised that the plans are approved provided the conditions listed in the enclosure to this letter are incorporated. Pursuant to Section VIII-6 and subject to Section XVIII of the Consent Order, Freeman Chemical Corporation shall implement the plan including the specified modifications.

If you have any questions and/or concerns on this matter, please contact Ms. Laura Lodisio of my staff at (312) 886-7090.

Sincerely yours,

ORIGINAL SIGNED BY
WILLIAM E. MUNO

William E. Muno, Chief
RCRA Enforcement Branch

Enclosure

cc: Mark Tusler, WDNR w/enc.
Rogher Hatcher, Hatcher, Inc. w/enc.

ENCLOSURE

Freeman Chemical Corporation
Conditions for Approval: Task 3 Project Plans

1.) pgs. 13-17: All new wells installed during the corrective measures study and implementation will be included in the quarterly monitoring program.

2.) pg. 13: In the past, the wells monitored annually have been analyzed for a total VOC screen. In order to maintain consistency in sampling and analysis, data comparison and appropriate trend analysis Freeman should continue to sample & analyze for those parameters quarterly. Since the BTX list of parameters leaves out some of the contaminants found in previous analyses it is not acceptable to modify the sampling parameters at this time.

Also, it is necessary to note that all groundwater sampling parameters may change following the Appendix IX sampling event. It will then be required to analyze for a subset of parameters which include the Appendix IX constituents found.

3.) pg. 17: In the U.S. EPA letter of June 30, 1988, in response to discussions at the June 10, 1988, meeting between Freeman Chemical, Hatcher, Inc., U.S. EPA and WDNR it was indicated that a composite of four shallow dolomite wells (21A, 24A, 28 and 29) was acceptable for Appendix IX sampling and analysis. The decision to allow the four sampling points to be composited and analyzed as a single sample was based on statements made at the meeting that the four wells are pumped directly to one common discharge point which would allow sampling of a composite stream from these four wells. Your revised sampling plan does not verify that this is the case. It appears from discussion of this portion of the plan, as well as on page 32-33, that the discharge "manholes" are separate for each of these monitoring wells. If this is the case, then our previous concerns and comments are still valid and individual sampling/analysis should be conducted. Composites of four separate sampling points is not acceptable.

4). pg. 17: In the U.S. EPA letter of June 30, 1988, it was stated that three of the glacial overburden wells (6A, 47 and 29) would be sampled for Appendix IX parameters. Since monitoring well 29 is actually a shallow dolomite well rather than a glacial overburden well, this was an apparent typographical error on our part. Therefore, please replace monitoring well 29 with

MW-44 which is the adjacent glacial well and should have been properly noted.

Second, when Appendix IX analysis is conducted, Freeman will identify, quantitatively, the largest peaks found for parameters not identified as Appendix IX constituents.

5.) pg. 17: In the proposal, it appears that the POTW sampling would be limited to quarterly samples for a period of one year. Influent, effluent and digested sludge monitoring will be included in the ongoing quarterly monitoring program. After the first year of sampling, Freeman Chemical Corporation may request approval of a revised sampling program.

6.) pg. 18: The term "ready for land application" should be defined. The sludge sampling from the POTW should be done prior to additional treatment before land application.

7.) pg.24: Time schedules for monitoring may change pending approval of all plans. The Appendix IX sampling event will not be conducted until the QAPP has been approved.

8.) pg. 32: The sampling and compositing methods for the shallow dolomite wells should be documented in detail. This portion of the plan states that the sampling taps are located on each well head. If there is not a common discharge point for these four wells, the four monitoring wells should be sampled and analyzed individually, as stated in comment 3.

9.) pg.33: When purging PW-8 a bladder pump should be used instead of a submersible pump to avoid excess aeration.

10.) pg. 46: The plan details a complex method for collecting samples at the Saukville POTW. These details are designed to remove some of the variability associated with the periodic discharges from the ranney collectors. Rather than removing the variability, we would prefer that the ranney collector operation not change during sampling. The sample will be taken at a time when all three of the ranney collectors have run continuously, under normal operating conditions for a period of 24 hours. If any of the ranney collector systems shut down during that period, the sampling will be rescheduled.

11.) pg. 46: When sampling for VOC's at the POTW (or at any other point) a bailer with bottom discharge will be used.

12.) pg. 46: The POTW effluent samples should be taken prior to the point of chlorination to avoid any possibility of the chlorination forming chlorinated organic compounds.

13.) pg 47-48: Whenever samples are to be analyzed by HNu/OVA for field screening, specific handling procedures need to be employed. Freeman Chemical needs to detail these procedures. At a minimum, all soil samples should be placed in glass jars with acceptable teflon-lined caps to allow insertion of the test probe without opening. Samples must be allowed to equilibrate for a specific period of time at a specific temperature of at least 70°F, in order to ensure consistent, comparable results.

Second, Freeman has not addressed calibration procedures and frequency for field equipment. This information is necessary to ensure reliable field screening results.

14.) pg. 53: As stated in the U.S. EPA letter of August 4, 1988, the seismic lines must be three to five times the maximum depth of interest. Because the river channels depths are expected to be greater than 300 ft., the trace lines must be extended. Also, the letter stated that since the buried river channel may extend to the south, the seismic survey lines must extend to the south. This must be addressed in the next revision of the plan.

15.) pg. 53: As stated in the U.S. EPA letter of August 4, 1988, the lateral resolution in the data is determined by geophone spacing. If concrete or other barriers are encountered in the length of the trace lines, it must be accounted for in the spacing of the geophones. This issue was not addressed in the revised plan. An explanation of how this concern will be addressed is necessary.

16). pg. 53: A justification of the choice of energy source for the seismic study is necessary. Please be advised that if the source used in the study is not adequate for the purposes of the study, the work may need to be repeated with a larger source.

17.) pg. 54: When will the aquifer pump test be conducted?

18.) pg. 54-56: To help identify the extent of the capture zone for the dolomite extraction system, prepare glacial and

shallow dolomite water elevation maps at the beginning and end of each step in the pump test program. The monitoring program for the pump test identified six piezometer nests. Six points will not provide sufficient information to generate the water maps. Record water elevations for all monitoring wells installed by Freeman at the beginning and end of each step, including Pz-7 which was specifically agreed upon.

19.) pg.57: WDNR nor U.S EPA has a copy of the referenced step-drawdown test conducted in the Spring of 1987. Hatcher, Inc. should submit a copy for review.

20.) pg. 67: Freeman Chemical Corporation needs to specify which analytical method will be used for interpret data from the pump test.

21.) pg. 76-79: In a letter from Hatcher, Inc. on April 4, 1988, it was stated, in regard to U.S. EPA comments of February 29, 1988, on the Community Relations Plan, that "Freeman accepts the comments from your staff and will include these modifications in the revised plan". This has not been done and the plan needs to be modified accordingly.

22.) QAPP: The subject document is not a QAPP for Freeman Chemical Corporation. It is a good example of a general procedure for a laboratory's internal quality control program. A QAPP must be site specific. Freeman should provide the laboratory with a list of the parameters they are required to analyze under the terms of the corrective action. The laboratory should then prepare a QAPP specifically for those parameters, identifying matrix, methods, precision and accuracy limits, and acceptable levels of quantitation. This all becomes part of the corrective action agreement.

Some steps (e.g., sample custody), identified in the laboratory program, may be retained for inclusion in the site specific QAPP. Other portions, especially section 7, will have to be completely written.

D 6115 88 660

5HR-12

DEC 2 1 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Russell Cerk
Freeman Chemical Corporation
217 Freeman Drive
Port Washington, Wisconsin 53074

Re: Freeman Chemical Corporation
Corrective Action Order
Task 3 Project Plans
V-W-88-R-002

Dear Mr. Cerk:

This is to acknowledge receipt of a letter dated December 8, 1988, from Mr. Stephen G. Werner, Vice-President, Hatcher-Sayre, Inc. on behalf of Freeman Chemical Corporation. The letter proposes a schedule for some of the work to be performed in accordance with the project plans which were conditionally approved on October 13, 1988.

Please be advised that the following schedule is hereby approved. This schedule is considered incorporated into the above-referenced order in accordance to Section XXI of the order.

1. Submittal of revised workplan to incorporate required modifications specified in the October 13, 1988, approval letter no later than December 16, 1988.

2. Submittal of the annual water quality report no later than December 16, 1988.

3. Performance of a seismic reflection geophysical survey the week of December 13, 1988.

4. Submittal of the QAPP no later than January 6, 1989.

5. Performance of the church yard sampling and investigation of the Logeman property will be performed within thirty (30) days after final approval of the QAAP.

6. The replacement of Well 7 will be performed in conjunction with the drilling of a confirmation boring/monitoring well in the sinkhole/buried river channel vicinity. This will be performed when the geophysical data has been submitted for review and comments, and a specific boring/monitoring well location is agreed upon by United States Environmental Protection Agency (U.S. EPA) and WDNR.

7. The aquifer test which requires the pumping of several different wells at different intervals, will be performed no later than June 1989. If, however, the Village of Sankville completes modifications to their municipal wells prior to that time, Freeman Chemical Corp. should make an effort to obtain their cooperation and complete the pump test at the earliest date possible.

Second, another letter dated December 8, 1988, from Mr. Werner was received which detailed some modifications to the seismic survey to be conducted. The proposal in that submittal is hereby approved. The modified plan is also considered to be incorporated into the approved workplan and the above-referenced order in accordance with Section XXI of the order.

Should you have questions and/or concerns regarding this matter, please feel free to contact Ms. Laura Lodisio of my staff at (312) 886-7090.

Sincerely yours,

William E. Muno, Chief
RCRA Enforcement Branch

cc: Stephen G. Werner, Hatcher-Sayre, Inc.
Mark Tusler, WDNR

5HR-12

2/10/89

Mr. Russell Cerk
Freeman Chemical Corporation
217 Freeman Drive
Port Washington, Wisconsin 53074

Re: Freeman Chemical Corporation
Corrective Action Order
Annual Report

Dear Mr. Cerk:

This is to acknowledge receipt of the annual groundwater report, dated December 16, 1988, from Hatcher-Sayre, Inc., on behalf of Freeman Chemical Corporation (Freeman). The report was submitted in accordance with Task 5B of the Scope of Work (Attachment I) of the above-referenced Order. The purpose of the report is to make an evaluation, based primarily on analytical data and water flow rates of the effectiveness of the groundwater collection systems.

Upon review of the report by the United States Environmental Protection Agency (U.S. EPA) and the Wisconsin Department of Natural Resources (WDNR), the determination has been made that the effectiveness of the groundwater collection systems has not been adequately evaluated. It is agreed, as stated in the report, that there is not enough data available at this time to delineate trends and that additional work will need to be performed to accurately monitor and evaluate the remediation systems and to develop a better understanding of the local groundwater regime.

Section IX of the above-referenced Order requires that, if the annual evaluation under Task 5B of the Scope of Work determines that corrective measures do not meet the stated objectives of such corrective measures, Respondent will submit a proposal for additional work. At this time, Freeman has submitted project plans for Tasks 3A, 3B, and 3C of the Scope of Work. These plans propose some additional work to be conducted at the facility (i.e., aquifer pump test, additional wells, etc.). These plans were conditionally approved on October 13, 1988. A revised set of project plans submitted on December 16, 1988, are currently under further review by U.S. EPA and WDNR. At this time, therefore, no additional plans for further work are required. If the U.S. EPA or WDNR determines that additional plans to address additional investigatory, and/or engineering evaluations are necessary, the U.S. EPA will require those plans pursuant to Section IX of the Order. In the meantime, we will evaluate the acceptability of the work proposed in the Task 3 project plans.

If you have any questions on this matter, please do not hesitate to contact Ms. Laura Lodisio of my staff at (312) 886-7090.

Sincerely yours,

[redacted]

William E. Muno, Chief
RCRA Enforcement Branch

cc: Stephen Werner, Hatcher-Sayre, Inc.
Mark Tusler, WDNR

MAR 02 1989

5HR-12

Mr. Russell Cerk
Freeman Chemical Corporation
217 Freeman Drive
Port Washington, Wisconsin 53074

Re: Freeman Chemical Corporation
Corrective Action Order
Task 3 Project Plans

Dear Mr. Cerk:

This is in response to the submittal of December 16, 1988, from Hatcher-Sayre, Incorporated on behalf of Freeman Chemical Corporation. The submittal consisted of revised project plans for Tasks 3A, 3B, 3C and 3D as required by the above-referenced Corrective Action Order. The plans have been reviewed by the Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (U.S. EPA).

Please be advised that the plans are hereby approved provided the conditions listed in the enclosure to this letter are incorporated. Pursuant to Section VIII-6 and subject to Section XVIII of the Consent Order, Freeman Chemical Corporation shall implement the plan, including the specified modifications. This conditional approval is considered final; no additional revision is necessary at this time. The plans should be implemented in accordance with the schedule which was approved in the U.S. EPA letter of December 21, 1988.

Please be advised that the Laboratory Quality Assurance Project Plans (QAPP) have been addressed under separate cover (U.S. EPA letter of February 9, 1989). The lab QAPP has not yet received approval. The U.S., Quality Assurance Section has since reviewed the revised project plans for Task 3A, 3B, and 3C and has provided additional comments regarding the QAPP. These comments are required to be addressed in the revised QAPP which is due within thirty (30) days of receipt of the February 9, 1989, letter. In light of these additional modifications, the revised QAPP is now due no later than twenty (20) days of receipt of this letter.

If you have any questions and/or concerns on this matter, please contact Ms. Laura Lodisio of my staff at (312) 886-7090.

Sincerely yours,

ORIGINAL SIGNED BY
WILLIAM E. MUNO

William E. Muno, Chief
RCRA Enforcement Branch

Enclosure

cc: Mark Tusler, WDNR w/enc.
Roger Hatcher, PhD., Hatcher-Sayre, Inc. w/enc.

ENCLOSURE

TASK 3 PROJECT PLANS - FINAL APPROVAL

1). The replacement well for monitoring well 7, will be included in the quarterly monitoring program. The two new wells that will be constructed, as to be determined by the geophysical studies, may also need to be included in the quarterly monitoring program depending on the locations chosen and other known groundwater data. Also, two wells may not be sufficient to meet the needs of the evaluation. If the geophysical work does, in fact, show a buried river channel that may be intercepting contaminants, more than one well on the east side of the channel to characterize the contaminants may be required.

2). At this time, until the Appendix IX groundwater sampling has been completed, it is acceptable for Freeman to monitor the BTX compounds, as set forth in the revised workplan. Upon completion of the Appendix IX, sampling and analysis, the groundwater sampling plan will be re-evaluated. It is expected that a subset of the Appendix IX parameters will be established for continued quarterly groundwater monitoring.

3). Well 44 will be sampled for the Appendix IX parameters if that well is not dry and can produce an adequate sample. If a sample is not attainable from well 44, well 29 will be sampled and analyzed for the Appendix IX parameters.

4). A bottom discharging bailer will be used, whenever a bailer is employed for VOC sampling.

5). When collecting quarterly samples of influent to the Saukville POTW, the sample will be taken during normal ranney collector operations without adjustment of the pumping schedule. Recognizing that the ranney collectors normally cycle on and off during the day, the sample will be collected at a time when any of the three ranney collectors have operated during the last 24 hour period.

6). During the sampling of the Logeman and Church yard soils by HNu/OVA for purposes of field screening, all samples must be immediately placed in glass jars, then covered with tinfoil and sealed with a "Mason" jar type lid. After allowing to equilabrize for approximately 2 hours at approximately 70° - 80°, the probe will be inserted through the tinfoil for analyses. To eliminate head space losses and losses due to bacterial activity, separate samples in separate jars must be taken for laboratory analysis. These samples will be taken simultaneously with the samples to be HNu field screened and immediately prepared and iced for lab analysis. Those samples will be properly sealed with a secure teflon/stainless steel-lined cap and not re-opened until it has reached the laboratory.

7). Annual reports, at a minimum must include trend analyses for selected wells (e.g. wells 23, 29, 20, 16A, 40 new wells in the "buried stream channel" and glacial wells that still have water) on the eastern side of the contaminant plume.

8). Isoconcentration contours and trend analyses should be done separately for each of the following individual parameters, as well as for total VOCs in the annual report.

- methylene chloride
- acetone
- trans-1,2-Dichloroethane
- 2-butanone
- benzene
- 4-methy-2-pentanone
- toluene
- ethyl benzene
- total xylenes

These parameters may be plotted on the same trend analysis graphs, depending on the scale necessary. Also, any other parameter found in concentrations over the reportable limit should be noted in the trend analysis.

9). In drawing the contours for VOC data, results from the annual wells should be included in each quarterly contour. Since the concentrations in these annual wells are relatively constant, including these wells will make it easier to compare the quarterly contours.

10). The piezometric dolomite contours and the VOC contours indicate that contamination in the southeastern portion of the facility may be intercepted by the "underground stream channel". We expect the additional well(s) that are planned for this area will help identify the need for additional extraction wells.

11). Community Relations Plan will be modified as follows:

Freeman Chemical Corporation will establish a formal schedule, including a minimum frequency for the following events.

a) Open Houses
b) Media (press releases)
c) Written reports to the Village
d) Communications with citizen groups

This schedule will be established in cooperation with the Village of Saukville officials. Freeman will submit to U.S. EPA and WDNR, no later than March 30, 1989, a schedule for these events with written documentation from the City of Saukville that they have agreed to the schedule of events.

Qapp Modification

1.) Title and Signature Page

There should be provision for all pertinent signatures of approval on the title page. These include project management and approving local, State, and Federal project officers as applicable and our regional QA Officer.

2.) Project Description

Intended data usage statements and data quality objectives (DQOs) are not summarized for all field and laboratory measurements.

3.) Project Organization and Responsibility

A. Please identify the responsible party for tentatively identified compound (TIC) review of GC/MS scans.

B. Please identify the responsible party(ies) for internal and external performances and systems audits.

4.) Quality Assurance Objectives for Measurement Data in Terms of Precision, Accuracy, Completeness, Representativeness and Comparability

This QAPP element has not been addressed. We required this information for all field and laboratory measurement data. They must include all project specific parameters or parameter groups.

5.) Sampling and Procedures (Sampling Plan)

A. Please clarify what is meant by "BTX": as first mentioned on page 13 and in Table 2.

B. Sampling equipment decontamination procedures are not discussed. This is required information in a Sampling Plan (SP).

C. Well construction materials are not specified. Stainless steel is required in order to prevent VOC sample contamination. Where existing wells are constructed of PVC materials, VOC data must be evaluated with this in mind.

D. Field blanks should be collected at a frequency of one for every ten or fewer investigative samples. They should be routed through decontaminated sampling equipment before collection in sample containers. See page 35.

E. On the same page, trip blanks for water matrix VOC samples should be shipped at a frequency of one sample in each cooler sent to the laboratory.

F. Field duplicates are not addressed. These samples should be collected at the same frequency as field blanks. All three samples discussed in items D, E and F should be treated as regular investigative samples as far as sample volume, containers and preservation.

G. A unique sample numbering system must be presented that include provision for blanks and duplicates. The lab may or may not be made aware of which samples are blanks and duplicates. In order to prevent their choice of these filed QC samples for spiking purposes, please indicate on shipping and other field records which investigative samples the lab should spike.

H. Table 6, Sample Containers, Preservation and Holding Times, should include only project specific parameters or parameter groups.

I. A summary table of sampling and analysis is missing. The table should include the field and laboratory measurements for the project, the numbers of investigative, field blank and field duplicate samples for each parameter, number of sampling rounds and total document mentions that several samples will be analyzed for Appendix IX parameters. Please list these samples by parameter group (usually by method used, i.e., VOCs by SW 846 8240) as that is how they will be collected in the field.

6.) Performance and Systems Audits

This QAPP element is not addressed. Both internal and external (U.S. EPA) audits must be included. Internal audits may consist of laboratory and field audits.

7.) Preventive Maintenance

Please address this QAPP element for field measurements. Laboratory maintenance was adequately discussed in the Laboratory QA Plan.

8.) Corrective Action

Please address this QAPP element as well. The description should include the mechanism to initiate the action, alternative actions to take, procedures for initiating approval of these actions and the responsible parties.