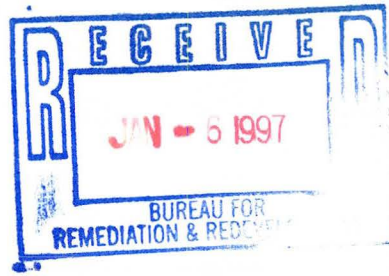


December 18, 1996



Mr. Paul Kozol, P.E.
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707-7921

Re: Monthly Monitoring Report for the Oconomowoc Groundwater Treatment Facility

Dear Mr. Kozol:

Attached is the Monthly Monitoring Report for November, 1996 for the above referenced project. Questions regarding these reports should be directed to Roger Field or Dean Groleau at the treatment plant. The treatment plant phone number is (414) 474-3024.

Thank you for your continued cooperation and assistance with this project.

Sincerely,

Dakota Environmental of Wisconsin, Inc.

cc: Wenbin Yuan, Dakota, Env.
Randy Sitton, USACE
Tom Williams, USEPA
Kurt Unnerstall, Sverdrup Env..

**MONTHLY MONITORING REPORT
FOR THE
OCONOMOWOC ELECTROPLATING
GROUNDWATER TREATMENT FACILITY**

ASHIPPUN, WISCONSIN

Prepared for:

**U.S. ARMY CORPS OF ENGINEERS
ST. PAUL DISTRICT
HASTINGS, MINNESOTA
CONTRACT DACW45-95-C-0064**

Prepared by:

**Dakota Environmental of Wisconsin, Inc.
S15 W22600 Arcadian Avenue
Waukesha, Wisconsin 53186**

December 15, 1996

1.0 Introduction

This report summarizes the monthly effluent monitoring results for the Oconomowoc Electroplating Groundwater Treatment Plant (OEGTP) for November, 1996. The OEGTP is located at the site of the former Oconomowoc Electroplating Company, in Ashippun, WI.

Results of effluent sampling are found in the attached Discharge Monitoring Report Form. The effluent sampling was conducted by Dean Groleau, of Dakota Environmental of Wisconsin, Inc. Laboratory analysis was provided by Specialized Assays Environmental, 2960 Foster Creighton Drive, Nashville, TN 37204, and by Hazleton Environmental Services, Inc., 515 Science Drive, Madison, WI 53711. All sampling and analyses were conducted in accordance with the Chemical Data Acquisition Plan (CDAP) written by Sverdrup Environmental Inc. The parameters tested for, frequency of testing, sample type, and limits were set forth in the Final Discharge Limits, Table 1 of the Oconomowoc Electroplating Superfund Site Limits and Requirements for Discharge of Treated Groundwater, issued by the Wisconsin Department of Natural Resources (WDNR) on September 24, 1996. This report is submitted in accordance with the reporting requirements of that permit.

1.1 Site Background Review

The OEGTP is located at 2572 Oak Street in Ashippun, Wisconsin, in the NW 1/4 of the SE 1/4 of Section 30, Township 30 North, Range 17 East. The site consists of approximately 10 acres, which includes approximately 3.5 acres of the former electroplating facility. The site is bounded by Oak Street (Highway 'O') and Eva Street to the North, and Davey Creek and the Town of Ashippun's garage facilities to the South. The property directly across Oak Street is occupied by Thermogas, Inc. A residential area is located across Eva Street, and a wetlands surrounds Davey Creek.

The contact person for the first year of operation is Randy Sitton of the U.S. Army Corps of Engineers (USACE). Mr. Sitton's phone number is (414) 474-4438. Dakota Environmental of Wisconsin, Inc. supplies the plant operators for Sverdrup Environmental, Inc., who was contracted by the USACE to operate the plant for the first year. The phone number for the site is (414) 474-3024, Fax (414) 474-4319.

1.2 Project Objectives

The objective of this project is to prevent the spreading of any plume of contamination that may exist at the site. Contaminated groundwater is pumped from five extraction wells, treated for cyanide, metals, suspended solids, and volatile organic compounds (VOC's). The treated water is then transferred to a groundwater influent gallery, located near Davey Creek.

2.0 Effluent Monitoring

Weekly monitoring was conducted on November 6 & 8, 12, and 25. No sampling was performed during the week of November 18, due to plant shut down. The weekly samples were tested by Specialized Assays, Inc. of Nashville, TN. Additional samples were drawn on November 13, 15, 25, 26, and 27. These samples were tested by Hazleton Environmental Services, of Madison, WI. The sample taken on November 13 was to confirm whether VOC's exceeded discharge limits. On November 15, the carbon filters were backwashed, and the plant was run without discharging to gather a sample. The results of the testing verified that the granulated activated carbon was saturated by VOC's. The samples on November 25, 26, 27 were taken in conjunction with the treatment plant restart plan.

1.4 Monitoring Results

Results from weekly effluent monitoring can be found in the attached Discharge Monitoring Report Form. Chart 1 shows the results of effluent monitoring for five important indicator parameters listed in the Monitoring Requirements of the Oconomowoc Electroplating Superfund Site Substantive WPDES Permit Requirements Summary (9/96). Chart 1 includes results from October and the first weekly sample in December to show trends in the monitoring results. Of the five indicator parameters, only Trichloroethylene exceeded effluent limits established in Table 1 of the Oconomowoc Electroplating Superfund Site Limits and Requirements for Discharge of Treated Groundwater, resulting in a shut down of the treatment plant.

2.1 Plant Shut Down

The plant was shut down for a total of 10.5 days in November (1500 November 14 until 0700 November 25). The shutdown was due mainly to excessive VOC's in the effluent. Laboratory testing results from samples taken on December 2 indicate that the plant is operating within the standards set forth in the WDNR permit issued on September 24, 1996.

Results from effluent sampling on November 6 led to the groundwater treatment plant shutdown on November 14, 1996. The delay between the time of sampling and time of shut down was due to two factors. First, the samples taken on November 6 were not tested until November 12. (The

laboratory, Specialized Assays, Inc., neglects weekends and shipping time in their interpretation of “72-hour turnaround time”.) The test results, received by fax in the afternoon of November 12, showed Chloroform and Trichloroethylene (TCE) both exceeded the NR-140 Table 1 enforcement standards. TCE also exceeded the limits established in Table 1 of the Oconomowoc Electroplating Superfund Site Limits and Requirements for Discharge of Treated Groundwater. A second effluent sample was tested to confirm the TCE break through, as required. The laboratory testing was scheduled for the following morning (December 13) through Hazleton Environmental Services (HES). The results of this test were received on November 14, confirming the break through of TCE. Chart 2 shows the tested levels of TCE for November (including October and the first sample in December to show trends), along with the TCE limit for effluent discharge. Chart 2 shows that by December 2, TCE was below permit limits. (Samples results below the limit of detection are shown as zero.)

The plant was immediately shut down as soon as the confirming test results were received on November 14, and all responsible parties were notified. The air stripper was completely dismantled, cleaned and reassembled on November 18. No significant scaling, plugging or fouling was found. An extended backwash was performed on the tertiary filtration unit on November 20. Both of the granulated activated carbon filters were cleaned out and recharged with clean carbon on Saturday, November 23. The plant was restarted on November 25, with provisions for 24-hour turnaround on results of samples taken to ensure compliance with WDNR effluent discharge standards.

4.0 Summary

The groundwater treatment plant was shut down for ten days in November, due to monitoring results which showed Trichloroethylene in excess of discharge limits, caused by problems with the granulated activated carbon filters. The spent carbon was replaced on November 23, and as of December 2, the levels of VOC's are below the limits of detection.

Other difficulties, though not significant enough to warrant plant shut down, remain under consideration. The Sodium Hydroxide area may experience temperatures below its freezing point.. This problem is being investigated, and a temporary solutions is in place to maintain proper temperature in the Sodium Hydroxide Area.

A problem with the flocculation tank mixer has been resolved, but flocculation occurs best at a pH greater than 10.9. Flocculation is continuing to improve, but the Sodium Hydroxide Area problem prevents this system from being completely resolved.

The Tertiary Filtration System continues to require regular manual backwashing. Since the problem with the flocculation tank mixer has been resolved, the filter should begin working properly after thorough flushing and cleaning of the filter.

4.1 Recommendations

In order to prevent a future break through of VOC's to the effluent, it is recommended that samples for volatiles be taken at a point between the carbon filters. This would allow the operator to determine when breakthrough occurs from the first (lead) carbon filter. When that happens, flow could be redirected to the second (lag) carbon filter only, while the lead filter is taken off-line and recharged with clean carbon. The recharged filter would then become the lag filter, with samples taken between the two filters again, until breakthrough of VOC's occurs at the lead filter again. This will prevent future plant shut downs due to VOC's in the effluent.

It is recommended that action be taken to prevent the Sodium Hydroxide from approaching its freezing point. Some type of door could be installed, and/or the Sodium Hydroxide unload heat trace could be extended to, and around the bottom of the Sodium Hydroxide storage tank.

Although the Sulfuric Acid feed system is currently maintaining the proper effluent pH, it is recommended that the injection quill be reinstalled per manufacturers instructions.