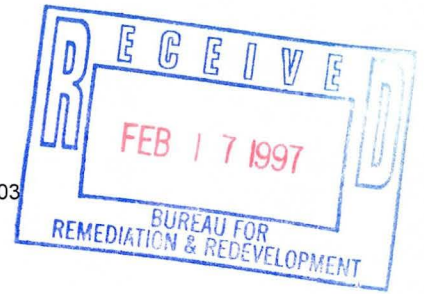


Dakota Environmental of Wisconsin



Oconomowoc Electroplating GWTF ♦ P.O. Box 352 ♦ Ashippun, WI 53003

Phone 414-474-3024 ♦ Fax 414-474-4319



February 12, 1997

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 January, 1997 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,

A handwritten signature in cursive script that reads 'R Field'.

Roger E. Field, Project Manager
Dakota Environmental of Wisconsin, Inc.

cc: Wenbin Yuan, Dakota Environmental, Inc.
Randy Sitton, USACE
Tom Williams, USEPA
Kurt Unnerstall, Sverdrup Environmental, Inc.
Scot Wergin, Warrington Builders, Inc.

**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**

February 15, 1996

1.0 Introduction

This report summarizes the monthly effluent monitoring results for the Oconomowoc Electroplating Groundwater Treatment Plant (OEGTP) for January, 1997. The OEGTP is located at the site of the former Oconomowoc Electroplating Company, in Ashippun, WI.

Laboratory results of effluent sampling can be found in the Discharge Monitoring Report Form, sent under separate cover. 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. All sampling and analyses were conducted in accordance with the Chemical Data Acquisition Plan (CDAP). The parameters tested for, frequency of testing, sample type, and limits are 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 the 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. The contact for Sverdrup is Kurt Unnerstall, who can be reached at (314) 770-4705.

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 January 6, 14, 20, and 27. The weekly samples were tested by Specialized Assays, Inc. of Nashville, TN. The results of all effluent monitoring tests were within the limits of Table 1 of the Oconomowoc Electroplating Superfund Site Limits and Requirements for Discharge of Treated Groundwater.

1.4 Monitoring Results

Results from weekly effluent monitoring can be found in the Discharge Monitoring Report Form, sent under separate cover. 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). No parameters exceeded effluent limits established in Table 1 of the Oconomowoc Electroplating Superfund Site Limits and Requirements for Discharge of Treated Groundwater.

2.1 Plant Shut Down

The treatment plant was shut down twelve times for a total of 93.8 hours in January, 1997. Every shut down was due to scheduled and unscheduled maintenance. There were no emergency shut-downs, and no shut downs due to contaminants exceeding permit limits. Table 1 shows the summary of the plant down time for the month of January, 1997.

Table 1 - Plant Down Time Summary

Date(s)	Number Hours Shut Down	Reason
1/3 - 1/4	25	TF-600 Extended Backwash (w/ Bleach)
1/13	2.2	FT-311 Low pH
1/14	2.75	CRT-201/211 Sludge Removal
1/15	1.6	TF-600 Backwash
1/17	0.25	Clean DAS-500 Air Filter
1/18	1.5	TF-600 Backwash
1/21	0.8	TF-600 Backwash
1/21	0.6	RMT-301 Sludge Removal
1/23	3.25	TF-600 Backwash (w/Bleach)
1/27	1.1	Clear Restriction in Pipe
1/28	7.25	TF-600 Backwash (w/Acid)
1/29 - 1/31	47.5	Clean TF-600 Filtrate Nozzles, Extended Backwash
TOTAL	93.8	

2.1.1 Shut Down Due to Tertiary Filtration Unit Problems

Problems with the Tertiary Filtration unit (TF-600) led to a shut down of the treatment plant seven times for a total of 86.9 hours during January, 1997. On five occasions, the shut down was to perform a backwash on the TF-600, using plant effluent (January 15, 18, 21, 23, 28). On one occasion, the shut down was to perform an extended backwash on the TF-600, using potable water (January 3 - 4). Bleach was used twice during these backwashes to break up polymers in the media, and Muriatic Acid was used once to help remove settled solids from the media.

Since the plant start up, the operators have been performing air backwashes on the TF-600 whenever clogging occurred in the media. These backwashes do not require plant shutdown and take about one to two minutes to perform. The backwashes using plant effluent were performed when TF-600 clogging occurred every two hours. After a plant effluent backwash, the time between air backwashes was usually increased to about 8 hours.

On January 29, the TF-600 was entered to clean the filtrate nozzles. About 3/4 of the media was removed and rinsed, a confined space entry permit was filled out, and one operator entered the tank to remove the filtrate nozzles. The nozzles were soaked overnight in Muriatic Acid. The

remaining 1/4 of the media was backwashed using Muriatic Acid and the plant effluent. After the nozzles were reinstalled and all the sand was transferred back into the TF-600, an extended backwash, using potable water, was conducted overnight. Since the filtrate nozzles were cleaned, the TF-600 has required less air backwashing.

Clogging of the TF-600 has been noted for over four months of plant operations. The confined space entry to clean it up probably should have been made a long time ago, but the operators relied on advice from the manufacturer (Lighthouse Separation Systems, Inc.), who did not believe it was necessary to enter the TF-600 to fix the problem. The operators felt the only solution was to take the unit apart and clean it, and did so after speaking to the manufacturer.

On January 27, reduced flow through the treatment plant led to a shut down for a total of 1.1 hours. The control valve (MOV-113) between the Treatment System Feed Pumps (TFP-110/110) and the Cyanide/Metals Package was constricted, due to hardened sediment. The sediment was broken free, but the operators noticed that the inside diameter of all the associated piping is reduced from 1 1/2 inches to 1 inch, due to this sediment. A small drain auger was ran through the pipes, but the sediment was too hard to be removed in this manner. The plant is still able to maintain a flow of 30 gpm through the pipe, but any further reduction in diameter may lead to a future shut down. This problem remains under investigation to find a suitable way to remove the hardened sediment from the system pipes.

It is possible that this problem was indirectly caused by the problem with the TF-600. When the TF-600 clogs, it recycles high pH water back to the Equalization Tank (EQT-100). Solids tend to precipitate out of high pH water at a faster rate than solids in low pH water.

2.1.2 Shut Down Due to Cyanide/Metal Package

On January 13, the treatment system was shut down for 2.2 hours because of low pH in the Flocculation Tank (FT-311). Low pH leads to loss of flocculent, so the system was shut down until the pH could be raised. A temporary solution was incorporated to raise the pH in the tanks prior to the FT-311. The problem with reduced pH in the FT-311 is a result of a Sodium Hydroxide Pump (SHP-361) whose pumping capacity does not meet specifications. (The pump was exchanged on February 11.)

The elevated pH, mentioned above, may have caused sludge to harden in the tanks prior to the FT-311. Sludge build up in the two tanks prior to the FT-311 led to two plant shut downs for a total of 3.35 hours. On January 14, confined space entry was required to remove hardened sludge from the Alkaline Chlorination Tank (CRT-201). On January 21, hardened sludge was removed from the Rapid Mix Tank (RMT-301), using a squeegee and scraper, without entering the confined space. On February 11, the pH set points in the CRT-201 and RMT-301 were reduced back to normal operating levels, after the new SHP-361 was installed.

2.1.3 Shut Down Due to Air Stripper

On January 17, the treatment system was shut down for about fifteen minutes to clean the air filter on the Air Stripper (DAS-500). The filter was washed and blown dry with plant air. After the filter was reinstalled, the blower was adjusted, and the plant brought back on line.

3.0 Summary

Groundwater treatment plant effluent monitoring was conducted on December 2, 12, 16, and 26 of 1996. The laboratory results of these samples show that all contaminants listed in the Requirements of the Oconomowoc Electroplating Superfund Site Substantive WPDES Permit Requirements Summary (9/96) comply with the permit.

During the month of December, 1996, the plant was shut down six times for a total of 59.09 hours. Every shutdown was due to scheduled and unscheduled equipment maintenance and repair. All equipment operation and maintenance related issues are detailed in a separate report, entitled "*Monthly Operation and Maintenance Report for the Oconomowoc Electroplating Groundwater Treatment Facility*". That report was submitted to Sverdrup Environmental on January 16, 1997.