



*Bi-Annual Sampling Report
For Treatment Systems*

February 2001 Sampling Event

**Gladding Cordage Corporation
Multi-Site Wells**

Work Assignment Number D003060-14.0

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1.0 INTRODUCTION

In accordance with the monitoring plan for the treatment system at the Gladding Cordage Corporation (Gladding), the first round of water sampling by Earth Tech was performed on February 5, 2001. In January 2001 Earth Tech took over the responsibilities of operation and maintenance of the Gladding sites granulated activated carbon (GAC) water treatment system. The results of laboratory analyses for this sampling event are summarized in the following report as are subsequent actions taken in response to the analysis, routine system maintenance and/or required modifications. This report covers activities that have taken place in February of 2001.

1.1 SITE DESCRIPTION

The Gladding site (Site Code #7-09-009) is located in the hamlet of South Otselic, which is in the town of Otselic, Chenago County, New York. The Gladding site occupies about 7.5 acres near the center of the hamlet. The site is bound to the east by the Otselic River, to the south by Gladding Street, to the west by Ridge Road and to the north by undeveloped agricultural lands. Past disposal practices of 1,1,1-trichloroethane (1,1,1-TCA), at the Gladding Cordage Site led to volatile organic compound (VOC) contamination and closure of two municipal water supply wells located approximately 250 ft south of the site. In 1990, the town of Otselic was awarded a Housing and Urban Development (HUD) grant and installed a new municipal water supply upgradient of the Gladding site.

A pump and treat system was constructed by the NYSDEC in 1996, to remediate the contaminated groundwater at the site. Contamination in a domestic well at the NYSDEC South Otselic Fish Hatchery is being treated with a GAC system, which is being maintained by the NYSDEC under this Work Assignment.

1.2 TREATMENT SYSTEMS

1.2.1 Otselic Fish Hatchery (GLADD)

The Otselic Fish Hatchery well is located approximately one-mile southwest of the Gladding site. The NYSDEC first began monitoring/maintaining this well in 1991.

New York State Department of Health (NYSDOH) recommends potable water treatment with two tanks connected in series for organics removal from drinking water. This configuration provides a primary and secondary GAC unit and allows for monitoring between these units. The Otselic Fish Hatchery system consists of two activated carbon vessels for the removal of VOCs, and ultraviolet (UV) disinfection. This system does not have a particle filter or a flow meter.

2.0 SAMPLING

2.1 SAMPLE LOCATIONS

Table 2-1 presents project information including location and well ID. Sampling points include raw, intermediate and effluent ports.

2.2 SAMPLING PROTOCOL

Standard protocol is to allow a sampling tap to run for at least fifteen minutes prior to sampling to insure that representative water is in the system. After purging, samples are collected in the following order: effluent, intermediate, and finally raw water in order to minimize the possibility of cross-contamination. Volatile organics samples are overfilled in forty milliliter (ml) vials and capped and then checked to insure that no air bubbles are trapped in the vial. Care is taken during collection to minimize agitation and to immediately place sample containers on ice to prevent volatilization.

Bacteria sampling is conducted after volatile sampling. Sampling protocol requires that the sampling port be heated with an open flame for one minute prior to sampling to insure bacteria are coming from sample water only. Bacteria sample bottles may have an air space left inside.

Bi-annual samples are submitted for analysis by EPA Method 524, and total coliform analysis. Analytical services are being provided by Phoenix Environmental Laboratories (Phoenix), Manchester, Connecticut and the NYSDEC Division of Environmental Remediation Laboratory (NYSDEC Laboratory) of Rensselaer, New York.

2.3 SAMPLING, FLOW READINGS AND SITE INSPECTION

This sampling round represents the first bi-annual sampling event to be conducted at the site, by Earth Tech. Samples were collected from the Otselic Fish Hatchery well on February 5, 2001.

All standard sampling procedures were followed except: taps were not run for fifteen minutes prior to sampling since water is regularly drawn through the systems and representative groundwater is already within the systems.

All volatile samples for this round were collected by Earth Tech staff, and packed on ice in a cooler with a completed chain of custody form and forwarded to the NYSDEC Laboratory for analysis. The flow volumes and raw water data will be tracked for each system over the course of the project and are summarized in Table 2-2.

No problems were noted during this sampling event. The UV unit was inspected and was found to be working properly.

2.4 ANALYTICAL RESULTS

The laboratory data sheets for analysis performed on samples are distributed to Earth Tech and the NYSDEC. The Method 524 results for the sampling events are summarized on Table 2-3. Coliform results are not included on this table. Total coliform analysis was negative for treated water collected. A copy of the total coliform analysis is included with this report (see Appendix A).

Raw water analysis data will be summarized in Table 2-2 for each sampling round.

System change out will occur for any intermediate or final water sample with a contamination level of 1 ug/L or above. No breakthrough was reported this sampling round.

2.4.1 Otselic Fish Hatchery (GLADD)

Sampling in the Spring of 1992, conducted by the NYSDEC, reported contamination of 1,1,1-TCA. Concentrations of 1,1,1-TCA in the Fish Hatchery well over the past 10 years have ranged from <1 ug/L to 19 ug/L. The level of reported 1,1,1-TCA increased from <1 ug/L to 19 ug/L between 1991 and 1992. Between 1993 and 2000 the reported level of 1,1,1-TCA has decreased to less than 10 ug/L.

The February 5, 2001 sampling results reported no detection of 1,1,1-TCA in the raw, intermediate, or final water samples.

3.0 SYSTEM INSTALLATION, MAINTENANCE AND MODIFICATIONS

Initial site inspections by Earth Tech were conducted in February 2001 when water samples were collected. The well location was inspected to assess GAC system conditions, foresee any potential maintenance problems, and to choose a suitable plan of action for system maintenance/modifications.

All future service will be conducted on an as needed basis and be provided by Earth Tech.

3.1.1 Otselic Fish Hatchery (GLADD)

A water sample was collected during the February site visit. The UV unit was operational and the indicator light was on. It is recommended that the UV unit be replaced during the next site visit. The UV unit was noted to be an old model, and replacement parts are no longer available. There is no water meter or particulate filter at this location.

Additionally, the NYSDEC staff at the Hatchery indicated that the GAC system may only treat domestic water (i.e. the break room and bathroom sinks etc.). Untreated well water is used in the fish runs, which empty into the Otselic River. Untreated water is also is also discharged into the Hatchery's septic system. Earth Tech will verify the piping during the next site visit and make modifications per NYSDEC concurrence.

4.0 CONCLUSIONS

This report includes monitoring results from the GAC system at the Otselic Fish Hatchery. The GAC system at the fish Hatchery is in satisfactory working order. A letter was sent out to the NYSDEC Otselic Fish Hatchery asking them to convey any problems with the GAC system to Earth Tech directly. A subsequent visit to the site will be conducted to verify all streams of water being treated. The next bi-annual sampling event and system check will occur in August 2001.

TABLES

Table 2-1

**Gladding Cooperation Treatment Systems
Location and System Information**

Location	Owner/Contact	Phone #	Well ID	System Location
South Otselic Fish Hatchery PO Box 170 NYS Route 26 South Otselic, NY 13155	Patrick Emerson, Hatchery Manager Tom Kielbasinski, Assistant Manger	(315)653-7727	GLADD	Side room off of kitchen.

Table 2-2

**Gladding Cordage Treatment Systems
Raw Water Analytical Data / GAC Change Out Summary**

Data up to and including June 2000 was provided by the NYSDEC

Location/ COC	Well ID	19-Feb-91	28-Jun-91	11-Mar-92	25-Mar-92	17-Sep-92	16-Mar-94	10-Nov-94	5-Apr-95	24-Oct-95	4-Jun-97
Gladding 1,1,1-Trichloroethane	GLADD	-	-	8	9.4	19	9	-	6	9	8

- Denotes below detection limit

Table 2-2

**Gladding Cordage Treatment Systems
Raw Water Analytical Data / GAC Change Out Summary**

Data up to and including June 2000 was provided by the NYSDEC

Location/ COC	Well ID	20-Nov-98	10-May-99	30-Nov-99	12-Jun-00	6-Feb-01
Gladding 1,1,1-Trichloroethane	GLADD	6	5.8	8	6	-

- Denotes below detection limit

TABLE 2-3
Gladding- Volatile Organics Analysis Data-EPA Method 524/601
Sampling Date : 2/5/01

Compound	GLADD - R	GLADD - I	GLADD - F
Bromodichloromethane			
Bromoform			
Bromoethane			
Carbon Tetrachloride			
Chlorobenzene			
Chloroethane			
2- Chloroethylvinyl ether			
Chloroform			
Chloromethane			
Dibromochloromethane			
1,2- Dichlorobenzene			
1,3- Dichlorobenzene			
1,4- Dichlorobenzene			
1,1- Dichloroethane			
1,2- Dichloroethane			
1,1- Dichloroethene			
cis- 1,2- Dichloroethene			
trans- 1,2- Dichloroethene			
1,2- Dichloropropane			
cis- 1,2- Dichloropropene			
trans- 1,3- Dichloropropene			
Methylene chloride			
4-methyl-2-pentanone			
Tetrachloroethene			
1,1,1- Trichloroethane			
1,1,2- Trichloroethane			
Trichloroethylene			
Trichlorofluoromethane			
Vinyl chloride			
J = estimated E= estimated above calibration range. R= raw water sample I= intermediate water sample F= final water sample			