



*Bi-Annual Sampling Report  
For Treatment Systems*

*March 2010 – August 2010*

## Gladding Corporation

Site Code # 7-09-009

Work Assignment Number D004445-7.1

*Prepared for:*

Superfund Standby Program

New York State Department of Environmental Conservation

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*October 2010*

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## **1.0 INTRODUCTION**

In accordance with the monitoring plan for the granular activated carbon (GAC) groundwater treatment system associated with the Gladding Corporation (Gladding) site, the twentieth round of semi-annual water sampling was performed by AECOM Technical Services Northeast, Inc. (AECOM) on August 23, 2010. The results of laboratory analyses for this sampling event are summarized in this report, as are subsequent actions, if any, taken in response to those results. Routine system maintenance and/or required modifications are also discussed. This report describes activities that occurred during the period March 2010 through August 2010.

### **1.1 SITE DESCRIPTION**

The Gladding Corp. site (Site Code #7-09-009) is located in the hamlet of South Otselic, Chenango County, New York. The site occupies about 7.5 acres near the center of the hamlet, and 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 Gladding Cordage led to volatile organic compound (VOC) contamination of soil and groundwater, 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 to install a new municipal water supply well upgradient of the Gladding site.

A pump-and-treat system was constructed by the NYSDEC in 1996 to contain and remediate contaminated groundwater at the site. Groundwater from a supply well at the NYSDEC South Otselic Fish Hatchery is being treated with a GAC system, maintained by AECOM under this Work Assignment. The groundwater at the fish hatchery presumably had been impacted by the disposal practices at the Gladding site.

### **1.2 TREATMENT SYSTEMS**

#### **1.2.1 South Otselic Fish Hatchery**

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

The New York State Department of Health (NYSDOH) recommends potable water treatment with two carbon tanks connected in series for organics removal from drinking water. This configuration provides a primary and secondary GAC unit and allows for monitoring water quality between these units.

The South Otselic Fish Hatchery system consists of two GAC vessels for the removal of VOCs, and a Trojan model 708 ultraviolet (UV) disinfection unit. This system does not have a particle filter or a flow meter.

## **2.0 SAMPLING**

### **2.1 SAMPLE LOCATIONS**

Table 1 presents project information including location and well ID. Sampling points include raw and intermediate ports. Final samples were collected from a sink in a nearby room.

### **2.2 SAMPLING PROTOCOL**

Standard protocol at sites with limited water usage is to allow a sampling tap to run for at least 15 minutes prior to sampling. 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 placed in 40-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 of the final (treated) water is conducted after volatile sampling. Sampling protocol requires decontamination of the water tap by heating with an open flame for one minute prior to sampling.

### **2.3 SAMPLING AND FLOW READINGS**

All standard sampling procedures were followed except the tap was not run for 15 minutes prior to sampling since frequent usage ensures that representative groundwater is readily available at the sampling tap.

Samples are submitted for volatile organics analysis by EPA Method 524.2 and bacteria analysis. Con-test Analytical Laboratory of East Longmeadow, MA. provided analytical services for volatile organics. Bacteria analysis services are provided by Smith Environmental Laboratory of Hyde Park, New York, an M/WBE enterprise.

A flow meter was not installed as part of the DEC's requirements for the treatment system; therefore flow volume data are not available.

### **2.4 ANALYTICAL RESULTS**

The laboratory data sheets for volatile organics analyses were provided under separate cover to the NYSDEC, and are not included in this report. Historical and current raw water volatile organics analytical data are summarized on Table 2. VOC analytical results for raw, intermediate, and final water samples for this round (only) are summarized on Table 3. The bacteria test result was negative, and is not tabulated. A copy of the bacteria analysis is included with this report.

Carbon changeout will typically occur if the VOC concentration of a site-related compound equals or exceeds 1 µg/l in an intermediate or final water sample. No breakthrough of VOCs occurred in the current sampling event, and a carbon changeout is therefore not required.

### **3.0 SYSTEM MAINTENANCE AND MODIFICATIONS**

This round of sampling included cleaning the UV quartz sleeve and changing the UV bulb. System modifications were not required during the reporting period.

#### **4.0 CONCLUSIONS**

The GAC water treatment system at the South Otselic Fish Hatchery is operating satisfactorily.

The next sampling round and system inspection is due in February 2011.

## TABLES

**Table 1**  
**Gladding Corporation, Town of Otselic, N.Y.**  
**Resident and System Information**

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



**Table 2**  
**Gladding Corporation, Town of South Ostelic, N.Y.**  
**Historical Raw Water Analytical Summary**

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

Location	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	20-Nov-98	10-May-99	30-Nov-99
Gladding														
1,1,1-Trichloroethane	GLADD	ND	ND	8.0	9.4	19.0	9.0	ND	6.0	9.0	8.0	6.0	5.8	8.0

\* indicates duplicate sample result.  
 Concentrations in ug/l (ppb).  
 NS indicates no sample taken  
 ND indicates below detection limit  
 Results are shown only for detected analytes  
 J = estimated value

**Table 2**  
**Gladding Corporation, Town of South Ostelic, N.Y.**  
**Historical Raw Water Analytical Summary**

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

Location	Well ID	12-Jun-00	6-Feb-01	29-Aug-01	25-Feb-02	14-Aug-02	4-Feb-03	19-Aug-03	23-Feb-04	24-Aug-04	7-Feb-05	30-Aug-05	13-Feb-06
Gladding	GLADD												
1,1,1-Trichloroethane		6.0	ND	ND	4.0	7.0	6.0	7.0	3.0	10.0	6.0	8.0	8.0

\* indicates duplicate sample result.  
 Concentrations in ug/l (ppb).  
 NS indicates no sample taken  
 ND indicates below detection limit  
 Results are shown only for detected analytes  
 J = estimated value

**Table 2**  
**Gladding Corporation, Town of South Ostelic, N.Y.**  
**Historical Raw Water Analytical Summary**

Location	Well ID	21-Aug-06	21-Feb-07	21-Aug-07	20-Feb-08	20-Aug-08	17-Feb-09	26-Aug-09	23-Feb-10	23-Aug-10
Gladding	GLADD									
1,1,1-Trichloroethane		12	8	10	8	10	6	7	5.7	5.4
1,1-Dichloroethane		0.1 J	ND	0.2 J	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND	ND	ND	0.3 J	ND	ND

\* indicates duplicate sample result.  
 Concentrations in ug/l (ppb).  
 NS indicates no sample taken  
 ND indicates below detection limit  
 Results are shown only for detected analytes  
 J = estimated value

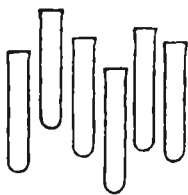
**Table 3**  
**Gladding Corporation, Town of South Ostelic, N.Y.**  
**Current Round Analytical Summary**  
**Sampling Date: 8/23/10**

Compound	GLADD - R	GLADD - I	GLADD - F
1,1,1- Trichloroethane	5.4		
<p>J = estimated  E= estimated above calibration range  R= raw water sample  I= intermediate water sample  F= final water sample  Only detected analytes are shown in this table.  Refer to Table 4 for a comprehensive list of analytes included in EPA Method 524.2.</p>			
<p>ND= non detect  All concentrations are in ug/L  D= diluted sample  * = duplicate sample  B= detected in method blank</p>			

**TABLE 4**  
**Volatile Organic Compounds Included in EPA Method 524.2**  
**(Con-test Analytical Laboratory)**

Dichlorodifluoromethane	Toluene
Chloromethane	1,3,5 - Trichlorobenzene
Vinyl chloride	trans-1,3- Dichloropropene
Bromomethane	1,1,2- Trichloroethane
Chloroethane	Tetrachloroethene
Trichlorofluoromethane	1,3 - Dichloropropane
cis- 1,2- Dichloroethene	1,3 - Dichloropropene (total)
1,1- Dichloroethene	Dibromochloromethane
Methylene chloride	Chlorobenzene
trans- 1,2- Dichloroethene	Ethylbenzene
Methyl-t-butyl ether	1,1,1,2- Tetrachloroethane
1,1- Dichloroethane	m,p- Xylene
2,2- Dichloropropane	o- Xylene
Bromodichloromethane	Xylenes (total)
Chloroform	Styrene
1,1,1- Trichloroethane	Bromoform
Carbon Tetrachloride	Isopropylbenzene
1,1- Dichloropropene	1,1,2,2- Tetrachloroethane
Benzene	Bromobenzene
1,2- Dichloroethane	n- Propylbenzene
Trichloroethene	1,2,3 - Trichloropropane
1,2- Dichloropropane	2- Chlorotoluene
Dibromomethane	1,3,5- Trimethylbenzene
Bromochloromethane	4- Chlorotoluene
Naphthalene	tert- Butylbenzene
1,2,3- Trichlorobenzene	1,2,4- Trimethylbenzene
cis- 1,3- Dichloropropene	sec- Butylbenzene
1,2,4- Trichlorobenzene	p- Isopropyltoluene
Hexachlorobutadiene	1,3- Dichlorobenzene
1,2- Dichlorobenzene	1,4- Dichlorobenzene
	n- Butylbenzene

## **BACTERIA ANALYTICAL DATA**



# SMITH LABORATORY

ENVIRONMENTAL TESTING  
4 SCENIC DRIVE & RT. 9  
HYDE PARK, NEW YORK 12538  
(845) 229-6536

## CERTIFICATE OF ANALYSIS

**Client:** AECOM  
Attn: Lori Hoose  
40 British American Blvd.  
Latham

NY 12110

**PO #**

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**Client Project Name:** NYSDEC/Gladding  
**Sample Type:** Water  
**Order ID:** 86773  
**Order comment:** Client Project # 60135713 04

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**Sample Collected By:** Client  
**Sample Location:** Gladd  
**Sample Comment:** rec'd by fedex at 9 deg C  
**Sample Number:** 152677  
**Date/Time sample collected:** 8/23/2010 10:20  
**Date/Time sample received:** 8/24/2010 10:50  
**Date/Time sample analyzed:** 8/24/2010 12:30

**Received by:** Melissa  
**Tech:** VZ

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Parameter	Test Result*	Units	Test Method
Total Coliform	Absent	CFU/100mL	Colisure
E. coli	Absent	CFU/100mL	Colisure

Test results do meet / ~~do not meet~~ EPA drinking water standards.

\*Bacteriological test results are expressed as Colony Forming Units.

**Results Comment:**

Reviewed by: Lab Manager, ELAP Lab ID #10924

30-Aug-10

*Smith Laboratory is approved as an Environmental Testing Laboratory in conformance with the National Environmental Laboratory Accreditation Conference (NELAC) Standards. This test report pertains only to the above items analyzed on this sample as received by the laboratory. Information supplied by the client is assumed to be correct.*

