

*Bi-Annual Sampling Report  
For Treatment Systems*

*March 2007- August 2007*

**Gladding Corporation**

Site Code # 7-09-009

Work Assignment Number D004445-7

*Prepared for:*

Superfund Standby Program  
New York State Department of Environmental Conservation  
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*October 2007*

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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 fourteenth round of semi-annual water sampling was performed on August 20, 2007. 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 2007 through August 2007.

## 1.1 SITE DESCRIPTION

The Gladding 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 the Gladding Cordage Site 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 domestic well at the NYSDEC South Otselic Fish Hatchery is being treated with a GAC system, maintained by Earth Tech 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 activated carbon 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 the EPA Method 524.2 and total coliform analysis. The NYSDEC Division of Environmental Remediation Laboratory of Rensselaer, N.Y. provided analytical services for volatile organic analysis. Coliform 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 are distributed electronically by the laboratory to Earth Tech and 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 coliform test result was negative, and is not tabulated. A copy of the total coliform 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 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 2007.

## 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 1,1,1-Trichloroethane	GLADD	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
Gladding	GLADD			
1,1,1-Trichloroethane		12	8	10
1,1-Dichloroethane		0.1 J	ND	0.2 J

\* 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: 8/20/07**

Compound	GLADD - R	GLADD - I	GLADD - F
1,1-Dichloroethane	0.2 J	ND	ND
1,1,1- Trichloroethane	10	ND	ND

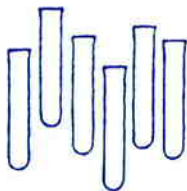
J = estimated  
 E= estimated above calibration range.  
 R= raw water sample  
 I= intermediate water sample  
 F= final water sample  
 Only detected analytes are shown in this table.  
 Refer to Table 4 for a comprehensive list of analytes included in EPA Method 524.2.

ND= non detect  
 All concentrations are in ug/L  
 D= diluted sample  
 \* = duplicate sample  
 B= detected in method blank

**TABLE 4**  
**Volatile Organic Compounds Included in EPA Method 524.2**

Dichlorodifluoromethane	Toluene
Chloromethane	Ethyl methacrylate
Vinyl chloride	trans-1,3- Dichloropropene
Bromomethane	1,1,2- Trichloroethane
Chloroethane	Tetrachloroethene
Trichlorofluoromethane	1,3 - Dichloropropane
cis- 1,2- Dichloroethene	2- Hexanone
Diethyl ether	Dibromochloromethane
1,1- Dichloroethene	1,2- Dibromoethane
Acetone	Chlorobenzene
Iodomethane	Ethylbenzene
Carbon disulfide	1,1,1,2- Tetrachloroethane
Allyl chloride	m,p- Xylene
Methylene chloride	o- Xylene
trans- 1,2- Dichloroethene	Styrene
Methyl-t-butyl ether	Bromoform
Acrylonitrile	Isopropylbenzene
1,1- Dichloroethane	1,1,2,2- Tetrachloroethane
2,2 Dichloropropane	Bromobenzene
2-Butanone	n- Propylbenzene
Methyl acrylate	trans- 1,4-Dichloro- 2- buten
Propionitrile	1,2,3 - Trichloropropane
Bromodichloromethane	2- Chlorotoluene
Tetrahydrofuran	1,3,5- Trimethylbenzene
Methacrylonitrile	4- Chlorotoluene
Chloroform	tert- Butylbenzene
1,1,1- Trichloroethane	1,2,4- Trimethylbenzene
1- Chlorobutane	Pentachloroethane
Carbon Tetrachloride	sec- Butylbenzene
1,1- Dichloropropene	p- Isopropyltoluene
Benzene	1,3- Dichlorobenzene
1,2- Dichloroethane	1,4- Dichlorobenzene
Trichloroethene	n- Butylbenzene
1,2- Dichloropropane	1,2- Dichlorobenzene
Methyl methacrylate	Hexachloroethane
Dibromomethane	1,2- Dibromo-3- chloroprop
Bromodichloromethane	Nitrobenzene
2- Nitropropane	1,2,4- Trichlorobenzene
Chloroacetonitrile	Hexachlorobutadiene
cis- 1,3- Dichloropropene	Naphthalene
4-methyl-2-pentanone	1,2,3- Trichlorobenzene
1,1- dichloropropanone	

## ANALYTICAL DATA



# SMITH LABORATORY

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

## CERTIFICATE OF ANALYSIS

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

NY 12110

**PO #**

**Sample Type:** Water  
**Client Project Name:** Gladding  
**Order ID:** 59231  
**Order comment:** Project #95480.04

**Sample Collected By:** Client  
**Date/Time sample collected:** 8/20/2007 9:45  
**Date/Time sample received:** 8/21/2007 11:10 **Received by:** Kelly  
**Sample Comment:** Temp = 15.0 C  
**Sample Location:** Gladd  
**Sample Number:** 102090  
**Date/Time Sample Analyzed:** 8/21/2007 15:15 **Tech:** VZ

Parameter	Test Result*	Units	Test Method
Total Coliform	Absent	CFU/100mL	SM 20 9223
E. Coli	Absent	CFU/100mL	SM 20 9223

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

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

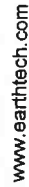
**Results Comment:**

**Reviewed by: Anne G. Smith, Laboratory Director, ELAP Lab ID #10924**

27-Aug-07

*Smith Laboratory is approved as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation (NELAC) Standards.*

The total number of pages in this report is 1 (one).

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