EarthTech

A tyco International Ltd. Company

Bi-Annual Sampling Report
For Treatment Systems

March 2006- August 2006

Gladding Corporation Multi-Site Wells

Site Code # 7-09-009
Work Assignment Number D004445-7

Prepared for:
Superfund Standby Program
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Prepared by:
Earth Tech Northeast, Inc.
40 British American Boulevard
Latham, New York 12110

October 2006

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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 twelfth round of semi-annual water sampling was performed on August 21, 2006. 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 2006 through August 2006.

1.1 SITE DESCRIPTION

The Gladding site (Site Code #7-09-009) is located in the Town of South Otselic, Chenango County, New York. The 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 Corporation 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 taps were not run for 15 minutes prior to sampling since frequent usage ensures that representative groundwater is readily available at the sampling taps.

Samples are submitted for volatile organics analysis by the EPA Method 524.2 and total coliform analysis. The 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 South Ostelic, 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
Gladding	GLADD	
1,1,1-Trichloroethane		12
1,1-Dichloroethane		0.1 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: 8/21/06

Compound	GLADD - R	GLADD - I	GLADD - F
1,1-Dichloroethane	0.1 J	ND	ND
1,1,1- Trichloroethane	12	ND	ND

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

TABLE 4
Volatile Organic Compounds Included in EPA Method 524.2

Dichlorodifluromethane	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: 50408
Order comment:

Sample Collected By: SRG
Date/Time sample collected: 8/21/2006 9:40
Date/Time sample received: 8/22/2006 12:00 **Received by:** Kelly
Sample Comment: Temp = 9.5 C
Sample Location: Glad/UV
Sample Number: 86799
Date/Time Sample Analyzed: 8/22/2006 15:00 **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 25-Aug-06

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).

Chain of Custody Record

EARTH TECH

A Tyco Infrastructure Services Company

Custody Seal # | Earth Tech Cooler #

Project Number	Project Name/Client
45375.10.600	EARTH TECH GLADDING

Sample Custodian: (Signature) [signature]

Item No.	Sample Description (Field ID Number)	Date	Time	Grab	Comp.	PID Reading (ppm)	Label Number	Analysis Required: Total	Analysis Required: 40 CFR Part 136	Matrix: Sample Type	Matrix: Sample Container
1	GLAD	8/2/06	9:40	X				X	X		
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											

Relinquished by: (Signature) [signature]	Date / Time 8/2/06 1235	Received by: (Signature)	Disposed of by: (Signature) / Items: / Date / Time
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Disposed of by: (Signature) / Items: / Date / Time

Send Lab Results To: LORI HOOSE
EARTH TECH
40 BRITISH AMERICAN BLVD
LATHAM, NY. 12110

Remarks:

Federal Express Airbill No.:
Lab: 8531-4553-1327

Check Delivery Method:
- ☐ Samples delivered in person
- ☒ Common carrier

Laboratory Receiving Notes:
Custody Seal Intact?
Temp. of Shipping Container:
Sample Condition:

Rev. 10/98 White Copy - Lab Yellow Copy - File Pink Copy - Client F514/Earth.Sci