City of North Tonawanda
Department of Engineering
City Hall, 216 Payne Avenue
North Tonawanda, NY 14120-5493
www.northtonawanda.org

Dale W. Marshall, P. E.
City Engineer
Phone: **(716) 695-8565**
Fax: **(716) 695-8568**

January 18, 2013

Gregory P. Sutton, P.E.
Regional Hazardous Waste Remediation Engineer
NYSDEC – Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Re: 815 River Road Site Environmental Restoration Project, Phase I
City of North Tonawanda
State Assistance Contract No. C304546; Site ID No. B00178
Transmittal of 2012 Groundwater, Sampling, Testing and Reporting

Dear Mr. Sutton:

Enclosed is the 2012 Groundwater, Sampling, Testing and Report, along with a copy of the report on CD for your records, prepared by GHD Consulting Engineers, LLC for the City of North Tonawanda.

If I can be of any further assistance, please do not hesitate to contact me 695-8565

Very truly yours,

Dale W. Marshall

Dale W. Marshall, P.E.
City Engineer

DWM:dwm

Cc: file, w/encls
Shawn P. Nickerson, City Attorney
David Rowlinson, GHD

October 29, 2012

Mr. Dale Marshall, P.E.
City Engineer
City of North Tonawanda
216 Payne Avenue
North Tonawanda, NY 14120-5493

Re: 2012 Groundwater Sampling, Testing and Reporting
815 River Road Site – 2012 Final Report
NYSDEC Project No. B00178

Dear Mr. Marshall:

GHD Consulting Engineers, LLC is pleased to submit this letter report for the sampling and testing of groundwater at the 815 River Road Site. Reporting includes the sampling and testing of groundwater from monitoring wells MW-1 and MW-2. This letter report has been prepared for submission to the New York State Environmental Conservation (NYSDEC).

Site History: An Interim Remedial Measures (IRM) was conducted in November 2007 that included the excavation and disposal of 1,500 tons of impacted and staged soils. The IRM construction completed the excavation and removal of impacted soils that was halted by the City in 2004. Following the completion of the IRM, the Site Investigation/Remedial Alternatives Report (SI/RAR) was completed in February 2008.

The SI/RAR was approved by the NYSDEC which recommended the most feasible and appropriate remedial remedy. Based on the conclusions of the SI/RAR, the report addressed, defined and selected the most feasible remedial alternative for impacted soil and groundwater. The SI/RAR selected the institutional controls remedy for the impacted groundwater at the site. This remedy is well suited to the planned redevelopment of the site. An environmental easement was administered for the imposition of a deed restriction that requires compliance with an approved soils management plan and the future use of groundwater at the site. The soils management plan dictates deed restrictions that prohibit the installation of potable wells at the site.

Impacted Groundwater: Groundwater in this portion of the site presumably flows toward the Niagara River and a 36-inch diameter sanitary sewer line that is located along the west side of the site bounded by River Road. The top of the silty clay unit that is consistent through out the site has been logged and recorded to range in depth between 4 to 5 feet. Standard sewer construction consists of a sewer pipe laid on a gravel pipe bedding material with the rest of the sewer trench filled with a gravel backfill. Since the sanitary sewer located along River Road is approximately 15-feet deep, the bottom of sewer trench is then deeper than the top of the silty clay unit. Any groundwater emitting from the site should follow the top of clay and infiltrate into the gravel backfilled sewer trench. Once in the trench, groundwater will enter the sewer through infiltration and be transmitted to the City's WWTP for treatment.

The location of groundwater monitoring wells MW-1 and MW-2 are approximately 10-feet from the curb line along the 815 River Road property that bounds River Road. Groundwater in the southwest corner of the site has been impacted with concentrations of volatile organic compounds. Volatile concentrations were detected in groundwater collected from monitoring wells MW-1 and MW-2 that exceed the groundwater standards as listed in NYSDEC TOGS (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. Sampling field parameters are presented on Table 1. Analytical test results are presented on Table 2A, 2B, and Appendix A. Monitoring well sampling logs are presented in Appendix B.

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In comparison of volatile organic concentrations detected in groundwater from the sampling conducted during the SI/RAR dated July 16, 2007 and the current sampling event dated July 25, 2012 has made the following evaluation.

Monitoring Well MW-1: Groundwater test results from monitoring well MW-1 detected an increase in total volatile concentrations from 6 ug/l to 148 ug/l. Groundwater tested during the SI/RAR did not detect any volatile concentrations that exceeded the groundwater standard. Groundwater tested during the 2012 sampling event detected volatile concentrations that exceeded the groundwater standard which included: ethylbenzene, and isopropylbenzene.

Monitoring Well MW-2: Groundwater test results from monitoring well MW-2 detected an increase in total volatile concentrations from 1,230 ug/l to 3,345 ug/l. Groundwater tested during the SI/RAR detected volatile concentrations that exceeded the groundwater standard. Groundwater tested during the 2012 sampling event detected volatile concentrations that also exceeded the groundwater standard.

- Compounds that exceeded the groundwater standard from the SI/RAR sampling event included: 1,2-dichloropropane, benzene, ethylbenzene, m,p-xylene, o-xylene, and toluene.
- Compounds that exceeded the groundwater standard from the 2012 sampling event included: benzene, ethylbenzene, isopropylbenzene, and total xylenes.
- Detected compounds from the SI/RAR sampling event that decreased to non-detectable 2012 results includes: 1,2-dichloropropane and toluene.
- Detected compounds from the 2012 sampling event that increased in concentrations from the SI/RAR sampling event include: benzene, ethylbenzene, isopropylbenzene, and total xylene.

If there are any questions, please do not hesitate to call.

Very truly yours,

GHD CONSULTING ENGINEERS, LLC

David Rowlinson
Project Manager

DR/snb

Enclosure

TABLE 1

815 River Road Site

2012 Field Groundwater Parameters

Parameter	Monitoring Well Location	
	MW-1	MW-2
Temperature (°C)	22.01	21.98
pH	7.98	7.20
Conductivity (mS/cm)	1.13	3.19
Dissolved Oxygen (mg/L)	3.99	8.75
Turbidity (NTUs)[(1)]	NA	NA
ORP (mV)	-138.0	-134.0

TABLE 2A
Monitoring Well MW-1
Volatile Organic Analytical Test Results
815 River Road Site

Volatile Compounds	NYSDEC TOGS 1.1.1 Water Quality Standards[1]	Units	07/16/07	07/25/12
1,1,1-Trichloroethane	5	µg/L	ND	ND
1,1,2,2-Tetrachloroethane	5	µg/L	ND	ND
1,1,2-Trichlo-1,2,2-trifluoroethane	5	µg/L	ND	ND
1,1,2-Trichloroethane	1	µg/L	ND	ND
1,1-Dichloroethane	5	µg/L	ND	ND
1,1-Dichloroethene	5	µg/L	ND	ND
1,2,3-Trichlorobenzene	5	µg/L	-	ND
1,2,4-Trichlorobenzene	5	µg/L	-	ND
1,2-Dibromo-3-Chloropropane DBCP	0.04	µg/L	-	ND
1,2-Dibromoethane (EDB)	NE	µg/L	-	ND
1,2-Dichlorobenzene	3	µg/L	-	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND
1,2-Dichloropropane	5	µg/L	ND	ND
1,3-Dichlorobenzene	3	µg/L	-	ND
1,4-Dichlorobenzene	3	µg/L	-	ND
2-Hexanone	50	µg/L	ND	ND
Acetone	50	µg/L	ND	ND
Benzene	1	µg/L	ND	ND
Bromoform	50	µg/L	ND	ND
Bromomethane	5	µg/L	ND	ND
Bromodichloromethane	50	µg/L	ND	ND
Bromochloromethane	5	µg/L	-	ND
Carbon disulfide	60	µg/L	ND	ND
Carbon tetrachloride	5	µg/L	ND	ND
Chlorobenzene	5	µg/L	ND	ND
Chloroethane	5	µg/L	ND	ND
Chloroform	7	µg/L	ND	ND
Chloromethane	NE	µg/L	ND	ND
cis-1,2-Dichloroethene	5	µg/L	ND	ND
cis-1,3-Dichloropropene	0.40	µg/L	ND	ND
Cyclohexane	NE	µg/L	ND	**82**
Dibromochloromethane	50	µg/L	ND	ND
Dichlorobromoethane	NE	µg/L	-	ND
Dichlorodifluoromethane	5	µg/L	-	ND
Ethylbenzene	5	µg/L	**2J**	**18**
Isopropylbenzene	5	µg/L	ND	**33**
Methyl acetate	NE	µg/L	-	ND
Methyl Ethyl Ketone	50	µg/L	-	ND
Methylcyclohexane	NE	µg/L	ND	**15**
Methylene chloride	5	µg/L	ND	ND
Methyl-t-Butyl Ether (MTBE)	10	µg/L	-	ND
Methyl tert-butyl esther	NE	µg/L	-	ND
m,p-Xylene	5	µg/L	**4J**	-
o-Xylene	5	µg/L	ND	-
Styrene	5	µg/L	ND	ND
Tetrachloroethene	5	µg/L	ND	ND
Toluene	5	µg/L	ND	ND
Total Xylenes	5	µg/L	-	ND
trans-1, 2-Dichloroethene	5	µg/L	ND	ND
trans-1,3-Dichloropropene	0.4	µg/L	ND	ND
Trichloroethene	5	µg/L	ND	ND
Trichlorofluoromethane	5	µg/L	-	ND
Vinyl Chloride	2	µg/L	ND	ND
Total VOCs		µg/L	6	148
Total VOCs		mg/L	0.006	0.148

Notes: 1. New York State Department of Environmental Conservation (NYSDEC) Technical and Operational Guidance Series (TOGS) 1.1.1: Ambient Water Quality Standards and Guidance Values (µg/L)

Bolded concentrations indicated the analyte was detected. Bolded and shaded concentrations indicate equal to or exceedance of TOGS 1.1.1 criteria.

NE = NYSDEC TOGS 1.1.1 water quality standard not established.

ND = The analyte was analyzed for but not detected. The associated value is the analyte quantitation limit.

J = The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

- = The analyte was not sampled for.

TABLE 2B
Monitoring Well MW-2
Volatile Organic Analytical Test Results
815 River Road Site

Volatile Compounds	NYSDEC TOGS 1.1.1 Water Quality Standards[1]	Units	07/16/07	07/25/12
1,1,1-Trichloroethane	5	µg/L	ND	ND
1,1,2,2-Tetrachloroethane	5	µg/L	ND	ND
1,1,2-Trichlo-1,2,2-trifluoroethane	5	µg/L	ND	ND
1,1,2-Trichloroethane	1	µg/L	ND	ND
1,1-Dichloroethane	5	µg/L	ND	ND
1,1-Dichloroethene	5	µg/L	ND	ND
1,2,3-Trichlorobenzene	5	µg/L	-	ND
1,2,4-Trichlorobenzene	5	µg/L	-	ND
1,2-Dibromo-3-Chloropropane DBCP	0.04	µg/L	-	ND
1,2-Dibromoethane (EDB)	NE	µg/L	-	ND
1,2-Dichlorobenzene	3	µg/L	-	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND
1,2-Dichloropropane	5	µg/L	**40J**	ND
1,3-Dichlorobenzene	3	µg/L	-	ND
1,4-Dichlorobenzene	3	µg/L	-	ND
2-Hexanone	50	µg/L	ND	ND
Acetone	50	µg/L	ND	ND
Benzene	1	µg/L	**140**	**560**
Bromoform	50	µg/L	ND	ND
Bromomethane	5	µg/L	ND	ND
Bromodichloromethane	50	µg/L	ND	ND
Bromochloromethane	5	µg/L	-	ND
Carbon disulfide	60	µg/L	ND	ND
Carbon tetrachloride	5	µg/L	ND	ND
Chlorobenzene	5	µg/L	ND	ND
Chloroethane	5	µg/L	ND	ND
Chloroform	7	µg/L	ND	ND
Chloromethane	NE	µg/L	ND	ND
cis-1,2-Dichloroethene	5	µg/L	ND	ND
cis-1,3-Dichloropropene	0.40	µg/L	ND	ND
Cyclohexane	NE	µg/L	ND	**210**
Dibromochloromethane	50	µg/L	ND	ND
Dichlorobromoethane	NE	µg/L	-	ND
Dichlorodifluoromethane	5	µg/L	-	ND
Ethylbenzene	5	µg/L	**460**	**1,500**
Isopropylbenzene	5	µg/L	ND	**220**
Methyl acetate	NE	µg/L	-	ND
Methyl Ethyl Ketone	50	µg/L	-	ND
Methylcyclohexane	NE	µg/L	ND	**15**
Methylene chloride	5	µg/L	ND	ND
Methyl-t-Butyl Ether (MTBE)	10	µg/L	-	ND
Methyl tert-butyl esther	NE	µg/L	-	ND
m,p-Xylene	5	µg/L	**480**	-
o-Xylene	5	µg/L	**40J**	-
Styrene	5	µg/L	ND	ND
Tetrachloroethene	5	µg/L	ND	ND
Toluene	5	µg/L	**70J**	ND
Total Xylenes	5	µg/L	-	**840**
trans-1, 2-Dichloroethene	5	µg/L	ND	ND
trans-1,3-Dichloropropene	0.4	µg/L	ND	ND
Trichloroethene	5	µg/L	ND	ND
Trichlorofluoromethane	5	µg/L	-	ND
Vinyl Chloride	2	µg/L	ND	ND
Total VOCs		µg/L	1230	3345
Total VOCs		mg/L	1.230	3.345

Notes: 1. New York State Department of Environmental Conservation (NYSDEC) Technical and Operational Guidance Series (TOGS) 1.1.1: Ambient Water Quality Standards and Guidance Values (µg/L)

Bolded concentrations indicated the analyte was detected. Bolded and shaded concentrations indicate equal to or exceedance of TOGS 1.1.1 criteria.

NE = NYSDEC TOGS 1.1.1 water quality standard not established.

ND = The analyte was analyzed for but not detected. The associated value is the analyte quantitation limit.

J = The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

- = The analyte was not sampled for.

APPENDIX A

ESC
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Est. 1970

Mr. Dave Rowlinson
Stearns and Wheler
200 John James Audubon Pkwy; Ste 101
Amherst, NY 14226

Report Summary

Tuesday July 31, 2012

Report Number: L586937
Samples Received: 07/26/12
Client Project:

Description: 815 River Road Site

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Leslie Newton

Leslie Newton , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Dave Rowlinson
Stearns and Wheler
200 John James Audubon Pkwy; Ste 10
Amherst, NY 14228

July 31, 2012

ESC Sample # : L586937-01

Date Received : July 26, 2012
Description : 315 River Road Site

Site ID : N. TONAWANDA, NY

Sample ID : MW-1

Project # :

Collected By : Brian Doyle
Collection Date : 07/25/12 13:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	0.25	mg/l	8260B	07/30/12	5
Benzene	BDL	0.0050	mg/l	8260B	07/30/12	5
Bromochloromethane	BDL	0.0050	mg/l	8260B	07/30/12	5
Bromodichloromethane	BDL	0.0050	mg/l	8260B	07/30/12	5
Bromoform	BDL	0.0050	mg/l	8260B	07/30/12	5
Bromomethane	BDL	0.025	mg/l	8260B	07/30/12	5
Carbon disulfide	BDL	0.0050	mg/l	8260B	07/30/12	5
Carbon tetrachloride	BDL	0.0050	mg/l	8260B	07/30/12	5
Chlorobenzene	BDL	0.0050	mg/l	8260B	07/30/12	5
Chlorodibromomethane	BDL	0.0050	mg/l	8260B	07/30/12	5
Chloroethane	BDL	0.025	mg/l	8260B	07/30/12	5
Chloroform	BDL	0.025	mg/l	8260B	07/30/12	5
Chloromethane	BDL	0.012	mg/l	8260B	07/30/12	5
Cyclohexane	0.092	0.0050	mg/l	8260B	07/30/12	5
1,2-Dibromo-3-Chloropropane	BDL	0.025	mg/l	8260B	07/30/12	5
1,2-Dibromoethane	BDL	0.0050	mg/l	8260B	07/30/12	5
1,2-Dichlorobenzene	BDL	0.0050	mg/l	8260B	07/30/12	5
1,3-Dichlorobenzene	BDL	0.0050	mg/l	8260B	07/30/12	5
1,4-Dichlorobenzene	BDL	0.0050	mg/l	8260B	07/30/12	5
Dichlorodifluoromethane	BDL	0.025	mg/l	8260B	07/30/12	5
1,1-Dichloroethane	BDL	0.0050	mg/l	8260B	07/30/12	5
1,2-Dichloroethane	BDL	0.0050	mg/l	8260B	07/30/12	5
1,1-Dichloroethene	BDL	0.0050	mg/l	8260B	07/30/12	5
cis-1,2-Dichloroethene	BDL	0.0050	mg/l	8260B	07/30/12	5
trans-1,2-Dichloroethene	BDL	0.0050	mg/l	8260B	07/30/12	5
1,2-Dichloropropane	BDL	0.0050	mg/l	8260B	07/30/12	5
cis-1,3-Dichloropropene	BDL	0.0050	mg/l	8260B	07/30/12	5
trans-1,3-Dichloropropene	BDL	0.0050	mg/l	8260B	07/30/12	5
Ethylbenzene	0.018	0.0050	mg/l	8260B	07/30/12	5
2-Hexanone	BDL	0.050	mg/l	8260B	07/30/12	5
Isopropylbenzene	0.033	0.0050	mg/l	8260B	07/30/12	5
2-Butanone (MEK)	BDL	0.050	mg/l	8260B	07/30/12	5
Methyl Acetate	BDL	0.10	mg/l	8260B	07/30/12	5
Methyl Cyclohexane	0.015	0.0050	mg/l	8260B	07/30/12	5
Methylene Chloride	BDL	0.025	mg/l	8260B	07/30/12	5
4-Methyl-2-pentanone (MIBK)	BDL	0.050	mg/l	8260B	07/30/12	5
Methyl tert-butyl ether	BDL	0.0050	mg/l	8260B	07/30/12	5
Styrene	BDL	0.0050	mg/l	8260B	07/30/12	5
1,1,2,2-Tetrachloroethane	BDL	0.0050	mg/l	8260B	07/30/12	5
Tetrachloroethene	BDL	0.0050	mg/l	8260B	07/30/12	5
Toluene	BDL	0.025	mg/l	8260B	07/30/12	5
1,2,3-Trichlorobenzene	BDL	0.0050	mg/l	8260B	07/30/12	5
1,2,4-Trichlorobenzene	BDL	0.0050	mg/l	8260B	07/30/12	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L586937-01 (V8260TCL) - AP9 Too high to run lower

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REPORT OF ANALYSIS

Mr. Dave Rowlinson
Stearns and Wheler
200 John James Audubon Pkwy; Ste 10
Amherst, NY 14228

July 31, 2012

ESC Sample # : L586937-01

Date Received : July 26, 2012
Description : 815 River Road Site

Site ID : N. TONAWANDA, NY

Sample ID : MW-1

Project # :

Collected By : Brian Doyle
Collection Date : 07/25/12 13:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,1,1-Trichloroethane	BDL	0.0050	mg/l	8260B	07/30/12	5
1,1,2-Trichloroethane	BDL	0.0050	mg/l	8260B	07/30/12	5
Trichloroethene	BDL	0.0050	mg/l	8260B	07/30/12	5
Trichlorofluoromethane	BDL	0.025	mg/l	8260B	07/30/12	5
1,1,2-Trichlorotrifluoroethane	BDL	0.0050	mg/l	8260B	07/30/12	5
Vinyl chloride	BDL	0.0050	mg/l	8260B	07/30/12	5
Xylenes, Total	BDL	0.015	mg/l	8260B	07/30/12	5
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	07/30/12	5
Dibromofluoromethane	108.		% Rec.	8260B	07/30/12	5
a,a,a-Trifluorotoluene	98.7		% Rec.	8260B	07/30/12	5
4-Bromofluorobenzene	93.6		% Rec.	8260B	07/30/12	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 07/31/12 12:19 Printed: 07/31/12 12:20
L586937-01 (V8260TCL) - AP9 Too high to run lower

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REPORT OF ANALYSIS

Mr. Dave Rowlinson
Stearns and Wheler
200 John James Audubon Pkwy; Ste 10
Amherst, NY 14228

July 31, 2012

ESC Sample # : L586937-02

Date Received : July 26, 2012
Description : 815 River Road Site

Site ID : N. TONAWANDA, NY

Sample ID : MW-2

Project # :

Collected By : Brian Doyle
Collection Date : 07/25/12 16:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	2.5	mg/l	8260B	07/27/12	50
Benzene	0.56	0.050	mg/l	8260B	07/27/12	50
Bromochloromethane	BDL	0.050	mg/l	8260B	07/27/12	50
Bromodichloromethane	BDL	0.050	mg/l	8260B	07/27/12	50
Bromoform	BDL	0.050	mg/l	8260B	07/27/12	50
Bromomethane	BDL	0.25	mg/l	8260B	07/27/12	50
Carbon disulfide	BDL	0.050	mg/l	8260B	07/27/12	50
Carbon tetrachloride	BDL	0.050	mg/l	8260B	07/27/12	50
Chlorobenzene	BDL	0.050	mg/l	8260B	07/27/12	50
Chlorodibromomethane	BDL	0.050	mg/l	8260B	07/27/12	50
Chloroethane	BDL	0.25	mg/l	8260B	07/27/12	50
Chloroform	BDL	0.25	mg/l	8260B	07/27/12	50
Chloromethane	BDL	0.12	mg/l	8260B	07/27/12	50
Cyclohexane	0.21	0.050	mg/l	8260B	07/27/12	50
1,2-Dibromo-3-Chloropropane	BDL	0.25	mg/l	8260B	07/27/12	50
1,2-Dibromoethane	BDL	0.050	mg/l	8260B	07/27/12	50
1,2-Dichlorobenzene	BDL	0.050	mg/l	8260B	07/27/12	50
1,3-Dichlorobenzene	BDL	0.050	mg/l	8260B	07/27/12	50
1,4-Dichlorobenzene	BDL	0.050	mg/l	8260B	07/27/12	50
Dichlorodifluoromethane	BDL	0.25	mg/l	8260B	07/27/12	50
1,1-Dichloroethane	BDL	0.050	mg/l	8260B	07/27/12	50
1,2-Dichloroethane	BDL	0.050	mg/l	8260B	07/27/12	50
1,1-Dichloroethene	BDL	0.050	mg/l	8260B	07/27/12	50
cis-1,2-Dichloroethene	BDL	0.050	mg/l	8260B	07/27/12	50
trans-1,2-Dichloroethene	BDL	0.050	mg/l	8260B	07/27/12	50
1,2-Dichloropropane	BDL	0.050	mg/l	8260B	07/27/12	50
cis-1,3-Dichloropropene	BDL	0.050	mg/l	8260B	07/27/12	50
trans-1,3-Dichloropropene	BDL	0.050	mg/l	8260B	07/27/12	50
Ethylbenzene	1.5	0.050	mg/l	8260B	07/27/12	50
2-Hexanone	BDL	0.50	mg/l	8260B	07/27/12	50
Isopropylbenzene	0.22	0.050	mg/l	8260B	07/27/12	50
2-Butanone (MEK)	BDL	0.50	mg/l	8260B	07/27/12	50
Methyl Acetate	BDL	1.0	mg/l	8260B	07/27/12	50
Methyl Cyclohexane	BDL	0.050	mg/l	8260B	07/27/12	50
Methylene Chloride	BDL	0.25	mg/l	8260B	07/27/12	50
4-Methyl-2-pentanone (MIBK)	BDL	0.50	mg/l	8260B	07/27/12	50
Methyl tert-butyl ether	BDL	0.050	mg/l	8260B	07/27/12	50
Styrene	BDL	0.050	mg/l	8260B	07/27/12	50
1,1,2,2-Tetrachloroethane	BDL	0.050	mg/l	8260B	07/27/12	50
Tetrachloroethene	BDL	0.050	mg/l	8260B	07/27/12	50
Toluene	BDL	0.25	mg/l	8260B	07/27/12	50
1,2,3-Trichlorobenzene	BDL	0.050	mg/l	8260B	07/27/12	50
1,2,4-Trichlorobenzene	BDL	0.050	mg/l	8260B	07/27/12	50

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dave Rowlinson
Stearns and Wheler
200 John James Audubon Pkwy; Ste 10
Amherst, NY 14228

July 31, 2012

ESC Sample # : L586937-02

Date Received : July 26, 2012
Description : 815 River Road Site

Site ID : N. TONAWANDA, NY

Sample ID : MW-2

Project # :

Collected By : Brian Doyle
Collection Date : 07/25/12 16:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,1,1-Trichloroethane	BDL	0.050	mg/l	8260B	07/27/12	50
1,1,2-Trichloroethane	BDL	0.050	mg/l	8260B	07/27/12	50
Trichloroethene	BDL	0.050	mg/l	8260B	07/27/12	50
Trichlorofluoromethane	BDL	0.25	mg/l	8260B	07/27/12	50
1,1,2-Trichlorotrifluoroethane	BDL	0.050	mg/l	8260B	07/27/12	50
Vinyl chloride	BDL	0.050	mg/l	8260B	07/27/12	50
Xylenes, Total	0.84	0.15	mg/l	8260B	07/27/12	50
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	07/27/12	50
Dibromofluoromethane	106.		% Rec.	8260B	07/27/12	50
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	07/27/12	50
4-Bromofluorobenzene	100.		% Rec.	8260B	07/27/12	50

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/31/12 12:19 Printed: 07/31/12 12:20

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Dave Rowlinson
Stearns and Wheler
200 John James Audubon Pkwy; Ste 10
Amherst, NY 14228

July 31, 2012

ESC Sample # : L586937-03

Site ID : N. TONAWANDA, NY

Project # :

Date Received : July 26, 2012
Description : 815 River Road Site

Sample ID : TRIP BLANK

Collected By : Brian Doyle
Collection Date : 07/25/12 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	07/27/12	1
Benzene	BDL	0.0010	mg/l	8260B	07/27/12	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	07/27/12	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	07/27/12	1
Bromoform	BDL	0.0010	mg/l	8260B	07/27/12	1
Bromomethane	BDL	0.0050	mg/l	8260B	07/27/12	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	07/27/12	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	07/27/12	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	07/27/12	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	07/27/12	1
Chloroethane	BDL	0.0050	mg/l	8260B	07/27/12	1
Chloroform	BDL	0.0050	mg/l	8260B	07/27/12	1
Chloromethane	BDL	0.0025	mg/l	8260B	07/27/12	1
Cyclohexane	BDL	0.0010	mg/l	8260B	07/27/12	1
1,2-Dibromo-3-Chloropropane	BDL	0.0050	mg/l	8260B	07/27/12	1
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	07/27/12	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/27/12	1
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/27/12	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/27/12	1
Dichlorodifluoromethane	BDL	0.0050	mg/l	8260B	07/27/12	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	07/27/12	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	07/27/12	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	07/27/12	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/27/12	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/27/12	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	07/27/12	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/27/12	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/27/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	07/27/12	1
2-Hexanone	BDL	0.010	mg/l	8260B	07/27/12	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	07/27/12	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	07/27/12	1
Methyl Acetate	BDL	0.020	mg/l	8260B	07/27/12	1
Methyl Cyclohexane	BDL	0.0010	mg/l	8260B	07/27/12	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	07/27/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	07/27/12	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	07/27/12	1
Styrene	BDL	0.0010	mg/l	8260B	07/27/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	07/27/12	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	07/27/12	1
Toluene	BDL	0.0050	mg/l	8260B	07/27/12	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/27/12	1
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/27/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Dave Rowlinson
Stearns and Wheler
200 John James Audubon Pkwy; Ste 10
Amherst, NY 14228

July 31, 2012

ESC Sample # : L586937-03

Date Received : July 26, 2012
Description : 815 River Road Site

Site ID : N. TONAWANDA, NY

Sample ID : TRIP BLANK

Project # :

Collected By : Brian Doyle
Collection Date : 07/25/12 00:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	07/27/12	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	07/27/12	1
Trichloroethene	BDL	0.0010	mg/l	8260B	07/27/12	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	07/27/12	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0010	mg/l	8260B	07/27/12	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	07/27/12	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	07/27/12	1
Surrogate Recovery						
Toluene-d8	93.0		% Rec.	8260B	07/27/12	1
Dibromofluoromethane	105.		% Rec.	8260B	07/27/12	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	07/27/12	1
4-Bromofluorobenzene	101.		% Rec.	8260B	07/27/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 07/31/12 12:19 Printed: 07/31/12 12:20

Summary of Remarks For Samples Printed
07/31/12 at 12:20:24

TSR Signing Reports: 044
R5 - Desired TAT

Sample: L586937-01 Account: STEARNSANY Received: 07/26/12 09:00 Due Date: 08/02/12 00:00 RPT Date: 07/31/12 12:19

Sample: L586937-02 Account: STEARNSANY Received: 07/26/12 09:00 Due Date: 08/02/12 00:00 RPT Date: 07/31/12 12:19

Sample: L586937-03 Account: STEARNSANY Received: 07/26/12 09:00 Due Date: 08/02/12 00:00 RPT Date: 07/31/12 12:19

APPENDIX B

GHD INC.
GROUNDWATER FIELD SAMPLING RECORD

SITE 815 River Road DATE 07/25/12

Sampler: Brian Doyle SAMPLE ID MW-1

Depth of well (from top of casing).....	14.33 ft	EL 562.71
Initial static water level (from top of casing)....	8.9 ft	EL 568.1
Top of PVC Casing Elevation	577.04	

Evacuation Method:

Peristaltic		Centrifugal		1 in. casing:		ft. of water x .09 =	gallons
Airlift		Pos. Displ.		2 in. casing:	5.4	ft. of water x .16 =	0.87 gallons
Bailer	X	>>> No. of bails		3 in. casing:		ft. of water x .36 =	gallons

Well Volume Calculation

Volume of water removed 2.61 gals.

> 3 volumes: **yes** no

dry: yes **no**

Field Tests:

Temp:	22.01	C
pH	7.98	
Conductivity	1.13	mS/cm
DO	3.99	mg/L
Turbidity	NA	NTUs
Oxidation Reduction Potential (ORP)	-138	mV

Sampling: Time: 3:30 PM

Sampling Method:

Peristaltic Pump	
Disposable Bailer	X
Disposable Tubing	

Observations:

Weather/Temperature: Clear, 85° F

Physical Appearance and Odor of Sample: Slight gasoline odor; clear then grayish color, turbid.

Comments: Well pad is intact and the stickup protective cover is in good condition.

GHD INC.
GROUNDWATER FIELD SAMPLING RECORD

SITE 815 River Road DATE 07/25/12

Sampler: Brian Doyle SAMPLE ID MW-2

Depth of well (from top of casing).....	14.33 ft	EL 562.71
Initial static water level (from top of casing)....	8.8 ft	EL 568.2
Top of PVC Casing Elevation	577.04	

Evacuation Method:

Peristaltic		Centrifugal		1 in. casing:		ft. of water x .09 =	gallons
Airlift		Pos. Displ.		2 in. casing:	5.5	ft. of water x .16 =	0.88 gallons
Bailer	X	>>> No. of bails		3 in. casing:		ft. of water x .36 =	gallons

Well Volume Calculation

Volume of water removed 2.65 gals.

> 3 volumes: **yes** no

dry: yes **no**

Field Tests:

Temp:	21.98	C
pH	7.20	
Conductivity	3.19	mS/cm
DO	8.75	mg/L
Turbidity	NA	NTUs
Oxidation Reduction Potential (ORP)	-134	mV

Sampling: Time: 4:00 PM

Sampling Method:

Peristaltic Pump	
Disposable Bailer	X
Disposable Tubing	

Observations:

Weather/Temperature: Clear, 85° F

Physical Appearance and Odor of Sample: Distinct gasoline odor; clear then blackish color, very turbid

Comments: Well pad is intact and the stickup protective cover is in good condition.