Appendix C: Comprehensive Sediment Sampling Results for Gonic Dam and Gonic Sawmill Dam

- **Gonic Mill Dam Sediment Sampling and Analyses, May 20, 2003**
- **Laboratory Report – Gonic Sawmill Sediment Sampling, August 4, 2004**
- **Laboratory Report – Gonic Sawmill Sediment Sampling, February 22, 2005**
- **Toxicological Evaluation of Sediment Samples – Gonic Project Site, February, 2005**

GONIC MILL DAM SEDIMENT SAMPLING AND ANALYSES

GONIC MILL
10 MAIN STREET
ROCHESTER, NEW HAMPSHIRE

Prepared for:

Mr. Tim Sheldon
Dover Mills Partnership
One Washington Center
1 Washington Street
Dover, New Hampshire 03820
(603) 749-3355

Prepared by:

ENGEL ENVIRONMENTAL SERVICES, INC.
64 Brackett Road, Gorham, Maine 04038
Tel./Fax: (207) 839-5423

May 20, 2003
File No: 00143

ENGEL ENVIRONMENTAL SERVICES, INC.
64 Brackett Road, Gorham, Maine 04038
Tel./Fax: (207) 839-5423

May 20, 2003
File No.: 00143

Mr. Tim Sheldon
Dover Mills Partnership
One Washington Center
1 Washington Street
Dover, NH 03820

Re: Sediment Sampling and Analyses – Gonic Mill Dam
Gonic Mill, 10 Main Street, Rochester, NH

Dear Mr. Sheldon:

Engel Environmental Services, Inc. (EES) is pleased to submit this report summarizing the results of sediment sampling and analyses at the Gonic Mill dam. The sampling was requested by the New Hampshire Department of Environmental Services (NHDES) Dam Bureau in preparation of lowering or removal of the dam on the Cocheco River. The purpose of the sampling and analyses was to determine sediment quality within the dam impoundment area, and at upstream and downstream locations.

This report provides a summary of the field sampling and laboratory analytical results for four sediment samples collected at the site. The sediment sample locations and general site features are shown on the attached Site Plan.

Sediment Sampling

On May 7, 2003, EES collected four sediment samples using a core sampler designed for use with saturated sediment. Sample locations were selected in depositional areas, if possible. Samples Dam-1 and Dam-2 were collected behind the dam, sample Dam-3 was collected from a location approximately 200 feet upstream to provide background sediment quality data, and sample Dam-4 was collected from allocation approximately 200 feet downstream from the dam. Each sample was collected by driving the core sampler ± 2 feet into the sediment to the point of refusal. It could not be determined whether refusal was on bedrock, boulder/cobbles, or other material. However, bedrock is exposed at the dam location. Samples were placed in appropriate containers provided by the analytical laboratory.

The samples were submitted for analysis of volatile organic compounds (VOCs) by EPA Method 8260B, acid-base-neutral compounds (ABN) by EPA Method 8270, polychlorinated biphenyls (PCBs) and pesticides by EPA Method 8080, arsenic, barium, cadmium, chromium, lead, mercury, nickel, copper, and zinc by EPA Method 6020, and total organic carbon (TOC) by SW 846 9060. Representative samples from each location were also submitted for sieve analyses using ASTM Method D-422.

LABORATORY ANALYSES

The soil sample analytical results did not indicate detectable VOC concentrations in Dam-2 or Dam-3. VOCs below the upper effects thresholds published in the NOAA Screening Quick Reference Tables (SQuiRT) (1999) were detected in Dam-1 and Dam-4. ABN concentrations were detected above the upper effects thresholds in the NOAA SQuiRT in samples Dam-1 and Dam-2. The Dam-3 sample indicated ABNs below the SQuiRT values. ABNs were not detected in the Dam-4 sample. PCBs and pesticides were not detected in any of the samples above laboratory detection limits. Metals concentrations were detected in each sample at concentrations below the SQuiRT upper effects threshold. Cadmium and mercury were not detected above laboratory detection limits in any of the samples.

Total organic carbon analytical results ranged from 32,000 parts per million (ppm) in Dam-2 to below detection in Dam-4. The area downstream from the dam experiences greater river flow velocities and turbulence than upstream locations. In addition, bedrock outcrops are present along the river banks downstream from the dam. As a result, sediment grain size tended to be greater and minimal deposition of organic matter and fine grained sediment was noted in these areas.

Laboratory analytical results are summarized in Table 1. Laboratory results, including those for the sieve analyses, are attached.

Engel Environmental Services, Inc. appreciates the opportunity to be of service. Please do not hesitate to call if you have questions regarding this site or any other matter.

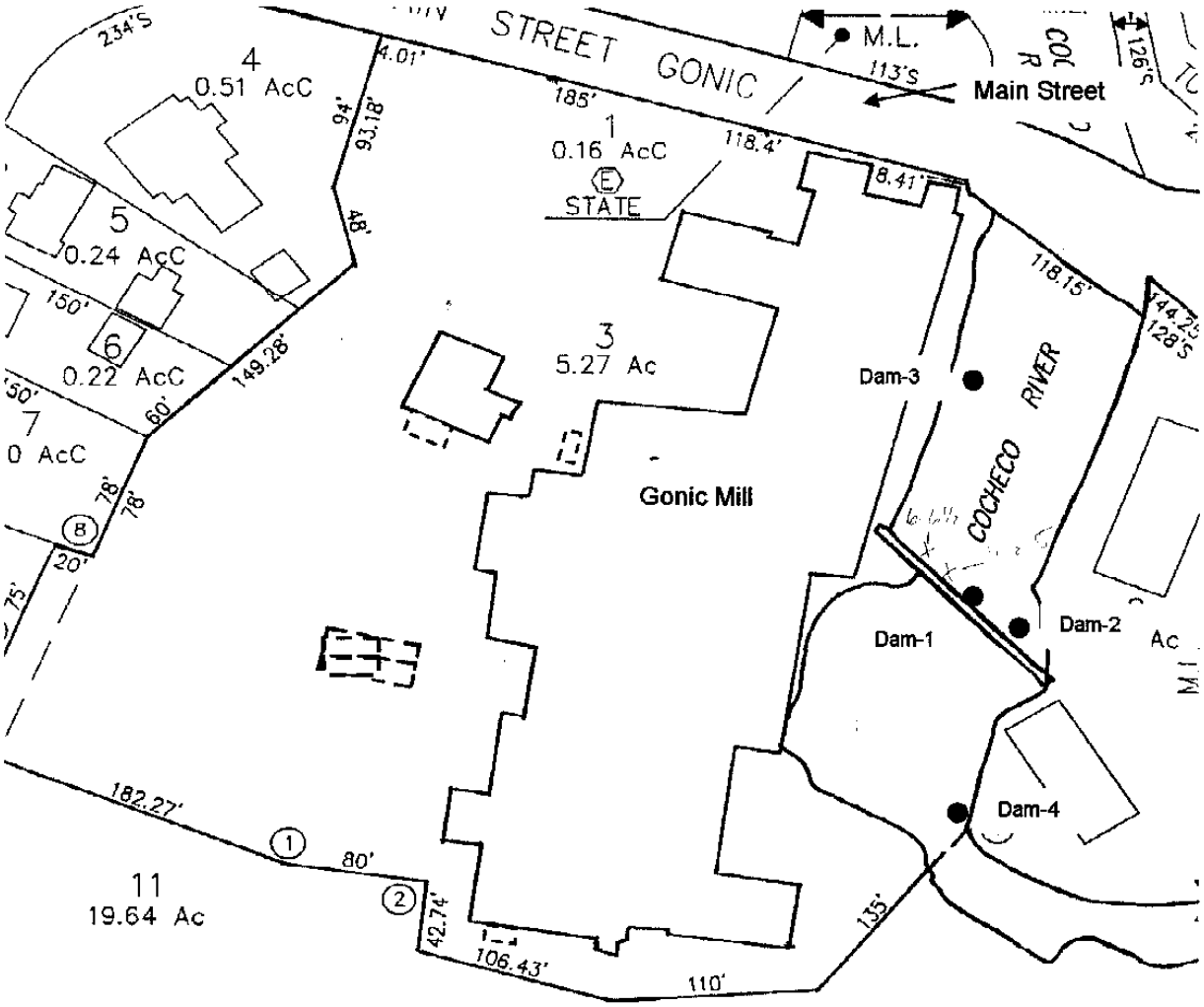
Sincerely,

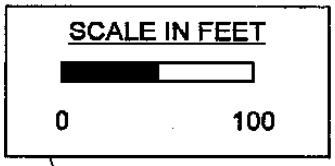
ENGEL ENVIRONMENTAL SERVICES, INC.

John A. Engel
Hydrogeologist
Principal

Attachments: Site Plan
Table 1 – Summary of Sediment Sample Analytical Results
Laboratory Analytical Results

cc: NHDES – Concord, NH





Based on Assessor's Map 142 and observations made by Engel Environmental Services, Inc.

SITE PLAN – DAM SEDIMENT SAMPLE LOCATIONS
GONIC MILL - 10 MAIN STREET
ROCHESTER, NEW HAMPSHIRE

ENGEL ENVIRONMENTAL SERVICES, INC.
64 BRACKETT ROAD, GORHAM, MAINE 04038

Prep. By: JAE	Scale: 1" = ±100'	Proj. No.: 00143
Date: 5/20/03		Figure: 1

Table 1
SUMMARY OF GONIC MILL DAM SEDIMENT SAMPLE ANALYTICAL RESULTS
Gonic Mill - 10 Main Street, Rochester, New Hampshire
NHDES #199906028

PARAMETER	BORING NUMBER				NOAA SQRT
	Dam-1	Dam-2	Dam-3 Upstream	Dam-4 Downstream	Upper Effects Threshold
VOCs (ppm)					
p-Isopropyltoluene	BD	BD	BD	0.171	na
Chlorobenzene	0.047	BD	BD	BD	0.1
1,2-Dichlorobenzene	0.131	BD	BD	BD	0.6
Other VOCs	BD	BD	BD	BD	Various
Acid/Base-Neutral (ppm)					
Acenaphthylene	BD	**1.40**	BD	BD	0.16
Anthracene	**1.20**	**1.60**	BD	BD	0.26
Benzo (a) anthracene	**2.40**	**3.60**	BD	BD	0.5
Benzo (b) fluoranthene	1.70	5.60	BD	BD	na
Benzo (k) fluoranthene	1.80	5.20	BD	BD	13.4
Benzo (a) pyrene	**2.20**	**6.30**	BD	BD	0.7
Chrysene	**2.30**	**6.90**	BD	BD	0.8
Fluoranthene	**5.00**	**9.90**	0.48	BD	1.5
Indeno (1,2,3-cd) pyrene	**0.88**	**3.60**	BD	BD	0.7

Table 1 (cont.)
SUMMARY OF GONIC MILL DAM SEDIMENT SAMPLE ANALYTICAL RESULTS

Compound	Dam-1	Dam-2	Dam-3	Dam-4	NOAA SQRT
Benzo (ghi) perylene	**0.83**	**4.30**	BD	BD	0.3
Phenanthrene	**2.60**	**3.30**	BD	BD	0.8
Pyrene	**4.40**	**9.30**	0.51	BD	1.0
Other SVOCs/PAH	BD	BD	BD	BD	Various
PCB (ppm)	BD	BD	BD	BD	Various
Pesticides (ppm)	BD	BD	BD	BD	Various
Metals (ppm)					
Arsenic	6.0	5.0	4.0	5.0	17
Barium	54.0	40.0	46.0	15.0	na
Cadmium	BD	BD	BD	BD	3
Chromium (total)	18.0	14.0	10.0	7.0	95
Lead	32.0	27.0	37.0	19.0	127
Mercury	BD	BD	BD	BD	0.56
Nickel	12.0	8.0	7.0	4.0	43
Copper	13.0	13.0	10.0	6.0	86
Zinc	75.0	69.0	50.0	30.0	520
TOC (ppm)	15,000	32,000	19,000	BD	

AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

Ph. 603-783-9097 • Fax 603-783-0360

05-14-2003,13:02

Mr. John Engel
Engel Environmental Services Inc.
64 Brackett Road
Gorham, Maine 04038

Dear Mr. Engel:

Please find enclosed the reports, and invoice for the samples that were logged in on, 05-08-2003.

AAI Sample	Date Sampled	Project Description	Sample Location
78458	05-07-2003	#00143 / GONIC MILL	DAM-1
78459	05-07-2003	#00143 / GONIC MILL	DAM-2
78460	05-07-2003	#00143 / GONIC MILL	DAM-3
78461	05-07-2003	#00143 / GONIC MILL	DAM-4
78462	05-07-2003	#00143 / GONIC MILL	DAM-1
78463	05-07-2003	#00143 / GONIC MILL	DAM-2
78464	05-07-2003	#00143 / GONIC MILL	DAM-3
78465	05-07-2003	#00143 / GONIC MILL	DAM-4

To perform these analyses, the following methods were used:

QTY.	EPA Methodologies/Applications
4	EPA-8260 VOA Soil/Solid
4	Acid-Base-Neutral EPA-8270/625
4	PCB's/Pesticides EPA-8080
4	Soil Digestion EPA-3051A
32	Metals analysis (excluding mercury)
4	Mercury analysis
4	TOC Soil

Thank you for using Aquarian Analytical Inc. on this project. If I can be of any further help, please feel free to call.

Sincerely,

William M. Rice
Laboratory Director
Total Pages = 57

doc. # L18785

AQUARIAN ANALYTICAL INC.

Laboratory Services

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05-14-2003,13:02

As part of Aquarian's ongoing quality assurance program, all analyses included the following quality assurance measures.

Samples were received in an acceptable condition.

Samples were prepared and analyzed within the appropriate hold time specified in the method referred to on the analyses sheet.

The instrument that was used for the analyses was calibrated and/or tuned at the required frequency.

A daily calibration check was performed.

A daily blank was run, and contamination was not observed at levels that would affect the analyses.

For all work, internal standards, and surrogates gave appropriate response levels.

Matrix spikes were added where appropriate, and recoveries were within the acceptable range.

Duplicates were run at the frequency specified in the applicable state or federal regulations.

In addition to the above steps, all original-raw data is on file at Aquarian Analytical's offices for inspection when required.

Exceptions (if any)

Certification

AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186
Canterbury, N.H. 03224
Ph. 603-783-9097 • Fax 603-783-0360

Volatile Organic Report
05-12-2003,16:20
Sample 78458

Project	#00143 / GONIC MILL	Matrix	Soil/Solid
Date Sampled	05-07-2003,09:15	Sampler	J.A.E.
Date Logged In	05-08-2003,12:06	Location	DAM-1
Date of Analysis	05-12-2003	Town	ROCHESTER
% Solids	44.29%		

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Benzene	BD	0.030
Bromobenzene	BD	0.030
Bromodichloromethane	BD	0.030
Bromoform	BD	0.030
Bromomethane	BD	0.030
n-Butylbenzene	BD	0.030
sec-Butylbenzene	BD	0.030
tert-Butylbenzene	BD	0.030
Carbon-Tetrachloride	BD	0.030
Chlorobenzene	0.047	0.030
Chloroethane	BD	0.030
Chloroform	BD	0.030
Chloromethane	BD	0.045
2-Chlorotoluene	BD	0.030
4-Chlorotoluene	BD	0.030
Dibromochloromethane	BD	0.030
1,2 Dibromo-3-Chloropropane	BD	0.030
1,2 Dibromoethane	BD	0.030
Dibromomethane	BD	0.030
1,2 Dichlorobenzene	BD	0.030
1,3 Dichlorobenzene	BD	0.030
1,4 Dichlorobenzene	0.131	0.030
Dichlorodifluoromethane	BD	0.060
1,1 Dichloroethane	BD	0.030
1,2 Dichloroethane	BD	0.030
1,1 Dichloroethene	BD	0.030
cis-1,2 Dichloroethene	BD	0.030
trans-1,2 Dichloroethene	BD	0.030
1,2 Dichloropropane	BD	0.060
1,3 Dichloropropane	BD	0.030
2,2 Dichloropropane	BD	0.030
1,1 Dichloropropene	BD	0.030
cis-1,3 Dichloropropene	BD	0.030
trans-1,3 Dichloropropene	BD	0.030

AQUARIAN ANALYTICAL INC.

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Volatile Organic Report
05-12-2003,16:20
Sample 78458

Project #00143 / GONIC MILL
Location DAM-1

Matrix Soil/Solid

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Ethylbenzene	BD	0.030
Hexachlorobutadiene	BD	0.060
Isopropylbenzene	BD	0.030
p-Isopropyltoluene	BD	0.030
Methylene Chloride	BD	0.075
Naphthalene	BD	0.060
n-Propylbenzene	BD	0.030
Styrene	BD	0.030
1,1,1,2 Tetrachloroethane	BD	0.030
1,1,2,2 Tetrachloroethane	BD	0.030
Tetrachloroethene	BD	0.030
Toluene	BD	0.030
1,2,3 Trichlorobenzene	BD	0.060
1,2,4 Trichlorobenzene	BD	0.060
1,1,1 Trichloroethane	BD	0.030
1,1,2 Trichloroethane	BD	0.030
Trichloroethene	BD	0.030
Trichlorofluoromethane	BD	0.060
1,2,3 Trichloropropane	BD	0.030
1,2,4 Trimethylbenzene	BD	0.030
1,3,5 Trimethylbenzene	BD	0.030
Vinyl Chloride	BD	0.030
o-Xylene	BD	0.030
m&p-Xylene	BD	0.030
Ethyl Ether	BD	0.450
Acetone	BD	1.500
Methylethylketone MEK	BD	0.750
Methylisobutylketone	BD	0.750
Tetrahydrofuran	BD	0.450
Methyl-t-butyl ether	BD	0.030

Comments:

Method of VOA Analysis = EPA-8260B
BD = Below Detection Limit - Results are in parts per million (ppm) unless noted.

AQUARIAN ANALYTICAL INC.

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Volatile Organic Report
05-12-2003,16:20
Sample 78459

Project	#00143 / GONIC MILL	Matrix	Soil/Solid
Date Sampled	05-07-2003,10:30	Sampler	J.A.E.
Date Logged In	05-08-2003,12:10	Location	DAM-2
Date of Analysis	05-12-2003	Town	ROCHESTER
% Solids	51.60%		

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Benzene	BD	0.060
Bromobenzene	BD	0.060
Bromodichloromethane	BD	0.060
Bromoform	BD	0.060
Bromomethane	BD	0.060
n-Butylbenzene	BD	0.060
sec-Butylbenzene	BD	0.060
tert-Butylbenzene	BD	0.060
Carbon-Tetrachloride	BD	0.060
Chlorobenzene	BD	0.060
Chloroethane	BD	0.060
Chloroform	BD	0.060
Chloromethane	BD	0.090
2-Chlorotoluene	BD	0.060
4-Chlorotoluene	BD	0.060
Dibromochloromethane	BD	0.060
1,2 Dibromo-3-Chloropropane	BD	0.060
1,2 Dibromoethane	BD	0.060
Dibromomethane	BD	0.060
1,2 Dichlorobenzene	BD	0.060
1,3 Dichlorobenzene	BD	0.060
1,4 Dichlorobenzene	BD	0.060
Dichlorodifluoromethane	BD	0.120
1,1 Dichloroethane	BD	0.060
1,2 Dichloroethane	BD	0.060
1,1 Dichloroethene	BD	0.060
cis-1,2 Dichloroethene	BD	0.060
trans-1,2 Dichloroethene	BD	0.060
1,2 Dichloropropane	BD	0.120
1,3 Dichloropropane	BD	0.060
2,2 Dichloropropane	BD	0.060
1,1 Dichloropropene	BD	0.060
cis-1,3 Dichloropropene	BD	0.060
trans-1,3 Dichloropropene	BD	0.060

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Volatile Organic Report
05-12-2003,16:20
Sample 78459

Project #00143 / GONIC MILL
Location DAM-2

Matrix Soil/Solid

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Ethylbenzene	BD	0.060
Hexachlorobutadiene	BD	0.120
Isopropylbenzene	BD	0.060
p-Isopropyltoluene	BD	0.060
Methylene Chloride	BD	0.150
Naphthalene	BD	0.120
n-Propylbenzene	BD	0.060
Styrene	BD	0.060
1,1,1,2 Tetrachloroethane	BD	0.060
1,1,2,2 Tetrachloroethane	BD	0.060
Tetrachloroethene	BD	0.060
Toluene	BD	0.060
1,2,3 Trichlorobenzene	BD	0.120
1,2,4 Trichlorobenzene	BD	0.120
1,1,1 Trichloroethane	BD	0.060
1,1,2 Trichloroethane	BD	0.060
Trichloroethene	BD	0.060
Trichlorofluoromethane	BD	0.120
1,2,3 Trichloropropane	BD	0.060
1,2,4 Trimethylbenzene	BD	0.060
1,3,5 Trimethylbenzene	BD	0.060
Vinyl Chloride	BD	0.060
o-Xylene	BD	0.060
m&p-Xylene	BD	0.060
Ethyl Ether	BD	0.900
Acetone	BD	3.000
Methylethylketone MEK	BD	1.500
Methylisobutylketone	BD	1.500
Tetrahydrofuran	BD	0.900
Methyl-t-butyl ether	BD	0.060

Comments:

Method of VOA Analysis = EPA-8260B
BD = Below Detection Limit - Results are in parts per million (ppm) unless noted.

AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186
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Volatile Organic Report
05-12-2003,16:20
Sample 78460

Project	#00143 / GONIC MILL	Matrix	Soil/Solid
Date Sampled	05-07-2003,11:00	Sampler	J.A.E.
Date Logged In	05-08-2003,12:10	Location	DAM-3
Date of Analysis	05-12-2003	Town	ROCHESTER
% Solids	62.19%		

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Benzene	BD	0.080
Bromobenzene	BD	0.080
Bromodichloromethane	BD	0.080
Bromoform	BD	0.080
Bromomethane	BD	0.080
n-Butylbenzene	BD	0.080
sec-Butylbenzene	BD	0.080
tert-Butylbenzene	BD	0.080
Carbon-Tetrachloride	BD	0.080
Chlorobenzene	BD	0.080
Chloroethane	BD	0.080
Chloroform	BD	0.080
Chloromethane	BD	0.120
2-Chlorotoluene	BD	0.080
4-Chlorotoluene	BD	0.080
Dibromochloromethane	BD	0.080
1,2 Dibromo-3-Chloropropane	BD	0.080
1,2 Dibromoethane	BD	0.080
Dibromomethane	BD	0.080
1,2 Dichlorobenzene	BD	0.080
1,3 Dichlorobenzene	BD	0.080
1,4 Dichlorobenzene	BD	0.080
Dichlorodifluoromethane	BD	0.160
1,1 Dichloroethane	BD	0.080
1,2 Dichloroethane	BD	0.080
1,1 Dichloroethene	BD	0.080
cis-1,2 Dichloroethene	BD	0.080
trans-1,2 Dichloroethene	BD	0.080
1,2 Dichloropropane	BD	0.160
1,3 Dichloropropane	BD	0.080
2,2 Dichloropropane	BD	0.080
1,1 Dichloropropene	BD	0.080
cis-1,3 Dichloropropene	BD	0.080
trans-1,3 Dichloropropene	BD	0.080

AQUARIAN ANALYTICAL INC.
Laboratory Services
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Volatile Organic Report
05-12-2003,16:20
Sample 78460

Project #00143 / GONIC MILL
Location DAM-3

Matrix Soil/Solid

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Ethylbenzene	BD	0.080
Hexachlorobutadiene	BD	0.160
Isopropylbenzene	BD	0.080
p-Isopropyltoluene	BD	0.080
Methylene Chloride	BD	0.200
Naphthalene	BD	0.160
n-Propylbenzene	BD	0.080
Styrene	BD	0.080
1,1,1,2 Tetrachloroethane	BD	0.080
1,1,2,2 Tetrachloroethane	BD	0.080
Tetrachloroethene	BD	0.080
Toluene	BD	0.080
1,2,3 Trichlorobenzene	BD	0.160
1,2,4 Trichlorobenzene	BD	0.160
1,1,1 Trichloroethane	BD	0.080
1,1,2 Trichloroethane	BD	0.080
Trichloroethene	BD	0.080
Trichlorofluoromethane	BD	0.160
1,2,3 Trichloropropane	BD	0.080
1,2,4 Trimethylbenzene	BD	0.080
1,3,5 Trimethylbenzene	BD	0.080
Vinyl Chloride	BD	0.080
o-Xylene	BD	0.080
m&p-Xylene	BD	0.080
Ethyl Ether	BD	1.200
Acetone	BD	4.000
Methylethylketone MEK	BD	2.000
Methylisobutylketone	BD	2.000
Tetrahydrofuran	BD	1.200
Methyl-t-butyl ether	BD	0.080

Comments:

Method of VOA Analysis = EPA-8260B
BD = Below Detection Limit - Results are in parts per million (ppm) unless noted.

AQUARIAN ANALYTICAL INC.

Laboratory Services

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Volatile Organic Report
05-12-2003,16:38
Sample 78461

Project	#00143 / GONIC MILL	Matrix	Soil/Solid
Date Sampled	05-07-2003,11:30	Sampler	J.A.E.
Date Logged In	05-08-2003,12:11	Location	DAM-4
Date of Analysis	05-12-2003	Town	ROCHESTER
% Solids	86.99%		

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Benzene	BD	0.030
Bromobenzene	BD	0.030
Bromodichloromethane	BD	0.030
Bromoform	BD	0.030
Bromomethane	BD	0.030
n-Butylbenzene	BD	0.030
sec-Butylbenzene	BD	0.030
tert-Butylbenzene	BD	0.030
Carbon-Tetrachloride	BD	0.030
Chlorobenzene	BD	0.030
Chloroethane	BD	0.030
Chloroform	BD	0.030
Chloromethane	BD	0.045
2-Chlorotoluene	BD	0.030
4-Chlorotoluene	BD	0.030
Dibromochloromethane	BD	0.030
1,2 Dibromo-3-Chloropropane	BD	0.030
1,2 Dibromoethane	BD	0.030
Dibromomethane	BD	0.030
1,2 Dichlorobenzene	BD	0.030
1,3 Dichlorobenzene	BD	0.030
1,4 Dichlorobenzene	BD	0.030
Dichlorodifluoromethane	BD	0.060
1,1 Dichloroethane	BD	0.030
1,2 Dichloroethane	BD	0.030
1,1 Dichloroethene	BD	0.030
cis-1,2 Dichloroethene	BD	0.030
trans-1,2 Dichloroethene	BD	0.030
1,2 Dichloropropane	BD	0.060
1,3 Dichloropropane	BD	0.030
2,2 Dichloropropane	BD	0.030
1,1 Dichloropropene	BD	0.030
cis-1,3 Dichloropropene	BD	0.030
trans-1,3 Dichloropropene	BD	0.030

AQUARIAN ANALYTICAL INC.

Laboratory Services

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Canterbury, N.H. 03224

Ph. 603-783-9097 • Fax 603-783-0360

Volatile Organic Report
05-12-2003,16:38
Sample 78461

Project #00143 / GONIC MILL
Location DAM-4

Matrix Soil/Solid

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Ethylbenzene	BD	0.030
Hexachlorobutadiene	BD	0.060
Isopropylbenzene	BD	0.030
p-Isopropyltoluene	0.171	0.030
Methylene Chloride	BD	0.075
Naphthalene	BD	0.060
n-Propylbenzene	BD	0.030
Styrene	BD	0.030
1,1,1,2 Tetrachloroethane	BD	0.030
1,1,2,2 Tetrachloroethane	BD	0.030
Tetrachloroethene	BD	0.030
Toluene	BD	0.030
1,2,3 Trichlorobenzene	BD	0.060
1,2,4 Trichlorobenzene	BD	0.060
1,1,1 Trichloroethane	BD	0.030
1,1,2 Trichloroethane	BD	0.030
Trichloroethene	BD	0.030
Trichlorofluoromethane	BD	0.060
1,2,3 Trichloropropane	BD	0.030
1,2,4 Trimethylbenzene	BD	0.030
1,3,5 Trimethylbenzene	BD	0.030
Vinyl Chloride	BD	0.030
o-Xylene	BD	0.030
m&p-Xylene	BD	0.030
Ethyl Ether	BD	0.450
Acetone	BD	1.500
Methylethylketone MEK	BD	0.750
Methylisobutylketone	BD	0.750
Tetrahydrofuran	BD	0.450
Methyl-t-butyl ether	BD	0.030

Comments:

Method of VOA Analysis = EPA-8260B
BD = Below Detection Limit - Results are in parts per million (ppm) unless noted.

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Total Metals Report
05-12-2003,16:21
Sample 78462

Date Sampled = 05-07-2003,09:15 Sampler = J.A.E.

Date Logged In = 05-08-2003,12:11 Location = DAM-1

Date Analysis = 05-08-2003 Town = ROCHESTER

Matrix = Soil/Solid

Metal	EPA method	Result (ppm-mg/kg)	Det. Lim. (ppm-mg/kg)
Arsenic	6020	6.0000	1.0000
Barium	6020	54.0000	2.0000
Cadmium	6020	BD	1.0000
Chromium	6020	18.0000	1.0000
Lead	6020	32.0000	1.0000
Mercury	6020	BD	0.2000
Nickel	6020	12.0000	1.0000
Copper	6020	13.0000	1.0000
Zinc	6020	75.0000	2.0000

Comments:
Internal standard below limits in calibration check.
Independent calibration check below limits, Cd 89%, Cr 89%.

Digestion = EPA-3051A

Report: ICP_15

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Total Metals Report
05-12-2003,16:07
Sample 78463

Date Sampled = 05-07-2003,10:30 Sampler = J.A.E.

Date Logged In = 05-08-2003,12:14 Location = DAM-2

Date Analysis = 05-08-2003 Town = ROCHESTER

Matrix = Soil/Solid

Metal	EPA method	Result (ppm-mg/kg)	Det. Lim. (ppm-mg/kg)
Arsenic	6020	5.0000	1.0000
Barium	6020	40.0000	2.0000
Cadmium	6020	BD	1.0000
Chromium	6020	14.0000	1.0000
Lead	6020	27.0000	1.0000
Mercury	6020	BD	0.2000
Nickel	6020	8.0000	1.0000
Copper	6020	13.0000	1.0000
Zinc	6020	69.0000	2.0000

Comments:
Internal standard below limits in calibration check.
Independent check below limits, Cd 89%, Cr 89%.

Digestion = EPA-3051A

Report: ICP_15

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Total Metals Report
05-12-2003,16:07
Sample 78464

Date Sampled = 05-07-2003,11:00 Sampler = J.A.E.

Date Logged In = 05-08-2003,12:14 Location = DAM-3

Date Analysis = 05-08-2003 Town = ROCHESTER

Matrix = Soil/Solid

Metal	EPA method	Result (ppm-mg/kg)	Det. Lim. (ppm-mg/kg)
Arsenic	6020	4.0000	1.0000
Barium	6020	46.0000	2.0000
Cadmium	6020	BD	1.0000
Chromium	6020	10.0000	1.0000
Lead	6020	37.0000	1.0000
Mercury	6020	BD	0.2000
Nickel	6020	7.0000	1.0000
Copper	6020	10.0000	1.0000
Zinc	6020	50.0000	2.0000

Comments:
Internal standard below limits in calibration check.
Independent check standard below limits, Cd 89%, Cr 89%.

Digestion = EPA-3051A

Report: ICP_15

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Laboratory Services

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Total Metals Report
05-12-2003,16:07
Sample 78465

Date Sampled = 05-07-2003,11:30 Sampler = J.A.E.

Date Logged In = 05-08-2003,12:14 Location = DAM 4

Date Analysis = 05-08-2003 Town = ROCHESTER

Matrix = Soil/Solid

Metal	EPA method	Result (ppm-mg/kg)	Det. Lim. (ppm-mg/kg)
Arsenic	6020	5.0000	1.0000
Barium	6020	15.0000	2.0000
Cadmium	6020	BD	1.0000
Chromium	6020	7.0000	1.0000
Lead	6020	19.0000	1.0000
Mercury	6020	BD	0.2000
Nickel	6020	4.0000	1.0000
Copper	6020	6.0000	1.0000
Zinc	6020	30.0000	2.0000

Comments:
Internal standard below limits in calibratio check.
Independent check sample below limits, Cd 89%, Cr 89%.

Digestion = EPA-3051A

Report: ICP_15

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Laboratory Services

P.O. Box 186
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Total Organic Carbon

05-12-2003,15:48
Sample 78462

Project = #00143 / GONIC MILL

Date Sampled = 05-07-2003,09:15
Date Logged In = 05-08-2003,12:11
Date Analyzed = 05-12-2003

Person Sampling = J.A.E.
Location = DAM-1
Town = ROCHESTER Matrix = Soil

Test Description	Result mg/kg	Detection Limit mg/kg
Total Organic Carbon	15000	100

Comments:

Internal standard below limits in calibration check.
Independet calibration check below limits, Cd 89%, Cr 89%.

TOC Method = SW 846 9060

TOC testing was performed by a N.H. certified reference laboratory.

BD = Below Detection Limit

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Total Organic Carbon

05-12-2003,15:48
Sample 78463

Project = #00143 / GONIC MILL

Date Sampled = 05-07-2003,10:30
Date Logged In = 05-08-2003,12:14
Date Analyzed = 05-12-2003

Person Sampling = J.A.E.
Location = DAM-2
Town = ROCHESTER Matrix = Soil

Test Description	Result mg/kg	Detection Limit mg/kg
Total Organic Carbon	32000	100

Comments:

Internal standard below limits in calibration check.
Independent check below limits, Cd 89%, Cr 89%.

TOC Method = SW 846 9060

TOC testing was performed by a N.H. certified reference laboratory.

BD = Below Detection Limit

AQUARIAN ANALYTICAL INC.

Laboratory Services

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Total Organic Carbon

05-12-2003,15:48
Sample 78464

Project = #00143 / GONIC MILL

Date Sampled = 05-07-2003,11:00
Date Logged In = 05-08-2003,12:14
Date Analyzed = 05-12-2003

Person Sampling = J.A.E.
Location = DAM-3
Town = ROCHESTER Matrix = Soil

Test Description	Result mg/kg	Detection Limit mg/kg
Total Organic Carbon	19000	100

Comments:

Internal standard below limits in calibration check.
Independent check standard below limits, Cd 89%, Cr 89%.

TOC Method = SW 846 9060

TOC testing was performed by a N.H. certified reference laboratory.

BD = Below Detection Limit

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Total Organic Carbon

05-12-2003,15:48
Sample 78465

Project = #00143 / GONIC MILL

Date Sampled = 05-07-2003,11:30
Date Logged In = 05-08-2003,12:14
Date Analyzed = 05-12-2003

Person Sampling = J.A.E.
Location = DAM-4
Town = ROCHESTER Matrix = Soil

Test Description	Result mg/kg	Detection Limit mg/kg
Total Organic Carbon	BD	100

Comments:

Internal standard below limits in calibratio check.
Independent check sample below limits, Cd 89%, Cr 89%.

TOC Method = SW 846 9060

TOC testing was performed by a N.H. certified reference laboratory.

BD = Below Detection Limit

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PCB Report
05-12-2003,14:28
Sample 78462

Sample Matrix	= Soil/Solid	Project	= #00143 / GONIC MILL
Date Sampled	= 05-07-2003,09:15	Sampler	= J.A.E.
Login Date	= 05-08-2003,12:11	Location	= DAM-1
Date of Analysis	= 05-09-2003	Town	= ROCHESTER

Organic Compound	Result (ppm)	Det. Lim. (ppm)
PCB 1016	BD	0.50
PCB 1221	BD	0.50
PCB 1232	BD	0.50
PCB 1242	BD	0.50
PCB 1248	BD	0.50
PCB 1254	BD	0.50
PCB 1260	BD	0.50

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8082

doc. pcb

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PCB Report
05-12-2003,14:28
Sample 78463

Sample Matrix	= Soil/Solid	Project	= #00143 / GONIC MILL
Date Sampled	= 05-07-2003,10:30	Sampler	= J.A.E.
Login Date	= 05-08-2003,12:14	Location	= DAM-2
Date of Analysis	= 05-09-2003	Town	= ROCHESTER

Organic Compound	Result (ppm)	Det. Lim. (ppm)
PCB 1016	BD	0.50
PCB 1221	BD	0.50
PCB 1232	BD	0.50
PCB 1242	BD	0.50
PCB 1248	BD	0.50
PCB 1254	BD	0.50
PCB 1260	BD	0.50

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8082

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PCB Report

05-12-2003,14:28

Sample 78464

Sample Matrix	= Soil/Solid	Project	= #00143 / GONIC MILL
Date Sampled	= 05-07-2003,11:00	Sampler	= J.A.E.
Login Date	= 05-08-2003,12:14	Location	= DAM-3
Date of Analysis	= 05-09-2003	Town	= ROCHESTER

Organic Compound	Result (ppm)	Det. Lim. (ppm)
PCB 1016	BD	0.50
PCB 1221	BD	0.50
PCB 1232	BD	0.50
PCB 1242	BD	0.50
PCB 1248	BD	0.50
PCB 1254	BD	0.50
PCB 1260	BD	0.50

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8082

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PCB Report
05-12-2003,14:28
Sample 78465

Sample Matrix	= Soil/Solid	Project	= #00143 / GONIC MILL
Date Sampled	= 05-07-2003,11:30	Sampler	= J.A.E.
Login Date	= 05-08-2003,12:14	Location	= DAM-4
Date of Analysis	= 05-09-2003	Town	= ROCHESTER

Organic Compound	Result (ppm)	Det. Lim. (ppm)
PCB 1016	BD	0.50
PCB 1221	BD	0.50
PCB 1232	BD	0.50
PCB 1242	BD	0.50
PCB 1248	BD	0.50
PCB 1254	BD	0.50
PCB 1260	BD	0.50

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8082

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Pesticides Report
05-12-2003,14:29
Sample 78462

Sample Matrix = Soil/Solid

Date Sampled = 05-07-2003,09:15 Sampler = J.A.E.
Date Logged In = 05-08-2003,12:11 Location = DAM-1
Completion Date = 05-09-2003 Town = ROCHESTER

Organic Compound	Result (mg/kg)	Det. Lim. (mg/kg)
Aldrin	BD	0.030
Chlordane	BD	0.030
a-BHC (Alpha)	BD	0.030
b-BHC (Beta)	BD	0.030
g-BHC (Lindane)	BD	0.030
d-BHC (Delta)	BD	0.030
DDD	BD	0.030
DDE	BD	0.030
DDT	BD	0.030
Dieldrin	BD	0.030
a-Endosulfan	BD	0.030
b-Endosulfan	BD	0.030
Endosulfan Sulfate	BD	0.030
Endrin	BD	0.030
Heptachlor	BD	0.030
Heptachlor epoxide	BD	0.030
Methoxychlor	BD	1.500
Toxaphene	BD	0.498

BD = Below Detection Limit.
Methods of analysis = EPA-8080

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Pesticides Report
05-12-2003,14:29
Sample 78463

Sample Matrix = Soil/Solid

Date Sampled = 05-07-2003,10:30 Sampler = J.A.E.
Date Logged In = 05-08-2003,12:14 Location = DAM-2
Completion Date = 05-09-2003 Town = ROCHESTER

Organic Compound	Result (mg/kg)	Det. Lim. (mg/kg)
Aldrin	BD	0.030
Chlordane	BD	0.030
a-BHC (Alpha)	BD	0.030
b-BHC (Beta)	BD	0.030
g-BHC (Lindane)	BD	0.030
d-BHC (Delta)	BD	0.030
DDD	BD	0.030
DDE	BD	0.030
DDT	BD	0.030
Dieldrin	BD	0.030
a-Endosulfan	BD	0.030
b-Endosulfan	BD	0.030
Endosulfan Sulfate	BD	0.030
Endrin	BD	0.030
Heptachlor	BD	0.030
Heptachlor epoxide	BD	0.030
Methoxychlor	BD	1.500
Toxaphene	BD	0.498

BD = Below Detection Limit.
Methods of analysis = EPA-8080

AQUARIAN ANALYTICAL INC.

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Pesticides Report
05-12-2003,14:29
Sample 78464

Sample Matrix = Soil/Solid

Date Sampled = 05-07-2003,11:00 Sampler = J.A.E.
Date Logged In = 05-08-2003,12:14 Location = DAM-3
Completion Date = 05-09-2003 Town = ROCHESTER

Organic Compound	Result (mg/kg)	Det. Lim. (mg/kg)
Aldrin	BD	0.030
Chlordane	BD	0.030
a-BHC (Alpha)	BD	0.030
b-BHC (Beta)	BD	0.030
g-BHC (Lindane)	BD	0.030
d-BHC (Delta)	BD	0.030
DDD	BD	0.030
DDE	BD	0.030
DDT	BD	0.030
Dieldrin	BD	0.030
a-Endosulfan	BD	0.030
b-Endosulfan	BD	0.030
Endosulfan Sulfate	BD	0.030
Endrin	BD	0.030
Heptachlor	BD	0.030
Heptachlor epoxide	BD	0.030
Methoxychlor	BD	1.500
Toxaphene	BD	0.498

BD = Below Detection Limit.
Methods of analysis = EPA-8080

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Pesticides Report
05-12-2003,14:29
Sample 78465

Sample Matrix = Soil/Solid

Date Sampled = 05-07-2003,11:30 Sampler = J.A.E.
Date Logged In = 05-08-2003,12:14 Location = DAM-4
Completion Date = 05-09-2003 Town = ROCHESTER

Organic Compound	Result (mg/kg)	Det. Lim. (mg/kg)
Aldrin	BD	0.030
Chlordane	BD	0.030
a-BHC (Alpha)	BD	0.030
b-BHC (Beta)	BD	0.030
g-BHC (Lindane)	BD	0.030
d-BHC (Delta)	BD	0.030
DDD	BD	0.030
DDE	BD	0.030
DDT	BD	0.030
Dieldrin	BD	0.030
a-Endosulfan	BD	0.030
b-Endosulfan	BD	0.030
Endosulfan Sulfate	BD	0.030
Endrin	BD	0.030
Heptachlor	BD	0.030
Heptachlor epoxide	BD	0.030
Methoxychlor	BD	1.500
Toxaphene	BD	0.498

BD = Below Detection Limit.
Methods of analysis = EPA-8080

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Base Neutral Report
05-12-2003,14:53
Sample 78458

Sample Matrix	= Soil/Solid	Date Sampled	= 05-07-2003,09:15
Date Logged In	= 05-08-2003,12:06	Sampler	= J.A.E.
Date Extracted	= 05-08-2003	Location	= DAM-1
Analysis Date	= 05-09-2003	Town	= ROCHESTER

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Naphthalene, 2-chloro	BD	0.40
Ether, bis (2-chloroethyl)	BD	0.40
Ether, bis (2-chloroisopropyl)	BD	0.40
Ether, 2-chloroethyl vinyl	BD	0.40
Ether, 4-bromophenyl phenyl	BD	0.40
Ether, 4-chlorophenyl phenyl	BD	0.40
Methane, bis (2-chloroethoxy)	BD	0.40
Benzene, nitro	BD	0.40
Toluene, 2,4-dinitro	BD	0.40
Toluene, 2,6-dinitro	BD	0.40
Phthalate, dimethyl	BD	0.40
Phthalate, diethyl	BD	1.60
Phthalate, di-n-octyl	BD	1.20
Phthalate, bis (2-ethylhexyl)	BD	1.20
Phthalate, butyl benzyl	BD	0.40
Acenaphthene	BD	0.40
Acenaphthylene	BD	0.40
Anthracene	1.20	0.40
Benzo (a) anthracene	2.40	0.40
Benzo (b) fluoranthene	1.70	0.40
Benzo (k) fluoranthene	1.80	0.40
Benzo (ghi) perylene	0.83	0.40
Benzo (a) pyrene	2.20	0.40
Chrysene	2.30	0.40
Dibenzo (a,h) anthracene	BD	0.40
Fluoranthene	5.00	0.40
Fluorene	BD	0.40
Indeno (1,2,3-cd) pyrene	0.88	0.40
Naphthalene	BD	0.40
Phenanthrene	2.60	0.40
Pyrene	4.40	0.40
Nitrosamine, dimethyl - (DMN)	BD	0.40
Nitrosamine, diphenyl-	BD	0.40
Nitrosamine, di-n-propyl-	BD	0.40
Butadiene, Hexachloro	BD	0.40
Ethane, hexachloro	BD	0.40
Benzene, Hexachloro	BD	0.40
Benzoic Acid	BD	1.60
Pyridine	BD	0.40
Phthlate, di-n-butyl	BD	2.40
1-Methylnaphthalene	BD	0.40
2-Methylnaphthalene	BD	0.40
4-Chloroaniline	BD	1.60

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8270. All Results are in parts per million (ppm), except if noted.

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Laboratory Services

P.O. Box 186
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Acid Fraction Report
05-12-2003,14:53
Sample 78458

Sample Matrix = Soil/Solid
Date Sampled = 05-07-2003,09:15

Date Logged In = 05-08-2003,12:06
Date Extracted = 05-08-2003
Date of Analysis = 05-09-2003

Sampler = J.A.E.
Location = DAM-1
Town = ROCHESTER

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Phenol, 4-chloro-3-methyl	BD	4.0
Cresol, (meta & para)	BD	4.0
Cresol, ortho	BD	4.0
Phenol	BD	4.0
Phenol, 2-chloro-	BD	4.0
Phenol, 2,4 dichloro-	BD	4.0
Phenol, 2,4,5 trichloro-	BD	4.0
Phenol, 2,4,6 trichloro-	BD	4.0
Phenol, pentachloro-	BD	4.0
Phenol, 2 nitro-	BD	4.0
Phenol, 4 nitro-	BD	16.0
Phenol, 2,4 dinitro-	BD	16.0
Phenol, 2,4 dimethyl-	BD	12.0
Cresol, 4,6 dinitro-o-	BD	16.0

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8270 All Results are in parts per million (ppm), except as noted.

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Base Neutral Report
05-12-2003,14:53
Sample 78459

Sample Matrix	= Soil/Solid	Date Sampled	= 05-07-2003,10:30
Date Logged In	= 05-08-2003,12:10	Sampler	= J.A.E.
Date Extracted	= 05-08-2003	Location	= DAM-2
Analysis Date	= 05-12-2003	Town	= ROCHESTER

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Naphthalene, 2-chloro	BD	1.20
Ether, bis (2-chloroethyl)	BD	1.20
Ether, bis (2-chloroisopropyl)	BD	1.20
Ether, 2-chloroethyl vinyl	BD	1.20
Ether, 4-bromophenyl phenyl	BD	1.20
Ether, 4-chlorophenyl phenyl	BD	1.20
Methane, bis (2-chloroethoxy)	BD	1.20
Benzene, nitro	BD	1.20
Toluene, 2,4-dinitro	BD	1.20
Toluene, 2,6-dinitro	BD	1.20
Phthalate, dimethyl	BD	1.20
Phthalate, diethyl	BD	4.80
Phthalate, di-n-octyl	BD	3.60
Phthalate, bis (2-ethylhexyl)	BD	3.60
Phthalate, butyl benzyl	BD	1.20
Acenaphthene	BD	1.20
Acenaphthylene	1.40	1.20
Anthracene	1.60	1.20
Benzo (a) anthracene	3.60	1.20
Benzo (b) fluoranthene	5.60	1.20
Benzo (k) fluoranthene	5.20	1.20
Benzo (ghi) perylene	4.30	1.20
Benzo (a) pyrene	6.30	1.20
Chrysene	6.90	1.20
Dibenzo (a,h) anthracene	BD	1.20
Fluoranthene	9.90	1.20
Fluorene	BD	1.20
Indeno (1,2,3-cd) pyrene	3.60	1.20
Naphthalene	BD	1.20
Phenanthrene	3.30	1.20
Pyrene	9.30	1.20
Nitrosamine, dimethyl - (DMN)	BD	1.20
Nitrosamine, diphenyl-	BD	1.20
Nitrosamine, di-n-propyl-	BD	1.20
Butadiene, Hexachloro	BD	1.20
Ethane, hexachloro	BD	1.20
Benzene, Hexachloro	BD	1.20
Benzoic Acid	BD	4.80
Pyridine	BD	1.20
Phthlate, di-n-butyl	BD	7.20
1-Methylnaphthalene	BD	1.20
2-Methylnaphthalene	BD	1.20
4-Chloroaniline	BD	4.80

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8270. All Results are in parts per million (ppm), except if noted.

AQUARIAN ANALYTICAL INC.

Laboratory Services

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Acid Fraction Report
05-12-2003,14:53
Sample 78459

Sample Matrix = Soil/Solid
Date Sampled = 05-07-2003,10:30

Date Logged In = 05-08-2003,12:10
Date Extracted = 05-08-2003
Date of Analysis = 05-12-2003

Sampler = J.A.E.
Location = DAM-2
Town = ROCHESTER

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Phenol, 4-chloro-3-methyl	BD	12.0
Cresol, (meta & para)	BD	12.0
Cresol, ortho	BD	12.0
Phenol	BD	12.0
Phenol, 2-chloro-	BD	12.0
Phenol, 2,4 dichloro-	BD	12.0
Phenol, 2,4,5 trichloro-	BD	12.0
Phenol, 2,4,6 trichloro-	BD	12.0
Phenol, pentachloro-	BD	12.0
Phenol, 2 nitro-	BD	12.0
Phenol, 4 nitro-	BD	48.0
Phenol, 2,4 dinitro-	BD	48.0
Phenol, 2,4 dimethyl-	BD	36.0
Cresol, 4,6 dinitro-o-	BD	48.0

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8270 All Results are in parts per million (ppm), except as noted.

AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

Ph. 603-783-9097 • Fax 603-783-0360

Base Neutral Report
05-12-2003,14:53
Sample 78460

Sample Matrix	= Soil/Solid	Date Sampled	= 05-07-2003,11:00
Date Logged In	= 05-08-2003,12:10	Sampler	= J.A.E.
Date Extracted	= 05-08-2003	Location	= DAM-3
Analysis Date	= 05-09-2003	Town	= ROCHESTER

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Naphthalene, 2-chloro	BD	0.40
Ether, bis (2-chloroethyl)	BD	0.40
Ether, bis (2-chloroisopropyl)	BD	0.40
Ether, 2-chloroethyl vinyl	BD	0.40
Ether, 4-bromophenyl phenyl	BD	0.40
Ether, 4-chlorophenyl phenyl	BD	0.40
Methane, bis (2-chloroethoxy)	BD	0.40
Benzene, nitro	BD	0.40
Toluene, 2,4-dinitro	BD	0.40
Toluene, 2,6-dinitro	BD	0.40
Phthalate, dimethyl	BD	0.40
Phthalate, diethyl	BD	1.60
Phthalate, di-n-octyl	BD	1.20
Phthalate, bis (2-ethylhexyl)	BD	1.20
Phthalate, butyl benzyl	BD	0.40
Acenaphthene	BD	0.40
Acenaphthylene	BD	0.40
Anthracene	BD	0.40
Benzo (a) anthracene	BD	0.40
Benzo (b) fluoranthene	BD	0.40
Benzo (k) fluoranthene	BD	0.40
Benzo (ghi) perylene	BD	0.40
Benzo (a) pyrene	BD	0.40
Chrysene	BD	0.40
Dibenzo (a,h) anthracene	BD	0.40
Fluoranthene	0.48	0.40
Fluorene	BD	0.40
Indeno (1,2,3-cd) pyrene	BD	0.40
Naphthalene	BD	0.40
Phenanthrene	BD	0.40
Pyrene	0.51	0.40
Nitrosamine, dimethyl - (DMN)	BD	0.40
Nitrosamine, diphenyl-	BD	0.40
Nitrosamine, di-n-propyl-	BD	0.40
Butadiene, Hexachloro	BD	0.40
Ethane, hexachloro	BD	0.40
Benzene, Hexachloro	BD	0.40
Benzoic Acid	BD	1.60
Pyridine	BD	0.40
Phthlate, di-n-butyl	BD	2.40
1-Methylnaphthalene	BD	0.40
2-Methylnaphthalene	BD	0.40
4-Chloroaniline	BD	1.60

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8270. All Results are in parts per million (ppm), except if noted.

AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

Ph. 603-783-9097 • Fax 603-783-0360

Acid Fraction Report
05-12-2003,14:54
Sample 78460

Sample Matrix = Soil/Solid
Date Sampled = 05-07-2003,11:00

Date Logged In = 05-08-2003,12:10
Date Extracted = 05-08-2003
Date of Analysis = 05-09-2003

Sampler = J.A.E.
Location = DAM-3
Town = ROCHESTER

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Phenol, 4-chloro-3-methyl	BD	4.0
Cresol, (meta & para)	BD	4.0
Cresol, ortho	BD	4.0
Phenol	BD	4.0
Phenol, 2-chloro-	BD	4.0
Phenol, 2,4 dichloro-	BD	4.0
Phenol, 2,4,5 trichloro-	BD	4.0
Phenol, 2,4,6 trichloro-	BD	4.0
Phenol, pentachloro-	BD	4.0
Phenol, 2 nitro-	BD	4.0
Phenol, 4 nitro-	BD	16.0
Phenol, 2,4 dinitro-	BD	16.0
Phenol, 2,4 dimethyl-	BD	12.0
Cresol, 4,6 dinitro-o-	BD	16.0

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8270 All Results are in parts per million (ppm), except as noted.

AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186

Canterbury, N.H. 03224

Ph. 603-783-9097 • Fax 603-783-0360

Base Neutral Report
05-12-2003,14:54
Sample 78461

Sample Matrix	= Soil/Solid	Date Sampled	= 05-07-2003,11:30
Date Logged In	= 05-08-2003,12:11	Sampler	= J.A.E.
Date Extracted	= 05-08-2003	Location	= DAM-4
Analysis Date	= 05-09-2003	Town	= ROCHESTER

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Naphthalene, 2-chloro	BD	0.40
Ether, bis (2-chloroethyl)	BD	0.40
Ether, bis (2-chloroisopropyl)	BD	0.40
Ether, 2-chloroethyl vinyl	BD	0.40
Ether, 4-bromophenyl phenyl	BD	0.40
Ether, 4-chlorophenyl phenyl	BD	0.40
Methane, bis (2-chloroethoxy)	BD	0.40
Benzene, nitro	BD	0.40
Toluene, 2,4-dinitro	BD	0.40
Toluene, 2,6-dinitro	BD	0.40
Phthalate, dimethyl	BD	0.40
Phthalate, diethyl	BD	1.60
Phthalate, di-n-octyl	BD	1.20
Phthalate, bis (2-ethylhexyl)	BD	1.20
Phthalate, butyl benzyl	BD	0.40
Acenaphthene	BD	0.40
Acenaphthylene	BD	0.40
Anthracene	BD	0.40
Benzo (a) anthracene	BD	0.40
Benzo (b) fluoranthene	BD	0.40
Benzo (k) fluoranthene	BD	0.40
Benzo (ghi) perylene	BD	0.40
Benzo (a) pyrene	BD	0.40
Chrysene	BD	0.40
Dibenzo (a,h) anthracene	BD	0.40
Fluoranthene	BD	0.40
Fluorene	BD	0.40
Indeno (1,2,3-cd) pyrene	BD	0.40
Naphthalene	BD	0.40
Phenanthrene	BD	0.40
Pyrene	BD	0.40
Nitrosamine, dimethyl - (DMN)	BD	0.40
Nitrosamine, diphenyl-	BD	0.40
Nitrosamine, di-n-propyl-	BD	0.40
Butadiene, Hexachloro	BD	0.40
Ethane, hexachloro	BD	0.40
Benzene, Hexachloro	BD	0.40
Benzoic Acid	BD	1.60
Pyridine	BD	0.40
Phthlate, di-n-butyl	BD	2.40
1-Methylnaphthalene	BD	0.40
2-Methylnaphthalene	BD	0.40
4-Chloroaniline	BD	1.60

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8270. All Results are in parts per million (ppm), except if noted.

AQUARIAN ANALYTICAL INC.

Laboratory Services

P.O. Box 186
Canterbury, N.H. 03224
Ph. 603-783-9097 • Fax 603-783-0360

Acid Fraction Report
05-12-2003,14:54
Sample 78461

Sample Matrix = Soil/Solid
Date Sampled = 05-07-2003,11:30

Date Logged In = 05-08-2003,12:11
Date Extracted = 05-08-2003
Date of Analysis = 05-09-2003

Sampler = J.A.E.
Location = DAM-4
Town = ROCHESTER

Organic Compound	Result mg/kg	Det. Lim. mg/kg
Phenol, 4-chloro-3-methyl	BD	4.0
Cresol, (meta & para)	BD	4.0
Cresol, ortho	BD	4.0
Phenol	BD	4.0
Phenol, 2-chloro-	BD	4.0
Phenol, 2,4 dichloro-	BD	4.0
Phenol, 2,4,5 trichloro-	BD	4.0
Phenol, 2,4,6 trichloro-	BD	4.0
Phenol, pentachloro-	BD	4.0
Phenol, 2 nitro-	BD	4.0
Phenol, 4 nitro-	BD	16.0
Phenol, 2,4 dinitro-	BD	16.0
Phenol, 2,4 dimethyl-	BD	12.0
Cresol, 4,6 dinitro-o-	BD	16.0

Comments:

BD = Below Detection Limit
Method of Analyses = EPA-8270 All Results are in parts per million (ppm), except as noted.

Aquarian Analytical, Inc.

Laboratory Services

153 West Road
Canterbury, NH 224
Phone:(603)783-9097
Fax:(603)783-0360

Turnaround Requirements (check one)

RUSH SAMPLES NEED PRIOR APPROVAL

- ___ Same day turnaround (150% upcharge)
- ___ 24 hour turnaround (100% upcharge)
- * 48 hour turnaround (50% upcharge)
- ___ 72 hour turnaround (25% upcharge)
- ___ Normal turnaround

Project Information

Project #: 00143
Project Name: Gonic Mill
Town/Site: Rochester
Sampler: JAE
Company: EES, INC.
Account #: 68010

Project Manager: JOHN ENGEL
Report to: EES, INC.
Invoice to:
Phone:
Fax: 207-839-5423

EPA 6010
EPA 7174 Mercury

RUSH!

24/48/72 HOURS

AAI ID# (8260 ABN)	Sample ID (TOC PCB PEST METALS)	Date/Time	Sample Matrix	Number of Containers	EPA 524.2 Drinking Water	EPA 8260 / EPA 8260B	EPA 8240 / EPA 624	BTEX / MTBE	BTEX+MTBE+Naphthalene	Chlorinated only	EPA 8270 A-B/N	EPA 8270 PAH	EPA 8015M Gasoline	EPA 8100M Fuel Oil	TPH's added	Oxygenates added	Fingerprint	13 Priority Pollutants	RCRA 8	TCLP:	Field Filtered:	Lab Filtered:	Total:	EPA 608 PCBS 8082	EPA 8081 Pesticide	EPA 8150 Herbicides	EPA SW846-7 Reactivity	EPA 1010 Flashpoint / Ignitability	EPA 150.1 / 9045 pH	Alkalinity	Methane	EPA 300.0 Nitrate	EPA 300.0 Sulfate	EPA 300.0 Chloride	Total Org. Carbon	Metals: As, Ba, Cd, Cr (total), Pb, Hg, Ni, Cu, Zn	
78458	DAM - 1 78462	5/7/03 9:15	S	4		X					X	X			X									X	X										X	X	
78459	DAM - 2 78463	10:30	S	4		X					X	X			X									X	X										X	X	
78460	DAM - 3 78464	11:00	S	4		X					X	X			X									X	X										X	X	
78461	DAM - 4 78465	11:30	S	4		X					X	X			X									X	X										X	X	

Relinquished by:	Date: / Time:	Received by:
J. Engel	5/7/03 5:00	Fed-X
FED-EX	5-8-03 11:00	[signature]

Notes: Please FAX Results

Temperature 1.5 °C

SUMMIT LABS

197 U.S. Route 1
Scarborough, Maine 04070-6826
tel: (207) 885-0004

Construction Materials
Quality Control Testing Services
Soils, Concrete, Masonry, Steel, Asphalt, Geotechnical Engineering

7 Charlton Street
Everett, Massachusetts 02149
tel: (617) 389-3700

TRANSMITTAL

May 13, 2003

Attn: John A. Engel
Engel Environmental Services, Inc.
64 Brackett Rd.
Gorham, ME 04038

PROJECT #.: 33019
Gonic Mill

ENCLOSED PLEASE FIND THE FOLLOWING REPORTS

Gradation Reports #1 - #4

SUMMIT LABS
Construction Materials
Quality Control Testing Services
Soils, Concrete, Masonry, Steel, Asphalt, Geotechnical Engineering

197 U.S. Route 1
Scarborough, Maine 04070-6826
tel: (207) 885-0004

7 Charlton Street
Everett, Massachusetts 02149
tel: (617) 389-3700

REPORT OF GRADATION

REPORT DATE: 05/12/03 SAMPLE NO.: 1 PROJECT NO.: 33019

PROJECT: Gonic Mill

CLIENT: Engel Environmental Services Inc. DATE SAMPLED: 05/07/03

SAMPLED BY: Client - JAE

SAMPLE IDENTIFICATION: Dam - 1 EES - 00143

SIEVE SIZE	PERCENT PASSING	SPECIFICATION
1-inch	100	
¾- inch	99	
½- inch	97	
3/8-inch	95	
¼-inch	94	
#4	93	
#10	88	
#20	73	
#40	53	
#60	37	
#100	26	
#200	14.7	

COMMENTS:

SIGNED:
Michael A. Smith
Laboratory Manager

SUMMIT LABS
197 U.S. Route 1
Scarborough, Maine 04070-6826
tel: (207) 885-0004

Construction Materials
Quality Control Testing Services
Soils, Concrete, Masonry, Steel, Asphalt, Geotechnical Engineering

7 Charlton Street
Everett, Massachusetts 02149
tel: (617) 389-3700

REPORT OF GRADATION

REPORT DATE: 05/12/03 SAMPLE NO.: 2 PROJECT NO.: 33019

PROJECT: Gonic Mill

CLIENT: Engel Environmental Services Inc. DATE SAMPLED: 05/07/03

SAMPLED BY: Client - JAE

SAMPLE IDENTIFICATION: Dam - 2 EES - 00143

SIEVE SIZE	PERCENT PASSING	SPECIFICATION
3-inch 75mm	100	
2-inch 50.8mm	96	
1-inch 25mm	85	
¾- inch 19mm	78	
½- inch 12.7mm	74	
3/8-inch 9.5mm	72	
¼-inch 6.35mm	70	
#4 4.75mm	67	
#10 2mm	60	
#20 0.85mm	46	
#40 .425mm	31	
#60 .250mm	22	
#100 .150mm	17	
#200 .075mm	12.0	

COMMENTS:

Percent Passing

no log

Sieve Opening log mm

SIGNED: Michael A. Smith
Laboratory Manager

SUMMIT LABS
Construction Materials
Quality Control Testing Services
Soils, Concrete, Masonry, Steel, Asphalt, Geotechnical Engineering

197 U.S. Route 1
Scarborough, Maine 04070-6826
tel: (207) 885-0004

7 Charlton Street
Everett, Massachusetts 02149
tel: (617) 389-3700

REPORT OF GRADATION

REPORT DATE: 05/12/03 SAMPLE NO.: 3 PROJECT NO.: 33019

PROJECT: Gonic Mill

CLIENT: Engel Environmental Services Inc. DATE SAMPLED: 05/07/03

SAMPLED BY: Client - JAE

SAMPLE IDENTIFICATION: Dam - 3 EES - 00143

SIEVE SIZE	PERCENT PASSING	SPECIFICATION
3-inch	100	
2-inch	99	
1-inch	99	
¾- inch	98	
½- inch	97	
3/8-inch	95	
¼-inch	94	
#4	93	
#10	90	
#20	74	
#40	51	
#60	32	
#100	19	
#200	10.2	

COMMENTS:

SIGNED:
Michael A. Smith
Laboratory Manager

SUMMIT LABS
Construction Materials
Quality Control Testing Services
Soils, Concrete, Masonry, Steel, Asphalt, Geotechnical Engineering

197 U.S. Route 1
Scarborough, Maine 04070-6826
tel: (207) 885-0004

7 Charlton Street
Everett, Massachusetts 02149
tel: (617) 389-3700

REPORT OF GRADATION

REPORT DATE: 05/12/03 SAMPLE NO.: 4 PROJECT NO.: 33019

PROJECT: Gonic Mill

CLIENT: Engel Environmental Services Inc. DATE SAMPLED: 05/07/03

SAMPLED BY: Client - JAE

SAMPLE IDENTIFICATION: Dam - 4 EES - 00143

SIEVE SIZE	PERCENT PASSING	SPECIFICATION
3-inch	100	
2-inch	94	
1-inch	73	
¾- inch	65	
½- inch	55	
3/8-inch	48	
¼-inch	40	
#4	36	
#10	27	
#20	12	
#40	4	
#60	2	
#100	1	
#200	0.4	

COMMENTS:

SIGNED: Michael A. Smith
Laboratory Manager

eastern analytical

professional laboratory services

Jason George
Gomez and Sullivan Engineers, PC
55 North Stark Highway
Weare, NH 03281

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 43187
Client Identification: Gonic Sediment / 1215
Date Received: 7/15/2004

Dear Mr. George:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with the EPA document "Practical Guide for Ground-Water Sampling." Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
TNR: Testing Not Requested
ND: None Detected, no established detection limit
RL: Reporting Limits
%R: % Recovery

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Michael Swett for — 8/4/04 — 23

Lorraine Olashaw, Lab Director — Date — # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

Eastern Analytical, Inc. ID#: 43187

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sediment / 1215**

Temperature upon receipt (°C): 12.2 **Received on ice or cold packs (Yes/No): Y**

Lab ID	SampleID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
43187.01	GSD-01	7/15/04	7/12/04	soil	57.7	Adheres to Sample Acceptance Policy
43187.02	GSD-02	7/15/04	7/12/04	soil	78.5	Adheres to Sample Acceptance Policy
43187.03	GSD-03	7/15/04	7/12/04	soil	54.3	Adheres to Sample Acceptance Policy
43187.04	GSD-04	7/15/04	7/12/04	soil	32.1	Adheres to Sample Acceptance Policy
43187.05	GSD-05	7/15/04	7/12/04	soil	73.1	Adheres to Sample Acceptance Policy
43187.06	Trip Blank	7/15/04	7/12/04	soil	100.0	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 43187

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sediment / 1215**

Sample ID:	GSD-01	GSD-02	GSD-03	GSD-04	GSD-05	Trip Blank
Lab Sample ID:	43187.01	43187.02	43187.03	43187.04	43187.05	43187.06
Matrix:	soil	soil	soil	soil	soil	soil
Date Sampled:	7/12/04	7/12/04	7/12/04	7/12/04	7/12/04	7/12/04
Date Received:	7/15/04	7/15/04	7/15/04	7/15/04	7/15/04	7/15/04
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Analysis:	7/21/04	7/21/04	7/21/04	7/21/04	7/21/04	7/21/04
Analyst:	JDS	JDS	JDS	JDS	JDS	JDS
Method:	8260B	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	2	3	1	1
Dichlorodifluoromethane	< 200	< 200	< 300	< 600	< 200	< 200
Chloromethane	< 200	< 200	< 300	< 600	< 200	< 200
Vinyl chloride	< 100	< 100	< 200	< 300	< 100	< 100
Bromomethane	< 200	< 200	< 300	< 600	< 200	< 200
Chloroethane	< 200	< 200	< 300	< 600	< 200	< 200
Trichlorofluoromethane	< 200	< 200	< 200	< 300	< 200	< 200
Diethyl Ether	< 50	< 50	< 80	< 100	< 50	< 50
Acetone	< 2000	< 2000	< 3000	< 6000	< 2000	< 2000
1,1-Dichloroethene	< 50	< 50	< 80	< 100	< 50	< 50
tert-Butyl Alcohol (TBA)	< 2000	< 2000	< 3000	< 6000	< 2000	< 2000
Methylene chloride	< 100	< 100	< 200	< 300	< 100	< 100
Carbon disulfide	< 100	< 100	< 200	< 300	< 100	< 100
Methyl-t-butyl ether(MTBE)	< 100	< 100	< 200	< 300	< 100	< 100
Ethyl-t-butyl ether(ETBE)	< 200	< 200	< 300	< 600	< 200	< 200
Isopropyl ether(DIPE)	< 200	< 200	< 300	< 600	< 200	< 200
tert-amyl methyl ether(TAME)	< 200	< 200	< 300	< 600	< 200	< 200
trans-1,2-Dichloroethene	< 50	< 50	< 80	< 100	< 50	< 50
1,1-Dichloroethane	< 50	< 50	< 80	< 100	< 50	< 50
2,2-Dichloropropane	< 50	< 50	< 80	< 100	< 50	< 50
cis-1,2-Dichloroethene	< 50	< 50	< 80	< 100	< 50	< 50
2-Butanone(MEK)	< 500	< 500	< 800	< 1000	< 500	< 500
Bromochloromethane	< 50	< 50	< 80	< 100	< 50	< 50
Tetrahydrofuran(THF)	< 500	< 500	< 800	< 1000	< 500	< 500
Chloroform	< 50	< 50	< 80	< 100	< 50	< 50
1,1,1-Trichloroethane	< 50	< 50	< 80	< 100	< 50	< 50
Carbon tetrachloride	< 50	< 50	< 80	< 100	< 50	< 50
1,1-Dichloropropene	< 50	< 50	< 80	< 100	< 50	< 50
Benzene	< 50	< 50	< 80	< 100	< 50	< 50
1,2-Dichloroethane	< 50	< 50	< 80	< 100	< 50	< 50
Trichloroethene	< 50	< 50	< 80	< 100	< 50	< 50
1,2-Dichloropropane	< 50	< 50	< 80	< 100	< 50	< 50
Dibromomethane	< 50	< 50	< 80	< 100	< 50	< 50
Bromodichloromethane	< 50	< 50	< 80	< 100	< 50	< 50
4-Methyl-2-pentanone(MIBK)	< 500	< 500	< 800	< 1000	< 500	< 500
cis-1,3-Dichloropropene	< 50	< 50	< 80	< 100	< 50	< 50
Toluene	< 50	< 50	< 80	< 100	< 50	< 50
trans-1,3-Dichloropropene	< 50	< 50	< 80	< 100	< 50	< 50
1,1,2-Trichloroethane	< 50	< 50	< 80	< 100	< 50	< 50
2-Hexanone	< 500	< 500	< 800	< 1000	< 500	< 500
Tetrachloroethene	< 50	< 50	< 80	< 100	< 50	< 50
1,3-Dichloropropane	< 50	< 50	< 80	< 100	< 50	< 50
Dibromochloromethane	< 50	< 50	< 80	< 100	< 50	< 50
1,2-Dibromoethane	< 50	< 50	< 80	< 100	< 50	< 50
Chlorobenzene	< 50	< 50	< 80	< 100	< 50	< 50
1,1,1,2-Tetrachloroethane	< 50	< 50	< 80	< 100	< 50	< 50
Ethylbenzene	< 50	< 50	< 80	< 100	< 50	< 50

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 43187

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sediment / 1215**

Sample ID:	GSD-01	GSD-02	GSD-03	GSD-04	GSD-05	Trip Blank
Lab Sample ID:	43187.01	43187.02	43187.03	43187.04	43187.05	43187.06
Matrix:	soil	soil	soil	soil	soil	soil
Date Sampled:	7/12/04	7/12/04	7/12/04	7/12/04	7/12/04	7/12/04
Date Received:	7/15/04	7/15/04	7/15/04	7/15/04	7/15/04	7/15/04
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Analysis:	7/21/04	7/21/04	7/21/04	7/21/04	7/21/04	7/21/04
Analyst:	JDS	JDS	JDS	JDS	JDS	JDS
Method:	8260B	8260B	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	2	3	1	1
mp-Xylene	< 50	< 50	< 80	< 100	< 50	< 50
o-Xylene	< 50	< 50	< 80	< 100	< 50	< 50
Styrene	< 50	< 50	< 80	< 100	< 50	< 50
Bromoform	< 50	< 50	< 80	< 100	< 50	< 50
iso-Propylbenzene	< 50	< 50	< 80	< 100	< 50	< 50
Bromobenzene	< 50	< 50	< 80	< 100	< 50	< 50
1,1,2,2-Tetrachloroethane	< 50	< 50	< 80	< 100	< 50	< 50
1,2,3-Trichloropropane	< 50	< 50	< 80	< 100	< 50	< 50
n-Propylbenzene	< 50	< 50	< 80	< 100	< 50	< 50
2-Chlorotoluene	< 50	< 50	< 80	< 100	< 50	< 50
4-Chlorotoluene	< 50	< 50	< 80	< 100	< 50	< 50
1,3,5-Trimethylbenzene	< 50	< 50	< 80	< 100	< 50	< 50
tert-Butylbenzene	< 50	< 50	< 80	< 100	< 50	< 50
1,2,4-Trimethylbenzene	< 50	< 50	< 80	< 100	< 50	< 50
sec-Butylbenzene	< 50	< 50	< 80	< 100	< 50	< 50
1,3-Dichlorobenzene	< 50	< 50	< 80	< 100	< 50	< 50
p-isopropyltoluene	< 50	< 50	< 80	< 100	< 50	< 50
1,4-Dichlorobenzene	< 50	< 50	< 80	< 100	< 50	< 50
1,2-Dichlorobenzene	< 50	< 50	< 80	< 100	< 50	< 50
n-Butylbenzene	< 50	< 50	< 80	< 100	< 50	< 50
1,2-Dibromo-3-chloropropane	< 50	< 50	< 80	< 100	< 50	< 50
1,2,4-Trichlorobenzene	< 50	< 50	< 80	< 100	< 50	< 50
Hexachlorobutadiene	< 50	< 50	< 80	< 100	< 50	< 50
Naphthalene	< 300	< 300	< 500	< 900	< 300	< 300
1,2,3-Trichlorobenzene	< 50	< 50	< 80	< 100	< 50	< 50

GSD-03 and GSD-04: Reporting limits were elevated due to the low solids content of the sample.

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 43187

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sediment / 1215**

Sample ID:	GSD-01	GSD-02	GSD-03	GSD-04	GSD-05
Lab Sample ID:	43187.01	43187.02	43187.03	43187.04	43187.05
Matrix:	soil	soil	soil	soil	soil
Date Sampled:	7/12/04	7/12/04	7/12/04	7/12/04	7/12/04
Date Received:	7/15/04	7/15/04	7/15/04	7/15/04	7/15/04
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Extraction/Preparation	7/16/04	7/16/04	7/16/04	7/16/04	7/16/04
Date of Analysis:	7/20/04	7/20/04	7/20/04	7/20/04	7/20/04
Analyst:	LLS	LLS	LLS	LLS	LLS
Method:	8270C	8270C	8270C	8270C	8270C
Dilution Factor:	2	1	2	3	1
Phenol	< 300	< 200	< 300	< 500	< 200
2-Chlorophenol	< 300	< 200	< 300	< 500	< 200
2,4-Dichlorophenol	< 300	< 200	< 300	< 500	< 200
2,4,5-Trichlorophenol	< 300	< 200	< 300	< 500	< 200
2,4,6-Trichlorophenol	< 300	< 200	< 300	< 500	< 200
Pentachlorophenol	< 1000	< 1000	< 2000	< 3000	< 1000
2-Nitrophenol	< 300	< 200	< 300	< 500	< 200
4-Nitrophenol	< 300	< 200	< 300	< 500	< 200
2,4-Dinitrophenol	< 1000	< 1000	< 2000	< 3000	< 1000
2-Methylphenol	< 300	< 200	< 300	< 500	< 200
3/4-Methylphenol	< 300	< 200	< 300	< 500	< 200
2,4-Dimethylphenol	< 300	< 200	< 300	< 500	< 200
4-Chloro-3-methylphenol	< 300	< 200	< 300	< 500	< 200
4,6-Dinitro-2-methylphenol	< 1000	< 1000	< 2000	< 3000	< 1000
Benzoic Acid	< 1000	< 1000	< 2000	< 3000	< 1000
N-Nitrosodimethylamine	< 300	< 200	< 300	< 500	< 200
n-Nitroso-di-n-propylamine	< 300	< 200	< 300	< 500	< 200
n-Nitrosodiphenylamine	< 300	< 200	< 300	< 500	< 200
bis(2-Chloroethyl)ether	< 300	< 200	< 300	< 500	< 200
bis(2-chloroisopropyl)ether	< 300	< 200	< 300	< 500	< 200
bis(2-Chloroethoxy)methane	< 300	< 200	< 300	< 500	< 200
1,3-Dichlorobenzene	< 300	< 200	< 300	< 500	< 200
1,4-Dichlorobenzene	< 300	< 200	< 300	< 500	< 200
1,2-Dichlorobenzene	< 300	< 200	< 300	< 500	< 200
1,2,4-Trichlorobenzene	< 300	< 200	< 300	< 500	< 200
2-Chloronaphthalene	< 300	< 200	< 300	< 500	< 200
4-Chlorophenyl-phenylether	< 300	< 200	< 300	< 500	< 200
4-Bromophenyl-phenylether	< 300	< 200	< 300	< 500	< 200
Hexachloroethane	< 300	< 200	< 300	< 500	< 200
Hexachlorobutadiene	< 300	< 200	< 300	< 500	< 200
Hexachlorocyclopentadiene	< 1000	< 1000	< 2000	< 3000	< 1000
Hexachlorobenzene	< 300	< 200	< 300	< 500	< 200
4-Chloroaniline	< 300	< 200	< 300	< 500	< 200
2-Nitroaniline	< 300	< 200	< 300	< 500	< 200
3-Nitroaniline	< 300	< 200	< 300	< 500	< 200
4-Nitroaniline	< 300	< 200	< 300	< 500	< 200
Benzyl alcohol	< 300	< 200	< 300	< 500	< 200
Nitrobenzene	< 300	< 200	< 300	< 500	< 200
Isophorone	< 300	< 200	< 300	< 500	< 200
2,4-Dinitrotoluene	< 300	< 200	< 300	< 500	< 200
2,6-Dinitrotoluene	< 300	< 200	< 300	< 500	< 200
Benzidine	< 400	< 400	< 400	< 500	< 400
3,3'-Dichlorobenzidine	< 300	< 200	< 300	< 500	< 200
Pyridine	< 300	< 200	< 300	< 500	< 200
Azobenzene	< 300	< 200	< 300	< 500	< 200

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 43187

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sediment / 1215**

Sample ID:	GSD-01	GSD-02	GSD-03	GSD-04	GSD-05
Lab Sample ID:	43187.01	43187.02	43187.03	43187.04	43187.05
Matrix:	soil	soil	soil	soil	soil
Date Sampled:	7/12/04	7/12/04	7/12/04	7/12/04	7/12/04
Date Received:	7/15/04	7/15/04	7/15/04	7/15/04	7/15/04
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Extraction/Preparation	7/16/04	7/16/04	7/16/04	7/16/04	7/16/04
Date of Analysis:	7/20/04	7/20/04	7/20/04	7/20/04	7/20/04
Analyst:	LLS	LLS	LLS	LLS	LLS
Method:	8270C	8270C	8270C	8270C	8270C
Dilution Factor:	2	1	2	3	1
Carbazole	< 300	< 200	< 300	< 500	< 200
Dimethylphthalate	< 300	< 200	< 300	< 500	< 200
Diethylphthalate	< 300	< 200	< 300	< 500	< 200
Di-n-butylphthalate	< 300	< 200	< 300	< 500	< 200
Butylbenzylphthalate	< 300	< 200	< 300	< 500	< 200
bis(2-Ethylhexyl)phthalate	< 300	< 200	< 300	< 500	< 200
Di-n-octylphthalate	< 300	< 200	< 300	< 500	< 200
Dibenzofuran	< 300	< 200	< 300	< 500	< 200
Naphthalene	< 40	< 40	< 40	< 50	< 40
2-Methylnaphthalene	< 40	< 40	< 40	< 50	< 40
Acenaphthylene	**170**	**50**	**100**	**330**	< 40
Acenaphthene	< 40	< 40	< 40	**100**	< 40
Fluorene	< 40	< 40	< 40	**160**	< 40
Phenanthrene	**520**	**290**	**310**	**1500**	**120**
Anthracene	**140**	**60**	**100**	**700**	< 40
Fluoranthene	**1400**	**580**	**900**	**3100**	**250**
Pyrene	**1500**	**480**	**940**	**4100**	**220**
Benzo[a]anthracene	**730**	**250**	**490**	**1900**	**100**
Chrysene	**990**	**330**	**570**	**1800**	**150**
Benzo[b]fluoranthene	**1200**	**440**	**720**	**2400**	**190**
Benzo[k]fluoranthene	**560**	**190**	**370**	**760**	**80**
Benzo[a]pyrene	**1100**	**340**	**620**	**2300**	**140**
Indeno[1,2,3-cd]pyrene	**260**	**90**	**130**	**390**	< 40
Dibenz[a,h]anthracene	< 40	< 40	**40**	< 50	< 40
Benzo[g,h,i]perylene	**220**	**80**	**110**	**360**	< 40

Reporting limits were elevated in samples "GSD-01," "GSD-03," and "GSD-04" due to the low solids content of the samples.

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 43187

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sediment / 1215**

Sample ID:	GSD-01	GSD-02	GSD-03	GSD-04	GSD-05
Lab Sample ID:	43187.01	43187.02	43187.03	43187.04	43187.05
Matrix:	soil	soil	soil	soil	soil
Date Sampled:	7/12/04	7/12/04	7/12/04	7/12/04	7/12/04
Date Received:	7/15/04	7/15/04	7/15/04	7/15/04	7/15/04
Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Date of Extraction/Prep:	7/15/04	7/15/04	7/15/04	7/15/04	7/15/04
Date of Analysis:	7/17/04	7/17/04	7/17/04	7/17/04	7/17/04
Analyst:	MDM	MDM	MDM	MDM	MDM
Method:	8082	8082	8082	8082	8082
Dilution Factor:	2	1	2	3	1
PCB-1016	< 100	< 100	< 100	< 100	< 100
PCB-1221	< 100	< 100	< 100	< 100	< 100
PCB-1232	< 100	< 100	< 100	< 100	< 100
PCB-1242	< 100	< 100	< 100	< 100	< 100
PCB-1248	< 100	< 100	< 100	< 100	< 100
PCB-1254	< 100	< 100	< 100	< 100	< 100
PCB-1260	< 100	< 100	< 100	< 100	< 100
Aldrin	< 10	< 10	< 10	< 20	< 10
alpha-BHC	< 10	< 10	< 10	< 20	< 10
beta-BHC	< 10	< 10	< 10	< 20	< 10
Lindane (gamma-BHC)	< 10	< 10	< 10	< 20	< 10
delta-BHC	< 10	< 10	< 10	< 20	< 10
Chlordane	< 100	< 100	< 100	< 100	< 100
4,4'-DDT	< 10	< 10	< 10	< 20	< 10
4,4'-DDE	< 10	< 10	< 10	< 20	< 10
4,4'-DDD	< 10	< 10	< 10	< 20	< 10
Dieldrin	< 10	< 10	< 10	< 20	< 10
Endosulfan I	< 10	< 10	< 10	< 20	< 10
Endosulfan II	< 10	< 10	< 10	< 20	< 10
Endosulfan Sulfate	< 10	< 10	< 10	< 20	< 10
Endrin	< 10	< 10	< 10	< 20	< 10
Endrin Aldehyde	< 10	< 10	< 10	< 20	< 10
Heptachlor	< 10	< 10	< 10	< 20	< 10
Heptachlor Epoxide	< 10	< 10	< 10	< 20	< 10
Methoxychlor	< 10	< 10	< 10	< 20	< 10
Toxaphene	< 100	< 100	< 100	< 100	< 100

Dilution factors were elevated in samples "GSD-01," "GSD-03," and "GSD-04" due to the low solids content of the samples.

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 43187

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sediment / 1215**

Sample ID:	GSD-01	GSD-02	GSD-03	GSD-04				
Lab Sample ID:	43187.01	43187.02	43187.03	43187.04				
Matrix:	soil	soil	soil	soil				
Date Sampled:	7/12/04	7/12/04	7/12/04	7/12/04				
Date Received:	7/15/04	7/15/04	7/15/04	7/15/04	**Units**	**Date of Analysis**	**Method**	**Analyst**
Arsenic	**6.8**	**8.9**	**6.3**	**7.5**	mg/kg	7/26/04	6020	DS
Barium	**36**	**36**	**51**	**81**	mg/kg	7/26/04	6020	DS
Cadmium	**0.6**	< 0.5	< 0.5	**1.0**	mg/kg	7/26/04	6020	DS
Chromium	**110**	**11**	**15**	**24**	mg/kg	7/26/04	6020	DS
Copper	**32**	**8.4**	**13**	**26**	mg/kg	7/26/04	6020	DS
Lead	**38**	**24**	**53**	**83**	mg/kg	7/26/04	6020	DS
Mercury	**0.2**	< 0.1	< 0.1	**0.2**	mg/kg	7/26/04	6020	DS
Nickel	**41**	**8.7**	**7.6**	**13**	mg/kg	7/26/04	6020	DS
Zinc	**66**	**51**	**53**	**100**	mg/kg	7/26/04	6020	DS

Sample ID:	GSD-05					
Lab Sample ID:	43187.05					
Matrix:	soil					
Date Sampled:	7/12/04					
Date Received:	7/15/04	**Units**	**Date of Analysis**	**Method**	**Analyst**	
Arsenic	**5.0**	mg/kg	7/26/04	6020	DS	
Barium	**37**	mg/kg	7/26/04	6020	DS	
Cadmium	< 0.5	mg/kg	7/26/04	6020	DS	
Chromium	**12**	mg/kg	7/26/04	6020	DS	
Copper	**4.7**	mg/kg	7/26/04	6020	DS	
Lead	**22**	mg/kg	7/26/04	6020	DS	
Mercury	< 0.1	mg/kg	7/26/04	6020	DS	
Nickel	**7.1**	mg/kg	7/26/04	6020	DS	
Zinc	**29**	mg/kg	7/26/04	6020	DS	

GEOTECHNICAL LABORATORY TEST DATA

Project : EASTER ANALYTICAL
Project No. : 01.428.NH
Boring No. : N/A
Sample No. : L040636A
Location : GSD-01
Soil Description : BORING JAR SAMPLES
Remarks : ASAP

Depth : N/A
Test Date : 7-26-04
Test Method : ASTM

Filename : L040636A
Elevation : N/A
Tested by : DM/BM
Checked by : BC

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	0.20	0.20	100
#20	0.033	0.85	1.70	1.90	98
#40	0.017	0.43	4.10	6.00	93
#60	0.010	0.25	11.10	17.10	80
#100	0.006	0.15	24.10	41.20	52
#200	0.003	0.07	25.00	66.20	23
Pan			19.80	86.00	0

Total Weight of Sample = 86
Tare Weight = 0
Moisture Content = 0

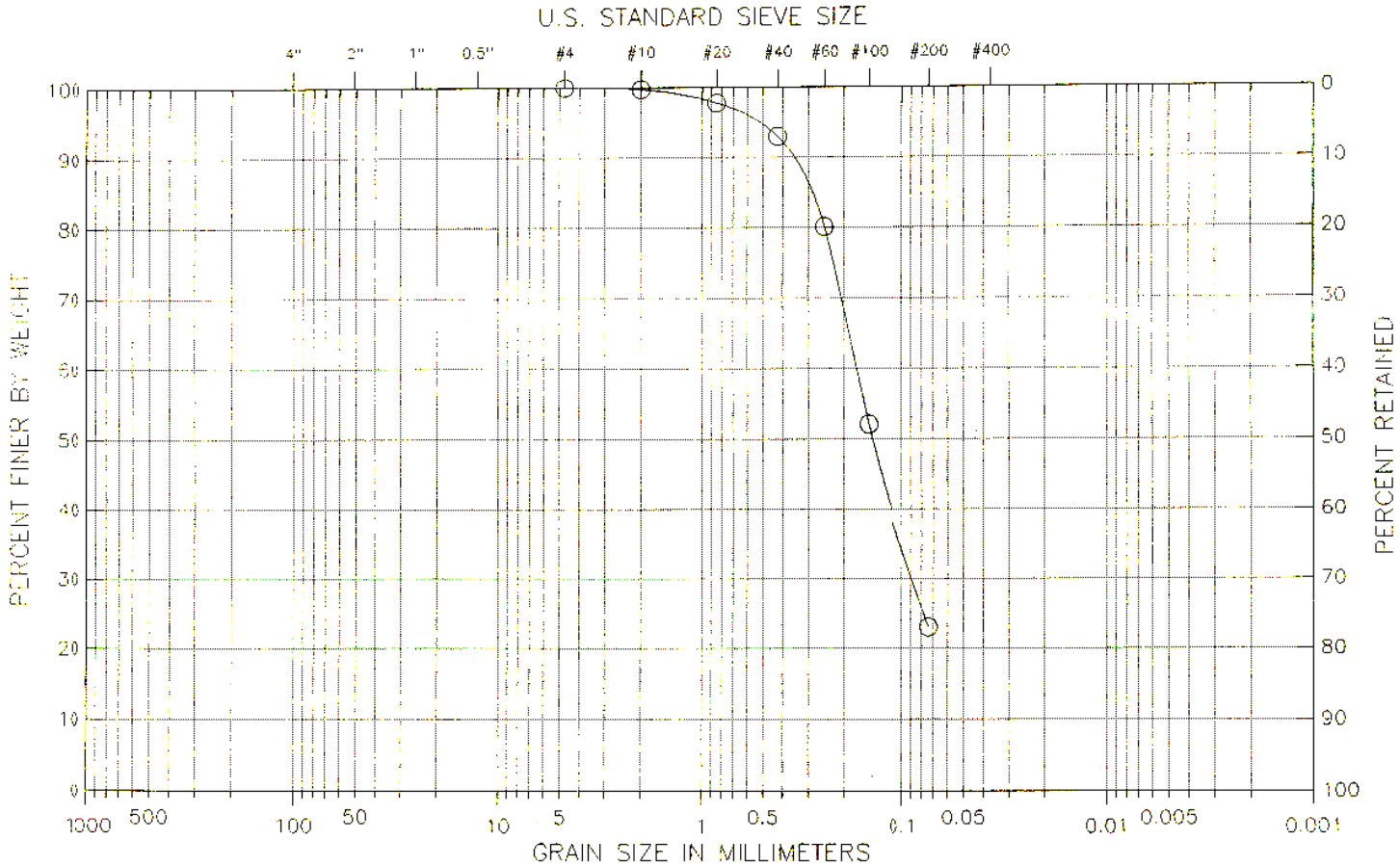
D85 : 0.3056 mm
D60 : 0.1733 mm
D50 : 0.1426 mm
D30 : 0.0877 mm
D15 : N/A
D10 : N/A

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-2-4(0)
AASHTO Group Name : Silty Gravel and Sand

GRAIN SIZE DISTRIBUTION - AGGREGATE GRADING

MILLER ENGINEERING & TESTING, INC.

Boring No. : N/A	Project : EASTER ANALYTICAL
Sample No.: L040636A	Project No.: 01.428.NH
Tested by : DM/BM	Location: GSD-01
Filename : L040636A	Date : Mon Jul 26 2004



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
()
Visual Description :
BORING JAR SAMPLES

Remarks :
ASAP

Figure 1

GEOTECHNICAL LABORATORY TEST DATA

Project : EASTER ANALYTICAL
Project No. : 01.428.NH
Boring No. : N/A
Sample No. : L040636B
Location : GSD-02
Soil Description : BORING JAR SAMPLES
Remarks : ASAP

Depth : N/A
Test Date : 7-26-04
Test Method : ASTM

Filename : L040636B
Elevation : N/A
Tested by : DM/BM
Checked by : BC

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
1"	1.000	25.40	0.00	0.00	100
0.75"	0.752	19.10	15.20	15.20	91
0.5"	0.500	12.70	15.70	30.90	82
0.375"	0.375	9.52	17.40	48.30	72
#4	0.187	4.75	19.60	67.90	60

Total Weight of Sample = 169.7
Tare Weight = 0

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#10	0.079	2.00	17.80	17.80	49
#20	0.033	0.85	42.00	59.80	25
#40	0.017	0.43	25.90	85.70	9
#60	0.010	0.25	7.50	93.20	5
#100	0.006	0.15	3.80	97.00	3
#200	0.003	0.07	2.10	99.10	1
Pan			2.30	101.40	0

Total Weight of Sample = 101.4
Tare Weight = 0
Moisture Content = 0

D85 : 14.6309 mm
D60 : 4.7534 mm
D50 : 2.0911 mm
D30 : 1.0233 mm
D15 : 0.5503 mm
D10 : 0.4389 mm

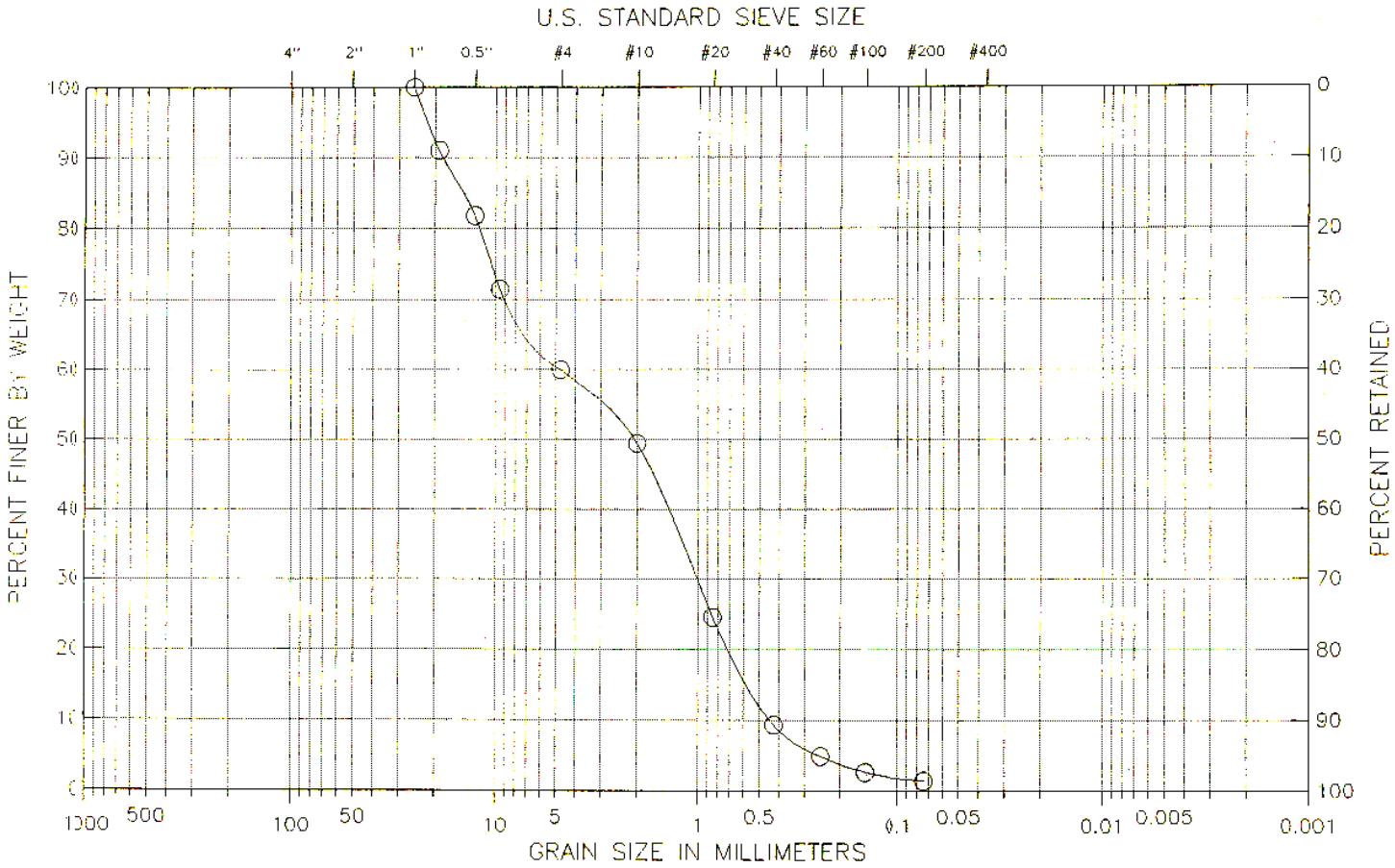
Soil Classification

ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand with gravel
AASHTO Group Symbol : A-1-a(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GRAIN SIZE DISTRIBUTION – AGGREGATE GRADING

MILLER ENGINEERING & TESTING, INC.

Boring No. : N/A	Project : EASTER ANALYTICAL
Sample No.: L040636B	Project No.: 01.428.NH
Tested by : DM/BM	Location: GSD-02
Filename : L040636B	Date : Mon Jul 26 2004



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
(SP) Poorly graded sand with gravel
Visual Description :
BORING JAR SAMPLES

Remarks :
ASAP

Figure 1

GEOTECHNICAL LABORATORY TEST DATA

Project : EASTER ANALYTICAL
Project No. : 01.428.NH
Boring No. : N/A
Sample No. : L040636C
Location : GSD-03
Soil Description : BORING JAR SAMPLES
Remarks : ASAP

Depth : N/A
Test Date : 7-26-04
Test Method : ASTM

Filename : L040636C
Elevation : N/A
Tested by : DM/BM
Checked by : BC

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	0.40	0.40	99
#20	0.033	0.85	4.80	5.20	92
#40	0.017	0.43	9.40	14.60	76
#60	0.010	0.25	8.60	23.20	62
#100	0.006	0.15	10.00	33.20	46
#200	0.003	0.07	12.80	46.00	26
Pan			15.80	61.80	0

Total Weight of Sample = 61.8
Tare Weight = 0
Moisture Content = 0

D85 : 0.6296 mm
D60 : 0.2313 mm
D50 : 0.1687 mm
D30 : 0.0861 mm
D15 : N/A
D10 : N/A

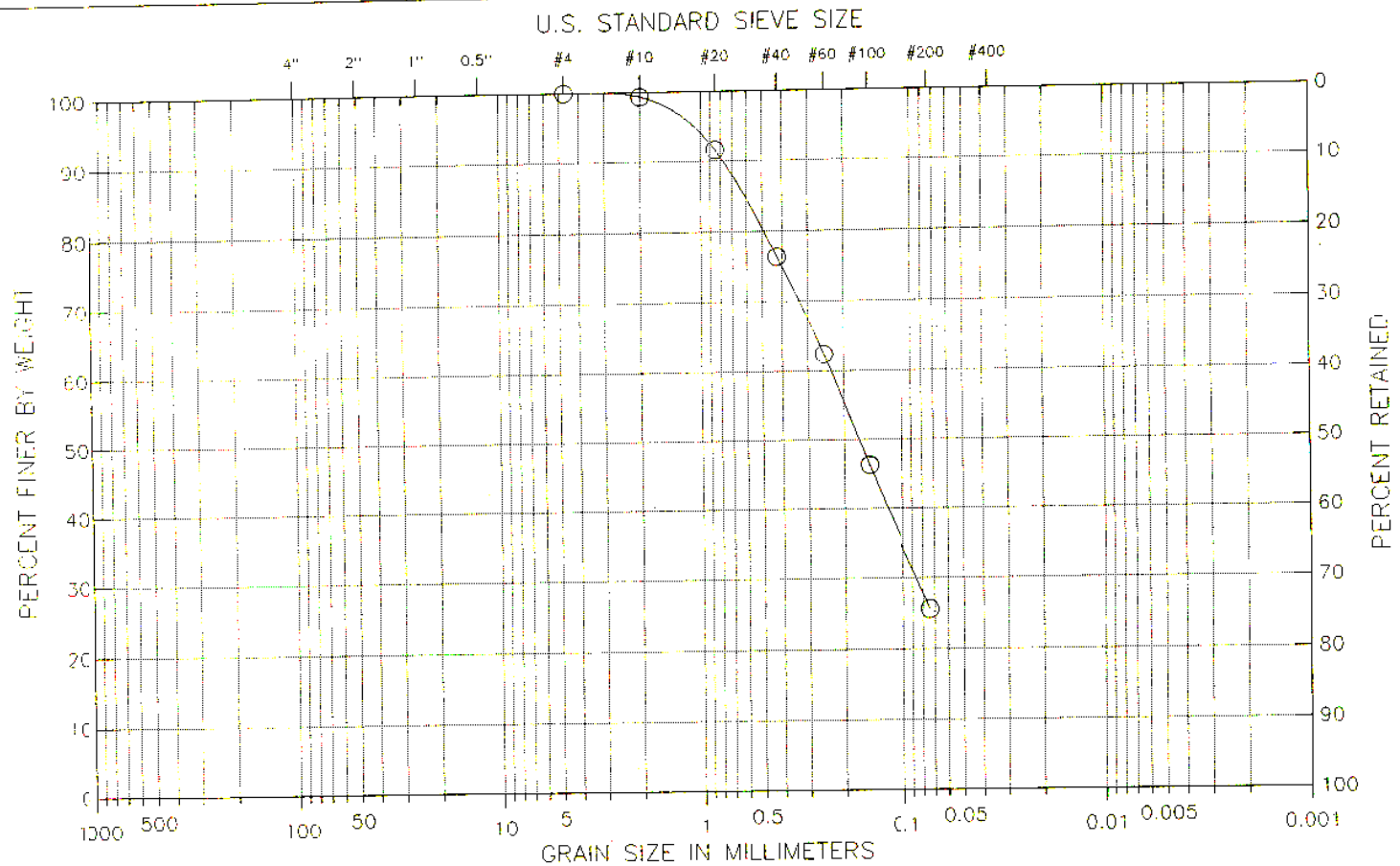
Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-2-4(0)
AASHTO Group Name : Silty Gravel and Sand

GRAIN SIZE DISTRIBUTION - AGGREGATE GRADING

MILLER ENGINEERING & TESTING, INC.

Boring No. : N/A
Sample No.: L040636C
Tested by : DM/BM
Filename : L040636C

Project : EASTER ANALYTICAL
Project No.: 01.428.NH
Location: GSD-03
Date : Mon Jul 26 2004



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
()
Visual Description :
BORING JAR SAMPLES

Remarks :
ASAP

Figure 1

GEOTECHNICAL LABORATORY TEST DATA

Project : EASTER ANALYTICAL
Project No. : 01.428.NH
Boring No. : N/A
Sample No. : L040636D
Location : GSD-04
Soil Description : BORING JAR SAMPLES
Remarks : ASAP

Depth : N/A
Test Date : 7-26-04
Test Method : ASTM

Filename : L040636D
Elevation : N/A
Tested by : DM/BM
Checked by : BC

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#4	0.187	4.75	0.00	0.00	100
#10	0.079	2.00	0.60	0.60	99
#20	0.033	0.85	3.60	4.20	92
#40	0.017	0.43	6.30	10.50	81
#60	0.010	0.25	8.70	19.20	65
#100	0.006	0.15	10.80	30.00	46
#200	0.003	0.07	9.70	39.70	28
Pan			15.40	55.10	0

Total Weight of Sample = 55.1
Tare Weight = 0
Moisture Content = 0

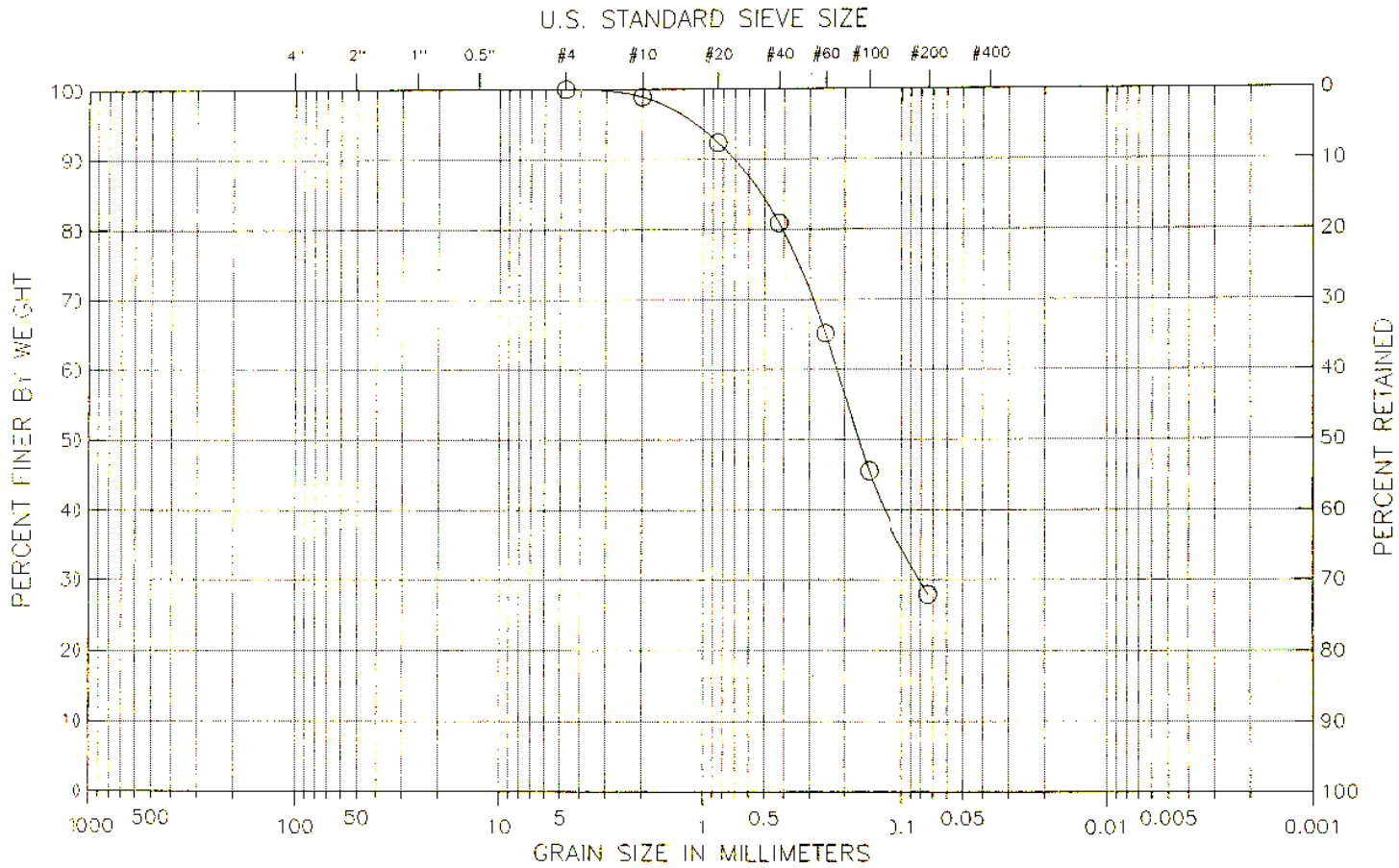
D85 : 0.5435 mm
D60 : 0.2186 mm
D50 : 0.1684 mm
D30 : 0.0803 mm
D15 : N/A
D10 : N/A

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-2-4(0)
AASHTO Group Name : Silty Gravel and Sand

GRAIN SIZE DISTRIBUTION – AGGREGATE GRADING

MILLER ENGINEERING & TESTING, INC.

Boring No. : N/A	Project : EASTER ANALYTICAL
Sample No.: L040636D	Project No.: C1.428.NH
Tested by : DM/BM	Location: GSD-04
Filename : L040636D	Date : Mon Jul 26 2004



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
()
Visual Description :
BORING JAR SAMPLES

Remarks :
ASAP

Figure 1

GEOTECHNICAL LABORATORY TEST DATA

Project : EASTER ANALYTICAL
Project No. : 01.428.NH
Boring No. : N/A
Sample No. : L040636E
Location : GSD-05
Soil Description : BORING JAR SAMPLES
Remarks : ASAP

Depth : N/A
Test Date : 7-26-04
Test Method : ASTM

Filename : L040636E
Elevation : N/A
Tested by : DM/BM
Checked by : BC

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.75"	0.752	19.10	0.00	0.00	100
0.5"	0.500	12.70	7.40	7.40	94
0.375"	0.375	9.52	0.00	7.40	94
#4	0.187	4.75	8.80	16.20	87

Total Weight of Sample = 121.3
Tare Weight = 0

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#10	0.079	2.00	5.80	5.80	82
#20	0.033	0.85	15.70	21.50	69
#40	0.017	0.43	30.40	51.90	44
#60	0.010	0.25	25.40	77.30	23
#100	0.006	0.15	18.30	95.60	8
#200	0.003	0.07	6.80	102.40	2
Pan			2.80	105.20	0

Total Weight of Sample = 105.2
Tare Weight = 0
Moisture Content = 0

D85 : 3.5266 mm
D60 : 0.6637 mm
D50 : 0.5032 mm
D30 : 0.2987 mm
D15 : 0.1908 mm
D10 : 0.1610 mm

Soil Classification

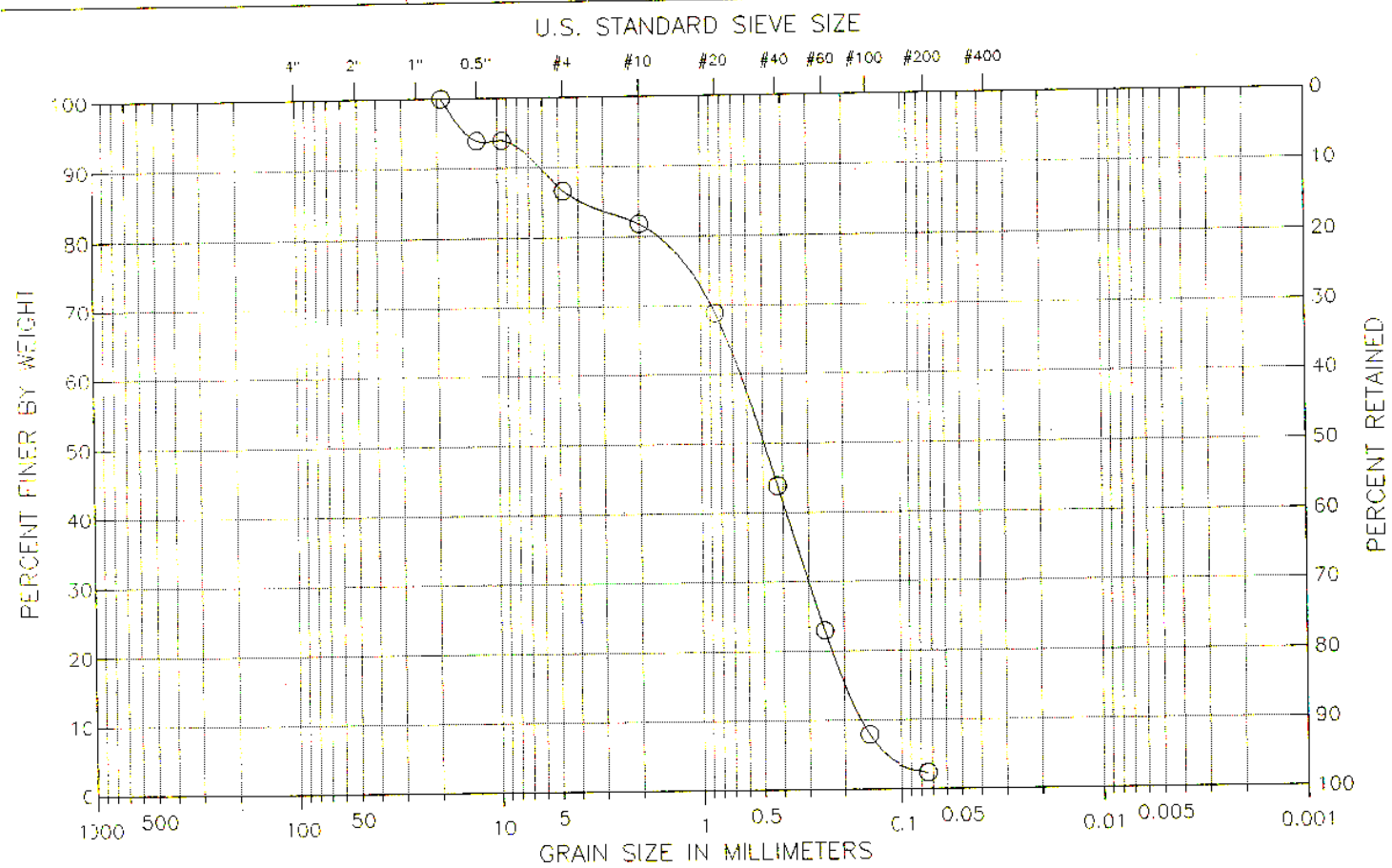
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-1-b(0)
AASHTO Group Name : Stone Fragments, Gravel and Sand

GRAIN SIZE DISTRIBUTION - AGGREGATE GRADING

MILLER ENGINEERING & TESTING, INC.

Boring No. : N/A
Sample No.: L040636E
Tested by : DM/BM
Filename : L040636E

Project : EASTER ANALYTICAL
Project No.: 01428.NH
Location: GSD-05
Date : Mon Jul 26 2004



Classification :
(SP) Poorly graded sand
Visual Description :
BORING JAR SAMPLES

Remarks :
ASAP

Figure 1

CHAIN-OF-CUSTODY RECORD

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Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
GSD-01	7/15/2004	soil	Sieve aka Grain Size Subcontract	
GSD-02	7/15/2004	soil	Sieve aka Grain Size Subcontract	
GSD-03	7/15/2004	soil	Sieve aka Grain Size Subcontract	
GSD-04	7/15/2004	soil	Sieve aka Grain Size Subcontract	
GSD-05	7/15/2004	soil	Sieve aka Grain Size Subcontract	

Project # **43187**

Company Miller Engineering
Address 100 Sheffield Road
Address Manchester, NH 03101
Account #
Phone # 668-6016
Fax Number

Results Needed by: Preferred date **7/28/2004**

Notes about project

Eastern Analytical Inc. PO Number 17553

Report To: Front Office
Invoice To: Accounts Payable

Samples Collected by:

Relinquished by	Date/Time	Received by
R. Blood	7/16/04 7:30	R. Blood
R. Blood	2004.07.16 13:25	[illegible]

Relinquished by	Date/Time	Received by

NGS Analytical Laboratory

P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056

Mass Certification - MA-00071
Conn Certification - PH-0520

Report Date July 27, 2004

Customer	Contact	Laboratory Manager	eMail
Eastern Analytical	P. Gagnon	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Soil Sample

Samples Analyzed

Enclosed are Report No(s): 3675 to 3679

Reported on dry basis.

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah, NGS Laboratory Manager

7/28/04
Date

Northeast Generation Services
The Northeast Utilities System

ALL the information contained in this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method. It meets the requirements of NELAC, including any data obtained from a subcontract laboratory. This report may not be reproduced, except in full, without written approval from NGS Analytical Laboratory.

Sample Analysis

Work Order 04-1038

Sample	Description	Source	Taken/Time	Received
3675	GSD-1	Eastern Analytical	7/15/04	7/20/04

Parameter		Results		MDL	Method	Analyzed/Time
Total Organic Carbon		24,900	mg/kg	100.00	SW 846 9060	07/27/04

Sample	Description	Source	Taken/Time	Received
3676	GSD-2	Eastern Analytical	7/15/04	7/20/04

Parameter		Results		MDL	Method	Analyzed/Time
Total Organic Carbon		3,910	mg/kg	100.00	SW 846 9060	07/27/04

Sample	Description	Source	Taken/Time	Received
3677	GSD-3	Eastern Analytical	7/15/04	7/20/04

Parameter		Results		MDL	Method	Analyzed/Time
Total Organic Carbon		48,900	mg/kg	100.00	SW 846 9060	07/27/04

Sample	Description	Source	Taken/Time	Received
3678	GSD-4	Eastern Analytical	7/15/04	7/20/04

Parameter		Results		MDL	Method	Analyzed/Time
Total Organic Carbon		96,200	mg/kg	100.00	SW 846 9060	07/27/04

Sample	Description	Source	Taken/Time	Received
3679	GSD-5	Eastern Analytical	7/15/04	7/20/04

Parameter		Results		MDL	Method	Analyzed/Time
Total Organic Carbon	Less Than	100	mg/kg	100.00	SW 846 9060	07/27/04

CHAIN-OF-CUSTODY RECORD

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Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
GSD-01	7/15/2004	soil	TOC Solid Subcontract	
GSD-02	7/15/2004	soil	TOC Solid Subcontract	
GSD-03	7/15/2004	soil	TOC Solid Subcontract	
GSD-04	7/15/2004	soil	TOC Solid Subcontract	
GSD-05	7/15/2004	soil	TOC Solid Subcontract	

Project # **43187**

Company Northeast Generation
Address 15 Agawam Ave
Address West Springfield, MA 01089
Account #
Phone # (413) 787-9064
Fax Number (413) 787-9056

Results Needed by: Preferred date **7/28/2004**

Notes about project

Eastern Analytical Inc. PO Number 17552

Report To: Front Office
Invoice To: Accounts Payable

Samples Collected by:

Relinquished by	Date/Time	Received by
[illegible]	7/19/04 15:30	

Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

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43187

GSPDnh

Matrix
A - Air
S - Soil
GW - Ground W.
SW - Surface W.
DW - Drinking W.
WW - Waste W.
☐Other

aSampleID	Date/Time	Parameters	Sample Notes	# of containers
Sediment GSD-01	7/12/04 12:23	SolTotDry/Pest/PCB/ICPMets-As-Ba-Cd-Cu-Cr-Pb-Hg-Zn-Ni/VNH8260BFullList/ABN/SieveSub/TOC SolSub NOTE: VOC container ID = 17637	Field Filtered Metals Check here ☐	5
Sediment GSD-02	7/12/04 9:30	SolTotDry/Pest/PCB/ICPMets-As-Ba-Cd-Cu-Cr-Pb-Hg-Zn-Ni/VNH8260BFullList/ABN/SieveSub/TOC SolSub NOTE: VOC container ID = 17638	Field Filtered Metals Check here ☐	5
Sediment GSD-03	7/12/04 10.30	SolTotDry/Pest/PCB/ICPMets-As-Ba-Cd-Cu-Cr-Pb-Hg-Zn-Ni/VNH8260BFullList/ABN/SieveSub/TOC SolSub NOTE: VOC container ID = 17647	Field Filtered Metals Check here ☐	5
Sediment GSD-04	7/12/04 11:15	SolTotDry/Pest/PCB/ICPMets-As-Ba-Cd-Cu-Cr-Pb-Hg-Zn-Ni/VNH8260BFullList/ABN/SieveSub/TOC SolSub NOTE: VOC container ID = 17657	Field Filtered Metals Check here ☐	5
Sediment GSD-05	7/12/04 12:00	SolTotDry/Pest/PCB/ICPMets-As-Ba-Cd-Cu-Cr-Pb-Hg-Zn-Ni/VNH8260BFullList/ABN/SieveSub/TOC SolSub NOTE: VOC container ID = 17667	Field Filtered Metals Check here ☐	5

preservative: HCL HNO_3 H_2SO_4 NaOH MEOH $Na_2S_2O_3$ ICE

Project Name Gonic Sediment / 1215

EAI Batch # **State** NH

Client (Pro Mgr) Jason George

Customer Gomez and Sullivan Engineers, PC

Address 55 North Stark Highway

City Weare NH 03281

Phone 529-4400 **Fax** 529-4411

EmailAddress: jgeorge@gomezandsullivan.com

Results Needed by: Preferred date _____

Notes about project

QC deliverables ☒ A ☐ B ☐ C

ReportingOptions
☒ HC ☒ EDD email
☐ NO FAX
☐ Partial Fax
☐ EDD Disk

PONumber: verbal
Quote No: 1002537
Temperature 12.2 °C
Ice present Yes ☒ No ☐

Samples Collected by: JASON GEORGE

Relinquished by	Date/Time	Received by
	7-15-04 1600	
Relinquished by	**Date/Time**	**Received by**

22

CHAIN-OF-CUSTODY RECORD

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GSPCnh

aSampleID	Date/Time	Matrix (A - Air, S - Soil, GW - Ground W., SW - Surface W., DW - Drinking W., WW - Waste W., ☐Other)	Parameters	Sample Notes	# of containers
Trip Blank			SolTotDry/VNH8260BFullList		

preservative: HCL HNO_3 H_2SO_4 NaOH MEOH $Na_2S_2O_3$ ICE

Field Filtered Metals Check here ☐

Project Name Gonic Sediment / 1215

EAI Batch #

State NH

Client (Pro Mgr) Jason George

Customer Gomez and Sullivan Engineers, PC

Address 55 North Stark Highway

City Weare NH 03281

Phone 529-4400 Fax 529-4411

EmailAddress: jgeorge@gomezandsullivan.com

Results Needed by: Preferred date _____

Notes about project

QC deliverables ☒ A ☐ B ☐ C

ReportingOptions

☒ HC ☒ EDD email

☐ NO FAX

☐ Partial Fax

☐ EDD Disk

PONumber: verbal

Quote No: 1002537

Temperature 12.2 °C

Ice present Yes ☒ No ☐

Samples Collected by: _____

7/15/04 1600

Relinquished by Date/Time Received by

Relinquished by Date/Time Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

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Jason George
Gomez and Sullivan Engineers, PC
55 North Stark Highway
Weare, NH 03281

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 46531
Client Identification: Gonic Sawmill Sediment / 1215
Date Received: 2/2/2005

Dear Mr. George:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with the EPA document "Practical Guide for Ground-Water Sampling." Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
TNR: Testing Not Requested
ND: None Detected, no established detection limit
RL: Reporting Limits
%R: % Recovery

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director | 2.22.05 Date | 20 # of pages (excluding cover letter)

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professional laboratory services

Jason George
Gomez and Sullivan Engineers, PC
55 North Stark Highway
Weare, NH 03281

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 46531
Client Identification: Gonic Sawmill Sediment / 1215
Date Received: 2/2/2005

Dear Mr. George :

Enclosed please find the revised report pages for the above identified project. Per your request, samples "GSD-06" and "GSD-00" were reanalyzed to achieve a lower detection limit . These report pages replace the corresponding pages in the report package dated 2/22/05.

Please feel free to contact me if you have additional questions or concerns regarding this matter. Thank you for this opportunity to be of service.

Sincerely,

Lorraine Olashaw — Lorraine Olashaw, Lab Director

5-9-05 — Date

2 — # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

Eastern Analytical, Inc. ID#: 46531

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sawmill Sediment / 1215**

Temperature upon receipt (°C): 2.0 **Received on ice or cold packs (Yes/No): Y**

Lab ID	SampleID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
46531.01	GSD-06	2/2/05	2/2/05	soil	62.5	Adheres to Sample Acceptance Policy
46531.02	GSD-00	2/2/05	2/2/05	soil	79.1	Adheres to Sample Acceptance Policy
46531.03	Trip Blank	2/2/05	2/2/05	soil	100.0	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 46531

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sawmill Sediment / 1215**

Sample ID:	GSD-06	GSD-00	Trip Blank
Lab Sample ID:	46531.01	46531.02	46531.03
Matrix:	soil	soil	soil
Date Sampled:	2/2/05	2/2/05	2/2/05
Date Received:	2/2/05	2/2/05	2/2/05
Units:	ug/kg	ug/kg	ug/kg
Date of Analysis:	2/11/05	2/11/05	2/11/05
Analyst:	JDS	JDS	JDS
Method:	8260B	8260B	8260B
Dilution Factor:	1	1	1
Dichlorodifluoromethane	< 200	< 200	< 200
Chloromethane	< 200	< 200	< 200
Vinyl chloride	< 100	< 100	< 100
Bromomethane	< 200	< 200	< 200
Chloroethane	< 200	< 200	< 200
Trichlorofluoromethane	< 200	< 200	< 200
Diethyl Ether	< 50	< 50	< 50
Acetone	< 2000	< 2000	< 2000
1,1-Dichloroethene	< 50	< 50	< 50
tert-Butyl Alcohol (TBA)	< 2000	< 2000	< 2000
Methylene chloride	< 100	< 100	< 100
Carbon disulfide	< 100	< 100	< 100
Methyl-t-butyl ether(MTBE)	< 100	< 100	< 100
Ethyl-t-butyl ether(ETBE)	< 200	< 200	< 200
Isopropyl ether(DIPE)	< 200	< 200	< 200
tert-amyl methyl ether(TAME)	< 200	< 200	< 200
trans-1,2-Dichloroethene	< 50	< 50	< 50
1,1-Dichloroethane	< 50	< 50	< 50
2,2-Dichloropropane	< 50	< 50	< 50
cis-1,2-Dichloroethene	< 50	< 50	< 50
2-Butanone(MEK)	< 500	< 500	< 500
Bromochloromethane	< 50	< 50	< 50
Tetrahydrofuran(THF)	< 500	< 500	< 500
Chloroform	< 50	< 50	< 50
1,1,1-Trichloroethane	< 50	< 50	< 50
Carbon tetrachloride	< 50	< 50	< 50
1,1-Dichloropropene	< 50	< 50	< 50
Benzene	< 50	< 50	< 50
1,2-Dichloroethane	< 50	< 50	< 50
Trichloroethene	< 50	< 50	< 50
1,2-Dichloropropane	< 50	< 50	< 50
Dibromomethane	< 50	< 50	< 50
Bromodichloromethane	< 50	< 50	< 50
4-Methyl-2-pentanone(MIBK)	< 500	< 500	< 500
cis-1,3-Dichloropropene	< 50	< 50	< 50
Toluene	< 50	< 50	< 50
trans-1,3-Dichloropropene	< 50	< 50	< 50
1,1,2-Trichloroethane	< 50	< 50	< 50
2-Hexanone	< 500	< 500	< 500
Tetrachloroethene	< 50	< 50	< 50
1,3-Dichloropropane	< 50	< 50	< 50
Dibromochloromethane	< 50	< 50	< 50
1,2-Dibromoethane	< 50	< 50	< 50
Chlorobenzene	< 50	< 50	< 50
1,1,1,2-Tetrachloroethane	< 50	< 50	< 50
Ethylbenzene	< 50	< 50	< 50

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 46531

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sawmill Sediment / 1215**

Sample ID:	GSD-06	GSD-00	Trip Blank
Lab Sample ID:	46531.01	46531.02	46531.03
Matrix:	soil	soil	soil
Date Sampled:	2/2/05	2/2/05	2/2/05
Date Received:	2/2/05	2/2/05	2/2/05
Units:	ug/kg	ug/kg	ug/kg
Date of Analysis:	2/11/05	2/11/05	2/11/05
Analyst:	JDS	JDS	JDS
Method:	8260B	8260B	8260B
Dilution Factor:	1	1	1
mp-Xylene	< 50	< 50	< 50
o-Xylene	< 50	< 50	< 50
Styrene	< 50	< 50	< 50
Bromoform	< 50	< 50	< 50
IsoPropylbenzene	< 50	< 50	< 50
Bromobenzene	< 50	< 50	< 50
1,1,2,2-Tetrachloroethane	< 50	< 50	< 50
1,2,3-Trichloropropane	< 50	< 50	< 50
n-Propylbenzene	< 50	< 50	< 50
2-Chlorotoluene	< 50	< 50	< 50
4-Chlorotoluene	< 50	< 50	< 50
1,3,5-Trimethylbenzene	< 50	< 50	< 50
tert-Butylbenzene	< 50	< 50	< 50
1,2,4-Trimethylbenzene	< 50	< 50	< 50
sec-Butylbenzene	< 50	< 50	< 50
1,3-Dichlorobenzene	< 50	< 50	< 50
p-Isopropyltoluene	< 50	< 50	< 50
1,4-Dichlorobenzene	< 50	< 50	< 50
1,2-Dichlorobenzene	< 50	< 50	< 50
n-Butylbenzene	< 50	< 50	< 50
1,2-Dibromo-3-chloropropane	< 50	< 50	< 50
1,2,4-Trichlorobenzene	< 50	< 50	< 50
Hexachlorobutadiene	< 50	< 50	< 50
Naphthalene	< 300	< 300	< 300
1,2,3-Trichlorobenzene	< 50	< 50	< 50

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 46531

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sawmill Sediment / 1215**

Sample ID:	GSD-06	GSD-00
Lab Sample ID:	46531.01	46531.02
Matrix:	soil	soil
Date Sampled:	2/2/05	2/2/05
Date Received:	2/2/05	2/2/05
Units:	ug/kg	ug/kg
Date of Extraction/Preparation	2/4/05	2/4/05
Date of Analysis:	3/17/05	3/17/05
Analyst:	TS	TS
Method:	8270C	8270C
Dilution Factor:	2	2
Phenol	< 70	< 50
2-Chlorophenol	< 70	< 50
2,4-Dichlorophenol	< 70	< 50
2,4,5-Trichlorophenol	< 70	< 50
2,4,6-Trichlorophenol	< 70	< 50
Pentachlorophenol	< 300	< 300
2-Nitrophenol	< 70	< 50
4-Nitrophenol	< 70	< 50
2,4-Dinitrophenol	< 300	< 300
2-Methylphenol	< 70	< 50
3/4-Methylphenol	< 70	< 50
2,4-Dimethylphenol	< 70	< 50
4-Chloro-3-methylphenol	< 70	< 50
4,6-Dinitro-2-methylphenol	< 300	< 300
Benzoic Acid	< 300	< 300
N-Nitrosodimethylamine	< 70	< 50
n-Nitroso-di-n-propylamine	< 70	< 50
n-Nitrosodiphenylamine	< 70	< 50
bis(2-Chloroethyl)ether	< 70	< 50
bis(2-chloroisopropyl)ether	< 70	< 50
bis(2-Chloroethoxy)methane	< 70	< 50
1,3-Dichlorobenzene	< 70	< 50
1,4-Dichlorobenzene	< 70	< 50
1,2-Dichlorobenzene	< 70	< 50
1,2,4-Trichlorobenzene	< 70	< 50
2-Chloronaphthalene	< 70	< 50
4-Chlorophenyl-phenylether	< 70	< 50
4-Bromophenyl-phenylether	< 70	< 50
Hexachloroethane	< 70	< 50
Hexachlorobutadiene	< 70	< 50
Hexachlorocyclopentadiene	< 300	< 300
Hexachlorobenzene	< 70	< 50
4-Chloroaniline	< 70	< 50
2-Nitroaniline	< 70	< 50
3-Nitroaniline	< 70	< 50
4-Nitroaniline	< 70	< 50
Benzyl alcohol	< 70	< 50
Nitrobenzene	< 70	< 50
Isophorone	< 70	< 50
2,4-Dinitrotoluene	< 70	< 50
2,6-Dinitrotoluene	< 70	< 50
Benzidine	< 70	< 50
3,3'-Dichlorobenzidine	< 70	< 50
Pyridine	< 70	< 50
Azobenzene	< 70	< 50

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 46531

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sawmill Sediment / 1215**

Sample ID:	GSD-06	GSD-00
Lab Sample ID:	46531.01	46531.02
Matrix:	soil	soil
Date Sampled:	2/2/05	2/2/05
Date Received:	2/2/05	2/2/05
Units:	ug/kg	ug/kg
Date of Extraction/Preparation	2/4/05	2/4/05
Date of Analysis:	3/17/05	3/17/05
Analyst:	TS	TS
Method:	8270C	8270C
Dilution Factor:	2	2
Carbazole	< 70	< 50
Dimethylphthalate	< 70	< 50
Diethylphthalate	< 70	< 50
Di-n-butylphthalate	< 70	< 50
Butylbenzylphthalate	< 70	< 50
bis(2-Ethylhexyl)phthalate	< 70	< 50
Di-n-octylphthalate	< 70	< 50
Dibenzofuran	< 70	< 50
Naphthalene	< 70	< 50
2-Methylnaphthalene	< 70	< 50
Acenaphthylene	< 70	< 50
Acenaphthene	< 70	< 50
Fluorene	< 70	< 50
Phenanthrene	< 70	**100**
Anthracene	< 70	< 50
Fluoranthene	< 70	**150**
Pyrene	< 70	**150**
Benzo[a]anthracene	< 70	**80**
Chrysene	< 70	**70**
Benzo[b]fluoranthene	< 70	**160**
Benzo[k]fluoranthene	< 70	**160**
Benzo[a]pyrene	< 70	**80**
Indeno[1,2,3-cd]pyrene	< 70	< 50
Dibenz[a,h]anthracene	< 70	< 50
Benzo[g,h,i]perylene	< 70	< 50

Benzo[b]fluoranthene and Benzo[k]fluoranthene were not resolved during the analyses. The result(s) reported for each target analyte is the summation of both target analytes.
(46531.01): Reporting limits were elevated due to the low solids content of the sample.

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 46531

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sawmill Sediment / 1215**

Sample ID:	GSD-06	GSD-00
Lab Sample ID:	46531.01	46531.02
Matrix:	soil	soil
Date Sampled:	2/2/05	2/2/05
Date Received:	2/2/05	2/2/05
Units:	ug/kg	ug/kg
Date of Extraction/Prep:	2/9/05	2/9/05
Date of Analysis:	2/10/05	2/10/05
Analyst:	MDM	MDM
Method:	8081A	8081A
Dilution Factor:	2	1
Aldrin	< 10	< 10
alpha-BHC	< 10	< 10
beta-BHC	< 10	< 10
Lindane (gamma-BHC)	< 10	< 10
delta-BHC	< 10	< 10
Chlordane	< 100	< 100
4,4'-DDT	< 10	< 10
4,4'-DDE	< 10	< 10
4,4'-DDD	< 10	< 10
Dieldrin	< 10	< 10
Endosulfan I	< 10	< 10
Endosulfan II	< 10	< 10
Endosulfan Sulfate	< 10	< 10
Endrin	< 10	< 10
Endrin Aldehyde	< 10	< 10
Heptachlor	< 10	< 10
Heptachlor Epoxide	< 10	< 10
Methoxychlor	< 10	< 10
Toxaphene	< 100	< 100

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 46531

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sawmill Sediment / 1215**

Sample ID:	GSD-06	GSD-00
Lab Sample ID:	46531.01	46531.02
Matrix:	soil	soil
Date Sampled:	2/2/05	2/2/05
Date Received:	2/2/05	2/2/05
Units:	ug/kg	ug/kg
Date of Extraction/Prep:	2/4/05	2/4/05
Date of Analysis:	2/5/05	2/5/05
Analyst:	MDM	MDM
Method:	8082	8082
Dilution Factor:	2	1
PCB-1016	< 100	< 100
PCB-1221	< 100	< 100
PCB-1232	< 100	< 100
PCB-1242	< 100	< 100
PCB-1248	< 100	< 100
PCB-1254	< 100	< 100
PCB-1260	< 100	< 100

LABORATORY REPORT

Eastern Analytical, Inc. ID#: 46531

Client: **Gomez and Sullivan Engineers, PC** Client Designation: **Gonic Sawmill Sediment / 1215**

Sample ID:	GSD-06	GSD-00				
Lab Sample ID:	46531.01	46531.02				
Matrix:	soil	soil				
Date Sampled:	2/2/05	2/2/05				
Date Received:	2/2/05	2/2/05	**Units**	**Date of Analysis**	**Method**	**Analyst**
Arsenic	**2.2**	**1.1**	mg/kg	2/8/05	6020	DS
Barium	**19**	**12**	mg/kg	2/8/05	6020	DS
Cadmium	< 0.5	< 0.5	mg/kg	2/8/05	6020	DS
Chromium	**3.9**	**3.3**	mg/kg	2/8/05	6020	DS
Copper	**2.3**	**1.5**	mg/kg	2/8/05	6020	DS
Lead	**5.7**	**2.0**	mg/kg	2/8/05	6020	DS
Mercury	< 0.1	< 0.1	mg/kg	2/8/05	6020	DS
Nickel	**3.1**	**2.2**	mg/kg	2/8/05	6020	DS
Zinc	**16**	**10**	mg/kg	2/8/05	6020	DS

NGS Analytical Laboratory

P.O. Box 2010
West Springfield, MA 01090-2010
Phone (413) 787-9064 Fax (413) 787-9056

Mass Certification - MA-00071
Conn Certification - PH-0520

Northeast Generation Services

The Northeast Utilities System

Report Date February 14, 2005

Customer	Contact	Laboratory Manager	eMail
Eastern Analytical	P. Gagnon	Madhu Shah	shahmp@nu.com

Sample Description
Analysis of Soil Samples

Samples Analyzed

Enclosed are Report No(s): 430, 431

Reported on dry basis.

Vist our web site at www.ngs-nu.com

Thank you for your business

Madhu Shah

Madhu Shah, NGS Laboratory Supervisor

2/14/05

Date

ALL the information contained in this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method. It meets the requirements of NELAC, including any data obtained from a subcontract laboratory. This report may not be reproduced, except in full, without written approval from NGS Analytical Laboratory.

Sample Analysis

Work Order 05-0178

Sample	Description	Source	Taken/Time	Received
430	GSD-06	Eastern Analytical	2/2/05	2/4/05

Parameter	Results		MDL	Method	Analyzed/Time
Total Organic Carbon	15,000	mg/kg	100.00	SW 846 9060	02/10/05

Sample	Description	Source	Taken/Time	Received
431	GSD-00	Eastern Analytical	2/2/05	2/4/05

Parameter	Results		MDL	Method	Analyzed/Time
Total Organic Carbon	6,300	mg/kg	100.00	SW 846 9060	02/10/05

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
GSD-06	2/2/2005 12:31	soil	TOC Solid Subcontract	
GSD-00	2/2/2005 13:54	soil	TOC Solid Subcontract	

Project # 46531 **Project State:** NH

Company Northeast Generation
Address 15 Agawam Ave
Address West Springfield, MA 01089
Account #
Phone # (413) 787-9064
Fax Number (413) 787-9056

Results Needed by: Preferred date 2/15/2005

Notes about project

QC Deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ DE

Eastern Analytical Inc. PO Number 18161

Report To: Front Office
Invoice To: Accounts Payable

Samples Collected by: Donna McDougal 2-3-05 1530

Relinquished by	Date/Time	Received by

Relinquished by	Date/Time	Received by

MILLER ENGINEERING & TESTING INC.

TRANSMITTAL LETTER

TO:

MICHAEL SERARD
EASTERN ANALYTICAL INC.
25 CHENELL DRIVE
CONCORD, NH 03301

DATE:	02/09/05
JOB NO:	01.428.NH
PROJECT:	EASTERN ANALYTICAL-Q.C.
LOCATION:	

Enclosed we are sending the following reports:

COPIES:	DATE:	DESCRIPTION:
1	02/09/05	GRAIN SIZE DISTRIBUTION – AGGREGATE GRADING (L050040A-B)

Remarks:

COPIES TO:

Thank You,

MILLER ENGINEERING & TESTING INC.

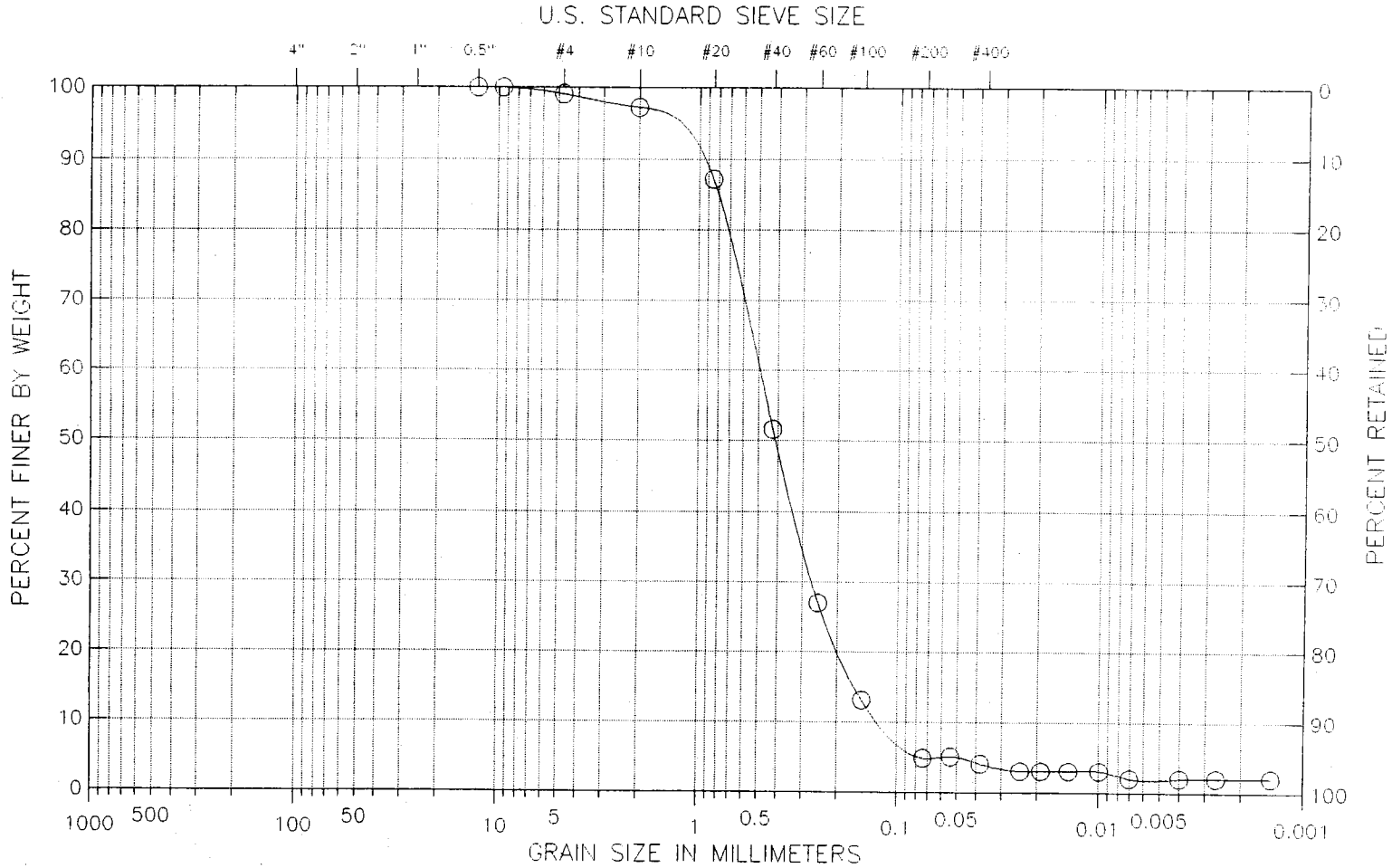
Peter Schwotzer

CORPORATE OFFICE: 100 Sheffield Road - PO BOX 4776 - Manchester, NH 03108 - TEL: (603) 668-6016 - FAX: (603) 668-8641
SATELLITE OFFICES: 130 East Main St. - P.O. BOX 11 - Northborough, MA 01532 - TEL: (508) 393-2607 - FAX: (508) 393-8490
474 Dorchester Ave. - Boston, MA 02127 – TEL: (617) 269-8829 - FAX: (617) 269-8837

GRAIN SIZE DISTRIBUTION - AGGREGATE GRADING

MILLER ENGINEERING & TESTING, INC.

Boring No. : N/A	Project : EASTERN ANALYTICAL
Sample No.: L050040A	Project No.: 01.428.NH
Tested by : DM/BM	Location: GSD-06
Filename : L050040A	Date : Wed Feb 09 2005



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
(SP) Poorly graded sand
Visual Description :
2 BORING JARS MIXED

Remarks :
ASAP

Figure 1

GEOTECHNICAL LABORATORY TEST DATA

Project : EASTERN ANALYTICAL
Project No. : 01.428.NH
Boring No. : N/A
Sample No. : L050040A
Location : GSD-06
Soil Description : 2 BORING JARS MIXED
Remarks : ASAP

Depth : N/A
Test Date : 2-4-06
Test Method : ASTM

Filename : L050040A
Elevation : N/A
Tested by : DM/BM
Checked by : BC

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.5"	0.500	12.70	0.00	0.00	100
0.375"	0.375	9.52	0.00	0.00	100
#4	0.187	4.75	3.00	3.00	99

Total Weight of Sample = 332.9
Tare Weight = 0

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Sieve Openings Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#10	0.079	2.00	4.20	4.20	97
#20	0.033	0.85	23.40	27.60	87
#40	0.017	0.43	82.70	110.30	52
#60	0.010	0.25	57.10	167.40	27
#100	0.006	0.15	32.20	199.60	13
#200	0.003	0.07	19.10	218.70	5
Pan			11.30	230.00	0

Total Weight of Sample = 230
Tare Weight = 0
Moisture Content = 0

D85 : 0.8143 mm
D60 : 0.5007 mm
D50 : 0.4108 mm
D30 : 0.2669 mm
D15 : 0.1609 mm
D10 : 0.1150 mm

Soil Classification
ASTM Group Symbol : SP
ASTM Group Name : Poorly graded sand
AASHTO Group Symbol : A-3(0)
AASHTO Group Name : Fine Sand

GEOTECHNICAL LABORATORY TEST DATA

Project : EASTERN ANALYTICAL
Project No. : 01.428.NH
Boring No. : N/A
Sample No. : L050040A
Location : GSD-06
Soil Description : 2 BORING JARS MIXED
Remarks : ASAP

Depth : N/A
Test Date : 2-4-06
Test Method : ASTM

Filename : L050040A
Elevation : N/A
Tested by : DM/BM
Checked by : BC

HYDROMETER

Hydrometer ID : YYY
Weight of air-dried soil = 97.74 gm
Specific Gravity = 2.55

Hygroscopic Moisture Content :
Weight of Wet Soil = 0 gm
Weight of Dry Soil = 0 gm
Moisture Content = 0

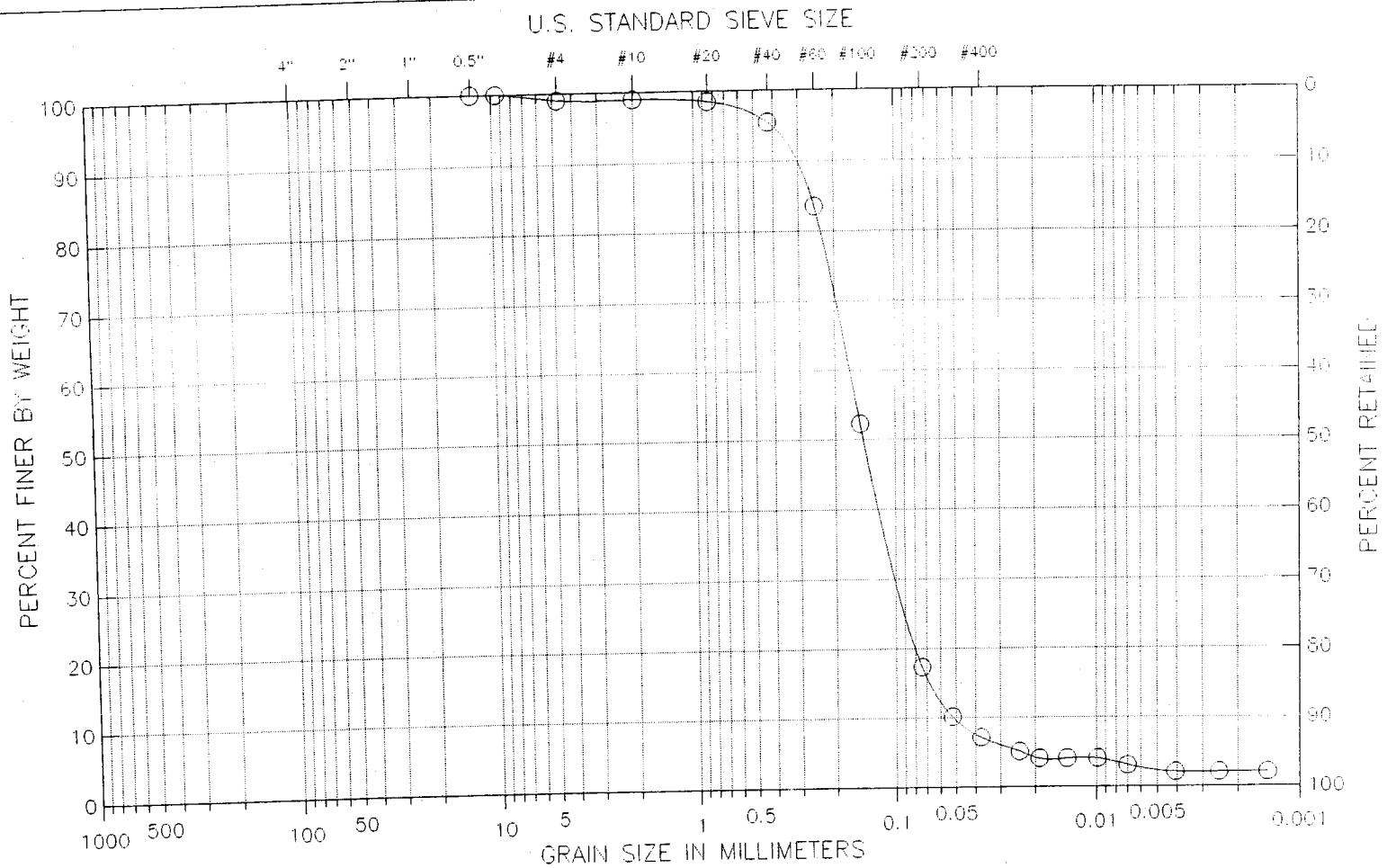
Elapsed Time (min)	Reading	Temperature (deg. C)	Corrected Reading	Particle Size (mm)	Percent Finer (%)	Adjusted Particle Size
1.50	11.00	19.80	5.00	0.054	5	0.054
2.00	10.00	19.80	4.00	0.038	4	0.038
5.00	9.00	19.80	3.00	0.024	3	0.024
8.00	9.00	19.80	3.00	0.019	3	0.019
15.00	9.00	19.80	3.00	0.014	3	0.014
30.00	9.00	19.80	3.00	0.010	3	0.010
60.00	8.00	19.80	2.00	0.007	2	0.007
184.00	8.00	20.30	2.00	0.004	2	0.004
420.00	8.00	20.30	2.00	0.003	2	0.003
1440.00	8.00	20.30	2.00	0.001	2	0.001

GRAIN SIZE DISTRIBUTION - AGGREGATE GRADING

MILLER ENGINEERING & TESTING, INC.

Boring No. : N/A
Sample No.: L050040B
Tested by : DM/BM
Filename : L050040B

Project : EASTERN ANALYTICAL
Project No.: 01.428.NH
Location: SSD-00
Date : Wed Feb 09 2005



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Classification :
()
Visual Description :
2 BORING JARS MIXED

Remarks :
ASAP

Figure 1

GEOTECHNICAL LABORATORY TEST DATA

Project : EASTERN ANALYTICAL
Project No. : 01.428.NH
Boring No. : N/A
Sample No. : L050040B
Location : GSD-00
Soil Description : 2 BORING JARS MIXED
Remarks : ASAP

Depth : N/A
Test Date : 2-4-06
Test Method : ASTM

Filename : L050040B
Elevation : N/A
Tested by : DM/BM
Checked by : BC

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
0.5"	0.500	12.70	0.00	0.00	100
0.375"	0.375	9.52	0.00	0.00	100
#4	0.187	4.75	3.20	3.20	99

Total Weight of Sample = 337.3
Tare Weight = 0

FINE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#10	0.079	2.00	0.10	0.10	99
#20	0.033	0.85	1.10	1.20	99
#40	0.017	0.43	7.00	8.20	96
#60	0.010	0.25	27.70	35.90	84
#100	0.006	0.15	72.70	108.60	52
#200	0.003	0.07	81.10	189.70	17
Pan			40.30	230.00	0

Total Weight of Sample = 230
Tare Weight = 0
Moisture Content = 0

D85 : 0.2662 mm
D60 : 0.1701 mm
D50 : 0.1432 mm
D30 : 0.0956 mm
D15 : 0.0660 mm
D10 : 0.0513 mm

Soil Classification

ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-2-4(0)
AASHTO Group Name : Silty Gravel and Sand

GEOTECHNICAL LABORATORY TEST DATA

Project : EASTERN ANALYTICAL
Project No. : 01.428.NH
Boring No. : N/A
Sample No. : L050040B
Location : GSD-00
Soil Description : 2 BORING JARS MIXED
Remarks : ASAP

Depth : N/A
Test Date : 2-4-06
Test Method : ASTM

Filename : L050040B
Elevation : N/A
Tested by : DM/BM
Checked by : BC

HYDROMETER

Hydrometer ID : YYY
Weight of air-dried soil = 99.64 gm
Specific Gravity = 2.55

Hygroscopic Moisture Content :
Weight of Wet Soil = 0 gm
Weight of Dry Soil = 0 gm
Moisture Content = 0

Elapsed Time (min)	Reading	Temperature (deg. C)	Corrected Reading	Particle Size (mm)	Percent Finer (%)	Adjusted Particle Size
1.00	16.00	19.80	10.00	0.052	10	0.052
2.00	13.00	19.80	7.00	0.038	7	0.038
5.00	11.00	19.80	5.00	0.024	5	0.024
8.00	10.00	19.80	4.00	0.019	4	0.019
15.00	10.00	19.80	4.00	0.014	4	0.014
30.00	10.00	19.80	4.00	0.010	4	0.010
60.00	9.00	19.80	3.00	0.007	3	0.007
178.00	8.00	20.30	2.00	0.004	2	0.004
480.00	8.00	20.30	2.00	0.002	2	0.002
1440.00	8.00	20.20	2.00	0.001	2	0.001

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
GSD-06	2/2/2005 12:31	soil	Sieve aka Grain Size Subcontract	
GSD-06	2/2/2005 12:31	soil	Hydrometer Subcontract	
GSD-00	2/2/2005 13:54	soil	Sieve aka Grain Size Subcontract	
GSD-00	2/2/2005 13:54	soil	Hydrometer Subcontract	

Project # 46531 **Project State:** NH

Company Miller Engineering
Address 100 Sheffield Road
Address Manchester, NH 03101
Account #
Phone # 668-6016
Fax Number

Results Needed by: Preferred date 2/15/2005

Notes about project

QC Deliverables

☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ DE

Eastern Analytical Inc. PO Number 18162

Report To: Front Office
Invoice To: Accounts Payable

Samples Collected by:

Relinquished by	Date/Time	Received by
	2-3-05 7:30	
	2/3/05 8:53	

Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

CHAIN-OF-CUSTODY RECORD

eastern analytical
professional laboratory services

46531

GSPCnh

EAI Project ID 818

Matrix
A - Air
S - Soil
GW - Ground W.
SW - Surface W.
DW - Drinking W.
WW - Waste W.
☐ Other

SampleID	Date/Time	Matrix	Parameters	Sample Notes	# of containers
Sediment GSD-06	2-2-05 12:31	soil	SolTotDry/Pest/PCB/ICPMets-As-Ba-Cd-Cu-Cr-Pb-Hg-Zn-Ni/VNH8260BFullList/ABN/SieveSub/TOC SolSub/HydrometerSub VOC # 19103		6
preservative: HCL HNO_3 H_2SO_4 NaOH MEOH $Na_2S_2O_3$ ICE				Field Filtered Metals Check here ☐	
Sediment GSD-00	2-2-05 1:54	soil	SolTotDry/Pest/PCB/ICPMets-As-Ba-Cd-Cu-Cr-Pb-Hg-Zn-Ni/VNH8260BFullList/ABN/SieveSub/TOC SolSub/HydrometerSub VOC # 19104		6
preservative: HCL HNO_3 H_2SO_4 NaOH MEOH $Na_2S_2O_3$ ICE				Field Filtered Metals Check here ☐	
Trip Blank		soil	SolTotDry/VNH8260BFullList		
preservative: HCL HNO_3 H_2SO_4 NaOH MEOH $Na_2S_2O_3$ ICE				Field Filtered Metals Check here ☐	

Project Name Gonic Sawmill Sediment / 1215

EAI Batch # **State** NH

Client (Pro Mgr) Jason George

Customer Gomez and Sullivan Engineers, PC

Address 55 North Stark Highway

City Weare NH 03281

Phone 529-4400 **Fax** 529-4411

EmailAddress: jgeorge@gomezandsullivan.com

Results Needed by: Preferred date _____

Notes about project

QC deliverables
☒ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ DE ☐

ReportingOptions
☒ HC ☒ EDD email
☐ NO FAX
☐ Partial Fax
☐ EDD Disk

PONumber: verbal

Quote No: 1002537

Temperature 20 °C

Ice present Yes ☒ No ☐

Samples Collected by: Jason George

Relinquished by	Date/Time	Received by
	2/2/2005 16:15	Kelly Presiott
	2-3-05 16:15	KP

Relinquished by	Date/Time	Received by

TOXICOLOGICAL EVALUATION OF SEDIMENT SAMPLES

Gonic Project Site

Prepared For

Gomez & Sullivan Engineers
55 North Stark Highway
Weare, New Hampshire 03281

By

EnviroSystems, Incorporated
1 Lafayette Road
Hampton, New Hampshire 03842

February 2005
Reference Number 12970-05-02

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TOXICOLOGICAL EVALUATION OF SEDIMENT SAMPLES

Gonic Project Site

1.0 INTRODUCTION

Toxicity tests expose groups of organisms to environmental samples and a laboratory control and/or a field reference site for a specified period to assess potential impact on survival and growth. Analysis of variance techniques are used to determine the relative toxicity of the samples as compared to the laboratory control and/or field reference site.

This report presents the results of chronic toxicity tests conducted on two sediment samples collected from the Gonic project site. Sediment samples were collected by Gomez and Sullivan Engineers staff. Testing was based on programs and protocols developed by the ASTM (2001) and US EPA (2000). The toxicity of the samples was assessed by conducting 28 day static renewal toxicity tests using the freshwater amphipod, *Hyalella azteca*. Testing was performed at EnviroSystems, Incorporated (ESI), Hampton, New Hampshire.

2.0 MATERIALS AND METHODS

2.1 General Methods, Biological Evaluations

Toxicological and analytical protocols used in this program follow procedures outlined in, *Test Methods for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates* (ASTM 2001), *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates* (US EPA 2000) and *Standard Methods for the Examination of Water and Wastewater*, 20th Edition (APHA 1998). These protocols provide standard approaches for physical and chemical analysis and for the evaluation of toxicological effects of sediments on aquatic invertebrates.

2.2 Test Species

Hyalella azteca were obtained from Aquatic Research Organisms, Hampton, New Hampshire. Organisms were seven days old at the beginning of the test. Amphipods were cultured at approximate test conditions.

2.3 Test Samples and Laboratory Control Sediment

A total of two sediment samples were received at ESI on February 2, 2005. Upon arrival at ESI, samples were given ESI sample identification numbers and refrigerated at 2-4° C until required for testing. Sample collection and receipt information are presented in Table 1.

The laboratory control substrate was an artificial sediment consisting primarily of silica sand, with less than 1% organic material by weight.

2.4 *Hyalella azteca* Survival and Growth Tests

The 28 day sediment tests were conducted according to the ASTM (2001) and US EPA (2000) protocols. Endpoints of the test were survival and growth (dry weight). The toxicity test was started on February 8, 2005 and successfully completed March 8, 2005.

The site specific sediment and laboratory control sediment tests consisted of 8 replicates with 10 organisms/replicate. Test vessels were 400 mL glass beakers containing approximately 100 mL of sediment and 250 mL of overlying water. As described by the protocol, test vessels were drilled at a consistent height above their bases to facilitate water exchanges. The hole was covered with 0.5 mm Nytex® screen. The overlying water volume to sediment surface area ratio was approximately 7:1. Vessels were maintained in a water bath during the test. Depth of the water in the bath was set to be approximately 1 cm below the drain hole in the test vessel to eliminate flow of water from the bath into the test vessel. The water bath was maintained in a limited access, temperature controlled room. Temperatures in the room and water bath were independently set at a temperature of 23°C. Temperature was recorded using a temperature logger placed in a surrogate vessel; temperatures were recorded at an hourly frequency. The photoperiod in the test chamber was set at 16:8 hour light:dark. Lighting was supplied by cool white flourescent bulbs.

The day before test initiation, control and test sediments were sifted using a 2 mm sieve to remove rocks, twigs, and other debris. Organisms indigenous to the sediments, if noted, were removed from the sediments; no organisms were noted during the preparation of sediments for this toxicity test. Sediments were placed in the test vessels with overlying water overnight, and any floating detritus was removed the next morning. Organisms were added below the water surface at test initiation. Organisms that failed to sink or appeared unhealthy were removed and replaced.

Overlying water for the amphipod assay was a 50/50 mixture of natural surface water and synthetic, moderately hard reconstituted water, prepared at ESI according to protocol (EPA 2000). Protocol specifies that overlying water used in invertebrate sediment toxicity tests may be culture water, well water, surface water, site water or reconstituted water (EPA, ASTM). The mixture of natural and reconstituted waters was selected to mitigate the poor survival rates observed in tests conducted solely with reconstituted water. Natural surface water was obtained from Bow Lake, in Strafford, New Hampshire. This body of water is rural in nature and receives no industrial inputs. The general characteristics of the final solution of reconstituted and natural surface water reflect the qualities of the surface water source used in the formulation of the overlying water for the test. Overlying water in each replicate was renewed daily after collection of water quality data. Each test chamber experienced approximately two volume additions daily. Water exchanges were facilitated by use of a distribution system designed to provide equal, regulated, flow to each chamber. The system was activated manually by the addition of water during the test.

Prior to the daily renewal, temperature, specific conductance, pH, and dissolved oxygen, were measured in one replicate of each treatment. Temperature was also monitored hourly throughout testing using a temperature logger housed in a surrogate test vessel. Dead organisms, when observed, were recorded and removed from the test chamber and floating organisms were countersunk. No unusual organism behaviors were observed during testing. Alkalinity, ammonia, and hardness of the overlying water were measured on Days 0, 7, 14, 21, and 28. Each replicate was fed 1.5 mL of yeast/trout chow/Cerophyll or alfalfa leaves (YTC) mixture after the daily renewal.

After 28 days exposure, the organisms were recovered from the sediments. Each test chamber was gently swirled to loosen the sediments and the test material was dumped into an 8" stainless steel sieve with a 0.35 mm mesh screen. The sediments were washed through the sieve using reconstituted moderately hard water and material left on the screen was sorted to recover all living and dead test organisms. This process was continued until the entire sample was evaluated. Surviving amphipods were placed on tared weighing pans and dried overnight at 70°C to obtain dry weight to the nearest 0.01 mg. The mean dry weight of surviving organisms was determined to assess growth.

2.5 Statistical Analysis

Survival and growth data were analyzed using TOXSTAT® software to determine significant differences between the test sediments and the laboratory control. Statistical comparisons for each sample site were made against the laboratory control. Survival and growth data were evaluated to determine homogeneity of sample variances and normality of distribution using Shapiro-Wilk's Test for Normality and the F-Test for Equality of Two Variances, respectively. Data sets were subsequently evaluated using the appropriate parametric or non-parametric Analysis of Variance (ANOVA) statistic. Pair-wise comparisons were based on the 2 sample t-Test. Statistical difference was evaluated at $\alpha=0.05$. In cases where survival and growth was greater than that exhibited by the control no statistical analysis was conducted.

2.6 Quality Control

As part of the laboratory quality control program, reference toxicant evaluations are conducted on a regular basis for each test species. These results provide relative health and response data while allowing for comparison with historic data sets. Results of these tests are presented in Table 5.

2.7 Protocol Deviations

Review of the data and procedures associated with these tests documented no deviations from established protocols.

3.0 RESULTS AND DISCUSSION

Sample collection and receipt data are summarized in Table 1. Survival and growth data from the *H. azteca* toxicity tests are summarized in Tables 2 and 3, respectively. Water quality data collected during the tests are summarized in Table 4. Reference toxicant data for the organisms is summarized in Table 5. Support data, including copies of laboratory bench sheets, are provided in Appendix A.

3.1 *Hyalella azteca* 28 Day Survival and Growth Toxicity Tests

At the end of the 28 day exposure period, mean survival was 93.8% in the laboratory control sediment. Survival in the individual laboratory control replicates ranged from 90% to 100%. Amphipods recovered from the laboratory control sediment had a mean dry weight of 0.365 mg/amphipod. The mean dry weight of a representative group of amphipods at the start of the test was 0.031 mg/amphipod. The minimum acceptable criteria for survival in the laboratory control is 80%, and organisms must show signs of growth. These data indicate that the organisms were healthy and not stressed by handling.

Review of temperature logger data, collected on an hourly basis, showed a temperature range of 21.5 to 25.4°C with a mean value of 23.7°C. Review of overlying water quality parameters showed that variation in conductance and hardness between the start and end of the tests was less than 50%. Alkalinity and ammonia values varied by greater than 50% between the start and end of testing. Water quality data collected during the tests are presented in Table 4.

Tables 2 and 3 provide a summary of survival and growth data for the project sites.

3.2 Summary

Results of the ~~10~~ 28 day *H. azteca* sediment evaluations document that the test sediments collected from the Gonic site did not have an impact on amphipod survival when evaluated against laboratory control sediment. The sediments did have a significant impact on amphipod growth when evaluated against the laboratory control sediment.

4.0 REFERENCES

APHA. 1998. *Standard Methods for the Examination of Water and Wastewater*, 20th Edition. Washington D.C.

ASTM. 2001. Annual Book of ASTM Standards. Volume 11.05. *Test Methods for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates.* E 1706-00. ASTM, Philadelphia.

U.S. EPA. 2000. *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates.* Second Edition. EPA/600-R-99/064.

TABLE 1. Summary of Sample Collection Information. Gonic Sediment Evaluation. Gomez & Sullivan Engineers. February 2005.

		Sample Collection		Sample Receipt	
Field ID Number	ESI ID	Date	Time	Date	Time
GSD-03	001	02/02/05	0922	02/02/05	1500
OSD-04	002	02/02/05	1022	02/02/05	1500

TABLE 2. Summary of Survival Data: *H. azteca* Chronic Exposure Sediment Toxicity Tests. Gonic Sediment Evaluation. Gomez & Sullivan Engineers. February 2005.

Sample ID	ESI ID	Mean Survival	Normal Distribution	Homogeneous Variance	t Value	Critical t Value	p Value	Statistically Significant Difference in Survival vs Lab Control[1]
Lab Control	Lab	93.8%	-	-	-	-	-	-
GSD-03	-001	93.8%	-	-	-	-	-	-
OSD-04	-002	88.8%	Yes	Yes	1.1607	1.7613	0.1326	No

TABLE 3. Summary of Growth Data: *H. azteca* Chronic Exposure Sediment Toxicity Tests. Gonic Sediment Evaluation. Gomez & Sullivan Engineers. February 2005.

Sample ID	ESI ID	Mean Growth as DW[2] (mg)	Normal Distribution	Homogeneous Variance	t Value	Critical t Value	p Value	Statistically Significant Difference in Growth vs Lab Control[1]
Lab Control	Lab	0.365	-	-	-	-	-	-
GSD-03	-001	0.305	Yes	Yes	3.2856	1.7613	0.0027	Yes
OSD-04	-002	0.263	Yes	Yes	5.4544	1.7613	0.0000	Yes

COMMENTS:

[1] - Statistical significance evaluated at $\alpha = 0.05$; in cases were the evaluated endpoint was equal to or greater than that experienced in the laboratory control, no statistical analysis was conducted.
[2] - Dry Weight

TABLE 4. Summary of Overlying Water Quality Data.
***H. azteca* Chronic Exposure Sediment Toxicity Tests.**
Gonic Sediment Evaluation. Gomez & Sullivan Engineers. February 2005.

Sample ID	ESI ID	pH (SU)	Conductance (µmhos/cm)	Alkalinity (mg/L)	Ammonia (mg/L)	Hardness (mg/L)
Day 0 - 02/08/05						
Lab Control	Lab	6.96	224	22	0.3	57
GSD-03	-001	6.79	199	18	0.3	42
OSD-04	-002	6.80	204	<10	<0.1	52
Day 7 - 02/15/05						
Lab Control	Lab	7.33	230	47	0.6	59
GSD-03	-001	7.33	218	39	<0.1	56
OSD-04	-002	7.26	231	43	<0.1	57
Day 14 - 02/22/05						
Lab Control	Lab	7.43	241	38	<0.1	65
GSD-03	-001	7.38	231	44	<0.1	62
OSD-04	-002	7.37	235	43	<0.1	65
Day 21 - 03/01/05						
Lab Control	Lab	7.34	229	37	<0.1	62
GSD-03	-001	7.33	223	31	<0.1	58
OSD-04	-002	7.33	246	41	<0.1	63
Day 28 - 03/08/05						
Lab Control	Lab	7.11	226	31	<0.1	61
GSD-03	-001	7.10	218	32	0.5	60
OSD-04	-002	7.12	216	39	0.1	60

TABLE 5. Reference Toxicant Evaluation. Gonic Sediment Evaluation. Gomez & Sullivan Engineers. February 2005.

REFERENCE TOXICANT EVALUATION
(Results are expressed as ppm Cadmium)

Species	Start Date	LC-50	Historic Mean	Number of Tests	±1 Std Deviation	±2 Std Deviation
H. azteca	02/08/05	0.0011	0.014	41	0.030	0.061

APPENDIX A
RAW DATA
STATISTICAL SUPPORT

Contents	Number of Pages
H. azteca 28-day Toxicity Tests	
H. azteca Daily Observation Bench Sheets	2
H. azteca Recovery Bench Sheets	2
H. azteca Survival Data Summary	1
H. azteca Survival Data Statistical Analysis	3
H. azteca Growth Bench Sheets	1
H. azteca Growth Data Summary	1
H. azteca Growth Data Statistical Analysis	6
H. azteca Organism History Data	1
H. azteca Initial Dry Weights	1
Data Logger Temperature Profile	2
Sample Receipt Log	1
Chain Of Custody	1
Total Number Appendix Pages	22

H. azteca SEDIMENT ASSAY
Daily Water Quality Measurements & Feeding Record

STUDY #: 12970	Client: Gomez & Sullivan	Overlying Water: MHR/Pond	START DATE: 2/8/05

DAY	Lab				-001				Water Quality Station #	S/C Meter #	ΔH_2O fed	DATE	INIT
	D.O. (mg/L)	Cond. (µMHOS/cm)	pH (SU)	Temp. (°C)	D.O. (mg/L)	Cond. (µMHOS/cm)	pH (SU)	TEMP (°C)					
0	8.5	224	6.96	22	7.9	199	6.79	22	2	330i	✓	2/8/05	BB
1	7.2	206	6.88	24	7.0	173	6.79	24	1	330i	✓	2/9/05	DAB
2	7.1	200	6.87	22	6.6	184	6.79	22	2	330i	✓	2/10/05	✓
3	6.6	225	6.74	23	6.4	219	6.81	23	1	330i	✓	2/11/05	BB
4	7.7	221	7.16	23	7.3	207	7.05	23	2	330i	✓	2/12/05	DAB
5	7.0	224	6.85	23	7.1	212	6.90	23	1	330i	✓	2/13/05	DAB
6	7.4	236	6.94	23	7.3	221	7.16	23	1	330i	✓	2/14/05	DAB
7	6.3	230	7.33	24	6.8	218	7.33	24	1	330i	✓	2/15/05	DAB
8	7.1	234	7.10	24	6.7	214	7.05	23	1	330i	✓	2/16/05	DAB
9	7.6	225	7.28	23	7.6	207	7.30	23	1	330i	✓	2/17/05	DAB
10	7.7	228	7.31	24	7.8	214	7.33	23	1	330i	✓	2/18/05	DAB
11	7.4	233	7.25	23	7.6	219	7.18	23	2	330i	✓	2/19/05	KK
12	7.6	233	7.27	23	7.7	222	7.21	23	2	330i	✓	2/20	TP
13	7.8	231	7.31	25	7.7	226	7.23	24	2	330i	✓	2/21	KK
14	7.9	241	7.43	24	7.6	231	7.38	24	1	330i	✓	2/22/05	DAB
15	7.8	221	7.32	23	7.5	214	7.30	23	1	330i	✓	2/23/05	DAB
16	7.5	221	7.27	23	7.4	211	7.26	23	1	330i	✓	2/24/05	DAB
17	7.3	229	7.18	23	6.9	222	7.17	23	1	330i	✓	2/25/05	DAB
18	7.4	219	7.12	24	7.1	211	7.05	23	1	330i	✓	2/26/05	KK
19	7.5	231	7.22	23	7.2	221	7.21	23	1	330i	✓	2/27	TP
20	7.6	240	7.20	24	7.1	231	7.21	24	1	330i	✓	2/28/05	✓
21	7.6	229	7.34	23	7.2	223	7.33	23	1	330i	✓	3/1/05	DAB
22	6.7	242	7.08	22	6.6	235	7.10	22	2	330i	✓	3/2/05	✓
23	8.0	229	7.19	23	7.6	216	7.19	23	2	330i	✓	3/3/05	DAB
24	7.7	231	7.25	23	7.2	219	7.21	23	2	330i	✓	3/4/05	DAB
25	8.0	241	7.11	23	7.4	227	7.17	23	1	330i	✓	3/5	[illegible]
26	7.7	232	7.26	22	7.1	226	7.30	22	1	330i	✓	3/6	[illegible]
27	7.8	229	7.28	23	7.1	221	7.30	23	1	330i	✓	3/7/05	DAB
28	6.7	236	7.11	23	6.1	218	7.10	23	1	330i	N/A	3/8/05	✓

Pull Alkalinity, Hardness, Ammonia Day 0, 7, 14, 21, 28
23° C
Feed 1 mL of YCT/Replicate Daily
Two Volume Additions Daily – Approx. 1/2 bucket

H. azteca SEDIMENT ASSAY
Daily Water Quality Measurements & Feeding Record

STUDY #: 12970	Client: Gomez & Sullivan	Overlying Water: MHR/Pond	START DATE: 2/8/05

DAY	-002 D.O. (mg/L)	-002 Cond. (µMHOS/cm)	-002 pH (SU)	-002 Temp. (°C)	D.O. (mg/L)	Cond. (µMHOS/cm)	pH (SU)	TEMP (°C)	Water Quality Station #	S/C Meter #	ΔH2O fed	DATE	INIT
0	7.7	204	6.80	22					2	330i	✓	2/8/05	BB
1	6.8	182	6.79	24					1	330i	✓	2/9/05	DHB
2	6.6	189	6.79	22					2	330i	✓	2/10/05	✓
3	6.4	221	6.87	23					1	330i	✓	2/11/05	BB
4	7.4	214	7.18	23					2	330i	✓	2/12/05	DHB
5	7.5	218	7.01	23					1	330i	✓	2/13/05	DHB
6	6.9	230	7.15	22					1	330i	✓	2/14/05	DHB
7	6.0	231	7.24	23					1	330i	✓	2/15/05	DHB
8	6.6	222	7.05	23					1	330i	✓	2/16/05	DHB
9	7.2	216	7.26	23					1	330i	✓	2/17/05	DHB
10	7.3	224	7.30	23					1	330i	✓	2/18/05	DHB
11	7.0	228	7.17	23					1	330i	✓	2/19/05	KK
12	7.4	230	7.19	23					2	330i	✓	2/20	TP
13	7.5	234	7.26	24					2	330i	✓	2/21	KK
14	7.4	235	7.37	25					1	330i	✓	2/22/05	DHB
15	7.3	221	7.32	23					1	330i	✓	2/23/05	DHB
16	7.4	219	7.26	23					1	330i	✓	2/24/05	DHB
17	6.7	231	7.19	22					1	330i	✓	2/25/05	DHB
18	7.0	229	7.16	23					1	330i	✓	2/26/05	KK
19	6.9	236	7.30	23					1	330I	✓	2/27	TP
20	6.8	244	7.26	24					1	330i	✓	2/28/05	✓
21	7.3	246	7.33	23					1	330i	✓	3/1/05	DHB
22	6.3	246	7.16	22					2	330i	✓	3/2/05	✓
23	7.5	238	7.26	23					2	330i	✓	3/3/05	DHB
24	7.3	229	7.23	23					2	330i	✓	3/4/05	DHB
25	7.7	244	7.28	23					1	330i	✓	3/5	CW
26	7.0	227	7.31	22					1	330i	✓	3/6	W
27	7.1	222	7.29	23					1	330i	✓	3/7/05	
28	6.2	216	7.12	23					1	330i	N/A	3/8/05	✓

Pull Alkalinity, Hardness, Ammonia Day 0, 7, 14, 21, 28
23° C
Feed 1 mL of YCT/Replicate Daily
Two Volume Additions Daily

ESI STUDY# 12970 Gomez & Sullivan
***H. azteca* SEDIMENT ASSAY**

DAY 28:

SAMPLE ID	TIME	#LIVE	COMMENTS
LabA	1005	10	
LabB	1007	10	
LabC	1013	9	
LabD	1015	10	
LabE	1020	9	
LabF	1025	9	
LabG	1030	9	
LabH	1036	9	
-2A	1125	8	
-002B	1135	8	
-002C	1143	8	
-002D	1151	8	

ANALYST: AH
DATE: 2/8/05

ESI STUDY# 12970 Gomez & Sullivan
***H. azteca* SEDIMENT ASSAY**

DAY 28:

SAMPLE ID	TIME	#LIVE	COMMENTS
-001A	1025	9	
-001B	1032	9	
-001C	1041	10	
-001D	1050	10	
-001E	1159	10	
-001F	1112	9	
-001G	1121	10	
-001H	1137	8	
-002E	1145	10	
-002F	1151	10	
-002G	1204	10	
-002H	1210	~~10~~ 9	

ANALYST: _____
DATE: 3/8/05

STUDY: 12970
CLIENT: Gomez & Sullivan
PROJECT: Gonic
TASK: Hyalella azteca 28 Day Exposure Assay
DATA: Day 28 Survival Data Summary
START DATE: 02/08/05
DATE ENDED: 03/08/05

Project Site	ESI Ref #	Replicate	Larvae @ Start	Day 10 Surviving Organisms	Survival Rate	Mean Survival/ Site
Lab Control	Lab	A	10	10	100.0%	93.8%
		B	10	10	100.0%	
		C	10	9	90.0%	
		D	10	10	100.0%	
		E	10	9	90.0%	
		F	10	9	90.0%	
		G	10	9	90.0%	
		H	10	9	90.0%	
GSD-03	-1	A	10	9	90.0%	93.8%
		B	10	9	90.0%	
		C	10	10	100.0%	
		D	10	10	100.0%	
		E	10	10	100.0%	
		F	10	9	90.0%	
		G	10	10	100.0%	
		H	10	8	80.0%	
OSD-04	-2	A	10	8	80.0%	88.8%
		B	10	8	80.0%	
		C	10	8	80.0%	
		D	10	8	80.0%	
		E	10	10	100.0%	
		F	10	10	100.0%	
		G	10	10	100.0%	
		H	10	9	90.0%	

Title: 12970 Gomez & Sullivan
File: 970HS Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro - Wilk's Test for Normality

D = 0.2092
W = 0.8464

Critical W = 0.8440 (alpha = 0.01 , N = 16)
W = 0.8870 (alpha = 0.05 , N = 16)

Data PASS normality test (alpha = 0.01). Continue analysis.

Title: 12970 Gomez & Sullivan
File: 970HS Transform: ARC SINE(SQUARE ROOT(Y))

F-Test for Equality of Two Variances

GROUP	IDENTIFICATION	VARIANCE	F
1	Lab	0.0071	
2	OSD-04	0.0228	3.2017

(p-value = 0.1476)

Critical F = 8.8854 (P=0.01, 7, 7)
4.9949 (P=0.05, 7, 7)

Since F <= Critical F, FAIL TO REJECT Ho: Equal Variances (alpha = 0.01).

Title: 12970 Gomez & Sullivan
File: 970HS Transform: ARC SINE(SQUARE ROOT(Y))

Summary Statistics on Transformed Data TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Lab	8	1.2490	1.4120	1.3102
2	OSD-04	8	1.1071	1.4120	1.2392

Title: 12970 Gomez & Sullivan
File: 970HS Transform: ARC SINE(SQUARE ROOT(Y))

Summary Statistics on Transformed Data TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	Lab	0.0071	0.0843	0.0298	6.4379
2	OSD-04	0.0228	0.1509	0.0534	12.1791

Title: 12970 Gomez & Sullivan
File: 970HS Transform: ARC SINE(SQUARE ROOT(Y))

ANOVA Table

SOURCE	DF	SS	MS	F
Between	1	0.0201	0.0201	1.3471
Within (Error)	14	0.2092	0.0149	
Total	15	0.2294		

(p-value = 0.2652)

Critical F = 8.8616 (alpha = 0.01, df = 1,14)
= 4.6001 (alpha = 0.05, df = 1,14)

Since F < Critical F FAIL TO REJECT Ho: All equal (alpha = 0.05)

Title: 12970 Gomez & Sullivan
File: 970HS Transform: ARC SINE(SQUARE ROOT(Y))

2 Sample t-Test - TABLE 1 OF 2 Ho: Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	TRANS t STAT	SIG 0.05
1	Lab	1.3102	0.9375		
2	OSD-04	1.2392	0.8875	1.1607	

Equal Var: t critical value = 1.7613 (1 Tailed, alpha = 0.05, df = 14)
(p-value = 0.1326)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	TRANS T STAT	SIG 0.05
1	Lab	1.3102	0.9375		
2	OSD-04	1.2392	0.8875	1.1607	

Unequal Var: t critical value = 1.7959 (1 Tailed, alpha = 0.05, df = 11)
(p-value = 0.1352)

Title: 12970 Gomez & Sullivan
File: 970HS Transform: ARC SINE(SQUARE ROOT(Y))

2 Sample t-Test - TABLE 2 OF 2 Ho: Control<Treatment

Equal Variances:

GROUP	IDENTIFICATION	NUM OF REPS	MIN SIG DIFF (IN ORIG. UNITS)	% OF CONTROL	DIFFERENCE FROM CONTROL
1	Lab	8			
2	OSD-04	8	0.0632	6.8	0.0500

Unequal Variances:

GROUP	IDENTIFICATION	NUM OF REPS	MIN SIG DIFF (IN ORIG. UNITS)	% OF CONTROL	DIFFERENCE FROM CONTROL
1	Lab	8			
2	OSD-04	8	0.0646	6.9	0.0500

Hyalella azteca Assay
GROWTH DATA

STUDY NUMBER: 12970

CLIENT: Gomez & Sullivan

ESI SAMPLE ID	REP	FOIL TARE WEIGHT (g)	*H. azteca* + FOIL (g)
Lab	A	0.21016	0.21359
	B	0.21288	0.21649
	C	0.21067	0.21410
	D	0.20838	0.21163
	E	0.21226	0.21554
	F	0.21146	0.21448
	G	0.20951	0.21309
	H	0.20988	0.21357
-001	A	0.20984	0.21243
	B	0.21391	0.21650
	C	0.20869	0.21154
	D	0.20500	0.20811
	E	0.20928	0.21317
	F	0.20830	0.21049
	G	0.21102	0.21407
	H	0.20622	0.20884
-002	A	0.20772	0.20949
	B	0.20879	0.21078
	C	0.20467	0.20620
	D	0.20980	0.21203
	E	0.20976	0.21274
	F	0.20634	~~0.20807~~ 0.20981
	G	0.20944	0.21273
	H	0.21134	0.21386
RECORDED BY:			
DATE:		3/8/05	3/9/05

ESI SAMPLE ID	REP	FOIL TARE WEIGHT (g)	*H. azteca* + FOIL (g)
RECORDED BY:			
DATE:			

NOTES:

STUDY: 12970
CLIENT: Gomez & Sullivan
PROJECT: Gonic
TASK: Hyalella azteca 28 Day Exposure Assay
DATA: Day ~~10~~ 28 Growth Summary
START DATE: 02/08/05
DATE ENDED: 03/08/05
INITIAL DRY WT.: 0.031 mg/individual

Project Site	ESI Ref #	Replicate	Dry Weight (mg/individual)	Mean Dry Weight for Site
Lab Control	Lab	A	0.343	0.365
		B	0.361	
		C	0.381	
		D	0.325	
		E	0.364	
		F	0.336	
		G	0.398	
		H	0.410	
GSD-03	-1	A	0.288	0.305
		B	0.288	
		C	0.285	
		D	0.311	
		E	0.389	
		F	0.243	
		G	0.305	
		H	0.328	
OSD-04	-2	A	0.221	0.263
		B	0.249	
		C	0.191	
		D	0.279	
		E	0.298	
		F	0.253	
		G	0.329	
		H	0.280	

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

Shapiro - Wilk's Test for Normality

D = 0.0188
W = 0.9680

Critical W = 0.8440 (alpha = 0.01 , N = 16)
W = 0.8870 (alpha = 0.05 , N = 16)

Data PASS normality test (alpha = 0.01). Continue analysis.

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

F-Test for Equality of Two Variances

GROUP	IDENTIFICATION	VARIANCE	F
1	Lab	0.0009	
2	GSD-03	0.0018	1.9713

(p-value = 0.3905)

Critical F = 8.8854 (P=0.01, 7, 7)
4.9949 (P=0.05, 7, 7)

Since F <= Critical F, FAIL TO REJECT Ho: Equal Variances (alpha = 0.01).

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

Summary Statistics on Data TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Lab	8	0.3250	0.4100	0.3648
2	GSD-03	8	0.2430	0.3890	0.3046

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

Summary Statistics on Data TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	Lab	0.0009	0.0300	0.0106	8.2323
2	GSD-03	0.0018	0.0422	0.0149	13.8398

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

ANOVA Table

SOURCE	DF	SS	MS	F
Between	1	0.0145	0.0145	10.7949
Within (Error)	14	0.0188	0.0013	
Total	15	0.0332		

(p-value = 0.0054)

Critical F = 8.8616 (alpha = 0.01, df = 1,14)
= 4.6001 (alpha = 0.05, df = 1,14)

Since F > Critical F REJECT Ho: All equal (alpha = 0.05)

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

2 Sample t-Test - TABLE 1 OF 2 Ho: Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	t STAT	SIG 0.05
1	Lab	0.3648	0.3648		
2	GSD-03	0.3046	0.3046	3.2856	*

Equal Var: t critical value = 1.7613 (1 Tailed, alpha = 0.05, df = 14)
(p-value = 0.0027)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG 0.05
1	Lab	0.3648	0.3648		
2	GSD-03	0.3046	0.3046	3.2856	*

Unequal Var: t critical value = 1.7709 (1 Tailed, alpha = 0.05, df = 13)
(p-value = 0.0030)

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

2 Sample t-Test - TABLE 2 OF 2 Ho: Control<Treatment

Equal Variances:

GROUP	IDENTIFICATION	NUM OF REPS	MIN SIG DIFF (IN ORIG. UNITS)	% OF CONTROL	DIFFERENCE FROM CONTROL
1	Lab	8			
2	GSD-03	8	0.0322	8.8	0.0601

Unequal Variances:

GROUP	IDENTIFICATION	NUM OF REPS	MIN SIG DIFF (IN ORIG. UNITS)	% OF CONTROL	DIFFERENCE FROM CONTROL
1	Lab	8			
2	GSD-03	8	0.0324	8.9	0.0601

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

Shapiro - Wilk's Test for Normality

D = 0.0197
W = 0.9901

Critical W = 0.8440 (alpha = 0.01 , N = 16)
W = 0.8870 (alpha = 0.05 , N = 16)

Data PASS normality test (alpha = 0.01). Continue analysis.

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

F-Test for Equality of Two Variances

GROUP	IDENTIFICATION	VARIANCE	F
1	Lab	0.0009	
2	OSD-04	0.0019	2.1180

(p-value = 0.3433)

Critical F = 8.8854 (P=0.01, 7, 7)
4.9949 (P=0.05, 7, 7)

Since F <= Critical F, FAIL TO REJECT Ho: Equal Variances (alpha = 0.01).

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

Summary Statistics on Data TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Lab	8	0.3250	0.4100	0.3648
2	OSD-04	8	0.1910	0.3290	0.2625

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

Summary Statistics on Data TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	Lab	0.0009	0.0300	0.0106	8.2323
2	OSD-04	0.0019	0.0437	0.0155	16.6477

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

ANOVA Table

SOURCE	DF	SS	MS	F
Between	1	0.0418	0.0418	29.7509
Within (Error)	14	0.0197	0.0014	
Total	15	0.0615		

(p-value = 0.0001)

Critical F = 8.8616 (alpha = 0.01, df = 1,14)
= 4.6001 (alpha = 0.05, df = 1,14)

Since F > Critical F REJECT Ho: All equal (alpha = 0.05)

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

2 Sample t-Test - TABLE 1 OF 2 Ho: Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	t STAT	SIG 0.05
1	Lab	0.3648	0.3648		
2	OSD-04	0.2625	0.2625	5.4544	*

Equal Var: t critical value = 1.7613 (1 Tailed, alpha = 0.05, df = 14)
(p-value = 0.0000)

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG 0.05
1	Lab	0.3648	0.3648		
2	OSD-04	0.2625	0.2625	5.4544	*

Unequal Var: t critical value = 1.7823 (1 Tailed, alpha = 0.05, df = 12)
(p-value = 0.0001)

Title: 12970 Gomez & Sullivan
File: 970HG Transform: NO TRANSFORMATION

2 Sample t-Test - TABLE 2 OF 2 Ho: Control<Treatment

Equal Variances:

GROUP	IDENTIFICATION	NUM OF REPS	MIN SIG DIFF (IN ORIG. UNITS)	% OF CONTROL	DIFFERENCE FROM CONTROL
1	Lab	8			
2	OSD-04	8	0.0330	9.1	0.1022

Unequal Variances:

GROUP	IDENTIFICATION	NUM OF REPS	MIN SIG DIFF (IN ORIG. UNITS)	% OF CONTROL	DIFFERENCE FROM CONTROL
1	Lab	8			
2	OSD-04	8	0.0334	9.2	0.1022

Aquatic Research Organisms

DATA SHEET

I. Organism History

Species: Hyalella azteca

Source: Lab reared ✓ Hatchery reared _____ Field collected _____

Hatch date 2/1/05 Receipt date _____

Lot number 020105HA Strain ARO

Brood Origination USFWS MO

II. Water Quality

Temperature 24 °C Salinity – ppt DO SAT

pH 7.2 Hardness ~100 ppm

III. Culture Conditions

System: FW STATIC renewal

Diet: Flake Food ✓ Phytoplankton _____ Trout Chow ✓

Brine Shrimp _____ Rotifers _____ Other _____

Prophylactic Treatments: _____

Comments: _____

IV. Shipping Information

Client: ESI # of Organisms: 300+

Carrier: PICK UP Date Shipped: 2/8/05

Biologist: Stan Lustsk

1 - 800 - 927 - 1650

PO Box 1271 • One Lafayette Road • Hampton, NH 03842 • (603) 926-1650

Hyalella azteca Sediment Evaluation

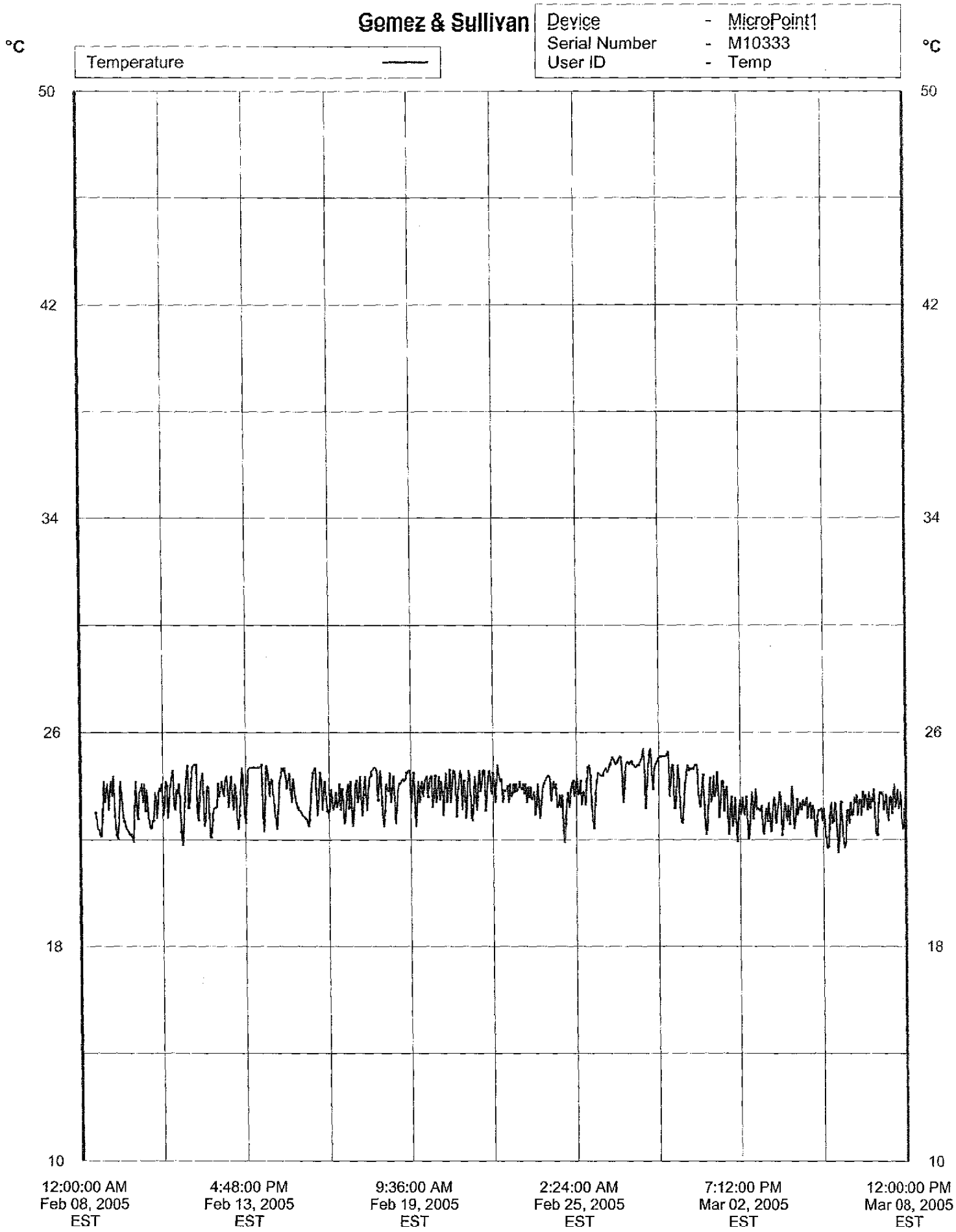
STUDY NUMBER: 12970 **CLIENT:** Gomez & Sullivan

PROJECT: Gonic **START DATE:** 2/8/05

	REP	TARE WEIGHT (G)	*H. azteca*+ FOIL (G)	NET WEIGHT (mg)	# *H. azteca*	MEAN DRY WEIGHT PER Individual (mg)
START ORGANISMS	A	0.20962	0.20991	0.29	10	0.029
	B	0.21307	0.21339	0.32	10	0.032
	C	0.20839	0.20871	0.32	10	0.032
	D	0.21069	0.21099	0.30	10	0.030
RECORDED BY:		BB	✓	JH		
DATE:		2/8/05	2/9/05	3/15		

NOTES: Use 10 Amphipods per replicate to set start weight $\bar{x}$ = 0.031 mg/individual

Hyalella azteca 28-Day Sediment Evaluation



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Report Date:	Mar 10, 2005
File Name:	
Title:	Gomez & Sullivan H azteca
Device:	MicroPoint1 - Temperature Recorder
Hardware Revision:	REV2 (64K)
Serial Number:	M10333
User ID:	Temp
Data Start Date:	Feb 08, 2005 12:00:00 PM EST
Data End Date:	Mar 08, 2005 12:00:00 PM EST
Reading Rate:	1 Hour
Readings:	1 to 673 of 718
Last Calibration Date:	Mar 11, 2002
Next Calibration Date:	Mar 11, 2003

Channel 1 - Temperature

Minimum	.....	21.5 °C
Maximum	.....	25.4 °C
Average	.....	23.6614 °C
Standard Deviation	.....	0.774208 °C
Mean Kinetic Temperature	.....	23.6932 °C

LABORATORY SAMPLE RECEIVING LOG

ESI Project Number: 12970 Date/Time Received: 2/2/05 1500

Client Name and Address: Gomez + Sullivan
55 N. Stark Hwy Weare, NH 03281

Method of Shipment/ Pick Up: From: Client

Via: Client

Description of Shipping / Packing Containers(s) 1 cooler
(Number, Type, Size)

Sample ID	ESI #	# Containers/Vol/Wt	Other	Sampled
GSD-03	-001	2x1g		2/2/05 0922
OSD-04	-002	2x1g		2/2/05 1022

Sample Storage Location and Required Storage Conditions Refrigerator "F" Locked, 4°C & Dark

Signature: [illegible] Date: 2/3/05

Notes: Rec'd on ice 4°C

Date and Description of Final Sample Removal / Disposal:

ESI
EnviroSystems, Inc.
1 Lafayette Road
Hampton, N.H. 03843

Voice: 603-926-3345
FAX: 603-923-3521

ESI Job No: 12970 GOMZ1

CHAIN OF CUSTODY DOCUMENTATION

Client: Gomez and Sullivan	Contact: Jason George	Project Name: Gonic	Page 1 of 1
Report to:	Address: 55 N Stark Hwy	Project Number:	
Invoice to:	Address: Weare, NH	Project Manager: J. George	
Voice: 603-529-4400	Fax: 03281	email:	P.O. No: Quote No:

Protocol: RCRA SDWA NPDES USCOE Other

Lab Number (assigned by lab)	Your Field ID: (must agree with container)	Date Sampled	Time Sampled	Sampled By	Grab or com-posit (G/C)	Container Size (ml.)	Container Type (P/G/T)	Field Preser-vation	Matrix S=Solid W=Water	Filter N=Not needed F=Done in field L=Lab to do	Analyses Requested\ Special Instructions:
	GSD-03	2-2-2005	9:22	JG	C	(2) 1-gal	P	–	Sed.	N	-001
	GSD-04	2/2/05	10:22	JG	C	(2) 1-gal	P	–	Sed	N	-002

Relinquished By:	Date: 2-2-05	Time: 1500	Received By:	Date: 2/2/05	Time: 1500
Relinquished By:	Date:	Time:	Received at Lab By:	Date:	Time:

Comments: on ice 4°C

Sample Delivery Group No: Page of

No: № 1002

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