Holly Pond Sediment Investigation - Field and Analytical Data Report

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Introduction

Holly Pond and the Noroton River are natural resources with uses and benefits to both the City of Stamford and the Town of Darien in southwestern Connecticut. Bank erosion and runoff from varied sources along the river have transported sediments downstream to the pond and formed a shoal. This shoal has been recognized as a problem in Holly Pond for over ten years. A permit was issued in 1995 to remove sediment, but it was found that costs exceeded the budget due to unexpected restrictions on disposal of the sediment.

The objectives of the Holly Pond Sediment Investigation include identifying sediment management alternatives to eliminate shoals that have formed in the upstream end of Holly Pond. A component of this evaluation includes the determination of the aerial and vertical extent of the shoal, as well as chemically and physically characterizing the sediments comprising the shoal.

The following Technical Memorandum summarizes the field activities and analytical results associated with the sampling activities performed for the Holly Pond Sediment Investigation, which focused specifically on the physical and chemical characterization of the shoal materials.

Field Activities

A bathymetric and sediment probing survey was completed the week of November 10, 2008. Bathymetry measurements were collected throughout Holly Pond from the upstream end at the East Main Street Bridge to the downstream end at the dam. The bathymetry data were used to define the lateral and vertical extent of the shoal, to approximate the volume and depth of material comprising the shoal, and to guide the selection of sampling locations for the physical and chemical characterization.

Sediment samples were collected from the shoal by CH2M HILL and CR Environmental (Falmouth, MA) on December 2 and 3, 2008. The samples were delivered to Phoenix Environmental Laboratories (Manchester, CT) and GeoTesting Express (Boxborough, MA) on December 4, 2008.

Summary of Sample Collection

Surface sediment samples were collected from a total of 11 locations; subsurface sediment was collected from 5 locations (Exhibit 1). The target and as-sampled coordinates are

presented in Exhibit 2. The sample locations, depth intervals sampled, and the associated analyses are summarized in Exhibit 3. The field collection notes are provided in Attachment 1.

Surface sediment from locations SD-10 and SD-11 were collected from a raft using a small Ponar grab sampler during high tide. Due to the very shallow water above the shoal, even at high tide, and the very narrow time frame surrounding the high tide, it was determined that collecting the samples without the use of a boat or raft was much more efficient. At the remaining locations surface sediments were collected by walking or wading to the sampling locations at low tide and scooping the top 0.5 foot of material into a single-use aluminum pan or ZipLock® bag using a dedicated, disposable sampling spoon.

At locations where subsurface sediment was collected, sediment cores were collected using a push-coring technique. The coring device was inserted to a depth of 3 feet at all but one location. At locations SD-05 and SD-06 the maximum recovery was approximately 1.5 feet; two coring attempts were made at each of these stations with similar results, the better of the two cores was kept from each location. The recovery at stations SD-07 and SD-09 was 1.9 feet and 2.5 feet, respectively. A sediment core could not be collected at location SD-01 since the material at this location was dominated by very coarse sands, gravels, and some cobble. The coring device could not be advanced beyond a few inches; therefore, a new shovel was purchased and used to manually dig a hole to a depth of approximately 20 inches, which was the maximum depth reached prior to the walls beginning to collapse. The sample was collected by scooping material from the sides of the hole and transferring it to a single-use pan.

The sediment was characterized in terms of gross grain size, sediment type, color, odor and any other identifying characteristics. The material was then homogenized to a uniform color and texture and the homogenate was transferred to the appropriate bottleware for shipment to the laboratories.

Summary of Field Observations

The grainsize in the shoal appeared to decrease from north to south. The northern location (SD-01) was dominated by very coarse sands, gravel, and small cobbles. The sediment particle size gradually decreased toward the southern end of the shoal and at locations SD-10 and SD-11 the material was dominantly silty sand. The material was strong enough to support the sampling crew walking out onto the shoal without sinking.

The shoal was exposed at throughout the tidal cycle, except for a very brief time period at high tide. Even when the shoal was submerged, the water depths overlying the highest points of shoal were very shallow (estimated at approximately 1 foot or less).

Analytical Results

The results of the physical and chemical analyses are summarized below. Data packages provided by the GeoTesting Express and Phoenix Environmental are included in Attachments 2 and 3, respectively.

Physical Characterization

Sediment samples were submitted to GeoTesting Express for grainsize analysis; Phoenix Environmental analyzed the samples for total organic carbon (TOC), percent solids, and moisture content. The results of the physical characterization are presented in Exhibit 4.

Chemical Characterization

Phoenix Environmental performed the chemical analyses of all the sediment samples using the methods listed below. The results are tabulated and briefly discussed, by parameter class, in the following section.

- Metals by EPA SW 846-6010B; mercury by SW 846-7470A
- SVOCs by EPA SW 846-8270
- Pesticides by EPA SW 846-8081B
- PCBs as Aroclors by EPA SW 846-8082

The exhibits presented within the text of the report use "ND" to indicate parameters that were not detected above the reporting limits. The sample specific reporting limits are listed in the data package received from the laboratory (Attachment 3).

Metals

The results from the metals analyses are summarized in Exhibit 5. Arsenic was detected at low concentrations in all but four samples; mercury was detected at low levels in four samples. Chromium, copper, lead, nickel, and zinc were present at detectable concentrations in all samples; cadmium was detected at low levels in 10 of the 17 samples.

Semi-Volatile Organic Compounds (SVOCs)

The SVOC data, which consist of the priority pollutant polynuclear aromatic compounds (PAHs) are presented in Exhibit 6. The analytes are arranged by increasing molecular weight from left to right in the table. PAH compounds were detected in all the samples and the analytes detected are dominantly composed of what are considered the high molecular weight (HMW) compounds (i.e. pyrene through indeno(1,2,3-cd)pyrene).

The data were acquired using the full scan mode of EPA Method 8270 instead of the selected ion mode (SIM) because the concentrations of the PAHs in the sediment matrix in the samples were outside the control limits for the SIM method and diluted extracts had to be analyzed. This resulted in the reporting limits for the non-detected parameters being higher than what was originally specified; however, the State of Connecticut criteria against which these data will be compared are significantly higher than the achieved reporting limits and this is not expected to adversely affect how the data can be used.

Pesticides

Chlordane was the only pesticide detected in all the sediment samples; the concentration ranged from 100 to 260 ppb (parts per billion). Dieldrin was detected at 3 ppb in a single sample from the surface interval of location SD-01. The analytical results are presented in Exhibit 7.

Polychlorinated Biphenyls (PCBs)

PCBs (quantified as Aroclors) were not detected with the exception of a single sample (Exhibit 8). A mixture of PCB congeners was identified and quantified as Aroclor 1254 in the subsurface sediment sample collected from SD-01, which is at the northern tip of the shoal. The analytical result was 1.1 ppm (part per million) or 1100 ppb.

QA/QC results

The laboratory quality assurance and quality control data are presented in Attachment 3. These data were reviewed and found to indicate that the analytical methods were within the control limits, data were reproducible, and usable.

Equipment Blank

The equipment blank submitted contained trace concentrations of copper (0.001 mg/L), zinc (0.009 mg/L), and TOC (1.3 mg/L). No other parameters were detected in the equipment blank. The concentrations of the three detected parameters are just greater than the reporting limits; additionally the concentrations of these parameters in the samples are orders of magnitude higher than what was detected in the blank. These results indicate that the sample processing did not contribute any potential contamination to the samples.

Laboratory Blank

No target analytes were detected in any of the laboratory procedural blanks associated with the Holly Pond sediment samples.

Laboratory Control Spike (LCS) and LCS Duplicate (LCSD)

The percent recoveries for the spiked compounds were within acceptable limits for all the parameters. Further, the relative percent difference (RPD) exhibited between the LCS and LCSD was generally very small for all parameter classes, indicating a high degree of precision.

Matrix Spike (MS) and MS Duplicate (MSD)

The MS and MSD results were within the acceptable limits and exhibited acceptable RPD values for metals and pesticides. An LCS and LSCD were performed for the pesticides in lieu of the MS/MSD. The SVOC results were found to be outside of the acceptable range due to matrix interference resulting from the relatively elevated PAH concentrations within the sample selected for the MS/MSD.

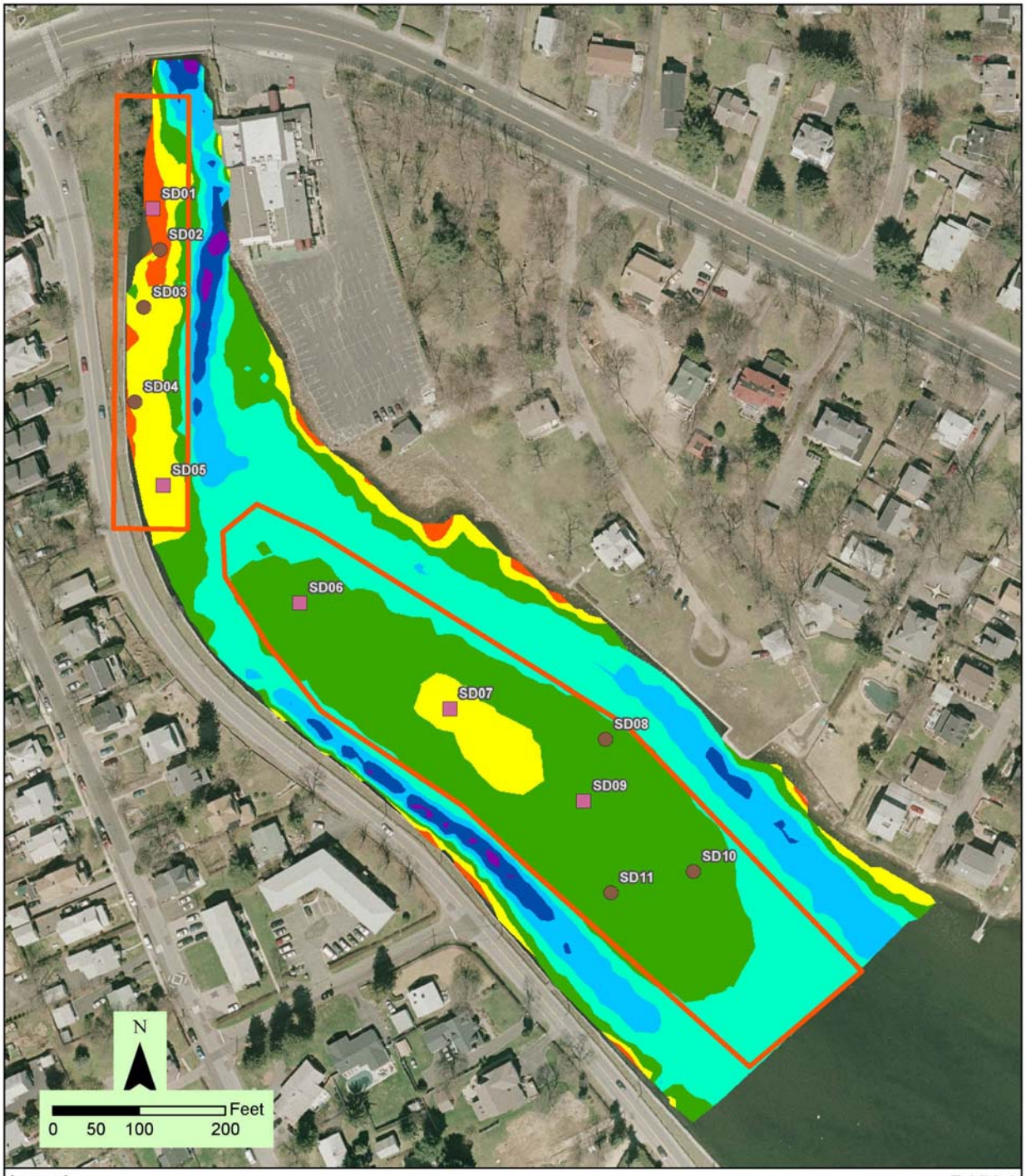
Field Duplicate

The RPD values for detected parameters in the unique field sample and the associated duplicate are generally very good (less than 20%), with two exceptions: lead (44.7%) and benzo(g,h,i)perylene (21.7%). These results indicate that the field sampling methods, primarily the sediment homogenization, were adequate.

The field duplicate submitted for the grain size analysis also exhibited close agreement with the unique field sample (Exhibit 4).

Chain of Custody

The samples were hand-delivered to the respective laboratories and were transferred in good condition. The chain of custody (COC) for GeoTesting Express contained one minor error: the sample with the ID "HP-SD05-00-05-120308" erroneously had a "-D" suffix added. The COC submitted to Phoenix Environmental Laboratory indicated that the time for sample "HP-SD05-05-15-120308" was 08:34; the time recorded should have been 08:31. Neither error results in any impacts to the data usability.



Legend

Sampling Locations
- Surface Samples Only
- Surface Sediment Samples with Co-located Cores
- Shoal

Bathymetry (ft)
- 2.0 - 2.5
- 2.5 - 3.0
- 3.0 - 3.5
- 3.50 - 4.0
- 4.0 - 4.5
- 4.5 - 5.0
- 5.0 - 5.5
- 5.5 - 5.73

Exhibit 1
Sediment Sampling Locations
Holly Pond Sediment
Characterization Study
December 2008

CH2MHILL

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EXHIBIT 2
Summary of Target and As-Sampled Station Coordinates
Holly Pond Sediment Investigation – December 2008

Location	Target Coordinates		As-Sampled Coordinates	
	Northing	Easting	Northing	Easting
SD-01	583612.8	791115.0	583613.2	791115.5
SD-02	583566.0	791121.4	583565.3	791123.5
SD-03	583498.2	791098.2	583498.3	791105.0
SD-04	583388.6	791095.0	583388.1	791094.7
SD-05	583291.2	791127.0	583290.8	791127.7
SD-06	583154.5	791286.5	583153.9	791286.2
SD-07	583031.9	791459.8	583031.1	791460.1
SD-08	582995.3	791639.4	582995.4	791640.4
SD-09	582922.9	791614.8	582923.8	791615.3
SD-10	582844.2	791743.0	582841.5	791742.4
SD-11	582814.3	791636.6	582816.9	791646.7

EXHIBIT 3
Summary of Sediment Sample Depths and Analyses
Holly Pond Sediment Investigation – December 2008

Location ID	Depth (ft)	Date Sampled	Analysis						
			SVOC	Pesticides	PCBs	Metals	Grain size	TOC	Moisture
SD-01	0.0-0.5	12/03/2008	X	X	X	X	X	X	X
	0.5-1.7	12/03/2008	X	X	X	X	X	X	X
SD-02	0.0-0.5	12/03/2008	X	X	X	X	X	X	X
SD-03	0.0-0.5	12/03/2008	X	X	X	X	X	X	X
SD-04	0.0-0.5	12/03/2008	X	X	X	X	X	X	X
SD-05	0.0-0.5	12/03/2008	X	X	X	X	X	X	X
	0.5-1.5	12/03/2008	X	X	X	X	X	X	X
SD-06	0.0-0.5	12/03/2008	X	X	X	X	X	X	X
	0.5-1.7	12/03/2008	X	X	X	X	X	X	X
SD-07	0.0-0.5	12/03/2008	X	X	X	X	X	X	X
	0.8-1.9	12/03/2008	X	X	X	X	X	X	X
SD-08	0.0- 0.5	12/03/2008	X	X	X	X	X	X	X
SD-09	0.0-0.5	12/03/2008	X	X	X	X	X	X	X
	0.5-2.5	12/03/2008	X	X	X	X	X	X	X
SD-10	0.0-0.5	12/02/2008	X	X	X	X	X	X	X
SD-11	0.0-0.5	12/02/2008	X	X	X	X	X	X	X

EXHIBIT 4
Analytical Results for Physical Characterization Parameters
Holly Pond Sediment Investigation – December 2008

Location	Depth Interval (ft)	Analytical Results							
		TOC (mg/kg)	Percent Moisture	Percent Solids	Percent Cobble	Percent Gravel	Percent Sand	Percent Clay & Silt	Classification
SD-01	0.0-0.5	6070	10	90	--	32.4	58.9	8.7	stone fragments, gravel, and sand
SD-01	0.5-1.7	11400	31	69	--	47.6	40.1	12.3	stone fragments, gravel, and sand
SD-02	0.0-0.5	13000	18	82	--	30.1	51.9	18	stone fragments, gravel, and sand
SD-03	0.0-0.5	1590	21	79	--	32.3	56	11.7	stone fragments, gravel, and sand
SD-04	0.0-0.5	18400	44	56	--	0.9	70.4	28.7	silty gravel and sand
SD-04 (FD)	0.0-0.5	18200	43	57	--	0.0	74.0	26.0	silty gravel and sand
SD-05	0.0-0.5	1240	19	81	--	7.9	90.3	1.8	stone fragments, gravel, and sand
SD-05	0.5-1.5	5280	28	72	--	3.5	74.9	21.6	silty gravel and sand
SD-06	0.0-0.5	14200	37	63	--	6.7	91.4	1.9	stone fragments, gravel, and sand
SD-06	0.5-1.7	1040	25	75	--	3.4	35.9	60.7	silty soils
SD-07	0.0-0.5	12900	32	68	--	--	92.7	7.3	fine sand
SD-07	0.8-1.9	1900	37	63	--	1.0	48.3	50.7	silty soils
SD-08	0.0-0.5	1060	25	75	--	0.2	95.3	4.5	stone fragments, gravel, and sand
SD-09	0.0-0.5	18500	38	62	--	0.1	94.8	5.1	fine sand
SD-09	0.5-2.5	2800	32	68	--	0.0	44.9	55.1	silty soils
SD-10	0.0-0.5	9250	36	64	--	0.0	86.0	14.0	silty gravel and sand
SD-11	0.0-0.5	20800	51	49	--	0.3	81.1	18.6	silty gravel and sand

Notes:
FD = field duplicate
-- parameter not measured
mg/kg = milligram/kilogram

EXHIBIT 5
Analytical Results for Metals
Holly Pond Sediment Investigation – December 2008

Location	Depth Interval (ft)	Analytical Results (mg/kg or ppm)							
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
SD-01	0.0-0.5	0.8	ND	16.2	40.7	30.8	ND	8.4	81.9
SD-01	0.5-1.7	3.3	1.16	47	527	152	0.18	31.8	677
SD-02	0.0-0.5	2.1	ND	15.8	41.2	745	ND	13.4	119
SD-03	0.0-0.5	1	ND	10.7	43.2	54.6	ND	10.3	90.7
SD-04	0.0-0.5	2.4	0.85	35.4	105	144	ND	16.9	226
SD-04 (FD)	0.0-0.5	2.8	0.8	32	90.6	79.6	ND	15.1	195
SD-05	0.0-0.5	1.8	ND	8.12	33.3	36	ND	8.42	59
SD-05	0.5-1.5	1.8	0.76	29.3	85.1	159	ND	16.3	159
SD-06	0.0-0.5	6.4	3.5	136	1060	422	0.19	42.3	1120
SD-06	0.5-1.7	ND	ND	9.47	25.5	26.9	ND	6.94	54.6
SD-07	0.0-0.5	4.4	1.53	64.1	422	287	0.15	27.5	455
SD-07	0.8-1.9	ND	0.5	14	50.3	36.5	ND	8.61	88.5
SD-08	0.0-0.5	ND	ND	5.25	17.8	16.5	ND	5.21	43.9
SD-09	0.0-0.5	6.1	1.74	116	719	195	0.21	24.8	571
SD-09	0.5-2.5	ND	ND	12.3	81.4	133	ND	6.69	67.5
SD-10	0.0-0.5	1.4	0.48	24.4	55.1	45.6	ND	11.4	123
SD-11	0.0-0.5	3.1	1.16	47.2	105	139	ND	19	258

Notes:
FD = field duplicate
ND = parameter not detected at concentrations greater than the reporting limit
ppm = part per million
mg/kg = milligram/kilogram

EXHIBIT 6
Analytical Results for SVOCs
Holly Pond Sediment Investigation – December 2008

Location	Depth Interval (ft)	Analytical Results (ug/kg or ppb)																
		Naphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Fluorene	Anthracene	Phenanthrene	Pyrene	Fluoranthene	Benz(a)anthracene	Chrysene	Benzo(a)pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(ghi) perylene	Dibenz(a,h) anthracene	Indeno(1,2,3-cd)pyrene
SD-01	0.0-0.5	ND	ND	ND	ND	ND	140	480	1300	1600	790	800	740	1200	450	370	91	340
SD-01	0.5-1.7	ND	ND	ND	ND	ND	190	380	2400	2700	940	800	1100	2000	630	500	160	500
SD-02	0.0-0.5	ND	ND	ND	ND	ND	140	770	1300	1700	670	760	680	1200	380	380	100	370
SD-03	0.0-0.5	ND	ND	ND	ND	ND	180	710	1600	1700	780	840	780	1300	450	340	90	320
SD-04	0.0-0.5	ND	ND	ND	ND	ND	260	1200	3900	4800	2000	2200	2100	3700	1200	1200	300	1100
SD-04 (FD)	0.0-0.5	ND	ND	ND	ND	ND	230	1200	3400	4200	1700	2000	1900	3500	1100	940	240	950
SD-05	0.0-0.5	ND	ND	ND	ND	ND	ND	310	700	860	340	400	370	600	ND	ND	ND	ND
SD-05	0.5-1.5	ND	ND	ND	ND	ND	230	610	2700	3300	1300	1300	1400	2200	850	610	160	600
SD-06	0.0-0.5	ND	ND	ND	ND	ND	150	ND	1800	2000	700	730	820	1400	530	380	130	360
SD-06	0.5-1.7	ND	ND	ND	ND	ND	250	680	2600	2200	1400	1200	1800	2800	970	650	200	670
SD-07	0.0-0.5	ND	ND	ND	ND	ND	150	360	2100	1700	820	910	1000	1700	580	570	180	550
SD-07	0.8-1.9	ND	ND	ND	ND	ND	140	560	1300	1600	720	780	760	1400	450	350	ND	350
SD-08	0.0-0.5	ND	ND	ND	ND	ND	120	560	1200	1500	660	680	660	1100	370	320	ND	300
SD-09	0.0-0.5	ND	ND	ND	ND	ND	160	440	1700	1900	790	820	900	1500	590	400	130	390
SD-09	0.5-2.5	ND	ND	ND	ND	ND	270	1200	2300	3000	1200	1300	1300	2200	580	540	150	550
SD-10	0.0-0.5	ND	ND	ND	ND	ND	140	700	1800	2200	930	1100	1000	1700	590	620	150	580
SD-11	0.0-0.5	ND	ND	ND	ND	ND	300	1400	3900	5000	1900	2200	2100	3700	1300	1100	280	1100

Notes:
FD = field duplicate
ND = parameter not detected at concentrations greater than the reporting limit
ppb = part per billion
ug/kg = microgram/kilogram

EXHIBIT 7
Analytical Results for Chlorinated Pesticides
Holly Pond Sediment Investigation – December 2008

Location	Depth Interval (ft)	Analytical Results (ug/kg or ppb)																				
		4,4' -DDD	4,4' -DDE	4,4' -DDT	Alachlor	Aldrin	a-BHC	b-BHC	d-BHC	g-BHC	Chlordane	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Methoxy- chlor	Toxaphene
SD-01	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	210	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-01	0.5-1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-02	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-03	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	160	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-04	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-04 (FD)	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-05	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-05	0.5-1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	260	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-06	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-06	0.5-1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-07	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-07	0.8-1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-08	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-09	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-09	0.5-2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-10	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-11	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
FD = field duplicate
ND = parameter not detected at concentrations greater than the reporting limit
ppb = part per billion
ug/kg = microgram/kilogram

EXHIBIT 8
Analytical Results for PCBs (quantified as Aroclors)
Holly Pond Sediment Investigation – December 2008

Location	Depth Interval (ft)	Analytical Result (ug/kg or ppb)								
		Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268
SD-01	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-01	0.5-1.7	ND	ND	ND	ND	ND	1100	ND	ND	ND
SD-02	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-03	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-04	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-04 (FD)	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-05	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-05	0.5-1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-06	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-06	0.5-1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-07	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-07	0.8-1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-08	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-09	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-09	0.5-2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-10	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
SD-11	0.0-0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
FD = field duplicate
ND = parameter not detected at concentrations greater than the reporting limit
ppb = part per billion
ug/kg = microgram/kilogram

Attachment 1: Field Documentation

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD 01	**Northing:**	CR well sand	**Tide:**	N/A
Sampler(s):	T.Hemmer	**Easting:**	↓	**St. Arrival:**	~9:02
		Datum:		**St.Depart**	~9 05
Survey Crew:	CR ENV / K.Thomsen	**Depth:**	N/A	**Logged by:**	TMH
	T Davis	**Weather:**	Clear, sunny, light N wind 45-50'		
Vessel:	N/A. Dry				

Bulk Sediment Sample ID HP-SD01-00-05-120308 surface 0.5 ft time: 903

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP _____, MS/MSD _____
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

2-8 oz glass jars for Phenix
1-1 qt bag for Geotesting.

Sediment Description

Color: brown **Moisture:** Dry (Sl. Moist) Moist V.Moist Wet
Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay Sand (Gravelly Sand) (Gravel) Grvly Clay
Minor Description: Organic Mottled Plastic M.Plastic Nodules vf f (coarse-grained) Ang (SA) SR / Rounded
Well (poorly) / mod - sorted well / poorly / mod - cemented (Loose)
Other Descriptors:
thin (1") layer of clay/silt on top of sample
lower 5" all v. cs sand to ~~sc~~ cs gravel

Comments/Observations

Sampled in the dry during low tide.
Material scooped directly into pan for homogenizing.

Sampler Signature/Date [signature] 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD 02	**Northing:**	CR well sand	**Tide:**	N/A
Sampler(s):	T. Himmer	**Easting:**	↓	**St. Arrival:**	~ 8:57
		Datum:	↓	**St.Depart**	~ 9:00
Survey Crew:	CR ENN / K. Thomson	**Depth:**	N/A - Dry	**Logged by:**	TMH
	J. Davis	**Weather:**	sunny, clear, mild (40-50°F)		
Vessel:	N/A - Dry				

Bulk Sediment Sample ID HP-SD02-00-05~~0~~-120308 surface 0.5 ft time: 8:58

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP _____, MS/MSD _____
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

2- 8oz glass Phaenick
1- 1Qt bag for Geo testing

Sediment Description

Color: gray - brown **Moisture:** Dry (Sl. Moist) Moist V.Moist Wet
Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay Sand (Gravelly Sand) Gravel Grvly Clay
Minor Description: Organic Mottled Plastic M.Plastic Nodules vf f (coarse-grained) (Ang / SA) / SR / Rounded
Well / poorly / mod - sorted well / poorly / mod - cemented (Loose)
Other Descriptors:
thin layer of firm clay/silt on top ~1" thick
on top of v. coarse sand to gravel (small cobble) w/ trace fines.

Comments/Observations

Sample collected in the dry, sediment collected directly into aluminum pan & ziplock bag.

Sampler Signature/Date [signature] 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD03	**Northing:**	CR well sand	**Tide:**	DA
Sampler(s):	T Himmer	**Easting:**	↓	**St. Arrival:**	~8:50
		Datum:		**St.Depart**	~8:55
Survey Crew:	CLENV. K. Thomson	**Depth:**	N/A - dry	**Logged by:**	TMH
	J. Davis	**Weather:**	Sunny, clear, mid 40°F		
Vessel:	N/A - Dry		slight N wind		

Bulk Sediment Sample ID surface 0.5 ft time: 0853

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP _____ MS/MSD _____
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

2 - 8 oz glass jars - Phoenix
1 - 1 qt bag for Geotesting.

Sediment Description

Color: brown on top 1-2" black below **Moisture:** Dry (Sl. Moist) Moist V.Moist Wet
Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay Sand (Gravelly Sand) Gravel Grvly Clay
Minor Description: Organic Mottled Plastic M.Plastic Nodules vf f (coarse-grained) Ang (SA) SR / Rounded
Well / poorly / (mod) - sorted well / poorly / mod - cemented (Loose)
Other Descriptors:
med - coarse sand trace clay silt. minor gravel
v. large pebbles 2-3cm in lower portion of sample

Comments/Observations

sample collected in the dry @ low tide
area around SD03 v. rocky, sample collected
targeted finer material behind rocks

Sampler Signature/Date [signature] 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD04	**Northing:**	cl. will send	**Tide:**	N/A - Dry
Sampler(s):	T. Hummer	**Easting:**	↓	**St. Arrival:**	~ 8:25
		Datum:		**St.Depart**	~ 8:29
Survey Crew:	CR. Environmental	**Depth:**	N/A - exposed	**Logged by:**	TH
		Weather:	Sunny, clear and 40°F		
Vessel:	N/A - Dry				

Bulk Sediment Sample ID HP-SD04-00-05-120308 surface 0.5 ft time: 828

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP HP-SD04-00-05-120308-D, MS/MSD _____
TH EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

Submitted 2-8 oz for Phoenix
1 - 1qt bag for geotesting express.

Sediment Description

Color: Black **Moisture:** Dry (Sl. Moist) Moist V.Moist Wet
Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay (Sand) Gravelly Sand Gravel Grvly Clay
Minor Description: (Organic) Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / (SR) Rounded
Well / poorly / (mod - sorted) well / poorly / mod - cemented (Loose)
Other Descriptors:
clayey/silty sand (med-fine) black w/ organic material/ detritus.

Comments/Observations

Sample collected at low tide by directly scooping into a single use pan.

Sampler Signature/Date [signature] 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD05	**Northing:**	CR will send	**Tide:**	NA
Sampler(s):	T. Himmer	**Easting:**	↓	**St. Arrival:**	~8:29
		Datum:		**St.Depart**	~8:32
Survey Crew:	CREW - K. Thomsen	**Depth:**	N/A Dry	**Logged by:**	TMH
	J Davis	**Weather:**	Sunny, mid 40°F		
Vessel:	N/A - dry		clear, no wind.		

Bulk Sediment Sample ID HP-SD05-00-05-120308 surface 0.5 ft time: 0831

Sample Data

QA/QC SampleIDs:
NONE Bulk Sed: DUP _____ MS/MSD Same ID + 2 extra jars for Phoenix
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

4 TH 8oz jars for Phoenix
1-1 qt bag for Geotesting

Sediment Description

Color: gray brown **Moisture:** Dry Sl. Moist Moist V.Moist Wet
Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay
Minor Description: Organic Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded
Well / poorly / mod - sorted well / poorly / mod - cemented Loose
Other Descriptors: ~~mod~~ poorly sorted CS sand to gravel trace clay silt.

Comments/Observations

Station sampled in dry by hand - walked out on shoal to reach location. Scooped sediment directly into jar or ziplock bag.

Sampler Signature/Date [signature] 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD06	**Northing:**	C&well Sand	**Tide:**	N/A
Sampler(s):	T. Hemmer	**Easting:**	↓	**St. Arrival:**	~ 0932
		Datum:		**St.Depart**	~ 0936
Survey Crew:	CRENV. / K. Thomson	**Depth:**	N/A	**Logged by:**	TMH
	J Davis.	**Weather:**	clear sunny; 45-50°F		
Vessel:	N/A - Dry		light N wind.		

Bulk Sediment Sample ID surface 0.5 ft time: 0934

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP _____, MS/MSD _____
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

2. 8oz glass jars - Phoenix
1 - 1 qt bag for Geotesting.

Sediment Description

Color: Black **Moisture:** Dry (Sl. Moist) Moist V.Moist Wet
Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay (Sand) Gravelly Sand Gravel Grvly Clay
Minor Description: (Organic) Mottled Plastic M.Plastic Nodules vf f ~~coarse~~ med-cs grained Ang / (SA) SR / Rounded
Well / poorly / mod - sorted well / poorly / mod - cemented (Loose)
Other Descriptors:
med-cs sand, minor fine sand, v. minor clay/silt, slight organic smell

Comments/Observations

Collected @ low tide by walking out onto shoal.

collected into ziplock, put on ice - then x-served to jars.

Sampler Signature/Date 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD07	**Northing:**	CR will send	**Tide:**	N/A
Sampler(s):	T. Himmer	**Easting:**	↓	**St. Arrival:**	~10:20
		Datum:		**St.Depart**	~10:25
Survey Crew:	CR ENV. / K Thomson	**Depth:**	N/A	**Logged by:**	TMH
	J. Davis	**Weather:**			
Vessel:	N/A dry		Clear sunny ~45-50°, light wind		

Bulk Sediment Sample ID HP-SD07-00-05-120308 surface 0.5 ft time: 10:23

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP _____, MS/MSD _____
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

2-8oz glass jars to Phoenix
1-1qt bag to geotesting

Sediment Description

Color: black w/ thin brown layer on top **Moisture:** Dry Sl. Moist (Moist) V.Moist Wet
Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay (Sand) Gravelly Sand Gravel Grvly Clay
Minor Description: (Organic) Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / (SA) / SR / Rounded
Well / poorly (mod - sorted) well / poorly / mod - cemented (Loose)
Other Descriptors:

f-med silty sand, black w/ slight sulfur odor.
Collected @ low tide by hand (scooped into ziploc)

Comments/Observations

Sampler Signature/Date [signature] 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD08	**Northing:**	CR will send	**Tide:**	N/A.
Sampler(s):	T. Himmer	**Easting:**	↓	**St. Arrival:**	~10.12
		Datum:		**St.Depart**	~10 15
Survey Crew:	CR ENV. / K. Thorsen	**Depth:**	N/A	**Logged by:**	DMH
	I Davis	**Weather:**	Sunny, clear,		45-50°
Vessel:	N/A - Dry		light + variable breeze.		

Bulk Sediment Sample ID HP SD08 - 00-05 - 120308 surface 0.5 ft time: 10:14

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP _____, MS/MSD _____
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

2 - 8oz glass jars - Phoenix
1 - 1qt bag - Geotesting.

Sediment Description

Color: dk gray to black **Moisture:** Dry Sl. Moist (Moist) V.Moist Wet
Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay (Sand) Gravelly Sand Gravel Grvly Clay
Minor Description: Organic Mottled Plastic M.Plastic Nodules vf f (coarse-grained) Ang / (SA) / SR / Rounded
Well / poorly / (mod - sorted) well / poorly / mod - cemented (Loose)
Other Descriptors:

Dark gray to black med-cs sand minor fine sand, minor clay/silt.
slight sulfur odor when removed from bag.

Comments/Observations

collected by hand, during low tide by walking out to location.
collected into ziplock then transferred to jars + GS bags. on shore

Sampler Signature/Date [signature] 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD 09	**Northing:**	CR wide sand	**Tide:**	N/A
Sampler(s):	T. Himmer	**Easting:**	↓	**St. Arrival:**	~10:10
		Datum:	↓	**St.Depart**	~10:20
Survey Crew:	CLEH v / K. Thomson	**Depth:**	N/A	**Logged by:**	TMH
	J Davis	**Weather:**	Sunny, clear, light N wind		
Vessel:	N/A - Dry		45-50°F		

Bulk Sediment Sample ID surface 0.5 ft time: 10:18

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP _____, MS/MSD _____
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

2-8 oz glass jars Phoenix
1-1 qt bag - Geotesting Express

Sediment Description

Color: black **Moisture:** Dry (Sl. Moist) Moist V.Moist Wet
Major Description: Clay Silty Clay Silt (Clayey Sand) Sandy Clay Sand Gravelly Sand Gravel Grvly Clay
Minor Description: (Organic) Mottled Plastic M.Plastic Nodules vf (f) coarse-grained Ang / SA (SR) / Rounded
(Well) / poorly / mod - sorted well / poorly / mod - cemented Loose
Other Descriptors:

black clayey-silty sand (f-med, mostly fine)
Slight sulfur organic odor noted when bag emptied.

Comments/Observations

collected @ low tide by walking out on shoal surface material scooped into ziplock & then transferred to jars on shore.

Sampler Signature/Date [signature] 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD 10	**Northing:**	CR mid bend	**Tide:**	NA
Sampler(s):	T. Hammer	**Easting:**	↓	**St. Arrival:**	14:~~38~~ 28 TH
		Datum:	↓	**St.Depart**	14:35
Survey Crew:	CR ENVIRONMENTAL	**Depth:**	~~HH~~ 06" TH	**Logged by:**	TH
	El Perrone, Ken Thomson	**Weather:**	overcast, N wind, chilly (low 40's)		
Vessel:	Survey Raft. Jarret.				

Bulk Sediment Sample ID HP-SD10-00-05-120203 surface (0.5) ft time: 14:28

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP _____, MS/MSD _____
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

2 - 8 oz jars to Phoenix Environmental
1 - Qt bag to Geotesting Express.

Sediment Description

Color: Black / dk gray brown @ surface **Moisture:** Dry Sl. Moist (Moist) V.Moist Wet
Major Description: Clay (Silty Clay) Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay
Minor Description: (Organic) Mottled Plastic M.Plastic Nodules (vf f) coarse-grained Ang / SA / SR / Rounded
Well / poorly / mod - sorted well / poorly / mod - cemented (Loose)
Other Descriptors:
dominantly stiff/firm clay silt w/ minor f-med sand component. (~15% sand)

Comments/Observations

Material fairly firm - had to take 2 grabs w/ power to get adequate volume for sample

Sampler Signature/Date [signature] 12/2/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Sediment Grab Sampling Log

Station ID:	SD11	**Northing:**	CR will provide	**Tide:**	N/A
Sampler(s):	T. Himmer	**Easting:**	↓	**St. Arrival:**	14:38
		Datum:	↓	**St.Depart**	14:46
Survey Crew:	CR Environmental	**Depth:**	14"	**Logged by:**	TH
		Weather:	overcast, cold, N. wind		
Vessel:	Survey Raft				

Bulk Sediment Sample ID HP-SD11-CR-05-~~14~~ 120203 surface 0.5 ft time: 14:38

Sample Data

QA/QC SampleIDs:
(NONE) Bulk Sed: DUP _____, MS/MSD _____
EB _____

Sample Parameters:

Parameter	Surface Sediment
Metals	✓
PAHs	✓
Pesticides	✓
PCBs	✓
TOC	✓
Grainsize	✓
% Moisture	✓

2 - 8 oz jars for Phenix
1 - 1 qt bag for geotesting exp.

Sediment Description

Color: dk gray brown @ surf / black below **Moisture:** Dry Sl. Moist (Moist) (V. Moist) Wet TH
Major Description: Clay (Silty Clay) Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay
Minor Description: (Organic) Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded
(Well) / poorly / mod - sorted well / poorly / mod - cemented (Loose)
Other Descriptors:

firm clay silt w/ minor f. med sand (10-15%)

Comments/Observations

material fairly firm - first ponar grab not completely full.

Sampler Signature/Date [signature] 12/2/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Station ID:	SD01	**Northing:**	CH will send		**Attempt 1**
Sampler(s):	T. Hammer	**Easting:**	↓	**Penetration (ft):**	N/A
		Datum:	↓	**Recovery (ft)**	↓
Survey Crew:	Eli Perrone	**Depth:**	N/A	**Time:**	↓
	CH Environmental	**Tide:**	N/A		**Attempt 2**
		St. Arrival:	~10.00	**Penetration (ft):**	NA
Vessel:	N/A - dry	**St.Depart**	~10.05	**Recovery (ft)**	↓
Collection:	shovel	**Logged by:**	TMH	**Time:**	↓

Weather: clear, sunny, light N. breeze, mid 40°s F

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
		←									NA	→			~~0.6' to~~
	1		SP-SP	Brown	firm	None	Loose	Min	S.C	None	40	50	10%	See below	CS sand to gravel w/some clay (gray, firm) nodules. v dense in place
	2														0.5' to 1.7' sampled w/ shovel.
	3														
	4														
	5														

Sample Summary (check boxes for analysis):

Sample ID	PAHs	Metals	Pesticides	PCBs	GS/TOC/ %Moisture	Depth Interval
HP SD01-0.5-1.7-120308	✓	✓	✓	✓	✓	0.5-1.7' 10:05

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Reviewed by: [signature] Date: 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Station ID:	SD05	**Northing:**	CR mile sand		**Attempt 1**
Sampler(s):	T. Hummer	**Easting:**	↓	**Penetration (ft):**	3'
		Datum:	↓	**Recovery (ft)**	1.6'
Survey Crew:	L. Thomson	**Depth:**	N/A - dry	**Time:**	8:31 - kept
	J Davis / CR Environmental	**Tide:**	N/A		**Attempt 2**
		St. Arrival:	~ 8:30	**Penetration (ft):**	3'
Vessel:	N/A - dry	**St.Depart**	~ 8:35	**Recovery (ft)**	1.5'
Collection:	Pushcore	**Logged by:**	TH	**Time:**	8:35 - not used

Weather: Clear, sunny, mid 40's F, light N wind.

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	1		SP ↓ SP ↓	brown ↓ black ↓	firm ↓	loose ↓	None ↓	Dry Slight moist ↓	SP CS ↓	None ↓	5% 1% ↓	90 80	5 20	X see below	0-0.4' cs-sand brown, 0.4' to 1.5' black clayey, silty fine sand, firm
	2														
	3														
	4														
	5														

Sample Summary (check boxes for analysis):

Sample ID	PAHs (120308)	Metals	Pesticides	PCBs	GS/TOC/ %Moisture	Depth Interval
HP-SD05-0.5-1.5-	✓	✓	✓	✓	✓	0.5-1.5 0834

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Reviewed by: [signature] Date: 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Station ID:	SDϕ6	**Northing:**	CR mile sand		**Attempt 1**
Sampler(s):	T. Himmer	**Easting:**	↓	**Penetration (ft):**	3'
		Datum:	↓	**Recovery (ft)**	1.5'
Survey Crew:	K. Thomson	**Depth:**	N/A	**Time:**	934 - kept.
	J Davis / CR	**Tide:**	N/A		**Attempt 2**
	Environmental	**St. Arrival:**	~9:30	**Penetration (ft):**	3'
Vessel:	NA - dry	**St.Depart**	~9.35	**Recovery (ft)**	1.5'
Collection:	Push core	**Logged by:**	TH	**Time:**	Not processed

Weather: Clear, sunny, mid 40's, light N wind.

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	1		SP CH-CL	Brown/Dk gray Black	firm ↓	None	NA	Dry Slight Moist	SP FS	N ↓	5% ↓ 0 ↓	90 ↓ 5% ↓	5% ↓ 95% ↓	0.7 - 1.5	0 - 0.7 CS sand w gravel 0.7 to 1.5 - black clay/silt firm
	2														
	3														
	4														
	5														

Sample Summary (check boxes for analysis):

Sample ID	PAHs	Metals	Pesticides	PCBs	GS/TOC/ %Moisture	Depth Interval	
SD HPSDϕ6-0.5/1.7-120308	✓	✓	✓	✓	✓	0.5 - 1.7'	0934

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Reviewed by: Date:

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Station ID:	SD07	**Northing:**	CR well sand		**Attempt 1**
Sampler(s):	T. Hemmer	**Easting:**		**Penetration (ft):**	3'
		Datum:		**Recovery (ft)**	1.9'
Survey Crew:	K. Thomson	**Depth:**	N/A	**Time:**	10:23
	J. Davis / CR Environmental	**Tide:**	N/A		**Attempt 2**
		St. Arrival:	~10:20	**Penetration (ft):**	
Vessel:	NA - dry	**St.Depart**	~10:25	**Recovery (ft)**	
Collection:	Push core	**Logged by:**	TMHemmer	**Time:**	

Weather: Clear, sunny, mid 40's F, slight N wind

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	1		SP → SP-CH	Dk gray → black	firm	None	NA	Dry → Slight Moist	SP → MS	N	5 → 0	80 → ~~15~~	15 → ~~85~~	see below	0-0.8' - med-fine dk gray sand, w/ minor clay silt. firm
	2														0.8 - ~~1.9~~ 1.9' firm clay silt & sand, f-med ~~w/ trace f-med sand~~, black
	3														
	4														
	5														

Sample Summary (check boxes for analysis):

Sample ID	PAHs	Metals	Pesticides	PCBs	GS/TOC/ %Moisture	Depth Interval
HP-SD07-0.8-1.9-120308	✓	✓	✓	✓	✓	0.8-1.9' 10:23

Page 1 of 1

Reviewed by: [signature]

Date: TH to 12/3/08

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

Station ID:	SD09	**Northing:**	CL well Sand		**Attempt 1**
Sampler(s):	T. Himmer	**Easting:**	↓	**Penetration (ft):**	3'
		Datum:	↓	**Recovery (ft)**	2.5'
Survey Crew:	CL Environmental	**Depth:**	N/A Dry	**Time:**	10:18
	K. Thomson	**Tide:**	N/A		**Attempt 2**
	J. Davis	**St. Arrival:**	~10:15	**Penetration (ft):**	
Vessel:	N/A Dry	**St.Depart**	~10:20	**Recovery (ft)**	
Collection:	push core	**Logged by:**	TH	**Time:**	
Weather:	Sunny, clear mid 40°s F				

Depth below water surface (ft)	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	Sample IDs	Comments
	1		SP	Dk grey	firm	None	hom.	Slight moist	MS	None ↓ HC ↓	C	SD	SD	See below	0-2.5 all v. firm v. dk gray fine sand. Stiff dk gray no odor
	2														
	3														
	4														
	5														

Sample Summary (check boxes for analysis):

Sample ID	PAHs	Metals	Pesticides	PCBs	GS/TOC/ %Moisture	Depth Interval
HP-SD09-0.5-2.5-120308	✓	✓	✓	✓	✓	0.5-2.5' 10:18

Page 1 of 1

Reviewed by: [signature] Date: 12/3/08

MAJOR DIVISIONS		GRAPHIC SYMBOL	GROUP SYMBOL	DESCRIPTION
COARSE-GRAINED MATERIAL	GRAVELS — CLEAN GRAVELS		GW	Well-graded gravel Well-graded gravel with sand
			GP	Poorly graded gravel Poorly graded gravel with sand
			GW-GM	Well-graded gravel with silt Well-graded gravel with silt and sand
			GW-GC	Well-graded gravel with clay Well graded gravel with clay and sand
	GRAVELS WITH FINES		GP-GM	Poorly graded gravel with silt Poorly graded gravel with silt and sand
			GP-GC	Poorly graded gravel with clay Poorly graded gravel with clay and sand
			GM	Silty gravel Silty gravel with sand
			GC	Clayey gravel Clayey gravel with sand
	SANDS — CLEAN SANDS		SW	Well-graded sands Well-graded sand and gravel
			SP	Poorly-graded sands Poorly graded sand with gravel
			SW-SM	Well-graded sand with silt Well-graded sand with silt and gravel
			SW-SC	Well-graded sand with clay Well-graded sand with clay and gravel
	SANDS WITH FINES		SP-SM	Poorly-graded sand with silt Poorly-graded sand with silt and gravel
			SP-SC	Poorly-graded sand with clay Poorly-graded sand with clay and gravel
			SM	Silty sand Silty sand and with gravel
			SC	Clayey sand Clayey sand and with gravel
FINE-GRAINED MATERIALS	SILTS AND CLAYS		CL	Lean clay * Lean clay with sand or gravel * Sandy lean clay * Sandy lean clay with gravel * Gravelly lean clay * Gravelly lean clay with sand
			ML	Silt * Silty with sand or gravel * Sandy silt * Sandy silt with gravel * Gravelly silt * Gravelly silt with sand
			CH	Fat clay * Fat clay with sand or gravel * Sandy fat clay * Gravelly fat clay * Gravelly fat clay with sand
			MH	Elastic silt * Elastic silt with sand or gravel * Sandy elastic silt * Sandy elastic silt with gravel * Gravelly elastic silt * Gravelly elastic silt with sand
			OL/OH	Organic silt * Organic silt with sand or gravel * Sandy organic silt * Sandy organic soil with gravel * Gravelly organic soil * Gravelly organic soil with sand

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

10:45 · 12/2/08 - Hummer arrive @ Giovanni's parking lot. - perform brief recon of area - low tide & shoals visible - took series of 5 photos from upstream to down 1-3 illustrate northern shoal. #4:5 show southern shoal. Vantage point from center + southern end of Giovanni's parking lot.

10:50 Hummer depart site to check Rt to hospital Rt from George Decision

11:15 Hummer arrive back @ site. Speak to Mr. Giovanni - confirm that we can use parking lot for staging area.

11:20 Call from Ken Thompson - CR - they are off highway - will be here shortly.

1150 · CR on site · begin boat launch activities (Eli Perrine, Ken Thomson & Jarret)

Due to very narrow tide window samples will be collected into 1 gallon Zip lock bags and will be transferred to jars on shore.

~~(12:48 CR Departs to get lunch + restroom break~~

1245 - Warren Matthews - neighbor to east of ramp comes down to ask what we are up to - very happy to hear that we are starting work. Points out brown seawall on Stamford side of cove (Photo #16) - in line roughly w/ 2 car garage on Giovanni property (southern building)

1309 - CR Departs to get lunch & use restroom.

weather cooling + becoming overcast Temp mid 40°s F° slight North wind.

1327 CR Returns to site.

GPS not reading target points - opt to visually line up points to start (based on aerial maps) and will collect as sampled way points.

1354 - Depart Dock to start sampling - head to SD10 - continued GPS problems. @ 1410 Depart to raft to get laptop to do navigation from laptop. (high tide @ 14:13:35

14:26 Arrive @ SD 10 -

Decon grab + collect sample

~~14:30 - HP-SD10-00-05-120208~~

14:27 1st Attempt → No GRD - while collecting

14:28 2nd Attempt - some recovery Depth = 6' water Depth

14:32 3rd Attempt - some recovery - retained

(14:28 - HP-SD10-00-05-120208)

14:35 Depart to SD11 - Decon grab.

14:38 Arrive - @ SD11 - 1' 14"

14:38 Grab - small amt recovery (14:38 - HP-SD11-0052-120208)

14:39 Grab #2 ~~small~~

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

12/2/08 14:[illegible] Decon grab depart to ~~SD-10~~ SD-09 to shallow to get to SD09 move to boat to just get grabs. losing water too rapidly - had to leave barge on shoal

15:00 - stop for day move people to shore.

15:10 Status call to Kim Mosley.

15:20 - Recon Northern shoal - opt to attempt collections from shore on 12/3/08

15:30 Hummer depart to hotel + check in.

16:30 Hummer xfer sediment from bags to jars in back of SUV.

16:50 Complete for day

12/3/08 Wednesday - planned out for day - collect sediment from northern shoal in morning by wading/walking to sample locations Sample southern shoal from boat in afternoon.

0715 Safety meeting in hotel lobby w/ all 3 CH staff - trips, debris in shoal, cold/frost bite -

0738 Arrive @ Giovanni Parking lot - prep materials to sample Northern shoal - get GPS set up

0800 Mobilize equipment to Northern area - west bank

0815 - K Thompson marks locations SD4 + SD05

0821 - Initiate Push core attempt @ SD05 - have 3' of penetration w/ 18" of recovery - very sandy material on top make 2nd attempt.

0828 Collect SD04 surface grab ~~w/~~ by hand into Aluminum pan. (828 HP SD04 - 00-05 - 120308) FD for GSR chemistry

0830 Collecte 2nd core @ SD05 attempt - 3' penetration approximately 20" of recovery.

0831 Collect surface grab @ SD05 -
(0831 HP SD05 - 00-05 - 120308) - volume for MS/MSD

0840 SD03 moved ~10' west to be on high point of shoal

(08:53) Collect surface grab from SD03 by hand
(0853 HP SD03 - 00-05 - 120308)

(08:58) Collect surface grab from SD02 by hand - area very rocky finer material below rocks targeted.
(858 HP SD02 - 00-05 - 120308)

(0903) - Collect surface grab from SD01
(HP SD01 - 00-05 - 120308)

0920 Ken T + Jarrett D walk to HP - SD06 to collect surface sample and core attempt.

0934 Core + surface grab from SD06
(0934 HP - SD06 - 00-05 - 120308)

CH2MHILL

Site Name: Holly Pond
Project Name: Holly Pond Sediment Investigation
Project Number: 373533.HP.03.03
Survey Duration: December 2-5, 2008

0952 - Eli begins digging material from SD01 w/ clean shovel
- Ken + Jarret Depart w/ materials to collect SD07 - SD09 by hand
0955 Peter from DOT + bridge on Post rd being replaced
- Doing hydraulic surveys will give me project engineers name.
1001 - Eli could not dig below @ 20-22" from surface cbl v. sandy gravel w/ some lumps of clay w/ broken glass.
~20" hole kept collapsing inward + filling in w/ water
- Discharge pipe w/ running water on west bank @ ~~SD south of SD01~~
10:05 - HP SD01 - ~~SD-05~~ - # 120308 - 0.5 - 1.7 - TH
- DOT crew was in vicinity marking transit locations for bridge replacement project
10:30 - Ken & Jarret return to shore w/ samples for SD7 through SD09 times recorded on bags.
11:00 - Pack equipment into truck - ~~move to~~ motel to get camera cable + extra pan.
12:14 - Return to staging area boat launch to process remaining samples - CR departs for lunch
1300 - CR returns w/ my lunch then departs to collect TSS sample + pull out ADP unit.
1500 - Sampling of cores complete - collect
1505 - ~~HP-EB10~~ HP-EB-120308-01 by passing ASTM Type II water over section of core liner and into Aluminum pan used for homogenizing material.
5 bottles
3 - 1L Amber glass for PAH/PEST + PCB
1 250ml HDPE w/ HNO_3 for Met
1 250ml Amber w/ H_2SO_4 for TOC
After blank collected - pack samples for transport to Phoenix + clean up work area
15:40 Depart site to get more ice for chem samples & then to motel to fill in COCs
12/4/08 - 8:30 - Deliver 2 coolers to Phoenix
10:30 - Deliver 1 cooler to GTE / Boxborough / MA

AMH 12/4/08

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CHAIN OF CUSTODY

1145 Massachusetts Avenue
Boxborough, MA 01719
978-635-0424 Phone
978-635-0266 Fax

2662 Holcomb Bridge Road Suite 310
Alpharetta, GA 30022
770-645-6575 Phone
770-645-6570 Fax

p1/2

Sales Order No.:
GTX No.:

Company Name: CH2M HILL
Address: 25 NEW CHARDON STE 300

Contact: Theresa Himmer
e-mail: theresa.himmer@ch2m.com
Phone Number: 617-626-7031
Fax Number: 215-640-9556

Project Name: Holly Pond Sediment Inv.
Project Number: PO # 9315666
Project Location: Stamford CT

Sample Type: 1. Soil/Sediment 2. Geosynthetic 3. Rock 4. Concrete 5. Other

Container Type: 1. Bucket 2. Bag 3. Jar 4. Tube 5. Roll

Analysis

Sample Identification	Container Size	Container Type	Sampling Date	Sampling Time	Sample Type	grain size w/ hydrometer						Comments
HP-SD10-00-05-120208	1qt	2	12/2/08	14:28	Sediment	K						
HP-SD11-00-05-120208	↓	↓	↓	14:38	↓	↓						
HP-SD04-00-05-120308	↓	↓	12/3/08	8:28	↓	↓						
HP-SD04-00-05 120308-D	↓	↓	↓	↓	↓	↓						
HP-SD05-00-05-120308-D	↓	↓	↓	8:31	↓	↓						
HP-SD03-00-05-120308	↓	↓	↓	8:53	↓	↓						
HP-SD02-00-05-120308	↓	↓	↓	8:58	↓	↓						
HP-SD01-00-05-120308	↓	↓	↓	9:03	↓	↓						
HP-SD07-00-05-120308	↓	↓	↓	10:23	↓	↓						

Relinquished By: [signature]	Date: 12/4/08 Time: 10:20	**Received By:** [signature]	Date: 12/4/08 Time: 10:25
Relinquished By:	Date: Time:	**Received By:**	Date: Time:
Relinquished By:	Date: Time:	**Received By:**	Date: Time:

SHIPPED VIA: hand deliver

www.geotesting.com

Turn-Around Time Requested:
No. of Business Days: 14

Special Instructions:

Geotesting express

A subsidiary of Geocomp Corporation

CHAIN OF CUSTODY

1145 Massachusetts Avenue
Boxborough, MA 01719
978-635-0424 Phone
978-635-0266 Fax

2662 Holcomb Bridge Road Suite 310
Alpharetta, GA 30022
770-645-6575 Phone
770-645-6570 Fax

Sales Order No.:
GTX No.:

Company Name: CH2M HILL
Address:
Contact:
e-mail: See page 1
Phone Number:
Fax Number:
Project Name: HOLLY POND SED.
Project Number:
Project Location:

Sample Type	Container Type
1. Soil/Sediment	1. Bucket
2. Geosynthetic	2. Bag
3. Rock	3. Jar
4. Concrete	4. Tube
5. Other	5. Roll

Analysis

Sample Identification	Container Size	Container Type	Sampling Date	Sampling Time	Sample Type	Grain Size w/ Hydrometer						Comments
HP-SD08-00-05-120308	1qt	2	12/3/08	10:14	Sediment							
HP-SD09-00-05-120308				10:18								
HP-SD06-00-05-120308				0934								
HP-SD01-05-17-120308				1005								
HP-SD06-05-17-120308				934								
HP-SD05-05-15-120308				834								
HP-SD07-08-19-120308				1023								
HP-SD09-05-25-120308				10:18								

Relinquished By:	Date: 12/4/08 Time: 10:20	**Received By:** Robert Smith	Date: 12/4/08 Time: 10:25	**Turn-Around Time Requested:**
Relinquished By:	Date: Time:	**Received By:**	Date: Time:	No. of Business Days: _____
Relinquished By:	Date: Time:	**Received By:**	Date: Time:	**Special Instructions:**
SHIPPED VIA:		www.geotesting.com		

PHOENIX Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp. Pg 1 of 2

Data Delivery:
☐ Fax #:
☒ Email: theresa.himmer@ch2m.com

Customer: CH2M HILL
Address: 25 NEW CHARDON STE 300
BOSTON MA 02114

Project: HOLLY POND SEDIMENT INVES.
Report to: THERESA HIMMER
Invoice to: ERIN MOSLEY

Project P.O: 931619
Phone #: 617-626-~~7031~~ 7031
Fax #:

Client Sample - Information - Identification

Sampler's Signature: [signature] 12/3/08 Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	RCB @ Aroclors	Pesticides	PAHs (8270SIM)	METALS	TOC	% MOISTURE							Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container (8) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
	HP-SD10-00-05-120208	S	12/2/08	14:28	✓	✓	✓	✓	✓	✓							2									
	HP-SD11-00-05-120208	↓	↓	14:38	↓	↓	↓	↓	↓	↓							2									
	HP-SD04-00-05-120308		12/3/08	08:28													2									
	HP-SD04-00-05-120308-D		↓	↓													2									
	HP-SD05-00-05-120308 ①			0831													4									
	HP-SD03-00-05-120308			0853													2									
	HP-SD02-00-05-120308			0858													2									
	HP-SD01-00-05-120308			0903													2									
	HP-SD07-00-05-120308			10:23													2									
	HP-SD08-00-05-120308			10:14													2									
	HP-SD09-00-05-120308			10:18													2									
	HP-SD06-00-05-120308	↓	↓	0931	↓	↓	↓	↓	↓	↓							2									

Relinquished by:	Accepted by:	Date:	Time:
[signature] 12/4/08			

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☒ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

Data Format
☒ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☒ Phoenix Std Report
☐ Other

State where samples were collected: CT

Comments, Special Requirements or Regulations:

These samples are part of Task 1.3.3.
* Samples also have special RL's see attached or Bobbi.
① Extra volume for MS/MSD

PHOENIX Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp _____ Pg. 2 of 2

Data Delivery:
☐ Fax #: _____
☒ Email: theresa.hummer@ch2m.com

Customer: CH2M HILL
Address: 25 NEW CHARDON STE 300
BOSTON MA 02114

Project: HOLLY POND SEDIMENT INVEST.
Report to: THERESA HUMMER
Invoice to: ERIN MOSLEY

Project P.O: _____
Phone #: 617-626-7031
Fax #: _____

Client Sample - Information - Identification

Sampler's Signature: [signature] 12/3/08 Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	PCB & Pesticides	PAHs (8270 SIM)	METALS	TOC	% MOISTURE	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container (8) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
	HP-SD01-05-17-120308	S	12/3/08	10:05	✓	✓	✓	✓	✓	✓	2							
	HP-SD02-0.5-17-120308	↓	↓	09:31	↓	↓	↓	↓	↓	↓	↓							
	HP-SD05-05-15-120308	↓	↓	08:34	↓	↓	↓	↓	↓	↓	↓							
	HP-SD07-08-19-120308	↓	↓	10:23	↓	↓	↓	↓	↓	↓	↓							
	HP-SD09-05-25-120308	↓	↓	10:18	↓	↓	↓	↓	↓	↓	↓							
	HP-EB-120308-01(2)	O	↓	15:05	↓	↓	↓	↓	↓	↓				3		1	1	

Relinquished by:	Accepted by:	Date:	Time:
[signature] 12/4/08			

Comments, Special Requirements or Regulations:

See page 1 please.
(2) Equipment blank.

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☑ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

Data Format
☑ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other _____

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☑ Phoenix Std Report
☐ Other

State where samples were collected: CT

Attachment 2: Analytical Data – Chemical Analyses

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/02/08	14:28
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17445

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD10-00-05-120208

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	1.4	0.9	mg/Kg	12/05/08		TH	SW6010	
Cadmium	0.48	0.46	mg/Kg	12/05/08		TH	SW6010	
Chromium	24.4	0.46	mg/Kg	12/05/08		TH	SW6010	
Copper	55.1	0.46	mg/kg	12/05/08		TH	SW6010	
Mercury	< 0.09	0.09	mg/kg	12/05/08		RS	SW-7471	
Nickel	11.4	0.46	mg/Kg	12/05/08		TH	SW6010	
Lead	45.6	0.46	mg/Kg	12/05/08		TH	SW6010	
Zinc	123	0.46	mg/Kg	12/05/08		TH	SW6010	
Percent Moisture	36.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	64		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	9250	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	510	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	67		%	12/05/08		MH	SW 8082	
% TCMX	82		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	24	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	24	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	24	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	12	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	3.8	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Chlordane	150	50	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	3.8	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	12	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	24	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	24	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	24	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	24	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	24	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	7.6	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	12	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	120	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	120	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	73		%	12/09/08		MH	SW8081
% TCMX	80		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	510	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	510	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	510	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	140	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	930	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	1000	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	1700	510	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	620	260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	590	370	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	1100	260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	150	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	2200	640	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	580	310	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	700	310	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	1800	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	71		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	60		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	74		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/02/08	14:38
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

Laboratory Data

SDG I.D.: GAR17445
Phoenix I.D.: AR17446

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD11-00-05-120208

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	3.1	1.4	mg/Kg	12/06/08		TH	SW6010	
Cadmium	1.16	0.72	mg/Kg	12/06/08		TH	SW6010	
Chromium	47.2	0.72	mg/Kg	12/06/08		TH	SW6010	
Copper	105	0.72	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.16	0.16	mg/kg	12/05/08		RS	SW-7471	
Nickel	19.0	0.72	mg/Kg	12/06/08		TH	SW6010	
Lead	139	0.72	mg/Kg	12/06/08		TH	SW6010	
Zinc	258	0.72	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	51.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	49		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	20800	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	670	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	670	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	670	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	670	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	670	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	670	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	670	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	670	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	670	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	47		%	12/05/08		MH	SW 8082	
% TCMX	65		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	32	ug/Kg	12/10/08		MH	SW8081
4,4' -DDE	ND	32	ug/Kg	12/10/08		MH	SW8081
4,4' -DDT	ND	32	ug/Kg	12/10/08		MH	SW8081
a-BHC	ND	16	ug/Kg	12/10/08		MH	SW8081
Alachlor	ND	16	ug/Kg	12/10/08		MH	SW8081
Aldrin	ND	5.0	ug/Kg	12/10/08		MH	SW8081
b-BHC	ND	16	ug/Kg	12/10/08		MH	SW8081
Chlordane	180	66	ug/Kg	12/10/08		MH	SW8081
d-BHC	ND	16	ug/Kg	12/10/08		MH	SW8081
Dieldrin	ND	5.0	ug/Kg	12/10/08		MH	SW8081
Endosulfan I	ND	16	ug/Kg	12/10/08		MH	SW8081
Endosulfan II	ND	32	ug/Kg	12/10/08		MH	SW8081
Endosulfan sulfate	ND	32	ug/Kg	12/10/08		MH	SW8081
Endrin	ND	32	ug/Kg	12/10/08		MH	SW8081
Endrin aldehyde	ND	32	ug/Kg	12/10/08		MH	SW8081
Endrin ketone	ND	32	ug/Kg	12/10/08		MH	SW8081
g-BHC	ND	16	ug/Kg	12/10/08		MH	SW8081
Heptachlor	ND	10	ug/Kg	12/10/08		MH	SW8081
Heptachlor epoxide	ND	16	ug/Kg	12/10/08		MH	SW8081
Methoxychlor	ND	160	ug/Kg	12/10/08		MH	SW8081
Toxaphene	ND	160	ug/Kg	12/10/08		MH	SW8081
QA/QC Surrogates							
% DCBP	61		%	12/10/08		MH	SW8081
% TCMX	71		%	12/10/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	670	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	670	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	670	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	300	130	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	1900	130	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	2100	130	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	3700	670	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	1100	330	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	1300	480	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	2200	330	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	280	130	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	5000	840	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	150	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	1100	400	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	330	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	1400	410	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	3900	130	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	69		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	58		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	82		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	8:28
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17447

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD04-00-05-120308

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	2.4	1.1	mg/Kg	12/06/08		TH	SW6010	
Cadmium	0.85	0.54	mg/Kg	12/06/08		TH	SW6010	
Chromium	35.4	0.54	mg/Kg	12/06/08		TH	SW6010	
Copper	105	0.54	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.12	0.12	mg/kg	12/05/08		RS	SW-7471	
Nickel	16.9	0.54	mg/Kg	12/06/08		TH	SW6010	
Lead	144	0.54	mg/Kg	12/06/08		TH	SW6010	
Zinc	226	0.54	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	44.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	56		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	18400	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	590	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	590	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	590	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	590	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	590	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	590	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	590	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	590	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	590	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	74		%	12/05/08		MH	SW 8082	
% TCMX	80		%	12/05/08		MH	SW 8082	

Parameter	Result		RL	Units	Date	Time	By	Reference
Pesticides								
4,4' -DDD	ND		28	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND		28	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND		28	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND		14	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND		14	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND		4.4	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND		14	ug/Kg	12/09/08		MH	SW8081
Chlordane	170		58	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND		14	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND		4.4	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND		14	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND		28	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND		28	ug/Kg	12/09/08		MH	SW8081
Endrin	ND		28	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND		28	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND		28	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	*	19	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND		8.9	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND		14	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND		140	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND		140	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates								
% DCBP	82			%	12/09/08		MH	SW8081
% TCMX	78			%	12/09/08		MH	SW8081
Polynuclear Aromatic HC								
2-Methylnaphthalene	ND		590	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND		590	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND		590	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	260		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	2000		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	2100		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	3700		590	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	1200		300	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	1200		430	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	2200		300	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	300		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	4800		750	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND		140	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	1100		360	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND		300	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	1200		360	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	3900		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates								
% 2-Fluorobiphenyl	77			%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	64			%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	84			%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

** Due to matrix interference in the sample an elevated MDL was reported.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	8:28
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17448

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD04-00-05-120308D

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	2.8	1.0	mg/Kg	12/06/08		TH	SW6010	
Cadmium	0.80	0.52	mg/Kg	12/06/08		TH	SW6010	
Chromium	32.0	0.52	mg/Kg	12/06/08		TH	SW6010	
Copper	90.6	0.52	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.13	0.13	mg/kg	12/05/08		RS	SW-7471	
Nickel	15.1	0.52	mg/Kg	12/06/08		TH	SW6010	
Lead	79.6	0.52	mg/Kg	12/06/08		TH	SW6010	
Zinc	195	0.52	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	43.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	57		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	18200	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	570	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	570	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	570	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	570	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	570	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	570	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	570	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	570	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	570	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	54		%	12/05/08		MH	SW 8082	
% TCMX	73		%	12/05/08		MH	SW 8082	

Parameter	Result		RL	Units	Date	Time	By	Reference
Pesticides								
4,4' -DDD	ND		27	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND		27	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND		27	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND		14	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND		14	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND		4.3	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND		14	ug/Kg	12/09/08		MH	SW8081
Chlordane	150		56	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND		14	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND		4.3	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND		14	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND		27	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND		27	ug/Kg	12/09/08		MH	SW8081
Endrin	ND		27	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND		27	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND		27	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	**	26	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND		8.6	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND		14	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND		140	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND		140	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates								
% DCBP	65			%	12/09/08		MH	SW8081
% TCMX	71			%	12/09/08		MH	SW8081
Polynuclear Aromatic HC								
2-Methylnaphthalene	ND		580	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND		580	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND		580	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	230		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	1700		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	1900		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	3500		580	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	940		290	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	1100		420	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	2000		290	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	240		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	4200		730	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND		130	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	950		350	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND		290	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	1200		360	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	3400		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates								
% 2-Fluorobiphenyl	70			%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	60			%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	78			%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

** Due to matrix interference in the sample an elevated MDL was reported.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	8:31
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

Laboratory Data

SDG I.D.: GAR17445
Phoenix I.D.: AR17449

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD05-00-05-120308-1

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	1.8	0.9	mg/Kg	12/06/08		TH	SW6010	
Cadmium	< 0.43	0.43	mg/Kg	12/06/08		TH	SW6010	
Chromium	8.12	0.43	mg/Kg	12/06/08		TH	SW6010	
Copper	33.3	0.43	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.08	0.08	mg/kg	12/05/08		RS	SW-7471	
Nickel	8.42	0.43	mg/Kg	12/06/08		TH	SW6010	
Lead	36.0	0.43	mg/Kg	12/06/08		TH	SW6010	
Zinc	59.0	0.43	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	19.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	81		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	1240	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	410	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	84		%	12/05/08		MH	SW 8082	
% TCMX	92		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	20	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	20	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	20	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	9.8	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	9.8	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	3.1	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	9.8	ug/Kg	12/09/08		MH	SW8081
Chlordane	120	40	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	9.8	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	3.1	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	9.8	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	20	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	20	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	20	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	20	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	20	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	9.8	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	6.1	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	9.8	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	98	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	98	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	92		%	12/09/08		MH	SW8081
% TCMX	88		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	410	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	410	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	410	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	ND	82	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	340	82	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	370	82	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	600	410	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	ND	200	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	ND	290	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	400	200	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	ND	82	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	860	520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	95	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	200	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	310	250	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	700	82	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	71		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	59		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	79		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

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7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	8:53
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17450

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD03-00-05-120308

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	1.0	0.8	mg/Kg	12/06/08		TH	SW6010	
Cadmium	< 0.43	0.43	mg/Kg	12/06/08		TH	SW6010	
Chromium	10.7	0.43	mg/Kg	12/06/08		TH	SW6010	
Copper	43.2	0.43	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.10	0.10	mg/kg	12/05/08		RS	SW-7471	
Nickel	10.3	0.43	mg/Kg	12/06/08		TH	SW6010	
Lead	54.6	0.43	mg/Kg	12/06/08		TH	SW6010	
Zinc	90.7	0.43	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	21.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	79		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	1590	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	410	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	410	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	80		%	12/05/08		MH	SW 8082	
% TCMX	85		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	20	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	20	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	20	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	9.9	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	9.9	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	3.1	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	9.9	ug/Kg	12/09/08		MH	SW8081
Chlordane	160	41	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	9.9	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	3.1	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	9.9	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	20	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	20	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	20	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	20	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	20	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	9.9	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	6.2	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	9.9	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	99	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	99	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	86		%	12/09/08		MH	SW8081
% TCMX	83		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	420	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	420	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	420	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	180	83	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	780	83	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	780	83	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	1300	420	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	340	210	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	450	300	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	840	210	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	90	83	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	1700	520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	97	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	320	250	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	210	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	710	250	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	1600	83	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	61		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	83		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

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7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	8:58
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17451

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD02-00-05-120208

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	2.1	0.8	mg/Kg	12/06/08		TH	SW6010	
Cadmium	< 0.39	0.39	mg/Kg	12/06/08		TH	SW6010	
Chromium	15.8	0.39	mg/Kg	12/06/08		TH	SW6010	
Copper	41.2	0.39	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.09	0.09	mg/kg	12/05/08		RS	SW-7471	
Nickel	13.4	0.39	mg/Kg	12/06/08		TH	SW6010	
Lead	745	0.39	mg/Kg	12/06/08		TH	SW6010	
Zinc	119	0.39	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	18.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	82		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	13000	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	400	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	400	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	400	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	400	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	400	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	400	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	400	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	400	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	400	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	94		%	12/05/08		MH	SW 8082	
% TCMX	94		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	19	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	19	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	19	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	9.6	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	9.6	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	3.0	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	9.6	ug/Kg	12/09/08		MH	SW8081
Chlordane	200	40	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	9.6	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	3.0	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	9.6	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	19	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	19	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	19	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	19	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	19	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	9.6	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	6.0	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	9.6	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	96	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	96	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	104		%	12/09/08		MH	SW8081
% TCMX	88		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	400	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	400	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	400	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	140	80	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	670	80	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	680	80	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	1200	400	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	380	200	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	380	290	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	760	200	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	100	80	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	1700	510	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	93	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	370	240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	200	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	770	250	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	1300	80	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	64		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	82		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	9:03
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17452

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD01-00-05-120208

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	0.8	0.7	mg/Kg	12/06/08		TH	SW6010	
Cadmium	< 0.36	0.36	mg/Kg	12/06/08		TH	SW6010	
Chromium	16.2	0.36	mg/Kg	12/06/08		TH	SW6010	
Copper	40.7	0.36	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.07	0.07	mg/kg	12/05/08		RS	SW-7471	
Nickel	8.40	0.36	mg/Kg	12/06/08		TH	SW6010	
Lead	30.8	0.36	mg/Kg	12/06/08		TH	SW6010	
Zinc	81.9	0.36	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	10.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	90		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	6070	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	360	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	360	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	360	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	360	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	360	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	360	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	360	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	360	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	360	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	92		%	12/05/08		MH	SW 8082	
% TCMX	97		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	17	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	17	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	17	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	8.6	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	8.6	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	2.7	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	8.6	ug/Kg	12/09/08		MH	SW8081
Chlordane	210	35	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	8.6	ug/Kg	12/09/08		MH	SW8081
Dieldrin	3.0	2.7	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	8.6	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	17	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	17	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	17	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	17	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	17	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	8.6	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	5.4	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	8.6	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	86	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	86	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	110		%	12/09/08		MH	SW8081
% TCMX	96		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	370	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	370	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	370	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	140	74	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	790	74	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	740	74	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	1200	370	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	370	180	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	450	270	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	800	180	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	91	74	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	1600	470	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	86	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	340	220	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	180	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	480	230	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	1300	74	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	72		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	60		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	85		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	10:23
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17453

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD07-00-05-120208

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	4.4	1.0	mg/Kg	12/06/08		TH	SW6010	
Cadmium	1.53	0.49	mg/Kg	12/06/08		TH	SW6010	
Chromium	64.1	0.49	mg/Kg	12/06/08		TH	SW6010	
Copper	422	4.9	mg/kg	12/10/08		EK	SW6010	
Mercury	0.15	0.11	mg/kg	12/05/08		RS	SW-7471	
Nickel	27.5	0.49	mg/Kg	12/06/08		TH	SW6010	
Lead	287	0.49	mg/Kg	12/06/08		TH	SW6010	
Zinc	455	0.49	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	32.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	68		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	12900	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	490	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	67		%	12/05/08		MH	SW 8082	
% TCMX	60		%	12/05/08		MH	SW 8082	

Parameter	Result		RL	Units	Date	Time	By	Reference
Pesticides								
4,4' -DDD	ND	**	39	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND		23	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND		23	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND		12	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND		3.6	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Chlordane	170		48	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND		3.6	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND		12	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND		23	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND		23	ug/Kg	12/09/08		MH	SW8081
Endrin	ND		23	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND		23	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND		23	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND		7.3	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND		12	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND		120	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND		120	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates								
% DCBP	74			%	12/09/08		MH	SW8081
% TCMX	58			%	12/09/08		MH	SW8081
Polynuclear Aromatic HC								
2-Methylnaphthalene	ND		490	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND		490	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND		490	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	150		98	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	820		98	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	1000		98	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	1700		490	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	570		240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	580		350	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	910		240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	180		98	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	1700		610	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND		110	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	550		290	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND		240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	360		300	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	2100		98	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates								
% 2-Fluorobiphenyl	59			%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	58			%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	85			%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

** Due to co-eluting non tatget compound in the sample an elevated MDL was reported.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	10:14
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17454

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD08-00-05-120208

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	< 0.9	0.9	mg/Kg	12/06/08		TH	SW6010	
Cadmium	< 0.44	0.44	mg/Kg	12/06/08		TH	SW6010	
Chromium	5.25	0.44	mg/Kg	12/06/08		TH	SW6010	
Copper	17.8	0.44	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.09	0.09	mg/kg	12/05/08		RS	SW-7471	
Nickel	5.21	0.44	mg/Kg	12/06/08		TH	SW6010	
Lead	16.5	0.44	mg/Kg	12/06/08		TH	SW6010	
Zinc	43.9	0.44	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	25.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	75		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	1060	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	440	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	79		%	12/05/08		MH	SW 8082	
% TCMX	97		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	21	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	21	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	21	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	10	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	10	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	3.3	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	10	ug/Kg	12/09/08		MH	SW8081
Chlordane	100	43	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	10	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	3.3	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	10	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	21	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	21	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	21	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	21	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	21	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	10	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	6.5	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	10	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	100	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	100	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	93		%	12/09/08		MH	SW8081
% TCMX	94		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	440	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	440	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	440	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	120	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	660	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	660	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	1100	440	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	320	220	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	370	310	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	680	220	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	ND	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	1500	550	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	300	260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	220	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	560	270	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	1200	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	77		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	66		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	83		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	10:18
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17455

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD09-00-05-120208

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	6.1	1.0	mg/Kg	12/06/08		TH	SW6010	
Cadmium	1.74	0.52	mg/Kg	12/06/08		TH	SW6010	
Chromium	116	0.52	mg/Kg	12/06/08		TH	SW6010	
Copper	719	5.2	mg/kg	12/10/08		EK	SW6010	
Mercury	0.21	0.13	mg/kg	12/05/08		RS	SW-7471	
Nickel	24.8	0.52	mg/Kg	12/06/08		TH	SW6010	
Lead	195	0.52	mg/Kg	12/06/08		TH	SW6010	
Zinc	571	0.52	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	38.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	62		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	18500	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	530	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	530	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	530	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	530	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	530	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	530	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	530	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	530	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	530	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	58		%	12/05/08		MH	SW 8082	
% TCMX	60		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	25	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	25	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	25	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	13	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	13	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	4.0	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	13	ug/Kg	12/09/08		MH	SW8081
Chlordane	180	52	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	13	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	4.0	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	13	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	25	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	25	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	25	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	25	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	25	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	13	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	7.9	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	13	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	130	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	130	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	66		%	12/09/08		MH	SW8081
% TCMX	58		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	530	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	530	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	530	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	160	110	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	790	110	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	900	110	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	1500	530	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	400	270	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	590	380	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	820	270	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	130	110	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	1900	670	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	390	320	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	270	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	440	320	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	1700	110	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	68		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	59		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	93		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	9:31
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17456

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD06-00-05-120208

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	6.4	1.1	mg/Kg	12/06/08		TH	SW6010	
Cadmium	3.50	0.56	mg/Kg	12/06/08		TH	SW6010	
Chromium	136	0.56	mg/Kg	12/06/08		TH	SW6010	
Copper	1060	5.6	mg/kg	12/10/08		EK	SW6010	
Mercury	0.19	0.13	mg/kg	12/05/08		RS	SW-7471	
Nickel	42.3	0.56	mg/Kg	12/06/08		TH	SW6010	
Lead	422	0.56	mg/Kg	12/06/08		TH	SW6010	
Zinc	1120	5.6	mg/Kg	12/10/08		EK	SW6010	
Percent Moisture	37.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	63		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	14200	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI/E	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	520	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	520	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	520	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	520	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	520	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	520	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	520	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	520	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	520	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	64		%	12/05/08		MH	SW 8082	
% TCMX	46		%	12/05/08		MH	SW 8082	

Parameter	Result		RL	Units	Date	Time	By	Reference
Pesticides								
4,4' -DDD	ND	**	34	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND		25	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND		25	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND		12	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND		3.9	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Chlordane	130		51	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND		3.9	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND		12	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND		25	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND		25	ug/Kg	12/09/08		MH	SW8081
Endrin	ND		25	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND		25	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND		25	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND		7.8	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND		12	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND		120	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND		120	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates								
% DCBP	71			%	12/09/08		MH	SW8081
% TCMX	47			%	12/09/08		MH	SW8081
Polynuclear Aromatic HC								
2-Methylnaphthalene	ND		520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND		520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND		520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	150		100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	700		100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	820		100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	1400		520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	380		260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	530		370	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	730		260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	130		100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	2000		650	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND		120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	360		310	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND		260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	ND		320	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	1800		100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates								
% 2-Fluorobiphenyl	62			%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	63			%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	98			%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

** Due to co-eluting non tatget compound in the sample an elevated MDL was reported.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	10:05
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17457

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD01-05-1.7-120308

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	3.3	1.0	mg/Kg	12/06/08		TH	SW6010	
Cadmium	1.16	0.52	mg/Kg	12/06/08		TH	SW6010	
Chromium	47.0	0.52	mg/Kg	12/06/08		TH	SW6010	
Copper	527	5.2	mg/kg	12/10/08		EK	SW6010	
Mercury	0.18	0.10	mg/kg	12/05/08		RS	SW-7471	
Nickel	31.8	0.52	mg/Kg	12/06/08		TH	SW6010	
Lead	152	0.52	mg/Kg	12/06/08		TH	SW6010	
Zinc	677	5.2	mg/Kg	12/10/08		EK	SW6010	
Percent Moisture	31.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	69		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	11400	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	480	ug/Kg	12/09/08		MH	SW 8082	
PCB-1221	ND	480	ug/Kg	12/09/08		MH	SW 8082	
PCB-1232	ND	480	ug/Kg	12/09/08		MH	SW 8082	
PCB-1242	ND	480	ug/Kg	12/09/08		MH	SW 8082	
PCB-1248	ND	480	ug/Kg	12/09/08		MH	SW 8082	
PCB-1254	1100	480	ug/Kg	12/09/08		MH	SW 8082	
PCB-1260	ND	480	ug/Kg	12/09/08		MH	SW 8082	
PCB-1262	ND	480	ug/Kg	12/09/08		MH	SW 8082	
PCB-1268	ND	480	ug/Kg	12/09/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	82		%	12/09/08		MH	SW 8082	
% TCMX	70		%	12/09/08		MH	SW 8082	

Parameter	Result		RL	Units	Date	Time	By	Reference
Pesticides								
4,4' -DDD	ND	**	86	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	**	31	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND		23	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND		12	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND		3.6	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Chlordane	260		47	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	**	11	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND		12	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND		23	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND		23	ug/Kg	12/09/08		MH	SW8081
Endrin	ND		23	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND		23	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND		23	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND		12	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND		7.2	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND		12	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND		120	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND		120	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates								
% DCBP	76			%	12/09/08		MH	SW8081
% TCMX	67			%	12/09/08		MH	SW8081
Polynuclear Aromatic HC								
2-Methylnaphthalene	ND		480	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND		480	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND		480	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	190		95	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	940		95	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	1100		95	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	2000		480	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	500		240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	630		340	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	800		240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	160		95	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	2700		600	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND		110	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	500		280	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND		240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	380		290	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	2400		95	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates								
% 2-Fluorobiphenyl	69			%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	67			%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	92			%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

** Due to matrix interference caused by the presence of PCB's in the sample, an elevated MDL was reported.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	9:34
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17458

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD06-0.5-17-120308

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	< 0.9	0.9	mg/Kg	12/06/08		TH	SW6010	
Cadmium	< 0.46	0.46	mg/Kg	12/06/08		TH	SW6010	
Chromium	9.47	0.46	mg/Kg	12/06/08		TH	SW6010	
Copper	25.5	0.46	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.11	0.11	mg/kg	12/05/08		RS	SW-7471	
Nickel	6.94	0.46	mg/Kg	12/06/08		TH	SW6010	
Lead	26.9	0.46	mg/Kg	12/06/08		TH	SW6010	
Zinc	54.6	0.46	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	25.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	75		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	1040	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	440	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	440	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	82		%	12/05/08		MH	SW 8082	
% TCMX	95		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	21	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	21	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	21	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	10	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	10	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	3.3	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	10	ug/Kg	12/09/08		MH	SW8081
Chlordane	170	43	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	10	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	3.3	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	10	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	21	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	21	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	21	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	21	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	21	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	10	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	6.5	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	10	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	100	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	100	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	87		%	12/09/08		MH	SW8081
% TCMX	86		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	430	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	430	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	430	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	250	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	1400	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	1800	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	2800	430	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	650	220	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	970	310	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	1200	220	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	200	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	2200	550	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	670	260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	220	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	680	260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	2600	87	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	73		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	62		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	83		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	8:34
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17459

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD05-0.5-15-120308

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	1.8	0.8	mg/Kg	12/06/08		TH	SW6010	
Cadmium	0.76	0.42	mg/Kg	12/06/08		TH	SW6010	
Chromium	29.3	0.42	mg/Kg	12/06/08		TH	SW6010	
Copper	85.1	0.42	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.09	0.09	mg/kg	12/05/08		RS	SW-7471	
Nickel	16.3	0.42	mg/Kg	12/06/08		TH	SW6010	
Lead	159	0.42	mg/Kg	12/06/08		TH	SW6010	
Zinc	159	0.42	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	28.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	72		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	5280	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	460	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	460	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	460	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	460	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	460	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	460	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	460	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	460	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	460	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	80		%	12/05/08		MH	SW 8082	
% TCMX	89		%	12/05/08		MH	SW 8082	

Parameter	Result		RL	Units	Date	Time	By	Reference
Pesticides								
4,4' -DDD	ND	**	23	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND		22	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND		22	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND		11	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND		11	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND		3.4	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND		11	ug/Kg	12/09/08		MH	SW8081
Chlordane	260		45	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND		11	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND		3.4	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND		11	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND		22	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND		22	ug/Kg	12/09/08		MH	SW8081
Endrin	ND		22	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND		22	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND		22	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND		11	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND		6.8	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND		11	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND		110	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND		110	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates								
% DCBP	88			%	12/09/08		MH	SW8081
% TCMX	83			%	12/09/08		MH	SW8081
Polynuclear Aromatic HC								
2-Methylnaphthalene	ND		460	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND		460	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND		460	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	230		91	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	1300		91	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	1400		91	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	2200		460	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	610		230	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	850		330	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	1300		230	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	160		91	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	3300		570	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND		100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	600		270	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND		230	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	610		280	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	2700		91	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates								
% 2-Fluorobiphenyl	72			%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	64			%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	87			%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

** Due to co-eluting non tatget compound in the sample an elevated MDL was reported.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	10:23
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

Laboratory Data

SDG I.D.: GAR17445
Phoenix I.D.: AR17460

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD07-08-19-120308

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	< 1.0	1.0	mg/Kg	12/06/08		TH	SW6010	
Cadmium	0.50	0.49	mg/Kg	12/06/08		TH	SW6010	
Chromium	14.0	0.49	mg/Kg	12/06/08		TH	SW6010	
Copper	50.3	0.49	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.09	0.09	mg/kg	12/05/08		RS	SW-7471	
Nickel	8.61	0.49	mg/Kg	12/06/08		TH	SW6010	
Lead	36.5	0.49	mg/Kg	12/06/08		TH	SW6010	
Zinc	88.5	0.49	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	37.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	63		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	1900	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	510	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	510	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	63		%	12/05/08		MH	SW 8082	
% TCMX	86		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	24	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	24	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	24	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	12	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	3.8	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Chlordane	120	50	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	3.8	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	12	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	24	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	24	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	24	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	24	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	24	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	7.6	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	12	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	120	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	120	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	96		%	12/09/08		MH	SW8081
% TCMX	107		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	140	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	720	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	760	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	1400	520	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	350	260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	450	370	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	780	260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	ND	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	1600	650	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	120	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	350	310	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	260	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	560	320	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	1300	100	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	70		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	62		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	77		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		12/03/08	10:18
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

Laboratory Data

SDG I.D.: GAR17445
Phoenix I.D.: AR17461

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-SD09-05-25-120308

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	< 1.0	1.0	mg/Kg	12/06/08		TH	SW6010	
Cadmium	< 0.50	0.50	mg/Kg	12/06/08		TH	SW6010	
Chromium	12.3	0.50	mg/Kg	12/06/08		TH	SW6010	
Copper	81.4	0.50	mg/kg	12/06/08		TH	SW6010	
Mercury	< 0.1	0.1	mg/kg	12/05/08		RS	SW-7471	
Nickel	6.69	0.50	mg/Kg	12/06/08		TH	SW6010	
Lead	133	0.50	mg/Kg	12/06/08		TH	SW6010	
Zinc	67.5	0.50	mg/Kg	12/06/08		TH	SW6010	
Percent Moisture	32.0	0.1	%	12/05/08		EG	PEL	
Percent Solid	68		%	12/04/08		M-JL	E160.3	
Tot.Org.Carbon	2800	100	mg/kg	12/05/08		JL	E Kahn 6/99	1,7
Mercury Digestion	Completed			12/05/08		D	SW7471	
Soil Extraction for PCB	Completed			12/04/08		JI	SW3545	
Soil Ext. for Pesticide	Completed			12/04/08		JI	3545	
Soil Ext. for SVOA SIM	Completed			12/04/08		SS/E	SW3545	
Total Metals Digest	Completed			12/04/08		AG/T	SW846 - 3050	
Tot.Org.Carbon Preparation	Completed			12/04/08		JL		
Polychlorinated Biphenyls								
PCB-1016	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1221	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1232	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1242	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1248	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1254	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1260	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1262	ND	490	ug/Kg	12/05/08		MH	SW 8082	
PCB-1268	ND	490	ug/Kg	12/05/08		MH	SW 8082	
QA/QC Surrogates								
% DCBP	64		%	12/05/08		MH	SW 8082	
% TCMX	79		%	12/05/08		MH	SW 8082	

Parameter	Result	RL	Units	Date	Time	By	Reference
Pesticides							
4,4' -DDD	ND	23	ug/Kg	12/09/08		MH	SW8081
4,4' -DDE	ND	23	ug/Kg	12/09/08		MH	SW8081
4,4' -DDT	ND	23	ug/Kg	12/09/08		MH	SW8081
a-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Alachlor	ND	12	ug/Kg	12/09/08		MH	SW8081
Aldrin	ND	3.6	ug/Kg	12/09/08		MH	SW8081
b-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Chlordane	110	48	ug/Kg	12/09/08		MH	SW8081
d-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Dieldrin	ND	3.6	ug/Kg	12/09/08		MH	SW8081
Endosulfan I	ND	12	ug/Kg	12/09/08		MH	SW8081
Endosulfan II	ND	23	ug/Kg	12/09/08		MH	SW8081
Endosulfan sulfate	ND	23	ug/Kg	12/09/08		MH	SW8081
Endrin	ND	23	ug/Kg	12/09/08		MH	SW8081
Endrin aldehyde	ND	23	ug/Kg	12/09/08		MH	SW8081
Endrin ketone	ND	23	ug/Kg	12/09/08		MH	SW8081
g-BHC	ND	12	ug/Kg	12/09/08		MH	SW8081
Heptachlor	ND	7.3	ug/Kg	12/09/08		MH	SW8081
Heptachlor epoxide	ND	12	ug/Kg	12/09/08		MH	SW8081
Methoxychlor	ND	120	ug/Kg	12/09/08		MH	SW8081
Toxaphene	ND	120	ug/Kg	12/09/08		MH	SW8081
QA/QC Surrogates							
% DCBP	77		%	12/09/08		MH	SW8081
% TCMX	83		%	12/09/08		MH	SW8081
Polynuclear Aromatic HC							
2-Methylnaphthalene	ND	490	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthene	ND	490	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Acenaphthylene	ND	490	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Anthracene	270	97	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benz(a)anthracene	1200	97	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(a)pyrene	1300	97	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(b)fluoranthene	2200	490	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(ghi)perylene	540	240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Benzo(k)fluoranthene	580	350	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Chrysene	1300	240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Dibenz(a,h)anthracene	150	97	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluoranthene	3000	610	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Fluorene	ND	110	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Indeno(1,2,3-cd)pyrene	550	290	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Naphthalene	ND	240	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Phenanthrene	1200	300	ug/Kg	12/05/08		KCA	SW 8270(SIM)
Pyrene	2300	97	ug/Kg	12/05/08		KCA	SW 8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	73		%	12/05/08		KCA	SW 8270(SIM)
% Nitrobenzene-d5	62		%	12/05/08		KCA	SW 8270(SIM)
% Terphenyl-d14	80		%	12/05/08		KCA	SW 8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.
7 = This parameter is not certified by MA for this matrix.

Comments:

*The client requested semivolatile SIM analysis. Due to sample matrix, the sample had to be run full scan and could not be evaluated for low level MDL.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 12, 2008

FOR: Attn: Ms. Theresa Himmer
CH2M Hill Inc.
25 New Chardon Street
Suite 300
Boston, MA 02114

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		12/03/08	15:05
Location Code:	CH2M	Received by:	LB	12/04/08	9:18
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	931619				

SDG I.D.: GAR17445
Phoenix I.D.: AR17462

Laboratory Data

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-EB-120308-01-2

Parameter	Result	RL	Units	Date	Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	12/06/08		TH	6010/200.7
Cadmium	< 0.001	0.001	mg/L	12/06/08		TH	6010/200.7
Chromium	< 0.001	0.001	mg/L	12/06/08		TH	6010/200.7
Copper	0.001	0.001	mg/L	12/08/08		EK	6010/200.7
Mercury	< 0.0002	0.0002	mg/L	12/05/08		RS	7470/E245.1
Nickel	< 0.001	0.001	mg/L	12/08/08		LK	6010/200.7
Lead (Furnace)	< 0.001	0.001	mg/L	12/08/08		RS	7000/S3113B
Zinc	0.009	0.002	mg/L	12/06/08		TH	6010/200.7
Total Organic Carbon	1.3	1.0	mg/L	12/05/08		JC/EG	SM 5310B
Mercury Digestion	Completed			12/05/08		D	7471/245.1
PCB Extraction	Completed			12/04/08		O/O	SW3510/3520
Pesticide Extraction	Completed			12/09/08		O/O	SW3510/3520
Semi-Volatile Extraction	Completed			12/04/08		O/K	SW3510/3520
Total Metals Digestion	Completed			12/04/08		AG	
Semivolatiles by SIM							
2-Methylnaphthalene	ND	10	ug/L	12/08/08		KCA	8270(SIM)
Acenaphthene	ND	10	ug/L	12/08/08		KCA	8270(SIM)
Acenaphthylene	ND	0.3	ug/L	12/08/08		KCA	8270(SIM)
Anthracene	ND	10	ug/L	12/08/08		KCA	8270(SIM)
Benz(a)anthracene	ND	0.06	ug/L	12/08/08		KCA	8270(SIM)
Benzo(a)pyrene	ND	0.2	ug/L	12/08/08		KCA	8270(SIM)
Benzo(b)fluoranthene	ND	0.08	ug/L	12/08/08		KCA	8270(SIM)
Benzo(ghi)perylene	ND	10	ug/L	12/08/08		KCA	8270(SIM)
Benzo(k)fluoranthene	ND	0.3	ug/L	12/08/08		KCA	8270(SIM)
Chrysene	ND	2	ug/L	12/08/08		KCA	8270(SIM)
Dibenz(a,h)anthracene	ND	0.5	ug/L	12/08/08		KCA	8270(SIM)
Fluoranthene	ND	10	ug/L	12/08/08		KCA	8270(SIM)
Fluorene	ND	10	ug/L	12/08/08		KCA	8270(SIM)
Indeno(1,2,3-cd)pyrene	ND	0.5	ug/L	12/08/08		KCA	8270(SIM)
Naphthalene	ND	10	ug/L	12/08/08		KCA	8270(SIM)

Parameter	Result	RL	Units	Date	Time	By	Reference
Phenanthrene	ND	0.3	ug/L	12/08/08		KCA	8270(SIM)
Pyrene	ND	10	ug/L	12/08/08		KCA	8270(SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	88		%	12/08/08		KCA	8270(SIM)
% Nitrobenzene-d5	75		%	12/08/08		KCA	8270(SIM)
% Terphenyl-d14	111		%	12/08/08		KCA	8270(SIM)
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug/L	12/08/08		MH	608/ 8082
PCB-1221	ND	0.50	ug/L	12/08/08		MH	608/ 8082
PCB-1232	ND	0.50	ug/L	12/08/08		MH	608/ 8082
PCB-1242	ND	0.50	ug/L	12/08/08		MH	608/ 8082
PCB-1248	ND	0.50	ug/L	12/08/08		MH	608/ 8082
PCB-1254	ND	0.50	ug/L	12/08/08		MH	608/ 8082
PCB-1260	ND	0.50	ug/L	12/08/08		MH	608/ 8082
PCB-1262	ND	0.50	ug/L	12/08/08		MH	608/ 8082
PCB-1268	ND	0.50	ug/L	12/08/08		MH	608/ 8082
QA/QC Surrogates							
% DCBP	34		%	12/08/08		MH	608/ 8082
% TCMX	98		%	12/08/08		MH	608/ 8082
Pesticides							
4,4' -DDD	ND	0.10	ug/L	12/10/08		MH	SW8081
4,4' -DDE	ND	0.10	ug/L	12/10/08		MH	SW8081
4,4' -DDT	ND	0.10	ug/L	12/10/08		MH	SW8081
a-BHC	ND	0.050	ug/L	12/10/08		MH	SW8081
Alachlor	ND	0.10	ug/L	12/10/08		MH	SW8081
Aldrin	ND	0.050	ug/L	12/10/08		MH	SW8081
b-BHC	ND	0.050	ug/L	12/10/08		MH	SW8081
Chlordane	ND	0.50	ug/L	12/10/08		MH	SW8081
d-BHC	ND	0.050	ug/L	12/10/08		MH	SW8081
Dieldrin	ND	0.10	ug/L	12/10/08		MH	SW8081
Endosulfan I	ND	0.050	ug/L	12/10/08		MH	SW8081
Endosulfan II	ND	0.10	ug/L	12/10/08		MH	SW8081
Endosulfan sulfate	ND	0.10	ug/L	12/10/08		MH	SW8081
Endrin	ND	0.10	ug/L	12/10/08		MH	SW8081
Endrin aldehyde	ND	0.10	ug/L	12/10/08		MH	SW8081
Endrin ketone	ND	0.10	ug/L	12/10/08		MH	SW8081
g-BHC	ND	0.050	ug/L	12/10/08		MH	SW8081
Heptachlor	ND	0.050	ug/L	12/10/08		MH	SW8081
Heptachlor epoxide	ND	0.050	ug/L	12/10/08		MH	SW8081
Methoxychlor	ND	0.20	ug/L	12/10/08		MH	SW8081
Toxaphene	ND	1.0	ug/L	12/10/08		MH	SW8081
QA/QC Surrogates							
% DCBP	30		%	12/10/08		MH	SW8081
% TCMX	101		%	12/10/08		MH	SW8081

Client ID: HOLLY POND SEDIMENT INVESTIGATION HP-EB-120308-01-2 Phoenix I.D.: AR17462

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

EQUIPMENT BLANK INCLUDED

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director

December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

December 12, 2008

QA/QC Data

SDG I.D.: GAR17445

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 116734, QC Sample No: AR17420 (AR17462)								
ICP Metals - Aqueous								
Arsenic	BDL	NC	95.1	97.2	2.2	99.6	101	1.4
Cadmium	BDL	NC	101	104	2.9	99.7	103	3.3
Chromium	BDL	NC	101	104	2.9	102	104	1.9
Copper	BDL	7.20	101	102	1.0	102	105	2.9
Lead	BDL	NC	99.0	101	2.0	99.3	100	0.7
Nickel	BDL	NC	99.1	103	3.9	98.4	102	3.6
Zinc	BDL	5.40	99.9	102	2.1	103	105	1.9
QA/QC Batch 116732, QC Sample No: AR17445 (AR17445, AR17446, AR17447, AR17448, AR17449, AR17450, AR17451, AR17452, AR17453, AR17454, AR17455, AR17456, AR17457, AR17458, AR17459, AR17460, AR17461)								
ICP Metals - Soil								
Arsenic	BDL	NC	93.1	95.0	2.0	92.4	89.9	2.7
Cadmium	BDL	NC	87.0	91.7	5.3	93.3	93.8	0.5
Chromium	BDL	16.5	91.8	95.8	4.3	91.1	91.6	0.5
Copper	BDL	2.50	94.1	98.1	4.2	98.0	98.6	0.6
Lead	BDL	4.20	110	102	7.5	94.3	93.2	1.2
Nickel	BDL	5.60	83.8	88.6	5.6	91.3	91.1	0.2
Zinc	BDL	3.50	89.0	94.7	6.2	97.2	95.5	1.8
Comment:								
Some compounds had spike recoveries outside of 75-125%. A matrix bias is suspected because the LCS and LCSD were within control. No further action was required.								
QA/QC Batch 116771, QC Sample No: AR17451 (AR17445, AR17446, AR17447, AR17448, AR17449, AR17450, AR17451, AR17452, AR17453, AR17454, AR17455, AR17456, AR17457, AR17458, AR17459, AR17460, AR17461)								
Mercury	BDL	NC	107	97.1	9.7	103	115	11.0
QA/QC Batch 116737, QC Sample No: AR17545 (AR17462)								
Lead (Furnace)	BDL		97.9	97.2	0.7	99.9	101	1.1
QA/QC Batch 116769, QC Sample No: AR17581 (AR17462)								
Mercury	BDL		89.8	89.4	0.4	95.6	86.0	10.6

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

December 12, 2008

QA/QC Data

SDG I.D.: GAR17445

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 117051, QC Sample No: AR17458 (AR17445, AR17446, AR17447, AR17448, AR17449, AR17450, AR17451, AR17452, AR17453, AR17454, AR17455, AR17456, AR17457, AR17458, AR17459, AR17460, AR17461)								
Tot.Org.Carbon	BDL	1.00	102			99.1		
QA/QC Batch 116861, QC Sample No: AR17584 (AR17462)								
Total Organic Carbon	BDL	1.60	92.6			92.8		

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

December 12, 2008

QA/QC Data

SDG I.D.: GAR17445

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 116595, QC Sample No: AR16808 (AR17445, AR17446, AR17447, AR17448, AR17449, AR17450, AR17451, AR17452, AR17453, AR17454, AR17455, AR17456, AR17457, AR17458, AR17459, AR17460, AR17461)							
Pesticides							
4,4' -DDD	ND	84	86	2.4	107	111	3.7
4,4' -DDE	ND	79	92	15.2	112	106	5.5
4,4' -DDT	ND	85	93	9.0	113	110	2.7
a-BHC	ND	82	92	11.5	97	93	4.2
a-Chlordane	ND	85	91	6.8	117	106	9.9
Alachlor	ND	N/A	N/A	NC	N/A	N/A	NC
Aldrin	ND	86	94	8.9	107	100	6.8
b-BHC	ND	77	94	19.9	108	98	9.7
Chlordane	ND	N/A	N/A	NC	N/A	N/A	NC
d-BHC	ND	80	90	11.8	95	102	7.1
Dieldrin	ND	87	96	9.8	106	97	8.9
Endosulfan I	ND	89	91	2.2	112	98	13.3
Endosulfan II	ND	81	81	0.0	110	105	4.7
Endosulfan sulfate	ND	76	85	11.2	96	92	4.3
Endrin	ND	80	94	16.1	97	91	6.4
Endrin aldehyde	ND	62	72	14.9	85	82	3.6
Endrin ketone	ND	81	90	10.5	95	89	6.5
g-BHC	ND	80	91	12.9	98	89	9.6
g-Chlordane	ND	83	94	12.4	112	111	0.9
Heptachlor	ND	82	89	8.2	94	88	6.6
Heptachlor epoxide	ND	89	97	8.6	106	101	4.8
Methoxychlor	ND	80	85	6.1	98	94	4.2
Toxaphene	ND	N/A	N/A	NC	N/A	N/A	NC
% DCBP	91	73	79	7.9	88	89	1.1
% TCMX	82	76	83	8.8	91	85	6.8
QA/QC Batch 116659, QC Sample No: AR16966 (AR17462)							
Polychlorinated Biphenyls							
PCB-1016	ND	96	103	7.0			
PCB-1221	ND						
PCB-1232	ND						
PCB-1242	ND						
PCB-1248	ND						
PCB-1254	ND						
PCB-1260	ND	90	99	9.5			
PCB-1262	ND						
PCB-1268	ND						
% DCBP (Surrogate Rec)	84	79	80	1.3			

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
% TCMX (Surrogate Rec)	89	89	89	0.0			

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 116594, QC Sample No: AR16985 (AR17445, AR17446, AR17447, AR17448, AR17449, AR17450, AR17451, AR17452, AR17453, AR17454, AR17455, AR17456)

Polychlorinated Biphenyls

PCB-1016	ND	96	104	8.0	103	110	6.6
PCB-1221	ND						
PCB-1232	ND						
PCB-1242	ND						
PCB-1248	ND						
PCB-1254	ND						
PCB-1260	ND	96	97	1.0	95	95	0.0
PCB-1262	ND						
PCB-1268	ND						
% DCBP (Surrogate Rec)	65	47	47	0.0	55	56	1.8
% TCMX (Surrogate Rec)	89	69	66	4.4	66	67	1.5

QA/QC Batch 116742, QC Sample No: AR16986 (AR17462)

Polynuclear Aromatic HC

2-Methylnaphthalene	ND	81	90	10.5
Acenaphthene	ND	81	86	6.0
Acenaphthylene	ND	83	88	5.8
Anthracene	ND	94	97	3.1
Benz(a)anthracene	ND	91	95	4.3
Benzo(a)pyrene	ND	90	96	6.5
Benzo(b)fluoranthene	ND	96	100	4.1
Benzo(ghi)perylene	ND	104	113	8.3
Benzo(k)fluoranthene	ND	94	98	4.2
Chrysene	ND	91	94	3.2
Dibenz(a,h)anthracene	ND	108	117	8.0
Fluoranthene	ND	105	110	4.7
Fluorene	ND	95	100	5.1
Indeno(1,2,3-cd)pyrene	ND	106	115	8.1
Naphthalene	ND	75	82	8.9
Phenanthrene	ND	81	86	6.0
Pyrene	ND	105	108	2.8
% 2-Fluorobiphenyl	78	81	82	1.2
% Nitrobenzene-d5	68	65	70	7.4
% Terphenyl-d14	105	109	112	2.7

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 116705, QC Sample No: AR17450 (AR17445, AR17446, AR17447, AR17448, AR17449, AR17450, AR17451, AR17452, AR17453, AR17454, AR17455, AR17456, AR17457, AR17458, AR17459, AR17460, AR17461)

Polynuclear Aromatic HC

2-Methylnaphthalene	ND	82	75	8.9	81	80	1.2
Acenaphthene	ND	82	75	8.9	86	83	3.6
Acenaphthylene	ND	74	68	8.5	106	86	20.8
Anthracene	ND	92	85	7.9	>130	>130	NC

QA/QC Data

SDG I.D.: GAR17445

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
Benz(a)anthracene	ND	85	80	6.1	>130	>130	NC
Benzo(a)pyrene	ND	89	83	7.0	>130	>130	NC
Benzo(b)fluoranthene	ND	88	82	7.1	>130	>130	NC
Benzo(ghi)perylene	ND	99	93	6.3	>130	>130	NC
Benzo(k)fluoranthene	ND	86	81	6.0	>130	>130	NC
Chrysene	ND	86	81	6.0	>130	>130	NC
Dibenz(a,h)anthracene	ND	103	96	7.0	90	82	9.3
Fluoranthene	ND	102	95	7.1	>130	>130	NC
Fluorene	ND	88	83	5.8	100	100	0.0
Indeno(1,2,3-cd)pyrene	ND	102	96	6.1	>130	>130	NC
Naphthalene	ND	73	66	10.1	83	80	3.7
Phenanthrene	ND	78	73	6.6	>130	>130	NC
Pyrene	ND	100	94	6.2	>130	>130	NC
% 2-Fluorobiphenyl	87	84	76	10.0	76	71	6.8
% Nitrobenzene-d5	68	64	57	11.6	67	62	7.8
% Terphenyl-d14	105	105	99	5.9	82	80	2.5

Comment:

The MS/MSD recovery are above the UCL due to the background concentration of the PAH's relative to the spiking concentration.

QA/QC Batch 116702, QC Sample No: AR17459 (AR17457, AR17458, AR17459, AR17460, AR17461)

Polychlorinated Biphenyls

PCB-1016	ND	108	106	1.9	116	109	6.2
PCB-1221	ND						
PCB-1232	ND						
PCB-1242	ND						
PCB-1248	ND						
PCB-1254	ND						
PCB-1260	ND	98	101	3.0	116	106	9.0
PCB-1262	ND						
PCB-1268	ND						
% DCBP (Surrogate Rec)	76	52	50	3.9	51	48	6.1
% TCMX (Surrogate Rec)	86	64	62	3.2	65	62	4.7

QA/QC Batch 116975, QC Sample No: AR18062 (AR17462)

Pesticides

4,4' -DDD	ND	>130	>130	NC
4,4' -DDE	ND	92	85	7.9
4,4' -DDT	ND	88	84	4.7
a-BHC	ND	80	75	6.5
a-Chlordane	ND	84	78	7.4
Alachlor	ND	N/A	N/A	NC
Aldrin	ND	85	79	7.3
b-BHC	ND	81	76	6.4
Chlordane	ND	N/A	N/A	NC
d-BHC	ND	78	75	3.9
Dieldrin	ND	88	82	7.1
Endosulfan I	ND	91	86	5.6
Endosulfan II	ND	109	103	5.7
Endosulfan sulfate	ND	88	83	5.8
Endrin	ND	81	79	2.5

QA/QC Data

SDG I.D.: GAR17445

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
Endrin aldehyde	ND	81	78	3.8			
Endrin ketone	ND	93	89	4.4			
g-BHC	ND	80	77	3.8			
g-Chlordane	ND	86	79	8.5			
Heptachlor	ND	78	73	6.6			
Heptachlor epoxide	ND	84	79	6.1			
Methoxychlor	ND	91	87	4.5			
Toxaphene	ND	N/A	N/A	NC			
% DCBP	81	83	80	3.7			
% TCMX	72	70	68	2.9			

Comment:

A LCS and LCS duplicate were performed instead of a matrix spike and matrix spike duplicate.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
December 12, 2008

PHOENIX Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 5 w/c Pg 1 of 2

Data Delivery:
☐ Fax #:
☒ Email: theresa.himmer@ch2m.com

Customer: CH2M HILL
Address: 25 NEW CHARDON STE 300
BOSTON MA 02114

Project: HOLLY POND SEDIMENT INVES.
Report to: THERESA HIMMER
Invoice to: ERIN MOSLEY

Project P.O: 931619
Phone #: 617-626-~~7031~~ 7031
Fax #:

Client Sample - Information - Identification

Sampler's Signature: [signature] 12/3/08 Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	PCB @ Aroclors	Pesticides	PAHs (8270SIM)	METALS	TOC	% MOISTURE	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container (8) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
17445	HP-SD10-00-05-120208	S	12/2/08	14:28	✓	✓	✓	✓	✓	✓		2								
17446	HP-SD11-00-05-120208	↓	↓	14:38	↓	↓	↓	↓	↓	↓		2								
17447	HP-SD44-00-05-120308		12/3/08	08:28								2								
17448	HP-SD44-00-05-120308-D		↓	↓								2								
17449	HP-SD05-00-05-120308 ①			0831								4								
17450	HP-SD03-00-05-120308			0853								2								
17451	HP-SD02-00-05-120308			0858								2								
17452	HP-SD01-00-05-120308			0903								2								
17453	HP-SD07-00-05-120308			10:23								2								
17454	HP-SD08-00-05-120308			10:14								2								
17455	HP-SD09-00-05-120308			10:18								2								
17456	HP-SD10-00-05-120308	↓	↓	0931	↓	↓	↓	↓	↓	↓		2								

Relinquished by:	Accepted by:	Date:	Time:
[signature] 12/4/08	[signature]	12/4	9:18

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☒ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

Data Format
☒ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☒ Phoenix Std Report
☐ Other

Comments, Special Requirements or Regulations:
These samples are part of Task 1.3.3.
* Samples also have special RL's see attached or Bobbi.
① Extra volume for MS/MSD - MS/MSD specific missed @ log in AR 17450 picked (BA)

State where samples were collected: CT

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 5° Pg 2 of 2

Data Delivery:
☐ Fax #:
☒ Email: theresa.hummer@ch2m.com

Customer: CH2M HILL
Address: 25 NEW CHARDON STE 300
BOSTON MA 02114

Project: HOLLY POND SEDIMENT INVEST.
Report to: THERESA HUMMER
Invoice to: ERIN MOSLEY

Project P.O:
Phone #: 617-626-7031
Fax #:

Client Sample - Information - Identification

Sampler's Signature: [signature] 12/3/08 Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	PCB & Pesticides	PAHs (8270 SIM)	METALS	TOC	% Moisture	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H2O	GL Soil container (8) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	~~GL 250ml [X] 250ml [ ] 500ml~~ GL 250ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
17457	HP-SD01-05-17-120308	S	12/3/08	10:05	✓	✓	✓	✓	✓	✓	2								
17458	HP-SD02-0.5-17-120308	↓	↓	0934	↓	↓	↓	↓	↓	↓	↓								
* 17459	HP-SD05-05-15-120308	↓	↓	0834	↓	↓	↓	↓	↓	↓	↓								
17460	HP-SD07-08-19-120308	↓	↓	10:23	↓	↓	↓	↓	↓	↓	↓								
17461	HP-SD09-05-25-120308	↓	↓	10:18	↓	↓	↓	↓	↓	↓	↓								
17462	HP-EB-120308-01②	O	↓	15:05	↓	↓	↓	↓	↓	↓				3		1	1		

Relinquished by:	Accepted by:	Date:	Time:
[signature] 12/4/08			
EC	[signature]	12/4/08	9:15

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☑ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

Data Format
☑ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☑ Phoenix Std Report
☐ Other

Comments, Special Requirements or Regulations:

*Recv'd as 8:31

See page 1 please.

② Equipment blank.

State where samples were collected: CT

Appendix A

Methods and Detection Limits – Note if the MDLs for metals, PAHs, or PCBs cannot be readily met, CT GA criteria will also be acceptable (or in the case of PCBs, residential soils criteria).

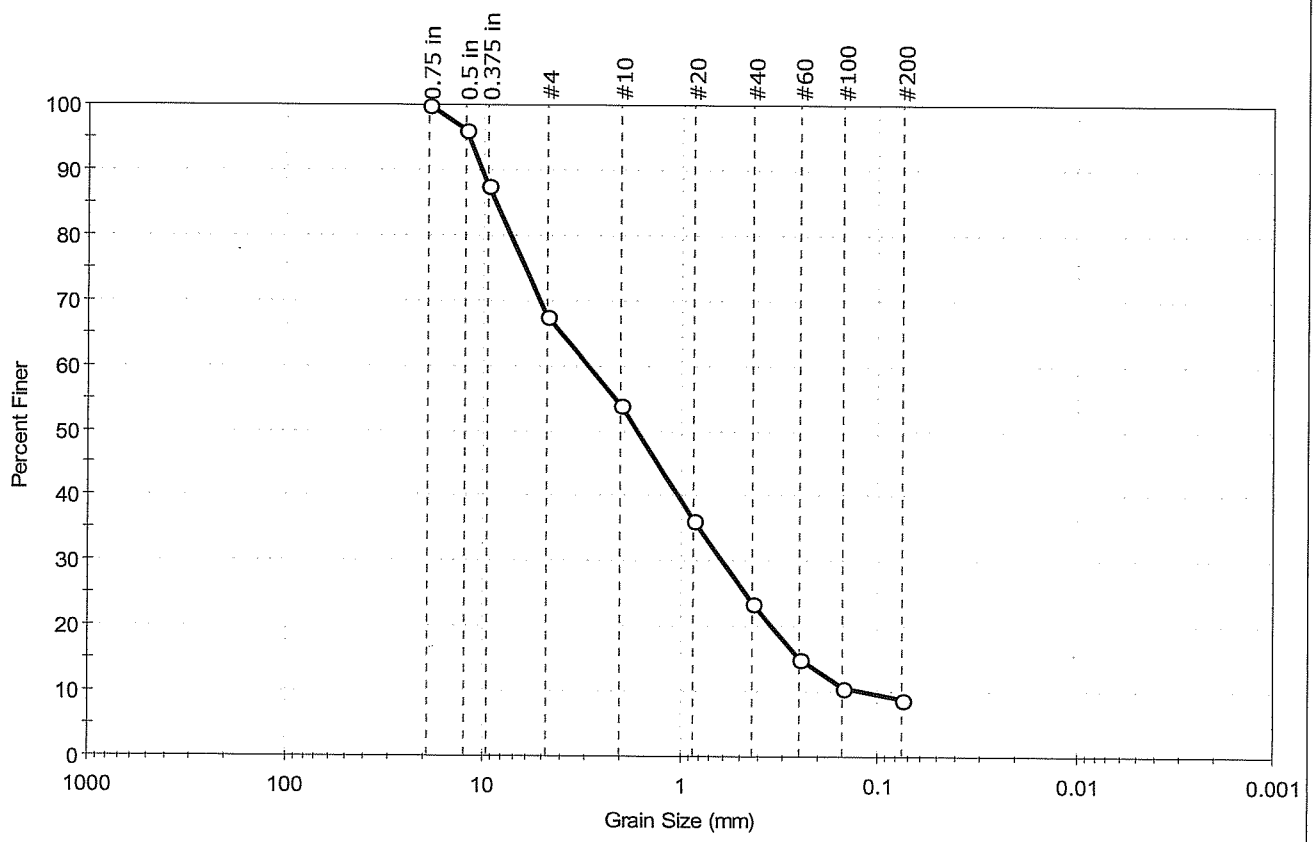
Parameter	Method	Detection Limit
Task 1.3.2 – Noroton River Water Samples		
Total Nitrogen	Standard, calculation of TKN, NO2, NO3, NH4	0.05 mg/L individual N species and total
TSS	Standard	1 mg/L
Task 1.3.3 – Holly Pond Sediment Samples		
Metals		
Arsenic	SW-846 6010B	0.5 mg/kg
Cadmium	SW-846 6010B	0.5 mg/kg
Chromium	SW-846 6010B	0.5 mg/kg
Copper	SW-846 6010B	0.5 mg/kg
Lead	SW-846 6010B	0.5 mg/kg
Mercury	SW-846 7470A	0.02 mg/kg
Nickel	SW-846 6010B	0.5 mg/kg
Zinc	SW-846 6010B	1 mg/kg
PAHs		
Acenapthene	SW-846 8270 (SIM)	0.01 mg/kg
Acenapthylene	SW-846 8270 (SIM)	0.01 mg/kg
Anthracene	SW-846 8270 (SIM)	0.01 mg/kg
Benzo(a)anthracene	SW-846 8270 (SIM)	0.01 mg/kg
Benzo(a)pyrene	SW-846 8270 (SIM)	0.01 mg/kg
Benzo(b)fluoranthene	SW-846 8270 (SIM)	0.01 mg/kg
Benzo(k)fluroanthene	SW-846 8270 (SIM)	0.01 mg/kg
Benzo(ghi)perylene	SW-846 8270 (SIM)	0.01 mg/kg
Chrysene	SW-846 8270 (SIM)	0.01 mg/kg
Dibenz(ah)anthracene	SW-846 8270 (SIM)	0.01 mg/kg
Fluoranthene	SW-846 8270 (SIM)	0.01 mg/kg
Fluorene	SW-846 8270 (SIM)	0.01 mg/kg
Indeno(123-cd)pyrene	SW-846 8270 (SIM)	0.01 mg/kg
Napthalene	SW-846 8270 (SIM)	0.01 mg/kg
Phenanthrene	SW-846 8270 (SIM)	0.01 mg/kg
Pyrene	SW-846 8270 (SIM)	0.01 mg/kg
Pesticides		
Aldrin	SW-846 8081B	0.007 mg/kg
cis/trans Chlordane	SW-846 8081B	0.066 mg/kg
cis/trans Nonachlor	SW-846 8081B	**
Oxychlordane	SW-846 8081B	**
4,4' DDT	SW-846 8081B	0.032 mg/kg
4,4' DDE	SW-846 8081B	0.032 mg/kg
4,4' DDD	SW-846 8081B	0.032 mg/kg
Dieldrin	SW-846 8081B	0.007 mg/kg
alpha/beta Endosulfan	SW-846 8081B	0.016/0.032 mg/kg
Endrin	SW-846 8081B	0.032 mg/kg
Heptachlor	SW-846 8081B	0.013 mg/kg
Heptachlor Epoxide	SW-846 8081B	0.016 mg/kg

Attachment 3: Analytical Data – Physical Analyses

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD01-00-05-120308	Test Date: 12/17/08	Checked By:	jdt
Depth : ---	Test Id: 143306		
Test Comment:	Less than 10% fines, Hydrometer not performed.		
Sample Description:	Moist, dark yellowish brown sand with silt and gravel		
Sample Comment:	---		

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	32.4	58.9	8.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	96		
0.375 in	9.50	88		
#4	4.75	68		
#10	2.00	54		
#20	0.85	36		
#40	0.42	24		
#60	0.25	15		
#100	0.15	11		
#200	0.075	9		

Coefficients

D_{85} =8.6497 mm D_{30} =0.6025 mm
D_{60} =2.9216 mm D_{15} =0.2505 mm
D_{50} =1.6413 mm D_{10} =0.1188 mm
C_u =24.593 C_c =1.046

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : HARD
Dispersion Device :
Dispersion Period : 1 minute
Specific Gravity : 2.65

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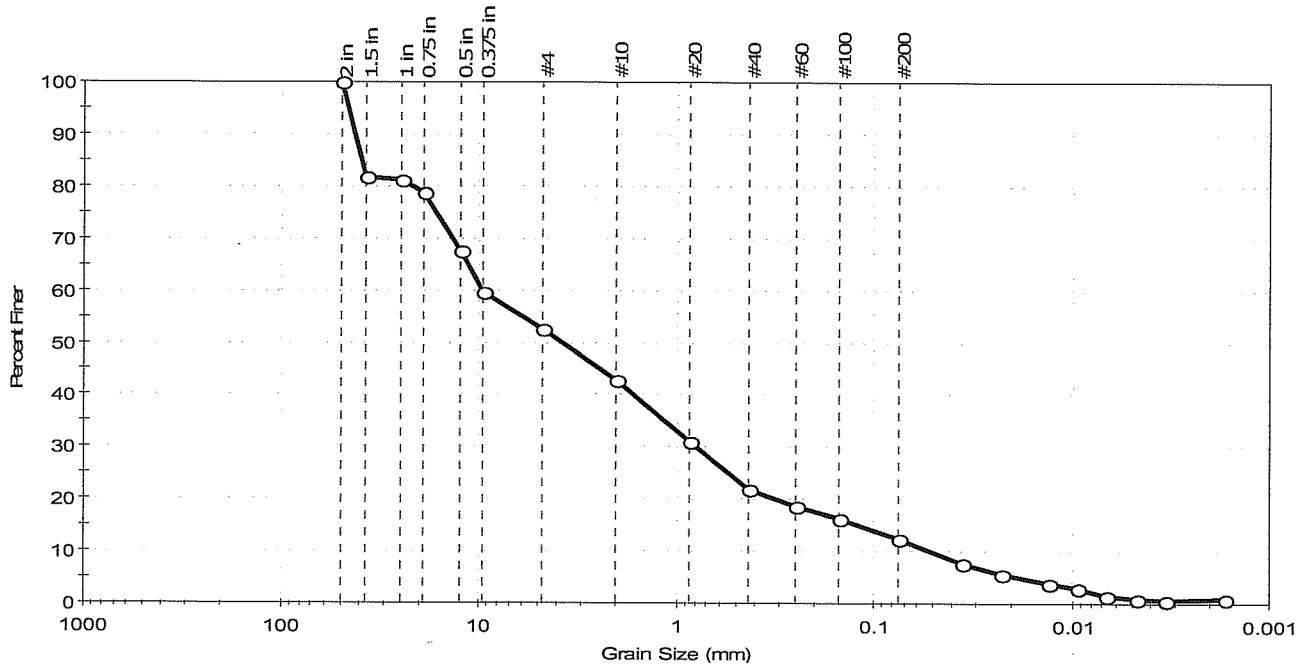
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD01-05-17-120308	Test Date: 12/17/08	Checked By:	jdt
Depth : ---	Test Id: 143311		

Test Comment: ---
Sample Description: Moist, black silty gravel with sand and organics
Sample Comment: ---

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	47.6	40.1	12.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
2 in	50.00	100		
1.5 in	37.50	82		
1 in	25.00	81		
0.75 in	19.00	79		
0.5 in	12.50	68		
0.375 in	9.50	60		
#4	4.75	52		
#10	2.00	43		
#20	0.85	31		
#40	0.42	22		
#60	0.25	19		
#100	0.15	16		
#200	0.075	12		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0361	8		
---	0.0227	6		
---	0.0133	4		
---	0.0094	3		
---	0.0067	1		
---	0.0047	1		
---	0.0034	1		
---	0.0017	1		

Coefficients

D_{85} =39.4684 mm D_{30} =0.7920 mm
D_{60} =9.6485 mm D_{15} =0.1223 mm
D_{50} =3.8235 mm D_{10} =0.0522 mm
C_u =N/A C_c =N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

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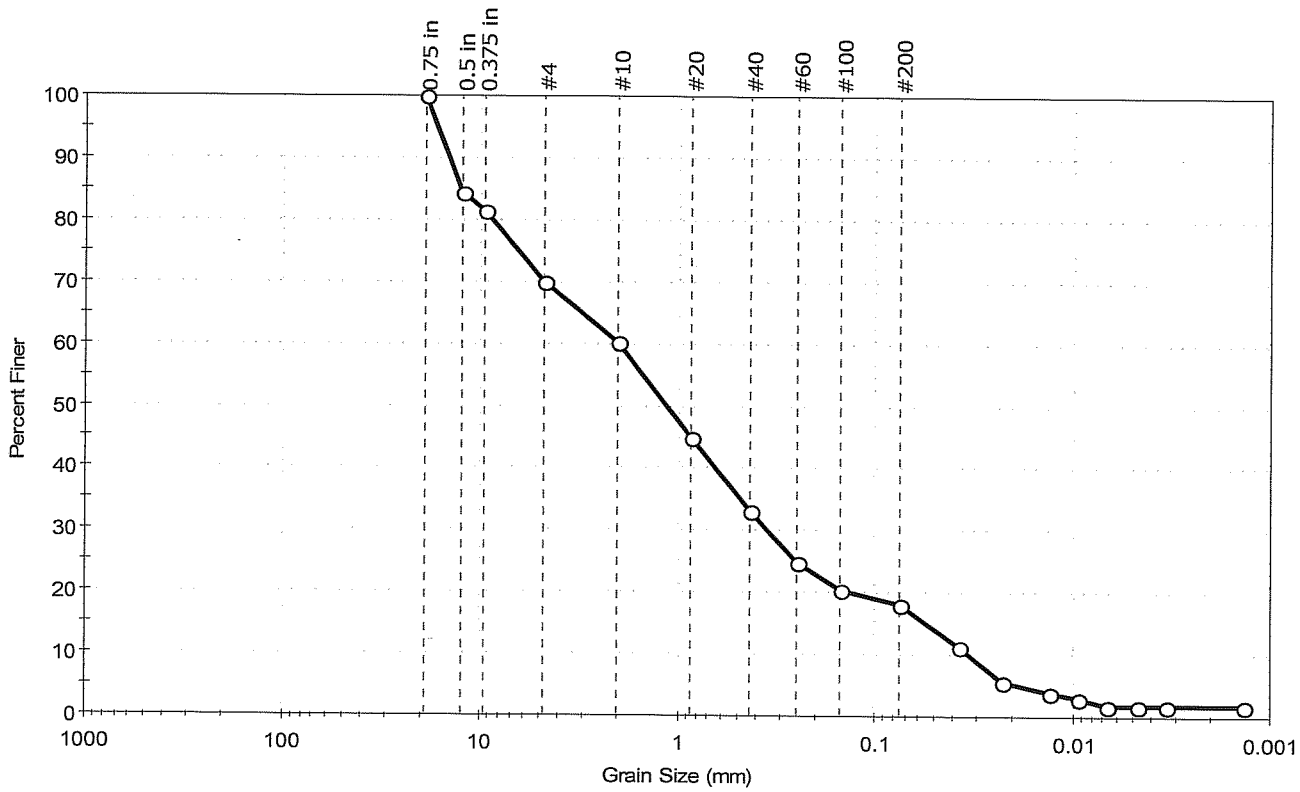
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID: HP-SD02-00-05-120308	Test Date: 12/17/08	Checked By:	jdt
Depth : ---	Test Id: 143305		
Test Comment: ---			
Sample Description: Moist, dark yellowish brown silty sand with gravel			
Sample Comment: ---			

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	30.1	51.9	18.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	84		
0.375 in	9.50	81		
#4	4.75	70		
#10	2.00	60		
#20	0.85	45		
#40	0.42	33		
#60	0.25	25		
#100	0.15	20		
#200	0.075	18		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0375	11		
---	0.0229	6		
---	0.0131	4		
---	0.0095	3		
---	0.0068	2		
---	0.0048	2		
---	0.0034	2		
---	0.0014	2		

Coefficients

D_{85} = 12.6929 mm D_{30} = 0.3483 mm
D_{60} = 1.9894 mm D_{15} = 0.0553 mm
D_{50} = 1.1356 mm D_{10} = 0.0336 mm
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

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GeoTesting express
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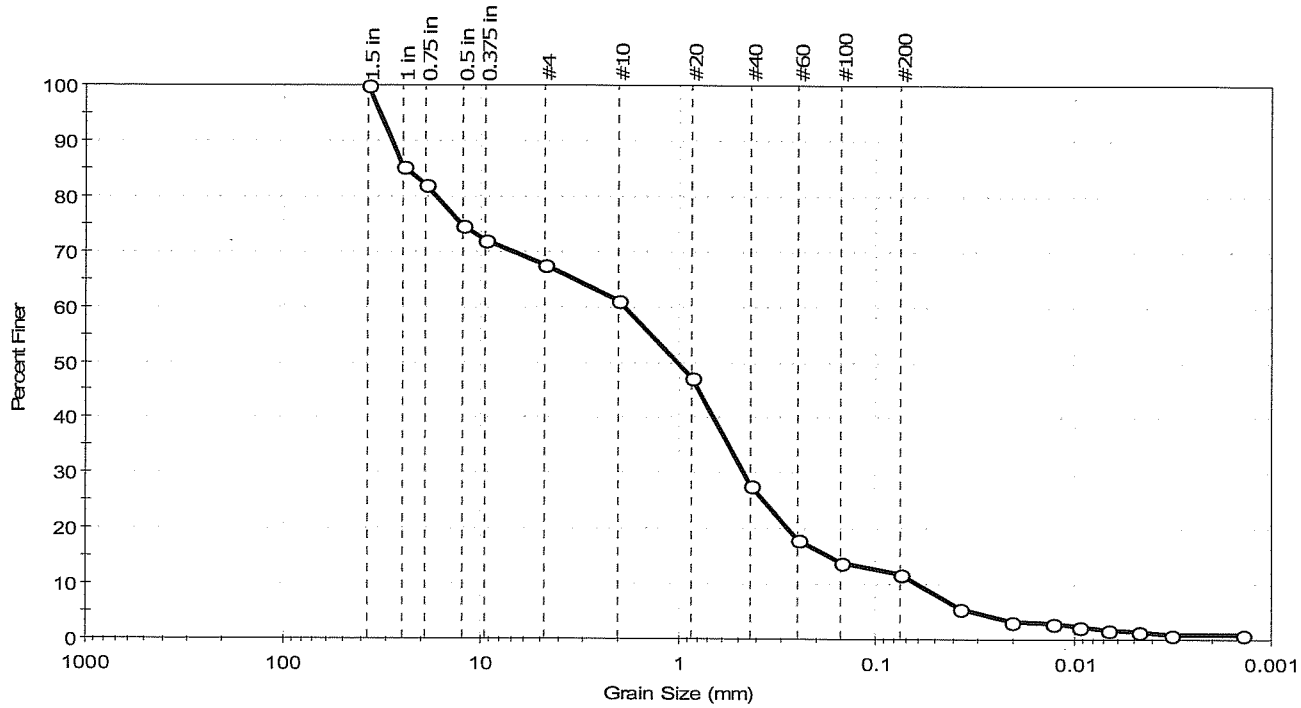
Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD03-00-05-120308	Test Date: 12/15/08	Checked By:	jdt
Depth : ---	Test Id: 143304		

Test Comment: ---
Sample Description: Moist, black sand with silt and gravel
Sample Comment: ---

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	32.3	56.0	11.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	85		
0.75 in	19.00	82		
0.5 in	12.50	75		
0.375 in	9.50	72		
#4	4.75	68		
#10	2.00	61		
#20	0.85	47		
#40	0.42	28		
#60	0.25	18		
#100	0.15	14		
#200	0.075	12		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0372	6		
---	0.0208	3		
---	0.0129	3		
---	0.0095	2		
---	0.0067	2		
---	0.0048	1		
---	0.0032	1		
---	0.0014	1		

Coefficients

D_{85} =24.5370 mm D_{30} =0.4608 mm
D_{60} =1.8729 mm D_{15} =0.1743 mm
D_{50} =1.0078 mm D_{10} =0.0615 mm
C_u =30.454 C_c =1.843

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

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GeoTesting express
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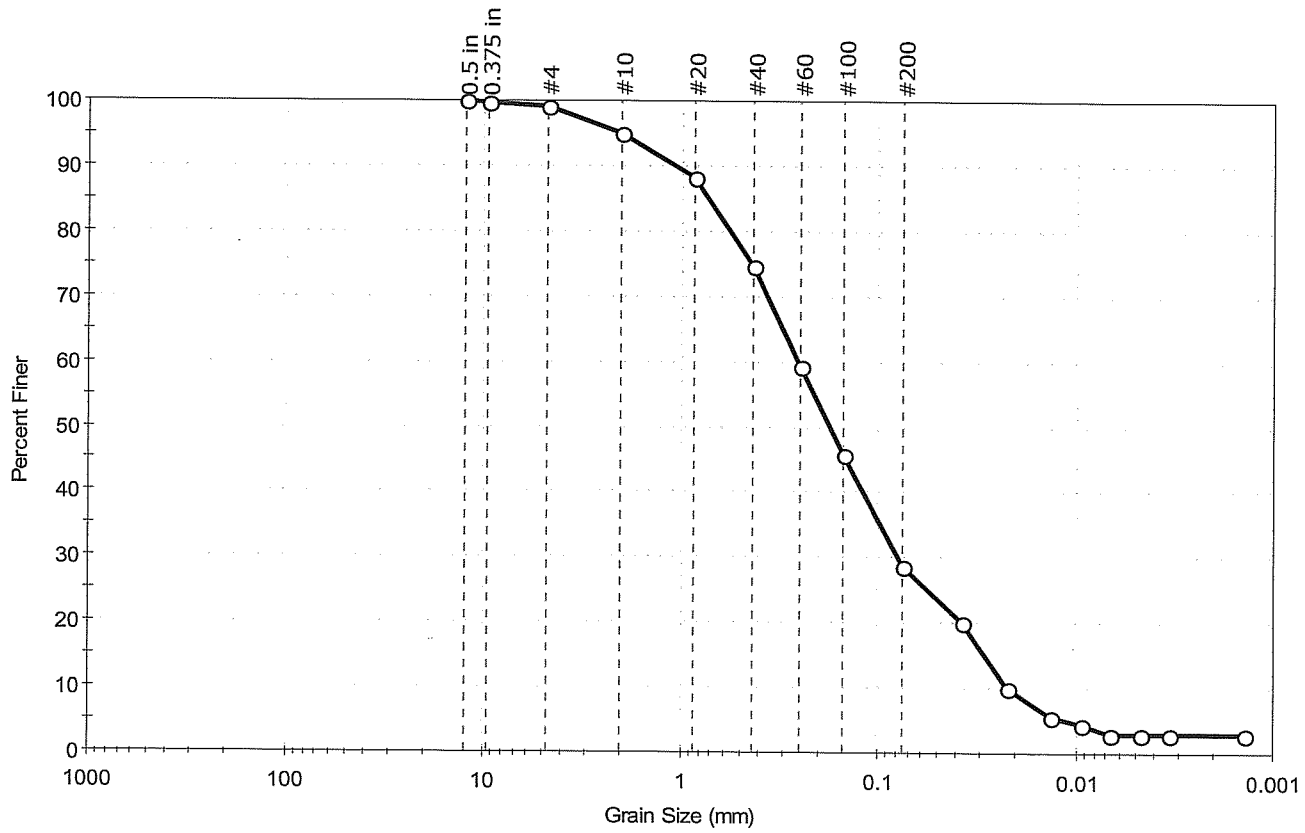
Client:	CH2MHill				
Project:	Holly Pond, CT				
Location:	Holly Pond, CT			Project No:	GTX-8721
Boring ID:	---	Sample Type:	bag	Tested By:	ap
Sample ID:	HP-SD04-00-05-120308	Test Date:	12/18/08	Checked By:	jdt
Depth :	---	Test Id:	143301		
Test Comment:	---				
Sample Description:	Moist, black silty sand with organics				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.9	70.4	28.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	95		
#20	0.85	88		
#40	0.42	75		
#60	0.25	59		
#100	0.15	46		
#200	0.075	29		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0373	20		
---	0.0224	10		
---	0.0133	6		
---	0.0095	4		
---	0.0067	3		
---	0.0047	3		
---	0.0034	3		
---	0.0014	3		

Coefficients

D_{85} = 0.7220 mm D_{30} = 0.0790 mm
D_{60} = 0.2569 mm D_{15} = 0.0289 mm
D_{50} = 0.1767 mm D_{10} = 0.0224 mm
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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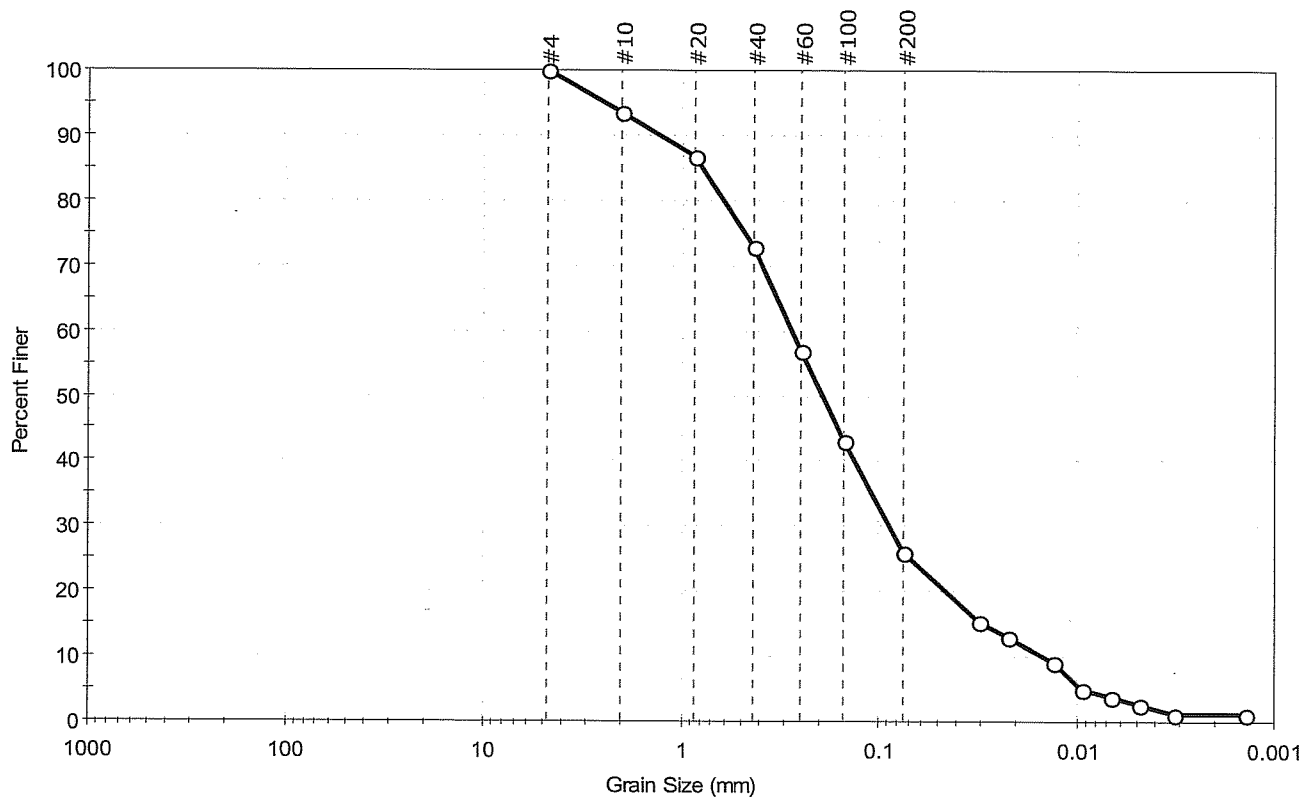
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID: HP-SD04-00-05-120308-D	Test Date: 12/17/08	Checked By:	jdt
Depth : ---	Test Id: 143302		
Test Comment:	---		
Sample Description:	Moist, black silty sand		
Sample Comment:	---		

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	74.0	26.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	94		
#20	0.85	87		
#40	0.42	73		
#60	0.25	57		
#100	0.15	43		
#200	0.075	26		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0312	15		
---	0.0223	13		
---	0.0133	9		
---	0.0095	5		
---	0.0067	4		
---	0.0048	3		
---	0.0032	1		
---	0.0014	1		

Coefficients

D_{85} = 0.7798 mm D_{30} = 0.0883 mm
D_{60} = 0.2771 mm D_{15} = 0.0294 mm
D_{50} = 0.1941 mm D_{10} = 0.0152 mm
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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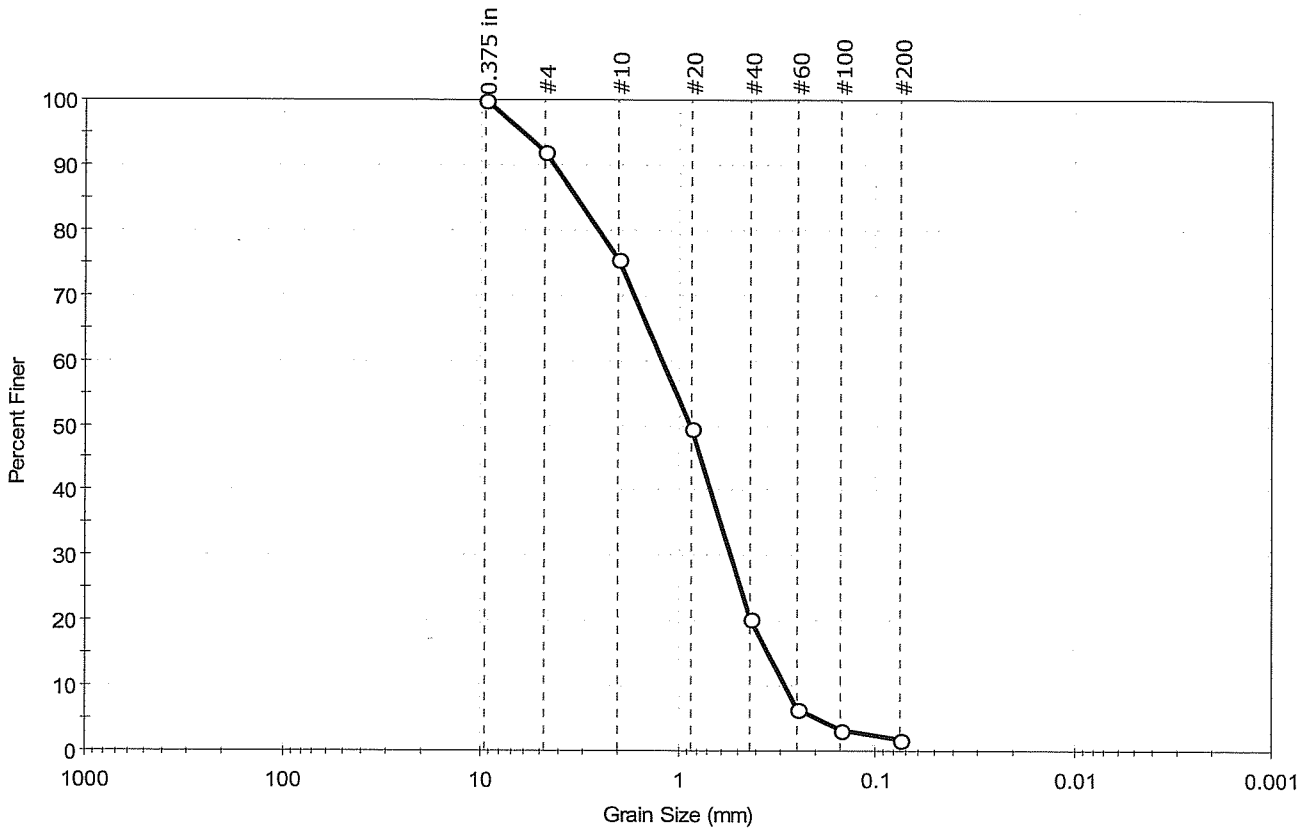
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill				
Project:	Holly Pond, CT				
Location:	Holly Pond, CT			Project No:	GTX-8721
Boring ID:	---	Sample Type:	bag	Tested By:	ap
Sample ID:	HP-SD05-00-05-120308-D	Test Date:	12/18/08	Checked By:	jdt
Depth :	---	Test Id:	143303		
Test Comment:	Less than 10% fines, Hydrometer not performed.				
Sample Description:	Moist, black sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	7.9	90.3	1.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	92		
#10	2.00	76		
#20	0.85	49		
#40	0.42	20		
#60	0.25	7		
#100	0.15	3		
#200	0.075	2		

Coefficients

D_{85} =3.2852 mm	D_{30} =0.5350 mm
D_{60} =1.2008 mm	D_{15} =0.3465 mm
D_{50} =0.8643 mm	D_{10} =0.2858 mm
C_u =4.202	C_c =0.834

Classification

ASTM Poorly graded sand (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

Dispersion Device :

Dispersion Period : 1 minute

Specific Gravity : 2.65

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GeoTesting express
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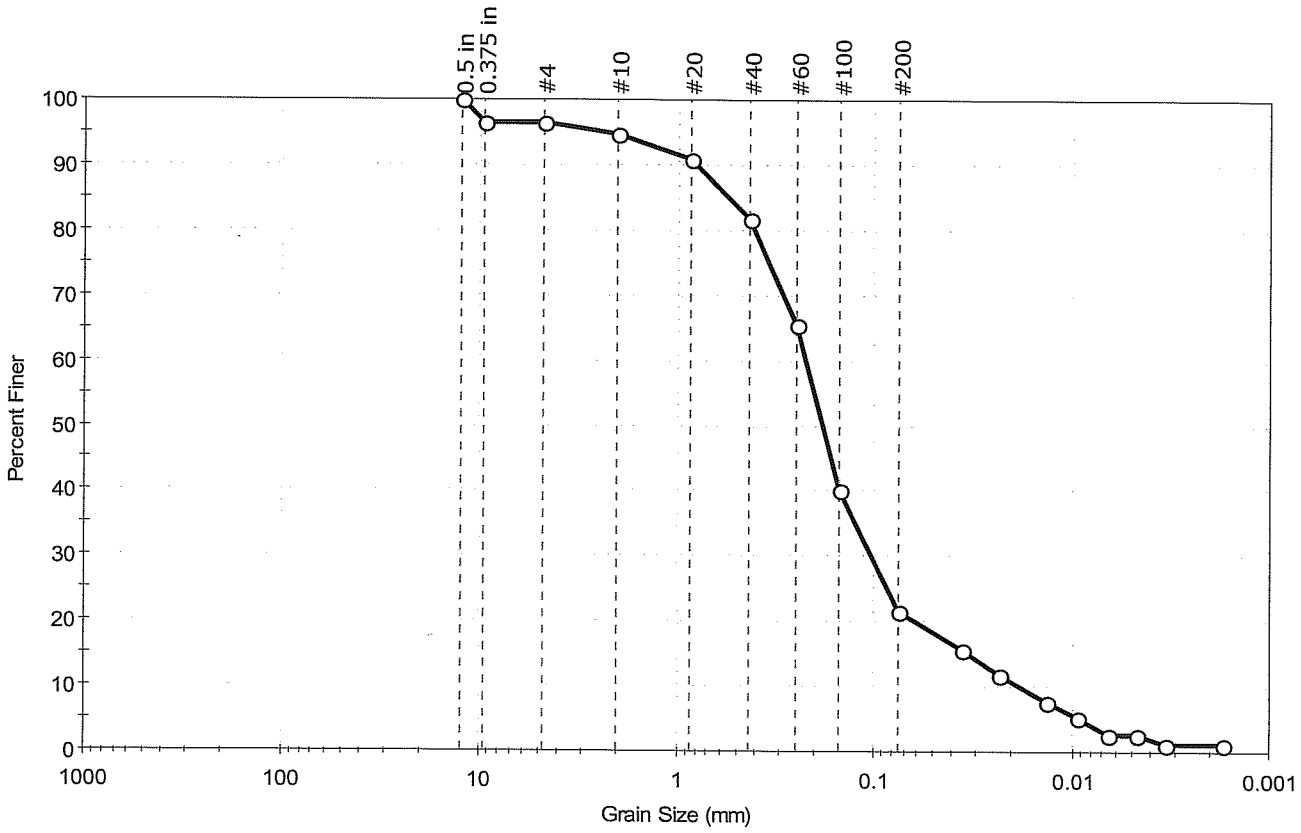
Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD05-05-15-120308	Test Date: 12/18/08	Checked By:	jdt
Depth : ---	Test Id: 143313		
Test Comment: ---			
Sample Description: Moist, black silty sand			
Sample Comment: ---			

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.5	74.9	21.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	96		
#4	4.75	96		
#10	2.00	95		
#20	0.85	91		
#40	0.42	82		
#60	0.25	65		
#100	0.15	40		
#200	0.075	22		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0355	16		
---	0.0232	12		
---	0.0133	8		
---	0.0095	5		
---	0.0067	3		
---	0.0047	3		
---	0.0034	1		
---	0.0017	1		

Coefficients

D_{85} =0.5437 mm D_{30} =0.1027 mm
D_{60} =0.2242 mm D_{15} =0.0332 mm
D_{50} =0.1831 mm D_{10} =0.0182 mm
C_u =N/A C_c =N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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GeoTesting express
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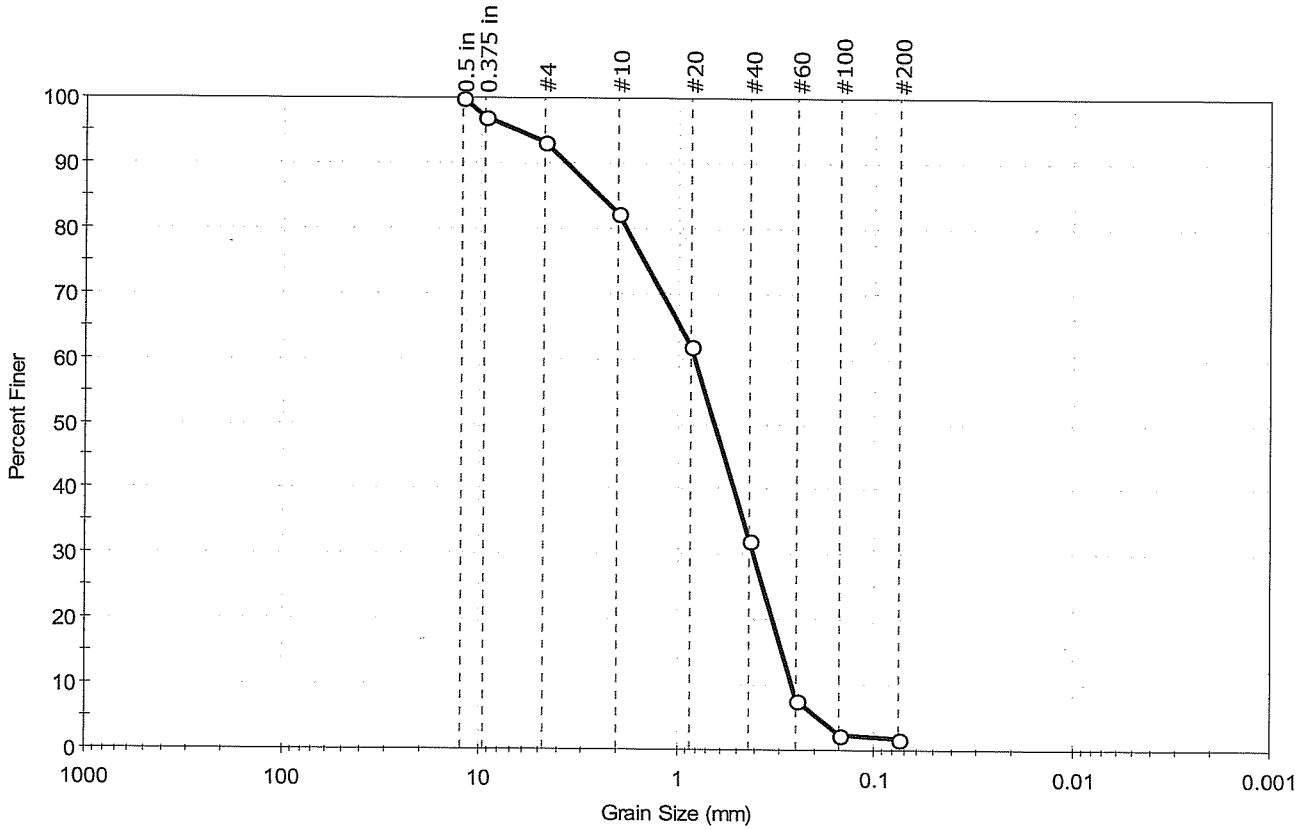
Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD06-00-05-120308	Test Date: 12/17/08	Checked By:	jdt
Depth : ---	Test Id: 143310		
Test Comment:	Less than 10% fines, Hydrometer not performed.		
Sample Description:	Moist, black sand with organics		
Sample Comment:	---		

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	6.7	91.4	1.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	97		
#4	4.75	93		
#10	2.00	82		
#20	0.85	62		
#40	0.42	32		
#60	0.25	8		
#100	0.15	2		
#200	0.075	2		

Coefficients

D_{85} =2.4890 mm D_{30} =0.4066 mm
D_{60} =0.8111 mm D_{15} =0.2931 mm
D_{50} =0.6438 mm D_{10} =0.2628 mm
C_u =3.086 C_c =0.776

Classification

ASTM Poorly graded sand (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED
Sand/Gravel Hardness : HARD
Dispersion Device :
Dispersion Period : 1 minute
Specific Gravity : 2.65

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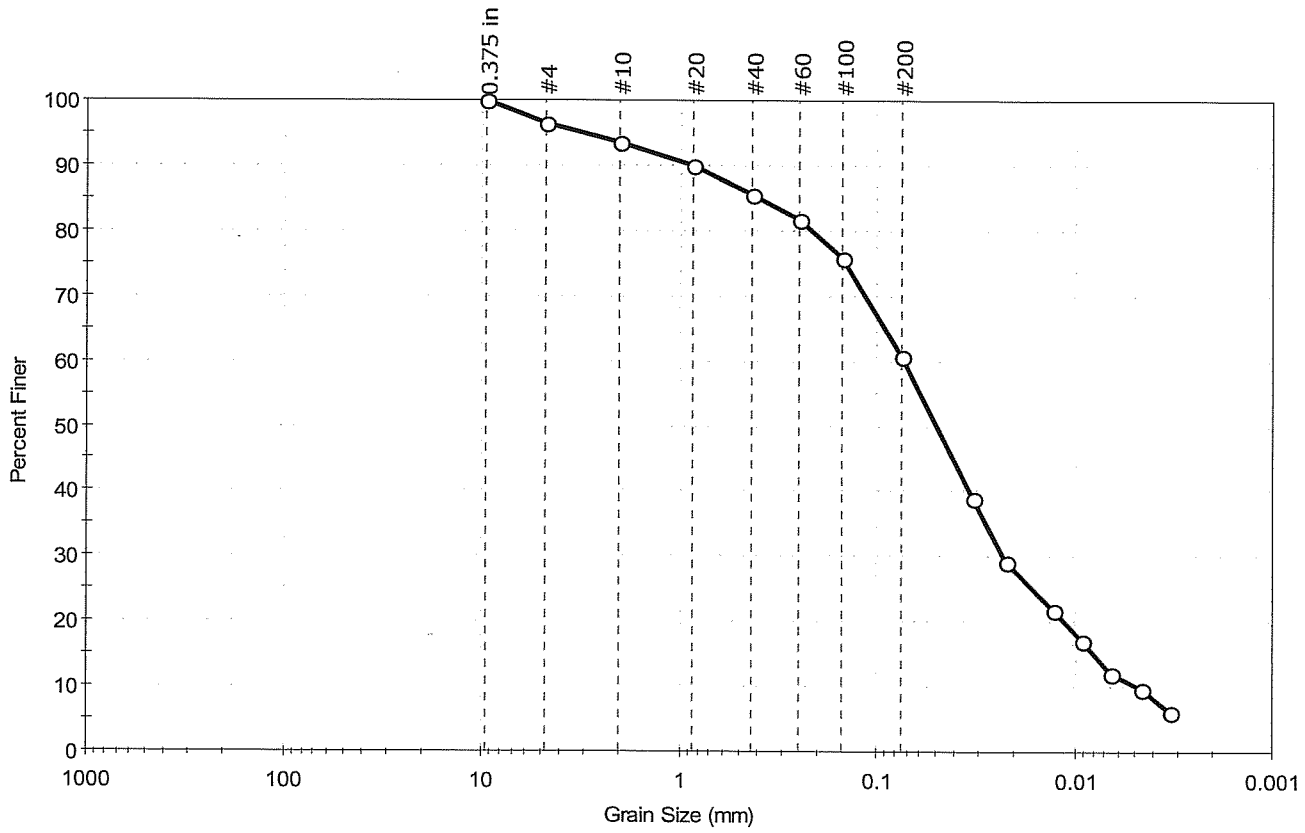
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill				
Project:	Holly Pond, CT				
Location:	Holly Pond, CT			Project No:	GTX-8721
Boring ID: ---		Sample Type:	bag	Tested By:	ap
Sample ID:	HP-SD06-05-17-120308	Test Date:	12/17/08	Checked By:	jdt
Depth :	---	Test Id:	143312		
Test Comment:	---				
Sample Description:	Moist, black sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.4	35.9	60.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	97		
#10	2.00	94		
#20	0.85	90		
#40	0.42	86		
#60	0.25	82		
#100	0.15	76		
#200	0.075	61		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0330	39		
---	0.0220	29		
---	0.0129	22		
---	0.0091	17		
---	0.0065	12		
---	0.0046	10		
---	0.0033	6		

Coefficients

D_{85} = 0.3954 mm D_{30} = 0.0228 mm
D_{60} = 0.0731 mm D_{15} = 0.0080 mm
D_{50} = 0.0502 mm D_{10} = 0.0048 mm
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

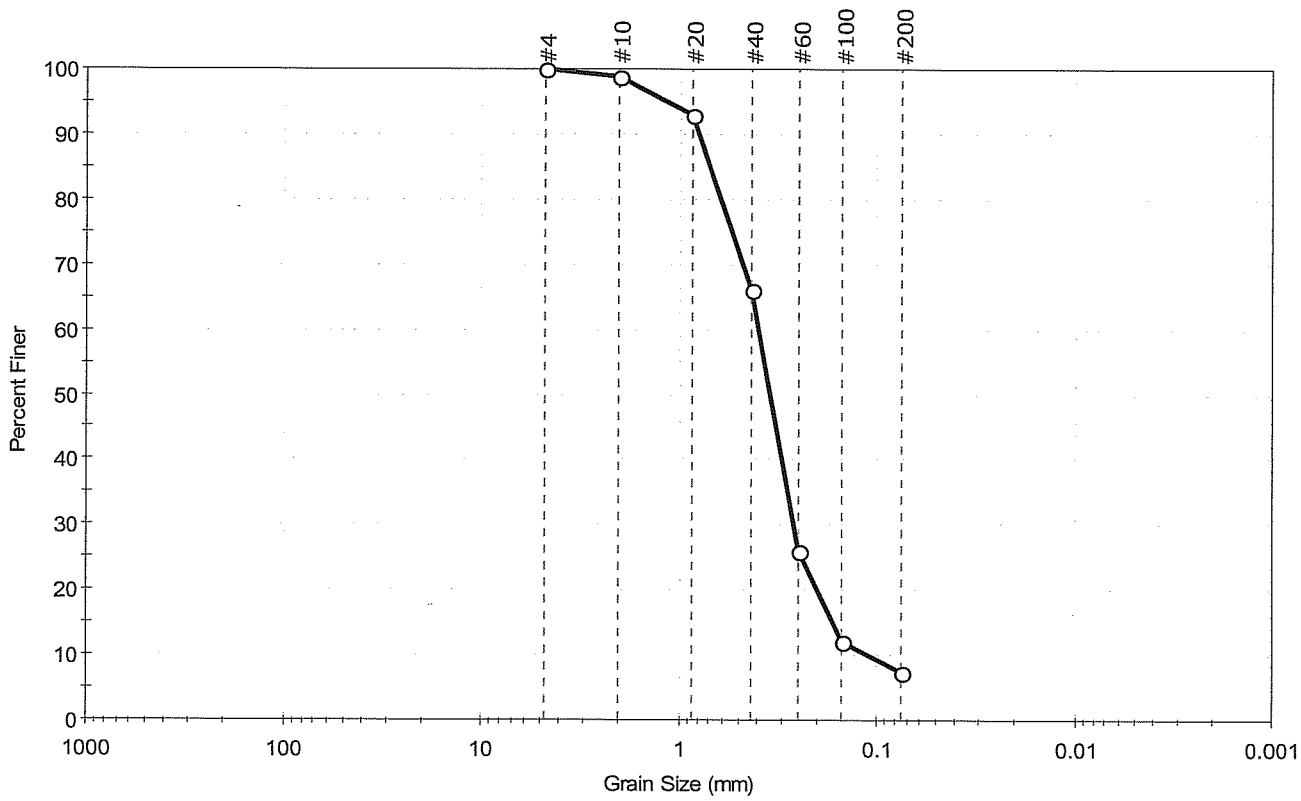
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill				
Project:	Holly Pond, CT				
Location:	Holly Pond, CT			Project No:	GTX-8721
Boring ID:	---	Sample Type:	bag	Tested By:	ap
Sample ID:	HP-SD07-00-05-120308	Test Date:	12/18/08	Checked By:	jdt
Depth :	---	Test Id:	143307		
Test Comment:	Less than 10% fines, Hydrometer not performed.				
Sample Description:	Moist, black sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	—	92.7	7.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	93		
#40	0.42	66		
#60	0.25	26		
#100	0.15	12		
#200	0.075	7		

Coefficients

D_{85} = 0.6920 mm D_{30} = 0.2640 mm
D_{60} = 0.3922 mm D_{15} = 0.1665 mm
D_{50} = 0.3437 mm D_{10} = 0.1098 mm
C_u = 3.572 C_c = 1.618

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device :
Dispersion Period : 1 minute
Specific Gravity : 2.65

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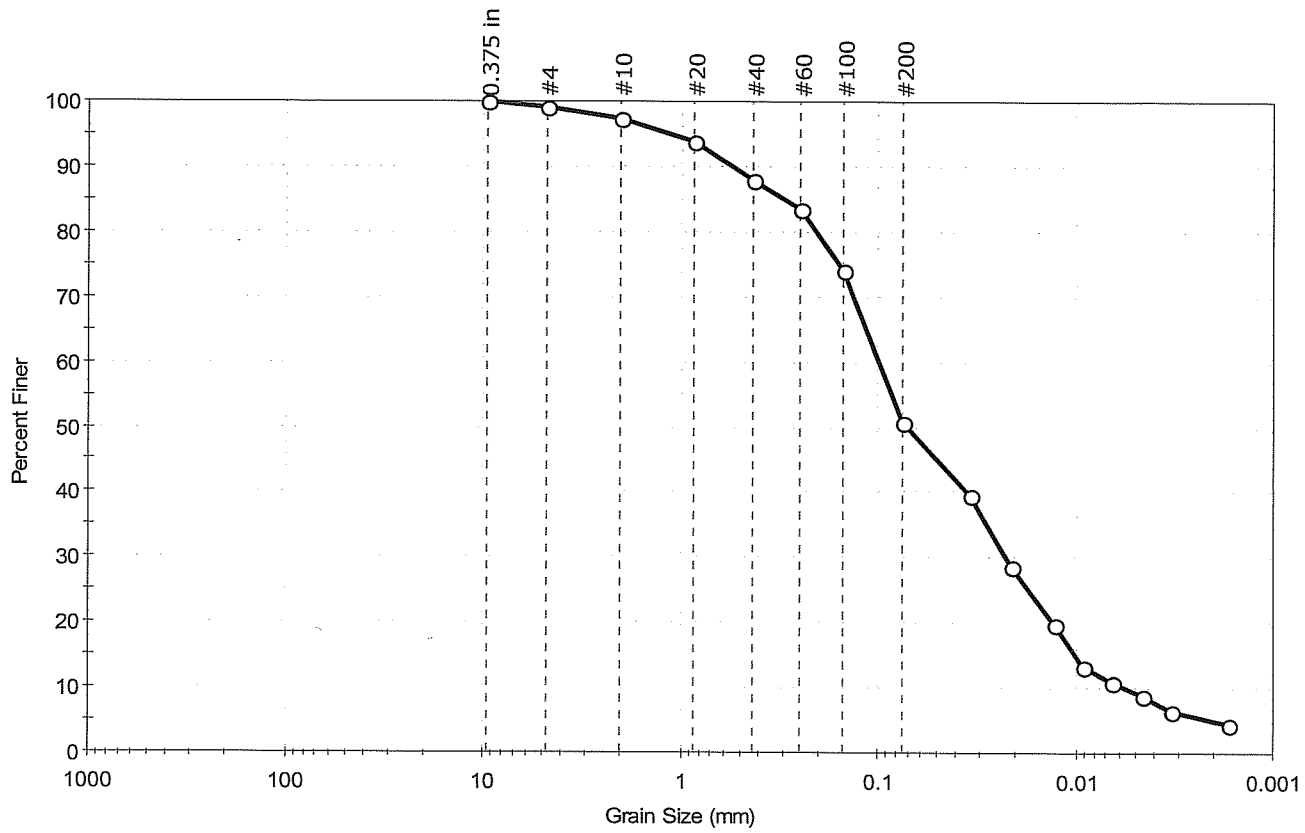
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD07-08-19-120308	Test Date: 12/18/08	Checked By:	jdt
Depth : ---	Test Id: 143314		
Test Comment: ---			
Sample Description: Moist, black sandy silt			
Sample Comment: ---			

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
–	1.0	48.3	50.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	97		
#20	0.85	94		
#40	0.42	88		
#60	0.25	83		
#100	0.15	74		
#200	0.075	51		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0344	39		
---	0.0213	29		
---	0.0129	20		
---	0.0091	13		
---	0.0066	11		
---	0.0046	9		
---	0.0033	7		
---	0.0017	4		

Coefficients

D_{85} =0.3026 mm D_{30} =0.0227 mm
D_{60} =0.0989 mm D_{15} =0.0101 mm
D_{50} =0.0713 mm D_{10} =0.0056 mm
C_u =N/A C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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GeoTesting express
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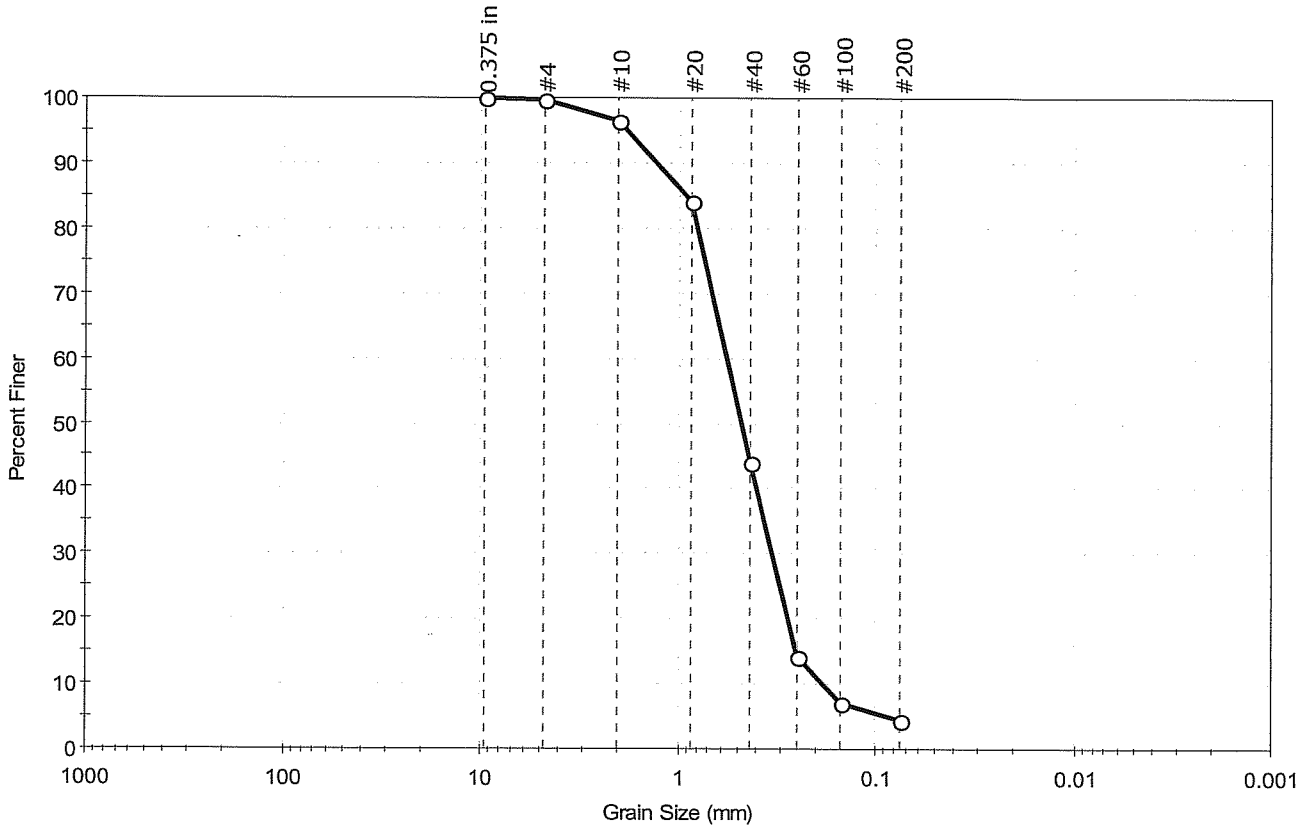
Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD08-00-05-120308	Test Date: 12/18/08	Checked By:	jdt
Depth : ---	Test Id: 143308		
Test Comment:	Less than 10% fines, Hydrometer not performed.		
Sample Description:	Moist, black sand		
Sample Comment:	---		

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.2	95.3	4.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	96		
#20	0.85	84		
#40	0.42	44		
#60	0.25	14		
#100	0.15	7		
#200	0.075	5		

Coefficients

D_{85} =0.9077 mm	D_{30} =0.3318 mm
D_{60} =0.5617 mm	D_{15} =0.2536 mm
D_{50} =0.4728 mm	D_{10} =0.1852 mm
C_u =3.033	C_c =1.058

Classification

ASTM Poorly graded sand (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Dispersion Device :

Dispersion Period : 1 minute

Specific Gravity : 2.65

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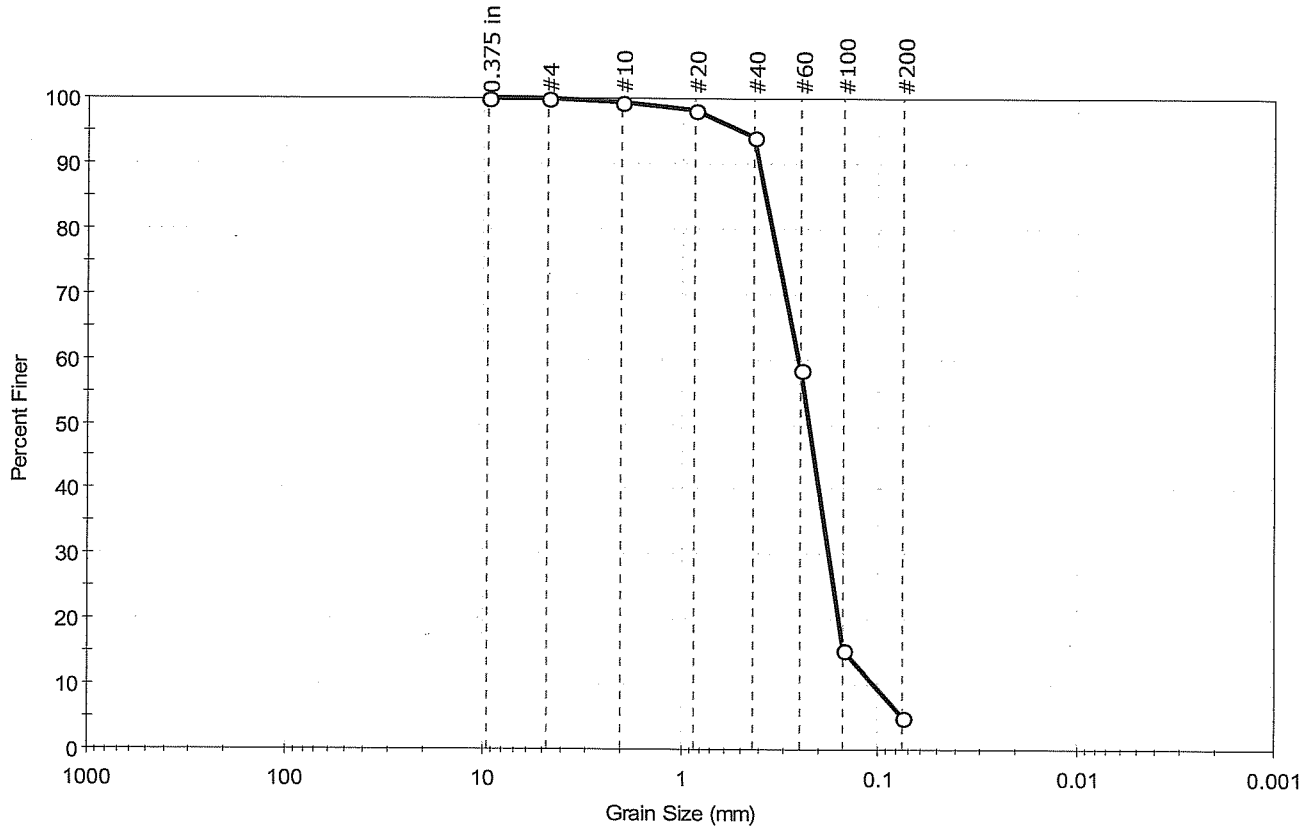
Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD09-00-05-120308	Test Date: 12/17/08	Checked By:	jdt
Depth : ---	Test Id: 143309		
Test Comment:	Less than 10% fines, Hydrometer not performed.		
Sample Description:	Moist, black sand with silt and organics		
Sample Comment:	---		

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	94.8	5.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	99		
#20	0.85	98		
#40	0.42	94		
#60	0.25	59		
#100	0.15	15		
#200	0.075	5		

Coefficients

D_{85} =0.3712 mm D_{30} =0.1784 mm
D_{60} =0.2556 mm D_{15} =0.1463 mm
D_{50} =0.2260 mm D_{10} =0.1043 mm
C_u =2.451 C_c =1.194

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---
Sand/Gravel Hardness : ---
Dispersion Device :
Dispersion Period : 1 minute
Specific Gravity : 2.65

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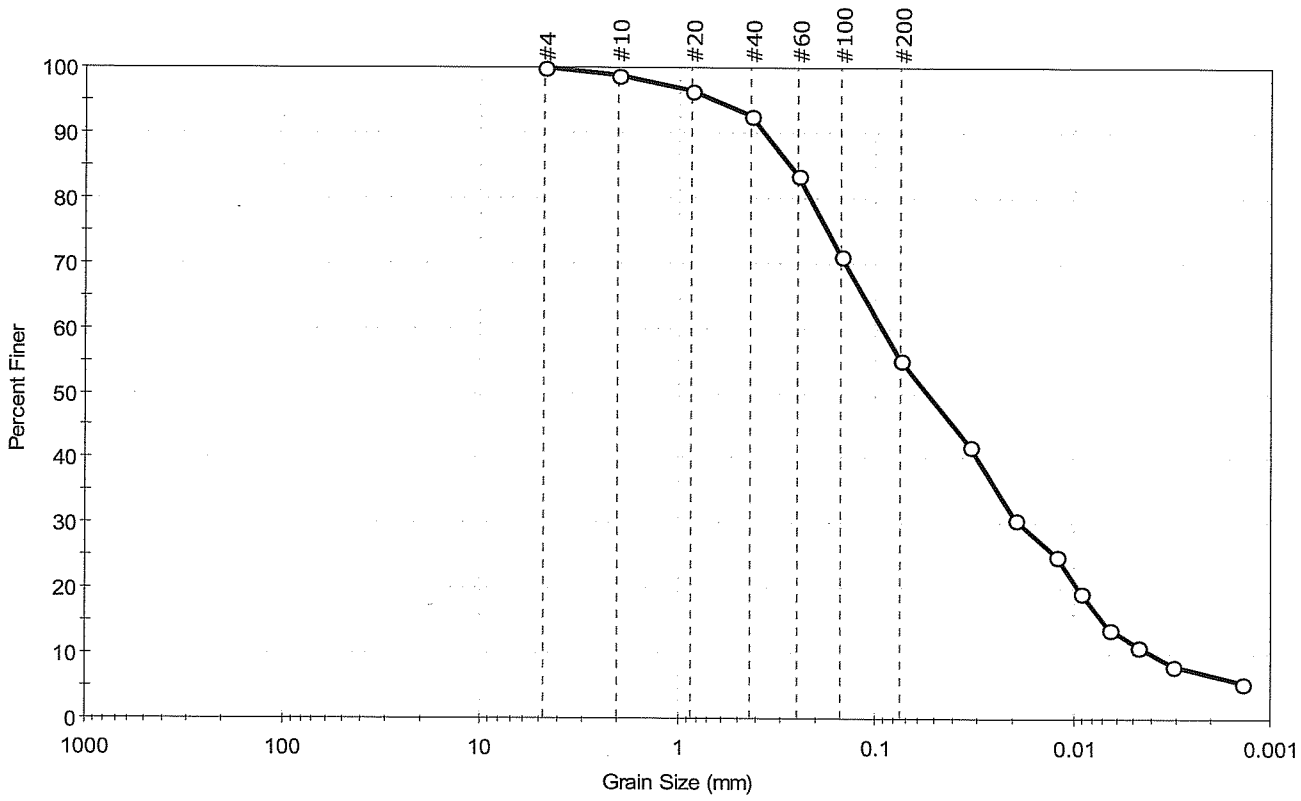
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill				
Project:	Holly Pond, CT				
Location:	Holly Pond, CT			Project No:	GTX-8721
Boring ID:	---	Sample Type:	bag	Tested By:	ap
Sample ID:	HP-SD09-05-25-120308	Test Date:	12/17/08	Checked By:	jdt
Depth :	---	Test Id:	143315		
Test Comment:	---				
Sample Description:	Moist, black sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	44.9	55.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	96		
#40	0.42	93		
#60	0.25	83		
#100	0.15	71		
#200	0.075	55		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0332	42		
---	0.0198	31		
---	0.0122	25		
---	0.0093	20		
---	0.0066	14		
---	0.0047	11		
---	0.0031	8		
---	0.0014	6		

Coefficients

D_{85} = 0.2726 mm D_{30} = 0.0185 mm
D_{60} = 0.0927 mm D_{15} = 0.0070 mm
D_{50} = 0.0547 mm D_{10} = 0.0040 mm
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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GeoTesting express
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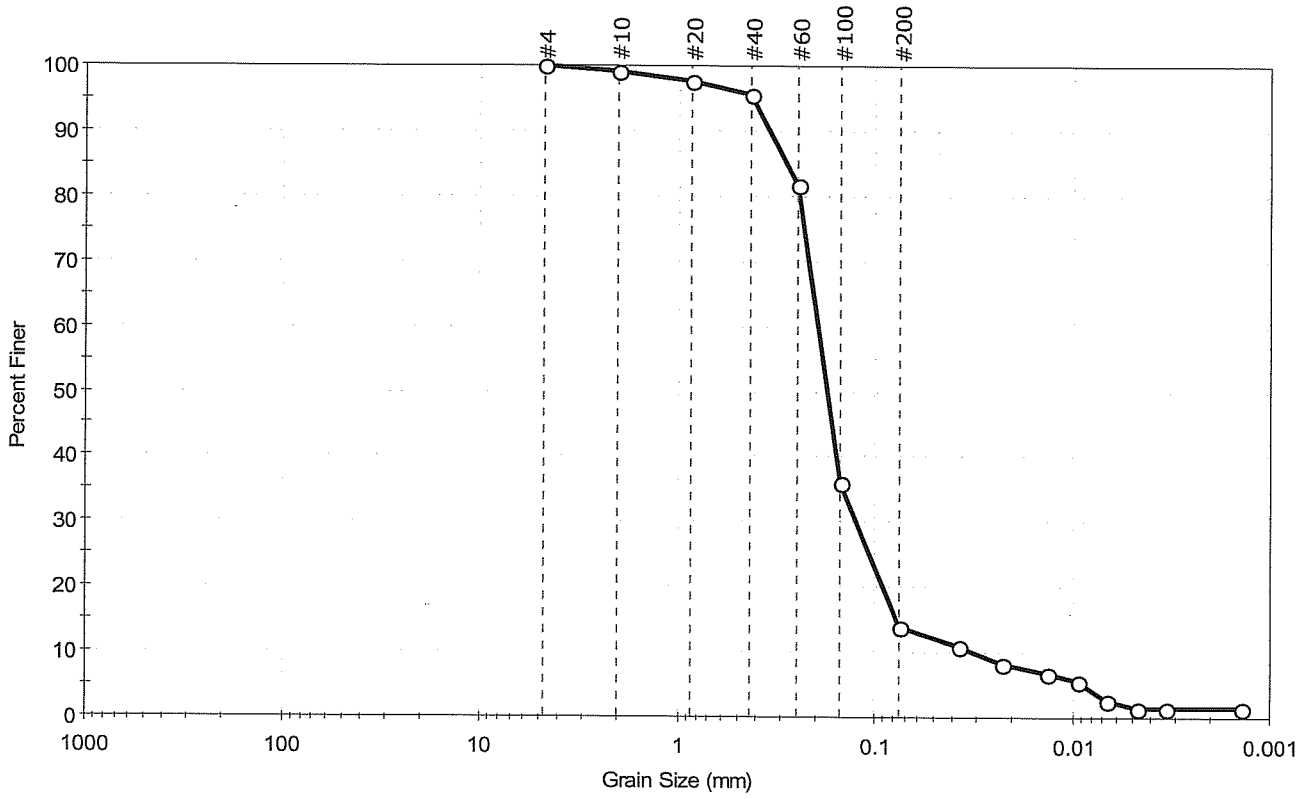
Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD10-00-05-120208	Test Date: 12/17/08	Checked By:	jdt
Depth : ---	Test Id: 143299		
Test Comment: ---			
Sample Description: Moist, black silty sand with organics			
Sample Comment: ---			

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	86.0	14.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	98		
#40	0.42	96		
#60	0.25	82		
#100	0.15	36		
#200	0.075	14		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0379	11		
---	0.0230	8		
---	0.0133	7		
---	0.0095	5		
---	0.0068	3		
---	0.0048	1		
---	0.0034	1		
---	0.0014	1		

Coefficients

D_{85} =0.2835 mm D_{30} =0.1245 mm
D_{60} =0.1963 mm D_{15} =0.0775 mm
D_{50} =0.1756 mm D_{10} =0.0318 mm
C_u =N/A C_c =N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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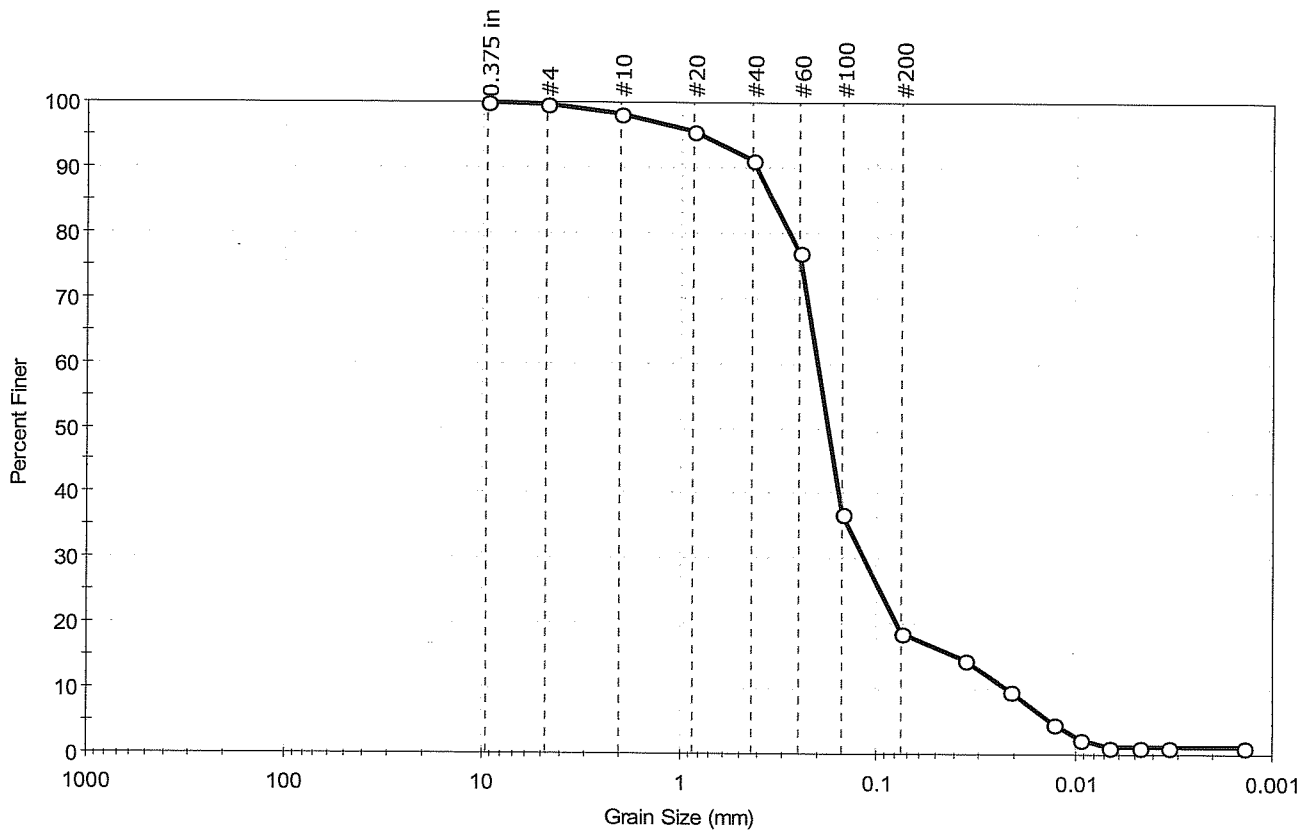
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	CH2MHill		
Project:	Holly Pond, CT		
Location:	Holly Pond, CT	Project No:	GTX-8721
Boring ID: ---	Sample Type: bag	Tested By:	ap
Sample ID:HP-SD11-00-05-120208	Test Date: 12/17/08	Checked By:	jdt
Depth : ---	Test Id: 143300		
Test Comment:	---		
Sample Description:	Moist, black silty sand with organics		
Sample Comment:	---		

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.3	81.1	18.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	98		
#20	0.85	96		
#40	0.42	91		
#60	0.25	77		
#100	0.15	37		
#200	0.075	19		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0358	15		
---	0.0212	10		
---	0.0130	5		
---	0.0094	2		
---	0.0067	1		
---	0.0047	1		
---	0.0034	1		
---	0.0014	1		

Coefficients

D_{85} =0.3365 mm D_{30} =0.1153 mm
D_{60} =0.2012 mm D_{15} =0.0388 mm
D_{50} =0.1771 mm D_{10} =0.0219 mm
C_u =N/A C_c =N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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