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MAG910215
GP

March 17, 2006

U.S. Environmental Protection Agency
EPA-NE
RGP-NOC Processing
Municipal Assistance Unit (CMU)
One Congress Street, Suite 1,100
Boston, Massachusetts 02114-2023

Re: Notice of Intent
NPDES Remediation General Permit
Greenbush/North Scituate Station
MADEP RTN 3-22582

Dear Sir or Madam:

On behalf of the Massachusetts Bay Transportation Authority (MBTA), the owner of the above referenced project, and Jay Cashman, Inc./Balfour Beatty Construction, Inc., JV (CBB), the operator of the proposed construction groundwater dewatering, treatment and discharge system located at the Greenbush/North Scituate Station construction site in North Scituate, Massachusetts (the Site), Rizzo Associates, Inc. (RAI) is submitting this Notice of Intent (NOI) to be covered by the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP). For the purpose of this NOI, CBB is considered the sole permittee with full design and operational control of the dewatering, treatment and discharge system. This NOI has been prepared in accordance with the provisions of the NPDES RGP (Federal Register Volume 70, No. 174) and related guidance documentation provided by the U.S. EPA.

Introductory Site Information

The Site comprises a portion of the construction area of the MBTA Greenbush Commuter Rail line in the North Scituate Station vicinity (intersection of Country Way, Gannet Road and Henry Turner Bailey Road). We have attached a general Site Locus map, an aerial photograph of the Site vicinity, and the Grade Crossing General Plans (Sheet 1 & 2) for proposed construction work. Work relevant to this NOI includes dewatering activities related to utilities installation and/or relocation, and rail construction. Details of proposed dewatering activities and discharge locations are provided in the following sections. There are no buildings located in the proposed construction right-of-way.

This NOI was precipitated by the observation of petroleum-contaminated groundwater during borings advanced for the purpose of installing utility poles. Detailed descriptions of observed conditions are provided in the following sections.

Facility Permitting Information

As part of general construction activities the construction general contractor (CBB) has obtained and operates a U.S. EPA Construction Storm Water General Permit (CSWGP). General construction activities undertaken at the Site are covered by the CSWGP. CBB has also implemented a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the CSWGP. The SWPPP prepared for the Site includes measures to mitigate potential impacts caused by storm water run-off at the construction site to nearby receptors including surface water bodies, wetlands and other sensitive areas.

Work within the Construction Corridor related to handling of materials impacted by Oil or Hazardous Materials (OHM) are being conducted under a Release Abatement Measure (RAM) implemented in accordance with the provisions of the Massachusetts Contingency Plan (MCP), and are tracked under Massachusetts Department of Environmental Protection (DEP) by Release Tracking Number (RTN) 3-22582.

Proposed Discharge Information

This NPDES RGP will cover discharges from remedial construction dewatering activities. Dewatering will be conducted from one or more locations at the construction site. The wastewater will be pumped from the excavation(s) via a dewatering system to an on-site treatment system described below. The dewatering system may include sumps, well points or trenches with wrapped collection structures to minimize the amount of suspended sediment pumped to the treatment system, or equivalent technologies. This discharge is expected to be intermittent, with maximum flows during initial dewatering of the excavations and limited flows to maintain the dewatered state during completion of excavation and construction activities. Due to the proposed large scale of the project, several potential discharge locations have been identified. The discharge locations identified for the project include: a small municipal separate storm sewer system which subsequently discharges to Bound Brook or Musquashcut Brook; and direct discharges to Bound Brook. The locations of the proposed discharges (Longitude and Latitude) are identified in the attached NOI form.

Sources of intake water will include groundwater encountered within the construction site. No process wastewater or other sources of intake water will contribute to inflows to the dewatering and treatment system discharging to Bound Brook or Musquashcut Brook.

Contaminant Information

Three water samples representing the proposed influent stream to the wastewater dewatering and treatment system were collected by GZA GeoEnvironmental, Inc. (GZA) and submitted for laboratory analysis at Phoenix Environmental Laboratories of Manchester, Connecticut for parameters required to be analyzed under the NPDES RGP. We have attached a table summarizing the laboratory analysis results, a site plan showing sample locations, and Laboratory Certificates of Analysis.

The results of laboratory analysis of indicated that the following compounds may be present in the remedial discharge waters at the following maximum concentrations:

- Total Suspended Solids (TSS) (360,000mg/l)
- Total Petroleum Hydrocarbons (TPH) (160mg/l)
- BTEX (26,200µg/l)
- Naphthalene (6,200µg/l)
- Total metals including: antimony (23µg/l), arsenic (14µg/l), copper (5µg/l), lead (52µg/l), iron (49,200µg/l), lead (106µg/l), nickel (2µg/l), and zinc (19µg/l).

The detected influent concentrations for TSS, TPH, BTEX, Naphthalene, and metals exceed the NPDES RGP effluent limitations listed in Appendix III of the NPDES RGP. Concentrations of some detected metals (antimony, arsenic, copper, lead, selenium, silver, and iron) have the potential to exceed the NPDES RGP effluent limits at a zero dilution factor. In accordance with the guidance documentation, a dilution factor was calculated for discharge to the Bound Brook and/or Musquashcut Brook and the dilution range applicable to the Site was determined to be 10-50. Following determination of the appropriate dilution factor lead and iron have the potential to exceed the NPDES RGP effluent limits at the calculated dilution factor.

In addition, laboratory analysis for several compounds resulted in elevated detection limits (exceeding NPDES minimum levels) due to dilutions necessary because of elevated target compounds.

Treatment System Information

The water removed from the excavations will require treatment using readily available technologies such as settlement, filtration and adsorption in order to achieve effluent concentrations below the NPDES discharge limitations prior to discharge to the receiving waters. The proposed wastewater treatment train developed by CBB and its agents will consist of a minimum of one 21,000 gallon fractionation (frac) tank to allow adequate retention time for solids to settle and separate. If residence time within the fractionation tanks is not sufficient to allow for adequate settlement of solids within one fractionation tanks prior to discharge

additional frac tanks or additional treatment including the addition of filtration units (sand filters, bag filters and/or cartridge filters) may be used to remove or drop-out suspended solids. The frac tanks will be pumped via pumps capable of pumping up to 50 gallons per minute (gpm) or 0.11 cubic feet per second (CFS) through the entire treatment train. The pumps will direct water through, a minimum of two BF-200 bag filter units equipped with filters with minimum filter size of 50 microns connected in parallel. A contingency will be included for the addition of additional bag filters equipped with disposable bag filters or cartridge filter units with smaller filter sizes should metals or suspended solids be detected at concentrations exceeding the NPDES RGP discharge limits or at levels that may expend the downgradient filters (carbon filters). Following solids removal the water will be pumped through a minimum of two 2,000 pound liquid phase granular activated carbon (GAC) filters connected in series. A contingency will be included for additional carbon vessels should VOCs, TPH, or other contaminants be detected at concentrations exceeding the NPDES RGP discharge limits. The treatment system will have sample ports to collect water samples from the system influent (prior to frac tanks), system midpoint (between carbon units) and system effluent (downstream from carbon units). A schematic of the proposed treatment system train has been attached to the NOI form included with this letter.

The design maximum flow of the proposed treatment system is approximately 50 gpm (0.11 CFS). This design maximum flow is primarily restricted by the filter units including: bag filters, and liquid phase GAC filters. We estimate the average flow through the treatment system to be approximately 40 gpm (0.09 CFS).

Following treatment, the effluent water will be discharged to the storm drainage system for subsequent discharge to Bound Brook and/or Musquashcut Brook or discharges will be directed to Bound Brook (or their adjacent wetlands). Energy dissipation measures will be implemented as needed to prevent erosion of the banks, water course and sediments of the surface water bodies. The energy dissipation feature(s) will include one or a combination of the following: perforated hoses, spillway, vertical direction of the discharge into the water column of the surface water, or discharge within existing rip-rap structures or storm sewer outfalls, or equivalent technologies.

Receiving Surface Water Information

Effluent from the remedial system discharge will be directed to one or more discharge pipe(s) which direct the discharge(s) to the municipal storm drainage system via underground piping for eventual discharge to Bound Brook or Musquashcut Brook, or discharges will be direct to Bound Brook (or their adjacent wetlands) following flow through the energy dissipation feature. It is estimated that the continuous flows of Musquashcut Brook are likely influenced by tides (increased outflow during low tide).

Both Bound Brook and Musquashcut Brook flow into "The Gulf" which comprises an estuary system which extends along the coast of Massachusetts Bay and the Atlantic Ocean (South Shore Coastal Drainage Area) and eventually drains into Cohasset Harbor. This estuary area includes tidal marshes and wetland areas with a mixture of fresh and salt water (brackish water). The Massachusetts State surface water quality classification for The Gulf is SB (designated as habitat for fish (shellfish), other aquatic life and wildlife and for primary and secondary contact recreation). This area is also designated as suitable for restricted shellfish harvesting (shellfishing restricted in accordance with the Massachusetts Division of Marine Fisheries pursuant to M.G.L. c. 130 §75).

The Gulf is not used as a drinking water supply and is classified as a Class SB surface water body. The State classifications for Bound Brook and Musquashcut Brook are not listed. The seven day-ten year low flow (7Q10) of both the receiving water was estimated since no gauging stations or stream-stats data are available for these waters. The 7Q10 of the receiving water is estimated to range from approximately 1 cubic feet per second (CFS) to 5 CFS based on physical observations of the water bodies, available topographic maps, and documented flows of similar drainage areas. The maximum flows of Musquashcut Brook are likely greater than those of Bound Brook, however for the purpose of dilution calculations the lower of these estimated flows has been used for both potential receiving bodies.

The Bound Brook (listing ID#9456100) and The Gulf (listing ID#9456075) water bodies are listed as Massachusetts Category 3 Waters (no uses assessed) and do not currently have a total maximum daily load (TMDL).

Endangered and Threatened Species and/or Critical Habitat

There are currently no endangered and/or threatened species and/or critical habitats of concern located at the Site as identified under the NPDES RGP listed in Part I A(4) including the: shortnose sturgeon, dwarf wedge mussel, bog turtle, and the northern redbelly cooter. Plymouth County is listed as critical habitat for the northern redbelly cooter; however the habitat of this species does not include the Site. No consultation with federal and/or state wildlife officials was determined to be necessary since the Site is not located within an area where listed endangered and/or threatened species exist nor is the Site located at or near a federally designated critical habitat.

Impacts to Locations of Historic Significance

In order to determine whether the discharge to Bound Brook or Musquashcut Brook will have the potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places research was completed identifying locations listed on the National Register of

Historic Places and properties listed by the Massachusetts Historical Commission using Massachusetts Geographic Information System data.

The results of our research did not identify properties listed on the National Register of Historic Places located in the path of the discharge or within the construction limits required for the discharge. The Greenbush project and associated construction activities are currently reviewed in accordance with a Programmatic Agreement developed between state and federal agencies and the project in association with the issuance of the U.S. Army Corps of Engineers Individual Permit pursuant to Section 404 of the U.S. Clean Water Act.

Since the discharge will occur within areas of construction that have already been reviewed in accordance with the Programmatic Agreement or through existing storm water outfall it is our opinion that the proposed discharge will not adversely affect historic resources.

Request for Coverage Under NPDES RGP

On behalf of the MBTA and CBB, Rizzo Associates hereby requests coverage under the NPDES Remediation General Permit for discharges of remedial waste water to above referenced discharge points, from remedial dewatering and treatment operations at the Site. Sampling and laboratory analysis of the remedial influent waters has indicated the likely presence of the following compounds in the remedial wastewater: TSS, TPH, BTEX, VOCs, naphthalene, and metals. The attached NOI form provides additional information pertaining to this NOI letter and appropriate signatures of the treatment system Operator and sole permittee (CBB). Discharge of remedial wastewater is anticipated to begin in March 2006 or April 2006 and be completed by March 2007. Upon receipt of notification from EPA and mobilization of the appropriate treatment system components, the remedial dewatering operations, treatment, and discharge will commence under the NPDES RGP in accordance with sampling and monitoring requirements determined by the EPA.

Please contact me at (508) 903-2000 or contact Mr. Jamie Doyle of CBB at (781) 335-5001 if you have any questions.

Very truly yours,

Michael E. Billa

Michael E. Billa, P.E., P.G., L.S.P.
Senior Project Manager

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B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General site information. Please provide the following information about the site:

<table>
<tr><td colspan="2">a) Name of facility/site:
Greenbush/North Scituate Station</td><td colspan="4">Facility/site address:</td></tr>
<tr><td>Location of facility/site:
longitude: 70°47'11" latitude: 42°13'08"</td><td>Facility SIC code(s):
None</td><td colspan="4">Street:
Interchage of: Country Way, Gannet Road and Henry Turner Bailey Road</td></tr>
<tr><td colspan="2">b) Name of facility/site owner: Massachusetts Bay Transportation Authority</td><td colspan="4">Town: Scituate</td></tr>
<tr><td colspan="2">Email address of owner:
JEng@mbta.com</td><td>State:
MA</td><td>Zip:
02066</td><td colspan="2">County:
Plymouth</td></tr>
<tr><td colspan="2">Telephone no.of facility/site owner: (781) 682-7250</td><td colspan="4" rowspan="2"></td></tr>
<tr><td colspan="2">Fax no. of facility/site owner: (781) 682-7251</td></tr>
<tr><td colspan="2">Address of owner (if different from site):</td><td colspan="4">Owner is (check one): 1. Federal____ 2. State/Tribal ✓
3. Private_____ 4. other, if so, describe:</td></tr>
<tr><td colspan="6">Street: 10 Park Plaza, Suite 3910</td></tr>
<tr><td colspan="2">Town: Boston</td><td>State: MA</td><td>Zip: 02116</td><td colspan="2">County: Suffolk</td></tr>
<tr><td colspan="2" rowspan="2">c) Legal name of operator:
Jay Cashman, Inc./Balfour Beatty Construction, Inc., JV</td><td colspan="4">Operator telephone no: (781) 335-5001</td></tr>
<tr><td colspan="2">Operator fax no.: (781) 335-9503</td><td colspan="2">Operator email:
jdoyle@jaycashman.com</td></tr>
<tr><td colspan="6">Operator contact name and title: Jamie Doyle</td></tr>
</table>

Address of **operator** (if different from owner):	Street: 1580 Commercial Street		
Town: East Weymouth	State: MA	Zip: 02189	County: Norfolk

d) Check "yes" or "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Yes___ No✓, if "yes," number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No✓, if "yes," date and tracking #:
3. Is the discharge a "new discharge"as defined by 40 CFR 122.2? Yes ✓ No___
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes✓No__

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes✓ No___ If "yes," please list: 1. site identification # assigned by the state of NH or MA: RTN 3-22582 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number: Scott Sayers, MADEP SERO, 20 Riverside Drive, Lakeville, MA (508)946-2780	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y___ N✓, if Y, number: 2. phase I or II construction storm water general permit? Y✓ N___, if Y, number: MAR10B856 3. individual NPDES permit? Y___ N✓, if Y, number: 4. any other water quality related permit? Y___ N✓, if Y, number:

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:
Discharge activities will include construction dewatering and treatment. See attached NOI letter for further information.

b) Provide the following information about each discharge:	1) Number of discharge points: 4	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)? Max. flow 0.11 Average flow 0.09 Is maximum flow a **design value**? Y ✓ N___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available. Average flow is the estimated average flow for the discharge

3) Latitude and longitude of each discharge within 100 feet: pt.1:long 70°47'14" lat 42°13'07"; pt.2: long 70°47'13" lat 42°13'07"; pt.3: long 70°47'16" lat 42°13'10"; pt.4:long 70°46'55" lat 42°13'12"; pt.5: long._____ lat._____; pt.6:long._____ lat._____; pt.7: long._____ lat._____; pt.8:long._____ lat._____; etc.

4) If hydrostatic testing, total volume of the discharge (gals): N/A	5) Is the discharge intermittent ✓ or seasonal ____? Is discharge ongoing Yes ____ No ✓ ?
c) Expected dates of discharge (mm/dd/yy): start 04/01/06 end 04/01/07	
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).	

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only	VOC Only	Primarily Metals	Urban Fill Sites	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants ✓	Petroleum with Other Contaminants ✓	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	**Believe Absent**	**Believe Present**	**# of Samples (1 min-imum)**	**Type of Sample (e.g., grab)**	**Analytical Method Used (method #)**	**Minimum Level (ML) of Test Method**	**Maximum daily value**		**Avg. daily value**	
							concentration (ug/l)	**mass (kg)**	**concentration (ug/l)**	**mass (kg)**
1. Total Suspended Solids		✓	3	grab	160.2	5 mg/l	3.6E8	97E6	1.2E8	26E6
2. Total Residual Chlorine	✓		3	grab	330.1	20 ug/l	<ML			
3. Total Petroleum Hydrocarbons		✓	3	grab	1664	5 mg/l	1.6E5	43000	1.1E5	24000
4. Cyanide	✓		3	grab	335.4	10 ug/l	<ML			
5. Benzene		✓	3	grab	8260	2 ug/l	<500			
6. Toluene		✓	3	grab	8260	2 ug/l	<500			
7. Ethylbenzene		✓	3	grab	8260	2 ug/l	2900	0.8	2500	0.6
8. (m,p,o) Xylenes		✓	3	grab	8260	10 ug/l	23300	6.3	13043	2.9
9. Total BTEX[4]		✓	3	grab	8260	2 ug/l	26200	7.1	15543	3.4

[4] BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide (1,2- Dibromo-methane)		✓	3	grab	8260	0.1ug/l	<500			
11. Methyl-tert-Butyl Ether (MtBE)		✓	3	grab	8260	5ug/l	<6000			
12. tert-Butyl Alcohol (TBA)		✓	3	grab	8260	100ug/l	<200			
13. tert-Amyl Methyl Ether (TAME)		✓	3	grab	8260	0.5ug/l	<500			
14. Naphthalene		✓	3	grab	8260	2ug/l	6200	1.7	3800	0.8
15. Carbon Tetra-chloride		✓	3	grab	8260	2ug/l	<500			
16. 1,4 Dichlorobenzene		✓	3	grab	8260	2ug/l	<500			
17. 1,2 Dichlorobenzene		✓	3	grab	8260	2ug/l	<500			
18. 1,3 Dichlorobenzene		✓	3	grab	8260	2ug/l	<500			
19. 1,1 Dichloroethane		✓	3	grab	8260	1ug/l	<500			
20. 1,2 Dichloroethane		✓	3	grab	8260	2ug/l	<500			
21. 1,1 Dichloroethylene		✓	3	grab	8260	2ug/l	<500			
22. cis-1,2 Dichloro-ethylene		✓	3	grab	8260	2ug/l	<500			
23. Dichloromethane (Methylene Chloride)		✓	3	grab	8260	2ug/l	<500			
24. Tetrachloroethylene		✓	3	grab	8260	2ug/l	<500			

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane		✓	3	grab	8260	2ug/l	<500			
26. 1,1,2 Trichloroethane		✓	3	grab	8260	2ug/l	<500			
27. Trichloroethylene		✓	3	grab	8260	2ug/l	<500			
28. Vinyl Chloride		✓	3	grab	8260	2ug/l	<500			
29. Acetone		✓	3	grab	8260	50ug/l				
30. 1,4 Dioxane		✓	3	grab	8260	50ug/l				
31. Total Phenols		✓	3	grab	420.1	1ug/l	<400			
32. Pentachlorophenol		✓	3	grab	8270	5ug/l	<400			
33. Total Phthalates [5] (Phthalate esthers)		✓	3	grab	8270	5ug/l	<400			
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]		✓	3	grab	8270	5ug/l	<400			
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		✓	3	grab	8270		<400			
a. Benzo(a) Anthracene		✓	3	grab	8270	5ug/l	<400			
b. Benzo(a) Pyrene		✓	3	grab	8270	10ug/l	<400			
c. Benzo(b)Fluoranthene		✓	3	grab	8270	10ug/l	<400			
d. Benzo(k) Fluoranthene		✓	3	grab	8270	10ug/l	<400			
e. Chrysene		✓	3	grab	8270	10ug/l	<400			

[5] The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene		✓	3	grab	8270M	10ug/l	<400			
g. Indeno(1,2,3-cd) Pyrene		✓	3	grab	8270M	10ug/l	<400			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		✓	3	grab	8270M		<400			
h. Acenaphthene		✓	3	grab	8270M	1ug/l	<400			
i. Acenaphthylene		✓	3	grab	8270M	10ug/l	<400			
j. Anthracene		✓	3	grab	8270M	10ug/l	<400			
k. Benzo(ghi) Perylene		✓	3	grab	8270M	5ug/l	<400			
l. Fluoranthene		✓	3	grab	8270M	1ug/l	<400			
m. Fluorene		✓	3	grab	8270M	10ug/l	<400			
n. Naphthalene-		✓	3	grab	8270M	2ug/l	3700	1.0	1803	0.4
o. Phenanthrene		✓	3	grab	8270M	5ug/l	<400			
p. Pyrene		✓	3	grab	8270M	10ug/l	<400			
37. Total Polychlorinated Biphenyls (PCBs)		✓	3	grab	608	0.5ug.l	<5			
38. Antimony		✓	3	grab	200.9	5ug/l	23	0.01	11.8	0.003
39. Arsenic		✓	3	grab	200.7	5ug/l	14	0.004	10	0.002
40. Cadmium	✓		3	grab	213.2	5ug/l	<ML			
41. Chromium III	✓		3	grab	200.7	10ug/l	<ML			
42. Chromium VI	✓		3	grab	218.6	10ug/l	<ML			

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper		✓	3	grab	200.7	5ug/l	5	0.001	3	0.0007
44. Lead		✓	3	grab	200.9	3ug/l	52	0.014	24.7	0.005
45. Mercury	✓		3	grab	245.2	0.2ug/l	<ML			
46. Nickel		✓	3	grab	200.7	10ug/l	2	0.0005	2	0.0004
47. Selenium		✓	3	grab	200.7	5ug/l	<40			
48. Silver		✓	3	grab	272.2	2ug/l	<4			
49. Zinc		✓	3	grab	200.7	10ug/l	19	0.005	9	0.002
50. Iron		✓	3	grab	200.7	2ug/l	49200	13.2	19619	4.3
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

Step 1: Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y ✓ N___	If yes, which metals? antimony, arsenic, copper, lead, selenium, silver, and iron
Step 2: For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: antimony, arsenic, copper, lead, selenium, silver, and iron DF: 10+	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ✓ N___ If "Yes," list which metals: lead, and iron

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:
See attached NOI letter and schematic diagram

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ✓	Air stripper	Oil/water separator	Equalization tanks	Bag filter ✓	GAC filter ✓
	Chlorination	Dechlorination	Other (please describe): organophilic clay filter			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 40gpm Maximum flow rate of treatment system 50gpm Design flow rate of treatment system 50gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):
None

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct ✓	Within facility	Storm drain ✓	River/brook ✓	Wetlands ✓	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Water will be discharged to the storm drainage drop inlets located at the Site with eventual discharge to Bound Brook or Musquashcut Brook (south of Site), or through an energy dissipation feature for direct discharge to Bound Brook (north of Site).

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water SB ,

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 1-5 cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes___ No ✓ If yes, for which pollutant(s)?

Is there a TMDL? Yes___ No ✓ If yes, for which pollutant(s)?

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes___ No ✓
Has any consultation with the federal services been completed ? No ✓ or is consultation underway? Yes No ✓
What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (~~check~~ one):
a "no jeopardy" opinion? ___ or written concurrence___ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?

b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?
Yes___ No ✓ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes___ No ✓

7. Supplemental information. :

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

See attached NOI letter

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

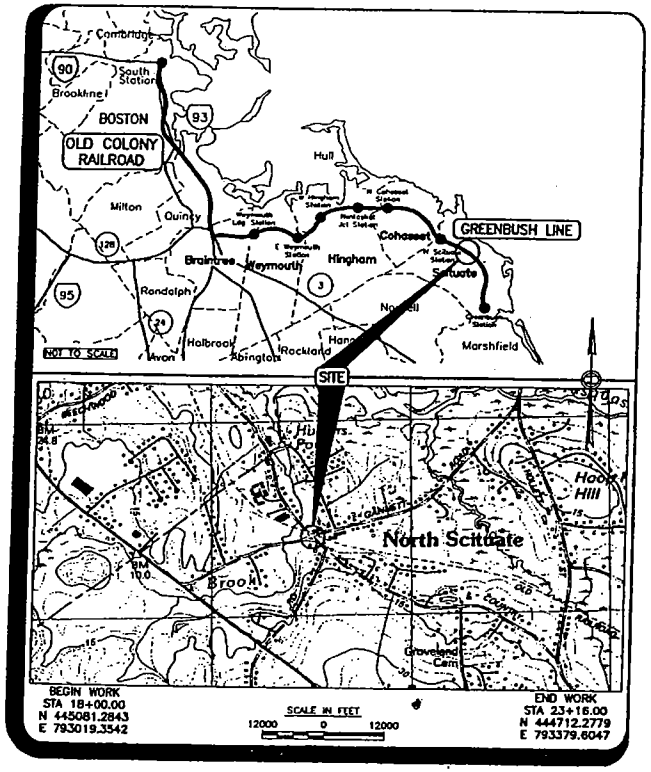
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name: Greenbush/North Scituate Station

Operator signature: R.D.Wilson
(ON BEHALF OF JAMIE DOYLE)

Title: DEPUTY PROJECT MANAGER

Date: 3/17/06



PREPARED BY:

GREENBUSH
JAY CASHMAN, INC./BALFOUR BEATTY CONST., INC., JV

STV Incorporated
321 Summer Street
Boston, Ma. 02210

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

OLD COLONY RAILROAD REHABILITATION PROJECT GREENBUSH LINE MBTA CONTRACT NO. K83CN01

SCITUATE COUNTRY WAY AT GANNETT ROAD GRADE CROSSING

DESIGN PACKAGE 53

FINAL DESIGN SUBMITTAL FEBRUARY 4, 2004

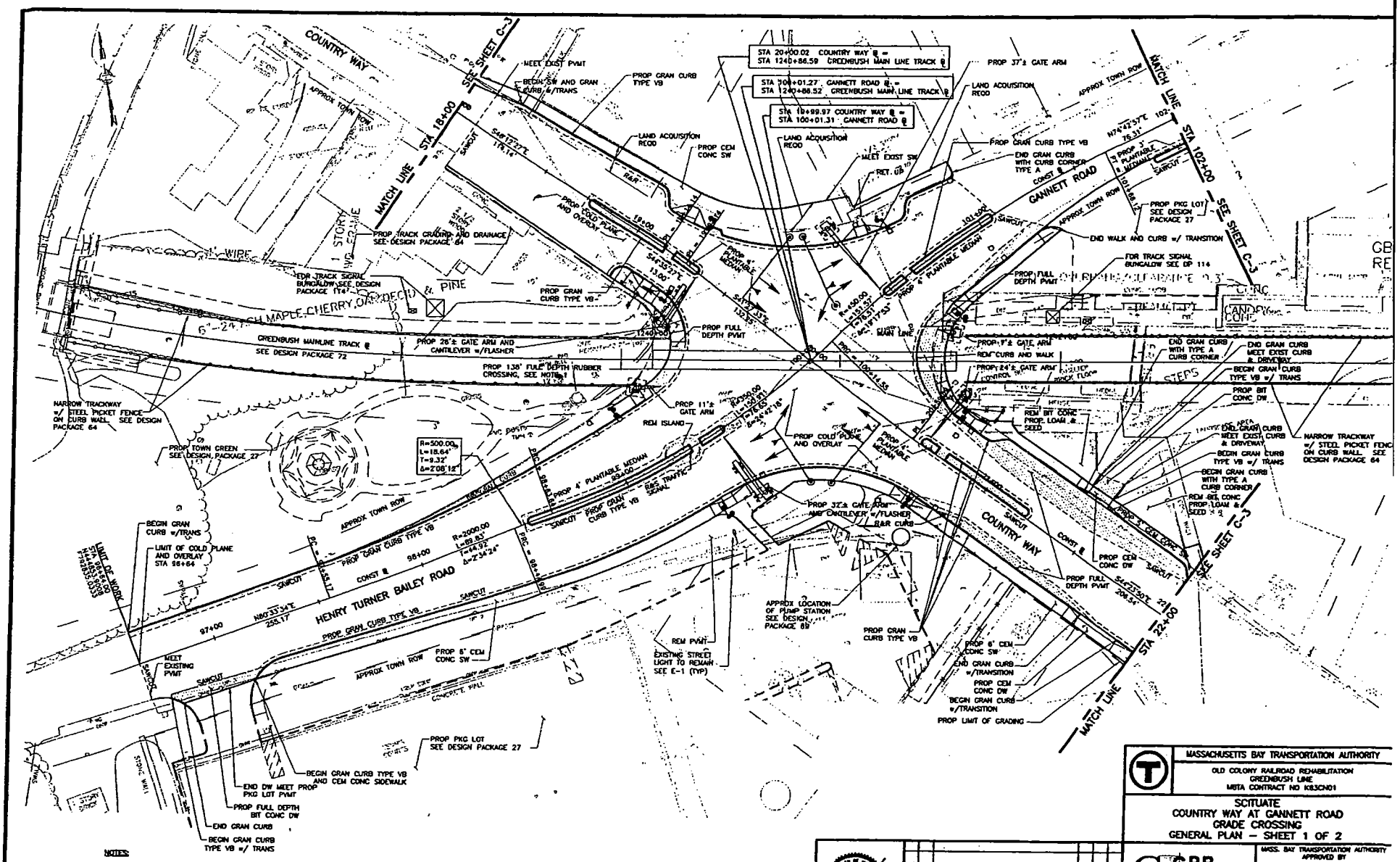
MBTA APPROVALS:

ASSISTANT GENERAL MANAGER FOR DESIGN AND CONSTRUCTION — DATE 3-4-04

CHIEF OF ENGINEERING AND CONSTRUCTION — DATE 3-3-04

DIRECTOR OF CONSTRUCTION — 03-05-04

PLAN



NOTES:

1. HMA LIMITS EXTENDED A MINIMUM OF 55' FROM EDGE OF CROSSING. FOR LIMITS SEE MBTA SD 3100, MBTA 3105, MBTA 3108 AND DP57-73.

SCALE IN FEET
20 0 20

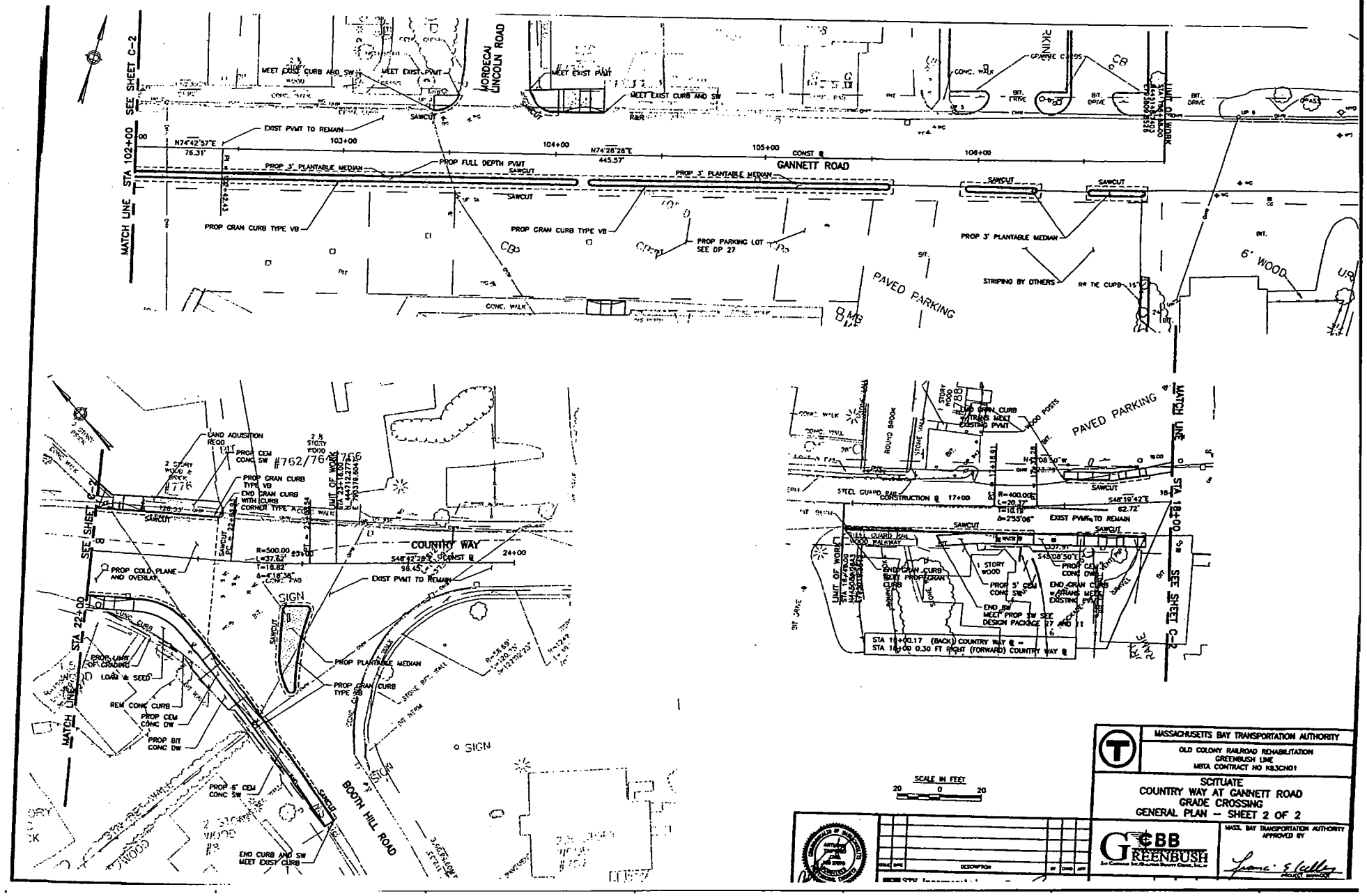
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

OLD COLONY RAILROAD REHABILITATION
GREENBUSH LINE
MBTA CONTRACT NO K83CN01

SCITUATE
COUNTRY WAY AT GANNETT ROAD
GRADE CROSSING
GENERAL PLAN – SHEET 1 OF 2

GBB GREENBUSH

MASS. BAY TRANSPORTATION AUTHORITY APPROVED BY



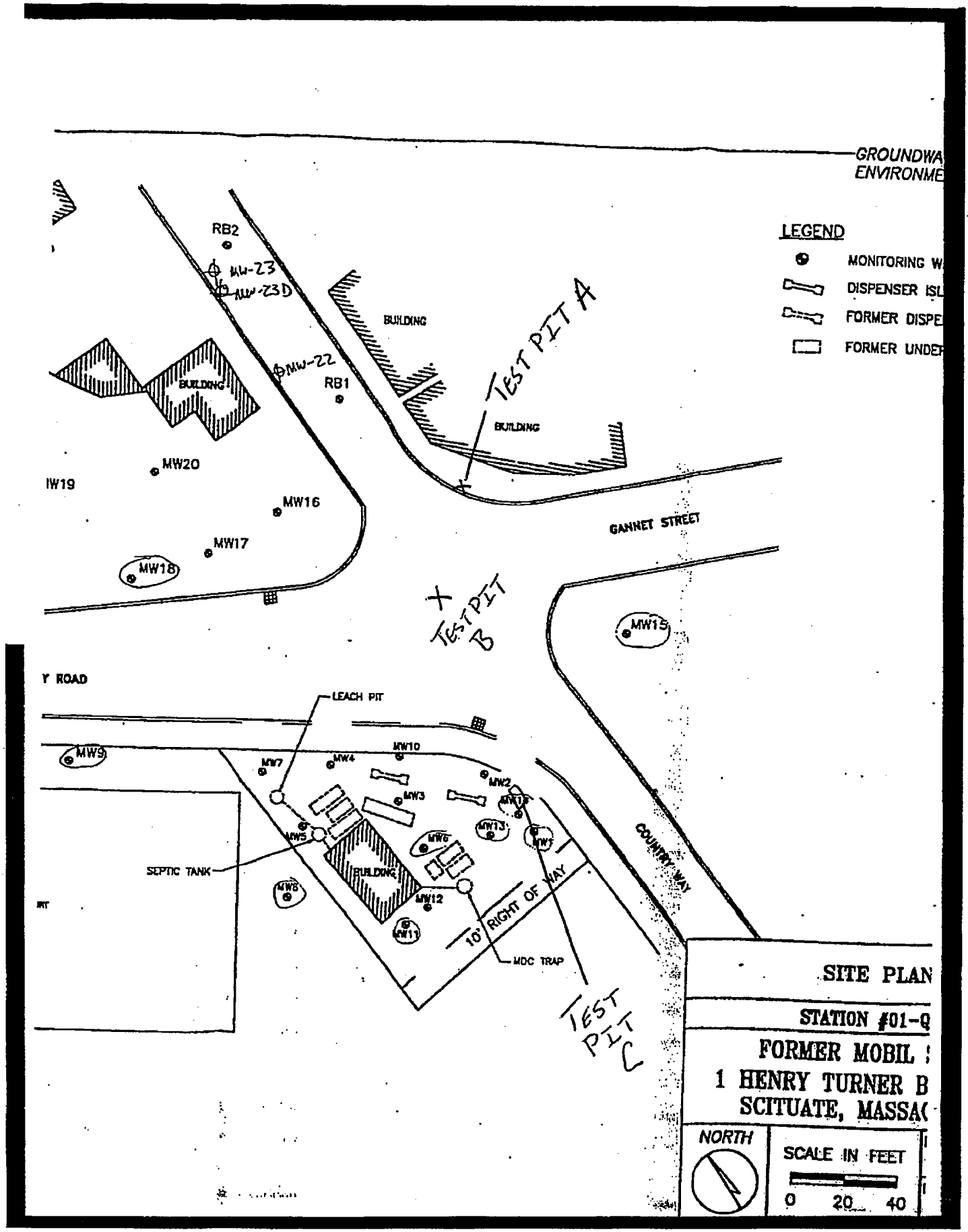
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

OLD COLONY RAILROAD REHABILITATION
GREENBUSH LINE
MBTA CONTRACT NO K83CN01

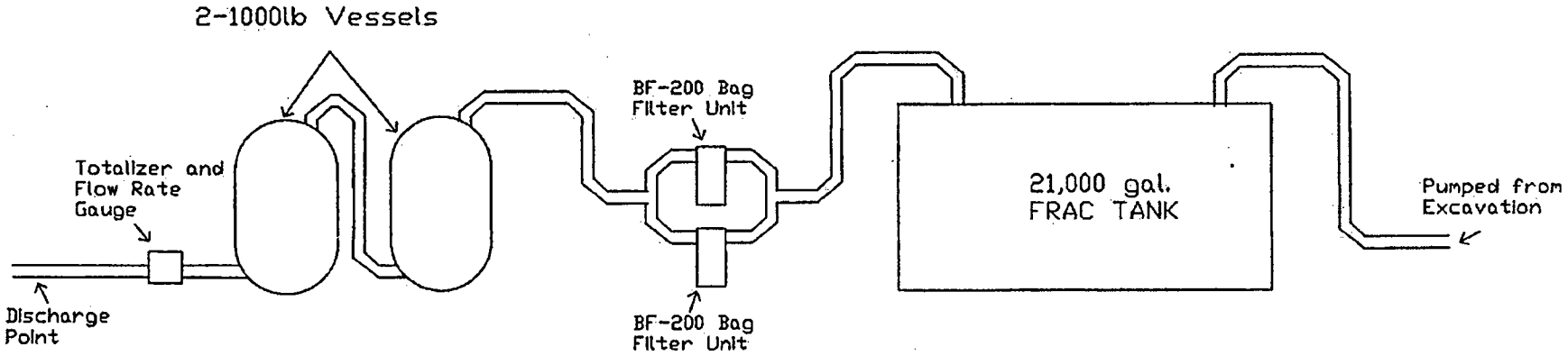
SCITUATE
COUNTRY WAY AT GANNETT ROAD
GRADE CROSSING
GENERAL PLAN – SHEET 2 OF 2

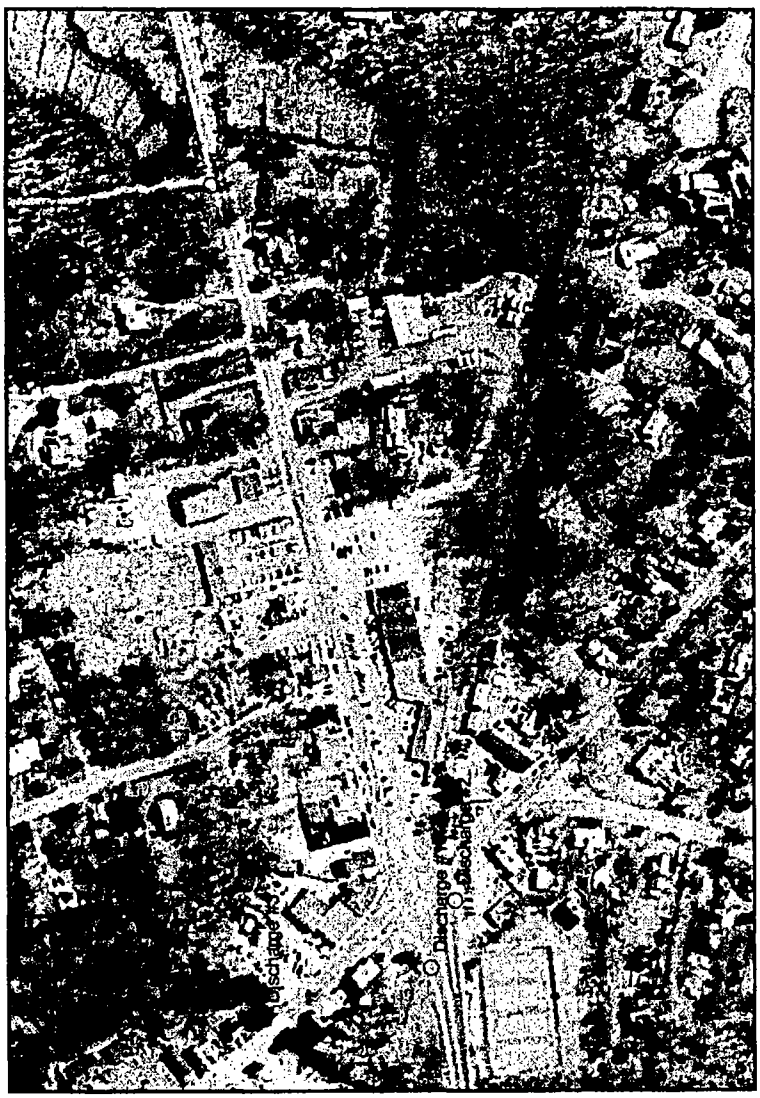
GRENBUSH

MASS. BAY TRANSPORTATION AUTHORITY APPROVED BY


GROUNDWA
ENVIRONME
LEGEND
MONITORING W
DISPENSER ISL
FORMER DISPE
FORMER UNDER
RB2
MW-23
MW-23D
MW-22
RB1
BUILDING
BUILDING
BUILDING
TEST PIT A
MW20
IW19
MW16
MW17
MW18
GANNET STREET
TEST PIT B
MW15
Y ROAD
LEACH PIT
MW9
MW7
MW4
MW10
MW2
MW3
MW13
MW5
MW6
MW1
SEPTIC TANK
BUILDING
MW8
MW12
MW11
10' RIGHT OF WAY
MDC TRAP
COUNTRY WAY
TEST PIT C
SITE PLAN
STATION #01-Q
FORMER MOBIL
1 HENRY TURNER B
SCITUATE, MASSA
NORTH
SCALE IN FEET
0 20 40

GREENBUSH LINE
COUNTRY WAY GROUNDWATER CONTAMINATION SYSTEM
50 GPM DISCHARGE WATER TREATMENT SYSTEM DESIGN





DISCHARGE LOCATIONS:

#1 & #2 ARE DROP INLETS TO STORM DRAIN

#3 & #4 ARE SURFACE WATER OUTFALLS

Table 1 Groundwater Analytical Data (µg/L) - Greenbush-North Scituate Station

Location:	North Scituate, MA Greenbush Country Way	North Scituate, MA Greenbush Country Way	North Scituate, MA Greenbush Country Way				
Sample Name:	Location A	Location B	Location C	Current RCGW-1 Standard µg/L	Current RCGW-2 Standard µg/L	Wave 2 RCGW-1 Standard µg/L	Wave 2 RCGW-2 Standard µg/L
Laboratory:	Phoenix	Phoenix	Phoenix				
Laboratory I.D.:	AH05259	AH05255	AH05255				
Sample Date:	2-Mar-06	3-Mar-06	3-Mar-06				
Consultant:	Rizzo	Rizzo	Rizzo				
Butylbenzene, n-	880	<1,300	11,000	NA	NA	NA	NA
Ethylbenzene	**2,900**	**2,100**	**<5,000**	700	4,000	700	4000
Naphthalene	**1,400**	**<1,300**	**6,200**	20	6,000	140	1000
Propylbenzene, n-	**1,200**	**<1,300**	**6,600**	1,000	10,000		
Trimethylbenzene, 1,2,4-	8,800	3,400	**43,000**	10,000	100,000		
Trimethylbenzene, 1,3,5-	**2,000**	**<1,300**	**14,000**	100	1,000		
Xylene (total)	**10,030**	5,800	**23,300**	6,000	6,000	500	500
Methylnaphthalene, 2-	**1,900**	**440**	**500**	10	3,000	10	3000
Naphthalene	**3,700**	**1,100**	**610**	20	6,000	140	1000
Arochlor 1016	<5	<0.5	<2	0.3	0.3	0.3	0.3
Arochlor 1221	<5	<0.5	<2	0.3	0.3	0.3	0.3
Arochlor 1232	<5	<0.5	<2	0.3	0.3	0.3	0.3
Arochlor 1242	<5	<0.5	<2	0.3	0.3	0.3	0.3
Arochlor 1248	<5	<0.5	<2	0.3	0.3	0.3	0.3
Arochlor 1254	<5	<0.5	<2	0.3	0.3	0.3	0.3
Arochlor 1260	<5	<0.5	<2	0.3	0.3	0.3	0.3
Arochlor 1262	<5	<0.5	<2	0.3	0.3	0.3	0.3
Arochlor 1268	<5	<0.5	<2	0.3	0.3	0.3	0.3
Antimony, Dissolved	<20	<5	23	6	300	6	8000
Arsenic, Dissolved	<16	14	<16	50	400	10	900
Cadmium, Dissolved	<4	<1	<4	5	10	4	4
Chromium, Dissolved	4	<1	<4	100	2,000	100	300
Chromium, Hexavalent	<10	<10	<10	50	100	100	300
Copper, Dissolved	<4	5	<4	10,000	100,000		
Iron, Dissolved	68	49,200	9,590	NA	NA		
Lead, Dissolved	14	8	**52**	20	30	10	10
Mercury, Dissolved	<0.2	<0.2	<0.2	1	1	2	20
Nickel, Dissolved	<8	2	<8	80	80	100	200
Selenium, Dissolved	<40	<10	<40	50	80	50	100
Silver, Dissolved	<4	<1	<4	.7	7	7	7
Zinc, Dissolved	<8	19	<8	900	900	900	900
Cyanide, Total	<10	<10	<10	10	10	30	30
Chlorine Residual	<20	<20	<20	NA	NA		
Unknown Oil	**160,000**	**23,000**	**160,000**	200	1,000	200	1000
Total Suspended Solids	3.6E+08	2.0E+06	5.8E+06				

Notes: **Bold** print indicates exceedence of current RC GW-1 standards.
Shading indicates exceedence of current RC GW-2 standards.

PHOENIX

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

Analysis Report

March 07, 2006

FOR: Attn: Mr Adam Swederskas
GZA GeoEnvironmental Inc
One Edgewater Drive
Norwood, MA 02062

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:	AS	03/02/06	11:30
Location Code:	GZA-MA	Received by:	SW	03/03/06	16:00
Rush Request:	RUSH#	Analyzed by:	see "By" below		
P.O.#:					

SDG I.D.: GAH05259
Phoenix I.D.: AH05259

Laboratory Data

Client ID: GREENBUSH COUNTRY WAY LOCATION A

Parameter	Result	RL	Units	Date	Time	By	Reference
Silver (Dissolved)	< 0.004	0.004	mg/L	03/06/06		EK	200.7/6010
Arsenic (Dissolved)	< 0.016	0.016	mg/L	03/06/06		EK	200.7/6010
Cadmium (Dissolved)	< 0.004	0.004	mg/L	03/06/06		EK	200.7/6010
Chromium (Dissolved)	0.004	0.004	mg/L	03/06/06		EK	200.7/6010
Copper (Dissolved)	< 0.004	0.004	mg/L	03/06/06		EK	6010/E200.7
Iron (Dissolved)	0.068	0.008	mg/L	03/06/06		EK	6010/E200.7
Mercury (Dissolved)	< 0.0002	0.0002	mg/L	03/06/06		TH	SW-7470
Nickel (Dissolved)	< 0.008	0.008	mg/L	03/06/06		EK	200.7/6010
Lead (Dissolved)	0.014	0.004	mg/L	03/06/06		TH	7421/E239.2
Antimony (Dissolved)	< 0.020	0.020	mg/L	03/06/06		EK	200.7/6010
Selenium (Dissolved)	< 0.040	0.040	mg/L	03/06/06		EK	200.7/6010
Zinc (Dissolved)	< 0.008	0.008	mg/L	03/06/06		EK	200.7/6010
Chlorine Residual	< 0.02	0.02	mg/L	03/03/06	23:00	CD	4500Cl-G
Chromium, Hexavalent	< 0.01	0.01	mg/L	03/03/06	23:00	CD	S3500CRD
Total Cyanide	< 0.01	0.01	mg/L	03/06/06		M/G	9010/335.3
Total Suspended Solids	360000	100	mg/L	03/03/06		KL	SM2540D
MADEP MCP 8260 Certification	Completed			03/07/06		JH	MCP
MADEP MCP 7000 Certification	Completed			03/07/06		TH	MCP
MADEP MCP 7470/7471 Certification	Completed			03/06/06		TH	MCP
MADEP MCP 6010 Certification	Completed			03/06/06		EK	MCP
Filtration Dissolved Metals	Completed			03/03/06		AG	.45um Filter
Dissolved Mercury Digestion	Completed		NA	03/06/06		E	SW7470
PCB Extraction	Completed			03/03/06		R/L	SW3510/3520
Semi-Volatile Extraction	Completed			03/03/06		O	SW3510/3520

Client ID: GREENBUSH COUNTRY WAY LOCATION A — Phoenix I.D.: AH05259

Parameter	Result		RL	Units	Date	Time	By	Reference
Dissolved Metals Preparation	Completed				03/03/06		AG	SW846-3005
Extraction of TPH MOD 8100	Completed				03/03/06		O	3550/5030
Polychlorinated Biphenyls								
PCB-1016	ND	***	5	ug/L	03/07/06		MH	608/ 8082
PCB-1221	ND	***	5	ug/L	03/07/06		MH	608/ 8082
PCB-1232	ND	***	5	ug/L	03/07/06		MH	608/ 8082
PCB-1242	ND	***	5	ug/L	03/07/06		MH	608/ 8082
PCB-1248	ND	***	5	ug/L	03/07/06		MH	608/ 8082
PCB-1254	ND	***	5	ug/L	03/07/06		MH	608/ 8082
PCB-1260	ND	***	5	ug/L	03/07/06		MH	608/ 8082
PCB-1262	ND	***	5	ug/L	03/07/06		MH	608/ 8082
PCB-1268	ND	***	5	ug/L	03/07/06		MH	608/ 8082
QA/QC Surrogates								
% DCBP (Surrogate Rec)	Diluted Out	***		%	03/07/06		MH	608/ 8082
% TCMX (Surrogate Rec)	Diluted Out	***		%	03/07/06		MH	608/ 8082
TPH by GC (Extractable Products)								
Aviation Fuel/Kerosene	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Fuel Oil #2/ Diesel Fuel	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Fuel Oil #4	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Fuel Oil #6	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Motor Oil	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Other Oil (Cutting & Lubricating)	**		0.5	mg/L	03/07/06		JRB	8100Modified
Unidentified	160		0.5	mg/L	03/07/06		JRB	8100Modified
QA/QC Surrogates								
% n-Pentacosane	Interference			%	03/07/06		JRB	8100Modified
Tert-amyl-methyl-ether	< 500		500	ug/L	03/05/06		R/J	SW8260
Tert-butyl alcohol	< 200		200	ug/L	03/05/06		R/J	SW8260
Volatiles								
1,1,1,2-Tetrachloroethane	ND		500	ug/L	03/05/06		R/J	SW8260
1,1,1-Trichloroethane	ND		500	ug/L	03/05/06		R/J	SW8260
1,1,2,2-Tetrachloroethane	ND		500	ug/L	03/05/06		R/J	SW8260
1,1,2-Trichloroethane	ND		500	ug/L	03/05/06		R/J	SW8260
1,1-Dichloroethane	ND		500	ug/L	03/05/06		R/J	SW8260
1,1-Dichloroethene	ND		500	ug/L	03/05/06		R/J	SW8260
1,1-Dichloropropene	ND		500	ug/L	03/05/06		R/J	SW8260
1,2,3-Trichlorobenzene	ND		500	ug/L	03/05/06		R/J	SW8260
1,2,3-Trichloropropane	ND		500	ug/L	03/05/06		R/J	SW8260
1,2,4-Trichlorobenzene	ND		500	ug/L	03/05/06		R/J	SW8260
1,2,4-Trimethylbenzene	8800		2500	ug/L	03/05/06		R/J	SW8260
1,2-Dibromo-3-chloropropane	ND		500	ug/L	03/05/06		R/J	SW8260
1,2-Dichlorobenzene	ND		500	ug/L	03/05/06		R/J	SW8260
1,2-Dichloroethane	ND		500	ug/L	03/05/06		R/J	SW8260

Client ID: GREENBUSH COUNTRY WAY LOCATION A Phoenix I.D.: AH05259

Parameter	Result	RL	Units	Date	Time	By	Reference
1,2-Dichloropropane	ND	500	ug/L	03/05/06		R/J	SW8260
1,3,5-Trimethylbenzene	2000	500	ug/L	03/05/06		R/J	SW8260
1,3-Dichlorobenzene	ND	500	ug/L	03/05/06		R/J	SW8260
1,3-Dichloropropane	ND	500	ug/L	03/05/06		R/J	SW8260
1,4-Dichlorobenzene	ND	500	ug/L	03/05/06		R/J	SW8260
2,2-Dichloropropane	ND	500	ug/L	03/05/06		R/J	SW8260
2-Chlorotoluene	ND	500	ug/L	03/05/06		R/J	SW8260
4-Chlorotoluene	ND	500	ug/L	03/05/06		R/J	SW8260
Benzene	ND	500	ug/L	03/05/06		R/J	SW8260
Bromobenzene	ND	500	ug/L	03/05/06		R/J	SW8260
Bromochloromethane	ND	500	ug/L	03/05/06		R/J	SW8260
Bromodichloromethane	ND	500	ug/L	03/05/06		R/J	SW8260
Bromoform	ND	500	ug/L	03/05/06		R/J	SW8260
Bromomethane	ND	500	ug/L	03/05/06		R/J	SW8260
Carbon tetrachloride	ND	500	ug/L	03/05/06		R/J	SW8260
Chlorobenzene	ND	500	ug/L	03/05/06		R/J	SW8260
Chloroethane	ND	500	ug/L	03/05/06		R/J	SW8260
Chloroform	ND	500	ug/L	03/05/06		R/J	SW8260
Chloromethane	ND	500	ug/L	03/05/06		R/J	SW8260
cis-1,2-Dichloroethene	ND	500	ug/L	03/05/06		R/J	SW8260
cis-1,3-Dichloropropene	ND	500	ug/L	03/05/06		R/J	SW8260
Dibromochloromethane	ND	500	ug/L	03/05/06		R/J	SW8260
Dibromoethane	ND	500	ug/L	03/05/06		R/J	SW8260
Dibromomethane	ND	500	ug/L	03/05/06		R/J	SW8260
Dichlorodifluoromethane	ND	500	ug/L	03/05/06		R/J	SW8260
Ethylbenzene	2900	500	ug/L	03/05/06		R/J	SW8260
Hexachlorobutadiene	ND	500	ug/L	03/05/06		R/J	SW8260
Isopropylbenzene	ND	500	ug/L	03/05/06		R/J	SW8260
m&p-Xylene	9300	500	ug/L	03/05/06		R/J	SW8260
Methyl Ethyl Ketone	ND	6000	ug/L	03/05/06		R/J	SW8260
Methyl t-butyl ether (MTBE)	ND	1000	ug/L	03/05/06		R/J	SW8260
Methylene chloride	ND	500	ug/L	03/05/06		R/J	SW8260
n-Butylbenzene	880	500	ug/L	03/05/06		R/J	SW8260
n-Propylbenzene	1200	500	ug/L	03/05/06		R/J	SW8260
Naphthalene	1400	500	ug/L	03/05/06		R/J	SW8260
o-Xylene	730	500	ug/L	03/05/06		R/J	SW8260
p-Isopropyltoluene	ND	500	ug/L	03/05/06		R/J	SW8260
sec-Butylbenzene	ND	500	ug/L	03/05/06		R/J	SW8260
Styrene	ND	500	ug/L	03/05/06		R/J	SW8260
tert-Butylbenzene	ND	500	ug/L	03/05/06		R/J	SW8260
Tetrachloroethene	ND	500	ug/L	03/05/06		R/J	SW8260
Toluene	ND	500	ug/L	03/05/06		R/J	SW8260
Total Xylenes	10000	500	ug/L	03/05/06		R/J	SW8260
trans-1,2-Dichloroethene	ND	500	ug/L	03/05/06		R/J	SW8260

Client ID: GREENBUSH COUNTRY WAY LOCATION A Phoenix I.D.: AH05259

Parameter	Result	RL	Units	Date	Time	By	Reference
trans-1,3-Dichloropropene	ND	500	ug/L	03/05/06		R/J	SW8260
Trichloroethene	ND	500	ug/L	03/05/06		R/J	SW8260
Trichlorofluoromethane	ND	500	ug/L	03/05/06		R/J	SW8260
Vinyl chloride	ND	500	ug/L	03/05/06		R/J	SW8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	03/05/06		R/J	SW8260
% Bromofluorobenzene	122		%	03/05/06		R/J	SW8260
% Dibromofluoromethane	94		%	03/05/06		R/J	SW8260
% Toluene-d8	98		%	03/05/06		R/J	SW8260
Semivolatiles							
1,2,4-Trichlorobenzene	ND	400	ug/L	03/06/06		KCA	SW 8270
1,2-Dichlorobenzene	ND	400	ug/L	03/06/06		KCA	SW 8270
1,2-Diphenylhydrazine	ND	400	ug/L	03/06/06		KCA	SW 8270
1,3-Dichlorobenzene	ND	400	ug/L	03/06/06		KCA	SW 8270
1,4-Dichlorobenzene	ND	400	ug/L	03/06/06		KCA	SW 8270
2,4,5-Trichlorophenol	ND	400	ug/L	03/06/06		KCA	SW 8270
2,4,6-Trichlorophenol	ND	400	ug/L	03/06/06		KCA	SW 8270
2,4-Dichlorophenol	ND	400	ug/L	03/06/06		KCA	SW 8270
2,4-Dimethylphenol	ND	400	ug/L	03/06/06		KCA	SW 8270
2,4-Dinitrophenol	ND	2000	ug/L	03/06/06		KCA	SW 8270
2,4-Dinitrotoluene	ND	400	ug/L	03/06/06		KCA	SW 8270
2,6-Dichlorophenol	ND	400	ug/L	03/06/06		KCA	SW 8270
2,6-Dinitrotoluene	ND	400	ug/L	03/06/06		KCA	SW 8270
2-Chloronaphthalene	ND	400	ug/L	03/06/06		KCA	SW 8270
2-Chlorophenol	ND	400	ug/L	03/06/06		KCA	SW 8270
2-Methylnaphthalene	1900	400	ug/L	03/06/06		KCA	SW 8270
2-Methylphenol (o-cresol)	ND	400	ug/L	03/06/06		KCA	SW 8270
2-Nitroaniline	ND	2000	ug/L	03/06/06		KCA	SW 8270
2-Nitrophenol	ND	400	ug/L	03/06/06		KCA	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	400	ug/L	03/06/06		KCA	SW 8270
3,3'-Dichlorobenzidine	ND	800	ug/L	03/06/06		KCA	SW 8270
3-Nitroaniline	ND	2000	ug/L	03/06/06		KCA	SW 8270
4,6-Dinitro-2-methylphenol	ND	2000	ug/L	03/06/06		KCA	SW 8270
4-Bromophenyl phenyl ether	ND	400	ug/L	03/06/06		KCA	SW 8270
4-Chloro-3-methylphenol	ND	800	ug/L	03/06/06		KCA	SW 8270
4-Chloroaniline	ND	800	ug/L	03/06/06		KCA	SW 8270
4-Chlorophenyl phenyl ether	ND	400	ug/L	03/06/06		KCA	SW 8270
4-Nitroaniline	ND	2000	ug/L	03/06/06		KCA	SW 8270
4-Nitrophenol	ND	2000	ug/L	03/06/06		KCA	SW 8270
Acenaphthene	ND	400	ug/L	03/06/06		KCA	SW 8270
Acenaphthylene	ND	400	ug/L	03/06/06		KCA	SW 8270
Anthracene	ND	400	ug/L	03/06/06		KCA	SW 8270
Benz(a)anthracene	ND	400	ug/L	03/06/06		KCA	SW 8270

Client ID: GREENBUSH COUNTRY WAY LOCATION A Phoenix I.D.: AH05259

Parameter	Result	RL	Units	Date	Time	By	Reference
Benzidine	ND	400	ug/L	03/06/06		KCA	SW 8270
Benzo(a)pyrene	ND	400	ug/L	03/06/06		KCA	SW 8270
Benzo(b)fluoranthene	ND	400	ug/L	03/06/06		KCA	SW 8270
Benzo(ghi)perylene	ND	400	ug/L	03/06/06		KCA	SW 8270
Benzo(k)fluoranthene	ND	400	ug/L	03/06/06		KCA	SW 8270
Benzoic acid	ND	2000	ug/L	03/06/06		KCA	SW 8270
Benzyl alcohol	ND	800	ug/L	03/06/06		KCA	SW 8270
Benzyl butyl phthalate	ND	400	ug/L	03/06/06		KCA	SW 8270
Bis(2-chloroethoxy)methane	ND	400	ug/L	03/06/06		KCA	SW 8270
Bis(2-chloroethyl)ether	ND	400	ug/L	03/06/06		KCA	SW 8270
Bis(2-chloroisopropyl)ether	ND	400	ug/L	03/06/06		KCA	SW 8270
Bis(2-ethylhexyl)phthalate	ND	400	ug/L	03/06/06		KCA	SW 8270
Chrysene	ND	400	ug/L	03/06/06		KCA	SW 8270
Di-n-butylphthalate	ND	400	ug/L	03/06/06		KCA	SW 8270
Di-n-octylphthalate	ND	400	ug/L	03/06/06		KCA	SW 8270
Dibenz(a,h)anthracene	ND	400	ug/L	03/06/06		KCA	SW 8270
Dibenzofuran	ND	400	ug/L	03/06/06		KCA	SW 8270
Diethyl phthalate	ND	400	ug/L	03/06/06		KCA	SW 8270
Dimethylphthalate	ND	400	ug/L	03/06/06		KCA	SW 8270
Fluoranthene	ND	400	ug/L	03/06/06		KCA	SW 8270
Fluorene	ND	400	ug/L	03/06/06		KCA	SW 8270
Hexachlorobenzene	ND	400	ug/L	03/06/06		KCA	SW 8270
Hexachlorobutadiene	ND	400	ug/L	03/06/06		KCA	SW 8270
Hexachlorocyclopentadiene	ND	400	ug/L	03/06/06		KCA	SW 8270
Hexachloroethane	ND	400	ug/L	03/06/06		KCA	SW 8270
Indeno(1,2,3-cd)pyrene	ND	400	ug/L	03/06/06		KCA	SW 8270
Isophorone	ND	400	ug/L	03/06/06		KCA	SW 8270
N-Nitrosodi-n-propylamine	ND	400	ug/L	03/06/06		KCA	SW 8270
N-Nitrosodimethylamine	ND	400	ug/L	03/06/06		KCA	SW 8270
N-Nitrosodiphenylamine	ND	400	ug/L	03/06/06		KCA	SW 8270
Naphthalene	3700	400	ug/L	03/06/06		KCA	SW 8270
Nitrobenzene	ND	400	ug/L	03/06/06		KCA	SW 8270
Pentachlorophenol	ND	400	ug/L	03/06/06		KCA	SW 8270
Phenanthrene	ND	400	ug/L	03/06/06		KCA	SW 8270
Phenol	ND	400	ug/L	03/06/06		KCA	SW 8270
Pyrene	ND	400	ug/L	03/06/06		KCA	SW 8270
Pyridine	ND	400	ug/L	03/06/06		KCA	SW 8270
QA/QC Surrogates							
% 2,4,6-Tribromophenol	Diluted Out		%	03/06/06		KCA	SW 8270
% 2-Fluorobiphenyl	Diluted Out		%	03/06/06		KCA	SW 8270
% 2-Fluorophenol	Diluted Out		%	03/06/06		KCA	SW 8270
% Nitrobenzene-d5	Diluted Out		%	03/06/06		KCA	SW 8270
% Phenol-d5	Diluted Out		%	03/06/06		KCA	SW 8270
% Terphenyl-d14	Diluted Out		%	03/06/06		KCA	SW 8270

Client ID: GREENBUSH COUNTRY WAY LOCATION A Phoenix I.D.: AH05259

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments: ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

**Petroleum hydrocarbon chromatogram was not a perfect match with any of the standards, but contains a distribution in the C9 to C14 range. The sample was quantitated against a C9-C36 standard.

*EDB could not be run via 504 due to matrix interference.

*** Due to matrix interference cuased by non target compounds in the sample an elevated MDL was reported.

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

Phyllis Shiller, Laboratory Director
March 07, 2006

PHOENIX

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

Analysis Report

March 07, 2006

FOR: Attn: Mr Adam Swederskas
GZA GeoEnvironmental Inc
One Edgewater Drive
Norwood, MA 02062

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		03/03/06	10:35
Location Code:	GZA-MA	Received by:	SW	03/03/06	16:00
Rush Request:	RUSH#	Analyzed by:	see "By" below		
P.O.#:					

SDG I.D.: GAH05255
Phoenix I.D.: AH05255

Laboratory Data

Client ID: GREENBUSH COUNTRY WAY LOCATION B

Parameter	Result	RL	Units	Date	Time	By	Reference
Silver (Dissolved)	< 0.001	0.001	mg/L	03/06/06		EK	200.7/6010
Arsenic (Dissolved)	0.014	0.004	mg/L	03/06/06		EK	200.7/6010
Cadmium (Dissolved)	< 0.001	0.001	mg/L	03/06/06		EK	200.7/6010
Chromium (Dissolved)	< 0.001	0.001	mg/L	03/06/06		EK	200.7/6010
Copper (Dissolved)	0.005	0.001	mg/L	03/06/06		EK	6010/E200.7
Iron (Dissolved)	49.2	0.002	mg/L	03/06/06		EK	6010/E200.7
Mercury (Dissolved)	< 0.0002	0.0002	mg/L	03/06/06		TH	SW-7470
Nickel (Dissolved)	0.002	0.002	mg/L	03/06/06		EK	200.7/6010
Lead (Dissolved)	0.008	0.001	mg/L	03/06/06		TH	7421/E239.2
Antimony (Dissolved)	< 0.005	0.005	mg/L	03/06/06		EK	200.7/6010
Selenium (Dissolved)	< 0.010	0.010	mg/L	03/06/06		EK	200.7/6010
Zinc (Dissolved)	0.019	0.002	mg/L	03/06/06		EK	200.7/6010
Chlorine Residual	< 0.02	0.02	mg/L	03/03/06	23:00	CD	4500Cl-G
Chromium, Hexavalent	< 0.01	0.01	mg/L	03/03/06	23:00	CD	S3500CRD
Total Cyanide	< 0.01	0.01	mg/L	03/06/06		M/G	9010/335.3
Total Suspended Solids	2000	20	mg/L	03/03/06		KL	SM2540D
MADEP MCP 8260 Certification	Completed			03/07/06		JH	MCP
MADEP MCP 7000 Certification	Completed			03/07/06		TH	MCP
MADEP MCP 7470/7471 Certification	Completed			03/06/06		TH	MCP
MADEP MCP 6010 Certification	Completed			03/06/06		EK	MCP
Filtration Dissolved Metals	Completed			03/03/06		AG	.45um Filter
Dissolved Mercury Digestion	Completed		NA	03/06/06		E	SW7470
PCB Extraction	Completed			03/03/06		R/L	SW3510/3520
Semi-Volatile Extraction	Completed			03/03/06		O	SW3510/3520

Client ID: GREENBUSH COUNTRY WAY LOCATION B Phoenix I.D.: AH05255

Parameter	Result	RL	Units	Date	Time	By	Reference
Dissolved Metals Preparation	Completed			03/03/06		AG	SW846-3005
Extraction of TPH MOD 8100	Completed			03/03/06		O	3550/5030
Polychlorinated Biphenyls							
PCB-1016	ND	0.5	ug/L	03/06/06		MH	608/ 8082
PCB-1221	ND	0.5	ug/L	03/06/06		MH	608/ 8082
PCB-1232	ND	0.5	ug/L	03/06/06		MH	608/ 8082
PCB-1242	ND	0.5	ug/L	03/06/06		MH	608/ 8082
PCB-1248	ND	0.5	ug/L	03/06/06		MH	608/ 8082
PCB-1254	ND	0.5	ug/L	03/06/06		MH	608/ 8082
PCB-1260	ND	0.5	ug/L	03/06/06		MH	608/ 8082
PCB-1262	ND	0.5	ug/L	03/06/06		MH	608/ 8082
PCB-1268	ND	0.5	ug/L	03/06/06		MH	608/ 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	88		%	03/06/06		MH	608/ 8082
% TCMX (Surrogate Rec)	Interference		%	03/06/06		MH	608/ 8082
TPH by GC (Extractable Products)							
Aviation Fuel/Kerosene	ND	0.5	mg/L	03/06/06		JRB	8100Modified
Fuel Oil #2/ Diesel Fuel	ND	0.5	mg/L	03/06/06		JRB	8100Modified
Fuel Oil #4	ND	0.5	mg/L	03/06/06		JRB	8100Modified
Fuel Oil #6	ND	0.5	mg/L	03/06/06		JRB	8100Modified
Motor Oil	ND	0.5	mg/L	03/06/06		JRB	8100Modified
Other Oil (Cutting & Lubricating)	**	0.5	mg/L	03/06/06		JRB	8100Modified
Unidentified	23	0.5	mg/L	03/06/06		JRB	8100Modified
QA/QC Surrogates							
% n-Pentacosane	Interference		%	03/06/06		JRB	8100Modified
Tert-amyl-methyl-ether	< 100	100	ug/L	03/05/06		R/J	SW8260
Tert-butyl alcohol	< 200	200	ug/L	03/07/06		JH	SW8260
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1300	ug/L	03/07/06		R/J	SW8260
1,1,1-Trichloroethane	ND	1300	ug/L	03/07/06		R/J	SW8260
1,1,2,2-Tetrachloroethane	ND	1300	ug/L	03/07/06		R/J	SW8260
1,1,2-Trichloroethane	ND	1300	ug/L	03/07/06		R/J	SW8260
1,1-Dichloroethane	ND	1300	ug/L	03/07/06		R/J	SW8260
1,1-Dichloroethene	ND	1300	ug/L	03/07/06		R/J	SW8260
1,1-Dichloropropene	ND	1300	ug/L	03/07/06		R/J	SW8260
1,2,3-Trichlorobenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
1,2,3-Trichloropropane	ND	1300	ug/L	03/07/06		R/J	SW8260
1,2,4-Trichlorobenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
1,2,4-Trimethylbenzene	3400	1300	ug/L	03/07/06		R/J	SW8260
1,2-Dibromo-3-chloropropane	ND	1300	ug/L	03/07/06		R/J	SW8260
1,2-Dichlorobenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
1,2-Dichloroethane	ND	1300	ug/L	03/07/06		R/J	SW8260

Client ID: GREENBUSH COUNTRY WAY LOCATION B Phoenix I.D.: AH05255

Parameter	Result	RL	Units	Date	Time	By	Reference
1,2-Dichloropropane	ND	1300	ug/L	03/07/06		R/J	SW8260
1,3,5-Trimethylbenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
1,3-Dichlorobenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
1,3-Dichloropropane	ND	1300	ug/L	03/07/06		R/J	SW8260
1,4-Dichlorobenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
2,2-Dichloropropane	ND	1300	ug/L	03/07/06		R/J	SW8260
2-Chlorotoluene	ND	1300	ug/L	03/07/06		R/J	SW8260
4-Chlorotoluene	ND	1300	ug/L	03/07/06		R/J	SW8260
Benzene	ND	1300	ug/L	03/07/06		R/J	SW8260
Bromobenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
Bromochloromethane	ND	1300	ug/L	03/07/06		R/J	SW8260
Bromodichloromethane	ND	1300	ug/L	03/07/06		R/J	SW8260
Bromoform	ND	1300	ug/L	03/07/06		R/J	SW8260
Bromomethane	ND	1300	ug/L	03/07/06		R/J	SW8260
Carbon tetrachloride	ND	1300	ug/L	03/07/06		R/J	SW8260
Chlorobenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
Chloroethane	ND	1300	ug/L	03/07/06		R/J	SW8260
Chloroform	ND	1300	ug/L	03/07/06		R/J	SW8260
Chloromethane	ND	1300	ug/L	03/07/06		R/J	SW8260
cis-1,2-Dichloroethene	ND	1300	ug/L	03/07/06		R/J	SW8260
cis-1,3-Dichloropropene	ND	1300	ug/L	03/07/06		R/J	SW8260
Dibromochloromethane	ND	1300	ug/L	03/07/06		R/J	SW8260
Dibromoethane	ND	1300	ug/L	03/07/06		R/J	SW8260
Dibromomethane	ND	1300	ug/L	03/07/06		R/J	SW8260
Dichlorodifluoromethane	ND	1300	ug/L	03/07/06		R/J	SW8260
Ethylbenzene	2100	1300	ug/L	03/07/06		R/J	SW8260
Hexachlorobutadiene	ND	1300	ug/L	03/07/06		R/J	SW8260
Isopropylbenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
m&p-Xylene	5800	1300	ug/L	03/07/06		R/J	SW8260
Methyl Ethyl Ketone	ND	15000	ug/L	03/07/06		R/J	SW8260
Methyl t-butyl ether (MTBE)	ND	2500	ug/L	03/07/06		R/J	SW8260
Methylene chloride	ND	1300	ug/L	03/07/06		R/J	SW8260
n-Butylbenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
n-Propylbenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
Naphthalene	ND	1300	ug/L	03/07/06		R/J	SW8260
o-Xylene	ND	1300	ug/L	03/07/06		R/J	SW8260
p-Isopropyltoluene	ND	1300	ug/L	03/07/06		R/J	SW8260
sec-Butylbenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
Styrene	ND	1300	ug/L	03/07/06		R/J	SW8260
tert-Butylbenzene	ND	1300	ug/L	03/07/06		R/J	SW8260
Tetrachloroethene	ND	1300	ug/L	03/07/06		R/J	SW8260
Toluene	ND	1300	ug/L	03/07/06		R/J	SW8260
Total Xylenes	5800	1300	ug/L	03/07/06		R/J	SW8260
trans-1,2-Dichloroethene	ND	1300	ug/L	03/07/06		R/J	SW8260

Client ID: GREENBUSH COUNTRY WAY LOCATION B Phoenix I.D.: AH05255

Parameter	Result	RL	Units	Date	Time	By	Reference
trans-1,3-Dichloropropene	ND	1300	ug/L	03/07/06		R/J	SW8260
Trichloroethene	ND	1300	ug/L	03/07/06		R/J	SW8260
Trichlorofluoromethane	ND	1300	ug/L	03/07/06		R/J	SW8260
Vinyl chloride	ND	1300	ug/L	03/07/06		R/J	SW8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	03/07/06		R/J	SW8260
% Bromofluorobenzene	109		%	03/07/06		R/J	SW8260
% Dibromofluoromethane	96		%	03/07/06		R/J	SW8260
% Toluene-d8	101		%	03/07/06		R/J	SW8260
Semivolatiles							
1,2,4-Trichlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
1,2-Dichlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
1,2-Diphenylhydrazine	ND	200	ug/L	03/06/06		KCA	SW 8270
1,3-Dichlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
1,4-Dichlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4,5-Trichlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4,6-Trichlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4-Dichlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4-Dimethylphenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4-Dinitrophenol	ND	1000	ug/L	03/06/06		KCA	SW 8270
2,4-Dinitrotoluene	ND	200	ug/L	03/06/06		KCA	SW 8270
2,6-Dichlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,6-Dinitrotoluene	ND	200	ug/L	03/06/06		KCA	SW 8270
2-Chloronaphthalene	ND	200	ug/L	03/06/06		KCA	SW 8270
2-Chlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2-Methylnaphthalene	440	200	ug/L	03/06/06		KCA	SW 8270
2-Methylphenol (o-cresol)	ND	200	ug/L	03/06/06		KCA	SW 8270
2-Nitroaniline	ND	1000	ug/L	03/06/06		KCA	SW 8270
2-Nitrophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	200	ug/L	03/06/06		KCA	SW 8270
3,3'-Dichlorobenzidine	ND	400	ug/L	03/06/06		KCA	SW 8270
3-Nitroaniline	ND	1000	ug/L	03/06/06		KCA	SW 8270
4,6-Dinitro-2-methylphenol	ND	1000	ug/L	03/06/06		KCA	SW 8270
4-Bromophenyl phenyl ether	ND	200	ug/L	03/06/06		KCA	SW 8270
4-Chloro-3-methylphenol	ND	400	ug/L	03/06/06		KCA	SW 8270
4-Chloroaniline	ND	400	ug/L	03/06/06		KCA	SW 8270
4-Chlorophenyl phenyl ether	ND	200	ug/L	03/06/06		KCA	SW 8270
4-Nitroaniline	ND	1000	ug/L	03/06/06		KCA	SW 8270
4-Nitrophenol	ND	1000	ug/L	03/06/06		KCA	SW 8270
Acenaphthene	ND	200	ug/L	03/06/06		KCA	SW 8270
Acenaphthylene	ND	200	ug/L	03/06/06		KCA	SW 8270
Anthracene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benz(a)anthracene	ND	200	ug/L	03/06/06		KCA	SW 8270

Client ID: GREENBUSH COUNTRY WAY LOCATION B — Phoenix I.D.: AH05255

Parameter	Result	RL	Units	Date	Time	By	Reference
Benzidine	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzo(a)pyrene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzo(b)fluoranthene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzo(ghi)perylene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzo(k)fluoranthene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzoic acid	ND	1000	ug/L	03/06/06		KCA	SW 8270
Benzyl alcohol	ND	400	ug/L	03/06/06		KCA	SW 8270
Benzyl butyl phthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Bis(2-chloroethoxy)methane	ND	200	ug/L	03/06/06		KCA	SW 8270
Bis(2-chloroethyl)ether	ND	200	ug/L	03/06/06		KCA	SW 8270
Bis(2-chloroisopropyl)ether	ND	200	ug/L	03/06/06		KCA	SW 8270
Bis(2-ethylhexyl)phthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Chrysene	ND	200	ug/L	03/06/06		KCA	SW 8270
Di-n-butylphthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Di-n-octylphthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Dibenz(a,h)anthracene	ND	200	ug/L	03/06/06		KCA	SW 8270
Dibenzofuran	ND	200	ug/L	03/06/06		KCA	SW 8270
Diethyl phthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Dimethylphthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Fluoranthene	ND	200	ug/L	03/06/06		KCA	SW 8270
Fluorene	ND	200	ug/L	03/06/06		KCA	SW 8270
Hexachlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
Hexachlorobutadiene	ND	200	ug/L	03/06/06		KCA	SW 8270
Hexachlorocyclopentadiene	ND	200	ug/L	03/06/06		KCA	SW 8270
Hexachloroethane	ND	200	ug/L	03/06/06		KCA	SW 8270
Indeno(1,2,3-cd)pyrene	ND	200	ug/L	03/06/06		KCA	SW 8270
Isophorone	ND	200	ug/L	03/06/06		KCA	SW 8270
N-Nitrosodi-n-propylamine	ND	200	ug/L	03/06/06		KCA	SW 8270
N-Nitrosodimethylamine	ND	200	ug/L	03/06/06		KCA	SW 8270
N-Nitrosodiphenylamine	ND	200	ug/L	03/06/06		KCA	SW 8270
Naphthalene	1100	200	ug/L	03/06/06		KCA	SW 8270
Nitrobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
Pentachlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
Phenanthrene	ND	200	ug/L	03/06/06		KCA	SW 8270
Phenol	ND	200	ug/L	03/06/06		KCA	SW 8270
Pyrene	ND	200	ug/L	03/06/06		KCA	SW 8270
Pyridine	ND	200	ug/L	03/06/06		KCA	SW 8270
QA/QC Surrogates							
% 2,4,6-Tribromophenol	Diluted Out		%	03/06/06		KCA	SW 8270
% 2-Fluorobiphenyl	Diluted Out		%	03/06/06		KCA	SW 8270
% 2-Fluorophenol	Diluted Out		%	03/06/06		KCA	SW 8270
% Nitrobenzene-d5	Diluted Out		%	03/06/06		KCA	SW 8270
% Phenol-d5	Diluted Out		%	03/06/06		KCA	SW 8270
% Terphenyl-d14	Diluted Out		%	03/06/06		KCA	SW 8270

Client ID: GREENBUSH COUNTRY WAY LOCATION B Phoenix I.D.: AH05255

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments: ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

**Petroleum hydrocarbon chromatogram was not a perfect match with any of the standards, but most closely resembles gasoline.

EDB could not be run via 504 due to matrix interference.

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

Phyllis Shiller, Laboratory Director
March 07, 2006

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

Analysis Report

March 07, 2006

FOR: Attn: Mr Adam Swederskas
GZA GeoEnvironmental Inc
One Edgewater Drive
Norwood, MA 02062

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		03/03/06	11:10
Location Code:	GZA-MA	Received by:	SW	03/03/06	16:00
Rush Request:	RUSH#	Analyzed by:	see "By" below		
P.O.#:					

SDG I.D.: GAH05255
Phoenix I.D.: AH05256

Laboratory Data

Client ID: GREENBUSH COUNTRY WAY LOCATION C

Parameter	Result		RL	Units	Date	Time	By	Reference
Silver (Dissolved)	< 0.004		0.004	mg/L	03/06/06		EK	200.7/6010
Arsenic (Dissolved)	< 0.016		0.016	mg/L	03/06/06		EK	200.7/6010
Cadmium (Dissolved)	< 0.004		0.004	mg/L	03/06/06		EK	200.7/6010
Chromium (Dissolved)	< 0.004		0.004	mg/L	03/06/06		EK	200.7/6010
Copper (Dissolved)	< 0.004		0.004	mg/L	03/06/06		EK	6010/E200.7
Iron (Dissolved)	9.59		0.008	mg/L	03/06/06		EK	6010/E200.7
Mercury (Dissolved)	< 0.0002		0.0002	mg/L	03/06/06		TH	SW-7470
Nickel (Dissolved)	< 0.008		0.008	mg/L	03/06/06		EK	200.7/6010
Lead (Dissolved)	0.052		0.004	mg/L	03/06/06		TH	7421/E239.2
Antimony (Dissolved)	0.023		0.020	mg/L	03/06/06		EK	200.7/6010
Selenium (Dissolved)	< 0.040		0.040	mg/L	03/06/06		EK	200.7/6010
Zinc (Dissolved)	< 0.008		0.008	mg/L	03/06/06		EK	200.7/6010
Chlorine Residual	< 0.02		0.02	mg/L	03/03/06	23:00	CD	4500Cl-G
Chromium, Hexavalent	< 0.01		0.01	mg/L	03/03/06	23:00	CD	S3500CRD
Total Cyanide	< 0.01		0.01	mg/L	03/06/06		M/G	9010/335.3
Total Suspended Solids	5800		50	mg/L	03/03/06		KL	SM2540D
Filtration Dissolved Metals	Completed				03/03/06		AG	.45um Filter
Dissolved Mercury Digestion	Completed			NA	03/06/06		E	SW7470
PCB Extraction	Completed				03/03/06		R/L	SW3510/3520
Semi-Volatile Extraction	Completed				03/03/06		O	SW3510/3520
Dissolved Metals Preparation	Completed				03/03/06		AG	SW846-3005
Extraction of TPH MOD 8100	Completed				03/03/06		O	3550/5030
Polychlorinated Biphenyls								
PCB-1016	ND	*	2	ug/L	03/07/06		MH	608/ 8082

Client ID: GREENBUSH COUNTRY WAY LOCATION C Phoenix I.D.: AH05256

Parameter	Result		RL	Units	Date	Time	By	Reference
PCB-1221	ND	*	2	ug/L	03/07/06		MH	608/ 8082
PCB-1232	ND	*	2	ug/L	03/07/06		MH	608/ 8082
PCB-1242	ND	*	2	ug/L	03/07/06		MH	608/ 8082
PCB-1248	ND	*	2	ug/L	03/07/06		MH	608/ 8082
PCB-1254	ND	*	2	ug/L	03/07/06		MH	608/ 8082
PCB-1260	ND	*	2	ug/L	03/07/06		MH	608/ 8082
PCB-1262	ND	*	2	ug/L	03/07/06		MH	608/ 8082
PCB-1268	ND	*	2	ug/L	03/07/06		MH	608/ 8082
QA/QC Surrogates								
% DCBP (Surrogate Rec)	Diluted Out	*		%	03/07/06		MH	608/ 8082
% TCMX (Surrogate Rec)	Diluted Out	*		%	03/07/06		MH	608/ 8082
TPH by GC (Extractable Products)								
Aviation Fuel/Kerosene	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Fuel Oil #2/ Diesel Fuel	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Fuel Oil #4	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Fuel Oil #6	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Motor Oil	ND		0.5	mg/L	03/07/06		JRB	8100Modified
Other Oil (Cutting & Lubricating)	**		0.5	mg/L	03/07/06		JRB	8100Modified
Unidentified	160		0.5	mg/L	03/07/06		JRB	8100Modified
QA/QC Surrogates								
% n-Pentacosane	Interference			%	03/07/06		JRB	8100Modified
Tert-amyl-methyl-ether	< 500		500	ug/L	03/05/06		R/J	SW8260
Tert-butyl alcohol	< 200		200	ug/L	03/05/06		R/J	SW8260
Volatiles								
1,1,1,2-Tetrachloroethane	ND		5000	ug/L	03/07/06		R/J	SW8260
1,1,1-Trichloroethane	ND		5000	ug/L	03/07/06		R/J	SW8260
1,1,2,2-Tetrachloroethane	ND		5000	ug/L	03/07/06		R/J	SW8260
1,1,2-Trichloroethane	ND		5000	ug/L	03/07/06		R/J	SW8260
1,1-Dichloroethane	ND		5000	ug/L	03/07/06		R/J	SW8260
1,1-Dichloroethene	ND		5000	ug/L	03/07/06		R/J	SW8260
1,1-Dichloropropene	ND		5000	ug/L	03/07/06		R/J	SW8260
1,2,3-Trichlorobenzene	ND		5000	ug/L	03/07/06		R/J	SW8260
1,2,3-Trichloropropane	ND		5000	ug/L	03/07/06		R/J	SW8260
1,2,4-Trichlorobenzene	ND		5000	ug/L	03/07/06		R/J	SW8260
1,2,4-Trimethylbenzene	43000		5000	ug/L	03/07/06		R/J	SW8260
1,2-Dibromo-3-chloropropane	ND		5000	ug/L	03/07/06		R/J	SW8260
1,2-Dichlorobenzene	ND		5000	ug/L	03/07/06		R/J	SW8260
1,2-Dichloroethane	ND		5000	ug/L	03/07/06		R/J	SW8260
1,2-Dichloropropane	ND		5000	ug/L	03/07/06		R/J	SW8260
1,3,5-Trimethylbenzene	14000		5000	ug/L	03/07/06		R/J	SW8260
1,3-Dichlorobenzene	ND		5000	ug/L	03/07/06		R/J	SW8260
1,3-Dichloropropane	ND		5000	ug/L	03/07/06		R/J	SW8260

Client ID: GREENBUSH COUNTRY WAY LOCATION C Phoenix I.D.: AH05256

Parameter	Result	RL	Units	Date	Time	By	Reference
1,4-Dichlorobenzene	ND	5000	ug/L	03/07/06		R/J	SW8260
2,2-Dichloropropane	ND	5000	ug/L	03/07/06		R/J	SW8260
2-Chlorotoluene	ND	5000	ug/L	03/07/06		R/J	SW8260
4-Chlorotoluene	ND	5000	ug/L	03/07/06		R/J	SW8260
Benzene	ND	5000	ug/L	03/07/06		R/J	SW8260
Bromobenzene	ND	5000	ug/L	03/07/06		R/J	SW8260
Bromochloromethane	ND	5000	ug/L	03/07/06		R/J	SW8260
Bromodichloromethane	ND	5000	ug/L	03/07/06		R/J	SW8260
Bromoform	ND	5000	ug/L	03/07/06		R/J	SW8260
Bromomethane	ND	5000	ug/L	03/07/06		R/J	SW8260
Carbon tetrachloride	ND	5000	ug/L	03/07/06		R/J	SW8260
Chlorobenzene	ND	5000	ug/L	03/07/06		R/J	SW8260
Chloroethane	ND	5000	ug/L	03/07/06		R/J	SW8260
Chloroform	ND	5000	ug/L	03/07/06		R/J	SW8260
Chloromethane	ND	5000	ug/L	03/07/06		R/J	SW8260
cis-1,2-Dichloroethene	ND	5000	ug/L	03/07/06		R/J	SW8260
cis-1,3-Dichloropropene	ND	5000	ug/L	03/07/06		R/J	SW8260
Dibromochloromethane	ND	5000	ug/L	03/07/06		R/J	SW8260
Dibromoethane	ND	5000	ug/L	03/07/06		R/J	SW8260
Dibromomethane	ND	5000	ug/L	03/07/06		R/J	SW8260
Dichlorodifluoromethane	ND	5000	ug/L	03/07/06		R/J	SW8260
Ethylbenzene	ND	5000	ug/L	03/07/06		R/J	SW8260
Hexachlorobutadiene	ND	5000	ug/L	03/07/06		R/J	SW8260
Isopropylbenzene	ND	5000	ug/L	03/07/06		R/J	SW8260
m&p-Xylene	17000	5000	ug/L	03/07/06		R/J	SW8260
Methyl Ethyl Ketone	ND	60000	ug/L	03/07/06		R/J	SW8260
Methyl t-butyl ether (MTBE)	ND	10000	ug/L	03/07/06		R/J	SW8260
Methylene chloride	ND	5000	ug/L	03/07/06		R/J	SW8260
n-Butylbenzene	11000	5000	ug/L	03/07/06		R/J	SW8260
n-Propylbenzene	6600	5000	ug/L	03/07/06		R/J	SW8260
Naphthalene	6200	5000	ug/L	03/07/06		R/J	SW8260
o-Xylene	6300	5000	ug/L	03/07/06		R/J	SW8260
p-Isopropyltoluene	ND	5000	ug/L	03/07/06		R/J	SW8260
sec-Butylbenzene	ND	5000	ug/L	03/07/06		R/J	SW8260
Styrene	ND	5000	ug/L	03/07/06		R/J	SW8260
tert-Butylbenzene	ND	5000	ug/L	03/07/06		R/J	SW8260
Tetrachloroethene	ND	5000	ug/L	03/07/06		R/J	SW8260
Toluene	ND	5000	ug/L	03/07/06		R/J	SW8260
Total Xylenes	23000	5000	ug/L	03/07/06		R/J	SW8260
trans-1,2-Dichloroethene	ND	5000	ug/L	03/07/06		R/J	SW8260
trans-1,3-Dichloropropene	ND	5000	ug/L	03/07/06		R/J	SW8260
Trichloroethene	ND	5000	ug/L	03/07/06		R/J	SW8260
Trichlorofluoromethane	ND	5000	ug/L	03/07/06		R/J	SW8260
Vinyl chloride	ND	5000	ug/L	03/07/06		R/J	SW8260

Client ID: GREENBUSH COUNTRY WAY LOCATION C — Phoenix I.D.: AH05256

Parameter	Result	RL	Units	Date	Time	By	Reference
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	03/07/06		R/J	SW8260
% Bromofluorobenzene	119		%	03/07/06		R/J	SW8260
% Dibromofluoromethane	91		%	03/07/06		R/J	SW8260
% Toluene-d8	99		%	03/07/06		R/J	SW8260
Semivolatiles							
1,2,4-Trichlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
1,2-Dichlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
1,2-Diphenylhydrazine	ND	200	ug/L	03/06/06		KCA	SW 8270
1,3-Dichlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
1,4-Dichlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4,5-Trichlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4,6-Trichlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4-Dichlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4-Dimethylphenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,4-Dinitrophenol	ND	1000	ug/L	03/06/06		KCA	SW 8270
2,4-Dinitrotoluene	ND	200	ug/L	03/06/06		KCA	SW 8270
2,6-Dichlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2,6-Dinitrotoluene	ND	200	ug/L	03/06/06		KCA	SW 8270
2-Chloronaphthalene	ND	200	ug/L	03/06/06		KCA	SW 8270
2-Chlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
2-Methylnaphthalene	500	200	ug/L	03/06/06		KCA	SW 8270
2-Methylphenol (o-cresol)	ND	200	ug/L	03/06/06		KCA	SW 8270
2-Nitroaniline	ND	1000	ug/L	03/06/06		KCA	SW 8270
2-Nitrophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	200	ug/L	03/06/06		KCA	SW 8270
3,3'-Dichlorobenzidine	ND	400	ug/L	03/06/06		KCA	SW 8270
3-Nitroaniline	ND	1000	ug/L	03/06/06		KCA	SW 8270
4,6-Dinitro-2-methylphenol	ND	1000	ug/L	03/06/06		KCA	SW 8270
4-Bromophenyl phenyl ether	ND	200	ug/L	03/06/06		KCA	SW 8270
4-Chloro-3-methylphenol	ND	400	ug/L	03/06/06		KCA	SW 8270
4-Chloroaniline	ND	400	ug/L	03/06/06		KCA	SW 8270
4-Chlorophenyl phenyl ether	ND	200	ug/L	03/06/06		KCA	SW 8270
4-Nitroaniline	ND	1000	ug/L	03/06/06		KCA	SW 8270
4-Nitrophenol	ND	1000	ug/L	03/06/06		KCA	SW 8270
Acenaphthene	ND	200	ug/L	03/06/06		KCA	SW 8270
Acenaphthylene	ND	200	ug/L	03/06/06		KCA	SW 8270
Anthracene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benz(a)anthracene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzidine	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzo(a)pyrene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzo(b)fluoranthene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzo(ghi)perylene	ND	200	ug/L	03/06/06		KCA	SW 8270

Client ID: GREENBUSH COUNTRY WAY LOCATION C Phoenix I.D.: AH05256

Parameter	Result	RL	Units	Date	Time	By	Reference
Benzo(k)fluoranthene	ND	200	ug/L	03/06/06		KCA	SW 8270
Benzoic acid	ND	1000	ug/L	03/06/06		KCA	SW 8270
Benzyl alcohol	ND	400	ug/L	03/06/06		KCA	SW 8270
Benzyl butyl phthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Bis(2-chloroethoxy)methane	ND	200	ug/L	03/06/06		KCA	SW 8270
Bis(2-chloroethyl)ether	ND	200	ug/L	03/06/06		KCA	SW 8270
Bis(2-chloroisopropyl)ether	ND	200	ug/L	03/06/06		KCA	SW 8270
Bis(2-ethylhexyl)phthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Chrysene	ND	200	ug/L	03/06/06		KCA	SW 8270
Di-n-butylphthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Di-n-octylphthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Dibenz(a,h)anthracene	ND	200	ug/L	03/06/06		KCA	SW 8270
Dibenzofuran	ND	200	ug/L	03/06/06		KCA	SW 8270
Diethyl phthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Dimethylphthalate	ND	200	ug/L	03/06/06		KCA	SW 8270
Fluoranthene	ND	200	ug/L	03/06/06		KCA	SW 8270
Fluorene	ND	200	ug/L	03/06/06		KCA	SW 8270
Hexachlorobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
Hexachlorobutadiene	ND	200	ug/L	03/06/06		KCA	SW 8270
Hexachlorocyclopentadiene	ND	200	ug/L	03/06/06		KCA	SW 8270
Hexachloroethane	ND	200	ug/L	03/06/06		KCA	SW 8270
Indeno(1,2,3-cd)pyrene	ND	200	ug/L	03/06/06		KCA	SW 8270
Isophorone	ND	200	ug/L	03/06/06		KCA	SW 8270
N-Nitrosodi-n-propylamine	ND	200	ug/L	03/06/06		KCA	SW 8270
N-Nitrosodimethylamine	ND	200	ug/L	03/06/06		KCA	SW 8270
N-Nitrosodiphenylamine	ND	200	ug/L	03/06/06		KCA	SW 8270
Naphthalene	610	200	ug/L	03/06/06		KCA	SW 8270
Nitrobenzene	ND	200	ug/L	03/06/06		KCA	SW 8270
Pentachlorophenol	ND	200	ug/L	03/06/06		KCA	SW 8270
Phenanthrene	ND	200	ug/L	03/06/06		KCA	SW 8270
Phenol	ND	200	ug/L	03/06/06		KCA	SW 8270
Pyrene	ND	200	ug/L	03/06/06		KCA	SW 8270
Pyridine	ND	200	ug/L	03/06/06		KCA	SW 8270
QA/QC Surrogates							
% 2,4,6-Tribromophenol	Diluted Out		%	03/06/06		KCA	SW 8270
% 2-Fluorobiphenyl	Diluted Out		%	03/06/06		KCA	SW 8270
% 2-Fluorophenol	Diluted Out		%	03/06/06		KCA	SW 8270
% Nitrobenzene-d5	Diluted Out		%	03/06/06		KCA	SW 8270
% Phenol-d5	Diluted Out		%	03/06/06		KCA	SW 8270
% Terphenyl-d14	Diluted Out		%	03/06/06		KCA	SW 8270

Comments: ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

* Due to matrix interference cuased by non target compounds in the sample an elevated MDL was reported.

**Petroleum hydrocarbon chromatogram was not a perfect match with any of the standards,
but contains a distribution in the C9 to C14 range. The sample was quantitated against a C9-C36 standard.

EDB could not be run via 504 due to matrix interference.

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

Phyllis Shiller, Laboratory Director
March 07, 2006

PHOENIX

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

QA/QC Report

March 07, 2006

QA/QC Data

SDG I.D.: GAH05255

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch Sample No: AH03397 (AH05255, AH05256)								
ICP Metals - Dissolved								
Aluminum	BDL	8.0	88.2			87.5	90.1	2.9
Antimony	BDL	NC	84.9			87.9	90.5	2.9
Arsenic	BDL	NC	88.2			90.7	93.1	2.6
Barium	BDL	NC	89.5			91.6	94.4	3.0
Beryllium	BDL	NC	88.8			91.2	95.2	4.3
Boron	BDL	BDL						
Cadmium	BDL	NC	90.0			93.0	95.2	2.3
Calcium	BDL	BDL						
Chromium	BDL	NC	91.7			93.7	96.9	3.4
Cobalt	BDL	NC	90.1			93.8	95.4	1.7
Copper	BDL	NC	90.9			92.4	95.2	3.0
Iron	BDL	7.5	90.2			91.2	93.9	2.9
Lead	BDL	NC	88.7			92.6	92.9	0.3
Magnesium	BDL	BDL						
Manganese	BDL	NC	90.9			91.9	94.5	2.8
Molybdenum	BDL	BDL						
Nickel	BDL	NC	90.7			93.6	95.9	2.4
Phosphorus	BDL	BDL						
Potassium	BDL	BDL						
Selenium	BDL	NC	88.4			89.2	92.4	3.5
Silver	BDL	NC	88.4			37.0	61.8	50.2
Sodium	BDL	BDL						
Thallium	BDL	NC	90.8			92.8	94.6	1.9
Tin	BDL	BDL						
Vanadium	BDL	NC	88.4			92.3	92.8	0.5
Zinc	BDL	NC	88.9			93.6	95.0	1.5
QA/QC Batch Sample No: AH05234 (AH05255, AH05256)								
Mercury	BDL		96			98	96	2.1

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

Phyllis Shiller, Laboratory Director
March 07, 2006

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QA/QC Data

SDG I.D.: GAH05255

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch Sample No: AH05134 (AH05255, AH05256)								
Total Cyanide	BDL		104			90		
QA/QC Batch Sample No: AH05255 (AH05255, AH05256)								
Chromium, Hexavalent	BDL	NR	100.0			100.0		
QA/QC Batch Sample No: AH05259 (AH05255, AH05256)								
Chlorine Residual	BDL		101.6					

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QA/QC Report

March 07, 2006

QA/QC Data

SDG I.D.: GAH05255

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch Sample No: AH01394 (AH05255, AH05256)							
Polychlorinated Biphenyls							
PCB-1016	ND				76	109	35.7
PCB-1221	ND						
PCB-1232	ND						
PCB-1242	ND						
PCB-1248	ND						
PCB-1254	ND						
PCB-1260	ND				66	72	8.7
PCB-1262	ND						
PCB-1268	ND						
% DCBP (Surrogate Rec)	106				60	66	9.5
% TCMX (Surrogate Rec)	130				71	54	27.2
Comment: A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.							
QA/QC Batch Sample No: AH02263 (AH05255, AH05256)							
Semivolatiles							
1,2,4-Trichlorobenzene	ND				91	85	6.8
1,2-Dichlorobenzene	ND				90	83	8.1
1,2-Diphenylhydrazine	ND						
1,3-Dichlorobenzene	ND				87	81	7.1
1,4-Dichlorobenzene	ND				87	81	7.1
2,4,5-Trichlorophenol	ND				98	97	1.0
2,4,6-Trichlorophenol	ND				97	94	3.1
2,4-Dichlorophenol	ND				93	88	5.5
2,4-Dimethylphenol	ND				86	78	9.8
2,4-Dinitrophenol	ND						
2,4-Dinitrotoluene	ND				111	111	0.0
2,6-Dichlorophenol	ND						
2,6-Dinitrotoluene	ND				105	106	0.9
2-Chloronaphthalene	ND				91	88	3.4
2-Chlorophenol	ND				90	82	9.3
2-Methylnaphthalene	ND				93	87	6.7
2-Methylphenol (o-cresol)	ND				95	87	8.8
2-Nitroaniline	ND						

QA/QC Data

SDG I.D.: GAH05255

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
2-Nitrophenol	ND				96	92	4.3
3&4-Methylphenol (m&p-cresol)	ND				95	87	8.8
3,3'-Dichlorobenzidine	ND						
3-Nitroaniline	ND				109	111	1.8
4,6-Dinitro-2-methylphenol	ND						
4-Bromophenyl phenyl ether	ND				97	99	2.0
4-Chloro-3-methylphenol	ND				99	96	3.1
4-Chloroaniline	ND				75	76	1.3
4-Chlorophenyl phenyl ether	ND				96	95	1.0
4-Nitroaniline	ND				109	111	1.8
4-Nitrophenol	ND				106	110	3.7
Acenaphthene	ND				95	93	2.1
Acenaphthylene	ND				81	77	5.1
Anthracene	ND				93	96	3.2
Benz(a)anthracene	ND				99	104	4.9
Benzidine	ND						
Benzo(a)pyrene	ND				93	101	8.2
Benzo(b)fluoranthene	ND				101	110	8.5
Benzo(ghi)perylene	ND				96	99	3.1
Benzo(k)fluoranthene	ND				95	109	13.7
Benzoic acid	ND						
Benzyl alcohol	ND					123	
Benzyl butyl phthalate	ND				89	93	4.4
Bis(2-chloroethoxy)methane	ND				93	87	6.7
Bis(2-chloroethyl)ether	ND				96	87	9.8
Bis(2-chloroisopropyl)ether	ND				88	80	9.5
Bis(2-ethylhexyl)phthalate	ND				94	101	7.2
Chrysene	ND				100	107	6.8
Di-n-butylphthalate	ND				94	98	4.2
Di-n-octylphthalate	ND				104	109	4.7
Dibenz(a,h)anthracene	ND				100	104	3.9
Dibenzofuran	ND				92	91	1.1
Diethyl phthalate	ND				94	94	0.0
Dimethylphthalate	ND				94	94	0.0
Fluoranthene	ND				103	107	3.8
Fluorene	ND				97	96	1.0
Hexachlorobenzene	ND				97	98	1.0
Hexachlorobutadiene	ND				90	84	6.9
Hexachlorocyclopentadiene	ND						
Hexachloroethane	ND				87	81	7.1
Indeno(1,2,3-cd)pyrene	ND				101	104	2.9
Isophorone	ND				77	72	6.7

QA/QC Data

SDG I.D.: GAH05255

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
N-Nitrosodi-n-propylamine	ND				84	79	6.1
N-Nitrosodimethylamine	ND				83	75	10.1
N-Nitrosodiphenylamine	ND						
Naphthalene	ND				93	88	5.5
Nitrobenzene	ND				95	88	7.7
Pentachlorophenol	ND				118	119	0.8
Phenanthrene	ND				96	100	4.1
Phenol	ND				90	82	9.3
Pyrene	ND				99	104	4.9
Pyridine	ND						
% 2,4,6-Tribromophenol	79				98	100	2.0
% 2-Fluorobiphenyl	73				87	83	4.7
% 2-Fluorophenol	63				76	68	11.1
% Nitrobenzene-d5	70				85	78	8.6
% Phenol-d5	63				85	74	13.8
% Terphenyl-d14	50				99	100	1.0

Comment: Due to an error in the extraction, the LCS was removed from the QC batch. The MS and MSD are reported.

QA/QC Batch Sample No: AH03682 (AH05255, AH05256)

TPH by GC (Extractable Products)

Aviation Fuel/Kerosene	ND						
Fuel Oil #2/ Diesel Fuel	ND				99	102	3.0
Fuel Oil #4	ND						
Fuel Oil #6	ND						
Motor Oil	ND						
Other Oil (Cutting & Lubricating)	ND						
Unidentified	ND						

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

QA/QC Batch Sample No: AH05254 (AH05255, AH05256)

Volatiles Organics

1,1,1,2-Tetrachloroethane	ND	101			48	50	4.1
1,1,1-Trichloroethane	ND	100			104	106	1.9
1,1,2,2-Tetrachloroethane	ND	90			89	90	1.1
1,1,2-Trichloroethane	ND	97			93	102	9.2
1,1-Dichloroethane	ND	97			100	101	1.0
1,1-Dichloroethene	ND	101			100	100	0.0
1,1-Dichloropropene	ND	107			100	102	2.0
1,2,3-Trichlorobenzene	ND	109			103	106	2.9
1,2,3-Trichloropropane	ND	104			91	96	5.3
1,2,4-Trichlorobenzene	ND	118			115	113	1.8
1,2,4-Trimethylbenzene	ND	97			102	100	2.0
1,2-Dibromo-3-chloropropane	ND	108			103	92	11.3

QA/QC Data

SDG I.D.: GAH05255

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
1,2-Dichlorobenzene	ND	95			92	89	3.3
1,2-Dichloroethane	ND	99			102	102	0.0
1,2-Dichloropropane	ND	89			87	91	4.5
1,3,5-Trimethylbenzene	ND	99			98	99	1.0
1,3-Dichlorobenzene	ND	96			93	94	1.1
1,3-Dichloropropane	ND	101			98	99	1.0
1,4-Dichlorobenzene	ND	95			94	96	2.1
2,2-Dichloropropane	ND	115			102	100	2.0
2-Chlorotoluene	ND	96			96	99	3.1
4-Chlorotoluene	ND	98			94	97	3.1
Benzene	ND	100			95	99	4.1
Bromobenzene	ND	96			93	96	3.2
Bromochloromethane	ND	95			97	101	4.0
Bromodichloromethane	ND	115			112	115	2.6
Bromoform	ND	104			98	100	2.0
Bromomethane	ND	88			86	91	5.6
Carbon tetrachloride	ND	106			102	102	0.0
Chlorobenzene	ND	98			96	100	4.1
Chloroethane	ND	95			107	111	3.7
Chloroform	ND	98			102	104	1.9
Chloromethane	ND	113			97	95	2.1
cis-1,2-Dichloroethene	ND	99			104	102	1.9
cis-1,3-Dichloropropene	ND	106			107	109	1.9
Dibromochloromethane	ND	97			95	98	3.1
Dibromoethane	ND	100			100	103	3.0
Dibromomethane	ND	104			107	104	2.8
Dichlorodifluoromethane	ND	128			98	94	4.2
Ethylbenzene	ND	101			98	100	2.0
Hexachlorobutadiene	ND	99			92	92	0.0
Isopropylbenzene	ND	107			93	96	3.2
m&p-Xylene	ND	101			97	100	3.0
Methyl t-butyl ether (MTBE)	ND	104			56	54	3.6
Methylene chloride	ND	91			96	96	0.0
n-Butylbenzene	ND	101			101	98	3.0
n-Propylbenzene	ND	101			96	99	3.1
Naphthalene	ND	123			126	108	15.4
o-Xylene	ND	100			100	105	4.9
p-Isopropyltoluene	ND	104			97	98	1.0
sec-Butylbenzene	ND	94			96	97	1.0
Styrene	ND	100			203	212	4.3
tert-Butylbenzene	ND	99			98	98	0.0
Tetrachloroethene	ND	102			95	98	3.1

QA/QC Data

SDG I.D.: GAH05255

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
Toluene	ND	102			98	103	5.0
trans-1,2-Dichloroethene	ND	100			103	104	1.0
trans-1,3-Dichloropropene	ND	101			107	106	0.9
Trichloroethene	ND	100			98	103	5.0
Trichlorofluoromethane	ND	118			102	101	1.0
Vinyl chloride	ND	119			101	100	1.0
% 1,2-dichlorobenzene-d4	99	97			97	91	6.4
% Bromofluorobenzene	108	112			115	114	0.9
% Dibromofluoromethane	99	95			100	96	4.1
% Toluene-d8	102	102			102	104	1.9

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MS - Matrix Spike
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Phyllis Shiller, Laboratory Director
March 07, 2006

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SHEET NO. 1 OF 6
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7 Day 10 year Low Flow (7Q10) Bound Brook or Musquashcut Brook

Estimation based of field observations & review of topo maps

7Q10 = 5 cfs ⇒ Q_s or as low as 1 cfs

Dilution Factor (DF)

$$DF = (Q_d + Q_s) / Q_d$$

Q_d = 0.11 ft^3/sec : design maximum flow = 50 gal/min $\frac{0.134\ ft^3}{1\ gal} \cdot \frac{1\ min}{60\ sec}$ = 0.11 ft^3/sec

Q_s = 5 ft^3/sec to 1 ft^3/sec

$$DF = \frac{(0.11 + 5)}{0.11} = 46.45 \quad \text{Say } (46)$$

Dilution Factor is 10-50 (Appendix IV)

Note: even if 7Q10 for receiving water was 1 ft^3/sec Same DF range (10-50) would apply.

ie) $$DF = \frac{(0.11 + 1.0)}{0.11} = 10.09 \quad \text{Say } (10)$$

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Mass Calculations:

TSS: $\frac{3.6\times10^{8}\ mg}{L} \times \frac{0.11\ ft^3}{Sec.}\ (Max) \times \frac{86.4\times10^{3}\ Sec}{Day} \times \frac{28.317\ L}{1\ ft^3} = 96.9\times10^{12}\ mg \Rightarrow 96.9\times10^{6}\ Kg$

Say $97\times10^{6}\ Kg/Day$ Max.

$\frac{3.2\times10^{8}\ mg}{L} \times \frac{0.09\ ft^3}{Sec} \times \frac{86.4\times10^{3}\ Sec}{Day} \times \frac{28.317\ L}{1\ ft^3} = 26.4\times10^{12}\ mg \Rightarrow 26.4\times10^{6}\ Kg$

Say $26\times10^{6}\ Kg/Day$ Ave.

TPH: $\frac{1.6\times10^{5}\ mg}{L} \times \frac{0.11\ ft^3}{Sec.} \times \frac{86.4\times10^{3}\ Sec}{Day} \times \frac{28.317\ L}{1\ ft^3} = 43.1\times10^{9}\ mg \Rightarrow 43.1\times10^{3}\ Kg$

Say $43\times10^{3}\ Kg/Day$ Max.

$\frac{1.1\times10^{5}\ mg}{L} \times \frac{0.09\ ft^3}{Sec.} \times \frac{86.4\times10^{3}\ Sec}{Day} \times \frac{28.317\ L}{1\ ft^3} = 24.2\times10^{9}\ mg \Rightarrow 24.2\times10^{3}\ Kg$

Say $24\times10^{3}\ Kg/Day$ Ave

Ethylbenzene: $\frac{2,900\ ug}{L} \times \frac{0.11\ ft^3}{Sec} \times \frac{86.4\times10^{3}\ Sec}{Day} \times \frac{28.317\ L}{1\ ft^3} = 780.5\times10^{6}\ ug \Rightarrow 0.78\ Kg$

Say 0.8 Kg/Day Max.

$\frac{2,500\ ug}{L} \times \frac{0.09\ ft^3}{Sec.} \times \frac{86.4\times10^{2}\ Sec}{Day} \times \frac{28.317\ L}{1\ ft^3} = 550\times10^{6}\ ug \Rightarrow 0.55\ Kg$

Say 0.6 Kg/Day Ave.

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Total Xylene: (all isomers)

$2.33 \times 10^4 \frac{mg}{L} \quad 0.11 \frac{ft^3}{Sec} \quad 86.4 \times 10^3 \frac{Sec}{Day} \times 28.317 \frac{L}{ft^3} = 6.27 \times 10^9 mg \Rightarrow 6.27 Kg$

Say 6.3 Kg/Day Max.

$1.3043 \times 10^4 \frac{mg}{L} \quad 0.08 \frac{ft^3}{Sec} \quad 86.4 \times 10^3 \frac{Sec}{Day} \quad 28.317 \frac{L}{ft^3} = 2.87 \times 10^9 mg \Rightarrow 2.87 kg$

Say 2.9 Kg/Day Ave.

Total BTEX

$2.62 \times 10^4 \frac{mg}{L} \quad 0.11 \frac{ft^3}{Sec} \quad 86.4 \times 10^3 \frac{Sec}{Day} \quad 28.317 \frac{L}{ft^3} = 7.05 \times 10^9 mg \Rightarrow 7.05 kg$

Say 7.1 Kg/Day Max.

$15543 \frac{mg}{L} \quad 0.07 \frac{ft^3}{Sec} \quad 86.4 \times 10^3 \frac{Sec}{Day} \quad 28.317 \frac{L}{ft^3} = 3.42 \times 10^9 mg \Rightarrow 3.42 kg$

Say 3.4 Kg/Day Ave.

Naphthalene (VOC)

$6,200 \frac{mg}{L} \quad 0.11 \frac{ft^3}{Sec} \quad 86.4 \times 10^3 \frac{Sec}{Day} \quad 28.317 \frac{L}{ft^3} = 1.67 \times 10^9 mg \Rightarrow 1.67 \times 10^6$

Say 1.7 Kg/Day Max

$3,900 \frac{mg}{L} \quad 0.07 \frac{ft^3}{Sec} \quad 86.4 \times 10^3 \frac{Sec}{Day} \quad 28.317 \frac{L}{ft^3} = 836.7 \times 10^6 mg \Rightarrow 0.836 kg$

Say 0.8 Kg/Day Ave.

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Naphthalene : (8270M)

$\frac{3,700\ ug}{L} \cdot \frac{0.11\ ft^3}{Sec} \cdot \frac{86.4 \times 10^3\ Sec}{Day} \cdot \frac{28.317\ L}{ft^3} = 996 \times 10^6\ ug \Rightarrow 0.996\ Kg$

Say 1.0 Kg/Day Max.

$\frac{1,803\ ug}{L} \cdot \frac{6.09\ ft^3}{Sec} \cdot \frac{86.4 \times 10^3\ Sec}{Day} \cdot \frac{28.317\ L}{ft^3} = 397 \times 10^6\ ug \Rightarrow 0.397\ Kg$

Say 0.4 Kg/Day Ave.

Antimony :

$\frac{23\ ug}{L} \cdot \frac{0.11\ ft^3}{Sec} \cdot \frac{86.4 \times 10^3}{Day} \cdot \frac{28.317\ L}{ft^3} = 6.19 \times 10^6\ ug \Rightarrow 0.006\ Kg$

Say 0.01 Kg/Day Max

$\frac{11.8\ ug}{L} \cdot \frac{0.09\ ft^3}{Sec} \cdot \frac{86.4 \times 10^3\ Sec}{Day} \cdot \frac{28.317\ L}{ft^3} = 2.60 \times 10^6\ ug \Rightarrow 0.003\ Kg$

Say 0.003 Kg/Day Ave.

Arsenic :

$\frac{14\ ug}{L} \cdot \frac{0.11\ ft^3}{Sec} \cdot \frac{86.4 \times 10^3\ Sec}{Day} \cdot \frac{28.317\ L}{ft^3} = 3.77 \times 10^6\ ug \Rightarrow 0.004\ Kg$

Say 0.004 Kg/Day Max

$\frac{10\ ug}{L} \cdot \frac{0.09\ ft^3}{Sec} \cdot \frac{86.4 \times 10^3\ Sec}{Day} \cdot \frac{28.317\ L}{ft^3} = 2.2 \times 10^6\ ug \Rightarrow 0.002\ Kg$

Say 0.002 Kg/Day Ave.

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Copper : $\frac{5\,mg}{L} \cdot \frac{0.11\,ft^3}{Sec} \cdot \frac{86.4\times10^3\,Sec}{Day} \cdot \frac{28.317\,L}{ft^3} = 1.34\times10^6\,mg \Rightarrow 0.001\,Kg$

Say 0.001 Kg/Day Max

$\frac{3\,mg}{L} \cdot \frac{0.09\,ft^3}{Sec} \cdot \frac{86.4\times10^3\,Sec}{Day} \cdot \frac{28.317\,L}{ft^3} = 660\times10^3\,mg \Rightarrow 0.000660\,Kg$

Say 0.0007 Kg/Day Ave.

Lead : $\frac{52\,mg}{L} \cdot \frac{0.11\,ft^3}{Sec} \cdot \frac{86.4\times10^3\,Sec}{Day} \cdot \frac{28.317\,L}{ft^3} = 13.99\times10^6\,mg \Rightarrow 0.01399\,Kg$

Say 0.014 Kg/Day Max.

$\frac{24.7\,mg}{L} \cdot \frac{0.09\,ft^3}{Sec} \cdot \frac{86.4\times10^3\,Sec}{Day} \cdot \frac{28.317\,L}{ft^3} = 5.44\times10^6\,mg \Rightarrow 0.005\,Kg$

Say 0.005 Kg/Day Ave.

Nickel : $\frac{2\,mg}{L} \cdot \frac{0.11\,ft^3}{Sec} \cdot \frac{86.4\times10^3\,Sec}{Day} \cdot \frac{28.317\,L}{ft^3} = 538\times10^3\,mg \Rightarrow 0.00054\,Kg$

Say 0.0005 Kg/Day Max.

$\frac{2\,mg}{L} \cdot \frac{0.09\,ft^3}{Sec} \cdot \frac{86.4\times10^3\,Sec}{Day} \cdot \frac{28.317\,L}{ft^3} = 440\times10^3\,mg \Rightarrow 0.00044\,Kg$

Say 0.0004 Kg/Day Ave.

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CHECKED BY _____ DATE _____
SCALE _____

Zinc: $\frac{19\ mg}{L} \cdot \frac{0.11\ ft^3}{Sec} \cdot \frac{86.4 \times 10^3\ Sec}{Day} \cdot \frac{28.317\ L}{ft^3} = 5.11 \times 10^6\ mg \Rightarrow 0.0051\ Kg$

Say 0.005 Kg/Day Max.

$\frac{9\ mg}{L} \cdot \frac{0.09\ ft^3}{Sec} \cdot \frac{86.4 \times 10^3\ Sec}{Day} \cdot \frac{28.317\ L}{ft^3} = 1.98 \times 10^6\ mg \Rightarrow 0.00198\ Kg$

Say 0.002 Kg/Day Ave.

Iron

$\frac{49,200\ mg}{L} \cdot \frac{0.11\ ft^3}{Sec} \cdot \frac{86.4 \times 10^3\ Sec}{Day} \cdot \frac{28.317\ L}{ft^3} = 13.2 \times 10^7\ mg \Rightarrow 13.2\ Kg$

Say 13.2 Kg/Day Max.

$\frac{19,619\ mg}{L} \cdot \frac{0.09\ ft^3}{Sec.} \cdot \frac{86.4 \times 10^3\ Sec}{Day} \cdot \frac{28.317\ L}{ft^3} = 4.32 \times 10^9\ mg \Rightarrow 4.32\ Kg$

Say 4.3 Kg/Day Ave.