

March 9, 2010  
GZA File No. 170303.00

United States Environmental Protection Agency  
EPA-New England Region 1  
One Congress Street, Suite 1100  
Boston, Massachusetts 02114-2023



Attention: Mr. Victor Alvarez:

Re: NOI Remediation General Permit  
MWRA North Dorchester Bay CSO Ventilation Building  
South Boston, Massachusetts

One Edgewater Drive  
Norwood  
Massachusetts  
02062  
781-278-3700  
FAX 781-278-5701  
www.gza.com

Dear Mr. Alvarez:

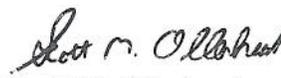
GZA GeoEnvironmental Inc. (GZA) in conjunction with P. Gioioso & Sons, Inc. "Operator" requests the approval under the Remediation General Permit (RGP) from the United States Environmental Protection Agency (EPA) for the treatment of suspected gasoline and oil contaminated groundwater during dewatering for construction of the above referenced project.

The project involves the construction of the North Dorchester Bay Ventilation Building that will connect to the North Dorchester Bay CSO Tunnel. The tunnel, completed before the start of this project, is a 17-foot diameter soft-ground tunnel totaling approximately 10,800 feet in length. The ventilation building will be constructed on William J. Day Boulevard in South Boston Massachusetts, adjacent to Massachusetts State Police Barracks H-6.

If you have any questions or comments, please do not hesitate to call Scott Ollerhead at 781-278-5727.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

  
Scott M. Ollerhead  
Assistant Project Manager

  
Richard F. McGanty  
Consultant/Reviewer

  
Adam C. Swedefskas  
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:

a) Name of <b>facility/site</b> : NDB CSO Vent Building		<b>Facility/site address:</b>	
Location of <b>facility/site</b> : longitude: 42 19 21 N latitude: 71 02 53 W	Facility SIC code(s):	Street: William J. Day Boulevard	
b) Name of <b>facility/site owner</b> : Massachusetts Water Resources Authority		Town: South Boston	
Email address of owner:	State:	Zip:	County:
Telephone no. of <b>facility/site owner</b> : 617-242-6000	MA	02124	Suffolk
Fax no. of <b>facility/site owner</b> :	<b>Owner</b> is (check one): 1. Federal ___ 2. State/Tribal <input checked="" type="checkbox"/>		
Address of <b>owner</b> (if different from site):	3. Private _____ 4. other, if so, describe:		
Street: Charlestown Navy Yard 100 First Ave, Building 39			
Town: Boston	State: MA	Zip: 02129	County: Suffolk
c) Legal name of <b>operator</b> : P. Gioioso & Sons, Inc.	<b>Operator</b> telephone no: 617-364-5800		
	<b>Operator</b> fax no.: 617-364-9462	<b>Operator</b> email: marco@pgioioso.com	
<b>Operator</b> contact name and title: Marco Gioioso, Project Manager			
Address of <b>operator</b> (if different from owner):	Street: 50 Sprague Street		
Town: Hyde Park	State: MA	Zip: 02136	County: Suffolk
d) Check "yes" or "no" for the following:			
1. Has a prior NPDES permit exclusion been granted for the discharge? Yes ___ No <input checked="" type="checkbox"/> , if "yes," number:			
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes ___ No <input checked="" type="checkbox"/> , if "yes," date and tracking #:			
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Yes <input checked="" type="checkbox"/> No ___			
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes <input checked="" type="checkbox"/> No ___			

<p>e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>If "yes," please list:</p> <ol style="list-style-type: none"> <li>1. site identification # assigned by the state of NH or MA: RTN # 3-29043</li> <li>2. permit or license # assigned:</li> <li>3. state agency contact information: name, location, and telephone number: Massachusetts DEP Northeast Regional Office, 978-694-3200</li> </ol>	<p>f) Is the site/facility covered by any other EPA permit, including:</p> <ol style="list-style-type: none"> <li>1. multi-sector storm water general permit? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>, if Y, number:</li> <li>2. phase I or II construction storm water general permit? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>, if Y, number: MAR10DD44</li> <li>3. individual NPDES permit? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>, if Y, number:</li> <li>4. any other water quality related permit? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>, if Y, number:</li> </ol>
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**2. Discharge information.** Please provide information about the discharge, (attaching additional sheets as needed) including:

<p>a) Describe the discharge activities for which the owner/applicant is seeking coverage:</p> <p><b>Construction Dewatering</b></p>			
<p>b) Provide the following information about each discharge:</p>	<table border="1"> <tr> <td style="vertical-align: top;"> <p>1) Number of discharge points:</p> <p><b>1</b></p> </td> <td style="vertical-align: top;"> <p>2) What is the <b>maximum</b> and <b>average flow rate</b> of discharge (in cubic feet per second, ft<sup>3</sup>/s)? Max. flow <u>0.22</u></p> <p>Average flow <u>0.11 ft<sup>3</sup>/s</u> Is maximum flow a <b>design value</b>? Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p> <p>For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.</p> </td> </tr> </table>	<p>1) Number of discharge points:</p> <p><b>1</b></p>	<p>2) What is the <b>maximum</b> and <b>average flow rate</b> of discharge (in cubic feet per second, ft<sup>3</sup>/s)? Max. flow <u>0.22</u></p> <p>Average flow <u>0.11 ft<sup>3</sup>/s</u> Is maximum flow a <b>design value</b>? Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p> <p>For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.</p>
<p>1) Number of discharge points:</p> <p><b>1</b></p>	<p>2) What is the <b>maximum</b> and <b>average flow rate</b> of discharge (in cubic feet per second, ft<sup>3</sup>/s)? Max. flow <u>0.22</u></p> <p>Average flow <u>0.11 ft<sup>3</sup>/s</u> Is maximum flow a <b>design value</b>? Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p> <p>For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.</p>		
<p>3) Latitude and longitude of each discharge within 100 feet: pt.1:long. <u>-71.0484</u> lat. <u>42.3227</u>; pt.2: long. _____ lat. _____; pt.3: long. _____ lat. _____; pt.4:long. _____ lat. _____; pt.5: long. _____ lat. _____; pt.6:long. _____ lat. _____; pt.7: long. _____ lat. _____; pt.8:long. _____ lat. _____; etc.</p>			
<p>4) If hydrostatic testing, total volume of the discharge (gals):</p>	<p>5) Is the discharge intermittent <input checked="" type="checkbox"/> or seasonal _____?</p> <p>Is discharge ongoing Yes _____ No <input checked="" type="checkbox"/>?</p>		
<p>c) Expected dates of discharge (mm/dd/yy): start <u>03/22/10</u> end <u>03/22/11</u></p>			
<p>d) Please attach a line drawing or flow schematic showing water flow through the facility including:</p> <ol style="list-style-type: none"> <li>1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).</li> </ol>			

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		✓	1	grab	SM2540D	5000ug/L	170000	92.53	170000	69.40
2. Total Residual Chlorine	✓		1	grab	4500CI-G	100ug/L				
3. Total Petroleum Hydrocarbons		✓	1	grab	Mod. E1664A	1400 ug/L				
4. Cyanide	✓		1	grab	9010	10 ug/L				
5. Benzene		✓	1	grab	SW8260	500 ug/L	11000	5.99	11000	4.49
6. Toluene		✓	1	grab	SW8260	500 ug/L	5500	2.99	5500	2.25
7. Ethylbenzene		✓	1	grab	SW8260	500 ug/L	4500	2.45	4500	1.84
8. (m,p,o) Xylenes		✓	1	grab	SW8260	500 ug/L	13200	7.19	13200	5.39
9. Total BTEX <sup>4</sup>		✓	1	grab	SW8260	500 ug/L	34200	18.62	34200	13.96

<sup>4</sup>BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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 <sup>5</sup> (1,2- Dibromo-methane)	✓		1	grab	504.1	0.02ug/L				
11. Methyl-tert-Butyl Ether (MtBE)		✓	1	grab	SW8260	20 ug/L	85	0.046	85	0.035
12. tert-Butyl Alcohol (TBA)	✓		1	grab	SW8260	1000 ug/L				
13. tert-Amyl Methyl Ether (TAME)	✓		1	grab	SW8260	100ug/L				
14. Naphthalene		✓	1	grab	SW8260	10 ug/L	520	0.283	520	0.212
15. Carbon Tetra-chloride	✓		1	grab	SW8260	10 ug/L				
16. 1,4 Dichlorobenzene	✓		1	grab	SW8260	10 ug/L				
17. 1,2 Dichlorobenzene	✓		1	grab	SW8260	10 ug/L				
18. 1,3 Dichlorobenzene	✓		1	grab	SW8260	10 ug/L				
19. 1,1 Dichloroethane	✓		1	grab	SW8260	10 ug/L				
20. 1,2 Dichloroethane	✓		1	grab	SW8260	10 ug/L				
21. 1,1 Dichloroethylene	✓		1	grab	SW8260	10 ug/L				
22. cis-1,2 Dichloro-ethylene	✓		1	grab	SW8260	10 ug/L				
23. Dichloromethane (Methylene Chloride)	✓		1	grab	SW8260	10 ug/L				
24. Tetrachloroethylene	✓		1	grab	SW8260	10 ug/L				

<sup>5</sup>EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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	✓		1	grab	SW8260	10 ug/L				
26. 1,1,2 Trichloroethane	✓		1	grab	SW8260	10 ug/L				
27. Trichloroethylene	✓		1	grab	SW8260	10 ug/L				
28. Vinyl Chloride	✓		1	grab	SW8260	10 ug/L				
29. Acetone	✓		1	grab	SW8260	200 ug/L				
30. 1,4 Dioxane	✓		1	grab	SW8260SIM	1 ug/L				
31. Total Phenols		✓	1	grab	SW8270	1 ug/L	59	0.032	59	0.024
32. Pentachlorophenol	✓		1	grab	SW8270	1 ug/L				
33. Total Phthalates <sup>6</sup> (Phthalate esthers)	✓		1	grab						
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	✓		1	grab	SW8270	5 ug/L				
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)			1	grab	SW8270					
a. Benzo(a) Anthracene	✓		1	grab	SW8270	0.05 ug/L				
b. Benzo(a) Pyrene	✓		1	grab	SW8270	2 ug/L				
c. Benzo(b)Fluoranthene	✓		1	grab	SW8270	0.1 ug/L				
d. Benzo(k) Fluoranthene	✓		1	grab	SW8270	2 ug/L				
e. Chrysene	✓		1	grab	SW8270	5 ug/L				

<sup>6</sup>The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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	✓		1	grab	SW8270	0.1ug/L				
g. Indeno(1,2,3-cd) Pyrene	✓		1	grab	SW8270	0.15 ug/L				
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)			1	grab	SW8270					
h. Acenaphthene	✓		1	grab	SW8270	1 ug/L				
i. Acenaphthylene	✓		1	grab	SW8270	10 ug/L				
j. Anthracene	✓		1	grab	SW8270	10 ug/L				
k. Benzo(ghi) Perylene	✓		1	grab	SW8270	5 ug/L				
l. Fluoranthene	✓		1	grab	SW8270	1 ug/L				
m. Fluorene	✓		1	grab	SW8270	10 ug/L				
n. Naphthalene-		✓	1	grab	SW8270	25	310	.169	310	0.127
o. Phenanthrene	✓		1	grab	SW8270	5 ug/L				
p. Pyrene	✓		1	grab	SW8270	10 ug/L				
37. Total Polychlorinated Biphenyls (PCBs)	✓		1	grab	8082	0.50 ug/L				
38. Antimony	✓		1	grab	6010	5 ug/L				
39. Arsenic	✓		1	grab	6010	4 ug/L				
40. Cadmium	✓		1	grab	6010	1 ug/L				
41. Chromium III	✓		1	grab	6010	1 ug/L				
42. Chromium VI	✓		1	grab	S3500CRD	50 ug/L				

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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		✓	1	grab	6010	1 ug/L	3	0.0016	3	0.0012
44. Lead	✓		1	grab	6010	2 ug/L				
45. Mercury	✓		1	grab	6010	0.2 ug/L				
46. Nickel	✓		1	grab	6010	1 ug/L				
47. Selenium	✓		1	grab	6010	4 ug/L				
48. Silver	✓		1	grab	6010	1 ug/L				
49. Zinc		✓	1	grab	6010	2 ug/L	11	0.0060	11	0.0045
50. Iron		✓	1	grab	6010	2 ug/L	26100	14.21	26100	10.66
Other (describe):										

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

<p><i>Step 1:</i> Do any of the metals in the influent have a <b>reasonable potential</b> to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y <input checked="" type="checkbox"/> N <input type="checkbox"/></p>	<p>If yes, which metals? Iron, Zinc, Copper</p>
<p><i>Step 2:</i> For any metals which have <b>reasonable potential</b> to exceed the <b>Appendix III</b> limits, calculate the <b>dilution factor (DF)</b> 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: <u>NA</u> DF: <u>NA</u></p>	<p>Look up the limit calculated at the corresponding dilution factor in <b>Appendix IV</b>. Do any of the metals in the <b>influent</b> have the potential to exceed the corresponding <b>effluent</b> limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> If "Yes," list which metals: Iron, Zinc, Copper</p>

**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: <b>Groundwater Pump and Treat System</b>						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank <input checked="" type="checkbox"/>	Air stripper	Oil/water separator	Equalization tanks	Bag filter <input checked="" type="checkbox"/>	GAC filter <input checked="" type="checkbox"/>
	Chlorination	Dechlorination	Other (please describe):			
c) Proposed <b>average</b> and <b>maximum flow rates</b> (gallons per minute) for the discharge and the <b>design flow rate(s)</b> (gallons per minute) of the treatment system: Average flow rate of discharge <u>50</u> Maximum flow rate of treatment system <u>100</u> Design flow rate of treatment system <u>100</u>						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets):						

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

a) Identify the discharge pathway:	Direct <input type="checkbox"/>	Within facility <input type="checkbox"/>	Storm drain <input checked="" type="checkbox"/>	River/brook <input type="checkbox"/>	Wetlands <input type="checkbox"/>	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: Discharge will be pumped to an adjacent catch basin that discharges directly into Boston Harbor						
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 <u>Class SB</u> ,						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, for which pollutant(s)? Is there a TMDL? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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.

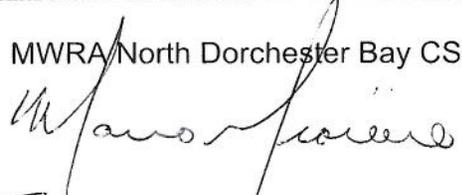
a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ___ No <input checked="" type="checkbox"/> Has any consultation with the federal services been completed? Yes ___ No <input checked="" type="checkbox"/> or is consultation underway? 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 <input checked="" type="checkbox"/> Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes ___ No <input checked="" type="checkbox"/>

**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.

**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:	MWRA North Dorchester Bay CSO Ventilation Building Project
Operator signature:	
Title:	Project Manager
Date:	3/15/16



## Total Maximum Daily Loads

You are here: [EPA Home](#) [Water](#) [Wetlands, Oceans, Watersheds](#) [TMDLs](#) [TMDL Reports](#)

### Listed Water Information

#### CYCLE : 2006

Click [here](#) to see metadata for this report.

**Cycle:** 2006 **State:** MA **List ID:** MA70-01

**Waterbody Name:** BOSTON HARBOR

**State Basin Name:** BOSTON HARBOR

**Listed Water Map Link:** [Map Impaired Water](#)

#### Other Impaired Water 303(d) List Information

The most current report available for this water body is 2006.  
 Data are also available for these years: [2004](#) [2002](#) [1998](#) [1996](#)

#### Comments:

THE AREA EXTENDING INTO MASSACHUSETTS BAY FROM THE LINE BETWEEN FORT DAWES ON DEER ISLAND TO THE GRAVES, AND FROM THE GRAVES SOUTH TO POINT ALLERTON; ACROSS HULL AND WEST GUTS; ACROSS THE MOUTHS OF QUINCY AND DORCHESTER BAYS, BOSTON INNER HARBOR AND WINTHROP BAY (INCLUDING PRESIDENT ROADS AND NANTASKET ROADS).; 70901

#### State List IDs:

Cycle	State List ID
2002	MA70-01_2002
2004	MA70-01_2004
2006	MA70-01

#### State Impairments:

State Impairment	Parent Impairment	Priority	Rank	Targeted Flag	Anticipated TMDL Submittal
PATHOGENS	PATHOGENS				
PRIORITY ORGANICS	TOXIC ORGANICS				

#### Potential Sources of Impairment:

There were no potential sources reported to EPA by the state.

#### Total Maximum Daily Load (TMDL) Information:

There were no TMDLs reported to EPA by the state.

#### Watershed Information:

Watershed Name	Watershed States
CHARLES	MASSACHUSETTS



Tuesday, March 02, 2010

Attn: Mr. Scott Ollerhead  
GZA GeoEnvironmental Inc  
One Edgewater Drive  
Norwood, MA 02062

Project ID: NDBCSO VENT BLDG  
Sample ID#s: AS78907

This laboratory is in compliance with the QA/QC procedures outlined in EPA 600/4-79-019, Handbook for Analytical Quality in Water and Waste Water, March 1979, SW846 QA/QC and NELAC requirements of procedures used.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller  
Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #MA-CT-007  
ME Lab Registration #CT-007  
NH Lab Registration #213693-A,B  
NJ Lab Registration #CT-003  
NY Lab Registration #11301  
PA Lab Registration #68-03530  
RI Lab Registration #63  
VT Lab Registration #VT11301



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**  
 March 02, 2010

FOR: Attn: Mr. Scott Ollerhead  
 GZA GeoEnvironmental Inc  
 One Edgewater Drive  
 Norwood, MA 02062

Sample Information

Matrix: GROUND WATER  
 Location Code: GZA-MA  
 Rush Request: RUSH#  
 P.O.#:

Custody Information

Collected by:  
 Received by: LB  
 Analyzed by: see "By" below

Date            Time  
 02/24/10        11:30  
 02/25/10        15:49

Laboratory Data

SDG ID: GAS78907  
 Phoenix ID: AS78907

Project ID: NDBCSO VENT BLDG  
 Client ID: RGP-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Silver (Dissolved)	< 0.001	0.001	mg/L	02/26/10		EK	6010/200.7
Arsenic (Dissolved)	< 0.004	0.004	mg/L	02/26/10		EK	6010/200.7
Barium (Dissolved)	0.120	0.002	mg/L	02/26/10		EK	6010/200.7
Beryllium (Dissolved)	< 0.001	0.001	mg/L	02/26/10		EK	6010/200.7
Cadmium (Dissolved)	< 0.001	0.001	mg/L	02/26/10		EK	6010/200.7
Chromium (Dissolved)	< 0.001	0.001	mg/L	02/26/10		EK	6010/200.7
Copper (Dissolved)	0.003	0.001	mg/L	02/26/10		EK	6010/200.7
Iron (Dissolved)	26.1	0.002	mg/L	02/26/10		EK	6010/200.7
Mercury (Dissolved)	< 0.0002	0.0002	mg/L	02/26/10		TH	7470/E245.1
Manganese (Dissolved)	2.52	0.011	mg/L	02/26/10		EK	6010/200.7
Nickel (Dissolved)	< 0.001	0.001	mg/L	02/26/10		EK	6010/200.7
Lead (Dissolved)	< 0.002	0.002	mg/L	02/26/10		EK	6010/200.7
Antimony (Dissolved)	< 0.005	0.005	mg/L	02/26/10		EK	6010/200.7
Selenium (Dissolved)	< 0.004	0.004	mg/L	02/26/10		EK	6010/200.7
Vanadium (Dissolved)	< 0.002	0.002	mg/L	02/26/10		EK	6010/200.7
Zinc (Dissolved)	0.011	0.002	mg/L	02/26/10		EK	6010/200.7
Chlorine Residual	< 0.10	0.10	mg/L	02/25/10	17:00	LC/LK	4500CI-G
Chromium, Hexavalent	< 0.05	0.05	mg/L	02/25/10	16:50	LC/LK	S3500CRD
Total Cyanide	< 0.01	0.01	mg/L	02/26/10		GD	335.4/9010
O&G, Non-polar Material	< 1.4	1.4	mg/L	02/26/10		VR/EG	Mod. E1664A
Total Suspended Solids	170	5.0	mg/L	02/26/10		KDB	SM2540D
Filtration	Completed			02/25/10		AG	0.45um Filter
Dissolved Mercury Digestion	Completed			02/26/10		K	SW7470
PCB Extraction	Completed			02/26/10		O/O	SW3510/3520
Semi-Volatile Extraction	Completed			02/25/10		O/O	SW3510/3520
Dissolved Metals Preparation	Completed			02/25/10		AG	SW846-3005
Ethylene Dibromide	< 0.02	0.02	ug/L	02/26/10		JRB	504.1
Tert-amyl-methyl-ether	< 100	100	ug/L	02/26/10		R/J	SW8260
Tert-butyl alcohol	< 1000	1000	ug/L	02/26/10		R/J	SW8260

Client ID: RGP-1

Parameter	Result	RL	Units	Date	Time	By	Reference
<b><u>Volatiles</u></b>							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	02/26/10		R/J	SW8260
1,1,1-Trichloroethane	ND	10	ug/L	02/26/10		R/J	SW8260
1,1,2,2-Tetrachloroethane	ND	10	ug/L	02/26/10		R/J	SW8260
1,1,2-Trichloroethane	ND	10	ug/L	02/26/10		R/J	SW8260
1,1-Dichloroethane	ND	10	ug/L	02/26/10		R/J	SW8260
1,1-Dichloroethene	ND	10	ug/L	02/26/10		R/J	SW8260
1,1-Dichloropropene	ND	10	ug/L	02/26/10		R/J	SW8260
1,2,3-Trichlorobenzene	ND	10	ug/L	02/26/10		R/J	SW8260
1,2,3-Trichloropropane	ND	10	ug/L	02/26/10		R/J	SW8260
1,2,4-Trichlorobenzene	ND	10	ug/L	02/26/10		R/J	SW8260
1,2,4-Trimethylbenzene	2200	500	ug/L	02/26/10		R/J	SW8260
1,2-Dibromo-3-chloropropane	ND	10	ug/L	02/26/10		R/J	SW8260
1,2-Dichlorobenzene	ND	10	ug/L	02/26/10		R/J	SW8260
1,2-Dichloroethane	ND	10	ug/L	02/26/10		R/J	SW8260
1,2-Dichloropropane	ND	10	ug/L	02/26/10		R/J	SW8260
1,3,5-Trimethylbenzene	380	10	ug/L	02/26/10		R/J	SW8260
1,3-Dichlorobenzene	ND	10	ug/L	02/26/10		R/J	SW8260
1,3-Dichloropropane	ND	10	ug/L	02/26/10		R/J	SW8260
1,4-Dichlorobenzene	ND	10	ug/L	02/26/10		R/J	SW8260
2,2-Dichloropropane	ND	10	ug/L	02/26/10		R/J	SW8260
2-Chloroethyl vinyl ether	ND	100	ug/L	02/26/10		R/J	SW8260
2-Chlorotoluene	ND	10	ug/L	02/26/10		R/J	SW8260
2-Hexanone	ND	100	ug/L	02/26/10		R/J	SW8260
2-Isopropyltoluene	ND	20	ug/L	02/26/10		R/J	SW8260
4-Chlorotoluene	ND	10	ug/L	02/26/10		R/J	SW8260
4-Methyl-2-pentanone	ND	100	ug/L	02/26/10		R/J	SW8260
Acetone	ND	200	ug/L	02/26/10		R/J	SW8260
Acrylonitrile	ND	100	ug/L	02/26/10		R/J	SW8260
Benzene	11000	500	ug/L	02/26/10		R/J	SW8260
Bromobenzene	ND	10	ug/L	02/26/10		R/J	SW8260
Bromochloromethane	ND	10	ug/L	02/26/10		R/J	SW8260
Bromodichloromethane	ND	10	ug/L	02/26/10		R/J	SW8260
Bromoform	ND	10	ug/L	02/26/10		R/J	SW8260
Bromomethane	ND	10	ug/L	02/26/10		R/J	SW8260
Carbon Disulfide	ND	100	ug/L	02/26/10		R/J	SW8260
Carbon tetrachloride	ND	10	ug/L	02/26/10		R/J	SW8260
Chlorobenzene	ND	10	ug/L	02/26/10		R/J	SW8260
Chloroethane	ND	10	ug/L	02/26/10		R/J	SW8260
Chloroform	ND	10	ug/L	02/26/10		R/J	SW8260
Chloromethane	ND	10	ug/L	02/26/10		R/J	SW8260
cis-1,2-Dichloroethene	ND	10	ug/L	02/26/10		R/J	SW8260
cis-1,3-Dichloropropene	ND	10	ug/L	02/26/10		R/J	SW8260
Dibromochloromethane	ND	10	ug/L	02/26/10		R/J	SW8260
Dibromoethane	ND	10	ug/L	02/26/10		R/J	SW8260
Dibromomethane	ND	10	ug/L	02/26/10		R/J	SW8260
Dichlorodifluoromethane	ND	10	ug/L	02/26/10		R/J	SW8260
Ethylbenzene	4500	500	ug/L	02/26/10		R/J	SW8260
Hexachlorobutadiene	ND	8.0	ug/L	02/26/10		R/J	SW8260
Isopropylbenzene	180	10	ug/L	02/26/10		R/J	SW8260

Client ID: RGP-1

Parameter	Result	RL	Units	Date	Time	By	Reference
m&p-Xylene	9900	1000	ug/L	02/26/10		R/J	SW8260
Methyl ethyl ketone	ND	100	ug/L	02/26/10		R/J	SW8260
Methyl t-butyl ether (MTBE)	85	20	ug/L	02/26/10		R/J	SW8260
Methylene chloride	ND	10	ug/L	02/26/10		R/J	SW8260
Naphthalene	520	10	ug/L	02/26/10		R/J	SW8260
n-Butylbenzene	ND	10	ug/L	02/26/10		R/J	SW8260
n-Propylbenzene	350	10	ug/L	02/26/10		R/J	SW8260
o-Xylene	3300	500	ug/L	02/26/10		R/J	SW8260
p-Isopropyltoluene	17	10	ug/L	02/26/10		R/J	SW8260
sec-Butylbenzene	ND	10	ug/L	02/26/10		R/J	SW8260
Styrene	ND	10	ug/L	02/26/10		R/J	SW8260
tert-Butylbenzene	ND	10	ug/L	02/26/10		R/J	SW8260
Tetrachloroethene	ND	10	ug/L	02/26/10		R/J	SW8260
Tetrahydrofuran (THF)	ND	100	ug/L	02/26/10		R/J	SW8260
Toluene	5500	500	ug/L	02/26/10		R/J	SW8260
trans-1,2-Dichloroethene	ND	10	ug/L	02/26/10		R/J	SW8260
trans-1,3-Dichloropropene	ND	10	ug/L	02/26/10		R/J	SW8260
trans-1,4-dichloro-2-butene	ND	10	ug/L	02/26/10		R/J	SW8260
Trichloroethene	ND	10	ug/L	02/26/10		R/J	SW8260
Trichlorofluoromethane	ND	10	ug/L	02/26/10		R/J	SW8260
Trichlorotrifluoroethane	ND	20	ug/L	02/26/10		R/J	SW8260
Vinyl chloride	ND	10	ug/L	02/26/10		R/J	SW8260
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	101		%	02/26/10		R/J	SW8260
% Bromofluorobenzene	98		%	02/26/10		R/J	SW8260
% Dibromofluoromethane	100		%	02/26/10		R/J	SW8260
% Toluene-d8	97		%	02/26/10		R/J	SW8260
<b><u>1,4-dioxane</u></b>							
1,4-dioxane	ND	1.0	ug/l	02/26/10		H/J	SW8260SIM 7
<b><u>QA/QC Surrogates</u></b>							
% 1,2-dichlorobenzene-d4	86		%	02/26/10		H/J	SW8260SIM 7
% Bromofluorobenzene	113		%	02/26/10		H/J	SW8260SIM 7
% Toluene-d8	107		%	02/26/10		H/J	SW8260SIM 7
<b><u>Polychlorinated Biphenyls</u></b>							
PCB-1016	ND	0.50	ug/L	03/01/10		MH	608/ 8082
PCB-1221	ND	0.50	ug/L	03/01/10		MH	608/ 8082
PCB-1232	ND	0.50	ug/L	03/01/10		MH	608/ 8082
PCB-1242	ND	0.50	ug/L	03/01/10		MH	608/ 8082
PCB-1248	ND	0.50	ug/L	03/01/10		MH	608/ 8082
PCB-1254	ND	0.50	ug/L	03/01/10		MH	608/ 8082
PCB-1260	ND	0.50	ug/L	03/01/10		MH	608/ 8082
PCB-1262	ND	0.50	ug/L	03/01/10		MH	608/ 8082
PCB-1268	ND	0.50	ug/L	03/01/10		MH	608/ 8082
<b><u>QA/QC Surrogates</u></b>							
% DCBP	32		%	03/01/10		MH	608/ 8082
% TCMX	96		%	03/01/10		MH	608/ 8082
<b><u>Semivolatiles</u></b>							
1,2,4-Trichlorobenzene	ND	10	ug/L	03/01/10		HM	SW8270/E625

Client ID: RGP-1

Parameter	Result	RL	Units	Date	Time	By	Reference
1,2-Dichlorobenzene	ND	10	ug/L	03/01/10		HM	SW8270/E625
1,2-Diphenylhydrazine	ND	10	ug/L	03/01/10		HM	SW8270/E625
1,3-Dichlorobenzene	ND	10	ug/L	03/01/10		HM	SW8270/E625
1,4-Dichlorobenzene	ND	10	ug/L	03/01/10		HM	SW8270/E625
2,4,5-Trichlorophenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
2,4,6-Trichlorophenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
2,4-Dichlorophenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
2,4-Dimethylphenol	160	25	ug/L	03/01/10		HM	SW8270/E625
2,4-Dinitrophenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
2,4-Dinitrotoluene	ND	10	ug/L	03/01/10		HM	SW8270/E625
2,6-Dichlorophenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
2,6-Dinitrotoluene	ND	10	ug/L	03/01/10		HM	SW8270/E625
2-Chloronaphthalene	ND	10	ug/L	03/01/10		HM	SW8270/E625
2-Chlorophenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
2-Methylnaphthalene	44	5	ug/L	03/01/10		HM	SW8270/E625
2-Methylphenol (o-cresol)	140	25	ug/L	03/01/10		HM	SW8270/E625
2-Nitroaniline	ND	50	ug/L	03/01/10		HM	SW8270/E625
2-Nitrophenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
3&4-Methylphenol (m&p-cresol)	63	1(J)	ug/L	03/01/10		HM	SW8270/E625
3,3'-Dichlorobenzidine	ND	20	ug/L	03/01/10		HM	SW8270/E625
3-Nitroaniline	ND	50	ug/L	03/01/10		HM	SW8270/E625
4,6-Dinitro-2-methylphenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
4-Bromophenyl phenyl ether	ND	10	ug/L	03/01/10		HM	SW8270/E625
4-Chloro-3-methylphenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
4-Chloroaniline	ND	20	ug/L	03/01/10		HM	SW8270/E625
4-Chlorophenyl phenyl ether	ND	10	ug/L	03/01/10		HM	SW8270/E625
4-Nitroaniline	ND	50	ug/L	03/01/10		HM	SW8270/E625
4-Nitrophenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
Acenaphthene	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
Acenaphthylene	ND	10	ug/L	03/01/10		HM	SW8270/E625
Anthracene	ND	10	ug/L	03/01/10		HM	SW8270/E625
Benz(a)anthracene	ND	0.05	ug/L	03/01/10		HM	SW8270/E625
Benzidine	ND	10	ug/L	03/01/10		HM	SW8270/E625
Benzo(a)pyrene	ND	2(J)	ug/L	03/01/10		HM	SW8270/E625
Benzo(b)fluoranthene	ND	0.1	ug/L	03/01/10		HM	SW8270/E625
Benzo(ghi)perylene	ND	5	ug/L	03/01/10		HM	SW8270/E625
Benzo(k)fluoranthene	ND	2(J)	ug/L	03/01/10		HM	SW8270/E625
Benzoic acid	ND	50	ug/L	03/01/10		HM	SW8270/E625
Benzyl alcohol	ND	20	ug/L	03/01/10		HM	SW8270/E625
Benzyl butyl phthalate	ND	5	ug/L	03/01/10		HM	SW8270/E625
Bis(2-chloroethoxy)methane	ND	10	ug/L	03/01/10		HM	SW8270/E625
Bis(2-chloroethyl)ether	ND	10	ug/L	03/01/10		HM	SW8270/E625
Bis(2-chloroisopropyl)ether	ND	10	ug/L	03/01/10		HM	SW8270/E625
Bis(2-ethylhexyl)phthalate	ND	5	ug/L	03/01/10		HM	SW8270/E625
Chrysene	ND	5(J)	ug/L	03/01/10		HM	SW8270/E625
Dibenz(a,h)anthracene	ND	0.1	ug/L	03/01/10		HM	SW8270/E625
Dibenzofuran	ND	10	ug/L	03/01/10		HM	SW8270/E625
Diethyl phthalate	ND	5	ug/L	03/01/10		HM	SW8270/E625
Dimethylphthalate	ND	5	ug/L	03/01/10		HM	SW8270/E625
Di-n-butylphthalate	ND	5	ug/L	03/01/10		HM	SW8270/E625
Di-n-octylphthalate	ND	5	ug/L	03/01/10		HM	SW8270/E625

Client ID: RGP-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Fluoranthene	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
Fluorene	ND	10	ug/L	03/01/10		HM	SW8270/E625
Hexachlorobenzene	ND	10	ug/L	03/01/10		HM	SW8270/E625
Hexachlorobutadiene	ND	10	ug/L	03/01/10		HM	SW8270/E625
Hexachlorocyclopentadiene	ND	10	ug/L	03/01/10		HM	SW8270/E625
Hexachloroethane	ND	10	ug/L	03/01/10		HM	SW8270/E625
Indeno(1,2,3-cd)pyrene	ND	0.15	ug/L	03/01/10		HM	SW8270/E625
Isophorone	ND	10	ug/L	03/01/10		HM	SW8270/E625
Naphthalene	310	25	ug/L	03/01/10		HM	SW8270/E625
Nitrobenzene	ND	10	ug/L	03/01/10		HM	SW8270/E625
N-Nitrosodimethylamine	ND	10	ug/L	03/01/10		HM	SW8270/E625
N-Nitrosodi-n-propylamine	ND	10	ug/L	03/01/10		HM	SW8270/E625
N-Nitrosodiphenylamine	ND	10	ug/L	03/01/10		HM	SW8270/E625
Pentachlorophenol	ND	1(J)	ug/L	03/01/10		HM	SW8270/E625
Phenanthrene	ND	5(J)	ug/L	03/01/10		HM	SW8270/E625
Phenol	59	1(J)	ug/L	03/01/10		HM	SW8270/E625
Pyrene	ND	10	ug/L	03/01/10		HM	SW8270/E625
Pyridine	ND	10	ug/L	03/01/10		HM	SW8270/E625
<b>QA/QC Surrogates</b>							
% 2,4,6-Tribromophenol	77		%	03/01/10		HM	SW8270/E625
% 2-Fluorobiphenyl	73		%	03/01/10		HM	SW8270/E625
% 2-Fluorophenol	27		%	03/01/10		HM	SW8270/E625
% Nitrobenzene-d5	60		%	03/01/10		HM	SW8270/E625
% Phenol-d5	48		%	03/01/10		HM	SW8270/E625
% Terphenyl-d14	16		%	03/01/10		HM	SW8270/E625

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

#### Comments:

\* Poor surrogate recovery was observed for semivolatiles. The other surrogates associated with this sample were within QA/QC criteria. No further action was necessary.

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

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**Phyllis Shiller, Laboratory Director**

**March 03, 2010**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823



# QA/QC Report

March 03, 2010

## QA/QC Data

SDG I.D.: GAS78907

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 148041, QC Sample No: AS78856 (AS78907)								
<u>ICP Metals - Dissolved</u>								
Antimony	BDL	NC	94.9	93.6	1.4	93.9	96.4	2.6
Arsenic	BDL	NC	86.3	83.7	3.1	84.0	85.9	2.2
Barium	BDL	1.80	95.5	93.9	1.7	93.1	96.8	3.9
Beryllium	BDL	NC	94.1	94.3	0.2	94.0	97.4	3.6
Cadmium	BDL	NC	92.3	91.7	0.7	90.7	94.4	4.0
Chromium	BDL	NC	95.9	94.6	1.4	94.6	97.7	3.2
Copper	BDL	NC	96.7	95.0	1.8	95.8	98.5	2.8
Iron	BDL	3.10	90.2	88.9	1.5	86.7	89.2	2.8
Lead	BDL	NC	95.3	94.1	1.3	93.4	96.7	3.5
Manganese	BDL	NC	98.5	97.7	0.8	96.7	101	4.4
Nickel	BDL	NC	96.2	95.1	1.2	94.8	97.8	3.1
Selenium	BDL	NC	86.4	84.4	2.3	85.5	88.2	3.1
Silver	BDL	NC	97.3	95.5	1.9	50.8	56.6	10.8 <sup>3</sup>
Vanadium	BDL	NC	95.8	94.4	1.5	94.5	97.6	3.2
Zinc	BDL	4.20	91.7	90.9	0.9	90.5	94.1	3.9

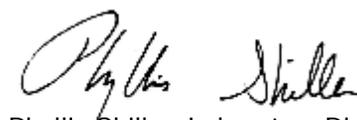
QA/QC Batch 148064, QC Sample No: AS79075 (AS78907)

Mercury	BDL	NC	100	99.2	0.8	97.0	96.8	0.2
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3 = This parameter is outside laboratory ms/msd specified limits.

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  
 March 03, 2010



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# QA/QC Report

March 03, 2010

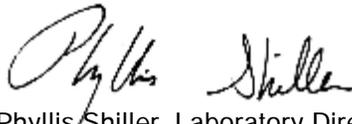
## QA/QC Data

SDG I.D.: GAS78907

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 148088, QC Sample No: AS78278 (AS78907)								
Oil and Grease by EPA 1664	BDL		97.0					
QA/QC Batch 147996, QC Sample No: AS78469 (AS78907)								
Chromium, Hexavalent	BDL	NC	106			111		
QA/QC Batch 148067, QC Sample No: AS78807 (AS78907)								
Total Suspended Solids	BDL	13.3	112					
QA/QC Batch 148092, QC Sample No: AS78907 (AS78907)								
Total Cyanide	BDL	NC	109			110		
QA/QC Batch 148066, QC Sample No: AS78955 (AS78907)								
Chlorine Residual	BDL	NC	101					

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  
 March 03, 2010



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823



# QA/QC Report

March 03, 2010

## QA/QC Data

SDG I.D.: GAS78907

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
<b>QA/QC Batch 148099, QC Sample No: AS78695 (AS78907)</b>							
<b>Volatiles</b>							
1,1,1,2-Tetrachloroethane	ND	95	93	2.1	87	86	1.2
1,1,1-Trichloroethane	ND	100	95	5.1	99	93	6.3
1,1,2,2-Tetrachloroethane	ND	94	94	0.0	88	87	1.1
1,1,2-Trichloroethane	ND	99	96	3.1	99	90	9.5
1,1-Dichloroethane	ND	99	95	4.1	96	94	2.1
1,1-Dichloroethene	ND	84	79	6.1	99	98	1.0
1,1-Dichloropropene	ND	96	88	8.7	102	98	4.0
1,2,3-Trichlorobenzene	ND	108	111	2.7	116	115	0.9
1,2,3-Trichloropropane	ND	109	106	2.8	99	99	0.0
1,2,4-Trichlorobenzene	ND	107	109	1.9	115	113	1.8
1,2,4-Trimethylbenzene	ND	104	102	1.9	NC	NC	NC
1,2-Dibromo-3-chloropropane	ND	99	99	0.0	105	109	3.7
1,2-Dichlorobenzene	ND	96	95	1.0	95	95	0.0
1,2-Dichloroethane	ND	102	98	4.0	94	85	10.1
1,2-Dichloropropane	ND	100	96	4.1	96	93	3.2
1,3,5-Trimethylbenzene	ND	103	101	2.0	>150	>150	NC 3
1,3-Dichlorobenzene	ND	95	94	1.1	96	96	0.0
1,3-Dichloropropane	ND	106	104	1.9	97	99	2.0
1,4-Dichlorobenzene	ND	95	93	2.1	96	96	0.0
2,2-Dichloropropane	ND	71	74	4.1	74	70	5.6
2-Chlorotoluene	ND	101	99	2.0	103	104	1.0
2-Hexanone	ND	106	109	2.8	109	114	4.5
2-Isopropyltoluene	ND	103	100	3.0	126	125	0.8
4-Chlorotoluene	ND	99	97	2.0	100	103	3.0
4-Methyl-2-pentanone	ND	111	107	3.7	106	99	6.8
Acetone	ND	113	102	10.2	81	81	0.0
Acrylonitrile	ND	95	96	1.0	80	84	4.9
Benzene	ND	99	92	7.3	>150	>150	NC 3
Bromobenzene	ND	99	98	1.0	99	100	1.0
Bromochloromethane	ND	99	100	1.0	92	93	1.1
Bromodichloromethane	ND	99	93	6.3	94	85	10.1
Bromoform	ND	99	97	2.0	87	85	2.3
Bromomethane	ND	115	114	0.9	92	87	5.6
Carbon Disulfide	ND	102	96	6.1	101	101	0.0
Carbon tetrachloride	ND	99	90	9.5	101	91	10.4
Chlorobenzene	ND	94	91	3.2	90	91	1.1
Chloroethane	ND	103	98	5.0	94	99	5.2
Chloroform	ND	99	94	5.2	93	88	5.5

QA/QC Data

SDG I.D.: GAS78907

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
Chloromethane	ND	100	75	28.6	99	81	20.0
cis-1,2-Dichloroethene	ND	96	93	3.2	95	94	1.1
cis-1,3-Dichloropropene	ND	104	103	1.0	102	100	2.0
Dibromochloromethane	ND	100	98	2.0	92	91	1.1
Dibromoethane	ND	101	99	2.0	104	98	5.9
Dibromomethane	ND	100	96	4.1	93	88	5.5
Dichlorodifluoromethane	ND	125	114	9.2	108	92	16.0
Ethylbenzene	ND	96	94	2.1	NC	NC	NC
Hexachlorobutadiene	ND	91	92	1.1	103	96	7.0
Isopropylbenzene	ND	99	94	5.2	>150	>150	NC 3
m&p-Xylene	ND	98	95	3.1	132	132	0.0 3
Methyl ethyl ketone	ND	96	93	3.2	85	83	2.4
Methyl t-butyl ether (MTBE)	ND	103	99	4.0	99	100	1.0
Methylene chloride	ND	95	94	1.1	91	88	3.4
Naphthalene	ND	107	108	0.9	NC	NC	NC
n-Butylbenzene	ND	98	97	1.0	>150	>150	NC 3
n-Propylbenzene	ND	101	99	2.0	>150	>150	NC 3
o-Xylene	ND	102	98	4.0	>150	>150	NC 3
p-Isopropyltoluene	ND	106	104	1.9	107	106	0.9
sec-Butylbenzene	ND	99	97	2.0	125	126	0.8
Styrene	ND	98	96	2.1	91	92	1.1
tert-Butylbenzene	ND	106	103	2.9	112	112	0.0
Tetrachloroethene	ND	103	98	5.0	104	104	0.0
Tetrahydrofuran (THF)	ND	107	102	4.8	109	110	0.9
Toluene	ND	96	90	6.5	112	107	4.6
trans-1,2-Dichloroethene	ND	91	88	3.4	97	97	0.0
trans-1,3-Dichloropropene	ND	102	100	2.0	101	93	8.2
trans-1,4-dichloro-2-butene	ND	94	98	4.2	82	85	3.6
Trichloroethene	ND	95	88	7.7	98	95	3.1
Trichlorofluoromethane	ND	104	95	9.0	101	92	9.3
Trichlorotrifluoroethane	ND	100	91	9.4	103	101	2.0
Vinyl chloride	ND	109	101	7.6	107	91	16.2
% 1,2-dichlorobenzene-d4	113	100	101	1.0	102	100	2.0
% Bromofluorobenzene	85	100	100	0.0	102	98	4.0
% Dibromofluoromethane	100	98	104	5.9	95	95	0.0
% Toluene-d8	94	99	99	0.0	102	99	3.0

Comment:

Some target compounds were present at much higher levels in the spiked samples than in the unspiked sample. Sampling homogeneity issues are suspected.

QA/QC Batch 148094, QC Sample No: AS78887 (AS78907)

1,4-dioxane

1,4-dioxane	ND	99	122	20.8		96	
% 1,2-dichlorobenzene-d4	93	95	94	1.1		97	
% Bromofluorobenzene	108	111	107	3.7		105	
% Toluene-d8	90	92	91	1.1		84	

Comment:

A blank MS/MSD was analyzed with this batch.

QA/QC Data

SDG I.D.: GAS78907

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
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QA/QC Batch 148117, QC Sample No: AS79075 (AS78907)

Polychlorinated Biphenyls

PCB-1016	ND	90	86	4.5			
PCB-1221	ND						
PCB-1232	ND						
PCB-1242	ND						
PCB-1248	ND						
PCB-1254	ND						
PCB-1260	ND	92	95	3.2			
PCB-1262	ND						
PCB-1268	ND						
% DCBP (Surrogate Rec)	124	116	117	0.9			
% TCMX (Surrogate Rec)	90	86	88	2.3			

Comment:

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

QA/QC Batch 148049, QC Sample No: AS79075 (AS78907)

Semivolatiles

1,2,4-Trichlorobenzene	ND	77	81	5.1			
1,2-Dichlorobenzene	ND	82	87	5.9			
1,3-Dichlorobenzene	ND	77	82	6.3			
1,4-Dichlorobenzene	ND	74	82	10.3			
2,4,5-Trichlorophenol	ND	86	61	34.0			
2,4,6-Trichlorophenol	ND	82	58	34.3			
2,4-Dichlorophenol	ND	72	47	42.0			
2,4-Dimethylphenol	ND	37	38	2.7			
2,4-Dinitrophenol	ND	88	60	37.8			
2,4-Dinitrotoluene	ND	90	97	7.5			
2,6-Dinitrotoluene	ND	84	89	5.8			
2-Chloronaphthalene	ND	85	89	4.6			
2-Chlorophenol	ND	64	37	53.5			
2-Methylnaphthalene	ND	75	83	10.1			
2-Methylphenol (o-cresol)	ND	71	54	27.2			
2-Nitroaniline	ND	79	85	7.3			
2-Nitrophenol	ND	87	47	59.7			
3&4-Methylphenol (m&p-cresol)	ND	72	56	25.0			
3,3'-Dichlorobenzidine	ND	N/A	N/A	NC			
3-Nitroaniline	ND	80	96	18.2			
4,6-Dinitro-2-methylphenol	ND	119	100	17.4			
4-Bromophenyl phenyl ether	ND	90	94	4.3			
4-Chloro-3-methylphenol	ND	81	70	14.6			
4-Chloroaniline	ND	65	97	39.5			
4-Chlorophenyl phenyl ether	ND	88	94	6.6			
4-Nitroaniline	ND	90	96	6.5			
4-Nitrophenol	ND	88	77	13.3			
Acenaphthene	ND	86	86	0.0			
Acenaphthylene	ND	81	80	1.2			
Anthracene	ND	88	91	3.4			
Benz(a)anthracene	ND	90	97	7.5			

QA/QC Data

SDG I.D.: GAS78907

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
Benzidine	ND	N/A	N/A	NC			
Benzo(a)pyrene	ND	88	91	3.4			
Benzo(b)fluoranthene	ND	95	104	9.0			
Benzo(ghi)perylene	ND	95	97	2.1			
Benzo(k)fluoranthene	ND	93	95	2.1			
Benzoic acid	ND	N/A	N/A	NC			
Benzyl butyl phthalate	ND	91	96	5.3			
Bis(2-chloroethoxy)methane	ND	88	88	0.0			
Bis(2-chloroethyl)ether	ND	81	86	6.0			
Bis(2-chloroisopropyl)ether	ND	81	88	8.3			
Bis(2-ethylhexyl)phthalate	ND	95	102	7.1			
Chrysene	ND	90	99	9.5			
Dibenz(a,h)anthracene	ND	92	98	6.3			
Dibenzofuran	ND	82	87	5.9			
Diethyl phthalate	ND	90	96	6.5			
Dimethylphthalate	ND	88	92	4.4			
Di-n-butylphthalate	ND	88	95	7.7			
Di-n-octylphthalate	ND	96	103	7.0			
Fluoranthene	ND	91	100	9.4			
Fluorene	ND	83	87	4.7			
Hexachlorobenzene	ND	91	98	7.4			
Hexachlorobutadiene	ND	79	86	8.5			
Hexachlorocyclopentadiene	ND	10	7.6	27.3			2
Hexachloroethane	ND	79	85	7.3			
Indeno(1,2,3-cd)pyrene	ND	92	96	4.3			
Isophorone	ND	79	88	10.8			
Naphthalene	ND	76	82	7.6			
Nitrobenzene	ND	82	87	5.9			
N-Nitrosodimethylamine	ND	74	75	1.3			
N-Nitrosodi-n-propylamine	ND	79	83	4.9			
N-Nitrosodiphenylamine	ND	86	92	6.7			
Pentachlorophenol	ND	>130	128	NC			
Phenanthrene	ND	81	90	10.5			
Phenol	ND	63	41	42.3			
Pyrene	ND	89	98	9.6			
Pyridine	ND	48	79	48.8			
% 2,4,6-Tribromophenol	107	104	101	2.9			
% 2-Fluorobiphenyl	78	82	84	2.4			
% 2-Fluorophenol	59	56	24	80.0			2
% Nitrobenzene-d5	72	81	87	7.1			
% Phenol-d5	70	60	39	42.4			
% Terphenyl-d14	75	75	88	16.0			

Comment:

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

QA/QC Batch 148167, QC Sample No: AS79234 (AS78907)

Volatiles

1,1,1,2-Tetrachloroethane	ND	90	92	2.2	95	90	5.4
1,1,1-Trichloroethane	ND	96	100	4.1	92	89	3.3

QA/QC Data

SDG I.D.: GAS78907

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
1,1,2,2-Tetrachloroethane	ND	88	91	3.4	92	87	5.6
1,1,2-Trichloroethane	ND	94	93	1.1	100	94	6.2
1,1-Dichloroethane	ND	96	99	3.1	93	90	3.3
1,1-Dichloroethene	ND	82	86	4.8	90	89	1.1
1,1-Dichloropropene	ND	93	93	0.0	91	89	2.2
1,2,3-Trichlorobenzene	ND	95	100	5.1	98	99	1.0
1,2,3-Trichloropropane	ND	99	101	2.0	95	94	1.1
1,2,4-Trichlorobenzene	ND	99	102	3.0	99	98	1.0
1,2,4-Trimethylbenzene	ND	102	107	4.8	101	98	3.0
1,2-Dibromo-3-chloropropane	ND	85	88	3.5	88	87	1.1
1,2-Dichlorobenzene	ND	92	94	2.2	93	90	3.3
1,2-Dichloroethane	ND	89	91	2.2	94	90	4.3
1,2-Dichloropropane	ND	95	96	1.0	94	91	3.2
1,3,5-Trimethylbenzene	ND	103	107	3.8	100	98	2.0
1,3-Dichlorobenzene	ND	94	98	4.2	94	90	4.3
1,3-Dichloropropane	ND	97	99	2.0	100	97	3.0
1,4-Dichlorobenzene	ND	92	95	3.2	94	90	4.3
2,2-Dichloropropane	ND	<70	<70	NC	<40	<40	NC
2-Chlorotoluene	ND	101	106	4.8	101	98	3.0
2-Hexanone	ND	92	92	0.0	89	85	4.6
2-Isopropyltoluene	ND	102	107	4.8	101	98	3.0
4-Chlorotoluene	ND	99	104	4.9	97	94	3.1
4-Methyl-2-pentanone	ND	98	99	1.0	103	98	5.0
Acetone	ND	88	106	18.6	90	91	1.1
Acrylonitrile	ND	83	92	10.3	85	86	1.2
Benzene	ND	95	97	2.1	94	89	5.5
Bromobenzene	ND	98	100	2.0	97	95	2.1
Bromochloromethane	ND	96	98	2.1	93	92	1.1
Bromodichloromethane	ND	89	92	3.3	91	88	3.4
Bromoform	ND	89	89	0.0	95	88	7.7
Bromomethane	ND	115	132	13.8	86	102	17.0
Carbon Disulfide	ND	98	102	4.0	88	86	2.3
Carbon tetrachloride	ND	91	93	2.2	92	87	5.6
Chlorobenzene	ND	93	96	3.2	96	92	4.3
Chloroethane	ND	100	105	4.9	92	92	0.0
Chloroform	ND	92	97	5.3	92	89	3.3
Chloromethane	ND	105	106	0.9	95	97	2.1
cis-1,2-Dichloroethene	ND	95	98	3.1	93	91	2.2
cis-1,3-Dichloropropene	ND	83	84	1.2	77	74	4.0
Dibromochloromethane	ND	90	92	2.2	96	91	5.3
Dibromoethane	ND	95	97	2.1	99	94	5.2
Dibromomethane	ND	88	91	3.4	95	88	7.7
Dichlorodifluoromethane	ND	123	125	1.6	88	87	1.1
Ethylbenzene	ND	97	102	5.0	101	96	5.1
Hexachlorobutadiene	ND	87	92	5.6	86	83	3.6
Isopropylbenzene	ND	101	105	3.9	105	102	2.9
m&p-Xylene	ND	98	102	4.0	102	96	6.1
Methyl ethyl ketone	ND	80	86	7.2	82	83	1.2
Methyl t-butyl ether (MTBE)	ND	92	93	1.1	97	97	0.0

3

QA/QC Data

SDG I.D.: GAS78907

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
Methylene chloride	ND	92	94	2.2	95	92	3.2
Naphthalene	ND	92	95	3.2	95	97	2.1
n-Butylbenzene	ND	95	100	5.1	91	89	2.2
n-Propylbenzene	ND	103	108	4.7	98	96	2.1
o-Xylene	ND	101	104	2.9	104	100	3.9
p-Isopropyltoluene	ND	106	111	4.6	100	98	2.0
sec-Butylbenzene	ND	100	105	4.9	98	95	3.1
Styrene	ND	96	99	3.1	100	95	5.1
tert-Butylbenzene	ND	106	110	3.7	104	102	1.9
Tetrachloroethene	ND	95	99	4.1	93	91	2.2
Tetrahydrofuran (THF)	ND	91	93	2.2	88	88	0.0
Toluene	ND	98	100	2.0	99	96	3.1
trans-1,2-Dichloroethene	ND	90	94	4.3	91	91	0.0
trans-1,3-Dichloropropene	ND	81	81	0.0	79	77	2.6
trans-1,4-dichloro-2-butene	ND	<70	<70	NC	52	50	3.9
Trichloroethene	ND	93	94	1.1	92	88	4.4
Trichlorofluoromethane	ND	99	101	2.0	90	87	3.4
Trichlorotrifluoroethane	ND	95	99	4.1	87	87	0.0
Vinyl chloride	ND	110	115	4.4	96	99	3.1
% 1,2-dichlorobenzene-d4	113	97	98	1.0	99	99	0.0
% Bromofluorobenzene	81	95	96	1.0	98	97	1.0
% Dibromofluoromethane	101	104	99	4.9	99	99	0.0
% Toluene-d8	97	102	102	0.0	102	102	0.0

Comment:

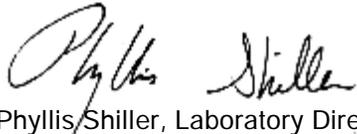
A blank MS/MSD was analyzed with this batch.

2 = This parameter is outside laboratory lcs/lcsd specified limits.

3 = This parameter is outside laboratory ms/msd specified limits.

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  
 March 03, 2010

# Sample Criteria Exceedences Report

Requested Criteria: GW1

GAS78907

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
AS78907	GZA-MA	\$8260LDR	Vinyl chloride	ug/L	MA	Groundwater Standards	GW-1	ND	10	2	2	ug/L
AS78907	GZA-MA	\$8260LDR	1,1-Dichloroethene	ug/L	MA	Groundwater Standards	GW-1	ND	10	7	7	ug/L
AS78907	GZA-MA	\$8260LDR	Methylene chloride	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	Methyl t-butyl ether (MTBE)	ug/L	MA	Groundwater Standards	GW-1	85	20	70	70	ug/L
AS78907	GZA-MA	\$8260LDR	Carbon tetrachloride	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	Benzene	ug/L	MA	Groundwater Standards	GW-1	11000	500	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	1,2-Dichloroethane	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	Trichloroethene	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	1,2-Dichloropropane	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	Bromodichloromethane	ug/L	MA	Groundwater Standards	GW-1	ND	10	3	3	ug/L
AS78907	GZA-MA	\$8260LDR	Toluene	ug/L	MA	Groundwater Standards	GW-1	5500	500	1000	1000	ug/L
AS78907	GZA-MA	\$8260LDR	1,1,2-Trichloroethane	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	Dibromoethane	ug/L	MA	Groundwater Standards	GW-1	ND	10	0.02	0.02	ug/L
AS78907	GZA-MA	\$8260LDR	Tetrachloroethene	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	Dibromochloromethane	ug/L	MA	Groundwater Standards	GW-1	ND	10	2	2	ug/L
AS78907	GZA-MA	\$8260LDR	1,1,1,2-Tetrachloroethane	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	Ethylbenzene	ug/L	MA	Groundwater Standards	GW-1	4500	500	700	700	ug/L
AS78907	GZA-MA	\$8260LDR	Bromoform	ug/L	MA	Groundwater Standards	GW-1	ND	10	4	4	ug/L
AS78907	GZA-MA	\$8260LDR	1,1,2,2-Tetrachloroethane	ug/L	MA	Groundwater Standards	GW-1	ND	10	2	2	ug/L
AS78907	GZA-MA	\$8260LDR	1,4-Dichlorobenzene	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8260LDR	Hexachlorobutadiene	ug/L	MA	Groundwater Standards	GW-1	ND	8.0	0.6	0.6	ug/L
AS78907	GZA-MA	\$8260LDR	Naphthalene	ug/L	MA	Groundwater Standards	GW-1	520	10	140	140	ug/L
AS78907	GZA-MA	\$8270GZAW	1,4-Dichlorobenzene	ug/L	MA	Groundwater Standards	GW-1	ND	10	5	5	ug/L
AS78907	GZA-MA	\$8270GZAW	2,4-Dimethylphenol	ug/L	MA	Groundwater Standards	GW-1	160	25	60	60	ug/L
AS78907	GZA-MA	\$8270GZAW	Hexachlorobenzene	ug/L	MA	Groundwater Standards	GW-1	ND	10	1	1	ug/L
AS78907	GZA-MA	\$8270GZAW	Hexachlorobutadiene	ug/L	MA	Groundwater Standards	GW-1	ND	10	0.6	0.6	ug/L
AS78907	GZA-MA	\$8270GZAW	Hexachloroethane	ug/L	MA	Groundwater Standards	GW-1	ND	10	8	8	ug/L
AS78907	GZA-MA	\$8270GZAW	2-Methylnaphthalene	ug/L	MA	Groundwater Standards	GW-1	44	5	10	10	ug/L
AS78907	GZA-MA	\$8270GZAW	Naphthalene	ug/L	MA	Groundwater Standards	GW-1	310	25	140	140	ug/L
AS78907	GZA-MA	TPHGRAVW	O&G, Non-polar Material	ug/L	MA	Groundwater Standards	GW-1	BDL	1.4	0.2	0.2	mg/L

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Title: MADEP MCP Response Action Analytical Report Certification Form					
Laboratory Name: Phoenix Environmental Laboratories, Inc.			Project #:		
Project Location: NDBCSO VENT BLDG			MADEP RTN1:		
This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)] AS78907					
Sample Matrices: <input checked="" type="checkbox"/> Groundwater <input type="checkbox"/> Soil/Sediment <input type="checkbox"/> Drinking Water <input type="checkbox"/> Other:					
<b>MCP SW-846 Methods Used</b>	<input checked="" type="checkbox"/> 8260B	<input type="checkbox"/> 8151A	<input type="checkbox"/> 8330	<input checked="" type="checkbox"/> 6010B	<input checked="" type="checkbox"/> 7470A/1A
	<input checked="" type="checkbox"/> 8270C	<input type="checkbox"/> 8081A	<input type="checkbox"/> VPH	<input type="checkbox"/> 6020	<input checked="" type="checkbox"/> 9014M2
As specified in MADEP Compendium of Analytical Methods. (check all that apply)	<input checked="" type="checkbox"/> 8082	<input type="checkbox"/> 8021B	<input type="checkbox"/> EPH	<input type="checkbox"/> 7000S3	<input checked="" type="checkbox"/> 7196A
	1 List Release Tracking Number (RTN), if known 2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method 3 S - SW-846 Methods 7000 Series List individual method and analyte.				
An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status					
A	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
D	VPH and EPH Methods only: Was the VPH or EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)			<input type="checkbox"/> Yes <input type="checkbox"/> No	
A response to questions E and F below is required for "Presumptive Certainty" status					
E	Were all QC performance standards and recommendations for the specified methods achieved?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
All negative responses must be addressed in an attached Environmental Laboratory case narrative.					
<b>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</b>					
Authorized Signature:				Date: Wednesday, March 03, 2010	
				Printed Name: Greg Lawrence	
				Position: Assistant Lab Director	



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



# MCP Certification Report

March 03, 2010

SDG I.D.: GAS78907

8260 Volatile Organics:

The following compounds from the MCP 8260 analyte list were not performed: diethyl ether, diisopropyl ether, and ETBE.

Due to the concentration of several of the target VOC the requested reporting limit could not be achieved for some of the other VOC compounds.

## Cyanide Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

**Instrument:** Lachat 02/26/10-1 (AS78907)

The samples were distilled in accordance with the method.  
The initial calibration met criteria.

The calibration check standards (ICV,CCV) were within 15% of true value and were analyzed at a frequency of one per ten samples.  
The continuing calibration blanks (ICB,CCB) had concentrations less than the reporting level.

The method blank, laboratory control sample (LCS), and matrix spike were distilled with the samples.

**Printed Name** Greg Danielewski  
**Position:** Chemist  
**Date:** 2/26/2010

## **QC (Site Specific)**

All LCS recoveries were within 85 - 115 with the following exceptions: None.

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

## Hexavalent Chromium (Aqueous)

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

**Instrument:** Spect 03/02/10-1 (AS78907)

The initial calibration met all criteria including a standard run at the reporting level.  
All calibration verification standards (ICV, CCV) met criteria.  
All calibration blank verification standards (ICB, CCB) met criteria.

**Printed Name** Kandi Della Bella  
**Position:** Chemist  
**Date:** 3/2/2010



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SDG ID.: GAS78907

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I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

## Mercury Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

**Instrument:** Merlin 02/26/10-1 (AS78907)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

**Printed Name** Rick Schweitzer

**Position:** Chemist

**Date:** 2/26/2010

## **QC (Batch Specific)**

All LCS recoveries were within 80 - 120 with the following exceptions: None.

All LCSD recoveries were within 80 - 120 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

## ICP Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

**Instrument:** Icp9 02/25/10-1 (AS78907)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

**Printed Name** Emily Kolominskaya

**Position:** Chemist

**Date:** 2/25/2010

**Instrument:** Icp9 02/26/10-1 (AS78907)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.



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# MCP Certification Report

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SDG ID.: GAS78907

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**Printed Name** Emily Kolominskaya  
**Position:** Chemist  
**Date:** 2/26/2010

## QC (Batch Specific)

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

## PCB Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

**Instrument:** Au-ecd6 03/01/10-1 (AS78907)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: none

**Printed Name** Michael Hahn  
**Position:** Chemist  
**Date:** 3/1/2010

**QC Comments:** QC Batch 48117 02/26/10 (AS78907)

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

## QC (Batch Specific)

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

## SVOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

**Instrument:** Chem12 03/01/10-1 (AS78907)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were not evaluated in the DFTPP tune.

Initial Calibration (Chem12/SV\_0224):

Greater than 90% of the target compounds met calibration criteria with a RSD <20% or >0.99 correlation coefficient. The following



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SDG I.D.: GAS78907

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compounds had RSDs >20% and <0.99 correlation coefficient: Benzoic Acid, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, Pentachlorophenol

The following compounds failed to meet the minimum required response factor: 2-nitrophenol

**Continuing Calibration:**

Greater than 80% of target compounds met continuing calibration criteria with a %D <20. The following compounds had >20% difference from the initial calibration: 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol

**Printed Name** Harry Mullin  
**Position:** Chemist  
**Date:** 3/1/2010

**QC Comments:** QC Batch 48049 02/25/10 (AS78907)

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

**QC (Batch Specific)**

All LCS recoveries were within 30 - 130 with the following exceptions: Hexachlorocyclopentadiene, Pentachlorophenol

All LCSD recoveries were within 30 - 130 with the following exceptions: % 2-Fluorophenol, Hexachlorocyclopentadiene

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

**VOA Narration**

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

**Instrument:** Chem08 02/25/10-1 (AS78907)

S -Side  
Initial Calibration(RCPS\_0224):  
All SPCCs, CCCs and >80% of target compounds met criteria.

Continuing Calibration Verification:  
All SPCCs, CCCs and >80% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration.  
The following compounds had % Deviations >30%: Acrylonitrile

**Printed Name** Johanna Harrington  
**Position:** Chemist  
**Date:** 2/25/2010

**Instrument:** Chem08 02/26/10-2 (AS78907)

S -Side  
Initial Calibration(RCPS\_0224):



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# MCP Certification Report

March 03, 2010

SDG I.D.: GAS78907

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All SPCCs, CCCs and >80% of target compounds met criteria.

**Continuing Calibration Verification:**

All SPCCs, CCCs and >80% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration.

The following compounds had % Deviations >30%: Acrylonitrile, 2,2-Dichloropropane, trans-1,4-Dichloro-2-butene

**Printed Name** Johanna Harrington  
**Position:** Chemist  
**Date:** 2/26/2010

**QC (Batch Specific)**

All LCS recoveries were within 70 - 130 with the following exceptions: 2,2-Dichloropropane, trans-1,4-dichloro-2-butene

All LCSD recoveries were within 70 - 130 with the following exceptions: 2,2-Dichloropropane, Bromomethane, trans-1,4-dichloro-2-butene

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

**VOA-DIOXANE Narration**

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

**Instrument:** Chem05 02/25/10-1 (AS78907)

1,4 dioxane was analyzed using a separate method consisting of the target compound, internal standards, and surrogates.

Initial Calibration Verification (CHEM05/DISM0623)

The following compounds had %RSDs >30%: None

**Continuing Calibration Verification:**

The following compounds had % Deviations >30%: None

**Printed Name** Johanna Harrington  
**Position:** Chemist  
**Date:** 2/25/2010

**QC (Batch Specific)**

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



### 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 6 Pg 1 of 1

**Data Delivery:**

Fax #:  
 Email: Sollerhead@gza.com

Customer: GZA GeoEnvironmental  
 Address: 1 Edgewater Dr  
Norwood MA 02062

Project: NDBC SO Vent Building  
 Report to: Scott Ollerhead / Josh S.  
 Invoice to: " " "

Project P.O.:  
 Phone #: 781-278-5727  
 Fax #:

**Client Sample - Information - Identification**

Sampler's Signature: [Signature] Date: 2/24/10

Analysis Request

**Matrix Code:**

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

*Handwritten analysis requests:*  
 TSS, TRC, Hex Cr  
 Oil & Grease  
 Cyanide  
 VOCs  
 1,4 Dioxane  
 TAME & TBA  
 EDB  
 SVOCs w/ PAH SIM 8220  
 PCB's  
 Dissolved Metals  
 2L Amber 1000ml H2SO4  
 40 VOA 17 AS  
 40 VOA 17 AS  
 40 ml VOA Vial ( ) oz  
 GL Amber 1000ml ( ) H2O  
 PL As is ( ) 250ml ( ) 1500ml ( ) 1000ml  
 PL H2SO4 ( ) 250ml ( ) 1500ml ( ) 1000ml  
 PL HNO3 250ml ( ) 500ml  
 Bacteria Bottle 500ml

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	TSS, TRC, Hex Cr	Oil & Grease	Cyanide	VOCs	1,4 Dioxane	TAME & TBA	EDB	SVOCs w/ PAH SIM 8220	PCB's	Dissolved Metals	2L Amber 1000ml H2SO4	40 VOA 17 AS	40 VOA 17 AS	40 ml VOA Vial ( ) oz	GL Amber 1000ml ( ) H2O	PL As is ( ) 250ml ( ) 1500ml ( ) 1000ml	PL H2SO4 ( ) 250ml ( ) 1500ml ( ) 1000ml	PL HNO3 250ml ( ) 500ml	Bacteria Bottle 500ml
78907	RGP-1	GW	2-24-10	11:30	X	X	X	X	X	X	X	X	X	X	1	2	2	4	4	3		1	

Relinquished by: <u>Joshua Seidel</u>	Accepted by: <u>[Signature]</u>	Date: <u>2-25-10</u>	Time: <u>10:15</u>
<u>[Signature]</u>	<u>Lisa Fan</u>	<u>2-23-10</u>	<u>15:49</u>

**Turnaround:**  
 1 Day\*  
 2 Days\*  
 3 Days\*  
 Standard  
 Other

**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

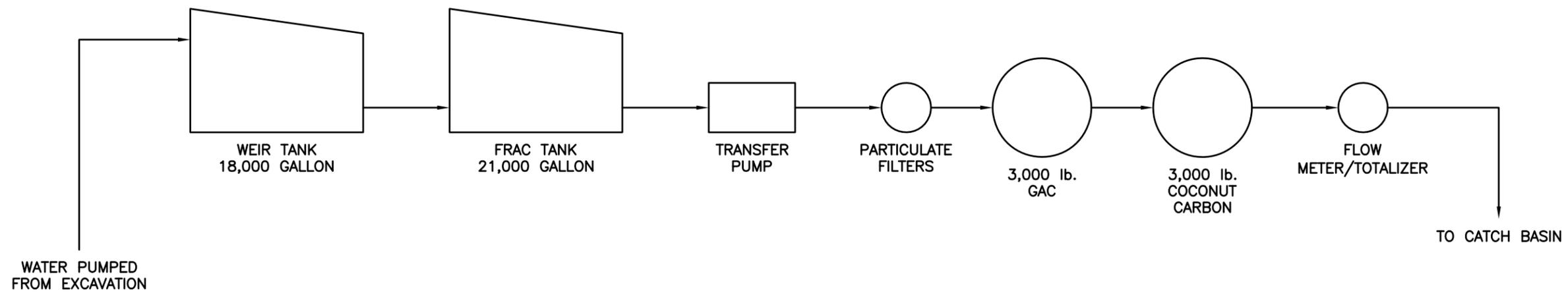
**Data Format:**  
 Excel  
 PDF  
 GIS/Key  
 EQUIS  
 Other

Comments, Special Requirements or Regulations:  
Needs special codes, see Bobbi  
#TPHGLAV as per Quote/Permit

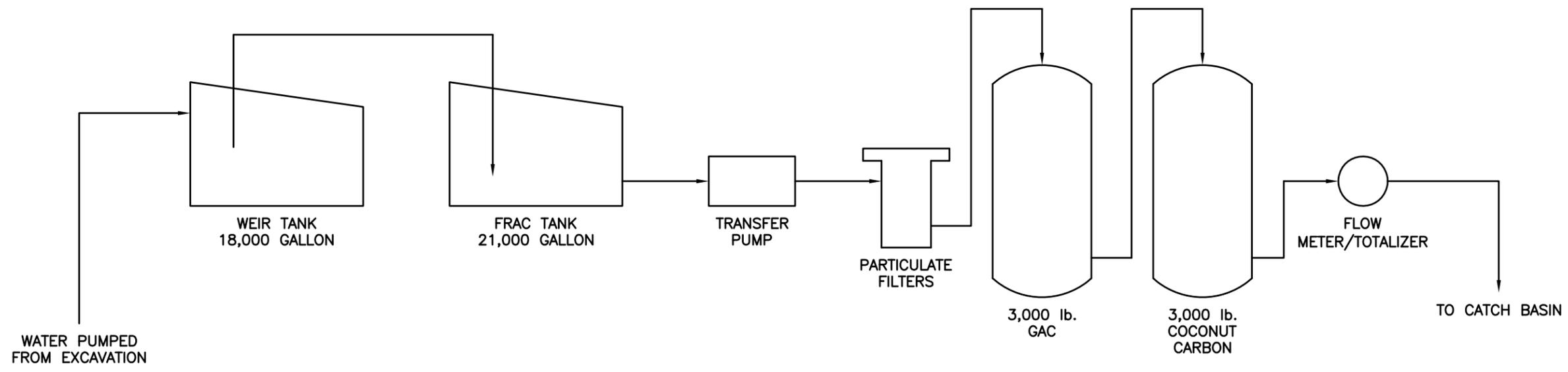
\* SURCHARGE APPLIES

State where samples were collected: MA

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



**PROCESS FLOW DIAGRAM  
100 GALLON PER MINUTE  
DEWATERING TREATMENT SYSTEM**  
N.T.S.



**NOTE:**

THIS PROCESS FLOW DIAGRAM IS INTENDED TO SHOW A SCHEMATIC LAYOUT OF THE PROPOSED GAC SYSTEM ONLY. ALL HOSES, COUPLINGS, CONNECTIONS, VALVES, FITTINGS, PUMPS AND NECESSARY SAFETY MECHANISMS SHOULD BE PROPERLY SIZED, INSTALLED AND MAINTAINED BY THE CONTRACTOR.

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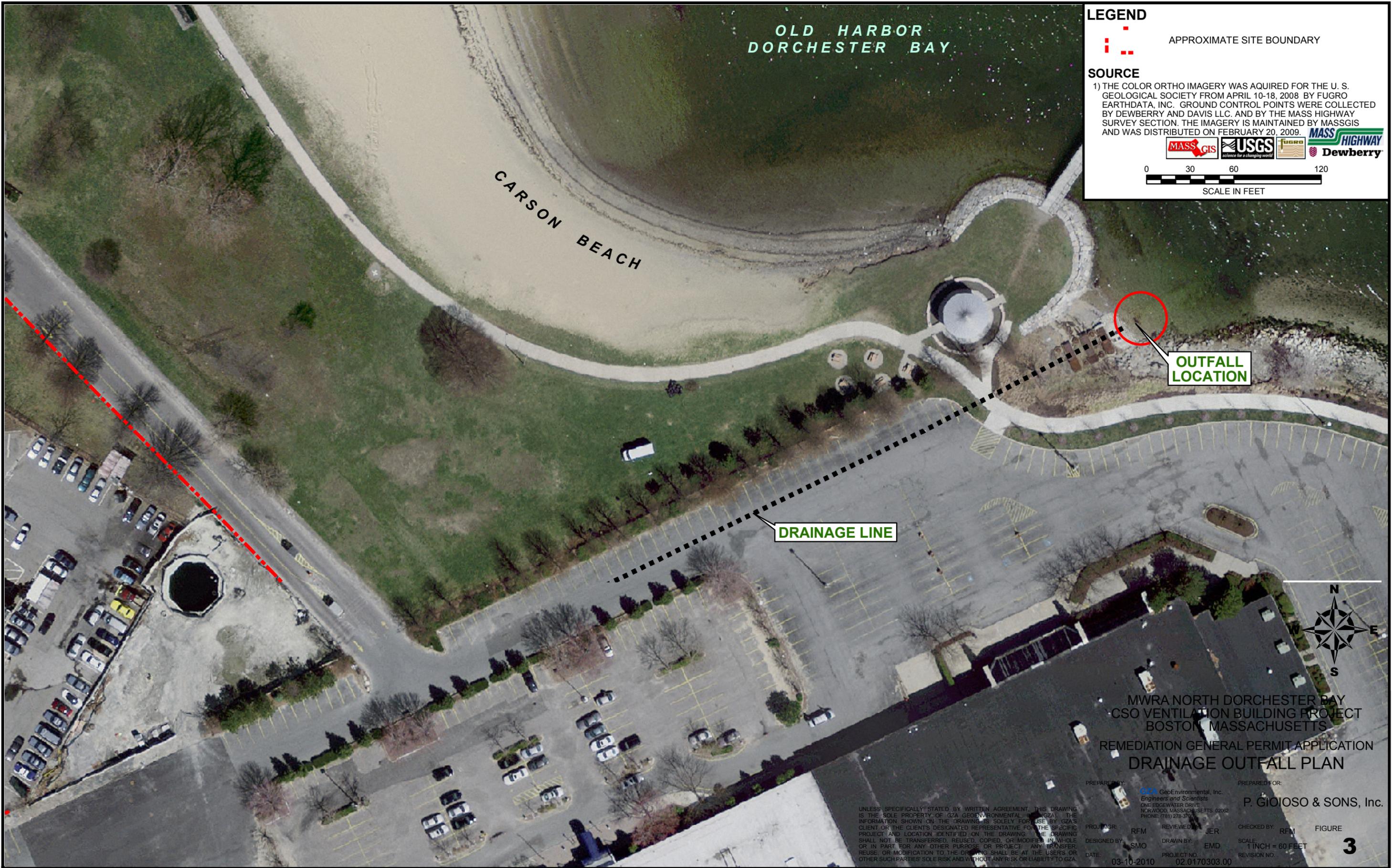
NO.	ISSUE/DESCRIPTION	BY	DATE
<b>NORTH DORCHESTER BAY CSO VENTILATION BUILDING PROJECT GROUNDWATER TREATMENT SOUTH BOSTON, MASSACHUSETTS</b>			
<b>PROCESS FLOW DIAGRAM 100 GALLON PER MINUTE</b>			
<b>PREPARED BY:</b> <b>GZA GeoEnvironmental, Inc. Engineers and Scientists</b> <small>1 EDGEWATER DRIVE NORWOOD, MASSACHUSETTS 02062 (781) 278-3700</small>		<b>PREPARED FOR:</b> M.W.R.A.	
<b>PROJ MGR:</b> RFM	<b>REVIEWED BY:</b>	<b>CHECKED BY:</b> SMO	<b>FIGURE</b> <b>S-1</b> SHEET NO. 1 OF 1
<b>DESIGNED BY:</b>	<b>DRAWN BY:</b> JAH	<b>SCALE:</b>	
<b>DATE:</b> 03-03-10	<b>PROJECT NO.:</b> 170303.00	<b>REVISION NO.:</b> 0	

© 2010 - GZA GeoEnvironmental, Inc. GZA-C:\Documents and Settings\james.hurley\Desktop\Process Flow Diagram\PROCESS FLOW DIAGRAM.dwg [1x17] March 03, 2010 - 1:48pm james.hurley



K:\170303\170303-00.RFM\FIGURES\GIS\MXD\170303-00\_DRAINAGE-OUTFALL-PLAN-v1\_FIG-3.mxd

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**LEGEND**

 APPROXIMATE SITE BOUNDARY

**SOURCE**

1) THE COLOR ORTHO IMAGERY WAS ACQUIRED FOR THE U. S. GEOLOGICAL SOCIETY FROM APRIL 10-18, 2008 BY FUGRO EARTHDATA, INC. GROUND CONTROL POINTS WERE COLLECTED BY DEWBERRY AND DAVIS LLC, AND BY THE MASS HIGHWAY SURVEY SECTION. THE IMAGERY IS MAINTAINED BY MASSGIS AND WAS DISTRIBUTED ON FEBRUARY 20, 2009.



MWRA NORTH DORCHESTER BAY  
 CSO VENTILATION BUILDING PROJECT  
 BOSTON, MASSACHUSETTS  
 REMEDIATION GENERAL PERMIT APPLICATION  
 DRAINAGE OUTFALL PLAN

PREPARED BY:	GZA GeoEnvironmental, Inc. Engineers and Scientists ONE EDGEWATER DRIVE NORWOOD, MASSACHUSETTS 02062 PHONE: (781) 278-3700	PREPARED FOR:	P. GIOIOSO & SONS, Inc.
PROJECT MGR:	RFM	REVIEWED BY:	JER
DESIGNED BY:	SMO	DRAWN BY:	EMD
DATE:	03-10-2010	PROJECT NO.:	02.0170303.00
		CHECKED BY:	RFM
		SCALE:	1 INCH = 60 FEET
		REVISION NO.:	
		FIGURE:	<b>3</b>

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