

MAG-910119 - DC ✓



db <dbema@comcast.net>  
10/15/2005 10:51 AM

To GeneralPermits NPDES/R1/USEPA/US@EPA  
cc  
bcc  
Subject Remediation General Permit

Attached please find a submittal package for conversion of NPDES Exclusion Permit 02-076 (49 South Main Street, Athol, Massachusetts) to a Remediation General Permit. Thank-you.

--  
Dolores M. Branco, L.S.P., P.G.  
dbema@comcast.net  
Environmental Management Associates, Inc.  
P.O. Box 362  
Erving, MA 01344-0362  
413-498-2510 (FAX 413-498-2511)



215, RGP-NOI, 10-13-05.pdf



**ENVIRONMENTAL MANAGEMENT ASSOCIATES, INC.**

P.O. Box 362, Erving, Massachusetts 01344-0362  
Voice (413) 498-2510 • § • Fax (413) 498-2511

DC  
MAG-9/01/9

✓

October 13, 2005  
EMA Project No. 0404-215  
MADEP RTN – 2-12490  
EMA Document No. 05/000355

US Environmental Protection Agency  
RGP-NOC Processing  
Municipal Assistance Unit (CMU)  
1 Congress Street  
Boston, MA 02114-2023

Attention.: EPA-NE

**RE: 49 South Main Street, Athol, Massachusetts  
MADEP RTN 2-12490 (2-12718)  
EPA NPDES Exclusion 02-076**

The discharge will not change substantially from that reported in the initial application for NPDES Exclusion dated 14 March 2002 and submitted by Handex.

Attached please find the following electronic files:

- Remediation General Permit – Notice of Intent, including calculations
- As-Built Process and Instrumentation Diagram
- Remediation System Process Equipment Layout
- Plan showing Site Layout and approximate Discharge point
- Laboratory Report 227835

If you have any questions, or require further information, please feel free to contact me by phone at 413-498-2510, or by e-mail at dbema@comcast.net.

*Sincerely,*  
*Environmental Management Associates, Inc.*

**Dolores M. Branco, L.S.P., P.G.**  
**President, Senior Project Manager**

DMB:db

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

a) Name of facility/site: Old Country Convenience Store		Facility/site address:		
Location of facility/site: longitude: <u>72° 14' 26"</u> latitude: <u>42° 35' 33"</u>		Facility SIC code(s): 5541	Street: 49 South Main Street	
b) Name of facility/site owner: Donald Risatti		Town: Athol		
Email address of owner: drisatti@yahoo.com		State: MA	Zip: 01331	County: Worcester
Telephone No. of facility/site owner: 413-223-8116		Owner is (check one): 1. Federal _____ 2. State/Tribal _____ 3. Private <input checked="" type="checkbox"/> 4. other, if so describe:		
FAX No. of facility/site owner: 413-774-4330				
Address of owner (if different from site):		Street: 26 Bartlett Lane		
Town: Orange		State: MA	Zip: 01331	County: Franklin
c) Legal name of operator: Environmental Management Associates, Inc.		Operator telephone No.: 413-498-2510		
		Operator FAX No.: 413-498-2511 Operator email: dbema@comcast.net		
Operator contact name and title: Dolores M. Branco, LSP, PG, Senior Project Manager				
Address of operator (if different from owner):		Street: P.O. Box 362		
Town: Erving		State: MA	Zip: 01344	County: Franklin
d) Check "yes" or "no" for the following:				
1. Has a prior NPDES permit exclusion been granted for the Discharge? Yes <input checked="" type="checkbox"/> No _____, if "yes", number: 02-076				
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 _____ No <input checked="" type="checkbox"/>				
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> <p>1. site identification # assigned by state of NH or MA: 2-12490, 2-12718</p> <p>2. permit or license # assigned: W008818</p> <p>3. state agency contact information: name, location, and telephone #: Denise Child, MADEP-CERO, Worcester, MA, 508-767-2846</p>	<p>f) Is the site/facility covered by any other EPA permit, including:</p> <p>1. multi-sector storm water general permit? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>, if Y, number _____</p> <p>2. phase I or II construction storm water general permit? Y <input type="checkbox"/> N <input checked="" type="checkbox"/> if Y, number: _____</p> <p>3. individual NPDES permit? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>, if Y, number: _____</p> <p>4. any other water quality related permit? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>, if Y, number: _____</p>
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**2. Discharge information.** Please provide the following 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 style="text-align: center;">Discharge of groundwater treated by air stripping and GAC.</p>			
<p>b) Provide the following information about each discharge:</p>	<table border="1" style="width: 100%;"> <tr> <td style="width: 15%;"> <p>1) Number of discharge points:</p> <p style="text-align: center;">1</p> </td> <td> <p>2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft<sup>3</sup>/s)? Max. flow <u>0.0335</u></p> <p>Average flow <u>0.0045</u> Is maximum flow a design value? 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 style="text-align: center;">1</p>	<p>2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft<sup>3</sup>/s)? Max. flow <u>0.0335</u></p> <p>Average flow <u>0.0045</u> Is maximum flow a design value? 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 style="text-align: center;">1</p>	<p>2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft<sup>3</sup>/s)? Max. flow <u>0.0335</u></p> <p>Average flow <u>0.0045</u> Is maximum flow a design value? 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>72.2403</u> lat. <u>42.5925</u>; pt. 2: long _____ lat. _____;</p> <p>pt. 1: long _____ lat. _____; pt. 1: long _____ lat. _____; pt. 1: long _____ lat. _____;</p> <p>pt. 1: long _____ lat. _____; pt. 1: long _____ lat. _____; pt. 1: 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 <input type="checkbox"/>?</p> <p>Is discharge ongoing Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>?</p>			
<p>c) Expected dates of discharge (mm/dd/yy): start <u>04/22/2002</u> end <u>12/31/2007</u></p>			
<p>d) Please attach a line drawing or flow schematic showing water flow through the facility including:</p> <p>1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).</p>			

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 <input checked="" type="checkbox"/>	VOC Only	Primary 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)	Type of Samples (e.g. grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (µg/L)	mass (kg)	concentration (µg/L)	mass (kg)
1. Total Suspended Solids	<input checked="" type="checkbox"/>									
2. Total Residual Chlorine	<input checked="" type="checkbox"/>									
3. Total Petroleum Hydrocarbons		<input checked="" type="checkbox"/>	1	grab	8100	0.10 mg/L	6100	0.4995	6100	0.4995
4. Cyanide	<input checked="" type="checkbox"/>									
5. Benzene		<input checked="" type="checkbox"/>	1	grab	624	5.0 µg/L	460	0.0377	460	0.0377
6. Toluene		<input checked="" type="checkbox"/>	1	grab	624	5.0 µg/L	1700	0.1392	1700	0.1392
7. Ethylbenzene		<input checked="" type="checkbox"/>	1	grab	624	5.0 µg/L	130	0.0106	130	0.0106
8. (m,p,o) Xylenes		<input checked="" type="checkbox"/>	1	grab	624	5.0 µg/L	1380	0.1130	1380	0.1130
9. Total BTEX <sup>4</sup>		<input checked="" type="checkbox"/>	1	grab	624	5.0 µg/L	3670	0.3005	3670	0.3005

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1-min)	Type of Samples (e.g. grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (µg/L)	mass (kg)	concentration (µg/L)	mass (kg)
10. Ethylene Dibromide <sup>5</sup> (1,2-Dibromo-methane)		✓	1	grab	8011	0.020 µg/L	2.7	0.0002	2.7	0.0002
11. Methyl-tert-Butyl Ether (MTBE)		✓	1	grab	624	5.0 µg/L	330	0.0270	330	0.0270
12. tert-Butyl Alcohol (TBA)	✓									
13. tert-Amyl Methyl Ether (TAME)	✓									
14. Naphthalene	✓									
15. Carbon Tetrachloride	✓									
16. 1,4-Dichlorobenzene	✓		1	grab	624	5.0 µg/L	0	0	0	0
17. 1,2-Dichlorobenzene	✓		1	grab	624	5.0 µg/L	0	0	0	0
18. 1,3-Dichlorobenzene	✓		1	grab	624	5.0 µg/L	0	0	0	0
19. 1,1-Dichloroethylene	✓									
20. 1,2-Dichloroethane	✓									
21. 1,1-Dichloroethylene	✓									
22. cis-1,2-Dichloroethylene	✓									
23. Dichloromethane (Methylene Chloride)	✓									
24. Tetrachloroethylene	✓									

<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-min)	Type of Samples (e.g. grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (µg/L)	mass (kg)	concentration (µg/L)	mass (kg)
25. 1,1,1-Trichloroethane	✓									
26. 1,1,2-Trichloroethane	✓									
27. Trichloroethylene	✓									
28. Vinyl Chloride	✓									
29. Acetone	✓									
30. 1,4-Dioxane	✓									
31. Total Phenols	✓									
32. Pentachlorophenol	✓									
33. Total Phthalates <sup>6</sup> (Phthalate esters)	✓									
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	✓									
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	✓									
a. Benzo(a) Anthracene	✓									
b. Benzo(a) Pyrene	✓									
c. Benzo(b) Fluoranthene	✓									
d. Benzo(k) Fluoranthene	✓									
e. Chrysene	✓									

<sup>6</sup> Sum of individual phthalate compounds..

PARAMETER	Believe Absent	Believe Present	# of Samples (1-min)	Type of Samples (e.g. grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (µg/L)	mass (kg)	concentration (µg/L)	mass (kg)
f. Dibenzo(a,h) anthracene	✓									
g. Indeno(1,2,3-cd) Pyrene	✓									
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	✓									
h. Acenaphthene	✓									
i. Acenaphthylene	✓									
j. Anthracene	✓									
k. Benzo(ghi) Perylene	✓									
l. Fluoranthene	✓									
m. Fluorene	✓									
n. Naphthalene	✓									
o. Phenanthrene	✓									
p. Pyrene	✓									
37. Total Polychlorinated Biphenyls (PCBs)	✓									
38. Antimony	✓									
39. Arsenic	✓									
40. Cadmium	✓									
41. Chromium III	✓									
42. Chromium VI	✓									

PARAMETER	Believe Absent	Believe Present	# of Samples (1-min)	Type of Samples (e.g. grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (µg/L)	mass (kg)	concentration (µg/L)	mass (kg)
43. Copper	✓									
44. Lead		✓	1	grab	6010B	5.0	27	0.0022	27	0.0022
45. Mercury	✓									
46. Nickel	✓									
47. Selenium	✓									
48. Silver	✓									
49. Zinc	✓									
50. Iron	✓									
Other (describe):										

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

<p>Step 1: 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? Lead</p>
<p>Step 2: 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 the applicable metals?  Metals: <u>Lead</u>  DF: <u>461</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 type="checkbox"/> N <input checked="" type="checkbox"/> If "Yes", list which metals:</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) Identify each applicable treatment unit (check all that apply):	Frac. Tank	Air Stripper <input checked="" type="checkbox"/>	Oil/water separator <input checked="" type="checkbox"/>	Equilization tanks	Bag filter <input checked="" type="checkbox"/>	GAC filter <input checked="" type="checkbox"/>
	Chlorination	Dechlorination	Other (please describe):			
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 <u>2</u> Maximum flow rate of treatment system <u>10</u> Design flow rate of treatment system <u>15</u>						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets): <span style="float: right;">none</span>						

**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 from treatment system directly to onsite catch basin, final discharge to the Millers River.						
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 B</u>						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water <u>13.8</u> 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   
Has any consultation with the federal services been completed? Yes \_\_\_ 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

**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.

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: Old Country Convenience Store

Operator signature:

  
Dolores M. Branco, LSP, PG,

Title: Senior Project Manager

Date: 10/13/2005

Calculation of Dilution Factor for the Metal Lead

$$DF = (Qd + Qs)/Qd$$

Where:

DF = Dilution Factor

Qd = Maximum flow rate of the discharge in cubic feet per second (cfs)

Qs = Receiving Water 7Q10 flow in cfs

Data used:

Qd = 0.03 cfs (15 gpm\*0.00223)

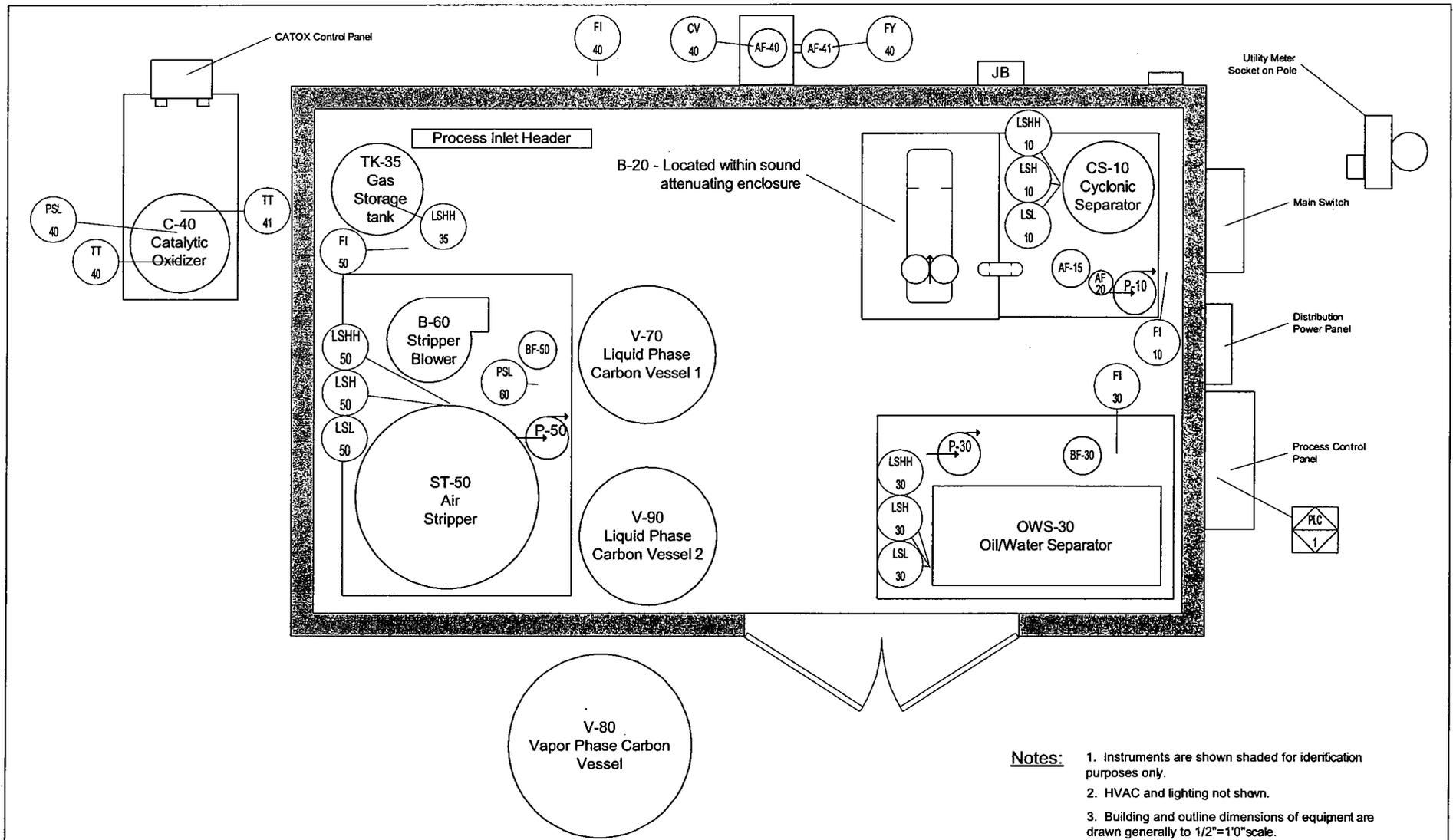
Qs = 13.8 (provided by USGS, STREAMSTATS)

$$DF = (0.03 \text{ cfs} + 13.8 \text{ cfs}) / 0.03 \text{ cfs}$$

$$DF = 461.00$$

Referring to Appendix IV of the RGP, a Dilution Range >100 for the metal lead results in an effluent limitation of 132  $\mu\text{g/L}$ .

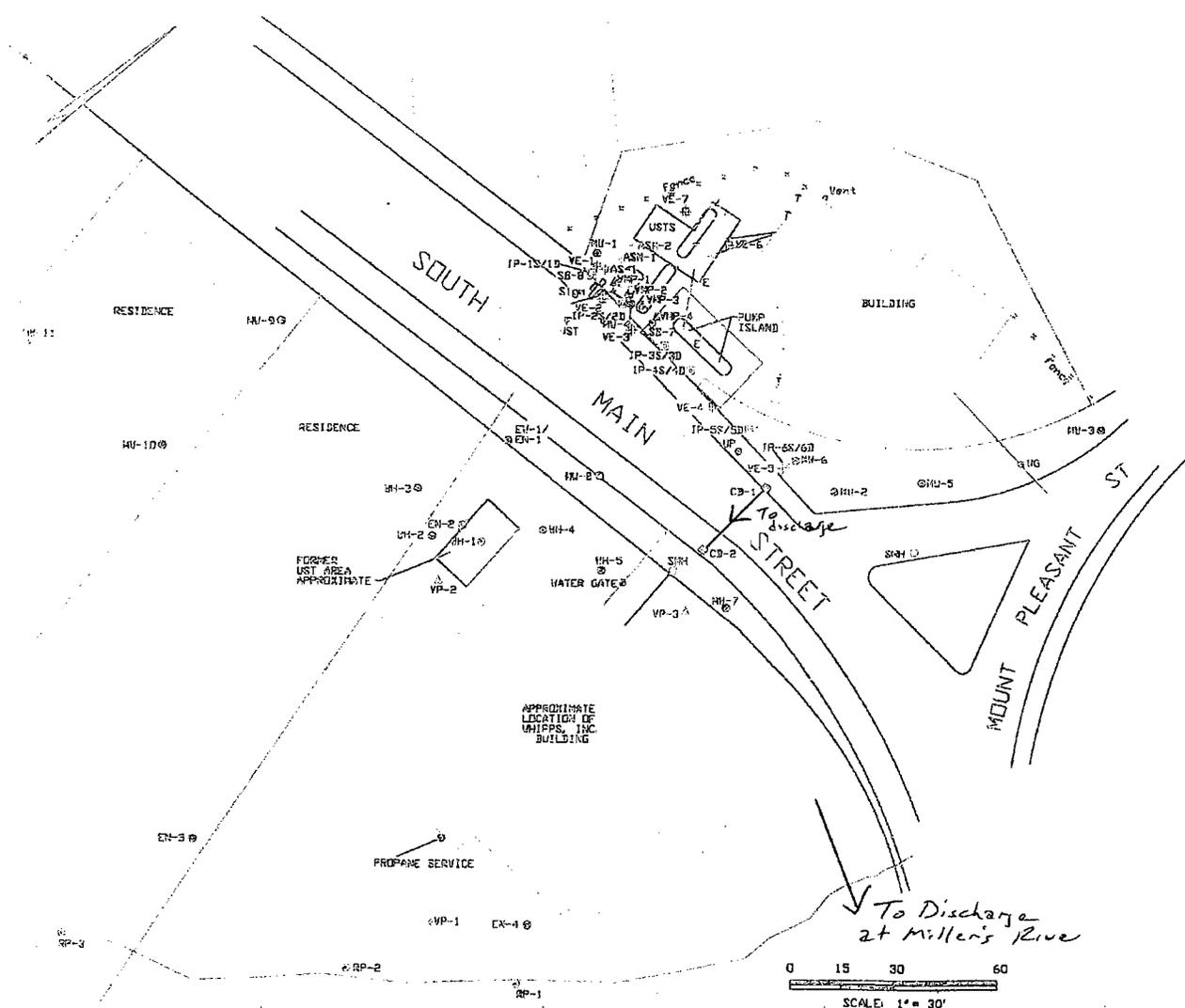




- Notes:**
1. Instruments are shown shaded for identification purposes only.
  2. HVAC and lighting not shown.
  3. Building and outline dimensions of equipment are drawn generally to 1/2"=1'0" scale.

Drawing Revision Record			
Rev.	Date	Description	By

Drawing No - PI-102
Description - Remediation System Process Equipment Layout
Drawn By - JB
Approved By - JB
Date - Apr 20, 2005
Scale - 1/2" = 1'0"
File Name - A:\Info\System\A\dwg\1.vsd



- LEGEND
- MU-1 ⊗ MONITORING WELL
  - EN-1 ⊗ EXISTING MONITORING BY 'ENSTRAT'
  - MH-5 ⊗ EXISTING MONITORING BY 'DIO ASSOCIATES, INC.'
  - EN-2 ⊗ DESTROYED MONITORING WELL
  - SB-1 ⊗ SOIL BORING
  - AS-1 ⊗ AIR SPARGE WELL
  - IP-1S/1D ⊗ INJECTION POINT
  - VE-1 ⊗ VAPOR EXTRACTION WELL
  - VP-2 ⊗ VERTICAL PROFILE WELL
  - VMP-2 ⊗ VAPOR MONITORING POINT
  - RP-3 ⊗ RIVER SAMPLE POINT
  - CB-2 ⊗ CATCH BASIN
  - UP ⊗ UTILITY POLE
  - SMH ⊗ SEWER MANHOLE
  - WG ⊗ WATER GATE VALVE
  - W --- WATER LINE APPROX
  - P --- PRODUCT LINE APPROX
  - E --- ELECTRIC LINE APPROX
  - T --- TELEPHONE LINE APPROX
  - PROPERTY BOUNDARY APPROX
  - SITE PROPERTY BOUNDARY APPROX

NOTE:  
 ALL LOCATIONS ARE APPROXIMATE BASED ON TOWN OF ATHOLS ASSESSOR'S MAPS, MASS STATE HIGHWAY PLAN OF 1929, ALSO FIELD TAPING AND LEVEL SURVEY.

*Taken from Plan prepared by Handex and dated 12 February 2003.*

SEVERN  
TRENT

STL

STL Westfield  
53 Southampton Road  
Westfield, MA 01085

Tel: 413 572 4000 Fax: 413 572 3707  
www.stl-inc.com

Dolores Branco  
Environmental Management Associates, Inc  
P.O Box 362  
Erving, MA 01344-0362

07/29/2005

Report Number: 227835

Dear Dolores Branco,

The analysis of your sample(s) submitted on 07/27/2005 is now complete and the appropriate analytical report is enclosed. The samples were prepared and analyzed according to established methodologies and protocols. All holding times were met for the methods performed on these samples, unless otherwise noted in the report's case narrative.

If you have any questions regarding this report, please contact your Project Manager, Tim D. Knollmeyer.

For questions, concerns or comments regarding our service, please do not hesitate to contact me directly. Thank you for selecting STL Westfield, and we look forward to working with you on future projects.

Steven C. Hartmann  
Laboratory Director  
STL WESTFIELD

Technical Review: CFR 7/29/05

Total number of pages in this report: 12

CASE NARRATIVE FOR REPORT NUMBER: 227835

Client Name : Environmental Management Associates, Inc.

Project Name: D & M Athol

Date : 7/29/05

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227835-2 Sample does not match anything in our reference library. Sample has an unmatched hydrocarbon range of C9-C20.

**SAMPLE INFORMATION**

Date: 07/29/2005

Job Number.: 227835

Customer...: Environmental Management Associates, Inc

Attn.....: Dolores Branco

Project Number.....: 20002945

Customer Project ID....: LABORATORY ANALYSIS

Project Description....: Laboratory Analysis

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
227835-1	EFF-1	Water	07/27/2005	19:53	07/27/2005	21:37
227835-2	INF-1	Water	07/27/2005	19:59	07/27/2005	21:37

**LABORATORY TEST RESULTS**

Job Number: 227835

Date: 07/29/2005

CUSTOMER: Environmental Management Associates, Inc PROJECT: LABORATORY ANALYSIS

ATTN: Dolores Branco

Customer Sample ID: EFF-1  
 Date Sampled.....: 07/27/2005  
 Time Sampled.....: 19:53  
 Sample Matrix.....: Water

Laboratory Sample ID: 227835-1  
 Date Received.....: 07/27/2005  
 Time Received.....: 21:37

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	REPORTING LIMIT	UNITS	DATE	TECH
SW846 6010B	Metals Analysis (ICP) Lead (Pb)	27		5.0	ug/L	07/28/05	rac
SW846 8011	GC-Microextraction Microextraction	Complete			Text	07/28/05	saz
SW846 8100 (M)	SW846 8100 (M) Fingerprint						
	Creosote	ND	U	0.10	mg/L	07/28/05	baf
	Kerosene (C9-C22)	ND	U	0.10	mg/L	07/28/05	baf
	Fuel Oil #2 (C9-C25)	ND	U	0.10	mg/L	07/28/05	baf
	Fuel Oil #4 (C9-C36)	ND	U	0.10	mg/L	07/28/05	baf
	Fuel Oil #6 (C9-C36)	ND	U	0.10	mg/L	07/28/05	baf
	Hydraulic Fluid	ND	U	0.10	mg/L	07/28/05	baf
	Jet Fuel	ND	U	0.10	mg/L	07/28/05	baf
	Mineral Spirits	ND	U	0.10	mg/L	07/28/05	baf
	Motor Oil (C9-C36)	ND	U	0.10	mg/L	07/28/05	baf
	MODF (C14-C28)	ND	U	0.10	mg/L	07/28/05	baf
	Unmatched Hydrocarbons	ND	U	0.10	mg/L	07/28/05	baf
SW846 8011	GC Micro-Extractable Volatiles						
	1,2-Dibromoethane (EDB)	ND	U	0.020	ug/L	07/28/05	saz
	1,2-Dibromo-3-chloropropane (DBCP)	ND	U	0.020	ug/L	07/28/05	saz
EPA 624	Volatile Organics						
	Methyl-tert-butyl-ether (MTBE)	ND	U	5.0	ug/L	07/28/05	blw
	Benzene	ND	U	5.0	ug/L	07/28/05	blw
	Toluene	ND	U	5.0	ug/L	07/28/05	blw
	Chlorobenzene	ND	U	5.0	ug/L	07/28/05	blw
	Ethylbenzene	ND	U	5.0	ug/L	07/28/05	blw
	1,3-Dichlorobenzene	ND	U	5.0	ug/L	07/28/05	blw
	1,4-Dichlorobenzene	ND	U	5.0	ug/L	07/28/05	blw
	1,2-Dichlorobenzene	ND	U	5.0	ug/L	07/28/05	blw
	m&p-Xylenes	ND	U	5.0	ug/L	07/28/05	blw
	o-Xylene	ND	U	5.0	ug/L	07/28/05	blw

\* In Description = Dry Wgt.



**STL**

MADEP MA014  
 RIDOH57  
 CTDPH 0494  
 VT DECWSD  
 NH DES 253903-A

NELAP FL E87912 TOX  
 NELAP NJ MA008 TOX  
 NELAP NY 10843  
 NY DOH 10843



STL Westfield  
 53 Southampton Rd.  
 Westfield, MA 01085  
 Tel: (413) 572-4000  
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STL Billerica-Service Center  
 148 Rangeway Rd.  
 N. Billerica, MA 01862  
 Tel: (978) 667-1400  
 Fax: (978) 667-7871

**LABORATORY TEST RESULTS**

Job Number: 227835

Date: 07/29/2005

CUSTOMER: Environmental Management Associates, Inc PROJECT: LABORATORY ANALYSIS

ATTN: Dolores Branco

Customer Sample ID: INF-1  
Date Sampled.....: 07/27/2005  
Time Sampled.....: 19:59  
Sample Matrix.....: Water

Laboratory Sample ID: 227835-2  
Date Received.....: 07/27/2005  
Time Received.....: 21:37

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	REPORTING LIMIT	UNITS	DATE	TECH
SW846 6010B	Metals Analysis (ICP) Lead (Pb)	19		5.0	ug/L	07/28/05	rac
SW846 8011	GC-Microextraction Microextraction	Complete			Text	07/28/05	saz
SW846 8100 (M)	SW846 8100 (M) Fingerprint Creosote	ND	U	0.10	mg/L	07/28/05	baf
	Kerosene (C9-C22)	ND	U	0.10	mg/L	07/28/05	baf
	Fuel Oil #2 (C9-C25)	ND	U	0.10	mg/L	07/28/05	baf
	Fuel Oil #4 (C9-C36)	ND	U	0.10	mg/L	07/28/05	baf
	Fuel Oil #6 (C9-C36)	ND	U	0.10	mg/L	07/28/05	baf
	Hydraulic Fluid	ND	U	0.10	mg/L	07/28/05	baf
	Jet Fuel	ND	U	0.10	mg/L	07/28/05	baf
	Mineral Spirits	ND	U	0.10	mg/L	07/28/05	baf
	Motor Oil (C9-C36)	ND	U	0.10	mg/L	07/28/05	baf
	MODF (C14-C28)	ND	U	0.10	mg/L	07/28/05	baf
	Unmatched Hydrocarbons	6.1		0.10	mg/L	07/28/05	baf
SW846 8011	GC Micro-Extractable Volatiles 1,2-Dibromoethane (EDB)	2.7		0.20	ug/L	07/28/05	saz
	1,2-Dibromo-3-chloropropane (DBCP)	ND	U	0.020	ug/L	07/28/05	saz
EPA 624	Volatile Organics Methyl-tert-butyl-ether (MTBE)	330		250	ug/L	07/28/05	blw
	Benzene	460		250	ug/L	07/28/05	blw
	Toluene	1700		250	ug/L	07/28/05	blw
	Chlorobenzene	ND	U	250	ug/L	07/28/05	blw
	Ethylbenzene	130	J	250	ug/L	07/28/05	blw
	1,3-Dichlorobenzene	ND	U	250	ug/L	07/28/05	blw
	1,4-Dichlorobenzene	ND	U	250	ug/L	07/28/05	blw
	1,2-Dichlorobenzene	ND	U	250	ug/L	07/28/05	blw
	m&p-Xylenes	870		250	ug/L	07/28/05	blw
	o-Xylene	510		250	ug/L	07/28/05	blw

\* In Description = Dry Wgt.



MADEP MA014  
RIDOH57  
CTDPH 0494  
VT DECWSD  
NH DES 253903-A

NELAP FL E87912 TOX  
NELAP NJ MA008 TOX  
NELAP NY 10843  
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Job Number: 227835

LABORATORY CHRONICLE

Date: 07/29/2005

CUSTOMER: Environmental Management Associates, Inc PROJECT: LABORATORY ANALYSIS ATTN: Dolores Branco

Lab ID: 227835-1		Client ID: EFF-1		Date Recvd: 07/27/2005		Sample Date: 07/27/2005		
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION	
3010A	Acid Digestion, Total (ICP)	1	47557			07/28/2005 0000		
SW846 3510C	Extraction Sep. Funnel (Diesel)	1	47580			07/28/2005 0000		
SW846 8011	GC Micro-Extractable Volatiles	1	47568			07/28/2005 0926		
SW846 8011	GC-Microextraction	1	47567			07/28/2005 0730		
SW846 6010B	Metals Analysis (ICP)	1	47638	47557		07/28/2005 1923		
SW846 8100 (M)	SW846 8100 (M) Fingerprint	1	47581	47580		07/28/2005 0904		
EPA 624	Volatile Organics	1	47589			07/28/2005 1135		1

Lab ID: 227835-2		Client ID: INF-1		Date Recvd: 07/27/2005		Sample Date: 07/27/2005		
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION	
3010A	Acid Digestion, Total (ICP)	1	47557			07/28/2005 0000		
SW846 3510C	Extraction Sep. Funnel (Diesel)	1	47580			07/28/2005 0000		
SW846 8011	GC Micro-Extractable Volatiles	1	47568			07/28/2005 0936		1
SW846 8011	GC Micro-Extractable Volatiles	1	47568			07/28/2005 1003		10
SW846 8011	GC-Microextraction	1	47567			07/28/2005 0730		
SW846 6010B	Metals Analysis (ICP)	1	47638	47557		07/28/2005 1929		
SW846 8100 (M)	SW846 8100 (M) Fingerprint	1	47581	47580		07/28/2005 0947		
EPA 624	Volatile Organics	1	47589			07/28/2005 1113		50

Job Number.: 227835

SURROGATE RECOVERIES REPORT

Report Date.: 07/29/2005

CUSTOMER: Environmental Management Associates, Inc PROJECT: LABORATORY ANALYSIS

ATTN: Dolores Branco

Method.....: Volatile Organics  
Batch(s).....: 47589

Method Code...: 624  
Test Matrix...: Water

Prep Batch....:  
Equipment Code: VHPMS1

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
LCD			07/28/2005	101.2	100.5	101.7	99.8
LCS			07/28/2005	100.5	99.0	102.0	101.2
MB			07/28/2005	94.8	97.0	101.2	100.8
227835- 1		EFF-1	07/28/2005	95.3	97.2	102.6	100.7
227835- 2		INF-1	07/28/2005	94.5	96.5	102.4	100.6

Test	Test Description	Limits
12DCED	1,2-Dichloroethane-d4 (surr)	70.0 - 130.
BRFLBE	4-Bromofluorobenzene (surr)	70.0 - 130.
DBRFLM	Dibromofluoromethane (surr)	70.0 - 130.
TOLD8	Toluene-d8 (surr)	70.0 - 130.

Job Number.: 227835

SURROGATE RECOVERIES REPORT

Report Date.: 07/29/2005

CUSTOMER: Environmental Management Associates, Inc PROJECT: LABORATORY ANALYSIS

ATTN: Dolores Branco

Method.....: SW846 8100 (M) Fingerprint  
Batch(s).....: 47581

Method Code...: 8100  
Test Matrix...: Water

Prep Batch....: 47580  
Equipment Code:

Lab ID	DT	Sample ID	Date	OTERPH
LCD			07/28/2005	65.9
LCS			07/28/2005	62.9
MB			07/28/2005	81.9
227835- 1		EFF-1	07/28/2005	59.9
227835- 2		INF-1	07/28/2005	43.2

Test	Test Description	Limits
OTERPH	o-Terphenyl (surr)	40.0 - 140.

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 07/29/2005

STL WESTFIELD is part of Severn Trent Laboratories, Inc. Visit us at [www.stl-inc.com](http://www.stl-inc.com).

LABORATORY CERTIFICATIONS:

MADEP MA014, NY NELAC 10843, NJ NELAC MA008 (TOX), FL NELAC E87912 (TOX), CT DPH 0494, NY DOH 10843, NH DES 253901-A, VT DECWSD, RI DOH 57.

LOCATION:

STL Westfield: 53 Southampton Rd, Westfield, MA 01085. Phone: (413) 572-4000 Fax: (413) 572-3707

STL Service Center: 148 Rangeway Rd. N. Billerica, MA 01862. Phone: (978) 667-1400 Fax: (978) 667-7871

DATA REPORTING QUALIFIERS AND TERMINOLOGY:

A number of data qualifiers are widely used within the environmental testing industry and may be utilized in our data reports. The majority of the qualifiers have evolved from the EPA Contract Laboratory Program (CLP).

REPORT COMMENTS:

All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Soil, sediment and sludge sample results are reported on a "dry weight" basis.

Reporting limits are adjusted for sample size used, dilutions and moisture content, if applicable.

The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert.ID# 10843.

According to 40CFR Part 136.3, pH, Total Residual Chlorine and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field analyses, they were not analyzed immediately, but as soon as possible on laboratory receipt.

Analytical result(s) reported as "ND" and/or "U", indicates the analyte was analyzed for but "Not Detected." Analytical result(s) reported as "TNTC" indicates that the microbiological test was "Too Numerous To Count."

GLOSSARY OF QUALIFIERS:

Inorganic Qualifiers (Q-column):

- U Indicates that the analyte was analyzed for but not detected.
- E Indicates an estimated value due to the presence of interference. When applied to GFAA analysis, indicates the one-point method of addition recovered between 40-85 percent.
- B Indicates an estimated result value. The result was measured between the reporting limit and the method detection limit (MDL).
- H Indicates the compound/element was found in both the sample and its associated laboratory blank. Indicates possible/probable blank contamination.

Organic Qualifiers (Q-column):

- U Indicates that the compound was analyzed for but not detected.
- J Indicates an estimated result value. This qualifier is used when mass spectral data indicated the presence of a compound that meets the identification criteria and the result is less than the specified quantitation limit, but greater than the method detection limit (MDL).
- B Indicates that the compound was found in both the sample and its associated laboratory blank. Indicates possible/probable blank contamination and warns the data user to exercise caution when applying the results to this compound.
- D Indicates all compounds identified in an analysis at a secondary dilution factor.
- E Indicates that the compound in an analysis has exceeded the instrument linear calibration range.

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 07/29/2005

GLOSSARY OF TERMS:

**Surrogates (Surrogate Standards):** An organic compound, which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but are not normally found in environmental samples. For semi-volatiles and pesticides/Arochlors, surrogate compounds are added to every blank, sample, matrix spike, matrix spiked duplicate, matrix spike blank (LCS), and standard. These compounds are used to evaluate analytical efficiency by measuring recovery. Poor surrogate recovery may indicate a problem with the sample composition.

**Internal Standard:** An organic compound, which is similar to the target analyte(s) in chemical composition and behavior in the analytical process. For GC/MS semi-volatiles and volatiles, internal standards are added to every blank, sample, matrix spike, matrix spike duplicate, matrix spike blank (LCS), and standard. Internal standard responses outside of established limits will adversely affect the quantitation and final concentration of target compounds.

**Matrix Spike (MS):** An aliquot of a sample (water or soil) fortified (spiked) with known quantities of specific compounds (target analytes) and subjected to the entire analytical procedure in order to indicate the appropriateness of the method for matrix interference by measuring recovery. The spiking occurs prior to sample preparation and analysis. Poor spike recovery may indicate a problem with the sample composition.

**Laboratory Control Sample (LCS):** An aliquot of analyte-free reagent water or sand fortified (spiked) with known quantities of specific compounds (target analytes) and subjected to the entire analytical procedure in order to indicate the appropriateness of the method efficiency.

**Blank:** An artificial sample of analyte-free water or solvent, designed to monitor the introduction of contaminants into the analytical process.

**Method Detection Limit (MDL):** The minimum concentration of an analyte or compound that can be measured and reported with 99% confidence that the result concentration is greater than zero.

**Petroleum Hydrocarbon Comments:**

The following comments are specific to Diesel Range Organics (DRO), by GC/FID:

Results for DRO are based on chromatographable portions of the petroleum product. The Carbon Range refers to the approximate chromatographic region covered by the specified petroleum product in straight-chain carbon units between C9-C36.

Quantitation is based on the average response factors for a series of hydrocarbons standards. The sample result from the DRO fraction is independent of the target compound assignment.

Samples yielding chromatographic patterns that do not agree with any of the method targets are reported as "unmatched".

rpjsckl		Job Sample Receipt Checklist Report		V2
Job Number.: 227835	Location.: 57345	Check List Number.: 1	Description.:	Date of the Report...: 07/27/2005
Customer Job ID.....:		Job Check List Date.:		Project Manager.....: tdk
Project Number.: 20002945	Project Description.: Laboratory Analysis			
Customer.....: Environmental Management Associates, Inc	Contact.:	Dolores Branco		
Questions ?	(Y/N)	Comments		
Chain-of-Custody Present?.....	Y			
...If "yes", completed properly?.....	Y			
Custody seal on shipping container?.....	N			
...If "yes", custody seal intact?.....				
Custody seals on sample containers?.....	N			
...If "yes", custody seal intact?.....				
Samples iced?.....	Y			
Temperature of cooler acceptable? (4 deg C +/- 2).	N			
...Temperature at receipt_____		14.4 C		
Samples received intact (good condition)?.....	Y			
Volatile samples acceptable? (no headspace).....	Y			
Is a Trip Blank required?.....				
Was a Trip Blank provided?.....	N			
Correct containers used?.....	Y			
Adequate sample volume provided?.....	Y			
Samples preserved correctly?.....	Y			
Samples received within holding-time?.....	Y			
Agreement between COC and sample labels?.....	Y			
Comments.....		client dropoff		
If samples were shipped was there an air bill #?..				
Sample Custodian Signature/Date.....		kar 07272005	<i>WAM 7/27/05</i>	
This is Page 1(A)				

