MAG910175
DC

## 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 **facility/site:** F.L. Roberts + Company, Inc. | | **Facility/site** address: | | |
| Location of **facility/site:** longitude: 72°32'08" latitude: 42°21'57" | Facility SIC code(s): 5541 | Street: 399 Northampton Road - Route 9 | | |
| b) Name of **facility/site owner:** F.L. Roberts + Company, Inc. | | Town: Amherst | | |
| Email address of owner: | | State: MA | Zip: 01002 | County: Hampshire |
| Telephone no.of facility/site **owner:** (413) 781-7444 | | **Owner** is (check one): 1. Federal____ 2. State/Tribal____ 3. Private ✓ 4. other, if so, describe: | | |
| Fax no. of facility/site **owner:** (413) 781-4328 | | | | |
| Address of **owner** (if different from site): | | | | |
| Street: 93 West Broad Street | | | | |
| Town: Springfield | State: MA | Zip: 01101 | County: Hampden | |
| c) Legal name of **operator:** Environmental Compliance Services, Inc. | | **Operator** telephone no: (413) 789-3530 | | |
| | | **Operator** fax no.: (413) 789-2776 | **Operator** email: virvine@ecsconsult.com | |
| **Operator** contact name and title: Ms. Virginia Irvine, PG, LSP - Senior Hydrogeologist | | | | |
| Address of **operator** (if different from owner): | | Street: 588 Silver Street | | |
| Town: Agawam | State: MA | Zip: 01001 | County: Hampden | |

d) Check "yes" or "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Yes ✓ No___, if "yes," number: #99-033
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes ✓ No___, if "yes," date and tracking #: Forms filed for permit exclusion
3. Is the discharge a "new discharge"as defined by 40 CFR 122.2? Yes ✓ No___
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes__ No ✓

DEC 22 2005

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes ✓ No ___
If "yes," please list:
1. site identification # assigned by the state of NH or MA: RTN # 1-687
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number: MADEP-WERO, 436 Dwight street, Springfield, MA 01103 (413) 784-1149

f) Is the site/facility covered by any other EPA permit, including:
1. multi-sector storm water general permit? Y ___ N ✓, if Y, number:
2. phase I or II construction storm water general permit? Y ___ N ✓,
if Y, number:
3. individual NPDES permit? Y ✓ N ___, if Y, number: 99-033
4. any other water quality related permit? Y ___ N ✓, if Y, number:

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

a) Describe the discharge activities for which the owner/applicant is seeking coverage: An 18-inch diameter, perforated stainless steel pipe was installed at 12 feet below grade adjacent to the foundation of the eastern corner of the building. The pipe is fitted with a float device and sump pump, connected to a liquid-phase granular activated carbon filtration system. When groundwater rises to approximately 8 feet below grade the system pumps the groundwater through the carbon to prevent infiltration in the basement of the structure and then discharges to the storm water drainag system.

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft3/s)? Max. flow 0.0015
Average flow 0.0006 Is maximum flow a **design value**? Y ___ N ✓
For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.

3) Latitude and longitude of each discharge within 100 feet: pt.1:long. 72°32'24" lat. 42°21'54"; 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.

4) If hydrostatic testing, total volume of the discharge (gals):

5) Is the discharge intermittent ✓ or seasonal ___?
Is discharge ongoing Yes ✓ No ___?

c) Expected dates of discharge (mm/dd/yy): start 10/10/98 end 11/1/10

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). see attached

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 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) |
| 1. Total Suspended Solids | ✓ | | | | | | | | | |
| 2. Total Residual Chlorine | ✓ | | | | | | | | | |
| 3. Total Petroleum Hydrocarbons | | ✓ | 12 | Grab | 8100 | 0.2 mg/L | | | <200 | NA |
| 4. Cyanide | ✓ | | | | | | | | | |
| 5. Benzene | | ✓ | 12 | Grab | 8260B | 5 ug/L | | | <1.0 | NA |
| 6. Toluene | | ✓ | 12 | Grab | 8260B | 5 ug/L | | | <1.0 | NA |
| 7. Ethylbenzene | | ✓ | 12 | Grab | 8260B | 5 ug/L | | | <1.0 | NA |
| 8. (m,p,o) Xylenes | | ✓ | 12 | Grab | 8260B | 15 ug/L | | | <3.0 | NA |
| 9. Total BTEX[4] | | ✓ | | | | | | | | |

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

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

[5] EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 min-imum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily Value | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| **25. 1,1,1 Trichloroethane** | ✓ | | | | | | | | | |
| **26. 1,1,2 Trichloroethane** | ✓ | | | | | | | | | |
| **27. Trichloroethylene** | ✓ | | | | | | | | | |
| **28. Vinyl Chloride** | ✓ | | | | | | | | | |
| **29. Acetone** | ✓ | | | | | | | | | |
| **30. 1,4 Dioxane** | ✓ | | | | | | | | | |
| **31. Total Phenols** | ✓ | | | | | | | | | |
| **32. Pentachlorophenol** | ✓ | | | | | | | | | |
| **33. Total Phthalates [6] (Phthalate esthers)** | ✓ | | | | | | | | | |
| **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** | ✓ | | | | | | | | | |

[6] The sum of individual phthalate compounds.

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 min-imum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Average daily value | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| f. Dibenzo(a,h) anthracene | ✓ | | | | | | | | | |
| 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-imum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily value | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| **43. Copper** | ✓ | | | | | | | | | |
| **44. Lead** | ✓ | | | | | | | | | |
| **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:

| | |
|---|---|
| *Step 1:* Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y____ N____ | If yes, which metals? |
| *Step 2:* For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI.<br>What is the dilution factor for applicable metals?<br>Metals:_____<br>DF: _____ | Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)?<br>Y____ N____ If "Yes," list which metals: |

DEC 22 2005

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

| | | | | | | |
|---|---|---|---|---|---|---|
| a) A description of the treatment system, including a schematic of the proposed or existing treatment system: see attached | | | | | | |
| b) Identify each applicable treatment unit (check all that apply): | Frac. tank | Air stripper | Oil/water separator | Equalization tanks | Bag filter | GAC filter ✓ |
| | Chlorination | Dechlorination | Other (please describe): | | | |
| 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 0.270 Maximum flow rate of treatment system 0.672 Design flow rate of treatment system 15 | | | | | | |
| d) A description of chemical additives being used or planned to be used (attach MSDS sheets): Biosolve (surfactant) | | | | | | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| a) Identify the discharge pathway: | Direct____ | Within facility__ | Storm drain ✓ | River/brook____ | Wetlands____ | Other (describe): |
| b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: see attached | | | | | | |
| c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:<br>1. For multiple discharges, number the discharges sequentially.<br>2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water<br>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 Class B - warm water , | | | | | | |
| e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 6.2 cfs (figure obtained from MA office of USGS and represents an estimate based on calculated 7Q10 for Mill River in Northampton<br>Please attach any calculation sheets used to support stream flow and dilution calculations. | | | | | | |
| f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes____ No ✓ If yes, for which pollutant(s)?<br>Is there a TMDL? Yes No ✓ If yes, for which pollutant(s)? | | | | | | |

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

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

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

**7. Supplemental information. :**

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

**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.*

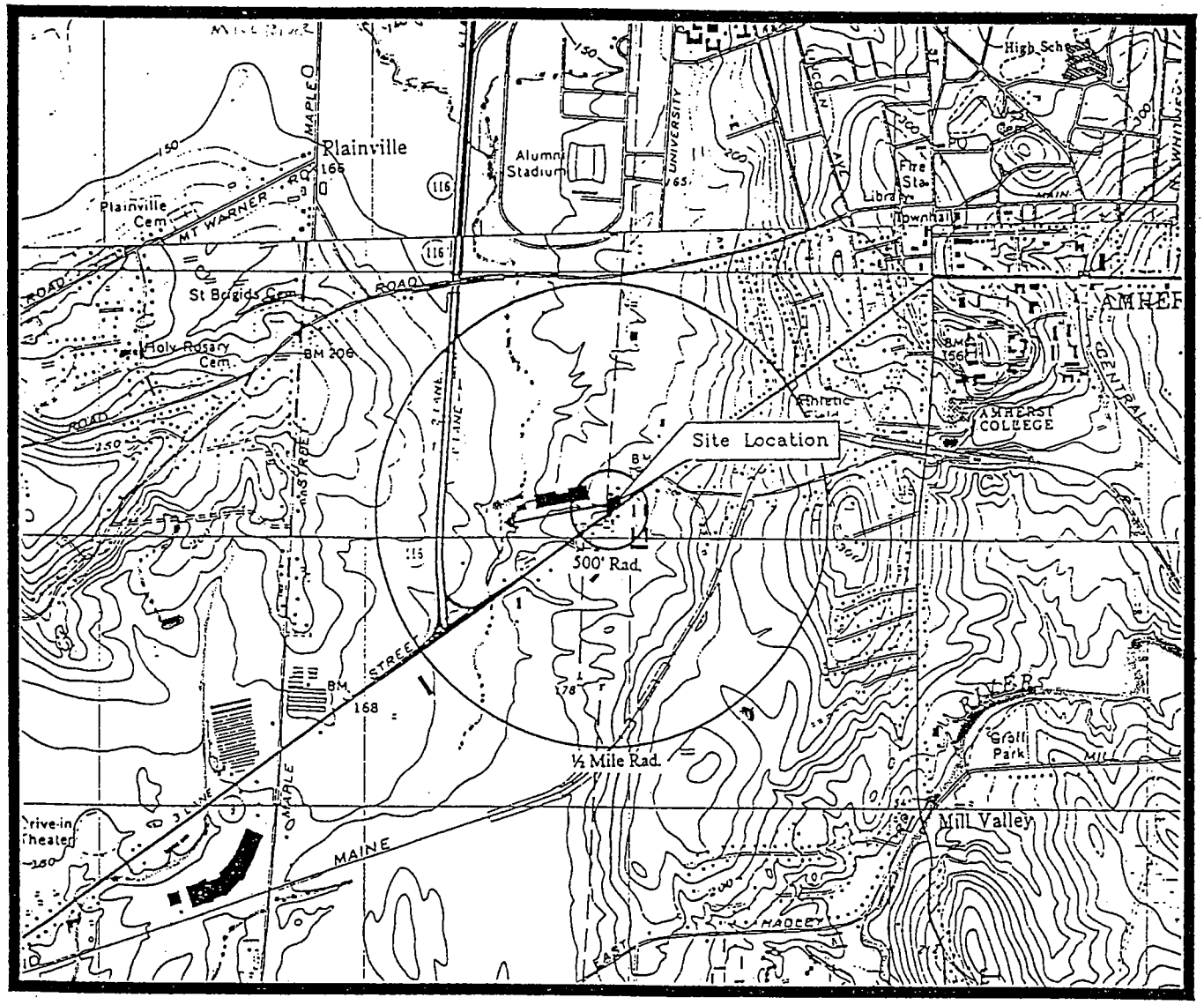
Facility/Site Name: F.L. Roberts + Company, Inc.

Operator signature: [signature] #2340

Title: Field Service Manager

Date: 11/3/05

**ENVIRONMENTAL COMPLIANCE SERVICES, INC.**
588 Silver Street * Agawam, MA 01001




Scale 1 : 25,000

1 1/2 0 1 Mile

Contour Interval 10 Feet

Base Map: U.S. Geological Survey; Quadrangle Location: Mt. Holyoke, Massachusetts

Map Edited: 1964 Photorevised: 1979 Photoinspected: None

North

# F.L. Roberts BP Station

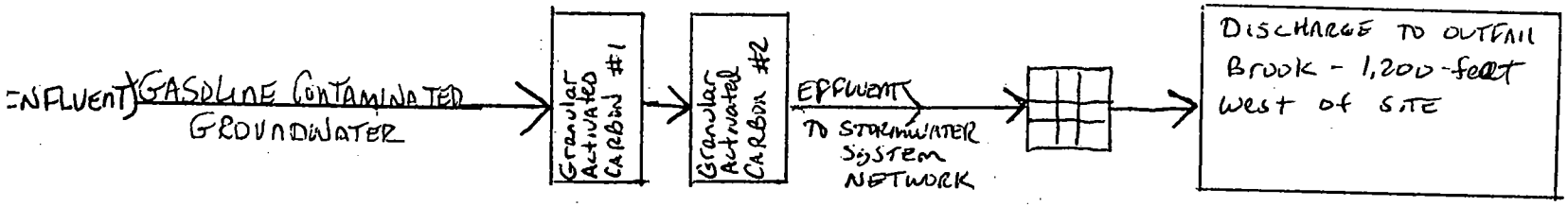
399 Northampton Rd.
Amherst, Massachusetts

AutoCAD File: L12660.DWG

# Site Locus

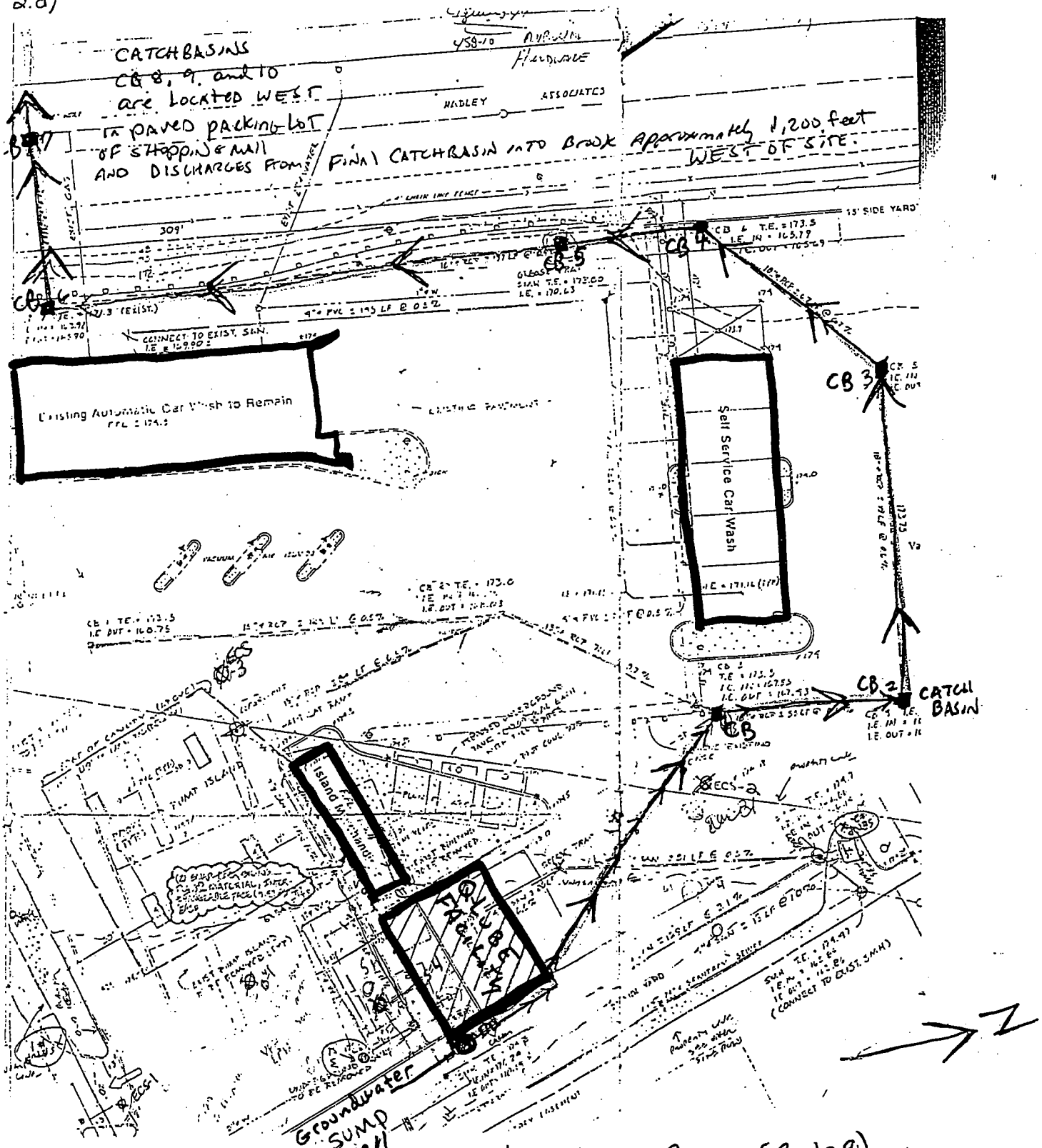
Job No.: 12660.10 Figure – 1

2.d)

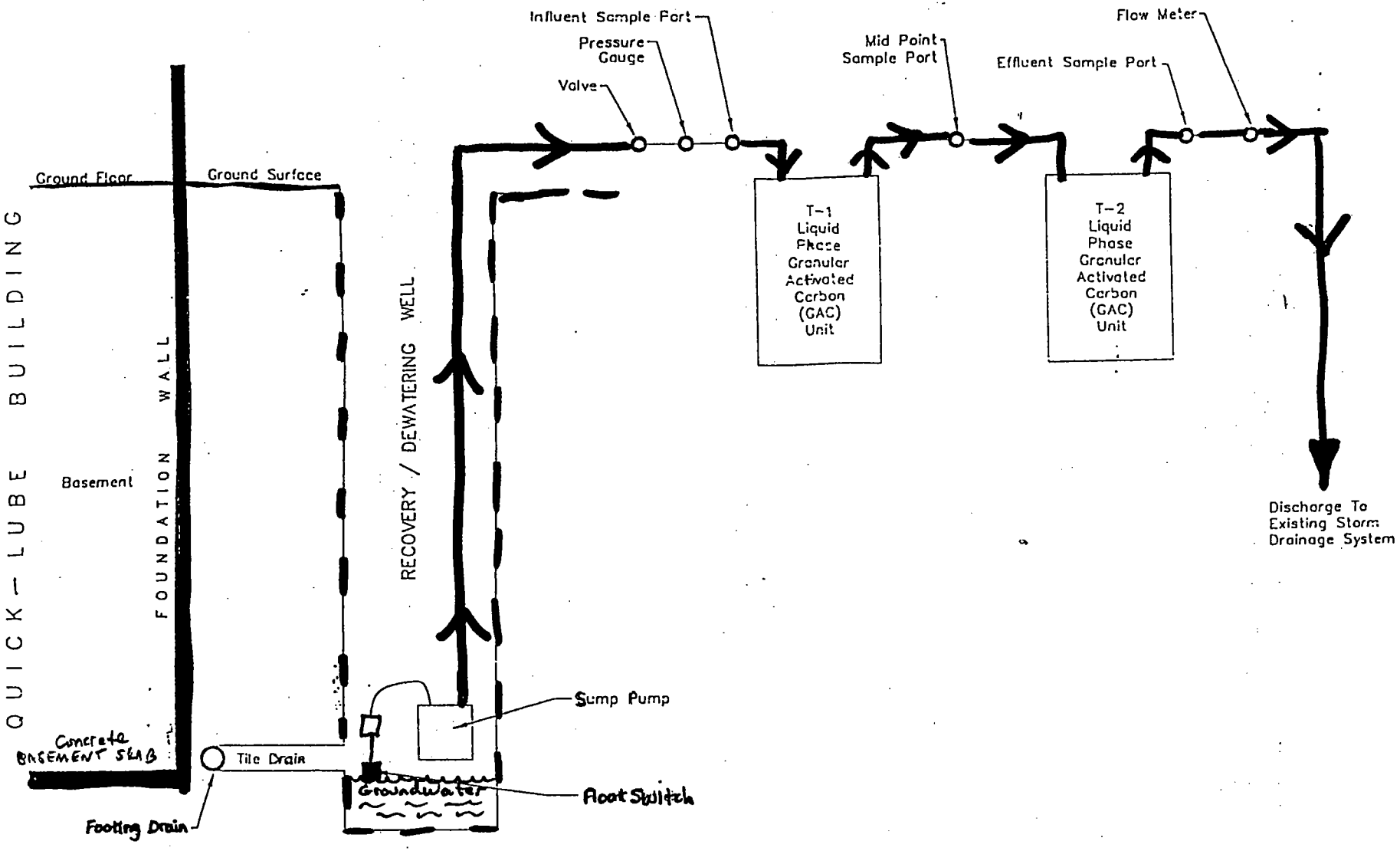



F. L. Roberts + Co. Inc.
399 Northampton Road - Route 9
Amherst, MA

2.d)




F.L. Roberts Well
399 Northampton Road (Route 9)
Amherst, MA.




ENVIRONMENTAL COMPLIANCE SERVICES, INC.
588 Silver Street • Agawam, MA 01001

REVISIONS

| No. | Date | Description |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

PROJECT:
F. L. Roberts & Co., Inc.
399 Northampton Road – Route 9
Amherst, Massachusetts

TITLE:
System Detail

COMPUTER CADFILE : S1256CRW.DWG

| DRAWN BY: | DESIGNED BY: | CHECKED BY: | APPROVED BY: |
|---|---|---|---|
| RAS | WAS | WAS | WAS |
| SCALE: | DATE: | JOB NO.: | FIGURE NO.: |
| None | Sept 1998 | J12660.15 | |

4.a). Treatment System:

The system consists of a submersible sump pump, which is controlled by a float switch. When the water table rises to the float elevation, groundwater is pumped through two, 200-pound liquid phase granular activated carbon (LPGAC) canisters (Service Tech T-1). Sample ports are located prior to the first canister, at the midpoint, and at the system effluent. These sample points are provided to monitor both the system efficiency and required permit guidelines.

5.b). Discharge Pathway:

Following carbon treatment, the groundwater is discharged via 2-inch Schedule 40 polyvinyl chloride (PVC) pipe to a 16-inch PVC roof-drain leader located below grade at the northern corner of the Facility. From this connection, the 16-inch PVC drain discharges to a catch basin located on the north-central portion of the Site on Town of Hadley property, east of the self-service car wash building. From this catch basin, the flow travels northerly to a second catch basin; then travels west to a third catch basin located behind the self-service car wash; then travels south-westerly to a fourth catch basin located northwest of the self-service car wash; then travels southerly along the western boundary of the Site to a fifth catch basin located between the self-service car wash and the automated car wash building; the flow continues southerly along the western boundary of the Site to a sixth catch basin located west of the southern corner of the automated car wash building; the flow then travels west to a seventh catch basin located in the parking lot of the western abutting strip mall building and continues westerly through three additional catch basins (8, 9, and 10) across the strip mall parking lot; from the tenth catch basin, the flow continues westerly and discharges into an un-named brook, which is a tributary of the Mill River in the Town of Hadley, Massachusetts.

Report Date:
21-Oct-05 12:08

☑ Final Report

SPECTRUM ANALYTICAL, INC.
*Featuring*
HANIBAL TECHNOLOGY

# *Laboratory Report*

Environmental Compliance Services
588 Silver Street
Agawam, MA 01001
Attn: Virginia Irvine

Project: FL Roberts - Amherst, MA
Project #: J12660.05

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| SA35405-01 | Inf | Ground Water | 04-Oct-05 10:38 | 04-Oct-05 16:00 |
| SA35405-02 | Mid | Ground Water | 04-Oct-05 10:34 | 04-Oct-05 16:00 |
| SA35405-03 | Eff | Ground Water | 04-Oct-05 10:35 | 04-Oct-05 16:00 |
| SA35405-04 | TB | Deionized Water | 23-Aug-05 00:00 | 04-Oct-05 16:00 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. All applicable NELAC requirements have been met.
Please note that this report contains 10 pages of analytical data including Chain of Custody document(s).
This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Massachusetts Certification # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538/2972
New York # 11393/11840
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

*Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method indicated. Please refer to our "Quality" webpage at www.spectrum-analytical.com for a full listing of our current certifications.*

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **Inf** | J12660.05 | Ground Water | 04-Oct-05 10:38 | 04-Oct-05 |
| SA35405-01 | | | | |

| CAS No. | Analyte(s) | Result | *RDL/Units | Dilution | Method Ref. | Prepared | Analyzed | Batch | Analyst | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | |
| *Volatile Organic Aromatics by SW846 8260B* | | | Prepared by method | Volatiles | | | | | | |
| 71-43-2 | Benzene | 42.4 | 20.0 µg/l | 20 | SW 846 8260B | 17-Oct-05 | 18-Oct-05 | 5101021 | RLJ | |
| 100-41-4 | Ethylbenzene | 535 | 20.0 µg/l | 20 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | 116 | 20.0 µg/l | 20 | " | " | " | " | " | |
| 108-88-3 | Toluene | 60.0 | 20.0 µg/l | 20 | " | " | " | " | " | |
| 1330-20-7 | m,p-Xylene | 1,540 | 40.0 µg/l | 20 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | 432 | 20.0 µg/l | 20 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | |
| 460-00-4 | *4-Bromofluorobenzene* | *100* | *70-130 %* | | " | " | " | " | " | |
| 2037-26-5 | *Toluene-d8* | *96.8* | *70-130 %* | | " | " | " | " | " | |
| 17060-07-0 | *1,2-Dichloroethane-d4* | *102* | *70-130 %* | | " | " | " | " | " | |
| 1868-53-7 | *Dibromofluoromethane* | *97.2* | *70-130 %* | | " | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons** | | | | | | | | | | |
| *TPH 8100 by GC* | | | Prepared by method | SW846 3535 | | | | | | |
| 8006-61-9 | Gasoline | Calculated as | 0.2 mg/l | 1 | +SW846 8100Mod. | 18-Oct-05 | 19-Oct-05 | 5101053 | LK | |
| 68476-30-2 | Fuel Oil #2 | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| 68476-31-3 | Fuel Oil #4 | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| 68553-00-4 | Fuel Oil #6 | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| M09800000 | Motor Oil | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| 8032-32-4 | Ligroin | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| J00100000 | Aviation Fuel | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| | Unidentified | 8.9 | 0.2 mg/l | 1 | " | " | " | " | " | |
| | Other Oil | Calculated as | 0.2 mg/l | 1 | " | " | " | " | " | |
| | Total Petroleum Hydrocarbons | 8.9 | 0.2 mg/l | 1 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | |
| 3386-33-2 | *1-Chlorooctadecane* | *68.9* | *40-140 %* | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **Mid**<br>SA35405-02 | J12660.05 | Ground Water | 04-Oct-05 10:34 | 04-Oct-05 |

| *CAS No.* | *Analyte(s)* | *Result* | **RDL/Units* | *Dilution* | *Method Ref.* | *Prepared* | *Analyzed* | *Batch* | *Analyst* | *Flag* |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | |
| *Volatile Organic Aromatics by SW846 8260B* | | | Prepared by method | Volatiles | | | | | | |
| 71-43-2 | Benzene | BRL | 1.0 µg/l | 1 | SW 846 8260B | 17-Oct-05 | 18-Oct-05 | 5101021 | RLJ | |
| 100-41-4 | Ethylbenzene | 1.1 | 1.0 µg/l | 1 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | 6.7 | 1.0 µg/l | 1 | " | " | " | " | " | |
| 108-88-3 | Toluene | BRL | 1.0 µg/l | 1 | " | " | " | " | " | |
| 1330-20-7 | m,p-Xylene | 3.0 | 2.0 µg/l | 1 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | 1.1 | 1.0 µg/l | 1 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | |
| 460-00-4 | *4-Bromofluorobenzene* | *98.4* | *70-130 %* | | " | " | " | " | " | |
| 2037-26-5 | *Toluene-d8* | *96.0* | *70-130 %* | | " | " | " | " | " | |
| 17060-07-0 | *1,2-Dichloroethane-d4* | *104* | *70-130 %* | | " | " | " | " | " | |
| 1868-53-7 | *Dibromofluoromethane* | *96.2* | *70-130 %* | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **Eff** | J12660.05 | Ground Water | 04-Oct-05 10:35 | 04-Oct-05 |
| SA35405-03 | | | | |

| CAS No. | Analyte(s) | Result | *RDL/Units | Dilution | Method Ref. | Prepared | Analyzed | Batch | Analyst | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | |
| *Volatile Organic Aromatics by SW846 8260B* | | | Prepared by method | Volatiles | | | | | | |
| 71-43-2 | Benzene | BRL | 1.0 µg/l | 1 | SW 846 8260B | 17-Oct-05 | 18-Oct-05 | 5101021 | RLJ | |
| 100-41-4 | Ethylbenzene | BRL | 1.0 µg/l | 1 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | BRL | 1.0 µg/l | 1 | " | " | " | " | " | |
| 108-88-3 | Toluene | BRL | 1.0 µg/l | 1 | " | " | " | " | " | |
| 1330-20-7 | m,p-Xylene | BRL | 2.0 µg/l | 1 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | BRL | 1.0 µg/l | 1 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | |
| 460-00-4 | *4-Bromofluorobenzene* | *100* | *70-130 %* | | " | " | " | " | " | |
| 2037-26-5 | *Toluene-d8* | *87.8* | *70-130 %* | | " | " | " | " | " | |
| 17060-07-0 | *1,2-Dichloroethane-d4* | *94.0* | *70-130 %* | | " | " | " | " | " | |
| 1868-53-7 | *Dibromofluoromethane* | *86.4* | *70-130 %* | | " | " | " | " | " | |
| **Extractable Petroleum Hydrocarbons** | | | | | | | | | | |
| *TPH 8100 by GC* | | | Prepared by method | SW846 3535 | | | | | | |
| 8006-61-9 | Gasoline | BRL | 0.2 mg/l | 1 | +SW846 8100Mod. | 18-Oct-05 | 19-Oct-05 | 5101053 | LK | |
| 68476-30-2 | Fuel Oil #2 | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| 68476-31-3 | Fuel Oil #4 | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| 68553-00-4 | Fuel Oil #6 | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| M09800000 | Motor Oil | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| 8032-32-4 | Ligroin | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| J00100000 | Aviation Fuel | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| | Unidentified | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| | Other Oil | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| | Total Petroleum Hydrocarbons | BRL | 0.2 mg/l | 1 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | |
| 3386-33-2 | *1-Chlorooctadecane* | *66.5* | *40-140 %* | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **TB**<br>SA35405-04 | J12660.05 | Deionized Water | 23-Aug-05 00:00 | 04-Oct-05 |

| CAS No. | Analyte(s) | Result | *RDL/Units | Dilution | Method Ref. | Prepared | Analyzed | Batch | Analyst | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | |
| *Volatile Organic Aromatics by SW846 8260B* | | | Prepared by method | Volatiles | | | | | | HT-2 |
| 71-43-2 | Benzene | BRL | 1.0 µg/l | 1 | SW 846 8260B | 17-Oct-05 | 18-Oct-05 | 5101021 | RLJ | |
| 100-41-4 | Ethylbenzene | BRL | 1.0 µg/l | 1 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | BRL | 1.0 µg/l | 1 | " | " | " | " | " | |
| 108-88-3 | Toluene | BRL | 1.0 µg/l | 1 | " | " | " | " | " | |
| 1330-20-7 | m,p-Xylene | BRL | 2.0 µg/l | 1 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | BRL | 1.0 µg/l | 1 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | |
| 460-00-4 | *4-Bromofluorobenzene* | *96.0* | *70-130 %* | | " | " | " | " | " | |
| 2037-26-5 | *Toluene-d8* | *88.2* | *70-130 %* | | " | " | " | " | " | |
| 17060-07-0 | *1,2-Dichloroethane-d4* | *92.0* | *70-130 %* | | " | " | " | " | " | |
| 1868-53-7 | *Dibromofluoromethane* | *87.6* | *70-130 %* | | " | " | " | " | " | |

## Volatile Organic Compounds - Quality Control

| Analyte(s) | Result | *RDL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 5101021 - Volatiles** | | | | | | | | | | |
| **Blank (5101021-BLK1)** | | | | Prepared: 17-Oct-05 Analyzed: 18-Oct-05 | | | | | | |
| Benzene | BRL | 1.0 | µg/l | | | | | | | |
| Ethylbenzene | BRL | 1.0 | µg/l | | | | | | | |
| Methyl tert-butyl ether | BRL | 1.0 | µg/l | | | | | | | |
| Toluene | BRL | 1.0 | µg/l | | | | | | | |
| m,p-Xylene | BRL | 2.0 | µg/l | | | | | | | |
| o-Xylene | BRL | 1.0 | µg/l | | | | | | | |
| *Surrogate: 4-Bromofluorobenzene* | *51.1* | | µg/l | *50.0* | | *102* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *50.2* | | µg/l | *50.0* | | *100* | *70-130* | | | |
| *Surrogate: 1,2-Dichloroethane-d4* | *51.6* | | µg/l | *50.0* | | *103* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *50.3* | | µg/l | *50.0* | | *101* | *70-130* | | | |
| **LCS (5101021-BS1)** | | | | Prepared: 17-Oct-05 Analyzed: 18-Oct-05 | | | | | | |
| Benzene | 20.6 | | µg/l | 20.0 | | 103 | 70-130 | | | |
| Ethylbenzene | 22.1 | | µg/l | 20.0 | | 110 | 70-130 | | | |
| Methyl tert-butyl ether | 22.8 | | µg/l | 20.0 | | 114 | 70-130 | | | |
| Toluene | 21.5 | | µg/l | 20.0 | | 108 | 70-130 | | | |
| m,p-Xylene | 43.8 | | µg/l | 40.0 | | 110 | 70-130 | | | |
| o-Xylene | 22.3 | | µg/l | 20.0 | | 112 | 70-130 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *50.0* | | µg/l | *50.0* | | *100* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *48.8* | | µg/l | *50.0* | | *97.6* | *70-130* | | | |
| *Surrogate: 1,2-Dichloroethane-d4* | *52.3* | | µg/l | *50.0* | | *105* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *51.7* | | µg/l | *50.0* | | *103* | *70-130* | | | |
| **LCS Dup (5101021-BSD1)** | | | | Prepared: 17-Oct-05 Analyzed: 18-Oct-05 | | | | | | |
| Benzene | 20.2 | | µg/l | 20.0 | | 101 | 70-130 | 1.96 | 25 | |
| Ethylbenzene | 21.3 | | µg/l | 20.0 | | 106 | 70-130 | 3.70 | 25 | |
| Methyl tert-butyl ether | 22.7 | | µg/l | 20.0 | | 114 | 70-130 | 0.00 | 25 | |
| Toluene | 21.1 | | µg/l | 20.0 | | 106 | 70-130 | 1.87 | 25 | |
| m,p-Xylene | 42.7 | | µg/l | 40.0 | | 107 | 70-130 | 2.76 | 25 | |
| o-Xylene | 21.5 | | µg/l | 20.0 | | 108 | 70-130 | 3.64 | 25 | |
| *Surrogate: 4-Bromofluorobenzene* | *49.9* | | µg/l | *50.0* | | *99.8* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *48.6* | | µg/l | *50.0* | | *97.2* | *70-130* | | | |
| *Surrogate: 1,2-Dichloroethane-d4* | *52.8* | | µg/l | *50.0* | | *106* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *51.4* | | µg/l | *50.0* | | *103* | *70-130* | | | |
| **Matrix Spike (5101021-MS1)** | **Source: SA35753-02** | | | Prepared: 17-Oct-05 Analyzed: 18-Oct-05 | | | | | | |
| Benzene | 19.4 | | µg/l | 20.0 | BRL | 97.0 | 70-130 | | | |
| Toluene | 18.5 | | µg/l | 20.0 | BRL | 92.5 | 70-130 | | | |
| Chlorobenzene | 19.7 | | µg/l | 20.0 | 0.0 | 98.5 | 70-130 | | | |
| 1,1-Dichloroethene | 20.6 | | µg/l | 20.0 | 0.0 | 103 | 70-130 | | | |
| Trichloroethene | 19.1 | | µg/l | 20.0 | 0.0 | 95.5 | 70-130 | | | |
| *Surrogate: 4-Bromofluorobenzene* | *51.0* | | µg/l | *50.0* | | *102* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *43.7* | | µg/l | *50.0* | | *87.4* | *70-130* | | | |
| *Surrogate: 1,2-Dichloroethane-d4* | *52.8* | | µg/l | *50.0* | | *106* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *49.2* | | µg/l | *50.0* | | *98.4* | *70-130* | | | |
| **Matrix Spike Dup (5101021-MSD1)** | **Source: SA35753-02** | | | Prepared: 17-Oct-05 Analyzed: 18-Oct-05 | | | | | | |
| Benzene | 21.9 | | µg/l | 20.0 | BRL | 110 | 70-130 | 12.6 | 30 | |
| Toluene | 20.1 | | µg/l | 20.0 | BRL | 100 | 70-130 | 7.79 | 30 | |
| Chlorobenzene | 22.1 | | µg/l | 20.0 | 0.0 | 110 | 70-130 | 11.0 | 30 | |
| 1,1-Dichloroethene | 23.1 | | µg/l | 20.0 | 0.0 | 116 | 70-130 | 11.9 | 30 | |
| Trichloroethene | 21.5 | | µg/l | 20.0 | 0.0 | 108 | 70-130 | 12.3 | 30 | |
| *Surrogate: 4-Bromofluorobenzene* | *50.2* | | µg/l | *50.0* | | *100* | *70-130* | | | |
| *Surrogate: Toluene-d8* | *43.8* | | µg/l | *50.0* | | *87.6* | *70-130* | | | |
| *Surrogate: 1,2-Dichloroethane-d4* | *53.0* | | µg/l | *50.0* | | *106* | *70-130* | | | |
| *Surrogate: Dibromofluoromethane* | *49.9* | | µg/l | *50.0* | | *99.8* | *70-130* | | | |

## Extractable Petroleum Hydrocarbons - Quality Control

| Analyte(s) | Result | *RDL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 5101053 - SW846 3535** | | | | | | | | | | |
| **Blank (5101053-BLK1)** | | | | Prepared: 18-Oct-05 Analyzed: 19-Oct-05 | | | | | | |
| Gasoline | BRL | 0.1 | mg/l | | | | | | | |
| Fuel Oil #2 | BRL | 0.1 | mg/l | | | | | | | |
| Fuel Oil #4 | BRL | 0.1 | mg/l | | | | | | | |
| Fuel Oil #6 | BRL | 0.1 | mg/l | | | | | | | |
| Motor Oil | BRL | 0.1 | mg/l | | | | | | | |
| Ligroin | BRL | 0.1 | mg/l | | | | | | | |
| Aviation Fuel | BRL | 0.1 | mg/l | | | | | | | |
| Unidentified | BRL | 0.1 | mg/l | | | | | | | |
| Other Oil | BRL | 0.1 | mg/l | | | | | | | |
| Total Petroleum Hydrocarbons | BRL | 0.1 | mg/l | | | | | | | |
| *Surrogate: 1-Chlorooctadecane* | *0.0300* | | mg/l | *0.0500* | | *60.0* | *40-140* | | | |
| **LCS (5101053-BS1)** | | | | Prepared: 18-Oct-05 Analyzed: 19-Oct-05 | | | | | | |
| Fuel Oil #2 | 11.0 | 0.1 | mg/l | 10.0 | | 110 | 40-140 | | | |

## Notes and Definitions

| | |
|---|---|
| *TPH | Calculated as |
| HT-2 | This sample was received outside the EPA recommended holding time for the analysis specified. |
| BRL | Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit |
| dry | Sample results reported on a dry weight basis |
| NR | Not Reported |
| RPD | Relative Percent Difference |

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.
Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
Fuel Oil #4 - includes #4 fuel oil
Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
Motor Oil - includes virgin and waste automobile oil
Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
Aviation Fuel - includes kerosene, Jet A and JP-4
Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as *TPH (Calculated as).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and

Validated by:
Hanibal C. Tayeh, Ph.D.
Nicole Brown

SA35405

SPECTRUM ANALYTICAL, INC.
Formerly
HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 1 of 1

**Special Handling:**
- ☐ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: ECS

Invoice To: J12660.05

Project No.: J12660.05

Site Name: FL. Roberts

Location: 399 Northampton Rd State: MA

Sampler(s): Mike Vaki

Project Mgr.: VIRGINIA TRUITT

P.O. No.: _____ RQN: _____

1=$Na_2S_2O_3$ (2=HCl) 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid
7=$CH_3OH$ 8=$NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water (GW=Groundwater) WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1= DI H2O X2=_____ X3=_____

(G=Grab) C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | Preservative | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | 602+MTBE | 8021HAL | Containers: | Analyses: | QA Reporting Notes: (check if needed) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SA35405-01 | Int | 10-4-05 | 0939 | G | GW | 2 | 2 | 1 | | | X | X | | | |
| 02 | Mid | 10-4-05 | 1034 | G | GW | 2 | 2 | | | | X | X | | | See attached page |
| 03 | eff | 10-4-05 | 1035 | G | GW | 2 | 2 | 1 | | | X | X | | | |
| 04 | TB | 8-23-05 | | G | AI | 2 | 1 | | | | X | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

State specific reporting standards
*If applicable, please list below.*

☐ Provide MCP CAM Report
Were all field QC requirements met as per MADEP CAM Section 2.0?
☐ Yes ☐ No
*(Response required for CAM report)*

☐ Fax results when available to (___) _____

☒ E-mail to VTRUITT@ECSconsult

EDD Format _____

Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C 15

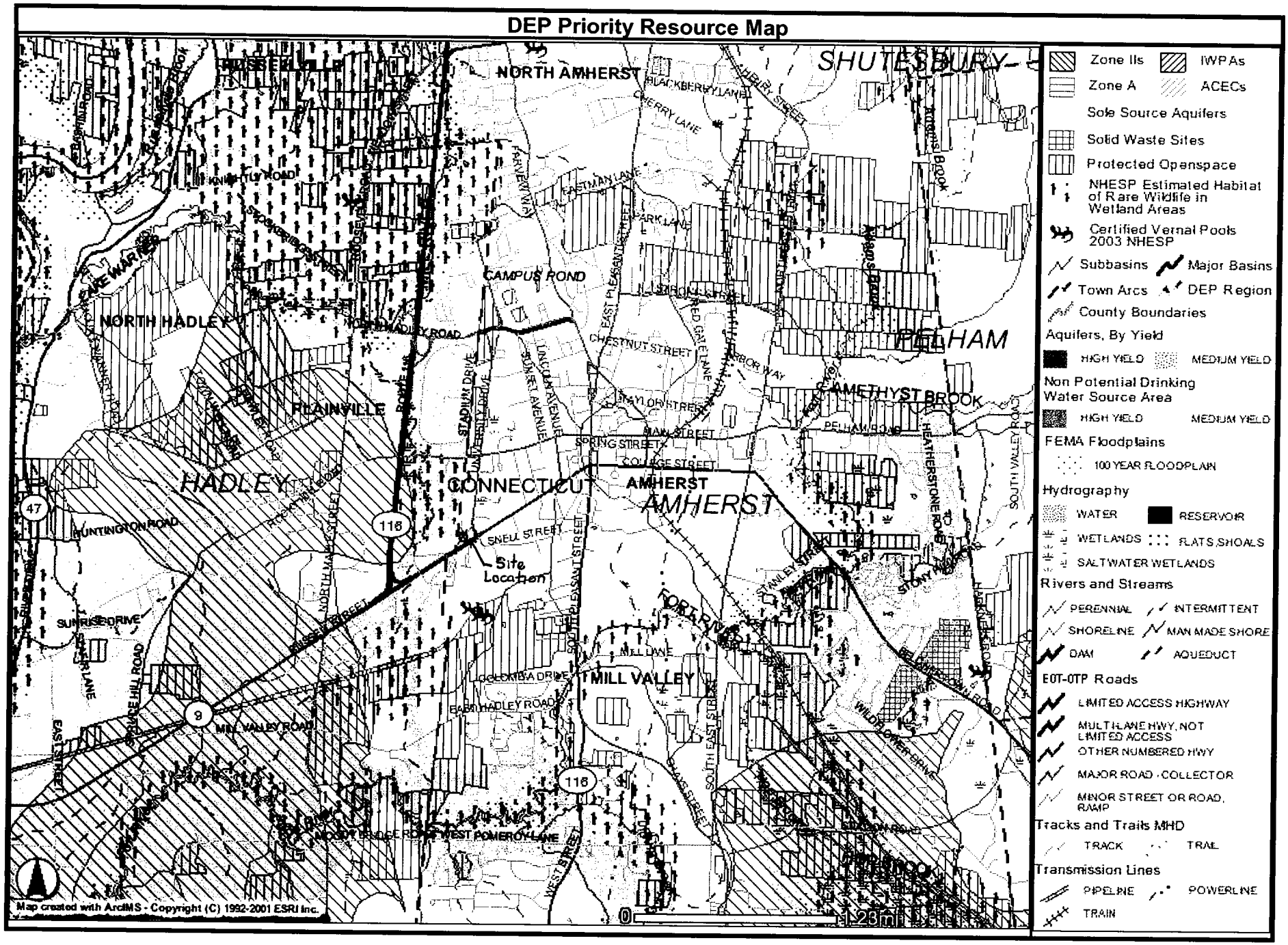
| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| | | 10/4/05 | 4:00 |

11 Almgren Drive • Agawam, Massachusetts 01001 • 413-789-9018 • Fax 413-789-4076 • www.spectrum-analytical.com



* Reportable Detection Limit BRL = Below Reporting Limit

Map Output


DEP Priority Resource Map
NORTH AMHERST
SHUTESBURY
NORTH HADLEY
PELHAM
AMETHYST BROOK
PLAINVILLE
HADLEY
CONNECTICUT
AMHERST
AMHERST
MILL VALLEY
Site Location
CAMPUS POND
Zone IIs
IWPAs
Zone A
ACECs
Sole Source Aquifers
Solid Waste Sites
Protected Openspace
NHESP Estimated Habitat of Rare Wildlife in Wetland Areas
Certified Vernal Pools 2003 NHESP
Subbasins
Major Basins
Town Arcs
DEP Region
County Boundaries
Aquifers, By Yield
HIGH YIELD
MEDIUM YIELD
Non Potential Drinking Water Source Area
HIGH YIELD
MEDIUM YIELD
FEMA Floodplains
100 YEAR FLOODPLAIN
Hydrography
WATER
RESERVOIR
WETLANDS
FLATS,SHOALS
SALTWATER WETLANDS
Rivers and Streams
PERENNIAL
INTERMITTENT
SHORELINE
MAN MADE SHORE
DAM
AQUEDUCT
EOT-OTP Roads
LIMITED ACCESS HIGHWAY
MULTI LANE HWY, NOT LIMITED ACCESS
OTHER NUMBERED HWY
MAJOR ROAD - COLLECTOR
MINOR STREET OR ROAD, RAMP
Tracks and Trails MHD
TRACK
TRAIL
Transmission Lines
PIPELINE
POWERLINE
TRAIN
Map created with ArcIMS - Copyright (C) 1992-2001 ESRI Inc.
0
1.28 mi

# MATERIAL SAFETY DATA SHEET

THE WESTFORD CHEMICAL CORPORATION
P.O. Box 798
Westford, Massachusetts 01886 USA
Phone: (508) 392-0689
Fax: (508) 692-3487
Emergency Phone: 1-800-225-3909

Ref. No.: 2001
Date: 3-15-97

## SECTION I - IDENTITY

| | |
|---|---|
| Name: | BIO SOLVE® |
| CAS #: | 138757-63-8 |
| D.O.T. Class: | Not Regulated/Non Hazardous |
| Formula: | Proprietary |
| Chemical Family: | Bio/Surfactant, Biodegradable |
| HMIS Code: | Health 1, Fire 0, Reactivity 0 |
| HMIS Key: | 4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Insignificant |

## SECTION II - PHYSICAL & CHEMICAL CHARACTERISTICS

Fire and Explosion Data

| | | | |
|---|---|---|---|
| Boiling Point | : 265° F | Melting Point | : 32°F |
| Specific Gravity | : 1.006 +/- .01 | Vapor Pressure mm/Hg | : NA |
| Surface Tension | : 6% Solution 29.1 Dyne/cm at 25°C | Vapor Density Air = 1 | : NA |
| | | Viscosity/Concentrate: | : 490 Centipoise |
| Percent Volatile by Vol. | : NA | 6% Solution | : 15 Centipoise |
| Flammable Limit | : NA | Solubility in Water | : Complete |
| Reactivity with Water | : No | Flash Point | : NA |
| Auto-Ignite Temperature | : NA | Freeze Temperature | : 28° F |
| Evaporation Rate | : >1 as compared to Water | Storage | : 35° – 120° |
| Appearance | : Clear Liquid unless Dyed | Freeze Harm: | : None |
| Odor | : Pleasant Fragrance | Shelf Life | : Unlimited-Unopened |
| Fire Extinguisher Media | : NA | pH | : 8.81 +/- .5 |
| | | Pounds per Gallon | : 8.37 |

Special Fire Fighting Procedures:

| | |
|---|---|
| Special Fire Fighting Procedures | : NA |
| Unusual Fire and Explosion Hazards | : None |
| Solvent for Clean-Up | : Water |

## SECTION III - PHYSICAL HAZARDS

| | |
|---|---|
| Stability | : Stable |
| Polymerization | : No |
| Incompatible Substances | : None Known |
| Hazardous Decomposition Products | : NA |

## SECTION IV - HEALTH HAZARDS

Threshold Limit Values: NA
Signs and Symptoms of Over Exposure -
Acute : Moderate eye irritation. Skin: Causes redness, edema, drying of skin.
Chronic: Pre-existing skin and eye disorders may be aggravated by contact with this product.
Medical Conditions Generally Aggravated by Exposure: Unknown
Carcinogen: No
Emergency First Aid Procedures -
Eyes : Flush thoroughly with water for 15 minutes. Get medical attention.
Skin : Remove contaminated clothing. Wash exposed areas with soap and water. Wash clothing before reuse. Get medical attention if irritation develops.
Ingestion : Get medical attention.
Inhalation : None considered necessary.

## SECTION V - SPECIAL PROTECTION INFORMATION

Respiratory Protection : Not necessary
Ventilation Required : Normal
Local Exhaust Required : No
Protective Clothing : Gloves, safety glasses, wash clothing before reuse.

## SECTION IV - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be taken in Handling and Storage: Use good normal hygiene.
Precautions to be taken in case of Spill or Leak -
Small spills, in an undiluted form, contain. Soak up with absorbent materials.
Large spills, in an undiluted form, dike and contain. Remove with vacuum truck or pump to storage/salvage vessel. Soak up residue with absorbent materials.
Waste Disposal Procedures -
Dispose in an approved disposal area or in a manner which complies with all local, state, and federal regulations.

The Information on this Material Safety Data Sheet reflects the latest information and data that we have on hazards, properties, and handling of this product under the recommended conditions of use. Any use of this product or method of application which is not described on the label or in the Product Data Sheet is the responsibility of the user.

This Material Safety Data Sheet was prepared to comply with the OSHA Hazardous Communication Regulation and Massachusetts Right to Know Law.

## SECTION VII - HAZARDOUS INGREDIENTS

Massachusetts Right to Know Law or 29 C.F.R. (Code of Federal Regulations) 1910.1000 require listing of hazardous ingredients.

This product does not contain any hazardous ingredient as defined by CERCLA, Massachusetts Right to Know Law and California's Prop. 65.