REMEDIATION & ENVIRONMENTAL
MANAGEMENT SERVICES, INC.
REM SERV

August 16, 2007

Mr. Melvin Kleckner
2nd Floor, Town Hall
71 Mt. Vernon Street
Winchester, MA 01890

Ms. Jennifer Murphy
Winchester Health Department
Lower Level, Town Hall
71 Mt. Vernon Street
Winchester, MA 01890

RE: Notice of Phase IV Completion Report & Class C-2 RAO Statement
12 Swanton Street
Winchester, MA
RTN: 3-18598
ACOP-NE-04-3A027

Dear Ladies and Gentlemen:

The purpose of this letter is to inform you that on August 16, 2007, a Phase IV Completion Report and Class C-2 Response Action Outcome (RAO) Statement were filed with the MA Department of Environmental Protection (MADEP) Northeast Regional Office for a release of petroleum at the above referenced site (RTN 3-18598). The Phase IV Completion Report and Class C-2 RAO document the remedial and assessment activities conducted at the site to date.

The findings of remedial and assessment activities did not identify a "Condition of No Significant Risk" at the site as per 310 CMR 40.0006. REMSERV, Inc. has therefore prepared a Class C-2 RAO Statement to signify that a "Temporary Solution" has been fulfilled while the site conditions are assessed for the purpose of achieving a "Condition of No Significant Risk" for RTN 3-18598.

If you have any questions, or would like to obtain a copy of the Phase IV Completion Report & Class C-2 RAO Statement, please contact Mr. Thomas P. Simmons, 35 Winthrop Street, Winchester, MA, 01890 781-721-4455.

Sincerely,
REMSERV, Inc.

Thomas P. Simmons

Cc: MA DEP NERO

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DEP
NORTHEAST REGIONAL OFFICE

REM SERV

Letter of Transmittal

TO: MA DEP NERO
205B Lowell Street
Wilmington, MA

DATE: 08/16/2007
PROJECT: RTN 3-18598
RS #:

ATTN: BWSC

WE TRANSMIT:

- ☐ herewith
- ☑ in accordance with your request

FOR YOUR:

- ☐ approval
- ☑ record
- ☐ distribution to parties
- ☐ review & comment
- ☐ signature and return
- ☑ use

THE FOLLOWING:

COPIES	DATE	DESCRIPTION
1	08/16/07	Phase IV Completion & Class C-2 RAO
1	08/16/07	BWSC-108
1	08/16/07	BWSC-104
1	08/16/07	Copy of Letter to Winchester Public Officials

COMMENTS:

The Phase IV & Class C-2 RAO has been submitted in support of the Administrative Consent Order & Penalty ACOP-NE-04-3A027.

COPIES TO:

Mr. John Bossi, Bossi Realty Trust ☑

Remediation & Environmental Management Services, Inc.
35 Winthrop Street, Winchester, MA 01890
(781) 721-4455
FAX (781) 721-4456

August 16, 2007

MA DEP NERO
BWSC
205B Lowell Street
Wilmington, MA 01887

RE: Phase IV Completion Report & Class C-2 RAO LSP Opinion
Bossi Realty Trust
12 Swanton Street
Winchester, MA 01890
RTN 3-18598

Dear Ladies and Gentlemen:

This letter will serve as the basis for an LSP Opinion required under Section J of the BWSC104 and Section F. of the BWSC108 Transmittal Form regarding the veracity of the material facts, data and other information attached. REMSERV, Inc. attests that the information contained in and attached to this document is accurate and factual.

If you need further information, please call me at (781)-721-4455.

Sincerely,
REMSERV, Inc.

Thomas P. Simmons, LSP

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC108 JK

Release Tracking Number
3 - 18598

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: _____

2. Street Address: 12 Swanton Street

3. City/Town: Winchester 4. ZIP Code: 01890

5. UTM Coordinates: a. UTM N: _____ b. UTM E: _____

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☑ 6. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.

☐ a. Tier IA ☐ b. Tier IB ☐ c. Tier IC ☑ d. Tier II

7. If applicable, provide the Permit Number: _____

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Submit a **Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work,** pursuant to 310 CMR 40.0834.

☐ 4. Submit an **Interim Phase II Report.** This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.

☐ 5. Submit a **final Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 6. Submit a **Revised Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

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☐ 9. Submit a **Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report,** pursuant to 310 CMR 40.0875.

☐ 12. Submit a **Phase IV Status Report,** pursuant to 310 CMR 40.0877.

☑ 13. Submit a **Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Response Action Outcome.

☐ b. The requirements of a Class A Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Class C Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.

☑ d. The requirements of a Class C Response Action Outcome have been met. Further Operation, Maintenance or Monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.

(All sections of this transmittal form must be filled out unless otherwise noted above)

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

☐ 14. Submit a **Revised Phase IV Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879.

☐ 15. Submit a **Phase V Status Report**, pursuant to 310 CMR 40.0892.

☐ 16. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☐ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☐ iii. A Remedial Monitoring Report(s) submitted concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase V ☐ ii. Remedy Operation Status ☐ iii. Class C RAO

d. Number of Remedial Systems and/or Monitoring Programs: _____

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status**, pursuant to 310 CMR 40.0893.

☐ 18. Submit a **Status Report to maintain a Remedy Operation Status**, pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Modification of a Remedy Operation Status**, pursuant to 310 CMR 40.0893(5).

☐ 20. Submit a **Termination of a Remedy Operation Status**, pursuant to 310 CMR 40.0893(6).

☐ 21. Submit a **Phase V Completion Statement**, pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Class A Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC104) will be submitted to DEP.

☐ b. The requirements of a Class C Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Class C Response Action Outcome have been met. Further Operation, Maintenance or Monitoring of the remedial action is necessary to ensure that conditions are maintained and/or that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement**, pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Post-Class C Response Action Outcome Status Report**, pursuant to 310 CMR 40.0898.

(All sections of this transmittal form must be filled out unless otherwise noted above)

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC108

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Release Tracking Number: 3 - 18598

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *If Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *If Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *If Section B indicates that an* ***As-Built Construction Report, a Remedy Operation Status, a Phase IV, Phase V or Post-Class C RAO Status Report, a Status Report to Maintain a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 1698

2. First Name: Thomas 3. Last Name: Simmons

4. Telephone: 781-721-4455 5. Ext.: _____ 6. FAX: _____

7. Signature: _____

8. Date: 08/16/2007 (mm/dd/yyyy)

9. LSP Stamp:

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC108

Release Tracking Number
3 - 18598

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: Bossi Realty Trust

3. Contact First Name: John 4. Last Name: Bossi

5. Street: 12 Swanton Street 6. Title: Trustee/Not Personally

7. City/Town: Winchester 8. State: MA 9. ZIP Code: 01890

10. Telephone: 781-721-0162 11. Ext.: 12. FAX:

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS:

☑ 1. RP or PRP ☑ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☐ e. Other RP or PRP Specify:

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

☑ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☑ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☐ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☐ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☐ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Modification of a Remedy Operation Status, check here to certify that a statement detailing the compliance history, as per 310 CMR 40.0893(5), for the person making this submittal is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status, check here to certify that written consent of the person who submitted the Remedy Operation Status submittal, as per 310 CMR 40.0893(5), is attached.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Name. Send corrections to the DEP Regional Office.

☑ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC108

Release Tracking Number
3 - 18598

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

1. I, Bossi Realty Trust, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: John J Bossi (Signature) 3. Title: Trustee/Not Personally

4. For: John Bossi (Name of person or entity recorded in Section D) 5. Date: 08/16/2007 (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. FAX: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

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NORTHEAST REGIONAL OFFICE

VN

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 18598

For sites with multiple RTNs, enter the Primary RTN above.

A. SITE LOCATION:

1. Site Name/Location Aid:

2. Street Address: 12 Swanton Street

3. City/Town: Winchester 4. ZIP Code: 01890

☐ 5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.

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☐ a. Tier IA ☐ b. Tier IB ☐ c. Tier IC ☑ d. Tier II

6. If a Tier I Permit has been issued, provide Permit Number:

AUG 16 2007

B. THIS FORM IS BEING USED TO: (check all that apply)

DEP
NORTHEAST REGIONAL OFFICE

1. List Submittal Date of RAO Statement (If previously submitted): mm/dd/yyyy

☑ 2. Submit a **Response Action Outcome (RAO) Statement**

☐ a. Check here if this RAO Statement covers additional Release Tracking Numbers (RTNs). RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.

b. Provide additional Release Tracking Number(s) covered by this RAO Statement. ☐ - ☐ - ☐

☐ 3. Submit a **Revised Response Action Outcome Statement**

☐ a. Check here if this Revised RAO Statement covers additional Release Tracking Numbers (RTNs), not listed on the RAO Statement or previously submitted Revised RAO Statements. RTNs that have been previously linked to a Tier Classified Primary RTN do not need to be listed here.

b. Provide additional Release Tracking Number(s) covered by this RAO Statement. ☐ - ☐ - ☐

☐ 4. Submit a **Response Action Outcome Partial (RAO-P) Statement**

Check above box, if any Response Actions remain to be taken to address conditions associated with this disposal site having the Primary RTN listed in the header section of this transmittal form. This RAO Statement will record only an RAO-Partial Statement for that RTN. A final RAO Statement will need to be submitted that references all RAO-Partial Statements and, if applicable, covers any remaining conditions not covered by the RAO-Partial Statements.

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Also, specify if you are an Eligible Person or Tenant pursuant to M.G.L. c. 21E s.2, and have no further obligation to conduct response actions on the remaining portion(s) of the disposal site:

☐ a. Eligible Person ☐ b. Eligible Tenant

AUG 16 2007

☐ 5. Submit an optional **Phase I Completion Statement** supporting an RAO Statement

☐ 6. Submit a **Periodic Review Opinion evaluating the status of a Temporary Solution** for a Class C-1 RAO Statement, as specified in 310 CMR 40.1051 (Section F is optional)

DEP
NORTHEAST REGIONAL OFFICE

☐ 7. Submit a **Retraction** of a previously submitted **Response Action Outcome Statement** (Sections E & F are not required)

(All sections of this transmittal form must be filled out unless otherwise noted above)

C. DESCRIPTION OF RESPONSE ACTIONS (cont.): (check all that apply; for volumes, list cumulative amounts)

☐ 18. Other Response Actions:

Describe: _____

_____

☐ 19. Use of Innovative Technologies:

Describe: _____

D. SITE USE:

1. Are the response actions that are the subject of this submittal associated with the *redevelopment, reuse* or the *major expansion of the current use* of property(ies) impacted by the presence of oil and/or hazardous materials?

☐ a. Yes ☑ b. No ☐ c. Don't know

2. Is the property a *vacant or under-utilized commercial or industrial* property ("a brownfield property")?

☐ a. Yes ☑ b. No ☐ c. Don't know

3. Will funds from a state or federal brownfield incentive program be used on one or more of the property(ies) within the disposal site?

☐ a. Yes ☐ b. No ☑ c. Don't know If Yes, identify program(s): _____

4. Has a Covenant Not to Sue been obtained or sought?

☐ a. Yes ☑ b. No ☐ c. Don't know

5. Check all applicable categories that apply to the person making this submittal: ☐ a. Redevelopment Agency or Authority

☐ b. Commmunity Development Corporation ☐ c. Economic Development and Industrical Corporation

☐ d. Private Developer ☐ e. Fiduciary ☐ f. Secured Lender ☐ g. Municipality

☐ h. Potential Buyer (non-owner) ☐ i. Other, describe: _____

This data will be used by MassDEP for information purposes only, and does not represent or create any legal commitment, obligation or liability on the part of the party or person providing this data to MassDEP.

E. RESPONSE ACTION OUTCOME CLASS:

Specify the Class of Response Action Outcome that applies to the disposal site, or site of the Threat of Release.
Select **ONLY** one Class.

☐ **1. Class A-1 RAO:** Specify one of the following:

☐ a. Contamination has been reduced to background levels. ☐ b. A Threat of Release has been eliminated.

☐ **2. Class A-2 RAO:** You **MUST** provide justification that reducing contamination to or approaching background levels is infeasible.

☐ **3. Class A-3 RAO:** You **MUST** provide an implemented Activity and Use Limitation (AUL) and justification that reducing contamination to or approaching background levels is infeasible.

☐ **4. Class A-4 RAO:** You **MUST** provide an implemented AUL, justification that reducing contamination to or approaching background levels is infeasible, and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface or below an Engineered Barrier is infeasible. If the Permanent Solution relies upon an Engineered Barrier, you must provide or have previously provided a Phase III Remedial Action Plan that justifies the selection of the Engineered Barrier.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 18598

G. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that either an **RAO Statement, Phase I Completion Statement and/or Periodic Review Opinion** is being provided,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 1698

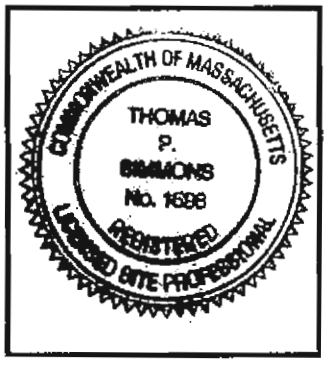
2. First Name: Thomas 3. Last Name: Simmons

4. Telephone: (781) 721-4455 5. Ext.: _____ 6. FAX: _____

7. Signature: _____

8. Date: 08/16/2007
mm/dd/yyyy

9. LSP Stamp:



H. PERSON MAKING SUBMITTAL:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: Bossi Realty Trust

3. Contact First Name: John 4. Last Name: Bossi

5. Street: 12 Swanton Street 6. Title: Trustee/Not Personally

7. City/Town: Winchester 8. State: MA 9. ZIP Code: 01890

10. Telephone: (781) 721-0162 11. Ext.: _____ 12. FAX: _____

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number
3 - 18598

K. CERTIFICATION OF PERSON MAKING SUBMITTAL:

1. I, John Bossi, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

2. By: _____ (Signature) 3. Title: Trustee/Not Personally

4. For: Bossi Realty Trust (Name of person or entity recorded in Section H) 5. Date: 08/16/2007 mm/dd/yyyy

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section H.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. FAX: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

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NORTHEAST REGIONAL OFFICE

REMEDIATION & ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

REM SERV

N/A-C

PHASE IV COMPLETION REPORT & CLASS C-2 RAO STATEMENT BOSSI REALTY TRUST 12 SWANTON STREET WINCHESTER, MA RTN 3-18598

PREPARED FOR:
Bossi Realty Trust
12 Swanton Street
Winchester, MA 01890

PREPARED BY:
Remediation & Environmental Management Services, Inc.
35 Winthrop Street
Winchester, MA 01890
781-721-4455

August 16, 2007

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

Tables

TABLE OF CONTENTS (Continued)

Figures

Appendices

1.0 Introduction

Remediation & Environmental Management Services, Inc. (REMSERV, Inc.) has prepared a Phase IV Completion Statement (Phase IV) and Class C-2 RAO Statement for a historical gasoline release at 12 Swanton Street in Winchester, MA on behalf of Bossi Realty Trust associated with Release Tracking Number (RTN) 3-18958 (Figure 1). REMSERV, Inc. conducted a Method 1 Risk Characterization to assess the potential existence of a "Condition of No Significant Risk of harm to health, safety, public welfare and the environment" (310 CMR 40.0900).

2.0 Site Description

The site is located at 12 Swanton Street in Winchester, MA (UTM coordinates 4702910 mN, 324875 mE (Figure 1). The site is currently occupied by an automotive repair and used car sales facility. The site formerly dispensed gasoline and diesel fuel. The property consists of an 1,806 square foot building on a 0.31-acre lot (1) (Figure 2). The site is entirely asphalt paved except for landscaped islands located in the northeast and southwest of the property and a smaller landscaped island located in the northwest of the site. The site building is connected to municipal water and sanitary sewer. Nearby residents are also on the municipal water and sanitary system (2).

2.1 Property Abutters

The property abutters are as follows (Figure 5):

North: Swanton Street. Residential properties are located on the opposite (north) side of Swanton Street from the site.

South: A commercial parking lot. Residential properties are located on the opposite (south) side of the parking lot from the site.

East: A commercial building, including a convenience store, a laundromat and a photographic developing facility. Washington Street bounds the commercial property to the east.

West: A commercial building, including a dry cleaning facility and an Italian restaurant.

2.2 Topography

The site is located at an elevation of approximately 49 feet above Mean Sea Level (based upon the National Geodetic Vertical Datum of 1929). The topography is relatively flat with a mild grade from east to west. Regionally, the topography to the east rises sharply in elevation culminating in the Middlesex Fells Reservation located approximately 1,224 feet east of the site. The area to the west slopes gently to the Aberjona River approximately 2,021 feet west of the site (Figure 1).

2.3 Natural Resources

The site is located in the Mystic River Drainage Basin. Storm water from the site is drained through a series of catch basins along the southern side of Swanton Street that discharge to the Aberjona River, located approximately 2,021 feet west of the site (Figure 1). The Aberjona River drains to the Mystic Lakes, which drain to the Mystic River and ultimately to Boston Harbor. The Mystic River is designated as a Class B Waterway (3).

The site is not located within 500 feet of an Area of Critical Environmental Concern (ACEC), vernal pools, reservoirs, private wells, a mapped Zone II, a Zone A of a Class A surface water body, a priority productive aquifer, a sole source aquifer, fish habitats, or habitats of species of Special Concern or Threatened or Endangered Species (4) (Figure 1). The Middlesex Fells Reservation is located approximately 1,160 feet to the east (Figure 1). Three (3) reservoirs located within The Middlesex Fells Reservation provide drinking water to the Town of Winchester (2).

3.0 Release Description (RTN 3-18598)

In May 1999, six (6) underground storage tanks (USTs) were removed from the site under a permit issued by the Winchester Fire Department. The USTs consisted of three (3) gasoline USTs (4,000-gallon, 3,000-gallon, and 2,000-gallon), one (1) 3,000-gallon diesel UST, one (1) 500-gallon waste oil UST and one (1) 500-gallon heating oil UST.

On July 8, 1999, the MADEP Northeast Regional Office was notified of a 72-hour reportable condition at the site when a soil headspace reading exceeding 100 parts per million (ppm) was obtained from soil samples collected from within 10 feet of an underground storage tank (UST) outer wall. Approximately 20 cubic yards of soil were stockpiled when the six (6) USTs were removed from the site in May 1999. The four (4) gasoline USTs, the dispensing island, and the single 250-gallon waste oil UST were located in front of the site building (Figure 2). The 500-gallon heating oil UST was located at the rear of the building. The MADEP issued a Notice of Responsibility (NOR) dated November 19, 1999 to Bossi Realty Trust for a gasoline release associated with the UST system.

3.1 Regulatory History

The following is an annotated regulatory site history:

- On July 8, 1999, a release of petroleum was identified at the property based on elevated PID readings obtained from soils stockpiled at the site. The soil stockpile had been generated from the removal of six (6) USTs in May of 1999.

- On September 5, 1999, oral notification was provided to the MADEP by Subsurface Remediation Technologies, Inc. (SRT). The MADEP assigned Release Tracking Number (RTN) 3-18598. The MADEP issued a Notice of Responsibility to Bossi Realty Trust on November 19, 1999.

- On November 7, 2000, the MADEP issued a Notice of Noncompliance (NON) to Bossi Realty Trust for failure to submit a Release Notification Form (RNF), an Immediate Response Action (IRA) Status Report, and a Response Action Outcome (RAO) Statement or Tier Classification.

- On December 18, 2000, Bossi Realty Trust submitted an RNF and an IRA Plan in accordance with 310 CMR 40.0330 and 40.0424.

- On April 4, 2001, Bossi Realty Trust submitted an IRA Completion Statement, Phase I Initial Site Investigation Report, and Tier 2 Classification based on a Numerical Ranking Scoresheet total of 138 in accordance with 310 CMR 40.0427, 40.0480, and 40.0500.

- On May 24, 2004, the MADEP issued a Notice of NON for failure to complete and file a Phase II Report, a Phase III Remedial Action Plan and a Phase IV Plan within three years of the Tier II Classification.

- On January 24, 2005, REMSERV, Inc. submitted a Phase II Scope of Work along with a schedule for implementing the Phase II, the Phase III Feasibility Analysis, the Phase IV Remedial Implementation Plan and the Phase IV Completion Statement for achieving a Remedy Operation Status or Response Action Outcome.

- On March 14, 2005, the MADEP issued an Administrative Consent Order & Penalty (ACOP) (ACOP-NE-04-3A027) due to prior violations and the failure to submit a Phase II Report, a Phase III Remedial Action Plan, and/or a Phase IV Remedy Implementation Plan by required deadlines.

3.2 IRA Activities

In 2000, Subsurface Remedial Technologies (SRT) and Web Engineering Associates, Inc. (Web) undertook Immediate Response Action (IRA) activities to address the impacts to site soil and ground water from the petroleum release. The IRA activities consisted of the off-site recycling of the soil stockpile as well as assessment of the extent of gasoline contaminated soils and ground water at the property.

3.2.1 Sampling and Disposal of Stockpiled Soil

The UST excavation generated approximately 20 cubic yards of contaminated soil, which was stockpiled on site. On December 18, 2000 SRT collected a composite sample from the stockpile for laboratory analysis according to the soil disposal parameters of Aggregate Industries (AI) in Stoughton, MA. Based on the laboratory analytical results, the soils were transported to AI for asphalt batch recycling March 29, 2001 under a MADEP Bill of Lading (BOL).

3.2.2 Subsurface Exploration Activities

On October 13, 2000, Web observed the advancement of four (4) soil borings at the site by Soil Exploration of Leominster, MA. The borings were completed at depths ranging from 16 to 19 feet, approximately five (5) to eight (8) feet below the water table. Soil samples were screened with a photoionization detector (PID) using the jar headspace method (5). One (1) soil sample from each boring was submitted to Groundwater Analytical in Buzzards Bay, MA (GWA) for laboratory analysis according to the MADEP Volatile Petroleum Hydrocarbon (VPH) and Extractable Petroleum Hydrocarbons (EPH) analytical methods. The soil sample from soil boring MW-2 (10-12 feet) was analyzed for EPH only.

3.2.3 Ground Water Monitoring Well Installation and Sampling

Four (4) soil borings advanced on October 13, 2000 were completed as ground water monitoring wells (MW-1 through MW-4). On October 24, 2000, Web collected ground water samples from MW-1, MW-3 and MW-4. Web did not sample monitoring well MW-2 as a tow truck destroyed the monitoring well prior to sampling. Web used an oil/water interface probe to gauge water levels and check for the presence of Light Non-Aqueous Phase Liquid (LNAPL) in the wells. Web did not identify LNAPL in any of the wells during

the October 24, 2000 ground water monitoring event. Web submitted three (3) ground water samples to Groundwater Analytical of Buzzard's Bay, MA for laboratory analysis according to the MADEP VPH and EPH Methods.

3.3 Soil Analytical Results

REMSERV, Inc. reviewed the soil analytical results from Web subsurface exploration activities conducted on October 13, 2000 (6). REMSERV, Inc. has summarized the analytical results on Table 1 and has attached the analytical data sheets in Appendix III. Web recorded elevated PID readings in the soil samples:

- MW-1 (15 to 17 feet) 16.0 ppm
- MW-2 (zero to two feet) 4.6 ppm
- MW-3 (15 to 17 feet) >1,000 ppm
- MW-4 (15 to 15.5 feet) >1,000 ppm

Web submitted three (3) soil samples collected from 10 to 12 feet bgs (MW-1 (10'-12'), MW-2 (10'-12'), and MW-3 (10'-12')), and one soil sample collected from greater than 15 feet bgs (MW-4 (15'-15.5')). The soil sample MW-3 (10-12') did not exhibit the greatest PID reading of samples collected from boring MW-3.

3.3.1 VPH Fractions

- C5-C8 aliphatics were identified in soil samples MW-3 (10'-12') and MW-4 (15'-15.5') at concentrations of 2 mg/kg and 2,100 mg/kg, respectively;
- C9-C12 aliphatics were identified in MW-1 (10'-12') and MW-3 (10'-12') at concentrations of 1.9 mg/kg and 2.2 mg/kg, respectively; and
- C9-C10 aromatics were identified in soil samples MW-3 (10'-12') and MW-4 (15'-15.5') at concentrations of 1.4 mg/kg and 2,400 mg/kg, respectively.

No VPH fractions were identified in any other soil samples at concentrations exceeding laboratory minimum detection limits (Table 1).

3.3.2 VPH Target Analytes

- Toluene was identified in soil sample MW-4 (15'-15.5') at a concentration of 470 mg/kg;
- Ethylbenzene was identified in soil sample MW-4 (15'-15.5') at a concentration of 170 mg/kg);
- Total xylenes were identified in soil sample MW-4 (15'-15.5') at a concentration of 880 mg/kg;
- Naphthalene was identified in soil sample MW-4 (15'-15.5') at a concentration of 60 mg/kg; and
- Methyl tert-butyl ether (MTBE) was identified in soil sample MW-4 (15'-15.5') at a concentration of 10 mg/kg;

No other VPH target analytes were identified in any other soil samples at concentrations exceeding laboratory minimum detection limits (Table 1).

3.3.3 EPH Fractions

- C9-C18 aliphatics were identified in soil sample MW-4 (15'-15.5') at a concentration of 350 mg/kg; and
- C11-C22 aromatics were identified in soil sample MW-4 (15'-15.5') at a concentration of 120 mg/kg.

No other EPH fractions were identified at concentrations exceeding laboratory minimum detection limits (Table 1).

3.3.4 EPH Target Analytes

- 2-methylnaphthalene was identified in soil sample MW-4 (15'-15.5') at a concentration of 26 mg/kg; and
- Naphthalene was identified in soil sample MW-4 (15'-15.5') at a concentration of 29 mg/kg.

No other EPH target analytes were identified at concentrations exceeding laboratory minimum detection limits.

3.4 Ground Water Analytical Results

On October 24, 2000, Web collected three ground water samples for laboratory analysis according to the MADEP VPH and EPH Methods. The results of the laboratory analysis are summarized in Table 2 and the analytical data sheets are attached as Appendix III.

3.4.1 VPH Fractions

- C5-C8 aliphatics were identified in monitoring wells MW-1 (1,400 ug/L), MW-3 (30,000 ug/L), and MW-4 (2,440 ug/L);
- C9-C12 aliphatics were identified in monitoring wells MW-1 (340 ug/L), MW-3 (21,000 ug/L), and MW-4 (5,450 ug/L); and
- C9-C10 aromatics were identified in monitoring wells MW-1 (440 ug/L), MW-3 (17,000 ug/L), and MW-4 (10,700 ug/L).

3.4.2 VPH Target Analytes

- Benzene was identified in monitoring wells MW-1 (11 ug/L), MW-3 (1,900 ug/L), and MW-4 (1,900 ug/L);
- Toluene was identified in monitoring wells MW-1 (40 ug/L), MW-3 (23,000 ug/L), and MW-4 (41,000 ug/L);
- Ethylbenzene was identified in monitoring wells MW-1 (37 ug/L), MW-3 (4,500 ug/L), and MW-4 (6,200 ug/L);
- Total xylenes were identified in monitoring wells MW-1 (138 ug/L), MW-3 (24,200 ug/L), and MW-4 (8,030 ug/L);
- Naphthalene was identified in monitoring wells MW-3 (830 ug/L) and MW-4 (1,100 ug/L); and
- MTBE was identified in monitoring wells MW-1 (16 ug/L) and MW-4 (3,500 ug/L).

No other VPH target analytes were identified in ground water at concentrations exceeding laboratory minimum detection limits (Table 2).

3.4.3 EPH Fractions

- C9-C18 aliphatics were identified in monitoring wells MW-3 (1,500 ug/L) and MW-4 (1,300 ug/L); and
- C11-C22 aromatics were identified in monitoring wells MW-3 (630 ug/L) and MW-4 (800 ug/L).

No other EPH fractions were identified at concentrations exceeding laboratory minimum detection limits (Table 2).

3.4.4 EPH Target Analytes

- 2-methylnaphthalene was identified in monitoring wells MW-1 (1.4 ug/L), MW-3 (140 ug/L), and MW-4 (170 ug/L);
- Fluorene was identified in monitoring wells MW-3 (1.4 ug/L), and MW-4 (1.3 ug/L);
- Phenanthrene was identified in monitoring wells MW-3 (1.1 ug/L), and MW-4 (1.7 ug/L); and
- Naphthalene was identified in monitoring wells MW-1 (2.3 ug/L), MW-3 (170 ug/L), and MW-4 (280 ug/L).

No other EPH Target Analytes were identified at concentrations exceeding laboratory minimum detection limits (Table 2).

4.0 Phase II Comprehensive Site Assessment

On February 28, 2005, Expedition Drilling of Atkinson, NH completed six (6) soil borings (B101, B102, B102A, B102B, B103, and B104) at the site to further assess the extent of petroleum impacted soils and to assess the current ground water conditions (Figure 2). The borings were advanced using a Mobile B53 ATV equipped with a 4¼-inch hollow stem auger and a 1 7/8-inch spilt spoon sampler. Samples were collected using a two-foot long split-spoon sampler driven by a 140 lb hammer. Soil borings B101, B102B, B103, and B104 were completed as ground water monitoring wells constructed of 2-inch diameter Schedule 40 PVC pipe with a 0.01-inch slot screened section (Figure 2). The soil boring logs and monitoring well reports are provided in Appendix I.

A REMSERV, Inc. representative was present during the subsurface exploration event to record soil conditions and collect soil samples for jar headspace PID screening. The REMSERV, Inc. representative also observed the monitoring well installations. Soil samples were field screened for the presence of total volatile organic compounds (TVOCs) using a Thermo Environmental 580B Photoionization Detector (PID) calibrated to a benzene standard (10.0 eV lamp) and the jar headspace method (5).

REMSERV, Inc. selected four (4) soil samples (B101 S4 13-15, B102 S1B 11.5-12, B103 S1 13-15, and B104 S1 13-15) for laboratory analysis according to the MADEP VPH and EPH Methods at Spectrum Analytical in Agawam, MA. The soil samples were selected based on field PID readings, depth to ground water, the location of the sample relative to source areas, and the location and type of potential receptors. Soil samples were placed in laboratory-prepared containers, chilled, and transported to the laboratory under

the Chain of Custody. The soil analytical results are summarized in Table 1 and laboratory analytical data sheets are attached as Appendix II. The soil VPH distribution is illustrated on Figure 3.

4.1 Site Geology

Soil borings B101 through B104 were advanced to refusal. Soil boring B101 was terminated at a depth of 16.5 feet below ground surface, and soil samples were collected between five (5) and 16.5 feet. Borings B102 and B102A were terminated at shallow depths due to refusal. Boring B102B was advanced to 12 feet before meeting refusal. A soil sample was collected from 10 to 12 feet in B102B. Boring B103 was terminated at 15 feet and a soil sample was collected from 13 to 15 feet. Boring B104 was terminated at 16 feet and soil samples were collected from 13 to 16 feet.

Based on the Webb Engineering and REMSERV, Inc. observations, the site geology from ground surface ranges from coarse to fine sand to silty fine sand with some to little silt, some to little gravel, and little to trace clay. The Webb site investigation characterized the site soils as silty fine sand and gravel fill to depths of approximately six (6) to eight (8) feet overlying dense glacial till (6). REMSERV, Inc. observed a layer of tan medium to fine sand with little silt and little coarse sand from five (5) to 10 feet in B101. The same soil type exhibited little gravel and trace clay at a depth of eight (8) to 10 feet in this boring. Soils below 13 feet in all REMSERV, Inc. borings consisted of brown to black coarse to fine sand and silty sand with little to trace clay and some to trace gravel.

4.1.1 Bedrock Geology

Bedrock was not identified at the site during soil exploration. The bedrock beneath the site is mapped as part of the Milford-Dedham Zone (7). The bedrock in the vicinity of the site includes gray granite to granodiorite, quartzite, schist, cal-silicate quartzite, amphibolite, metamorphosed mafic to felsic flow, and volcaniclastic and hypabyssal intrusive rocks (7).

4.1.2 Regional Hydrogeology

The site is located in the Mystic River Drainage Basin (8). Three (3) water supply reservoirs that service the Town of Winchester within a mile east of the site are topographically and hydrologically upgradient of the site. Storm water from the site is drained through catch basins located on Swanton Street, which discharge to the Aberjona River located west of the site.

4.2 Site Hydrogeology

The depth to ground water within the disposal site was gauged between 11.83 feet and 13.08 feet below ground surface during the August 10, 2007 ground water monitoring event. REMSERV, Inc. contoured water table elevations from the August 10, 2007 event to approximate the slope of the water table surface and the direction of ground water flow. The water table slopes to the northwest at a gradient of approximately 0.0101 foot/foot (Figure 2).

Hydraulic conductivity testing was not conducted as part of the Phase II Scope of Work but published values for coarse to fine sand aquifers are approximately 2.84 ft/day (9).

$$V_s = \frac{K_h dh}{\eta_e dl}$$

where;

V_s = seepage velocity
K_h = horizontal hydraulic conductivity = 2.84 ft/day
η_e = effective porosity = 0.25
dh/dl = hydraulic gradient = 0.0101 foot/foot

REMSERV, Inc. calculated an approximate ground water flow velocity of 0.115 ft/day or 41.98 ft/year.

4.3 Jar Headspace Screening Results

REMSERV, Inc. field screened soil samples collected during subsurface exploration using a Thermoelectron 580B PID in accordance with the jar headspace method (5). The jar headspace screening identified elevated TVOC readings in soils collected at depths from 13 to 16.5 feet below ground surface in soil borings B101 (376 ppmV), B103 (520 ppmV), and B104 (144.9 ppmV).

4.4 Phase II VPH Soil Analytical Results

- C5-C8 aliphatics were identified in soil samples B101 S4 13-15 (16.4 mg/kg), B103 S1 13-15 (639 mg/kg), and B104 S1 13-15 (1,130 mg/kg);
- C9-C12 aliphatics were identified in soil samples B101 S4 13-15 (6.08 mg/kg), B103 S1 13-15 (217 mg/kg), and B104 S1 13-15 (350 mg/kg); and
- C9-C10 aromatics were identified in soil samples B101 S4 13-15 (8.66 mg/kg), B103 S1 13-15 (280 mg/kg), and B104 S1 13-15 (216 mg/kg).

No VPH fractions were identified in soil sample B102 S1B 11.5-12 at concentrations exceeding laboratory minimum detection limits (Table 1).

4.4.1 VPH Target Analytes

- Benzene was identified in soil sample B103 S1 13-15 at a concentration of 1.75 mg/kg;
- Toluene was identified in soil samples B101 S4 13-15 (0.14 mg/kg), B103 S1 13-15 (39.6 mg/kg), and B104 S1 13-15 (5.99 mg/kg);
- Ethylbenzene was identified in soil samples B103 S1 13-15 (24.2 mg/kg) and B104 S1 13-15 (2.72 mg/kg);
- Total xylenes were identified in soil samples B103 S1 13-15 (127.8 mg/kg) and B104 S1 13-15 (11.72 mg/kg); and
- Naphthalene was identified in soil samples B101 S4 13-15 (0.332 mg/kg), B103 S1 13-15 (9.55 mg/kg), and B104 S1 13-15 (5.82 mg/kg).

No other VPH target analytes were identified in soil samples at concentrations exceeding laboratory minimum detection limits (Table 1).

4.4.2 EPH Fractions

- C9-C18 aliphatics were identified in soil samples B103 S1 13-15 (43.3 mg/kg) and B104 S1 13-15 (129 mg/kg); and
- C11-C22 aromatics were identified in soil samples B103 S1 13-15 (40.6 mg/kg) and B104 S1 13-15 (57.3 mg/kg).

No other EPH fractions were identified at concentrations exceeding laboratory minimum detection limits (Table 1).

4.4.3 EPH Target Analytes

- 2-methylnaphthalene was identified in soil samples B101 S4 13-15 (0.162 mg/kg), B103 S1 13-15 (3.99 mg/kg), and B104 S1 13-15 (1.66 mg/kg); and
- Naphthalene was identified in soil samples B103 S1 13-15 (3.92 mg/kg) and B104 S1 13-15 (0.642 mg/kg);

No other EPH target analytes were identified at concentrations exceeding laboratory minimum detection limits (Table 1).

5.0 Phase II Ground Water Sampling and Analysis

In April 2005 and December 2006 REMSERV, Inc. conducted a ground water sampling event at the 12 Swanton Street property. On August 10, 2007 REMSERV, Inc. conducted a ground water gauging event at the 12 Swanton Street property.

On April 1, 2005, REMSERV, Inc. gauged water levels and collected ground water samples from the four (4) monitoring wells installed in February 2005 (B101-MW, B102B-MW, B103-MW, and B104-MW) and from two (2) previously installed monitoring wells (MW-1 and MW-4).

On December 19, 2006 REMSERV, Inc. gauged water levels and collected ground water samples from five (5) monitoring wells installed at the site (MW-1, MW-4, B101-MW, B103-MW, and B104-MW). A ground water sample was not collected from B102B-MW since it was dry during this sampling event.

On August 10, 2007 REMSERV, Inc. gauged water levels and conducted a rod and level survey of seven (7) monitoring wells on site (B101-MW, B102B-MW, B103-MW, B104-MW, MW-1 and MW-4).

5.1 Monitoring Well Gauging

Prior to sampling, each well was gauged for the depth to ground water and the potential the presence of light non-aqueous phase liquids (LNAPL) using a Heron H.01L Interface Meter. REMSERV, Inc. rinsed the probe tip with methanol prior to entry into each well. The depth to water was gauged between 9.99 and 11.35 feet below ground surface in April 2005, from 11.15 to 12.37 feet in December 2006 and from 11.83 to 13.08 feet in August 2007 (Table 2). REMSERV, Inc. did not identify LNAPL during the April 1, 2005, December 19, 2006, or August 10, 2007 ground water monitoring events.

5.2 Ground Water Sampling

REMSERV, Inc. evacuated a minimum of three (3) well volumes prior to ground water sample collection using a Geotech Geopump 2 peristaltic pump, dedicated polyethylene tubing, and low-flow sampling technique (less than 0.3 liters per minute) (10). Ground water samples were placed in laboratory prepared containers, chilled, and transported to Spectrum (April 2005) and/or Alpha Woods Hole Analytical Laboratories (Alpha)(December 2006) under the Chain of Custody for VPH and EPH Method analyses (VEPH). Ground water analytical results are summarized in Table 2 and laboratory analytical data sheets are attached as Appendix II. The ground water VPH distribution is illustrated on Figure 4.

5.3 April 2005 Ground Water VEPH Analytical Results

- C5-C8 aliphatics were identified in monitoring wells MW-1 (753 ug/L), MW-4 (22,400 ug/L), B101-MW (1,110 ug/L), B102B-MW (4,620 ug/L), B103-MW (17,400 ug/L), and B104-MW (8,890 ug/L);
- C9-C12 aliphatics were identified in monitoring wells MW-1 (159 ug/L), MW-4 (5,830 ug/L), B101-MW (1,110 ug/L), B102B-MW (2,250 ug/L), B103-MW (2,560 ug/L), and B104-MW (1,520 ug/L); and
- C9-C10 aromatics were identified in monitoring wells MW-1 (300 ug/L), MW-4 (16,200 ug/L), B101-MW (4,230 ug/L), B102B-MW (6,910 ug/L), B103-MW (8,950 ug/L), and B104-MW (3,750 ug/L).

5.3.1 VPH Target Analytes

- Benzene was identified in monitoring wells MW-1 (11.4 ug/L), B102B-MW (230 ug/L), B103-MW (168 ug/L), and B104-MW (36.8 ug/L);
- Toluene was identified in monitoring wells MW-1 (12.4 ug/L), MW-4 (1,950 ug/L), B101-MW (7.2 ug/L), B102B-MW (1,600 ug/L), B103-MW (4,560 ug/L), and B104-MW (338 ug/L);
- Ethylbenzene was identified in monitoring wells MW-1 (26.8 ug/L), MW-4 (4,480 ug/L), B101-MW (58.5 ug/L), B102B-MW (680 ug/L), B103-MW (1,790 ug/L), and B104-MW (843 ug/L);
- Total xylenes were identified in monitoring wells MW-1 (60.4 ug/L), MW-4 (25,140 ug/L), B101-MW (224.3 ug/L), B102B-MW (4,470 ug/L), B103-MW (8,570 ug/L), and B104-MW (2,860 ug/L);
- Naphthalene was identified in monitoring wells MW-1 (10.8 ug/L), MW-4 (1,090 ug/L), B101-MW (92.4 ug/L), B102B-MW (368 ug/L), B103-MW (392 ug/L), and B104-MW (181 ug/L); and
- MTBE was identified in monitoring wells B102B-MW (87.4 ug/L) and B104-MW (38.6 ug/L).

No other VPH target analytes were identified at concentrations exceeding laboratory minimum detection limits (Table 2).

5.3.2 EPH Fractions

- C9-C18 aliphatics were identified in monitoring wells MW-4 (4,200 ug/L), B101-MW (300 ug/L), B102B-MW (400 ug/L), B103-MW (2,400 ug/L), and B104-MW (400 ug/L); and
- C11-C22 aromatics were identified in monitoring wells MW-4 (400 ug/L), B101-MW (600 ug/L), B102B-MW (500 ug/L), B103-MW (600 ug/L), and B104-MW (400 ug/L).

No other EPH fractions were identified at concentrations exceeding laboratory minimum detection limits (Table 2).

5.3.3 EPH Target Analytes

- 2-methylnaphthalene was identified in monitoring wells MW-4 (108 ug/L), B101-MW (96.3 ug/L), B102B-MW (30.6 ug/L), B103-MW (105 ug/L), and B104-MW (48.3 ug/L); and
- Naphthalene was identified in monitoring wells MW-4 (379 ug/L), B101-MW (44.5 ug/L), B102B-MW (114 ug/L), B103-MW (165 ug/L), and B104-MW (88.1 ug/L).

No other EPH target analytes were identified at concentrations exceeding laboratory minimum detection limits (Table 2).

5.4 December 2006 Ground Water VEPH Analytical Results

- C5-C8 aliphatics were identified in monitoring wells MW-1 (370 ug/L), MW-4 (2,440 ug/L), B101-MW (683 ug/L), B103-MW (4,940 ug/L), and B104-MW (1,690 ug/L);
- C9-C12 aliphatics were identified in monitoring wells MW-1 (229 ug/L), MW-4 (5,450 ug/L), B101-MW (247 ug/L), B103-MW (2,950 ug/L), and B104-MW (777 ug/L); and
- C9-C10 aromatics were identified in monitoring wells MW-1 (111 ug/L), MW-4 (10,700 ug/L), B101-MW (725 ug/L), B103-MW (3,920 ug/L), and B104-MW (1,830 ug/L).

5.4.1 VPH Target Analytes

- Benzene was identified in monitoring well B103-MW at a concentration of 68.6 ug/L;
- Toluene was identified in monitoring wells MW-4 (103 ug/L), B103-MW (2,570 ug/L), and B104-MW (43.2 ug/L);
- Ethylbenzene was identified in monitoring wells MW-4 (1,430 ug/L), B101-MW (4.42 ug/L), B103-MW (1,330 ug/L), and B104-MW (329 ug/L);
- Total xylenes were identified in monitoring wells MW-4 (8,030 ug/L), B103-MW (5,170 ug/L), and B104-MW (1,160 ug/L); and
- Naphthalene was identified in monitoring wells MW-4 (594 ug/L) and B103-MW (253 ug/L).

No other VPH target analytes were identified at concentrations exceeding laboratory minimum detection limits (Table 2).

5.4.2 EPH Fractions

- C11-C22 aromatics were identified in monitoring wells MW-4 (277 ug/L), B101-MW (194 ug/L), B103-MW (191 ug/L), and B104-MW (157 ug/L).

No other EPH fractions were identified at concentrations exceeding laboratory minimum detection limits (Table 2).

5.4.3 EPH Target Analytes

- 2-methylnaphthalene was identified in monitoring wells MW-4 (106 ug/L), B101-MW (11.3 ug/L), B103-MW (48.5 ug/L), and B104-MW (39.3 ug/L);
- Naphthalene was identified in monitoring wells MW-1 (0.569 ug/kg), MW-4 (275 ug/L), B101-MW (6.18 ug/L), B103-MW (189 ug/L), and B104-MW (71.1 ug/L).
- Phenanthrene was identified in monitoring well B101-MW at a concentration of 0.572 ug/L.
- Fluorene was identified in monitoring well B104-MW at a concentration of 0.464 ug/L.

No other EPH target analytes were identified at concentrations exceeding laboratory minimum detection limits (Table 2).

6.0 July 2007 Soil Gas Survey

REMSERV, Inc. conducted a soil gas survey based on the elevated dissolved VPH fractions and target analytes identified in ground water since 2000. The purpose of the soil gas survey was to collect data that could be used to assess the potential for soil gas to migrate to indoor air at the commercial building and the residences abutting the site to the west and north, respectively (Figure 5).

On July 13, 17, 18, and 30, 2007 REMSERV, Inc. completed 26 soil gas probes through asphalt cover along the south side of 12 Swanton Street and along the western property boundary (SG-1 through SG-25 and SG-21A) (Figure 2). The probes were completed through asphalt cover. The results of the soil gas survey are summarized in Table 3.

6.1 Soil Gas Survey – Northern Property Boundary

On July 13, 2007 REMSERV, Inc. advanced, by hand, soil gas probes SG-1 through SG-9 to approximately four (4) feet bgs using a slam bar threaded to a perforated soil probe. After attaining the desired depth the slam bar was detached and a quick-connect sampling fitting was attached to the top of the probe where it protruded from the ground. The annular space surrounding the soil probe was sealed to prevent atmospheric air from entering the soil gas probe. A MiniRae 2000 PID (10.6 eV) calibrated to a benzene standard was utilized to evacuate and screen soil gas for the presence of total volatile organic compounds (TVOCs). Each soil gas probe was monitored for an approximately three (3) minute period during which REMSERV, Inc. recorded the maximum, stabilized, and background PID readings (Table 3).

The maximum TVOC readings observed in soil gas points advanced along the northern property boundary ranged from 0.3 ppm (SG-8) to 3.2 ppm (SG-1) (Table 3). The sustained TVOC readings observed in soil gas points advanced along the northern property boundary ranged from 0.0 ppm (SG-7 and SG-8) to 0.7 ppm (SG-1). Background TVOC readings did not exceed 0.1 ppm TVOC (Table 3).

6.2 Soil Gas Survey – Western Property Boundary

On July 17 and 18, 2007 REMSERV, Inc. advanced soil gas probes SG-10 through SG-25 using one-inch diameter Geoprobe rods driven by a 30 lb. manual slide hammer. REMSERV, Inc. advanced soil gas probes SG-10 through SG-25 to approximately four (4) feet bgs prior to collecting a soil gas sample. REMSERV,

Inc. utilized a Geopump 2 peristaltic pump to evacuate soil gas at a rate of 0.3 liters per minute while simultaneously monitoring the soil gas discharge using the MiniRae 2000 PID. Maximum, sustained, and background TVOC readings were recorded during the evacuation period for each soil gas point (Table 3).

The maximum TVOC readings observed in soil gas points advanced along the western property boundary ranged from 0.5 ppm (SG-9 and SG-21A) to 9.0 ppm (SG-20) (Table 3). The sustained TVOC readings observed in soil gas points advanced along the western property boundary ranged from 0.1 ppm (SG-9) to 6.1 ppm (SG-18). Background TVOC readings for soil gas points SG-13 and SG-16 through SG-20 were elevated above 1.0 ppm TVOC (Table 3).

Soil gas points SG-10 through SG-20 were advanced on July 17, 2007 during humid and rainy conditions. It is REMSERV, Inc. opinion that elevated background readings may have been the result of the instrument's (PID) sensitivity to moisture. Soil gas points SG-21 through SG-24, advanced and screened during drier conditions on July 18, 2007, identified soil gas background readings that ranged between 0.0 ppm and 0.1 ppm TVOCs.

6.3 Soil Gas Point SG-25

On July 30, 2007 REMSERV, Inc. advanced soil gas point SG-25 approximately twelve inches southeast of SG-16. REMSERV, Inc. selected this location based on elevated TVOC readings identified in SG-16 on July 17, 2007 as well as the proximity of the nearest occupied structure. REMSERV, Inc. prescreened the soil gas in SG-25 using the hand-held PID. The PID maximum, sustained, and background TVOC readings exhibited by SG-25 were 1.2 ppm, 0.8 ppm, and 0.0 ppm respectively (Table 3).

REMSERV, Inc. proceeded to collect a soil gas sample in a SUMMA canister at this location. The SUMMA canister was prepared by Alpha Analytical. REMSERV, Inc. used threaded fittings and dedicated polyethylene tubing to connect the soil gas sampling rod to a laboratory calibrated flow control regulator prepared by Alpha. The SUMMA canister was connected to the down flow side of the regulator and the flow control valve was opened. The SUMMA Canister was calibrated by Alpha for a two-hour sample collection period at a constant flow rate.

The soil gas sample was submitted to Alpha under Chain of Custody for MADEP Air Phase Hydrocarbon (APH) analysis. Pre and post sampling pressure values were recorded by Alpha (-28.7 inHg and -5.1 inHg, respectively) to ensure that an adequate soil gas volume was collected to meet APH quality control standards. The APH laboratory analytical results are summarized in Table 4 and laboratory analytical data sheets are attached as Appendix II.

6.3.1 APH Analytical Results

The APH Method analysis of soil gas sample SG-25 identified hydrocarbon fractions and target analytes at the following concentrations (Table 4):

C5-C8 aliphatics	1,590 ug/m^3
C9-C12 aliphatics	11,500 ug/m^3
C9-C10 aromatics	639 ug/m^3

MTBE 35.8 ug/m^3

No other APH fractions or target analytes were identified at concentrations exceeding the laboratory minimum detection limits (Table 4).

7.0 Migration Pathways and Exposure Potential

A migration pathway is the mechanism of contaminant transport from the source to the exposure point. The VPH contaminants as a group and the target analytes are both characterized by moderate solubility, moderate vapor pressure (moderate Henry's constants) and a moderate affinity for soil attenuation in soils high in organic content. The EPH contaminants and target analytes are characterized by moderate to low solubility, moderate vapor pressure and a moderate affinity for soil attenuation in soils high in organic content. The bioattenuation and breakdown of the VPH and EPH contaminants occur primarily under aerobic conditions. The aromatic VPH range gasoline components and the aromatic EPH range diesel components are more readily biodegraded under aerobic conditions.

There are presently no direct soil contact or vapor exposure pathways to on-site workers. This is based on the depth of the contamination, low intensity site use by the human receptors at the site, and soil vapor survey results. Potential contaminant migration routes and exposure pathways are discussed below.

7.1 Soil

At present, there are no known or suspected migration pathways or exposure points through soil. Soil VPH contaminants are not readily accessible to employees or visitors because they are located at depths greater than 13 feet beneath asphalt pavement. Because the contaminants are not readily accessible, the most likely receptors would be individuals engaged in environmental remediation or utility repair.

7.2 Ground Water

At present, there are no known or suspected migration pathways or exposure points through ground water. Since there are no on-site uses of ground water, ground water ingestion is unlikely. The monitoring wells are bolted shut and fitted with expandable locking caps. Because ground water contaminants are not readily accessible, the most likely receptors would be individual contractors engaged in environmental assessment and remediation.

7.3 Surface Water

There are no surface water bodies located on site. The nearest surface water body (Aberjona River) is located approximately 2,021 feet from the site. Dissolved concentrations of C5-C8 aliphatics, C9-C10 aromatics, and total xylenes have been identified in site ground water at concentrations exceeding the GW-3 standard protective of surface water. Based on the distance of the site from the nearest surface water body it is unlikely that a migration pathway exists for dissolved contaminants identified on site to affect surface water (11).

7.4 Air

Vapor-phase hydrocarbons can migrate through soil and infiltrate the living space of occupied buildings or underground utilities. On July 13, 17, 18, and 30, 2007 REMSERV, Inc. conducted a soil gas survey along the 12 Swanton Street northern and western property boundaries. The results of the soil gas survey identified maximum PID readings for TVOCs that exceeded MADEP published soil gas screening levels for the evaluation of potential indoor-air impacts when background readings were taken into account. No sustained PID readings for TVOCs exceeded the MADEP soil gas screening levels. The greatest soil gas readings were identified during rainy conditions along the western property boundary in soil gas points SG-16, SG-18, and SG-20. Background PID readings at these soil gas points were elevated at levels of 1.1 ppm, 3.8 ppm, and 2.3 ppm, respectively.

REMSERV, Inc. advanced an additional soil gas probe (SG-25) in the area of the soil gas point that exhibited the highest maximum PID reading (SG-16, taking into account elevated background TVOCs). A soil gas sample was collected from SG-25 and submitted for laboratory analysis according to the MADEP APH Method.

Based on the APH laboratory results REMSERV, Inc. concludes that a complete migration pathway is not likely to exist for dissolved contaminants along the western boundary to affect indoor air of occupied structure located to the west of the site.

Based on soil gas survey results along the northern property boundary and on the identification of dissolved contaminants at concentrations below the GW-2 standard in monitoring well B101-MW (located to the northwest and hydrologically downgradient of the former USTs) REMSERV, Inc. concludes that a complete migration pathway is not likely to exist for dissolved contaminants along the northern boundary to affect indoor air of occupied structure located to the north of the site.

8.0 Exposure Points and Exposure Point Concentrations

An exposure point is a location at which a contaminant may contact a potential receptor. REMSERV, Inc. calculated site soil exposure point concentrations (EPCs) using VPH and EPH analytical results identified during subsurface exploration events in October 2000 and February 2005. Ground water EPCs were determined based on the analytical results obtained from the most recent ground water monitoring event conducted on December 19, 2006. The ground water EPCs for monitoring well B102B-MW were assigned to laboratory analytical results obtained during the April 2005 ground water monitoring event.

8.1 Soil Exposure Points

As per 310 CMR 40.0924(2)(a)2, soil "Exposure Point(s) shall be defined by the horizontal and vertical distribution of the contaminated soil in combination with the soil category(ies) determined to be applicable." The site surface is completely covered by asphalt pavement except for two landscaped islands located in the northeast and southwest of the site and a smaller landscaped island in the northwest of the site. Petroleum-impacted soils were identified at depths greater than thirteen feet below ground surface. No contaminated soils are stockpiled at the site. Potential soil exposure points are therefore limited to contaminated soils

accessed by contractors engaged in utility repair or environmental remediation, and soil excavation associated with unforeseen future site redevelopment.

8.1.1 Soil Exposure Point Concentrations

Soil exposure point concentrations (EPCs) have been calculated to represent an average contaminant concentration that may be encountered under a potential direct contact exposure scenario.

REMSERV, Inc. calculated soil VPH and EPH EPCs using soil samples collected during subsurface exploration activities (Table 1). Samples that did not exhibit contaminant concentrations above minimum laboratory detection limits were used in EPC calculations at a concentration equal to half of the laboratory minimum detection limit.

VPH Fraction EPCs

C5-C8 aliphatics	648.1	mg/kg
C9-C12 aliphatics	115.4	mg/kg
C9-C10 aromatics	581.2	mg/kg

VPH Target Analyte EPCs

Benzene	1.8	mg/kg
Toluene	128.9	mg/kg
Ethylbenzene	65.6	mg/kg
MTBE	10.0	mg/kg
Total xylenes	339.8	mg/kg
Naphthalene	18.9	mg/kg

EPH Fraction EPCs

C9-C18 aliphatics	174.1	mg/kg
C19-C36 aliphatics	16.3	mg/kg
C11-C22 aromatics	23.4	mg/kg

EPH Target Analyte EPCs

2-methylnaphthalene	8.0	mg/kg
C9-C12 aliphatics	11.2	mg/kg

8.2 Ground Water Exposure Points

As per 310 CMR 40.0924(2)(a)1, ground water "Exposure Point(s) shall be the ground water resource itself, as measured at each wellhead and/or nearest tap of a well screened within the horizontal and vertical distribution of the oil and/or hazardous material in the ground water. Existing water supply wells and monitoring wells shall be used to represent current or potential ground water Exposure Points." For the

purpose of this Class C-2 RAO Statement ground water EPCs are determined to be equivalent to the most recent analytical results for each individual monitoring well.

8.2.1 Ground Water Exposure Point Concentrations

Ground water VPH and EPH fraction and target analyte EPCs were determined using analytical results from the December 19, 2006 sampling event (Table 2). Monitoring well MW-3 EPCs were not calculated since it has been destroyed and not sampled after October 24, 2000. Monitoring well B102B-MW was not sampled during the December 19, 2006 ground water sampling event due to insufficient ground water within the monitoring well. The EPCs for this well are the April 2005 analytical results.
A decreasing trend in dissolved contaminant concentrations is evident since 2000. Since no remedial activities other than limited soil removal have been undertaken, the decreasing trend is believed to be indicative of natural attenuation processes.

The dissolved VPH fraction EPCs are as follows:

C5-C8 Aliphatics	370 ug/L (MW-1) to 4,940 ug/L (B103-MW)
C9-C12 Aliphatics	229 ug/L (MW-1) to 5,450 ug/L (MW-4)
C9-C10 Aromatics	111 ug/L (MW-1) to 10,700 ug/L (MW-4)

The VPH fraction EPCs for monitoring well B102B-MW are as follows:

C5-C8 aliphatics	4,620	ug/L
C9-C12 aliphatics	2,250	ug/L
C9-C10 aromatics	6,910	ug/L

The dissolved VPH target analytes EPCs are as follows:

Benzene	Below laboratory reporting limits (BDL)(MW-1, MW-4, B101-MW, and B104-MW) to 68.6 ug/L (B103-MW)
Toluene	BDL (MW-1) to 2,570 ug/L (B103-MW)
Ethylbenzene	BDL (MW-1) to 1,430 ug/L (MW-4)
Total xylenes	BDL (MW-1 and B101-MW) to 8,030 ug/L (MW-4)
MTBE	One-half the laboratory minimum detection limits for all monitoring wells
Naphthalene EPCs	BDL (MW-1, B101-MW, and B104-MW) to 594 ug/L (MW-4)

The dissolved VPH target analytes EPCs for monitoring well B102B-MW are as follows:

Benzene	230	ug/L
Toluene	1,600	ug/L
Ethylbenzene	680	ug/L
MTBE	4,470	ug/L
Total xylenes	87.4	ug/L
Naphthalene	368	ug/L

The dissolved EPH fraction EPCs are as follows:

C11-C22 Aromatics	BDL (MW-1) to 277 (MW-4)

All other EPH fraction EPCs were assigned one-half the laboratory minimum detection limits.

The dissolved EPH target analytes EPCs are as follows:

2-methylnaphthalene	BDL (MW-1) to 48.5 ug/L (B204-MW);
Fluorene	BDL (MW-1, MW-4, B101-MW, and B103-MW) to 0.464 ug/L (B104-MW)
Phenanthrene	BDL (MW-1, MW-4, B103-MW, B104-MW) to 0.572 ug/L (B101-MW)
Naphthalene	0.569 ug/L to 275 ug/L (MW-4).

All other EPH target analyte EPCs were assigned one-half the laboratory minimum detection limits.

The dissolved EPH fraction EPCs are as follows:

C9-C18 aliphatics	400 ug/L
C11-C22 aromatics	500 ug/L

All other EPH fraction EPCs were assigned one-half the laboratory minimum detection limits.

The EPH target analytes EPCs are as follows:

2-methylnaphthalene	30.6 ug/L
Naphthalene	114 ug/L

All other EPH target analyte EPCs were assigned one-half the laboratory minimum detection limits.

9.0 Method 1 Risk Characterization

Under a Method 1 Risk Characterization, a condition of No Significant Risk is evaluated by comparing the soil and ground water exposure point concentrations to the applicable Method 1 standards published by the MADEP for all sites. The Method 1 Characterization was conducted using soil EPCs calculated from the subsurface exploration samples collected during in January 2004 and June 2005. The ground water EPCs represent analytical results from the most recent ground water sampling event on December 19, 2007.

9.1 Soil Categorization

The MADEP has developed soil categories based on the exposure potential to receptors (adults and children). The exposure potential is based on a combination of soil accessibility (depth, ground cover) and the frequency and intensity of site usage by receptors (310 CMR 40.0933(9), #WSC/ORS-95-141, 2.1.4). The MCP outlines three types of soil classifications, all of which may apply to different areas of a site.

The frequency of use describes how often a receptor makes use of and has access to the disposal site. The frequency of use is examined for children under 15 years of age and adults. The intensity of use evaluates the site activity and uses that have the potential to disturb soil and result in direct contact or inhalation of dust-born contaminant exposure of the receptor to the disposal site. Intensity is described as either "high" or "low". The soil accessibility is described as accessible, potentially accessible or isolated. Accessible soil is located within three (3) feet of ground surface and is not completely covered with pavement. Potentially accessible soil is located up to 15 feet below ground surface in areas that are completely paved, or between three (3) and 15 feet below ground surface in unpaved areas. Isolated soil is located at a depth greater than 15 feet from ground surface or located beneath a building or other permanent structure without dirt floors.

The current and foreseeable site use is automobile repair and sales. The frequency and intensity of use by children is considered low. Approximately two (2) to three (3) adult full-time employees work at the property indicating a high frequency presence. The adult exposure intensity is low based on the contaminated soil depth of greater than thirteen feet beneath an asphalt surface layer. Based on these receptor characteristics the soils at the site have been categorized as S-3 (310 CMR 40.0933(7)).

9.2 Groundwater Categorization

The MCP describes three potential ground water categories that may be applicable to all sites. The GW-1 category includes those ground waters within a potentially productive aquifer, an Interim Wellhead Protection Area, in a Zone II of a public water supply, within 500 feet of a private drinking water well, in a Zone A of a Class A surface water body, or greater than 500 feet from a public water distribution pipeline. The GW-2 category is protective of groundwater located within 30 feet of an occupied building at an average depth of less than 15 feet from ground surface. Category GW-3 is protective of ground water that has the potential to discharge to surface water. This category pertains to all groundwater in the Commonwealth of Massachusetts.

Ground water at the site is categorized as GW-3 and GW-2. The GW-1 standard does not apply based on the absence of a drinking water well within 500 feet or a public drinking water well within 0.5 mile of the site. The GW-2 standard does not apply to monitoring well B101-MW as it is located at a distance greater than 30 feet laterally from an occupied structure.

9.3 Established Background

REMSERV Inc. compared the maximum detected concentration of Contaminants of Concern identified in site soils to available MADEP "natural" background concentrations (MADEP 2002). MADEP identified "natural" background concentrations as generally representing the high end (i.e., 90th percentile) of the concentration range observed for individual compounds in Massachusetts's soil. Contaminants not identified at concentrations exceeding laboratory minimum detection limits are considered to exist at background levels.

9.4 Soil EPC Comparison to Method 1 Standards

REMSERV, Inc. has conducted a Method 1 comparison in which the EPCs for VPH and EPH fractions and target analytes were compared to the MADEP published Method 1 standards for soil.

9.4.1 Soil VPH EPC Comparison to Method 1 Standards

The soil VPH EPCs for the VPH fraction C5-C8 aliphatics and C9-C10 aromatics exceed the Method 1 S-1 and S-3 standards. No other soil VPH fraction or target analyte EPCs exceed the applicable Method 1 S-3 standards.

9.4.2 Soil EPH EPC Comparison to Method 1 Standards

The soil EPH EPCs did not exceed any of the Method 1 standards for EPH fractions or target analytes.

9.5 Ground Water EPC Comparison to Method 1 Standards

REMSERV, Inc. conducted a Method 1 Comparison in which the EPCs for dissolved VPH and EPH fractions and target analytes were compared to the MADEP published Method 1 standards for ground water.

9.5.1 VPH Fractions Comparison to Method 1 Standards

The following VPH fractions were identified at EPCs exceeding applicable Method 1 standards:

- C5-C8 aliphatics in monitoring wells MW-4 (GW-2), B103-MW (GW-2, GW-3), B104-MW (GW-2), and B102B-MW (GW-2, GW-3);
- C9-C12 aliphatics in monitoring wells MW-4 (GW-2), B103-MW (GW-2), and B102B-MW (GW-2); and
- C9-C10 aromatics in monitoring wells MW-4 (GW-2, GW-3) and B102B-MW (GW-2, GW-3).

9.5.2 VPH Target Analytes Comparison to Method 1 Standards

The VPH target analyte total xylenes was identified at EPCs exceeding applicable Method 1 standards in monitoring wells MW-4 (GW-3), B103-MW (GW-3), B104-MW (GW-3), and B102B-MW (GW-3).

No other VPH target analyte EPCs exceed applicable Method 1 standards for site ground water.

9.5.3 EPH Fractions Comparison to Method 1 Standards

No EPH fraction EPCs exceed the applicable Method 1 standards for site ground water.

9.5.4 EPH Target Analytes Comparison to Method 1 Standards

No EPH target analyte EPCs exceed applicable Method 1 standards for site ground water.

10.0 Indoor Air Exposure Risk Assessment

REMSERV, Inc. compared soil gas monitoring results for 26 locations along the 12 Swanton Street northern and western property boundaries to MADEP published threshold criteria. If soil gas readings are below the MADEP published thresholds for soil gas PID readings (Level 1) or soil gas analyses (Level 2), the MADEP

considers that indoor air impacts are unlikely (11).

REMSERV, Inc. followed the recommended procedures for "Level 2 – Soil Gas Analysis" in accordance with the procedures outlined in the MADEP Policy #WSC-02-411 dated October 31, 2002 entitled "Implementation of the MADEP VPH/EPH Approach." For the purpose of the risk assessment, 100% of the TVOC readings were attributed to each VPH fractions.

Soil gas point (SG-16) exhibited a maximum PID reading that when corrected for elevated background PID levels exceeded the MADEP published values for C5-C8 aliphatics and C9-C12 aliphatics. No other soil gas monitoring points (when corrected for elevated background PID levels) exhibited a soil gas reading that exceeded the MADEP thresholds for likely indoor air impact. REMSERV, Inc. believes that TVOC readings obtained from soil gas point SG-16 were elevated due to environmental conditions present (humidity/rain) during the July 17, 2007 soil gas survey activities.

Based on the soil gas readings in SG-16 REMSERV, Inc. advanced an additional soil gas probe (SG-25) approximately 12 inches to the southeast and closer to the source area. As a conservative estimate of potential exposure to indoor air, REMSERV, Inc. collected a soil gas sample from SG-25 for laboratory analysis according to the MADEP Air Phase Hydrocarbon (APH) Method.

The results of APH analysis did not identify any petroleum contaminants at concentrations exceeding the Soil Gas GC Screening Levels identified in Table 4-10 of MADEP Policy #WSC-02-411. As mentioned previously, the MADEP has published these threshold values to be protective of potential indoor air impacts. Based on the results of the soil gas survey and soil gas APH analysis it is REMSERV, Inc.'s opinion that the potential does not exist for dissolved contamination to affect the indoor air of the downgradient occupied structures.

11.0 Imminent Hazard Evaluation

REMSERV, Inc. conducted an evaluation of site conditions to determine if an Imminent Hazard exists at the site in accordance with 310 CMR 40.0950. As per 310 CMR 40.0006 an Imminent Hazard is "a hazard which would pose a significant risk of harm to health, safety, public welfare or the environment if it were present for even a short period of time."

The soil gas survey concentrations and the ground water concentrations for dissolved gasoline associated with RTN 3-18598 are not present at levels that would result in the "presence of oil and/or hazardous material vapors within buildings, structures, or underground utility conduits at a concentration equal to or greater than 10% of the Lower Explosive Limit," or affect a public roadway (CMR 30.0321(1)). Based on criteria established in 310 CMR 40.0321 and CMR 40.0950 REMSERV, Inc. did not identify a Condition of Imminent Hazard to safety at the site in association with RTN 3-18598.

The release did not occur within a Zone II for a drinking water supply well or within 500 feet of a private drinking water well. REMSERV, Inc. did not identify a complete soil, ground water, surface water and/or air exposure pathway at the site. Due to the lack of complete exposure pathways REMSERV, Inc. does not consider the release to pose "a significant risk to human health [...] as specified in 310 CMR 40.0950" or to "produce immediate or acute adverse impacts to freshwater or saltwater fish populations" based on current

and foreseeable site conditions (310 CMR 40.0321(1)). Based on criteria established in 310 CMR 40.0321 and CMR 40.0950 REMSERV, Inc. did not identify a condition of Imminent Hazard to health and public welfare at the site in association with RTN 3-18598.

12.0 Substantial Hazard Assessment

The extent of dissolved contamination has been identified through soil and ground water assessment in the downgradient direction. None of the soil analytical results have identified VPH fractions or target analytes that exceed the Upper Concentration Limits published by the MADEP. There are presently no on-property exposure points to contaminated soil and ground water. The site is completely paved with asphalt within the area source area except for a landscaped island along the front (north) and rear (south) of the property. The depth to contaminated soils is approximately seven (7) feet below ground surface. The analysis of off-property gasoline contamination has been assessed through soil gas sampling and analysis for the potential migration of contaminated soil vapor to indoor air at the nearest downgradient receptor. The absence of VPH contaminants in soil gas in excess of the Level 1 soil gas screening thresholds and the Level 2 Air Phase Hydrocarbon (APH) soil gas GC screening levels indicates that there is not a likelihood of threat to indoor air at the nearest downgradient receptors.

The nearest downgradient surface water body is 2,000 feet to the northeast. There are no wetlands, aquatic and terrestrial habitats, and fisheries that exist at the disposal site. Three drinking water reservoirs exist at a distance greater than one-half mile upgradient from the site at a substantially greater surface elevation.

REMSERV, Inc. has assessed the potential for a Condition of Substantial Hazard that considers the physical site conditions, the extent of the source area, the extent of media contamination and the absence of any exposure points at the site. The absence of a Condition of Substantial Hazard is based on the soil gas survey results using Level 1 soil gas screening with a field PID and Level 2 soil gas analysis with a gas chromatograph. The soil gas survey did not exceed the MADEP published thresholds for the likely impact to indoor air. As a result, REMSERV, Inc. has concluded that a Condition of Substantial Hazard does not exist at the site.

13.0 Feasibility of Achieving a Permanent Solution

In July 2005 REMSERV, Inc. conducted a Phase III Feasibility Assessment that resulted in a Remedial Action Plan. The Phase III identified soil chemical oxidation pilot test followed by ground water monitoring to assess the effectiveness of this remedial action alternative implementation on dissolved contaminant concentrations at the site. The remedial action recommendation was based on the dissolved contaminant concentrations identified in 2000 and in April 2005. A subsequent ground water sampling and analyses event in December 2006 identified a decreasing plume prior to implementation of the remedial action. Based on the decreasing dissolved concentrations of VPH contaminants it is REMSERV, Inc.'s opinion that a permanent solution may be achieved without chemical oxidation. REMSERV, Inc. will conduct Post-Class C RAO monitoring to assess the long-term behavior and to verify the conditions of a stable or decreasing plume.

13.1 Post-Class C Ground Water Monitoring Schedule

REMSERV, Inc. is recommending quarterly sampling to assess the plume behavior over time and confirm that the plume is reducing in extent as evidenced by VPH laboratory analysis of ground water samples. An assessment will be made of the feasibility of achieving background after additional ground water data has been collected.

13.2 Contingency Criteria

If the dissolved concentrations decrease below the GW-3 standard consistently for all monitoring wells, REMSERV, Inc. will file a Class A-2 Response Action Outcome (RAO). In the event that dissolved concentrations persist in excess of the GW-3 standard, REMSERV, Inc. will conduct a risk assessment to consider the long-term risks associated with GW-3 exceedances at the property. If the dissolved concentrations establish an increasing trend over consecutive sampling events then REMSERV, Inc. will assess the need for injection of an oxygen-enhancing agent to stimulate the degradative capacity of the indigenous bacteria.

14.0 Conclusions

A Phase IV Completion Report (Phase IV) and Class C-2 RAO Statement has been completed for a historic release of gasoline under Release Tracking Number (RTN) 3-18598 at the 12 Swanton Street property. The Phase IV and Class C-2 RAO Statement include a Method 1 Risk Characterization to assess the potential existence of a "Condition of No Significant Risk of harm to health, safety, public welfare and the environment" (310 CMR 40.0900).

The property is located at 12 Swanton Street, Winchester, Massachusetts. The site is currently occupied by an automotive repair and used car sales facility. The site formerly dispensed gasoline and diesel fuel. The property consists of an 1,806 square foot building on a 0.31-acre lot. The site is not located within an Interim Wellhead Protection Area, within ½ mile of drinking water supply wells, or within a 500-foot radius of known private water supply wells. The site building and nearby residents are connected to municipal water and sanitary sewer. Residences are located on the opposite side of Swanton Street to the north and a commercial dry cleaner abuts the property to the west.

On July 8, 1999, the MADEP Northeast Regional Office was notified of a 72-hour reportable condition at the site when a soil headspace reading exceeding 100 parts per million (ppm) was obtained from soil samples collected from within 10 feet of an underground storage tank (UST) outer wall. Approximately 20 cubic yards of soil were stockpiled when six (6) USTs were removed from the site in May 1999. The four (4) gasoline USTs, the dispensing island, and the single 250-gallon waste oil UST were located in front of the site building (Figure 2). The 500-gallon heating oil UST was located at the rear of the building. The MADEP issued a Notice of Responsibility (NOR) dated November 19, 1999 to Bossi Realty Trust for a gasoline release associated with the UST system and assigned RTN 3-18598.

REMSERV, Inc. has assessed the extent of gasoline contaminated soils and ground water at the 12 Swanton Street property using the soil analytical results from October 2000 and February 2005 soil borings and the

most recent ground water sampling analytical data from December 2006. The greatest PID readings were observed in the area of the former USTs and the fuel-dispensing island. The soil analyses identified the greatest VPH concentrations in soil boring MW-4 near the downgradient property boundary, however it should be noted that the sample submitted from the former UST location further upgradient was not the sample that exhibited the greatest PID reading.

Dissolved VPH concentrations have decreased in all monitoring wells from 2000 through 2006. The latest dissolved contaminant concentrations exceed the applicable GW-2 ground water standard in monitoring wells on the downgradient property boundary.

The extent of dissolved contaminants indicate that the greatest concentrations of dissolved contaminates were identified in MW-4, one of three downgradient monitoring wells.

The primary migration and exposure pathways at the site are associated with potential soil vapor migration to indoor air and inhalation of contaminated vapors by occupants of the nearest downgradient commercial structure on the south side of Swanton Street. The remaining exposure pathways were considered to be incomplete given the depth of soil contamination, the existing asphalt cover, the current foreseeable commercial site use of the property and downgradient properties on the south side of Swanton Street and the absence of a private or public water supply well in proximity to the site.

To assess the likelihood of a complete exposure pathway to indoor air associated with gasoline vapor, a soil gas survey was conducted along the downgradient property boundaries to the north and west. The soil gas survey results along the northern property boundary with Swanton Street identified soil gas PID readings that are slightly elevated above background. The land use on the opposite side of Swanton Street is residential.

Soil gas concentrations increased along the western property boundary reaching a maximum between the on-site building and the downgradient commercial drycleaners. The soil gas samples collected along the western boundary were believed to have been influenced by the instruments sensitivity to intermittent rain and high temperature and humidity conditions on July 17, 2007. The moisture effects are evident in the elevated background readings. Soil gas readings collected along the western boundary on July 18, 2007 when conditions were less humid indicate lower soil gas readings.

REMSERV, Inc. advanced a secondary soil gas probe, SG-25, approximately one foot to the east of SG-16 where the maximum PID reading was recorded on July 17, 2007. A SUMMA canister sample was collected at SG-25 over a two-hour exposure period and was submitted to Alpha Analytical for Air Phase Hydrocarbon (APH) analysis. REMSERV, Inc. used the result of the soil gas PID screening and the APH analysis of a soil gas sample to assess the potential for indoor air exposure from contaminated ground water and soils using MADEP published thresholds for the likelihood of unacceptable indoor air exposure to contaminated vapor. As a result of the soil gas PID readings and the APH results, REMSERV, Inc. has concluded that none of the soil gas data exceeds the MADEP published thresholds for potential likely risks to indoor air.

It is REMSERV, Inc.'s opinion that site conditions do not pose an Imminent Hazard associated with soil gas contaminant concentrations or the additional criteria specified in 310 CMR 40.0321. A Condition of Substantial Hazard has not been met for the property since there is no complete exposure pathway and the site

conditions do not meet the Substantial Hazard criteria outlined in 310 CMR 40.0956. Lastly REMSERV, Inc. has not identified a Condition of Substantial Release Migration as defined in 310 CMR 40.0006.

It is REMSERV, Inc.'s opinion that a temporary solution has been achieved for the site based on the decreasing trend in ground water dissolved VPH concentrations since 2000 and the absence of a complete exposure pathway to indoor air at on-site or downgradient structures.

REMSERV, Inc. has developed a Class C-2 RAO as a temporary solution because it is more cost effective than alternative technologies to achieve a permanent solution. REMSERV, Inc. has developed a quarterly VPH ground water sampling program under a Class C-2 Response Action Outcome the results of which will be used to assess the decreasing trend in dissolved concentrations and the potential to achieve a permanent solution.

15.0 Limitations

1. Previous reports were sources of information pertaining to extent of contamination, record review, historical ownership, underground storage tank records and contact with public officials. REMSERV, Inc. has not verified the accuracy or validity of the information contained in these reports,

2. The accuracy and completeness of the information available at the sources reviewed and referenced as part of the site assessment (i.e. State and Municipal Officials, State and Municipal Agency files, etc.) is not verified by REMSERV, Inc.,

3. The subsurface environmental conditions at the site may vary significantly outside the immediate vicinity of the monitoring well locations. Therefore the conclusions and recommendations would require modification should additional information be made available or additional subsurface investigation be undertaken at the site. Should these conclusions warrant, REMSERV, Inc. will modify the Phase IV and Class C-2 RAO conclusions and recommendations,

4. REMSERV, Inc. has not conducted any off-site sampling and/or analyses including; a sewer manhole survey or indoor air analysis associated with any of the abutting structures,

5. The work conducted by REMSERV, Inc. is subject to our Schedule of Conditions and has been performed according to generally accepted environmental engineering practices. No other warranty is expressed or implied. The contents of this report may not be copied, provided, or otherwise communicated to parties not involved with the property without prior written consent from REMSERV, Inc.

16.0 List of References

1. The Winchester Assessor's Office Online database, located at http://winchester.patriotproperties.com

2. REMSERV, Inc. personal communication with Ms. Anne Dyrne of the Winchester Public Works Department on April 27, 2005.

3. 314 CMR 4.00 Massachusetts Surface Water Quality Standards.

4. Massachusetts Geographic Information Systems, online mapping program displaying: public water supply protection areas; wetlands and streams; Protected Open Space; Areas of Critical Environmental Concern; Natural Heritage and Endangered Species Program - BioMap Core Habitat and BioMap Supporting Natural Landscapes.

5. "Commonwealth of Massachusetts Underground Storage Tank Closure Assessment Manual." MADEP Policy #WSC-402-96. April 9, 1996.

6. Web Engineering Associates, Inc. "Tier Classification Submittal: Bossi's Automotive Service, Inc. 12 Swanton Street Winchester, Massachusetts."

7. "Bedrock Map of Massachusetts", E-An Zen editor, 1982.

8. USGS, Water Resources of Massachusetts and Rhode Island. http://ma.water.usgs.gov

9. Fetter, C.W. Jr., 1980, *Applied Hydrogeology,* Charles E. Merrill Publishing Co., Columbus, OH.

10. US EPA: "Low-Flow Ground-Water Sampling Procedures." US EPA 540/S-95/504, April 1996.

11. MADEP: "Characterizing Risks Posed By Petroleum Contaminated Sites: Implementation of the MADEP VPH/EPH Approach." Policy #WSC-02-411, October 2002.

TABLE 1 - SOIL ANALYTICAL RESULTS
Bossi Realty Trust
12 Swanton Street
Winchester, MA
RTN 3-18598

Sample ID	Sampling Date	Sample Depth (feet)	PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	MTBE (mg/kg)	o-Xylene (mg/kg)	m+p-Xylene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (by MA VPH) (mg/kg)	Naphthalene (by MA EPH) (mg/kg)	2-methylnaphthalene (mg/kg)	C_5-C_8 Aliphatics (mg/kg)	C_9-C_{12} Aliphatics (mg/kg)	C_9-C_{10} Aromatics (mg/kg)	C_9-C_{18} Aliphatics (mg/kg)	C_{19}-C_{36} Aliphatics (mg/kg)	C_{11}-C_{22} Aromatics (mg/kg)
Method 1 S-1	---	---	---	30	500	500	100	NS	NS	500	500	500	500	100	1,000	100	1,000	3,000	800
Method 1 S-2	---	---	---	200	1,000	1,000	500	NS	NS	1,000	1,000	1,000	1,000	500	2,500	500	2,500	5,000	2,000
Method 1 S-3	---	---	---	900	3,000	2,500	500	NS	NS	3,000	700	700	3,000	500	5,000	500	5,000	5,000	5,000
UCLs	---	---	---	9,000	10,000	10,000	5,000	NS	NS	10,000	10,000	10,000	10,000	5,000	20,000	5,000	20,000	10,000	10,000
*MW-1 (10'-12')[1]	10/13/00	12	110	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.2*	*<0.5*	*<0.51*	*<0.51*	1	1.9	*<1*	*<31*	*<31*	*<31*
*MW-2 (10'-12')	10/13/00	12	0.0	NA	NA	NA	NA	NA	NA	NA	NA	*<0.52*	*<0.52*	NA	NA	NA	*<31*	*<31*	*<31*
*MW-3 (10'-12')[1]	10/13/00	12	828	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.2*	*<0.5*	*<0.5*	<0.5	2.0	2.2	1.4	*<30*	*<30*	*<30*
*MW-4 (15'-15.5')[1]	10/13/00	16	>1,000	*<3.3*	470	170	10	260	620	**880**	60	29	26	**2,100**	*<33*	**2,400**	350	*<33*	120
B101 S4 13-15[1]	02/28/05	15	376	*<0.089*	0.14	*<0.089*	*<0.089*	*<0.089*	*<0.179*	*<0.268*	0.332	*<0.147*	0.162	16.4	6.08	8.66	*<29.6*	*<29.6*	*<29.6*
B102 S1B 11.5-12	02/28/05	12	0.0	*<0.063*	*<0.063*	*<0.063*	*<0.063*	*<0.063*	*<0.126*	*<0.189*	*<0.063*	*<0.149*	*<0.149*	*<0.94*	*<0.313*	*<0.313*	*<30*	*<30*	*<30*
B103 S1 13-15[1]	02/28/05	15	520	1.75	39.6	24.2	*<0.748*	35.4	92.4	127.8	9.55	3.92	3.99	**639**	217	280	43.3	*<35.3*	40.6
B104 S1 13-15[1]	02/28/05	14	72.6	*<0.793*	5.99	2.72	*<0.793*	2.62	9.10	11.72	5.82	0.642	1.66	**1,130**	350	216	129	*<36.1*	57.3
EPC	—	—	—	1.8	128.9	65.6	10.0	99.3	240.5	339.8	18.9	11.2	8.0	**648.1**	115.4	**581.2**	174.1	16.3	23.4

LEGEND

BDL	Below Laboratory Detection Limits
NS	No Standard Published
NA	Not Analyzed
NR	Not Reported
EPC	Soil Exposure Point Concentration
*	Sample Collected by Web Engineering
t	Indicates that the soil sample was used in the EPC calculations

Notes:

1. **Bolded** values indicate concentrations above site applicable standards.
2. All concentrations and standards reported in mg/kg.
3. EPCs are calculated using one-half the minimum detection limit for samples with values below the laboratory detection limit

TABLE 2 - GROUND WATER ANALYTICAL RESULTS
Bossi Realty Trust
12 Swanton Street
Winchester, MA
RTN 3-18598

Sample ID	Sampling Date	PVC Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	m+p -Xylene (ug/L)	o-Xylene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	Naphthalene (by VPH) (ug/L)	Naphthalene (by EPH) (ug/L)	2-Methylnaphthalene (ug/L)	Phenanthrene	Fluorene	C_5-C_8 Aliphatics (ug/L)	C_9-C_{12} Aliphatics (ug/L)	C_9-C_{10} Aromatics (ug/L)	C_{9}-C_{18} Aliphatics (ug/L)	C_{19}-C_{36} Aliphatics (ug/L)	C_{11}-C_{22} Aromatics (ug/L)
GW-1 Standard	---	---	---	---	5	1,000	700	NS	NS	10,000	70	140	140	10	300	300	400	4,000	200	4,000	14,000	200
GW-2 Standard	---	---	---	---	2,000	8,000	30,000	NS	NS	9,000	50,000	1,000	1,000	10,000	NA	NA	1,000	1,000	5,000	1,000	NS	50,000
GW-3 Standard	---	---	---	---	10,000	4,000	4,000	NS	NS	500	50,000	20,000	20,000	3,000	50	3,000	4,000	20,000	4,000	20,000	50,000	30,000
UCLs	---	---	---	---	100,000	80,000	100,000	NS	NS	100,000	100,000	100,000	100,000	100,000	400	30,000	100,000	100,000	100,000	100,000	100,000	100,000
*MW-1	10/24/00	NM	13.70	---	11	40	37	110	28	138	16	BDL	2.3	1.4	BDL	BDL	**1,400**	340	440	BDL	BDL	BDL
	04/01/05		10.87	---	11.4	12.4	26.8	50.8	9.6	60.4	BDL	10.8	BDL	BDL	BDL	BDL	753	159	300	BDL	BDL	BDL
	12/19/06		12.37	---	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.569	BDL	BDL	BDL	370	229	111	BDL	BDL	BDL
	08/10/07	102.12	13.08	89.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
*MW-3	10/24/00	NM	13.20	---	1,900	**23,000**	**4,500**	17,000	7,200	**24,200**	BDL	830	170	140	1.1	1.4	**30,000**	**21,000**	**17,000**	**1,500**	BDL	630
*MW-4	10/24/00	NM	13.34	---	1,900	**41,000**	**6,200**	25,000	12,000	**32,000**	3,500	1,100	280	170	1.7	1.3	**47,000**	**29,000**	**18,000**	**1,300**	BDL	800
	04/01/05		10.43	---	BDL	**1,950**	**4,480**	17,500	7,640	**25,140**	BDL	1,090	379	108	BDL	BDL	**22,400**	**5,830**	**16,200**	**4,200**	BDL	400
	12/19/06		11.58	---	BDL	103	1,430	6,200	1,830	**8,030**	BDL	594	275	106	BDL	BDL	**2,440**	**5,450**	**10,700**	BDL	BDL	277
	08/10/07	100.52	12.28	88.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B101-MW	04/01/05	100.00	9.99	90.01	BDL	7.2	58.5	212	12.3	224.3	BDL	92.4	44.5	96.3	BDL	BDL	**1,110**	**1,110**	**4,230**	300	BDL	600
	12/19/06		11.15	88.85	BDL	BDL	4.42	BDL	BDL	BDL	BDL	BDL	6.18	11.3	0.572	BDL	683	247	725	BDL	BDL	194
	08/10/07		11.83	88.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B102B-MW	04/01/05	100.97	11.35	89.62	230	1,600	680	2,560	1,910	**4,470**	87.4	368	114	30.6	BDL	BDL	**4,620**	**2,250**	**6,910**	400	BDL	500
	12/19/06		11.83	89.14	No Sample Collected																	
	08/10/07	100.96	Monitoring Well Dry During Monitoring Event																			
B103-MW	04/01/05	101.04	10.39	90.65	168	4,560	1,790	6,090	2,480	**8,570**	BDL	392	165	105	BDL	BDL	**17,400**	**2,560**	**8,950**	**2,400**	BDL	600
	12/19/06		11.72	89.32	68.6	2,570	1,330	3,760	1,410	**5,170**	BDL	253	189	48.5	BDL	BDL	**4,940**	**2,950**	3,920	BDL	BDL	191
	08/10/07	101.04	12.42	88.62	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B104-MW	04/01/05	101.68	10.77	90.91	36.8	338	843	2,080	780	**2,860**	38.6	181	88.1	48.3	BDL	BDL	**8,890**	**1,520**	3,750	400	BDL	400
	12/19/06		12.18	89.50	BDL	43.2	329	875	285	**1,160**	BDL	BDL	71.1	39.3	BDL	0.464	**1,690**	777	1,830	BDL	BDL	157
	08/10/07	101.68	12.90	88.78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

LEGEND

BDL	Below Laboratory Detection Limits
NS	No Standard Published
NM	Not Measured
NR	Not Reported
NA	Not Analyzed
*	Monitoring well installed by previous consultant

Bolded values indicate concentrations above site applicable standards.

Note: All concentrations and standards reported in ug/L.

TABLE 3 - SOIL GAS SURVEY
Bossi's Auto Group
12 Swanton Street
Winchester, MA
RTN 3-18598

Probe ID	Date	Sample Depth (ft)	PID (ppm TVOC)			
			Maximum	Stabilized	Background	Corrected
Soil Gas PID Screening Levels for Evaluation of Indoor Air Impacts (10.1 - 11.4 eV PID)						
C5-C8 Aliphatics			7 ppm			
C9-C12 Aliphatics			7 ppm			
C9-C10 Aromatics			29 ppm			
C9-C18 Aliphatics			7 ppm			
Toluene			12 ppm			
Ethylbenzene			4 ppm			
Total Xylenes			16 ppm			
SG-1	7/13/2007	4	3.2	0.7	0.1	3.1
SG-2	7/13/2007	4	1.0	0.4	0.0	1.0
SG-3	7/13/2007	4	0.5	0.3	0.1	0.4
SG-4	7/13/2007	4	2.4	0.4	0.0	2.4
SG-5	7/13/2007	4	1.1	0.3	0.0	1.1
SG-6	7/13/2007	4	0.4	0.1	0.0	0.4
SG-7	7/13/2007	4	0.4	.0.0	0.0	0.4
SG-8	7/13/2007	4	0.3	0.0	0.0	0.3
SG-9	7/13/2007	3	0.5	0.1	0.1	0.4
SG-10	7/17/2007	4	1.1	0.2	0.1	1.0
SG-11	7/17/2007	4	1.8	0.7	0.1	1.7
SG-12	7/17/2007	4	2.9	1.5	0.2	2.7
SG-13	7/17/2007	4	6.2	4.1	1.8	5.4
SG-14	7/17/2007	4	1.5	1.2	0.1	1.4
SG-15	7/17/2007	4	3.1	2.1	0.0	3.1
SG-16	7/17/2007	4	8.7	4.3	1.1	7.6
SG-17	7/17/2007	4	5.9	3.8	2.1	3.8
SG-18	7/17/2007	4	8.0	6.1	3.8	4.2
SG-19	7/17/2007	4	4.8	3.3	1.7	3.1
SG-20	7/17/2007	4	9.0	5.1	2.3	6.7
SG-21	7/18/2007	3.7	See SG-21A			
SG-21A	7/18/2007	3.7	0.5	0.3	0.0	0.5
SG-22	7/18/2007	3.65	0.8	0.7	0.0	0.8
SG-23	7/18/2007	4.1	1.2	1.1	0.0	1.2
SG-24	7/18/2007	3.5	1.6	1.1	0.1	1.5
SG-25	7/30/2007	4.03	1.2	0.8	0.0	1.2

Note

1. All soil gas survey locations were field screened for total volatile organic compounds (TVOCs) using a MiniRae 2000 photoionization detector (PID) (10.6 eV Lamp) calibrated to a benzene standard.
2. Soil gas screening results were compared to Soil Gas Action Levels set forth in Table 4.9 of MADEP Policy #WSC-02-411 (October 2002).

TABLE 4 - SOIL GAS ANALYTICAL RESULTS
Bossi Realty Trust
12 Swanton Street
Winchester, MA
RTN 3-18598

Sample ID	Sampling Date	Sample Collection Depth (feet)	Benzene (ug/m^3)	Toluene (ug/m^3)	Ethylbenzene (ug/m^3)	m+p -Xylene (ug/m^3)	o-Xylene (ug/m^3)	Total Xylenes (ug/m^3)	MTBE (ug/m^3)	Naphthalene (ug/m^3)	2-Methylnaphthalene (ug/m^3)	C_5-C_8 Aliphatics (ug/m^3)	C_9-C_{12} Aliphatics (ug/m^3)	C_9-C_{10} Aromatics (ug/m^3)
Soil Gas GC Screening Levels [1]	---	---	5	36,000	13,000	NS	NS	94,000	NS	NS	NS	111,000	117,000	104,000
SG-25	7/30/07	4.03	BDL	BDL	BDL	BDL	BDL	BDL	35.8	BDL	BDL	1,590	11,500	639

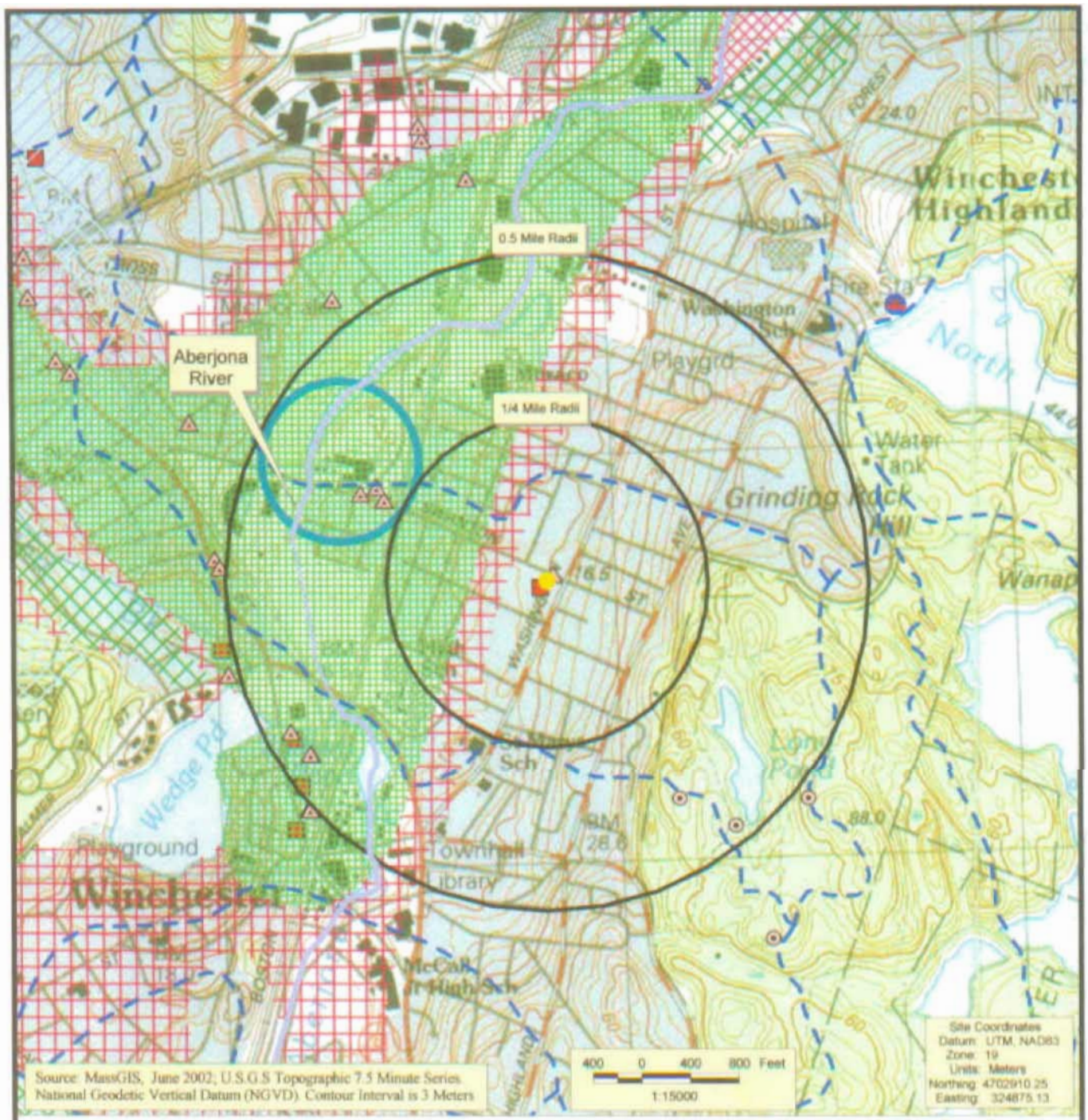
LEGEND

BDL	Below Laboratory Detection Limits
NS	No Standard Published
NM	Not Measured
NR	Not Reported

Bolded values indicate concentrations above site applicable standards.

Note: All concentrations and standards reported in ug/m3.

1. Table 4-10 of MADEP Policy #WSC-02-411 "Characterizing Risks Posed by Petroleum Contaminated Sites:Implementation of the MADEP VPH/EPH Approach"



Legend

- 12 Swanton Street, Winchester, MA
- DEP Tier Classified Oil or Hazardous Material Sites
- DEP Underground Storage Tank
- Certified Vernal Pools
- NHESP-Estimated Habitats for Rare Wildlife ("NHESP 1999-2001 Estimated Habitats of Rare Wildlife: Use with Wetlands Protection Act")
- Solid Waste Facility
- DEP Approved Zone IIs
- Interim Wellhead Protection Area
- ACEC

Public Water Supply Wells

- Community Groundwater Well
- Community Surface Water Well
- Proposed Well
- Non Community Well

Non-potential Drinking Water Source Area

- High Yield (>300 gpm)
- Medium Yield (100-300 gpm)
- Low Yield (<50 gpm)

Potential Drinking Water Source Area

- High Yield (>300 gpm)
- Medium Yield (100-300 gpm)
- Low Yield (<50 gpm)
- Protected Open Space
- Major Basin/Subbasin

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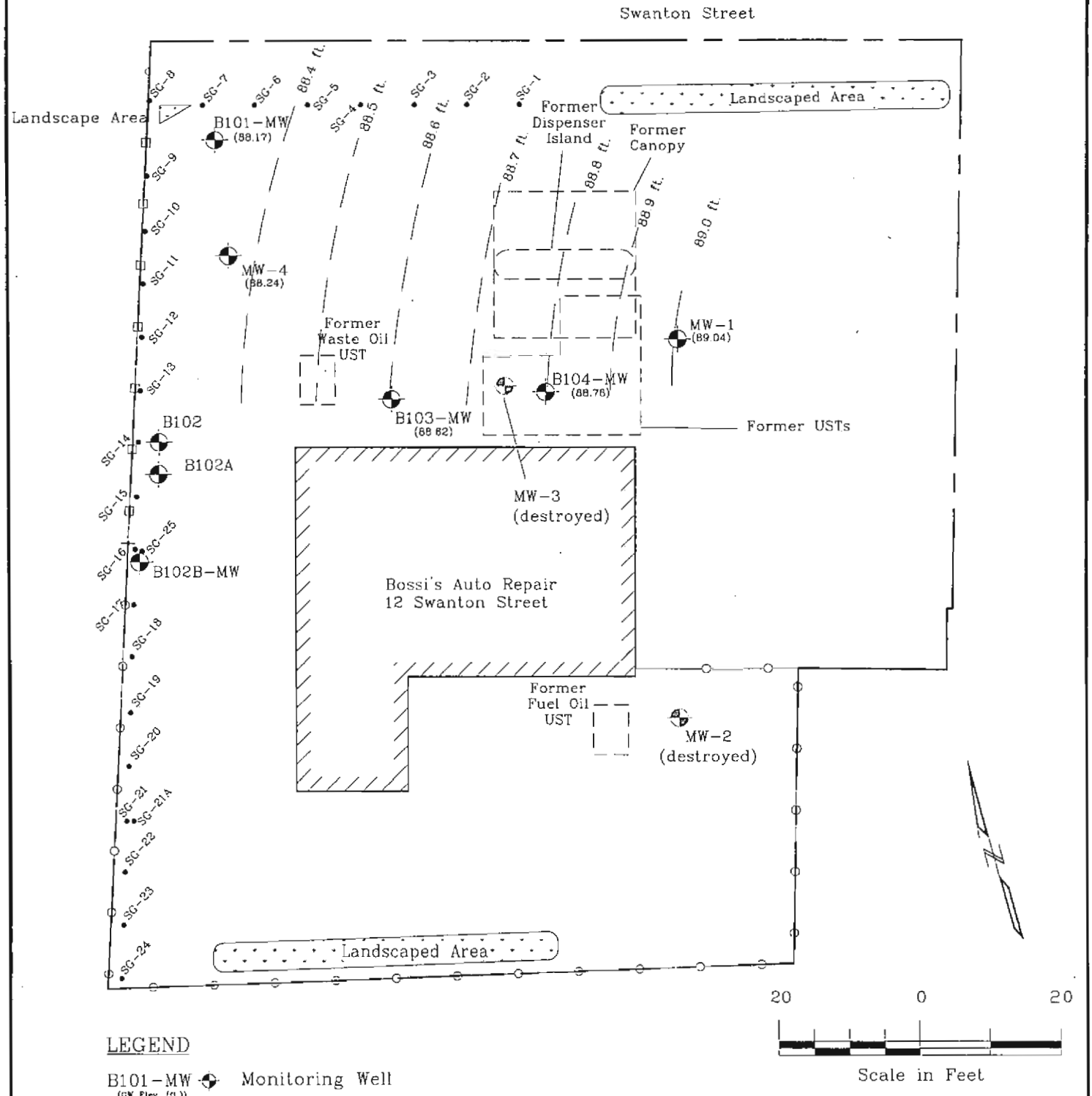
SITE LOCUS MAP

Bossi Realty Trust
12 Swanton Street
Winchester, MA
RTN 3-18598

REM SERV
Remediation & Environmental Management Services, Inc.
15 Winthrop Street
Winchester, MA 01890
Phone: (781) 721-4455
Fax: (781) 721-4456

August 2007 | Figure 1



LEGEND

- B101-MW (GW Elev. (ft.)) — Monitoring Well
- B102 — Soil Boring
- MW-1 — Monitoring Well (previously installed)
- Property Boundary
- Fence
- Guard Rail
- SG-24 — Soil Gas Survey Point
- 88.4 ft. — August 10, 2007 Ground Water Elevation Contour

Source: "Site Plan and Groundwater Contours" Web Engineering Associates, Inc., April 3, 2001.

SITE PLAN

Phase IV Completion Report &
Class C-2 RAO Statement
Bossi Realty Trust
12 Swanton Street
Winchester, MA

REM SERV
REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.
35 WINTHROP STREET
WINCHESTER, MASSACHUSETTS
Phone: (781) 721-4455 Fax: (781) 721-4456

Figure 2	
Project: 24124-1	
Date: August 2007	
Scale: 1" = 20'	
Approved by: TPS/RLL	
Designed by: JFD	

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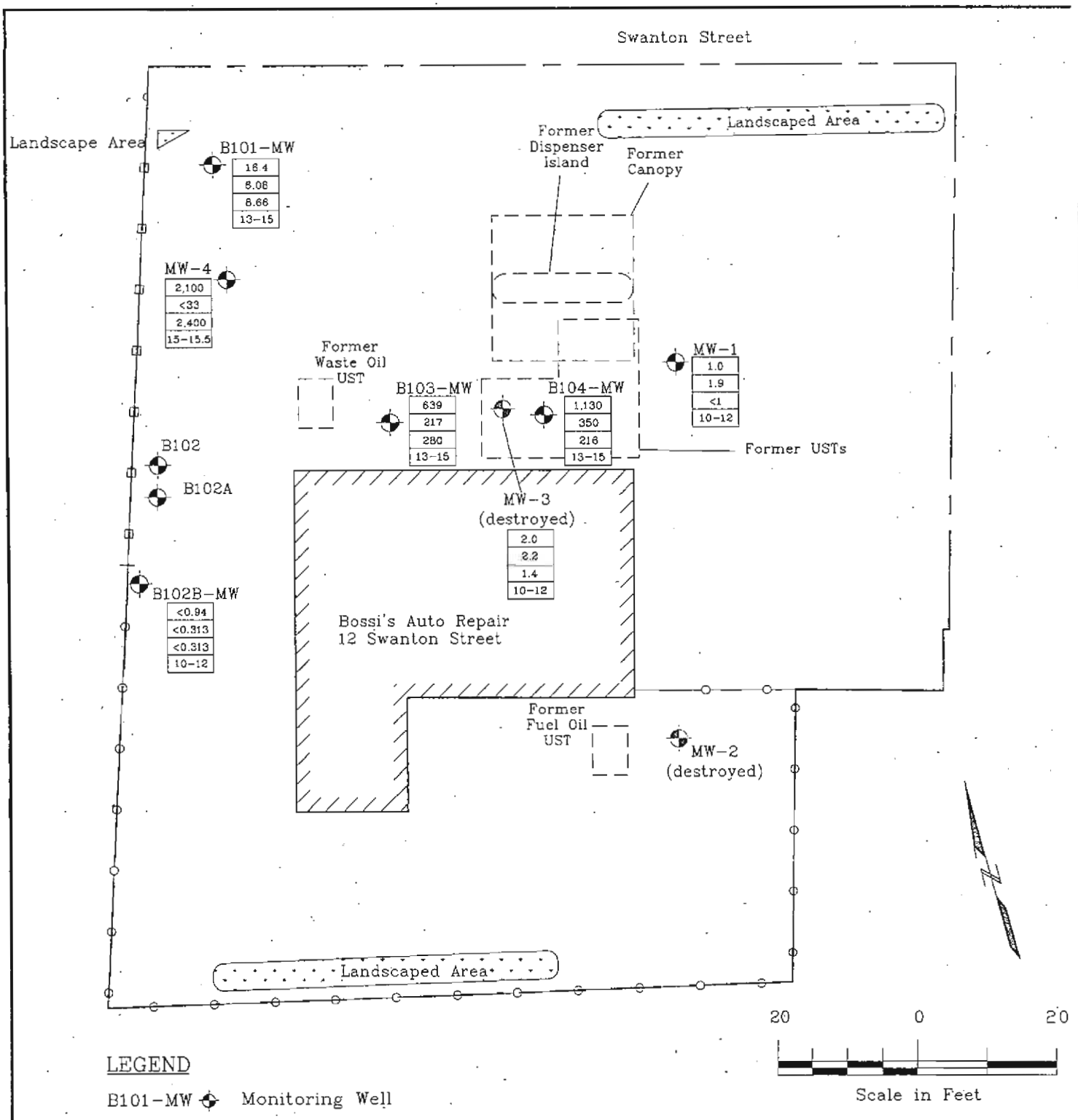

LEGEND

B101-MW — Monitoring Well

B102 — Soil Boring

Property Boundary

Fence

Guard Rail

Soil VPH Analytical

1
2
3
4

1. C5-C8 Aliphatics (mg/kg)
2. C9-C12 Aliphatics (mg/kg)
3. C9-C10 Aromatics (mg/kg)
4. Sample Depth (feet)

Source: "Site Plan and Groundwater Contours" Web Engineering Associates, Inc., April 3, 2001.

Soil VPH Distribution

Phase IV Completion Report &
Class C-2 RAO Statement
Bossi Realty Trust
12 Swanton Street
Winchester, MA

REM SERV
REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.
35 WINTHROP STREET
WINCHESTER, MASSACHUSETTS
Phone: (781) 721-4455 Fax: (781) 721-4456

Figure 3	
Project: 24124-1	
Date: August 2007	
Scale: 1" = 20'	
Approved by: TPS/RLL	
Designed by: JFD	

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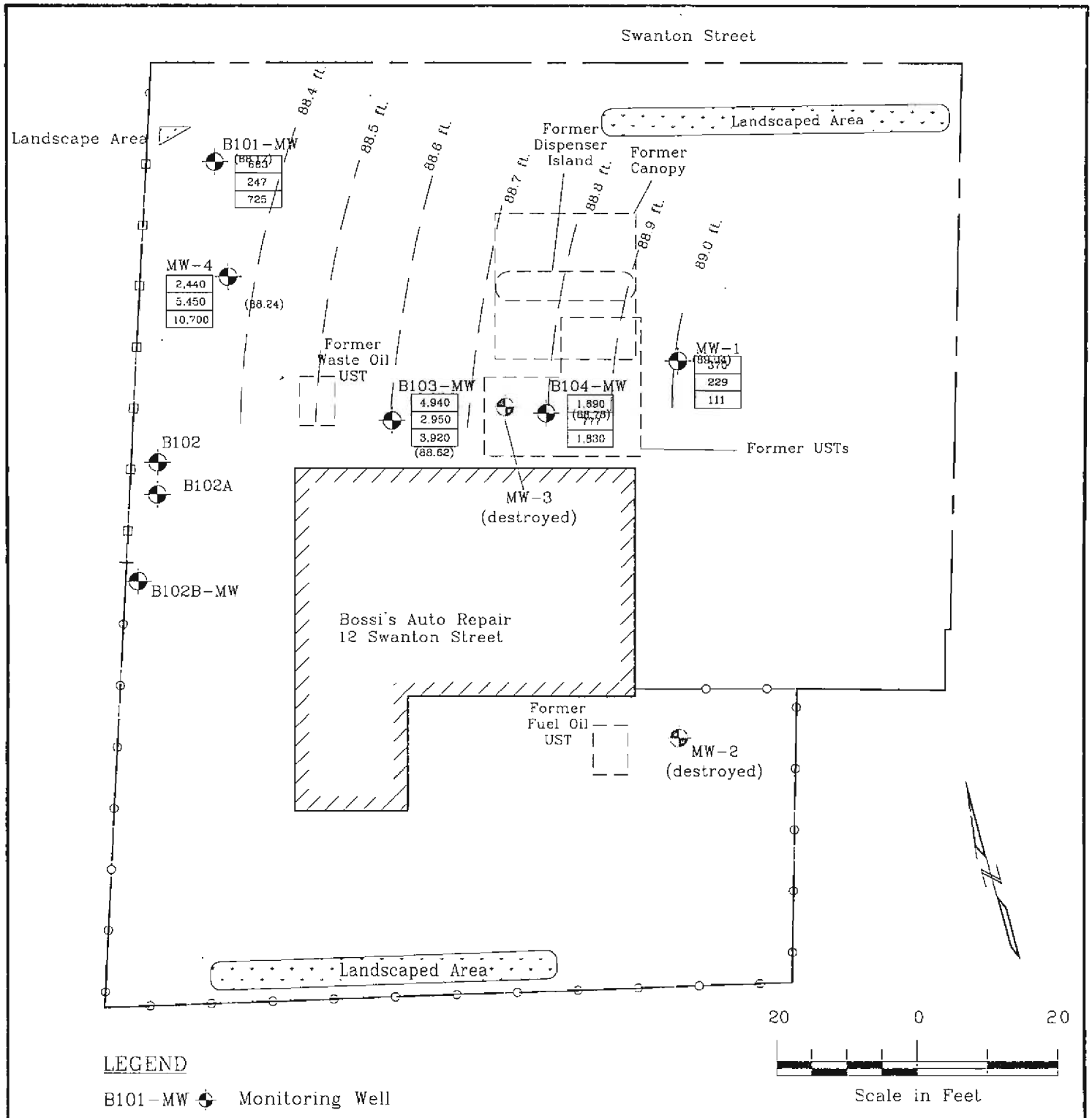

Source: "Site Plan and Groundwater Contours" Web Engineering Associates, Inc., April 3, 2001.

Ground Water VPH Distribution

Phase IV Completion Report &
Class C-2 RAO Statement
Bossi Realty Trust
12 Swanton Street
Winchester, MA

REM SERV
REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.
35 WINTHROP STREET
WINCHESTER, MASSACHUSETTS
Phone: (781) 721-4455 Fax: (781) 721-4456

Figure 4	
Project: 24124-1	
Date: August 2007	
Scale: 1" = 20'	
Approved by: TPS/RLL	
Designed by: JFD	

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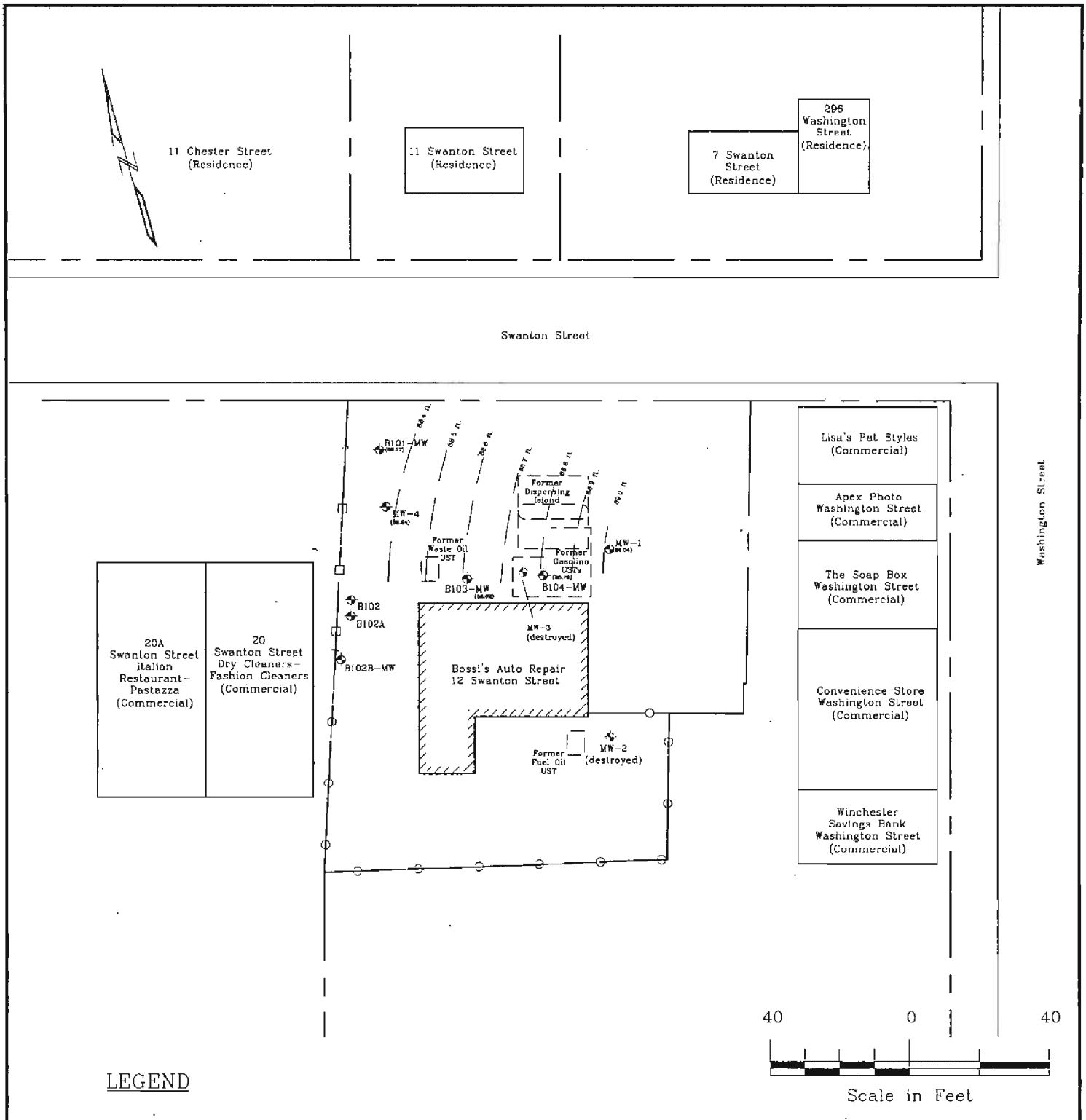

LEGEND

- B101-MW — Monitoring Well
- Edge of Pavement
- Property Boundary
- Fence
- Guard Rail
- 88.4 ft. — August 10, 2007 Ground Water Elevation Contour

Disclaimer: Property boundaries are approximate, to be used as a general guide only.

Source: "Assessor's Tax Map 56 and 58" Town of Winchester, 2005

ABUTTERS SITE PLAN

Phase III Remedial Action Plan
Bossi Realty Trust
12 Swanton Street
Winchester, MA

REM SERV
REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.
35 WINTHROP STREET
WINCHESTER, MASSACHUSETTS
Phone: (781) 721-4455 Fax: (781) 721-4456

Figure 5	
Project: 24124-1	
Date: August 2007	
Scale: 1" = 40'	
Approved by: TPS/RLL	
Designed by: JFD	

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BORING LOCATION: See Plan
Ground Elevation (Ft): _____ Datum: _____
Ground Water El. (Ft.): _____ Date: _____

Date Start: 2/28/05
Date Finish: 2/28/05
Drilled By: S. Garside
Logged By: TPS

TEST BORING LOG

PAGE 1 of 1 | B101

DEPTH FT.	SAMPLE Type & No.	Blows /6 In.	Pen In.	Rec In.	REMARKS	PID Back/Read	SOIL AND ROCK DESCRIPTIONS
							-- ASPHALT --
							NO SAMPLES
5	S1	28 ? 48	24	14		0/0	tan medium to fine SAND, little coarse sand, little silt
	S2	?	10	18		0/0	same as above
10	S3	37 38 83 33	24	10		0/0.4	auger pasted obstruction dense tan, medium to fine. SAND, little gravel, little silt, trace clay
							augered to 13 ft.
15	S4	24 30 35 40	24	15		0/376	dense, gray coarse to fine SAND, some silt, little clay, little gravel (mild petro odor) 15–16' gray coarse to fine SAND, some fine gravel (mild petro odor)
	S5	9 14 47 50	18			0/156	16–16.5' very dense brown fine SAND trace gravel (no petro) advance auger to 16.2 ft. – met with refusal
20							Bottom of Exploration at 16.5 ft.
25							
30							

Blows per 6 In. of a 140 Lb. Hammer falling 30 In. to Drive a 1–3/8 Inch ID Split Spoon Sampler.
Pen–Length of Sampler or Core Barrel Penetration
Rec–Length of Recovered Sample
RQD–Length of Sound Core Sections >4 In./Length Cored %
S–Split Spoon Sample
JHS–Jar Headspace Screening for VOCs with PID with 11.7eV Bulb (as benzene)
▽ Ground Water

NOTES:
– Drilling rig is : Mobil B53
4 1/4 HSA
1 7/8 Split Spoon
140 lb Hammer

Bossi's
12 Swanton Street
Winchester, MA

REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.
Project No: 24124–1

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BORING LOCATION: See Plan
Ground Elevation (Ft): _____ Datum: _____
Ground Water El. (Ft.): _____ Date: _____

Date Start: 2/28/05
Date Finish: 2/28/05
Drilled By: S Garside
Logged By: TPS

TEST BORING LOG

PAGE 1 of 1

B102

DEPTH FT.	SAMPLE Type & No.	Blows /6 In.	Pen In.	Rec In.	REMARKS	PID Back/Read	SOIL AND ROCK DESCRIPTIONS
							– ASPHALT –
							auger to 3 ft. – met with refusal, moved rig to 5 ft. to the southwest
5							
							NO SAMPLES TO 10 ft.
10	S1	49 75 78 95	24	22		0/0	very dense fine SAND, little coarse to medium sand, little clay, little gravel 6" denser and exhibit faint petro color. advance auger to 12 ft. and meet with refusal move boring to 10 ft. to the south – advance to 12 ft. with HSA and drill past the cobble and meet with refusal on obstraction at 11.5 ft.
15							Auger Refusal at 11.5 ft. Bottom of Exploration at 12 ft.
20							
25							
30							

Blows per 6 In. of a 140 Lb. Hammer falling 30 In. to Drive a 1-3/8 Inch ID Split Spoon Sampler.
Pen–Length of Sampler or Core Barrel Penetration
Rec–Length of Recovered Sample
RQD–Length of Sound Core Sections >4 In./Length Cored %
S–Split Spoon Sample
JHS–Jar Headspace Screening for VOCs with PID with 11.7eV Bulb (as benzene)
▽ Ground Water

NOTES:
– Drilling rig is : Mobil B53
4 1/4 HSA
1 7/8 Split Spoon
140 lb Hammer

Bossi's
12 Swanton Street
Winchester, MA

REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.
Project No: 24124–1

E:\CLIENTS\Bossi\Boring_logs_MWs\B102.dwg

BORING LOCATION: See Plan
Ground Elevation (Ft): _____ Datum: _____
Ground Water El. (Ft.): _____ Date: _____

Date Start: 2/28/05
Date Finish: 2/28/05
Drilled By: S Garside
Logged By: TPS

TEST BORING LOG

PAGE 1 of 1 | B103

DEPTH FT.	SAMPLE Type & No.	Blows /6 In.	Pen In.	Rec In.	REMARKS	PID Back/Read	SOIL AND ROCK DESCRIPTIONS
							– ASPHALT –
5							NO SAMPLES
							augers to 13 ft.
							petro odor on drill cuttings/auger returns at 13 ft.
10							
	S1	13 19 24 35				0/520	gray to black silty fine SAND, little clay
15							Auger Refusal at 15 ft. Bottom of Exploration at 15 ft.
20							
25							
30							

Blows per 6 In. of a 140 Lb. Hammer falling 30 In. to Drive a 1–3/8 Inch ID Split Spoon Sampler.

Pen–Length of Sampler or Core Barrel Penetration

Rec–Length of Recovered Sample

RQD–Length of Sound Core Sections >4 In./Length Cored %

S–Split Spoon Sample

JHS–Jar Headspace Screening for VOCs with PID with 11.7eV Bulb (as benzene)

Ground Water

NOTES:

– Drilling rig is : Mobil B53
4 1/4 HSA
1 7/8 Split Spoon
140 lb Hammer.

Bossi's
12 Swanton Street
Winchester, MA

REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.

Project No: 24124–1

E:\CLIENTS\Bossi\Boring_Logs_MWs\B103.dwg

BORING LOCATION: See Plan
Ground Elevation (Ft): _____ Datum: _____
Ground Water El. (Ft.): _____ Date: _____

Date Start: 2/28/05
Date Finish: 2/28/05
Drilled By: S. Garside
Logged By: TPS

TEST BORING LOG

PAGE 1 of 1 | B104

DEPTH FT.	SAMPLE Type & No.	SAMPLE Blows /6 In.	SAMPLE Pen In.	SAMPLE Rec In.	REMARKS	PID Back/Read	SOIL AND ROCK DESCRIPTIONS
0							– ASPHALT –
5							NO SAMPLES
10							
15	S1	13 19 24 35				0/72.6	dense black silty fine SAND (petro odor)
	S2	13 29 50<1"	18			0/144.9	gray silty fine SAND, little coarse to medium sand, little gravel, trace clay
20							Bottom of Exploration at 16 ft.
25							
30							

Blows per 6 In. of a 140 Lb. Hammer falling 30 In. to Drive a 1–3/8 Inch ID Split Spoon Sampler.
Pen–Length of Sampler or Core Barrel Penetration
Rec–Length of Recovered Sample
RQD–Length of Sound Core Sections >4 In./Length Cored %
S–Split Spoon Sample
JHS–Jar Headspace Screening for VOCs with PID with 11.7eV Bulb (as benzene)
▽ Ground Water

NOTES:
– Drilling rig is : Mobil B53
4 1/4 HSA
1 7/8 Split Spoon
140 lb Hammer

Bossi's
12 Swanton Street
Winchester, MA

REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.
Project No: 24124–1

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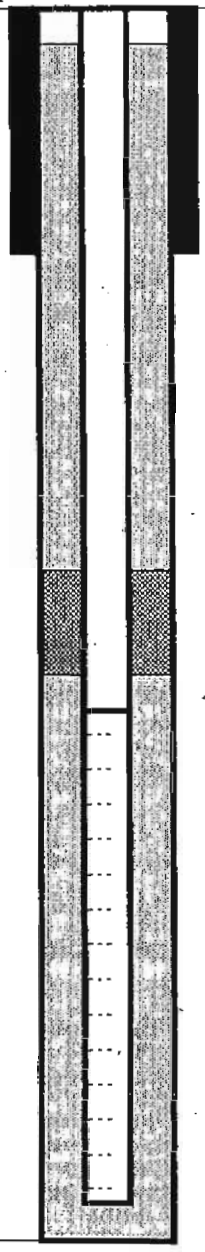
GROUND WATER OBSERVATION WELL REPORT

PROJECT	Bossi's			PROJECT NO.	24124-1
LOCATION	12 Swanton Street			BORING NO.	B101-MW
CLIENT	Bossi Realty Trust			ELEVATION -	
CONTRACTOR	Expedition Drilling	DRILLER	S. Garside	TOP OF PVC	100'
OBSERVED BY	TPS	DATE	02/25/05	LOCATION	See Plan
CHECKED BY	TPS				

DEPTH 0.0 ft

GROUND EL. ft (approximate)

GENERAL SOIL CONDITIONS (not to scale)



See Boring Log

16.3 ft.

SURFACE SEAL	
TYPE (indicate any additional seals)	Cement Grout
THICKNESS	0.5 ft.
SURFACE CASING	
TYPE	Roadway Box
INNER DIAMETER	3 in.
DEPTH OF BOTTOM	1 ft.
RISER PIPE	
TYPE	Sch. 40 PVC
Size	2 in. nominal
BACKFILL AROUND RISER PIPE	Borehole Cuttings
BOREHOLE/WELL SEAL	
TYPE	-
DEPTH OF TOP	-
DEPTH OF BOTTOM	-
TYPE	Bentonite
DEPTH OF TOP	4.3 ft.
DEPTH OF BOTTOM	5.3 ft.
SCREENED SECTION	
TYPE	Sch. 40 PVC
ID and OD	2 in. nominal
DESCRIBE OPENINGS	0.010 in.
DEPTH OF TOP OF SCREEN	0.3 ft.
BACKFILL AROUND SCREEN	Silica Sand
DEPTH OF BOTTOM OF SCREEN	16.3 ft.
DEPTH OF TOP OF SAND COLUMN	5.3 ft.
DEPTH OF BOTTOM OF SAND COLUMN	16.3 ft.
TYPE OF BACKFILL BELOW PERVIOUS SECTION	-
BOREHOLE	
DIAMETER	8 in.
DEPTH OF BOTTOM	16.3 ft.

NOTES: 1. Survey Datum:

REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.

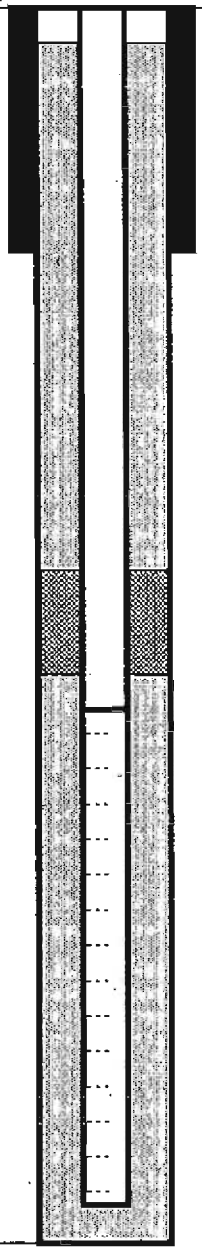
GROUND WATER OBSERVATION WELL REPORT

PROJECT	Bossi's			PROJECT NO.	24124-1
LOCATION	12 Swanton Street			BORING NO.	B102B-MW
CLIENT	Bossi Realty Trust			ELEVATION -	
CONTRACTOR	Expedition Drilling	DRILLER	S. Garside	TOP OF PVC	100.97'
OBSERVED BY	TPS	DATE	02/25/05	LOCATION	See Plan
CHECKED BY	TPS				

DEPTH 0.0 ft

GROUND EL. ft (approximate)

GENERAL SOIL CONDITIONS (not to scale)



See Boring Log

12.25ft.

SURFACE SEAL	
TYPE (indicate any additional seals)	Cement Grout
THICKNESS	0.5 ft.
SURFACE CASING	
TYPE	Roadway Box
INNER DIAMETER	3 in.
DEPTH OF BOTTOM	10 in.
RISER PIPE	
TYPE	Sch. 40 PVC
Size	2 in. nominal
BACKFILL AROUND RISER PIPE	Borehole Cuttings
BOREHOLE/WELL SEAL	
TYPE	Bentonite
DEPTH OF TOP	5.25 ft.
DEPTH OF BOTTOM	6.25 ft.
TYPE	-
DEPTH OF TOP	-
DEPTH OF BOTTOM	-
SCREENED SECTION	
TYPE	Sch. 40 PVC
ID and OD	2 in. nominal
DESCRIBE OPENINGS	0.010 in.
DEPTH OF TOP OF SCREEN	7.25 ft.
BACKFILL AROUND SCREEN	Silica Sand
DEPTH OF BOTTOM OF SCREEN	12.25 ft.
DEPTH OF TOP OF SAND COLUMN	6.25 ft.
DEPTH OF BOTTOM OF SAND COLUMN	12.25 ft.
TYPE OF BACKFILL BELOW PERVIOUS SECTION	-
BOREHOLE	
DIAMETER	8 in.
DEPTH OF BOTTOM	12.25 ft.

NOTES: 1. Survey Datum:

REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.

GROUND WATER OBSERVATION WELL REPORT

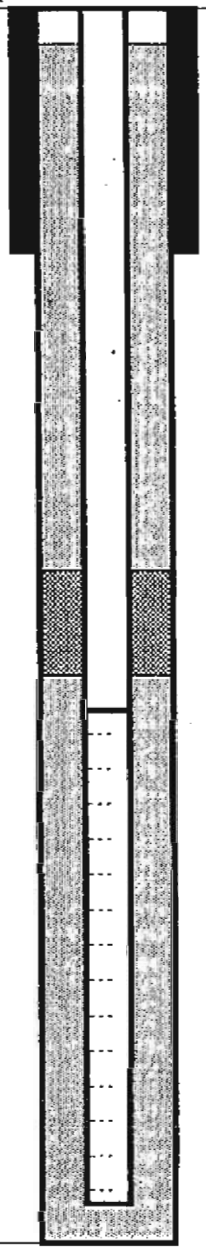
PROJECT	Bossi's			PROJECT NO.	24124-1
LOCATION	12 Swanton Street			BORING NO.	B103-MW
CLIENT	Bossi Realty Trust			ELEVATION -	
CONTRACTOR	Expedition Drilling	DRILLER	S. Garside	TOP OF PVC	101.04'
OBSERVED BY	TPS	DATE	02/25/05	LOCATION	See Plan
CHECKED BY	TPS				

DEPTH 0.0 ft

GROUND EL. ft (approximate)

GENERAL SOIL CONDITIONS (not to scale)

See Boring Log



15.5 ft.

SURFACE SEAL	
TYPE (indicate any additional seals)	Cement Grout
THICKNESS	0.5 ft.
SURFACE CASING	
TYPE	Roadway Box
INNER DIAMETER	3 in.
DEPTH OF BOTTOM	10 in.
RISER PIPE	
TYPE	Sch. 40 PVC
Size	2 in. nominal
BACKFILL AROUND RISER PIPE	Borehole Cuttings
BOREHOLE/WELL SEAL	
TYPE	Bentonite
DEPTH OF TOP	3.5 ft.
DEPTH OF BOTTOM	4.5 ft.
TYPE	-
DEPTH OF TOP	-
DEPTH OF BOTTOM	-
SCREENED SECTION	
TYPE	Sch. 40 PVC
ID and OD	2 in. nominal
DESCRIBE OPENINGS	0.010 in.
DEPTH OF TOP OF SCREEN	5.5 ft.
BACKFILL AROUND SCREEN	Silica Sand
DEPTH OF BOTTOM OF SCREEN	15.5 ft.
DEPTH OF TOP OF SAND COLUMN	4.5 ft.
DEPTH OF BOTTOM OF SAND COLUMN	15.5 ft.
TYPE OF BACKFILL BELOW PERVIOUS SECTION	-
BOREHOLE	
DIAMETER	8 in.
DEPTH OF BOTTOM	15.5 ft.

NOTES: 1. Survey Datum:

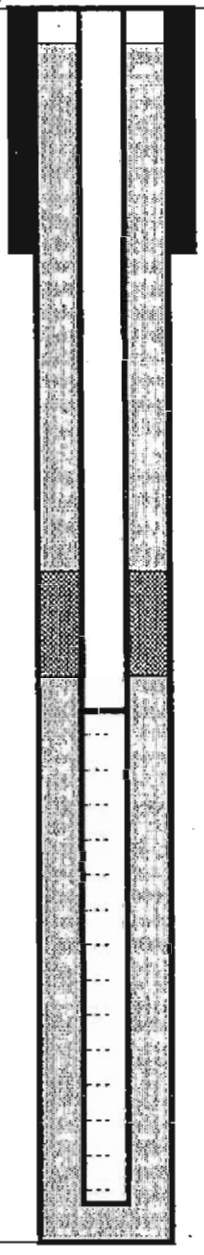
REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.

GROUND WATER OBSERVATION WELL REPORT

PROJECT	Bossi's			PROJECT NO.	24124-1
LOCATION	12 Swanton Street			BORING NO.	B104-MW
CLIENT	Bossi Realty Trust			ELEVATION -	
CONTRACTOR	Expedition Drilling	DRILLER	S. Garside	TOP OF PVC	101.68'
OBSERVED BY	TPS	DATE	02/25/05	LOCATION	See Plan
CHECKED BY	TPS				

DEPTH 0.0 ft

GENERAL SOIL CONDITIONS (not to scale)



See Boring Log

16 ft.

GROUND EL. ft (approximate)

SURFACE SEAL	
TYPE (indicate any additional seals)	Cement Grout
THICKNESS	0.5 ft.
SURFACE CASING	
TYPE	Roadway Box
INNER DIAMETER	3 in.
DEPTH OF BOTTOM	10 in.
RISER PIPE	
TYPE	Sch. 40 PVC
Size	2 in. nominal
BACKFILL AROUND RISER PIPE	Borehole Cuttings
BOREHOLE/WELL SEAL	
TYPE	Bentonite
DEPTH OF TOP	4 ft.
DEPTH OF BOTTOM	5 ft.
TYPE	-
DEPTH OF TOP	-
DEPTH OF BOTTOM	-
SCREENED SECTION	
TYPE	Sch. 40 PVC
ID and OD	2 in. nominal
DESCRIBE OPENINGS	0.010 in.
DEPTH OF TOP OF SCREEN	6 ft.
BACKFILL AROUND SCREEN	Silica Sand
DEPTH OF BOTTOM OF SCREEN	16 ft.
DEPTH OF TOP OF SAND COLUMN	5 ft.
DEPTH OF BOTTOM OF SAND COLUMN	16 ft.
TYPE OF BACKFILL BELOW PERVIOUS SECTION	-
BOREHOLE	
DIAMETER	8 in.
DEPTH OF BOTTOM	16 ft.

NOTES: 1. Survey Datum:

REMEDIATION & ENVIRONMENTAL MANAGEMENT SERVICES, INC.

ALPHA
WOODS HOLE LABS

ANALYTICAL REPORT

Lab Number:	L0710917
Client:	REMSERV 35 Winthrop Street Ext. Winchester, MA 01890
ATTN:	Thomas Simmons
Project Name:	BOSSI'S
Project Number:	24124-1
Report Date:	08/10/07

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (200305), NJ (MA935), RI (LAO00065), ME (2006012), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: BOSSI'S
Project Number: 24124-1

Lab Number: L0710917
Report Date: 08/10/07

Alpha Sample ID	Client ID	Sample Location
L0710917-01	SG-25	WINCHESTER, MA

Project Name:	BOSSI'S	**Lab Number:**	L0710917
Project Number:	24124-1	**Report Date:**	08/10/07

Case Narrative

The samples were received in accordance with the chain of custody and no significant deviations were encountered during preparation or analysis unless otherwise noted below.

MCP Related Narratives

APH

L0710917-01 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L0710917-01: Acetone and Tetrachloroethylene are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kathleen M. O'Brien

Title: Technical Director/Representative Date: 08/10/07

AIR

Project Name: BOSSI'S
Project Number: 24124-1
Lab Number: L0710917
Report Date: 08/10/07

SAMPLE RESULTS

Lab ID:	L0710917-01	Date Collected:	07/30/07 15:28
Client ID:	SG-25	Date Received:	07/30/07
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Soil_Vapor		
Anaytical Method:	43,DRAFT 1		
Analytical Date:	08/07/07 20:24		
Analyst:	HM		

Quality Control Information

Sample Type:	Flow Integrated 2 Hrs.
Sample Container Type:	Canister - 2.7 Liter
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=10%
Were all QA/QC procedures REQUIRED by the method followed?	Yes
Were all performance/acceptance standards for the required procedures achieved?	Yes
Were significant modifications made to the method as specified in Sect 11.3?	No

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Petroleum Hydrocarbons in Air					
C5-C8 Aliphatics	1630		ug/m3	240	10
C9-C12 Aliphatics	12200		ug/m3	280	10
1,3-Butadiene	ND		ug/m3	20.0	10
Methyl tert butyl ether	35.8		ug/m3	20.0	10
Benzene	ND		ug/m3	20.0	10
Toluene	ND		ug/m3	20.0	10
Ethylbenzene	ND		ug/m3	20.0	10
p/m-Xylene	ND		ug/m3	40.0	10
o-Xylene	ND		ug/m3	20.0	10
Naphthalene	ND		ug/m3	20.0	10
2-Methylnaphthalene	ND		ug/m3	80.0	10
C5-C8 Aliphatics, Adjusted	1590		ug/m3	240	10
C9-C12 Aliphatics, Adjusted	11500		ug/m3	280	10
C9-C10 Aromatics	639		ug/m3	240	10

Project Name: BOSSI'S
Project Number: 24124-1

Lab Number: L0710917
Report Date: 08/10/07

Method Blank Analysis
Batch Quality Control

Analytical Method: 43,DRAFT 1
Analytical Date: 08/07/07 12:27
Analyst: HM

Parameter	Result	Qualifier	Units	RDL
Petroleum Hydrocarbons in Air for sample(s): 01 Batch: WG289882-4				
C5-C8 Aliphatics	ND		ug/m3	24.0
C9-C12 Aliphatics	ND		ug/m3	28.0
1,3-Butadiene	ND		ug/m3	2.00
Methyl tert butyl ether	ND		ug/m3	2.00
Benzene	ND		ug/m3	2.00
Toluene	ND		ug/m3	2.00
Ethylbenzene	ND		ug/m3	2.00
p/m-Xylene	ND		ug/m3	4.00
o-Xylene	ND		ug/m3	2.00
Naphthalene	ND		ug/m3	2.00
2-Methylnaphthalene	ND		ug/m3	8.00
C5-C8 Aliphatics, Adjusted	ND		ug/m3	24.0
C9-C12 Aliphatics, Adjusted	ND		ug/m3	28.0
C9-C10 Aromatics	ND		ug/m3	24.0

Lab Control Sample Analysis

Batch Quality Control

Project Name: BOSSI'S
Project Number: 24124-1

Lab Number: L0710917
Report Date: 08/10/07

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Petroleum Hydrocarbons in Air Associated sample(s): 01 Batch: WG289882-1					
1,3-Butadiene	103	-	70-130	-	
Methyl tert butyl ether	103	-	70-130	-	
Benzene	91	-	70-130	-	
Toluene	97	-	70-130	-	
Ethylbenzene	95	-	70-130	-	
p/m-Xylene	92	-	70-130	-	
o-Xylene	91	-	70-130	-	
Naphthalene	53	-	50-150	-	
2-Methylnaphthalene	54	-	50-150	-	
C5-C8 Aliphatics, Adjusted	96	-	70-130	-	
C9-C12 Aliphatics, Adjusted	100	-	70-130	-	
C9-C10 Aromatics	78	-	70-130	-	

Lab Duplicate Analysis
Batch Quality Control

Project Name: BOSSI'S
Project Number: 24124-1

Lab Number: L0710917
Report Date: 08/10/07

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Petroleum Hydrocarbons in Air Associated sample(s): 01 QC Batch ID: WG289882-3 QC Sample: L0710984-01 Client ID: DUP Sample					
C5-C8 Aliphatics	3350	3140	ug/m3	6	30
C9-C12 Aliphatics	73800	69000	ug/m3	7	30
1,3-Butadiene	ND	ND	ug/m3	NC	30
Methyl tert butyl ether	ND	ND	ug/m3	NC	30
Benzene	ND	ND	ug/m3	NC	30
Toluene	ND	ND	ug/m3	NC	30
Ethylbenzene	ND	ND	ug/m3	NC	30
p/m-Xylene	ND	ND	ug/m3	NC	30
o-Xylene	ND	ND	ug/m3	NC	30
Naphthalene	ND	ND	ug/m3	NC	30
2-Methylnaphthalene	ND	ND	ug/m3	NC	30
C5-C8 Aliphatics, Adjusted	3350	3140	ug/m3	6	30
C9-C12 Aliphatics, Adjusted	70100	65700	ug/m3	6	30
C9-C10 Aromatics	3700	3320	ug/m3	11	30

Project Name: BOSSI'S
Project Number: 24124-1

Lab Number: L0710917
Report Date: 08/10/07

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0710917-01A	Canister - 2.7 Liter	NA	NA	NA	NA	Absent	APH

Project Name: BOSSI'S **Lab Number:** L0710917

Project Number: 24124-1 **Report Date:** 08/10/07

GLOSSARY

Acronyms

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NI - Not Ignitable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

ND - Not detected at the reported detection limit for the sample.

RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

The following data qualifiers have been identified for use under the CT DEP Reasonable Confidence Protocols.

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

J - Estimated value. The analyte was tentatively identified; the quantitation is an estimation. (Tentatively identified compounds only.)

Report Format: Not Specified

Project Name: BOSSI'S
Project Number: 24124-1

Lab Number: L0710917
Report Date: 08/10/07

REFERENCES

43 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), Draft 1.0, Massachusetts Department of Environmental Protection, February 2000.

LIMITATION OF LIABILITIES

Alpha Woods Hole Labs performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Woods Hole Labs be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

08100712:01

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

Eight Walkup Drive Westborough, MA 01581
TEL: 508-898-9220 FAX: 508-898-9193

Date Rec'd In Lab: 7/30/07

ALPHA Job #: L0710917

Client Information

Client: REMSERV Inc.
Address: 35 Winthrop st. Winchester MA
Phone: 781 721 4455
Fax: 781 721 4456
Email: Usul@comcast.net

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Bossi's
Project Location: Winchester, MA
Project #: 24124-1
Project Manager: Tom Simmons
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
5 DAYS
TO-13: 10 DAYS
Date Due: 8/3/07 Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☒ Same as Client Info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria
MA	MCP	

Other Project Specific Requirements/Comments:

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Start Time	Collection End Time	Sample Matrix	Sampler's Initials	ID Can	ID - Flow Controller	TO-14A	TO-15	TO-15 SIM	APH	DISSOLVED GASES	FIXED GASES	TO-13A	TO-15 SULFIDES/MERCAPTANS	DISS GASES CO2 ONLY	TO-4/TO-10	Sample Comments (i.e. PID
10917	SG-25	7/30/07	1328	1528	SG	DPP	785	0018				X							

Container Type: SV

Shaded Gray Areas For Lab Use Only

Relinquished By:	Date/Time	Received By:	Date/Time:
	7/30/07		7/30/07 1620
	7/30/07 1810		7/30/07 1810

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

Form No: 01-03 (rev. 28-NOV-06)

ALPHA
WOODS HOLE LABS

ANALYTICAL REPORT

Lab Number:	L0618574
Client:	REMSERV 35 Winthrop Street Winchester, MA 01890
ATTN:	Thomas Simmons
Project Name:	12 SWANTON ST
Project Number:	Not Specified
Report Date:	12/28/06

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (200305), NJ (MA935), RI (LAO00065), ME (2006012), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Alpha Sample ID	Client ID	Sample Location
L0618574-01	B101-MW	WINCHESTER, MA
L0618574-02	MW-4	WINCHESTER, MA
L0618574-03	B103-MW	WINCHESTER, MA
L0618574-04	B104-MW	WINCHESTER, MA
L0618574-05	MW-1	WINCHESTER, MA

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A, B, C & D is required for "Presumptive Certainty" status		
A	Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set?	YES
B	Were all QA/QC procedures required for the specified analytical methods(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?	YES
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	YES
D	VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?	YES

A response to questions E and F is required for "Presumptive Certainty" status		
E	Were all QC performance standards and recommendations for the specified method(s) achieved?	NO
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Case Narrative

The samples were received in accordance with the chain of custody and no significant deviations were encountered during preparation or analysis unless otherwise noted below.

MCP Related Narratives:

EPH:

In reference to question E:

Alpha sample l0618574-02 has the surrogate percent recovery for COD outside the method criteria. Due to limited sample volume no further action was performed.

EPH-MS:

The following samples have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples:

L0618574-02 (PAH's 10x)

EPHD-GC

In reference to question E:

The WG265568 LCS/LCSD have a high RPD for Benzo (b) fluoranthene.

EPH-MS:

The following samples have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples:

L0618574-03 (PAH's 10x)

VPH

The following samples have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples:

L0618574-02 (25X)

L0618574-03 (20X)

L0618574-04 (10X)

Project Name:	12 SWANTON ST	**Lab Number:**	L0618574
Project Number:	Not Specified	**Report Date:**	12/28/06

Case Narrative (continued)

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Title: Technical Director Date: 12/28/06

ORGANICS

PETROLEUM HYDROCARBONS

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-01	Date Collected:	12/19/06 12:44
Client ID:	B101-MW	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water		
Anaytical Method:	59,VPH-04-1.1		
Analytical Date:	12/21/06 23:53		
Analyst:	TT		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Petroleum Hydrocarbons					
C5-C8 Aliphatics	683		ug/l	50.0	1
C9-C12 Aliphatics	977		ug/l	50.0	1
C9-C10 Aromatics	725		ug/l	50.0	1
C5-C8 Aliphatics, Adjusted	683		ug/l	50.0	1
C9-C12 Aliphatics, Adjusted	247		ug/l	50.0	1
Benzene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
Ethylbenzene	4.42		ug/l	2.00	1
p/m-Xylene	ND		ug/l	2.00	1
o-Xylene	ND		ug/l	2.00	1
Methyl tert butyl ether	ND		ug/l	3.00	1
Naphthalene	ND		ug/l	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	89		70-130
2,5-Dibromotoluene-FID	90		70-130

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-01	Date Collected:	12/19/06 12:44
Client ID:	B101-MW	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Anaytical Method:	61,EPH-04-1	Extraction Date:	12/26/06 14:15
Analytical Date:	12/28/06 05:51		
Analyst:	AJ		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
EPH with MS Targets					
C9-C18 Aliphatics	ND		ug/l	100	1
C19-C36 Aliphatics	ND		ug/l	100	1
C11-C22 Aromatics	212		ug/l	100	1
C11-C22 Aromatics, Adjusted	194		ug/l	100	1
Naphthalene	6.18		ug/l	0.400	1
2-Methylnaphthalene	11.3		ug/l	0.400	1
Acenaphthylene	ND		ug/l	0.400	1
Acenaphthene	ND		ug/l	0.400	1
Fluorene	ND		ug/l	0.400	1
Phenanthrene	0.572		ug/l	0.400	1
Anthracene	ND		ug/l	0.400	1
Fluoranthene	ND		ug/l	0.400	1
Pyrene	ND		ug/l	0.400	1
Benzo(a)anthracene	ND		ug/l	0.400	1
Chrysene	ND		ug/l	0.400	1
Benzo(b)fluoranthene	ND		ug/l	0.400	1
Benzo(k)fluoranthene	ND		ug/l	0.400	1
Benzo(a)pyrene	ND		ug/l	0.200	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	1
Benzo(ghi)perylene	ND		ug/l	0.400	1

Project Name:	12 SWANTON ST	**Lab Number:**	L0618574
Project Number:	Not Specified	**Report Date:**	12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-01	Date Collected:	12/19/06 12:44
Client ID:	B101-MW	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor

EPH with MS Targets

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	63		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	77		40-140
2-Bromonaphthalene	88		40-140
O-Terphenyl-MS	78		40-140

Project Name: 12 SWANTON ST
Project Number: Not Specified
Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-02	Date Collected:	12/19/06 13:14
Client ID:	MW-4	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water		
Anaytical Method:	59,VPH-04-1.1		
Analytical Date:	12/22/06 00:44		
Analyst:	TT		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Petroleum Hydrocarbons					
C5-C8 Aliphatics	2540		ug/l	1250	25
C9-C12 Aliphatics	25600		ug/l	1250	25
C9-C10 Aromatics	10700		ug/l	1250	25
C5-C8 Aliphatics, Adjusted	2440		ug/l	1250	25
C9-C12 Aliphatics, Adjusted	5450		ug/l	1250	25
Benzene	ND		ug/l	50.0	25
Toluene	103		ug/l	50.0	25
Ethylbenzene	1430		ug/l	50.0	25
p/m-Xylene	6200		ug/l	50.0	25
o-Xylene	1830		ug/l	50.0	25
Methyl tert butyl ether	ND		ug/l	75.0	25
Naphthalene	594		ug/l	250	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	89		70-130
2,5-Dibromotoluene-FID	90		70-130

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-02	Date Collected:	12/19/06 13:14
Client ID:	MW-4	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Anaytical Method:	61,EPH-04-1	Extraction Date:	12/26/06 14:15
Analytical Date:	12/28/06 06:25		
Analyst:	AJ		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
EPH with MS Targets					
C9-C18 Aliphatics	ND		ug/l	101	1
C19-C36 Aliphatics	ND		ug/l	101	1
C11-C22 Aromatics	658		ug/l	101	1
C11-C22 Aromatics, Adjusted	277		ug/l	101	1
Naphthalene	275		ug/l	4.04	10
2-Methylnaphthalene	106		ug/l	4.04	10
Acenaphthylene	ND		ug/l	4.04	10
Acenaphthene	ND		ug/l	4.04	10
Fluorene	ND		ug/l	4.04	10
Phenanthrene	ND		ug/l	4.04	10
Anthracene	ND		ug/l	4.04	10
Fluoranthene	ND		ug/l	4.04	10
Pyrene	ND		ug/l	4.04	10
Benzo(a)anthracene	ND		ug/l	4.04	10
Chrysene	ND		ug/l	4.04	10
Benzo(b)fluoranthene	ND		ug/l	4.04	10
Benzo(k)fluoranthene	ND		ug/l	4.04	10
Benzo(a)pyrene	ND		ug/l	2.02	10
Indeno(1,2,3-cd)Pyrene	ND		ug/l	4.04	10
Dibenzo(a,h)anthracene	ND		ug/l	4.04	10
Benzo(ghi)perylene	ND		ug/l	4.04	10

Project Name:	12 SWANTON ST	**Lab Number:**	L0618574
Project Number:	Not Specified	**Report Date:**	12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-02	Date Collected:	12/19/06 13:14
Client ID:	MW-4	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor

EPH with MS Targets

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	36		40-140
o-Terphenyl	43		40-140
2-Fluorobiphenyl	65		40-140
2-Bromonaphthalene	75		40-140
C-Terphenyl-MS	44		40-140

Project Name: 12 SWANTON ST
Project Number: Not Specified
Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-03	Date Collected:	12/19/06 14:04
Client ID:	B103-MW	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water		
Anaytical Method:	59,VPH-04-1.1		
Analytical Date:	12/22/06 01:34		
Analyst:	TT		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Petroleum Hydrocarbons					
C5-C8 Allphatics	7580		ug/l	1000	20
C9-C12 Allphatics	13400		ug/l	1000	20
C9-C10 Aromatics	3920		ug/l	1000	20
C5-C8 Aliphatics, Adjusted	4940		ug/l	1000	20
C9-C12 Aliphatics, Adjusted	2950		ug/l	1000	20
Benzene	68.6		ug/l	40.0	20
Toluene	2570		ug/l	40.0	20
Ethylbenzene	1330		ug/l	40.0	20
p/m-Xylene	3760		ug/l	40.0	20
o-Xylene	1410		ug/l	40.0	20
Methyl tert butyl ether	ND		ug/l	60.0	20
Naphthalene	253		ug/l	200	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	91		70-130
2,5-Dibromotoluene-FID	94		70-130

Project Name: 12 SWANTON ST
Project Number: Not Specified
Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-03	Date Collected:	12/19/06 14:04
Client ID:	B103-MW	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Anaytical Method:	61,EPH-04-1	Extraction Date:	12/26/06 14:15
Analytical Date:	12/28/06 06:58		
Analyst:	AJ		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
EPH with MS Targets					
C9-C18 Aliphatics	ND		ug/l	100	1
C19-C36 Aliphatics	ND		ug/l	100	1
C11-C22 Aromatics	428		ug/l	100	1
C11-C22 Aromatics, Adjusted	191		ug/l	100	1
Naphthalene	189		ug/l	4.00	10
2-Methylnaphthalene	48.5		ug/l	4.00	10
Acenaphthylene	ND		ug/l	4.00	10
Acenaphthene	ND		ug/l	4.00	10
Fluorene	ND		ug/l	4.00	10
Phenanthrene	ND		ug/l	4.00	10
Anthracene	ND		ug/l	4.00	10
Fluoranthene	ND		ug/l	4.00	10
Pyrene	ND		ug/l	4.00	10
Benzo(a)anthracene	ND		ug/l	4.00	10
Chrysene	ND		ug/l	4.00	10
Benzo(b)fluoranthene	ND		ug/l	4.00	10
Benzo(k)fluoranthene	ND		ug/l	4.00	10
Benzo(a)pyrene	ND		ug/l	2.00	10
Indeno(1,2,3-cd)Pyrene	ND		ug/l	4.00	10
Dibenzo(a,h)anthracene	ND		ug/l	4.00	10
Benzo(ghi)perylene	ND		ug/l	4.00	10

Project Name:	12 SWANTON ST	**Lab Number:**	L0618574
Project Number:	Not Specified	**Report Date:**	12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-03	Date Collected:	12/19/06 14:04
Client ID:	B103-MW	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor

EPH with MS Targets

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	51		40-140
o-Terphenyl	66		40-140
2-Fluorobiphenyl	72		40-140
2-Bromonaphthalene	83		40-140
O-Terphenyl-MS	69		40-140

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-04	Date Collected:	12/19/06 14:36
Client ID:	B104-MW	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water		
Anaytical Method:	59,VPH-04-1.1		
Analytical Date:	12/22/06 02:25		
Analyst:	TT		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Volatile Petroleum Hydrocarbons

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
C5-C8 Aliphatics	1730		ug/l	500	10
C9-C12 Aliphatics	4100		ug/l	500	10
C9-C10 Aromatics	1830		ug/l	500	10
C5-C8 Aliphatics, Adjusted	1690		ug/l	500	10
C9-C12 Aliphatics, Adjusted	777		ug/l	500	10
Benzene	ND		ug/l	20.0	10
Toluene	43.2		ug/l	20.0	10
Ethylbenzene	329		ug/l	20.0	10
p/m-Xylene	875		ug/l	20.0	10
o-Xylene	285		ug/l	20.0	10
Methyl tert butyl ether	ND		ug/l	30.0	10
Naphthalene	ND		ug/l	100.	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	82		70-130
2,5-Dibromotoluene-FID	85		70-130

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-04	Date Collected:	12/19/06 14:36
Client ID:	B104-MW	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Anaytical Method:	61,EPH-04-1	Extraction Date:	12/26/06 14:15
Analytical Date:	12/28/06 08:38		
Analyst:	AJ		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
EPH with MS Targets					
C9-C18 Aliphatics	ND		ug/l	100	1
C19-C36 Aliphatics	ND		ug/l	100	1
C11-C22 Aromatics	268		ug/l	100	1
C11-C22 Aromatics, Adjusted	157		ug/l	100	1
Naphthalene	71.1		ug/l	0.400	1
2-Methylnaphthalene	39.3		ug/l	0.400	1
Acenaphthylene	ND		ug/l	0.400	1
Acenaphthene	ND		ug/l	0.400	1
Fluorene	0.464		ug/l	0.400	1
Phenanthrene	ND		ug/l	0.400	1
Anthracene	ND		ug/l	0.400	1
Fluoranthene	ND		ug/l	0.400	1
Pyrene	ND		ug/l	0.400	1
Benzo(a)anthracene	ND		ug/l	0.400	1
Chrysene	ND		ug/l	0.400	1
Benzo(b)fluoranthene	ND		ug/l	0.400	1
Benzo(k)fluoranthene	ND		ug/l	0.400	1
Benzo(a)pyrene	ND		ug/l	0.200	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	1
Benzo(ghi)perylene	ND		ug/l	0.400	1

Project Name: 12 SWANTON ST
Project Number: Not Specified
Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID: L0618574-04
Client ID: B104-MW
Sample Location: WINCHESTER, MA
Date Collected: 12/19/06 14:36
Date Received: 12/20/06
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
EPH with MS Targets					

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	47		40-140
o-Terphenyl	67		40-140
2-Fluorobiphenyl	72		40-140
2-Bromonaphthalene	82		40-140
O-Terphenyl-MS	90		40-140

Project Name: 12 SWANTON ST
Project Number: Not Specified
Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-05	Date Collected:	12/19/06 15:26
Client ID:	MW-1	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water		
Anaytical Method:	59,VPH-04-1.1		
Analytical Date:	12/22/06 03:16		
Analyst:	TT		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Volatile Petroleum Hydrocarbons					
C5-C8 Aliphatics	370		ug/l	50.0	1
C9-C12 Aliphatics	229		ug/l	50.0	1
C9-C10 Aromatics	111		ug/l	50.0	1
C5-C8 Aliphatics, Adjusted	370		ug/l	50.0	1
C9-C12 Aliphatics, Adjusted	118		ug/l	50.0	1
Benzene	ND		ug/l	2.00	1
Toluene	ND		ug/l	2.00	1
Ethylbenzene	ND		ug/l	2.00	1
p/m-Xylene	ND		ug/l	2.00	1
o-Xylene	ND		ug/l	2.00	1
Methyl tert butyl ether	ND		ug/l	3.00	1
Naphthalene	ND		ug/l	10.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	85		70-130
2,5-Dibromotoluene-FID	88		70-130

Project Name: 12 SWANTON ST
Project Number: Not Specified
Lab Number: L0618574
Report Date: 12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-05	Date Collected:	12/19/06 15:26
Client ID:	MW-1	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Anaytical Method:	61,EPH-04-1	Extraction Date:	12/26/06 14:15
Analytical Date:	12/28/06 09:11		
Analyst:	AJ		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
EPH with MS Targets					
C9-C18 Aliphatics	ND		ug/l	100	1
C19-C36 Aliphatics	ND		ug/l	100	1
C11-C22 Aromatics	ND		ug/l	100	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	1
Naphthalene	0.569		ug/l	0.400	1
2-Methylnaphthalene	ND		ug/l	0.400	1
Acenaphthylene	ND		ug/l	0.400	1
Acenaphthene	ND		ug/l	0.400	1
Fluorene	ND		ug/l	0.400	1
Phenanthrene	ND		ug/l	0.400	1
Anthracene	ND		ug/l	0.400	1
Fluoranthene	ND		ug/l	0.400	1
Pyrene	ND		ug/l	0.400	1
Benzo(a)anthracene	ND		ug/l	0.400	1
Chrysene	ND		ug/l	0.400	1
Benzo(b)fluoranthene	ND		ug/l	0.400	1
Benzo(k)fluoranthene	ND		ug/l	0.400	1
Benzo(a)pyrene	ND		ug/l	0.200	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	1
Benzo(ghi)perylene	ND		ug/l	0.400	1

Project Name:	12 SWANTON ST	**Lab Number:**	L0618574
Project Number:	Not Specified	**Report Date:**	12/28/06

SAMPLE RESULTS

Lab ID:	L0618574-05	Date Collected:	12/19/06 15:26
Client ID:	MW-1	Date Received:	12/20/06
Sample Location:	WINCHESTER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RDL	Dilution Factor

EPH with MS Targets

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	45		40-140
o-Terphenyl	66		40-140
2-Fluorobiphenyl	72		40-140
2-Bromonaphthalene	85		40-140
O-Terphenyl-MS	87		40-140

Project Name: 12 SWANTON ST
Project Number: Not Specified
Lab Number: L0618574
Report Date: 12/28/06

Method Blank Analysis
Batch Quality Control

Analytical Method: 59,VPH-04-1.1
Analytical Date: 12/21/06 08:23
Analyst: TT

Parameter	Result	Qualifier	Units	RDL
Volatile Petroleum Hydrocarbons for sample(s): 01-05 Batch: WG265055-3				
C5-C8 Aliphatics	ND		ug/l	50.0
C9-C12 Aliphatics	ND		ug/l	50.0
C9-C10 Aromatics	ND		ug/l	50.0
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0
Benzene	ND		ug/l	2.00
Toluene	ND		ug/l	2.00
Ethylbenzene	ND		ug/l	2.00
p/m-Xylene	ND		ug/l	2.00
o-Xylene	ND		ug/l	2.00
Methyl tert butyl ether	ND		ug/l	3.00
Naphthalene	ND		ug/l	10.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	92		70-130
2,5-Dibromotoluene-FID	96		70-130

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Method Blank Analysis
Batch Quality Control

Analytical Method: 61,EPH-04-1
Analytical Date: 12/27/06 19:48
Analyst: AJ

Extraction Method: EPA 3510C
Extraction Date: 12/26/06 14:15

Parameter	Result	Qualifier	Units	RDL
EPH with MS Targets for sample(s): 01-05 Batch: WG265568-1				
C9-C18 Aliphatics	ND		ug/l	100
C19-C36 Aliphatics	ND		ug/l	100
C11-C22 Aromatics	ND		ug/l	100
C11-C22 Aromatics, Adjusted	ND		ug/l	100
Naphthalene	ND		ug/l	0.400
2-Methylnaphthalene	ND		ug/l	0.400
Acenaphthylene	ND		ug/l	0.400
Acenaphthene	ND		ug/l	0.400
Fluorene	ND		ug/l	0.400
Phenanthrene	ND		ug/l	0.400
Anthracene	ND		ug/l	0.400
Fluoranthene	ND		ug/l	0.400
Pyrene	ND		ug/l	0.400
Benzo(a)anthracene	ND		ug/l	0.400
Chrysene	ND		ug/l	0.400
Benzo(b)fluoranthene	ND		ug/l	0.400
Benzo(k)fluoranthene	ND		ug/l	0.400
Benzo(a)pyrene	ND		ug/l	0.200
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400
Dibenzo(a,h)anthracene	ND		ug/l	0.400
Benzo(ghi)perylene	ND		ug/l	0.400

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	52		40-140
o-Terphenyl	62		40-140
2-Fluorobiphenyl	74		40-140
2-Bromonaphthalene	78		40-140
O-Terphenyl-MS	56		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Petroleum Hydrocarbons Associated sample(s): 01-05 Batch: WG265055-1 WG265055-2					
C5-C8 Aliphatics	107	101	70-130	6	25
C9-C12 Aliphatics	105	96	70-130	9	25
C9-C10 Aromatics	101	100	70-130	1	25
Benzene	112	108	70-130	4	25
Toluene	106	113	70-130	6	25
Ethylbenzene	104	103	70-130	1	25
p/m-Xylene	102	106	70-130	4	25
o-Xylene	104	105	70-130	1	25
Methyl tert butyl ether	101	98	70-130	4	25
Naphthalene	91	98	70-130	1	25
1,2,4-Trimethylbenzene	102	100	70-130	2	25
Pentane	106	102	70-130	4	25
2-Methylpentane	108	103	70-130	5	25
2,2,4-Trimethylpentane	106	99	70-130	7	25
n-Nonane	108	97	30-130	11	25
n-Decane	99	91	70-130	8	25
n-Butylcyclohexane	109	99	70-130	10	25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Volatile Petroleum Hydrocarbons Associated sample(s): 01-05 Batch: WG265055-1 WG265055-2					

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	96		86		70-130
2,5-Dibromotoluene-FID	100		90		70-130

EPH with MS Targets Associated sample(s): 01-05 Batch: WG265568-2 WG265568-3					
C9-C18 Aliphatics	42	45	40-140	7	25
C19-C36 Aliphatics	55	56	40-140	2	25
C11-C22 Aromatics	73	68	40-140	7	25
Naphthalene	60	56	40-140	7	25
2-Methylnaphthalene	67	60	40-140	11	25
Acenaphthylene	77	68	40-140	12	25
Acenaphthene	59	53	40-140	11	25
Fluorene	62	54	40-140	14	25
Phenanthrene	70	61	40-140	14	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
EPH with MS Targets Associated sample(s): 01-05 Batch: WG265568-2 WG265568-3					
Anthracene	85	78	40-140	9	25
Fluoranthene	76	73	40-140	4	25
Pyrene	90	78	40-140	14	25
Benzo(a)anthracene	76	76	40-140	0	25
Chrysene	61	64	40-140	23	25
Benzo(b)fluoranthene	67	98	40-140	38	25
Benzo(k)fluoranthene	66	56	40-140	16	25
Benzo(a)pyrene	83	74	40-140	11	25
Indeno(1,2,3-cd)Pyrene	65	66	40-140	2	25
Dibenzo(a,h)anthracene	55	60	40-140	9	25
Benzo(ghi)perylene	52	55	40-140	6	25
Nonane (C9)	33	39	30-140	17	25
Decane (C10)	40	45	40-140	12	25
Dodecane (C12)	50	52	40-140	4	25
Tetradecane (C14)	51	53	40-140	4	25
Hexadecane (C16)	54	55	40-140	2	25
Octadecane (C18)	55	55	40-140	0	25
Nonadecane (C19)	56	56	40-140	0	25
Eicosane (C20)	56	57	40-140	2	25
Docosane (C22)	56	57	40-140	2	25
Tetracosane (C24)	58	59	40-140	2	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
EPH with MS Targets Associated sample(s): 01-05 Batch: WG265568-2 WG265568-3					
Hexacosane (C26)	56	56	40-140	0	25
Octacosane (C28)	55	56	40-140	2	25
Triacontane (C30)	55	55	40-140	0	25
Hexatriacontane (C36)	56	56	40-140	0	25

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	40		42		40-140
o-Terphenyl	92		92		40-140
2-Fluorobiphenyl	77		65		40-140
2-Bromonaphthalene	78		72		40-140
O-Terphenyl-MS	67		65		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Fractionation Check Standard
Quality Control

Fractionation check standard for FISH52618

Parameter	% Recovery	QC Criteria
C9-C18 Aliphatics	62	40-140
C19-C36 Aliphatics	71	40-140
C11-C22 Aromatics	80	40-140
Naphthalene	74	40-140
2-Methylnaphthalene	70	40-140
Acenaphthylene	69	40-140
Acenaphthene	72	40-140
Fluorene	72	40-140
Phenanthrene	72	40-140
Anthracene	77	40-140
Fluoranthene	75	40-140
Pyrene	75	40-140
Benzo(a)anthracene	74	40-140
Chrysene	88	40-140
Benzo(b)fluoranthene	72	40-140
Benzo(k)fluoranthene	74	40-140
Benzo(a)pyrene	73	40-140
Indeno(1,2,3-cd)Pyrene	72	40-140
Dibenzo(a,h)anthracene	73	40-140
Benzo(g,h,i)perylene	73	40-140
Nonane	57	30-140
Decane	62	40-140
Dodecane	65	40-140
Tetradecane	63	40-140
Hexadecane	64	40-140
Octadecane	64	40-140
Nonadecane	64	40-140
Eicosane	67	40-140
Docosane	71	40-140
Tetracosane	72	40-140
Hexacosane	72	40-140
Octacosane	73	40-140
Triacontane	73	40-140
Hexatriacontane	76	40-140

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Fractionation Check Standard
Quality Control

Fractionation check standard for FISH52618

Surrogate	% Recovery	QC Criteria
Chloro-Octadecane	57	40-140
o-Terphenyl	78	40-140
2-Fluorobiphenyl	72	40-140
2-Bromonaphthalene	72	40-140

Project Name: 12 SWANTON ST
Project Number: Not Specified

Lab Number: L0618574
Report Date: 12/28/06

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp	Pres	Seal	Analysis
L0618574-01A	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-01B	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-01C	Amber 1000ml HCl preserved	A	<2	1.6 C	Y	Absent	EPH-MS,EPHD-GC-04
L0618574-01D	Amber 1000ml HCl preserved	A	<2	1.6 C	Y	Absent	-
L0618574-02A	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-02B	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-02C	Amber 1000ml HCl preserved	A	<2	1.6 C	Y	Absent	EPH-MS,EPHD-GC-04
L0618574-03A	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-03B	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-03C	Amber 1000ml HCl preserved	A	<2	1.6 C	Y	Absent	EPH-MS,EPHD-GC-04
L0618574-04A	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-04B	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-04C	Amber 1000ml HCl preserved	A	<2	1.6 C	Y	Absent	EPH-MS,EPHD-GC-04
L0618574-05A	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-05B	Vial HCl preserved	A	N/A	1.6 C	Y	Absent	VPH-DELUX-04
L0618574-05C	Amber 1000ml HCl preserved	A	<2	1.6 C	Y	Absent	EPH-MS,EPHD-GC-04

Project Name:	12 SWANTON ST	**Lab Number:**	L0618574
Project Number:	Not Specified	**Report Date:**	12/28/06

GLOSSARY

Acronyms

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

ND - Not detected at the reported detection limit for the sample.

RDL - Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

The following data qualifiers have been identified for use under the CT DEP Reasonable Confidence Protocols.

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

J - Estimated value. The analyte was tentatively identified; the quantitation is an estimation. (Tentatively identified compounds only.)

Project Name:	12 SWANTON ST	**Lab Number:**	L0618574
Project Number:	Not Specified	**Report Date:**	12/28/06

REFERENCES

59 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH). Massachusetts Department of Environmental Protection, DEA/ORS/BWSC. May 2004, Revision 1.1.

61 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH). Massachusetts Department of Environmental Protection, DEA/ORS/BWSC. May 2004, Revision 1.1.

LIMITATION OF LIABILITIES

Alpha Woods Hole Labs performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Woods Hole Labs shall be to re-perform the work at it's own expense. In no event shall Alpha Woods Hole Labs be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Woods Hole Labs.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

1228061814

CHAIN OF CUSTODY

PAGE ____ OF ____

Date Rec'd in Lab: 12/20

ALPHA Job #: L0618574

ALPHA
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
RAYNHAM, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: REMSERV

Address: 35 Winthrop St
Winchester, MA

Phone: 781-721 4455

Fax: 781-721 4456

Email: USUL@comcast.net

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: 12 Swanton St

Project Location: Winchester, MA

Project #:

Project Manager: Tom Simmons

ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: 12/18 Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: MA MCP Criteria: GW1

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: EPH	ANALYSIS: VPH	SAMPLE HANDLING: Filtration / Preservation	Sample Specific Comments	TOTAL # BOTTLES
85744-1	B101-MW	12/19/06	1244	GW	SO	✓	✓			3
-2	MW-4	12/19/06	1314	GW	SO	✓	✓			3
-3	B103-MW	12/19/06	1404	GW	SO	✓	✓			3
-4	B104-MW	12/19/06	1436	GW	SO	✓	✓			3
-5	MW-1	12/19/06	1526	GW	SO	✓	✓			3

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Container Type: A V

Preservative: B B

Relinquished By:	Date/Time	Received By:	Date/Time
	12/20/06 1230		12/20/06 1345
	12/20 1730		12/20 1730

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

FORM NC:01-01 (rev. 10-OCT-05)

Report Date:
07-Mar-05 15:20

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

REMSERV, Inc.
35 Winthrop Street
Winchester, MA 01890
Attn: Tom Simmons

Project: Bossi's-12 Swanton St-MA
Project #: [none]

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA24677-01	B101 S4 13-15	Soil	28-Feb-05 00:00	01-Mar-05 14:50
SA24677-02	B102 S1B 11.5-12	Soil	28-Feb-05 00:00	01-Mar-05 14:50
SA24677-03	B103 S1 13-15	Soil	28-Feb-05 00:00	01-Mar-05 14:50
SA24677-04	B104 S1 13-15	Soil	28-Feb-05 00:00	01-Mar-05 14:50

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 17 pages of analytical data plus Chain of Custody document(s).

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

ACCREDITED IN ACCORDANCE WITH nelac

Authorized by:

Hanibal G. 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
B101 S4 13-15 SA24677-01	[none]	Soil	28-Feb-05 00:00	01-Mar-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
	VOC Extraction	Field extracted	N/A	1	VOC	01-Mar-05	01-Mar-05	5030088	ES	
	VPH Aliphatic/Aromatic Carbon Ranges		Prepared by method VPH							VOC10
	C5-C8 Aliphatic Hydrocarbons	16.4	1.34 mg/kg dry	100	+MADEP 5/2004 Rev. 1.1	03-Mar-05	03-Mar-05	5030179	ss	
	C9-C12 Aliphatic Hydrocarbons	6.08	0.446 mg/kg dry	100	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	8.66	0.446 mg/kg dry	100	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	16.7	1.34 mg/kg dry	100	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	14.7	0.446 mg/kg dry	100	"	"	"	"	"	
	VPH Target Analytes		Prepared by method VPH							VOC10
71-43-2	Benzene	BRL	89.3 µg/kg dry	100	"	"	"	"	"	
100-41-4	Ethylbenzene	BRL	89.3 µg/kg dry	100	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL	89.3 µg/kg dry	100	"	"	"	"	"	
91-20-3	Naphthalene	332	89.3 µg/kg dry	100	"	"	"	"	"	
108-88-3	Toluene	140	89.3 µg/kg dry	100	"	"	"	"	"	
1330-20-7	m,p-Xylene	BRL	179 µg/kg dry	100	"	"	"	"	"	
95-47-6	o-Xylene	BRL	89.3 µg/kg dry	100	"	"	"	"	"	
	Surrogate recoveries:									
615-59-8	*2,5-Dibromotoluene (FID)*	*118*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*104*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
	EPH Aliphatic/Aromatic Ranges		Prepared by method SW846 3545A							
	C9-C18 Aliphatic Hydrocarbons	BRL	29.6 mg/kg dry	1	+MADEP 5/2004 R	03-Mar-05	06-Mar-05	5030185	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	29.6 mg/kg dry	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	BRL	29.6 mg/kg dry	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	BRL	29.6 mg/kg dry	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	BRL	29.6 mg/kg dry	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	BRL	29.6 mg/kg dry	1	"	"	"	"	"	
	EPH Target PAH Analytes		Prepared by method SW846 3545A							
91-20-3	Naphthalene	BRL	147 µg/kg dry	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	162	147 µg/kg dry	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	147 µg/kg dry	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	147 µg/kg dry	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	147 µg/kg dry	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	147 µg/kg dry	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	147 µg/kg dry	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	147 µg/kg dry	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	147 µg/kg dry	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	147 µg/kg dry	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	147 µg/kg dry	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	147 µg/kg dry	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B101 S4 13-15 SA24677-01	[none]	Soil	28-Feb-05 00:00	01-Mar-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Target PAH Analytes			Prepared by method SW846 3545A							
207-08-9	Benzo (k) fluoranthene	BRL	147 µg/kg dry	1	+MADEP 5/2004 R	03-Mar-05	06-Mar-05	5030185	M.B	
50-32-8	Benzo (a) pyrene	BRL	147 µg/kg dry	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	147 µg/kg dry	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	147 µg/kg dry	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	147 µg/kg dry	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*61.0*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*68.3*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*65.1*	*40-140 %*		"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*76.6*	*40-140 %*		"	"	"	"	"	
General Chemistry Parameters										
	% Solids	89.9	%	1	SM2540 G Mod.	01-Mar-05	02-Mar-05	5030086	AJ	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B102 S1B 11.5-12 SA24677-02	[none]	Soil	28-Feb-05 00:00	01-Mar-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
	VOC Extraction	Field extracted	N/A	1	VOC	01-Mar-05	01-Mar-05	5030088	ES	
	VPH Aliphatic/Aromatic Carbon Ranges		Prepared by method VPH							
	C5-C8 Aliphatic Hydrocarbons	BRL	0.940 mg/kg dry	50	+MADEP 5/2004 Rev. 1.1	03-Mar-05	03-Mar-05	5030179	ss	
	C9-C12 Aliphatic Hydrocarbons	BRL	0.313 mg/kg dry	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	BRL	0.313 mg/kg dry	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	BRL	0.940 mg/kg dry	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	BRL	0.313 mg/kg dry	50	"	"	"	"	"	
	VPH Target Analytes		Prepared by method VPH							
71-43-2	Benzene	BRL	62.7 µg/kg dry	50	"	"	"	"	"	
100-41-4	Ethylbenzene	BRL	62.7 µg/kg dry	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL	62.7 µg/kg dry	50	"	"	"	"	"	
91-20-3	Naphthalene	BRL	62.7 µg/kg dry	50	"	"	"	"	"	
108-88-3	Toluene	BRL	62.7 µg/kg dry	50	"	"	"	"	"	
1330-20-7	m,p-Xylene	BRL	125 µg/kg dry	50	"	"	"	"	"	
95-47-6	o-Xylene	BRL	62.7 µg/kg dry	50	"	"	"	"	"	
Surrogate recoveries:										
615-59-8	*2,5-Dibromotoluene (FID)*	*115*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*102*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
	EPH Aliphatic/Aromatic Ranges		Prepared by method SW846 3545A							
	C9-C18 Aliphatic Hydrocarbons	BRL	30.0 mg/kg dry	1	+MADEP 5/2004 R	03-Mar-05	06-Mar-05	5030185	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	30.0 mg/kg dry	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	BRL	30.0 mg/kg dry	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	BRL	30.0 mg/kg dry	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	BRL	30.0 mg/kg dry	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	BRL	30.0 mg/kg dry	1	"	"	"	"	"	
	EPH Target PAH Analytes		Prepared by method SW846 3545A							
91-20-3	Naphthalene	BRL	149 µg/kg dry	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	BRL	149 µg/kg dry	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	149 µg/kg dry	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	149 µg/kg dry	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	149 µg/kg dry	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	149 µg/kg dry	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	149 µg/kg dry	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	149 µg/kg dry	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	149 µg/kg dry	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	149 µg/kg dry	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	149 µg/kg dry	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	149 µg/kg dry	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B102 S1B 11.5-12 SA24677-02	[none]	Soil	28-Feb-05 00:00	01-Mar-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Target PAH Analytes			Prepared by method SW846 3545A							
207-08-9	Benzo (k) fluoranthene	BRL	149 µg/kg dry	1	+MADEP 5/2004 R	03-Mar-05	06-Mar-05	5030185	M.B	
50-32-8	Benzo (a) pyrene	BRL	149 µg/kg dry	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	149 µg/kg dry	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	149 µg/kg dry	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	149 µg/kg dry	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*76.7*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*73.3*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*60.9*	*40-140 %*		"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*77.6*	*40-140 %*		"	"	"	"	"	
General Chemistry Parameters										
	% Solids	90.8	%	1	SM2540 G Mod.	01-Mar-05	02-Mar-05	5030086	AJ	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B103 S1 13-15 SA24677-03	[none]	Soil	28-Feb-05 00:00	01-Mar-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
	VOC Extraction	Field extracted	N/A	1	VOC	01-Mar-05	01-Mar-05	5030088	ES	
VPH Aliphatic/Aromatic Carbon Ranges			Prepared by method VPH							VOC10
	C5-C8 Aliphatic Hydrocarbons	639	22.4 mg/kg dry	2000	+MADEP 5/2004 Rev. 1.1	03-Mar-05	03-Mar-05	5030179	ss	
	C9-C12 Aliphatic Hydrocarbons	217	7.48 mg/kg dry	2000	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	280	7.48 mg/kg dry	2000	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	832	22.4 mg/kg dry	2000	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	497	7.48 mg/kg dry	2000	"	"	"	"	"	
VPH Target Analytes			Prepared by method VPH							VOC10
71-43-2	Benzene	1,750	748 µg/kg dry	2000	"	"	"	"	"	
100-41-4	Ethylbenzene	24,200	748 µg/kg dry	2000	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL	748 µg/kg dry	2000	"	"	"	"	"	
91-20-3	Naphthalene	9,550	748 µg/kg dry	2000	"	"	"	"	"	
108-88-3	Toluene	39,600	748 µg/kg dry	2000	"	"	"	"	"	
1330-20-7	m,p-Xylene	92,400	1500 µg/kg dry	2000	"	"	"	"	"	
95-47-6	o-Xylene	35,400	748 µg/kg dry	2000	"	"	"	"	"	
Surrogate recoveries:										
615-59-8	*2,5-Dibromotoluene (FID)*	*110*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*97.0*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
EPH Aliphatic/Aromatic Ranges			Prepared by method SW846 3545A							
	C9-C18 Aliphatic Hydrocarbons	43.3	35.3 mg/kg dry	1	+MADEP 5/2004 R	03-Mar-05	06-Mar-05	5030185	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	35.3 mg/kg dry	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	40.6	35.3 mg/kg dry	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	48.5	35.3 mg/kg dry	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	84.0	35.3 mg/kg dry	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	91.9	35.3 mg/kg dry	1	"	"	"	"	"	
EPH Target PAH Analytes			Prepared by method SW846 3545A							
91-20-3	Naphthalene	3,920	176 µg/kg dry	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	3,990	176 µg/kg dry	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	176 µg/kg dry	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	176 µg/kg dry	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	176 µg/kg dry	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	176 µg/kg dry	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	176 µg/kg dry	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	176 µg/kg dry	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	176 µg/kg dry	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	176 µg/kg dry	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	176 µg/kg dry	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	176 µg/kg dry	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B103 S1 13-15 SA24677-03	[none]	Soil	28-Feb-05 00:00	01-Mar-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Target PAH Analytes			Prepared by method SW846 3545A							
207-08-9	Benzo (k) fluoranthene	BRL	176 µg/kg dry	1	+MADEP 5/2004 R	03-Mar-05	06-Mar-05	5030185	M.B	
50-32-8	Benzo (a) pyrene	BRL	176 µg/kg dry	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	176 µg/kg dry	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	176 µg/kg dry	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	176 µg/kg dry	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*53.7*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*56.0*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*53.0*	*40-140 %*		"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*76.8*	*40-140 %*		"	"	"	"	"	
General Chemistry Parameters										
	% Solids	91.9	%	1	SM2540 G Mod.	01-Mar-05	02-Mar-05	5030086	AJ	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B104 S1 13-15 SA24677-04	[none]	Soil	28-Feb-05 00:00	01-Mar-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
	VOC Extraction	Field extracted	N/A	1	VOC	01-Mar-05	01-Mar-05	5030088	ES	
	VPH Aliphatic/Aromatic Carbon Ranges		Prepared by method VPH							VOC10
	C5-C8 Aliphatic Hydrocarbons	1,130	11.9 mg/kg dry	1000	+MADEP 5/2004 Rev. 1.1	03-Mar-05	03-Mar-05	5030179	ss	
	C9-C12 Aliphatic Hydrocarbons	350	3.96 mg/kg dry	1000	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	216	3.96 mg/kg dry	1000	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	1,150	11.9 mg/kg dry	1000	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	565	3.96 mg/kg dry	1000	"	"	"	"	"	
	VPH Target Analytes		Prepared by method VPH							VOC10
71-43-2	Benzene	BRL	793 µg/kg dry	1000	"	"	"	"	"	
100-41-4	Ethylbenzene	2,720	793 µg/kg dry	1000	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL	793 µg/kg dry	1000	"	"	"	"	"	
91-20-3	Naphthalene	5,820	793 µg/kg dry	1000	"	"	"	"	"	
108-88-3	Toluene	5,990	793 µg/kg dry	1000	"	"	"	"	"	
1330-20-7	m,p-Xylene	9,100	1590 µg/kg dry	1000	"	"	"	"	"	
95-47-6	o-Xylene	2,620	793 µg/kg dry	1000	"	"	"	"	"	
	Surrogate recoveries:									
615-59-8	*2,5-Dibromotoluene (FID)*	*101*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*91.6*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
	EPH Aliphatic/Aromatic Ranges		Prepared by method SW846 3545A							
	C9-C18 Aliphatic Hydrocarbons	129	36.1 mg/kg dry	1	+MADEP 5/2004 R	03-Mar-05	06-Mar-05	5030185	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	36.1 mg/kg dry	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	57.3	36.1 mg/kg dry	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	59.5	36.1 mg/kg dry	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	200	36.1 mg/kg dry	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	202	36.1 mg/kg dry	1	"	"	"	"	"	
	EPH Target PAH Analytes		Prepared by method SW846 3545A							
91-20-3	Naphthalene	642	180 µg/kg dry	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	1,660	180 µg/kg dry	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	180 µg/kg dry	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	180 µg/kg dry	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	180 µg/kg dry	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	180 µg/kg dry	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	180 µg/kg dry	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	180 µg/kg dry	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	180 µg/kg dry	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	180 µg/kg dry	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	180 µg/kg dry	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	180 µg/kg dry	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B104 S1 13-15 SA24677-04	[none]	Soil	28-Feb-05 00:00	01-Mar-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Target PAH Analytes			Prepared by method SW846 3545A							
207-08-9	Benzo (k) fluoranthene	BRL	180 µg/kg dry	1	+MADEP 5/2004 R	03-Mar-05	06-Mar-05	5030185	M.B	
50-32-8	Benzo (a) pyrene	BRL	180 µg/kg dry	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	180 µg/kg dry	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	180 µg/kg dry	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	180 µg/kg dry	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*109*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*71.2*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*56.5*	*40-140 %*		"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*78.7*	*40-140 %*		"	"	"	"	"	
General Chemistry Parameters										
	% Solids	89.2	%	1	SM2540 G Mod.	01-Mar-05	02-Mar-05	5030086	AJ	

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5030179 - VPH										
Blank (5030179-BLK1)				Prepared & Analyzed: 03-Mar-05						
C5-C8 Aliphatic Hydrocarbons	BRL	0.750	mg/kg wet							
C9-C12 Aliphatic Hydrocarbons	BRL	0.250	mg/kg wet							
C9-C10 Aromatic Hydrocarbons	BRL	0.250	mg/kg wet							
Unadjusted C5-C8 Aliphatic Hydrocarbons	BRL	0.750	mg/kg wet							
Unadjusted C9-C12 Aliphatic Hydrocarbons	BRL	0.250	mg/kg wet							
Benzene	BRL	50.0	µg/kg wet							
Ethylbenzene	BRL	50.0	µg/kg wet							
Methyl tert-butyl ether	BRL	50.0	µg/kg wet							
Naphthalene	BRL	50.0	µg/kg wet							
Toluene	BRL	50.0	µg/kg wet							
m,p-Xylene	BRL	100	µg/kg wet							
o-Xylene	BRL	50.0	µg/kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	*65.0*		µg/kg wet	*50.0*		*130*	*70-130*			
Surrogate: 2,5-Dibromotoluene (PID)	*58.3*		µg/kg wet	*50.0*		*117*	*70-130*			
LCS (5030179-BS1)				Prepared & Analyzed: 03-Mar-05						
C5-C8 Aliphatic Hydrocarbons	170		mg/kg wet	180		94.4	70-130			
C9-C12 Aliphatic Hydrocarbons	59.1		mg/kg wet	80.0		73.9	70-130			
C9-C10 Aromatic Hydrocarbons	32.2		mg/kg wet	30.0		107	70-130			
Unadjusted C5-C8 Aliphatic Hydrocarbons	278		mg/kg wet	320		86.9	70-130			
Unadjusted C9-C12 Aliphatic Hydrocarbons	91.4		mg/kg wet	110		83.1	70-130			
Benzene	15.2		µg/kg wet	20.0		76.0	70-130			
Ethylbenzene	15.1		µg/kg wet	20.0		75.5	70-130			
Methyl tert-butyl ether	16.5		µg/kg wet	20.0		82.5	70-130			
Naphthalene	18.1		µg/kg wet	20.0		90.5	70-130			
Toluene	15.2		µg/kg wet	20.0		76.0	70-130			
m,p-Xylene	30.1		µg/kg wet	40.0		75.2	70-130			
o-Xylene	15.4		µg/kg wet	20.0		77.0	70-130			
2-Methylpentane	15.5		µg/kg wet	20.0		77.5	70-130			
n-Nonane	14.8		µg/kg wet	20.0		74.0	70-130			
n-Pentane	16.3		µg/kg wet	20.0		81.5	70-130			
1,2,4-Trimethylbenzene	15.9		µg/kg wet	20.0		79.5	70-130			
2,2,4-Trimethylpentane	15.5		µg/kg wet	20.0		77.5	70-130			
n-Butylcyclohexane	15.7		µg/kg wet	20.0		78.5	70-130			
n-Decane	16.2		µg/kg wet	20.0		81.0	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*62.9*		µg/kg wet	*50.0*		*126*	*70-130*			
Surrogate: 2,5-Dibromotoluene (PID)	*55.6*		µg/kg wet	*50.0*		*111*	*70-130*			
LCS Dup (5030179-BSD1)				Prepared & Analyzed: 03-Mar-05						
C5-C8 Aliphatic Hydrocarbons	159		mg/kg wet	180		88.3	70-130	6.68	25	
C9-C12 Aliphatic Hydrocarbons	58.0		mg/kg wet	80.0		72.5	70-130	1.91	25	
C9-C10 Aromatic Hydrocarbons	28.0		mg/kg wet	30.0		93.3	70-130	13.7	25	
Unadjusted C5-C8 Aliphatic Hydrocarbons	262		mg/kg wet	320		81.9	70-130	5.92	25	
Unadjusted C9-C12 Aliphatic Hydrocarbons	86.0		mg/kg wet	110		78.2	70-130	6.08	25	
Benzene	14.9		µg/kg wet	20.0		74.5	70-130	1.99	25	
Ethylbenzene	14.2		µg/kg wet	20.0		71.0	70-130	6.14	25	
Methyl tert-butyl ether	17.0		µg/kg wet	20.0		85.0	70-130	2.99	25	
Naphthalene	16.9		µg/kg wet	20.0		84.5	70-130	6.86	25	
Toluene	14.4		µg/kg wet	20.0		72.0	70-130	5.41	25	
m,p-Xylene	28.1		µg/kg wet	40.0		70.2	70-130	6.88	25	
o-Xylene	14.5		µg/kg wet	20.0		72.5	70-130	6.02	25	
2-Methylpentane	14.5		µg/kg wet	20.0		72.5	70-130	6.67	25	
n-Nonane	14.3		µg/kg wet	20.0		71.5	70-130	3.44	25	

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* Reportable Detection Limit BRL = Below Reporting Limit

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5030179 - VPH										
LCS Dup (5030179-BSD1)				Prepared & Analyzed: 03-Mar-05						
n-Pentane	15.0		µg/kg wet	20.0		75.0	70-130	8.31	25	
1,2,4-Trimethylbenzene	14.7		µg/kg wet	20.0		73.5	70-130	7.84	25	
2,2,4-Trimethylpentane	14.2		µg/kg wet	20.0		71.0	70-130	8.75	25	
n-Butylcyclohexane	15.2		µg/kg wet	20.0		76.0	70-130	3.24	25	
n-Decane	15.4		µg/kg wet	20.0		77.0	70-130	5.06	25	
Surrogate: 2,5-Dibromotoluene (FID)	*54.0*		µg/kg wet	*50.0*		*108*	*70-130*			
Surrogate: 2,5-Dibromotoluene (PID)	*47.0*		µg/kg wet	*50.0*		*94.0*	*70-130*			
Duplicate (5030179-DUP1)		Source: SA24708-01		Prepared & Analyzed: 03-Mar-05						
C5-C8 Aliphatic Hydrocarbons	7.88	0.907	mg/kg dry		6.48			19.5	50	
C9-C12 Aliphatic Hydrocarbons	3.65	0.302	mg/kg dry		2.81			26.0	50	
C9-C10 Aromatic Hydrocarbons	1.37	0.302	mg/kg dry		1.33			2.96	50	
Unadjusted C5-C8 Aliphatic Hydrocarbons	8.68	0.907	mg/kg dry		7.25			18.0	50	
Unadjusted C9-C12 Aliphatic Hydrocarbons	5.02	0.302	mg/kg dry		4.13			19.5	50	
Benzene	BRL	60.5	µg/kg dry		BRL				50	
Ethylbenzene	BRL	60.5	µg/kg dry		BRL				50	
Methyl tert-butyl ether	684	60.5	µg/kg dry		681			0.440	50	
Naphthalene	64.6	60.5	µg/kg dry		40.3			46.3	50	
Toluene	BRL	60.5	µg/kg dry		33.3			18.5	50	
m,p-Xylene	BRL	121	µg/kg dry		52.7			30.0	50	
o-Xylene	BRL	60.5	µg/kg dry		BRL				50	
Surrogate: 2,5-Dibromotoluene (FID)	*52.2*		µg/kg dry	*50.0*		*104*	*70-130*			
Surrogate: 2,5-Dibromotoluene (PID)	*48.8*		µg/kg dry	*50.0*		*97.6*	*70-130*			
Matrix Spike (5030179-MS1)		Source: SA24708-04		Prepared & Analyzed: 03-Mar-05						
Benzene	16.9		µg/kg dry	20.0	BRL	84.5	70-130			
Ethylbenzene	16.6		µg/kg dry	20.0	BRL	83.0	70-130			
Methyl tert-butyl ether	18.3		µg/kg dry	20.0	BRL	91.5	70-130			
Naphthalene	17.4		µg/kg dry	20.0	BRL	87.0	70-130			
Toluene	17.3		µg/kg dry	20.0	BRL	86.5	70-130			
m,p-Xylene	33.6		µg/kg dry	40.0	BRL	84.0	70-130			
o-Xylene	16.8		µg/kg dry	20.0	BRL	84.0	70-130			
2-Methylpentane	20.0		µg/kg dry	20.0	BRL	100	70-130			
n-Nonane	19.7		µg/kg dry	20.0	BRL	98.5	70-130			
n-Pentane	23.5		µg/kg dry	20.0	BRL	118	70-130			
1,2,4-Trimethylbenzene	16.9		µg/kg dry	20.0	BRL	84.5	70-130			
2,2,4-Trimethylpentane	21.0		µg/kg dry	20.0	BRL	105	70-130			
n-Butylcyclohexane	20.5		µg/kg dry	20.0	0.0	102	70-130			
n-Decane	22.4		µg/kg dry	20.0	0.0	112	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*54.3*		µg/kg dry	*50.0*		*109*	*70-130*			
Surrogate: 2,5-Dibromotoluene (PID)	*47.7*		µg/kg dry	*50.0*		*95.4*	*70-130*			

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 0503019 - 5030185										
Calibration Check (0503019-CCV1)				Prepared: 03-Mar-05 Analyzed: 04-Mar-05						
C9-C18 Aliphatic Hydrocarbons	0.671		mg/kg wet	0.600		112	75-125			
C19-C36 Aliphatic Hydrocarbons	0.896		mg/kg wet	0.800		112	75-125			
C11-C22 Aromatic Hydrocarbons	1.54		mg/kg wet	1.70		90.6	75-125			
Naphthalene	90.9		µg/kg wet	100		90.9	80-120			
2-Methylnaphthalene	94.7		µg/kg wet	100		94.7	80-120			
Acenaphthylene	89.2		µg/kg wet	100		89.2	80-120			
Acenaphthene	89.9		µg/kg wet	100		89.9	80-120			
Fluorene	92.8		µg/kg wet	100		92.8	80-120			
Phenanthrene	91.4		µg/kg wet	100		91.4	80-120			
Anthracene	90.2		µg/kg wet	100		90.2	80-120			
Fluoranthene	106		µg/kg wet	100		106	80-120			
Pyrene	100		µg/kg wet	100		100	80-120			
Benzo (a) anthracene	102		µg/kg wet	100		102	80-120			
Chrysene	105		µg/kg wet	100		105	80-120			
Benzo (b) fluoranthene	86.7		µg/kg wet	100		86.7	80-120			
Benzo (k) fluoranthene	119		µg/kg wet	100		119	80-120			
Benzo (a) pyrene	101		µg/kg wet	100		101	80-120			
Indeno (1,2,3-cd) pyrene	84.5		µg/kg wet	100		84.5	80-120			
Dibenzo (a,h) anthracene	84.7		µg/kg wet	100		84.7	80-120			
Benzo (g,h,i) perylene	80.6		µg/kg wet	100		80.6	80-120			
Calibration Check (0503019-CCV2)				Prepared: 03-Mar-05 Analyzed: 07-Mar-05						
C9-C18 Aliphatic Hydrocarbons	0.711		mg/kg wet	0.600		118	75-125			
C19-C36 Aliphatic Hydrocarbons	0.957		mg/kg wet	0.800		120	75-125			
C11-C22 Aromatic Hydrocarbons	1.53		mg/kg wet	1.70		90.0	75-125			
Naphthalene	98.1		µg/kg wet	100		98.1	80-120			
2-Methylnaphthalene	94.8		µg/kg wet	100		94.8	80-120			
Acenaphthylene	95.1		µg/kg wet	100		95.1	80-120			
Acenaphthene	93.1		µg/kg wet	100		93.1	80-120			
Fluorene	96.6		µg/kg wet	100		96.6	80-120			
Phenanthrene	96.9		µg/kg wet	100		96.9	80-120			
Anthracene	92.4		µg/kg wet	100		92.4	80-120			
Fluoranthene	109		µg/kg wet	100		109	80-120			
Pyrene	97.6		µg/kg wet	100		97.6	80-120			
Benzo (a) anthracene	89.8		µg/kg wet	100		89.8	80-120			
Chrysene	99.4		µg/kg wet	100		99.4	80-120			
Benzo (b) fluoranthene	76.7		µg/kg wet	100		76.7	80-120			QC-1
Benzo (k) fluoranthene	95.2		µg/kg wet	100		95.2	80-120			
Benzo (a) pyrene	84.6		µg/kg wet	100		84.6	80-120			
Indeno (1,2,3-cd) pyrene	92.8		µg/kg wet	100		92.8	80-120			
Dibenzo (a,h) anthracene	89.0		µg/kg wet	100		89.0	80-120			
Benzo (g,h,i) perylene	98.3		µg/kg wet	100		98.3	80-120			
Batch 5030185 - SW846 3545A										
Blank (5030185-BLK1)				Prepared: 03-Mar-05 Analyzed: 04-Mar-05						
C9-C18 Aliphatic Hydrocarbons	BRL	13.4	mg/kg wet							
C19-C36 Aliphatic Hydrocarbons	BRL	13.4	mg/kg wet							
C11-C22 Aromatic Hydrocarbons	BRL	13.4	mg/kg wet							
Unadjusted C11-C22 Aromatic Hydrocarbons	BRL	13.4	mg/kg wet							
Total Petroleum Hydrocarbons	BRL	13.4	mg/kg wet							
Unadjusted Total Petroleum Hydrocarbons	BRL	13.4	mg/kg wet							
Naphthalene	BRL	66.5	µg/kg wet							
2-Methylnaphthalene	BRL	66.5	µg/kg wet							
Acenaphthylene	BRL	66.5	µg/kg wet							

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5030185 - SW846 3545A										
Blank (5030185-BLK1)				Prepared: 03-Mar-05 Analyzed: 04-Mar-05						
Acenaphthene	BRL	66.5	µg/kg wet							
Fluorene	BRL	66.5	µg/kg wet							
Phenanthrene	BRL	66.5	µg/kg wet							
Anthracene	BRL	66.5	µg/kg wet							
Fluoranthene	BRL	66.5	µg/kg wet							
Pyrene	BRL	66.5	µg/kg wet							
Benzo (a) anthracene	BRL	66.5	µg/kg wet							
Chrysene	BRL	66.5	µg/kg wet							
Benzo (b) fluoranthene	BRL	66.5	µg/kg wet							
Benzo (k) fluoranthene	BRL	66.5	µg/kg wet							
Benzo (a) pyrene	BRL	66.5	µg/kg wet							
Indeno (1,2,3-cd) pyrene	BRL	66.5	µg/kg wet							
Dibenzo (a,h) anthracene	BRL	66.5	µg/kg wet							
Benzo (g,h,i) perylene	BRL	66.5	µg/kg wet							
Surrogate: 1-Chlorooctadecane	*2690*		µg/kg wet	*3330*		*80.8*	*40-140*			
Surrogate: Ortho-Terphenyl	*2260*		µg/kg wet	*3330*		*67.9*	*40-140*			
Surrogate: 2-Bromonaphthalene	*613*		µg/kg wet	*2670*		*23.0*	*40-140*			*S-GC*
Surrogate: 2-Fluorobiphenyl	*1780*		µg/kg wet	*2670*		*66.7*	*40-140*			
LCS (5030185-BS1)				Prepared: 03-Mar-05 Analyzed: 04-Mar-05						
C9-C18 Aliphatic Hydrocarbons	32.7	13.4	mg/kg wet	40.0		81.8	40-140			
C19-C36 Aliphatic Hydrocarbons	62.9	13.4	mg/kg wet	53.3		118	40-140			
C11-C22 Aromatic Hydrocarbons	70.7	13.4	mg/kg wet	113		62.6	40-140			
Naphthalene	2790	66.5	µg/kg wet	6670		41.8	40-140			
2-Methylnaphthalene	3300	66.5	µg/kg wet	6670		49.5	40-140			
Acenaphthylene	3330	66.5	µg/kg wet	6670		49.9	40-140			
Acenaphthene	3550	66.5	µg/kg wet	6670		53.2	40-140			
Fluorene	4220	66.5	µg/kg wet	6670		63.3	40-140			
Phenanthrene	4400	66.5	µg/kg wet	6670		66.0	40-140			
Anthracene	4120	66.5	µg/kg wet	6670		61.8	40-140			
Fluoranthene	5510	66.5	µg/kg wet	6670		82.6	40-140			
Pyrene	4960	66.5	µg/kg wet	6670		74.4	40-140			
Benzo (a) anthracene	4990	66.5	µg/kg wet	6670		74.8	40-140			
Chrysene	5560	66.5	µg/kg wet	6670		83.4	40-140			
Benzo (b) fluoranthene	4620	66.5	µg/kg wet	6670		69.3	40-140			
Benzo (k) fluoranthene	5090	66.5	µg/kg wet	6670		76.3	40-140			
Benzo (a) pyrene	3920	66.5	µg/kg wet	6670		58.8	40-140			
Indeno (1,2,3-cd) pyrene	3100	66.5	µg/kg wet	6670		46.5	40-140			
Dibenzo (a,h) anthracene	3250	66.5	µg/kg wet	6670		48.7	40-140			
Benzo (g,h,i) perylene	2610	66.5	µg/kg wet	6670		39.1	40-140			QC-1
Naphthalene (aliphatic fraction)	0.00667		µg/kg wet	6670		0.000100	0-200			
2-Methylnaphthalene (aliphatic fraction)	0.00667		µg/kg wet	6670		0.000100	0-200			
Surrogate: 1-Chlorooctadecane	*3080*		µg/kg wet	*3330*		*92.5*	*40-140*			
Surrogate: Ortho-Terphenyl	*2340*		µg/kg wet	*3330*		*70.3*	*40-140*			
Surrogate: 2-Bromonaphthalene	*1190*		µg/kg wet	*2670*		*44.6*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1720*		µg/kg wet	*2670*		*64.4*	*40-140*			
Naphthalene Breakthrough	0.00		%				0-5			
2-Methylnaphthalene Breakthrough	0.00		%				0-5			
Fractionation Check Standard (5030185-BS2)				Prepared & Analyzed: 03-Mar-05						
C9-C18 Aliphatic Hydrocarbons	23.1	13.4	mg/kg wet	40.0		57.8	40-140			
C19-C36 Aliphatic Hydrocarbons	47.5	13.4	mg/kg wet	53.3		89.1	40-140			
C11-C22 Aromatic Hydrocarbons	84.0	13.4	mg/kg wet	113		74.3	40-140			
Naphthalene	3590	66.5	µg/kg wet	6670		53.8	40-140			
2-Methylnaphthalene	4010	66.5	µg/kg wet	6670		60.1	40-140			

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5030185 - SW846 3545A										
Fractionation Check Standard (5030185-BS2)				Prepared & Analyzed: 03-Mar-05						
Acenaphthylene	4190	66.5	µg/kg wet	6670		62.8	40-140			
Acenaphthene	4090	66.5	µg/kg wet	6670		61.3	40-140			
Fluorene	4530	66.5	µg/kg wet	6670		67.9	40-140			
Phenanthrene	4560	66.5	µg/kg wet	6670		68.4	40-140			
Anthracene	4530	66.5	µg/kg wet	6670		67.9	40-140			
Fluoranthene	5610	66.5	µg/kg wet	6670		84.1	40-140			
Pyrene	5140	66.5	µg/kg wet	6670		77.1	40-140			
Benzo (a) anthracene	5320	66.5	µg/kg wet	6670		79.8	40-140			
Chrysene	5710	66.5	µg/kg wet	6670		85.6	40-140			
Benzo (b) fluoranthene	4740	66.5	µg/kg wet	6670		71.1	40-140			
Benzo (k) fluoranthene	5640	66.5	µg/kg wet	6670		84.6	40-140			
Benzo (a) pyrene	4990	66.5	µg/kg wet	6670		74.8	40-140			
Indeno (1,2,3-cd) pyrene	4310	66.5	µg/kg wet	6670		64.6	40-140			
Dibenzo (a,h) anthracene	4300	66.5	µg/kg wet	6670		64.5	40-140			
Benzo (g,h,i) perylene	4040	66.5	µg/kg wet	6670		60.6	40-140			
Naphthalene (aliphatic fraction)	0.00667		µg/kg wet	6670		0.000100	0-200			
2-Methylnapbthalene (aliphatic fraction)	0.00667		µg/kg wet	6670		0.000100	0-200			
Surrogate: 1-Chlorooctadecane	*2460*		µg/kg wet	*3330*		*73.9*	*40-140*			
Surrogate: Ortho-Terphenyl	*2330*		µg/kg wet	*3330*		*70.0*	*40-140*			
Surrogate: 2-Bromonaphthalene	*2010*		µg/kg wet	*2670*		*75.3*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*1950*		µg/kg wet	*2670*		*73.0*	*40-140*			
LCS Dup (5030185-BSD1)				Prepared: 03-Mar-05 Analyzed: 04-Mar-05						
C9-C18 Aliphatic Hydrocarbons	30.5	13.4	mg/kg wet	40.0		76.2	40-140	7.09	25	
C19-C36 Aliphatic Hydrocarbons	56.5	13.4	mg/kg wet	53.3		106	40-140	10.7	25	
C11-C22 Aromatic Hydrocarbons	68.7	13.4	mg/kg wet	113		60.8	40-140	2.92	25	
Naphthalene	2640	66.5	µg/kg wet	6670		39.6	40-140	5.41	30	QC-1
2-Methylnaphthalene	3330	66.5	µg/kg wet	6670		49.9	40-140	0.805	30	
Acenaphthylene	3380	66.5	µg/kg wet	6670		50.7	40-140	1.59	30	
Acenaphthene	3580	66.5	µg/kg wet	6670		53.7	40-140	0.935	30	
Fluorene	4190	66.5	µg/kg wet	6670		62.8	40-140	0.793	30	
Phenanthrene	4160	66.5	µg/kg wet	6670		62.4	40-140	5.61	30	
Anthracene	3970	66.5	µg/kg wet	6670		59.5	40-140	3.79	30	
Fluoranthene	5120	66.5	µg/kg wet	6670		76.8	40-140	7.28	30	
Pyrene	4420	66.5	µg/kg wet	6670		66.3	40-140	11.5	30	
Benzo (a) anthracene	5250	66.5	µg/kg wet	6670		78.7	40-140	5.08	30	
Chrysene	4580	66.5	µg/kg wet	6670		68.7	40-140	19.3	30	
Benzo (b) fluoranthene	4530	66.5	µg/kg wet	6670		67.9	40-140	2.04	30	
Benzo (k) fluoranthene	4760	66.5	µg/kg wet	6670		71.4	40-140	6.64	30	
Benzo (a) pyrene	3780	66.5	µg/kg wet	6670		56.7	40-140	3.64	30	
Indeno (1,2,3-cd) pyrene	3230	66.5	µg/kg wet	6670		48.4	40-140	4.00	30	
Dibenzo (a,h) anthracene	3370	66.5	µg/kg wet	6670		50.5	40-140	3.63	30	
Benzo (g,h,i) perylene	2730	66.5	µg/kg wet	6670		40.9	40-140	4.50	30	
Naphthalene (aliphatic fraction)	0.00667		µg/kg wet	6670		0.000100	0-200	0.00	200	
2-Methylnaphthalene (aliphatic fraction)	0.00667		µg/kg wet	6670		0.000100	0-200	0.00	200	
Surrogate: 1-Chlorooctadecane	*2730*		µg/kg wet	*3330*		*82.0*	*40-140*			
Surrogate: Ortho-Terphenyl	*2260*		µg/kg wet	*3330*		*67.9*	*40-140*			
Surrogate: 2-Bromonaphthalene	*799*		µg/kg wet	*2670*		*29.9*	*40-140*			*S-GC*
Surrogate: 2-Fluorobiphenyl	*1740*		µg/kg wet	*2670*		*65.2*	*40-140*			
Naphthalene Breakthrough	0.00		%				0-5			
2-Methylnaphthalene Breakthrough	0.00		%				0-5			

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5030086 - General Preparation										
Duplicate (5030086-DUP1)	Source: SA24677-04			Prepared: 01-Mar-05 Analyzed: 02-Mar-05						
% Solids	87.9		%		89.2			1.47	20	

Notes and Definitions

QC-1	Analyte out of acceptance range.
S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
vext2	Field extracted
VOC10	The VOC field preserved soil sample is not within the 1:1 weight to volume ratio as recommended by SW846 methods 5030 and 5035 but may be within the 1:1 volume to volume ratio.
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.

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 samples prior to analysis. Percent recoveries are calculated for each surrogate.

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

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrix	☐ Aqueous ☑ Soil ☐ Sediment ☐ Other		
Containers	☑ Satisfactory ☐ Broken ☐ Leaking		
Sample Preservative	Aqueous (acid-preserved)	☑ N/A ☐ pH≤2 ☐ pH>2 Comment	
	Soil or Sediment	☐ N/A ☐ Samples not received in Methanol or air-tight container	ml Methanol/g soil ☑ 1:1 +/-25% ☐ Other:
		☑ Samples received in Methanol: ☑ covering soil/sediment ☐ not covering soil/sediment	
		☐ Samples received in air-tight container:	
Temperature	☐ Received on ice ☑ Received at 4 ± 2 °C ☐ Other: °C		

Were all QA/QC procedures followed as required by the VPH method? Yes ✓ No _____
Were any significant modifications made to the VPH method as specified in section 11.3? No *see below
Were all performance/acceptance standards for required QA/QC procedures achieved? Yes ✓ No _____
* Yes, if PID and FID surrogate recoveries are listed as n/a, then that sample was run via GCMS using all QC criteria specified in the method

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrix	☐ Aqueous ☑ Soil ☐ Sediment ☐ Other	
Containers	☑ Satisfactory ☐ Broken ☐ Leaking	
Aqueous Preservative	☑ N/A ☐ pH≤2 ☐ pH>2 ☐ pH adjusted to <2 in lab Comment	
Temperature	☐ Received on ice ☑ Received at 4 ± 2 °C ☐ Other: °C	

Were all QA/QC procedures followed as required by the EPH method? Yes ✓ No _____
Were any significant modifications made to the EPH method as specified in Section 11.3? No ✓
Were all performance/acceptance standards for required QA/QC procedures achieved? Yes ✓ No _____

I attest 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.

Authorized by:

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

8H 24611(C) NW

SPECTRUM ANALYTICAL, INC.
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HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
☐ Standard TAT - 7 to 10 business days
☒ Rush TAT - Date Needed: 3/6/05 3/7
· All TATs are subject to laboratory approval.
· Min. 24-hour notification is needed for rushes.
· All samples are disposed of after 60 days unless otherwise instructed.

Report To: Ransom, Inc.
35 Winthrop St.
Winchester, MA 01890

Project Mgr.: TPSimmons

Invoice To: Same
IW#5008806 (initials)

P.O. No.: RQN:

Project No.:
Site Name: Bossi's
Location: 12 Swanton St. State: MA
Sampler(s): TPS

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

DW=Drinking Water GW=Groundwater WW=Wastewater
SW= Surface Water SO=Soil SL=Sludge O=Oil A=Air
X1= MeOH 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	MA DEP VPH	MA DEP EPH	Notes:
AB	~~GP101~~	~~02-28-05~~		~~G~~									
AB46722-01	B101S4 13-15	02-28-05		G	SO	X+9	X	1	1		✓	✓	
AB -02	B102S:B11.5-12	↓		G	SO	X+9	X	1	1		✓	✓	
AB -03	B103S1 13-15	↓		G	SO	X+9	X	1	1		✓	✓	
AB -04	B104S1 13-15	↓		G	SO	X+9	X	1	1		✓	✓	
AB													
AB													
AB													
AB													
AB													

Additional Instructions:

☒ Fax results when available to (781) 721-4456
☒ E-mail results when available to usul@comcast.net

Relinquished By:	Received By:	Date:	Time:
TPSimmons	Randy (signature)	03-01-05	11:35
Randy (signature)	(signature)	3/1/05	14:50

Dennis 4°C

file

Report Date:
08-Apr-05 15:23

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

REMSERV, Inc.
35 Winthrop Street
Winchester, MA 01890
Attn: Tom Simmons

Project: Bossi's-12 Swanton St-MA
Project #: 24124-1

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA26066-01	B101-MW	Ground Water	01-Apr-05 10:45	05-Apr-05 15:10
SA26066-02	B103-MW	Ground Water	01-Apr-05 12:15	05-Apr-05 15:10
SA26066-03	B104-MW	Ground Water	01-Apr-05 12:45	05-Apr-05 15:10
SA26066-04	MW-1	Ground Water	01-Apr-05 13:45	05-Apr-05 15:10
SA26066-05	MW-4	Ground Water	01-Apr-05 13:00	05-Apr-05 15:10
SA26066-06	B102B	Ground Water	01-Apr-05 14:00	05-Apr-05 15:10
SA26066-07	B102B	Ground Water	04-Apr-05 09:45	05-Apr-05 15:10

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 20 pages of analytical data plus Chain of Custody document(s).
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Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538/2972
New York # 11393/11840
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393

ACCREDITED IN ACCORDANCE WITH nelac

Authorized by:

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

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B101-MW SA26066-01	24124-1	Ground Water	01-Apr-05 10:45	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
VPH Aliphatic/Aromatic Carbon Ranges			Prepared by method VPH							
	C5-C8 Aliphatic Hydrocarbons	1.11	0.150 mg/l	10	+MADEP 5/2004 Rev. 1.1	06-Apr-05	07-Apr-05	5040231	KW	
	C9-C12 Aliphatic Hydrocarbons	1.11	0.0500 mg/l	10	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	4.23	0.0500 mg/l	10	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	1.40	0.150 mg/l	10	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	5.34	0.0500 mg/l	10	"	"	"	"	"	
VPH Target Analytes			Prepared by method VPH							
71-43-2	Benzene	BRL	5.0 µg/l	10	"	"	"	"	"	
100-41-4	Ethylbenzene	58.5	5.0 µg/l	10	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL	5.0 µg/l	10	"	"	"	"	"	
91-20-3	Naphthalene	92.4	5.0 µg/l	10	"	"	"	"	"	
108-88-3	Toluene	7.2	5.0 µg/l	10	"	"	"	"	"	
1330-20-7	m,p-Xylene	212	10.0 µg/l	10	"	"	"	"	"	
95-47-6	o-Xylene	12.3	5.0 µg/l	10	"	"	"	"	"	
Surrogate recoveries:										
615-59-8	*2,5-Dibromotoluene (FID)*	*105*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*105*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
EPH Aliphatic/Aromatic Ranges			Prepared by method SW846 3510C							
	C9-C18 Aliphatic Hydrocarbons	0.3	0.2 mg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	0.2 mg/l	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	0.6	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	0.8	0.2 mg/l	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	0.9	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	1.1	0.2 mg/l	1	"	"	"	"	"	
EPH Target PAH Analytes			Prepared by method SW846 3510C							
91-20-3	Naphthalene	44.5	5.56 µg/l	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	96.3	5.56 µg/l	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	5.56 µg/l	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	5.56 µg/l	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	5.56 µg/l	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	5.56 µg/l	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	5.56 µg/l	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	5.56 µg/l	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	5.56 µg/l	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	5.56 µg/l	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	5.56 µg/l	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	5.56 µg/l	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	BRL	5.56 µg/l	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B101-MW SA26066-01	24124-1	Ground Water	01-Apr-05 10:45	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Target PAH Analytes			Prepared by method SW846 3510C							
50-32-8	Benzo (a) pyrene	BRL	5.56 µg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	5.56 µg/l	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	5.56 µg/l	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	5.56 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*73.4*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*64.2*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*68.5*	*40-140 %*		"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*82.4*	*40-140 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B103-MW SA26066-02	24124-1	Ground Water	01-Apr-05 12:15	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
VPH Aliphatic/Aromatic Carbon Ranges			Prepared by method VPH							
	C5-C8 Aliphatic Hydrocarbons	17.4	0.750 mg/l	50	+MADEP 5/2004 Rev. 1.1	06-Apr-05	07-Apr-05	5040231	KW	
	C9-C12 Aliphatic Hydrocarbons	2.56	0.250 mg/l	50	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	8.95	0.250 mg/l	50	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	32.5	0.750 mg/l	50	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	11.5	0.250 mg/l	50	"	"	"	"	"	
VPH Target Analytes			Prepared by method VPH							
71-43-2	Benzene	168	50.0 µg/l	50	"	"	"	"	"	
100-41-4	Ethylbenzene	1,790	50.0 µg/l	50	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL	50.0 µg/l	50	"	"	"	"	"	
91-20-3	Naphthalene	392	50.0 µg/l	50	"	"	"	"	"	
108-88-3	Toluene	4,560	50.0 µg/l	50	"	"	"	"	"	
1330-20-7	m,p-Xylene	6,090	100 µg/l	50	"	"	"	"	"	
95-47-6	o-Xylene	2,480	50.0 µg/l	50	"	"	"	"	"	
Surrogate recoveries:										
615-59-8	*2,5-Dibromotoluene (FID)*	*104*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*102*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
EPH Aliphatic/Aromatic Ranges			Prepared by method SW846 3510C							
	C9-C18 Aliphatic Hydrocarbons	2.4	0.2 mg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	0.2 mg/l	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	0.6	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	0.9	0.2 mg/l	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	3.0	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	3.2	0.2 mg/l	1	"	"	"	"	"	
EPH Target PAH Analytes			Prepared by method SW846 3510C							
91-20-3	Naphthalene	165	5.26 µg/l	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	105	5.26 µg/l	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	5.26 µg/l	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	5.26 µg/l	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	5.26 µg/l	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	5.26 µg/l	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	5.26 µg/l	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	5.26 µg/l	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	5.26 µg/l	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	5.26 µg/l	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	5.26 µg/l	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	5.26 µg/l	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	BRL	5.26 µg/l	1	"	"	"	"	"	

This laboratory report is not valid without an authorized signature on the cover page.

* Reportable Detection Limit BRL = Below Reporting Limit

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B103-MW SA26066-02	24124-1	Ground Water	01-Apr-05 12:15	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Target PAH Analytes			Prepared by method SW846 3510C							
50-32-8	Benzo (a) pyrene	BRL	5.26 µg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	5.26 µg/l	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	5.26 µg/l	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	5.26 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*65.4*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*63.1*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*35.6*	*40-140 %*		"	"	"	"	"	S-GC
321-60-8	*2-Fluorobiphenyl*	*83.4*	*40-140 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B104-MW SA26066-03	24124-1	Ground Water	01-Apr-05 12:45	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
VPH Aliphatic/Aromatic Carbon Ranges			Prepared by method VPH							
	C5-C8 Aliphatic Hydrocarbons	8.89	0.300 mg/l	20	+MADEP 5/2004 Rev. 1.1	06-Apr-05	07-Apr-05	5040231	KW	
	C9-C12 Aliphatic Hydrocarbons	1.52	0.100 mg/l	20	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	3.75	0.100 mg/l	20	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	13.0	0.300 mg/l	20	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	5.27	0.100 mg/l	20	"	"	"	"	"	
VPH Target Analytes			Prepared by method VPH							
71-43-2	Benzene	36.8	20.0 µg/l	20	"	"	"	"	"	
100-41-4	Ethylbenzene	843	20.0 µg/l	20	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	38.6	20.0 µg/l	20	"	"	"	"	"	
91-20-3	Naphthalene	181	20.0 µg/l	20	"	"	"	"	"	
108-88-3	Toluene	338	20.0 µg/l	20	"	"	"	"	"	
1330-20-7	m,p-Xylene	2,080	40.0 µg/l	20	"	"	"	"	"	
95-47-6	o-Xylene	780	20.0 µg/l	20	"	"	"	"	"	
Surrogate recoveries:										
615-59-8	*2,5-Dibromotoluene (FID)*	*97.0*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*95.2*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
EPH Aliphatic/Aromatic Ranges			Prepared by method SW846 3510C							
	C9-C18 Aliphatic Hydrocarbons	0.4	0.2 mg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	0.2 mg/l	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	0.4	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	0.5	0.2 mg/l	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	0.8	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	1.0	0.2 mg/l	1	"	"	"	"	"	
EPH Target PAH Analytes			Prepared by method SW846 3510C							
91-20-3	Naphthalene	88.1	5.00 µg/l	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	48.3	5.00 µg/l	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	5.00 µg/l	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	5.00 µg/l	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	5.00 µg/l	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	5.00 µg/l	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	5.00 µg/l	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B104-MW SA26066-03	24124-1	Ground Water	01-Apr-05 12:45	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Target PAH Analytes			Prepared by method SW846 3510C							
50-32-8	Benzo (a) pyrene	BRL	5.00 µg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	5.00 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*77.8*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*66.8*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*59.2*	*40-140 %*		"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*83.0*	*40-140 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1 SA26066-04	24124-1	Ground Water	01-Apr-05 13:45	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
VPH Aliphatic/Aromatic Carbon Ranges			Prepared by method VPH							
	C5-C8 Aliphatic Hydrocarbons	0.753	0.0750 mg/l	5	+MADEP 5/2004 Rev. 1.1	06-Apr-05	06-Apr-05	5040231	KW	
	C9-C12 Aliphatic Hydrocarbons	0.159	0.0250 mg/l	5	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	0.300	0.0250 mg/l	5	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	0.864	0.0750 mg/l	5	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	0.459	0.0250 mg/l	5	"	"	"	"	"	
VPH Target Analytes			Prepared by method VPH							
71-43-2	Benzene	11.4	5.0 µg/l	5	"	"	"	"	"	
100-41-4	Ethylbenzene	26.8	5.0 µg/l	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL	5.0 µg/l	5	"	"	"	"	"	
91-20-3	Naphthalene	10.8	5.0 µg/l	5	"	"	"	"	"	
108-88-3	Toluene	12.4	5.0 µg/l	5	"	"	"	"	"	
1330-20-7	m,p-Xylene	50.8	10.0 µg/l	5	"	"	"	"	"	
95-47-6	o-Xylene	9.6	5.0 µg/l	5	"	"	"	"	"	
Surrogate recoveries:										
615-59-8	*2,5-Dibromotoluene (FID)*	*86.6*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*86.0*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
EPH Aliphatic/Aromatic Ranges			Prepared by method SW846 3510C							
	C9-C18 Aliphatic Hydrocarbons	BRL	0.2 mg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	0.2 mg/l	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	BRL	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	BRL	0.2 mg/l	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	0.2	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	0.2	0.2 mg/l	1	"	"	"	"	"	
EPH Target PAH Analytes			Prepared by method SW846 3510C							
91-20-3	Naphthalene	BRL	5.00 µg/l	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	BRL	5.00 µg/l	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	5.00 µg/l	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	5.00 µg/l	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	5.00 µg/l	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	5.00 µg/l	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	5.00 µg/l	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	

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* Reportable Detection Limit BRL = Below Reporting Limit

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-1 SA26066-04	24124-1	Ground Water	01-Apr-05 13:45	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Target PAH Analytes			Prepared by method SW846 3510C							
50-32-8	Benzo (a) pyrene	BRL	5.00 µg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M,B	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	5.00 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*67.2*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*63.6*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*71.5*	*40-140 %*		"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*80.5*	*40-140 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4 SA26066-05	24124-1	Ground Water	01-Apr-05 13:00	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
VPH Aliphatic/Aromatic Carbon Ranges			Prepared by method VPH							
	C5-C8 Aliphatic Hydrocarbons	22.4	3.00 mg/l	200	+MADEP 5/2004 Rev. 1.1	06-Apr-05	07-Apr-05	5040231	KW	
	C9-C12 Aliphatic Hydrocarbons	5.83	1.00 mg/l	200	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	16.2	1.00 mg/l	200	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	53.9	3.00 mg/l	200	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	22.0	1.00 mg/l	200	"	"	"	"	"	
VPH Target Analytes			Prepared by method VPH							
71-43-2	Benzene	BRL	200 µg/l	200	"	"	"	"	"	
100-41-4	Ethylbenzene	4,480	200 µg/l	200	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	BRL	200 µg/l	200	"	"	"	"	"	
91-20-3	Naphthalene	1,090	200 µg/l	200	"	"	"	"	"	
108-88-3	Toluene	1,950	200 µg/l	200	"	"	"	"	"	
1330-20-7	m,p-Xylene	17,500	400 µg/l	200	"	"	"	"	"	
95-47-6	o-Xylene	7,640	200 µg/l	200	"	"	"	"	"	
Surrogate recoveries:										
615-59-8	*2,5-Dibromotoluene (FID)*	*100*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*95.6*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
EPH Aliphatic/Aromatic Ranges			Prepared by method SW846 3510C							
	C9-C18 Aliphatic Hydrocarbons	4.2	0.2 mg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	0.2 mg/l	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	0.4	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	0.9	0.2 mg/l	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	4.6	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	5.1	0.2 mg/l	1	"	"	"	"	"	
EPH Target PAH Analytes			Prepared by method SW846 3510C							
91-20-3	Naphthalene	379	5.00 µg/l	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	108	5.00 µg/l	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	5.00 µg/l	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	5.00 µg/l	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	5.00 µg/l	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	5.00 µg/l	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	5.00 µg/l	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
MW-4 SA26066-05	24124-1	Ground Water	01-Apr-05 13:00	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Target PAH Analytes			Prepared by method SW846 3510C							
50-32-8	Benzo (a) pyrene	BRL	5.00 µg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	5.00 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*71.0*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*68.0*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*41.2*	*40-140 %*		"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*83.8*	*40-140 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B102B SA26066-06	24124-1	Ground Water	01-Apr-05 14:00	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
VPH Aliphatic/Aromatic Carbon Ranges			Prepared by method VPH							
	C5-C8 Aliphatic Hydrocarbons	4.62	0.150 mg/l	10	+MADEP 5/2004 Rev. 1.1	06-Apr-05	07-Apr-05	5040231	KW	
	C9-C12 Aliphatic Hydrocarbons	2.25	0.0500 mg/l	10	"	"	"	"	"	
	C9-C10 Aromatic Hydrocarbons	6.91	0.0500 mg/l	10	"	"	"	"	"	
	Unadjusted C5-C8 Aliphatic Hydrocarbons	11.7	0.150 mg/l	10	"	"	"	"	"	
	Unadjusted C9-C12 Aliphatic Hydrocarbons	9.16	0.0500 mg/l	10	"	"	"	"	"	
VPH Target Analytes			Prepared by method VPH							
71-43-2	Benzene	230	10.0 µg/l	10	"	"	"	"	"	
100-41-4	Ethylbenzene	680	10.0 µg/l	10	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	87.4	10.0 µg/l	10	"	"	"	"	"	
91-20-3	Naphthalene	368	10.0 µg/l	10	"	"	"	"	"	
108-88-3	Toluene	1,600	10.0 µg/l	10	"	"	"	"	"	
1330-20-7	m,p-Xylene	2,560	20.0 µg/l	10	"	"	"	"	"	
95-47-6	o-Xylene	1,910	10.0 µg/l	10	"	"	"	"	"	
Surrogate recoveries:										
615-59-8	*2,5-Dibromotoluene (FID)*	*94.6*	*70-130 %*		"	"	"	"	"	
615-59-8	*2,5-Dibromotoluene (PID)*	*92.4*	*70-130 %*		"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
B102B SA26066-07	24124-1	Ground Water	04-Apr-05 09:45	05-Apr-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extractable Petroleum Hydrocarbons										
EPH Aliphatic/Aromatic Ranges			Prepared by method SW846 3510C							
	C9-C18 Aliphatic Hydrocarbons	0.4	0.2 mg/l	1	+MADEP 5/2004 R	06-Apr-05	08-Apr-05	5040219	M.B	
	C19-C36 Aliphatic Hydrocarbons	BRL	0.2 mg/l	1	"	"	"	"	"	
	C11-C22 Aromatic Hydrocarbons	0.5	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted C11-C22 Aromatic Hydrocarbons	0.6	0.2 mg/l	1	"	"	"	"	"	
	Total Petroleum Hydrocarbons	0.9	0.2 mg/l	1	"	"	"	"	"	
	Unadjusted Total Petroleum Hydrocarbons	1.0	0.2 mg/l	1	"	"	"	"	"	
EPH Target PAH Analytes			Prepared by method SW846 3510C							
91-20-3	Naphthalene	114	5.00 µg/l	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	30.6	5.00 µg/l	1	"	"	"	"	"	
208-96-8	Acenaphthylene	BRL	5.00 µg/l	1	"	"	"	"	"	
83-32-9	Acenaphthene	BRL	5.00 µg/l	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	5.00 µg/l	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	5.00 µg/l	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	5.00 µg/l	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	5.00 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
3386-33-2	*1-Chlorooctadecane*	*67.2*	*40-140 %*		"	"	"	"	"	
84-15-1	*Ortho-Terphenyl*	*63.2*	*40-140 %*		"	"	"	"	"	
580-13-2	*2-Bromonaphthalene*	*69.0*	*40-140 %*		"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*85.2*	*40-140 %*		"	"	"	"	"	

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5040231 - VPH										
Blank (5040231-BLK1)				Prepared & Analyzed: 06-Apr-05						
C5-C8 Aliphatic Hydrocarbons	BRL	0.0750	mg/l							
C9-C12 Aliphatic Hydrocarbons	BRL	0.0250	mg/l							
C9-C10 Aromatic Hydrocarbons	BRL	0.0250	mg/l							
Unadjusted C5-C8 Aliphatic Hydrocarbons	BRL	0.0750	mg/l							
Unadjusted C9-C12 Aliphatic Hydrocarbons	BRL	0.0250	mg/l							
Benzene	BRL	5.0	µg/l							
Ethylbenzene	BRL	5.0	µg/l							
Methyl tert-butyl ether	BRL	5.0	µg/l							
Naphthalene	BRL	5.0	µg/l							
Toluene	BRL	5.0	µg/l							
m,p-Xylene	BRL	10.0	µg/l							
o-Xylene	BRL	5.0	µg/l							
Surrogate: 2,5-Dibromotoluene (FID)	*52.6*		µg/l	*50.0*		*105*	*70-130*			
Surrogate: 2,5-Dibromotoluene (PID)	*51.5*		µg/l	*50.0*		*103*	*70-130*			
LCS (5040231-BS1)				Prepared & Analyzed: 06-Apr-05						
C5-C8 Aliphatic Hydrocarbons	129		mg/l	140		92.1	70-130			
C9-C12 Aliphatic Hydrocarbons	53.5		mg/l	55.0		97.3	70-130			
C9-C10 Aromatic Hydrocarbons	30.9		mg/l	30.0		103	70-130			
Unadjusted C5-C8 Aliphatic Hydrocarbons	246		mg/l	280		87.9	70-130			
Unadjusted C9-C12 Aliphatic Hydrocarbons	84.4		mg/l	85.0		99.3	70-130			
Benzene	16.8		µg/l	20.0		84.0	70-130			
Ethylbenzene	16.2		µg/l	20.0		81.0	70-130			
Methyl tert-butyl ether	19.0		µg/l	20.0		95.0	70-130			
Naphthalene	17.0		µg/l	20.0		85.0	70-130			
Toluene	16.4		µg/l	20.0		82.0	70-130			
m,p-Xylene	32.2		µg/l	40.0		80.5	70-130			
o-Xylene	16.8		µg/l	20.0		84.0	70-130			
2-Methylpentane	17.7		µg/l	20.0		88.5	70-130			
n-Nonane	15.5		µg/l	20.0		77.5	70-130			
n-Pentane	17.8		µg/l	20.0		89.0	70-130			
1,2,4-Trimethylbenzene	16.6		µg/l	20.0		83.0	70-130			
2,2,4-Trimethylpentane	17.7		µg/l	20.0		88.5	70-130			
n-Butylcyclohexane	16.3		µg/l	20.0		81.5	70-130			
n-Decane	15.2		µg/l	20.0		76.0	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*37.3*		µg/l	*50.0*		*74.6*	*70-130*			
Surrogate: 2,5-Dibromotoluene (PID)	*37.5*		µg/l	*50.0*		*75.0*	*70-130*			
LCS Dup (5040231-BSD1)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
C5-C8 Aliphatic Hydrocarbons	141		mg/l	140		101	70-130	9.22	25	
C9-C12 Aliphatic Hydrocarbons	56.0		mg/l	55.0		102	70-130	4.72	25	
C9-C10 Aromatic Hydrocarbons	35.0		mg/l	30.0		117	70-130	12.7	25	
Unadjusted C5-C8 Aliphatic Hydrocarbons	275		mg/l	280		98.2	70-130	11.1	25	
Unadjusted C9-C12 Aliphatic Hydrocarbons	91.0		mg/l	85.0		107	70-130	7.46	25	
Benzene	18.7		µg/l	20.0		93.5	70-130	10.7	25	
Ethylbenzene	19.1		µg/l	20.0		95.5	70-130	16.4	25	
Methyl tert-butyl ether	20.4		µg/l	20.0		102	70-130	7.11	25	
Naphthalene	21.7		µg/l	20.0		108	70-130	23.8	25	
Toluene	18.9		µg/l	20.0		94.5	70-130	14.2	25	
m,p-Xylene	37.6		µg/l	40.0		94.0	70-130	15.5	25	
o-Xylene	19.4		µg/l	20.0		97.0	70-130	14.4	25	
2-Methylpentane	18.6		µg/l	20.0		93.0	70-130	4.96	25	
n-Nonane	17.9		µg/l	20.0		89.5	70-130	14.4	25	

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5040231 - VPH										
LCS Dup (5040231-BSD1)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
n-Pentane	18.7		µg/l	20.0		93.5	70-130	4.93	25	
1,2,4-Trimethylbenzene	19.9		µg/l	20.0		99.5	70-130	18.1	25	
2,2,4-Trimethylpentane	18.9		µg/l	20.0		94.5	70-130	6.56	25	
n-Butylcyclohexane	19.7		µg/l	20.0		98.5	70-130	18.9	25	
n-Decane	19.7		µg/l	20.0		98.5	70-130	25.8	25	QR-02
Surrogate: 2,5-Dibromotoluene (FID)	*49.7*		µg/l	*50.0*		*99.4*	*70-130*			
Surrogate: 2,5-Dibromotoluene (PID)	*48.5*		µg/l	*50.0*		*97.0*	*70-130*			
Duplicate (5040231-DUP1)		**Source: SA26067-04**		Prepared & Analyzed: 06-Apr-05						
C5-C8 Aliphatic Hydrocarbons	BRL	0.0750	mg/l		0.00641			0.312	50	
C9-C12 Aliphatic Hydrocarbons	BRL	0.0250	mg/l		0.000272			23.4	50	
C9-C10 Aromatic Hydrocarbons	BRL	0.0250	mg/l		0.00192			3.17	50	
Unadjusted C5-C8 Aliphatic Hydrocarbons	BRL	0.0750	mg/l		0.00641			0.312	50	
Unadjusted C9-C12 Aliphatic Hydrocarbons	BRL	0.0250	mg/l		0.00219			0.456	50	
Benzene	BRL	5.0	µg/l		BRL				50	
Ethylbenzene	BRL	5.0	µg/l		BRL				50	
Methyl tert-butyl ether	BRL	5.0	µg/l		BRL				50	
Naphthalene	BRL	5.0	µg/l		BRL				50	
Toluene	BRL	5.0	µg/l		BRL				50	
m,p-Xylene	BRL	10.0	µg/l		BRL				50	
o-Xylene	BRL	5.0	µg/l		BRL				50	
Surrogate: 2,5-Dibromotoluene (FID)	*44.8*		µg/l	*50.0*		*89.6*	*70-130*			
Surrogate: 2,5-Dibromotoluene (PID)	*44.3*		µg/l	*50.0*		*88.6*	*70-130*			
Matrix Spike (5040231-MS1)		**Source: SA26067-04**		Prepared & Analyzed: 06-Apr-05						
Benzene	17.9		µg/l	20.0	BRL	89.5	70-130			
Ethylbenzene	17.8		µg/l	20.0	BRL	89.0	70-130			
Methyl tert-butyl ether	17.7		µg/l	20.0	BRL	88.5	70-130			
Naphthalene	15.3		µg/l	20.0	BRL	76.5	70-130			
Toluene	18.0		µg/l	20.0	BRL	90.0	70-130			
m,p-Xylene	35.2		µg/l	40.0	BRL	88.0	70-130			
o-Xylene	18.3		µg/l	20.0	BRL	91.5	70-130			
2-Methylpentane	15.1		µg/l	20.0	BRL	75.5	70-130			
n-Nonane	14.6		µg/l	20.0	BRL	73.0	70-130			
n-Pentane	17.6		µg/l	20.0	BRL	88.0	70-130			
1,2,4-Trimethylbenzene	18.1		µg/l	20.0	BRL	90.5	70-130			
2,2,4-Trimethylpentane	16.3		µg/l	20.0	BRL	81.5	70-130			
n-Butylcyclohexane	16.2		µg/l	20.0	0.0	81.0	70-130			
n-Decane	14.8		µg/l	20.0	0.0	74.0	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*29.5*		µg/l	*50.0*		*59.0*	*70-130*			*S-04*
Surrogate: 2,5-Dibromotoluene (PID)	*28.5*		µg/l	*50.0*		*57.0*	*70-130*			*S-04*

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 0504027 - 5040219										
Calibration Check (0504027-CCV1)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
C9-C18 Aliphatic Hydrocarbons	0.661		mg/kg wet	0.600		110	75-125			
C19-C36 Aliphatic Hydrocarbons	0.760		mg/kg wet	0.800		95.0	75-125			
C11-C22 Aromatic Hydrocarbons	2.12		mg/kg wet	1.70		125	75-125			
Naphthalene	86.9		µg/kg wet	100		86.9	80-120			
2-Methylnaphthalene	85.4		µg/kg wet	100		85.4	80-120			
Acenaphthylene	88.4		µg/kg wet	100		88.4	80-120			
Acenaphthene	90.8		µg/kg wet	100		90.8	80-120			
Fluorene	89.9		µg/kg wet	100		89.9	80-120			
Phenanthrene	94.7		µg/kg wet	100		94.7	80-120			
Anthracene	83.3		µg/kg wet	100		83.3	80-120			
Fluoranthene	107		µg/kg wet	100		107	80-120			
Pyrene	102		µg/kg wet	100		102	80-120			
Benzo (a) anthracene	129		µg/kg wet	100		129	80-120			QC-1
Chrysene	108		µg/kg wet	100		108	80-120			
Benzo (b) fluoranthene	109		µg/kg wet	100		109	80-120			
Benzo (k) fluoranthene	129		µg/kg wet	100		129	80-120			QC-1
Benzo (a) pyrene	114		µg/kg wet	100		114	80-120			
Indeno (1,2,3-cd) pyrene	97.0		µg/kg wet	100		97.0	80-120			
Dibenzo (a,h) anthracene	99.0		µg/kg wet	100		99.0	80-120			
Benzo (g,h,i) perylene	86.7		µg/kg wet	100		86.7	80-120			
Calibration Check (0504027-CCV2)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
C9-C18 Aliphatic Hydrocarbons	0.603		mg/kg wet	0.600		100	75-125			
C19-C36 Aliphatic Hydrocarbons	0.674		mg/kg wet	0.800		84.2	75-125			
C11-C22 Aromatic Hydrocarbons	1.73		mg/kg wet	1.70		102	75-125			
Naphthalene	86.8		µg/kg wet	100		86.8	80-120			
2-Methylnaphthalene	92.9		µg/kg wet	100		92.9	80-120			
Acenaphthylene	89.4		µg/kg wet	100		89.4	80-120			
Acenaphthene	86.8		µg/kg wet	100		86.8	80-120			
Fluorene	88.1		µg/kg wet	100		88.1	80-120			
Phenanthrene	96.1		µg/kg wet	100		96.1	80-120			
Anthracene	90.1		µg/kg wet	100		90.1	80-120			
Fluoranthene	104		µg/kg wet	100		104	80-120			
Pyrene	103		µg/kg wet	100		103	80-120			
Benzo (a) anthracene	123		µg/kg wet	100		123	80-120			QC-1
Chrysene	122		µg/kg wet	100		122	80-120			QC-1
Benzo (b) fluoranthene	122		µg/kg wet	100		122	80-120			QC-1
Benzo (k) fluoranthene	120		µg/kg wet	100		120	80-120			
Benzo (a) pyrene	122		µg/kg wet	100		122	80-120			QC-1
Indeno (1,2,3-cd) pyrene	100		µg/kg wet	100		100	80-120			
Dibenzo (a,h) anthracene	104		µg/kg wet	100		104	80-120			
Benzo (g,h,i) perylene	90.2		µg/kg wet	100		90.2	80-120			
Batch 5040219 - SW846 3510C										
Blank (5040219-BLK1)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
C9-C18 Aliphatic Hydrocarbons	BRL	0.2	mg/l							
C19-C36 Aliphatic Hydrocarbons	BRL	0.2	mg/l							
C11-C22 Aromatic Hydrocarbons	BRL	0.2	mg/l							
Unadjusted C11-C22 Aromatic Hydrocarbons	BRL	0.2	mg/l							
Total Petroleum Hydrocarbons	BRL	0.2	mg/l							
Unadjusted Total Petroleum Hydrocarbons	BRL	0.2	mg/l							
Naphthalene	BRL	2.50	µg/l							
2-Methylnaphthalene	BRL	2.50	µg/l							
Acenaphthylene	BRL	2.50	µg/l							

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5040219 - SW846 3510C										
Blank (5040219-BLK1)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
Acenaphthene	BRL	2.50	µg/l							
Fluorene	BRL	2.50	µg/l							
Phenanthrene	BRL	2.50	µg/l							
Anthracene	BRL	2.50	µg/l							
Fluoranthene	BRL	2.50	µg/l							
Pyrene	BRL	2.50	µg/l							
Benzo (a) anthracene	BRL	2.50	µg/l							
Chrysene	BRL	2.50	µg/l							
Benzo (b) fluoranthene	BRL	2.50	µg/l							
Benzo (k) fluoranthene	BRL	2.50	µg/l							
Benzo (a) pyrene	BRL	2.50	µg/l							
Indeno (1,2,3-cd) pyrene	BRL	2.50	µg/l							
Dibenzo (a,h) anthracene	BRL	2.50	µg/l							
Benzo (g,h,i) perylene	BRL	2.50	µg/l							
Surrogate: 1-Chlorooctadecane	*33.7*		µg/l	*50.0*		*67.4*	*40-140*			
Surrogate: Ortho-Terphenyl	*30.6*		µg/l	*50.0*		*61.2*	*40-140*			
Surrogate: 2-Bromonaphthalene	*20.6*		µg/l	*40.0*		*51.5*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*27.7*		µg/l	*40.0*		*69.2*	*40-140*			
LCS (5040219-BS1)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
C9-C18 Aliphatic Hydrocarbons	0.356	0.2	mg/l	0.600		59.3	40-140			
C19-C36 Aliphatic Hydrocarbons	0.504	0.2	mg/l	0.800		63.0	40-140			
C11-C22 Aromatic Hydrocarbons	1.66	0.2	mg/l	1.70		97.6	40-140			
Naphthalene	54.2	2.50	µg/l	100		54.2	40-140			
2-Methylnaphthalene	58.6	2.50	µg/l	100		58.6	40-140			
Acenaphthylene	64.8	2.50	µg/l	100		64.8	40-140			
Acenaphthene	67.0	2.50	µg/l	100		67.0	40-140			
Fluorene	69.4	2.50	µg/l	100		69.4	40-140			
Phenanthrene	75.4	2.50	µg/l	100		75.4	40-140			
Anthracene	72.0	2.50	µg/l	100		72.0	40-140			
Fluoranthene	79.7	2.50	µg/l	100		79.7	40-140			
Pyrene	84.0	2.50	µg/l	100		84.0	40-140			
Benzo (a) anthracene	101	2.50	µg/l	100		101	40-140			
Chrysene	91.8	2.50	µg/l	100		91.8	40-140			
Benzo (b) fluoranthene	95.4	2.50	µg/l	100		95.4	40-140			
Benzo (k) fluoranthene	102	2.50	µg/l	100		102	40-140			
Benzo (a) pyrene	98.2	2.50	µg/l	100		98.2	40-140			
Indeno (1,2,3-cd) pyrene	83.5	2.50	µg/l	100		83.5	40-140			
Dibenzo (a,h) anthracene	84.9	2.50	µg/l	100		84.9	40-140			
Benzo (g,h,i) perylene	76.7	2.50	µg/l	100		76.7	40-140			
Naphthalene (aliphatic fraction)	0.645		µg/l	100		0.645	0-200			
2-Methylnaphthalene (aliphatic fraction)	1.21		µg/l	100		1.21	0-200			
Surrogate: 1-Chlorooctadecane	*35.4*		µg/l	*50.0*		*70.8*	*40-140*			
Surrogate: Ortho-Terphenyl	*35.7*		µg/l	*50.0*		*71.4*	*40-140*			
Surrogate: 2-Bromonaphthalene	*20.4*		µg/l	*40.0*		*51.0*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*32.7*		µg/l	*40.0*		*81.8*	*40-140*			
Naphthalene Breakthrough	1.18		%				0-5			
2-Methylnaphthalene Breakthrough	2.02		%				0-5			
Fractionation Check Standard (5040219-BS2)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
C9-C18 Aliphatic Hydrocarbons	0.362	0.2	mg/l	0.600		60.3	40-140			
C19-C36 Aliphatic Hydrocarbons	0.471	0.2	mg/l	0.800		58.9	40-140			
C11-C22 Aromatic Hydrocarbons	1.66	0.2	mg/l	1.70		97.6	40-140			
Naphthalene	66.8	2.50	µg/l	100		66.8	40-140			
2-Methylnaphthalene	71.1	2.50	µg/l	100		71.1	40-140			

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5040219 - SW846 3510C										
Fractionation Check Standard (5040219-BS2)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
Acenaphthylene	72.4	2.50	µg/l	100		72.4	40-140			
Acenaphthene	76.7	2.50	µg/l	100		76.7	40-140			
Fluorene	78.0	2.50	µg/l	100		78.0	40-140			
Phenanthrene	84.6	2.50	µg/l	100		84.6	40-140			
Anthracene	80.6	2.50	µg/l	100		80.6	40-140			
Fluoranthene	88.8	2.50	µg/l	100		88.8	40-140			
Pyrene	91.4	2.50	µg/l	100		91.4	40-140			
Benzo (a) anthracene	113	2.50	µg/l	100		113	40-140			
Chrysene	105	2.50	µg/l	100		105	40-140			
Benzo (b) fluoranthene	94.5	2.50	µg/l	100		94.5	40-140			
Benzo (k) fluoranthene	83.4	2.50	µg/l	100		83.4	40-140			
Benzo (a) pyrene	108	2.50	µg/l	100		108	40-140			
Indeno (1,2,3-cd) pyrene	92.8	2.50	µg/l	100		92.8	40-140			
Dibenzo (a,h) anthracene	94.6	2.50	µg/l	100		94.6	40-140			
Benzo (g,h,i) perylene	84.2	2.50	µg/l	100		84.2	40-140			
Naphthalene (aliphatic fraction)	0.813		µg/l	100		0.813	0-200			
2-Methylnaphthalene (aliphatic fraction)	0.986		µg/l	100		0.986	0-200			
Surrogate: 1-Chlorooctadecane	*34.3*		µg/l	*50.0*		*68.6*	*40-140*			
Surrogate: Ortho-Terphenyl	*39.2*		µg/l	*50.0*		*78.4*	*40-140*			
Surrogate: 2-Bromonaphthalene	*20.8*		µg/l	*40.0*		*52.0*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*34.1*		µg/l	*40.0*		*85.2*	*40-140*			
LCS Dup (5040219-BSD1)				Prepared: 06-Apr-05 Analyzed: 07-Apr-05						
C9-C18 Aliphatic Hydrocarbons	0.361	0.2	mg/l	0.600		60.2	40-140	1.51	25	
C19-C36 Aliphatic Hydrocarbons	0.515	0.2	mg/l	0.800		64.4	40-140	2.20	25	
C11-C22 Aromatic Hydrocarbons	1.73	0.2	mg/l	1.70		102	40-140	4.41	25	
Naphthalene	54.2	2.50	µg/l	100		54.2	40-140	0.00	20	
2-Methylnaphthalene	59.1	2.50	µg/l	100		59.1	40-140	0.850	20	
Acenaphthylene	65.8	2.50	µg/l	100		65.8	40-140	1.53	20	
Acenaphthene	68.2	2.50	µg/l	100		68.2	40-140	1.78	20	
Fluorene	71.8	2.50	µg/l	100		71.8	40-140	3.40	20	
Phenanthrene	81.1	2.50	µg/l	100		81.1	40-140	7.28	20	
Anthracene	75.5	2.50	µg/l	100		75.5	40-140	4.75	20	
Fluoranthene	85.9	2.50	µg/l	100		85.9	40-140	7.49	20	
Pyrene	89.6	2.50	µg/l	100		89.6	40-140	6.45	20	
Benzo (a) anthracene	108	2.50	µg/l	100		108	40-140	6.70	20	
Chrysene	105	2.50	µg/l	100		105	40-140	13.4	20	
Benzo (b) fluoranthene	98.1	2.50	µg/l	100		98.1	40-140	2.79	20	
Benzo (k) fluoranthene	116	2.50	µg/l	100		116	40-140	12.8	20	
Benzo (a) pyrene	104	2.50	µg/l	100		104	40-140	5.74	20	
Indeno (1,2,3-cd) pyrene	90.6	2.50	µg/l	100		90.6	40-140	8.16	20	
Dibenzo (a,h) anthracene	91.8	2.50	µg/l	100		91.8	40-140	7.81	20	
Benzo (g,h,i) perylene	82.7	2.50	µg/l	100		82.7	40-140	7.53	20	
Naphthalene (aliphatic fraction)	0.689		µg/l	100		0.689	0-200	6.60	200	
2-Methylnaphthalene (aliphatic fraction)	0.603		µg/l	100		0.603	0-200	67.0	200	
Surrogate: 1-Chlorooctadecane	*36.5*		µg/l	*50.0*		*73.0*	*40-140*			
Surrogate: Ortho-Terphenyl	*36.9*		µg/l	*50.0*		*73.8*	*40-140*			
Surrogate: 2-Bromonaphthalene	*23.4*		µg/l	*40.0*		*58.5*	*40-140*			
Surrogate: 2-Fluorobiphenyl	*34.0*		µg/l	*40.0*		*85.0*	*40-140*			
Naphthalene Breakthrough	1.26		%				0-5			
2-Methylnaphthalene Breakthrough	1.01		%				0-5			

Notes and Definitions

QC-1	Analyte out of acceptance range.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
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.

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 samples prior to analysis. Percent recoveries are calculated for each surrogate.

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

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

Matrix	☑ Aqueous ☐ Soil ☐ Sediment ☐ Other		
Containers	☑ Satisfactory ☐ Broken ☐ Leaking		
Sample Preservative	Aqueous (acid-preserved)	☐ N/A ☑ pH≤2 ☐ pH>2 Comment	
	Soil or Sediment	☑ N/A ☐ Samples not received in Methanol or air-tight container	ml Methanol/g soil ☐ 1:1 +/-25% ☐ Other:
		☐ Samples received in Methanol: ☐ covering soil/sediment ☐ not covering soil/sediment	
		☐ Samples received in air-tight container:	
Temperature	☐ Received on ice ☐ Received at 4 ± 2 °C ☑ Other: / °C		

Were all QA/QC procedures followed as required by the VPH method? Yes ✓ No _____
Were any significant modifications made to the VPH method as specified in section 11.3? No *see below
Were all performance/acceptance standards for required QA/QC procedures achieved? Yes ✓ No _____
* Yes, if PID and FID surrogate recoveries are listed as n/a, then that sample was run via GCMS using all QC criteria specified in the method

The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrix	☑ Aqueous	☐ Soil	☐ Sediment	☐ Other	
Containers	☑ Satisfactory	☐ Broken	☐ Leaking		
Aqueous Preservative	☐ N/A	☑ pH≤2	☐ pH>2	☐ pH adjusted to <2 in lab	Comment
Temperature	☐ Received on ice	☐ Received at 4 ± 2 °C	☑ Other: /	°C	

Were all QA/QC procedures followed as required by the EPH method? Yes ✓ No _____
Were any significant modifications made to the EPH method as specified in Section 11.3? No ✓
Were all performance/acceptance standards for required QA/QC procedures achieved? Yes _____ No _____

I attest 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.

Authorized by:

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

SA 26066 (FW)

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☑ Rush TAT - Date Needed: 4/4/05
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: REMSERV, Inc.
35 Winthrop Street
Winchester, MA 01890

Project Mgr.: Thomas Simmons

Invoice To: Same
IW#5004247 (OK)

P.O. No.: RQN:

Project No.: 24124-1
Site Name: Bossi's
Location: ~~12 Swanton~~ 12 Swanton St, Winchester State: MA
Sampler(s): RLK

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=___ 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	VPH	EPH	QA Reporting Notes
26066-01	B101-MW	4/1/05	10:45	G	GW	2	2	1			✓	✓	
-02	B103-MW	4/1/05	12:15	G	GW	2	2	1			✓	✓	
-03	B104-MW	4/1/05	12:45	G	GW	2	2	1			✓	✓	
-04	MW-1	4/1/05	1:45	G	GW	2	2	1			✓	✓	
-05	MW-4	4/1/05	1:00	G	GW	2	2	1			✓	✓	
-06	B102B	4/1/05	2:00	G	GW	2	2				✓		
-07	B102B	4/4/05	9:45	G	GW	2		1				✓	

QA Reporting Notes: (check if needed)
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 (781) 721-4456
☐ E-mail to
EDD Format
Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C 1

Relinquished by:	Received by:	Date:	Time:
T. Simmons	Bill Hastings	4/5/05	1045
Bill Hastings	[signature]	4/5/05	1510

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475

November 8, 2000

Mr. Steve Rumba
WEB Engineering
106 Longwater Drive
Norwell, MA 02061

Project: **Bossi's/00-E-033**
Lab ID: **36958**
Sampled: **10-24-00**

Dear Steve:

Enclosed are the Extractable Petroleum Hydrocarbons, Volatile Petroleum Hydrocarbons, and Semivolatile Organics Analyses performed for the above referenced project. This project was processed for Standard Two Week turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a project narrative indicating project changes and non-conformances, a brief description of the Quality Assurance/Quality Control procedures employed by our laboratory, and a statement of our state certifications.

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.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Jonathan R. Sanford
President

JRS/pmb
Enclosures

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-1	Laboratory ID:	36958-01
Project:	Bossi's/00-E-033	QC Batch ID:	EP-0754-F
Client:	WEB Engineering	Sampled:	10-24-00
Container:	1 L Amber Glass	Received:	10-25-00
Preservation:	H2SO4 / Cool	Extracted:	11-01-00
Matrix:	Aqueous	Analyzed:	11-07-00
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limits
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	560
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	560
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	77 %	40 - 140 %
	2-Bromonaphthalene	79 %	40 - 140 %
Extraction:	Chloro-octadecane	70 %	40 - 140 %
	ortho-Terphenyl	71 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Extraction performed utilizing separatory funnel technique.

Report Notations:

BRL indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-3	Laboratory ID:	36958-02
Project:	Bossi's/00-E-033	QC Batch ID:	EP-0754-F
Client:	WEB Engineering	Sampled:	10-24-00
Container:	1 L Amber Glass	Received:	10-25-00
Preservation:	H2SO4 / Cool	Extracted:	11-01-00
Matrix:	Aqueous	Analyzed:	11-07-00
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	1,500	ug/L	630
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	630
n-C11 to n-C22 Aromatic Hydrocarbons †◊	630	ug/L	250
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	1,100	ug/L	250

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	65 %	40 - 140 %
	2-Bromonaphthalene	65 %	40 - 140 %
Extraction:	Chloro-octadecane	47 %	40 - 140 %
	ortho-Terphenyl	67 %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Extraction performed utilizing separatory funnel technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-4	Laboratory ID:	36958-03
Project:	Bossi's/00-E-033	QC Batch ID:	EP-0754-F
Client:	WEB Engineering	Sampled:	10-24-00
Container:	1 L Amber Glass	Received:	10-25-00
Preservation:	H2SO4 / Cool	Extracted:	11-01-00
Matrix:	Aqueous	Analyzed:	11-07-00
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	1,300	ug/L	1,100
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	1,100
n-C11 to n-C22 Aromatic Hydrocarbons †◊	800	ug/L	440
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	1,400	ug/L	440

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	71 %	40 - 140 %
	2-Bromonaphthalene	74 %	40 - 140 %
Extraction:	Chloro-octadecane	61 %	40 - 140 %
	ortho-Terphenyl	66 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Extraction performed utilizing separatory funnel technique.

Report Notations:

BRL. Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-1	Laboratory ID:	36958-04
Project:	Bossi's/00-E-033	QC Batch ID:	VG3-1291-W
Client:	WEB Engineering	Sampled:	10-24-00
Container:	40 mL Glass Vial	Received:	10-25-00
Preservation:	HCl / Cool	Analyzed:	10-28-00
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	1,400	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	340	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	440	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	1,500	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	960	ug/L	20

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	16	ug/L	.5
71-43-2	Benzene ¤	11	ug/L	1
108-88-3	Toluene ¤	40	ug/L	5
100-41-4	Ethylbenzene †	37	ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	110	ug/L	5
95-47-6	*ortho*- Xylene †	28	ug/L	5
91-20-3	Naphthalene	BRL	ug/L	5

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	90 %	70 - 130 %
2,5-Dibromotoluene (FID)	76 %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-3	Laboratory ID:	36958-05
Project:	Bossi's/00-E-033	QC Batch ID:	VG3-1291-W
Client:	WEB Engineering	Sampled:	10-24-00
Container:	40 mL Glass Vial	Received:	10-25-00
Preservation:	HCl / Cool	Analyzed:	10-27-00
Matrix:	Aqueous	Dilution Factor:	50

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	30,000	ug/L	1,000
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	21,000	ug/L	1,000
n-C9 to n-C10 Aromatic Hydrocarbons †	17,000	ug/L	1,000
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	55,000	ug/L	1,000
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	67,000	ug/L	1,000

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL	ug/L	250
71-43-2	Benzene ¤	1,900	ug/L	50
108-88-3	Toluene ¤	23,000	ug/L	250
100-41-4	Ethylbenzene ‡	4,500	ug/L	250
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	17,000	ug/L	250
95-47-6	*ortho*- Xylene ‡	7,200	ug/L	250
91-20-3	Naphthalene	830	ug/L	250

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	98 %	70 - 130 %
2,5-Dibromotoluene (FID)	94 %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-4	Laboratory ID:	36958-06
Project:	Bossi's/00-E-033	QC Batch ID:	VG3-1291-W
Client:	WEB Engineering	Sampled:	10-24-00
Container:	40 mL Glass Vial	Received:	10-25-00
Preservation:	HCl / Cool	Analyzed:	10-27-00
Matrix:	Aqueous	Dilution Factor:	100

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	47,000	ug/L	2,000
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	29,000	ug/L	2,000
n-C9 to n-C10 Aromatic Hydrocarbons †	18,000	ug/L	2,000
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	94,000	ug/L	2,000
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	89,000	ug/L	2,000

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	3,500	ug/L	500
71-43-2	Benzene ¤	1,900	ug/L	100
108-88-3	Toluene ¤	41,000	ug/L	500
100-41-4	Ethylbenzene ‡	6,200	ug/L	500
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	25,000	ug/L	500
95-47-6	*ortho*- Xylene ‡	12,000	ug/L	500
91-20-3	Naphthalene	1,100	ug/L	500

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	97 %	70 - 130 %
2,5-Dibromotoluene (FID)	93 %	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	MW-1	Laboratory ID:	36958-01
Project:	Bossi's/00-E-033	QC Batch ID:	EP-0754-F
Client:	WEB Engineering	Sampled:	10-24-00
Container:	1L Amber Glass	Preserved:	10-25-00
Preservation:	H_2SO_4 / Cool	Received:	10-25-00
Matrix:	Aqueous	Extracted:	11-01-00
		Analyzed:	11-03-00
		Dilution Factor:	1

CAS Number	Analyte	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	2.3	ug/L	0.5
91-57-6	2-Methylnaphthalene	1.4	ug/L	0.5
208-96-8	Acenaphthylene	BRL	ug/L	0.5
83-32-9	Acenaphthene	BRL	ug/L	0.5
86-73-7	Fluorene	BRL	ug/L	0.5
85-01-8	Phenanthrene	BRL	ug/L	0.5
120-12-7	Anthracene	BRL	ug/L	0.5
206-44-0	Fluoranthene	BRL	ug/L	0.5
129-00-0	Pyrene	BRL	ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL	ug/L	0.1
218-01-9	Chrysene	BRL	ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL	ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL	ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL	ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL	ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL	ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL	ug/L	0.1

QC Surrogate Compound	Recovery	QC Limits
ortho-Terphenyl	76 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Analyte list as specified by the target analytes of the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons. Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	MW-3	Laboratory ID:	36958-02
Project:	Bossi's/00-E-033	QC Batch ID:	EP-0754-F
Client:	WEB Engineering	Sampled:	10-24-00
Container:	1L Amber Glass	Preserved:	10-25-00
Preservation:	H_2SO_4 / Cool	Received:	10-25-00
Matrix:	Aqueous	Extracted:	11-01-00
		Analyzed:	11-03-00
		Dilution Factor:	1

CAS Number	Analyte	Concentration		Units	Reporting Limit
91-20-3	Naphthalene	170	ee	ug/L	13
91-57-6	2-Methylnaphthalene	140	ee	ug/L	13
208-96-8	Acenaphthylene	BRL		ug/L	0.6
83-32-9	Acenaphthene	BRL		ug/L	0.6
86-73-7	Fluorene	1.1		ug/L	0.6
85-01-8	Phenanthrene	1.4		ug/L	0.6
120-12-7	Anthracene	BRL		ug/L	0.6
206-44-0	Fluoranthene	BRL		ug/L	0.6
129-00-0	Pyrene	BRL		ug/L	0.6
56-55-3	Benzo[a]anthracene	0.1		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1

QC Surrogate Compound	Recovery	QC Limits
ortho-Terphenyl	72 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Analyte list as specified by the target analytes of the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons. Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

ee Analyte response exceeded calibration range. Analyte result was quantified on the basis of a separate analytical run with the mass spectrometer operating in the full scan mode.

GROUNDWATER ANALYTICAL

EPA Method 8270C (Modified)
MA DEP EPH Polynuclear Aromatic Hydrocarbons by GC/MS-SIM

Field ID:	MW-4	Laboratory ID:	36958-03
Project:	Bossi's/00-E-033	QC Batch ID:	EP-0754-F
Client:	WEB Engineering	Sampled:	10-24-00
Container:	1L Amber Glass	Preserved:	10-25-00
Preservation:	H_2SO_4 / Cool	Received:	10-25-00
Matrix:	Aqueous	Extracted:	11-01-00
		Analyzed:	11-03-00
		Dilution Factor:	1

CAS Number	Analyte	Concentration		Units	Reporting Limit
91-20-3	Naphthalene	280	ee	ug/L	22
91-57-6	2-Methylnaphthalene	170	ee	ug/L	22
208-96-8	Acenaphthylene	BRL		ug/L	1.1
83-32-9	Acenaphthene	BRL		ug/L	1.1
86-73-7	Fluorene	1.3		ug/L	1.1
85-01-8	Phenanthrene	1.7		ug/L	1.1
120-12-7	Anthracene	BRL		ug/L	1.1
206-44-0	Fluoranthene	BRL		ug/L	1.1
129-00-0	Pyrene	BRL		ug/L	0.2
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.2
218-01-9	Chrysene	BRL		ug/L	0.2
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.2
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.2
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.2
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.2
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.2
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.2

QC Surrogate Compound	Recovery	QC limits
ortho-Terphenyl	73 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Analyte list as specified by the target analytes of the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons. Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.

Report Notations:

BRL indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

ee Analyte response exceeded calibration range. Analyte result was quantified on the basis of a separate analytical run with the mass spectrometer operating in the full scan mode.

GROUNDWATER ANALYTICAL

Project Narrative

Project: Bossi's/00-E-033
Client: WEB Engineering

Lab ID: 36958
Received: 10-25-00

A: Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged in appropriate containers with the correct preservation.

B: Project Documentation

This project was accompanied by satisfactory Chain of Custody documentation. The sample container label(s) agreed with the Chain of Custody.

C: Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these sample(s). All data contained within this report are released without qualification.

GROUNDWATER ANALYTICAL

228 Main Street, P.O. Box 1200
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 46438

Project Name: Bossi's	Firm: WEB
Project Number: 00-E-033	Address: 106 Longwater Dr.
Sampler Name: S. Romba	City / State / Zip: Norwell, MA 02061
Project Manager: S. Romba	Telephone: 781 878-7766

TURNAROUND

☒ STANDARD (10 Business Days)
☐ PRIORITY (5 Business Days)
☐ RUSH (RAN-________)
(Rush requires Rush Authorization Number)

Please FAX ☐ YES ☐ NO
FAX Number:

BILLING

Purchase Order No.: | GWA Reference No.:

INSTRUCTIONS: Use separate line for each container (except replicates).

Date	Time	Sample Identification	Matrix	Type	Number	Container(s)	Preservation	Filtered	Laboratory Number (Lab Use Only)	Analysis Request
10-24		MW-1	Water ✓	Grab ✓	3	40mL VOA Vial ✓	HCl ✓, Ice X	No X	36958 4	MA DEP VPH X
		MW-2	Water ✓	Grab ✓	3	40mL VOA Vial X	HCl ✓, Ice ✓	No X	6	MA DEP VPH X
		MW-3	Water ✓	Grab ✓	1	1L/32 oz Amber Glass ✓	H_2SO_4 ✓, Ice ✓	No X	2	MA DEP EPH ✓

Container(s) columns: 40mL VOA Vial; 60mL/2 oz Glass; 120mL/4 oz VOA Jar; 120mL/4 oz Amber Glass; 250mL/8 oz Glass; 500mL/16 oz Glass; 1L/32 oz Amber Glass; 250mL/8 oz Plastic; 500mL/16 oz Plastic; 1L/32 oz Plastic; 120mL STERILE
Preservation columns: HCl; HNO_3; H_2SO_4; NaOH; Methanol; Sodium Bisulfate; Ice
Filtered: Yes / No

ANALYSIS REQUEST

Volatiles — RCRA/21E: ☐ 8260B/TCL ☐ 8260B/Extended ☐ Add MTBE ☐ 8021 Aromatics ☐ Add MTBE ☐ 8021 Halocarbons; NPDES: ☐ 624/NPDES ☐ 624/Extended ☐ Add MTBE ☐ 602 ☐ Add MTBE ☐ 601; SDWA: ☐ 524.2; Options: ☐ TIC Search
Semivolatiles — ☐ 8270C/TCL ☐ 8270C/PAHs Only; ☐ 625 ☐ 625/PAHs only; ☐ 525.2; ☐ Acid Only ☐ B/N Only ☐ TIC Search
Pest/Herb/PCBs — ☐ 8081A Pesticides ☐ 8082 PCBs ☐ 8151 Herbicides ☐ 8011; ☐ 608 Pesticides ☐ 608/PCB only ☐ 615; ☐ 505 ☐ 531.1 ☐ 515.1 ☐ 504.1 EDB/DBCP
Metals — ☐ 8 RCRA ☐ 23 TAL ☐ Specify:; ☐ 13 Priority Pollutant; ☐ Lead and Copper; Specify For Water Samples ☐ Total ☐ Dissolved
Petroleum Hydrocarbon — ☐ 418.1 (TPH-IR) ☐ Diesel Range Organics (DRO) ☒ MA DEP EPH w/all targets ☐ EPH w/ PAHs ☐ EPH Carbon ranges only ☐ Hydrocarbon Fingerprint (GC/FID by ASTM D3328-90-Mod.) ☐ TPH by GC/FID (8100 Mod) Quantitative Only ☐ Gasoline Range Organics (GRO) ☒ MA DEP VPH w/all targets ☐ VPH Carbon ranges only
Haz. Waste — TCLP ☐ Metals ☐ VOA ☐ Semi VOA ☐ Pesticides ☐ Herbicides; ☐ Corrosivity (as pH) ☐ Reactivity ☐ Ignitability (as Flashpoint) ☐ Paint Filter; ☐ MA Basic Disposal Criteria: VOA, GC/FID, PCBs, 5 Metals, Corrosivity, Ignitability, Reactivity
General Chemistry — ☐ Nitrate ☐ Chloride ☐ Sulfate ☐ TDS ☐ Nitrite; ☐ Alkalinity; ☐ Ammonia ☐ TKN ☐ Total Phosphorous ☐ Total N (as NO2/NO3/TKN); ☐ Oil & Grease; ☐ COD ☐ TOC; ☐ BOD ☐ TSS ☐ TS; ☐ Cyanide, Total ☐ Cyanide, Physiologically Available; ☐ pH ☐ Dissolved Oxygen ☐ Turbidity; ☐ Total Coliform ☐ Fecal Coliform ☐ HPC
Other

REMARKS / SPECIAL INSTRUCTIONS

DATA QUALITY OBJECTIVES

Regulatory Program

☐ Safe Drinking Water Act
☐ MA DEP Form
☐ NPDES/Clean Water Act
Specify State: ________
☐ RCRA/Haz. Waste Char.
☐ MA MCP (310 CMR 40)
Reportable Concentrations
☐ RCGW - 1 ☐ RCS - 1
☐ RCGW - 2 ☐ RCS - 2
☐ MA Dredge Disposal
☐ NH ☐ RI ☐ CT ☐ ME
Specify Category: ________

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
☐ Sample Duplicate
☐ Matrix Spike
☐ Matrix Spike Duplicate

Selection of QC Sample
☐ Selected by laboratory
☐ Please use sample: ________

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by	Date	Time	Received by	
Relinquished by Sampler: [signature]	10-24-00		Received by:	Receipt Temperature: 3.9
Relinquished by:	10/25/00	11:00	Received by: Alan Madigan	Shipping/Airbill Number:
Relinquished by: Alan Madigan	10/25/00	7:45	Received by Laboratory: [signature]	Custody Seal/Cooler Serial Number:

Method of Shipment: ☒ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☒ Hand ☐ ________

GROUNDWATER ANALYTICAL

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: EPA Method 8270C (Modified) - EPH PAHs by GC/MS-SIM
QC Batch ID: EP-0754-FL
Matrix: Aqueous
Units: ug/L

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
91-20-3	Naphthalene	5.0	2.8	55 %	40 - 140 %
83-32-9	Acenaphthene	5.0	2.7	53 %	40 - 140 %
120-12-7	Anthracene	5.0	3.7	74 %	40 - 140 %
129-00-0	Pyrene	5.0	3.4	68 %	40 - 140 %
218-01-9	Chrysene	5.0	3.6	73 %	40 - 140 %

QC Surrogate Compound	Recovery	QC Limits
ortho-Terphenyl	94 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Analyte list as specified by the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons. Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: EPA Method 8270C (Modified) - EPH PAHs by GC/MS-SIM
QC Batch ID: EP-0754-FB
Matrix: Aqueous

CAS Number	Analyte	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	BRL	ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL	ug/L	0.5
208-96-8	Acenaphthylene	BRL	ug/L	0.5
83-32-9	Acenaphthene	BRL	ug/L	0.5
86-73-7	Fluorene	BRL	ug/L	0.5
85-01-8	Phenanthrene	BRL	ug/L	0.5
120-12-7	Anthracene	BRL	ug/L	0.5
206-44-0	Fluoranthene	BRL	ug/L	0.5
129-00-0	Pyrene	BRL	ug/L	0.5
56-55-3	Benzo[a]anthracene	BRL	ug/L	0.1
218-01-9	Chrysene	BRL	ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL	ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL	ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL	ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL	ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL	ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL	ug/L	0.1

QC Surrogate Compound	Recovery	QC limits
ortho-Terphenyl	107 %	40 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Analyte list as specified by the target analytes of the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons. Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. Method protocol modified to include acidification and the surrogate compound in accordance with the MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: MA DEP EPH Method
QC Batch ID: EP-0754-F
Matrix: Water
Units: ug/L

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
111-84-2	n-Nonane (C9)	50	22	44 %	40 - 140 %
629-59-4	n-Tetradecane (C14)	50	29	58 %	40 - 140 %
629-92-5	n-Nonadecane (C19)	50	35	70 %	40 - 140 %
112-95-8	n-Eicosane (C20)	50	36	72 %	40 - 140 %
630-02-4	n-Octacosane (C28)	50	33	67 %	40 - 140 %

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	80 %	40 - 140 %
	2-Bromonaphthalene	82 %	40 - 140 %
Extraction:	Chloro-octadecane	71 %	40 - 140 %
	ortho-Terphenyl	80 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: MA DEP EPH Method
QC Batch ID: EP-0754-F
Matrix: Water

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	82 %	40 - 140 %
	2-Bromonaphthalene	84 %	40 - 140 %
Extraction:	Chloro-octadecane	76 %	40 - 140 %
	ortho-Terphenyl	84 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: MA DEP VPH Method
QC Batch ID: VG3-1291-W
Matrix: Aqueous
Units: ug/L

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
1634-04-4	Methyl *tert*-butyl Ether	50	43	86%	70 - 130 %
71-43-2	Benzene	50	53	106%	70 - 130 %
108-88-3	Toluene	50	57	114%	70 - 130 %
100-41-4	Ethylbenzene	50	52	104%	70 - 130 %
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene	100	120	117%	70 - 130 %
95-47-6	*ortho*- Xylene	50	58	115%	70 - 130 %
91-20-3	Naphthalene	50	63	127%	70 - 130 %

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	101 %	70 - 130 %
2,5-Dibromotoluene (FID)	97 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: MA DEP VPH Method
QC Batch ID: VG3-1291-W
Matrix: Aqueous

VPH Ranges	Concentration	Units	Reporting limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	ug/L	20

CAS Number	Target Analytes	Concentration	Units	Reporting limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL	ug/L	5
71-43-2	Benzene ¤	BRL	ug/L	1
108-88-3	Toluene ¤	BRL	ug/L	5
100-41-4	Ethylbenzene ‡	BRL	ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL	ug/L	5
95-47-6	*ortho*- Xylene ‡	BRL	ug/L	5
91-20-3	Naphthalene	BRL	ug/L	5

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	116 %	70 - 130 %
2,5-Dibromotoluene (FID)	109 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Certifications and Approvals

CONNECTICUT, Department of Health Services, PH-0586

Potable Water, Wastewater/Trade Waste, Sewage/Effluent, and Soil

pH, Conductivity, Acidity, Alkalinity, Hardness, Chloride, Fluoride, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, Orthophosphate, Total Dissolved Solids, Cyanide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Total Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Titanium, Vanadium, Zinc, Purgeable Halocarbons, Purgeable Aromatics, Pesticides, PCBs, PCBs in Oil, Ethylene Dibromide, Phenols, Oil and Grease.

MAINE, Department of Human Services, MA0103

Drinking Water

Reciprocal certification in accordance with Massachusetts certification for drinking water analytes.

Waste Water

Reciprocal certification in accordance with Massachusetts certification for waste water analytes.

MASSACHUSETTS, Department of Environmental Protection, M-MA0103

Potable Water

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Thallium, Nitrate-N, Nitrite-N, Fluoride, Sodium, Sulfate, Cyanide, Turbidity, Residual Free Chlorine, Calcium, Total Alkalinity, Total Dissolved Solids, pH, Trihalomethanes, Volatile Organic Compounds, 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane, Total Coliform, Fecal Coliform, Heterotrophic Plate Count, E-Coli

Non-Potable Water

Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc, pH, Specific Conductance, Total Dissolved Solids, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Sulfate, Ammonia-N, Nitrate-N, Kjeldahl-N, Orthophosphate, Total Phosphorus, Chemical Oxygen Demand, Biochemical Oxygen Demand, Total Cyanide, Non-Filterable Residue, Total Residual Chlorine, Oil and Grease, Total Phenolics, Volatile Halocarbons, Volatile Aromatics, Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, Polychlorinated Biphenyls (water), Polychlorinated Biphenyls (oil).

MICHIGAN, Department of Environmental Quality

Drinking Water

Trihalomethanes, Regulated and Unregulated Volatile Organic Compounds by EPA Method 524.2; 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane by EPA Method 504.1

NEW HAMPSHIRE, Department of Environmental Services, 207-98

Drinking Water

Metals by Graphite Furnace, Metals by ICP, Mercury, Nitrite-N, Orthophosphate, Residual Free Chlorine, Turbidity, Total Filterable Residue, Calcium Hardness, pH, Alkalinity, Sodium, Sulfate, Total Cyanide, Insecticides, Herbicides, Base/Neutrals, Trihalomethanes, Volatile Organics, Vinyl Chloride, DBCP, EDB, Nitrate-N.

Wastewater

Metals by Graphite Furnace, Metals by ICP, Mercury, pH, Specific Conductivity, TDS, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Sulfate, Ammonia-N, Nitrate-N, Orthophosphate, TKN, Total Phosphorus, COD, BOD, Non-Filterable Residue, Oil & Grease, Total Phenolics, Total Residual Chlorine, PCBs in Water, PCBs in Oil, Pesticides, Volatile Organics, Total Cyanide.

RHODE ISLAND, Department of Health, 54

Surface Water, Air, Wastewater, Potable Water, Sewage

Chemistry: Organic and Inorganic

GROUNDWATER ANALYTICAL

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Buzzards Bay, MA 02532

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FAX (508) 759-4475

October 30, 2000

Mr. Steve Rumba
WEB Engineering
106 Longwater Drive
Norwell, MA 02061

Project: **Bossi's Service Center/00-E-033**
Lab ID: **36733**
Sampled: **10-13-00**

Dear Steve:

Enclosed are the Extractable Petroleum Hydrocarbons and Volatile Petroleum Hydrocarbons Analyses performed for the above referenced project. This project was processed for Standard Two Week turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a project narrative indicating project changes and non-conformances, a brief description of the Quality Assurance/Quality Control procedures employed by our laboratory, and a statement of our state certifications.

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.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Jonathan R. Sanford
President

JRS/pmb
Enclosures

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-1 (10'-12')	Laboratory ID:	36733-01
Project:	Bossi's Service Center/00-E-033	QC Batch ID:	EP-1037-M
Client:	WEB Engineering	Sampled:	10-13-00
Container:	250 mL Glass	Received:	10-16-00
Preservation:	Cool	Extracted:	10-19-00
Matrix:	Soil	Analyzed:	10-26-00
% Moisture:	8	Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	mg/Kg	31
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg	31
n-C11 to n-C22 Aromatic Hydrocarbons †,◊	BRL	mg/Kg	31
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	mg/Kg	31

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	BRL	mg/Kg	0.51
91-57-6	2-Methylnaphthalene	BRL	mg/Kg	0.51
85-01-8	Phenanthrene	BRL	mg/Kg	0.51
83-32-9	Acenaphthene	BRL	mg/Kg	0.51

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	95 %	40 - 140 %
	2-Bromonaphthalene	83 %	40 - 140 %
Extraction:	Chloro-octadecane	73 %	40 - 140 %
	ortho-Terphenyl	76 %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? Yes

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Results are calculated on a dry weight basis. Method modified by use of microwave accelerated solvent extraction technique.

Report Notations:

BRL indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-2 (10'-12')	Laboratory ID:	36733-02
Project:	Bossi's Service Center/00-E-033	QC Batch ID:	EP-1037-M
Client:	WEB Engineering	Sampled:	10-13-00
Container:	250 mL Glass	Received:	10-16-00
Preservation:	Cool	Extracted:	10-19-00
Matrix:	Soil	Analyzed:	10-26-00
% Moisture:	10	Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	mg/Kg	31
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg	31
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	mg/Kg	31
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	mg/Kg	31

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	BRL	mg/Kg	0.52
91-57-6	2-Methylnaphthalene	BRL	mg/Kg	0.52
85-01-8	Phenanthrene	BRL	mg/Kg	0.52
83-32-9	Acenaphthene	BRL	mg/Kg	0.52

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	91 %	40 - 140 %
	2-Bromonaphthalene	88 %	40 - 140 %
Extraction:	Chloro-octadecane	79 %	40 - 140 %
	ortho-Terphenyl	80 %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? Yes

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Results are calculated on a dry weight basis. Method modified by use of microwave accelerated solvent extraction technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-3 (10'-12')	Laboratory ID:	36733-03
Project:	Bossi's Service Center/00-E-033	QC Batch ID:	EP-1037-M
Client:	WEB Engineering	Sampled:	10-13-00
Container:	250 mL Glass	Received:	10-16-00
Preservation:	Cool	Extracted:	10-19-00
Matrix:	Soil	Analyzed:	10-26-00
% Moisture:	5	Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	mg/Kg	30
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	mg/Kg	30

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	BRL	mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL	mg/Kg	0.50
85-01-8	Phenanthrene	BRL	mg/Kg	0.50
83-32-9	Acenaphthene	BRL	mg/Kg	0.50

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	92 %	40 - 140 %
	2-Bromonaphthalene	89 %	40 - 140 %
Extraction:	Chloro-octadecane	75 %	40 - 140 %
	ortho-Terphenyl	76 %	40 - 140 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? Yes

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Results are calculated on a dry weight basis. Method modified by use of microwave accelerated solvent extraction technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-4 (15'-15.5')	Laboratory ID:	36733-04
Project:	Bossi's Service Center/00-E-033	QC Batch ID:	EP-1037-M
Client:	WEB Engineering	Sampled:	10-13-00
Container:	250 mL Glass	Received:	10-16-00
Preservation:	Cool	Extracted:	10-19-00
Matrix:	Soil	Analyzed:	10-26-00
% Moisture:	11	Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	350	mg/Kg	33
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg	33
n-C11 to n-C22 Aromatic Hydrocarbons †◊	120	mg/Kg	33
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	180	mg/Kg	33

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	29	mg/Kg	0.55
91-57-6	2-Methylnaphthalene	26	mg/Kg	0.55
85-01-8	Phenanthrene	BRL	mg/Kg	0.55
83-32-9	Acenaphthene	BRL	mg/Kg	0.55

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	94 %	40 - 140 %
	2-Bromonaphthalene	88 %	40 - 140 %
Extraction:	Chloro-octadecane	64 %	40 - 140 %
	ortho-Terphenyl	76 %	40 - 140 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	Yes

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Results are calculated on a dry weight basis. Method modified by use of microwave accelerated solvent extraction technique.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-1 (10'-12')	Laboratory ID:	36733-05
Project:	Bossi's Service Center/00-E-033	QC Batch ID:	VG1-1140-E
Client:	WEB Engineering	Sampled:	10-13-00
Container:	60 mL Glass Vial	Received:	10-16-00
Preservation:	Methanol / Cool	Analyzed:	10-23-00
Matrix:	Soil	Dilution Factor:	1
% Moisture:	8		

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	1.9	mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL	mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	3.1	mg/Kg	1.0

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL	mg/Kg	0.10
71-43-2	Benzene ‡	BRL	mg/Kg	0.10
108-88-3	Toluene ‡	BRL	mg/Kg	0.10
100-41-4	Ethylbenzene ‡	BRL	mg/Kg	0.10
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	0.13	mg/Kg	0.10
95-47-6	*ortho*- Xylene ‡	BRL	mg/Kg	0.10
91-20-3	Naphthalene	BRL	mg/Kg	0.50

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	109 %	70 - 130 %
2,5-Dibromotoluene (FID)	129 %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed? Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1? No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998). Results are calculated on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-3 (10'-12')	Laboratory ID:	36733-06
Project:	Bossi's Service Center/00-E-033	QC Batch ID:	VG1-1140-E
Client:	WEB Engineering	Sampled:	10-13-00
Container:	60 mL Glass Vial	Received:	10-16-00
Preservation:	Methanol / Cool	Analyzed:	10-23-00
Matrix:	Soil	Dilution Factor:	1
% Moisture:	5		

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	2.0	mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	2.2	mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons †	1.4	mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	2.0	mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	3.6	mg/Kg	1.0

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL	mg/Kg	0.10
71-43-2	Benzene ¤	BRL	mg/Kg	0.10
108-88-3	Toluene ¤	BRL	mg/Kg	0.10
100-41-4	Ethylbenzene ‡	BRL	mg/Kg	0.10
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL	mg/Kg	0.10
95-47-6	*ortho*- Xylene ‡	BRL	mg/Kg	0.10
91-20-3	Naphthalene	BRL	mg/Kg	0.50

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	106 %	70 - 130 %
2,5-Dibromotoluene (FID)	92 %	70 - 130 %

QA/QC Certification

1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998). Results are calculated on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-4 (15'-5.5')	Laboratory ID:	36733-07
Project:	Bossi's Service Center/00-E-033	QC Batch ID:	VG1-1140-E
Client:	WEB Engineering	Sampled:	10-13-00
Container:	60 mL Glass Vial	Received:	10-16-00
Preservation:	Methanol / Cool	Analyzed:	10-24-00
Matrix:	Soil	Dilution Factor:	40
% Moisture:	11		

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	2,100	mg/Kg	33
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	mg/Kg	33
n-C9 to n-C10 Aromatic Hydrocarbons †	2,400	mg/Kg	33
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	2,600	mg/Kg	33
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	3,000	mg/Kg	33

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	10	mg/Kg	3.3
71-43-2	Benzene ¤	BRL	mg/Kg	3.3
108-88-3	Toluene ¤	470	mg/Kg	3.3
100-41-4	Ethylbenzene ‡	170	mg/Kg	3.3
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	620	mg/Kg	3.3
95-47-6	*ortho*- Xylene ‡	260	mg/Kg	3.3
91-20-3	Naphthalene	60	mg/Kg	16

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	d	70 - 130 %
2,5-Dibromotoluene (FID)	d	70 - 130 %

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	No
3. Were any significant modifications made to the method, as specified in Section 11.3.2.1?	No

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998). Results are calculated on a dry weight basis.

Report Notations:

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† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

d Indicates surrogate recovery outside recommended limits due to required sample dilution.

GROUNDWATER ANALYTICAL

Project Narrative

Project: Bossi's Service Center/00-E-033
Client: WEB Engineering

Lab ID: 36733
Received: 10-16-00

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged in appropriate containers with the correct preservation.

B. Project Documentation

This project was accompanied by satisfactory Chain of Custody documentation. The sample container label(s) agreed with the Chain of Custody.

C. Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these sample(s). All data contained within this report are released without qualification.

GROUNDWATER ANALYTICAL

228 Main Street, P.O. Box 1200
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 41299

Project Name: Bossi's Service Center

Firm: WEB

Project Number: 00-E-033

Address: 106 Longwater Dr.

Sampler Name: S. Rumba

City / State / Zip: Norwell, MA 02061

Project Manager: S. Rumba

Telephone: 781-878-7766

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

☒ STANDARD (10 Business Days)
☐ PRIORITY (5 Business Days)
☐ RUSH (RAN- ______)
(Rush requires Rush Authorization Number)

Please FAX ☐ YES ☐ NO
FAX Number: ______

BILLING

Purchase Order No.:
GWA Reference No.:

ANALYSIS REQUEST

Date	Time	Sample Identification	Matrix	Type	Number	Container(s)	Preservation	Laboratory Number (Lab Use Only) 36733	Analysis
10-13		MW-1 (10'-12')	Soil	Grab	1	250mL/8 oz Glass	Ice	1	MA DEP EPH
		MW-2 (10'-12')						2	MA DEP EPH
		MW-3 (10'-12')	Soil	Grab	1	250mL/8 oz Glass	Ice	3	MA DEP EPH
		MW-4						4	MA DEP EPH
		MW-1 (10'-12')	Soil	Grab	1	120mL/4 oz VOA Jar	Methanol, Ice	5	MA DEP VPH
		MW-3 (10'-12')						6	MA DEP VPH
		MW-4 (15'-15.5')	Soil	Grab	1	120mL/4 oz VOA Jar	Methanol, Ice	7	MA DEP VPH

☒ MA DEP EPH w/all targets ☐ EPH w/ PAHs
☒ MA DEP VPH w/all targets ☐ VPH Carbon ranges only

REMARKS / SPECIAL INSTRUCTIONS

DATA QUALITY OBJECTIVES

Regulatory Program

☐ Safe Drinking Water Act
☐ MA DEP Form
☐ NPDES/Clean Water Act
Specify State: ______
☐ RCRA/Haz. Waste Char.
☐ MA MCP (310 CMR 40)
Reportable Concentrations
☐ RCGW - 1 ☐ RCS - 1
☐ RCGW - 2 ☐ RCS - 2
☐ MA Dredge Disposal
☐ NH ☐ RI ☐ CT ☐ ME
Specify Category: ______

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
☐ Sample Duplicate
☐ Matrix Spike
☐ Matrix Spike Duplicate

Selection of QC Sample
☐ Selected by laboratory
☐ Please use sample: ______

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by	Date	Time	Received by
Relinquished by Sampler: [signature]	10-16-00	4:15	Alan Maddigan
Relinquished by:			Received by:
Relinquished by: Alan Maddigan	10/16/00	5:30	Received by Laboratory: Carrie Delaney

Method of Shipment: ☒ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand ☐ ______

Receipt Temperature: 6

Shipping/Airbill Number:

Custody Seal/Cooler Serial Number:

GROUNDWATER ANALYTICAL

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: MA DEP EPH Method
QC Batch ID: EP-1037-M
Matrix: Soil
Units: mg/Kg

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
111-84-2	n-Nonane (C9)	5.0	2.4	47 %	40 - 140 %
629-59-4	n-Tetradecane (C14)	5.0	2.9	59 %	40 - 140 %
629-92-5	n-Nonadecane (C19)	5.0	3.4	69 %	40 - 140 %
112-95-8	n-Eicosane (C20)	5.0	3.6	72 %	40 - 140 %
630-02-4	n-Octacosane (C28)	5.0	3.5	70 %	40 - 140 %
91-20-3	Naphthalene	5.0	2.7	53 %	40 - 140 %
83-32-9	Acenaphthene	5.0	3.0	60 %	40 - 140 %

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	85 %	40 - 140 %
	2-Bromonaphthalene	83 %	40 - 140 %
Extraction:	Chloro-octadecane	73 %	40 - 140 %
	ortho-Terphenyl	69 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: MA DEP EPH Method
QC Batch ID: EP-1037-M
Matrix: Soil

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	mg/Kg	30
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	mg/Kg	30

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	BRL	mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL	mg/Kg	0.50
85-01-8	Phenanthrene	BRL	mg/Kg	0.50
83-32-9	Acenaphthene	BRL	mg/Kg	0.50

QC Surrogate Compounds		%Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	80 %	40 - 140 %
	2-Bromonaphthalene	76 %	40 - 140 %
Extraction:	Chloro-octadecane	82 %	40 - 140 %
	ortho-Terphenyl	75 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: MA DEP VPH Method
QC Batch ID: VG1-1140-E
Matrix: Soil
Units: mg/Kg

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
1634-04-4	Methyl *tert*-butyl Ether	2.5	2.3	92%	70 - 130 %
71-43-2	Benzene	2.5	2.4	96%	70 - 130 %
108-88-3	Toluene	2.5	2.6	106%	70 - 130 %
100-41-4	Ethylbenzene	2.5	2.5	101%	70 - 130 %
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene	5.0	5.5	110%	70 - 130 %
95-47-6	*ortho*- Xylene	2.5	2.6	106%	70 - 130 %
91-20-3	Naphthalene	2.5	2.6	104%	70 - 130 %

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	100 %	70 - 130 %
2,5-Dibromotoluene (FID)	99 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: MA DEP VPH Method
QC Batch ID: VG1-1140-E
Matrix: Soil

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	mg/Kg	1.0
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	mg/Kg	1.0
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	mg/Kg	1.0
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL	mg/Kg	1.0
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	mg/Kg	1.0

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether ¤	BRL	mg/Kg	0.10
71-43-2	Benzene ¤	BRL	mg/Kg	0.10
108-88-3	Toluene ¤	BRL	mg/Kg	0.10
100-41-4	Ethylbenzene ‡	BRL	mg/Kg	0.10
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene ‡	BRL	mg/Kg	0.10
95-47-6	*ortho*- Xylene ‡	BRL	mg/Kg	0.10
91-20-3	Naphthalene	BRL	mg/Kg	0.50

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	123 %	70 - 130 %
2,5-Dibromotoluene (FID)	118 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Certifications and Approvals

CONNECTICUT, Department of Health Services, PH-0586

Potable Water, Wastewater/Trade Waste, Sewage/Effluent, and Soil

pH, Conductivity, Acidity, Alkalinity, Hardness, Chloride, Fluoride, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, Orthophosphate, Total Dissolved Solids, Cyanide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Total Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Titanium, Vanadium, Zinc, Purgeable Halocarbons, Purgeable Aromatics, Pesticides, PCBs, PCBs in Oil, Ethylene Dibromide, Phenols, Oil and Grease.

MAINE, Department of Human Services, MA103

Drinking Water

Reciprocal certification in accordance with Massachusetts certification for drinking water analytes.

Waste Water

Reciprocal certification in accordance with Massachusetts certification for waste water analytes.

MASSACHUSETTS, Department of Environmental Protection, M-MA-103

Potable Water

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Thallium, Nitrate-N, Nitrite-N, Fluoride, Sodium, Sulfate, Cyanide, Turbidity, Residual Free Chlorine, Calcium, Total Alkalinity, Total Dissolved Solids, pH, Trihalomethanes, Volatile Organic Compounds, 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane, Total Coliform, Fecal Coliform, Heterotrophic Plate Count, E-Coli

Non-Potable Water

Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc, pH, Specific Conductance, Total Dissolved Solids, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Sulfate, Ammonia-N, Nitrate-N, Kjeldahl-N, Orthophosphate, Total Phosphorus, Chemical Oxygen Demand, Biochemical Oxygen Demand, Total Cyanide, Non-Filterable Residue, Total Residual Chlorine, Oil and Grease, Total Phenolics, Volatile Halocarbons, Volatile Aromatics, Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, Polychlorinated Biphenyls (water), Polychlorinated Biphenyls (oil).

MICHIGAN, Department of Environmental Quality

Drinking Water

Trihalomethanes, Regulated and Unregulated Volatile Organic Compounds by EPA Method 524.2; 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane by EPA Method 504.1

NEW HAMPSHIRE, Department of Environmental Services, 202798

Drinking Water

Metals by Graphite Furnace, Metals by ICP, Mercury, Nitrite-N, Orthophosphate, Residual Free Chlorine, Turbidity, Total Filterable Residue, Calcium Hardness, pH, Alkalinity, Sodium, Sulfate, Total Cyanide, Insecticides, Herbicides, Base/Neutrals, Trihalomethanes, Volatile Organics, Vinyl Chloride, DBCP, EDB, Nitrate-N.

Wastewater

Metals by Graphite Furnace, Metals by ICP, Mercury, pH, Specific Conductivity, TDS, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Sulfate, Ammonia-N, Nitrate-N, Orthophosphate, TKN, Total Phosphorus, COD, BOD, Non-Filterable Residue, Oil & Grease, Total Phenolics, Total Residual Chlorine, PCBs in Water, PCBs in Oil, Pesticides, Volatile Organics, Total Cyanide.

RHODE ISLAND, Department of Health, 54

Surface Water, Air, Wastewater, Potable Water, Sewage

Chemistry: Organic and Inorganic