Groundwater
& Environmental Services, Inc.

364 Littleton Road • Suite 4 • Westford, MA 01886 • (978) 392-0090 • FAX (978) 392-8583

March 5, 2003

Mr. Douglas Halley, Board of Health Director
Town of Acton
472 Main Street
Acton, Massachusetts 01720

Re: Phase IV Final Inspection Report and Completion Statement
Mobil Station 10190 (Formerly 01-PPO)
44 Great Road
Acton, Massachusetts
MADEP Site Number 2-0253 & RTN 2-13870
Tier IB Permit No. WO18816

Dear Mr. Halley:

On behalf of Mobil Business Resources Corporation (Mobil), Groundwater & Environmental Services, Inc. (GES) is informing you that a Phase IV Final Inspection Report (FIR) and Completion Statement has been completed for the Mobil Station 10190 (Formerly 01-PPO) located at 44 Great Road, Acton, Massachusetts.

The Phase IV Final Inspection Report and Completion Statement will be submitted on March 5, 2003 to the Massachusetts Department of Environmental Protection (MADEP), Central Regional Office, located at 627 Main Street in Worcester, Massachusetts. Based on your previous request, a copy of this report is attached to this letter.

If you have any questions regarding this submittal, please contact the undersigned at (978) 392-0090 or Mr. David J. Baker of Mobil Business Resources Corporation at (617) 381-2807.

Sincerely,

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

Aileen McDonnell
Staff Environmental Scientist

Paul McKinlay
Project Manager

Christophe M. Henry, PE, LSP
Senior Project Manager

Attachments: Copy of the Original Phase IV FIR and Completion Statement (dated March 5, 2003)

cc: MADEP, Central Regional Office, 627 Main Street, Worcester, Massachusetts
Mobil File

GES Document Tracking No. E6742

COPY

Groundwater & Environmental Services, Inc.

364 Littleton Road • Suite 4 • Westford, MA 01886 • (978) 392-0090 • FAX (978) 392-8583

March 5, 2003

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
Central Regional Office
627 Main Street
Worcester, Massachusetts 01608

Re: Phase IV Final Inspection Report and Completion Statement
Mobil Station 10190 (Formerly 01-PPO)
44 Great Road
Acton, Massachusetts
MADEP Site Number 2-0253 & RTN 2-13870
Tier IB Permit No. WO18816

To whom it may concern:

On behalf of Mobil Business Resources Corporation (Mobil), Groundwater & Environmental Services (GES) presents the enclosed Phase IV Final Inspection Report (FIR) and Completion Statement for the above-referenced site. A Phase IV Remedy Implementation Plan (RIP) prepared by GES was submitted to MADEP on July 31, 2001.

If you have any questions regarding the information presented in this report please do not hesitate to contact the undersigned at (978) 392-0090 or Mr. David J. Baker of Mobil Business Resources Corporation at (617) 381-2807.

Sincerely,

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

Aileen McDonnell
Staff Environmental Scientist

Paul McKinlay
Project Manager

Christophe M. Henry, PE, LSP
Senior Project Manager

Attachments: Original MADEP Transmittal BWSC-108
Phase IV FIR and Completion Statement- dated March 5, 2003

GES Document Tracking No. E6741

Massachusetts Department of Environmental Protection **BWSC-108**

Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

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

Release Tracking Number: 2 - 253

A. SITE LOCATION:

Site Name: (optional) Mobil Service Station No. 10190 (Formerly 01-PPO)

Street: 44 Great Road Location Aid:

City/Town: Acton ZIP Code: 01720

Related Release Tracking Numbers that this Form Addresses: RTN 2-13870

Tier Classification: (check one of the following) ☐ Tier IA ☑ Tier IB ☐ Tier IC ☐ Tier II ☐ Not Tier Classified

If a Tier I Permit has been issued, state the Permit Number: W018816

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

☐ Submit a **Phase I Completion Statement**, pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase II Scope of Work**, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final **Phase II Comprehensive Site Report and Completion Statement**, pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J).

☐ Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J).

☐ Submit an **As-Built Construction Report**, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).

☑ Submit a **Phase IV Final Inspection Report and Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).

☐ Submit a periodic **Phase V Inspection & Monitoring Report**, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final **Phase V Inspection & Monitoring Report and Completion Statement**, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RESPONSE ACTIONS:

☐ Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies: Not Applicable

D. PHASE II COMPLETION STATEMENT:

Specify the outcome of the Phase II Comprehensive Site Assessment:

☐ Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.

E. PHASE IV COMPLETION STATEMENT:

Specify the outcome of Phase IV activities:

☑ Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome. (This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)

☐ 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 (BWSC-104) will be submitted to DEP.

☐ 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 (BWSC-104) will be submitted to DEP.

SECTION E IS CONTINUED ON THE NEXT PAGE

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT
Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number
2 - 253

E. PHASE IV COMPLETION STATEMENT: (continued)

☐ 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 (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

F. PHASE V COMPLETION STATEMENT:

Specify the outcome of Phase V activities:

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ 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 (BWSC-104) will be submitted to DEP.

☐ 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 (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

G. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with the information contained in 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 (iii) the provisions of 309 CMR 4.03(5), 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) complies(y) 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) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal:

> *if Section B indicates that an* ***As-Built Construction Report*** *or a* ***Phase V Inspection and 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) complies(y) 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.

☐ 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.

LSP Name: Christophe M. Henry LSP #: 6364

Telephone: 978-392-0090 Ext.: 127

FAX: (optional) 978-392-8583

Signature: [signature]

Date: March 5, 2003

Stamp: COMMONWEALTH OF MASSACHUSETTS — Christophe M. Henry No. 6364 — REGISTERED LICENSED SITE PROFESSIONAL — 3/5/03

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT
Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 2 - 253

H. PERSON UNDERTAKING RESPONSE ACTION(S):

Name of Organization: Mobil Business Resources Corporation

Name of Contact: David J. Baker Title: Territory Manager

Street: 52 Beacham Street

City/Town: Everett State: MA ZIP Code: 02149

Telephone: 617-381-2807 Ext.: FAX: (optional) 617-381-2911

☐ Check here if there has been a change in the person undertaking the Response Action.

I. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTION(S): (check one)

☑ RP or PRP Specify: ☑ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP:

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

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

☐ Any Other Person Undertaking Response Action Specify Relationship:

J. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTION(S):

I, David J. Baker, 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.

By: David J Baker Title: Territory Manager
(signature)

For: Mobil Business Resources Corporation Date: 2/25/03
(print name of person or entity recorded in Section H)

Enter address of the person providing certification, if different from address recorded in Section H:

Street:

City/Town: State: ZIP Code:

Telephone: Ext.: FAX: (optional)

YOU MUST 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.

COPY

MAR 7 2003

Phase IV Final Inspection Report and Completion Statement

Mobil Service Station No. 10190 (formerly 01-PPO)
44 Great Road
Acton, Massachusetts
MADEP Site Number 2-0253 & RTN 2-13870
Tier 1B Permit No. W018816

Prepared for:

Mr. David J. Baker
Territory Manager
Mobil Business Resources Corporation
52 Beacham Street
Everett, Massachusetts 02149

Prepared by:

Groundwater & Environmental Services, Inc.
364 Littleton Road, Suite 4
Westford, Massachusetts 01886

March 5, 2003

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 AS-BUILT CONSTRUCTION REPORT (310 CMR 40.0875) 2

3.1 Implementation of the Phase IV RIP 2
3.2 Modifications to Phase IV RIP Construction Plan 3
3.3 Modifications to Operation, Maintenance and Monitoring Plan 5
3.3.1 Start-up and Testing Procedures 5
3.3.2 Monthly Operation and Maintenance 5
3.3.3 Groundwater and/or Soil Gas Vapor Sampling and Analysis 6
3.3.4 Used Underground Storage Tank Removal 6
3.4 Final Inspection Activities 7
3.5 Conformance of Remedial Action with Projected Design Goals 8
3.6 List of Permits, Licenses and/or Approvals Required 8
3.7 Comprehensive Remedial Action to be Conducted Under Phase V 9
3.8 Conclusions 9

4.0 PUBLIC INVOLVEMENT ACTIVITIES (310 CMR 40.0880) 10

5.0 PHASE IV COMPLETION STATEMENT (310 CMR 40.0879) 11

5.1 Licensed Site Professional Opinion 11
5.2 Certification of the Submittal 11

FIGURES

Figure 1. Site Location Map
Figure 2. Site Map
Figure 3. Remedial System Layout
Figure 4. Process and Instrumentation Diagram Soil Vapor Extraction System
Figure 5. Process and Instrumentation Diagram Air Sparge System
Figure 6. Process and Instrumentation Diagram Legend
Figure 7. Excavation Map - Used Oil UST (November 26 and 27, 2001)

TABLES

Table 1: Groundwater Analytical Data - VPH with Target Compounds and EDB (11/00 to 9/02)
Table 2: Groundwater Analytical Data - PAHs, CVOCs and EPH Fractions (11/00 to 9/02)
Table 3: Wetlands Surface Water Analytical Data (3/00 to 9/02)
Table 4: Soil Vapor Screening Results (11/00 to 9/02)
Table 5: Soil Vapor Extraction System Performance Summary (3/01 to 1/03)
Table 6: Air Sparging System Performance Summary (3/01 to 1/03)
Table 7: Post-Excavation Soil Analytical Data - Used Oil UST Removal (11/27/01)

TABLE OF CONTENTS (CONT.)

APPENDICES

Appendix A. Copy of MADEP Transmittal Form BWSC-108
Appendix B. Remedial System Boring Logs
Appendix C. Copies of the Bill of Lading & Hazardous Waste Manifest
Appendix D. Copies of Permits
Appendix E. Public Involvement Documentation

1.0 INTRODUCTION

Groundwater & Environmental Services, Inc. (GES), on behalf of Mobil Business Resources Corporation (Mobil), is submitting this Phase IV Final Inspection Report (FIR) and Completion Statement for Mobil Station Number No. 10190 (formerly 01-PPO), located at 44 Great Road (Route 2A) in Acton, Massachusetts.

The Mobil property is the location of a subsurface release of petroleum hydrocarbons, as defined by the MCP, 310 CMR 40.0000, which was discovered during underground storage tank (UST) replacement activities at the above referenced Mobil station property. Historical groundwater monitoring data indicates that petroleum constituents were also present on an adjacent parcel, located on the western side of the Mobil Station. Therefore, the disposal site (the site) includes the Mobil Service Station, No. 10190 (formerly 01-PPO), hereafter referred to as the Mobil property and the southern portion of a parking lot of an abutting residential property, referred to as the Pillar House Condominiums (PHC property). A Site Location Map is provided as Figure 1. Relevant site features are depicted on Figure 2.

On July 15, 1987 the Massachusetts Department of Environmental Protection (MADEP) listed the site as Location to be Investigated (LTBI) and assigned Site No. 2-0253 to the site. Subsequent investigations have determined that concentrations of gasoline constituents benzene, toluene, methyl tertiary butyl ether (MTBE), Volatile Petroleum Hydrocarbons (VPH), Extractable Petroleum Hydrocarbons (EPH), and/or polynuclear aromatic hydrocarbon (PAHs) have been identified historically in groundwater at concentrations above applicable MCP Method 1 GW-1 and/or GW-3 and/or GW-2 groundwater standards. Since 1987, subsequent Release Tracking Number (RTN) 2-13870 was assigned to the site and linked to the main Site Number 2-0253 through the submittal of an Immediate Response Action (IRA) Completion Report.

According to current available information, the applicable groundwater and soil categories for the site, determined pursuant to 310 CMR 40.932 and 40.933, respectively, are groundwater categories GW-1, GW-3, and/or GW-2, and soil categories S-2 and/or S-3.

Comprehensive response actions including Phase I through Phase IV activities have been performed at this site. As outlined in the Phase IV Remedy Implementation Plan (RIP) submitted to the MADEP on July 31, 2001, soil vapor extraction (SVE) combined with air sparging (AS) was identified as the preferred remedial technology for mitigating petroleum hydrocarbon concentrations in impacted groundwater and soil within the gasoline UST/oil water separator and dispenser area, while excavation, removal, and off-site disposal of impacted vadose zone soils were identified as the preferred remedial option for the out-of-service used oil UST area. Since a Phase IV FIR could not be completed until the full operation of the AS system and in order to comply with MADEP established Interim Deadlines, a Class C Response Action Outcome (RAO) was submitted on February 14, 2002. Post Class C RAO Phase V Monitoring Reports have been submitted to MADEP on August 14, 2002 and on February 12, 2003 to support a Temporary Solution until Remedy Operation Status (ROS) can be achieved. Following this Phase IV FIR submittal, in accordance with 310 CMR 40.0892, Phase V Operation & Maintenance (O&M) reports will continue to be submitted every six months until a permanent solution can be reached and a Class-A RAO can be achieved.

The excavation of the impacted soil and the out of service USTs was performed in November and December 2001, and the results of the post-excavation soil sampling were included in the Class C RAO submitted to the MADEP on February 14, 2002 and further described in section 3.3.4. As described in the February 2002 Class C RAO submittal, the SVE/AS system wells were installed in August 2001 and the SVE/AS system component was delivered to the site on December 19, 2002. The installation of the SVE/AS system components and system trenching were completed by February 2002. The SVE and AS systems were activated on March 26 and 28, 2002, respectively.

The purpose of the Phase IV FIR and Completion Statement is to document that the Comprehensive Remedial Action has been completed in accordance with construction plans per 310 CMR 40.0878(2)(a) and that the Comprehensive Remedial Action is meeting projected design goals as detailed in the July 2001 Phase IV RIP per 40.0878(2)(b). A copy of Transmittal Form BWSC-108 is included as Appendix A.

2.0 AS-BUILT CONSTRUCTION REPORT (310 CMR 40.0875)

An As-Built Construction report is not required to be submitted for this site since it does not have Tier IA status, physical immobilization of OHM was not proposed as part of the remedial action alternative, and the implemented remedial action does not vary significantly from what was presented in the Phase IV RIP. The Remedial System Layout is presented as Figure 3 and the Used Oil UST Excavation Map is presented as Figure 7.

3.0 FINAL INSPECTION REPORT

3.1 Implementation of the Phase IV RIP

Construction plans and specifications were previously submitted to the MADEP in the Phase IV RIP. The Remedial System Layout is attached as Figure 3. Process and Instrumentation Diagrams (P&ID) for the current SVE and AS systems are provided as Figures 4 and 5, respectively. The P&ID Legend is presented as Figure 6. The remediation system consists of 14 SVE wells (SVE-1 through SVE-14), of which 8 are vertical wells, three are horizontal wells and three are biovent wells; and 26 AS wells (AS-1 through AS-26), of which four are bio sparge wells. Refer to Figure 4 for the existing remedial trenching layout (detailing SVE and AS well locations). Boring logs for remediation wells are provided in Appendix B.

Except for the existing SVE-1 well, vertical SVE wells on the Mobil property were installed to 13 feet below grade, constructed of 3 feet of 4-inch diameter PVC riser, and 10 feet of 0.020 slot 4-inch diameter PVC screen at their bases. SVE-1 was installed to a depth of 14.67 feet below grade with 12 feet of screen. The SVE wells were finished with a sand pack 1 foot above the top of screen (to 2 feet below grade), a 1-foot bentonite seal (to 1 foot below grade), and a concrete slab (ranging from 4 inches to 1 foot below grade). Due to the shallower groundwater, the vertical SVE wells on the PHC property were installed to 11 feet below grade, constructed of 1.5 feet of 4-inch diameter PVC riser, and 9.5 feet of 0.020 slot 4-inch diameter PVC screen at their bases. The SVE wells were finished with a sand pack 0.5 foot above the top of screen (to 1 feet

below grade), a 0.5-foot bentonite seal (to 0.5 foot below grade), and a concrete slab (ranging from 4 inches to 6 inches below grade). Each of the SVE wells is fitted with a 2-inch diameter vapor extraction line (to apply a vacuum to the well). In addition on the PHC property, horizontal SVE wells were installed with a minimum gradient of 1 percent slope approximately 2.5 feet below grade with a 4-inch diameter PVC riser with 5 feet of 0.020 slot 4-inch diameter PVC screen at their bases. To prevent the horizontal or lateral SVE well drawing vapors from along the porous gravel lined trench, a bentonite seal was poured into the trench and around the solid PVC leg(s) (approximately one-foot thick), avoiding the SVE well screen. Once cured, the bentonite seal effectively removes the preferential pathway, ensuring that the lateral SVE well will draw upon vapors from the surrounding soil as designed.

The AS wells on the PHC property were installed at a depth ranging from 15 to 18 feet below grade with 13 or 16 feet of 2-inch diameter PVC riser and 2 feet of 0.020-slot 2-inch diameter PVC screen at their bases. The AS wells on the Mobil property are installed at 18 feet below grade with 16 feet of 2-inch diameter PVC riser and 2 feet of 0.020-slot 2-inch diameter PVC screen at their bases, with the exception of AS-24, which is completed at 19 feet below grade with 17 feet of 2-inch diameter PVC riser and 2 feet of 0.020-slot 2-inch diameter PVC screen at its base. All the AS wells were finished with a sand pack one foot above the top of screen, a 2 foot bentonite seal, and back-filled to 2 feet below grade with native backfill material. The purpose of the bentonite seal was to avoid the sparge wells from short-circuiting directly to the SVE well or ground surface. Each AS well is fitted with a 1-inch diameter sparge supply line.

The SVE blower was sized to maintain a vacuum of approximately 15 inches of water, at a total flow rate of approximately 250 standard cubic feet per minute (scfm), while being capable of sufficient pressure to overcome the back pressure created by process piping and the two 2,000-pound (lb) vapor-phase granular activated carbon (GAC) units plumbed in series. The AS compressor was sized to meet the requirement of approximately 75 scfm of total flow for 15 operating sparge points and 9 pounds per square inch (psi) with a maximum pressure of 10.34 psi. The bio sparge wells were designed to operate with a reduced flow of approximately 1.0 scfm per well.

3.2 Modifications to Phase IV RIP Construction Plan

The system components and all construction work conform to the specifications proposed in the Phase IV RIP, with the exception of the following:

- All SVE/AS wells were installed within approximately 2 to 3 feet from their proposed locations, with the exception of AS-12, AS-13 and SVE-7. The proposed location of AS-12, AS-13 and SVE-7 was south of the Mobil property's septic system leaching field. However, GES personnel encountered subsurface utilities and leach field material during pre-clearing of AS-12 and SVE-7. The septic system was later reported to have failed and is scheduled for replacement in Spring/Summer 2003 under a Utility-Related Abatement Measure prepared by GES in March 2002. Based on a review of the site, an unusually high water table encountered at 1.5 feet below grade, and the location of the leaching field and the proposed remedial system, the GES engineer relocated AS-12, AS-13 and SVE-7 onto paved portions of the Mobil

property on the western side of the Mobil Station building. Refer to Figure 3 for the Remedial System Layout for the new locations of these remedial wells.

- The total depth of the completed AS wells also deviated from the proposed construction specifications. The depth of the wells were established based on depth to groundwater encountered during well advancement, the results of field screening, and the subsurface conditions. AS wells on the Mobil property are approximately 6 feet shallower than the proposed 24 foot deep wells. AS wells on the PHC property are three feet shallower than the proposed 18 foot AS wells. SVE wells deviate only 0.5 to 1.5 feet from their proposed design. Refer to Appendix B for remedial system well boring logs. These modifications should not impact the effectiveness of the remedial system and were made to improve the efficiency of the remediation system based on site conditions encountered during system installation.

- Alterations to the above grade SVE system manifold components included the use of two-inch diameter Schedule 80 PVC and four-inch diameter Schedule 80 PVC instead of the proposed two-inch Schedule 40 PVC and three-inch diameter schedule 40 PVC. These changes were made in order to increase the strength of the piping. In addition, the pressure differential switch was deemed unnecessary as back-pressure across the filter is scheduled to be checked manually during regular O&M visits.

- Ball valves were added to the AS manifold in order to bleed air from the system as necessary.

- The original SVE/AS system was designed to use two air sparge compressors. However, during the equipment bid process GES determined that the use of one air compressor was more cost effective and appropriate for the site.

- The layout of the subsurface SVE/AS lines generally remained as designed, with the exception of the SVE/AS leg located west and east of the Mobil Station building. With the relocation of wells AS-12, AS-13 and SVE-7, the designed route was minimally altered to use the shortest/most cost efficient pathway. In the eastern portion of the Mobil property, GES determined that bringing SVE/AS lines to the north side of the proposed system shed and dumpster enclosure was also more efficient due to site topography and the former dumpster compound was to be reused to house the remediation system and shed.

- With the water table elevated in the vicinity of the septic system, the vacuum required to ensure capture of the air sparge system can not be maintained without drawing groundwater in the vicinity of the septic system into the SVE system. While awaiting the upgrade of the station's septic system, the air sparge system in the vicinity of the septic system (air sparge wells AS-14, AS-15, AS-16, AS-17, AS-18, and potentially AS-19) have been converted into temporary bio sparge wells by limiting the air flow to these wells until the septic system is upgraded and the water table is lower. Given the oxygen demand from the micro-organisms that breakdown petroleum impacts in

groundwater in addition to the oxygen demand from the micro-organisms related to the decomposition of the septic system effluent, the airflow to the temporary biosparge points has been limited to approximately 2 scfm. Additionally, the SVE wells in the vicinity of the septic system (wells SVE-8, SVE-9, and potentially SVE-10) may be used as temporary bioventing points. The vacuum applied to these points may be adjusted to induce airflow but not pull water into the system. By modifying the system wells in the vicinity of the septic system while awaiting upgrades, response actions can be implemented in this area. Following the septic system upgrade, if applicable, the bio sparge/biovent wells located in the vicinity of the septic system will be used as SVE/AS wells as originally designed.

3.3 Modifications to Operation, Maintenance and Monitoring Plan

Operation and maintenance of the SVE system has been performed at a minimum twice per month (except during the first month following SVE and AS system startup activities when more frequent visits were performed), and will continue to be performed at a minimum of twice per month during all periods of system operation unless site-specific conditions warrant additional attention and/or stable conditions allow the frequency of visits to be reduced.

3.3.1 Start-up and Testing Procedures

The SVE system start-up and testing procedures consisted of three visits during the first week of start-up, once weekly (if possible) for the next three months, and semi-monthly thereafter. During site Operation and Maintenance (O&M) visits, the equipment was inspected and operational data was collected from the SVE and off-gas treatment components. The performance summaries for the SVE system with the GAC off-gas treatment is presented in Table 5 and further described in Section 3.4. System adjustments were made as needed to optimize system performance. Although system optimization has been completed, the sequence and valve position of each individual well may be subject to change during each visit depending on site conditions. The AS system start-up and testing procedures consisted of three visits during the first week of start-up, once weekly (if possible) for the next month, and at least twice per month thereafter. Additional visits were scheduled for carbon change-out activities or due to other mechanical issues as needed. Equipment failure, heat and cold stress, and general operation resulted in periodic downtime for the SVE/AS system. System repairs included the replacement of failed carbon vanes within the air sparge compressor head, the replacement of AS flowmeters, and the addition of removable shields to minimize the AS manifold exposure to ultraviolet (UV) radiation. To reduce the amount of water pulled into the SVE system, selected wells were operated in areas of the site where water had been detected at greater depths. The performance summary of the AS system is presented in Table 6 and was further described in the Post Class C-RAO Phase V Monitoring Reports submitted to MADEP on August 14, 2002 and February 12, 2003.

3.3.2 Monthly Operation and Maintenance

Site visits to perform O&M activities are conducted twice per month, except as previously described. The influent and effluent to the vapor phase GAC vessels used to treat system off-gas are monitored during each site visit with a PID to ensure that a 95% removal efficiency was

maintained. The SVE blower and AS compressor are inspected and maintained as necessary. Information collected during scheduled O & M visits is summarized in Tables 5 and 6 and further described in Section 3.4. System adjustments are made during each O&M visit, as needed to maximize system performance.

3.3.3 Groundwater and/or Soil Gas Vapor Sampling and Analysis

Since the 2001 Phase IV RIP submittal, groundwater samples have been collected semi-annually from selected monitoring wells in January 2002 and September 2002, and will continue to be collected semi-annually in subsequent years until a permanent solution is achieved in order to assess the effectiveness of the remedial system on impacted groundwater at the site. The next semi-annual sampling event is scheduled for March 2003. Samples will continue to be submitted to the laboratory for analysis of either MADEP Volatile Petroleum Hydrocarbon (VPH) analysis with target analytes or EPA Method 8021 including methyl tertiary butyl ether (MTBE) and/or MADEP Extractable Petroleum Hydrocarbons (EPH) analysis plus targeted Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8310, and/or dissolved RCRA 8 Metals. In addition, surface water samples and/or soil vapor air screening will be performed at the site on an annual basis or more frequently based on the results of the groundwater analytical data and site conditions. Laboratory analytical results will be presented in the Phase V Inspection and Monitoring (I&M) reports, which will be submitted to the MADEP every six months in accordance with 310 CMR 40.0890 of the MCP. Laboratory analytical reports for groundwater samples collected in January and September 2002 were submitted to the MADEP with the August 14, 2002 and February 14, 2003 Post Class C-RAO Phase V Monitoring Reports. Historical groundwater analytical data is presented in Tables 1 and 2. Surface water sampling results and soil vapor screening results are presented on Tables 3 and 4.

In accordance with the Phase IV RIP and/or Phase V monitoring program, once the remedial system has reached its limits of effectiveness, it may be switched to a pulse mode and/or de-activated. At this time, groundwater samples may be collected for geo-chemical field measurements to evaluate if natural attenuation is occurring and/or if re-activation of the system is necessary. Furthermore, soil vapor monitoring and/or indoor air monitoring will be performed as necessary during Phase V activities.

3.3.4 Used Underground Storage Tank Removal

On November 26 and 27, 2001, the out-of-service used oil UST was excavated and removed along with any residual petroleum impacted soil related to the UST. During the used oil UST removal, the outer wall of the used oil UST was breached with the backhoe and less than 10 gallons of the interstitial monitoring fluid (calcium chloride (inert brine solution)) was released onto the pavement of the Pillar House Condominiums parking lot. Upon discovery, the UST was positioned so that the remaining brine solution was contained in a 55-gallon drum. The released inert brine solution covered an area of pavement approximately 25 by 4.5 feet in area, located within the Pillar House Condominium's parking lot, and was contained using absorbent pads and material (i.e. Speedi-Dry®). In addition, a small volume of soil located on the edge of the excavation was impacted by the brine solution and approximately 0.25 cubic yards of stained soil was removed and stored into one 55-gallon drum, pending off-site disposal. On

November 6, 2001, upon request of the Acton Board of Health (BOH), the incident was reported to Mr. Bob Dunne of the Massachusetts Department of Environmental Protection (MADEP). Because the brine solution was inert, the quantity of brine solution released was small, and the fact that this incident was part of Phase IV activities, MADEP and GES agreed that this incident did not represent a new reporting condition, that no further action associated with the brine solution was required and that a summary of the Phase IV activities including activities associated with the brine solution would be included in the Phase IV Final Inspection Report. On January 11, 2002, Clean Harbors Inc. of Braintree Massachusetts removed waste generated as part of the used oil UST removal, which included four 55-gallon drums; two contained the brine solution, one contained used absorbent pads and Speedi-Dry®, and the fourth contained soil stained with the brine solution. A copy of the waste manifest is included as Appendix C.

As presented in Table 7, PID readings for soils samples collected from the excavation ranged from non-detectable below the instrument detection limit of 1.0 parts per million per unit volume (ppmv) to 4.7 ppmv. A total of seven post-excavation soil samples were collected on November 27, 2001 from the used oil UST excavation (soil sample locations are on Figure 7). The post excavation soil samples were designated B(Base)-1 and B-2, which were collected at 7 and 8 feet below grade); WW (West Wall), EW (East Wall), SEW (Southeast Wall), SWW (Southwest Wall) and NW (North Wall), which were each collected at 4 to 6 feet below grade. Approximately 90 cubic yards (138 tons) of soil were removed from the used oil excavation and disposed off-site under a Bill of Lading (BOL) at the Ted Ondrick Company, LLC asphalt batching facility in Chicopee, Massachusetts. The excavation was backfilled with clean fill on November 27, 2001. A copy of the BOL is included as Appendix C.

Post excavation soil samples collected on November 27, 2001, were submitted for EPH analyses plus PAHs. Soil sample B-1 was also analyzed for VPH plus targets, VOCs by EPA Method 8260B, and total RCRA 8 Metals. The results of the post excavation soil sampling is summarized in Table 7. Concentrations of three PAH compounds: benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were detected in soil samples EW, SEW, SWW and NW above the applicable Method 1 S-2/S-3 GW-1/GW-2 and/or GW-3 Soil Standards. These residual PAHs may be associated with the presence of fill material at the site. The PAH compounds 2-Butanone (MEK) and methylene chloride were detected in B-1 above the S-1/S-2/S-3 GW-1 Soil Standards. However, MEK and methylene chloride are often laboratory residues left over from methanol preservation and/or extraction and these compounds were also detected in the laboratory method blank sample. No other compounds were detected above the laboratory reporting limit and/or the applicable MCP Method 1 Soil Standards in the post excavation soil samples.

3.4 Final Inspection Activities

Between March 2002 and July 2002, qualified GES personnel performed 16 inspections on the SVE/AS system with vapor phase GAC units. In addition, Mr. Christophe M. Henry of GES, Licensed Site Professional (LSP) of record for the site, visited the site on November 18, 2001, May 16, 2002 and June 5, 2002 to oversee and confirm the implementation of the Phase IV RIP and oversee the operation of the remedial system. Details of the O&M activities have been discussed in Post Class C RAO Phase V Monitoring Reports submitted to MADEP in August

2002 and February 2003. Inspection and maintenance activities associated with the AS/SVE system is summarized in the attached Tables 5 and 6.

The LSP inspections and evaluation of operational data indicate that the AS/SVE system is operating in accordance with the Phase IV RIP design and any modifications described in Section 3.2. These evaluations and inspections also confirmed that the Phase IV excavation activities associated with the removal of the former used oil UST were completed in accordance with the Phase IV RIP.

3.5 Conformance of Remedial Action with Projected Design Goals

Based on the results of the post excavation soil sampling, the used oil excavation activities have removed most of the petroleum impacted soil located in this area. Residual PAHs, which may be associated with background fill material, would likely be reduced by the implementation of bio sparging and bioventing in this area.

As described in the Phase IV RIP, historical groundwater data has shown the trend of petroleum hydrocarbon concentrations at the site to be generally decreasing. Therefore the operation of the SVE/AS system, combined with natural attenuation, is expected to reduce petroleum hydrocarbon concentrations at the site to levels below applicable MCP Method 1 standards and/or background levels, thus achieving a permanent solution. Should a distinct upward trend manifest itself in future groundwater sampling events and persist, GES will re-examine site conditions and evaluate whether a different remedial option is warranted under Phase V activities.

The system, as a whole, has been installed without significant deviation from the originally proposed design. Based on the operational data collected to date, the system operation appears to be accomplishing its projected design goals. The system is performing properly and is expected to accomplish remedial action goals and the installation (with the noted exceptions) conforms to the original construction plans as detailed in the Phase IV RIP.

3.6 List of Permits, Licenses and/or Approvals Required

In accordance 310 CMR 10.02(2)), a Notice of Intent (NOI) was required for any activity proposed or undertaken within a wetland Resource Area "which will remove, fill, dredge or alter (includes the addition of chemical compounds) that area subject to the Wetlands Protection Act." As detailed in the October 15, 2001 NOI, filed with the Acton Conservation Commission, a portion of the proposed SVE/AS remedial system and the excavation and removal the out-of-service used oil UST was performed within with in a 100 foot Buffer Zone of Bordering Vegetated Wetlands (BVWs) and along a 200-foot Riverfront Area associated with Nashoba Book. A public hearing was held at the Acton Town Hall on November 7, 2001. An Order of Conditions was issued by Acton Conservation Commission for MADEP File No. 85-767 and the Order of Conditions was recorded at the Southern Middlesex District Registry of Deeds in Cambridge, Massachusetts, on January 2, 2002. Site activities performed within the 100 foot Buffer Zone and along the 200-foot Riverfront Area associated with Nashoba Book were

conducted in compliance with the recorded Order of Conditions. Copies of the NOI and Order of Conditions are included in Appendix D.

According to Acton Building Department personnel, the original Building Permit Application for the system remediation shed had to be renewed in order to reuse existing shed (former dumpster enclosure) to house the SVE/AS system equipment and shed. The Building Permit was renewed by GES in March 2001. A copy of the permit is included in Appendix D.

A Hazardous Materials Control Application was prepared by GES in response to a December 11, 2001 letter from the Acton BOH, which requested completion of the permit application prior to the completion of on-going site Phase IV activities and the proposed septic system replacement activities. The Hazardous Materials Control Application, submitted to the BOH on April 12, 2002, detailed the site's release history and remedial activities performed. On August 2, 2002, GES submitted additional information to the Acton BOH under the Hazardous Materials Control Application. The additional information was to further explain the release of an inert brine solution (used as interstitial fluid in fiberglass reinforced double walled USTs) from the excavated used oil UST, previously discussed in Section 3.3.4.

Electrical permits were already in place and no additional permits were required to implement activities. Furthermore, no air discharge permit was required for the off-gas treatment since the proposed system complies with the remedial air emissions regulations as specified in 310 CMR 40.0049, which requires 95% removal efficiency.

3.7 Comprehensive Remedial Action to be Conducted Under Phase V

The on-site SVE/AS remedial system relies upon active operation and maintenance, and is being operated for the purpose of achieving a Permanent Solution, pursuant to 310 CMR 40.0890. In addition, groundwater monitoring is being performed semi-annually to confirm the effectiveness of the current remedial system. Upon evaluation of performance standards for Remedial Operation Status (ROS), GES will complete a ROS submittal, which is anticipated to be completed by September 2003.

3.8 Conclusions

- One out-of-service used oil UST was excavated and removed from the site along with any residual petroleum impacted soil related to the UST. However, concentrations of three PAH compounds: benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were identified in four of the seven post excavation soil samples (collected on November 27, 2001) above the Method 1 S-2/S-3 and GW-1/GW-2 and/or GW-3 Soil Standards. These residual PAHs may be associated with background fill material and are expected to be addressed by the remedial system.

- The release of the used oil UST interstitial monitoring fluid (inert brine solution) onto the pavement of the Pillar House Condominiums parking lot did not represent a new reporting condition and no further action associated with the brine solution was required by MADEP at the time of the notification.

- In general, the SVE/AS system has been operating as desired, with the exception of downtime associated with periodic maintenance and repairs. System repairs included the replacement of failed carbon vanes within the air sparge compressor head, the replacement of AS flowmeters, and the addition of removable shields to minimize the AS manifold exposure to UV radiation. To reduce the amount of water pulled into the SVE system, selected wells were operated in areas of the site where water had been detected at greater depths.

- To counter the elevated water table issue in the vicinity of the septic system, air sparge wells AS-13, AS-14, AS-14, AS-17, AS-16, AS-18, and potentially AS-19 have been converted into temporary biosparge wells by limiting the airflow to these wells. Additionally, the SVE wells SVE-8, SVE-9, and potentially SVE-10 have been used as temporary bioventing points. The vacuum applied to these points will be sufficient to induce airflow but not pull water into the system. Following the replacement of the septic system and the lower water table these wells may be used as SVE/AS wells, as originally designed.

- Except for June 2002, field screening of influent and effluent SVE system air samples demonstrated that 95% of total destruction of VOCs has been maintained since system start up in March 2002.

- The concentrations of petroleum hydrocarbons in groundwater remain above applicable MCP Method 1 standards. The performance of the currently active remedial system is reviewed on an ongoing basis to evaluate its ability to address remaining hydrocarbon concentrations in groundwater.

- As influent concentrations decrease, both SVE and AS systems may be pulsed/cycled to increase the systems efficiency. The pulse mode of operation of the system may be modified to increase its effectiveness. When pulsing, a system is intentionally turned off for a period of time, and then restarted. This period of off time allows subsurface conditions to return to an equilibrium, and can improve system performance. Once levels have decreased sufficiently, the system will be deactivated, and site conditions will be monitored and evaluated for natural attenuation and/or re-activation of the SVE/AS remedial system.

- As such time as the system reaches the limits of its effectiveness, the site will be evaluated for potential remediation by natural attenuation, other alternative remedial actions, or the applicability of site closure.

4.0 PUBLIC INVOLVEMENT ACTIVITIES (310 CMR 40.0880)

In accordance with Minimum Public Involvement Activities in Response Actions (310 CMR 40.1403) outlined in the MCP, notice of the availability of this Phase IV FIR and Completion Statement will be submitted to the Board of Health and Town Administrator of the site's community (Town of Acton). In addition, a copy of this Phase IV FIR report will be forwarded to

the Acton Library's information repositories without further Public Involvement Plan (PIP) notification since no formal requests were received by the PIP recipients following submittal of the first Phase V Inspection and Monitoring Report. Copies of the correspondence to the Hazardous Waste Inspector of the Board of Health, the Town Administrator and the Acton Municipal Library are included in Appendix C.

5.0 PHASE IV COMPLETION STATEMENT (310 CMR 40.0879)

As specified in 310 CMR 40.0879, the MCP requires that a Phase IV Completion Statement be submitted with the Phase IV FIR.

5.1 Licensed Site Professional Opinion

This Phase IV Final Inspection Report (FIR) and Phase IV Completion Statement was prepared based on GES investigations and on information provided by Mobil Business Resources Corporation and was prepared in accordance with applicable requirements specified in 310 CMR 40.0878 and 40.0879.

Based on the conclusions of the above described Phase IV FIR, the current knowledge of site-specific and surrounding conditions, it is the opinion of the LSP of record that the remedial excavation activities and the remedial systems have been constructed and/or implemented in accordance with 310 CMR 40.0870 and the July 2001 Phase IV RIP performance standards as described in 310 CMR 40.0872 for the purpose of achieving a Permanent Solution. The current SVE/AS system at the site relies upon Phase V Active Operation, Maintenance and Monitoring pursuant to 310 CMR 40.0890.

Licensed Site Professional: Christophe M. Henry

License Number: 6364

Signature: [illegible]

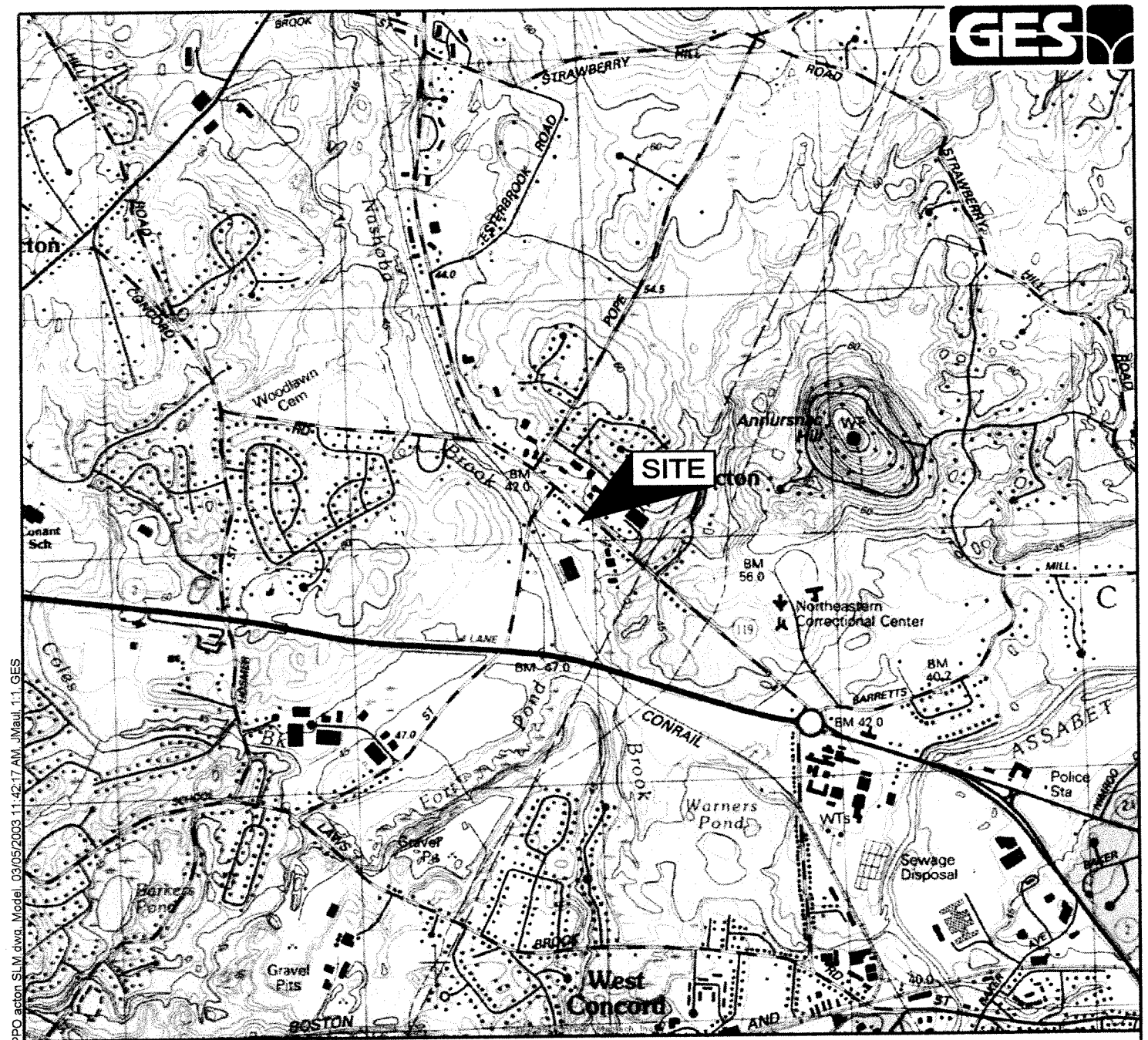
Date & Seal: 3/5/2003

COMMONWEALTH OF MASSACHUSETTS
3/5/03
Christophe M. Henry
No. 6364
REGISTERED
LICENSED SITE PROFESSIONAL

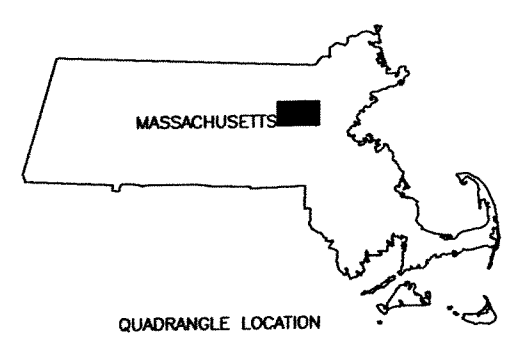
5.2 Certification of the Submittal

As specified in 310 CMR 40.879 of the MCP and the Phase IV Completion Statement, a Certification of the Submittal is submitted with the Phase IV FIR. The Certification of the Submittal is included in Section J: Certification of the Person Undertaking Response Action of the Comprehensive Response Action Transmittal Form (BWSC-108) attached to this report in Appendix A.

FIGURES



SOURCE: USGS 7.5 MINUTE SERIES
TOPOGRAPHIC QUADRANGLE 1987
MAYNARD, MASSACHUSETTS
CONTOUR INTERVAL = 3 METERS

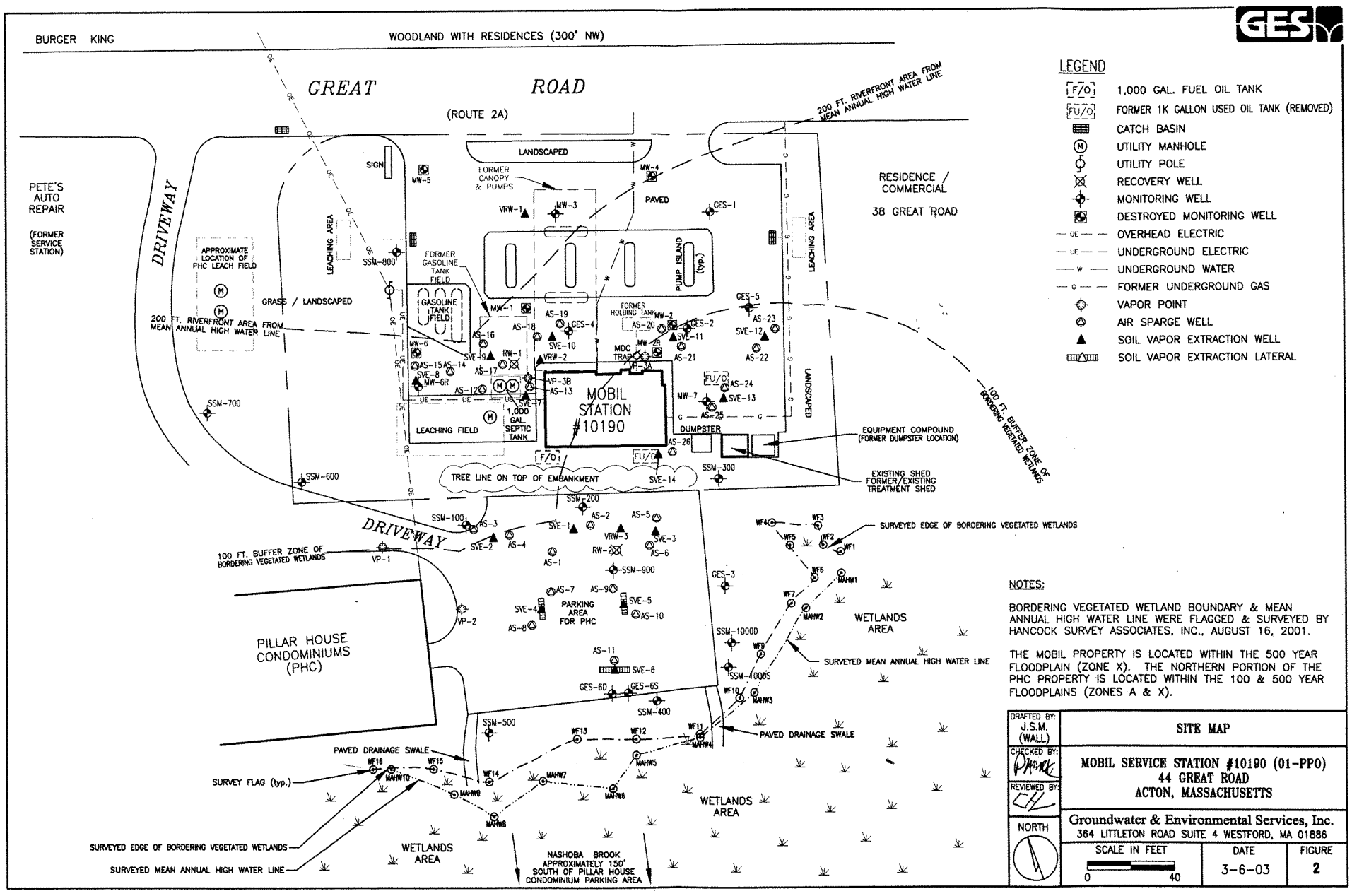


QUADRANGLE LOCATION

DRAFTED BY: J.S.M. (WALL)	SITE LOCATION MAP
CHECKED BY:	MOBIL SERVICE STATION #10190 (01-PPO) 44 GREAT ROAD ACTON, MASSACHUSETTS
REVIEWED BY:	
NORTH	Groundwater & Environmental Services, Inc. 364 LITTLETON ROAD, SUITE 4, WESTFORD, MA 01886

SCALE IN FEET	DATE	FIGURE
0 — 2000	3-5-03	1

M:\Graphics\Graphics-Westford\Mobil\01-PPO Acton\01-PPO acton SLM.dwg, Model, 03/05/2003 11:42:17 AM, JMaul, 1:1, GES



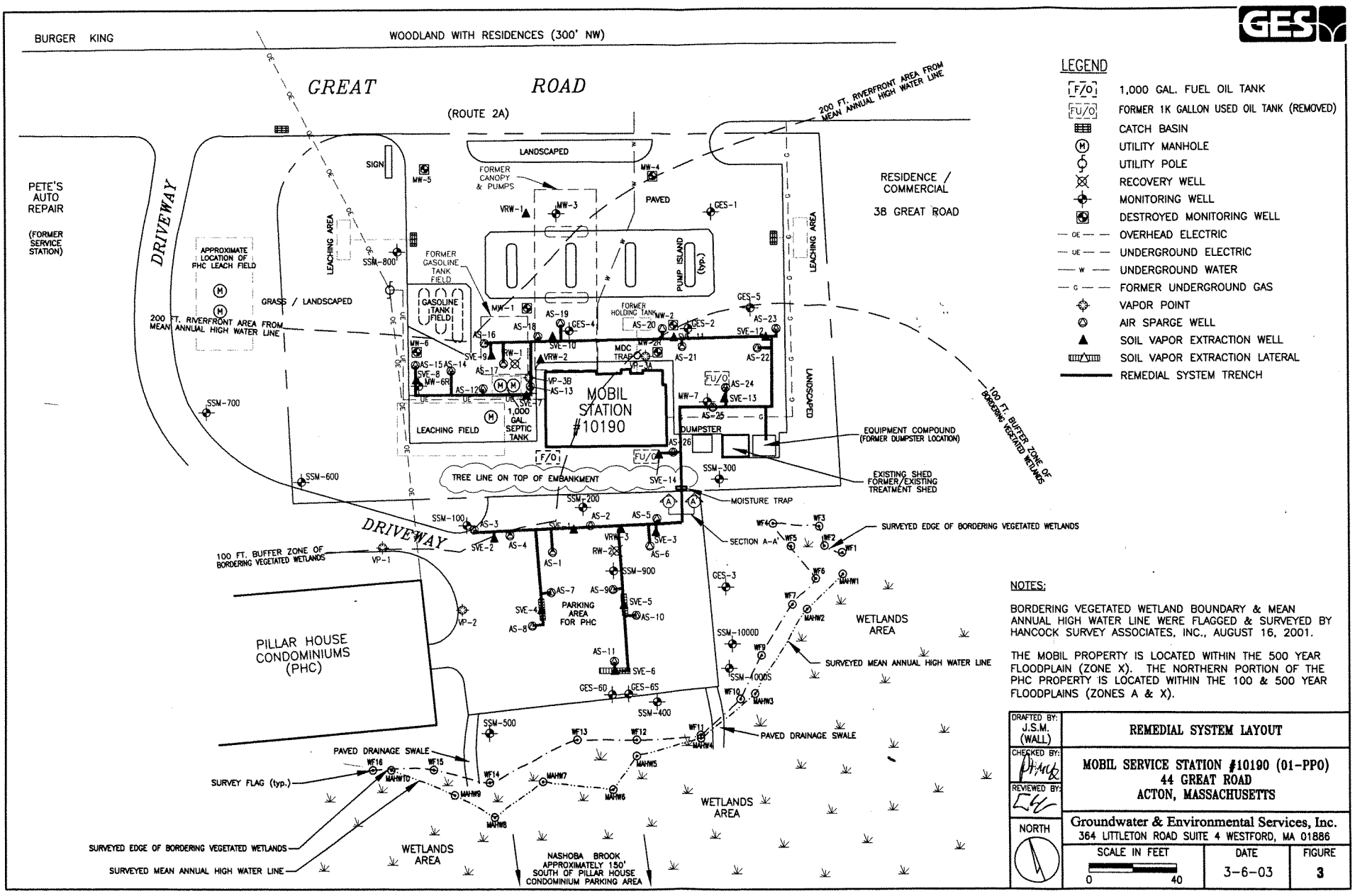
NOTES:

BORDERING VEGETATED WETLAND BOUNDARY & MEAN ANNUAL HIGH WATER LINE WERE FLAGGED & SURVEYED BY HANCOCK SURVEY ASSOCIATES, INC., AUGUST 16, 2001.

THE MOBIL PROPERTY IS LOCATED WITHIN THE 500 YEAR FLOODPLAIN (ZONE X). THE NORTHERN PORTION OF THE PHC PROPERTY IS LOCATED WITHIN THE 100 & 500 YEAR FLOODPLAINS (ZONES A & X).

DRAFTED BY: J.S.M. (WALL)	SITE MAP
CHECKED BY:	MOBIL SERVICE STATION #10190 (01-PPO) 44 GREAT ROAD ACTON, MASSACHUSETTS
REVIEWED BY:	Groundwater & Environmental Services, Inc. 364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886
NORTH	SCALE IN FEET 0 40 / DATE 3-6-03 / FIGURE 2

M:\Graphics\Graphics-Westford\Mobil\01-PPO Action\01-PPO action SM.dwg, Model, 03/06/2003 09:00:31 AM, JMaul, 1:40, GES



NOTES:

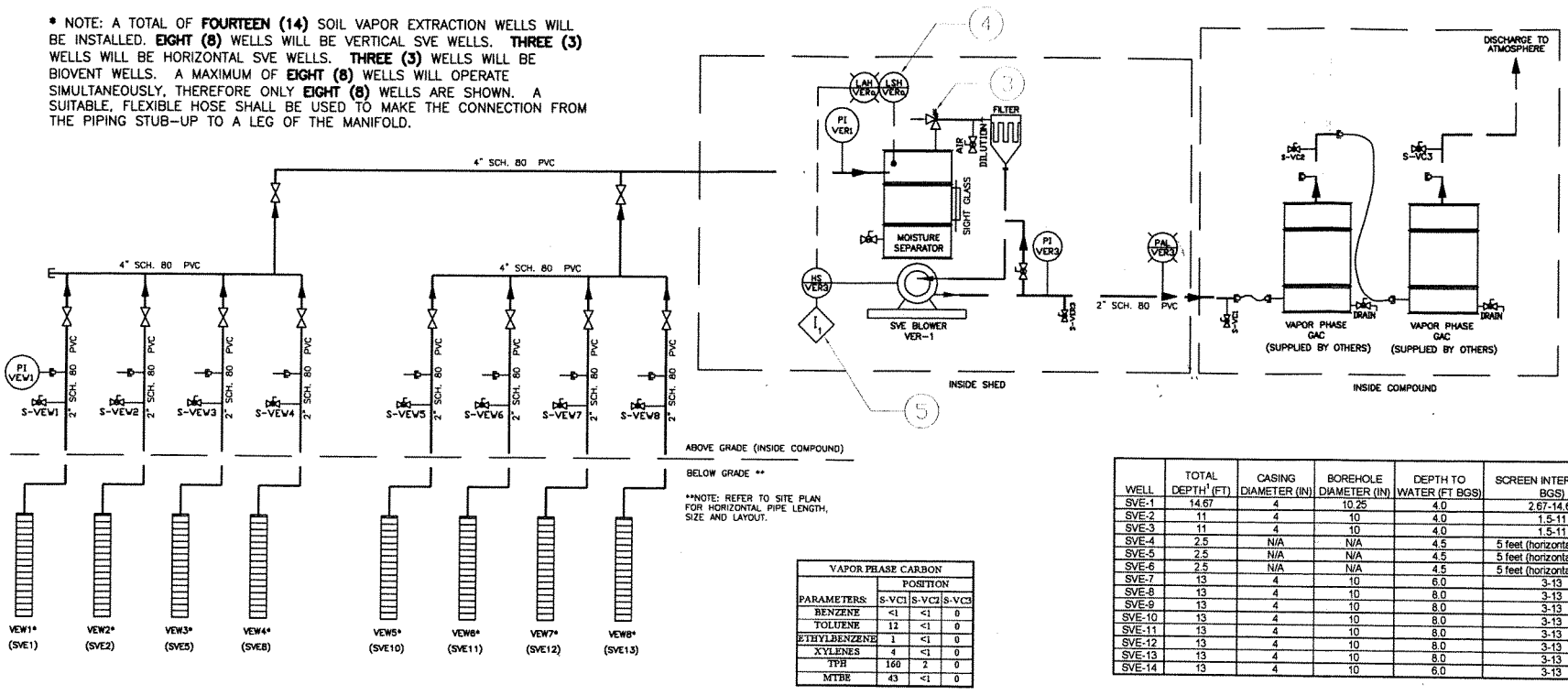
BORDERING VEGETATED WETLAND BOUNDARY & MEAN ANNUAL HIGH WATER LINE WERE FLAGGED & SURVEYED BY HANCOCK SURVEY ASSOCIATES, INC., AUGUST 16, 2001.

THE MOBIL PROPERTY IS LOCATED WITHIN THE 500 YEAR FLOODPLAIN (ZONE X). THE NORTHERN PORTION OF THE PHC PROPERTY IS LOCATED WITHIN THE 100 & 500 YEAR FLOODPLAINS (ZONES A & X).

DRAFTED BY: J.S.M. (WALL)	REMEDIAL SYSTEM LAYOUT
CHECKED BY:	MOBIL SERVICE STATION #10190 (01-PPO) 44 GREAT ROAD ACTON, MASSACHUSETTS
REVIEWED BY:	Groundwater & Environmental Services, Inc. 364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886
NORTH	SCALE IN FEET 0 40 / DATE 3-6-03 / FIGURE 3

M:\Graphics\Graphics-Westford\Mobil\01-PPO Action\01-PPO action SM.dwg, Model, 03/06/2003 09:00:37 AM, JWaul, 1:40, GES

* NOTE: A TOTAL OF **FOURTEEN (14)** SOIL VAPOR EXTRACTION WELLS WILL BE INSTALLED. **EIGHT (8)** WELLS WILL BE VERTICAL SVE WELLS. **THREE (3)** WELLS WILL BE HORIZONTAL SVE WELLS. **THREE (3)** WELLS WILL BE BIOVENT WELLS. A MAXIMUM OF **EIGHT (8)** WELLS WILL OPERATE SIMULTANEOUSLY, THEREFORE ONLY **EIGHT (8)** WELLS ARE SHOWN. A SUITABLE, FLEXIBLE HOSE SHALL BE USED TO MAKE THE CONNECTION FROM THE PIPING STUB-UP TO A LEG OF THE MANIFOLD.



WELL	TOTAL DEPTH[1] (FT)	CASING DIAMETER (IN)	BOREHOLE DIAMETER (IN)	DEPTH TO WATER (FT BGS)	SCREEN INTERVAL (FT BGS)
SVE-1	14.67	4	10.25	4.0	2.67-14.67
SVE-2	11	4	10	4.0	1.5-11
SVE-3	11	4	10	4.0	1.5-11
SVE-4	2.5	N/A	N/A	4.5	5 feet (horizontal length)
SVE-5	2.5	N/A	N/A	4.5	5 feet (horizontal length)
SVE-6	2.5	N/A	N/A	4.5	5 feet (horizontal length)
SVE-7	13	4	10	6.0	3-13
SVE-8	13	4	10	8.0	3-13
SVE-9	13	4	10	8.0	3-13
SVE-10	13	4	10	8.0	3-13
SVE-11	13	4	10	8.0	3-13
SVE-12	13	4	10	8.0	3-13
SVE-13	13	4	10	8.0	3-13
SVE-14	13	4	10	6.0	3-13

VAPOR PHASE CARBON			
	POSITION		
PARAMETERS:	S-VC1	S-VC2	S-VC3
BENZENE	<1	<1	0
TOLUENE	12	<1	0
ETHYLBENZENE	1	<1	0
XYLENES	4	<1	0
TPH	160	2	0
MTBE	43	<1	0

POSITION		EXPECTED VACUUM (in WC)	EXPECTED FLOW (SCFM)
IN	SVE-1	15	26
	SVE-2	15	26
	SVE-3	15	26
	SVE-4	15	43
	SVE-5	15	43
	SVE-6	15	43
	SVE-7	15	30
	SVE-8	15	47
	SVE-9	15	47
	SVE-10	15	47
	SVE-11	15	47
	SVE-12	15	10
	SVE-13	15	10
	SVE-14	15	10

POSITION		EXPECTED PRESSURE (in WC)	EXPECTED FLOW (SCFM)	EXPECTED TEMP (deg F)
IN	TI-VC1			<140
	PI-VC2	6		
OUT	PI-VC-3	1		

POSITION		EXPECTED PRESSURE (in WC)	EXPECTED FLOW (SCFM)	EXPECTED TEMP (deg F)
IN	PI-VER1	-24		
	FI-VER1		250	
	TI-VER1			55
OUT	PI-VER3	11		
	FI-VER3		250	
	TI-VER3			<140

	VAPOR EXTRACTION WELLS													
	POSITION													
PARAMETERS:[2]	SVE-1	SVE-2	SVE-3	SVE-4	SVE-5	SVE-6	SVE-7	SVE-8	SVE-9	SVE-10	SVE-11	SVE-12	SVE-13	SVE-14
BENZENE	<1	2	<1	<1	<1	2	1	<1	<1	<1	<1	<1	<1	<1
TOLUENE	<1	5	<1	<1	<1	<1	2	112	<1	<1	<1	<1	<1	<1
ETHYLBENZENE	5	4	1	1	1	<1	2	<1	3	<1	<1	<1	<1	<1
XYLENES	2	22	<1	<1	<1	3	11	<1	11	1	<1	<1	<1	<1
TPH	108	194	123	123	123	330	97	191	123	390	20	2	1	<1
MTBE	29	52	35	35	35	290	26	<1	6	<1	<1	2	1	<1

SOIL VAPOR EXTRACTION (REGEN BLOWER)		
PARAMETERS:[3]	S-VER1	SVER-3
BENZENE	<1	<1
TOLUENE	12	12
ETHYLBENZENE	1	1
XYLENES	4	4
TPH	160	160
MTBE	43	43

1 – THE EXACT DEPTH OF EACH SOIL VAPOR EXTRACTION WELL/LATERAL WAS DETERMINED DURING INSTALLATION. BASED ON THE DEPTH OF THE SILT LAYER, IT WAS ASSUMED THE MAXIMUM DEPTH OF EACH VERTICAL EXTRACTION WELL WOULD BE 12.5 FEET. HORIZONTAL EXTRACTION LATERALS WERE INSTALLED TO A DEPTH OF 2.5 FEET.

2 – PARAMETER CONCENTRATIONS ARE BASED ON RESULTS OF THE PILOT TEST AND WEIGHTED GROUNDWATER CONCENTRTIONS FROM SURROUNDING WELLS.

3 – COMBINED INFLUENT CONCENTRATIONS BASED ON A FLOW WEIGHTED AVERAGE FOR EACH WELL.

CRITICAL DEVICES	
1	EMERGENCY CONTACT SIGNS
2	LOCKS
3	SVE VACUUM RELIEF VALVE
4	MOISTURE SEPARATOR HIGH LEVEL FLOAT
5	SVE BLOWER AIR GAPS & INTERLOCK PRESSURE SWITCH

DRAFTED BY: J.S.M. (WALL)
CHECKED BY:
REVIEWED BY:

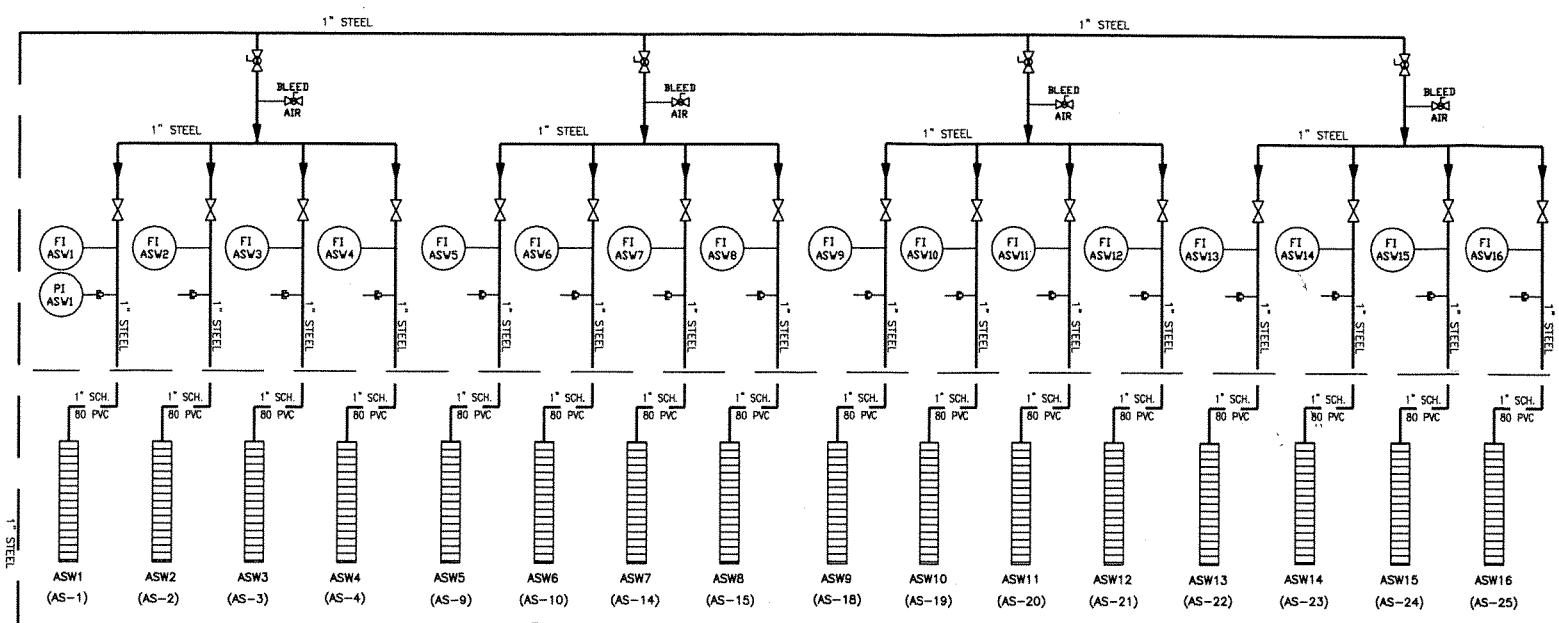
PROCESS & INSTRUMENTATION DIAGRAM
SOIL VAPOR EXTRATION SYSTEM

MOBIL SERVICE STATION #10190 (01-PPO)
44 GREAT ROAD
ACTON, MASSACHUSETTS

Groundwater & Environmental Services, Inc.
364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886

NOT TO SCALE	DATE	FIGURE
	2-26-03	4

M:\Graphics\Graphics-Westford\Mobil\01-PPO Acton\01-PPO acton PID sve.dwg, Model, 02/26/2003 10:56:00 AM, JMaul, 1:1, GES

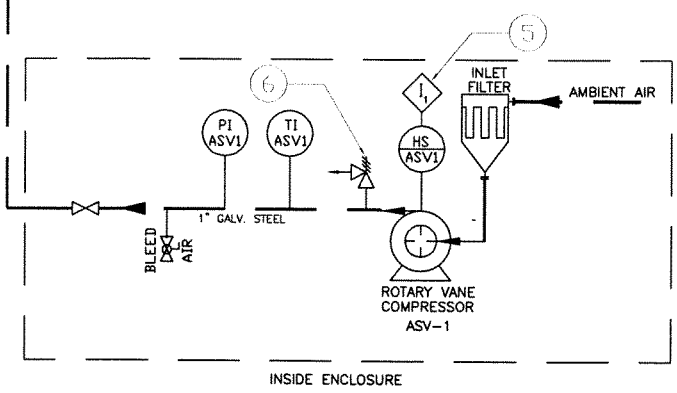


NOTE: A TOTAL OF **TWENTY-SIX (26)** AIR SPARGE WELLS WILL BE INSTALLED. A MAXIMUM OF **SIXTEEN (16)** WELLS WILL OPERATE SIMULTANEOUSLY, THEREFORE ONLY **SIXTEEN (16)** WELLS ARE SHOWN. A SUITABLE, FLEXIBLE HOSE SHALL BE USED TO MAKE THE CONNECTION FROM THE PIPING STUB-UP TO A LEG OF MANIFOLD. **TWENTY-ONE (21)** WELLS WILL BE AIR SPARGE WELLS. FIVE (5) WELLS WILL BE BIOSPARGE WELLS.

ABOVE GRADE (INSIDE COMPOUND)

BELOW GRADE **

**NOTE: REFER TO SITE PLAN FOR HORIZONTAL PIPE LENGTH, SIZE AND LAYOUT.



EXPECTED PRESSURE (PSI)		EXPECTED FLOW (SCFM)		EXPECTED TEMP (deg F)	
PI-ASV1	9	FI-ASV1	75	TI-ASV1	<150

WELL	TOTAL DEPTH[1] (FT)	CASING DIAMETER (IN)	BOREHOLE DIAMETER (IN)	DEPTH TO WATER (FT BGS)	SCREEN INTERVAL (FT BGS)
AS-1	18	2	8	4.0	16-18
AS-2	15	2	8	4.0	13-15
AS-3	15	2	8	4.0	13-15
AS-4	15	2	8	4.0	13-15
AS-5	15	2	8	4.0	13-15
AS-6	15	2	8	4.0	13-15
AS-7	15	2	8	4.0	13-15
AS-8	15	2	8	4.0	13-15
AS-9	15	2	8	4.0	13-15
AS-10	15	2	8	4.0	13-15
AS-11	15	2	8	4.0	13-15
AS-12	18	2	8	5.0	16-18
AS-13	18	2	8	5.0	16-18
AS-14	18	2	8	7.0	16-18
AS-15	18	2	8	8.0	16-18
AS-16	18	2	8	7.0	16-18
AS-17	18	2	8	8.0	16-18
AS-18	18	2	8	8.0	16-18
AS-19	18	2	8	8.0	16-18
AS-20	18	2	8	8.0	16-18
AS-21	18	2	8	8.0	16-18
AS-22	18	2	8	8.0	16-18
AS-23	18	2	8	8.0	16-18
AS-24	19	2	8	9.0	17-19
AS-25	18	2	8	8.0	16-18
AS-26	18	2	8	8.0	16-18

1 - THE EXACT DEPTH OF EACH AIR SPARGE WELL WAS DETERMINED DURING INSTALLATION. BASED ON THE DEPTH OF THE SILT LAYER DURING PHASE IV DESIGN, IT WAS ASSUMED THE MAXIMUM DEPTH TO BE 24 FEET ON THE MOBIL PROPERTY AND 18 FEET ON THE PHC PROPERTY.

POSITION	EXPECTED PRESSURE (PSI)	EXPECTED FLOW (SCFM)
AS-1	9	5
AS-2	9	5
AS-3	9	5
AS-4	9	5
AS-5	9	5
AS-6	9	5
AS-7	9	5
AS-8	9	5
AS-9	9	5
AS-10	9	5
AS-11	9	5
AS-12	9	5
AS-13	9	5
AS-14	9	5
AS-15	9	5
AS-16	9	5
AS-17	9	5
AS-18	9	5
AS-19	9	5
AS-20	9	5
AS-21	9	5
AS-22	9	1
AS-23	9	1
AS-24	9	1
AS-25	9	1
AS-26	9	1

CRITICAL DEVICES

1	EMERGENCY CONTACT SIGNS
2	LOCKS
5	SVE BLOWER / AIR SPARGE INTERLOCK PRESSURE SWITCH
6	AIR SPARGE COMPRESSOR PRESSURE RELIEF VALVE

DRAFTED BY: J.S.M. (WALL)

CHECKED BY:

REVIEWED BY:

PROCESS & INSTRUMENTATION DIAGRAM
AIR SPARGE SYSTEM

MOBIL SERVICE STATION #10190 (01-PPO)
44 GREAT ROAD
ACTON, MASSACHUSETTS

Groundwater & Environmental Services, Inc.
364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886

NOT TO SCALE	DATE 2-26-03	FIGURE 5

M:\Graphics\Graphics-Westford\Mobil\01-PPO Action\01-PPO action PID sparge.dwg, Model, 02/26/2003 11:00:41 AM, JMaul, 1:1, GES

EQUIPMENT

SUBMERSIBLE PNEUMATIC PUMP
SUBMERSIBLE ELECTRIC PUMP
AIR-COOLED HEAT EXCHANGER
CONDENSER
HEATER
SILENCER
LIQUID RING PUMP
TRANSFER PUMP
BLOWER
AIR COMPRESSOR
VAPOR-PHASE CARBON UNIT
LIQUID-PHASE CARBON UNIT
HIGH-PRESSURE LIQUID-PHASE CARBON UNIT
VAPOR/LIQUID SEPARATOR
OIL/WATER SEPARATOR
BIOFILTER
HIGH PRESSURE RECEIVING TANK
LOW PROFILE AIR STRIPPER
PARTICULATE FILTER - AIR
PARTICULATE FILTER - WATER
INLET FILTER - AIR
AIR STRIPPER TOWER
HOLDING TANK
PRODUCT RECOVERY TANK W/SECONDARY CONTAINMENT
EXHAUST STACK
CATALYST BED
CATALYTIC OXIDIZER

INSTRUMENTATION ABBREVIATIONS

CI	CAPACITIVE SENSOR	PC	PRESSURE CONTROL
FI	FLOW INDICATOR	PDS	PRESSURE DIFFERENTIAL SWITCH
FQ	FLOW TOTALIZER	PI	PRESSURE INDICATOR
FQI	FLOW INDICATING TOTALIZER	PSH	PRESSURE SWITCH HIGH
FSH	FLOW SWITCH HIGH	PSL	PRESSURE SWITCH LOW
FSL	FLOW SWITCH LOW	SL	STATUS LAMP
HS	HAND START	SP	SAMPLE POINT
KC	CYCLE COUNTER	TI	TEMPERATURE INDICATOR
KP	CYCLE TIMER	TS	TEMPERATURE SENSOR
LEL	EXPLOSIVITY METER	TDSH	TEMPERATURE DIFFERENTIAL SENSOR HIGH
LSLL	LEVEL SWITCH LOW LOW	TSH	TEMPERATURE SWITCH HIGH
LSL	LEVEL SWITCH LOW	TSL	TEMPERATURE SWITCH LOW
LSH	LEVEL SWITCH HIGH	TT	TEMPERATURE TRANSDUCER
LSHH	LEVEL SWITCH HIGH HIGH	VI	VACUUM INDICATOR

INSTRUMENTATION LABELING

INSTRUMENT TYPE — PI
INSTRUMENT DESIGNATION — 100

INSTRUMENT DESIGNATIONS:
100 - AIR
200 - WATER
300 - PRODUCT
400 - COMBINED

GENERAL INSTRUMENTATION OR FUNCTION SYMBOLS

	PANEL MOUNTED	LOCALLY MOUNTED
DISCRETE INSTRUMENTS		

I_1 CONTROL INTERLOCK LOGIC / ALARM
INSTRUMENTS SHARING COMMON HOUSING
ALARM INDICATOR LIGHT

VALVES

BALL VALVE
GATE VALVE
GLOBE VALVE
BUTTERFLY VALVE
SWING CHECK VALVE
BALL CHECK VALVE
FOOT VALVE
DIAPHRAGM VALVE
NEEDLE VALVE
3 WAY VALVE
4 WAY VALVE
SAMPLE VALVE

VALVE ABBREVIATIONS

N.C. - NORMALLY CLOSED
N.O. - NORMALLY OPEN
MAN - MANUAL

ACTUATORS / REGULATORS

HAND ACTUATOR
DIAPHRAGM ACTUATOR
HYDRAULIC ACTUATOR
SOLENOID ACTUATOR
MOTOR ACTUATOR
DIGITAL ACTUATOR
WATER ACTUATOR
PRESSURE RELIEF
PRESSURE RELIEF VALVE
VACUUM RELIEF VALVE
REGULATOR
RUPTURE DISK
SLIP UPDRAFT VENT CAP

FITTINGS & PIPING

FLANGED CONNECTION
SCREWED CONNECTION
UNION
COUPLING
STRAINER
CROSSOVER
REDUCER
FLOW RESTRICTOR
CLEAR PIPE/SIGHT TUBE
EXPANSION JOINT/SLEEVE
VICTAULIC CONNECTOR
PLUG
PIPE CAP
PNEUMATIC QUICK CONNECT
QUICK CONNECT w/ FLEX HOSE
CAM LOCK

FLOW ELEMENTS

SINGLE PORT PITOT TUBE
AVERAGING PITOT TUBE
POSITIVE DISPLACEMENT FLOW INDICATOR
PROPELLER OR TURBINE TYPE FLOW ELEMENT
VORTEX SENSOR
SONIC FLOWMETER
TARGET TYPE SENSOR
WEIR
VENTURI TUBE
FLOW NOZZLE

PIPE DESIGNATION

2" - GW - SCH 80 PVC
DIAMETER PROCESS MEDIA MATERIAL

VAP - VAPOR
GW - GROUNDWATER
AIR - COMPRESSED AIR
PROD - PRODUCT

PROCESS PIPE
ELECTRICAL CONTROL

PIPING MATERIAL ABBREVIATIONS

CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL PIPE
COP	COPPER
CM	CORRUGATED METAL PIPE
CI	CAST IRON PIPE
DI	DUCTILE IRON PIPE
STEEL	GALVANIZED STEEL PIPE
POLY	POLYETHYLENE PIPE
PP	POLYPROPYLENE PIPE
PVC	POLYVINYL CHLORIDE PIPE
RC	REINFORCED CONCRETE PIPE
HOSE	RUBBER OR PLASTIC HOSE
SS	STAINLESS STEEL PIPE
VC	VITRIFIED CLAY PIPE

DRAFTED BY: J.S.M. (WALL)
CHECKED BY:
REVIEWED BY:

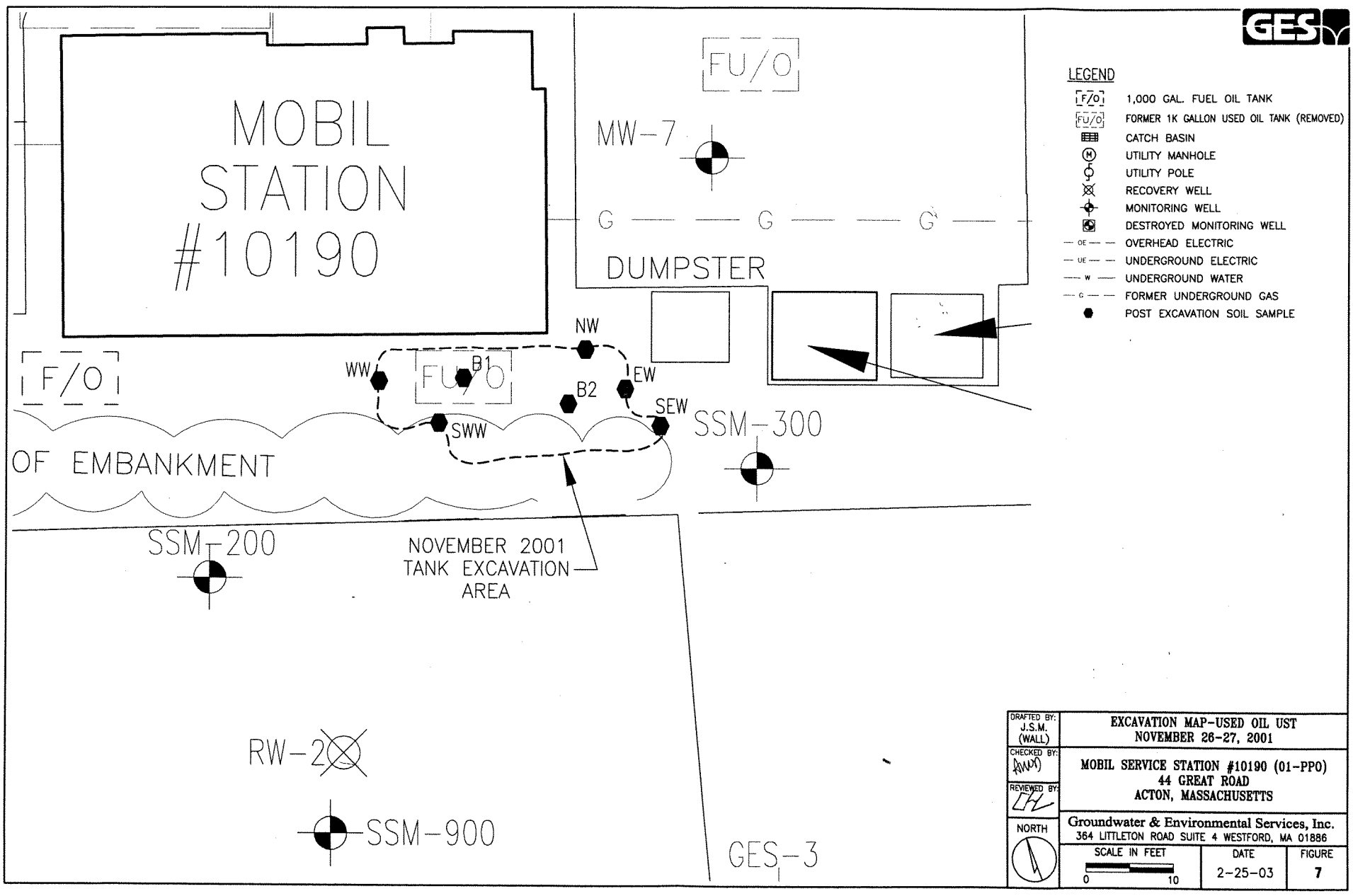
PROCESS & INSTRUMENTATION DIAGRAM LEGEND

MOBIL SERVICE STATION #10190 (01-PPO)
44 GREAT ROAD
ACTON, MASSACHUSETTS

Groundwater & Environmental Services, Inc.
364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886

NOT TO SCALE	DATE 2-25-03	FIGURE 6

M:\Graphics\Graphics-Westford\Mobil\01-PPO Acton\01-PPO acton PID legend.dwg, Model, 02/25/2003 05:13:01 PM, JMaul, 1:1, GES



M:\Graphics\Graphics-Westford\Mobil\01-PPO Acton\01-PPO acton SM.dwg, B-10 (excavation), 02/25/2003 05:04:21 PM, JWaul, 1:1, GES

TABLES

Table 1. Groundwater Analytical Data - VPH with Target Compounds and EDB (11/00 to 9/02)
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253 & RTN 2-13870
(February 1997 through September 2002)

Monitoring Well	Casing Elevation (Feet)	Sampling Date	Depth to Water (Feet)	Depth to Product (Feet)	Product Thickness (Feet)	Groundwater Elevation (Feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (ug/L)	EDB (ug/L)	Naph-thalene (ug/L)	C5 - C8 Aliphatics (µg/L)	C9 - C12 Aliphatics (µg/L)	C9 - C10 Aromatics (µg/L)
Groundwater Classification		MCP Method 1		GW-1 Groundwater Standard			5	1,000	700	10,000	NA	70	0.02	20	400	4,000	200
				GW-2 Groundwater Standard			2,000	6,000	30,000	6,000	NA	50,000	3	6,000	1,000	1,000	5,000
				GW-3 Groundwater Standard			7,000	50,000	4,000	50,000	NA	50,000	50,000	6,000	4,000	20,000	4,000
GES-1	97.92	11/14/00	7.16	ND	ND	90.76	<5.0	<5.0	<5.0	<10	ND	<5.0	NA	<5.0	<50	<50	<50
(GW-1/GW-2/GW-3)		01/25/01	7.67	ND	ND	90.25	<5.0	<5.0	<5.0	<5.0	ND	<5.0	NA	<5.0	<50	<50	<50
		05/18/01	7.50	ND	ND	90.42	<1.0	<5.0	<5.0	<15	ND	<5.0	NA	<5.0	<100	<100	<100
Screened Interval		01/24/02	7.94	ND	ND	89.98	<5.0	<5.0	<5.0	<5.0	ND	<5.0	NA	<5.0	<50	<50	<50
3'-18'		09/03/02	8.78	ND	ND	89.14	-	-	-	-	-	-	-	-	-	-	-
GES-2	98.59	11/14/00	7.93	ND	ND	90.66	<5.0	<5.0	<5.0	1.8^	1.8	3.9^	NA	15.5	<50	590	**558**
(GW-1/GW-2/GW-3)		01/25/01	8.47	ND	ND	90.12	<5.0	<5.0	<5.0	5.1	5.1	5.5	NA	<5.0	<50	152	**211**
		05/18/01	8.37	ND	ND	90.22	<0.5	<2.0	<2.0	<7.0	ND	2.1(J)	NA	<5.0	<50	<50	<50
Screened Interval		01/24/02	8.74	ND	ND	89.85	<5.0	<5.0	<5.0	<10	ND	7.5	NA	<5.0	<50	<50	<50
3'-18'		09/03/02	9.54	ND	ND	89.05	<2.0	<2.0	<2.0	<4.0	ND	2.1	NA	<2.0	<50	<50	<50
GES-3	93.25	11/14/00	3.60	ND	ND	89.65	<5.0	<5.0	<5.0	<10	ND	17.8	NA	<5.0	<50	<50	<50
(GW-1/GW-2/GW-3)		01/25/01	4.15	ND	ND	89.10	<5.0	<5.0	<5.0	<10	ND	27.7	NA	<5.0	<50	<50	<50
		05/18/01	4.33	ND	ND	88.92	<1.0	<5.0	<5.0	<15	ND	46.6	NA	<5.0	<100	<100	<100
Screened Interval		06/28/01*	4.04	ND	ND	89.21	<1.0	<1.0	<1.0	<1.0	ND	3.7	NA	NA	NA	NA	NA
2'-14'		07/17/01*	4.29	ND	ND	88.96	<0.5	<1.0	<1.0	<1.0	ND	<1.0	NA	NA	NA	NA	NA
		08/02/01*	4.09	ND	ND	89.16	<0.5	<1.0	<1.0	<1.0	ND	14.4	NA	NA	NA	NA	NA
		10/03/01*	4.82	ND	ND	88.43	<1.0	<1.0	<1.0	<1.0	ND	21.2	NA	NA	NA	NA	NA
		01/24/02	4.38	ND	ND	88.87	<5.0	<5.0	<5.0	<10	ND	8.9	NA	<5.0	<50	<50	<50
		09/03/02	9.48	ND	ND	83.77	<2.0	<2.0	<2.0	<4.0	ND	7.6	NA	<3.0	<50	<50	<50
GES-4	98.46	01/25/01	8.53	ND	ND	89.93	<5.0	<5.0	9.2	21.3	30.5	<5.0	NA	18.2	**2,060**	**2,050**	**3,220**
(GW-1/GW-2/GW-3)		05/18/01	8.24	ND	ND	90.22	<0.5	<2.0	3.7(J)	2.6(J)	6.3(J)	3.9(J)	NA	<2.0	320	220	140
		01/24/02	8.62	ND	ND	89.84	<5.0	<5.0	<5.0	<10	ND	36	NA	<5.0	58.1	<50	<50
Screened Interval		09/03/02	9.48	ND	ND	88.98	<2.0	<2.0	<2.0	<4.0	ND	<2.0	NA	<3.0	<50	52.6	<50
5'-20'																	
GES-5	98.10	01/25/01	7.87	ND	ND	90.23	<5.0	<5.0	<5.0	<5.0	ND	28.7	NA	<5.0	<50	<50	<50
(GW-1/GW-2/GW-3)		05/18/01	7.79	ND	ND	90.31	<0.5	<2.0	<2.0	<7.0	ND	14.3	NA	<2.0	<50	<50	<50
		01/24/02	8.18	ND	ND	89.92	<5.0	<5.0	<5.0	<10	ND	24.8	NA	<5.0	<50	<50	<50
Screened Interval		09/03/02	8.99	ND	ND	89.11	-	-	-	-	-	-	-	-	-	-	-
3-18'																	
GES-6S	92.02	01/25/01	2.99	ND	ND	89.03	**45.1**	<5.0	16.6	61.3	123	**5,480**	NA	<5.0	<50	134	**503**
(GW-1/GW-2/GW-3)		05/18/01	3.23	ND	ND	88.79	**51.8**	5.1	11.1	20.2	88.2	**4,480**	NA	<5.0	<100	260	**300**
		6/28/01*	2.94	ND	ND	89.08	**7.2**	2.0	6.0	18	33.2	**692**	NA	NA	NA	NA	NA
Screened Interval		07/17/01*	3.05	ND	ND	88.97	2.1	<1.0	<1.0	<1.0	2.1	**564**	NA	NA	NA	NA	NA
2'-12'		08/02/01*	2.90	ND	ND	89.12	**51.6**	12.6	48.1	194	306.3	**4,490**	NA	NA	NA	NA	NA
		10/03/2001*	3.69	ND	ND	88.33	**31.1**	4.1	19.3	82.5	137	**3,980**	NA	NA	NA	NA	NA
		01/24/02	3.16	ND	ND	88.86	<5.0	<5.0	<5.0	8.8	8.8	**126**	NA	<5.0	<50	<50	63.7
		09/03/02	4.09	ND	ND	87.93	<2.0	<2.0	<2.0	<4.0	ND	**1,320**	NA	<3.0	<50	<50	68.0
GES-6D	91.96	01/25/01	2.88	ND	ND	89.08	<5.0	<5.0	<5.0	<5.0	ND	<5.0	NA	<5.0	<50	<50	<50
(GW-1/GW-2/GW-3)		05/18/01	3.18	ND	ND	88.78	<1.0	<5.0	<5.0	<15	ND	<5.0	NA	<5.0	<100	<100	<100
		01/24/02	3.11	ND	ND	88.85	<5.0	<5.0	<5.0	<5.0	ND	<5.0	NA	<5.0	<50	<50	<50
Screened Interval		09/03/02	4.12	ND	ND	87.84	<2.0	<2.0	<2.0	<4.0	<ND	<2.0	NA	<3.0	<50	<50	<50
30'-35'																	

Table 1. Groundwater Analytical Data - VPH with Target Compounds and EDB (11/00 to 9/02)
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253 & RTN 2-13870
(February 1997 through September 2002)

Monitoring Well	Casing Elevation (Feet)	Sampling Date	Depth to Water (Feet)	Depth to Product (Feet)	Product Thickness (Feet)	Groundwater Elevation (Feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (ug/L)	EDB (ug/L)	Naph-thalene (ug/L)	C5 - C8 Aliphatics (µg/L)	C9 - C12 Aliphatics (µg/L)	C9 - C10 Aromatics (µg/L)
Groundwater Classification		MCP Method 1		GW-1 Groundwater Standard			5	1,000	700	10,000	NA	70	0.02	20	400	4,000	200
				GW-2 Groundwater Standard			2,000	6,000	30,000	6,000	NA	50,000	3	6,000	1,000	1,000	5,000
				GW-3 Groundwater Standard			7,000	50,000	4,000	50,000	NA	50,000	50,000	6,000	4,000	20,000	4,000
MW-3	97.65	06/09/97	7.57	ND	ND	90.08	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS
(GW-1/GW-2/GW-3)		03/25/98	6.21	ND	ND	91.44	<1	<1	<1	3	3	<1	NA	NA	NA	NA	NA
		03/10/99	6.78	ND	ND	90.87	<1	<5	<5	<15	ND	<5	NA	<5	88	<50	123
		06/09/99	7.94	ND	ND	89.71	<1	<5	<5	<15	ND	<5	NA	<5	**518**	196	**282**
Screened Interval		09/10/99	8.5	ND	ND	89.15	<1	<5	<5	<15	ND	<5	NA	<5	<100	<100	<100
8'-18'		12/09/99	7.0	ND	ND	90.65	<1	<5	<5	<15	ND	<5	NA	<5	230	150	**260**
		02/14/00	7.3	ND	ND	90.31	<1	<5	<5	<15	ND	<5	NA	<5	<100	<100	130
		05/18/00	6.81	ND	ND	90.84	<1	<5	<5	<15	ND	11.9	NA	<5	<100	<100	150
		08/14/00	7.67	ND	ND	89.98	<1	<5	<5	<15	ND	11.9	NA	<5	<100	<100	110
		11/14/00	6.90	ND	ND	90.75	<5.0	<5.0	<5.0	<10	ND	<5.0	NA	<5.0	52.7	<50	<50
		05/18/01	7.31	ND	ND	90.34	<1.0	<5.0	<5.0	6.0	6.0	9.6	NA	<5.0	160	130	130
		01/24/02	7.72	ND	ND	89.93	<5.0	<5.0	<5.0	<10	ND	<5.0	NA	<5.0	290	<50	**203**
		09/03/02	8.57	ND	ND	89.08	<2.0	<2.0	<2.0	<4.0	ND	<2.0	NA	4.2	162	<50	<50
MW-4	95.97	02/03/97	7.11	ND	ND	88.86	NS	NS	NS	NS	NS	NS		NS	NS	NS	NS
Well was destroyed during construction in April 1997.																	
(GW-1/GW-2/GW-3)		Well was destroyed during construction in April 1997.															
MW-6	97.65	02/03/97	6.3	ND	ND	91.35	**44**	253	72	592	961	**4,990**	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		Well was destroyed during construction in April 1997.															
MW-6R	98.14	03/30/98	7.41	ND	ND	90.73	**37**	**1,400**	14	100	1,551	**11,000**	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		07/17/98	8.49	ND	ND	89.65	**520**	**6,300**	240	2,300	9,360	**12,000**	NA	NA	NA	NA	NA
		11/30/98	8.23	ND	ND	89.91	**490**	**1,600**	90	700	2,880	**110,000**	NA	NA	NA	NA	NA
		03/10/99	7.64	ND	ND	90.50	<1	662	<5	<15	662	41.4	NA	<5	**1,020**	<50	139
Screened Interval		06/09/99	8.88	ND	ND	89.26	<5	**2,120**	<25	<75	2,120	**231**	NA	**<25**	**2,800**	430	**400**
4'-14'		09/10/99	9.21	ND	ND	88.93	**132**	257	<5	24.2	413.2	**10,500**	NA	<5	<100	<100	<100
		12/09/99	7.32	ND	ND	90.82	**16.2**	988	<5	7.1	1,011.3	**736**	NA	<5	**680**	<100	<100
		02/14/00	7.17	ND	ND	90.97	**94.1**	626	<5	55.2	775.3	**3,280**	NA	<5	<100	<100	<100
		05/18/00	6.82	ND	ND	91.32	<1	63.2	<5	<15	63	<5	NA	<5	<100	**1,170**	**1,470**
		08/14/00	8.60	ND	ND	89.54	<5	**1,400**	<25	<75	1,400	<25	NA	**<25**	**710**	<500	**<500**
		11/14/00	6.29	ND	ND	91.85	<5.0	**2,120**	<5.0	<10	2,120	<5.0	<2.0	<5.0	**1,020**	241	**235**
		05/18/01	4.22	ND	ND	93.92	<5.0	**3,560**	<25	<75	3,560	<25	NA	**<25**	**1,150**	<500	**<500**
		01/24/02	7.16	ND	ND	90.98	<5.0	819+	<5.0+	<10+	819+	<5.0+	NA	<5.0+	336+	<50+	<50-
		09/03/02	8.40	ND	ND	89.74	<2.0	**1,280**	<2.0	<4.0	1,280	<2.0	NA	<3.0	**453**	418	**962**
MW-7	98.64	03/25/98	7.84	ND	ND	90.80	<1	<1	3	17	20	15	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		11/30/98	8.73	ND	ND	89.91	<1	<1	<1	<3	ND	4	NA	NA	NA	NA	NA
		03/10/99	8.33	ND	ND	90.31	<1	<5	<5	<15	ND	45	NA	<5	<50	<50	77
		06/09/99	9.55	ND	ND	88.59	<1	<5	<5	<15	ND	68.5	NA	<5	<50	<50	<50
Screened Interval		09/10/99	9.87	ND	ND	88.77	<1	<5	<5	<15	ND	33	NA	<5	<100	<100	<100
4'-14'		12/09/99	8.18	ND	ND	90.46	<1	<5	<5	<15	ND	9	NA	<5	<100	<100	<100
		02/14/00	8.59	ND	ND	90.05	<1	<5	<5	<15	ND	33	NA	<5	<100	<100	<100
		05/18/00	8.49	ND	ND	90.15	<1	<5	<5	<15	ND	11.5	NA	**21.4**	<100	130	170
		08/14/00	9.37	ND	ND	89.27	<1	<5	<5	<15	ND	18.4	NA	<5	<100	<100	<100
		11/14/00	8.45	ND	ND	90.19	<5.0	<5.0	<5.0	<10	ND	13.5^	NA	<5.0	<50	<50	<50
		09/03/02	10.24	ND	ND	88.40	NS	NS	NS	NS	NS	6.0	NS	NS	NS	NS	NS

Table 1. Groundwater Analytical Data - VPH with Target Compounds and EDB (11/00 to 9/02)
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253 & RTN 2-13870
(February 1997 through September 2002)

Monitoring Well	Casing Elevation (Feet)	Sampling Date	Depth to Water (Feet)	Depth to Product (Feet)	Product Thickness (Feet)	Groundwater Elevation (Feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (ug/L)	EDB (ug/L)	Naph-thalene (ug/L)	C5 - C8 Aliphatics (µg/L)	C9 - C12 Aliphatics (µg/L)	C9 - C10 Aromatics (µg/L)
Groundwater Classification		MCP Method 1		GW-1 Groundwater Standard			5	1,000	700	10,000	NA	70	0.02	20	400	4,000	200
				GW-2 Groundwater Standard			2,000	6,000	30,000	6,000	NA	50,000	3	6,000	1,000	1,000	5,000
				GW-3 Groundwater Standard			7,000	50,000	4,000	50,000	NA	50,000	50,000	6,000	4,000	20,000	4,000
SSM-100	95.45	03/25/98	4.94	ND	ND	90.51	<1	8	<1	<3	8	6	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		03/10/99	5.47	ND	ND	89.98	**43.3**	<25	<25	<75	43.3	**3,670**	NA	**<25**	<250	<250	**280**
		06/09/99	6.8	ND	ND	88.65	**834**	**2,740**	680	4,700	8954	**43,800**	NA	**<250**	**<2500**	**3,700**	**4,000**
Screened Interval		09/10/99	7.01	ND	ND	88.44	**278**	412	222	1,555	2467	**1,080**	NA	**163**	**<500**	**2,280**	**4,580**
4'-14'		12/09/99	5.25	ND	ND	90.20	**25**	5.6	25.7	69.4	125.7	**498**	NA	12	160	520	**710**
		02/14/00	5.78	ND	ND	89.67	**195**	499	118	704	1516	**1360**	NA	**36**	**<500**	**1,120**	**2,740**
		05/18/00	5.61	ND	ND	89.84	<1	<5	<5	<15	ND	<5	NA	<5	<100	<100	<100
		08/14/00	6.57	ND	ND	88.88	**104**	170	100	490	864	**12,600**	NA	**<100**	**2,000**	**<2,000**	**<2,000**
		11/14/00	5.53	ND	ND	89.92	**28.9**	90.5	80.5	420	649.9	**990**	<2.0	**52.3**	<50	478	**1,520**
		05/18/01	6.36	ND	ND	89.09	**41.5**	95.4	60.4	176.9	374.2	**897**	NA	18.1	<100	600	**590**
		01/24/02	2.48	ND	ND	92.97	**48.7**	<5.0	55.8	35.8	140.3	**4,050**	NA	11.8	**<1,000**	<50	**417**
		09/03/02	7.38	ND	ND	88.07	<10	<10	<10	<20	ND	**2,730**	NA	<15	<250	<250	**271**
SSM-200	94.91	03/25/98	4.52	ND	ND	90.39	<1	<5	11	34	45	**410**	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		07/17/98	5.79	ND	ND	89.12	**5**	5	110	410	530	65	NA	NA	NA	NA	NA
		11/30/98	5.35	ND	ND	89.56	2	3	59	220	284	36	NA	NA	NA	NA	NA
Screened Interval		03/10/99	4.99	ND	ND	89.92	2	<5	78.9	283	362	57.1	NA	**81**	161	360	**2,350**
4.5'-14.5'		06/09/99	6.27	ND	ND	88.64	<1	<5	64.6	72.2	126.6	17.7	NA	**82**	**581**	**1,350**	**1,600**
		09/10/99	6.51	ND	ND	88.40	**8.6**	<5	90.4	57.1	156.1	**269**	NA	**50**	250	760	**1,510**
		12/09/99	4.76	ND	ND	90.15	**29**	6	110	21.4	166.4	**5,010**	NA	**36.5**	<100	980	**1,420**
		02/14/00	5.29	ND	ND	89.62	**19.7**	<25	204	492	715.7	**1,030**	NA	**93.0**	**<500**	**1,280**	**3,070**
		05/18/00	5.12	ND	ND	89.79	<1	<5	<5	<15	ND	**551**	NA	<5	<100	<100	<100
		08/14/00	6.09	ND	ND	88.82	**5.3**	<5	67.4	<15	72.7	**2,170**	NA	**48.7**	<100	540	**700**
		11/14/00	5.07	ND	ND	89.84	<5.0	<5.0	86.6	45.6	132.2	**544**	<2.0	**58.8**	102	307	**897**
		01/24/02	6.00	ND	ND	88.91	<5.0	<5.0	48.1	28.4	76.5	**157**	NA	**115**	275	271	**1,450**
		09/03/02	6.83	ND	ND	88.08	<2.0	<2.0	2.5	<4.0	2.5	4.2	NA	14.7	53.9	131	**355**
SSM-300	95.67	03/19/99	5.55	ND	ND	90.12	**12.7**	<5	<5	<15	12.7	**555**	NA	<5	<50	<50	**264**
(GW-1/GW-2/GW-3)		06/09/99	7	ND	ND	88.67	<1	<5	<5	<15	ND	24.6	NA	<5	<50	<50	<50
		09/10/99	7.27	ND	ND	88.40	<1	<5	<5	<15	ND	**77.3**	NA	<5	<100	<100	<100
Screened Interval		12/09/99	5.52	ND	ND	90.15	<1	<5	<5	<15	ND	17.5	NA	<5	<100	<100	<100
3'-13'		02/14/00	5.93	ND	ND	89.74	<1	<5	<5	<15	ND	21.1	NA	<5	<100	<100	<100
		05/18/00	5.83	ND	ND	89.84	<1	<5	<5	<15	ND	22.3	NA	15.1	<100	<100	130
		08/14/00	6.80	ND	ND	88.87	<1	<5	<5	<15	ND	8.1	NA	<5	<100	<100	<100
		11/14/00	5.83	ND	ND	89.84	<5.0	<5.0	<5.0	<10	ND	9.5	NA	<5.0	<50	<50	<50
		05/18/01	6.52	ND	ND	89.15	<1.0	<5.0	<5.0	<15	ND	13.7	NA	<5.0	<100	<100	<100
		09/03/02	7.59	ND	ND	88.08	NS	NS	NS	NS	NS	5.2	NS	NS	NS	NS	NS
SSM-400	91.87	02/03/97	3.45	ND	ND	88.42	**21**	0.4	0.3	0.3	22	**9,470**	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		06/09/97	3.27	ND	ND	88.60	**17**	<1	<1	<3	ND	**1,900**	NA	NA	NA	NA	NA
		10/29/97	3.89	ND	ND	87.98	**19**	<1	3.0	3.0	25	**3,000**	NA	NA	NA	NA	NA
Screened Interval		03/25/98	1.72	ND	ND	90.15	<1	<1	<1	<3	ND	27	NA	NA	NA	NA	NA
0'-8'		07/17/98	3.14	ND	ND	88.73	<1	<1	<1	<3	ND	**95**	NA	NA	NA	NA	NA
		11/30/98	2.41	ND	ND	89.46	**9**	<1	4	<3	13	**920**	NA	NA	NA	NA	NA
		03/19/99	1.95	ND	ND	89.92	<1	<5	<5	5.3	5.3	16.9	NA	<5	<50	<50	52
		06/09/99	3.59	ND	ND	88.28	<1	<5	<5	<15	ND	**127**	NA	<5	<50	<50	<50
		09/10/99	3.66	ND	ND	88.21	**95.2**	<5	5	<15	100.6	**26,500**	NA	<5	<100	160	**620**
		12/09/99	1.87	ND	ND	90.00	**193**	<25	<25	53	246	**25,600**	NA	**<25**	**<500**	<500	**<500**
		02/14/00	NG	NG	NG	NA	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS
		03/09/00	1.98	ND	ND	89.89	**19**	<5.0	<5.0	<15	19	**2,430**	NA	<5	<100	<100	100
		05/18/00	2.53	ND	ND	89.34	<1	<5	<5	<15	ND	<5	NA	<5	<100	<100	<100
		08/14/00	3.31	ND	ND	88.56	**22.5**	<5	8.3	<15	30.8	**1,060**	NA	<5	<100	<100	**830**
		11/14/00	2.30	ND	ND	89.57	**7**	<5.0	5.6	8.1	20.7	**3,480**	<2.0	<5.0	<50	78	**320**
		01/25/00	2.86	ND	ND	89.01	**53.4**	<25.0	35.9	114	203.3	**6,540**	NA	**<250**	<250	<250	**1,060**
		6/28/01*	2.74	ND	ND	89.13	<1.0	<1.0	<1.0	<1.0	ND	**165**	NA	NA	NA	NA	NA

Table 1. Groundwater Analytical Data - VPH with Target Compounds and EDB (11/00 to 9/02)
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253 & RTN 2-13870
(February 1997 through September 2002)

Monitoring Well	Casing Elevation (Feet)	Sampling Date	Depth to Water (Feet)	Depth to Product (Feet)	Product Thickness (Feet)	Groundwater Elevation (Feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (ug/L)	EDB (ug/L)	Naph-thalene (ug/L)	C5 - C8 Aliphatics (µg/L)	C9 - C12 Aliphatics (µg/L)	C9 - C10 Aromatics (µg/L)
Groundwater Classification		MCP Method 1		GW-1 Groundwater Standard			5	1,000	700	10,000	NA	70	0.02	20	400	4,000	200
				GW-2 Groundwater Standard			2,000	6,000	30,000	6,000	NA	50,000	3	6,000	1,000	1,000	5,000
				GW-3 Groundwater Standard			7,000	50,000	4,000	50,000	NA	50,000	50,000	6,000	4,000	20,000	4,000
SSM-500	92.07	03/25/98	1.96	ND	ND	90.11	<1	<1	<1	<3	ND	46	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		07/17/98	3.28	ND	ND	88.79	<1	<1	<1	<3	ND	64	NA	NA	NA	NA	NA
		11/30/98	2.61	ND	ND	89.46	<1	<1	<1	<3	ND	28	NA	NA	NA	NA	NA
Screened Interval		08/14/00	3.29	ND	ND	88.78	<1	<5	<5	<15	ND	6	NA	<5	<100	<100	<100
0'-9'		11/14/00	2.30	ND	ND	89.77	<5.0	<5.0	<5.0	<10	ND	<5.0	NA	<5.0	<50	<50	<50
		09/03/02	4.08	ND	ND	87.99	<2.0	<2.0	<2.0	<4.0	ND	**322**	NA	<3.0	<50	<50	<50
SSM-600	96.65	03/25/98	5.95	ND	ND	90.70	<1	<1	<1	<3	ND	<1	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		08/14/00	7.69	ND	ND	88.96	<1	<5	<5	<15	ND	<5	NA	<5	<100	<100	<100
		11/14/00	6.60	ND	ND	90.05	<5.0	<5.0	<5.0	<10	ND	<5.0	NA	<5.0	<50	<50	<50
Screened Interval		05/18/01	7.44	ND	ND	89.21	<1.0	<5.0	<5.0	<15	ND	<5.0	NA	<5.0	<100	<100	<100
3.5'-13.5'		01/24/02	7.56	ND	ND	89.09	<5.0	<5.0	<5.0	<10	ND	<5.0	NA	<5.0	<50	<50	<50
		09/03/02	8.47	ND	ND	88.18	<2.0	<2.0	<2.0	<4.0	ND	50.6	NA	<2.0	<50	<50	<50
SSM-700	96.68	08/14/00	7.67	ND	ND	89.01	<1	<5	<5	<15	ND	<5	NA	<5	<100	<100	<100
(GW-1/GW-2/GW-3)		11/14/00	6.59	ND	ND	90.09	<5.0	<5.0	<5.0	<10	ND	<5.0	NA	<5.0	<50	<50	<50
Screened Interval																	
3.5'-13.5'																	
SSM-800	97.88	08/14/00	8.28	ND	ND	89.60	<1	<5	<5	<15	ND	<5	NA	<5	<100	<100	<100
(GW-1/GW-2/GW-3)		11/14/00	7.40	ND	ND	90.48	<5.0	<5.0	<5.0	<10	ND	<5.0	NA	<5.0	<50	<50	<50
		09/03/02	9.21	ND	ND	88.67	<2.0	<2.0	<2.0	11.1	11.0	2.9	NA	13.3	<50	<50	53.1
Screened Interval																	
5'-15'																	
SSM-900	93.85	02/03/97	5.09	ND	ND	88.76	**18**	23	54	625	720	**8,030**	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		06/09/97	4.89	ND	ND	88.96	**20**	10	60	1,300	1,390	**4,100**	NA	NA	NA	NA	NA
		10/29/97	5.59	ND	ND	88.26	**15**	2	63	350	430	**1,300**	NA	NA	NA	NA	NA
Screened Interval		03/25/98	3.35	ND	ND	90.50	<1	4	10	110	124	40	NA	NA	NA	NA	NA
Not Available		07/17/98	4.65	ND	ND	89.20	**5**	2	81	440	528	**76**	NA	NA	NA	NA	NA
Bottom of Well		11/30/98	4.17	ND	ND	89.68	3	4	110	220	337	**87**	NA	NA	NA	NA	NA
at 20'		03/10/99	3.84	ND	ND	90.01	4.8	6.2	107	291	409	**145**	NA	**141**	167	**2,030**	**4,720**
		06/09/99	5.15	ND	ND	88.70	<1	5.2	109	140.9	255.1	17	NA	**130**	283	**2,230**	**2,630**
		09/10/99	5.30	ND	ND	88.55	**5**	<25	157	193	355	**245**	NA	**178**	**<500**	**1,900**	**6,020**
		12/09/99	3.58	ND	ND	90.27	**29**	6.1	82	69.2	186	**973**	NA	**66.4**	160	**2,110**	**2,830**
		02/14/00	4.10	ND	ND	89.75	**16**	<50	102	<100	118	**3,260**	NA	**127.0**	**<1000**	**1,100**	**5,000**
		05/18/00	4.71	ND	ND	89.14	<1	<5	<5	<15	ND	**658**	NA	<5	<100	<100	<100
		08/14/00	4.93	ND	ND	88.92	**17.7**	8.5	131	26	183.2	**1,480**	NA	**143**	**<500**	**1,570**	**3,050**
		11/14/00	3.92	ND	ND	89.93	**5.5**	<5.0	20.9	14.3	40.7	**662**	<2.0	10.4	<50	317	**1,290**
		05/18/01	4.72	ND	ND	89.13	1.4	<5.0	42.3	39.9	83.6	**323**	NA	**55.9**	<100	**1,190**	**1,480**
		01/24/02	4.78	ND	ND	89.07	<5.0	<5.0	19.3	<10	19.3	**156**	NA	**39.3**	200	167	**1,270**
		09/03/02	5.68	ND	ND	88.17	<2.0	<2.0	2.8	<4.0	2.8	2.7	NA	<3.0	<50	103	**216**

Table 1. Groundwater Analytical Data - VPH with Target Compounds and EDB (11/00 to 9/02)
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253 & RTN 2-13870
(February 1997 through September 2002)

Monitoring Well	Casing Elevation (Feet)	Sampling Date	Depth to Water (Feet)	Depth to Product (Feet)	Product Thickness (Feet)	Groundwater Elevation (Feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (ug/L)	EDB (ug/L)	Naph-thalene (ug/L)	C5 - C8 Aliphatics (µg/L)	C9 - C12 Aliphatics (µg/L)	C9 - C10 Aromatics (µg/L)
Groundwater Classification		MCP Method 1		GW-1 Groundwater Standard			5	1,000	700	10,000	NA	70	0.02	20	400	4,000	200
				GW-2 Groundwater Standard			2,000	6,000	30,000	6,000	NA	50,000	3	6,000	1,000	1,000	5,000
				GW-3 Groundwater Standard			7,000	50,000	4,000	50,000	NA	50,000	50,000	6,000	4,000	20,000	4,000
SSM-1000S	92.10	02/03/97	2.75	ND	ND	89.35	**31**	1.3	24	39	95.3	61	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		06/09/97	3.36	ND	ND	88.74	**42**	<1	23	11	76	**740**	NA	NA	NA	NA	NA
		10/29/97	4.03	ND	ND	88.07	**16**	<1	12	<3	28	**290**	NA	NA	NA	NA	NA
Screened Interval		03/25/98	3.85	ND	ND	88.25	**15**	<1	8	5	28	45	NA	NA	NA	NA	NA
Not Available		07/17/98	3.23	ND	ND	88.87	**14**	<1	8	<3	22	54	NA	NA	NA	NA	NA
Bottom of Well		11/30/98	2.58	ND	ND	89.52	3	<1	<1	<3	3	39	NA	NA	NA	NA	NA
at 9'		08/14/00	3.36	ND	ND	88.74	1.8	<5	<5	<15	1.8	55.3	NA	<5	<100	<100	<100
		11/14/00	2.55	ND	ND	89.55	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS
		01/25/00	3.02	ND	ND	89.08	<5.0	<5.0	<5.0	<5.0	ND	38	NA	<5.0	<50	<50	<50
		6/28/01*	2.98	ND	ND	89.12	<1.0	<1.0	<1.0	<1.0	ND	36.3	NA	NA	NA	NA	NA
		7/17/01*	3.36	ND	ND	88.74	<0.5	<1.0	<1.0	<1.0	ND	2.1	NA	NA	NA	NA	NA
		8/2/01*	2.94	ND	ND	89.16	0.52	<1.0	<1.0	<1.0	0.52	24.4	NA	NA	NA	NA	NA
		10/03/2001*	3.70	ND	ND	88.40	<1.0	<1.0	<1.0	1.5	1.5	**108**	NA	NA	NA	NA	NA
		01/24/02	3.15	ND	ND	88.95	<5.0	<5.0	<5.0	<5.0	ND	17.9	NA	<5.0	<50	<50	<50
		09/03/02	4.12	ND	ND	87.98	<2.0	<2.0	<2.0	<4.0	ND	5.1	NA	<2.0	<50	<50	<50
SSM-1000D	92.38	06/04/96	2.97	ND	ND	89.41	<0.2	<0.2	<0.2	<1.0	ND	5.9	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		08/14/00	3.46	ND	ND	88.92	<1	<5	<5	<15	ND	10.2	NA	<5	<100	<100	<100
		11/14/00	2.90	ND	ND	89.48	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS
Screened Interval		01/25/01	3.12	ND	ND	89.26	<5.0	<5.0	<5.0	<5.0	ND	7.7	NA	<5.0	<50	<50	<50
Not Available		01/24/02	5.43	ND	ND	86.95	<5.0	<5.0	<5.0	<5.0	ND	7.1	NA	<5.0	<50	<50	<50
Bottom of Well at 43'		09/03/02	4.43	ND	ND	87.95	<2.0	<2.0	<2.0	<4.0	ND	<2.0	NA	<2.0	<50	<50	<50
VRW-2	98.54	03/30/98	7.52	ND	ND	91.02	**8**	23	140	320	491	31	NA	NA	NA	NA	NA
(GW-1/GW-2/GW-3)		07/17/98	8.42	ND	ND	90.12	4	<5	50	120	174	36	NA	NA	NA	NA	NA
		11/30/98	8.31	ND	ND	90.23	<5	11	110	260	381	33	NA	NA	NA	NA	NA
Screened Interval		01/25/01	8.50	ND	ND	90.04	<5.0	5.4	48.2	216.7	270.3	**115**	NA	**81**	366	434	**1,070**
5'-15'		09/03/02	9.67	ND	ND	88.87	<2.0	<2.0	4.4	12.7	17.1	15.7	NA	11.4	113	93.6	**271**

Notes:
MTBE = Methyl Tertiary Butyl Ether
BTEX = Benzene, toluene, ethylbenzene, and xylenes
EDB = Ethylene Dibromide
µg/L = micrograms per liter (parts per billion)
ND = not detected.
NA = not applicable
NG = not gauged
NS = not sampled
NSD = no survey data

< = less than the laboratory reporting limit
^ = compound result generated by USEPA Method 8260 for VOCs.
* = On this date, samples were analyzed for BTEX and MTBE by USEPA Method 8021.
+ = Surrogate recovery data outside QC limits due to matrix problems in the sample extraction.
(J) = estimated value
BOLDED = Exceeds applicable MCP Method 1 Groundwater Standards.
(1) Pump and Treat System operated at the site from 2 recovery wells (RW-1 & RW-2) from 7/92 to 9/96.
(2) Soil Vapor Extraction (SVE) System operated at the site from 3 Vapor Recovery Wells (VRW-1, VRW-2, VRW-3) from 7/92 to 9/96.
(3) An upgraded Air Sparging (AS) and SVE system with 26 AS wells and 14 SVE wells has been operating at the site since March 26, 2002.

Table 2. Groundwater Analytical Data - PAHs, CVOCs, and EPH Fractions (11/00 to 9/02)
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253 & RTN 2-13870
(November 2000 To September 2002)

		PAHs																	CVOCs				EPH Fractions		
Well ID (GW Category)	Sampling Date	Acenaphthene (µg/L)	Acenaphthalene (µg/L)	Anthracene (µg/L)	Benzo(a)-anthracene (µg/L)	Benzo(a)-pyrene (µg/L)	Benzo(b)-fluoranthene (µg/L)	Benzo-(g,h,I)-perylene (µg/L)	Benzo(k)-fluoranthene (µg/L)	Chrysene (µg/L)	Dibenzo(a,h) anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno-(1,2,3-cd)-pyrene (µg/L)	2-Methyl-naphthalene (µg/L)	Naphthalene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)	Acetone (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (ug/L)	C9 - C18 Aliphatics (µg/L)	C19 - C36 Aliphatics (µg/L)	C11 - C22 Aromatics (µg/L)
GW-1 Standards		20	300	2,000	1	0.2	1	300	1	2	0.5	300	300	0.5	10	20	300	200	3,000	600	600	5	4,000	5,000	200
GW-2 Standards		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,000	6,000	NA	NA	50,000	10,000	10,000	30,000	1,000	NA	50,000
GW-3 Standards		5,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	200	3,000	3,000	3,000	6,000	50	3,000	50,000	8,000	8,000	8,000	20,000	20,000	30,000
GES-1	1/25/2001	NA	<5.2	NA	<5.2	<5.2	<5.2	<5.2	<5.2	NA	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	NA	NA	NA	NA	<100	<100	<100
(GW-1/GW-2/GW-3)	2/5/2001	<0.93	<0.19	<0.93	0.82	**0.78**	**2.0**	0.69	0.45	0.97	<0.14	4.3	<0.93	**0.54**	<0.93	<0.93	5.9	1.9	NA	NA	NA	NA	<94	<94	<94
	5/18/2001	<8.0	<8.0	0.6	**4.1**	**7.2**	**8.3**	5.3	**3.9**	**4.8**	**2.2**	11	<0.8	**7.4**	<10	<8.0	4.3	8.0	NA	NA	NA	NA	<300	1,000	**780**
	1/24/2002	<1.0	<0.2	<1.0	<0.15	**0.34**	0.25	0.19	<0.15	0.17	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	0.5	<1.0	NA	NA	NA	NA	<110	<110	165
	9/3/2002	<1.0	<0.2	<1.0	0.25	<0.15	<0.15	<0.15	<0.15	0.27	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.20	<1.0	NA	NA	NA	NA	<110	<110	<110
GES-2	11/14/2000	NA	0.42	NA	0.74	**1.4**	**1.1**	0.61	0.51	NA	**1.2**	8	1.1	**0.79**	**21.3**	6.5	16.2	3.7	10.1(a)	<2.0	<2.0	<2.0	**12,200**	1,280	**1,380**
(GW-1/GW-2/GW-3)	1/25/2001	NA	<5.2	NA	<5.2	<5.2	<5.2	<5.2	<5.2	NA	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	NA	NA	NA	NA	607	<100	182
	05/18/2001^	<4.0	<4.0	<0.2	0.9	**1.9**	**1.2**	1.2(J)	0.6	1.1(J)	**0.55(J)**	1.0	<0.9	**1.4**	<2.0	<4.0	<0.4	1.6(J)	NA	NA	NA	NA	930	270	150
	1/24/2002	<1.0	<0.22	<1.1	<0.16	**0.28**	<0.16	<0.16	<0.16	0.16	<0.16	<1.1	<1.1	<0.16	<1.1	<1.1	0.57	<1.1	NA	NA	NA	NA	177	<110	163
	9/3/2002	<1.0	<0.20	<1.0	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.20	<1.0	NA	NA	NA	NA	<110	<110	<110
GES-3	11/14/2000	NA	<0.2	NA	<0.15	<0.15	<0.15	<0.15	<0.15	NA	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.2	<1.0	NA	NA	NA	NA	<100	<100	<100
(GW-1/GW-2/GW-3)	1/25/2001	NA	<5.2	NA	<5.2	<5.2	<5.2	<5.2	<5.2	NA	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	NA	NA	NA	NA	<100	<100	<100
GES-4	1/25/2001	NA	<5.2	NA	<5.2	<5.2	<5.2	<5.2	<5.2	NA	<5.2	<5.2	<5.2	<5.2	**30.8**	5.7	<5.2	<5.2	NA	NA	NA	NA	504	<100	**338**
(GW-1/GW-2/GW-3)	05/18/2001^	<4	<4	0.46(J)	**2.2**	**2.7**	**2.9**	3.2	**1.5**	<2.0(J)	**1.0**	4.0	<0.8	**5.5**	3.7(J)	<4	1.3(J)	1.4(J)	NA	NA	NA	NA	**1,700**	<500	**<400**
	1/24/2002	<1.1	<0.22	<1.1	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<1.1	<1.1	<0.17	<1.1	<1.1	<0.22	<1.1	NA	NA	NA	NA	210	<110	147
	9/3/2002	<1.0	<0.20	<1.0	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.20	<1.0	NA	NA	NA	NA	<110	<110	<110
GES-5	1/25/2001	NA	<5.2	NA	<5.2	<5.2	<5.2	<5.2	<5.2	NA	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	NA	NA	NA	NA	<100	<100	107
(GW-1/GW-2/GW-3)	2/5/2001	<0.95	<0.19	<0.95	0.21	0.18	0.31	0.22	0.22	0.27	<0.14	<0.95	<0.95	0.19	<0.95	<0.95	1.4	<0.95	NA	NA	NA	NA	<100	<100	<100
	05/18/2001^	<4.0+	5.0(J)+	1.0+	**12+**	**21+**	**36+**	24+	**17+**	**18+**	**8.0+**	39+	1.3(J)	**30+**	7.5(J)+	<4.0+	17+	23+	NA	NA	NA	NA	<150	1,700	**1,000**
	1/24/2002	<1.1	<0.22	<1.1	0.41	**2.3**	**2.5**	1.8	0.59	0.81	<0.16	2.4	<1.1	<0.16	<1.1	<1.1	<0.22	1.4	NA	NA	NA	NA	<110	162	**237**
	9/3/2002	<1.1	<0.21	<1.1	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	1.7	<1.1	<0.16	<1.1	<1.1	0.45	1.4	NA	NA	NA	NA	<110	<110	142
MW-3	2/5/2001	<1.0	<0.20	<1.0	0.91	**3.2**	**4.6**	2.2	0.85	1.5	<0.15	3.6	<1.0	1.6	<1.0	<1.0	2.7	2.0	NA	NA	NA	NA	<97	118.0	177
(GW-1/GW-2/GW-3)	1/24/2002	<1.0	<0.21	<1.0	0.58	**1.8**	**1.7**	1.3	0.43	1.0	0.29	3.6	<1.0	**1.2**	<1.0	<1.0	1.2	1.3	NA	NA	NA	NA	266	193	**254**
	9/3/2002	<1.1	<0.21	<1.1	0.44	<0.16	<0.16	<0.16	<0.16	0.7	<0.16	1.1	<1.1	<0.16	<1.1	<1.1	0.24	<1.1	NA	NA	NA	NA	<100	<100	<100
MW-6R	2/5/2001	<0.94	<0.19	<0.94	0.20	**0.61**	**1.2**	0.25	<0.14	0.53	<0.14	<0.94	<0.94	0.21	<0.94	<0.94	1.9	<0.94	NA	NA	NA	NA	103	<94	157
(GW-1/GW-2/GW-3)	5/18/2001	<8.0	<8.0	1.1	**1.3**	**1.2**	**1.3**	0.82	0.8	1.5	**0.5**	4.5	<0.8	**1.1**	<10	<8.0	3	3.7	NA	NA	NA	NA	**1,200**	1,600	**11,000**
	1/24/2002	2.4+	0.65+	<1.1+	0.5+	**0.71+**	0.49+	0.38+	0.8+	0.85+	<0.16+	7.6+	<1.1+	0.39+	<1.1+	<1.1+	1.3+	1.5+	NA	NA	NA	NA	**1,040**	1,700	**3,450**
	9/3/2002	<1.0	<0.20	<1.0	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.20	1.8	NA	NA	NA	NA	724	531	**3,430**
MW-7	11/14/2000	NA	<0.2	NA	<0.15	<0.15	<0.15	<0.15	<0.15	NA	<0.15	<1.0	<1.0	0.49	<1.0	<1.0	<0.2	<1.0	<5.0	7.1	2.4	2.6	<100	<100	<100
(GW-1/GW-2/GW-3)	9/3/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	<2.0	<2.0	<2.0	NS	NS	NS
SSM-100	2/5/2001	<1.0	5.4	<1.0	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.0	5.1	<0.15	**27.6**	**75.5**	0.20	<1.0	NA	NA	NA	NA	<100	<100	146
(GW-1/GW-2/GW-3)	9/3/2002	<1.0	<0.20	<1.0	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.20	<1.0	NA	NA	NA	NA	<130	<130	171
SSM-300	11/14/2000	NA	<0.2	NA	<0.15	<0.15	<0.15	<0.15	<0.15	NA	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.2	<1.0	NA	NA	NA	NA	<100	<100	<100
(GW-1/GW-2/GW-3)	2/5/2001	<1.0	<0.2	<1.0	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.2	<1.0	NA	NA	NA	NA	<100	<100	<100
	9/3/2002	<1.0	<0.2	<1.0	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.2	<1.0	<5.0	<2.0	<2.0	<2.0	<110	<110	<110
SSM-600	2/5/2001	<1.0	<0.2	<1.0	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	<0.2	<1.0	NA	NA	NA	NA	<100	<100	<100
(GW-1/GW-2/GW-3)	9/3/2002	<1.1	<0.22	<1.1	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<1.1	<1.1	<0.17	<1.1	<1.1	<0.22	<1.1	NA	NA	NA	NA	<110	<110	<110
SSM-900	2/5/2001	**43.3**	<0.2	<1.0	0.28	<0.15	<0.15	<0.15	<0.15	0.42	<0.15	1.4	11.2	<0.15	**57.8**	**195**	<0.2	<1.0	NA	NA	NA	NA	136	<100	152
(GW-1/GW-2/GW-3)	5/18/2001	<8.0	32	0.3	<0.08	<0.08	0.14	<0.5	0.07	<0.3	<0.2	0.5	2.3	<0.3	**45**	**62**	0.97	<0.8	NA	NA	NA	NA	860	<250	<200
	9/3/2002	<1.0	<0.20	<1.0	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.0	<1.0	<0.15	<1.0	<1.0	0.43	<1.0	NA	NA	NA	NA	<110	<110	193

Notes:
PAHs = polynuclear aromatic hydrocarbons (by USEPA Method 8310 for lower GW-1 detection limits)
CVOCs = chlorinated volatile organic compounds
EPH = extractable petroleum hydrocarbons
µg/L = micrograms per liter
NA = not analyzed
< = less than the laboratory reporting limit.
^ = Interference from the sample matrix (high sediment content) elevated the laboratory reporting limits for the EPH fractions.
+ = Surrogate recovery data outside QC limits due to matrix problems in the sample extraction.
(J) = estimated value
(a) = Compound is a common laboratory contaminant.
Bold values indicate concentrations which exceed applicable MCP Method 1 Standards.
Italic/underline concentrations are laboratory reporting limit which are above applicable MCP groundwater standards.
Other compounds not listed on table from USEPA Method 8260 or 8310 analyses were not detected in the groundwater samples collected.

Table 3. Wetlands Surface Water Analytical Data (3/00 to 9/02)
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road
Acton, Massachusetts
MADEP Site No. 2-0253 & RTN 2-13870
March 2000 through September 2002

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (ug/L)	Naph-thalene (ug/L)	C5 - C8 Aliphatics (µg/L)	C9 - C12 Aliphatics (µg/L)	C9 - C10 Aromatics (µg/L)
Ambient Water Quality Criteria in µg/L:		700 (1)	5,000 (1)	430 (2)	NE	NA	7000 (3)	620 (4)	390 (5)	1800 (5)	430 (2)
WET-1/S-1	3/9/2000	<1.0	<5.0	<5.0	<15.0	ND	<5.0	<5.0	<100	<100	<100
	8/14/2000	<1.0	<5.0	<5.0	<15.0	ND	<5.0	<5.0	<100	<100	<100
	5/18/2001	<1.0	<5.0	<5.0	<15.0	ND	<5.0	<5.0	<100	<100	<100
	6/28/2001	<5.0	<5.0	<5.0	<10.0	ND	<5.0	<5.0	<50	<50	<50
	07/17/2001*	<0.5	<1.0	<1.0	<1.0	ND	1.0	NA	NA	NA	NA
	08/02/2001*	<0.5	<1.0	<1.0	<1.0	ND	<1.0	NA	NA	NA	NA
	10/03/2001*	<1.0	<1.0	<1.0	<1.0	ND	<1.0	NA	NA	NA	NA
	1/24/2002	<5.0	<5.0	<5.0	<10.0	ND	<5.0	<5.0	<50	<50	<50
WET-2/S-2	3/9/2000	<1.0	<5.0	<5.0	<15.0	ND	<5.0	<5.0	<100	<100	<100
	8/14/2000	<1.0	<5.0	<5.0	<15.0	ND	<5.0	<5.0	<100	<100	<100
	5/18/2001	<1.0	<5.0	<5.0	<15.0	ND	12.7	<5.0	<100	<100	<100
	6/28/2001	<5.0	<5.0	<5.0	<10.0	ND	8.3	<5.0	<50	<50	<50
	07/17/2001*	<0.5	<1.0	<1.0	<1.0	ND	1.1	NA	NA	NA	NA
	08/02/2001*	<0.5	<1.0	<1.0	<1.0	ND	<1.0	NA	NA	NA	NA
	10/03/2001*	<1.0	<1.0	<1.0	<1.0	ND	<1.0	NA	NA	NA	NA
	1/24/2002	<5.0	<5.0	<5.0	<10.0	ND	<5.0	<5.0	<50	<50	<50
WET-3	3/9/2000	<1.0	<5.0	<5.0	<15.0	ND	<5.0	<5.0	<100	<100	<100
	6/28/2001	<5.0	<5.0	<5.0	<10.0	ND	6.3	<5.0	<50	<50	<50
	07/17/2001*	<0.5	<1.0	<1.0	<1.0	ND	<1.0	NA	NA	NA	NA
	08/02/2001*	<0.5	<1.0	<1.0	<1.0	ND	<1.0	NA	NA	NA	NA
	10/03/2001*	<1.0	<1.0	<1.0	<1.0	ND	<1.0	NA	NA	NA	NA
	1/24/2002	<5.0	<5.0	<5.0	<10.0	ND	<5.0	<5.0	<50	<50	<50
WET-3A	8/14/2000	<1.0	<5.0	<5.0	<15.0	ND	<5.0	<5.0	<100	<100	<100
WET-4/S-3	-3/9/2000	<1.0	<5.0	<5.0	<15.0	ND	<5.0	<5.0	<100	<100	<100
	6/28/2001	<5.0	<5.0	<5.0	<10.0	ND	<5.0	<5.0	<50	<50	<50
	07/17/2001*	<0.5	<1.0	<1.0	<1.0	ND	<1.0	NA	NA	NA	NA
	1/24/2002	<5.0	<5.0	<5.0	<10.0	ND	<5.0	<5.0	<50	<50	<50
	9/3/2002	<2.0	<2.0	<2.0	<4.0	ND	<2.0	<3.0	<50	<50	<50

Notes:
Ambient Water Quality Criteria* - (AWQC) per 310 CMR 40.1516 and/or MADEP, 1994 Background Documentation for the Development of MCP Numerical Standards and/or MADEP Development of 1997 Draft of Implementation of EPH/VPH Approach.
(1) = Marine Chronic AWQS standard
(2) = Marine Acute AWQC standard
(3) = Derived by MADEP/ORS
(4) = Freshwater Chronic AWQC standard
(5) = Effects or Lethal Concentration for 50% of test population.
BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes
MTBE = Methyl Tertiary Butyl Ether
NE = Not Established
NA = Not Applicable
* = Sample analyzed for BTEX and MTBE only by USEPA Method 8021B.
WET-3A = Due to Nashoba Brook conditions, this new surface water sampling point was established. It is located between WET-3 and WET-4.
WET-4 = Could not be sampled on 8/2/01 and 10/3/01 due to Nashoba Brook water level conditions.
WET-1, WET-2 and WET-3 could not be sampled on 9/3/02 = each surface water sampling location was dry.

Table 4. Soil Vapor Screening Results (11/00 to 9/03)
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253 & RTN 2-13870
November 2000 to January 2003

		Monitoring Wells			Vapor Points			
Sample ID:		**SSM-100**	**SSM-600**	**SSM-900**	**VP-1**	**VP-2**	**VP-3A**	**VP-3B**
Screened Interval Depth (ft.):		4'-14'	4'-14'	unknown[1]	4'-5'	3.5'-4.5'	1'-4'	1'-4'
Surface Integrity:		unpaved	unpaved	paved[2]	paved[3]	paved[3]	paved[4]	paved[4]
Date	**Groundwater Depth (ft.)**	**Measured from top of casing**			**Measured from top of casing**			
	Time (min.)	**PID results in ppmv**			**PID results in ppmv**			
11/27/00	Depth (ft.)	5.79	6.87	4.17	NA	NA	NA	NA
	0 (initial)	1.6	NA	0.9	2.3	0.3	-	-
	Purge 3 Volumes	-	-	-	-	-	-	-
	11	0.2	NA	0.2	0.0	0.0	-	-
01/25/01	Depth (ft.)	5.79	6.87	4.17	NA	NA	NA	NA
	0 (initial)	0.0	0.0	NS	0.0	0.0	0.0	0.0
	Purge 3 Volumes	0.0	0.0	NS	0.0	0.0	0.0	0.0
	2	0.0	0.0	NS	0.0	0.0	0.0	0.0
	5	0.0	0.0	NS	0.0	0.0	0.0	0.0
	10	0.0	0.0	NS	0.0	0.0	0.0	0.0
	15	0.0	0.0	NS	0.0	0.0	0.0	0.0
05/18/01	Depth (ft.)	6.36	7.44	4.72	NA	NA	NA	NA
	0 (initial)	NA	NA	NA	4.2	7.2	3.4	5.4
	Purge 3 Volumes	NA	NA	NA	2.2	2.6	3.4	1.7
	10	NA	NA	NA	1.9	2.3	NA	1.7
06/28/01	Depth (ft.)	NA	NA	NA	NA	NA	NA	NA
	0 (initial)	NA	NA	NA	0.0	2.5	0.0	0.0
	Purge 3 Volumes	NA	NA	NA	NA	NA	NA	NA
	0	NA	NA	NA	0.0	1.9	0.0	0.0
	2	NA	NA	NA	0.0	0.0	0.0	0.0
	5	NA	NA	NA	0.0	0.0	0.0	0.0
	10	NA	NA	NA	0.0	0.0	0.0	0.0
	15	NA	NA	NA	0.0	0.0	0.0	0.0
	20	NA	NA	NA	0.0	0.0	0.0	0.0
	25	NA	NA	NA	0.0	0.0	0.0	0.0
	30	NA	NA	NA	0.0	0.0	0.0	0.0
01/24/02	Depth (ft.)	2.48	7.56	4.78	NA	NA	NA	NA
	0 (initial)	NA	NA	NA	0.0	7.6	0.0	0.0
	Purge 3 Volumes	NA	NA	NA	NA	NA	NA	NA
	0	NA	NA	NA	0.0	0.0	0.0	0.0
	2	NA	NA	NA	0.0	0.0	0.0	0.0
	5	NA	NA	NA	0.0	0.0	0.0	0.0
	10	NA	NA	NA	0.0	0.0	0.0	0.0
	15	NA	NA	NA	0.0	0.0	0.0	0.0

Table 4. Soil Vapor Screening Results (11/00 to 9/03)
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253 & RTN 2-13870
November 2000 to January 2003

		Monitoring Wells			Vapor Points			
Sample ID:		**SSM-100**	**SSM-600**	**SSM-900**	**VP-1**	**VP-2**	**VP-3A**	**VP-3B**
Screened Interval Depth (ft.):		4'-14'	4'-14'	unknown[1]	4'-5'	3.5'-4.5'	1'-4'	1'-4'
Surface Integrity:		unpaved	unpaved	paved[2]	paved[3]	paved[3]	paved[4]	paved[4]
Date	**Groundwater Depth (ft.)**	**Measured from top of casing**			**Measured from top of casing**			
	Time (min.)	**PID results in ppmv**			**PID results in ppmv**			
09/09/02	Depth (ft.)	2.48	7.56	4.78	NA	NA	NA	NA
	Initial	NA	NA	NA	11.9	20.0	40.0	14.0
	2	NA	NA	NA	10.0	10.5	23.0	45.0
	5	NA	NA	NA	11.2	40.0	30.0	19.0
	10	NA	NA	NA	11.5	32.0	30.0	14.0
	15	NA	NA	NA	15.2	12.0	30.0	9.5
	20	NA	NA	NA	6.1	29.0	15.0	9.8
	25	NA	NA	NA	5.8	8.0	15.0	9.8
	30	NA	NA	NA	6.2	10.0	15.0	4.0
	35	NA	NA	NA	-	10.0	15.0	6.4
	40	NA	NA	NA	-	10.0	13.0	6.8
	45	NA	NA	NA	-	10.0	9.4	6.5
	50	NA	NA	NA	-	-	9.5	-
	55	NA	NA	NA	-	-	9.5	-
	60	NA	NA	NA	-	-	9.5	-
01/09/03	0	NA	NA	NA	0.0	0.0	0.0	0.0
	2	NA	NA	NA	0.0	0.0	0.0	0.0
	5	NA	NA	NA	0.0	0.0	0.0	0.0
	10	NA	NA	NA	0.0	0.0	0.0	0.0
	15	NA	NA	NA	0.0	-	0.0	-
	20	NA	NA	NA	-	0.0	-	0.0
	25	NA	NA	NA	-	-	-	-
	30	NA	NA	NA	-	0.0	-	0.0

Notes:
1 = No well log for SSM-900 has been located. Field data indicates that SSM-900 is 20 feet deep.
2 = Completed in pavement of parking area for the Pillar House Condominium
3 = Completed in pavement but a grassy landscaped area exists between building and these vapor points.
4 = Completed in pavement but a sidewalk exists between building and these vapor points.
ppmv = parts per million per unit volume
NA = Not Applicable/Not Analyzed
- = Not Sampled
On May 15, 2001, a possible field equipment error (improper or no calibration) led GES to schedule another site visit (6/28/01).
PID readings taken from vapor points VP-1, VP-2, VP-3A and VP-3B on September 3, 2002, may represent equipment error or soil vapor rebound during air sparge system downtime.

Table 7. Post-Excavation Soil Analytical Data - Used Oil UST Removal
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
(November 27, 2001)

Parameters	Location ID:	B1	B2	WW	EW	SEW	SWW	NW	MCP Method 1 Soil Standards								
	Date:	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001									
	Classification:	S-2	S-2	S-2	S-2	S-2	S-2	S-2	S-1/ GW-1	S-1/ GW-2	S-1/ GW-3	S-2/ GW-1	S-2/ GW-2	S-2/ GW-3	S-3/ GW-1	S-3/ GW-2	S-3/ GW-3
	Depth (ft):	7	8	4-6	4-6	4-6	4-6	4-6									
	PID (ppmv):	4.7	0.0	0.0	0.0	0.0	0.0	0.0									
	Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VPH by MADEP VPH Methodology (mg/kg)																	
Benzene		<0.28	NS	NS	NS	NS	NS	NS	10	40	40	10	60	60	10	100	200
Toluene		<0.28	NS	NS	NS	NS	NS	NS	90	500	500	90	500	1,000	90	500	2,500
Ethylbenzene		<0.28	NS	NS	NS	NS	NS	NS	80	500	500	80	1,000	500	80	2,500	500
Xylenes		<0.56	NS	NS	NS	NS	NS	NS	500	500	500	800	500	2,500	800	500	2,500
MTBE		<0.28	NS	NS	NS	NS	NS	NS	0.3	100	100	0.3	200	200	0.3	200	200
Naphthalene		<0.28	NS	NS	NS	NS	NS	NS	4.0	100	100	4.0	1,000	1,000	4.0	1,000	1,000
C5-C8 Aliphatics		<5.6	NS	NS	NS	NS	NS	NS	100	100	100	500	500	500	500	500	500
C9-C12 Aliphatics		<5.6	NS	NS	NS	NS	NS	NS	1,000	1,000	1,000	2,500	2,500	2,500	5,000	5,000	5,000
C9-C10 Aromatics		<5.6	NS	NS	NS	NS	NS	NS	100	100	100	100	500	500	100	500	500
RCRA Metals by USEPA Method 6010B/7471A (mg/kg)																	
Arsenic		7.4	NS	NS	NS	NS	NS	NS	30	30	30	30	30	30	30	30	30
Barium		<13	NS	NS	NS	NS	NS	NS	1,000	1,000	1,000	2,500	2,500	2,500	5,000	5,000	5,000
Cadmium		<0.27	NS	NS	NS	NS	NS	NS	30	30	30	80	80	80	80	80	80
Chromium		7	NS	NS	NS	NS	NS	NS	1,000	1,000	1,000	2,500	2,500	2,500	5,000	5,000	5,000
Lead		2.9	NS	NS	NS	NS	NS	NS	300	300	300	600	600	600	600	600	600
Mercury		<0.028	NS	NS	NS	NS	NS	NS	20	20	20	60	60	60	60	60	60
Selenium		<0.67	NS	NS	NS	NS	NS	NS	400	400	400	2,500	2,500	2,500	2,500	2,500	2,500
Silver		<0.34	NS	NS	NS	NS	NS	NS	100	100	100	200	200	200	200	200	200
EPH by MADEP EPH Methodology (mg/kg)																	
C9-C18 Aliphatics		<6.3	<8.0	6.53	6.93	<6.4	8.82	<6.5	1,000	1,000	1,000	2,500	2,500	2,500	5,000	5,000	5,000
C19-C36 Aliphatics		<8.4	<11.0	16.0	26.4	20.3	73	29.8	2,500	2,500	2,500	5,000	5,000	5,000	5,000	5,000	5,000
C11-C22 Aromatics		<18.0	<23.0	<18.0	61.1	50.4	110	49.9	200	800	800	200	2,000	2,000	200	5,000	5,000
PAHs by MADEP EPH Methodolgy (mg/kg)																	
Acenaphthene		<0.53	<0.66	<0.52	<0.53	<0.54	<0.51	<0.54	20	1,000	1,000	20	2,500	2,500	20	5,000	4,000
Acenaphthylene		<0.53	<0.66	<0.52	<0.53	<0.54	<0.51	<0.54	100	100	100	100	2,500	1,000	100	2,500	1,000
Anthracene		<0.53	<0.66	<0.52	<0.53	<0.54	<0.51	<0.54	1,000	1,000	1,000	2,500	2,500	2,500	5,000	5,000	5,000
Benzo(a)anthracene		<0.53	<0.66	<0.52	**1.61**	**1.35**	**1.09**	**0.835**	0.7	0.7	0.7	1.0	1.0	1.0	4.0	4.0	4.0
Benzo(a)pyrene		<0.53	<0.66	<0.52	**1.88**	**1.7**	**1.24**	**0.906**	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Benzo(b)fluoranthene		<0.53	<0.66	<0.52	**1.63**	**1.33**	**1.07**	**0.815**	0.7	0.7	0.7	1.0	1.0	1.0	4.0	4.0	4.0
Benzo(g,h,i)perylene		<0.53	<0.66	<0.52	<0.53	<0.54	<0.51	<0.54	1,000	1,000	1,000	2,500	2,500	2,500	2,500	2,500	2,500
Benzo(k)fluoranthene		<0.53	<0.66	<0.52	1.72	1.41	1.1	0.856	7.0	7.0	7.0	10	10	10	40	40	40
Chrysene		<0.53	<0.66	<0.52	1.9	1.58	1.26	0.956	7.0	7.0	7.0	10	10	10	40	40	40
Dibenzo(a,h)anthracene		<0.53	<0.66	<0.52	<0.53	<0.54	<0.51	<0.54	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8
Fluoranthene		<0.53	<0.66	<0.52	2.87	2.15	2.07	1.39	1,000	1,000	1,000	2,000	2,000	1,000	2,000	5,000	1,000
Fluorene		<0.53	<0.66	<0.52	<0.53	<0.54	<0.51	<0.54	400	1,000	1,000	400	2,000	2,000	400	5,000	4,000
Indeno(1,2,3-cd)pyrene		<0.53	<0.66	<0.52	<0.53	<0.54	<0.51	<0.54	0.7	0.7	0.7	1.0	1.0	1.0	4.0	4.0	4.0
Naphthalene		<0.53	<0.66	<0.52	<0.53	<0.54	<0.51	<0.54	4.0	100	100	4.0	1,000	1,000	4.0	1,000	1,000
Phenanthrene		<0.53	<0.66	<0.52	1	0.55	0.879	0.644	700	1,000	100	700	2,500	100	700	2,500	100
Pyrene		<0.53	<0.66	<0.52	2.57	2.01	1.76	1.17	700	700	700	1,000	2,000	2,000	1,000	5,000	5,000
2-Methylnaphthalene		<0.53	<0.66	<0.52	<0.53	<0.54	<0.51	<0.54	4.0	500	500	4.0	1,000	1,000	4.0	2,000	1,000

TABLE 5: SOIL VAPOR EXTRACTION SYSTEM PERFORMANCE SUMMARY (3/02-1/03)
Mobil Service Station No. 10190 (01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253/RTN 2-13870

	March-02			April-02				May-02			June-02			
Date of Visit	03/26/02	03/28/02	03/29/02	04/05/02	04/12/02	04/19/02	04/22/02	05/10/02	05/16/02	05/21/02	06/05/02	06/07/02	06/10/02	06/25/02
SVE SYSTEM														
Interval (Days)	New Start Up	2	1	7	7	7	3	18	6	5	15	2	3	15
Days of Operation (1)	0	2	3	10	17	24	26	27	33	35	50	50	53	68
System Status (Up / Down / Off)														
On Arrival	O	U	U	U	U	U	D(4)	D(4)	U	D(4)	U	O(5)	U	U
On Departure	U	U	U	U	U	U	U	U	U	U	O(5)	U	U	U
Percent Downtime (Monthly) (2)		90.32%			26.67%				41.94%			6.67%		
Percent Uptime (Monthly) (2)		9.68%			73.33%				58.06%			93.33%		
Valve Position (0 to 1)														
Valve Position on Arrival														
SVE-1	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-2	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-3	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-7	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-8	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-9	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-10	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-11	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
Recirculation Loop	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
Dilution	NA	0.00	0.00	NM	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00
Valve Position on Departure														
SVE-1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	NA	NA
SVE-3	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-7	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	NA	NA
SVE-8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-9	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-11	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	NM	1.00	1.00	1.00	1.00	1.00
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
Recirculation Loop	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
Dilution	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00
Vacuum (inches of H_2O)														
Vacuum on Arrival														
SVE-1	NA	23.0	21.0	17.0	17.0	17.0	NA	NA	NM	NA	18.0	NA	17.0	20.0
SVE-2	NA	23.0	21.0	17.0	17.0	17.0	NA	NA	NM	NA	10.0	NA	17.0	19.0
SVE-3	NA	23.0	21.0	17.0	17.0	17.0	NA	NA	NM	NA	17.0	NA	17.0	20.0
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-7	NA	23.0	21.0	17.0	17.0	17.0	NA	NA	NM	NA	17.0	NA	17.0	NA
SVE-8	NA	23.0	22.0	17.0	17.0	17.0	NA	NA	NM	NA	17.0	NA	17.0	18.0
SVE-9	NA	23.0	21.0	17.0	17.0	17.0	NA	NA	NM	NA	18.0	NA	17.0	19.0
SVE-10	NA	23.0	22.0	17.0	17.0	17.0	NA	NA	NM	NA	18.0	NA	17.0	10.0
SVE-11	NA	23.0	21.0	17.0	17.0	17.0	NA	NA	NM	NA	17.0	NA	17.0	20.0
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
Combined Influent	NA	23.0	22.0	18.0	18.0	17.0	NA	NA	NM	NA	NM	NM	18.0	20.0
Vacuum on Departure														
SVE-1	17.0	23.0	17.0	17.0	17.0	17.0	NM	17.0	NM	17.0	NA	NM	17.0	NM
SVE-2	17.0	23.0	17.0	17.0	17.0	17.0	NM	17.0	NM	17.0	NA	NM	NA	NA
SVE-3	17.0	23.0	17.0	17.0	17.0	17.0	NM	17.0	NM	17.0	NA	NM	17.0	NM
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-7	17.0	23.0	17.0	17.0	17.0	17.0	NM	17.0	NM	17.0	NA	NM	NA	NA
SVE-8	17.0	23.0	17.0	17.0	17.0	17.0	NM	17.0	NM	17.0	NA	NM	17.0	NM
SVE-9	17.0	23.0	17.0	17.0	17.0	17.0	NM	17.0	NM	17.0	NA	NM	17.0	NM
SVE-10	17.0	23.0	17.0	17.0	17.0	17.0	NM	17.0	NM	17.0	NA	NM	17.0	NM
SVE-11	17.0	23.0	17.0	17.0	17.0	17.0	NM	17.0	NM	17.0	NA	NM	17.0	NM
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA
Combined Influent	19.0	23.0	18.0	18.0	20.0	17.0	NA	18.0	NM	18.0	NA	NA	18.0	NM

	July-02		August-02			September-02		October-02		November-02		December-02			January-03
Date of Visit	07/10/02	07/23/02	08/06/02	08/19/02	08/28/02	09/04/02	09/26/02	10/02/02	10/17/02	11/11/02	11/26/02	12/02/02	12/20/02	12/27/02	01/06/03
SVE SYSTEM															
Interval (Days)	15	13	14	13	9	7	22	6	15	25	15	6	18	7	10
Days of Operation (1)	83	96	110	123	123	130	152	158	173	198	213	219	236	241	251
System Status (Up / Down / Off)															
On Arrival	U(10)	U	U	U	D(3)	U	U	U	U	U	U	U	D(7)(8)	D	U
On Departure	U	U	U	D(5)	U	U	U	U	U	U	U	U	U	U	U
Percent Downtime (Monthly) (2)		0.00%		29.03%		0.00%		0.00%		0.00%			9.68%		
Percent Uptime (Monthly) (2)		100.00%		70.97%		100.00%		100.00%		100.00%			90.32%		
Valve Position (0 to 1)															
Valve Position on Arrival															
SVE-1	1.00	1.00	1.00	1.00	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.0	0.0	NA	1.0
SVE-2	0.00	0.00	0.00	0.00	NA	0.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	NA	1.0
SVE-3	1.00	1.00	1.00	1.00	NA	1.00	NA	NA	NA	NA	1.00	NA	0.0	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	1.00	1.0	0.0	NA	1.0
SVE-5 H	NA	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	1.00	1.0	1.0	NA	1.0
SVE-6 H	NA	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	1.00	NA	1.0	NA	1.0
SVE-7	0.00	1.00	0.00	NA	NA	NA	NA	NA	NA	NA	1.00	NA	NA	NA	NA
SVE-8	1.00	1.00	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVE-9	1.00	1.00	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVE-10	1.00	1.00	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVE-11	1.00	1.00	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	NA	1.0	1.0	NA	1.0
SVE-13	NA	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	NA	1.0	1.0	NA	1.0
SVE-14	NA	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	NA	1.0	1.0	NA	1.0
Recirculation Loop	0.375	0.375	0.375	0.375	NA	0.375	0.250	3/8	3/8	-3/8	1	NM	NM	NA	NA
Dilution	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00	1/8	1/8	0.0	NA	0.0
Valve Position on Departure															
SVE-1	1.00	1.00	1.00	NA	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.0	0.0	NA	1.0
SVE-2	0.00	0.00	0.00	NA	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	NA	1.0
SVE-3	1.00	1.00	1.00	NA	NA	NA	NA	NA	NA	NA	1.00	NA	0.0	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.0	0.0	NA	1.0
SVE-5 H	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	NA	1.0
SVE-6 H	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	1.00	1.00	NA	1.0	NA	1.0
SVE-7	0.00	1.00	0.00	NA	NA	NA	NA	NA	NA	NA	1.00	NA	NA	NA	NA
SVE-8	1.00	1.00	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVE-9	1.00	1.00	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVE-10	1.00	1.00	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVE-11	1.00	1.00	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	NA	1.0	1.0	NA	1.0
SVE-13	NA	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	NA	1.0	1.0	NA	1.0
SVE-14	NA	NA	NA	NA	NA	NA	1.00	1.00	1.00	1.00	NA	1.0	1.0	NA	1.0
Recirculation Loop	0.375	0.375	0.375	NA	NA	0.250	0.250	3/8	3/8	3/8	1	NM	NM	NA	NA
Dilution	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00	1/8	1/8	0.0	NA	0.0
Vacuum on Arrival															
SVE-1	17.0	61.0	17.0	13.0	NA	13.0	17.0	17.5	30.0	20.0	3.5	NA(13)	NA(13)	NA	17.0
SVE-2	NA	NA	NA	NA	NA	NA	17.0	17.5	20.0	15.0	12.0	NA(13)	NA(13)	NA	NA
SVE-3	17.0	40.3	17.0	13.0	NA	13.0	NA	NA	NA	NA	3.0	NA(13)	NA(13)	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	NA	17.0	17.5	30.0	20.0	12.0	NA(13)	NA(13)	NA	0.0
SVE-5 H	NA	NA	NA	NA	NA	NA	17.0	17.5	25.0	30.0	13.0	NA(13)	NA(12)	NA	18.0
SVE-6 H	NA	NA	NA	NA	NA	NA	17.0	17.5	22.0	20.0	4.0	NA(13)	NA(13)	NA	NA
SVE-7	17.0	23.0	17.0	13.0	NA	13.0	NA	NA	NA	NA	12.0	NA(13)	NA(13)	NA	NA
SVE-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0	NA(13)	NA(13)	NA	NA
SVE-9	17.0	NA	17.0	12.0	NA	13.0	NA	NA	NA	NA	NA	NA(13)	NA(13)	NA	NA
SVE-10	17.0	15.0	17.0	12.0	NA	13.0	NA	NA	NA	NA	NA	NA(13)	NA(13)	NA	NA
SVE-11	17.0	20.0	17.0	13.0	NA	13.0	NA	NA	NA	NA	NA	NA(13)	NA(13)	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	17.0	17.5	20.0	20.0	NA	NA(13)	NA(13)	NA	NA
SVE-13	NA	NA	NA	NA	NA	NA	17.0	17.5	30.0	30.0	NA	NA(13)	NA(13)	NA	NA
SVE-14	NA	NA	NA	NA	NA	NA	17.0	17.5	29.0	30.0	NA	NA(13)	NA(13)	NA	17.0
Combined Influent	20.0	10.0	20.0	8.0	NA	15.0	18.0	17.5	8.0	30.0	17.0	NA(13)	NA(13)	NA	17.0
Vacuum on Departure															
SVE-1	17.0	61.0	17.0	NA	NA	15.0	17.0	17.5	30.0	20.0	3.5	NA(13)	NA(13)	NA	17.0
SVE-2	NA	NA	NA	NA	NA	15.0	17.0	17.5	20.0	15.0	12.0	NA(13)	NA(13)	NA	NA
SVE-3	17.0	40.3	17.0	NA	NA	NA	NA	NA	NA	NA	3.0	NA(13)	NA(13)	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	15.0	17.0	17.5	30.0	20.0	12.0	NA(13)	NA(13)	NA	0.0
SVE-5 H	NA	NA	NA	NA	NA	15.0	17.00	17.5	25.0	30.0	13.0	NA(13)	NA(13)	NA	18.0
SVE-6 H	NA	NA	NA	NA	NA	15.0	17.00	17.5	22.0	20.0	4.0	NA(13)	NA(13)	NA	NA
SVE-7	17.0	23.0	NA	NA	NA	NA	NA	NA	NA	NA	12.0	NA(13)	NA(13)	NA	NA
SVE-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0	NA(13)	NA(13)	NA	NA
SVE-9	17.0	NA	17.0	NA	NA	NA	NA	NA	NA	NA	NA	NA(13)	NA(13)	NA	NA
SVE-10	17.0	15.0	17.0	NA	NA	NA	NA	NA	NA	NA	NA	NA(13)	NA(13)	NA	NA
SVE-11	17.0	20.0	17.0	NA	NA	NA	NA	NA	NA	NA	NA	NA(13)	NA(13)	NA	NA
SVE-12	NA	NA	NA	NA	NA	15.0	17.00	17.5	20.0	20.0	NA	NA(13)	NA(13)	NA	NA
SVE-13	NA	NA	NA	NA	NA	15.0	17.00	17.5	30.0	30.0	NA	NA(13)	NA(13)	NA	NA
SVE-14	NA	NA	NA	NA	NA	15.0	17.00	17.5	29.0	30.0	NA	NA(13)	NA(13)	NA	17.0
Combined Influent	20.0	10.0	20.0	NA	NA	17.0	18.0	17.5	8.0	30.0	17.0	NA(13)	NA(13)	NA	17.0

TABLE 5: SOIL VAPOR EXTRACTION SYSTEM PERFORMANCE SUMMARY (3/02-1/03)
Mobil Service Station No. 10190 (01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253/RTN 2-13870

	March-02			April-02				May-02			June-02				July-02		August-02			September-02		October-02		November-02		December-02			January-03
Date of Visit	03/26/02	03/28/02	03/29/02	04/05/02	04/12/02	04/19/02	04/22/02	05/10/02	05/16/02	05/21/02	06/05/02	06/07/02	06/10/02	06/25/02	07/10/02	07/23/02	08/06/02	08/19/02	08/28/02	09/04/02	09/26/02	10/02/02	10/17/02	11/11/02	11/26/02	12/02/02	12/20/02	12/27/02	01/06/03
SVE SYSTEM																													
Air Flow Rate (scfm)																													
Air Flow Rate on Arrival																													
SVE-1	NA	16.50	20.1	13.0	22.0	22.0	NA	NA	NM	NA	8.00	NA	13.60	26.40	48.20	61.0	55.5	13.0	NA	53.0	66.0	20.2	37.8	over	NA(11)	NA(12)	NA(12)	NA	4.0
SVE-2	NA	20.90	7.1	15.0	19.0	23.0	NA	NA	NM	NA	220.00	NA	15.00	NA	NA	NA	NA	NA	NA	NA	40.2	40.3	26.7	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-3	NA	6.80	6.8	17.0	10.0	12.0	NA	NA	NM	NA	5.50	NA	17.80	27.50	29.20	40.3	52.0	13.0	NA	51.0	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.00	39.80	69.00	over	NA(11)	NA(12)	NA(12)	NA	0.0
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52.00	5.10	65.00	65.00	NA(11)	NA(12)	NA(12)	NA	NA
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.70	26.20	21.80	over	NA(11)	NA(12)	NA(12)	NA	NA
SVE-7	NA	51.50	45.3	37.0	40.0	36.0	NA	NA	NM	NA	47.00	NA	42.20	NA	NA	57.5	NA	NA	NA	NA	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-8	NA	44.70	39.7	23.0	32.0	30.0	NA	NA	NM	NA	45.00	NA	37.50	32.40	42.50	133.0	2.0	22.8	NA	2.5	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-9	NA	over	39.7	20.0	13.0	29.0	NA	NA	NM	NA	over	NA	9.60	0.86	20.20	NA	7.1	27.0	NA	7.1	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-10	NA	26.10	18.3	16.0	16.0	15.0	NA	NA	NM	NA	18.00	NA	22.20	15.20	22.30	over	33.10	31.40	NA	31.00	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-11	NA	60.50	63.0	18.0	20.0	51.0	NA	NA	NM	NA	over	NA	69.00	55.50	60.00	over	82.0	10.8	NA	80.0	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.00	12.30	32.50	over	NA(11)	NA(12)	NA(12)	NA	NA
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	58.10	50.50	32.60	199.00	NA(11)	NA(12)	NA(12)	NA	NA
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	74.00	61.00	53.50	144.00	NA(11)	NA(12)	NA(12)	NA	67.0
Combined Influent	NA	116.50	249.0	170.0	188.0	210.0	NA	NA	NM	NA	NM	NM	200.00	188.00	242.00	92.00	197.00	119.00	NA	112.00	235.00	263.00	336.00	239.00	69.8	NA(12)	NA(12)	NA	84.0
Air Flow Rate on Departure																													
SVE-1	33.8	11.05	11.10	13.0	18.0	22.0	NM	34.1	NM	34.2	NA	NM	13.6	NM	48.20	61.0	55.5	NA	NA	67.0	66.0	20.2	37.8	over	NA(11)	NA(12)	NA(12)	NA	4.0
SVE-2	over	12.45	7.30	15.0	22.0	23.0	NM	over	NM	24.1	NA	NM	NA	NA	NA	NA	NA	NA	NA	42.0	40.2	40.3	26.7	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-3	13.6	2.5	2.6	17.0	7.0	12.0	NM	17.7	NM	18.1	NA	NM	17.9	NM	29.20	40.3	52.0	NA	NA	NA	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.00	33.00	39.80	69.00	over	NA(11)	NA(12)	NA(12)	NA	0.0
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52.00	52.00	5.10	65.00	65.00	NA(11)	NA(12)	NA(12)	NA	NA
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.50	36.70	26.20	21.80	over	NA(11)	NA(12)	NA(12)	NA	NA
SVE-7	23.1	53.5	46.5	37.0	46.0	36.0	NM	39.6	NM	34.5	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-8	38.3	42.7	35.3	23.0	28.0	33.0	NM	35.2	NM	33.3	NA	NM	38.1	NM	42.50	133.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-9	35.3	over	32.6	20.0	over	29.0	NM	24.9	NM	25.0	NA	NM	10.0	NM	20.20	NA	7.1	NA	NA	NA	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-10	17.3	22.1	17.0	16.0	18.0	15.0	NM	22.4	NM	23.1	NA	NM	22.5	NM	22.30	over	33.10	NA	NA	NA	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-11	27.0	66.5	67.0	18.0	over	52.0	NM	over	NM	50.0	NA	NM	69.0	NM	60.00	over	82.0	NA	NA	NA	NA	NA	NA	NA	NA(11)	NA(12)	NA(12)	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.60	11.00	12.30	32.50	over	NA(11)	NA(12)	NA(12)	NA	NA
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	60.00	58.10	50.50	32.60	199.00	NA(11)	NA(12)	NA(12)	NA	NA
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	74.00	74.00	61.00	53.50	144.00	NA(11)	NA(12)	NA(12)	NA	67.0
Combined Influent	123.5	123.5	236.0	170.0	215.0	211.0	NM	241.0	NM	242.0	NA	NA	200.0	NM	242.00	92.00	197.00	NA	NA	239.00	235.00	263.00	336.00	239.00	69.8	NA(12)	NA(12)	NA	84.0
PID (ppm$_v$)																													
PID on Arrival																													
SVE-1	NA	1.1	2.4	3.4	0.0	1.8	NA	NA	NM	NA	NA	NA	0.0	1.9	3.7	0.0	0.0	64.1	NA	0.0	0.0	0.1	0.0	NA	0.0	NA(12)	NA(12)	NA	0.0
SVE-2	NA	3.3	4.0	2.5	0.0	0.9	NA	NA	NM	NA	NA	NA	0.1	NA	NA	NA	NA	NA	NA	NA	1.4	0.2	0.0	NA	0.0	NA(12)	NA(12)	NA	NA(12)
SVE-3	NA	5.6	1.7	3.5	0.0	0.9	NA	NA	NM	NA	NA	NA	0.0	2.2	3.6	0.0	0.0	0.0	NA	0.0	NA	NA	NA	NA	0.0	NA(12)	NA(12)	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.2	0.0	0.0	0.0	NA(12)	NA(12)	NA	NA(12)
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.2	0.0	0.0	0.0	0.0	NA(12)	NA(12)	NA	NA(12)
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	0.2	0.0	0.0	0.0	NA(12)	NA(12)	NA	NA(12)
SVE-7	NA	2.2	9.0	3.1	0.0	0.0	NA	NA	NM	NA	NA	NA	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	NA(12)	NA(12)	NA	NA
SVE-8	NA	51.2	97.6	23.0	40.1	5.0	NA	NA	NM	NA	NA	NA	24.0	34.2	69.8	6.6	8.0	24.2	NA	27.0	NA	NA	NA	NA	0.0	NA(12)	NA(12)	NA	NA
SVE-9	NA	31.2	61.9	2.9	13.6	25.9	NA	NA	NM	NA	NA	NA	0.0	2.9	15.0	38.3	9.0	21.4	NA	3.1	NA	NA	NA	NA	NA	NA(12)	NA(12)	NA	NA
SVE-10	NA	16.3	6.7	2.6	1.0	1.5	NA	NA	NM	NA	NA	NA	0.00	3.40	3.50	NA	0.00	81.70	NA	0.0	NA	NA	NA	NA	NA	NA(12)	NA(12)	NA	NA
SVE-11	NA	2.3	3.3	5.5	0.0	0.6	NA	NA	NM	NA	NA	NA	0.0	3.5	7.3	23.0	0.0	24.6	NA	22.0	NA	NA	NA	NA	NA	NA(12)	NA(12)	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7	0.0	0.0	NA	NA	NA(12)	NA(12)	NA	NA(12)
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.3	0.0	0.0	NA	NA(12)	NA(12)	NA	NA(12)
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.2	0.4	0.0	0.0	NA	NA(12)	NA(12)	NA	0.0
Combined Influent	NA	19.5	64.3	35.0	31.2	28.9	NA	NA	NM	NA	26.0	9.8	5.1	12.9	45.5	158.0	0.0	197.0	NA	10.8	3.0	0.7	0.0	0.0	0.0	NA(12)	NA(12)	NA	0.0
Midpoint	NA	0.0	0.0	0.0	0.0	0.0	NA	NA	NM	NA	4.0	0.0	0.0	2.9	0.0	0.0	0.0	9.2	NA	0.0	0.0	0.0	0.0	0.0	0.0	NA(12)	NA(12)	NA	0.0
Effluent	NA	0.0	0.0	0.0	0.0	0.0	NA	NA	NM	NA	4.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	NA	0.0	0.0	0.0	0.0	0.0	0.0	NA(12)	NA(11)	NA	0.0
Total Destruction Efficiency Primary GAC	NA	100%	100%	100%	100%	100%	NA	NA	NM	NA	85%	100%	100%	78%	100%	100%	100%	95.3%	NA	100%	100%	100%	100%	100%	100%	NA(12)	NA(12)	NA	100.0
Total Destruction Efficiency	NA	100%	100%	100%	100%	100%	NA	NA	NM	NA	85%	100%	100%	100%	100%	100%	100%	96.3%	NA	100%	100%	100%	100%	100%	100%	NA(12)	NA(12)	NA	100.0
PID on Departure																													
SVE-1	5.9	9.1	25.7	4.4	0.0	1.8	NM	0.1	NM	0.0	NA	NM	0.0	NM	3.7	0.0	0.0	NA	NA	0.0	0.0	0.1	0.0	NA	0.0	NA(12)	NA(12)	NA	0.0
SVE-2	13.0	6.6	19.4	2.5	3.2	0.8	NM	0.0	NM	0.0	NA	NM	NA	NA	NA	NA	NA	NA	NA	0.0	1.4	0.2	0.0	NA	0.0	NA(12)	NA(12)	NA	NA(12)
SVE-3	5.1	3.2	4.7	4.1	0.0	0.9	NM	0.0	NM	0.0	NA	NM	0.0	NM	3.6	0.0	0.0	NA	NA	NA	NA	NA	NA	NA	0.0	NA(12)	NA(12)	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	0.00	0.2	0.0	0.0	0.0	NA(12)	NA(12)	NA	NA(12)
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	6.20	0.0	0.0	0.0	0.0	NA(12)	NA(12)	NA	NA(12)
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.00	1.50	0.2	0.0	0.0	0.0	NA(12)	NA(12)	NA	NA(12)
SVE-7	11.8	6.0	16.8	6.5	2.3	0.0	NM	0.0	NM	0.0	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	NA(12)	NA(12)	NA	NA
SVE-8	8.8	138.0	163.0	45.1	26.8	5.2	NM	64.1	NM	32.1	NA	NM	72.0	NM	69.8	6.6	8.0	NA	NA	NA	NA	NA	NA	NA	0.0	NA(12)	NA(12)	NA	NA
SVE-9	27.7	55.8	107.0	26.5	2.2	26.1	NM	2.7	NM	1.1	NA	NM	0.0	NM	15.0	38.3	9.0	NA	NA	NA	NA	NA	NA	NA	NA	NA(12)	NA(12)	NA	NA
SVE-10	3.7	21.4	20.0	7.2	1.1	1.4	NM	1.8	NM	1.1	NA	NM	0.0	NM	3.5	NA	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA(12)	NA(12)	NA	NA
SVE-11	11.7	4.0	8.0	5.5	0.0	0.7	NM	0.0	NM	0.0	NA	NM	0.0	NM	7.3	23.0	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA(12)	NA(12)	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	2.70	0.0	0.0	NA	NA	NA(12)	NA(12)	NA	NA(12)
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	0.00	0.3	0.0	0.0	NA	NA(12)	NA(12)	NA	NA(12)
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	1.20	0.4	0.0	0.0	NA	NA(12)	NA(12)	NA	0.0
Combined Influent	60.4	83.8	70.8	54.4	39.4	28.9	NM	32.3	NM	12.1	26.0	25.6	8.1	NM	45.5	158.0	0.0	NA	NA	1.4	3.0	0.7	0.0	0.0	0.0	NA(12)	NA(12)	0.0	0.0
Midpoint	0.0	0.0	0.0	0.0	0.0	0.0	NM	0.0	NM	0.0	4.0	0.0	0.0	NM	0.0	0.0	0.0	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	NA(12)	NA(12)	0.0	0.0
Effluent	0.0	0.0	0.0	0.0	0.0	0.0	NM	0.0	NM	0.0	4.0	0.0	0.0	NM	0.0	0.0	0.0	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	NA(12)	NA(11)	0.0	0.0
Total Destruction Efficiency Primary GAC	100%	100%	100%	100%	100%	100%	NM	100%	NM	100%	85%	100%	100%	NM	100%	100%	100%	NA	NA	100%	100%	100%	100%	100%	100%	NA(12)	NA(12)	100%	100%
Total Destruction Efficiency	100%	100%	100%	100%	100%	100%	NM	100%	NM	100%	85%	100%	100%	NM	100%	100%	100%	NA	NA	100%	100%	100%	100%	100%	100%	NA(12)	NA(12)	100%	100%

TABLE 5: SOIL VAPOR EXTRACTION SYSTEM PERFORMANCE SUMMARY (3/02-1/03)
Mobil Service Station No. 10190 (01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253/RTN 2-13870

	March-02			April-02				May-02			June-02				July-02		August-02			September-02		October-02		November-02		December-02			January-03
Date of Visit	03/26/02	03/28/02	03/29/02	04/05/02	04/12/02	04/19/02	04/22/02	05/10/02	05/16/02	05/21/02	06/05/02	06/07/02	06/10/02	06/25/02	07/10/02	07/23/02	08/06/02	08/19/02	08/28/02	09/04/02	09/26/02	10/02/02	10/17/02	11/11/02	11/26/02	12/02/02	12/20/02	12/27/02	01/06/03
SVE SYSTEM																													
Temperature (deg. F)																													
Temperature on Arrival	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	155	170	155	165	NA	145	145	150	140	145	130	NA [12]	NA [12]	NA	NM
Temperature on Departure	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	155	170	155	165	NA	145	145	150	140	145	130	NA [12]	NA [12]	NA	NM
METER																													
Electric (kW-h)	575.0	1,073.0	1,424.0	3,944.0	6,477.0	8,657.0	9,408.0	9,809.0	11,776.0	12,334.0	16,834.0	16,862.0	17,730.0	22,057.0	26,136.0	29,728.0	33,539.0	36,987.0	NA	37,967.0	44,130.0	45,317.0	47,522.0	51,247.0	53,409.0	52,520.0	54,885.0	NA	62,359.0
Hour Meter (Hr)	3.5	52.4	74.1	239.0	404.6	569.5	624.7	650.2	794.6	831.8	1,201.7	1,202.6	1,214.1	1,634.9	1,990.7	2,300.0	2,634.6	2,947.2	NA	3,116.2	3,640.5	3,788.8	4,148.2	4,749.4	5,108.2	5,252.0	5,651.0	NA	6,015.1
Time	14:05	15:00	13:30	12:30	13:15	10:10	NM	11:20	13:00	7:40	NM	12:45	12:25	13:17	11:30	9:45	11:35	12:10	NA	12:50	9:05	13:25	12:50	NM	NM	NM	NM	NA	NM
Mass Removal Rates																													
Mass Removal Rate (lbs/hr) [3]	0.10	0.14	0.23	0.13	0.12	0.09	NM	0.11	NM	0.04	NA	NA	0.02	0.03	0.15	0.20	0.0000	0.33	NA	0.02	0.01	0.00	0.00	0.00	0.00	NA [12]	NA [12]	NA	0.00
Mass Removal Rate (lbs/since last visit)	0.36	7.06	5.06	21.27	19.57	14.03	NM	8.76	NM	7.42	NA	NA	8.64	14.24	54.65	62.72	0.00	102.23	NA	2.85	5.16	0.38	0.00	0.00	0.00	NA [12]	NA [12]	NA	0.00
Cumulative Mass Removed (lbs)	0.36	7.42	12.48	33.76	53.32	67.35	NM	76.12	NM	83.53	NA	NA	92.17	106.41	161.06	223.78	223.78	326.01	NA	328.86	334.02	334.40	334.40	334.40	334.40	NA [12]	NA [12]	NA	334.40
Oxygen (%)																													
Oxygen on Arrival																													
SVE-1	NA	20.5%	20.6%	19.4%	19.2%	20.9%	NA	NA	NM	NA	NM	NM	20.9%	20.4%	20.4%	20.9%	20.4%	21.2%	NA	20.9%	20.0%	20.6%	20.8%	NA	NM	NA [12]	NA [12]	NA	20.8
SVE-2	NA	20.4%	20.7%	19.4%	19.2%	20.9%	NA	NA	NM	NA	NM	NM	20.8%	NA	NA	NA	NA	NA	NA	NA	19.6%	20.4%	20.8%	NA	NM	NA [12]	NA [12]	NA	NA [12]
SVE-3	NA	20.4%	20.6%	19.4%	19.2%	21.0%	NA	NA	NM	NA	NM	NM	20.9%	20.4%	20.5%	20.7%	20.4%	20.9%	NA	20.9%	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-4 [H]	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	20.0%	20.6%	20.8%	20.9%	NM	NA [12]	NA [12]	NA	NA [12]
SVE-5 [H]	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	19.9%	20.6%	20.8%	20.9%	NM	NA [12]	NA [12]	NA	NA [12]
SVE-6 [H]	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	19.9%	20.5%	20.8%	20.8%	NM	NA [12]	NA [12]	NA	NA [12]
SVE-7	NA	20.6%	20.6%	19.4%	19.2%	20.9%	NA	NA	NM	NA	NM	NM	20.8%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-8	NA	20.0%	20.4%	19.4%	19.0%	20.9%	NA	NA	NM	NA	NM	NM	20.9%	19.6%	19.0%	20.0%	20.5%	17.3%	NA	9.8%	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-9	NA	20.1%	20.4%	19.4%	19.0%	20.9%	NA	NA	NM	NA	NM	NM	20.4%	20.4%	19.5%	20.9%	20.5%	20.6%	NA	20.9%	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-10	NA	20.4%	20.6%	19.4%	19.2%	20.9%	NA	NA	NM	NA	NM	NM	20.9%	20.2%	20.4%	NA	20.5%	20.7%	NA	20.7%	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-11	NA	20.4%	20.6%	19.3%	19.2%	20.9%	NA	NA	NM	NA	NM	NM	20.8%	20.2%	20.2%	20.6%	20.5%	20.6%	NA	20.2%	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	20.0%	20.6%	20.8%	NA	NM	NA [12]	NA [12]	NA	NA [12]
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	20.0%	20.3%	20.8%	20.9%	NM	NA [12]	NA [12]	NA	NA [12]
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NM	NA	NA	NA	NA	NA	NA	NA	NA	20.0%	20.5%	20.8%	20.8%	NM	NA [12]	NA [12]	NA	20.8
Combined Influent	NA	20.3%	20.6%	19.1%	19.0%	20.9%	NA	NA	NM	NA	NM	NM	20.6%	20.0%	19.8%	20.4%	19.6%	19.0%	NA	19.9%	19.6%	20.4%	20.3%	20.9%	NM	NA [12]	NA [12]	NA	20.9
Effluent	NA	20.3%	20.5%	NM	19.0%	20.9%	NA	NA	NM	NA	NM	NM	NM	20.0%	20.1%	20.3%	19.9%	19.1%	NA	20.3%	19.4%	20.3%	20.7%	20.9%	NM	NA [12]	NA [12]	NA	20.9
Oxygen on Departure																													
SVE-1	20.1%	19.9%	20.2%	19.2%	19.9%	20.9%	NM	20.7%	NM	20.9%	NA	NM	20.9%	NM	20.4%	20.9%	20.4%	NA	NA	21.0%	20.0%	20.6%	20.8%	NA	NM	NA [12]	NA [12]	NA	20.8
SVE-2	19.4%	20.0%	20.5%	19.2%	21.0%	20.9%	NM	20.9%	NM	20.4%	NA	NM	NA	NA	NA	NA	NA	NA	NA	21.0%	19.6%	20.4%	20.8%	NA	NM	NA [12]	NA [12]	NA	NA [11]
SVE-3	20.0%	19.2%	20.6%	19.2%	21.0%	21.0%	NM	20.6%	NM	20.7%	NA	NM	20.9%	NM	20.5%	20.7%	20.4%	NA	NA	NA	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-4 [H]	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.00	20.0%	20.6%	20.8%	20.9%	NM	NA [12]	NA [12]	NA	NA [12]
SVE-5 [H]	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.90	19.9%	20.6%	20.8%	20.9%	NM	NA [12]	NA [12]	NA	NA [12]
SVE-6 [H]	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.90	19.9%	20.5%	20.8%	20.8%	NM	NA [12]	NA [12]	NA	NA [12]
SVE-7	18.0%	20.2%	20.8%	19.2%	21.0%	20.9%	NM	20.6%	NM	20.6%	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-8	9.8%	19.6%	20.3%	19.0%	20.7%	20.9%	NM	16.0%	NM	16.9%	NA	NM	20.5%	NM	19.0%	20.0%	20.5%	NA	NA	NA	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-9	20.1%	20.0%	20.4%	19.0%	20.9%	20.9%	NM	20.1%	NM	20.2%	NA	NM	20.9%	NM	19.5%	20.9%	20.5%	NA	NA	NA	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-10	15.9%	20.1%	20.8%	19.2%	21.0%	20.9%	NM	20.4%	NM	20.3%	NA	NM	20.8%	NM	20.4%	NA	20.5%	NA	NA	NA	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-11	11.0%	20.0%	20.7%	19.2%	21.0%	20.9%	NM	20.0%	NM	20.1%	NA	NM	20.6%	NM	20.2%	20.6%	20.5%	NA	NA	NA	NA	NA	NA	NA	NM	NA [12]	NA [12]	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.00	20.0%	20.6%	20.8%	NA	NM	NA [12]	NA [12]	NA	NA [11]
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.00	20.0%	20.3%	20.8%	20.9%	NM	NA [12]	NA [12]	NA	NA [12]
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.00	20.0%	20.5%	20.8%	20.8%	NM	NA [12]	NA [12]	NA	20.8
Combined Influent	15.6%	NM	20.5%	19.1%	20.7%	20.9%	NM	17.3%	NM	18.9%	NA	19.7%	20.6%	NM	19.8%	20.4%	19.6%	NA	NA	20.5%	19.6%	20.4%	20.3%	20.9%	NM	NA [12]	NA [12]	NA	20.9
Effluent	16.6%	NM	20.4%	NM	20.6%	20.9%	NM	17.5%	NM	19.1%	NA	19.9%	NM	NM	20.1%	20.3%	19.9%	NA	NA	20.5%	19.4%	20.3%	20.7%	20.9%	NM	NA [12]	NA [12]	NA	20.9

TABLE 5: SOIL VAPOR EXTRACTION SYSTEM PERFORMANCE SUMMARY (3/02-1/03)
Mobil Service Station No. 10190 (01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253/RTN 2-13870

	March-02			April-02				May-02			June-02				July-02		August-02			September-02		October-02		November-02		December-02			January-03
Date of Visit	03/26/02	03/28/02	03/29/02	04/05/02	04/12/02	04/19/02	04/22/02	05/10/02	05/16/02	05/21/02	06/05/02	06/07/02	06/10/02	06/25/02	07/10/02	07/23/02	08/06/02	08/19/02	08/28/02	09/04/02	09/26/02	10/02/02	10/17/02	11/11/02	11/26/02	12/02/02	12/20/02	12/27/02	01/06/03
SVE SYSTEM																													
Lower Explosive Limit (% LEL)																													
LEL on Arrival																													
SVE-1	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA	NM	NA	NM	NA	0.0%	0.0%	0.0%	0.00%	0.00%	1.00%	NA	0.00%	0.00%	0.00%	0.00%	NA	NM	NA (12)	NA (12)	NA	0.0
SVE-2	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA	NM	NA	NM	NA	0.0%	NA	0.0%	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	NA	NM	NA (12)	NA (11)	NA	NA (12)
SVE-3	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA	NM	NA	NM	NA	0.0%	0.0%	0.0%	1.00%	0.00%	0.00%	NA	0.00%	NA	NA	NA	NA	NM	NA (12)	NA (11)	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	NM	NA (12)	NA (12)	NA	NA (12)
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	NM	NA (12)	NA (12)	NA	NA (12)
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	NM	NA (12)	NA (12)	NA	NA (12)
SVE-7	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA	NM	NA	NM	NA	0.0%	NA	0.0%	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	NM	NA (12)	NA (12)	NA	NA (12)
SVE-8	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA	NM	NA	NM	NA	0.0%	0.0%	0.0%	3.00%	0.00%	3.00%	NA	6.00%	NA	NA	NA	NA	NM	NA (12)	NA (12)	NA	NA
SVE-9	NA	0.0%	0.0%	0.0%	0.0%	1.0%	NA	NA	NM	NA	NM	NA	0.0%	0.0%	0.0%	2.00%	0.00%	0.00%	NA	0.00%	NA	NA	NA	NA	NM	NA (12)	NA (12)	NA	NA
SVE-10	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA	NM	NA	NM	NA	0.0%	0.0%	0.0%	NA	0.00%	4.00%	NA	0.00%	NA	NA	NA	NA	NM	NA (12)	NA (12)	NA	NA
SVE-11	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NA	NA	NM	NA	NM	NA	0.0%	0.0%	0.0%	1.00%	0.00%	1.00%	NA	0.00%	NA	NA	NA	NA	NM	NA (12)	NA (12)	NA	NA
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	NA	NM	NA (12)	NA (12)	NA	NA
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NA	NA	NA	NA	NM	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	NM	NA (12)	NA (12)	NA	NA (12)
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NM	NA	NA	NA	NA	NM	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	NM	NA (12)	NA (12)	NA	NA (12)
Combined Influent	NA	0.0%	0.0%	0.0%	1.0%	1.0%	NA	NA	NM	NA	NM	NM	0.0%	0.0%	0.0%	1.0%	0.0%	2.0%	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NM	NA (12)	NA (12)	NA	0.0
Effluent	NA	0.0%	0.0%	NM	0.0%	0.0%	NA	NA	NM	NA	NM	NM	NM	0.0%	0.0%	0.0%	0.0%	1.0%	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NM	NA (12)	NA (12)	NA	0.0
LEL on Departure																													
SVE-1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NM	0.0%	NM	0.0%	NA	NM	0.0%	NM	0.0%	0.00%	0.00%	NA	NA	0.00%	0.00%	0.00%	0.00%	NA	NM	NA (12)	NA (12)	NA	0.0
SVE-2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NM	0.0%	NM	0.0%	NA	NM	NA	NA	0.0%	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	NA	NM	NA (12)	NA (12)	NA	NA (12)
SVE-3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NM	0.0%	NM	0.0%	NA	NM	0.0%	NM	0.0%	1.00%	0.00%	NA	NA	NA	NA	NA	NA	NA	NM	NA (11)	NA (11)	NA	NA
SVE-4 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NM	NM	NA	NA	0.00	0.00	0.00	0.00	0.00%	NM	NA (12)	NA (12)	NA	NA (11)
SVE-5 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NM	NM	NA	NA	0.00	0.00	0.00	0.00	0.00%	NM	NA (12)	NA (12)	NA	NA (11)
SVE-6 H	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NM	NM	NA	NA	0.00	0.00	0.00	0.00	0.00%	NM	NA (12)	NA (12)	NA	NA (12)
SVE-11	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NM	0.0%	NM	0.0%	NA	NM	0.0%	NM	0.0%	1.00%	0.00%	NA	NA	NA	NA	NA	NA	NA	NM	NA (12)	NA (12)	NA	NA
SVE-7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NM	0.0%	NM	0.0%	NA	NM	NA	NA	0.0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA (12)	NA (12)	NA	NA
SVE-8	35.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NM	10.0%	NM	5.0%	NA	NM	0.0%	NM	0.0%	3.00%	0.00%	NA	NA	NA	NA	NA	NA	NA	NM	NA (12)	NA (12)	NA	NA
SVE-9	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	NM	0.0%	NM	0.0%	NA	NM	0.0%	NM	0.0%	2.00%	0.00%	NA	NA	NA	NA	NA	NA	NA	NM	NA (12)	NA (12)	NA	NA
SVE-10	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NM	0.0%	NM	0.0%	NA	NM	0.0%	NM	0.0%	NA	0.00%	NA	NA	NA	NA	NA	NA	NA	NM	NA (12)	NA (12)	NA	NA
SVE-11	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NM	0.0%	NM	0.0%	NA	NM	0.0%	NM	0.0%	1.00%	0.00%	NA	NA	NA	0.00	0.00	0.00	NA	NM	NA (12)	NA (12)	NA	NA (12)
SVE-12	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NM	NM	NA	NA	0.00	0.00	0.00	0.00	NA	NM	NA (12)	NA (12)	NA	NA (12)
SVE-13	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NM	NM	NA	NA	0.00	0.00	0.00	0.00	0.00%	NM	NA (12)	NA (12)	NA	NA (12)
SVE-14	NA	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NA	NA	NA	NA	NM	NM	NA	NA	0.00	0.0%	0.0%	0.0%	0.0%	NM	NA (12)	NA (12)	NA	NA (12)
Combined Influent	7.0%	0.0%	0.0%	0.0%	1.0%	1.0%	NM	6.0%	NM	3.0%	NA	0.0%	0.0%	NM	0.0%	1.0%	0.0%	NA	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NM	NA (12)	NA (12)	NA	0.0
Effluent	3.0%	0.0%	0.0%	NM	0.0%	0.0%	NM	2.0%	NM	0.0%	NA	0.0%	0.0%	NM	0.0%	0.0%	0.0%	NA	NA	0.0%	0.0%	0.0%	0.0%	0.0%	NM	NA (12)	NA (12)	NA	0.0
MOTOR (amps)																													
SVE	NM	26.9	26.6/22.5	21	19.9	16.4	NA	16.8	NM	16.9	NM	NM	NM	14.7	15.2	15.3	15.1	14.7	NA	15	15	13.6	16.1	15.5	13	13	14	NA	12

Notes:
Valve Position : 0 = Closed, 1 = Opened
scfm = standard cubic feet per minute
PID = photoionization detector
ppm_v = parts per million by volume
lbs/hr = pounds per hour
lbs/day = pounds per day
lbs = pounds
U = Up
O = Off
D = Down
H=Horizontal Lateral Well

NA = Not Applicable
NM = Not Measured

(1) Days in operation = # of calendar days of continuous system operation (based on hour meter and 24 hour continuous operation).
(2) Percent Downtime = ((# of days system was down) / (# of days in the month)) x 100
Percent Uptime = ((# of days system was in operation) / (# of days in the month) x 100
(3) Total pounds removed per period = (# days in period) x (24 hr / 1 day) x Flow (cfm) x ((Influent VOC (ppm) - Effluent VOC (ppm)) x (95 g / mol) x (1.55 x 10^-7 (lb-mol-min/ppm-hr-ft3-g))
(4) System down due to high level alarm in Moisture Separator.
(5) System shut down due to carbon break-through.
(6) System down due to apparent power outage.
(7) System down due to low pressure switch.
(8) System down due to mechanical failure.
(9) System down due to electrical failure.
(10) System shut down temporarily to allow for vapor phase carbon changeout. System restarted later the same day.
(11) Not able to obtain readings due to moisture in lines
(12) Not able to obtain readings due to lines being full of ice

TABLE 6: AIR SPARGE SYSTEM PERFORMANCE SUMMARY (3/02-1/03)
Mobil Service Station No. 10190 (01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253/RTN 2-13870

	March 02		April-02				May-02			June-02				July-02		August-02			September-02		October-02		November-02		December-02			January-03
Date of Visit	03/28/02	03/29/02	04/05/02	04/12/02	04/19/02	04/22/02	05/10/02	05/16/02	05/21/02	06/05/02	06/07/02	06/10/02	06/25/02	07/10/02	07/23/02	08/06/02	08/19/02	08/28/02	09/04/02	09/26/02	10/02/02	10/17/02	11/11/02	11/26/02	12/02/02	12/20/02	12/27/02	01/06/03
AIR SPARGE SYSTEM																												
Interval (Days)	Startup	1	7	7	7	3	18	6	5	15	2	3	15	15	13	14	13	9	7	22	6	15	25	15	6	18	7	10
Days of Operation [1]	0	1	8	15	22	24	25	31	33	48	48	51	66	81	94	108	121	130	130	152	158	158	158	158	164	182	182	182
System Status (Up / Down / Off)																												
On Arrival	O	U	U	U	U	D[4]	D[4]	U	D[4]	U	O[10]	U	U	U[11]	U	U	U	D[5]	D[8]	U	U	D[8]	D[8]	D[8]	U	D[13]	O[13]	O[13]
On Departure	U	U	U	U	U	U	U	U	U	O[10]	U	U	U	U	U	U	D[1]	D[8]	U	U	D[8]	D[8]	D[8]	U	U	O[13]	O[13]	U
Percent Downtime (Monthly) [2]	90.32%		26.67%				38.71%			6.67%				0.00%		38.71%			13.33%		93.55%		86.67%		93.55%			
Percent Uptime (Monthly) [2]	9.68%		73.33%				61.29%			93.33%				100.00%		61.29%			86.67%		6.45%		13.33%		6.45%			
Temperature (deg. F)																												
Temperature on Arrival	NA	127	NM	NM	NM	NM	NM	NM	NM	150	NM	140	145	145	145	155	165	NA	NM	90	NM	NM	NM	NM	NM	NM	NM	NM
Temperature on Departure	120	140	NM	NM	NM	NM	NM	NM	130	NM	NM	NM	NM	NM	NM	NM	NM	NA	140	NM	NM	NM	NM	110	NM	NM	NM	NM
Air Flow Rate (cfm)																												
Air Flow Rate on Arrival																												
AS-1	NA	0.0	5.0	5.0	5.0	NA	NA	NM	NA	4	NM	5	4.5	4	0	1	0	NA	NA	NA	NA	NA	NA	NA	0	0[13]	NA	NA
AS-2	NA	5.0	5.0	5.0	5.0	NA	NA	NM	NA	4	NM	5	4	5	4	3	3	NA	NA	3	NA	NA	NA	NA	3	3	NA	NA
AS-3	NA	4.8	5.0	5.0	5.0	NA	NA	NM	NA	4	NM	5	0	0	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	1	5	NA	NA
AS-4	NA	4.5	5.0	5.0	5.0	NA	NA	NM	NA	4	NM	5	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	4	NA	NA
AS-5	NA	5.5	5.0	5.0	5.0	NA	NA	NM	NA	4	NM	5	5	5	3	3	3.5	NA	NA	3	NA	NA	NA	NA	3	3	NA	NA
AS-6	NA	5.0	5.0	5.0	5.0	NA	NA	NM	NA	4	NM	5	5	5	4	3	4	NA	NA	1	NA	NA	NA	NA	3	3	NA	NA
AS-7	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	1	NA	NA	NA	NA	7	4	NA	NA
AS-8	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1	1	NA	NA
AS-9	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0[13]	NA	NA
AS-10	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	2	NA	NA	NA	NA	0	1	NA	NA
AS-11	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	1	NA	NA	NA	NA	3	2	NA	NA
AS-12	NA	4.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA[13]	NA	NA
AS-13	NA	3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	NA[13]	NA	NA
AS-14	NA	4.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA[13]	NA	NA
AS-15	NA	6.0	5.0	5.0	5.0	NA	NA	NM	NA	4	NM	5	4.5	5	4	3	4	NA	NA	NA	NA	NA	NA	NA	0	NA[13]	NA	NA
AS-16	NA	5.0	5.0	5.0	5.0	NA	NA	NM	NA	5	NM	5	4.5	4.5	5	3	2-8	NA	NA	NA	NA	NA	NA	NA	0	NA[13]	NA	NA
AS-17	NA	6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-18	NA	5.5	5.0	5.0	5.0	NA	NA	NM	NA	5	NM	5	4	4.5	4	3	2-8	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-19	NA	4.0	5.0	5.0	5.0	NA	NA	NM	NA	4.5	NM	5	4.5	4	3	3	2-8	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-20	NA	3.5	5.0	5.0	5.0	NA	NA	NM	NA	4.5	NM	5	8	5	4	3	2-11	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-21	NA	3.5	5.0	5.0	5.0	NA	NA	NM	NA	0	NM	5	4.5	4.5	5	3	2-11	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-22	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	1	NA	NA	NA	NA	NA	1	NA	NA
AS-23	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1	NA	NA
AS-24	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	NA	NA
AS-25	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	1	NA	NA	NA	NA	NA	1	NA	NA
AS-26	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	1	NA	NA
Air Flow Rate on Departure																												
AS-1	1.5	0.0	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	5	NM	4	0	1	0	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	1
AS-2	5.5	5.0	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	5	NM	5	4	3	3	NA	5	3	NA	NA	NA	4	3	NA	NA	2.5
AS-3	5.5	4.8	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	0	NM	0	NA	NA	NA	NA	5	5	NA	NA	NA	1.5	1	NA	NA	3
AS-4	5.0	4.5	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	0	NM	0	NA	NA	NA	NA	5	NA	NA	NA	NA	4	4	NA	NA	2.5
AS-5	6.0	5.5	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	5	NM	5	3	3	3.5	NA	5	3	NA	NA	NA	4	3	NA	NA	2.5
AS-6	4.0	5.0	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	5	NM	5	4	3	4	NA	3	1	NA	NA	NA	4	3	NA	NA	1
AS-7	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	5	1	NA	NA	NA	3	7	NA	NA	3
AS-8	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	1	NA	NA	0
AS-9	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	2
AS-10	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	3	2	NA	NA	NA	NA	0	NA	NA	1
AS-11	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	1.5	1	NA	NA	NA	4	3	NA	NA	NA
AS-12	4.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	3	NA	NA	NA
AS-13	3.0	3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	2	NA	NA	NA
AS-14	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	NA
AS-15	6.0	6.0	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	5	NM	5	4	3	4	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	NA
AS-16	5.0	5.0	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	5	NM	4.5	5	3	2-8	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	NA
AS-17	6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-18	6.0	5.5	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	5	NM	4.5	4	3	2-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-19	3.5	4.0	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	5	NM	4	3	3	2-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-20	3.0	3.5	5.0	5.0	5.0	NM	5.0	NM	5.0	NA	NM	5	NM	5	4	3	2-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-21	2.5	3.5	5.0	5.0	5.0	NM	4.0	NM	5.0	NA	NM	5	NM	4.5	5	3	2-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-22	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	1	1	NA	NA	NA	NA	NA	NA	NA	1
AS-23	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5
AS-24	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3
AS-25	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	1	1	NA	NA	NA	NA	NA	NA	NA	1
AS-26	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	1	3	NA	NA	NA	NA	NA	NA	NA	1

TABLE 6: AIR SPARGE SYSTEM PERFORMANCE SUMMARY (3/02-1/03)
Mobil Service Station No. 10190 (01-PPO)
44 Great Road, Acton, Massachusetts
MADEP Site No. 2-0253/RTN 2-13870

	March 02		April-02				May-02			June-02				July-02		August-02			September-02		October-02		November-02		December-02			January-03
Date of Visit	03/28/02	03/29/02	04/05/02	04/12/02	04/19/02	04/22/02	05/10/02	05/16/02	05/21/02	06/05/02	06/07/02	06/10/02	06/25/02	07/10/02	07/23/02	08/06/02	08/19/02	08/28/02	09/04/02	09/26/02	10/02/02	10/17/02	11/11/02	11/26/02	12/02/02	12/20/02	12/27/02	01/06/03
Pressure (psi)																												
Pressure on Arrival																												
AS-1	NA	5.25	6.0	5.0	4.0	NA	NA	NM	NA	4	NM	3	4	4	3	1.5	3	NA	NA	NA	NA	NA	NA	NA	0	3	NA	NA
AS-2	NA	4.0	5.0	3.5	3.5	NA	NA	NM	NA	3	NM	3	3	3	2	1	2	NA	NA	2	NA	NA	NA	NA	3	3	NA	NA
AS-3	NA	4.0	4.0	3.5	4.0	NA	NA	NM	NA	3	NM	3	0	0	NA	NA	NA	NA	NA	2	NA	NA	NA	NA	3.5	3	NA	NA
AS-4	NA	4.0	4.0	3.0	3.5	NA	NA	NM	NA	3	NM	3	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5	3	NA	NA
AS-5	NA	4.25	5.0	4.0	4.0	NA	NA	NM	NA	3	NM	5	3	3	2.5	1.5	2.5	NA	NA	2	NA	NA	NA	NA	3.5	3	NA	NA
AS-6	NA	4.75	5.0	4.0	4.0	NA	NA	NM	NA	4	NM	3	3	3.5	2.5	2	2.5	NA	NA	2	NA	NA	NA	NA	3	3	NA	NA
AS-7	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	3	3	NA	NA
AS-8	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	3	NA	NA
AS-9	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	0[13]	NA	NA
AS-10	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	2	NA	NA	NA	NA	4	3	NA	NA
AS-11	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	2	NA	NA	NA	NA	3	3	NA	NA
AS-12	NA	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5	NA[13]	NA	NA
AS-13	NA	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5	NA[13]	NA	NA
AS-14	NA	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA[13]	NA	NA
AS-15	NA	4.5	5.0	4.0	3.5	NA	NA	NM	NA	3	NM	3	3	3	2	1.5	2	NA	NA	NA	NA	NA	NA	NA	0	NA[13]	NA	NA
AS-16	NA	4.5	5.0	4.0	4.0	NA	NA	NM	NA	4	NM	4	3	4	3	2	3	NA	NA	NA	NA	NA	NA	NA	0	NA[13]	NA	NA
AS-17	NA	3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-18	NA	4.25	5.0	4.0	4.0	NA	NA	NM	NA	NM	NM	5	3	4	3	1.5	3	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-19	NA	5.0	5.0	4.0	4.0	NA	NA	NM	NA	4	NM	5	3.5	4	3	2	3	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-20	NA	4.25	5.0	4.0	4.0	NA	NA	NM	NA	4	NM	4	3.5	4	3	1.5	3	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-21	NA	5.0	5.0	4.0	4.0	NA	NA	NM	NA	4	NM	3	3	4	3	2	3	NA	NA	NA	NA	NA	NA	NA	NA	NA[13]	NA	NA
AS-22	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	3.5	NA	NA
AS-23	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5	NA	NA
AS-24	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA
AS-25	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	3	NA	NA
AS-26	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	NM	NA	NA
Total Pressure	NA	8.0	NM	11.5	12.0	NA	NA	NM	NA	10	NM	10	9	6.5	4.5	4	5	NA	NA	4	NA	NA	NA	NA	NA	NM	NA	NA
Pressure on Departure																												
AS-1	6.0	6.0	6.0	5.0	4.0	NM	4.0	NM	3.0	NA	NM	3	NM	4	3	1.5	3	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	3
AS-2	4.5	4.0	5.0	3.5	3.5	NM	3.0	NM	3.0	NA	NM	3	NM	3	2	1	2	NA	2	2	NA	NA	NA	3.8	3	NA	NA	3.5
AS-3	4.0	4.0	4.0	3.5	4.0	NM	3.0	NM	3.0	NA	NM	0	NM	0	NA	NA	NA	NA	2	2	NA	NA	NA	4	3.5	NA	NA	3
AS-4	4.0	4.8	4.0	3.0	3.5	NM	3.0	NM	3.0	NA	NM	0	NM	0	NA	NA	NA	NA	2	2	NA	NA	NA	4	3.5	NA	NA	3.5
AS-5	5.0	4.0	5.0	4.0	4.0	NM	3.0	NM	5.0	NA	NM	5	NM	3	2.5	1.5	2.5	NA	3	2	NA	NA	NA	4.8	3.5	NA	NA	3.5
AS-6	5.5	9.0	5.0	4.0	4.0	NM	4.0	NM	3.0	NA	NM	3	NM	3.5	2.5	2	2.5	NA	2	2	NA	NA	NA	3.5	3	NA	NA	3
AS-7	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	3	3	NA	NA	NA	4.8	3	NA	NA	3
AS-8	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.5	0	NA	NA	3
AS-9	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	3.5
AS-10	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	3	2	NA	NA	NA	NA	4	NA	NA	3.5
AS-11	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	3	2	NA	NA	NA	3.2	3	NA	NA	NA
AS-12	5.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	3.5	NA	NA	NA
AS-13	5.5	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	3.5	NA	NA	NA
AS-14	5.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	NA
AS-15	5.0	4.0	5.0	4.0	3.5	NM	4.0	NM	3.0	NA	NM	3	NM	3	2	1.5	2	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	NA
AS-16	5.0	5.0	5.0	4.0	4.0	NM	5.0	NM	4.0	NA	NM	4	NM	4	3	2	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-17	3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-18	5.0	5.5	5.0	4.0	4.0	NM	5.0	NM	5.0	NA	NM	5	NM	4	3	1.5	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-19	6.0	5.3	5.0	4.0	4.0	NM	5.0	NM	5.0	NA	NM	5	NM	4	3	2	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-20	6.0	5.5	5.0	4.0	4.0	NM	5.0	NM	4.0	NA	NM	4	NM	4	3	1.5	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AS-21	5.5	6.0	5.0	4.0	4.0	NM	4.0	NM	3.0	NA	NM	3	NM	4	3	2	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5
AS-22	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	3	3	NA	NA	NA	NA	NA	NA	NA	3
AS-23	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3
AS-24	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	2	3	NA	NA	NA	NA	NA	NA	NA	3
AS-25	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	2	3	NA	NA	NA	NA	NA	NA	NA	3
AS-26	NA	NA	NA	NA	NA	NA	NA	NM	NA	NA	NM	NA	NA	NA	NA	NA	NA	NA	2	3	NA	NA	NA	6	NA	NA	NA	5
Total Pressure	8.0	11.0	NM	12.0	12.0	NM	9.5	NM	11.0	NA	NM	10.0	10.0	6.5	4.5	4	5	NA	4	4	NA	NA	NA	6	NA	NA	NA	5
MOTOR (amps)																												
Air Sparge	20.8	26.6/22.5	23.9	21.7	23	NM	22.8	NM	22.7	NM	NM	NM	NM	18.3	18.2	17	17.1	NA	17	17	8.3	NM	NM	20	18	19	NA	18
METER (Hr)																												
Hour meter	4.5	25.9	190.6	356.4	521	576.2	601.6	746	783.1	1,153.0	1,153.8	1,225.3	1,585.9	1,941.4	2,250.8	2,585.3	2,897.8	NA	2,900.6	3,420.7	3,572.8	3,572.8	3,572.8	3,572.9	3,716.4	4,124.8	NA	4,361.7
Time	3:00	1:30	12:30	13:15	10:10	NM	11:20	13:00	7:40	NM	12:45	12:25	13:17	11:30	9:45	11:35	12:10	NA	12:50	9:05	13:25	NM	NM	NM	NM	NM	NA	NM

Notes:
Valve Position : 0 = Closed, 1 = Opened
scfm = standard cubic feet per minute
PID = photoionization detector
ppmv = parts per million by volume

NA = Not Available
NM = Not Measured
(1) Days in operation = # of calendar days of continuous system operation (based on hour meter and 24 hour operation).
(2) Percent Downtime = ((# of days system was down) / (# of days in the month)) x 100
Percent Uptime = ((# of days system was in operation) / (# of days in the month) x 100
(3) Total pounds removed per period = (# days in period) x (24 hr / 1 day) x Flow (cfm) x ((Influent VOC (ppm) - Effluent VOC (ppm)) x (95 g / mol) x (1.55 x 10^-7 (lb-mol-min/ppm-hr-ft3-g))
(4) System down due to high level alarm in Moisture Separator.
(5) System shut down due to carbon break-through.
(6) System down due to apparent power outage.
(7) System down due to low pressure switch associated with SVE system.
(8) System down due to mechanical failure.
(9) System down due to electrical failure.
(10) System turned off for possible carbon break through.
(11) System shut down for temporarily to allow for vapor phase carbon changeout.
(12) System was activated on arrival after repair.
(13) System down due to pressure in ground due to broken SVE lines

Table 7. Post-Excavation Soil Analytical Data - Used Oil UST Removal
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road, Acton, Massachusetts
(November 27, 2001)

Parameters	Location ID:	B1	B2	WW	EW	SEW	SWW	NW	MCP Method 1 Soil Standards								
	Date:	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001									
	Classification:	S-2	S-2	S-2	S-2	S-2	S-2	S-2	S-1/ GW-1	S-1/ GW-2	S-1/ GW-3	S-2/ GW-1	S-2/ GW-2	S-2/ GW-3	S-3/ GW-1	S-3/ GW-2	S-3/ GW-3
	Depth (ft):	7	8	4-6	4-6	4-6	4-6	4-6									
	PID (ppmv):	4.7	0.0	0.0	0.0	0.0	0.0	0.0									
	Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOCs by USEPA Method 8260 (mg/kg)																	
2-Butanone (MEK)		**1.27** [a]	NS	NS	NS	NS	NS	NS	0.3	40	40	0.3	40	40	0.3	40	40
Methylene chloride		**0.157** [b]	NS	NS	NS	NS	NS	NS	0.1	100	100	0.1	200	200	0.1	700	700

Notes:
mg/kg = milligrams per kilogram or parts per million
MADEP = Massachusetts Department of Environmental Protection
USEPA = United States Environmental Protection Agency
NS=Not Sampled
MTBE = Methyl Tertiary Butyl Ether
[a] = Possible residue from methanol preservation/extraction
[b] = Analyte found in associated method blank
PID = Photoionization Detector
ppmv = parts per million per unit volume
MCP = Massachusetts Contingency Plan
Bolded concentrations exceed applicable MCP soil standards.
Compounds not listed under Method 8260 were below reporting limits

APPENDIX A

Copy of MADEP Transmittal Form BWSC-108

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

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

Release Tracking Number: 2 - 253

A. SITE LOCATION:

Site Name: (optional) Mobil Service Station No. 10190 (Formerly 01-PPO)

Street: 44 Great Road Location Aid:

City/Town: Acton ZIP Code: 01720

Related Release Tracking Numbers that this Form Addresses: RTN 2-13870

Tier Classification: (check one of the following) ☐ Tier IA ☑ Tier IB ☐ Tier IC ☐ Tier II ☐ Not Tier Classified

If a Tier I Permit has been issued, state the Permit Number: W018816

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

☐ Submit a **Phase I Completion Statement**, pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase II Scope of Work**, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final **Phase II Comprehensive Site Report and Completion Statement**, pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J).

☐ Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J).

☐ Submit an **As-Built Construction Report**, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).

☑ Submit a **Phase IV Final Inspection Report and Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).

☐ Submit a periodic **Phase V Inspection & Monitoring Report**, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final **Phase V Inspection & Monitoring Report and Completion Statement**, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RESPONSE ACTIONS:

☐ Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies: Not Applicable

D. PHASE II COMPLETION STATEMENT:

Specify the outcome of the Phase II Comprehensive Site Assessment:

☐ Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.

E. PHASE IV COMPLETION STATEMENT:

Specify the outcome of Phase IV activities:

☑ Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome. (This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)

☐ 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 (BWSC-104) will be submitted to DEP.

☐ 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 (BWSC-104) will be submitted to DEP.

SECTION E IS CONTINUED ON THE NEXT PAGE

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

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

Release Tracking Number: 2 - 253

E. PHASE IV COMPLETION STATEMENT: (continued)

☐ 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 (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

F. PHASE V COMPLETION STATEMENT:

Specify the outcome of Phase V activities:

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ 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 (BWSC-104) will be submitted to DEP.

☐ 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 (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

G. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with the information contained in 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 (iii) the provisions of 309 CMR 4.03(5), 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) complies(y) 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) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report*** *or a* ***Phase V Inspection and 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) complies(y) 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.

☐ 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.

LSP Name: Christophe M. Henry LSP #: 6364

Telephone: 978-392-0090 Ext.: 127

FAX: (optional) 978-392-8583

Signature: [signature]

Date: March 5, 2003

Stamp: COMMONWEALTH OF MASSACHUSETTS — Christophe M. Henry No. 6364 — REGISTERED LICENSED SITE PROFESSIONAL

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

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

Release Tracking Number: 2 - 253

H. PERSON UNDERTAKING RESPONSE ACTION(S):

Name of Organization: Mobil Business Resources Corporation

Name of Contact: David J. Baker Title: Territory Manager

Street: 52 Beacham Street

City/Town: Everett State: MA ZIP Code: 02149

Telephone: 617-381-2807 Ext.: FAX: (optional) 617-381-2911

☐ Check here if there has been a change in the person undertaking the Response Action.

I. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTION(S): (check one)

☑ RP or PRP Specify: ◉ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP:

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

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

☐ Any Other Person Undertaking Response Action Specify Relationship:

J. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTION(S):

I, David J. Baker, 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.

By: David J Baker Title: Territory Manager
(signature)

For: Mobil Business Resources Corporation Date: 2/25/03
(print name of person or entity recorded in Section H)

Enter address of the person providing certification, if different from address recorded in Section H:

Street:

City/Town: State: ZIP Code:

Telephone: Ext.: FAX: (optional)

YOU MUST 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.

APPENDIX B

Remedial System Boring Logs

PROJECT:	1600569	CLIENT:	Mobil
LOCATION:	44 Great Road, Acton, MA		
SITE No.:	01-PPO		
DIGSAFE:	2004008327		
DRILLER:	GeoSearch	LOGGED BY:	AMcD
DRILLING METHOD:	H.S.A	DRILL DATE:	10/12/00
SAMPLING METHOD:	Split Spoon	END DATE:	10/16/00

WELL NO:	**AS-1**	**BORING NO:**	
STATIC WATER LEVEL:		INITIAL GW:	4.0 ft
TOC ELEVATION:		TOTAL DEPTH:	18'
TOP OF SCREEN:	16'	DRILLING NOTES:	
SCREEN LENGTH:	2'	Air-knifed 10/12/00 to 4'2"	
PVC DIAMETER, SLOT	2"		
BOTTOM/SCREEN:	18'		
FINISH:	18'		

DEPTH (ft)	SAMPLE NO. (SS-#)	BLOWS (per 6-in)	RECOVERY (in)	OVA/PID (ppm)	SOIL DESCRIPTION	SOIL LOG	WELL LOG
0							
1	No Samples Collected				No Samples Collected		
2							
3							
Groundwater encountered at 4 ' below grade							
4							
5							
6							
7							
8							
9							
10							
11							
12					Bentinite seal (2')		
13							
14					Sand pack to 14' - 18' below grade		
15							
16					Well screen 16' - 18' below grade		
17							
18							
19					Well set at 18'		
20							
21							

BORING / WELL LOCATION SKETCH:

SOIL TYPES / WELL CONSTRUCTION DETAILS

NOTES:
H.S.A = Hollow Stem Auger

gravel	asphalt
sand	concrete
silt	native fill
clay	bentonite
S&G fill	casing
	screen
	grout
bedrock	bedrock

BORING LOG

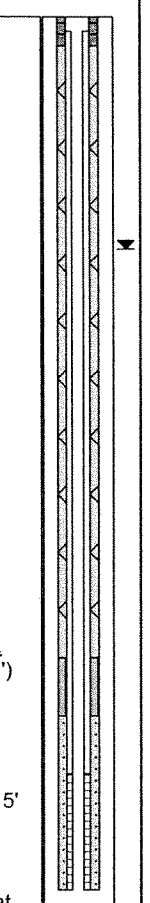
ID NO. **AS-2**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**15 ft**
ADDRESS:	**44 Great Road**	WATER DEPTH	**4.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**10/30/01-11/9/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT: Asphalt and gravel		Concrete Pad
	1'-4'	TFF	TFF	TFF	GRAVEL AND SAND: Moist, brown, well sorted fine sand and gravel	0'-4' Airknife	Backfilled to 0.5' below grade
5	5'-7'	15.9	3,4,4,5	NR	SAND: Wet, light brown/gray, fine sand		
10	10'-12'	4.8	3,2,2,3	24 in	SAND: Wet, gray, fine sand		Bentonite Seal (1')
							Sand pack to 12'-15' below grade
							Well screen 13'-15' below grade
15	15'	1.9	TFF	TFF	SAND: Wet, light brown/gray, fine sand		Well terminated at 15' below grade
20							



Location:
- Northing/Latitude:
- Easting/Longitude:
- Horizontal Datum: **Lat/Long**
- Vertical Datum:

General Comments:
- F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
- TFF-Taken From Flight
- NR- Not Recorded

Symbol Key:
- Apparent Water Level
- Lab Sample Location

BORING LOG

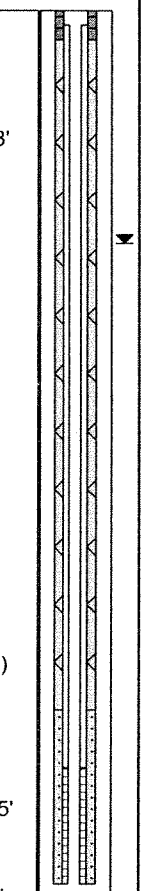
ID NO. **AS-3**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**15 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**4.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**10/30/01-11/9/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-13' below grade
5	5'-7'	0.2	6,7,7,7	12 in	SAND: Wet, light brown, fine sand		
10	10'-12'	9.4	10,9,9,6	14 in	SAND: Wet, light brown, fine sand		Bentonite Seal (1') Sand pack to 12'-15' below grade Well screen 13'-15' below grade
15	15'	2.2	TFF	TFF	SAND: Wet, light brown, fine sand		Well terminated at 15' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

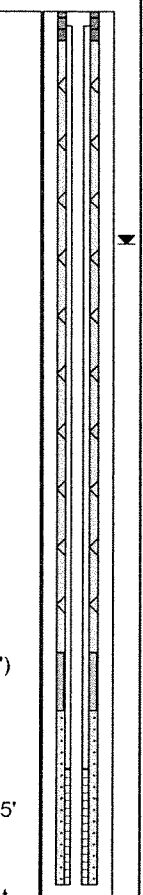
ID NO. **AS-4**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**15 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**4.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/06/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.5'-4'	TFF	TFF	TFF	ASPHALT GRAVEL AND SAND: Light brown, fine to medium sand and gravel	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-0.13' below grade
5	5'-7'	2.3	4,9,9,9	10 in	SAND: Wet, light-brown, fine sand		
	7'-9'	63.1	11,11 9,10	18 in	SAND: Wet, light-brown, fine sand, little gravel		
	9'-11'	22.8	5,5,5,4	6 in	SAND: Wet, light-brown, fine sand, little gravel		
10	11'-13'	61.6	5,7,9,11	12 in	SAND: Wet, light-brown, fine sand, little gravel		Bentonite Seal (1') Sand pack to 12'-15' below grade Well screen 13'-15' below grade
15	15'	19.1	TFF	TFF	SAND: Wet, light-brown, fine sand, little gravel		Well terminated at 15' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

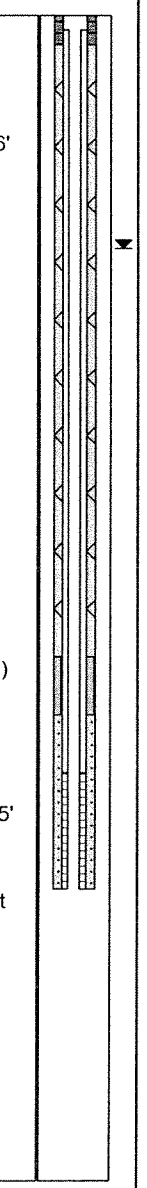
ID NO. **AS-5**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**15 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**4.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**10/30/01-11/9/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.5'-4'	TFF	TFF	TFF	ASPHALT SAND: Moist, brown, fine grained sand with trace silt and gravel	0'-4' Airknife for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
5	5'-7'	NR	3,2,3,4	6 in	SAND: Wet, light-brown, coarse sand		
10	10'-12'	NR	4,3,3,4	24 in	SAND: Wet, light brown coarse sand		Bentonite Seal (1') Sand pack to 12'-15' below grade Well screen 13'-15' below grade
15	15'	NR	TFF	TFF	SAND: Wet, light-brown, coarse sands		Well terminated at 15' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse
TFF-Taken From Flight
NR- Not Recorded ND- Not Detected (<1.0 ppm)

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

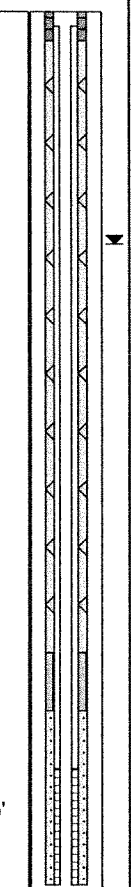
ID NO. **AS-6**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**15 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**4.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**10/30/01-11/9/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.5'-4'	TFF	TFF	TFF	ASPHALT SAND: Brown, moist, fine grained sand well sorted with medium grained gravel	0'-4' Airknife for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
5	5'-7'	NR	5,9,9,10	NR	SAND: Wet, fine, light brown sand		
10	10'-12'	NR	5,5,7,5	12 in	SAND: Wet, fine, light brown sand		Bentonite Seal (1') Sand pack to 12'-15' below grade Well screen 13'-15' below grade
15	15'	NR	TFF	TFF	SAND: Wet, fine, light brown sand		Well terminated at 15' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

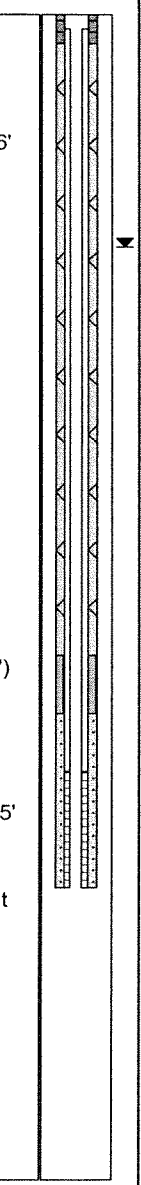
ID NO. **AS-7**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**15 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**4.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**10/30/01-11/9/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.5'-4'	TFF	TFF	TFF	ASPHALT GRAVEL AND SAND: Brown, moist, well sorted fine sand and gravel	0'-4' Airknife for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
5	5'-7'	3.3	NR	NR	SAND: Wet, fine, light brown, sand		
10	10'-12'	19.3	NR	NR	SAND: Wet, fine, light brown sand		Bentonite Seal (1') Sand pack to 12'-15' below grade Well screen 13'-15' below grade
15	15'	8.5	TFF	TFF	SAND: Wet, fine, light brown sand		Well terminated at 15' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

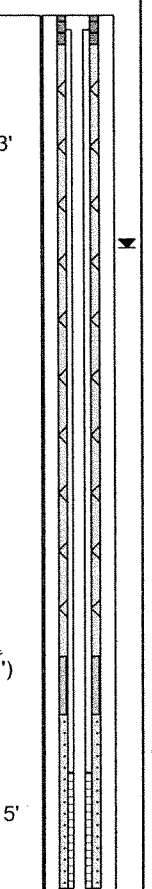
ID NO. **AS-8**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**15 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**4.0 ft**	CASING EL.:	**NA**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/06/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade
	2'-4'	TFF	TFF	TFF	SAND: Saturated, fine to medium grained sand		Well riser 0.25'-13' below grade
5	5'-7'	36	4,4,7,6	12 in	SAND: Wet, light brown fine sand		
	7'-9'	20.7	7,7,9,8	18 in	SAND: Wet, light brown, fine sand		
	9'-11'	16	3,2,2,2	12 in	SAND: Wet, light brown, fine sand		
10	11'-13'	14.5	3,3,4,3	4 in	SAND: Wet, light brown, fine sand		Bentonite Seal (1') Sand pack to 12'-15' below grade Well screen 13'-15' below grade
15	15'	6.1	TFF	TFF	SAND: Wet, light brown, fine sand		Well terminated at 15' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

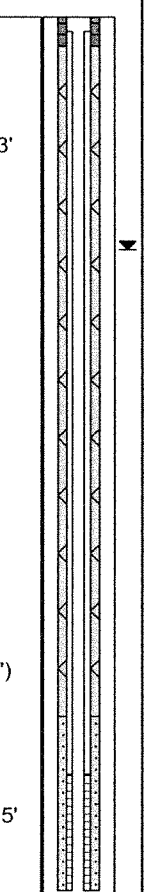
ID NO. **AS-9**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	15 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	4.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	10/30/01-11/9/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.5'-4'	TFF	TFF	TFF	ASPHALT SAND: Brown, moist, fine grained sand, well sorted with gravel	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-13' below grade
5	5'-7'	27.6	5,5,7,5	12 in	SAND: Wet, light brown fine sand		
10	10'-12'	9.2	4,7,10,9	24 in	SAND: Wet, light brown, fine sand		Bentonite Seal (1') Sand pack to 12'-15' below grade Well screen 13'-15' below grade
15	15'	2.6	TFF	TFF	SAND: Wet, light brown, fine sand		Well terminated at 15' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

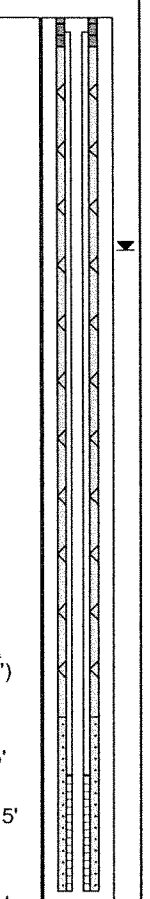
ID NO. **AS-10**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	15 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	4.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	10/30/01-11/9/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0							
	0.5'-2'	TFF	TFF	TFF	ASPHALT GRAVEL AND SAND: Brown, moist, well sorted fine sand and gravel	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade
	2'-4'	TFF	TFF	TFF	GRAVEL AND SAND: Brown, saturated, fine sand with medium grained gravel		Well riser 0'-13' below grade
5	5'-7'	3.0	3,7,5,7	6 in	SAND: Wet, dark brown, fine to coarse grained sand		
	7'-9'	9.0	4,4,6,5	24 in	SAND: Wet, brown, fine to coarse grained sand		
	9'-11'	11.2	4,4,3,4	12 in	SAND: Wet, light brown, fine grained sand		
10	11'-13'	12.6	5,7,9,11	24 in	SAND: Wet, light brown, fine grained sands		Bentonite Seal (1') 11' -12' below grade Sand pack 12'-15' below grade
	13'-15'	1.2	TFF	TFF	SAND: Wet, light brown, fine grained sands		Well screen 13'-15' below grade
15							Well terminated at 15' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

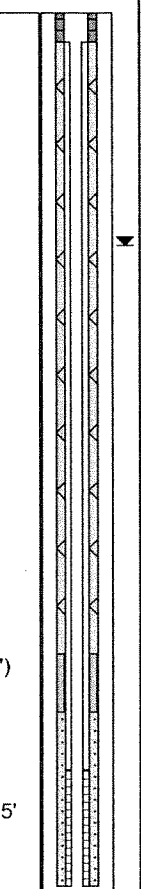
ID NO. **AS-11**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	15 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	4.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/08/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.4'-4'	TFF	TFF	TFF	ASPHALT SAND: Saturated, brown, fine grained sand	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0'-13' below grade
5	5'-7'	19.3	4,6,8,11	16 in	SAND: Wet, light brown, fine sand		
	7'-9'	44.3	9,9 11,10	18 in	SAND: Wet, light brown, fine sand		
	9'-11'	11.2	1,11,7,9	16 in	SAND: Wet, light brown, fine sand		
10	11'-13'	8.0	15,11 12,12	20 in	SAND: Wet, light brown, fine sand		Bentonite Seal (1') Sand pack to 12'-15' below grade Well screen 13'-15' feet below grade
15	15'	4.7	TFF	TFF	SAND: Wet, light brown, fine sand		Well terminated at 15' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

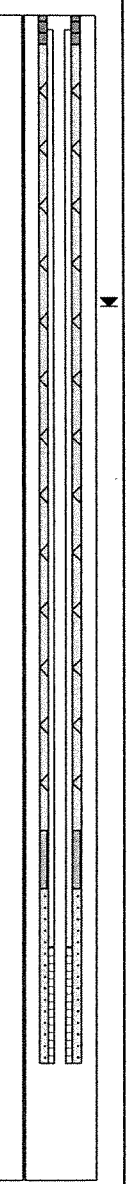
ID NO. **AS-12**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**18 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**5.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Rochelle Peret & Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/20/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	0'-8' Airknife for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
5							
	8'-10'	NR	NR	NR	SAND: Fine grained, moist, brown sand with trace silt and gravel		
10							
	13'-15'	17.8	NR	NR	GRAVEL AND SAND: Gravel and dark brown medium grained sand		Bentonite Seal (1') Sand pack to 15'-18' below grade Well screen 16'-18'
15							
	18'-20'	12.8	NR	NR	SAND: Saturated dark brown medium grained sand		Well terminated at 18' below grade
20							



Location:
- Northing/Latitude:
- Easting/Longitude:
- Horizontal Datum: **Lat/Long**
- Vertical Datum:

General Comments:
- F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
- TFF-Taken From Flight
- NR- Not Recorded

Symbol Key:
- Apparent Water Level
- Lab Sample Location

BORING LOG

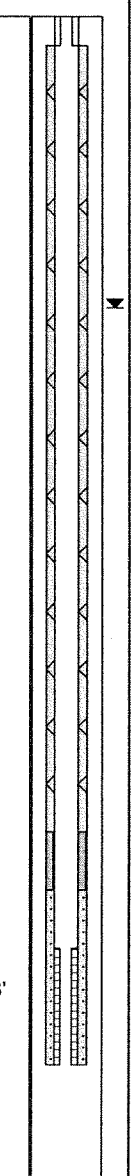
ID NO. **AS-13**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	18 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	5.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Rochelle Peret & Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/01/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	0'-8' Airknife for utility clearance	Concrete Pad Backfilled to 0.5 feet below grade
5							
10	10'-12'	38.1	5,6,7,6	8 in	SAND: Light-gray, wet, fine grained sand		
15	15'-17'	5.9	NR	12 in	SAND: Light-brown, wet, fine grained sand		Bentonite Seal (1 ft) Sand pack to 15'-18' below grade Well screen 16'-18' below grade Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

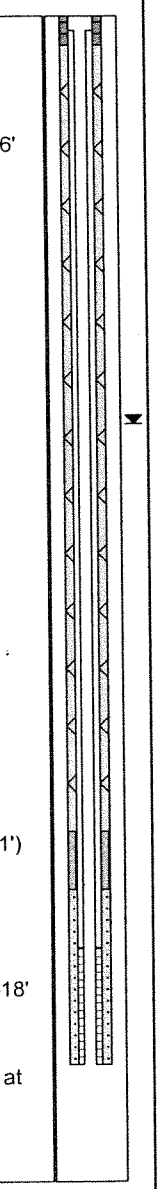
ID NO. **AS-14**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	18 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	7.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Rochelle Peret & Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/01/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT		Concrete Pad
	1'	TFF	TFF	TFF	SAND: Light brown, medium to coarse grained sand	0'-8' Airknife for utility clearance	Backfilled to 0.5' below grade
	2'-4'	TFF	TFF	TFF	SAND: Brown, moist, medium to coarse grained sand		Well riser 0.25'-16' below grade
	4'-6'	TFF	TFF	TFF	SAND: Damp, brown, medium to coarse grained sand		
5							
10	10'-12'	38.1	5,6,7,6	8 in	GRAVEL AND SAND: Dark brown, moist, medium to coarse grained sand and gravel/cobbles		
							Bentonite Seal (1')
15	15'-17'	5.9	NR	12 in	SAND: Wet, red-brown fine grained sand		Sand pack to 15'-18' below grade
					SAND: Wet, black fine grained sand		
					SAND: Brown fine grained sand		Well screen 16'-18' below grade
							Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

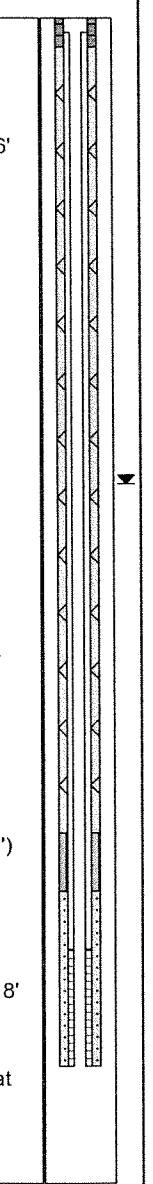
ID NO. **AS-15**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	20 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	8.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Rochelle Peret	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/12/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	0'-8' Airknife for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
5							
	8'-10'	1256	7,8 10,11	16 in	SAND: Wet, dark brown, medium grained sand		
10							
	13'-15'	561	3,4,7,7	16 in	SAND: Wet, tan, fine grained sand		Bentonite Seal (1') Sand pack to 15'-18' below grade Well screen 16'-18' below grade
15							
	18'-20'	587	3,3,3,5	16 in	SAND: Wet, fine to medium grained, rust colored sand SAND AND SILT: Wet, gray, silt and fine sand		Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

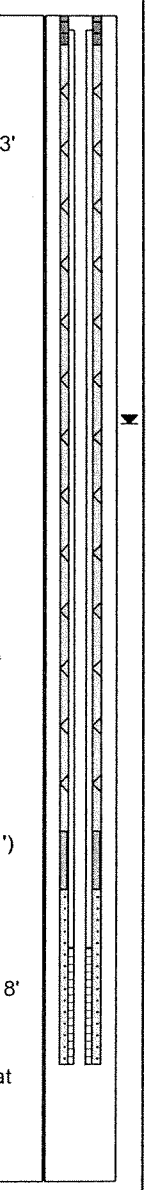
ID NO. **AS-16**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	18 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	7.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:		Drilling Method:	Hollow Stem Auger
Dates Drilled:	10/30/01-11/9/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.5'	TFF	TFF	TFF	ASPHALT GRAVEL AND SAND: Dry, light brown, medium to coarse sand and gravel	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade
	2'-4'	TFF	TFF	TFF	GRAVEL AND SAND: Dark brown, damp, medium to coarse sand and gravel		Well riser 0.25'-13' below grade
5	5'-7'	3.0	3,7,5,7	6 in	SAND: Wet, dark brown fine sand		
	7'-9'	9.0	4,4,6,5	24 in	SAND: Wet, light brown, fine sand		
10	9'-11'	11.2	4,4,3,4	12 in	SAND: Wet, light brown fine sand		
	11'-13'	12.6	5,7,9,11	24 in	SAND: Wet, light brown, fine sand		
	13'-15'	1.2	TFF	TFF	SAND: Wet, dark brown, fine sand		
15							Bentonite Seal (1') Sand pack to 15'-18' below grade Well screen 16'-18' below grade Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

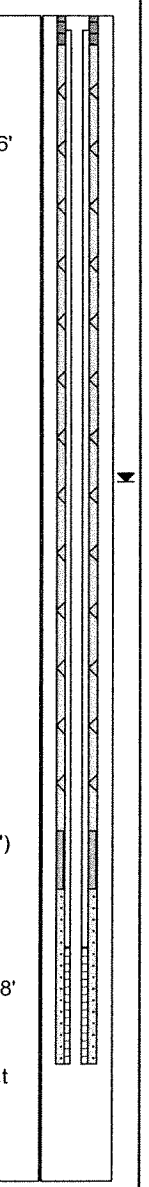
ID NO. **AS-17**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	18 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	8.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Rochelle Peret	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/12/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT		Concrete Pad
	1'-4'	TFF	TFF	TFF	GRAVEL AND SAND: Brown, dry coarse to medium grained sand and gravel	0'-8' Airknife for utility clearance	Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
	4'-6'	TFF	TFF	TFF	GRAVEL AND SAND: Brown, dry, coarse to medium grained sand and gravel		
5	6'-8'	TFF	TFF	TFF	GRAVEL AND SAND: Brown, dry, coarse to medium grained sand and gravel		
	8'-10'	1041	4,3,4,6	14 in	SAND: Wet, dark-brown, fine sand		
10							
	13'-15'	55.7	6,8 10,11	14 in	SAND: Wet, light-brown, fine sand		Bentonite Seal (1')
15							Sand pack to 15'-18' below grade Well screen 16'-18' below grade
	18'-20'	42.9	5,4,3,3	12 in	SAND: Wet, light brown, fine sand		Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
Nr- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

ID NO. **AS-18**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	18 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	8.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:		Drilling Method:	Hollow Stem Auger
Dates Drilled:	12/4/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Recovery	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-8' for utility clearance	Concrete Pad Backfilled to 0.5' below grade
	1'-4'	TFF	TFF	TFF	SAND: Brown, dry, medium to coarse grained sand		
	4'-6'	TFF	TFF	TFF	GRAVEL AND SAND: Brown, dry, medium to coarse grained sand and gravel		
5	6'-8'	TFF	TFF	TFF	GRAVEL AND SAND: Brown, dry, medium to coarse grained sand and gravel		
10	10'-12'	61.6	5,6,7,6	6 in	CLAY AND SAND: Light grey and brown, soft, moist, fine to medium grained well sorted sand and clay		Bentonite Seal (1')
15	15'-17'	NR	7,6,7,7	10 in	SAND: Soft, moist, light brown well sorted, fine sand		Sand pack to 15'-18' below grade
	17'-18'	21.7	8,7,9,7	22 in	SAND: Soft, moist, light brown, well sorted, fine sand		Well screen 16'-18' below grade
20							Well terminated at 18' below grade

Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

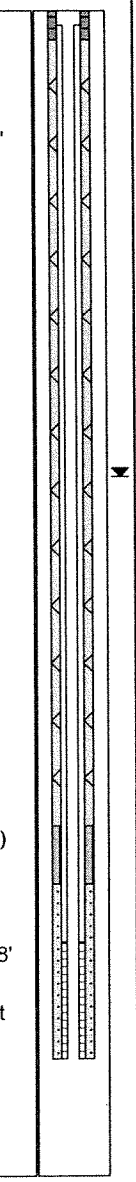
ID NO. **AS-19**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**18 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**8.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:		Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**10/30/01-11/9/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad
	1'-4'	TFF	TFF	TFF	SAND: Dry, brown, medium to coarse grained sand		Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
	4'-6'	TFF	TFF	TFF	GRAVEL AND SAND: Dry, brown, medium to coarse grained sand and gravel		
5	6'-8'	TFF	TFF	TFF	GRAVEL AND SAND: Dry, brown, medium to coarse grained sand and gravel		
10	10'-12'	0.2	9,12 15,12	18 in	GRAVEL AND SAND: Brown, moist, medium to coarse grained sands, with trace gravel		Bentonite Seal (1')
15	15'-17'	0.2	9,8,7,10	6 in	SAND: Moist, light-brown, well sorted fine sands		Sand pack 15'-18' below grade Well screen 16'-18' below grade
	17'-18'	0.2	8,10,9,8	20 in	SAND: Moist, Light-brown, well sorted fine sands		Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

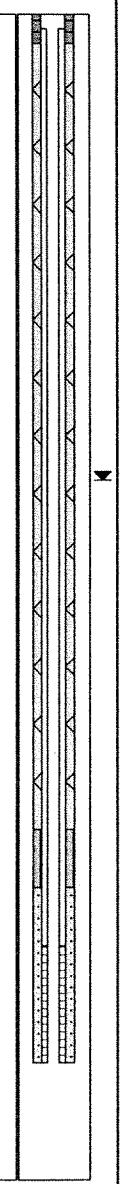
ID NO. **AS-20**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**18 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**8.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/08/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
5							
10	10'	172	TFF	TFF	SAND: Wet, dark brown/gray, fine grained sand, little silt		
							Bentonite Seal (1')
15	15'	105	TFF	TFF	SAND: Wet, Brown, fine sand		Sand pack to 15'-18' below grade Well screen 16'-18' below grade
	18'	55.6	TFF	TFF	SAND: Wet brown, fine grained sand with iron staining		Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

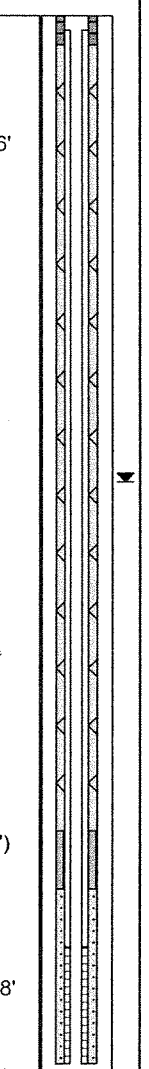
ID NO. **AS-21**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	18 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	8.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/08/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
5	5'	49.7	TFF	TFF	SAND: Dry, dark brown fine sand, little gravel and trace silt		
10	10'	ND	TFF	TFF	GRAVEL: Angular gravel		Bentonite Seal (1')
15	15'	27.4	TFF	TFF	SAND: Dry, dark brown, fine sand, little gravel and trace silt		Sand pack to 15'-18' below grade Well screen 16'-18' below grade
	18'	15.8	TFF	TFF	SAND: Wet, Red-brown fine sand with trace silt		Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

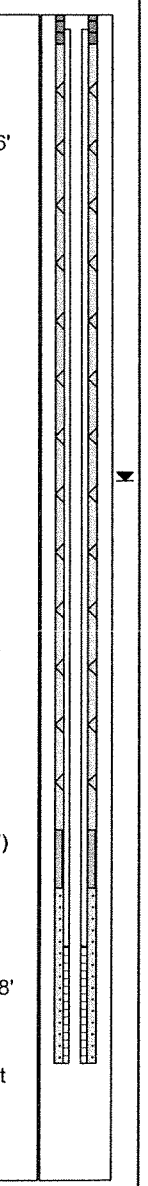
ID NO. **AS-22**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**18 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**8.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/08/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
5	5'-7'	17.3	4,4,5,4	6 in	SAND: Dry to damp, dark brown, fine sand		
10	10'-12'	0.6	7,9,9,11	12 in	SAND: Wet, light brown fine grained sand		
15	15'-17'	0.2	3,4,4,5	18 in	SAND: Wet, light brown, fine sand with trace silt		Bentonite Seal (1') Sand pack to 15'-18' below grade Well screen 16'-18' below grade Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

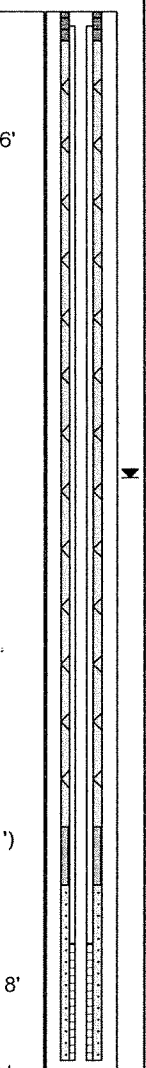
ID NO. **AS-23**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**18 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**8.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**8 inch**	WELL DIA.:	**2 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/08/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
5	5'-7'	NR	3,2,1,1	0 in	No Recovery		
10	10'-12'	0.3	5,7,6,7	20 in	SAND: Wet, light brown, fine grained sand		
15	15'-17'	0.3	NR	24 in	SAND: Wet light brown, fine grained sand		Bentonite Seal (1') Sand pack to 15'-18' below grade Well screen 16'-18' below grade Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

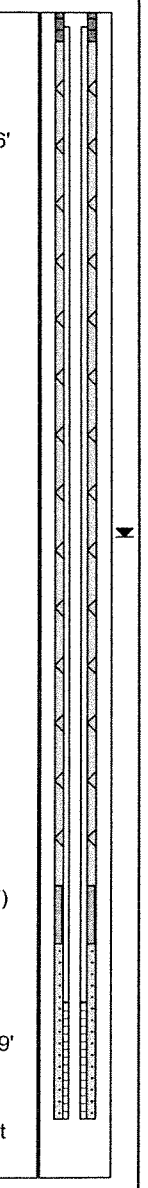
ID NO. **AS-24**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	19 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	9.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	A. Belleville	Drilling Method:	Hollow Stem Auger
Dates Drilled:	10/31/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	0'-1' Layer of Asphalt 1'-4' Hand cleared for utility clearance	Concrete Pad Backfilled to 0.5' below grade Well riser 0.25'-16' below grade
	4'	0.1	NR	NR	SAND: Dry, brown, fine to coarse grained sand		
5	5'-7'	NR	3,4,4,3	20 in	GRAVEL AND SAND: Brown, fine to coarse grained sand		
10	10'-12'	NR	5,7,6,7	8 in	SAND: Saturated, light brown, medium to coarse grained sand		
15	15'-17'	1.9	3,4,4,3	14 in	SAND: Saturated, light brown, fine to medium grained sand		Bentonite Seal (1') Sand pack to 16'-19' below grade Well screen 17'-19' below grade Well terminated at 19' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

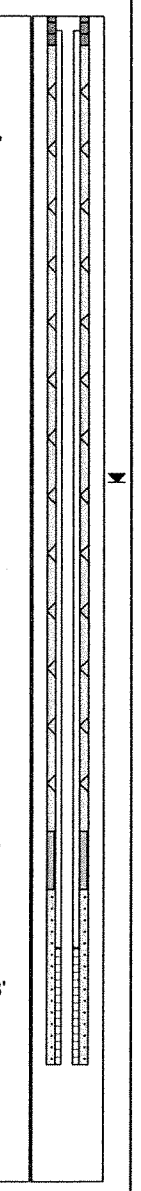
ID NO. **AS-25**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	18 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	8.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/08/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad
					SAND: Dry, dark brown, fine sand		Backfilled to 0.5' below grade
							Well riser 0.25'-16' below grade
5	5'	1.8	TFF	TFF	SAND: Dry, dark-brown fine sand, little gravel and trace silt		
10	10'	NR	TFF	TFF	GRAVEL: Angular gravel		
							Bentonite Seal (1')
15	15'	1.6	TFF	TFF	SAND: Wet, dark brown, fine sand, little gravel and trace silt		Sand pack to 15'-18' below grade
							Well screen 16'-18' below grade
	18'	1.0	TFF	TFF	SAND: Wet, dark brown, fine sand, little gravel and trace silt		Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

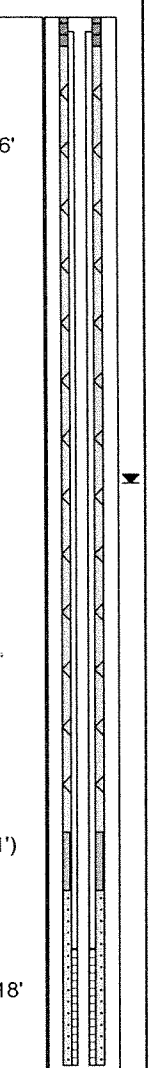
ID NO. **AS-26**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	18 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	8.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	8 inch	WELL DIA.:	2 inch

Logged By:	Rochelle Peret & Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/20/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	0'-8' Airknife for utility clearance	Concrete Pad Backfilled to 0.5' below grade
	2'-4'	TFF	TFF	TFF	SAND: Fine grained, moist, brown sand with trace silt, gravel and debris (brick fragments)		Well riser 0.25'-16' below grade
	4'	TFF	TFF	TFF	SAND: Fine grained, moist sand		
5	5'	TFF	TFF	TFF	GRAVEL: Fill debris including rocks and asphalt		
	6'	TFF	TFF	TFF	SAND: Moist, brown, fine grained sand with some trace silt and gravel		
	7'	TFF	TFF	TFF	GRAVEL: Large cobbles, or a small boulder		
	8'	2.0	TFF	TFF	SAND: Gray, medium grained sand		
10							
	13'	1.1	TFF	TFF	SAND: Medium to fine grained and with iron staining		
15							Bentonite Seal (1') Sand pack to 15'-18' below grade Well screen 16'-18' below grade
	18'	0.8	TFF	TFF	SAND: Brown, saturated, medium grained sand		Well terminated at 18' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

PROJECT:	1600569	CLIENT:	Mobil
LOCATION:	44 Great Road, Acton, MA		
SITE No.:	01-PPO		
DIGSAFE:	2004008327		
DRILLER:	GeoSearch	LOGGED BY	AMcD
DRILLING METHOD:	H.S.A	DRILL DATE	10/12/00
SAMPLING METHOD:	Split Spoon	END DATE:	10/17/00

WELL NO:	SVE-1	BORING NO:	
STATIC WATER LEVEL:		INITIAL GW:	4.0 ft
TOC ELEVATION:		TOTAL DEPTH:	16'
TOP OF SCREEN:	2.8"	DRILLING NOTES:	
SCREEN LENGTH:	~12'	Air-knifed 10/12/00 to 4'2"	
PVC DIAMETER, SLOT	4"		
BOTTOM/SCREEN:	14'8"		
FINISH:	14'8"	Drilled to 16', but well set at 14'8".	

DEPTH (ft)	SAMPLE NO. (SS-#)	BLOWS (per 6-in)	RECOVERY (in)	OVA/PID (ppm)	SOIL DESCRIPTION	SOIL LOG	WELL LOG
0							
1	No Samples Collected				Bentonite Seal (1')		
2					Sand pack to 1.5'-16' below grade		
3							
Groundwater encountered at 4' below grade							
4					Well screen 3'-14'8" below grade		
5							
6							
7							
8							
9					No Samples Collected		
10							
11							
12							
13							
14							
15					Well set at 14'8", but drilled to 16'		
16							
17							
18							
19							
20							
21							

BORING / WELL LOCATION SKETCH:

SOIL TYPES / WELL CONSTRUCTION DETAILS

NOTES:
H.S.A = Hollow Stem Auger

gravel	asphalt
sand	concrete
silt	native fill
clay	bentonite
S&G fill	casing
	screen
	grout
bedrock	bedrock

BORING LOG

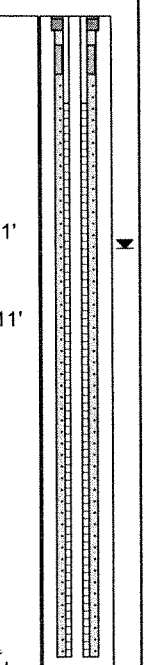
ID NO. **SVE-2**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**11 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**4.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**10 inch**	WELL DIA.:	**4 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/13/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.5'-4'	TFF	TFF	TFF	ASPHALT SAND: Brown, moist, fine to medium grained, well sorted sand	Air Knifed 0'-4' for utility clearance	Concrete Pad Bentonite Seal (0.5') Well riser 0'-1.5' below grade Sand pack to 1'-11' below grade
5	5'-7'	NR	15,17 10,8	3 in	SAND: Wet, dark brown, fine to coarse grained sand with trace gravel		Well screen 1.5'-11' below grade
10	9'-11'	NR	NR	5 in	SAND: Wet, brown, fine to coarse grained sand		Well terminated at 11' below grade
15							
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

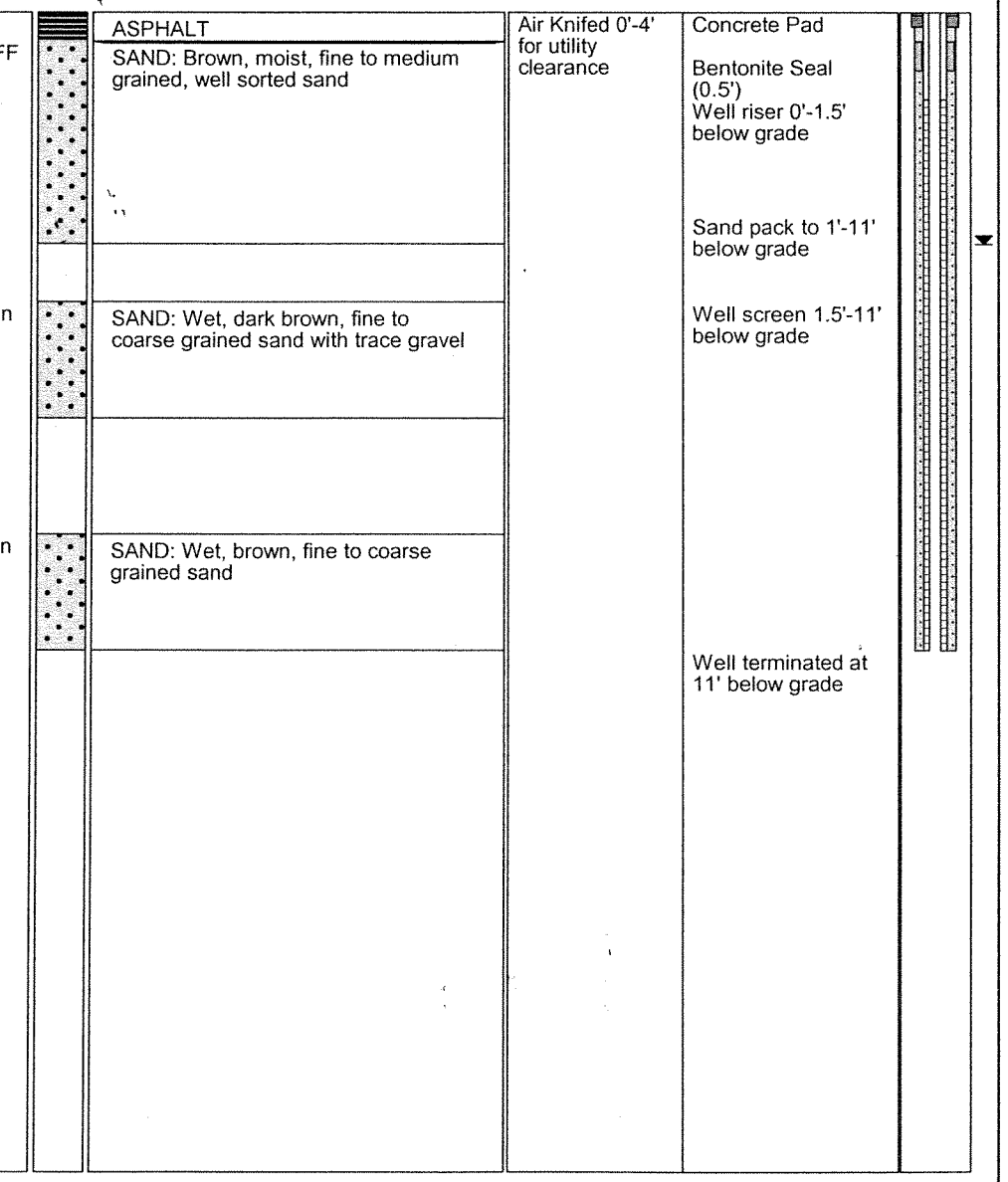
ID NO. **SVE-3**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**11 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**4.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**10 inch**	WELL DIA.:	**4 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/13/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.5'-4'	TFF	TFF	TFF	ASPHALT SAND: Brown, moist, fine to medium grained, well sorted sand	Air Knifed 0'-4' for utility clearance	Concrete Pad Bentonite Seal (0.5') Well riser 0'-1.5' below grade Sand pack to 1'-11' below grade
5	5'-7'	NR	15,17 10,8	3 in	SAND: Wet, dark brown, fine to coarse grained sand with trace gravel		Well screen 1.5'-11' below grade
10	9'-11'	NR	NR	5 in	SAND: Wet, brown, fine to coarse grained sand		Well terminated at 11' below grade
15							
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

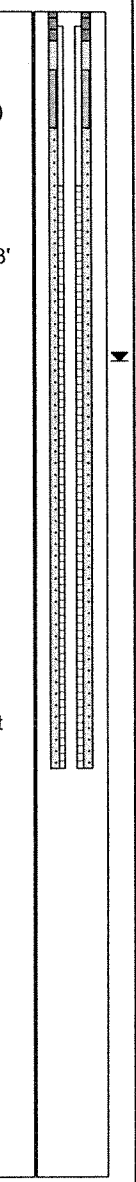
ID NO. **SVE-7**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**13 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**6.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**10 inch**	WELL DIA.:	**4 inch**

Logged By:	**Rochelle Peret and Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/13/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	0'-8' Airknife for utility clearance	Concrete Pad Backfilled to 0.5' below grade Bentonite Seal (1') Well riser 0.25'-3' below grade Sand pack to 2'-13' below grade
5	5'	7.6	TFF	TFF	SAND: Moist, brown, fine grained sand, trace silt and gravel		Well screen 3'-13' below grade
	8'	8.6	TFF	TFF	SAND: Dry to moist, dark brown, fine sand with trace silt and gravel		
10							Well terminated at 13' below grade
	13'	4.6	TFF	TFF	SAND: Dry to moist, dark brown, fine grained sand with traces of silt and gravel		
15							
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

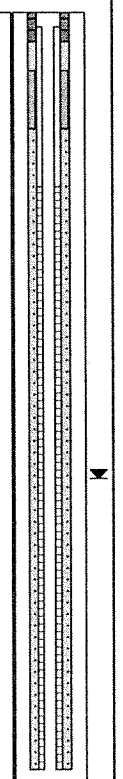
ID NO. **SVE-8**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**13 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**8.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**10 inch**	WELL DIA.:	**4 inch**

Logged By:	**Rochelle Peret**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/12/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad
	1'	TFF	TFF	TFF	SAND: Brown, dry, medium to coarse grained sand		Backfilled to 0.5' below grade Bentonite Seal (1')
	2'	TFF	TFF	TFF	SAND: Dark brown, damp, medium to coarse grained sand with some fine gravel		Well riser 0.25'-3' below grade
5							Sand pack to 2'-13' below grade
	6'	TFF	TFF	TFF	GRAVEL AND SAND: Dark brown, medium to coarse sand and gravel		Well screen 3'-13' below grade
	8'-10'	1379	7,8,9,12	12 in	SAND: Damp, black, fine to medium grained sand		
10							
	13'-15'	91.7	NR	12 in	SAND: Wet, brown, medium grained sand		Well terminated at 13' below grade
15							
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

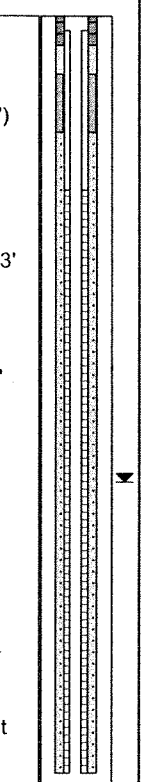
ID NO. **SVE-9**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**13 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**8.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**10 inch**	WELL DIA.:	**4 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**10/30/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0	0.6'	TFF	TFF	TFF	ASPHALT SAND: Brown, dry, medium to coarse grained sand	Air Knifed 0'-8' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Bentonite Seal (1')
	2'-4'	TFF	TFF	TFF	SAND: Dark brown, damp, medium to coarse grained sand with some fine gravel		Well riser 0.25'-3' below grade Sand pack to 2'-13' below grade
5	6'-8'	TFF	TFF	TF	GRAVEL AND SAND: Dark brown, medium to coarse sand and gravel		Well screen 3'-13' below grade
10	10'-12'	131	4,4,3,4	6 in	SAND: Wet, light brown, fine sand		Well terminated at 13' below grade
15							
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

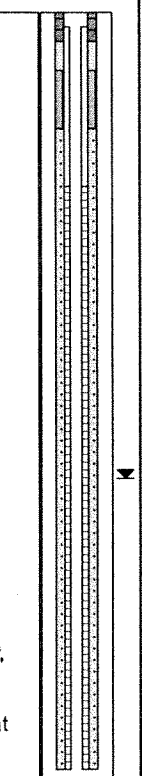
ID NO. **SVE-10**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**13 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**8.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**10 inch**	WELL DIA.:	**4 inch**

Logged By:	**Rochelle Peret and Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/20/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Bentonite Seal (1 ft) Well riser 0.25'-3' below grade Sand pack 2'-13' below grade
	1'-4'	TFF	TFF	TFF	SAND: Brown, dry, medium to coarse grained sand and pebbles		
	4'-6'	TFF	TFF	TFF	SAND: Brown, dry, medium to coarse grained sand		
5							
	6'-8'	TFF	TFF	TFF	SAND: Brown, dry, medium to coarse grained sand and pebbles		
	8'-10'	91.3	7,8,8,9	18 in	SAND: Brown/gray, fine sand SAND: Black fine grained sand		
10							Well screen 3'-13' below grade Well terminated at 13' below grade
	13'-15'	22.7	6,7,7,9	21 in	SAND: Brown, fine grained sand		
15							
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

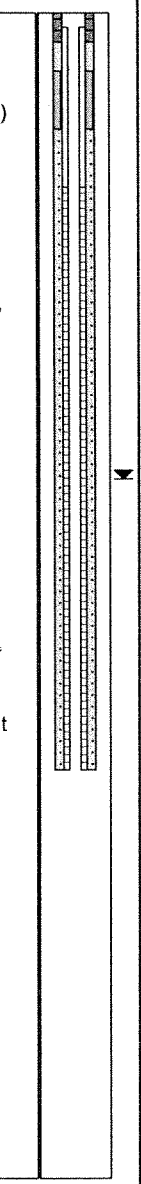
ID NO. **SVE-11**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	13 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	8.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	10 inch	WELL DIA.:	4 inch

Logged By:	Rochelle Peret and Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/20/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade
	2'-4'	TFF	TFF	TFF	SAND: Fine to medium grained, moist brown sand, with trace gravel		Bentonite Seal (1') Sand pack 2'-13' below grade Well riser 0.25'-3' below grade
	4'	TFF	TFF	TFF	SAND: Fine grained, moist brown sand, with trace silt and gravel		
5	5'-7'	26.0	TFF	TFF	GRAVEL: Fill debris, asphalt and rocks		Well screen 3'-13'
	8'	TFF	TFF	TFF	SAND: Fine grained, tan wet sand, with trace silt		
10	10'-12'	79.1	TFF	TFF	SAND: Wet, dark brown, fine sand, and trace gravel		Well terminated at 13' below grade
15							
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

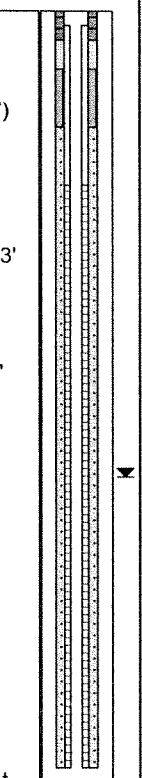
ID NO. **SVE-12**

Groundwater and Environmental Services, Inc.

PROJECT:	**Mobil Station No. 01-PPO**	SURFACE ELEV.:	**NR**	TOTAL DEPTH:	**13 ft**
ADDRESS:	**44 Great Road, Acton, MA**	WATER DEPTH	**8.0 ft**	CASING EL.:	**NR**
JOB NO.	**1601184**	BOREHOLE DIA.:	**10 inch**	WELL DIA.:	**4 inch**

Logged By:	**Peggy Fair**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**11/20/01**	Sampling Method:	**24" Split Spoon (5' intervals)**
Drilling Company:	**GeoSearch Environmental Drillers**	Soil Class. System:	**Unified Soil Classification System (USCS)**
Drill Rig Type:	**CME 350 Truck Mounted**	Field Screening:	**MiniRae 2000 PID, 10.2 eV (results in ppm)**

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Bentonite Seal (1')
	2'-4'	TFF	TFF	TFF	SAND: Fine to medium grained, moist brown sand, with trace gravel		Well riser 0.25'-3' below grade
	4'	TFF	TFF	TFF	SAND: Fine grained, moist brown sand, with trace silt and gravel		Sand pack to 2'-13' below grade
5	5'-7'	0.3	9,8,8,5	6 in	GRAVEL: Fill debris including asphalt and rocks		Well screen 3'-13' below grade
	8'	TFF	TFF	TFF	SAND: Fine grained, tan, wet sand with trace silt		
10	10'-12'	0.2	7,9,9,11	3 in	SAND: Wet, light brown, fine grained sand		Well terminated at 13' below grade
15							
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: **Lat/Long**
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

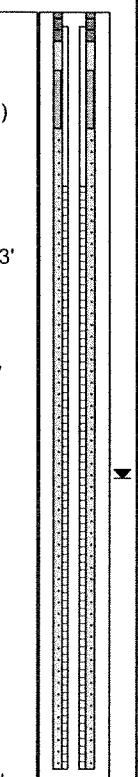
ID NO. **SVE-13**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	13 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	8.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	10 inch	WELL DIA.:	4 inch

Logged By:	Rochelle Peret and Peggy Fair	Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/20/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Bentonite Seal (1') Well riser 0.25'-3' below grade Sand pack to 2'-13' below grade Well screen 3'-13' below grade Well terminated at 13' below grade
	2'-4'	TFF	TFF	TFF	SAND: Fine to medium grained, moist brown sand, with trace gravel		
5	5'-7'	3.9	TFF	TFF	SAND: Fine grained, moist brown sand, with trace silt and gravel		
10	10'-12'	1.3	TFF	TFF	SAND: Wet, light brown fine grained sand		
15							
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

BORING LOG

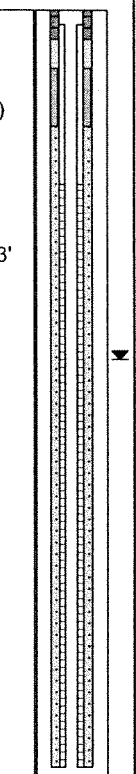
ID NO. **SVE-14**

Groundwater and Environmental Services, Inc.

PROJECT:	Mobil Station No. 01-PPO	SURFACE ELEV.:	NR	TOTAL DEPTH:	13 ft
ADDRESS:	44 Great Road, Acton, MA	WATER DEPTH	6.0 ft	CASING EL.:	NR
JOB NO.	1601184	BOREHOLE DIA.:	10 inch	WELL DIA.:	4 inch

Logged By:		Drilling Method:	Hollow Stem Auger
Dates Drilled:	11/13/01	Sampling Method:	24" Split Spoon (5' intervals)
Drilling Company:	GeoSearch Environmental Drillers	Soil Class. System:	Unified Soil Classification System (USCS)
Drill Rig Type:	CME 350 Truck Mounted	Field Screening:	MiniRae 2000 PID, 10.2 eV (results in ppm)

Depth (feet)	Sample Interval	Field Screen	Blow Counts	Rec-overy	SAMPLE LITHOLOGY	Comments	COMPLETION DETAILS
0					ASPHALT	Air Knifed 0'-4' for utility clearance	Concrete Pad Backfilled to 0.5' below grade Bentonite Seal (1') Well riser 0.25'-3' below grade Sand pack to 2'-13' below grade Well screen 3'-13' below grade
5	TFF	1.8	TFF	TFF	SAND: Light brown, dry, fine grained sand with trace silt and gravel		
10	TFF	4.1	TFF	TFF	SAND: Moist, light brown fine grained sand with trace silt and gravel		
15							Well terminated at 13' below grade
20							



Location:
Northing/Latitude:
Easting/Longitude:
Horizontal Datum: Lat/Long
Vertical Datum:

General Comments:
F-Fine, M-Medium, C-Coarse, ND-Not detected below 1.0ppm
TFF-Taken From Flight
NR- Not Recorded

Symbol Key:
Apparent Water Level
Lab Sample Location

APPENDIX C

Copies of the Bill of Lading & Hazardous Waste Manifest

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS MATERIALS
One Winter Street Boston, Massachusetts 02108

Please print or type (Form designed for use on elite (12 pitch) typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No: MAD985295070
Manifest Document No: 66317

2. Page 1 of 1 — Information in the shaded area is not required by Federal law.

3. Generator's Name and Mailing Address: Station 01-329
ExxonMobil Oil Corp (01-DHX)
c/o Veeder-Root CMS
12265 West Bayaud Avenue
Lakewood, CO 80228

4. Generator's Phone (800 253-8054

A. State Manifest Document Number: MAQ 266317

B. State Generator ID: Kite 010 and Elms Street Amesbury, MA

C. State Trans. ID: ME 660905

5. Transporter 1 Company Name: Clean Harbors Env Services Inc
6. US EPA ID Number: MAD039322250

D. Transporter's Phone (781 849-1800

7. Transporter 2 Company Name:
8. US EPA ID Number:

E. State Trans. ID:

F. Transporter's Phone ( )

9. Designated Facility Name and Site Address: Clean Harbors of Braintree Inc
1 Hill Avenue
Braintree, MA 02184-0000
10. US EPA ID Number: MAD053452637

G. State Facility's ID: NOT REQUIRED

H. Facility's Phone (781 849-1807

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, HAZARDOUS WASTE LIQUID, N.O.S. (BENZENE), 9, NA3082, III	001	TT	00200	G	D018
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
a. (L), (E), (ERG#:171)
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a. S01
b.
c.
d.

15. Special Handling Instructions and Additional Information
11a S12327
IN EMERGENCY, CALL CHES 1-800-645-8265
wo# SB488921

16. GENERATOR'S CERTIFICATION. I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: As agent for Exxonmobile Kevin Hurst
Signature: Kevin Hurst
Date: Month 10 Day 31 Year 02

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Kevin Hurst
Signature: Kevin Hurst
Date: Month 10 Day 31 Year 02

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19
Printed/Typed Name: Kiavanni Pringle
Signature:
Date: Month 10 Day 31 Year 02

GENERATOR / TRANSPORTER / FACILITY

In case of emergency or spill, immediately call the National Response Center (800) 424-8802.

Form approved OMB No. 2050-0039
EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY>1: FACILITY MAILS TO DESTINATION STATE
Clean Harbors has appropriate permits for & will accept the waste the generator is shipping.

266317 COPY>1: FACILITY MAILS TO DESTINATION STATE

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-012A

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number*: 2 - 253

A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:

Release Name (optional): Mobil Service Station No. 10190 (Formerly 01-PPO)

Street: 44 Great Road Location Aid:

City/Town: Acton ZIP Code: 01720-0000

Date/Period of Generation: 11/19/2001 to: 11/30/2001

Additional Release Tracking Numbers Associated with this Bill of Lading:

** Note: If this Bill of Lading is the result of a Limited Removal Action (LRA) taken prior to Notification, a Release Tracking Number is not needed.*

B. PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

Name of Organization: Mobil Business Resources Corporation

Name of Contact: David J. Baker Title: Territory Manager

Street: 1800 West Park Drive, Suite 450

City/Town: Westborough State: MA ZIP Code: 01581-0000

Telephone: 508-389-1881 Ext.:

C. RELATIONSHIP TO RELEASE OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

- [x] RP or PRP Specify: [x] Owner [ ] Operator [ ] Generator [ ] Transporter Other RP or PRP:
- [ ] Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
- [ ] Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
- [ ] Other Person:

If an owner and/or operator is not conducting the response action associated with the Bill of Lading, provide on an attachment the name, contact person, address and telephone number, including any area code and extension, for each, if known.

D. TRANSPORTER OR COMMON CARRIER INFORMATION:

Transporter/Common Carrier Name: Ted Ondrick Company, LLC

Contact Person: Paul Mullen Title: Contact Person

Street: 58 Industry Road

City/Town: Chicopee State: MA ZIP Code: 01020-0000

Telephone: 413-592-2081 Ext.:

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:

Operator/Facility Name: Ted Ondrick Company , LLC

Contact Person: Paul Mullen Title: Contact Person

Street: 58 Industry Road

City/Town: Chicopee State: MA ZIP Code: 01020-0000

Telephone: 413-592-2081 Ext.:

Type of Facility: (check one)

- [x] Asphalt Batch/Cold Mix
- [ ] Asphalt Batch/Hot Mix
- [ ] Thermal Processing
- [ ] Landfill/Disposal
- [ ] Landfill/Daily Cover
- [ ] Landfill/Structural Fill
- [ ] Incinerator
- [ ] Other:
- [ ] Temporary Storage

EPA Identification #: MV4135922081

Division of Hazardous Waste/Class A Permit #: WR-96-07 Division of Solid Waste Management Permit #:

Actual/Anticipated Period of Temporary Storage (specify dates if applicable): to:

Reason for Temporary Storage:

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-012A

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number*: 2 - 253

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION (continued) :

Temporary Storage Address:

Street: N/A

City/Town: _____ State: _____ ZIP Code: _____

F. DESCRIPTION OF REMEDIATION WASTE:
(check all that apply)

☑ Contaminated Media (check all that apply): ☑ Soil ○ Groundwater ○ Surface Water ○ Other: _____

☐ Contaminated Debris (check all that apply): ○ Vegetation or Organic Debris ○ Demolition/Construction Waste ○ Inorganic Absorbant Materials ○ Other: _____

☐ Non-hazardous Uncontainerized Waste (check all that apply): ○ Non-aqueous Phase Liquid ○ Other: _____

☐ Non-hazardous Containerized Waste (check all that apply): ○ Tank Bottoms/Sludges ○ Containers ○ Drums ○ Engineered Impoundments ○ Other: _____

Type of Contamination (check all that apply): ☑ Gasoline ☐ Diesel Fuel ☐ #2 Oil ☐ #4 Oil ☐ #6 Oil ☑ Waste Oil ☐ Kerosene ☐ Jet Fuel ☐ Other: _____

Estimated Volume of Materials: Cubic Yards: 140 Tons: _____ Other: _____

Contaminant Source (check one/specify): ☐ Transportation Accident ☑ Underground Storage Tank ☐ Other: _____

Response Action Associated with Bill of Lading (check one): ☐ Immediate Response Action ☐ Release Abatement Measure ☐ Utility-Related Abatement Measure ☐ Limited Removal Action ☑ Comprehensive Response Action ☐ Other _____

Remediation Waste Charcterization Support Documentation attached:
☑ Site History Information ☑ Sampling and Analytical Methods and Procedures ☑ Laboratory Data ☐ Field Screening Data

If supporting documentation is not appended, provide an attachment stating the date and in connection with what document such information was previously submitted to DEP.

G. LICENSED SITE PROFESSIONAL (LSP) OPINION:

Name of Organization: Groundwater & Environmental Services, Inc.

LSP Name: Christophe M. Henry Title: Senior Project Manager

Telephone: 978-392-0090 Ext.: 127

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal, 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
(iii) the provisions of 309 CMR 4.03(5),

to the best of my knowledge, information and belief, the assessment actions undertaken to characterize the Remediation Waste which is (are) the subject of this submittal for acceptance at the facility identified in this submittal comply with the applicable provisions of 310 CMR 40.0000, and such facility is permitted to accept Remediation Waste having the characteristics described 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.

LSP Signature: C H Henry

Date: 1/10/2002

License Number: 6364

Seal: COMMONWEALTH OF MASSACHUSETTS — 1/10/02 — Christophe M. Henry No. 6364 — REGISTERED LICENSED SITE PROFESSIONAL

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-012A

BILL OF LADING (pursuant to 310 CMR 40.0030)

Release Tracking Number*
2 - 253

H. CERTIFICATION OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH THIS BILL OF LADING:

I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

Signature: David J. Baker Date: 1/10/02

Name of Person (print): David J. Baker

Massachusetts Department of Environmental Protection **BWSC-012B**
Bureau of Waste Site Cleanup

BILL OF LADING (pursuant to 310 CMR 40.0030)

SUMMARY SHEET 1 **OF** 1

Release Tracking Number: 2 - 253

I. LOAD INFORMATION:

Load 1:
Signature of Transporter Representative: Mark Van Alstyne
Date of Shipment: 01-23-02
Time of Shipment: 8:00 [X] AM [ ] PM
Truck/Tractor Registration: 5699PB NY
Trailer Registration (if any): AC96930NY
Signature of Receiving Facility/Temporary Storage Representative: GMH
Date of Receipt: 01-23-02
Time of Receipt: 9:23 [X] AM [ ] PM
Load Size (cu. yds./tons): 37.02 TONS

Load 2:
Signature of Transporter Representative:
Date of Shipment: 01-23-02
Time of Shipment: 8:15 [X] AM [ ] PM
Truck/Tractor Registration: 1490TPA NY
Trailer Registration (if any): AC97050 NY
Signature of Receiving Facility/Temporary Storage Representative: GMH
Date of Receipt: 01-23-02
Time of Receipt: 9:35 [X] AM [ ] PM
Load Size (cu. yds./tons): 37.00 TON

Load 3:
Signature of Transporter Representative:
Date of Shipment: 01-23-02
Time of Shipment: 09:00 [X] AM [ ] PM
Truck/Tractor Registration: 16 4167PB NY
Trailer Registration (if any): T-22 AD69286 NY
Signature of Receiving Facility/Temporary Storage Representative: GMH
Date of Receipt: 01-23-02
Time of Receipt: 10:55 [X] AM [ ] PM
Load Size (cu. yds./tons): 37.43 TON

Load 4:
Signature of Transporter Representative: Mark Van Alstyne
Date of Shipment: 01-23-02
Time of Shipment: 11:30 [X] AM [ ] PM
Truck/Tractor Registration: 5699PB NY
Trailer Registration (if any): AC96930 NY
Signature of Receiving Facility/Temporary Storage Representative: GMH
Date of Receipt: 01-23-02
Time of Receipt: 12:55 [ ] AM [X] PM
Load Size (cu. yds./tons): 27.44 TONS

Load 5:
Signature of Transporter Representative:
Date of Shipment:
Time of Shipment: [ ] AM [ ] PM
Truck/Tractor Registration:
Trailer Registration (if any):
Signature of Receiving Facility/Temporary Storage Representative:
Date of Receipt:
Time of Receipt: [ ] AM [ ] PM
Load Size (cu. yds./tons):

Load 6:
Signature of Transporter Representative:
Date of Shipment:
Time of Shipment: [ ] AM [ ] PM
Truck/Tractor Registration:
Trailer Registration (if any):
Signature of Receiving Facility/Temporary Storage Representative:
Date of Receipt:
Time of Receipt: [ ] AM [ ] PM
Load Size (cu. yds./tons):

J. LOG SHEET VOLUME INFORMATION:

Total Volume Recorded This Page (cu. yds./tons): 138.89 TON
Total Carried Forward (cu. yds./tons):
Total Carried Forward and This Page (cu. yds./tons): 138.89 TON

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-012C

BILL OF LADING (pursuant to 310 CMR 40.0030)

SUMMARY SHEET 1 **OF** 1

Release Tracking Number 2 - 253

K. SUMMARY OF SHIPMENTS:

Date of Shipment:	Date of Receipt:	Number of Loads Shipped:	Daily Volume Shipped (cu. yds./tons):
1-23-02	1-23-02	4	138.89 ton
Summary Sheet Total Shipped:		4	138.89 ton
Bill of Lading Total Shipped (only if different):			

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-012C

BILL OF LADING (pursuant to 310 CMR 40.0030

SUMMARY SHEET

Release Tracking Number
2 - 253

ONLY COMPLETE ONE COPY OF THIS PAGE AND ATTACH TO THE FINAL COPY OF THE SUMMARY SHEET.

L. ACKNOWLEDGMENT OF RECEIPT OF REMEDIATION WASTE AT RECEIVING FACILITY OR TEMPORARY STORAGE:

Receiving Facility/Temporary Storage Representative (print): Paul Mullen

Title: Contact Person

Signature: [signature]

Date: 1/29/02

M. ACKNOWLEDGMENT OF SHIPMENT AND RECEIPT OF REMEDIATION WASTE BY PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH THIS BILL OF LADING:

I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in herein is, to the best of my knowledge and belief, true, accurate and complete, I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

Signature: [signature]

Date: 2/12/02

Name of Person (print): David J. Baker

APPENDIX D

Copies of Permits

BK34485PG063

77

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
85-767
Provided by DEP

A. General Information

From:

ACTON
Conservation Commission

RECEIVED
NOV 1 5 2001
BY:

This issuance if for (check one):

☒ Order of Conditions

☐ Amended Order of Conditions

To: Applicant:

Mobil Business Resources Corporation
Name
1800 West Park Drive, Suite 450
Mailing Address
Westborough | MA | 01581
City/Town | State | Zip Code

Property Owner (if different from applicant):

Board of Trustees ~~c/o~~ Pillar House I Condo Assoc.
Name
PO Box 2144
Mailing Address
Acton | MA | 01720
City/Town | State | Zip Code

1. Project Location:

44 & 48 Great Road | Acton
Street Address | City/Town
G-5 | 76 & 76-1
Assessors Map/Plat Number | Parcel/Lot Number

2. Property recorded at the Registry of Deeds for:

Middlesex South | 10187 | 405
County | Book | Page

Certificate (if registered land)

3. Dates:

10/16/01 | November 7, 2001 | November 7, 2001
Date Notice of Intent Filed | Date Public Hearing Closed | Date of Issuance

4. Final Approved Plans and Other Documents (attach additional plan references as needed):

Figures 1-6 44 Great Road, Acton | October 2001
Title | Date

5. Final Plans and Documents Signed and Stamped by:

Christophe M. Henry Civil No. 36172
Name

6. Total Fee:

$725
(from Appendix B: Wetland Fee Transmittal Form)

MSD 01/02/02 03:37:39 1527 38.25

Owner; Board of trustees Pillar House I Condominium Association

BK34485PG064

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
85-767
Provided by DEP

B. Findings

Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act. Check all that apply:

☐ Public Water Supply	☐ Land Containing Shellfish	☒ Prevention of Pollution
☐ Private Water Supply	☐ Fisheries	☐ Protection of Wildlife Habitat
☒ Groundwater Supply	☒ Storm Damage Prevention	☐ Flood Control

Furthermore, this Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

☒ the following conditions which are necessary, in accordance with the performance standards set forth in the wetlands regulations, to protect those interests checked above. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Denied because:

☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations to protect those interests checked above. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect these interests, and a final Order of Conditions is issued.

☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).

General Conditions (only applicable to approved projects)

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.

2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.

3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
85-767
Provided by DEP

B. Findings (cont.)

4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   a. the work is a maintenance dredging project as provided for in the Act; or
   b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.

5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.

6. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.

7. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.

8. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to this Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.

9. A sign shall be displayed at the site not less then two square feet or more than three square feet in size bearing the words,

   "Massachusetts Department of Environmental Protection" [or, "MA DEP"]

   "File Number 85-767 "

10. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before DEP.

11. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.

12. The work shall conform to the plans and special conditions referenced in this order.

13. Any change to the plans identified in Condition #12 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.

14. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
85-767
Provided by DEP

B. Findings (cont.)

15. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.

16. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.

17. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

Special Conditions (use additional paper, if necessary):

1. Should any excavation require the dewatering of the excavation area or of the associated excavated sediments, such water shall be contained, tested and disposed of in accordance with DEP and Town of Acton regulations.

Findings as to municipal bylaw or ordinance

Furthermore, the _____ hereby finds (check one that applies):
Conservation Commission

☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

Name | Municipal Ordinance or Bylaw

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

☐ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw, specifically:

Name | Municipal Ordinance or Bylaw

The Commission orders that all work shall be performed in accordance with the said additional conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

BK34485PG067

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

Provided by DEP

B. Findings (cont.)

Additional conditions relating to municipal ordinance or bylaw:

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

November 7, 2001
Date

This Order must be signed by a majority of the Conservation Commission. The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office (see Appendix A) and the property owner (if different from applicant).

Signatures:

Terence Martland

On 7th
Day

Of November, 2001
Month and Year

before me personally appeared

Matthew Liebman

to me known to be the person described in and who executed the foregoing instrument and acknowledged that he/she executed the same as his/her free act and deed.

Andrea MacKenzie
Notary Public

March 1, 2002
My Commission Expires

This Order is issued to the applicant as follows:

☐ by hand delivery on
Date

☑ by certified mail, return receipt requested, on
11/14/01
Date

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
85-767
Provided by DEP

C. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate DEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Appendix E: Request of Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act, (M.G.L. c. 131, § 40) and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

D. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on Page 7 of Form 5 shall be submitted to the Conservation Commission listed below.

ACTON
Conservation Commission

BK34485PG069

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
85-767
Provided by DEP

D. Recording Information (cont.)

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

ACTON
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

44 & 48 Great Road, Acton — 85-767
Project Location — DEP File Number

Has been recorded at the Registry of Deeds of:

Middlesex South
County — Book — Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book — Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

BK34485PG070

2

Form E

DEP File No. 85-767
Applicant: Mobil Business R.C.

15

Order of Conditions
Wetlands Protection Bylaw
Chapter F

From the ACTON CONSERVATION COMMISSION Issuing Authority

To Mobil Business Resources Corp. (Name of person making request)

Board of Trustees, Pillar House I Condo Association (Name of property owner)

Address 1800 W. Park Drive, Suite 450
Westborough, MA 01581

Address PO Box 2144, Acton, MA 01720

This Order is issued and delivered as follows:

☐ by hand delivery to person making request on _____ (date)

☒ by certified mail, return receipt requested on 11/14/01 (date)

This project is located at 44 & 48 Great Road, Acton

The property is recorded at the Registry of Middlesex South

Book 10187 Page 76 & 76-1

Certificate (if registered) _____

The Notice of Intent for this project was filed on October 16, 2001 (date)

The public hearing was closed on November 7, 2001 (date)

Findings

The ACTON CONSERVATION COMMISSION has reviewed the above-references Notice of Intent and plans and has held a public hearing on the project. Based on the information available to the ACTON CONSERVATION COMMISSION at this time, the ACTON CONSERVATION COMMISSION has determined that the area on which the proposed work is to be done is significant to the following interests in accordance with the Presumptions of Significance set forth in the regulations for each Area Subject to Protection under the Act (check as appropriate):

☐ Public water supply	☐ Flood Control	☐ Land containing shellfish
☐ Private water supply	☒ Storm damage prevention	☐ Fisheries
☒ Ground water supply	☒ Prevention of pollution	☐ Protection of Wildlife Habitat

Total filing fee submitted under Acton Wetlands Protection Bylaw $ 145.00

34.75
MSD 01/02/02 03:37:41 1628

Therefore, the ACTON CONSERVATION COMMISSION hereby finds that the following conditions are necessary, in accordance with the Performance Standards set forth in the regulations, to protect those interests checked above. The ACTON CONSERVATION COMMISSION orders that all the work shall be performed in accordance with the said conditions and with the Notice of Intent references above. To the extent that the following conditions modify or differ from the plans, specifications or other proposals submitted with the Notice of Intent, the conditions shall control.

General Conditions

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.

2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.

3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state or local statutes, ordinances, by-laws or regulations.

4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   (a) the work is a maintenance dredging project as provided for in the Act; or
   (b) the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance and both that date and the special circumstances warranting the extended time period are set forth in this Order.

5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.

6. Any fill used in connection with this project shall be clean fill, containing no trash, refuse, rubbish or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles or parts of any of the foregoing.

7. No work shall be undertaken until all administrative appeal periods from this Order have elapsed or, if such an appeal has been filed, until all proceedings before the Department have been completed.

8. No work shall be undertaken until the Final order has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of registered land, the Final order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the ACTON CONSERVATION COMMISSION on the form at the end of this Order prior to the commencement of the work.

9. A sign shall be displayed at the site not less than two square feet or more than three square feet in the size bearing the words, "Massachusetts Department of Environmental Protection, File Number **85-767**.

10. Where the Department of Environmental Protection is requested to make a determination and to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before the Department.

11. Upon completion of the work described herein, the applicant shall forthwith request in writing that a Certificate of Compliance be issued stating that the work has been satisfactorily completed.

**** PLEASE READ THE FOLLOWING GENERAL CONDITIONS REQUIRED BY THE TOWN OF ACTON WETLANDS BYLAW ****

12. No work shall be undertaken until the Order of Conditions has been reviewed and is clearly understood by the Contractor or his agent. It is the Applicant's responsibility to see that the Contractor clearly understands all items herein.

13. This Order of Conditions shall apply to any successor in interest or successor in control.

14. Members and agents of the Conservation Commission shall have the right to enter and inspect the premises to evaluate compliance with the Order and to require the submittal of any data deemed necessary by the Commission for that evaluations.

15. All drainage facilities and related structures and equipment shall be continually operated and maintained so as to comply with this Order of Conditions. The operation and maintenance of the facilities and structures shall be on-going and will not expire at the end of one year or with the issuance of the Certificate of Compliance.

16. Any change made, or intended to be made, in the plans shall require the applicant to file a new Notice of Intent, or to inquire of the Commission, in writing, whether the change is substantial enough to require a new filing.

17. The Conservation Commission shall have the right to file this Order of Conditions in the Registry of Deeds should the applicant fail to do so within 60 days.

18. Accepted engineering and construction standards and procedures shall be followed in the completion of this project.

19. The Commission shall be notified in writing 10 days prior to the commencement of any site work. Failure to so notify the Commission shall result in the issuance of an Enforcement Order.

20. The Petitioner is advised that this Order in no way absolves him of responsibility to other property owners upon whose land he discharges water directly or indirectly.

21. Erosion control measures consisting of staked haybales unless otherwise approved by the Commission shall be installed during the first phase of construction and the Commission shall be notified of their placement and no work shall begin before inspection by the Commission.

22. Any materials collected by the erosion control measures shall be removed and properly disposed of.

23. All work shall be completed as quickly as possible to minimize the duration of exposure of disturbed areas. If work is suspended for a significant period of time (i.e. as during winter months), then temporary stabilization methods must be employed and maintained during the period of inactivity.

24. No salt or other deicing chemicals shall be used on roadways and parking areas on the site.

25. This order applies only to the work described in the Notice of Intent and shown on the plans referenced in Condition 12. A Determination of Applicability Form must be filed for any additional work on site in areas governed by the Town of Acton Wetlands Protection Bylaw.

26. All disturbed areas shall be topsoiled six inches and seeded.

27. Violation of any condition of this Order may result in the issuance of an Enforcement Order. Such Enforcement Order, if issued, will require the immediate cessation of all work until a hearing is held; such hearing will be held not more than 10 days from the issuance of the Enforcement Order.

28. The work authorized hereunder by the Acton Wetlands Protection Bylaw shall be completed within three years from the date of this Order unless the Order is renewed prior to expiration.

29. A twenty-five (25) foot setback of natural vegetation shall be maintained up-gradient from the wetland.

30. No construction, either temporary or permanent shall occur within forty (40) feet of the edge of wetlands. This shall include driveways; roadways; residential, commercial or industrial structures, etc.

31. There shall be no use of fertilizers, pesticides, herbicides or chemicals of any kind within the forty (40) foot no construction zone.

32. There shall be no underground storage of gasoline, oil or other fuels or hazardous materials within the one-hundred (100) foot buffer zone.

33. The Commission reserves the right to impose additional conditions to mitigate any actual or potential impacts resulting from the permitted work.

34. The work shall conform to the following plans and special conditions:

Plans:

Title	Dated	Signed and Stamped by:	on file with:
Figures 1-6 44 Great Road	10/01	Christophe M. Henry	Acton Conservation

Special Conditions

1. Should any excavation require the dewatering of the excavation area or of the associated excavated sediments, such water shall be contained, tested and disposed of in accordance with DEP and Town of Acton regulations.

(Leave Space Blank)

BK34485PG074

Issued by the ACTON Conservation Commission

Signature(s) Terrence Mattaw

This Order must be signed by a majority of the Acton Conservation Commission.

On this 7th day of November, 2001, before me personally appeared Matthew Liebman to me known to be the person described in, and who executed, the foregoing instrument, and acknowledged that he/she executed the same as his/her free act and deed.

Notary Public

March 1, 2002
My Commission Expires

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the Department of Environmental Protection to issue a Superseding Order, providing the request is made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form as provided in 310_CMR 10.03(7) within ten days from the date of issuance of this determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and the applicant.

Detach on dotted line and submit to the **ACTON CONSERVATION COMMISSION** prior to commencement of work.

To **ACTON CONSERVATION COMMISSION** Issuing Authority

Please be advised that the Order of Conditions for the project at 44 & 48 Great Road, Acton

File Number 85-767 has been recorded at the Registry of Middlesex South and

has been noted in the chain of title of the affected property in accordance with General Condition 8 on _____ 19____.

If recorded land, the instrument number which identifies this transaction is _____

If registered land, the document number which identifies this transaction is _____

Signature _____ Applicant

Groundwater
& Environmental Services, Inc.

364 Littleton Road • Suite 4 • Westford, MA 01886 • (978) 392-0090 • FAX (978) 392-8583

FILE COPY

October 15, 2001

Mr. Thomas Tidman, Natural Resource Director
Town of Acton
Town Hall
472 Main Street
Acton, Massachusetts 01720

Re: **Addendum to Notice of Intent – WPA Form 3**
Mobil Station No. 10190 (formerly 01-PPO) & Pillar House Condominiums
44 Great Road & 48 Great Road
Acton, Massachusetts 01720
Assessor Map G5 Lots 76 & 76-1
MADEP Site No. 2-0253 & Release Tracking Number 2-13870

Dear Mr. Tidman:

On behalf of the Mobil Business Resources Corporation, Groundwater and Environmental Services, Inc. (GES) is submitting the enclosed Notice of Intent (NOI)-WPA Form 3 in order to excavate and remove an out-of-service used oil underground storage tank (UST) from the Mobil station property and to excavate subsurface piping trenches, both on the Mobil property and the abutting Pillar House Condominiums (PHC) property, as part of the remedial system installation that is being completed under a Phase IV Remedy Implementation Plan (RIP) concerning the above-referenced site. As further described below, some of the proposed activities will be performed within the Riverfront areas associated with Nashoba Brook and within a 100 foot Buffer Zone of associated Bordering Vegetated Wetlands (BVW). The site location and proposed activities, depicted in the attached Figures 1, 2, and 3 are further described within this addendum

Background

The disposal site (the site) is the location of a subsurface release of petroleum hydrocarbons initially discovered at the Mobil station property. Historical groundwater monitoring data indicates that petroleum constituents were also identified on an adjacent parcel, located on the western side of the Mobil station, referred to as the Pillar House Condominiums.

The Mobil station is a gasoline retail facility that includes one station building (consisting of a convenience store, restrooms and storage) and four dispenser islands under a canopy. Additional site structures include an existing shed and associated dumpster storage areas (former and current) are located on the southeastern side of the Mobil property. The PHC property consists of a three-story apartment building with associated driveways, parking areas, and landscaped areas. A Site Plan depicting relevant site features and approximate property boundaries is attached as Figure 3. The Mobil property occupies a parcel of

land approximately 40,600 square feet in area. The PHC property occupies a parcel of land approximately 60,000 square feet in size. The majority of the Mobil property is paved with grass and landscaped areas along the northwest and southeast edges of the property. Some grass and landscaped covered areas are located on the northwestern side of the Mobil property. In general, the Mobil station property is flat with a four to five foot embankment in the southwestern side of the station building leading to the PHC's parking lot. The major portion of the PHC property, where the proposed activities will occur, is bituminously paved and utilized as a paved parking lot and driveway.

The purpose of the above-referenced removal of the out-of-service used oil underground storage tank from the Mobil property is to remove a potential source of petroleum-impact, while the purpose of the proposed remedial system installation is to remediate impacted groundwater and soil. These activities were proposed to the MADEP in a Phase IV Remedy Implementation Plan (RIP), which was submitted, to the MADEP and to the local repository (the Acton Public Library) on July 31, 2001. A summary of the proposed Phase IV activities is provided in the next sections. The proposed UST excavation area is shown on Figure 4 and the proposed remedial system location is shown on Figure 5.

Project Description

The Phase IV RIP proposed to perform the following remedial activities:

- Excavation, removal, and off-site disposal of the out of service waste oil tank and associated petroleum impacted soil.

- Installation and operation of an Air Sparge (AS) system combined with a Soil Vapor Extraction (SVE) system to address the petroleum impacted soil and groundwater.

In the above-referenced Phase IV RIP, the proposed removal of the out-of-service used oil UST and associated petroleum impacted soil will consist of completing a 25 feet long by 15 feet wide excavation within the 100-foot Buffer Zone. The excavated soil will be transported to a designated temporary storage area located outside the 100 foot Buffer Zone, in the grass area located on the southwestern corner of the Mobil property. The excavated soils will be placed on and covered by polyethylene liner and stockpiled within this temporary storage area, pending off-site disposal. As shown on Figures 4 and 5 hay bales will be installed around the pile of excavated soil and downgradient of the proposed excavation area to control any silt run-off. The proposed UST excavation and storage areas are shown on Figure 4.

The proposed SVE/AS system installations will involve drilling activities of the proposed SVE and AS wells and installation of remedial system piping. The drilling activities will involve installation of 26 AS wells and 11 SVE wells within the 200-foot Riverfront Area. Ten AS wells and 6 SVE wells will be within 100 foot Buffer Zone. As shown on Figure 6, these system wells will consist of 2 and/or 4 inch-diameter PVC pipe to a depth

of 10 to 21 feet below grade. The proposed installation of the remedial system piping will involve the completion of up to 690 linear feet of shallow trenching (approximately 3 feet deep and 3 feet wide) within the 200-foot Riverfront. Of these 690 linear feet of trenching, approximately 480 feet will be within the 100-foot Buffer Zone. The proposed remedial system layout is shown on Figure 5. The construction design of the piping trenches is shown on Figure 6.

Upon the completion of the excavation activities, all excavation equipment will be withdrawn from the work areas and all excavations will be backfilled and the surface will be returned to its original condition.

During the proposed construction activities, fueling of vehicles within the 100-foot Buffer Zone of BVW will be prohibited. All construction debris and litter will be removed from the 100-foot Buffer Zone on a daily basis.

In order to limit potential impact to Nashoba Brook, or its associated wetlands, hay bales and silt fencing will be placed along the southern and eastern boundaries of the PHC parking area and the southeastern side of the Mobil property to keep any generated soil debris from washing into Nashoba Brook or its associated wetlands. Additional hay bale check dams will be installed in the front of the two existing paved drainage swales located on the PHC parking lot. Upon completion of the excavation and backfilling activities, and upon receiving approval from the Acton Conservation Commission, the hay bales and silt fence will be removed from the site.

Activities Subject to Regulation

In the Statement of Jurisdiction for Activities Subject to the Regulation (310 CMR 10.02(2)), a Notice of Intent (NOI) is required for any activity proposed or undertaken within a wetlands Resource Area "which will remove, fill, dredge or alter (includes the addition of chemical compounds) that area subject to the Wetlands Protection Act." The Resource Areas that will be temporarily impacted by the proposed completion of the out-of-service tank excavation and the installation and operation of the remedial system trenching include the 100-foot Buffer Zone of the bordering vegetated wetland and the 200-foot Riverfront Area associated with Nashoba Brook

Bordering Vegetated Wetlands (BVW)

The bordering vegetated wetlands (BVW) are "freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes...where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants" (310 CMR 10.55(2)(a)). The BVW that is associated with this site consists of a BVW section located between the north bank of Nashoba Brook and the southern-most edge of the PHC portion of the site. The BVW was delineated in August 2001, by Hancock Survey Associates, Inc. (HSA) of Bolton, Massachusetts. The BVW was flagged at several points (WF-1 through WF-18) and delineated by HSA personnel through identification of at least 50% of indicator plants and hydric soils.

None of the proposed drilling and excavation activities will be performed within the BVW. Altering is defined in 310 CMR 10.04 as an activity that changes the wetland. Examples given include lowering of the water level, destruction of vegetation, changing of receiving water body temperature or physical, chemical or biological properties. Based on the nature of the proposed activities, it is GES' opinion that alteration of the BVW will be minimal, if any, since the majority of the drilling and excavation activities will be completed within paved portions of the site and hay bales and silt fences will be installed between the work area and the closest edge of the BVW.

Land Under Water Bodies, Land Subject to Flooding, River Bank and Riverfront Area:

Land under water bodies is "land beneath any creek, river, stream, pond or lake" (310 CMR 10.56 (2)). The riverbank is "the portion of land surface which abuts and confines a water body. It occurs between the water body and the BVW" (310 CMR 10.54(2)). The Riverfront area is "an area of land between the river's Mean Annual High Water (MAHW) line measured horizontally outward from the river and a parallel line located 200 feet away" (310 CMR 10.58(2)). The boundary of Nashoba Brook river bank was established by a review of historical site plans and a limited survey of bankfull field indicators including change of slope, change in vegetation, stain lines, change of bank material and/or bank under cut to determine the approximate location of the mean annual high-water line. The MAHW boundary was delineated in August 2001 by HSA personnel by using flagged designated MAWH-1 through MAWH-10 as shown on Figure 3.

According to the Federal Emergency Management Agency (FEMA) Map, identified as Community Panel #250176-0007C (January 8, 1988) the Mobil property is located within the 500-year floodplain (Zone X). Furthermore, the PHC property is located within the 500-year and 100-year floodplain (Zone X and Zone AE). However due to the nature of the proposed work, no change in flood storage capacity is anticipated since most of the proposed drilling excavation activities will be located beneath paved areas and the original grade will be re-established after completion of the excavation activities.

None of the proposed activities will be located within the River Bank and therefore will not alter the Riverbank.

The proposed system well drilling activities will be performed by using typical truck mounted drilling equipment. Since the drilling of system wells is similar in nature to the installation of groundwater monitoring wells, it is GES's opinion that alteration of the Riverfront will be minimal.

The proposed excavation activities will alter approximately 4,150 square foot (ft^2) of Riverfront Area (approximately 2,175 ft^2 for the remedial system trenching and enclosures, approximately 375 ft^2 for the excavation of the out-of-service used oil UST and approximately 1,600 ft^2 for temporary storage of excavated soil). However, based on the fact that the majority of the excavation activities will be completed within paved portions of the site, and on the fact that none of the proposed activities will take place

within the BVW, it is GES' opinion that alteration of the Riverfront area will be minimal. In addition, mitigation measures such as the installation of hay bales and silt fence will be implemented during the excavation activities associated with the UST removal and the remedial system installation.

The 100-Foot Buffer Zone:

The boundary of the Buffer Zone is obtained through measuring 100 feet horizontally from the boundary of the BVW described above. The UST excavation and the remedial system trenching activities will temporarily alter 1,920 ft^2 of the 100-foot Buffer Zone (approximately 375 ft^2 for the UST excavation, 105 ft^2 of system enclosure upgrade approximately, and approximately 1,440 ft^2 for the remedial system trenching). As mentioned previously, minimal impact to the 100-foot Buffer Zone is anticipated since most of the proposed drilling and excavation activities will be completed within paved portions of the site. Excavation activities with unpaved areas and all such activities will be completed at least 50 feet from the edge of the BVW. Mitigation measures such as hay bales and silt fences will be installed during the excavation activities associated with the UST excavation, the remedial system trenching, temporary storage of the excavated materials will be performed outside of the 100 foot Buffer Zone.

Performance Standards

Because of the nature of the proposed activities, which includes the excavation of an out-of-service used oil UST, drilling of remedial system wells and the trenching for remedial system piping, the proposed activities associated with these activities are eligible to be treated as a limited project in accordance to 310 CMR 10.53 (9). In order to classify the proposed activities as a limited project, GES evaluated other options and concluded that there are no practical alternatives to the response actions which will be less damaging, if at all, to the resource areas. In addition, the proposed alteration will be temporary and minimal since the proposed drilling and excavation activities will not change the original surface grading.

Since the proposed drilling and excavation activities will be limited to a maximum of 30 working days, the temporary storage of excavated material will be limited to 60 working days, and no change in final site surface grading or in existing stormwater surface runoff is anticipated with the proposed work, it is GES' opinion that the proposed project is exempt from the MADEP Stormwater Policy. The above-referenced mitigation measures (hay bales and silt fences) will be implemented during and upon completion of the proposed activities.

As described in this letter, precautions will be taken to minimize impact to the wetlands, and to protect the eight interests identified in the Wetlands Protection Act (310 CMR 10.01(2)). The proposed activities will not remove, fill or dredge wetlands resource areas. Based on the following reasons, it is GES' opinion that the proposed activities within areas subject to the Wetlands Protection Act are minimal:

- The purpose of the project is in response to MADEP requirements and is to eliminate a threat to human health, safety, public welfare and the environment;

- The proposed work will prevent pollution and/or contribute to the restoration of the site property and restore the local groundwater supply;

- The proposed work will prevent pollution of the areas subject to the Wetlands Protection Act;

- Hay bales and silt fences will be installed within the proposed activities area to control potential silt runoff;

- Potential excavated petroleum impacted soil will be temporarily stockpiled outside of the 100 foot Buffer Zone and covered with polyethylene liner, pending disposal and/or stored in 55 gallon containers. The polyethylene lining will be secured and maintained on a daily basis until off site disposal or backfilling;

- Excavated clean soil or clean fill material will be stored in the temporary storage area.

- During the proposed construction activities and operation of the remedial system, fueling of vehicles within 100 foot Buffer Zone will be prohibited and all construction debris and litter will be removed from the 100-foot Buffer Zone on a daily basis;

- A pre-construction conference will be held between the Acton Conservation Commission and GES prior to the commencement of any of the proposed excavation and drilling activities; and

- The proposed work will contribute to the protection of wildlife habitat, fisheries and land subject to flooding.

Proposed Activities Schedule

Currently, the above-referenced remedial activities have been presented to the MADEP in the Phase IV RIP, which was submitted by GES on July 31, 2001. The proposed activities at the Mobil property and the abutting property location are necessary to complete the remediation and restoration of the impacted groundwater and its associated saturated soil. Upon approval from local applicable agencies (Building Department, Fire Department, and Conservation Commission), the completion of the proposed drilling and excavation activities will be initiated.

The abutting properties located within 100 feet of the site, where the proposed work will be conducted, will be notified within two days of the NOI submittal date. Attachment C includes a list of the names of abutter's properties, located within 100 feet of the site that will be notified. Upon issuance of the applicable permits, the completion of the excavations is anticipated to be completed within 30 days of receiving all required permit

approvals. Because of the time frame requirements for public notification, public hearing, and issuance of an Order of Conditions from your commission, and the ten days appeals period, GES on behalf of Mobil, is asking for authorization to perform the proposed drilling activities under the Negative Determination, which was issued by your commission on September 26, 2000. The Request for Determination was filed by GES on August 14, 2000 for the advancement of soil borings and installation of groundwater monitoring wells within 200 feet Riverfront and 100 foot Buffer Zone. Since the proposed drilling activities of remedial system wells described in this NOI are similar in nature to drilling activities associated to installations of groundwater monitoring wells, are considered minor activities as defined in 310 CFR 10.58(g)(f) and will not remove, fill, dredge or alter the resource areas, it is GES's opinion that initiation of the proposed drilling activities can be completed under the September 2000 Negative Determination. Authorization of re-initiation of drilling activities under the September 2000 Negative Determination will allow the commencement of the proposed remedial activities, pending your formal approval of all proposed remedial activities through an Order of Conditions.

GES will be happy to schedule a meeting on-site with any members of your commission to discuss the project. If you have any questions or comments regarding this NOI submittal, or the attached supporting documentation, please do not hesitate to contact the undersigned at (978) 392-0090.

Sincerely,

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

Brad S. Van Renterghem
Project Geologist

Eugene P. Choquette
Project Manager

Christophe M. Henry PE, LSP
Senior Project Manager

C: Mobil File
MADEP - CERO

Attachments:

Attachment A:	Notice of Intent Form 3 WPA Appendix B - Wetlands Fee transmittal Form Copies of Fee Payment Checks	
Attachments B:	FIGURES	
	Figure 1:	Site Locus Map
	Figure 2:	BWSC Map
	Figure 3:	Site Plan
	Figure 4:	Proposed Excavation Area
	Figure 5:	Proposed Remedial System Layout
	Figure 6:	Proposed Construction Details
Attachments C:	List of Abutters and Addresses Copies of Abutter Notification	

GES

ATTACHMENT A

WPA FORM 3

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

Provided by DEP

Town

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

1. Applicant:

Mobil Business Resources Corporation
Name — E-Mail Address (if applicable)

1800 West Park Drive, Suite 450
Mailing Address

Westborough — MA — 01581
City/Town — State — Zip Code

508-389-1881
Phone Number — Fax Number (if applicable)

2. Representative (if any):

GES, Inc.
Firm

Christophe M. Henry
Contact Name — E-Mail Address (if applicable)

364 Littleton Road, Suite 4
Mailing Address

Westford — MA — 01886
City/Town — State — Zip Code

978-392-0090 ext. 127 — 978-392-8583
Phone Number — Fax Number (if applicable)

3. Property Owner (if different from applicant):

Board of Trustees c/o Pillar House I Condominium Association
Name

P.O. Box # 2144
Mailing Address

Acton — MA — 01720
City/Town — State — Zip Code

4. Total Fee:

$725.00
(from Appendix B: Wetland Fee Transmittal Form)

5. Project Location:

Mobil Station #01-PPO (44 great Road)/Pillar House Condominiums (48 Great Road) — Acton
City/Town

Map No. G5 — Lot # 76 (Mobil) and Lot # 76-1(Pillar House)
Assessors Map/Plat Number — Parcel /Lot Number

6. Registry of Deeds:

Middlesex — 10187 — 405
County — Book — Page

Not Applicable
Certificate (if Registered Land)

A. General Information (cont.)

7. Summary of Project Impacts:

a. Is any work being proposed in the Buffer Zone?

☒ Yes If yes, how many square feet?

1,920 sq.ft. (approximately)

☐ No

b. List the impacts of proposed activities on each wetland resource areas (temporary and permanent impacts, prior to restoration and mitigation):

Resource Area	Size of Impact (e.g., sq. ft.)
Buffer Zone (100 ft.)	1,920 sq.ft. (UST Excavation / System Well Installation / Equipment Compound)
Riverfront Area (200 ft.)	4,150 sq.ft. (UST Excavation / Trenching / System / System Well Installation / System Compounds / Temporary Storage of Excavated Soil)

B. Project Description

1. General Project Description:

Installation and operation of a soil vapor extraction/air-sparge remedial system and the excavation and removal of a used oil UST under Phase IV Remedy Implementation Plan (RIP) Activities.

2. Plan and/or Map References:

ADDENDUM TO NOTICE OF INTENT WITH ATTACHMENTS (GES DATED OCTOBER 11,2001

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

Provided by DEP

Town

C. Activities Subject to Regulation

1. a. Check the applicable resource areas if work is to be conducted in an associated Buffer Zone:

Inland Resource Areas

- ☒ Inland Bank
- ☒ Bordering Vegetated Wetland (BVW)

Coastal Resource Areas

- ☐ Coastal Beach
- ☐ Barrier Beach
- ☐ Rocky Intertidal Shore
- ☐ Coastal Dune
- ☐ Salt Marsh
- ☐ Coastal Bank

b. Complete for all proposed activities located, in whole or in part, in Wetland Resource Area(s).

Inland Resource Areas:

Bordering Vegetated Wetlands:

0
Square Feet altered

Not Applicable
Square Feet replaced

Land Under Water Bodies:

0
Square Feet altered

Not Applicable
Cubic Yards dredged

Bank:

0
Linear Feet altered

Bordering Land Subject to Flooding:

0
Volume of Flood Storage Lost (cubic feet)

Not Applicable
Volume of Flood Storage Compensation (cubic feet)

Isolated Land Subject to Flooding:

0
Volume of Flood Storage Lost (cubic feet)

Not Applicable
Volume of Flood Storage Compensation (cubic feet)

Coastal Resource Areas:

Coastal Dune:

Not Applicable
Square Feet altered

Not Applicable
Cubic Yards/Volume removed

Salt Marsh:

Not Applicable
Square Feet altered

Coastal Bank:

Not Applicable
Linear Feet altered

Land Under Salt Pond:

Not Applicable
Square Feet altered

Not Applicable
Cubic Yards dredged

Rocky Intertidal Zone:

Not Applicable
Square Feet altered

Designated Port Area:

Not Applicable
Square Feet altered

C. Activities Subject to Regulations (cont.)

Fish Run:
Not Applicable
Linear Feet altered

Land Containing Shellfish:
Not Applicable
Square Feet altered

Land Subject to Coastal Storm Flowage:
Not Applicable
Square Feet altered

Beach:
Not Applicable
Square Feet altered

Land Under Ocean:
Not Applicable
Square Feet altered
Not Applicable
Cubic Yards dredged

Riverfront Area:

a. Name of Waterway (if available):

Nashoba Brook

b. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☒ 200 ft. - All other projects

c. Describe how the Mean Annual High-Water Line was determined:

Historical site plans were used and limited site survey of Bankfull field indicators including changes in slope, changes in vegetation, stain lines, top of pointbars, changes in bank materials, and/or bank undercuts were used by HANCOCK Survey Associates, Inc. (HSA) to determine the Mean Annual High-Water Line.

The identification and survey was performed on August 16, 2001.

d. Distance of proposed activity closest to the Mean Annual High-Water line:

Approximately 30 feet
Feet

e. Total area of Riverfront Area on the site of the proposed project:

4,150 sq.ft. (trenching & system wells installation & UST excavation & System Compound & Temporary Storage of Excavation Material)

f. Proposed alteration of the Riverfront Area:

4,150 sq. ft.	1,920 sq. ft.	2,230 sq. ft.
Total Square Feet	Square Feet within 100 ft.	Square Feet between 100 ft. and 200 ft.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

Provided by DEP

Town

C. Activities Subject to Regulation (cont.)

2. Check all methods used to delineate the Bordering Vegetated Wetland (BVW) boundary:

☐ Final Order of Resource Area Delineation issued by Conservation Commission or DEP (attached)

☐ DEP BVW Field Data Form (attached)

☐ Final Determination of Applicability issued by Conservation Commission (attached)

☒ Other Methods for Determining the BVW boundary (attach documentation):

☒ 50% or more wetland indicator plants

☐ Saturated/inundated conditions exist

☐ Groundwater indicators

☒ Direct observation

☒ Hydric soil indicators

☐ Credible evidence of conditions prior to disturbance.

3. a. Is any portion of the proposed project located in estimated habitat as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program?

☐ Yes If yes, include proof of mailing or hand delivery of NOI to :

Natural Heritage and Endangered Species Program
Division of Fisheries and Wildlife
Route 135, North Drive
Westborough, MA 01581

☒ No

Refer to Figure 2 / MADEP BWSC Site Scoring Map (8/15/00) & 2000-2001 Massachusetts Natural Heritages Areas Map (Maynard USGS Quadrangle))
Date of Map

b. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

☐ Yes If yes, provide name of ACEC (see Appendix D for ACEC locations):

☒ No Refer to Figure 2 / MADEP BWSC Site Scoring Map (8/15/01)

c. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

☐ Yes

☒ No

D. Performance Standards

1. Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 or 310 CMR 10.53?

☒ Yes — If yes, describe which limited project applies to this project:

Installation & operation of a Remedial System and excavation and removal of a UST in Respose to a release of petroleum. 10.53 (3) (Q)

☐ No

2. Is any activity within any Resource Area or Buffer Zone exempt from performance standards of the wetlands regulations, 310 CMR 10.00.

☒ Yes — If yes, describe which exemption applies to this project:

Monitoring Well Installation & Surface Water & Sampling, Surveying, and Fence Installation within 100 feet of Buffer Zone and 200 feet of Riverbank 10.02 (A) & (M) and 1058 (g)(b)

☐ No

3 a. Is the project located in the Riverfront Area?

☒ Yes — If yes, indicate the proposed project purpose:

☐ Single Family House
☐ Industrial Development
☐ Residential Subdivision
☐ Commercial Development
☐ Transportation
☒ Other (describe)

Remedial Activities under MADEP Phase IV RIP

b. Was the lot where the activity is proposed created prior to August 1, 1996?

☒ Yes

☐ No

4. a. Describe how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location. Attach narrative and supporting documentation.

b. Is this project exempt from the DEP Stormwater Policy?

☒ Yes — If yes, explain why the project is exempt:

No change of final grading & stormwater runoff are associated with proposed

☐ No — If no, stormwater management measures are required. Applicants are encouraged to complete Appendix C: Stormwater Management Form and submit it with this form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

Provided by DEP

Town

E. Additional Information

Applicants must include the following with this Notice of Intent (NOI):

- USGS or other map of the area (along with a narrative description, if necessary), containing sufficient information for the Conservation Commission and the Department to locate the site.
- Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland (BVW) replication area or other mitigating measure) relative to the boundaries of each affected resource area.
- Other material identifying and explaining the determination of resource area boundaries shown on plans (e.g., a DEP BVW Field Data Form).
- List the titles and final revision dates for all plans and other materials submitted with this NOI.

F. Fees

The fees for work proposed under each Notice of Intent must be calculated and submitted to the Conservation Commission and the Department (see Instructions and Appendix B. Wetland Fee Transmittal Form).

No fee shall be assessed for projects of the federal government, the Department, or cities and towns of the Commonwealth.

Applicants must submit the following information (in addition to pages 1 and 2 of Appendix B) to confirm fee payment:

Town of Acton ~~(#118926)~~ (# 119447)
MADEP ~~(#118919)~~ (# 119448)

Groundwater and Environmental Services, Inc.	Mobil Business Resources Corporation
Payor name on check	Applicant name (if different from payor)

G. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

David J Baker — 10/11/01
Signature of Applicant — Date

Patricia Moore — 10/12/01
Signature of Property Owner (if different) — Date

[illegible] — 10/15/01
Signature of Representative (if any) — Date

G. Signatures and Submittal Requirements (cont.)

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents; two copies of pages 1 and 2 of Appendix B; and the city/town fee payment must be sent to the Conservation Commission by certified mail or hand delivery.

For DEP:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents; two copies of pages 1 and 2 of Appendix B; and a copy of the state fee payment must be sent to the DEP Regional Office (see Appendix A) by certified mail or hand delivery.

Other:
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Appendix B – Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Applicant Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

1. Applicant:

Mobil Business Resources Corporation
Name

1800 West Park Drive, Suite 450
Mailing Address

Westborough | MA | 01581
City/Town | State | Zip Code

508-389-1881
Phone Number

2. Property Owner (if different):

Board of Trustees c/o Pillar House I Condominium Association
Name

P.O. Box # 2144
Mailing Address

Acton | MA | 01720
City/Town | State | Zip Code

Not Applicable
Phone Number

3. Project Location:

Mobil Station #01-PPO (44 Great Road) / Pillar House Condominiums (48 Great Road)

Acton / Acton Assesors Map G-5 Lots 76 & 76-1

B. Fees

To calculate filing fees, refer to the category fee list and examples in Section D of this form.

Abbreviated Notice of Resource Area Delineation (Form 4A):

The fee is calculated as follows (check applicable project type):

☒ single family house project

_____ X $1.00= Not Applicable
(feet of BVW)

Not Applicable
Total fee (not to exceed $100)

☐ all other projects

_____ X $1.00= Not Applicable
(feet of BVW)

Not Applicable
Total fee (not to exceed $1,000)

State share of filing fee: Not Applicable
(1/2 of total fee **less** $12.50)

City/Town share of filing fee: Not Applicable
(1/2 of total fee **plus** $12.50)

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Appendix B – Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (cont.)

Abbreviated Notice of Intent (Form 4) or Notice of Intent (Form 3):

The fee should be calculated using the following six-step process and worksheet:

Step 1/Type of Activity: Describe each type of activity (see Section D for a list of activities) that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories in Section D.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category(identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract $12.50. To calculate the city/town share of the fee, divide the total fee in half and add $12.50.

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Oil remedial and/or hazardous material response actions	1	$725.00	$725.00

Step 5/Total Project Fee: **$725.00**

Step 6/Fee Payments:

Total Project Fee: $725.00
(Total fee from Step 5)

State share of filing fee: $350.00
(1/2 total fee less $12.50)

City/Town share of filling fee: $375.00
(1/2 total fee plus $12.50)

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent, Abbreviated Notice of Intent, or Abbreviated Notice of Resource Area Delineation; a **copy** of pages 1 and 2 of this form; and the city/town fee payment.

c.) **To DEP Regional Office** (see Appendix A): Send the Notice of Intent, Abbreviated Notice of Intent, or Abbreviated Notice of Resource Area Delineation; a **copy** of pages 1 and 2 of this form; and a **copy** of the state fee payment.

D. Calculating Wetland Filing Fees

The wetland filing fee should be calculated using the following steps. The examples listed for each step are based on a project that involves two driveway crossings through a Riverfront Area and Bordering Vegetated Wetland and six single family houses in Riverfront Area only.

Step 1/Type of Activity: Review plans and narrative to identify each activity in wetland resource areas and Buffer Zones. Example: driveway crossing and construction of a single family house.

Step 2/Number of Activities: Determine the number of each activity associated with the project. Example: driveway crossings and 6 single family homes

Step 3/Individual Activity Fee: List the fee amount for each category of activity (see Category Activities and Fee on page 4) Example: Driveway crossing is a Category 2(f.) activity and is $250 each. Construction of a single family house is a Category 2(a.) activity and is $250 each.

Step 4/Subtotal Activity Fee: Determine the subtotal fee for each type of activity by multiplying the fee for the activity (Step 3) by the number of activities (Step 2). If the activity is within the Riverfront Area as well as another resource area or Buffer Zone, add 50% to total fee (e.g., multiply the fee by 1.5). If the activity is located in a Riverfront Area only, apply the fee amount for the category without the additional 50%. Example: 2 (driveway crossings in BVW) x $250 x 1.5 (for riverfront area) = $750; 6 (single family homes) x $250 = $1,500.

Step 5/Total Project Fee: Add all the subtotals identified in Step 4 to determine the total fee. Example: $750 + $1,500 = $2,250.

Step 6/Fee Payments: The state share of the fee is 50% of any filing fee in excess of $25 (i.e., the state share can be determined by dividing the total fee in half and subtracting $12.50); the remaining portion of the fee shall be made to the city or town (i.e., the City/Town share can be determined by dividing the total fee in half and adding $12.50). Example: City/Town share: $1,137.50; state share: $1,112.50.

D. Calculating Wetland Filing Fees (cont.)

Category Activities and Fees

Category 1 (Fee for each activity is **$55**):
- a.) work on single family lot; addition, pool, etc.;
- b.) site work without a house;
- c.) control vegetation;
- d.) resource improvement;
- e.) work on septic system separate from house;
- f.) monitoring well activities minus roadway;
- g.) new agricultural or aquaculture projects.

Category 2 (Fee for each activity is **$250**)
- a.) construction of single family house;
- b.) parking lot;
- c.) beach nourishment;
- d.) electric generating facility activities;
- e.) inland limited projects minus road crossings and agriculture;
- f.) each crossing for driveway to single family house;
- g.) each project source (storm drain) discharge;
- h.) control vegetation in development;
- i.) water level variations;
- j.) any other activity not in Category 1, 3, 4, 5 or 6;
- k.) water supply exploration.

Category 3 (Fee for each activity is **$525**)
- a.) site preparation (for development) beyond Notice of Intent scope;
- b.) each building (for development) including site;
- c.) road construction not crossing or driveway;
- d.) hazardous cleanup;
- e.) water supply development.

Category 4 (Fee for each activity is **$725**):
- a.) each crossing for development or commercial road;
- b.) dam, sluiceway, tidegate (safety) work;
- c.) landfills operation/closures;
- d.) sand and gravel operations;
- e.) railroad line construction;
- f.) bridge;
- g.) hazardous waste alterations to resource areas;
- h.) dredging;
- i.) package treatment plant and discharge;
- j.) airport tree clearing;
- k.) oil and/or hazardous material release response actions.

Category 5 (Fee is **$2 per linear foot**; total fee not less than $50 or more than $1,000):
- a.) work on docks, piers, revetments, dikes, etc. (coastal or inland).

Category 6 (Fee is **$1 per linear foot;** but not to exceed $100 for activities associated with a single family house or $1,000 for all other activities)
- a.) boundary delineations for Bordering Vegetated Wetlands.

D. Calculating Wetland Filing Fees (cont.)

Examples of How to Calculate Wetland Filing Fees

Example: New single family house with associated work located within Riverfront Area (RA) only:

There is one Category 2 activity (2.a., single family home construction and associated work).

Fee for home and associated work (RA): = $250

Total Fee: $250

Fee due City/Town: $137.50 ($250/2 + $12.50)

Fee due State: $112.50 ($250/2 - $12.50)

Example: Construction of 10 single family homes within a subdivision, eight of the homes are within a Riverfront Area (RA), and a portion of each of the two remaining homes are within Bordering Vegetated Wetland (BVW) and RA. There will be 4 stormwater discharges located within Buffer Zone. There also is one limited project access roadway reviewable under 310 CMR 10.53(3)(e) located in BVW and RA.

There are ten Category 2 projects (2(a.), 10 homes each involving work in a wetland resource area) and one Category 4 project 4(a.), limited project for access to residential subdivision). The fee for review of the stormwater discharges is included in Category 2(a.).

Fee for single family homes:

8 in RA ($250 for each of the 8 homes) = $2000

2 in BVW: $500 x 1.5 (RA) = $750

Fee for limited project access: $725 (BVW) x 1.5 (RA) = $1087.50

Total Fee: $3837.50

Fee due City/Town: $1931.25 ($3837.50/2 + 12.50)

Fee due State: $1906.25 ($3837.50/2 - $12.50)

D. Calculating Wetland Filing Fees (cont.)

Example: Construction of a parking lot and three storm drain outlets within Bordering Land Subject to Flooding (BLSF), and within the Riverfront Area (RA). A septic system will be constructed within a Buffer Zone that is also within RA.

There is one Category 1 activity (i.e. septic system in Buffer Zone) and four category 2 activities (2.b. parking lot and (2.g., three storm drain outlets):

Fee for parking lot: $250 (BLSF) x 1.5 (RA) =	$375
Fee for storm drain:$750 (3 storm drains in BLSF) x 1.5 (RA) =	$1125
Fee for septic system: $55 (Buffer Zone) x 1.5 (RA) =	$82.50
Total Fee:	**$1582.50**
Fee due City/Town:	**$803.75** ($1582.50/2 + $12.50)
Fee due State:	**$778.75** ($1582.50/2 - $12.50)

Example: Confirmation of the delineation of a 120-foot Bordering Vegetated Wetland (BVW) line and a Riverfront Area (RA) by submitting an Abbreviated Notice of Resource Area Delineation (ANORAD). The project involves construction of a single family house (SFH).

There is one Category 6 activity:

Fee for BVW delineation (120 feet x $1.00/foot = $120)	$100*
Fee for RA delineation =	$0**
Total Fee:	**$100.00**
Fee due City/Town:	**$62.50** ($100/2 + $12.50)
Fee due State:	**$38.50** ($100/2 - $12.50)

* Note: Even though the total is $120, the total fee cannot exceed $100 for SHF.

**Note: Under ANORAD, there is no fee for other Resource Area delineations).

Account Number DEPT07 119448 119448

GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

PLEASE DETACH AND RETAIN FOR YOUR RECORDS

INVOICE NUMBER	DATE			AMOUNT
101201	10/12/01	100737		350.00
State Filing fee for a Wetlands Notice of Intent				

RED CHECK NUMBERS IMAGE THROUGH TO THE BACK OF SHEET

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC
PHONE (610) 458-1077
710 EAGLEVIEW BLVD - SUITE 110
EXTON, PA 19341

FIRST UNION

12-50/310

12 Oct 2001

No 119448

PAY ********350 DOLLARS ****100 CENTS ********350.00

TO THE ORDER OF Dept Environmental Protection Boston
P O Box 1062
Boston MA 02211
US

AUTHORIZED SIGNATURE

SECURITY FEATURES INCLUDED. DETAILS ON BACK.

⑈119448⑈ ⑆031000503⑆ 210001274640⑈

Account Number TOWN16 119447 119447

GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

PLEASE DETACH AND RETAIN FOR YOUR RECORDS

INVOICE NUMBER	DATE			AMOUNT
101201	10/12/01	100735		375.00
Town Filing fee for a Wetlands notice of intent				

RED CHECK NUMBERS IMAGE THROUGH TO THE BACK OF SHEET

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.
PHONE (610) 459-1077
110 EAGLEVIEW BLVD. SUITE 10
EXTON, PA 19341

FIRST UNION

8-50
310

No 119447

PAY ********375 DOLLARS ***** CENTS ********375.00

AUTHORIZED SIGNATURE

SECURITY FEATURES INCLUDED. DETAILS ON BACK.

US

⑈119447⑈ ⑆031000503⑆ 2100012746409⑈

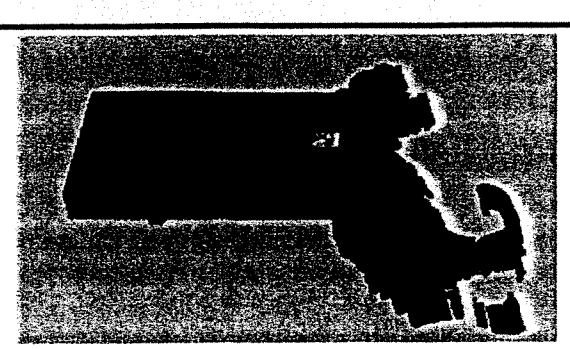
GES

ATTACHMENT B

FIGURES

Figure 1: Site Locus Map
Figure 2: BWSC Map
Figure 3: Site Plan
Figure 4: Proposed Excavation Area
Figure 5: Proposed Remedial System Layout
Figure 6: Proposed Construction Details

GROUNDWATER &
ENVIRONMENTAL SERVICES, INC.



PORTION OF MAYNARD, MASSACHUSETTS
USGS QUADRANGLES

SITE LOCATION MAP

Mobil Service Station 10190 (01-PPO)
44 Great Road
Acton, Massachusetts

NORTH	SCALE	DATE:	Drawn by:
	0 feet 2,083	17-Aug-00	LH
	1: 25,000	JOB NO: 1600137	FIGURE NO: 1

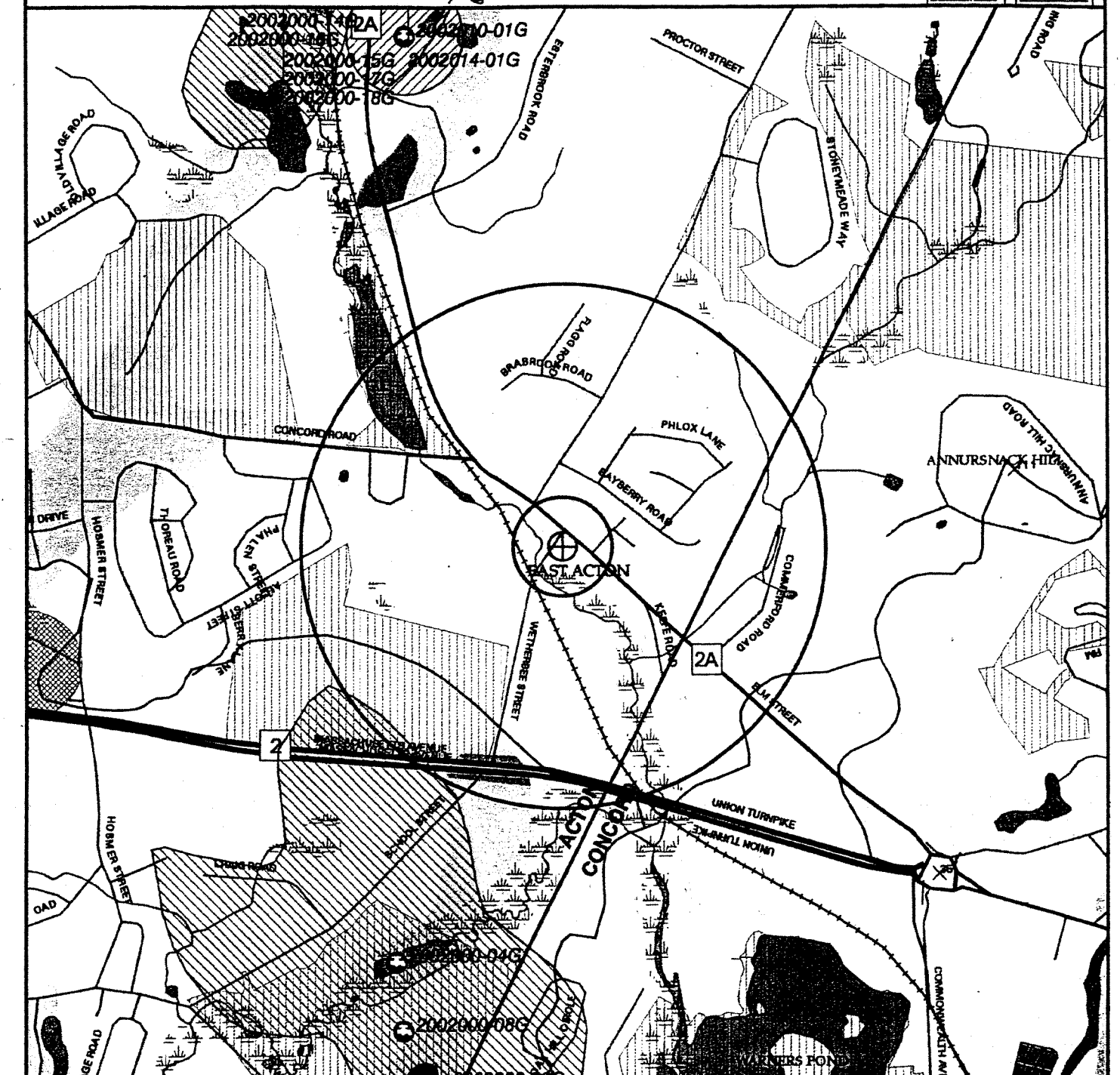
MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:
Mobil Service Station # 10190
44 Great Road
Acton, MA 01720
422832n 712438ew

Site Location

The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.

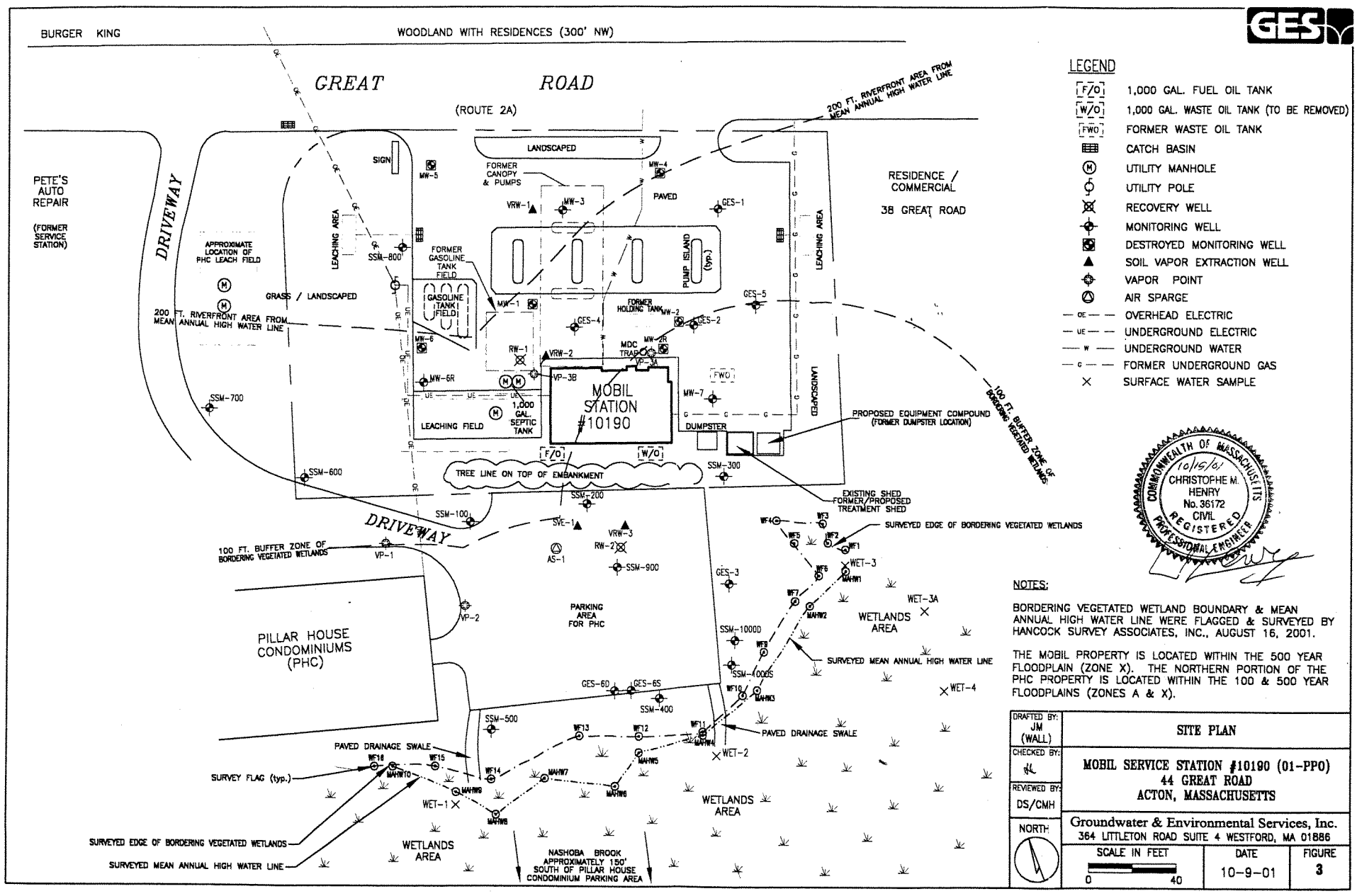


Roads: Limited Access, Divided, Major Road, Connector, Street, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, Sub; Streams: Perennial, Intermittent, Man Made Shore, Dams
Potentially Productive Aquifers: Medium,High Yield
Non-Potential Drinking Water Source Area: Medium,High Yield
EPA Designated Sole Source Aquifer
Public Water Supplies: Ground,Surface,Non Community
Approved Zone2; IWPA; Surface Water Supply Zone A
Hydrography: Water Features,Public Surface Water Supply
Wetlands: Fresh,Salt,NHESP Wetlands Habitat
Protected Open Space; ACEC
DEP Permitted Solid Waste Facilities; Certified Vernal Pools

SCALE 1:15000

0 1/2 1 KILOMETERS

August 15, 2000



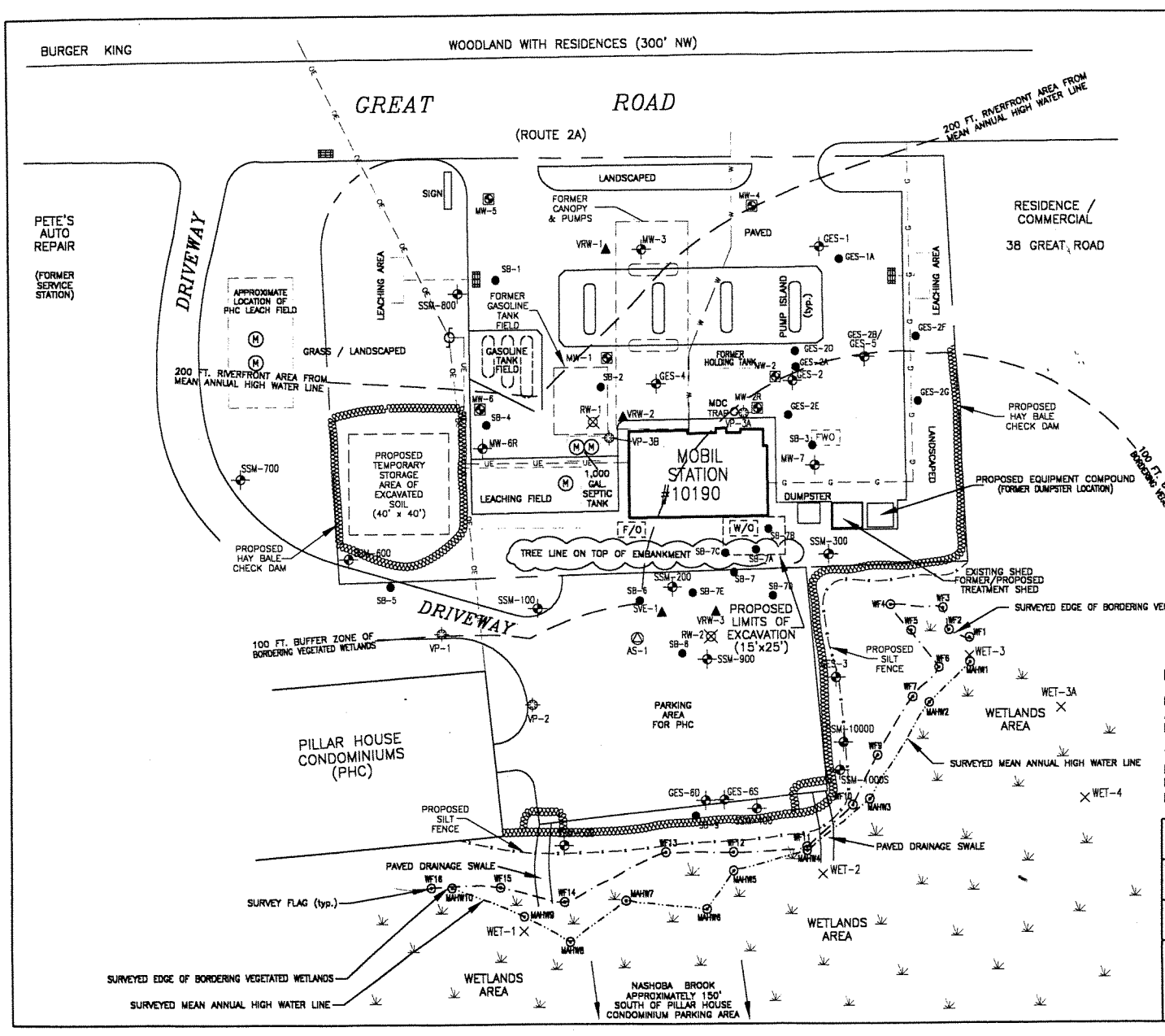
NOTES:

BORDERING VEGETATED WETLAND BOUNDARY & MEAN ANNUAL HIGH WATER LINE WERE FLAGGED & SURVEYED BY HANCOCK SURVEY ASSOCIATES, INC., AUGUST 16, 2001.

THE MOBIL PROPERTY IS LOCATED WITHIN THE 500 YEAR FLOODPLAIN (ZONE X). THE NORTHERN PORTION OF THE PHC PROPERTY IS LOCATED WITHIN THE 100 & 500 YEAR FLOODPLAINS (ZONES A & X).

DRAFTED BY: JM (WALL)	SITE PLAN		
CHECKED BY:	MOBIL SERVICE STATION #10190 (01-PPO) 44 GREAT ROAD ACTON, MASSACHUSETTS		
REVIEWED BY: DS/CMH			
NORTH	Groundwater & Environmental Services, Inc. 364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886		
	SCALE IN FEET 0 40	DATE 10-9-01	FIGURE 3

M:\Graphics\Graphics-Westford\Mobil\01-PPO Acton\01-PPO acton site plan.dwg, Model, 10/09/01 04:24:24 PM, jmaul, 1:40, GES



LEGEND

- F/O — 1,000 GAL. FUEL OIL TANK
- W/O — 1,000 GAL. WASTE OIL TANK (TO BE REMOVED)
- FWO — FORMER WASTE OIL TANK
- CATCH BASIN
- UTILITY MANHOLE
- UTILITY POLE
- RECOVERY WELL
- MONITORING WELL
- DESTROYED MONITORING WELL
- SOIL VAPOR EXTRACTION WELL
- VAPOR POINT
- AIR SPARGE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- UNDERGROUND WATER
- FORMER UNDERGROUND GAS
- SURFACE WATER SAMPLE
- SOIL BORING

COMMONWEALTH OF MASSACHUSETTS
10/15/01
CHRISTOPHE M. HENRY
No. 36172
CIVIL
REGISTERED PROFESSIONAL ENGINEER

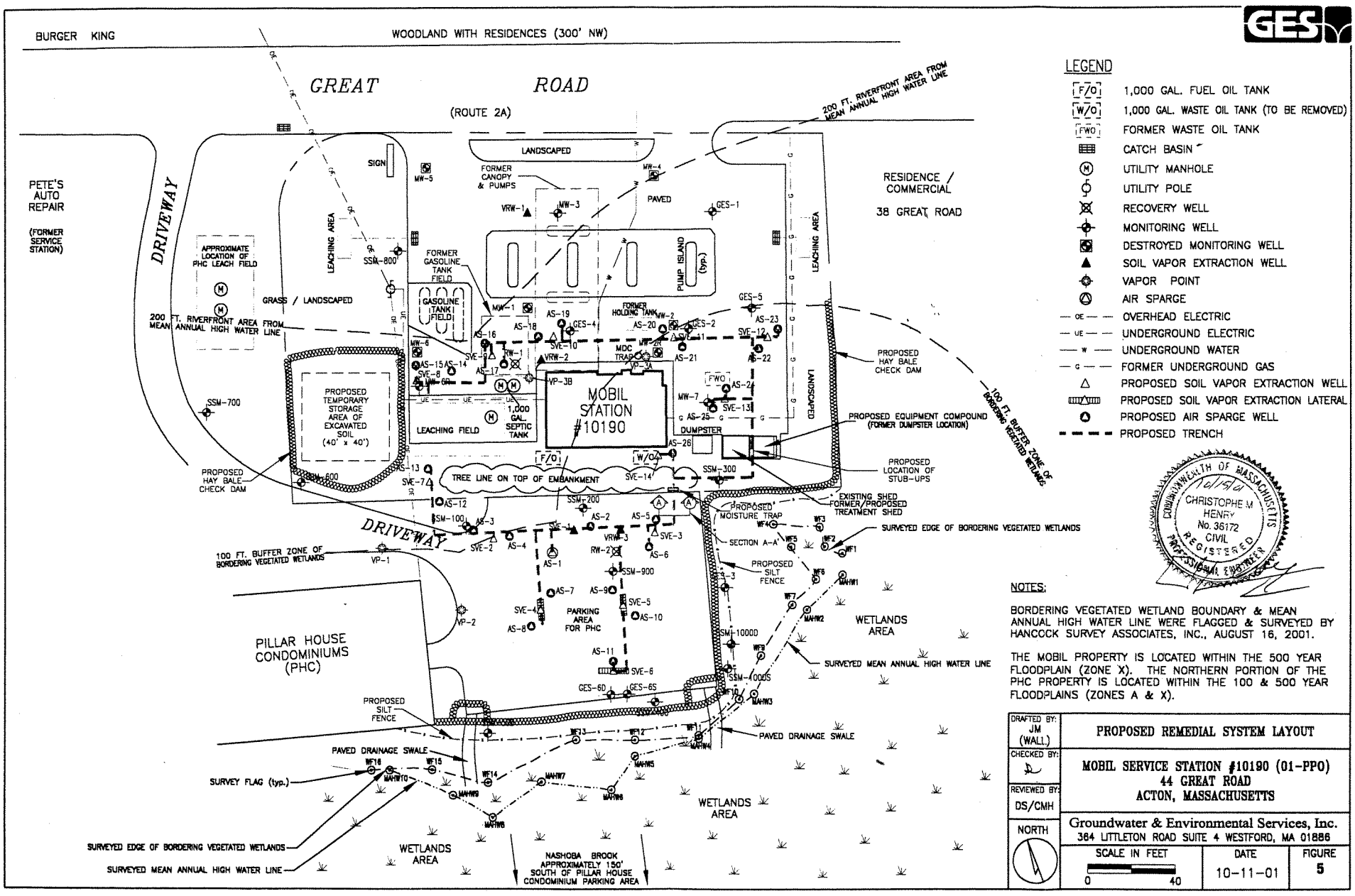
NOTES:

BORDERING VEGETATED WETLAND BOUNDARY & MEAN ANNUAL HIGH WATER LINE WERE FLAGGED & SURVEYED BY HANCOCK SURVEY ASSOCIATES, INC., AUGUST 16, 2001.

THE MOBIL PROPERTY IS LOCATED WITHIN THE 500 YEAR FLOODPLAIN (ZONE X). THE NORTHERN PORTION OF THE PHC PROPERTY IS LOCATED WITHIN THE 100 & 500 YEAR FLOODPLAINS (ZONES A & X).

DRAFTED BY: JM (WALL)	PROPOSED EXCAVATION AREA
CHECKED BY:	MOBIL SERVICE STATION #10190 (01-PPO) 44 GREAT ROAD ACTON, MASSACHUSETTS
REVIEWED BY: DS/CMH	
NORTH	Groundwater & Environmental Services, Inc. 364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886
	SCALE IN FEET 0 40 / DATE 10-9-01 / FIGURE 4

M:\Graphics\Graphics-Westford\Mobil\01-PPO Acton\01-PPO acton site plan.dwg, Model, 10/09/01 05:13:18 PM, jmaul, 1:40, GES



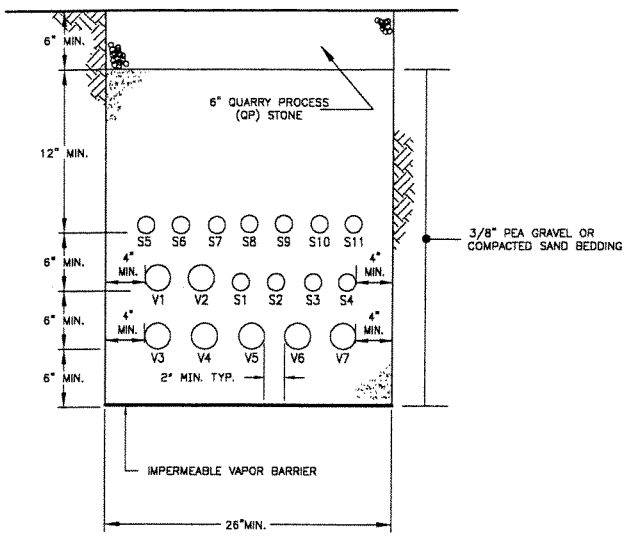
NOTES:

BORDERING VEGETATED WETLAND BOUNDARY & MEAN ANNUAL HIGH WATER LINE WERE FLAGGED & SURVEYED BY HANCOCK SURVEY ASSOCIATES, INC., AUGUST 16, 2001.

THE MOBIL PROPERTY IS LOCATED WITHIN THE 500 YEAR FLOODPLAIN (ZONE X). THE NORTHERN PORTION OF THE PHC PROPERTY IS LOCATED WITHIN THE 100 & 500 YEAR FLOODPLAINS (ZONES A & X).

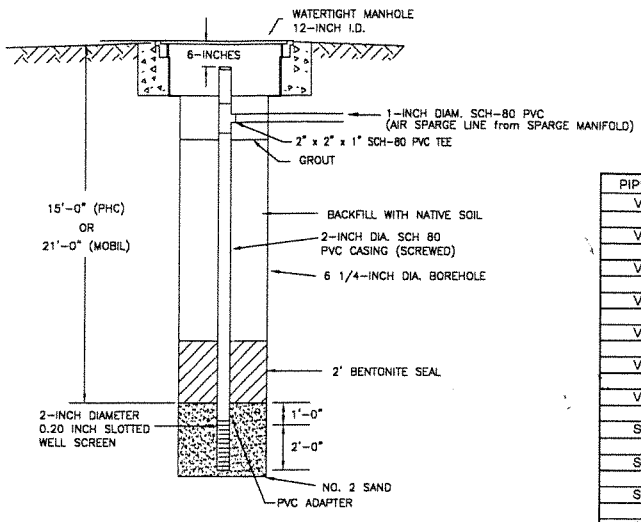
DRAFTED BY: JM (WALL.)	PROPOSED REMEDIAL SYSTEM LAYOUT
CHECKED BY:	MOBIL SERVICE STATION #10190 (01-PPO) 44 GREAT ROAD ACTON, MASSACHUSETTS
REVIEWED BY: DS/CMH	
NORTH	Groundwater & Environmental Services, Inc. 364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886
	SCALE IN FEET 0 40 / DATE 10-11-01 / FIGURE 5

M:\Graphics\Graphics-Westford\Mobil\01-PPO Acton\01-PPO acton site plan.dwg, Model, 10/11/01 11:47:29 AM, jmaul, 1:40, GES



TRENCH DETAIL SECTION A-A

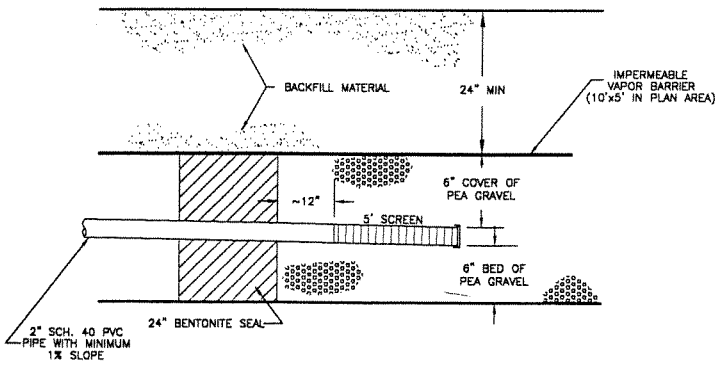
(NOT TO SCALE)



AIR SPARGE WELL DETAIL

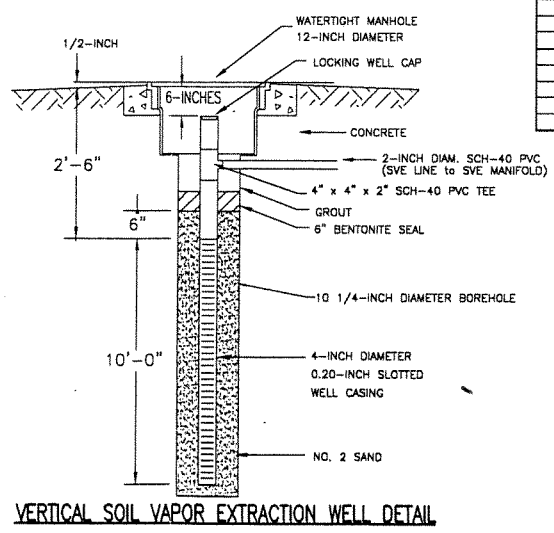
(NOT TO SCALE)

PIPE ID	DESCRIPTION
V1	2" SCHEDULE 40 PVC VAPOR RECOVERY LINE (CONNECTED TO SVE-5)
V2	2" SCHEDULE 40 PVC VAPOR RECOVERY LINE (CONNECTED TO SVE-6)
V3	2" SCHEDULE 40 PVC VAPOR RECOVERY LINE (CONNECTED TO SVE-3)
V4	2" SCHEDULE 40 PVC VAPOR RECOVERY LINE (CONNECTED TO SVE-1)
V5	2" SCHEDULE 40 PVC VAPOR RECOVERY LINE (CONNECTED TO SVE-4)
V6	2" SCHEDULE 40 PVC VAPOR RECOVERY LINE (CONNECTED TO SVE-2)
V7	2" SCHEDULE 40 PVC VAPOR RECOVERY LINE (CONNECTED TO SVE-7)
S1	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-7)
S2	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-8)
S3	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-12)
S4	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-13)
S5	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-9)
S6	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-10)
S7	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-11)
S8	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-1)
S9	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-2)
S10	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-3)
S11	1" SCHEDULE 80 PVC AIR SPARGE SUPPLY LINE (CONNECTED TO AS-4)



HORIZONTAL SOIL VAPOR EXTRACTION LATERAL DETAIL

(NOT TO SCALE)



VERTICAL SOIL VAPOR EXTRACTION WELL DETAIL

(NOT TO SCALE)

COMMONWEALTH OF MASSACHUSETTS
10/15/01
CHRISTOPHE M. HENRY
No. 36172
CIVIL
REGISTERED PROFESSIONAL ENGINEER

DRAFTED BY: JM (WALL)	PROPOSED CONSTRUCTION DETAILS
CHECKED BY:	MOBIL SERVICE STATION #10190 (01-PPO) 44 GREAT ROAD ACTON, MASSACHUSETTS
REVIEWED BY: DS/CMH	Groundwater & Environmental Services, Inc. 364 LITTLETON ROAD SUITE 4 WESTFORD, MA 01886
	NOT TO SCALE · DATE 10-11-01 · FIGURE 6

M:\Graphics\Graphics-Westford\Mobil\01-PPO Acton\01-PPO acton construction details.dwg, Model, 10/11/01 12:02:53 PM, jmaul, 1:1, GES

APPENDIX E

Public Involvement Documentation

Groundwater & Environmental Services, Inc.

364 Littleton Road • Suite 4 • Westford, MA 01886 • (978) 392-0090 • FAX (978) 392-8583

March 5, 2003

Mr. Donald Johnson, Town Manager
Town of Acton
472 Main Street
Acton, Massachusetts 01720

Re: Phase IV Final Inspection Report and Completion Statement
Mobil Station 10190 (Formerly 01-PPO)
44 Great Road
Acton, Massachusetts
MADEP Site Number 2-0253 & RTN 2-13870
Tier IB Permit No. WO18816

Dear Mr. Johnson:

On behalf of Mobil Business Resources Corporation (Mobil), Groundwater & Environmental Services, Inc. (GES) is informing you that a Phase IV Final Inspection Report (FIR) and Completion Statement has been completed for the Mobil Station 10190 (Formerly 01-PPO) located at 44 Great Road, Acton, Massachusetts.

The Phase IV Final Inspection Report and Completion Statement will be submitted on March 5, 2003 to the Massachusetts Department of Environmental Protection (MADEP), Central Regional Office, located at 627 Main Street in Worcester, Massachusetts. You may contact the MADEP at (978) 661-7600 if you wish to review this document.

If you have any questions regarding this submittal, please contact the undersigned at (978) 392-0090 or Mr. David J. Baker of Mobil Business Resources Corporation at (617) 381-2807.

Sincerely,

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

Aileen McDonnell
Staff Environmental Scientist

Paul McKinlay
Project Manager

Christophe M. Henry, PE, LSP
Senior Project Manager

cc: MADEP, Central Regional Office, 627 Main Street, Worcester, Massachusetts
Mobil File

GES Document Tracking No. E6743

Groundwater & Environmental Services, Inc.

364 Littleton Road • Suite 4 • Westford, MA 01886 • (978) 392-0090 • FAX (978) 392-8583

March 5, 2003

Mr. Douglas Halley, Board of Health Director
Town of Acton
472 Main Street
Acton, Massachusetts 01720

Re: Phase IV Final Inspection Report and Completion Statement
Mobil Station 10190 (Formerly 01-PPO)
44 Great Road
Acton, Massachusetts
MADEP Site Number 2-0253 & RTN 2-13870
Tier IB Permit No. WO18816

Dear Mr. Halley:

On behalf of Mobil Business Resources Corporation (Mobil), Groundwater & Environmental Services, Inc. (GES) is informing you that a Phase IV Final Inspection Report (FIR) and Completion Statement has been completed for the Mobil Station 10190 (Formerly 01-PPO) located at 44 Great Road, Acton, Massachusetts.

The Phase IV Final Inspection Report and Completion Statement will be submitted on March 5, 2003 to the Massachusetts Department of Environmental Protection (MADEP), Central Regional Office, located at 627 Main Street in Worcester, Massachusetts. Based on your previous request, a copy of this report is attached to this letter.

If you have any questions regarding this submittal, please contact the undersigned at (978) 392-0090 or Mr. David J. Baker of Mobil Business Resources Corporation at (617) 381-2807.

Sincerely,

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

Aileen McDonnell
Staff Environmental Scientist

Paul McKinlay
Project Manager

Christophe M. Henry, PE, LSP
Senior Project Manager

Attachments: Copy of the Original Phase IV FIR and Completion Statement (dated March 5, 2003)

cc: MADEP, Central Regional Office, 627 Main Street, Worcester, Massachusetts
Mobil File

Groundwater & Environmental Services, Inc.

364 Littleton Road • Suite 4 • Westford, MA 01886 • (978) 392-0090 • FAX (978) 392-8583

March 5, 2003

Acton Memorial Library
486 Main Street
Acton, MA 01720

Re: **Public Involvement Plan Notification Requirement**
Mobil Station No. 10190 (Formerly 01-PPO)
44 Great Road
Acton, Massachusetts
MADEP Site No. 2-0253

Dear Acton Library:

The Acton Memorial Library has been selected at the request of several petitioners as the location of the information repository for materials concerning the Mobil Service Station located at 44 Great Road, Acton, Massachusetts. Please make the enclosed materials available to anyone who wishes to review them. Groundwater & Environmental Services, Inc. will continue to forward documents to the public library as the documents are produced.

If you have any questions regarding the contents of this letter, please contact Mr. David J. Baker of Mobil at (617) 381-2807 or the undersigned at (978) 392-0090.

Sincerely,

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

Aileen McDonnell
Staff Environmental Scientist

Paul McKinlay
Project Manager

Christophe M. Henry, PE, LSP
Senior Project Manager

cc: Mobil file
MADEP-CERO

Attachment: Phase IV Final Inspection Report and Completion Statement (March 5, 2003)

GES Document Tracking No. E6762