

EXHIBIT C-6

RTN 3-0021892, Malone Park Bldg No 21

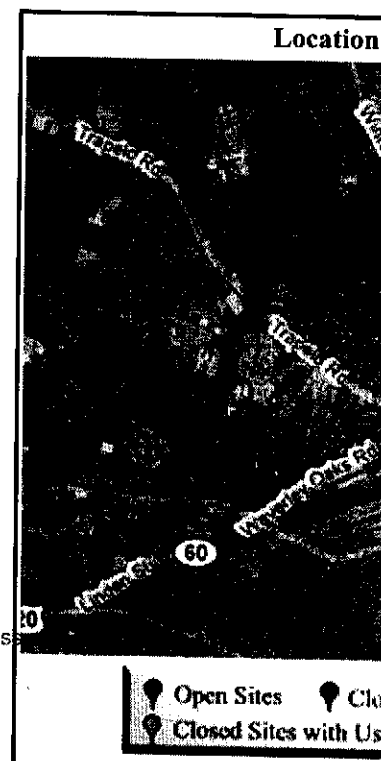
Site Information		
Site Number:	3-0021892	Category:
Site Name:	MALONE PARK BLDG NO 21	Release Type:
Address:	200 TRAPELO RD	Current date:
Town:	WALTHAM	Phase:
Zipcode:	02454-0000	RAO class:
Official notification date:	6/27/2002	Location type:
Initial status date:	6/27/2003	Source:

Response Action Information	
Response Action Type:	IRA - Immediate Response Action
Status:	CSRCVD - Completion Statement Received
Submittal Date:	7/3/2003
RAO class:	
Activity & Use Limitation:	
Response Action Information	
Response Action Type:	RAO - Response Action Outcome - RAO
Status:	RAORCD - RAO Statement Received
Submittal Date:	7/3/2003
RAO class:	A2
Activity & Use Limitation:	NONE
Response Action Information	
Response Action Type:	RNF - Release Notification Form Received
Status:	REPORT - Reportable Release or Threat of Release
Submittal Date:	8/26/2002
RAO class:	
Activity & Use Limitation:	
Response Action Information	
Response Action Type:	REL - Potential Release or Threat of Release
Status:	REPORT - Reportable Release or Threat of Release
Submittal Date:	6/27/2002
RAO class:	
Activity & Use Limitation:	

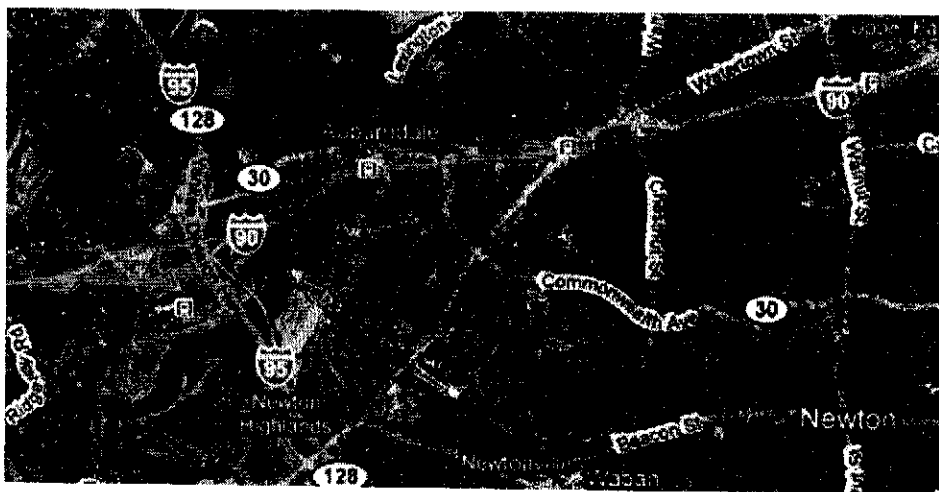
Chemicals	
Chemical	Amount
FUEL OIL #2	100
FUEL OIL #2	200

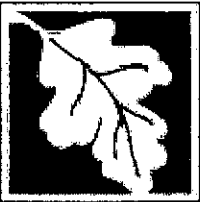
LSPs	
LSP#	Name
8493	KLINGLER, BRIAN F

RAO Detail		
Class	Method	GW Category
A2	1	2
A2	1	2



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Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104 J.K.

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number -

3 - 21892

A. SITE LOCATION:

1. Site Name/Location Aid: Malone Park - Building No. 21

2. Street Address: 200 Trapelo Road

3. City/Town: Waltham

4. ZIP Code: 02452-6302

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

☐ a. Tier 1A ☐ b. Tier 1B ☐ c. Tier 1C ☐ d. Tier 2

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

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

1. List Submittal Date of RAO Statement (if previously submitted): _____ (MM/DD/YYYY)

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

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

b. Provide additional Release Tracking Number(s) that are covered by this RAO Statement.

☐ - ☐ -

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

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

b. Provide additional Release Tracking Number(s) that are covered by this RAO Statement.

☐ - ☐ -

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

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

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

☐ 6. Submit a **Periodic Review Opinion** evaluating the status of a Temporary Solution for a Class C RAO Statement (Section E is optional)

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

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

RECEIVED

JUL 03 2003

DEP

NORTHEAST REGIONAL OFFICE





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number -

3

21892

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

- | | |
|--|---|
| <input type="checkbox"/> 1. Assessment and/or Monitoring Only | <input type="checkbox"/> 2. Temporary Covers or Caps |
| <input type="checkbox"/> 3. Deployment of Absorbent or Containment Materials | <input type="checkbox"/> 4. Temporary Water Supplies |
| <input type="checkbox"/> 5. Structure Venting System | <input type="checkbox"/> 6. Temporary Evacuation or Relocation of Residents |
| <input type="checkbox"/> 7. Product or NAPL Recovery | <input type="checkbox"/> 8. Fencing and Sign Posting |
| <input type="checkbox"/> 9. Groundwater Treatment Systems | <input type="checkbox"/> 10. Soil Vapor Extraction |
| <input type="checkbox"/> 11. Bioremediation | <input type="checkbox"/> 12. Air Sparging |
| <input checked="" type="checkbox"/> 13. Removal of Contaminated Soils | |

- ☒ a. Re-use, Recycling or Treatment ☐ i. On Site Estimated volume in cubic yards _____
- ☐ ii. Off Site Estimated volume in cubic yards _____

ii. Facility Name: ESMI, Incorporated Town: Louden State: NH

ii. Facility Name: _____ Town: _____ State: _____

iii. Describe: Thermal Processing

- ☐ b. Landfill
- ☐ i. Cover Estimated volume in cubic yards _____
- Facility Name: _____ Town: _____ State: _____
- ☐ ii. Disposal Estimated volume in cubic yards _____
- Facility Name: _____ Town: _____ State: _____

☐ 14. Removal of Drums, Tanks or Containers:

- a. Describe Quantity and Amount: _____
- b. Facility Name: _____ Town: _____ State: _____
- c. Facility Name: _____ Town: _____ State: _____





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BWSC104

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Release Tracking Number -

3 - 21892

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

☐ 15. Removal of Other Contaminated Media:

a. Specify Type and Volume: _____

b. Facility Name: _____ Town: _____ State: _____

c. Facility Name: _____ Town: _____ State: _____

☐ 16. Other Response Actions:

Describe: _____

☐ 17. Use of Innovative Technologies:

Describe: _____

D. RESPONSE ACTION OUTCOME CLASS:

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

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

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

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

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

☐ 4. Class A-4 RAO: You **MUST** provide an implemented AUL, justification that reducing contamination to or approaching background levels is infeasible, and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface or below an engineered barrier is infeasible. If the permanent solution relies upon an engineered barrier, you must also provide a Phase III report justifying the selection of the engineered barrier.





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Release Tracking Number -

3

-

21892

D. RESPONSE ACTION OUTCOME CLASS (cont.):

- ☐ 5. Class B-1 RAO: Specify one of the following:
- ☐ a. Contamination is consistent with background levels ☐ b. Contamination is **NOT** consistent with background levels.
- ☐ 6. Class B-2 RAO: You **MUST** provide an implemented AUL.
- ☐ 7. Class B-3 RAO: You **MUST** provide an implemented AUL and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface is infeasible.
- ☐ 8. Class C RAO: Specify one:
- ☐ a. Monitoring ☐ b. Passive Operation and Maintenance
- ☐ c. Active Operation and Maintenance (defined at 310 CMR 40.0006)

E. RESPONSE ACTION OUTCOME INFORMATION:

1. Specify the Risk Characterization Method(s) used to achieve the RAO described above:

- ☒ a. Method 1 ☐ b. Method 2 ☐ c. Method 3
- ☐ d. Method Not Applicable-Contamination reduced to or consistent with background, or Threat of Release abated

2. Specify all Soil and Groundwater Categories used in the Risk Characterization. More than one Soil Category and more than one Groundwater Category may apply at a Site. Be sure to check off all **APPLICABLE** categories.

a. Soil Category(ies) Applicable:

- ☐ i. S-1/GW-1 ☐ iv. S-2/GW-1 ☐ vii. S-3/GW-1
- ☒ ii. S-1/GW-2 ☒ v. S-2/GW-2 ☐ viii. S-3/GW-2
- ☒ iii. S-1/GW-3 ☒ vi. S-2/GW-3 ☐ ix. S-3/GW-3

b. Groundwater Category(ies) Impacted:

- ☐ i. GW-1 ☒ ii. GW-2 ☒ iii. GW-3

3. Specify remediation conducted.

- ☒ a. Check here if soil remediation was conducted.
- ☐ b. Check here if groundwater remediation was conducted.

4. Estimate the number of acres this RAO Statement applies to: 0.4





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Release Tracking Number -


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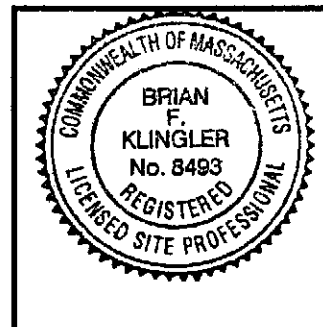
F. LSP SIGNATURE AND STAMP:

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

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

1. First Name: Brian 2. Last Name: Klingler
3. Telephone: (508) 697-3191 4. Ext.: _____ 5. FAX: (508) 697-5996
6. Signature:  7. Date: 06/27/2003
8. LSP #: 8493 9. LSP Stamp:



G. PERSON MAKING SUBMITTAL:

1. Check all that apply: ☐ a. change in contact name. ☐ b. change of address ☐ c. change in the person undertaking response actions
2. Name of Organization: Massachusetts Department of Mental Retardation
3. Contact First Name: David 4. Last Name: Chan
5. Street: 500 Harrison Avenue 6. Title: Project Engineer
7. City/Town: Boston 8. State: MA 9. ZIP Code: 02118-0243
10. Telephone: (617) 624-7881 11. Ext.: _____ 12. FAX: _____





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number

3

-

21892

H. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON MAKING SUBMITTAL:

- ☒ 1. RP or PRP ☒ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter
☐ e. Other RP or PRP Specify: _____

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

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

☐ 4. Any Other Person Making Submittal Specify Relationship: _____

I. REQUIRED ATTACHMENT AND SUBMITTALS:

- ☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
- ☐ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of an RAO Statement that relies on the public way/rail right-of-way exemption from the requirements of an AUL.
- ☒ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a RAO Statement with instructions on how to obtain a full copy of the report.
- ☒ 4. Check here to certify that documentation is attached specifying the location of the Site, or the location and boundaries of the Disposal Site subject to this RAO Statement. If submitting an RAO Statement for a PORTION of a Disposal Site, you must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site.
- ☐ 5. Check here if required to submit one or more AULs. You must submit an AUL Transmittal Form (BWSC113) and a copy of each implemented AUL related to this RAO Statement. Specify the type of AUL(s) below: (required for Class A-3, A-4, B-2, B-3 RAO Statements)
- ☐ a. Notice of Activity and Use Limitation b. Number of Notices submitted: _____
- ☐ c. Grant of Environmental Restriction d. Number of Grants submitted: _____
- ☐ 6. If an RAO Compliance Fee is required for any of the RTNs listed on this transmittal form, check here to certify that an RAO Compliance Fee was submitted to DEP, P. O. Box 4062, Boston, MA 02211.
- ☐ 7. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Address/Location Aid. Send corrections to the DEP Regional Office.
- ☒ 8. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number -

3

-

21892

J. CERTIFICATION OF PERSON MAKING SUBMITTAL:

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

2. By: [Signature] 3. Title: Project Engineer
Signature

4. For: Massachusetts Department of Mental Retardation 06/27/2003
(Name of person or entity recorded in Section G) (mm/dd/yyyy)

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

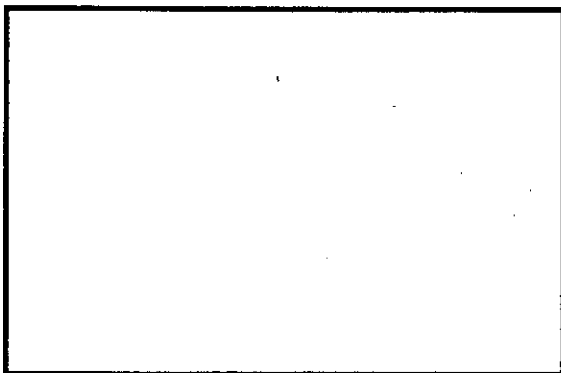
6. Street: _____

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

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

YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY
RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU
MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)





CIVIL DESIGN & LAND PLANNING
SURVEYING
GEOTECHNICAL ENGINEERING
ENVIRONMENTAL CONSULTING
REGULATORY COMPLIANCE & PLANNING

June 27, 2003
Project No. 4701

Bureau of Waste Site Cleanup
Department of Environmental Protection
Northeast Regional Office
1 Winter Street
Boston, Massachusetts 02108

RE: **Immediate Response Action Completion & Response Action Outcome Statement**
Fernald Center Malone Park Building 21
200 Trapelo Road
Waltham, Massachusetts
Release Tracking Number 3-21892

To Whom It May Concern:

Coneco Engineers and Scientists (Coneco) has prepared the following Immediate Response Action (IRA) Completion and Response Action Outcome (RAO) Statement to address a release of petroleum at Malone Park Building No. 21 of the Massachusetts Department of Mental Retardation Fernald Center located at 200 Trapelo Road in Waltham, Massachusetts, hereinafter the, "Site." The enclosed report was prepared in accordance with 310 CMR 40.1000 of the Massachusetts Contingency Plan and is based on Coneco's Revised IRA Plan, previously submitted to the Department of Environmental Protection (DEP) on September 25, 2002. In summary, a condition of "No Significant Risk" exists at the Site. This submittal contains the following:

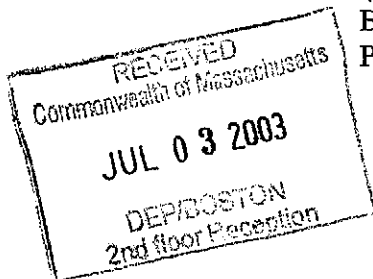
- Immediate Response Action Transmittal Form (BWSC-105)
- Response Action Outcome Transmittal Form (BWSC - 104)
- Copies of Municipal Notifications

Coneco's oversight and assessment findings are detailed in the attached report. If there are any questions, please contact the undersigned.

Sincerely,
Coneco Engineers and Scientists


Jedd S. Steinglass
Project Manager

JSS:BFK:jd
JSS/4701.ira.rao.doc





Brian F. Klingler, P.G., L.S.P.
Principal Geologist

TABLE OF CONTENTS

1.0 Introduction	1
2.0 Background.....	2
2.1 Release History	2
3.0 Immediate Response Action	2
3.1 IRA Excavation	2
3.2 Remediation Waste.....	3
3.3 Delineation Activities	3
3.4 Groundwater Monitoring Well Installation	4
3.5 Site Survey/Gauging of Groundwater Levels.....	4
3.6 Groundwater Parameters	5
3.7 Groundwater Sampling.....	5
4.0 Method 1 Risk Characterization.....	6
4.1 Soil Categories.....	6
4.2 Groundwater Categories	7
4.3 Method 1 Risk Characterization Standards	8
4.3.1 Method 1 Risk Characterization - Soil	8
4.3.2 Method 1 Risk Characterization - Groundwater	8
4.4 Potential Receptors and Critical Exposure Pathways.....	9
4.5 Feasibility of Reduction to Background Concentrations.....	9
4.6 Discussion.....	10
5.0 Immediate Response Action Completion Statement.....	10
6.0 Response Action Outcome	11
7.0 Limitations	12

TABLES

Table 1 - Tabulation of Survey Data.....	4
Table 2 - Tabulation of Monitoring Well Data	5
Table 3 Groundwater Analytical Results: January 31, 2003.....	6
Table 4 - GW-1 / GW-2 Groundwater Classification Criteria	7
Table 5 - Method 1 Risk Characterization Standards for Groundwater	8

FIGURES

- Figure 1 Site Locus Map
- Figure 2 Site Plan
- Figure 3 Groundwater Contour Plan
- Figure 4 Conceptual Site Model
- Figure 5 DEP GIS Site Scoring Map

APPENDICES

- Appendix 1 Original Laboratory Data, Laboratory QA/QC, Methods,
and Chain-Of-Custody Form
- Appendix 2 Bill of Lading
- Appendix 3 Standard Operating Procedures
- Appendix 4 Immediate Response Action Transmittal Form (BWSC-105)
Response Action Outcome Transmittal Form (BWSC - 104)
Copies of Municipal Notifications

1.0 INTRODUCTION

The release occurred at Malone Park Building No. 21 of the Massachusetts Department of Mental Retardation Fernald Center, located at 200 Trapelo Road in Waltham, Massachusetts. The Disposal Site, as defined by 310 CMR 40.0006, is defined as the area located in the immediate vicinity of the former underground storage tank (UST) to a depth of approximately seven feet below grade. As such, the approximately 225 square-foot area located adjacent to the southern exterior wall of Malone Park Building No. 21 is considered to be within the limits of the Disposal Site. A Site Locus Map and Site Plan are provided for reference as Figures 1 and 2, respectively.

1.1 Site Parameters

Person Assuming

Responsibility: Mr. David Chan, Project Engineer
Commonwealth of Massachusetts
Executive Office of Health and Human Services
500 Harrison Avenue
Boston, Massachusetts 02118
Phone: (617) 624-7881

Disposal Site

Limits:

The release impacted soil and groundwater in the immediate vicinity of the former 500-gallon No. 2 fuel oil UST as indicated by elevated photoionization detector (PID) headspace concentrations and a petroleum sheen on groundwater within the UST excavation. As such, the Disposal Site limits include soil and groundwater located in the immediate vicinity of the former UST to a depth of approximately seven feet below grade. Based on laboratory analytical results of soil samples collected subsequent to IRA exaction activities, impacted materials associated with this release are limited to the boundaries of the Disposal Site.

Coordinates:

Latitude 42° 23' 28" N	Longitude 71° 12' 59" W
UTM 4,695,380 Meters N	317,560 Meters E (Zone 19)

Adjacent

Properties:

The Disposal Site is located within the Massachusetts Department of Mental Retardation Fernald Center, a residential and school facility. The Site is situated within a primarily residential and undeveloped area of Waltham, Massachusetts. Private residences, commercial properties, and undeveloped land surround the Fernald Center.

2.0 BACKGROUND

2.1 Release History

On June 26, 2002, a release of an unknown volume of fuel oil was discovered during closure activities for a 500-gallon No. 2 fuel oil UST formerly located at the Site. Soil samples collected from the vicinity of the UST exhibited photoionization detector (PID) headspace concentrations in excess of 100 parts per million by volume (ppmv). As a result, the DEP was verbally notified of the release on June 27, 2002, within the 72-hour notification requirement, pursuant to 310 CMR 40.0310. The release was assigned Release Tracking Number (RTN) 3-21892, and verbal approval to conduct Immediate Response Actions including soil removal of up to 50 cubic yards was granted at the time of verbal notification. No holes were noted within the UST, and as such, the release was likely the result of overfilling.

3.0 IMMEDIATE RESPONSE ACTION

The focus of the IRA is as follows: 1) the removal of petroleum-impacted materials and 2) further delineation of impacted materials.

Point source soil removal activities and post-excavation groundwater monitoring was completed to reduce EPH concentrations throughout the Disposal Site to concentrations such that a Class A Response Action Outcome could be achieved.

3.1 IRA Excavation

On June 26 and 27, 2002, soil removal activities were conducted at the Site to remove petroleum-impacted soil and further delineate subsurface conditions. The extent to which soil was excavated was determined by the periodic screening of samples collected from the base and sidewalls using PID and standard headspace techniques in accordance with DEP Policy WSC 94-400. Overburden stratigraphy within the UST excavation consisted of fill and gravelly, silty sand. Groundwater was encountered within excavation at approximately six feet below grade. A light sheen was noted on the surface of groundwater within the excavation. Final excavation dimensions were approximately 15 feet by 15 feet by seven feet (length, width, depth). Impacted soil was temporarily stockpiled on-Site and covered and lined with 6-mil polyethylene sheeting in accordance with the specifications of 310 CMR 40.0030 and 310 CMR 30.0040.

Five composite soil samples were collected from the excavation base and sidewalls, respectively, and submitted to Spectrum Analytical, Incorporated (Spectrum), an independent Massachusetts-certified analytical laboratory located in Agawam, Massachusetts, for confirmatory analysis of extractable petroleum hydrocarbons (EPH) by the DEP Method. No EPH concentrations were detected in any of the submitted soil samples. Original laboratory

data, laboratory QA/QC, methods, and the chain-of-custody form are included as Appendix

1. A summary of sample location and depth is presented below:

- North Sidewall (NSW): 4-6'
- South Sidewall (SSW): 4-6'
- East Sidewall (ESW): 4-6'
- West Sidewall (WSW): 4-6'
- Excavation Base (BASE): 7'

3.2 Remediation Waste

Between July 15 and 17, 2002, approximately 45 cubic yards of impacted soil generated as part of the IRA associated with this release were removed from the Site to the ESMI, Inc. facility in Loudon, New Hampshire for proper disposal via thermal processing. The stockpiled soil was removed under a Bill of Lading associated with both the subject release and an additional separate release, identified by Release Tracking Number 3-21893, discovered at another location within Malone Park during a similar UST closure. A combined total of 121.40 tons of impacted soil were removed from the Disposal Site and the nearby release under the Bill of Lading, a copy of which is included for reference as Appendix 2.

3.3 Delineation Activities

Geoprobe® test borings were advanced at the Site on January 20, 2003 by New England Geotech of Jamestown, Rhode Island. Test boring activities were overseen by Jedd S. Steinglass of Coneco. Test boring locations were selected to provide environmental data subsequent to IRA excavation activities and to delineate any potential downgradient migration of the release. Test borings were performed at three locations, designated GP-01 through GP-03, and were advanced to depths ranging from six to 14 feet below grade utilizing a truck-mounted Geoprobe® sampling system. Soil samples were collected in two foot intervals continuously in all test borings. The standard operating procedures for overburden test borings are included in Appendix 3. The locations of test borings, former UST, and other relevant Site features can be referenced in Figure 2.

Observations made during the performance of Geoprobe® test borings indicated the presence of fill consisting of a gravelly silty sand to an average depth of four feet underlain by glacial/fluvial deposits of gravelly silty sand, to a depth of approximately 14 feet below grade, the maximum depth of investigation. Weathered bedrock was encountered in test borings GP-01 and GP-02 at between six to seven feet below grade. Groundwater was encountered at approximately six feet below grade.

Representative soil samples collected from the test borings were placed in clean, tightly sealed glass jars with aluminum foil cover liners for in-field screening using RAE Systems MiniRAE 2000 PID, calibrated to an isobutylene standard. Headspace procedures were performed in accordance with DEP Policy WSC 94-400. A discussion of this procedure and standard operating protocol is included in Appendix 3. Headspace concentrations of volatile compounds in excess of the instrument detection limits of 0.2 parts per million (ppm) were not identified in soil samples collected as part of this Geoprobe® subsurface investigation.

Select duplicate soil samples collected during soil boring activities were placed in the appropriate containers and sent to Spectrum Analytical (Spectrum), a Massachusetts-certified laboratory located in Agwam, Massachusetts for analysis of EPH by the DEP Method. Sampling depth was selected to correspond to the phreatic surface of the vadose zone, or the maximum depth of soil boring. Samples were labeled GP-01 (4-6') and GP-03 (4-6') to distinguish soil boring identification and sample depth in feet. Samples were not collected from GP-01, which was situated within the former UST grave. No EPH concentrations were detected in any of the submitted soil samples. Original laboratory data, laboratory QA/QC, methods, and the chain-of-custody form are included as Appendix 1.

3.4 Groundwater Monitoring Well Installation

Groundwater monitoring wells CMW-1 through CMW-3 were installed in test borings GP-01 through GP-03, respectively. The monitoring wells were constructed of 1-inch ID, schedule 40, No. 10 slotted PVC well screen from the base of the well to approximately two feet below grade, with solid PVC riser pipe from the top of the slotted screen to grade. Monitoring wells were installed in accordance with the Massachusetts DEP Standard Reference for Monitoring Wells (BWSC-Policy 310-91 and SDDW Supplement). The standard operating procedures for the installation of monitoring wells are included in Appendix 3. The locations of the monitoring wells and other relevant Site features can be referenced in Figure 2.

3.5 Site Survey/Gauging of Groundwater Levels

A Site survey was conducted by Coneco personnel on January 31, 2003. The survey was performed to determine the elevation of on-Site monitoring wells. A reference elevation for each monitoring well was established at a specific point on the top of the PVC well casing. An arbitrary elevation of 100.00 feet, at the base of the southwest corner of Building No. 21, was chosen as a benchmark.

Depth to groundwater measurements were made at each groundwater monitoring well to the nearest 0.01 foot by Coneco personnel. The depth to groundwater was measured using a Keck Water Level Indicator from the reference point located at the top of the PVC well casing. No separate-phase product was detected during the groundwater gauging. The tabulated data for the surveyed wells is presented in Table 4.

Table 1 - Tabulation of Survey Data

Monitoring Well	PVC Elevation	Depth to Water Table	Screen Interval	Groundwater Elevation
CMW-1	99.47	3.22	1-6	96.25
CMW-2	99.71	4.31	2-7	95.40
CMW-3	99.68	3.49	2-12	96.19

Note: All measurements given in feet.

Groundwater surface elevation contours were computer-generated using Surfer version 7.0 Golden Software®, Inc. The groundwater contour plan, as determined by groundwater gauging, is provided for reference as Figure 3. The groundwater contour plan, using data from the three monitoring wells, indicates a flow in a general south southwest direction.

3.6 Groundwater Parameters

The temperature, specific conductivity, and pH of groundwater in each well were measured concurrently with groundwater sampling completed on January 31, 2003 utilizing a YSI Model 3000 TLC meter and Hanna Model HI98127 pH meter. A summary of these groundwater-screening results is as follows:

Table 2 - Tabulation of Monitoring Well Data

Monitoring Well	Temperature (°C)	Conductivity (millimhos/cm)	pH
CMW-1	15.2	0.205	7.30
CMW-2	18.4	0.429	6.78
CMW-3	14.5	0.360	6.71

Note: Conductivity given in millimhos at 25 °C

Measure values for temperature, conductivity, and pH in the above monitoring wells were consistent with values for normal ranges of these parameters in New England groundwater. (Hem, John D., Study and Interpretation of Chemical Characteristics of Natural Water, U.S. Geological Survey, Water-Supply Paper 2254, 1985).

3.7 Groundwater Sampling

Coneco personnel collected groundwater samples from monitoring wells CMW-1 through CMW-3 on January 31 and June 9, 2003. Samples were collected using the applicable Standard Operating Procedure provided for reference in Appendix 3.

Select groundwater samples collected from each monitoring well were placed in HCl-preserved 1-L glass jars fitted with Teflon caps were sent to Spectrum for analysis of extractable petroleum hydrocarbons (EPH) by the DEP Method. Original laboratory data, laboratory QA/QC, methods, and the chain-of-custody form are included as Appendix 1.

No detectable concentrations of EPH were identified in the samples collected from the Site on June 9, 2003. A summary of the analytical data for samples collected on January 31, 2003 is presented in Table 3.

Table 3 Groundwater Analytical Results: January 31, 2003

Analyte	CMW-1	CMW-2	CMW-3	Method 1 GW-2 Risk Characterization Standards	Method 1 GW-3 Risk Characterization Standards
C9-C18 Aliphatics	590	ND	ND	1,000	20,000
C19-C36 Aliphatics	1,000	ND	ND	N/A	20,000
C11-C22 Aromatics	1,200	ND	ND	50,000	30,000

Notes: 1) ND indicates not detected above laboratory detection limits
2) N/A indicates no standard promulgated
3) Results reported in µg/L for detected analytes only

4.0 METHOD 1 RISK CHARACTERIZATION

Under the MCP (310 CMR 40.0000), once a property has been designated as a Disposal Site, a risk assessment is necessary to demonstrate that a condition of "No Significant Risk" to health, safety, public welfare, and the environment exists at the Disposal Site. Otherwise, further remedial actions are required to achieve a condition of "No Significant Risk."

To determine whether further action is required at the Site, it is first necessary to determine whether a condition of "No Significant Risk" exist using MCP Risk Characterization procedures. A Method 1 Risk Characterization uses a published list of contaminants, and provides risk characterization standards for these contaminants of concern. The following sections present the classifications of soil and groundwater for an MCP Method 1 Risk Characterization, and the applicable threshold concentrations for the contaminants present at the Site.

The basis for the Method 1 Risk Characterization is the Conceptual Site Model (CSM), included as a stem and leaf diagram in Figure 4. The CSM documents known or potential sources of contamination, affected media, known or potential routes of migration, and known or potential human and environmental receptors.

4.1 Soil Categories

The classifications for soil are listed at 310 CMR 40.0933. Soil at a given site is classified as either S-1, S-2, or S-3, based upon exposure potential. Frequency of use by adults and children, the intensity of the use of the Site, and the accessibility of the soil are considered in the classification of soil. Frequency of use is classified as "high, low, or not present." Intensity is classified as "high or low," and soil accessibility is described as "accessible, potentially accessible, or isolated." These criteria are as follows:

Frequency of Use: The Disposal Site is located within the boundaries of a Massachusetts Department of Mental Retardation residential facility. As such, children and adults are considered present at the Site at a "high frequency".

Intensity of Use: Intensity of use is considered "low," as normal Site activities do not have the potential to disturb soil.

Accessibility: Impacted surficial soils were observed between zero and seven feet below grade. Portions of the Disposal Site are unpaved, therefore the soil is considered "potentially accessible."

Using these parameters, soil at the Disposal Site is classified as Category S-2.

4.2 Groundwater Categories

The classifications for groundwater are listed at 310 CMR 40.0932. Groundwater at all locations is classified as category GW-3, based upon its potential to discharge to surface water. Groundwater can also be classified as GW-1 based upon potential to be used as drinking water supply, and as GW-2, based upon the potential for inhalation of vapors of oil or hazardous materials in indoor air.

The GW-1 /GW-2 groundwater classification evaluation for the Disposal Site is based upon a DEP GIS Site Scoring Map, and is shown in the following table. The DEP GIS Site Scoring Map is included for reference as Figure 5.

Table 4 - GW-1 / GW-2 Groundwater Classification Criteria

GW-1 Criteria	GW-1 Classification
1) within the Zone II for a public water supply	No
2) within an Interim Wellhead Protection Area	No
3) within a Potentially Productive Aquifer	No
4) within the Zone A of a Class A surface water body used as a public water supply	No
5) at any point located 500 or more feet from a public water supply distribution pipeline	No
6) at any groundwater sampling point located within 500 feet of a private water supply well	No
GW-2 Criteria	GW-2 Classification
1) Located within 30 feet of an occupied building and average annual depth to water is less than 15 feet	Yes

All on-Site monitoring wells are located within 30 feet of the Site building. Groundwater at the Site was measured at depths of less than 15 feet below grade. As such, annual average depth to groundwater is conservatively assumed to be less than 15 feet and all monitoring wells are subject to the GW-2 groundwater classification. All groundwater at the Site is classified as GW-3, based upon its potential to discharge to surface water.

4.3 Method 1 Risk Characterization Standards

Using the groundwater and soil classifications derived above, Method 1 Risk Characterization threshold concentrations for compounds detected in groundwater and soil at the Site are listed in the MCP 310 CMR40.0974 and 40.0975, respectively.

4.3.1 Method 1 Risk Characterization - Soil

Using the soil classifications derived above, Method 1 Risk Characterization threshold concentrations for compounds detected in soil at the Site are listed in the MCP 310 CMR 40.0975. The most stringent concentration from each soil and groundwater classification is considered to be the threshold under which a concentration of "No Significant Risk" exists.

EPH constituents were not detected in excess of the laboratory quantification limit of 30 mg/Kg in confirmatory soil samples GP-01 (4-6') and GP-03 (4-6). Laboratory quantification limits for the analyzed constituents are below the applicable Method 1 Risk Characterization Standards tabulated in 310 CMR 40.0975 and Table 3. Using the criteria presented above and laboratory analytical results, a condition of "No Significant Risk" is present for all current and future uses of soil at Site.

4.3.2 Method 1 Risk Characterization - Groundwater

Using the groundwater classifications derived above, Method 1 Risk Characterization threshold concentrations for compounds detected in soil at the Site are listed in the MCP 310 CMR 40.0975. The most stringent concentration from each soil and groundwater classification is considered to be the threshold under which a concentration of "No Significant Risk" exists.

The most stringent concentration from each groundwater classification is considered to be the threshold under which a concentration of "No Significant Risk" exists. For the purposes of this Risk Characterization, EPCs are conservatively defined as the highest concentrations of target analytes in groundwater at the Disposal Site. The EPCs and associated Method 1 Risk Characterization Standards for contaminants detected in Site groundwater are presented in Table 3.

Table 5 - Method 1 Risk Characterization Standards for Groundwater

Compound Detected	Exposure Point Concentration	GW-2/GW-3 Risk Characterization Standards
C9-C18 Aliphatic Hydrocarbons	590	1,000 / 20,000
C19-C36 Aliphatic Hydrocarbons	1,000	No Standard / 20,000
C11-C22 Aromatics Hydrocarbons	1,200	50,000 / 30,000
Note: All concentrations reported in µg/L		

Using the criteria presented above, a condition of "No Significant Risk" is present for groundwater at the Disposal Site.

4.4 Potential Receptors and Critical Exposure Pathways

The Site is located within the boundaries of a Massachusetts Department of Mental Retardation Facility. The Fernald Center is situated within a primarily residential area of Waltham, Massachusetts. Private residences and commercial properties surround the Site. No public or private water supply wells are located at residential properties within 500 feet of the Site.

Critical Exposure Pathways (CEP) are defined in 310 CMR 40.006 as those routes by which oil and/or hazardous material(s) release at a disposal site are transported, or are likely to be transported, to human receptors via:

- a) vapor-phase emissions or measurable concentrations of oil and/or hazardous materials into the living or working space of a pre-school, daycare, school or occupied residential dwelling, or;
- b) ingestion, dermal absorption, or inhalation of measurable concentrations of oil and/or hazardous materials from drinking water supply wells located at and servicing a pre-school, daycare, school, or occupied residential dwelling.

Impacted soils were encountered within 30 feet of an occupied residential facility. However, PID field screening results and laboratory analysis of confirmatory soil samples indicated that concentrations of EPH were below the applicable Method 1 Risk Characterization standards. No public or private water supply wells are located within 500 feet of the Site. These conditions thereby preclude the possibility of ingestion, dermal absorption, or inhalation of measurable concentrations of oil and/or hazardous materials via vapor phase emissions or water supply wells. Therefore, a CEP as defined in 310 CMR 40.006, has not been identified and is not considered likely at the Site.

4.5 Feasibility of Reduction to Background Concentrations

Chapter 21E of the Massachusetts General Laws and the MCP require that if after a remedial action has been completed the concentrations of oil and hazardous material have not been reduced to background, then an evaluation of the feasibility of approaching or achieving background is required.

Approximately 45 cubic yards tons of petroleum-impacted soil were excavated from the Site and transported to an appropriate receiving facility for disposal. Remedial actions were performed such that all soil which could pose risk for current or future uses of the Site was excavated or removed. No detectable concentrations of EPH were identified in any confirmatory soil sample. Accordingly, soil concentrations of petroleum at the Site have been reduced to background. Residual EPH concentrations identified during the January 31, 2003 groundwater sampling round were below the applicable Method 1 Risk Characterization Standards. Concentrations of EPH in the most recent June 9, 2003 groundwater sampling round were below the Method detection limits.

- The incremental cost to continue groundwater monitoring and potentially remove additional soil to achieve background concentrations would increase the cost of the

project disproportionately to the incremental benefit of risk reduction, environmental restoration, and monetary and non-pecuniary values.

- Groundwater at the Disposal Site is not utilized for consumptive uses. Groundwater at the Site is classified as GW-2 and GW-3. Building No. 21 is situated atop a solid, at-grade, concrete foundation. PID field screening completed during Immediate Response Action activities indicated no detectable concentrations of volatile compounds. Off-Site migration of detected petroleum concentrations has not been identified. As such, additional soil excavation and/or treatment of groundwater in an attempt to approach background conditions is considered impractical and cost-prohibitive.
- The public benefits which may be recognized as a result of achieving background are outweighed by the additional cost incurred to achieve background. There are no surrounding properties which may be adversely impacted economically by not reducing remaining concentrations in soil and groundwater to background.
- Natural attenuation will continue to reduce petroleum concentrations, if any, in groundwater at the Site.

Given the current data on groundwater and soil conditions, it is the opinion of Coneco that no additional remedial actions are warranted to reduce the concentrations of petroleum constituents in groundwater to Background (i.e., non-detectable) concentrations.

4.6 Discussion

The Method 1 Risk Characterization, using the criteria presented above, demonstrates that a condition of "No Significant Risk" is present for current and potential future uses of soil and current uses of groundwater at the Site.

5.0 IMMEDIATE RESPONSE ACTION COMPLETION STATEMENT

Environmental conditions of the Site were evaluated in a manner consistent with guidelines presented in the "Massachusetts Contingency Plan" (310 CMR 40.0000). The focus of the IRA is as follows: 1) further delineation of impacted materials and 2) the removal of petroleum-impacted materials.

Immediate Response Actions completed at the Site are summarized below:

- On June 26 and 27, 2002, following verbal approval of Immediate Response Action Activities, petroleum impacted soil was excavated from the former 500-gallon No. 2 fuel oil UST grave. Impacted soil was temporarily stockpiled on-Site and covered and lined with 6-mil polyethylene sheeting in accordance with the specifications of 310 CMR 40.0030 and 310 CMR 30.0040.

-
- From July 15 to July 17, 2002, approximately 45 cubic yards of petroleum impacted soils generated as past of IRA activities, were removed from the Site and transported under a Bill of Lading associated with both the subject release and an additional separate release, identified by Release Tracking Number 3-21893, discovered at another location within Malone Park during a similar UST closure. A combined total of 121.40 tons of impacted soil were removed from the Disposal Site and the nearby release and transported under the Bill of Lading to the ESMI, Inc. facility in Loudon, New Hampshire for proper disposal via thermal processing.
 - Follow the completion of soil removal activities, five composite soil samples were collected from the former 500-gallon No. 2 fuel oil UST grave base and sidewalls and submitted to Spectrum Analytical, Incorporated (Spectrum), an independent Massachusetts-certified analytical laboratory located in Agawam, Massachusetts, for confirmatory analysis of extractable petroleum hydrocarbons (EPH) by the DEP Method. No EPH concentrations were detected in any of the submitted soil samples.
 - On January 20, 2003, Geoprobe test borings were advanced at the Site by New England Geotech. Three test borings were advanced to depths ranging from six to 14 feet below grade to provide environmental data subsequent to IRA excavation activities. *In situ* soil samples were obtained from the soil borings and screened in the field for the presence of VCs. Field PID headspace screening indicated no VC concentrations above the instrument quantification limit of 0.2 ppm. Two soil samples obtained from the soil borings were submitted for confirmatory analysis at an independent Massachusetts-certified laboratory. Confirmatory analysis indicated that concentrations of EPH in both samples were not detected above the laboratory quantification limits, which are below the applicable Method 1 Risk Characterization Standards.
 - On January 31 and June 9, 2003, the three on-Site monitoring wells were sampled for analysis of EPH by the DEP Method. Analyses indicated that concentrations of EPH constituents detected during the January 31, 2003 sampling round were below the applicable Method 1 Risk Characterization standards. Concentrations of EPH in the most recent June 9, 2003 groundwater sampling round were below the Method detection limits.

Pursuant to the provisions of 310 CMR 40.0427, no ongoing activities related to the Immediate Response Action are required. An Immediate Response Action Transmittal Form (BWSC-105) is included in Appendix 4.

6.0 RESPONSE ACTION OUTCOME

- A summary and conclusions of the Response Action are as follows:
- No uncontrolled sources of contamination are present at the Site. As a result, no additional response actions are necessary at the Site.

- EPH constituents were not detected in excess of the laboratory quantification limit of 30 mg/Kg in confirmatory soil samples collected following the completion of Immediate Response Action excavation activities or the subsequent Geoprobe® subsurface investigation. Laboratory quantification limits for the analyzed constituents are below the applicable Method 1 Risk Characterization Standards tabulated in 310 CMR 40.0975.
- Laboratory analysis of EPH concentrations in groundwater samples collected during the January 31, 2003 sampling round were below the applicable Method 1 Risk Characterization standards. Concentrations of EPH in the most recent June 9, 2003 groundwater sampling round were below the Method detection limits. The detected concentrations of EPH constituents and the laboratory quantification limits are both below the applicable Method 1 Risk Characterization Standards tabulated in 310 CMR 40.0974.
- A Method 1 Risk Characterization has shown that a Permanent Solution and a level of "No Significant Risk" exist at the Disposal Site for all current and future activities and uses.
- Conditions for a Class A-2 RAO specified at 310 CMR 40.1035 and 310 CMR 40.1036 have been met at the Site.
- An RAO Transmittal Form (BWSC - 104) and copies of Municipal Notifications are included as Appendix 4.

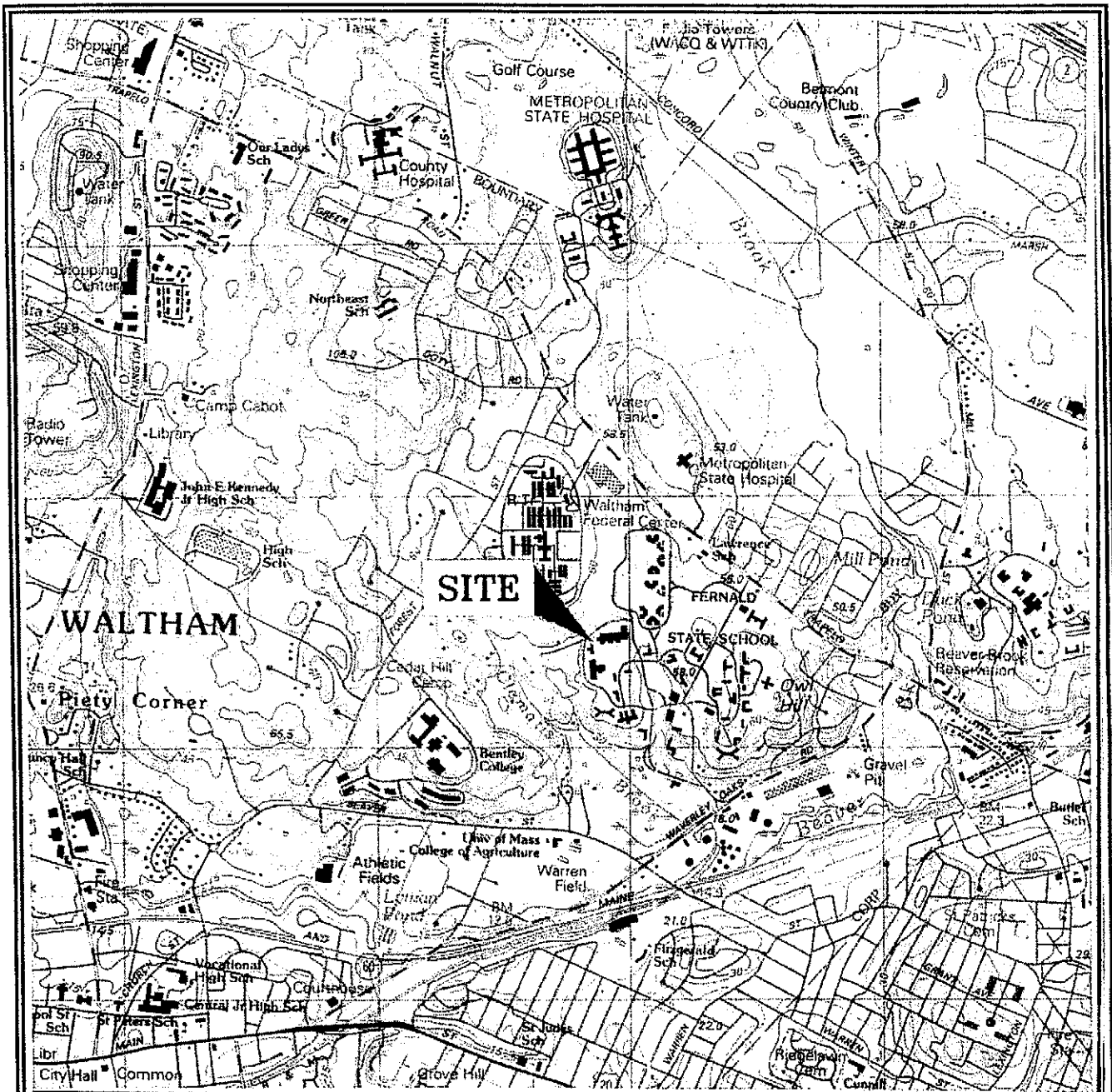
Based on the information presented herein, and subject to the limitations of the proposed Scope of Services, it is the opinion of Coneco that a condition of "No Significant Risk" to human health, safety, public welfare, and the environment exists at the Site.

Pursuant to 310 CMR 4.03, response actions conducted by State Agencies are exempt from the Response Action Outcome compliance fee as described in 310 CMR 40.0156(3).

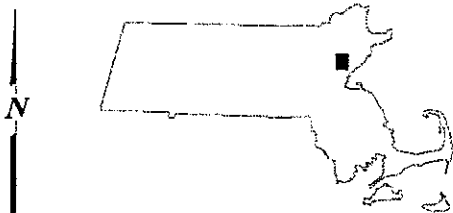
7.0 LIMITATIONS

The conclusions expressed by Coneco in this report are based solely on the references cited. Observations were made under the conditions stated. Information provided by federal, state, and local agencies contacted was relied upon as accurate and complete. This study was conducted to define the limits of petroleum-impacted media and reduce petroleum concentrations. This report represents Coneco's opinion relative to the referenced findings. Unless otherwise specified in the scope of work, Coneco accepts no responsibility for client performance of recommendations as may be offered in this report. No attempt was made to investigate Site owner or operator compliance with federal, state, or local laws and regulations in connection with Site usage.

Should additional information become available concerning this Site or neighboring properties, Coneco should be given the opportunity to review and modify the Site investigation findings, as necessary. With specific regard to subsurface explorations, data obtained from soil sampling may not be wholly representative of the nature and extent of subsurface conditions at locations other than the actual sample location. Variable conditions may only become evident upon further exploration. If variations become apparent in the future, it will be necessary to reevaluate the conclusions and recommendations offered in this report.



U.S.G.S. 1985
Boston North, Massachusetts
3 Meter Contours, Scale 1:25,000



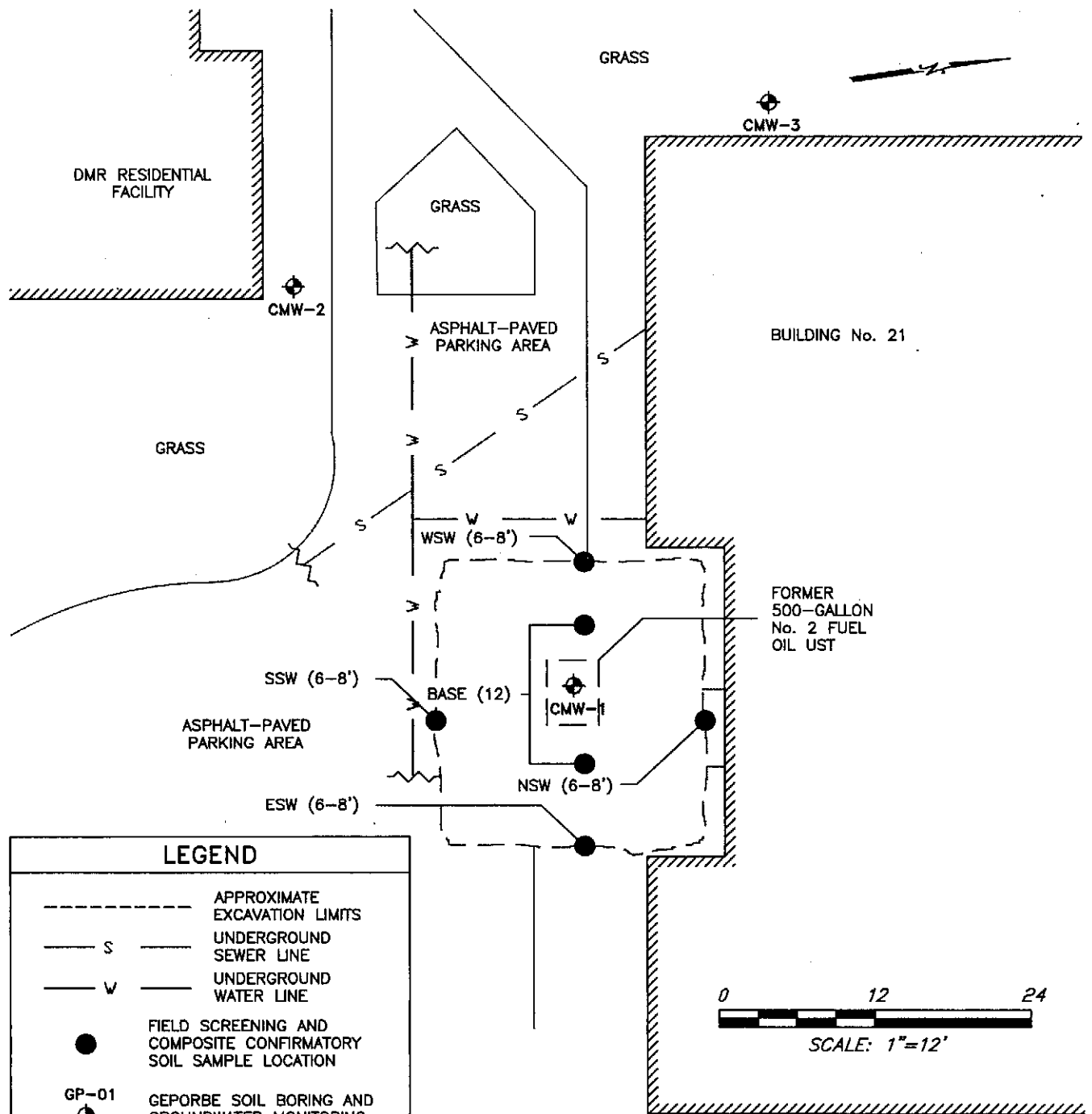
Coordinates: 42° 23' 28" N 71° 12' 59" W
UTM 4,695,380 N 317,560 E (Zone 19)

Coneco Engineers & Scientists

Site Locus Map

Fernald Center
Malone Park - Building No. 21
200 Trapelo Road
Waltham, Massachusetts
Release Tracking Number 3-21892

FIGURE 1

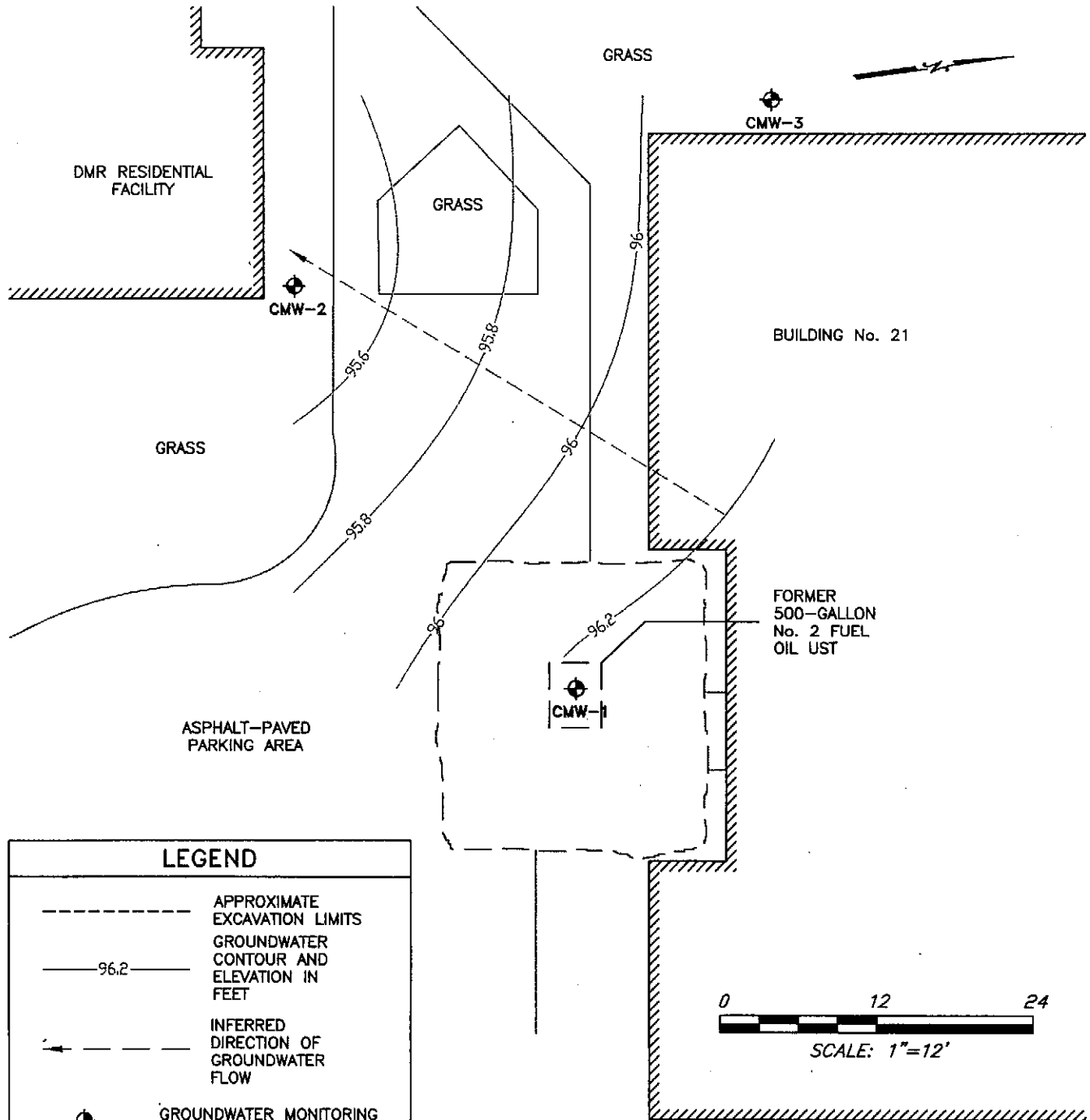


4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 897-3191

SITE PLAN

FERNALD CENTER-MALONE PARK
BUILDING 21
WALTHAM, MASSACHUSETTS
TELESE TRACKING NUMBER 3-21892

BY	DRAWN	CHECKED	CAD FILE NO.	SCALE	PROJECT NO.	DRAWING NUMBER
DATE	JSS	BFK	D:\drawings\4701.dwg	AS NOTED	4701	FIGURE 2
	09/24/02	09/25/02				



LEGEND

- APPROXIMATE EXCAVATION LIMITS
- 96.2 — GROUNDWATER CONTOUR AND ELEVATION IN FEET
- INFERRED DIRECTION OF GROUNDWATER FLOW
- ⊕ CMW-1 GROUNDWATER MONITORING WELL LOCATION

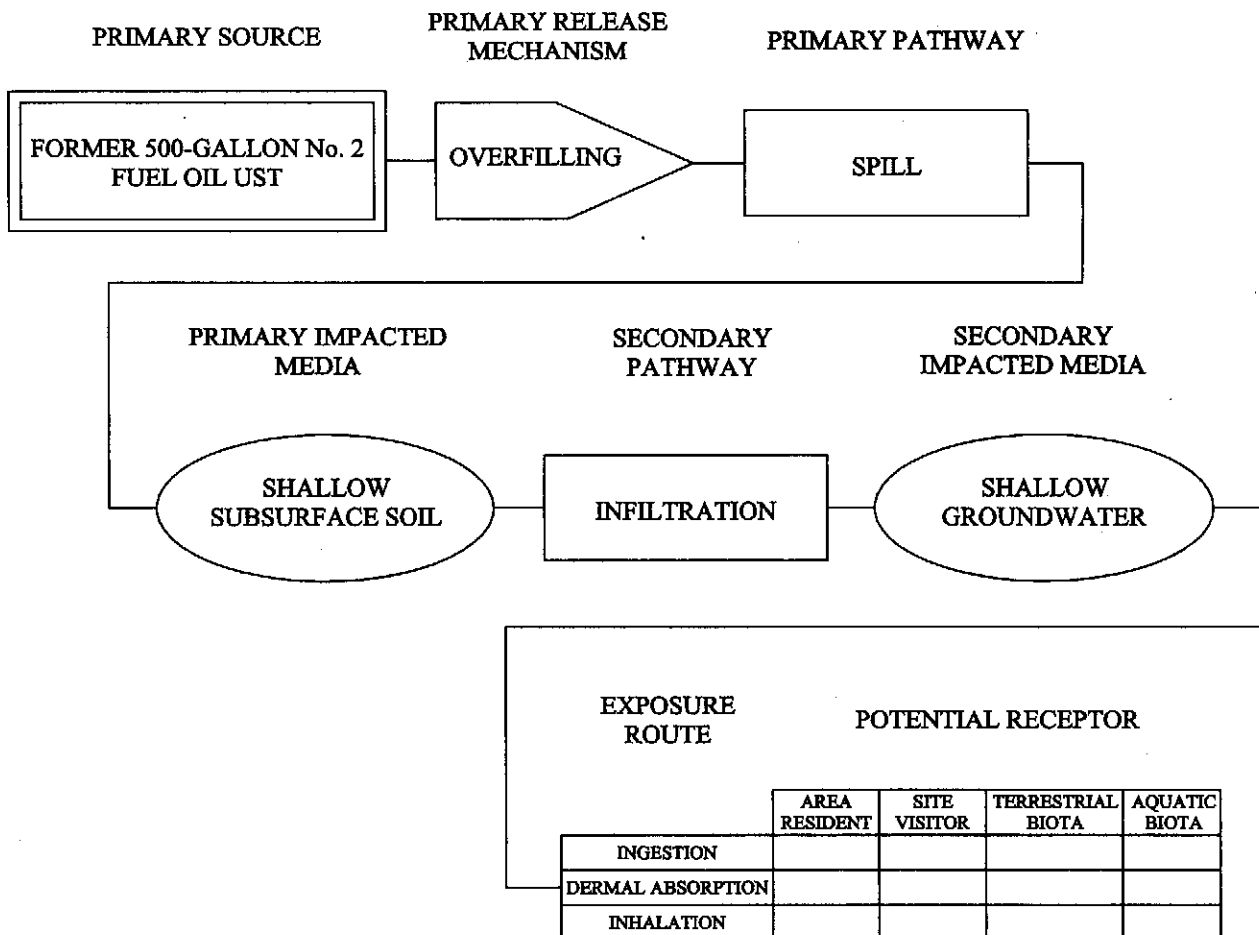


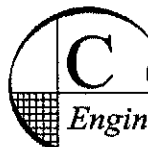
4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 697-3191

GROUNDWATER CONTOUR PLAN

FERNALD CENTER-MALONE PARK
BUILDING 21
WALTHAM, MASSACHUSETTS
RELEASE TRACKING NUMBER 3-21892

BY	DRAWN	CHECKED	CAD FILE NO.	SCALE	PROJECT NO.	DRAWING NUMBER
JSS	JSS	BFK	D:/drawings/4701.gw.dwg	AS NOTED	4701	FIGURE 3
DATE	06/20/03	06/25/03				



CONCEPTUAL SITE MODEL			 C O N E C O <i>Engineers & Scientists</i>			
MALONE PARK BUILDING No. 21 MASSACHUSETTS DMR FERNALD CENTER 200 TRAPELO ROAD WALTHAM, MASSACHUSETTS RELEASE TRACKING NUMBER 3-21892						
SCALE	PROJECT NO.	DRAWING NUMBER	4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 697-3191			
N / A	4701	FIGURE 4	BY	DRAWN	CHECKED	CAD FILE NO.
			JSS		BFK	\\A:\drawing\09121\conceptual.dwg
			DATE	6/20/03	6/25/03	

4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 697-3191

MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:

Fernald Center
200 Trapello Road
WALTHAM, MA 02452
4695380n 317560ew

Site Location



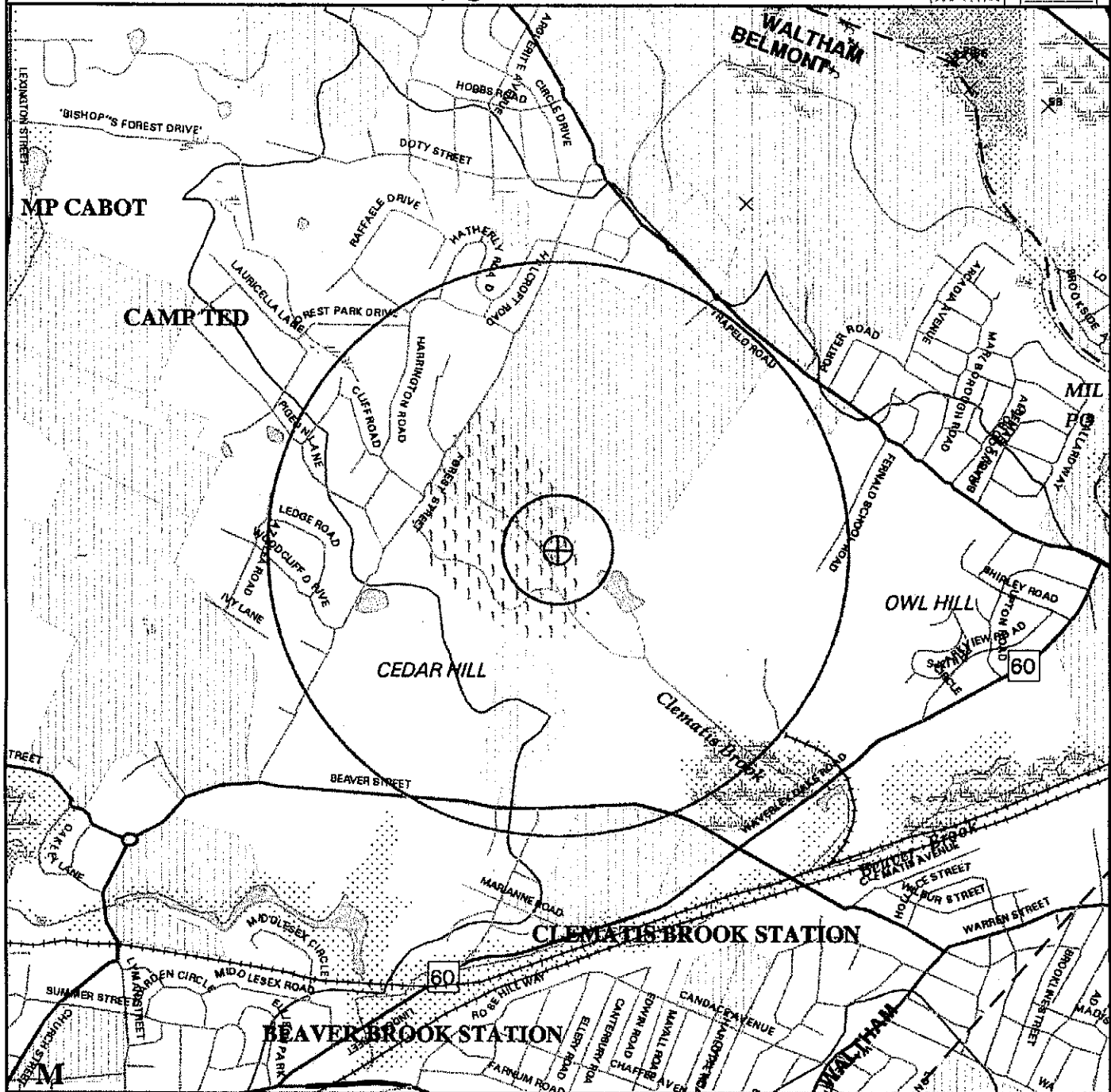
The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.



Massachusetts
Geographic
Information
System



Massachusetts Executive Order of Environmental Affairs - 2005



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 Sole Source Aquifer; FEMA 100-year floodplain

Public Water Supplies: Ground, Surface, Non Community

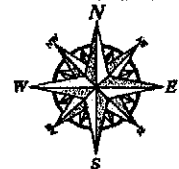
Approved Zone 2; NHPA; Surface Water Supply Zone A

Hydrography: Water Features, Public Surface Water Supply

Wetlands: Fresh, Salt, NHPSP Wetlands Habitat

Protected Open Space; ADEC

DEP Permitted Solid Waste Facilities; Certified Vernal Pools



SCALE 1:15000

0 1/2 1 KILOMETERS

June 27, 2003

**Original Laboratory Data, Laboratory QA/QC, Methods,
and Chain of Custody Forms**



SPECTRUM ANALYTICAL, INC.

Featuring
HANIBAL TECHNOLOGY

Massachusetts Certification # M-MA138
Rhode Island # 98 Maine # MA138
Florida # E87600 / 87562
New Hampshire # 2538
Connecticut # PH-0777
New York # 11393

Coneco
4 First Street
Bridgewater, MA 02324

Attn: Tom Brunette

Client Project Number: 4701

Wednesday, July 10, 2002

Report Status:

- ☒ Final Report
☐ Re-issued Report
☐ Revised Report



Location: Fernald Ctr - Waltham, MA

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Analyses Requested</u>
AD24696	NSW 4-6	Ultrasonic Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes % Solids
AD24697	ESW 4-6	Ultrasonic Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes % Solids
AD24698	SSW 4-6	Ultrasonic Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes % Solids
AD24699	WSW 4-6	Ultrasonic Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes % Solids
AD24700	Base 7	Ultrasonic Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes % Solids
AD24701	Stockpile-01	% Solids TPH by GC Ultrasonic Extraction



SPECTRUM ANALYTICAL, INC.

Featuring
HANIBAL TECHNOLOGY

Client Project Number: 4701

Location: Fernald Ctr - Waltham, MA

Laboratory ID

Client Sample ID

Analyses Requested

I attest that all information contained within this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method and meet the requirements of NELAC including any data obtained from a subcontract laboratory. Please note that all solid matrix sample results are calculated on a dry weight basis unless otherwise specified.

This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Authorized by:

Hanibal C. Fayeh, Ph.D.

President/Laboratory Director

SPECTRUM ANALYTICAL, INC.

Laboratory Report

Location: Fernald Ctr - Waltham, MA

Client: CONECO

Lab ID No: AD24696

Client Id: NSW 4-6

Client Project No: 4701

Submittal Date: 7/1/2002

Collection Date: 6/27/2002

Matrix Soil

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Ultrasonic Extraction	Completed			7/3/2002	MP	SW846 35501
Petroleum Hydrocarbon Analysis						
<i>EPH Aliphatics/Aromatics</i>						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/Kg	0.	7/9/2002	MSL	MA EPH 98-1
<i>EPH Target PAH Analytes</i>						
Naphthalene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Acenaphthylene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Acenaphthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Fluorene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Phenanthrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Anthracene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Fluoranthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Pyrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Chrysene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	45	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	45	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	53	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	54	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
% Solids	93	%		7/3/2002	AAS	SM2540 B Mod

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Ultrasonic Extraction	Completed			7/3/2002	MP	SW846 3550B
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/Kg	0.	7/9/2002	MSL	MA EPH 98-1
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Acenaphthylene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Acenaphthene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Fluorene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Phenanthrene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Anthracene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Fluoranthene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Pyrene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Chrysene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	58	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	55	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	69	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	63	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
% Solids	86.8	%		7/3/2002	AAS	SM2540 B Mod

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Ultrasonic Extraction	Completed			7/3/2002	MP	SW846 35501
Petroleum Hydrocarbon Analysis						
<i>EPH Aliphatics/Aromatics</i>						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/Kg	0.	7/9/2002	MSL	MA EPH 98-1
<i>EPH Target PAH Analytes</i>						
Naphthalene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Acenaphthylene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Acenaphthene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Fluorene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Phenanthrene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Anthracene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Fluoranthene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Pyrene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Chrysene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/Kg	160	7/9/2002	MSL	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	63	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	51	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	65	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	57	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
% Solids	85.3	%		7/3/2002	AAS	SM2540 B Mod

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Ultrasonic Extraction	Completed			7/3/2002	MP	SW846 3550B
Petroleum Hydrocarbon Analysis						
<i>EPH Aliphatics/Aromatics</i>						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/Kg	0.	7/9/2002	MSL	MA EPH 98-1
<i>EPH Target PAH Analytes</i>						
Naphthalene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Acenaphthylene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Acenaphthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Fluorene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Phenanthrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Anthracene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Fluoranthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Pyrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Chrysene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	66	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	55	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	73	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	63	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
% Solids	87.5	%		7/3/2002	AAS	SM2540 B Mod

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Ultrasonic Extraction	Completed			7/3/2002	MP	SW846 3550I
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/Kg	30	7/9/2002	MSL	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/Kg	0.	7/9/2002	MSL	MA EPH 98-1
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Acenaphthylene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Acenaphthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Fluorene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Phenanthrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Anthracene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Fluoranthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Pyrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Chrysene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/Kg	150	7/9/2002	MSL	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	66	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	56	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	55	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	66	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/Kg	0.	7/9/2002	MSL	MA EPH 98-1
% Solids	87.2	%		7/3/2002	AAS	SM2540 B Mod

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Ultrasonic Extraction	Completed			7/9/2002	RT	SW846 3550B
Petroleum Hydrocarbon Analysis						
TPH by GC						
Gasoline	Below det lim	mg/Kg	30	7/9/2002	JD	SW846 8100M
Fuel Oil #2	62	mg/Kg	30	7/9/2002	JD	SW846 8100M
Fuel Oil #4	Below det lim	mg/Kg	30	7/9/2002	JD	SW846 8100M
Fuel Oil #6	Below det lim	mg/Kg	30	7/9/2002	JD	SW846 8100M
Motor Oil	Below det lim	mg/Kg	30	7/9/2002	JD	SW846 8100M
Ligroin	Below det lim	mg/Kg	30	7/9/2002	JD	SW846 8100M
Aviation Fuel	Below det lim	mg/Kg	30	7/9/2002	JD	SW846 8100M
Unidentified	Below det lim	mg/Kg	30	7/9/2002	JD	SW846 8100M
Other Oil	Below det lim	mg/Kg	30	7/9/2002	JD	SW846 8100M
Total Hydrocarbons (GC)	62	mg/Kg	30	7/9/2002	JD	SW846 8100M
1-Chloro-octadecane (%SR)	75	mg/Kg	0.	7/9/2002	JD	SW846 8100M
% Solids	86.6	%		7/9/2002	AAS	SM2540 B Mod

Lab ID No: AD24701
Client Id: Stockpile-01

Collection Date: 6/27/2002
Matrix Soil

Parameter	Results	Units	PQL	Start Date	Analyst	Method
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The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrix	<input type="checkbox"/> Aqueous <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Other:
Containers	<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Broken <input type="checkbox"/> Leaking
Aqueous Preservative	<input type="checkbox"/> N/A <input type="checkbox"/> pH \leq 2 <input type="checkbox"/> pH $>$ 2 <input type="checkbox"/> pH adjusted to \leq 2 in lab Comment:
Temperature	<input type="checkbox"/> Received on ice <input checked="" type="checkbox"/> Received cold <input type="checkbox"/> Received ambient <input checked="" type="checkbox"/> Recorded temperature: 4°C

Were all QA/QC procedures followed as required by the EPH method? Yes No

Were any significant modifications made to the EPH method, as specified in Section 11.3? Yes * see below

Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No

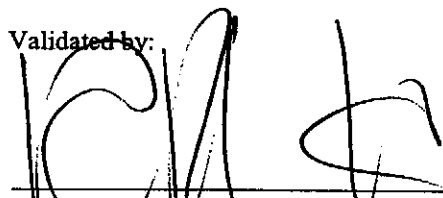
* Sample(s) was run via GCMS using all QC criteria specified in the method.

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

Reviewed by:


Quality Service/Quality Assurance Depts.

Validated by:


President/Laboratory Director

7/10/2002



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Interpretation of Total Petroleum Hydrocarbon Report

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

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

Factors such as microbial degradation, weathering and solubility generally prevent specific identification within a petroleum category. A finding of “unidentified” means that the sample fingerprint was characteristic of a petroleum product, but could not be matched to a fingerprint in our library.

After identification, the amount present in the sample is quantified using a calibration curve prepared from a petroleum product of the same category as the identified petroleum. Unidentified petroleum is quantified using a petroleum calibration that approximates the distribution of compounds in the sample. A * in the results column indicates the primary petroleum fingerprint calibration used to quantify unidentified samples. A ** in the results column indicates the secondary petroleum fingerprint calibration used to quantify unidentified samples. A *** in the results column indicates the tertiary petroleum fingerprint calibration used to quantify unidentified samples.



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References

SW 846	Test Methods for Evaluating Solid Waste. Third edition, 1998
40 CFR 136	Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act
40 CFR 141	National Primary Drinking Water Regulations
40 CFR 143	National Secondary Drinking Water Regulations
40 CFR 160	Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Good Laboratory Practice Standard
APHA-AWWA-WPCF	Standard Methods for the Examination of Water and Wastewater. 19 th edition, 1995
ASTM D 3328	Standard Methods for the Comparison of Waterborne Petroleum Oils by Gas Chromatography
EPA 540/G-87/003	Data Quality Objectives for Remediation Response Activities, Development Process
EPA 600/4-79-012	Quality Assurance Handbook for Analytical Quality Control in Water and Wastewater Laboratories
EPA 600/4-79-019	Handbook for Analytical Quality Control in Water and Wastewater Laboratories
EPA 600/4-79-020	Method for the Chemical Analysis of Water and Wastes
EPA 600/4-82-057	Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater
EPA 600/4-85/056	Choosing Cost-Effective QA/QC Programs for Chemical Analysis
EPA 600/4-88/039	Method for the Determination of Organic Compounds in Drinking Water
CT ETPH	Analysis of Extractable Total Petroleum Hydrocarbons (ETPH)
MADEP EPH	Method for the Determination of Extractable Petroleum Hydrocarbons (EPH)
MADEP VPH	Method for the Determination of Volatile Petroleum Hydrocarbons (VPH)
QAMS 004/80	Guidelines and Specifications for Preparing Quality Assurance Program Plans, USEPA Office of Monitoring System and Quality Assurance
GC-D-52-77	Oil Spill Identification System

Acronyms & Abbreviations

AA	Atomic Absorption	MS	Matrix Spike
ASTM	American Society for Testing and Materials	MSD	Matrix Spike Duplicate
BOD	Biological Oxygen Demand	NTU	Nephelometric Turbidity Units
°C	degree(s) Celsius	PAHs	Polynuclear Aromatic Hydrocarbons
COD	Chemical Oxygen Demand	PCBs	Polychlorinated Biphenyls
CMR	Code of Massachusetts Regulations	PID	Photo Ionization Detector
DEP	Department of Environmental Protection	PQL	Practical Quantitation Limit
DI	De-ionized	R	Recovery (%R: Percent Recovery)
DO	Dissolved Oxygen	RSD	Relative Standard Deviation
EPA	Environmental Protection Agency	SM	Standard Method
EPH	Extractable Petroleum Hydrocarbons	SR	Surrogate Recovery (%SR)
FID	Flame Ionization Detector	SW	Solid Waste
GC	Gas Chromatograph	THM	Trihalomethane(s)
GC / MS	Gas Chromatograph / Mass Spectrometer	TOC	Total Organic Carbon
ICP	Inductively Coupled Plasma	TOX	Total Organic Halogen
Id	Identification	TPH	Total Petroleum Hydrocarbons
MCL	Maximum Contaminant Level	VOC	Volatile Organic Compound
MDL	Minimum Detection Limit	VPH	Volatile Petroleum Hydrocarbons



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Featuring

HANIBAL TECHNOLOGY

Massachusetts Certification # M-MA138

Rhode Island # 98 Maine # MA138

Florida # E87600 / 87562

New Hampshire # 2538

Connecticut # PH-0777

New York # 11393

Coneco
4 First Street
Bridgewater, MA 02324

Attn: Jedd Steinglass

Client Project Number: 4701

Tuesday, February 04, 2003

Report Status:

- ☒ Final Report
- ☐ Re-issued Report
- ☐ Revised Report



Location: Building 21-Waltham, MA

Laboratory ID

AD65288

Client Sample ID

GP-01 (4-6)

Analyses Requested

Ultrasonic Extraction
EPH Aliphatics/Aromatics
EPH Target PAH Analytes
% Solids

AD65289

GP-03 (4-6)

Ultrasonic Extraction
EPH Aliphatics/Aromatics
EPH Target PAH Analytes
% Solids

I attest that all information contained within this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method and meet the requirements of NELAC including any data obtained from a subcontract laboratory. Please note that all solid matrix sample results are calculated on a dry weight basis unless otherwise specified.

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Authorized by:

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

SPECTRUM ANALYTICAL, INC.

Laboratory Report

Location: Building 21-Waltham, MA

Client: CONECO

Lab ID No: AD65288

Client Id: GP-01 (4-6)

Client Project No: 4701

Submittal Date: 1/22/2003

Collection Date: 1/20/2003

Matrix Soil

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Ultrasonic Extraction	Completed			1/24/2003	AM	SW846 3550B
Petroleum Hydrocarbon Analysis						
<i>EPH Aliphatics/Aromatics</i>						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	1/31/2003	KG	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	1/31/2003	KG	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/Kg	30	1/31/2003	KG	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/Kg	30	1/31/2003	KG	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/Kg	0.	1/31/2003	KG	MA EPH 98-1
<i>EPH Target PAH Analytes</i>						
Naphthalene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Acenaphthylene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Acenaphthene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Fluorene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Phenanthrene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Anthracene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Fluoranthene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Pyrene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Chrysene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	60	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	50	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	46	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	64	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
% Solids	89.9	%		1/23/2003	BH	SM2540 B Mod.

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Ultrasonic Extraction	Completed			1/24/2003	AM	SW846 3550]
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	1/31/2003	KG	MA EPH 98-
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/Kg	30	1/31/2003	KG	MA EPH 98-
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/Kg	30	1/31/2003	KG	MA EPH 98-
Unadjusted C11-C22 Aromatics	Below det lim	mg/Kg	30	1/31/2003	KG	MA EPH 98-
Carbon Chain Dilution Factor	1	mg/Kg	0.	1/31/2003	KG	MA EPH 98-
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Acenaphthylene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Acenaphthene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Fluorene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Phenanthrene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Anthracene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Fluoranthene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Pyrene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Chrysene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/Kg	150	1/31/2003	KG	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	48	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	50	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	43	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	60	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/Kg	0.	1/31/2003	KG	MA EPH 98-1
% Solids	90.8	%		1/23/2003	BH	SM2540 B Mod.

Lab ID No: AD65289
Client Id: GP-03 (4-6)

Collection Date: 1/20/2003
Matrix Soil

Parameter	Results	Units	PQL	Start Date	Analyst	Method
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The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrix	<input type="checkbox"/> Aqueous <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Other:
Containers	<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Broken <input type="checkbox"/> Leaking
Aqueous Preservative	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> pH<2 <input type="checkbox"/> pH>2 <input type="checkbox"/> pH adjusted to ≤ 2 in lab Comment:
Temperature	<input type="checkbox"/> Received on ice <input checked="" type="checkbox"/> Received cold <input type="checkbox"/> Received ambient <input checked="" type="checkbox"/> Recorded temperature: 6°C

Were all QA/QC procedures followed as required by the EPH method? Yes ☒ No ☐

Were any significant modifications made to the EPH method, as specified in Section 11.3? Yes * see below

Were all performance/acceptance standards for required QA/QC procedures achieved? Yes ☒ No ☐

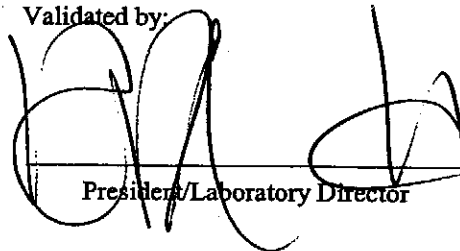
* Sample(s) was run via GCMS using all QC criteria specified in the method.

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

Reviewed by:


Quality Service/Quality Assurance Depts.

Validated by:


President/Laboratory Director

2/4/2003



SPECTRUM ANALYTICAL, INC.

Featuring

HANIBAL TECHNOLOGY

Laboratory Report Supplement

References

SW 846	Test Methods for Evaluating Solid Waste. Third edition, 1998
40 CFR 136	Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act
40 CFR 141	National Primary Drinking Water Regulations
40 CFR 143	National Secondary Drinking Water Regulations
40 CFR 160	Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Good Laboratory Practice Standards
APHA-AWWA-WPCF	Standard Methods for the Examination of Water and Wastewater. 19 th edition, 1995
ASTM D 3328	Standard Methods for the Comparison of Waterborne Petroleum Oils by Gas Chromatography
EPA 540/G-87/003	Data Quality Objectives for Remediation Response Activities, Development Process
EPA 600/4-79-012	Quality Assurance Handbook for Analytical Quality Control in Water and Wastewater Laboratories
EPA 600/4-79-019	Handbook for Analytical Quality Control in Water and Wastewater Laboratories
EPA 600/4-79-020	Method for the Chemical Analysis of Water and Wastes
EPA 600/4-82-057	Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater
EPA 600/4-85/056	Choosing Cost-Effective QA/QC Programs for Chemical Analysis
EPA 600/4-88/039	Method for the Determination of Organic Compounds in Drinking Water
CT ETPH	Analysis of Extractable Total Petroleum Hydrocarbons (ETPH)
MADEP EPH	Method for the Determination of Extractable Petroleum Hydrocarbons (EPH)
MADEP VPH	Method for the Determination of Volatile Petroleum Hydrocarbons (VPH)
QAMS 004/80	Guidelines and Specifications for Preparing Quality Assurance Program Plans, USEPA Office of Water
GC-D-52-77	Oil Spill Identification System

Acronyms & Abbreviations

AA	Atomic Absorption	MS	Matrix Spike
ASTM	American Society for Testing and Materials	MSD	Matrix Spike Duplicate
BOD	Biological Oxygen Demand	NTU	Nephelometric Turbidity Units
°C	degree(s) Celsius	PAHs	Polynuclear Aromatic Hydrocarbons
COD	Chemical Oxygen Demand	PCBs	Polychlorinated Biphenyls
CMR	Code of Massachusetts Regulations	PID	Photo Ionization Detector
DEP	Department of Environmental Protection	PQL	Practical Quantitation Limit
DI	De-ionized	R	Recovery (%R: Percent Recovery)
DO	Dissolved Oxygen	RSD	Relative Standard Deviation
EPA	Environmental Protection Agency	SM	Standard Method
EPH	Extractable Petroleum Hydrocarbons	SR	Surrogate Recovery (%SR)
FID	Flame Ionization Detector	SW	Solid Waste
GC	Gas Chromatograph	THM	Trihalomethane(s)
GC / MS	Gas Chromatograph / Mass Spectrometer	TOC	Total Organic Carbon
ICP	Inductively Coupled Plasma	TOX	Total Organic Halogen
Id	Identification	TPH	Total Petroleum Hydrocarbons
MCL	Maximum Contaminant Level	VOC	Volatile Organic Compound
MDL	Minimum Detection Limit	VPH	Volatile Petroleum Hydrocarbons



HANIBAL TECHNOLOGY

Special Handling **(K4)**

☒ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: _____

• All TATs subject to laboratory approval.

• Min. 24-hour notification needed for rushes.

• All samples are disposed of after 60 days unless otherwise instructed.

Project No.: 4761
Site Name: Bulldog, Z1
Location: FINLAND CENTER, w ALTHAM State: MA
Sampler(s): CRS / MFM

Notes:

[illegible]

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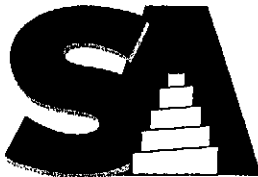
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Massachusetts Certification # M-MA138
Rhode Island # 98 Maine # MA138
Florida # E87600 / 87562
New Hampshire # 2538
Connecticut # PH-0777
New York # 11393

Coneco
4 First Street
Bridgewater, MA 02324



Tuesday, February 18, 2003

Report Status:

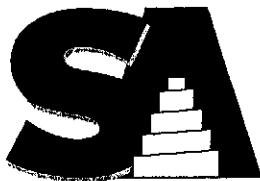
- ☒ Final Report
☐ Re-issued Report
☐ Revised Report

Client Project Number: 4701

Location: 200 Trapelo Rd-Waltham, MA

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Analyses Requested</u>
AD66895	#23 CMW-1	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes
AD66896	#21 CMW-2	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes
AD66897	#21 CMW-3	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes
AD66898	#21 CMW-1	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes

Please note:
Sample AD66895 pertains to a separate
release at: Malone Park



SPECTRUM ANALYTICAL, INC.

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HANIBAL TECHNOLOGY

Client Project Number: 4701

Location: 200 Trapelo Rd-Waltham, MA

Laboratory ID

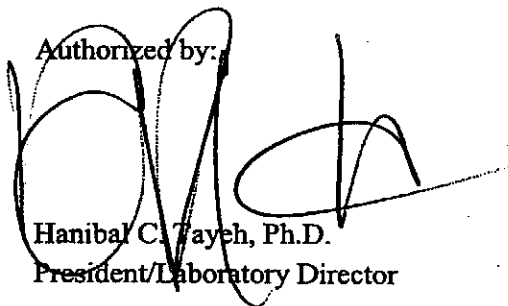
Client Sample ID

Analyses Requested

I attest that all information contained within this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method and meet the requirements of NELAC including any data obtained from a subcontract laboratory. Please note that all solid matrix sample results are calculated on a dry weight basis unless otherwise specified.

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Authorized by:



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

SPECTRUM ANALYTICAL, INC.

Laboratory Report

Location: 200 Trapelo Rd-Waltham,MA

Client: CONECO

Lab ID No: AD66895

Client Id: #23 CMW-1

Client Project No: 4701

Submittal Date: 2/3/2003

Collection Date: 1/31/2003

Matrix Ground Water

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			2/5/2003	KG	SW846 3510C
Petroleum Hydrocarbon Analysis						
<i>EPH Aliphatics/Aromatics</i>						
C9-C18 Aliphatic Hydrocarbons	110	mg/L	0.2	2/13/2003	JD	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	44	mg/L	0.2	2/13/2003	JD	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	103	mg/L	0.2	2/13/2003	JD	MA EPH 98-1
Unadjusted C11-C22 Aromatics	104	mg/L	0.2	2/13/2003	JD	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/L		2/13/2003	JD	MA EPH 98-1
<i>EPH Target PAH Analytes</i>						
Naphthalene	69	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
2-Methylnaphthalene	200	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Acenaphthene	62	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Fluorene	99	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Phenanthrene	160	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Anthracene	11	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Fluoranthene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Pyrene	39	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	80	ug/L	0.	2/13/2003	JD	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	54	ug/L	0.	2/13/2003	JD	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	90	ug/L	0.	2/13/2003	JD	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	100	ug/L	0.	2/13/2003	JD	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	2/13/2003	JD	MA EPH 98-1

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			2/5/2003	KG	SW846 3510C
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	2/13/2003	JD	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	2/13/2003	JD	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/L	0.2	2/13/2003	JD	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/L	0.2	2/13/2003	JD	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/L		2/13/2003	JD	MA EPH 98-1
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Acenaphthene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Fluorene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Phenanthrene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Anthracene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Fluoranthene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Pyrene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	2/13/2003	JD	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	73	ug/L	0.	2/13/2003	JD	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	47	ug/L	0.	2/13/2003	JD	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	90	ug/L	0.	2/13/2003	JD	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	84	ug/L	0.	2/13/2003	JD	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	2/13/2003	JD	MA EPH 98-1

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			2/5/2003	KG	SW846 35100
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	2/14/2003	KG	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	2/14/2003	KG	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/L	0.2	2/14/2003	KG	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/L	0.2	2/14/2003	KG	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/L		2/14/2003	KG	MA EPH 98-1
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Acenaphthene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Fluorene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Phenanthrene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Anthracene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Fluoranthene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Pyrene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	2/14/2003	KG	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	46	ug/L	0.	2/14/2003	KG	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	71	ug/L	0.	2/14/2003	KG	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	64	ug/L	0.	2/14/2003	KG	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	81	ug/L	0.	2/14/2003	KG	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	2/14/2003	KG	MA EPH 98-1

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			2/5/2003	KG	SW846 3510C
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	0.59	mg/L	0.2	2/13/2003	MSL	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	1.0	mg/L	0.2	2/13/2003	MSL	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	1.2	mg/L	0.2	2/13/2003	MSL	MA EPH 98-1
Unadjusted C11-C22 Aromatics	1.2	mg/L	0.2	2/13/2003	MSL	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/L		2/13/2003	MSL	MA EPH 98-1
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Acenaphthene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Fluorene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Phenanthrene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Anthracene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Fluoranthene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Pyrene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	2/13/2003	MSL	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	83	ug/L	0.	2/13/2003	MSL	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	78	ug/L	0.	2/13/2003	MSL	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	81	ug/L	0.	2/13/2003	MSL	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	94	ug/L	0.	2/13/2003	MSL	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	2/13/2003	MSL	MA EPH 98-1

Lab ID No: AD66898
Client Id: #21 CMW-1

Collection Date: 1/31/2003
Matrix Ground Water

Parameter	Results	Units	PQL	Start Date	Analyst	Method
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The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrix	<input checked="" type="checkbox"/> Aqueous <input type="checkbox"/> Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Other:
Containers	<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Broken <input type="checkbox"/> Leaking
Aqueous Preservative	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> pH \leq 2 <input type="checkbox"/> pH>2 <input type="checkbox"/> pH adjusted to \leq 2 in lab Comment:
Temperature	<input type="checkbox"/> Received on ice <input checked="" type="checkbox"/> Received cold <input type="checkbox"/> Received ambient <input checked="" type="checkbox"/> Recorded temperature: 5°C

Were all QA/QC procedures followed as required by the EPH method? Yes No

Were any significant modifications made to the EPH method, as specified in Section 11.3? Yes * see below

Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No

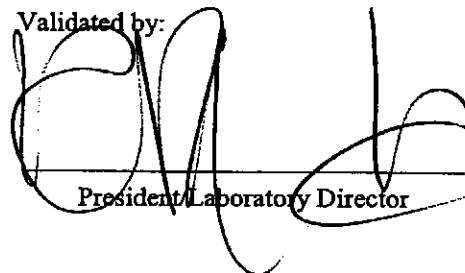
* Sample(s) was run via GCMS using all QC criteria specified in the method.

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

Reviewed by:


Quality Service/Quality Assurance Depts.

Validated by:


President/Laboratory Director

2/18/2003



SPECTRUM ANALYTICAL, INC.

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HANIBAL TECHNOLOGY

Laboratory Report Supplement
References

SW 846	Test Methods for Evaluating Solid Waste. Third edition, 1998
40 CFR 136	Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act
40 CFR 141	National Primary Drinking Water Regulations
40 CFR 143	National Secondary Drinking Water Regulations
40 CFR 160	Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Good Laboratory Practice Standards
APHA-AWWA-WPCF	Standard Methods for the Examination of Water and Wastewater. 19 th edition, 1995
ASTM D 3328	Standard Methods for the Comparison of Waterborne Petroleum Oils by Gas Chromatography
EPA 540/G-87/003	Data Quality Objectives for Remediation Response Activities, Development Process
EPA 600/4-79-012	Quality Assurance Handbook for Analytical Quality Control in Water and Wastewater Laboratories
EPA 600/4-79-019	Handbook for Analytical Quality Control in Water and Wastewater Laboratories
EPA 600/4-79-020	Method for the Chemical Analysis of Water and Wastes
EPA 600/4-82-057	Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater
EPA 600/4-85/056	Choosing Cost-Effective QA/QC Programs for Chemical Analysis
EPA 600/4-88/039	Method for the Determination of Organic Compounds in Drinking Water
CT ETPH	Analysis of Extractable Total Petroleum Hydrocarbons (ETPH)
MADEP EPH	Method for the Determination of Extractable Petroleum Hydrocarbons (EPH)
MADEP VPH	Method for the Determination of Volatile Petroleum Hydrocarbons (VPH)
QAMS 004/80	Guidelines and Specifications for Preparing Quality Assurance Program Plans, USEPA Office of Monitoring System and Quality Assurance
GC-D-52-77	Oil Spill Identification System

Acronyms & Abbreviations

AA	Atomic Absorption	MS	Matrix Spike
ASTM	American Society for Testing and Materials	MSD	Matrix Spike Duplicate
BOD	Biological Oxygen Demand	NTU	Nephelometric Turbidity Units
°C	degree(s) Celsius	PAHs	Polynuclear Aromatic Hydrocarbons
COD	Chemical Oxygen Demand	PCBs	Polychlorinated Biphenyls
CMR	Code of Massachusetts Regulations	PID	Photo Ionization Detector
DEP	Department of Environmental Protection	PQL	Practical Quantitation Limit
DI	De-ionized	R	Recovery (%R: Percent Recovery)
DO	Dissolved Oxygen	RSD	Relative Standard Deviation
EPA	Environmental Protection Agency	SM	Standard Method
EPH	Extractable Petroleum Hydrocarbons	SR	Surrogate Recovery (%SR)
FID	Flame Ionization Detector	SW	Solid Waste
GC	Gas Chromatograph	THM	Trihalomethane(s)
GC / MS	Gas Chromatograph / Mass Spectrometer	TOC	Total Organic Carbon
ICP	Inductively Coupled Plasma	TOX	Total Organic Halogen
Id	Identification	TPH	Total Petroleum Hydrocarbons
MCL	Maximum Contaminant Level	VOC	Volatile Organic Compound
MDL	Minimum Detection Limit	VPH	Volatile Petroleum Hydrocarbons



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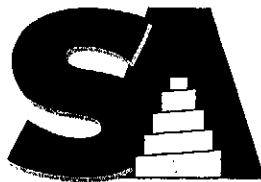
CHAIN OF CUSTODY RECORD

Special Handling: TEK

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

Page 1 of 1

Report To: <u>Conoco</u>		Invoice To: <u>—</u>		Project No.: <u>4701</u>	
<u>4 First St</u>		<u>30200114</u>		Site Name: <u>200 Trepelo Rd</u>	
<u>Bridgewater MA</u>		<u>—</u>		Location: <u>Waltham</u>	
<u>023224</u>		<u>—</u>		State: <u>MA</u>	
Project Mgr.: <u>—</u>		P.O. No.: <u>4701</u>		RQN: <u>—</u>	
1= $\text{Na}_2\text{S}_2\text{O}_3$ 2= HCl 3= H_2SO_4 4= HNO_3 5= NaOH 6=Ascorbic Acid 7= CH_3OH 8= NaHSO_4 9= <u>—</u> 10= <u>—</u>		Containers:		Analyses:	
DW=Drinking Water GW=Groundwater W/W=Wastewater O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air X1= <u>—</u> X2= <u>—</u> X3= <u>—</u>		# of VOA Vials		Notes:	
G=Grab C=Composite		# of Amber Glass			
		# of Clear Glass			
		# of Plastic			
Lab Id:	Sample Id:	Date:	Time:	Type	Matrix
<u>06885</u>	<u>#23 cmw-1</u>	<u>1/3/03</u>	<u>4:00</u>	<u>G</u>	<u>6L</u>
<u>06886</u>	<u>#21 cmw-2</u>	<u>↓</u>	<u>↓</u>	<u>G</u>	<u>6L</u>
<u>06887</u>	<u>#21 cmw-3</u>	<u>↓</u>	<u>↓</u>	<u>G</u>	<u>6L</u>
<u>06888</u>	<u>#21 cmw-1</u>	<u>↓</u>	<u>↓</u>	<u>G</u>	<u>6L</u>
AD					
AD					
AD					
AD					
AD					
AD					
AD					
Relinquished by: <u>[Signature]</u> Received by: <u>[Signature]</u> Date: <u>2/3/03</u> Time: <u>12:35</u>					
Condition upon Receipt: <input type="checkbox"/> Iced <input type="checkbox"/> Ambient <input type="checkbox"/> <u>5</u> °C					
Fax results when available to () _____					
E-mail results when available to <u>jstinglass@conoco.com</u>					



SPECTRUM ANALYTICAL, INC.

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HANIBAL TECHNOLOGY

Massachusetts Certification # M-MA138

Rhode Island # 98 Maine # MA138

Florida # E87600 / 87562

New Hampshire # 2538

Connecticut # PH-0777

New York # 11393

Coneco

4 First Street

Bridgewater, MA 02324

Attn: Luke Dwyer

Client Project Number:

Tuesday, June 24, 2003

Report Status:

- ☒ Final Report
☐ Re-issued Report
☐ Revised Report

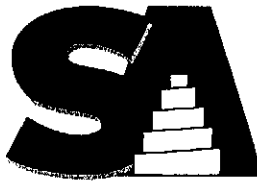


Location: 200 Trapello Rd-Waltham, MA

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Analyses Requested</u>
AD92341	CMW-1 (21)	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes
AD92342	CMW-2 (21)	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes
AD92343	CMW-3 (21)	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes
AD92344	CMW-1 (23)	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes
AD92345	CMW-2 (23)	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes
AD92346	CMW-3 (23)	Separatory Funnel Extraction EPH Aliphatics/Aromatics EPH Target PAH Analytes

Please Note:

Samples AD92343 through AD92345 pertain
to a separate release at Malone Park.



SPECTRUM ANALYTICAL, INC.

Featuring
HANIBAL TECHNOLOGY

Client Project Number:

Location: 200 Trapello Rd-Waltham, MA

Laboratory ID

Client Sample ID

Analyses Requested

I attest that all information contained within this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method and meet the requirements of NELAC including any data obtained from a subcontract laboratory. Please note that all solid matrix sample results are calculated on a dry weight basis unless otherwise specified.

This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Authorized by


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

SPECTRUM ANALYTICAL, INC.

Laboratory Report

Location: 200 Trapello Rd-Waltham, MA

Client: CONECO

Lab ID No: AD92341

Client Id: CMW-1 (21)

Client Project No:

Submittal Date: 6/11/2003

Collection Date: 6/9/2003

Matrix Ground Water

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			6/17/2003	WB	SW846 3510C
Petroleum Hydrocarbon Analysis						
<i>EPH Aliphatics/Aromatics</i>						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/L		6/20/2003	KG	MA EPH 98-1
<i>EPH Target PAH Analytes</i>						
Naphthalene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Acenaphthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Fluorene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Phenanthrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Anthracene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Fluoranthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Pyrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	51	ug/L	0.	6/20/2003	KG	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	50	ug/L	0.	6/20/2003	KG	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	50	ug/L	0.	6/20/2003	KG	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	52	ug/L	0.	6/20/2003	KG	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	6/20/2003	KG	MA EPH 98-1

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			6/18/2003	VK	SW846 35100
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/L		6/20/2003	KG	MA EPH 98-1
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Acenaphthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Fluorene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Phenanthrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Anthracene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Fluoranthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Pyrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	63	ug/L	0.	6/20/2003	KG	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	49	ug/L	0.	6/20/2003	KG	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	51	ug/L	0.	6/20/2003	KG	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	53	ug/L	0.	6/20/2003	KG	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	6/20/2003	KG	MA EPH 98-1

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			6/18/2003	VK	SW846 3510C
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
Unadjusted C11-C22 Aromatics	Below det lim	mg/L	0.2	6/20/2003	KG	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/L		6/20/2003	KG	MA EPH 98-1
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Acenaphthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Fluorene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Phenanthrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Anthracene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Fluoranthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Pyrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	6/20/2003	KG	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	59	ug/L	0.	6/20/2003	KG	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	58	ug/L	0.	6/20/2003	KG	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	50	ug/L	0.	6/20/2003	KG	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	50	ug/L	0.	6/20/2003	KG	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	6/20/2003	KG	MA EPH 98-1

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			6/18/2003	VK	SW846 3510
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	34	mg/L	0.2	6/20/2003	JD	MA EPH 98-
C19-C36 Aliphatic Hydrocarbons	14	mg/L	0.2	6/20/2003	JD	MA EPH 98-
C11-C22 Aromatic Hydrocarbons	24	mg/L	0.2	6/20/2003	JD	MA EPH 98-
Unadjusted C11-C22 Aromatics	24	mg/L	0.2	6/20/2003	JD	MA EPH 98-
Carbon Chain Dilution Factor	1	mg/L		6/20/2003	JD	MA EPH 98-
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Acenaphthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Fluorene	32	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Phenanthrene	55	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Anthracene	7.3	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Fluoranthene	5.1	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Pyrene	20	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	67	ug/L	0.	6/20/2003	JD	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	57	ug/L	0.	6/20/2003	JD	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	89	ug/L	0.	6/20/2003	JD	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	82	ug/L	0.	6/20/2003	JD	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	6/20/2003	JD	MA EPH 98-1

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			6/18/2003	VK	SW846 3510C
Pétroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	1.7	mg/L	0.2	6/20/2003	JD	MA EPH 98-1
C19-C36 Aliphatic Hydrocarbons	0.69	mg/L	0.2	6/20/2003	JD	MA EPH 98-1
C11-C22 Aromatic Hydrocarbons	1.7	mg/L	0.2	6/20/2003	JD	MA EPH 98-1
Unadjusted C11-C22 Aromatics	1.7	mg/L	0.2	6/20/2003	JD	MA EPH 98-1
Carbon Chain Dilution Factor	1	mg/L		6/20/2003	JD	MA EPH 98-1
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Acenaphthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Fluorene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Phenanthrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Anthracene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Fluoranthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Pyrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	76	ug/L	0.	6/20/2003	JD	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	60	ug/L	0.	6/20/2003	JD	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	89	ug/L	0.	6/20/2003	JD	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	85	ug/L	0.	6/20/2003	JD	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	6/20/2003	JD	MA EPH 98-1

Parameter	Results	Units	PQL	Start Date	Analyst	Method
TPH Preparation						
Separatory Funnel Extraction	Completed			6/18/2003	VK	SW846 3510
Petroleum Hydrocarbon Analysis						
EPH Aliphatics/Aromatics						
C9-C18 Aliphatic Hydrocarbons	0.93	mg/L	0.2	6/20/2003	JD	MA EPH 98-
C19-C36 Aliphatic Hydrocarbons	0.64	mg/L	0.2	6/20/2003	JD	MA EPH 98-
C11-C22 Aromatic Hydrocarbons	0.78	mg/L	0.2	6/20/2003	JD	MA EPH 98-
Unadjusted C11-C22 Aromatics	0.78	mg/L	0.2	6/20/2003	JD	MA EPH 98-
Carbon Chain Dilution Factor	1	mg/L		6/20/2003	JD	MA EPH 98-
EPH Target PAH Analytes						
Naphthalene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
2-Methylnaphthalene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Acenaphthylene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Acenaphthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Fluorene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Phenanthrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Anthracene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Fluoranthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Pyrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (a) anthracene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Chrysene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (b) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (k) fluoranthene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (a) pyrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Indeno (1,2,3-cd) pyrene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Dibenzo (a,h) anthracene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
Benzo (g,h,i) perylene	Below det lim	ug/L	5.0	6/20/2003	JD	MA EPH 98-1
1-Chloro-octadecane Aliphatic (%SR)	69	ug/L	0.	6/20/2003	JD	MA EPH 98-1
Ortho-Terphenyl Aromatic (%SR)	52	ug/L	0.	6/20/2003	JD	MA EPH 98-1
2-Bromonaphthalene Fractionation (%SR)	49	ug/L	0.	6/20/2003	JD	MA EPH 98-1
2-Fluorobiphenyl Fractionation (%SR)	48	ug/L	0.	6/20/2003	JD	MA EPH 98-1
Target Analyte Dilution Factor	1	ug/L	0.	6/20/2003	JD	MA EPH 98-1

Lab ID No: AD92346
Client Id: CMW-3 (23)

Collection Date: 6/9/2003
Matrix Ground Water

Parameter	Results	Units	PQL	Start Date	Analyst	Method
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The following outlines the condition of all EPH samples contained within this report upon laboratory receipt.

Matrix	<input checked="" type="checkbox"/> Aqueous	<input type="checkbox"/> Soil	<input type="checkbox"/> Sediment	<input type="checkbox"/> Other:	
Containers	<input checked="" type="checkbox"/> Satisfactory	<input type="checkbox"/> Broken	<input type="checkbox"/> Leaking		
Aqueous Preservative	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> pH<2	<input type="checkbox"/> pH>2	<input type="checkbox"/> pH adjusted to ≤2 in lab	Comment:
Temperature	<input type="checkbox"/> Received on ice	<input checked="" type="checkbox"/> Received cold	<input type="checkbox"/> Received ambient	<input checked="" type="checkbox"/> Recorded temperature:	10°C

Were all QA/QC procedures followed as required by the EPH method? Yes ☒ No ☐


Were any significant modifications made to the EPH method, as specified in Section 11.3? Yes * see below

Were all performance/acceptance standards for required QA/QC procedures achieved? Yes ☒ No ☐

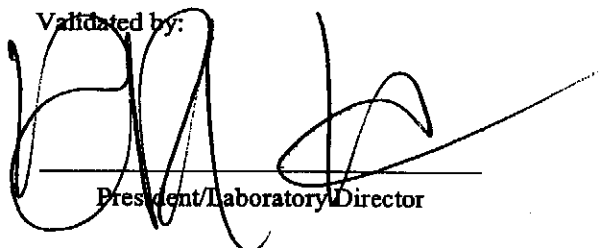
* Sample(s) was run via GCMS using all QC criteria specified in the method.

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

Reviewed by:


Quality Service/Quality Assurance Depts.

Validated by:


President/Laboratory Director

6/24/2003



SPECTRUM ANALYTICAL, INC.

Featuring
HANIBAL TECHNOLOGY

Laboratory Report Supplement

References

SW 846	Test Methods for Evaluating Solid Waste. Third edition, 1998
40 CFR 136	Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water
40 CFR 141	National Primary Drinking Water Regulations
40 CFR 143	National Secondary Drinking Water Regulations
40 CFR 160	Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Good Laboratory Practice Stand
APHA-AWWA-WPCF	Standard Methods for the Examination of Water and Wastewater. 19 th edition, 1995
ASTM D 3328	Standard Methods for the Comparison of Waterborne Petroleum Oils by Gas Chromatography
EPA 540/G-87/003	Data Quality Objectives for Remediation Response Activities, Development Process
EPA 600/4-79-012	Quality Assurance Handbook for Analytical Quality Control in Water and Wastewater Laborato
EPA 600/4-79-019	Handbook for Analytical Quality Control in Water and Wastewater Laboratories
EPA 600/4-79-020	Method for the Chemical Analysis of Water and Wastes.
EPA 600/4-82-057	Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater
EPA 600/4-85/056	Choosing Cost-Effective QA/QC Programs for Chemical Analysis
EPA 600/4-88/039	Method for the Determination of Organic Compounds in Drinking Water
CT ETPH	Analysis of Extractable Total Petroleum Hydrocarbons (ETPH)
MADEP EPH	Method for the Determination of Extractable Petroleum Hydrocarbons (EPH)
MADEP VPH	Method for the Determination of Volatile Petroleum Hydrocarbons (VPH)
QAMS 004/80	Guidelines and Specifications for Preparing Quality Assurance Program Plans, USEPA Office
	Monitoring System and Quality Assurance
GC-D-52-77	Oil Spill Identification System

Acronyms & Abbreviations

AA	Atomic Absorption	MS	Matrix Spike
ASTM	American Society for Testing and Materials	MSD	Matrix Spike Duplicate
BOD	Biological Oxygen Demand	NTU	Nephelometric Turbidity Units
°C	degree(s) Celsius	PAHs	Polynuclear Aromatic Hydrocarbons
COD	Chemical Oxygen Demand	PCBs	Polychlorinated Biphenyls
CMR	Code of Massachusetts Regulations	PID	Photo Ionization Detector
DEP	Department of Environmental Protection	PQL	Practical Quantitation Limit
DI	De-ionized	R	Recovery (%R: Percent Recovery)
DO	Dissolved Oxygen	RSD	Relative Standard Deviation
EPA	Environmental Protection Agency	SM	Standard Method
EPH	Extractable Petroleum Hydrocarbons	SR	Surrogate Recovery (%SR)
FID	Flame Ionization Detector	SW	Solid Waste
GC	Gas Chromatograph	THM	Trihalomethane(s)
GC / MS	Gas Chromatograph / Mass Spectrometer	TOC	Total Organic Carbon
ICP	Inductively Coupled Plasma	TOX	Total Organic Halogen
Id	Identification	TPH	Total Petroleum Hydrocarbons
MCL	Maximum Contaminant Level	VOC	Volatile Organic Compound
MDL	Minimum Detection Limit	VPH	Volatile Petroleum Hydrocarbons



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HARPER TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

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

Report To: Wine Buyer
Concrete Engineers & Scientists
4 First St
Bridgewater, MA 02324
Project Mgr.: _____

Invoice To: Same
P.O. No.: 4201
RON: 23061002

Project No.: _____
Site Name: 200 Maple Rd.
Location: Waltham State: MA
Sampler(s): LM2

1=Na₂S₂O₃ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=_____ 10=_____

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

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Containers:	Analyses:	Notes:
AD341	CMW-1(21)	6/9/03	12 ⁰⁰ pm	G	GW	2	1	1	1	1	1	1	EPH by the DEP
AD342	CMW-2(21)						1	1	1	1	1	1	
AD343	CMW-3(21)						1	1	1	1	1	1	
AD344	CMW-1(23)						1	1	1	1	1	1	
AD345	CMW-2(23)						1	1	1	1	1	1	
AD346	CMW-3(23)						1	1	1	1	1	1	
AD													
AD													
AD													
AD													

☒ Fax results when available to 508) 697 5946
☐ E-mail results when available to _____
Condition upon Receipt: ☐ Iced ☐ Ambient ☐ 10 °C

Relinquished by: Jean Delmont Received by: Bergman Date: 6-11-03 Time: 10:14⁴³ AM
Bergman Walt 6/11/03 10:24

Ref.

Bill of Lading



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-012A

Release Tracking Number

BILL OF LADING (pursuant to 310 CMR 40.0030)

3 - 21892

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

Release Name (optional): Fernald Center - Malone Park

Street: 200 Trapelo Road

City/Town: Waltham

Location Aid: Fernald Center

Zip Code: 02454 - 0000

Date/Period of Generation: 06 / 27 / 02 to 07 / 12 / 02

Additional Release Tracking Numbers Associated with this Bill of Lading: 3-21893

**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: Dept. of Mental Retardation

Name of Contact: David Chan

Title: Project Engineer

Street: 500 Harrison Avenue

City/Town: Boston

State: MA

Zip Code: 02118 - 0000

Telephone: 617 - 624 - 7881 Ext.

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

(check one/specify)

☒ RP Specify (circle one): Owner Operator Generator Transporter Other RP:

☐ PRP Specify (circle one): Owner Operator Generator Transporter Other PRP:

☐ Fiduciary/Secured Lender

☐ Agency/Public Utility on a Right of Way

☐ 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/Common CARRIER INFORMATION:

Transporter/Common Carrier Name: ESMI, Inc.

Contact Person: Julie Virgin

Title: Office Manager

Street: 67 International Drive

City/Town: Louden

State: NH

Zip Code: 03307 - 0000

Telephone: 603 - 783 - 0228 Ext.

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:

Operator/Facility Name: ESMI, Inc.

Contact Person: Julie Virgin

Title: Office Manager

Street: 67 International Drive

City/Town: Louden

State: NH

Zip Code: 03307 - 0000

Telephone: 603 - 782 - 0228 Ext.

Type of Facility:
(check one)

☐ Asphalt Batch/Cold Mix

☐ Landfill/Disposal

☐ Incinerator

☐ Asphalt Batch/Hot Mix

☐ Landfill/Daily Cover

☐ Temporary Storage

☒ Thermal Processing

☐ Landfill/Structural Fill

☐ Other:

Division of Hazardous
Waste/Class A Permit #:

Division of Solid Waste
Management Permit #: DES-SW-SP-96-002

EPA Identification #: NH5986485852

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

Reason for Temporary Storage (if applicable):



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)
LOG SHEET OF

Release Tracking Number

3-21892

I. LOAD INFORMATION:

LOAD 1: Signature of Transporter Representative:

Date of Shipment: 7/15/02 Time of Shipment: 10:00 (circle one) am/pm

Truck/Tractor Registration: N.H. AR1664 Trailer Registration (if any): N.H. TD7064

Receiving Facility/Temporary Storage Representative

Date of Receipt: 7/15/02 Time of Receipt: (circle one) am/pm

Load Size (cu. yds./tons): 35.57

LOAD 2: Signature of Transporter Representative:

Date of Shipment: 7/15/02 Time of Shipment: 2:45 (circle one) am/pm

Truck/Tractor Registration: N.H. AR1664 Trailer Registration (if any): N.H. TD7064

Receiving Facility/Temporary Storage Representative

Date of Receipt: 7/15/02 Time of Receipt: (circle one) am/pm

Load Size (cu. yds./tons): 33.10

LOAD 3: Signature of Transporter Representative:

Date of Shipment: 7/16/02 Time of Shipment: 12:00 (circle one) am/pm

Truck/Tractor Registration: N.H. AR1664 Trailer Registration (if any): N.H. TD7064

Receiving Facility/Temporary Storage Representative

Date of Receipt: 7/16/02 Time of Receipt: (circle one) am/pm

Load Size (cu. yds./tons): 40.51

LOAD 4: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative

Date of Receipt: / / Time of Receipt: (circle one) am/pm

Load Size (cu. yds./tons):

LOAD 5: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative

Date of Receipt: / / Time of Receipt: (circle one) am/pm

Load Size (cu. yds./tons):

LOAD 6: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative

Date of Receipt: / / Time of Receipt: (circle one) am/pm

Load Size (cu. yds./tons):

LOAD 7: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative

Date of Receipt: / / Time of Receipt: (circle one) am/pm

Load Size (cu. yds./tons):

J. LOG SHEET VOLUME INFORMATION:

Total Volume This Page (cu. yds./tons): 109.18

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons): 109.18



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-012B

BILL OF LADING (pursuant to 310 CMR 40.0030)
LOG SHEET OF

Release Tracking Number:

3-21892

I. LOAD INFORMATION:

LOAD 1: Signature of Transporter Representative:

Robert Brown Jr. R+S

Date of Shipment: Time of Shipment:

7/17/02 9:15 (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

AK 8523

Receiving Facility/Temporary Storage Representative:

Smith, Julie Dwyer

Date of Receipt: Time of Receipt:

7/17/02 (circle one) am/pm

Load Size (cu. yds./tons):

12.22

LOAD 2: Signature of Transporter Representative:

Date of Shipment: Time of Shipment:

/ / (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: Time of Receipt:

/ / (circle one) am/pm

Load Size (cu. yds./tons):

LOAD 3: Signature of Transporter Representative:

Date of Shipment: Time of Shipment:

/ / (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: Time of Receipt:

/ / (circle one) am/pm

Load Size (cu. yds./tons):

LOAD 4: Signature of Transporter Representative:

Date of Shipment: Time of Shipment:

/ / (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: Time of Receipt:

/ / (circle one) am/pm

Load Size (cu. yds./tons):

LOAD 5: Signature of Transporter Representative:

Date of Shipment: Time of Shipment:

/ / (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: Time of Receipt:

/ / (circle one) am/pm

Load Size (cu. yds./tons):

LOAD 6: Signature of Transporter Representative:

Date of Shipment: Time of Shipment:

/ / (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: Time of Receipt:

/ / (circle one) am/pm

Load Size (cu. yds./tons):

LOAD 7: Signature of Transporter Representative:

Date of Shipment: Time of Shipment:

/ / (circle one) am/pm

Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: Time of Receipt:

/ / (circle one) am/pm

Load Size (cu. yds./tons):

LOG SHEET VOLUME INFORMATION:

Total Volume This Page (cu. yds./tons):

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons):

12.22

109.18

121.40



Standard Operating Procedures

Standard Operating Procedure: Field Headspace Screening -Photoionization Detector

Discussion:

Sample materials collected in the field are placed in tightly sealed clean glass jars to be screened for volatile compounds using either a HNU Model PI-101 or HW-101 photoionization detector (PID). CONECO utilizes the HW-101 when the field personnel consider moisture to be a potential variable. The PIDs can be used to detect organic or inorganic compounds with specific ionization potentials, however, individual compounds cannot be discriminated. Therefore, the results for total volatile vapor concentrations are expressed in the meter reading which the manufacturer defines as parts per million (ppm) of an equivalent amount of benzene. The limit of detectability of the screening procedure is 0.1 ppm.

Each instrument is cleaned and calibrated in accordance with the manufacturer's specifications on a regular basis. CONECO maintains individual maintenance and calibration logs for each PID. Prior to use in the field, the PID is calibrated using a benzene standard or equivalent (isobutylene) and the calibration data is logged.

Procedure:

- 1) Prior to use in the field, the photoionization detector (PID) is to be calibrated in accordance to manufacturers specifications.
- 2) Place the sample in an eight or ten-ounce jar until the jar is approximately half-full. Place thick aluminum foil over the mouth of the jar to create an effective seal. Shake the sample jar for 15 seconds and let stand at temperatures above 50° F.
- 3) After 10 to 15 minutes of equilibration time, shake the sample jar a second time and position the container for sampling. Puncture the aluminum foil seal with the PID probe tip, making sure that the probe tip does not come in contact with the sample material.
- 4) Observe the instrument meter and record the highest reading. The meter reading will most often peak within five seconds and steadily decrease as ambient air is introduced into the medium. If erratic variation is noted in the meter reading, the sample will be retested. Weather conditions are to be noted in conjunction with the PID data.

Standard Operating Procedure: Monitoring Well Installation

Discussion:

Proper installation of monitoring wells is an essential element to an accurate hydrologic or site assessment investigation. Installation of monitoring wells typically consists of a 2 inch inside diameter (ID) Schedule 40 PVC well screen (0.1 inch slot size) and similar solid riser pipe. The screened interval is usually 10 feet in length and is centered at the apparent groundwater surface at the time of installation. One inch or four inch ID screen and riser may also be used depending on the constraints and objectives of the drilling program.

Procedure:

- 1) Upon completion of the test boring, the preassembled well screen and riser, with bottom plug siltation trap, is inserted into the borehole or more commonly, into the hollow stem auger or casing, as removing the auger flights can cause the surrounding formation to prematurely collapse on the well screen.
- 2) The well assembly is positioned at the desired depth and the annular space between the sidewall and well casing assembly is then backfilled with a clean, well sorted silica sand to a depth at least one foot above the well screen/riser connection. The screen and riser pipe is installed to be vertically plumb.
- 3) Once the sand filter pack is emplaced to the proper depth below grade (measured with tape), a divider seal, most commonly bentonite pellets, is inserted into to the annular space until a six-inch to 1-foot thick impermeable seal is formed around the casing.
- 4) The method for the backfilling the remainder of the annular space is determined by the qualified CONECO personnel. Typically, native material removed from the borehole having a PID reading below 10 ppm is then used to backfill the remaining annular space. Alternative backfill materials include concrete slurry or bentonite/water mixtures. The well riser is then fitted with a top plug and a locking protective casing or road box.
- 5) The protective casing or road box is securely cemented in place over the well. The cement seal is at a minimum one foot thick. If a road box is used, it is cemented flush with the pavement surface. If used, other protective casings should be grouted in place at least 0.5 feet above grade and identified with flagging.

Discussion:

Water standing in a well prior to development and sampling may not be representative of true groundwater quality in the aquifer. It is therefore necessary to first purge the well of all stagnant water so that a representative groundwater sample can be obtained. Depending upon the monitoring well construction and hydraulic characteristics of the aquifer, well development may be conducted by manual bailing or with a submersible pump. Bailing is most appropriate for low yield or deep wells, whereas a pump may be suitable for higher yield wells or where sampling within a discrete zone is necessary.

Procedure:

- 1) Using a clean groundwater sensor indicator determine the depth to the water table and determine the total depth of the well and record in the field logbook. Depth to groundwater should be measured from a specified reference point on the PVC riser pipe.

Then calculate the volume of standing water using the following equation:

$$v = \pi r^2 h \text{ where:}$$

$$v = \text{one well volume of water (generally converted to gallons)}$$

- for inches multiply by 4.33×10^{-3}
- for feet multiply by 7.48 to give gallons

$$\pi = 3.14$$

r = the radius of the well, measured as the inside diameter of the well divided by 2

h = the height of the water column in the well

Sample Calculation:

Assume: $r = 2\text{-inch ID} = 0.16\text{-foot ID}$

$$h = 1 \text{ foot}$$

$$v = 3.14 * (0.16 \text{ ft}/2)^2 * (1 \text{ foot}) * (7.48 \text{ gal}/\text{ft}^3)$$

$$v = 0.16 \text{ gal}$$

$$3v = 0.48 \text{ gal}$$

Therefore, as a rule of thumb, approximately 0.5 gallons of water must be purged from the well for each foot of water present in the monitoring well column.

- 2) Calculate the number of bailer volumes or the duration of pumping required to evacuate at least three well volumes.
- 3) Evacuate well water to a small bucket or vessel (<0.5 gallons) in which the pH and specific conductivity probes have been placed.
- 4) Purging should continue until pH, temperature, and specific conductivity values do not vary appreciably; a minimum of three well volumes have been removed; and a

Standard Operating Procedure: Monitoring Well Sampling (Cont'd)

stabilization in the silt content of the evacuated water has been achieved. Care should be taken so that the bailer line does not come in contact with the ground.

- 5) Record final pH, temperature, and specific conductivity values in field log book.
- 6) Prior to sampling, allow an equilibration period (minimum of 10 minutes).
- 7) Decontaminate all downhole purging equipment after use in one well using applicable standard operating procedures. If a disposable bailer or tubing is used, discard after one use. Discard the line used to support the bailer between wells.
- 8) A new pair of disposable gloves shall be worn for each individual well sampling.
- 9) Samples should be collected and containerized in order of decreasing sensitivity to volatilization.

The following order should be used in collection of samples:

VOCs
semi-VOCs
Petroleum Hydrocarbons
Metals
PCBs

- 10) Minimize agitation of sample during collection to prevent possible volatilization of components present in the sample.
- 11) Care must be taken to eliminate entry of or contact with any substance other than the water sample and the interior surface of the sampling container.
- 12) Samples submitted for VOC analysis should not contain any air bubbles.
- 13) Samples submitted for dissolved metals analysis should be filtered in the field, using CONECO's filtration and pump system. Acidification of the sample should not be performed until the sample has been properly filtered.
- 14) When full, sampling containers should be securely capped, wiped off, appropriately labeled, and refrigerated until their delivery to the laboratory.
- 15) Complete the chain of custody form.

Standard Operating Procedure: Geoprobe® Sampling In Overburden Materials

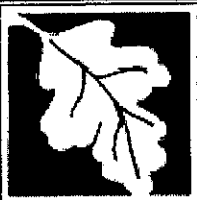
Discussion:

Test boring programs in unconsolidated overburden materials may be conducted using a variety of drilling techniques. While most borings associated with site assessment techniques are performed using a hollow-stem auger, a less expensive method of obtaining soil samples is using Geoprobe® equipment. The powerful aspect of this technique is the versatility and mobility of the equipment both on the interior and exterior of site buildings. Samples can be obtained at depths up to 100 feet in a variety of geological conditions and locations. A 1.5-inch inside diameter (ID) macro core sampler is driven through overburden deposits using a pneumatically or electrically operated hammer. Collected within this macro core is a continuous soil sample available for field screening or more detailed laboratory analysis.

Procedure:

- 1) All Geoprobe® activities are continuously inspected by a qualified CONECO geologist or engineer. The inspector is familiar with the selected sampling program and is responsible for QA/QC procedures. Boring logs and field notes, as well as procedural changes, are the responsibility of the inspector.
- 2) All Geoprobe® equipment is decontaminated prior to initial use and during activities at the site
- 3) The 4-foot long macro core sampler (2 inch ID) is prepared by inserting a PETG (acetate) liner inside the macro core. Depending on the desired sampling depths, 3-foot or 1-foot extension rods are then placed on the opposite end of the macro core. Acetate liners are replaced after each sampling run.
- 4) Beginning from the surface, the macro core sampler is driven through overburden materials using a pneumatically or electrically operated hammer. Once the core sampler has been driven through the desired depths, it is removed using an extractor jack. The PETG liner containing the soil sample is then removed from the macro core and emptied onto a clean surface.
- 5) Descriptions of the sample materials, stratigraphy, as well as sampling activities are recorded on the test boring log. Soil samples, when recovered, are placed in appropriate containers for PID screening and laboratory analysis, if required.
- 6) Any excess soil samples obtained during boring activities will remain on-Site. Those soils exhibiting PID levels of 10 ppm or greater will be segregated and either containerized or placed on and covered with 6-mil polyethylene.

**Immediate Response Action Transmittal Form (BWSC-105)
Response Action Outcome Transmittal Form (BWSC-104)
Copies of Municipal Notifications**



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

J.R.

**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3

-

21892

A. RELEASE OR THREAT OF RELEASE LOCATION:

1. Release Name/Location Aid: Malone Park - Building No. 21

2. Street Address: 200 Trapelo Road

3. City/Town: Waltham

4. ZIP Code: 02452-6302

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

☐ a. Tier 1A ☐ b. Tier 1B ☐ c. Tier 1C ☐ d. Tier 2

☐ 6. Check here if this location is Adequately Regulated, pursuant to 310 CMR 40.0110-0114. Specify Program (check one):

☐ a. CERCLA ☐ b. HSWA Corrective Action ☐ c. Solid Waste Management

☐ d. RCRA State Program (21C Facilities)

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

1. List Submittal Date of Initial IRA Written Plan (if previously submitted): _____

☐ 2. Submit an **Initial IRA Plan**.

☐ 3. Submit a **Modified IRA Plan** of a previously submitted written IRA Plan.

☐ 4. Submit an **Imminent Hazard Evaluation** (check one)

☐ a. An Imminent Hazard exists in connection with this Release or Threat of Release.

☐ b. An Imminent Hazard does not exist in connection with this Release or Threat of Release.

☐ c. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release, and further assessment activities will be undertaken.

☐ d. It is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release. However, response actions will address those conditions that could pose an Imminent Hazard.

☐ 5. Submit a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard**.

☐ 6. Submit an **IRA Status Report**.

☒ 7. Submit an **IRA Completion Statement**.

☐ a. Check here if future response actions addressing this Release or Threat of Release notification condition will be conducted as part of the Response Actions planned or ongoing at a Site that has already been Tier Classified under a different Release Tracking Number (RTN). When linking RTNs, rescoring via the NRS is required if there is a reasonable likelihood that the addition of the new RTN(s) would change the classification of the site.

b. State Release Tracking Number of Tier Classified Site (Primary RTN): -

These additional response actions must occur according to the deadlines applicable to the Primary RTN. Use the Primary RTN when making all future submittals for the site unless specifically relating to this Immediate Response Action.

☐ 8. Submit a **Revised IRA Completion Statement**.

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

RECEIVED

JUL 03 2003

DEP

NORTHEAST REGIONAL OFFICE





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3

-

21892

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT IRA:

1. Identify Media Impacted and Receptors Affected: (check all that apply)

- ☐ a. Air ☐ b. Basement ☐ c. Critical Exposure Pathway ☒ d. Groundwater ☐ e. Residence
☐ f. Paved Surface ☐ g. Private Well ☐ h. Public Water Supply ☐ i. School ☐ j. Sediments
☒ k. Soil ☐ l. Storm Drain ☐ m. Surface Water ☐ n. Unknown ☐ o. Wetland ☐ p. Zone 2
☐ q. Others Specify: _____

2. Identify Oils and Hazardous Materials Released: (check all that apply)

- ☒ a. Oils ☐ b. Chlorinated Solvents ☐ c. Heavy Metals
☐ d. Others Specify: Unknown volume of No. 2 fuel oil as indicated by elevated PID readings during
UST closure activities

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

- | | |
|--|---|
| <input type="checkbox"/> 1. Assessment and/or Monitoring Only | <input type="checkbox"/> 2. Temporary Covers or Caps |
| <input type="checkbox"/> 3. Deployment of Absorbent or Containment Materials | <input type="checkbox"/> 4. Temporary Water Supplies |
| <input type="checkbox"/> 5. Structure Venting System | <input type="checkbox"/> 6. Temporary Evacuation or Relocation of Residents |
| <input type="checkbox"/> 7. Product or NAPL Recovery | <input type="checkbox"/> 8. Fencing and Sign Posting |
| <input type="checkbox"/> 9. Groundwater Treatment Systems | <input type="checkbox"/> 10. Soil Vapor Extraction |
| <input type="checkbox"/> 11. Bioremediation | <input type="checkbox"/> 12. Air Sparging |
| <input checked="" type="checkbox"/> 13. Excavation of Contaminated Soils | |

- ☒ a. Re-use, Recycling or Treatment ☐ i. On Site Estimated volume in cubic yards _____
☒ ii. Off Site Estimated volume in cubic yards 45

ii. Facility Name: ESMI, Incorporated Town: Louden State: NH

iib. Facility Name: _____ Town: _____ State: _____

iii. Describe: Thermal Processing

- ☐ b. Store ☐ i. On Site Estimated volume in cubic yards _____
☐ ii. Off Site Estimated volume in cubic yards _____

ii. Facility Name: _____ Town: _____ State: _____

iib. Facility Name: _____ Town: _____ State: _____





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 21892

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

☐ c. Landfill

☐ i. Cover Estimated volume in cubic yards _____

Facility Name: _____ Town: _____ State: _____

☐ ii. Disposal Estimated volume in cubic yards _____

Facility Name: _____ Town: _____ State: _____

☐ 14. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount: _____

b. Facility Name: _____ Town: _____ State: _____

c. Facility Name: _____ Town: _____ State: _____

☐ 15. Removal of Other Contaminated Media:

a. Specify Type and Volume: _____

b. Facility Name: _____ Town: _____ State: _____

c. Facility Name: _____ Town: _____ State: _____

☐ 16. Other Response Actions:

Describe: _____

☐ 17. Use of Innovative Technologies:

Describe: _____





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 21892

E. LSP SIGNATURE AND STAMP :

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

> if Section B of this form indicates that an **Immediate Response Action 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 of this form indicates that an **Imminent Hazard Evaluation** is being submitted, this Imminent Hazard Evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the assessment activity(ies) undertaken to support this Imminent Hazard Evaluation complies(y) with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

> if Section B of this form indicates that an **Immediate Response Status 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;

> if Section B of this form indicates that an **Immediate Response Action Completion Statement** or a request to **Terminate an Active Remedial System or Response Action(s) Taken to Address an Imminent Hazard** 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.

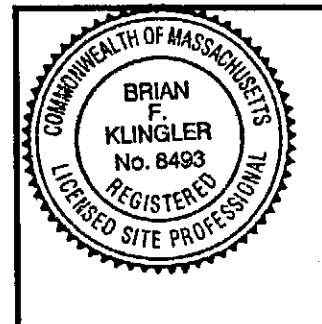
I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. First Name: Brian 2. Last Name: Klingler
3. Telephone: (508) 697-3191 4. Ext.: _____ 5. FAX: (508) 697-5996

6. Signature:  7. Date: 06/27/2003

8. LSP #: 8493

9. LSP Stamp:





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - **21892**

F. PERSON UNDERTAKING IRA:

1. Check all that apply: ☐ a. change in contact name. ☐ b. change of address ☐ c. change in the person undertaking response actions
2. Name of Organization: Massachusetts Department of Mental Retardation
3. Contact First Name: David 4. Last Name: Chan
5. Street: 500 Harrison Avenue 6. Title: Project Engineer
7. City/Town: Boston 8. State: MA 9. ZIP Code: 02118-2439
10. Telephone: (617) 624-7881 11. Ext.: _____ 12. FAX: _____

G. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING IRA:

- ☒ 1. RP or PRP ☒ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter
☐ e. Other RP or PRP Specify: _____
- ☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
- ☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
- ☐ 4. Any Other Person Undertaking IRA Specify Relationship: _____

H. REQUIRED ATTACHMENT AND SUBMITTALS:

- ☐ 1. Check here if any Remediation Waste, generated as a result of this IRA, will be stored, treated, managed, recycled or reused at the site following submission of the IRA Completion Statement. If this box is checked, you must submit one of the following plans, along with the appropriate transmittal form.
☐ A Release Abatement Measure (RAM) Plan (BWSC106) ☐ Phase IV Remedy Implementation Plan (BWSC108)
- ☐ 2. 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.
- ☐ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the implementation of an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.
- ☐ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of a Completion Statement for an Immediate Response Action taken to control, prevent, abate or eliminate an Imminent Hazard.
- ☐ 5. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Address/Location Aid. Send corrections to the DEP Regional Office.
- ☒ 6. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC105

**IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL
FORM** Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 21892

I. CERTIFICATION OF PERSON UNDERTAKING IRA:

David Chan

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

2. By: _____

Signature

3. Title: Project Engineer

4. For: Massachusetts Department of Mental Retardation

06/27/2003

(Name of person or entity recorded in Section F)

(mm/dd/yyyy)

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

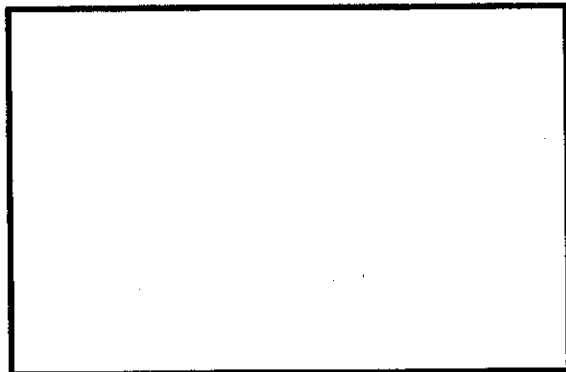
6. Street: _____

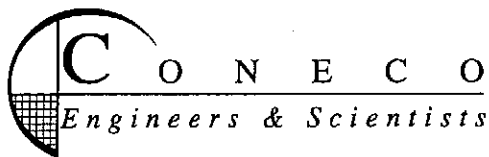
7. City/Town: _____ 8. State: _____ 9. ZIP Code: _____

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

**YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY
RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU
MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

Date Stamp (DEP USE ONLY:)





CIVIL DESIGN & LAND PLANNING
SURVEYING
GEOTECHNICAL ENGINEERING
ENVIRONMENTAL CONSULTING
REGULATORY COMPLIANCE & PLANNING

June 27, 2003
Project No. 4701

Mr. Walter Sweder
Director of Public Health
City of Waltham Health Department
119 School Street
Waltham, Massachusetts 02451

RE: **Public Involvement Notification**
Massachusetts Department of Mental Retardation Fernald Center
Malone Park Building No. 21
200 Trapelo Road
Waltham, Massachusetts
Release Tracking Number 3-21892

Dear Director Sweder:

Pursuant to 310 CMR 40.1403 of the Massachusetts Contingency Plan (MCP), the following serves as written notification of the identification of a release of an unknown volume of No. 2 fuel oil from a former 500-gallon No. 2 fuel oil underground storage tank at Malone Park Building No. 21 of the Massachusetts Department of Mental Retardation Fernald Center in Waltham, Massachusetts. This letter follows notification to the Department of Environmental Protection - Northeast Regional Office (NERO) on June 27, 2002 and the submittal of a Response Action Outcome (RAO) Statement on June 27, 2003. The Site has been assigned Release Tracking Number (RTN) 3-21892. Copies of the RAO Statement are available for review at the DEP-NERO.

Pursuant to the provisions of 310 CMR 40.0427, no ongoing activities related to the above described release are required.

If you have any questions, please contact the undersigned.

Sincerely,
Coneco Engineers & Scientists

Jedd S. Steinglass
Project Manager

Brian F. Klingler, P.G., L.S.P.
Principal Geologist

JSS:BFK:jd
jss-/4701.21.notification.doc



CIVIL DESIGN & LAND PLANNING
SURVEYING
GEOTECHNICAL ENGINEERING
ENVIRONMENTAL CONSULTING
REGULATORY COMPLIANCE & PLANNING

June 27, 2003
Project No. 4701

The Honorable Mayor David F. Gately
City of Waltham Mayor's Office
City Hall Second Floor
610 Main Street
Waltham, Massachusetts 02452

RE: **Public Involvement Notification**
Massachusetts Department of Mental Retardation Fernald Center
Malone Park Building No. 21
200 Trapelo Road
Waltham, Massachusetts
Release Tracking Number 3-21892

Dear Mayor Gately:

Pursuant to 310 CMR 40.1403 of the Massachusetts Contingency Plan (MCP), the following serves as written notification of the identification of a release of an unknown volume of No. 2 fuel oil from a former 500-gallon No. 2 fuel oil underground storage tank at Malone Park Building No. 21 of the Massachusetts Department of Mental Retardation Fernald Center in Waltham, Massachusetts. This letter follows notification to the Department of Environmental Protection - Northeast Regional Office (NERO) on June 27, 2002 and the submittal of a Response Action Outcome (RAO) Statement on June 27, 2003. The Site has been assigned Release Tracking Number (RTN) 3-21892. Copies of the RAO Statement are available for review at the DEP-NERO.

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If you have any questions, please contact the undersigned.

Sincerely,
Coneco Engineers & Scientists

A handwritten signature in black ink, appearing to read 'Jedd S. Steinglass'.

Jedd S. Steinglass
Project Manager

A handwritten signature in black ink, appearing to read 'Brian F. Klingler'.

Brian F. Klingler, P.G., L.S.P.
Principal Geologist

JSS:BFK:jd
jss-/4701.21.notification.doc