

EXHIBIT C-7

RTN 3-0013467, Power Plant Near Waverly Oaks Entrance

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:	3/17/1997
RAO class:	
Activity & Use Limitation:	
Response Action Information	
Response Action Type:	RNF - Release Notification Form Received
Status:	REPORT - Reportable Release or Threat of Release
Submittal Date:	6/21/1996
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:	2/20/1996
RAO class:	
Activity & Use Limitation:	



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104 J.R.

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 13467

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

SITE LOCATION:

Site Name/Location Aid: POWER PLANT NEAR WAVERLY OAKS ENTRANCE

Street Address: 200 TRAPELO RD

City/Town: WALTHAM 4. ZIP Code: 021540000

5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.
- ☐ a. Tier IA ☐ b. Tier IB ☐ c. Tier IC ☒ d. Tier II

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

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

List Submittal Date of RAO Statement (if previously submitted): mm/dd/yyyy

2. Submit a Response Action Outcome (RAO) Statement

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

3. Submit a Revised Response Action Outcome Statement

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

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

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

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

- ☐ a. Eligible Person ☐ b. Eligible Tenant

MAR 21 2008

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

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

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

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



RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 13467

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

- | | | |
|---|--------------------------|--------------------------------|
| 1. Assessment and/or Monitoring Only | <input type="checkbox"/> | 2. Temporary Covers or Caps |
| 3. Deployment of Absorbent or Containment Materials | <input type="checkbox"/> | 4. Treatment of Water Supplies |
| 5. Structure Venting System | <input type="checkbox"/> | 6. Engineered Barrier |
| 7. Product or NAPL Recovery | <input type="checkbox"/> | 8. Fencing and Sign Posting |
| 9. Groundwater Treatment Systems | <input type="checkbox"/> | 10. Soil Vapor Extraction |
| 11. Bioremediation | <input type="checkbox"/> | 12. Air Sparging |
| 13. Monitored Natural Attenuation | <input type="checkbox"/> | 14. In-situ Chemical Oxidation |
| 15. 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 _____

iiia. Facility Name: _____ Town: _____ State: _____

iiib. Facility Name: _____ Town: _____ State: _____

iii. Describe: _____

b. Landfill

☐ i. Cover Estimated volume in cubic yards _____

Facility Name: _____ Town: _____ State: _____

☐ ii. Disposal Estimated volume in cubic yards _____

Facility Name: _____ Town: _____ State: _____

16. Removal of Drums, Tanks or Containers:

a. Describe Quantity and Amount: _____

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

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

17. Removal of Other Contaminated Media:

a. Specify Type and Volume: _____

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

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



RESPONSE ACTION OUTCOME (RAO) STATEMENT

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3 - 13467

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

18. Other Response Actions:

Describe:

19. Use of Innovative Technologies:

Describe:

SITE USE:

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

a. Yes b. No c. Don't know

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

a. Yes b. No c. Don't know

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

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

Has a Covenant Not to Sue been obtained or sought?

a. Yes b. No c. Don't know

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

b. Community Development Corporation c. Economic Development and Industrial Corporation

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

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

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

RESPONSE ACTION OUTCOME CLASS:

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

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

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

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

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

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



RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - 13467

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-1 RAO: You must submit a plan as specified at 310 CMR 40.0861(2)(h). Indicate type of ongoing response actions.

- ☐ a. Active Remedial System ☐ b. Active Remedial Monitoring Program ☐ c. None
☐ d. Other Specify: _____

9. Class C-2 RAO: You must hold a valid Tier I Permit or Tier II Classification to continue response actions toward a Permanent Solution.

RESPONSE ACTION OUTCOME INFORMATION:

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

Specify all Soil Category(ies) applicable. More than one Soil Category may apply at a Site. Be sure to check off all **APPLICABLE** categories:

- ☐ a. S-1/GW-1 ☐ d. S-2/GW-1 ☐ g. S-3/GW-1
☐ b. S-1/GW-2 ☐ e. S-2/GW-2 ☒ h. S-3/GW-2
☐ c. S-1/GW-3 ☐ f. S-2/GW-3 ☒ i. S-3/GW-3

Specify all Groundwater Category(ies) impacted. A site may impact more than one Groundwater Category. Be sure to check off **IMPACTED** categories:

- ☐ a. GW-1 ☒ b. GW-2 ☒ c. GW-3 ☐ d. No Groundwater Impacted

Specify remediation conducted:

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

Specify whether the analytical data used to support the Response Action Outcome was generated pursuant to the Department's Appendix of Analytical Methods (CAM) and 310 CMR 40.1056:

- ☒ a. CAM used to support all analytical data. ☐ b. CAM used to support some of the analytical data.
☐ c. CAM not used.

6. Check here to certify that the Class A, B or C Response Action Outcome includes a Data Usability Assessment and Data Representativeness Evaluation pursuant to 310 CMR 40.1056.

Estimate the number of acres this RAO Statement applies to:

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Release Tracking Number

3 - 13467

Pursuant to 310 CMR 40.1000 (Subpart J)

LSP SIGNATURE AND STAMP:

I test 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 (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 the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

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

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

LSP #: 8493

First Name: BRIAN F

3. Last Name: KLINGLER

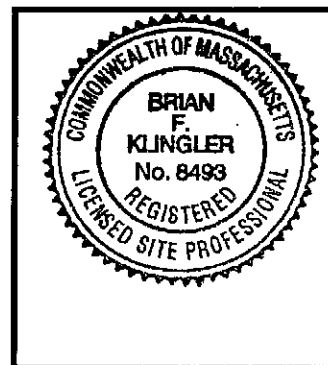
Telephone: 5086973191

5. Ext.: 6. FAX:

Signature:

Date: 3-13-08
mm/dd/yyyy

9. LSP Stamp:



PERSON MAKING SUBMITTAL:

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

Name of Organization: COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF MENTAL RETARDATION

Contact First Name: ELIN M

4. Last Name: HOWE

Street: 500 HARRISON AVENUE

6. Title: COMMISSIONER

City/Town: BOSTON

8. State: MA

9. ZIP Code: 02118-0000

Telephone: 617-727-5608

11. Ext.: 12. FAX: 617-624-7577



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - **13467**

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: _____

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 to certify that, pursuant to 310 CMR 40.1406, notice was provided to the owner(s) of each property within the disposal site boundaries, or notice was not required because the disposal site boundaries are limited to property owned by the party conducting response actions. (check all that apply)

☐ a. Notice was provided prior to, or concurrent with the submittal of a Phase II Completion Statement to the Department.

☐ b. Notice was provided prior to, or concurrent with the submittal of this RAO Statement to the Department.

☒ c. Notice not required. d. Total number of property owners notified, if applicable: _____

☐ 6. 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: _____

☐ 7. 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.

☐ 8. 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.

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



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC104

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Pursuant to 310 CMR 40.1000 (Subpart J)

Release Tracking Number

3 - **13467**

CERTIFICATION OF PERSON MAKING SUBMITTAL:

ELIN M. HOWE, 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 submittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Elin M. Howe
Signature

3. Title: **COMMISSIONER**

For: **COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF M**
(Name of person or entity recorded in Section H)

5. Date: 03/11/2008
mm/dd/yyyy

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

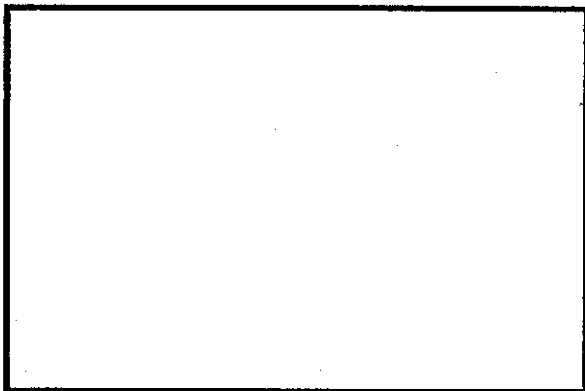
Street: _____

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

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

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

Date Stamp (DEP USE ONLY:)



RECEIVED

MAR 21 2008

DEP
NORTHEAST REGIONAL OFFICE

U/A

CLASS A-3 RESPONSE ACTION OUTCOME STATEMENT

THE FERNALD CENTER - POWER PLANT

200 TRAPELO ROAD

WALTHAM, MASSACHUSETTS

RELEASE TRACKING NUMBER 3-13467 3-16367

SUBMITTED TO:

Bureau of Waste Site Cleanup
Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
Wilmington, Massachusetts 01887

ON BEHALF OF:

Mr. Paul Beaton, P.E.
Project Engineer
Massachusetts Department of Mental Retardation
500 Harrison Avenue
Boston, Massachusetts 02118

PREPARED BY:

Coneco Engineers & Scientists, Incorporated
4 First Street
Bridgewater, Massachusetts 02324
(508) 697-3191

March 19, 2008
Coneco Project No. 4953



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

March 19, 2008
Coneco Project No. 4953

Bureau of Waste Site Cleanup
Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
Wilmington, Massachusetts 01887

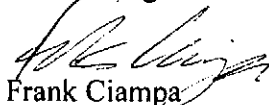
RE: Class A-3 Response Action Outcome Statement
The Fernald Center - Power Plant
200 Trapelo Road
Waltham, Massachusetts
Release Tracking Number 3-13467

To Whom It May Concern:

On behalf of the Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Mental Retardation (DMR), Coneco Engineers and Scientists, Incorporated (Coneco) has prepared the following Class A-3 Response Action Outcome (RAO) Statement and Activity and Use Limitation (AUL) for The Fernald Center Power Plant located at 200 Trapelo Road in Waltham, Massachusetts, hereinafter, the "Site." Coneco has evaluated environmental conditions at the Site within the scope and meaning of the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, Chapter 21E of the Massachusetts General Laws and the "Massachusetts Contingency Plan" (MCP) 310 CMR 40.0000.

Coneco's investigation is detailed in the attached report. If there are any questions, please contact the undersigned.

Sincerely,
Coneco Engineers & Scientists, Incorporated


Frank Ciampa
Environmental Scientist

MMP:FJC:JSS:BFK:jd
Z://4953.walthamAUL.RAO.doc



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

TABLE OF CONTENTS

1.0 Introduction.....	1
2.0 Site Overview.....	1
2.1 Background and Previous Work.....	1
2.2 Site Parameters.....	3
3.0 Subsurface Investigation	4
3.1 Geoprobe® Test Borings and Groundwater Monitoring Well Installation.....	4
3.2 Geoprobe® Field Screening.....	5
3.3 Geoprobe® Soil Sampling	5
3.4 Site Survey/Gauging of Groundwater Levels.....	5
3.5 Quarterly Groundwater Monitoring	7
3.6 Groundwater Sampling: May 24, 2007	8
4.0 Analytical Results.....	8
4.1 Soil Analytical Results - Geoprobe® Test Borings.....	8
4.2 Groundwater Analytical Results	9
5.0 Method 1 Risk Characterization	9
5.1 Soil Categories	10
5.2 Groundwater Categories.....	10
5.3 Method 1 Risk Characterization - Soil.....	11
5.4 Method 1 Risk Characterization - Groundwater	13
5.5 Potential Receptors and Critical Exposure Pathways.....	14
5.6 Condition of Substantial Release Migration.....	15
5.7 Imminent Hazard Evaluation.....	16
5.8 Feasibility of Reduction to Background Concentrations.....	16
5.9 Discussion	17
6.0 Stage I Environmental Screening.....	17
6.1 Current and Potential Exposure Pathways	17
6.2 Readily Apparent Harm.....	18
6.3 Potentially Significant Exposure	18
6.4 Discussion	19
7.0 Activity and Use Limitation Opinion	19
8.0 Response Action Outcome.....	21
9.0 Limitations.....	22

TABLES

Table 1 - Monitoring Well Data: May 24, 2007	6
Table 2 - Summary of NAPL Thickness.....	7
Table 3 - Soil Analytical Results: May 17, 2007.....	8
Table 4 - Groundwater Analytical Results: May 24, 2007	9
Table 5 - GW-1/GW-2 Groundwater Classification Criteria.....	11
Table 6 - Soil Exposure Point Concentrations.....	12
Table 7 - Groundwater Exposure Point Concentrations	14

FIGURES

Figure 1	Site Locus Map
Figure 2	Disposal Site Plan
Figure 3	Groundwater Contour Plan
Figure 4	Conceptual Site Model
Figure 5	MassGIS DEP Site Scoring Map
Figure 6	Survey Plan of Area Subject to AUL

APPENDICES

Appendix 1	Standard Operating Procedures
Appendix 2	Test Boring Logs
Appendix 3	Original Laboratory Data, Laboratory QA/QC, Methods, and Chain of Custody
Appendix 4	Groundwater Analytical Results Summary
Appendix 5	Registry of Deeds-Certified Copy of Activity and Use Limitation and Legal Notice
Appendix 6	AUL Transmittal Form (BWSC-113) and AUL Opinion Form (BWSC-113A)
Appendix 7	RAO Transmittal Form (BWSC - 104) and Copies of Municipal and Public Notification Letters

1.0 INTRODUCTION

Environmental conditions at The Fernald Center Power Plant located in Waltham, Massachusetts, were evaluated in a manner consistent with the guidelines presented in the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. This investigation was intended to describe current Site conditions and to establish whether a condition of "No Significant Risk" exists for current and/or future uses of the Site. To accomplish these goals, Coneco performed the following tasks:

1. A Site-specific Health and Safety Plan was prepared and implemented for Coneco on-Site investigatory personnel.
2. A Site survey was conducted by Coneco personnel to locate on-Site monitoring wells, obtain monitoring well elevations, and locate pertinent Site features.
3. Coneco performed a series of quarterly groundwater sampling events at the Site beginning August 1, 2003. Groundwater samples were collected on a quarterly basis from viable on-Site monitoring wells and were submitted to Spectrum Analytical, Incorporated (Spectrum), an independent Massachusetts-certified analytical laboratory located in Agawam, Massachusetts, for analysis of extractable petroleum hydrocarbons (EPH) by the Department of Environmental Protection (DEP) Method.
4. Coneco conducted additional subsurface investigation activities on May 17, 2007 to further define the boundaries of the Disposal Site. Activities included the advancement of two Geoprobe® soil test borings and the installation of two groundwater monitoring wells to delineate the horizontal extent of the Disposal Site. Soil samples collected from these test borings were submitted to Spectrum for laboratory analysis of EPH by the DEP Method.
5. A Stage I Environmental Screening was conducted by Coneco to characterize potential exposure to Site biota and habitats in relation to this release.
6. As determined by the above investigations, the conditions of the Site were evaluated within the scope and meaning of the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, Chapter 21E of the Massachusetts General Laws, and the MCP 310 CMR 40.0000.

2.0 SITE OVERVIEW

2.1 Background and Previous Work

Prior to the initiation of sampling activities, Coneco reviewed a June 25, 2002 Phase III - Remedial Action Plan and Class C Response Action Outcome (RAO) report prepared for the Site by Vertex Engineering Services, Incorporated (Vertex) of Weymouth, Massachusetts. According to Vertex, three No. 6 fuel oil underground storage tanks (USTs) were installed at the Site in 1954, with

volumes ranging from 23,000 to 28,000 gallons. As reported by Vertex, a release from these USTs occurred at the Site in 1993, which was assigned Release Tracking Number (RTN) 3-10367. As described in the Vertex report, approximately 150 to 300 gallons of No. 6 fuel oil was released into a stream adjacent to the Site on December 29, 1993 due to the failure of one of the USTs at the Site. Immediate Response Action (IRA) activities consisting of assessment and remediation of the stream were reportedly implemented in 1993 under RTN 3-10367. According to the Vertex report, an IRA Completion Statement was submitted to the DEP in 1994 and a Phase I Site Investigation was prepared for the Disposal Site in 1995 by Lord Associates. In addition, a Tier II Classification and Numerical Ranking System (NRS) Scoresheet were reportedly submitted to the DEP in 1995. According to the Scoresheet, the Disposal Site received a score of 270 points.

Vertex reported that a second release was identified in association with the USTs at the Site on February 20, 1996. This release was reportedly identified through the observation of No. 6 fuel oil in the vicinity of a concrete retaining wall located between the three No. 6 fuel oil USTs at the Site. As indicated by Vertex, this second UST release also impacted the adjacent stream. This second release was assigned RTN 3-13467. IRA activities reportedly included the deployment of oil absorbent pads and booms at the base of the retaining wall and in the adjacent stream. No. 6 fuel oil was also reportedly noted in pipe trenches for the USTs. An IRA Plan consisting of the removal of the USTs was submitted in April of 1996. The replacement of the three USTs at the Site reportedly occurred between July and December 1996. Approximately 1,000 cubic yards of No. 6 fuel oil-impacted soil and 15,000 gallons of impacted groundwater were reportedly removed from the Site during IRA activities.

Vertex submitted a Phase II - Comprehensive Site Assessment (CSA) report for the Disposal Site in August of 1998. As described in this report, Vertex identified a layer of non-aqueous phase No. 6 fuel oil which was greater than 0.5 inches in thickness in two monitoring wells located within the basement of the Power Plant building. According to Vertex, no evidence of separate phase product was noted in the remaining wells at the Site. Laboratory analysis of groundwater samples collected from the remaining wells reportedly identified no detectable concentrations of EPH. Additionally, Vertex determined that groundwater at the Site flows in a southwesterly direction. Vertex concluded in the Phase II report that a condition of "No Significant Risk" did not exist at the Site due to the presence of separate phase product measuring greater than 0.5 inches in monitoring wells at the Site. Vertex also concluded that the separate phase product is confined to a localized area beneath the concrete floor of the Power Plant building.

According to the June 25, 2002 Phase III - Remedial Action Plan prepared by Vertex, separate phase product identified in monitoring wells at the Site remained at a thickness greater than 0.5 inches as of March 2002. Vertex recommended quarterly groundwater monitoring and product removal as the remedial action alternative for the Site. According to Vertex, conditions at the Site met the requirements for the submittal of a Class C RAO as the completed remedial actions had eliminated substantial hazards at the Site. Vertex stated that due to the presence of greater than 0.5 inches of non-aqueous phase No. 6 fuel oil, a condition of "No Significant Risk" did not exist for the Disposal Site although a temporary solution had been achieved.

2.2 Site Parameters

The party conducting response actions at the Disposal Site and Potentially Responsible Party (PRP) is the Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Mental Retardation (DMR). The contact information follows:

Commonwealth of Massachusetts, Executive Office of Health and Human
Services, Department of Mental Retardation
Mr. Paul Beaton, P.E.
Project Engineer
500 Harrison Avenue
Boston, Massachusetts 02118

Disposal Site Limits:

For the purposes of this investigation, the Disposal Site is defined as the approximately 18,000 square-foot area encompassing the location of the former USTs and identified impacted soil and groundwater at Fernald Center Power Plant in Waltham, Massachusetts. The Disposal Site location and limits are depicted in Figure 1 and Figure 2, respectively.

Coordinates:

Latitude 42° 22' 55" N
UTM 4,695,066 Meters N

Longitude 71° 12' 42" W
318,192 Meters E (Zone 19)

Ownership:

The Waltham Assessors' Office lists the owner of the Site as the Commonwealth of Massachusetts.

Structures:

The Power Plant building is one to two stories in height, constructed of concrete, brick, and metal, and was reportedly erected in the 1930s. A brick smokestack is located on the western side of the building. A number of subsurface structures are located throughout the Site, including steam, water, stormwater drainage, and electric utilities.

Occupancy & Use:

The Site building is used as the main steam generation plant providing heat for buildings throughout The Fernald Center.

Utilities:

The Site is serviced by underground water, sewer, electric, and telephone lines.

Vegetation:

Vegetation at the Disposal Site consists of grass, shrubs, and trees in portions of the Site to the south and east of the Site building. No additional vegetation was located within the limits of the Disposal Site.

Adjacent Properties:

The Disposal Site is located entirely within the limits of the Fernald Center, a DMR residential and school facility. Properties surrounding the Fernald Center are residential and commercial in nature.

3.0 SUBSURFACE INVESTIGATION

Coneco provided oversight for subsurface investigation activities to further delineate the extent of the Disposal Site. These activities included the evaluation of environmental media to confirm the presence or absence of suspected oil and/or hazardous materials within soil and groundwater.

3.1 Geoprobe® Test Borings and Groundwater Monitoring Well Installation

Geoprobe® test borings were advanced at the Site on May 17, 2007 by New England Geotech (NEG) of Jamestown, Rhode Island. Test boring activities were overseen by Coneco personnel. Test boring locations at the Site were selected on the basis of Site history, previous environmental data, and Site structures and utility line locations. Test borings were performed at two locations and were advanced to depths ranging from 10 to 20 feet below grade utilizing a truck-mounted Geoprobe® sampling system. Soil samples were collected in 2-foot intervals continuously in all test borings. The standard operating procedures for overburden test borings are included in Appendix 1.

Following the advancement of the Geoprobe® soil borings, ground water monitoring wells were installed by NEG. The monitoring wells were constructed of 2-inch ID, schedule 40, No. 10 slotted PVC well screen from the base of the well to depths ranging from approximately 0 to 9 feet below grade, with solid PVC riser pipe from the top of the slotted screen to grade. A discussion of the monitoring well installation procedure is included in Appendix 1. Monitoring wells were installed in accordance with the Massachusetts DEP *Standard References for Monitoring Wells - Small Diameter Driven Well Supplement* (BWSC-Policy 310-91). The locations of test borings and groundwater monitoring wells, underground utilities, the former USTs, and other relevant Site features can be referenced in Figure 2. Test boring and groundwater monitoring well locations are described as follows:

- GP-01/CMW-1: Test boring GP-01 and monitoring well CMW-1 were advanced directly adjacent to the southern portion of the Site building. This location was selected to provide subsurface information at the boring location and to adequately delineate the horizontal extent of the Disposal Site in the southerly direction. GP-01 was advanced to a depth of approximately 10 feet below grade. Groundwater was encountered at a depth of approximately 5 feet below grade.
- GP-02/CMW-2: Test boring GP-02 and monitoring well CMW-2 were advanced directly adjacent to the eastern portion of the Site building. This location was selected to provide subsurface information at the boring location and determine the horizontal extent of the Disposal Site in the easterly direction. GP-02 was advanced to a depth of approximately 20 feet below grade. Groundwater was encountered at a depth of approximately 12 feet below grade at this location.

Complete test boring logs can be referenced in Appendix 2. From grade to the bottom of the borings, soil units encountered are described as follows:

-
- Fill material consisting of a poorly sorted, dark brown to tan gravelly silty sand was encountered to a depth of approximately 15 feet below grade.
 - Till composed of coarse sand, sub-angular gravel, and tan to reddish brown veins of iron rich material was encountered between 15 and 20 feet below grade.

Groundwater was encountered between 5 and 12 feet below grade in the test borings. Bedrock was not encountered during test boring activities. No visual or olfactory evidence of a release of oil or hazardous materials was encountered in any test boring.

3.2 Geoprobe® Field Screening

Representative soil samples collected from GP-01 and GP-02 were placed in clean, tightly sealed glass jars with aluminum foil cover liners for in-field screening using a RAE Systems MiniRAE 2000 photo ionization detector (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 1. Headspace readings for soil samples collected from the Site were below the instrument detection limit of 0.1 parts per million (ppm). No staining, odors, or other evidence of a release were noted in any of the soil samples collected.

3.3 Geoprobe® Soil Sampling

On May 17, 2007, following PID screening, select soil samples were placed in 8-ounce amber glass jars, cooled to 4 degrees Celsius, and submitted to Spectrum for analysis of EPH by the DEP Method. Soil samples from the test borings with an approximate depth corresponding to the groundwater vadose zone were chosen for laboratory analysis. Soil samples were labeled based on the test boring identification, sample number, and depth collected.

3.4 Site Survey/Gauging of Groundwater Levels

A Site survey was conducted by Coneco personnel on May 24, 2007 to locate on-Site monitoring wells, obtain monitoring well elevations, and locate pertinent Site features. 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 was assigned to the northeastern corner of the entrance to the Power Plant building, as shown on Figure 2. Observations regarding the presence of non-aqueous phase liquid (NAPL) and the depth to groundwater measurements were made at each viable on-Site groundwater monitoring well to the nearest 0.01 foot by Coneco personnel. The depths to groundwater and product thickness were measured using a Heron Instruments Oil/Water Interface Meter from the reference point located at the top of the PVC pipe. The pH, temperature, and specific conductivity of groundwater in each well were also measured utilizing an Oakton temperature, pH, and conductivity meter. A discussion of these procedures and standard operating protocol is included for reference as Appendix 1. The tabulated data for the surveyed wells and a summary of groundwater screening results is provided in Table 1.

Table 1 - Monitoring Well Data: May 24, 2007

Monitoring Well	PVC Elevation	Screen Interval	Depth to Water ⁽¹⁾	Groundwater Elevation ⁽¹⁾	NAPL Thickness	Temperature (°C)	Conductivity (milliMohms @ 25°C)	pH
MW-1	110.45'	7-17'	8.58'	101.87'	NM ⁽²⁾	7.9	405	6.9
MW-2	100.02'	2-12'	2.96'	97.06'	NM	8.6	375	8.5
MW-3	98.22'	2-10'	1.2'	97.02'	NM	14.5	452	7.5
MW-4	99.56'	2-10'	4.54'	95.02'	NM	11.6	569	6.9
MW-B1	99.75'	2-7'	1.45'	98.3'	NM	10.9	372	7.6
MW-B2	99.83'	4-7'	0.8'	99.03'	NM	10.9	385	7.6
MW-B3	99.87'	0.5-6'	0.0'	99.87'	NM	11.7	397	7.6
CMW-1	99.72'	0-10'	4.81'	94.91'	NM	16.8	621	6.70
CMW-2	110.69'	9-19'	10.40'	100.29'	NM	13.7	294	7.26

Notes: 1) Depths measured from the top of the PVC pipe.

2) NM indicates NAPL was not present at a measurable thickness in the respectable monitoring well.

Groundwater surface elevation contours were computer-generated using Golden Software[®], Incorporated Surfer version 7.0, and are provided for reference as Figure 3. Data from all nine viable wells and information from a Phase II - CSA report for the Disposal Site completed by Vertex in August of 1998 shows groundwater flowing in a southwesterly direction.

The temperatures and conductivity measured in all 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).

3.5 Quarterly Groundwater Monitoring

To assess groundwater conditions at the Site, Coneco personnel collected groundwater samples from viable monitoring wells, MW-1 through MW-4, and MW-B1 through MW-B3, on a quarterly basis between August 2003 and May 2007. Observations regarding the presence of NAPL and the depth to groundwater measurements were made by Coneco personnel at each viable on-Site groundwater monitoring well. The depths to groundwater and NAPL thickness were measured using a Heron Instruments Oil/Water Interface Meter from the reference point located at the top of the PVC pipe. A summary of Coneco's field observations is presented below in Table 2.

Table 2 - Summary of NAPL Thickness

Date	MW-1	MW-2	MW-3	MW-4	MW-B1	MW-B2	MW-B3	CMW-1	CMW-2
8/1/2003	NM ⁽¹⁾	NM	NM	NM	P ⁽²⁾	P	NM	NA ⁽³⁾	NA
11/11/2003	NM	NM	NM	NM	NM	P	NM	NA	NA
2/10/2004	NM	NM	NM	NM	NM	P	NM	NA	NA
5/4/2004	NM	NM	NM	NM	NM	P	NM	NA	NA
1/7/2005	NM	NM	NM	NM	NM	P	NM	NA	NA
5/20/2005	NM	NM	NM	NM	NM	NM	NM	NA	NA
10/6/2005	NM	NM	NM	NM	NM	0.63"	NM	NA	NA
1/20/2006	NM	NM	NM	NM	NM	NM	NT ⁽⁴⁾	NA	NA
3/31/2006	NM	NM	NM	NM	NM	NM	NM	NA	NA
9/5/2006	NM	NM	NM	NM	NM	NM	NM	NA	NA
5/24/2007	NM	NM	NM	NM	NM	NM	NM	NM	NM

- Notes:
- 1) NM indicates NAPL thickness was not measured above 0.1 inches in the respective monitoring well.
 - 2) P indicates product was measured greater than 0.1 inches but less than 0.5 inches
 - 3) NA indicates NAPL was not measured because well had not yet been installed.
 - 4) NT indicates NAPL was not measured because the well was inaccessible.

Based on observations conducted between January 20, 2006 and May 24, 2007, no measurable thickness of NAPL was identified in any on-Site groundwater monitoring well.

3.6 Groundwater Sampling: May 24, 2007

Coneco personnel collected groundwater samples from the nine viable monitoring wells on May 24, 2007. Groundwater samples were collected in accordance with the Massachusetts DEP Standard Reference for Monitoring Wells (BWSC Policy #310-91 and SDDW Supplement). The standard operating procedures for the development and sampling of monitoring wells are included in Appendix 1.

A slight petroleum sheen and odor were noted in groundwater samples collected from MW-B1 and MW-B2. No sheen or odors were noted in association with groundwater samples collected from MW-1 through MW-4, MW-B3, and CMW-1 through CMW-2. The groundwater samples were contained within 1-liter amber glass jars preserved with hydrochloric acid (HCl) and cooled to 4 degrees Celsius. The groundwater samples were submitted to Spectrum for analysis of EPH by the DEP Method.

4.0 ANALYTICAL RESULTS

4.1 Soil Analytical Results - Geoprobe® Test Borings

Soil samples designated GP-01/S2(3-5') and GP-02/S6(13-15') were submitted to Spectrum on May 18, 2007 for analysis of EPH by the DEP Method. As a result of laboratory analysis, no concentrations of EPH were identified in excess of the method detection limits. A summary of the laboratory quantification limits for EPH carbon fraction range hydrocarbons and the applicable DEP Method 1 Risk Characterization Standards is presented below in Table 3. Original laboratory data, laboratory Quality Assurance/Quality Control (QA/QC), methods, and the chain-of-custody forms are included as Appendix 3.

Table 3 - Soil Analytical Results: May 17, 2007

Analyte	GP-01/S2 ⁽¹⁾ (3-5)	GP-02/S6 (13-15)	DEP Method 1 S-1 GW-2/3 Risk Characterization Standard ⁽²⁾	DEP Method 1 S-3 GW-2/3 Risk Characterization Standard
C ₉ -C ₁₈ Aliphatic Hydrocarbons	< 40.0 ⁽³⁾	< 30.4	1,000	5,000
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons	< 40.0	< 30.4	3,000	5,000
C ₁₁ -C ₂₂ Aromatic Hydrocarbons	< 40.0	< 30.4	1,000	5,000

- Notes: 1) Sample identification and depth collected (feet).
2) DEP Method 1 Risk Characterization Standards are listed in 310 CMR 40.0975 and derived in Section 5.1.
3) Lab detection limits and applicable Method 1 standards are presented in mg/kg.

4.2 Groundwater Analytical Results

Procedures, analytical results, and additional data collected from sampling rounds between August 1, 2003 and September 5, 2006 was presented in previously submitted Post-RAO Quarterly Groundwater Monitoring Reports and summarized in Appendix 4. Groundwater samples collected on May 24, 2007 from groundwater monitoring wells MW-1 through MW-4, MW-B1 through MW-B3, and CMW-1 through CMW-2 were analyzed for EPH by the DEP Method. As a result of laboratory analysis, no concentrations of EPH were identified in excess of the method detection limits. A summary of the laboratory quantification limits for EPH carbon fraction range hydrocarbons and the applicable DEP Method 1 Risk Characterization Standards is presented below in Table 4. Original laboratory data, laboratory QA/QC, methods, and the chain-of-custody form are included as Appendix 3.

Table 4 - Groundwater Analytical Results: May 24, 2007

Monitoring Well	C ₉ -C ₁₈ Aliphatic Hydrocarbons	C ₁₉ -C ₃₆ Aliphatic Hydrocarbons	C ₁₁ -C ₂₂ Aromatic Hydrocarbons
MW-1	< 200 ⁽¹⁾	< 200	< 200
MW-2	< 200	< 200	< 200
MW-3	< 200	< 200	< 200
MW-4	< 200	< 200	< 200
MW-B1	< 200	< 200	< 200
MW-B2	< 200	< 200	< 200
MW-B3	< 200	< 200	< 200
CMW-1	< 200	< 200	< 200
CMW-2	< 200	< 200	< 200
DEP Method 1 GW-2 Risk Characterization Standards ⁽²⁾	5,000	NA ⁽³⁾	50,000
DEP Method 1 GW-3 Risk Characterization Standards	50,000	50,000	5,000

Notes: 1) Analytical results and Method 1 Risk Characterization Standards are presented in µg/l.
2) DEP Method 1 Risk Characterization standards are listed in 310 CMR 40.0974 and derived in Section 5.2.
3) NA denotes no standards have been promulgated.

5.0 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" exists 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.

5.1 Soil Categories

The classifications for soil are listed at 310 CMR 40.0933. Soil at a given site is classified as 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: Children are conservatively present at the Site at "low" frequency. This Site consists of a steam generation facility where, if present, children would be infrequent visitors.

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

Accessibility: Impacted soil at the Disposal Site is located from approximately 12 to 15 feet below grade in paved and unpaved areas and is therefore considered "potentially accessible." All soil greater than 15 feet below grade, as well as soil below the footprint of the Site building, is considered "isolated."

Using these parameters, soil at the Disposal Site is classified as Category S-3.

5.2 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 groundwater classification evaluation for the Disposal Site is based upon a Massachusetts Geographic Information Systems (MassGIS) DEP Site Scoring Map and information available from the Waltham Health Department, and is shown in Table 5. The DEP Site Scoring Map is available for reference as Figure 5.

Table 5 - 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

Under these criteria, groundwater at the Disposal Site is not subject to the GW-1 classification. Groundwater elevations, as determined during the May 24, 2007 groundwater sampling round, ranged from grade to approximately 10 feet below grade adjacent to the Power Plant building. As such, groundwater within 30 feet of the Power Plant building is subject to the GW-2 classification. In addition, all groundwater at the Site is subject to the GW-3 classification based upon its potential to discharge to surface water.

5.3 Method 1 Risk Characterization - Soil

Using the groundwater and 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(6)(c). The most stringent concentration from each soil and groundwater classification is considered to be the threshold under which a condition of "No Significant Risk" exists.

The concentration of oil or hazardous material in a specific medium which a human or environmental receptor may contact at the Site is defined as the "Exposure Point Concentration" (EPC). Under the provisions of the MCP 310 CMR 40.0924(2)(a)(2) and 310 CMR 40.0926(3)(b), the arithmetic average of Site data is acceptable as EPC. In this case, the current EPCs were calculated using data from soil samples collected in proximity to the area impacted by the releases of No. 6 fuel oil. Analytical results of soil samples collected by Vertex at the conclusion of IRA excavation activities conducted between October 29, 1996 and November 1, 1996; by Vertex during the advancement of test borings on February 3, 1997; and by Coneco during the advancement of test borings on May 17, 2007 were used to calculate the current EPCs. For EPH carbon fraction ranges detected within the limits of the Site, the EPCs have been defined as the highest concentration of the respective EPH carbon fraction ranges detected within the confirmatory soil samples. In soil samples from which the specific fractionation ranges were not detected above the laboratory quantification limits, one-half of the laboratory quantification limit was used to calculate the EPC.

In accordance with 310 CMR 40.0902(3) and 310 CMR 40.1020(2), a level of "No Significant Risk" exists for concentrations of oil and/or hazardous materials which have been reduced to "Background." As no concentrations of polycyclic aromatic hydrocarbons (PAHs) or C₁₁-C₂₂ Aromatic Hydrocarbons were identified in soil samples collected from the Site, these analytes were excluded from this Method 1 Risk Characterization. Soil analytical results, calculated EPCs, and the applicable Method 1 Risk Characterization Standards are presented below in Table 6.

Table 6 - Soil Exposure Point Concentrations

Sample ID (depth)	Date Collected	C ₉ -C ₁₈ Aliphatic Hydrocarbon EPC	C ₁₉ -C ₃₆ Aliphatic Hydrocarbon EPC	C ₁₁ -C ₂₂ Aromatic Hydrocarbon EPC
Sidewall-West (12')	10/29/1996	170 ⁽¹⁾	380	NT ⁽²⁾
Sidewall-East (12')	10/29/1996	96	480	NT
Sidewall-North (12')	10/28/1996	10,000	15,000	NT
Bottom #1 (17')	10/28/1996	1,900	4,500	NT
Bottom #2 (17')	10/29/1996	730	1,200	NT
Pipeline (3')	11/1/1996	870	2,000	NT
MW-1 (5-7')	2/3/1997	53	450	NT
MW-2 (5-7')	2/3/1997	3	31	NT
MW-3 (5-7')	2/3/1997	13	74	NT
MW-4 (5-7')	2/3/1997	8	26	NT
MW-2B (2-4')	2/3/1997	7,200	12,000	NT
MW-3B (2-4')	2/3/1997	2	12	NT
GP-01/S2 (3-5')	5/17/2007	<40.0	<40.0	<40.0
GP-02/S6 (13-15')	5/17/2007	<30.4	<30.4	<30.4
EPC Value		1,438.7	2,412.6	15.2
DEP Method 1 S-1/GW-2/3 Risk Characterization Standards		1,000	3,000	1,000
DEP Method 1 S-3/GW-2/3 Risk Characterization Standards		5,000	5,000	5,000

- Notes: 1) Analytical results and Method 1 Risk Characterization Standards are presented in mg/kg.
2) NT denotes sample not tested for specified analyte
3) DEP Method 1 Risk Characterization standards are listed in 310 CMR 40.0974 and derived in Section 5.1

Although the Method 1 S-3 GW-2/3 Risk Characterization Standards are currently applicable for the Disposal Site, the more conservative Method 1 S-1 GW-2/3 Risk Characterization Standards are used to protect potential future Site uses. Based on the information presented above, a condition of "No Significant Risk" exists at the Disposal Site for current uses; however, a condition of "No Significant Risk" does not exist for potential future uses of the Site. The more stringent S-1 GW-2/3 Risk Characterization Standards will be achieved by implementing an Activity and Use Limitation (AUL).

5.4 Method 1 Risk Characterization - Groundwater

Method 1 Risk Characterization threshold concentrations for compounds detected in groundwater at the Site are listed in the MCP 310 CMR 40.0974. The most stringent concentration from each groundwater classification is considered to be the threshold under which a concentration of "No Significant Risk" exists.

Pursuant to Policy WSC-02-411 Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of the MADEP VPH/EPH Approach, Coneco obtained data from Site monitoring wells on a quarterly basis to determine if a condition of "No Significant Risk" exists at the Disposal Site. On October 6, 2005, Coneco measured NAPL in MW-B2 at a thickness of 0.63 feet exceeding the applicable Upper Concentration Limit (UCL) of 0.5 inches presented in 310 CMR 40.0996(6). During the subsequent sampling events from January 20, 2006 to May 24, 2007, Coneco continued to measure NAPL thickness in monitoring wells at the Site. During this period, NAPL thickness was never measured greater than 0.1 inches in any of the monitoring wells. Therefore, NAPL thickness within monitoring wells at the Site, specifically MW-B2, have been reduced below the applicable UCL of 0.5 inches as presented in 310 CMR 40.0996(6). Details of these observations are presented in Table 2.

The concentration of oil or hazardous material in a specific medium which a human or environmental receptor may contact at the Site is defined as the EPC. Under the provisions of MCP 310 CMR 40.0924(2)(a)(1) and 310 CMR 40.0926(3)(b), the arithmetic average of Site data is acceptable as EPC. In this case, the current EPCs were calculated using data from groundwater samples collected from each monitoring well in proximity to the area impacted by the releases of No. 6 fuel oil. Specifically, data obtained from monitoring wells MW-1 through MW-4, MW-B1 through MW-B3, and CMW-1 through CMW-2 between January 20, 2006 and May 24, 2007 were used to calculate the EPCs for each well. For sampling rounds in which contaminant concentrations were not detected above laboratory quantification limits, one-half of the laboratory quantification limit was used to calculate the EPC. In accordance with 310 CMR 40.0902(3) and 310 CMR 40.1020(2), a level of "No Significant Risk" exists for concentrations of oil and/or hazardous materials which have been reduced to "Background." As no concentrations of PAHs were identified in groundwater samples collected from monitoring wells at the Site between January 20, 2006 and May 24, 2007, these analytes were excluded from this Method 1 Risk Characterization. The calculated EPCs for groundwater and the applicable Method 1 Risk Characterization Standards are presented below in Table 7.

**Table 7 - Groundwater Exposure Point Concentrations –
January 20, 2006 through May 24, 2007**

Monitoring Well	C ₉ -C ₁₈ Aliphatic Hydrocarbon EPC	C ₁₉ -C ₃₆ Aliphatic Hydrocarbon EPC	C ₁₁ -C ₂₂ Aromatic Hydrocarbon EPC
MW-1	100.00 ⁽¹⁾	266.67	100.00
MW-2	100.00	100.00	100.00
MW-3	100.00	100.00	100.00
MW-4	100.00	100.00	100.00
MW-B1	300.00	566.67	800.00
MW-B2	100.00	100.00	233.33
MW-B3	100.00	100.00	100.00
CMW-1	100.00	100.00	100.00
CMW-2	100.00	100.00	100.00
<i>DEP Method 1GW-2 Risk Characterization Standards⁽²⁾</i>	<i>5,000</i>	<i>NA⁽³⁾</i>	<i>50,000</i>
<i>DEP Method 1GW-3 Risk Characterization Standards</i>	<i>50,000</i>	<i>50,000</i>	<i>5,000</i>

Notes: 1) Analytical results and Method 1 Risk Characterization Standards are presented in µg/l.
2) DEP Method 1 Risk Characterization standards are listed in 310 CMR 40.0974 and derived in Section 5.2.
3) NA denotes no standards have been promulgated.

The calculated EPCs for groundwater samples collected from monitoring wells at the Site on a quarterly basis between January 20, 2006 and May 24, 2007 are below the applicable Method 1 GW-2 and GW-3 Risk Characterization Standards. In addition, NAPL thickness measured within monitoring wells at the Site, specifically MW-B2, have been reduced below the applicable UCL of 0.5 inches as presented in 310 CMR 40.0996(6). Therefore, a condition of "No Significant Risk" exists for groundwater at the Disposal Site.

5.5 Potential Receptors and Critical Exposure Pathways

Critical Exposure Pathways (CEP) are defined in 310 CMR 40.0006 as those routes by which oil and/or hazardous materials released at a Disposal Site are transported, or are likely to be transported, to human receptors via:

- vapor-phase emissions of 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
- 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.

Laboratory analysis of groundwater and soil samples indicate that petroleum concentrations are below the currently applicable Method 1 Risk Characterization standards and contained entirely

within the boundaries of the Disposal Site. No structures used as pre-schools, daycares, schools, or occupied residential dwellings are located within the limits of the Disposal Site. No private or public water supply wells are located within 500 feet of the Disposal 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 40.0006, has not been identified and is not considered likely at the Site.

5.6 Condition of Substantial Release Migration

Conditions of Substantial Release Migration (SRM) comprise a condition at a Disposal Site that includes any of the following:

- (a) releases that have resulted in the discharge of separate-phase oil and/or hazardous material to surface waters, subsurface structures, or underground utilities or conduits;
- (b) releases to the ground surface or to the vadose zone that, if not promptly removed or contained, are likely to significantly impact the underlying groundwater, or significantly exacerbate an existing condition of groundwater pollution;
- (c) releases to the groundwater that have migrated or are expected to migrate more than 200 feet per year;
- (d) releases to the groundwater that have been or are within one year likely to be detected in a public or private water supply well;
- (e) releases to the groundwater that have been or are within one year likely to be detected in a surface water body, wetland, or public water supply reservoir; or
- (f) releases to the groundwater that have resulted or are within one year likely to result in the discharge of vapors into school buildings or occupied residential dwellings.

During initial discovery of the release, No. 6 fuel oil was observed in pipe trenches for the USTs and the unnamed stream adjacent to the Fernald Center Power Plant. According to Phase II CSA, Vertex concluded that IRA activities had reduced concentrations of oil and/or hazardous material below Method 1 Soil Risk Characterization Standards, excluding a portion of the Disposal Site confined to the area beneath the concrete slab of the Power Plant building at the Disposal Site. It was determined that the pipe trenches traveled to the basement of the Power Plant building located approximately 20 feet east of the location of the former USTs. Coneco personnel inspected the outfall of the pipe trenches in the basement of the Power Plant building and noted no visual or olfactory evidence of a release of oil or hazardous material. In addition, Coneco conducted a Stage I Environmental Screening and determined that although the release of No. 6 fuel oil had reportedly impacted the stream adjacent to the Site, subsequent field observations did not identify any residual persistent contamination. As such, Coneco is of the opinion that the results of this Screening indicate that no current or future exposure to surface water exists at the Site in relation to this release.

IRA activities at the Site have eliminated the source of the release, and analytical results of soil and groundwater samples collected from the Site have indicated that petroleum concentrations associated with this release have been reduced to levels below the applicable Method 1 Risk Characterization Standards. Field observations of groundwater conditions at the Site and analytical results have indicated that the release has not migrated beyond the limits of the Disposal Site. Specifically, no

visual and/or olfactory evidence of a release has been observed in monitoring wells downgradient from the release area, and analytical results of groundwater samples collected from viable on-Site monitoring wells have been reduced to levels below the currently applicable Method 1 Risk Characterization Standards.

Based on field evaluation and laboratory analysis, Coneco is of the opinion that no ongoing impact to storm water drainage structures or underground utilities or conduits is associated with the release of No. 6 fuel oil. Based on the physical properties of No. 6 fuel oil and limited extent of the release, Coneco is of the opinion that vapor infiltration into the nearby residential structures is not a likely SRM. No schools or daycare facilities are located within 500 feet of the Disposal Site; thereby precluding the possibility of vapor infiltration into these facilities. According to information obtained from the Waltham Board of Health, no private potable water supply wells are located within 500 feet of the Disposal Site, and no public potable water supply wells are located within 0.5 miles of the Disposal Site. As such, response actions conducted to date have eliminated any former potential condition of SRM and no SRM condition is expected in the future in relation to this release.

5.7 Imminent Hazard Evaluation

During initial discovery of the release, No. 6 fuel oil was observed in pipe trenches for the USTs and the unnamed stream adjacent to The Fernald Center Power Plant. IRA activities were undertaken to address this condition included the removal of the USTs and the removal of impacted soil and groundwater. In addition, IRA activities included the deployment of absorbent materials and the utilization of a vacuum truck to remove of No. 6 fuel oil from the stream. According to the Phase II CSA conducted by Vertex, concentrations of No. 6 fuel oil remain in a portion of the Disposal Site confined to the area beneath the concrete slab of the Power Plant building at the Disposal Site. As such, current and future Site conditions resulting from this release of No. 6 fuel oil are not deemed to pose an Imminent Hazard to health, safety, public welfare and/or the environment pursuant to 310 CMR 40.0321. Therefore, it is Coneco's opinion that no Imminent Hazard currently exists at the Disposal Site.

5.8 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.

The three former 23,000 to 28,000-gallon No. 6 fuel oil USTs were located northwest of the Power Plant building of The Fernald Center. IRA activities conducted by Vertex in 1996 consisted of deployment of oil absorbent pads and booms at the base of the retaining wall and in the adjacent stream, the removal of the three USTs, the excavation of approximately 1,000 cubic yards of No. 6 fuel oil-impacted soil, and the removal of 15,000 gallons of groundwater.

According to the IRA Completion Report issued by Vertex on May 7, 1997, the continuation of soil removal efforts was not possible due to the presence of the Power Plant building and an associated concrete retaining wall. The remedial actions were performed such that all soil which could feasibly be removed from the Site was excavated, with residual concentrations remaining below the currently applicable Method 1 S-3 GW-2/3 Risk Characterization Standards. Based on conditions present at

the Site, the achievement of background conditions through the continuation of response actions is infeasible for the following qualitative reasons:

- The incremental cost to 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. Excavation of additional soil may adversely impact the structural integrity of the Power Plant building. The calculated EPCs for soil samples collected from the Site are below the currently applicable Method 1 Risk Characterization Standards.
- The public benefits which may be recognized as a result of achieving background conditions in soil are outweighed by the additional cost incurred to achieve background. There are no surrounding properties which may be adversely impacted economically by not reducing EPH concentrations in groundwater to background. Natural attenuation will continue to reduce EPH concentrations in groundwater.

Given the current data on soil and groundwater conditions, it is the opinion of Coneco that concentrations of oil and/or hazardous materials in soil and groundwater at the Site are "Approaching Background" conditions as specified in Section 9.3.2 and 9.3.3 of Conducting Feasibility Evaluations Under the MCP (Policy #WSC-04-160), and no additional remedial actions are warranted to reduce the concentrations of petroleum constituents in soil to "background" (i.e., non-detectable) concentrations.

5.9 Discussion

The Method 1 Risk Characterization, using the criteria presented in the previous sections, demonstrates that a condition of "No Significant Risk" exists for current uses of soil and groundwater at the Site. Based upon this Method 1 Risk Characterization, a condition of "Significant Risk" is not present for potential future uses of soil at the Site. An AUL for the Site will be utilized to maintain a condition of "No Significant Risk" for future uses of soil at the Site.

6.0 STAGE I ENVIRONMENTAL SCREENING

Based on the reported release of No. 6 fuel oil to the stream adjacent to the Site, a Stage I Environmental Screening was conducted in accordance with 310 CMR 40.0995(3) to characterize potential exposure to Site biota and habitats.

6.1 Current and Potential Exposure Pathways

Exposure Pathways (EP) are defined in 310 CMR 40.0006 as mechanisms by which human or environmental receptors inhale, consume, absorb, or otherwise take in oil and/or hazardous materials.

Field observations made by Coneco during quarterly groundwater sampling activities did not identify persistent petroleum sheens, non-aqueous phase liquids, oil, or tar in surficial soil, surface water, sediment, or wetlands located at and in the vicinity of the Disposal Site. Therefore, evidence of

ongoing, current, or potential exposure of receptors to oil and/or hazardous materials has not been identified and is not considered likely at the Site.

6.2 Readily Apparent Harm

Pursuant to 310 CMR 40.0995(3)(b)(1), the following conditions shall represent “readily apparent harm”:

- a) Visual evidence of stressed biota attributable to the release at the Disposal Site, including, without limitation, fish kills or abiotic conditions;
- b) The existence of oil and/or hazardous material attributable to the Disposal Site in concentrations which exceed Massachusetts Surface Water Standards promulgated in 314 CMR 4.00, which include USEPA Ambient Water Quality Criteria applied pursuant to 314 CMR 4.05(5)(e); or
- c) Visible presence of oil, tar, or other non-aqueous phase hazardous material in soil within three feet of the ground surface over an area equal to or greater than two acres, or over an area equal to or greater than 1,000 square feet in sediment within one foot of the sediment surface.

Following the completion of IRA activities, the source of the release has been eliminated, residual No. 6 fuel oil was reportedly contained and collected, and all remaining concentrations of oil/and or hazardous material are confined to “Isolated Sub-Surface Soils” located beneath the concrete slab floor of the Power Plant building. Field observations made by Coneco during g quarterly groundwater sampling activities did not identify persistent petroleum sheens, NAPL, oil, or tar in surficial soil, surface water, sediment, or wetlands located at and in the vicinity of the Disposal Site. Accordingly, evidence of a condition of “Readily Apparent Harm” is not present at the Site in relation to this release.

6.3 Potentially Significant Exposure

In accordance with 310 CMR 0995(3)(a)(1) evidence of current or potential significant exposure shall include, but is not limited to:

- a) Current or past visible physical evidence that oil and/or hazardous material at or from the Disposal Site have come to be located in surface soil, surface water, sediment or wetlands;
- b) Records or other evidence of current or past impacts of oil and/or hazardous material from the Disposal Site on wildlife, fish, shellfish or other aquatic biota;
- c) Analytical data indicating the presence of oil and/or hazardous material attributable to the site in question in surface water or sediment, including wetlands;
- d) The potential for the transport of oil and/or hazardous material in the groundwater or surface runoff to such receptors as surface water or sediments, including wetlands identified as Environmental Receptors; or
- e) The presence of oil and/or hazardous material at the Disposal Site within two feet of the ground surface and the potential for such contamination to result in exposure to wildlife.

-
- Any subsurface activity or excavation which may result in direct contact with, disturbance, or relocation of contaminated soils between 2 and 15 feet which is not conducted in accordance with the Obligations of the Notice of AUL.

The AUL Opinion provides that a condition of "No Significant Risk" to health, safety, public welfare or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur within the designated AUL Area:

- Any activities and uses consistent with the current use of the Portion of the property as a power plant facility and parking area;
- Activities and uses including, but not limited to, maintenance of the asphalt-parking area and concrete floor within the designated AUL Area which do not cause direct contact with, disturbance, or relocation of, the contaminated soil within the designated AUL Area;
- Excavation associated with limited short term utility work which may be deemed necessary within the designated AUL Area, provided that it is conducted in accordance with the performance standards for Utility Related Abatement Measures (URAMs) set forth by the MCP at 310 CMR 40.0030, and all applicable worker health and safety practices pursuant to 310 CMR 40.0018;
- Subsurface activities and/or construction, including but not limited to excavation associated with future construction of buildings and other improvements to support permitted uses on the property which may disturb contaminated soils, provided that such work is conducted in accordance with a Soil Management Plan developed in accordance with Obligation (ii) as set forth in Notice of AUL Item 3.
- Activities and uses not expressly prohibited by the Notice of AUL;
- Such other activities and uses which, in the Opinion of a LSP, as defined in 310 CMR 40.0006, shall present no greater risk of harm to health, safety, public welfare, or the environment than the activities and uses set forth in this paragraph.

A metes and bounds description of the area subject to the AUL is as follows:

COMMENCING Commencing at a drill hole in a stone bound on the southeasterly line of Waverley Oaks Road, said bound lying N 51° 29' 49" E a distance of 1051.13 feet from the center of a stone bound also on the southeasterly line of Waverley Oaks Road which marks the point of curvature at the intersection of the northeasterly line of Beaver Street with the southeasterly line of Waverly Oaks Road;

THENCE N 47°27'49" W for a distance of 579.87 feet to the point of beginning of the herein described AUL area;

THENCE S 10°40'10" W a distance of 123.00 feet;

IRA activities have been conducted at the Site such that any residual No. 6 fuel oil representing a potential release to surface water has been contained and collected. No visible physical evidence of persistent petroleum sheen or evidence of a release of oil or hazardous material was noted by Coneco personnel during groundwater sampling events between August 2003 and May 2007. As such, Coneco is of the opinion that IRA activities conducted to date have eliminated any "Potentially Significant Exposure."

6.4 Discussion

In accordance with 310 CMR 40.0995(3), a Stage I Environmental Screening has been completed at the Site. Although the release of No. 6 fuel oil had reportedly impacted the stream adjacent to the Site, subsequent field observations did not identify any residual persistent contamination. As such, Coneco is of the opinion that the results of this Screening indicate that no current or future exposure exists at the Site in relation to this release. As such, pursuant to 310 CMR 40.0995(3)(a)2, a condition of "No Significant Risk of harm" to Site biota and habitats exists and a Stage II Environmental Screen is not required.

7.0 ACTIVITY AND USE LIMITATION OPINION

Based upon the Risk Characterization performed at the Site, a condition of "No Significant Risk" is present for all current uses of the Site. However, since the Method 1 Risk Characterization relies on exposure assumptions that are not unlimited to maintain a condition of "No Significant Risk" in the area of impacted soil located at the Site, an AUL is required. With an AUL on the Site to maintain the current activities and uses at the Site, a condition of "No Significant Risk" will exist for the future activities and uses at the Site.

Based upon analytical data collected during Coneco's investigations, the area subject to the AUL is depicted in plan view in Figure 6. A copy of the AUL and the applicable legal notice is presented in Appendix 5.

The soil subject to the AUL is referenced in Figure 6 and is registered at the Middlesex County Registry of Deeds in Plan Book 50880, Page 306. Prohibited activities include the following:

- The use of buildings located with the Portion of the Property as an office, store, residence, school, or daycare;
- The cultivation of fruits and vegetables destined for human consumption (e.g., gardening);
- Recreational activities, such as playing baseball, swimming, fishing and hiking;
- Leisure activities, such as picnicking, sunbathing and entertaining;
- Relocation of the contaminated soils within the designated AUL Area unless an LSP Opinion is rendered which attests that a condition of "No Significant Risk" is maintained, consistent with the provisions of the MCP;

THENCE N 79°19'50" W a distance of 145.00 feet;

THENCE N 10°40'10" E a distance of 123.00 feet;

THENCE S 79°19'50"E a distance of 140.00 feet to the point of beginning.

Containing 17,835 Square Feet and bounded on all sides by other land of the Commonwealth of Massachusetts. The depth of the area subject to the AUL begins at a depth of approximately 2 feet below surface grade and extends 15 feet below the existing surface grade.

Notifications to the Chief Municipal Officer, Health Department, Zoning Official, and Building Department, as well as a published legal notice have been made within 7 days of the AUL submittal. The AUL Transmittal Form (BWSC-113) and the AUL Opinion Form (BWSC-113A) are included in Appendix 6.

8.0 RESPONSE ACTION OUTCOME

A summary and conclusions of the Response Action are as follows:

- No uncontrolled sources of contamination are present at the Disposal Site. As a result, no additional response actions are necessary at the Disposal Site.
- Groundwater conditions at the Site pose a condition of "No Significant Risk" based on the completed Method 1 Risk Characterization. The calculated EPCs for soil at the Site are below the currently applicable Method 1 Risk Characterization Standards; therefore, a condition of "No Significant Risk" exists for current uses of the Site. An AUL has been implemented at the Site to ensure the existence or maintenance of a level of "No Significant Risk" for future uses of soil at the Site.
- A Permanent Solution has been achieved.
- Remedial actions and the implementation of an AUL were necessary to achieve a condition of "No Significant Risk" at the Site; therefore, conditions for a Class A-3 RAO have been met at the Site in accordance with 310 CMR 40.1035 and 40.1036(3). Copies of public notification requirements and the original DEP transmittal forms are included in Appendix 7.

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 following the recording of the AUL.

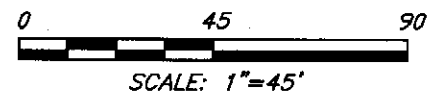
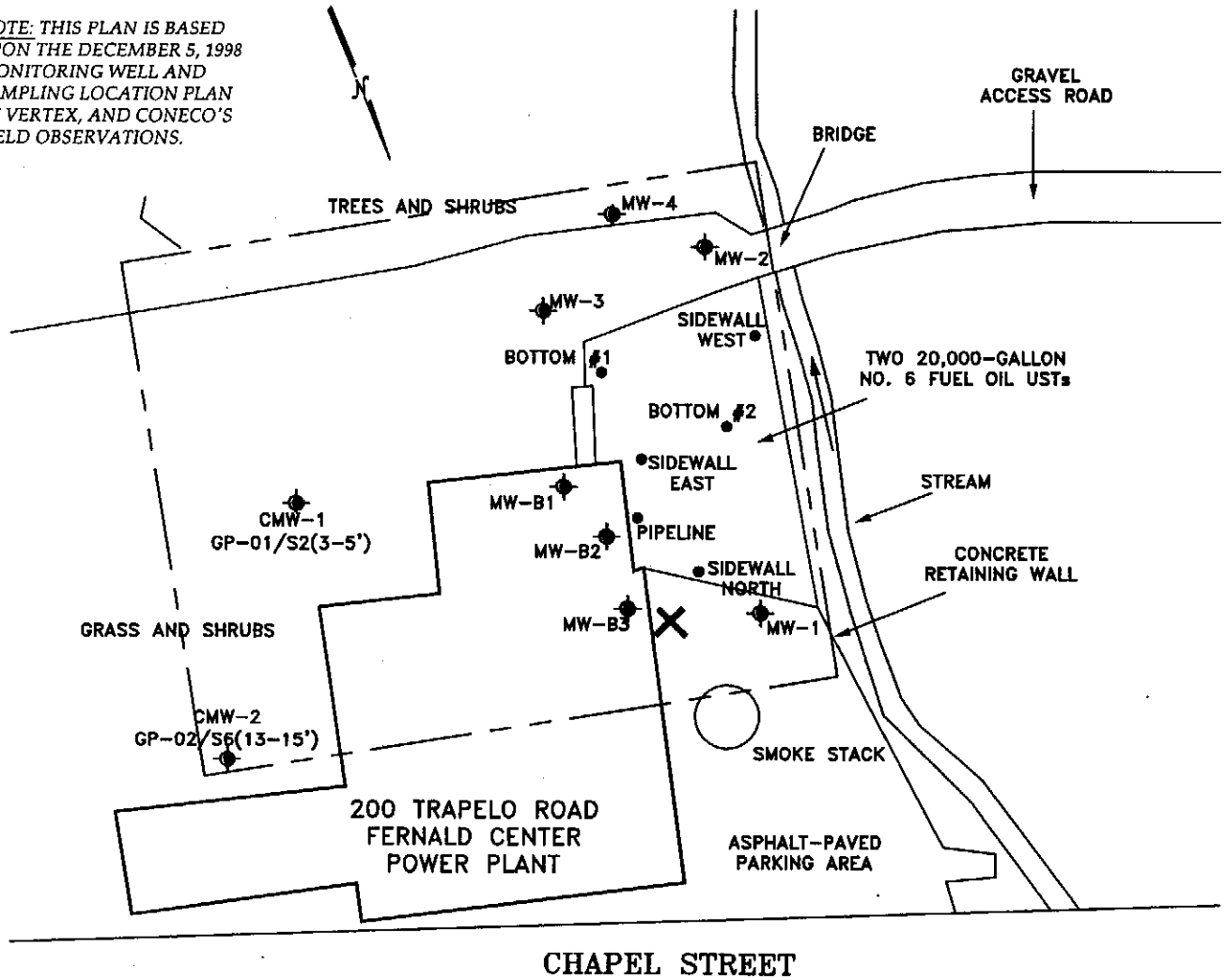
Pursuant to 310 CMR 4.03, response actions conducted by State Agencies are exempt from compliance assurance fees as described in 310 CMR 4.00.

9.0 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 subcontractors, federal, state, and local agencies contacted was relied upon as complete. This report represents Coneco's opinion relative to such evidence. The purpose of this report was to describe current Site conditions and to delineate the presence of potential soil, groundwater and/or surface water contamination resulting from the release of No. 6 fuel oil at the Site. 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 in the future, that information should be made available to Coneco for review so that the conclusions presented in this report may be modified as necessary. With specific regard to soil and groundwater sampling activities, data obtained from confirmatory samples may not be wholly representative of the nature and extent of conditions at locations other than the actual test locations on the date the samples were collected. 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.

NOTE: THIS PLAN IS BASED UPON THE DECEMBER 5, 1998 MONITORING WELL AND SAMPLING LOCATION PLAN BY VERTEX, AND CONECO'S FIELD OBSERVATIONS.



LEGEND

--- LIMITS OF DISPOSAL SITE BOUNDARY

BOTTOM #1 SOIL SAMPLE LOCATION ID

⊕ MW-1 WELL LOCATION ID

— SURFACE WATER

→ STREAM FLOW DIRECTION

× BENCHMARK ELEVATION LOCATION



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

SITE PLAN

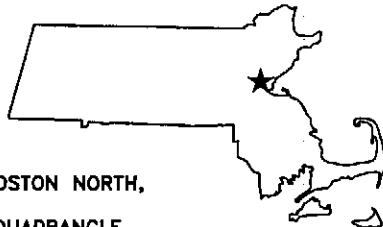
FERNALD CENTER - POWER PLANT
200 TRAPELO ROAD
WALTHAM, MASSACHUSETTS
RELEASE TRACKING NUMBER 3-13467

BY	DRAWN	CHECKED	CAD FILE NO.	SCALE	PROJECT NO.	DRAWING NUMBER
DATE	FJC	BFK	21//9853/Drawings and Figures/SITE PLAN-RAO.dwg	AS NOTED	4953	FIGURE 2
	1/18/08	2/14/08				




 SITE LOCUS
 500-FOOT RADIUS
 0.5-MILE RADIUS

COORDINATES OBTAINED FROM NAD83 DATUM
 LATITUDE: 42° 22' 55" N
 LONGITUDE: 71° 12' 42" W
 UTM: 4,695,066 N 318,192 E (Zone 19)



U.S.G.S. 1979 BOSTON NORTH,
 MASSACHUSETTS
 7.5X15 MINUTE QUADRANGLE

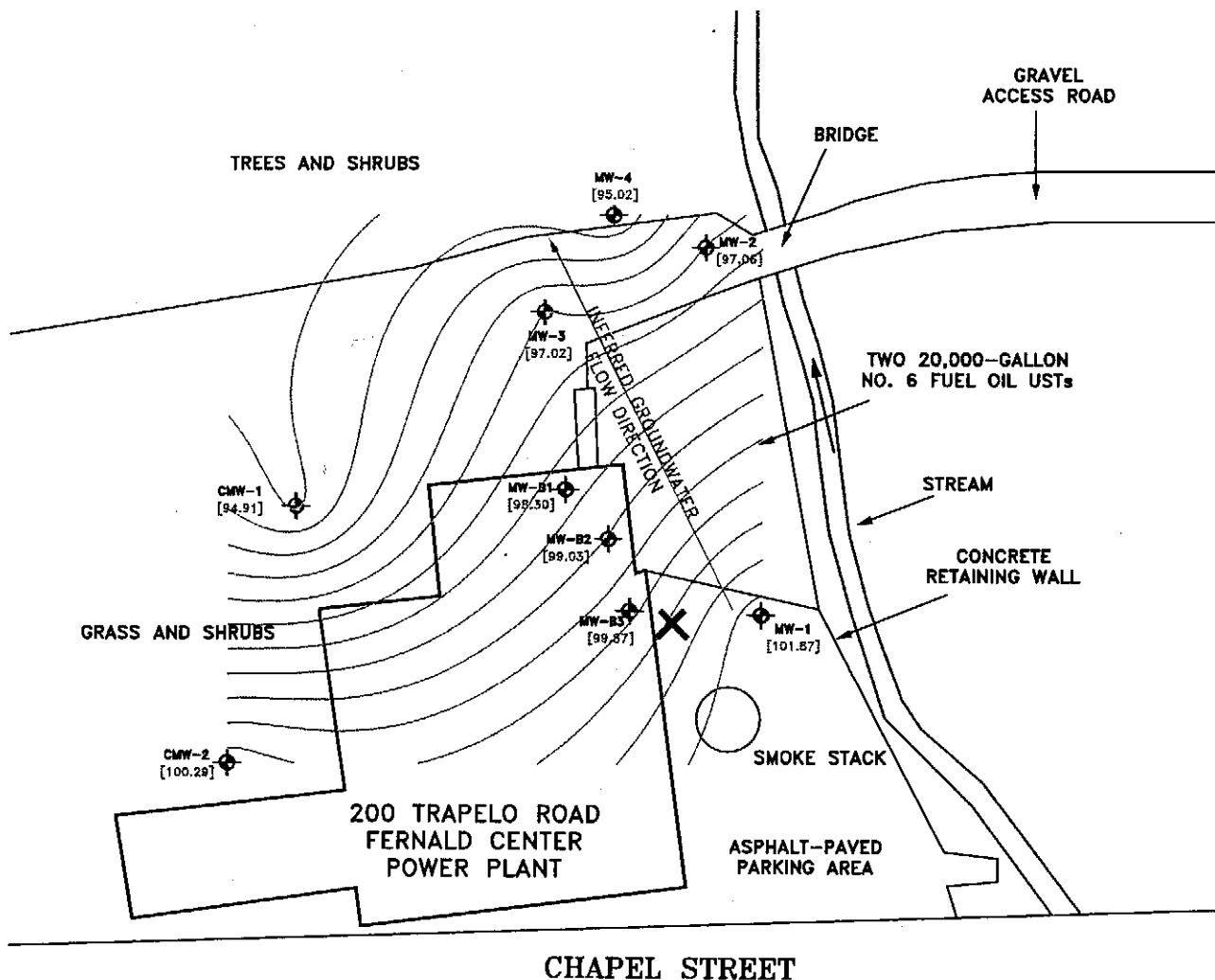


4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 897-3191

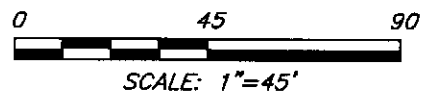
SITE LOCUS MAP

FERNALD CENTER POWER PLANT
 200 TRAPELO ROAD
 WALTHAM, MASSACHUSETTS
 RELEASE TRACKING NUMBER 3-13467

SCALE	PROJECT NO.	DRAWING NUMBER
1:25,000	4953	FIGURE 1



THIS PLAN IS BASED UPON THE
DECEMBER 5, 1998 MONITORING
WELL AND SAMPLING LOCATION
PLAN BY VERTEX, AND CONECO'S
FIELD OBSERVATIONS.



LEGEND

→	INFERRED DIRECTION OF GROUNDWATER FLOW	✱ MW-1 [98.18]	WELL LOCATION ID AND GROUNDWATER DEPTH IN FEET	✕	BENCHMARK ELEVATION LOCATION
—	GROUNDWATER CONTOUR AND ELEVATION IN FEET	→	STREAM FLOW DIRECTION		

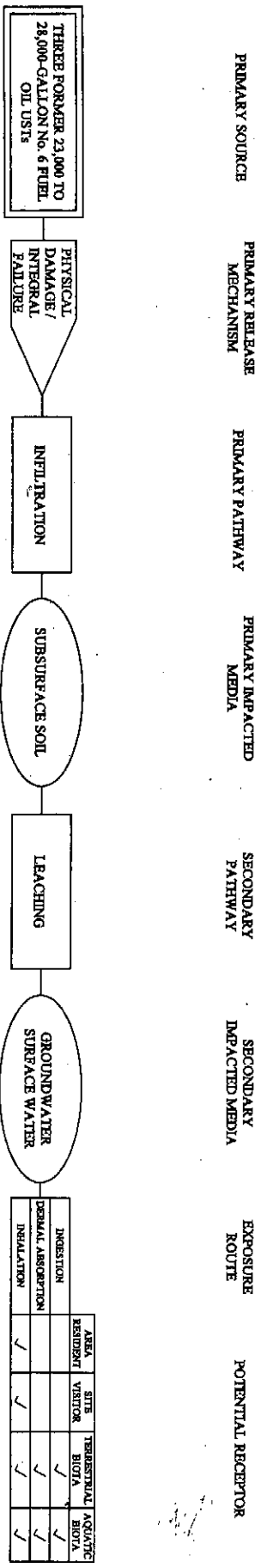



4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 697-3191

GROUNDWATER CONTOUR PLAN

FERNALD CENTER - POWER PLANT
200 TRAPELO ROAD
WALTHAM, MASSACHUSETTS
RELEASE TRACKING NUMBER 3-13467

BY	DRAWN	CHECKED	CAD FILE NO.	SCALE	PROJECT NO.	DRAWING NUMBER
DATE	11/15/07	11/16/07	G://4953/Drawings and Figures/GW-R40.dwg	AS NOTED	4953	FIGURE 3



 CONECCO Engineers & Scientists				CONCEPTUAL SITE MODEL			
4 FIRST STREET, WINGHAM, MASSACHUSETTS 01901				POWER PLANT FERNALD CENTER WALTHAM, MASSACHUSETTS RELEASE TRACKING NUMBER 3-13467			
BY	DATE	CHECKED	CAD FILE NO.	SCALE	PROJECT NO.	DRAWING NUMBER	
FJC	2/15/06	BFK	2/15/06	N / A	4033	FIGURE 4	

MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:

Arnold Center Power Plant
90 Trapelo Road
Falmouth, MA 02452
4635066n 318192ew



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

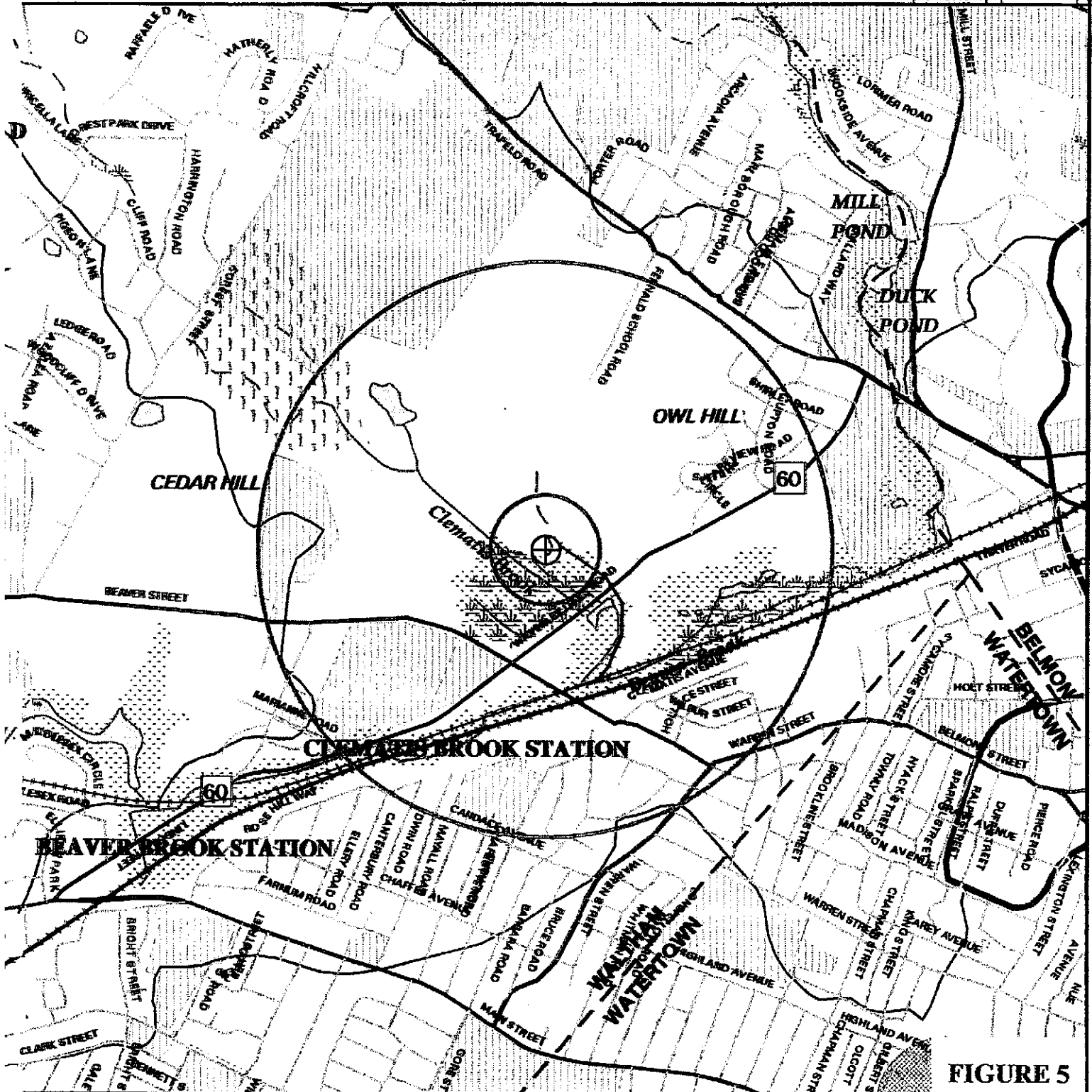
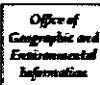
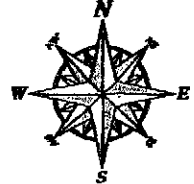
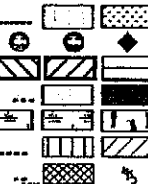


FIGURE 5

Roads: Limited Access, Divided, Major Road, Connector, Street, Track, Trail
Boundaries: Town, County, DEP Region, Train, Powerline, Pipeline, Aqueduct
Basins: Major, Sub, Stream, Reservoir, 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; NWPA; Surface Water Supply Zone A
Hydrography: Water Features, Public Surface Water Supply
Wetlands: Fresh, Salt, NHEP Wetlands Habitat
Protected Open Space; ACEC
DEP Permitted Solid Waste Facilities; Certified Vernal Pools



SCALE 1:15000

September 28, 2007

Standard Operating Procedures

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 = 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: Decontamination of Sampling Equipment

Discussion:

In most cases sampling equipment will either be dedicated on-Site or disposed of following use in a specific well, eliminating the need for decontamination of sampling equipment. In those cases where decontamination of sampling equipment is required, the method chosen will be one that removes Site contaminants from the equipment without interference with the chemical analyses to be performed. The general decontamination methodology for in-lab and field decontamination procedures is as follows:

Procedure:

- 1) Wash equipment with a non-phosphate detergent solution (e.g. Alconox, Liqui-nox).
- 2) Rinse thoroughly with de-ionized water.
- 3) Rinse thoroughly with methanol.
- 4) Rinse thoroughly with de-ionized water.
- 5) Repeat procedure between each sampling location.
- 6) If sampling for dissolved metals is being conducted, an additional rinse with a weak hydrochloric acid solution and de-ionized water should be performed.
- 7) If sampling for PCBs is being performed, an additional rinse with a weak hexane solution and de-ionized water should be conducted.
- 8) Care should be taken to ensure that no rinse waters runoff to environmentally sensitive area.

Discussion:

The simplest, most direct method of collecting soil samples for subsequent laboratory analysis or field screening is the use of a spade and/or scoop. A normal lawn or garden spade is utilized to remove the top cover of soil to the required depth and then a smaller stainless steel scoop is used to collect the sample.

This method can be used in most soil types but is limited somewhat to sampling near the surface. Samples from depths greater than 2 feet become labor intensive in most soil types. Very accurate, representative samples can be collected using this procedure depending on the care and precision demonstrated by the technician. The use of a flat, pointed mason trowel to cut a block of the desired soil will be of aid when undisturbed profiles are required. A stainless steel scoop or laboratory spoon will suffice in most other applications. Care should be exercised to avoid the use of devices plated with chrome or other materials, as metallic plating can affect ionic concentrations in the sample. Plating is particularly common with garden implements such as potting trowels.

Procedure:

- 1) Prior to initiating any work, the Health and Safety Plan developed for the specific site activities should be reviewed by the Field Technician and the Project Manager. The indicated precautions on the Plan should be enacted prior to initiation of the sampling activities. Any concerns not addressed in the Health and Safety Plan document are to be brought to the attention of the Health and Safety Officer.
- 2) Carefully remove the top layer of soil to the desired sample depth with a precleaned spade.
- 3) Using a precleaned stainless steel scoop or trowel, remove and discard a thin layer of soil from the area which comes in contact with the shovel.
- 4) Transfer the sample into an appropriate sample container with a clean stainless steel laboratory spoon or similar instrument.
- 5) Secure the cap tightly. Label the sample bottle with the appropriate sample tag. The chemical preservation of solids is generally not recommended. Be sure to label the tag carefully and clearly, addressing all the categories and parameters. Refrigerate sample until shipment to the laboratory.
- 6) Complete all chain-of-custody documents and record in the field log book.
- 7) Decontaminate equipment after use and between sample locations using applicable standard operating procedures.

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.

Test Boring Logs

CONECO ENGINEERS & SCIENTISTS				GEOPROBE TEST BORING REPORT																							
PROJECT: 4953 LOCATION: 200 Trapelo Road Waltham, Massachusetts DRILLING CO: New England Geotech EQUIPMENT: Geoprobe 6600 DRILLED BY: Hayes Renbijias INSPECTED BY: FJC				BORING NO. GP-01/CMW-1 PAGE 1 OF 1 DATE STARTED: 5/17/2007 DATE FINISHED: 5/17/2007 SURFACE ELEVATION N/A																							
GROUNDWATER OBSERVATIONS NOT ENCOUNTERED: <table style="width: 100%;"> <tr> <td style="width: 50%;">DEPTH</td> <td style="width: 50%;">STABILIZATION TIME</td> </tr> <tr> <td>5.5"</td> <td></td> </tr> </table>				DEPTH	STABILIZATION TIME	5.5"		<table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">ROD</td> <td style="text-align: center;">SAMPLER</td> <td style="text-align: center;">CORE BAR</td> </tr> <tr> <td>TYPE:</td> <td style="text-align: center;">Geoprobe</td> <td style="text-align: center;">Macro-core</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td>SIZE ID:</td> <td style="text-align: center;">1"</td> <td style="text-align: center;">2"</td> <td></td> </tr> <tr> <td>PENETRATION:</td> <td style="text-align: center;">60"</td> <td style="text-align: center;">60"</td> <td></td> </tr> </table>					ROD	SAMPLER	CORE BAR	TYPE:	Geoprobe	Macro-core	N/A	SIZE ID:	1"	2"		PENETRATION:	60"	60"	
DEPTH	STABILIZATION TIME																										
5.5"																											
	ROD	SAMPLER	CORE BAR																								
TYPE:	Geoprobe	Macro-core	N/A																								
SIZE ID:	1"	2"																									
PENETRATION:	60"	60"																									
SAMPLE DATA																											
DEPTH (ft)	SAMPLING DEPTH FROM - TO	WELL DATA	WATER TABLE (ft)	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/RECOV (in./in.)	Hnu (ppm) Lamp 11.7eV																				
0.0	0-2.5'			Surface: Gravel and Vegetation Gravelly Silty Sand: medium to coarse sand, 15% slightly plastic fines, 10% medium sub-angular gravel, black to dark brown, damp Gravelly Silty Sand: same as above	SS-1	60/48	ND																				
	2.5-5'			Gravelly Silty Sand: same as above, tan, saturated	SS-2	"	ND																				
5.0	5-7.5'			Gravelly Silty Sand: same as above	SS-3	60/36	ND																				
	7.5-10'			Gravelly Silty Sand: same as above	SS-4	"	ND																				
10.0				Bottom of Boring: 10' Bottom of Well: 10' Well Screen: 10 to 0' below surface grade																							
15.0																											
20.0																											
GENERAL REMARKS: ND = Not detected above instrument detection limits of 0.1 parts per million. NT = Not Tested <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: black; margin-right: 5px;"></div> <div>Bentonite</div> </div> <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); margin-right: 5px;"></div> <div>Sand</div> </div> <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; border: 1px solid black; margin-right: 5px;"></div> <div>Well Screen</div> </div>																											

CONECO ENGINEERS & SCIENTISTS

GEOPROBE TEST BORING REPORT

PROJECT: 4953
 LOCATION: 200 Trapelo Road Waltham, Massachusetts
 DRILLING CO: New England Geotech
 EQUIPMENT: Geoprobe 6600
 DRILLED BY: Hayes Renbijias
 INSPECTED BY: FJC

BORING NO. GP-02/CMW-2
 PAGE 1 OF 1
 DATE STARTED: 5/17/2007
 DATE FINISHED: 5/17/2007
 SURFACE ELEVATION: N/A

GROUNDWATER OBSERVATIONS

NOT ENCOUNTERED:
 DEPTH STABILIZATION TIME
 12'



TYPE: ROD SAMPLER CORE
 SIZE ID: Geoprobe Macro-core BAR
 PENETRATION: 1" 2" N/A
 60" 60"

SAMPLE DATA

DEPTH (ft)	SAMPLING DEPTH FROM - TO	WELL DATA	WATER TABLE (ft)	LITHOLOGY (Description of materials)	SAMPLE ID	PEN/ RECOV (in./in.)	Hnu (ppm) Lamp 11.7eV
0.0	0-2.5'			Surface: Grass and Vegetation Topsoil: 0-6" Gravelly Silty Sand: medium to coarse sand, 15% slightly plastic fines, 10% sub-angular gravel, tan	SS-1	60/30	ND
	2.5-5'			Gravelly Silty Sand: same as above	SS-2	"	ND
5.0	5-7.5'			Gravelly Silty Sand: same as above	SS-3	60/30	ND
	7.5-10'			Gravelly Silty Sand: medium to coarse sand, 10% slightly plastic fines, 5% sub-angular gravel, gray/brown	SS-4	"	ND
10.0	10-12.5'			Gravelly Silty Sand: same as above, large gravel pieces	SS-5	60/30	ND
	12.5-15'			Silty Gravelly Sand: coarse sand, 15% coarse gravel, less than 5% fines, brown	SS-6	"	ND
15.0	15-17.5'			Gravelly Silty Sand: very coarse sand, sub-angular gravel, brown, wet, reddish brown veins of iron	SS-7	60/50	ND
	17.5-20'			Gravelly Silty Sand: same as above	SS-8	"	ND
20.0				Bottom of Boring: 20' Bottom of Well: 19' Well Screen: 19 to 9' below surface grade			

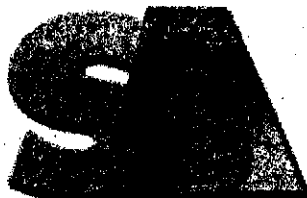
GENERAL REMARKS: ND = Not detected above instrument detection limits of 0.1 parts per million.

NT = Not Tested

 Bentonite
 Sand
 Well Screen

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

Report Date:
24-May-07 15:32



SPECTRUM ANALYTICAL, INC.

Featuring
HANIBAL TECHNOLOGY
Laboratory Report

☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Coneco Environmental
4 First Street
Bridgewater, MA 02324
Attn: Brian F. Klingler

Project: 200 Trapelo Rd - Waltham, MA
Project 4953

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SA62307-01	GP-01/S2 (3-5')	Soil	17-May-07 13:10	18-May-07 15:01
SA62307-02	GP-02/S6 (13-15')	Soil	17-May-07 14:00	18-May-07 15:01

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.

All applicable NELAC requirements have been met

Please note that this report contains 12 pages of analytical data plus Chain of Custody document(s).

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New Hampshire # 2538/2972
New Jersey # MA011/MA012
New York # 11393/11840
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393



Authorized by:

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

Technical Reviewer's Initial:

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CASE NARRATIVE:

The data set for this work order complies with internal QC criteria for the methods performed. The samples were received @ 3.8 degrees Celsius. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

MADEP has published a list of analytical methods (CAM), which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits. Please refer to "Notes and Definitions" for all sample/analyte qualifiers. Qualifiers will narrate any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

Sample Identification

GP-01/S2 (3-5')

SA62307-01

Client Project #

4953

Matrix

Soil

Collection Date/Time

17-May-07 13:10

Received

18-May-07

<u>CAS No.</u>	<u>Analyte(s)</u>	<u>Result</u>	<u>Flag</u>	<u>Units</u>	<u>*RDL</u>	<u>Dilution</u>	<u>Method Ref.</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Batch</u>	<u>Analyst</u>
Extractable Petroleum Hydrocarbons											
<u>EPH Aliphatic/Aromatic Ranges</u>											
Prepared by method SW846 3545A											
C9-C18 Aliphatic Hydrocarbons	BRL			mg/kg dry	40.0	1	+MADEP EPH 5/2004 R	21-May-07	24-May-07	7051531	jd
C19-C36 Aliphatic Hydrocarbons	BRL			mg/kg dry	40.0	1	"	"	"	"	"
C11-C22 Aromatic Hydrocarbons	BRL			mg/kg dry	40.0	1	"	"	"	"	"
Unadjusted C11-C22 Aromatic	BRL			mg/kg dry	40.0	1	"	"	"	"	"
Total Petroleum Hydrocarbons	BRL			mg/kg dry	40.0	1	"	"	"	"	"
Unadjusted Total Petroleum	BRL			mg/kg dry	40.0	1	"	"	"	"	"
<u>EPH Target PAH Analytes</u>											
Prepared by method SW846 3545A											
91-20-3 Naphthalene	BRL			µg/kg dry	199	1	"	"	"	"	"
91-57-6 2-Methylnaphthalene	BRL			µg/kg dry	199	1	"	"	"	"	"
208-98-8 Acenaphthylene	BRL			µg/kg dry	199	1	"	"	"	"	"
83-32-9 Acenaphthene	BRL			µg/kg dry	199	1	"	"	"	"	"
86-73-7 Fluorene	BRL			µg/kg dry	199	1	"	"	"	"	"
85-01-8 Phenanthrene	BRL			µg/kg dry	199	1	"	"	"	"	"
120-12-7 Anthracene	BRL			µg/kg dry	199	1	"	"	"	"	"
208-44-0 Fluoranthene	BRL			µg/kg dry	199	1	"	"	"	"	"
129-00-0 Pyrene	BRL			µg/kg dry	199	1	"	"	"	"	"
56-55-3 Benzo (a) anthracene	BRL			µg/kg dry	199	1	"	"	"	"	"
218-01-9 Chrysene	BRL			µg/kg dry	199	1	"	"	"	"	"
205-99-2 Benzo (b) fluoranthene	BRL			µg/kg dry	199	1	"	"	"	"	"
207-08-9 Benzo (k) fluoranthene	BRL			µg/kg dry	199	1	"	"	"	"	"
50-32-8 Benzo (a) pyrene	BRL			µg/kg dry	199	1	"	"	"	"	"
193-39-5 Indeno (1,2,3-cd) pyrene	BRL			µg/kg dry	199	1	"	"	"	"	"
53-70-3 Dibenzo (a,h) anthracene	BRL			µg/kg dry	199	1	"	"	"	"	"
191-24-2 Benzo (g,h,i) perylene	BRL			µg/kg dry	199	1	"	"	"	"	"
<u>Surrogate recoveries:</u>											
3386-33-2 1-Chlorooctadecane	55			40-140 %			"	"	"	"	"
84-15-1 Ortho-Terphenyl	89			40-140 %			"	"	"	"	"
580-13-2 2-Bromonaphthalene	58			40-140 %			"	"	"	"	"
321-60-8 2-Fluorobiphenyl	90			40-140 %			"	"	"	"	"
General Chemistry Parameters											
% Solids	74.5			%		1	SM2540 G Mod.	23-May-07	23-May-07	7051752	RD

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 2 of 12

Sample Identification
GP-02/S6 (13-15')
SA62307-02

Client Project #
4953

Matrix
Soil

Collection Date/Time
17-May-07 14:00

Received
18-May-07

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst
Extractable Petroleum Hydrocarbons											
<u>EPH Aliphatic/Aromatic Ranges</u>											
Prepared by method SW846 3545A											
	C9-C18 Aliphatic Hydrocarbons	BRL		mg/kg dry	30.4	1	+MADEP EPH 5/2004 R	21-May-07	24-May-07	7051531	jd
	C19-C36 Aliphatic Hydrocarbons	BRL		mg/kg dry	30.4	1	"	"	"	"	"
	C11-C22 Aromatic Hydrocarbons	BRL		mg/kg dry	30.4	1	"	"	"	"	"
	Unadjusted C11-C22 Aromatic	BRL		mg/kg dry	30.4	1	"	"	"	"	"
	Total Petroleum Hydrocarbons	BRL		mg/kg dry	30.4	1	"	"	"	"	"
	Unadjusted Total Petroleum	BRL		mg/kg dry	30.4	1	"	"	"	"	"
<u>EPH Target PAH Analytes</u>											
Prepared by method SW846 3545A											
91-20-3	Naphthalene	BRL		µg/kg dry	151	1	"	"	"	"	"
91-57-6	2-Methylnaphthalene	BRL		µg/kg dry	151	1	"	"	"	"	"
208-98-8	Acenaphthylene	BRL		µg/kg dry	151	1	"	"	"	"	"
83-32-9	Acenaphthene	BRL		µg/kg dry	151	1	"	"	"	"	"
86-73-7	Fluorene	BRL		µg/kg dry	151	1	"	"	"	"	"
85-01-8	Phenanthrene	BRL		µg/kg dry	151	1	"	"	"	"	"
120-12-7	Anthracene	BRL		µg/kg dry	151	1	"	"	"	"	"
206-44-0	Fluoranthene	BRL		µg/kg dry	151	1	"	"	"	"	"
129-00-0	Pyrene	BRL		µg/kg dry	151	1	"	"	"	"	"
56-55-3	Benzo (a) anthracene	BRL		µg/kg dry	151	1	"	"	"	"	"
218-01-9	Chrysene	BRL		µg/kg dry	151	1	"	"	"	"	"
205-99-2	Benzo (b) fluoranthene	BRL		µg/kg dry	151	1	"	"	"	"	"
207-08-9	Benzo (k) fluoranthene	BRL		µg/kg dry	151	1	"	"	"	"	"
50-32-8	Benzo (a) pyrene	BRL		µg/kg dry	151	1	"	"	"	"	"
193-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/kg dry	151	1	"	"	"	"	"
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/kg dry	151	1	"	"	"	"	"
191-24-2	Benzo (g,h,i) perylene	BRL		µg/kg dry	151	1	"	"	"	"	"
<u>Surrogate recoveries:</u>											
3386-33-2	1-Chlorooctadecane	58		40-140 %			"	"	"	"	"
84-15-1	Ortho-Terphenyl	76		40-140 %			"	"	"	"	"
580-13-2	2-Bromonaphthalene	44		40-140 %			"	"	"	"	"
321-60-8	2-Fluorobiphenyl	71		40-140 %			"	"	"	"	"
General Chemistry Parameters											
	% Solids	89.7		%		1	SM2540 G Mod.	23-May-07	23-May-07	7051752	RD

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 3 of 12

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 7051531 - SW846 3545A										
Blank (7051531-BLK1)										
Prepared: 21-May-07 Analyzed: 22-May-07										
C9-C18 Aliphatic Hydrocarbons	BRL		mg/kg wet	13.4						
C19-C36 Aliphatic Hydrocarbons	BRL		mg/kg wet	13.4						
C11-C22 Aromatic Hydrocarbons	BRL		mg/kg wet	13.4						
Unadjusted C11-C22 Aromatic Hydrocarbons	BRL		mg/kg wet	13.4						
Naphthalene	BRL		µg/kg wet	66.5						
2-Methylnaphthalene	BRL		µg/kg wet	66.5						
Acenaphthylene	BRL		µg/kg wet	66.5						
Acenaphthene	BRL		µg/kg wet	66.5						
Fluorene	BRL		µg/kg wet	66.5						
Phenanthrene	BRL		µg/kg wet	66.5						
Anthracene	BRL		µg/kg wet	66.5						
Fluoranthene	BRL		µg/kg wet	66.5						
Pyrene	BRL		µg/kg wet	66.5						
Benzo (a) anthracene	BRL		µg/kg wet	66.5						
Chrysene	BRL		µg/kg wet	66.5						
Benzo (b) fluoranthene	BRL		µg/kg wet	66.5						
Benzo (k) fluoranthene	BRL		µg/kg wet	66.5						
Benzo (a) pyrene	BRL		µg/kg wet	66.5						
Indeno (1,2,3-cd) pyrene	BRL		µg/kg wet	66.5						
Dibenzo (a,h) anthracene	BRL		µg/kg wet	66.5						
Benzo (g,h,i) perylene	BRL		µg/kg wet	66.5						
Surrogate: 1-Chlorooctadecane	1680		µg/kg wet		3330		50	40-140		
Surrogate: Ortho-Terphenyl	2720		µg/kg wet		3330		82	40-140		
Surrogate: 2-Bromonaphthalene	1310		µg/kg wet		2670		49	40-140		
Surrogate: 2-Fluorobiphenyl	2300		µg/kg wet		2670		86	40-140		
LCS (7051531-BS1)										
Prepared: 21-May-07 Analyzed: 22-May-07										
C9-C18 Aliphatic Hydrocarbons	29.0		mg/kg wet	13.4	40.0		72	40-140		
C19-C36 Aliphatic Hydrocarbons	32.3		mg/kg wet	13.4	53.3		61	40-140		
C11-C22 Aromatic Hydrocarbons	87.3		mg/kg wet	13.4	113		77	40-140		
Naphthalene	2870		µg/kg wet	66.5	6670		43	40-140		
2-Methylnaphthalene	3750		µg/kg wet	66.5	6670		56	40-140		
Acenaphthylene	3950		µg/kg wet	66.5	6670		59	40-140		
Acenaphthene	4300		µg/kg wet	66.5	6670		64	40-140		
Fluorene	4790		µg/kg wet	66.5	6670		72	40-140		
Phenanthrene	5430		µg/kg wet	66.5	6670		81	40-140		
Anthracene	5310		µg/kg wet	66.5	6670		80	40-140		
Fluoranthene	5920		µg/kg wet	66.5	6670		89	40-140		
Pyrene	5910		µg/kg wet	66.5	6670		89	40-140		
Benzo (a) anthracene	5410		µg/kg wet	66.5	6670		81	40-140		
Chrysene	5740		µg/kg wet	66.5	6670		86	40-140		
Benzo (b) fluoranthene	4600		µg/kg wet	66.5	6670		69	40-140		
Benzo (k) fluoranthene	6280		µg/kg wet	66.5	6670		94	40-140		
Benzo (a) pyrene	5280		µg/kg wet	66.5	6670		79	40-140		
Indeno (1,2,3-cd) pyrene	5900		µg/kg wet	66.5	6670		88	40-140		
Dibenzo (a,h) anthracene	5870		µg/kg wet	66.5	6670		88	40-140		
Benzo (g,h,i) perylene	6020		µg/kg wet	66.5	6670		90	40-140		
Naphthalene (aliphatic fraction)	0.00		µg/kg wet		6670			0-200		
2-Methylnaphthalene (aliphatic fraction)	0.00		µg/kg wet		6670			0-200		
Surrogate: 1-Chlorooctadecane	2260		µg/kg wet		3330		68	40-140		
Surrogate: Ortho-Terphenyl	2900		µg/kg wet		3330		87	40-140		

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 4 of 12

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 7051531 - SW846 3545A										
<u>LCS (7051531-BS1)</u>										
Prepared: 21-May-07 Analyzed: 22-May-07										
Surrogate: 2-Bromonaphthalene	1180		µg/kg wet		2670		44	40-140		
Surrogate: 2-Fluorobiphenyl	2550		µg/kg wet		2670		96	40-140		
Naphthalene Breakthrough	0.00		%					0-5		
2-Methylnaphthalene Breakthrough	0.00		%					0-5		
<u>Fractionation Check Standard (705153)</u>										
Prepared: 21-May-07 Analyzed: 22-May-07										
C9-C18 Aliphatic Hydrocarbons	31.7		mg/kg wet	13.4	40.0		79	40-140		
C19-C36 Aliphatic Hydrocarbons	35.9		mg/kg wet	13.4	53.3		67	40-140		
C11-C22 Aromatic Hydrocarbons	94.7		mg/kg wet	13.4	113		84	40-140		
Naphthalene	3900		µg/kg wet	66.5	6670		58	40-140		
2-Methylnaphthalene	4640		µg/kg wet	66.5	6670		70	40-140		
Acenaphthylene	4840		µg/kg wet	66.5	6670		73	40-140		
Acenaphthene	5170		µg/kg wet	66.5	6670		78	40-140		
Fluorene	5450		µg/kg wet	66.5	6670		82	40-140		
Phenanthrene	5670		µg/kg wet	66.5	6670		85	40-140		
Anthracene	5880		µg/kg wet	66.5	6670		88	40-140		
Fluoranthene	6140		µg/kg wet	66.5	6670		92	40-140		
Pyrene	6200		µg/kg wet	66.5	6670		93	40-140		
Benzo (a) anthracene	5360		µg/kg wet	66.5	6670		80	40-140		
Chrysene	6050		µg/kg wet	66.5	6670		91	40-140		
Benzo (b) fluoranthene	4350		µg/kg wet	66.5	6670		65	40-140		
Benzo (k) fluoranthene	5630		µg/kg wet	66.5	6670		84	40-140		
Benzo (a) pyrene	5890		µg/kg wet	66.5	6670		88	40-140		
Indeno (1,2,3-cd) pyrene	5670		µg/kg wet	66.5	6670		85	40-140		
Dibenzo (a,h) anthracene	5620		µg/kg wet	66.5	6670		84	40-140		
Benzo (g,h,i) perylene	6030		µg/kg wet	66.5	6670		90	40-140		
Naphthalene (aliphatic fraction)	0.00		µg/kg wet		6670			0-200		
2-Methylnaphthalene (aliphatic fraction)	0.00		µg/kg wet		6670			0-200		
Surrogate: 1-Chlorooctadecane	2030		µg/kg wet		3330		61	40-140		
Surrogate: Ortho-Terphenyl	3000		µg/kg wet		3330		90	40-140		
Surrogate: 2-Bromonaphthalene	1250		µg/kg wet		2670		47	40-140		
Surrogate: 2-Fluorobiphenyl	2110		µg/kg wet		2670		79	40-140		
<u>LCS Dup (7051531-BS01)</u>										
Prepared: 21-May-07 Analyzed: 22-May-07										
C9-C18 Aliphatic Hydrocarbons	30.9		mg/kg wet	13.4	40.0		77	40-140	7	25
C19-C36 Aliphatic Hydrocarbons	32.6		mg/kg wet	13.4	53.3		61	40-140	0	25
C11-C22 Aromatic Hydrocarbons	86.7		mg/kg wet	13.4	113		77	40-140	0	25
Naphthalene	2840		µg/kg wet	66.5	6670		43	40-140	0	30
2-Methylnaphthalene	3630		µg/kg wet	66.5	6670		54	40-140	4	30
Acenaphthylene	3910		µg/kg wet	66.5	6670		59	40-140	0	30
Acenaphthene	4260		µg/kg wet	66.5	6670		64	40-140	0	30
Fluorene	4780		µg/kg wet	66.5	6670		72	40-140	0	30
Phenanthrene	5400		µg/kg wet	66.5	6670		81	40-140	0	30
Anthracene	5460		µg/kg wet	66.5	6670		82	40-140	2	30
Fluoranthene	5950		µg/kg wet	66.5	6670		89	40-140	0	30
Pyrene	6030		µg/kg wet	66.5	6670		90	40-140	1	30
Benzo (a) anthracene	5070		µg/kg wet	66.5	6670		76	40-140	6	30
Chrysene	5570		µg/kg wet	66.5	6670		84	40-140	2	30
Benzo (b) fluoranthene	4210		µg/kg wet	66.5	6670		63	40-140	9	30
Benzo (k) fluoranthene	5170		µg/kg wet	66.5	6670		78	40-140	19	30
Benzo (a) pyrene	5440		µg/kg wet	66.5	6670		82	40-140	4	30

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

* Reportable Detection Limit

BRL = Below Reporting Limit

Page 5 of 12

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 7051531 - SW846 3545A										
LCS Dup (7051531-BSD1)										
Prepared: 21-May-07 Analyzed: 22-May-07										
Indeno (1,2,3-cd) pyrene	5540		µg/kg wet	66.5	6670		83	40-140	6	30
Dibenzo (a,h) anthracene	5510		µg/kg wet	66.5	6670		83	40-140	6	30
Benzo (g,h,i) perylene	6170		µg/kg wet	66.5	6670		93	40-140	3	30
Naphthalene (aliphatic fraction)	0.00		µg/kg wet		6670			0-200		200
2-Methylnaphthalene (aliphatic fraction)	0.00		µg/kg wet		6670			0-200		200
Surrogate: 1-Chlorooctadecane	2280		µg/kg wet		3330		68	40-140		
Surrogate: Ortho-Terphenyl	2890		µg/kg wet		3330		87	40-140		
Surrogate: 2-Bromonaphthalene	1480		µg/kg wet		2670		55	40-140		
Surrogate: 2-Fluorobiphenyl	2260		µg/kg wet		2670		85	40-140		
Naphthalene Breakthrough	0.00		%					0-5		
2-Methylnaphthalene Breakthrough	0.00		%					0-5		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 7051752 - General Preparation										
Duplicate (7051752-DUP1) Source: SA62191-01										
Prepared & Analyzed: 23-May-07										
% Solids	95.4		%			95.2			0.2	20

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte	Average RF	CCRF	% D	Limit
Batch 0705568				
Calibration Check (0705568-CCV1)				
C9-C18 Aliphatic Hydrocarbons	1.29467E+11	1.46016E+08	12.8	25.00
C19-C36 Aliphatic Hydrocarbons	1.14918E+11	1.06756E+08	-11.6	25.00
C11-C22 Aromatic Hydrocarbons	17797.1	17.8601	0.581	25.00
Naphthalene	7.49143	6.56879	-12.3	20.00
2-Methylnaphthalene	4.34714	4.40096	1.24	20.00
Acenaphthylene	6.64623	6.33736	-4.65	20.00
Acenaphthene	4.18836	4.06793	-2.88	20.00
Fluorene	4.65243	4.80335	3.24	20.00
Phenanthrene	6.2823	6.47214	3.02	20.00
Anthracene	6.39254	6.83933	6.99	20.00
Fluoranthene	6.42075	7.39047	15.1	20.00
Pyrene	6.58194	7.68301	16.7	20.00
Benzo (a) anthracene	5.48335	6.01306	9.66	20.00
Chrysene	5.33975	6.26299	17.3	20.00
Benzo (b) fluoranthene	4.95865	4.91637	-0.853	20.00
Benzo (k) fluoranthene	4.81973	5.72566	18.8	20.00
Benzo (a) pyrene	4.62819	5.47702	18.3	20.00
Indeno (1,2,3-cd) pyrene	4.6884	5.54877	18.4	20.00
Dibenzo (a,h) anthracene	3.88281	4.65464	19.9	20.00
Benzo (g,h,i) perylene	4.14106	4.90274	18.4	20.00
5-alpha-Androstane	3807840	1	-100	
5-alpha-Androstane	3807.84	1	-100	

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* Reportable Detection Limit

BRL = Below Reporting Limit

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte	Average RF	CCRF	% D	Limit
Batch 0705568				
Calibration Check (0705568-CCV2)				
C9-C18 Aliphatic Hydrocarbons	1.29467E+11	1.42275E+08	9.83	25.00
C19-C36 Aliphatic Hydrocarbons	1.14918E+11	9.63853E+07	-20.2	25.00
C11-C22 Aromatic Hydrocarbons	17797.1	13.2347	0.581	25.00
Naphthalene	7.49143	6.4848	-13.4	20.00
2-Methylnaphthalene	4.34714	4.301	-1.06	20.00
Acenaphthylene	6.64623	6.18843	-6.89	20.00
Acenaphthene	4.18836	4.0032	-4.42	20.00
Fluorene	4.65243	4.56799	-1.81	20.00
Phenanthrene	6.2823	6.12157	-2.56	20.00
Anthracene	6.39254	6.36329	-0.458	20.00
Fluoranthene	6.42075	6.68815	4.16	20.00
Pyrene	6.58194	6.82651	3.72	20.00
Benzo (a) anthracene	5.48335	5.36537	-2.15	20.00
Chrysene	5.33975	5.51205	3.23	20.00
Benzo (b) fluoranthene	4.95865	4.81922	-2.81	20.00
Benzo (k) fluoranthene	4.81973	4.90051	1.68	20.00
Benzo (a) pyrene	4.62819	4.96017	7.17	20.00
Indeno (1,2,3-cd) pyrene	4.6884	5.41018	15.4	20.00
Dibenzo (a,h) anthracene	3.88281	4.50232	16.0	20.00
Benzo (g,h,i) perylene	4.14106	4.78335	15.5	20.00
5-alpha-Androstane	3807.84	1	-100	
5-alpha-Androstane	3807840	1	-100	

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte	Average RF	CCRF	% D	Limit
Batch 0705620				
Calibration Check (0705620-CCV1)				
C9-C18 Aliphatic Hydrocarbons	1.29467E+11	1.48054E+08	14.3	25.00
C19-C36 Aliphatic Hydrocarbons	1.14918E+11	9.88094E+07	-18.2	25.00
C11-C22 Aromatic Hydrocarbons	17797.1	15.2197	-14.5	25.00
Naphthalene	7.49143	6.44225	-14.0	20.00
2-Methylnaphthalene	4.34714	4.18273	-3.78	20.00
Acenaphthylene	6.64623	6.06899	-8.69	20.00
Acenaphthene	4.18836	3.9192	-6.43	20.00
Fluorene	4.65243	4.46009	-4.13	20.00
Phenanthrene	6.2823	6.07224	-3.34	20.00
Anthracene	6.39254	6.30819	-1.32	20.00
Fluoranthene	6.42075	6.61377	3.01	20.00
Pyrene	6.58194	6.77041	2.86	20.00
Benzo (a) anthracene	5.48335	5.22828	-4.65	20.00
Chrysene	5.33975	5.39703	1.07	20.00
Benzo (b) fluoranthene	4.95865	5.03567	1.55	20.00
Benzo (k) fluoranthene	4.81973	4.74526	-1.55	20.00
Benzo (a) pyrene	4.62819	4.98185	7.64	20.00
Indeno (1,2,3-cd) pyrene	4.6884	5.36375	14.4	20.00
Dibenzo (a,h) anthracene	3.88281	4.43228	14.2	20.00
Benzo (g,h,i) perylene	4.14106	4.66967	12.8	20.00
5-alpha-Androstane	3807840	1	-100	
5-alpha-Androstane	3807.84	1	-100	

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* Reportable Detection Limit

BRL = Below Reporting Limit

Notes and Definitions

BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

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

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

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

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

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

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

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

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

Validated by:
Hanibal C. Tayeh, Ph.D.
Christopher Hall

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

Matrix	Soil				
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 \leq 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 at 4 \pm 2 °C <input type="checkbox"/> Other: °C				

Were all QA/QC procedures followed as required by the EPH method? *Yes*

Were any significant modifications made to the EPH method as specified in Section 11.3? *No*

Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

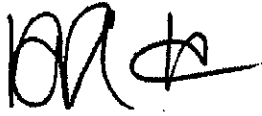
I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete

Authorized by:

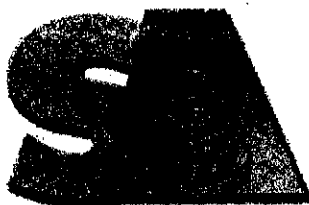


Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA			Project #: 4953		
Project Location: 200 Trapelo Rd - Waltham, MA			MADEP RTN ¹ :		
This form provides certifications for the following data set SA62307-01 through SA62307-02					
Sample matrices:		Soil			
MCP SW-846 Methods Used	<input type="checkbox"/> 8260B	<input type="checkbox"/> 8151A	<input type="checkbox"/> 8330	<input type="checkbox"/> 6010B	<input type="checkbox"/> 7470A/1A
	<input type="checkbox"/> 8270C	<input type="checkbox"/> 8081A	<input type="checkbox"/> VPH	<input type="checkbox"/> 6020	<input type="checkbox"/> 9014M ²
	<input type="checkbox"/> 8082	<input type="checkbox"/> 8021B	<input checked="" type="checkbox"/> EPH	<input type="checkbox"/> 7000S ³	<input type="checkbox"/> 7196A
¹ List Release Tracking Number (RTN), if known ² M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide(PAC) Method ³ S - SW-846 Methods 7000 Series List individual method and analyte					
<i>An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status</i>					
A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	<u>VPH and EPH methods only:</u> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<i>A response to questions E and F below is required for "Presumptive Certainty" status</i>					
E	Were all analytical QC performance standards and recommendations for the specified methods achieved?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<p>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</p> <div style="text-align: right; margin-top: 20px;">  Hanibal C. Tayeh, Ph.D. President/Laboratory Director Date: 5/24/2007 </div>					

Report Date:
01-Jun-07 13:45



SPECTRUM ANALYTICAL, INC.

Featuring
HANIBAL TECHNOLOGY
Laboratory Report

- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report

Coneco Environmental
4 First Street
Bridgewater, MA 02324
Attn: Brian F. Klingler

Project: 200 Trapelo Rd - Waltham, MA
Project 4953

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SA62714-01	MW-1	Ground Water	24-May-07 15:30	25-May-07 14:50
SA62714-02	MW-2	Ground Water	24-May-07 15:10	25-May-07 14:50
SA62714-03	MW-3	Ground Water	24-May-07 13:50	25-May-07 14:50
SA62714-04	MW-4	Ground Water	24-May-07 13:30	25-May-07 14:50
SA62714-05	MW-B1	Ground Water	24-May-07 14:25	25-May-07 14:50
SA62714-06	MW-B2	Ground Water	24-May-07 14:40	25-May-07 14:50
SA62714-07	MW-B3	Ground Water	24-May-07 14:50	25-May-07 14:50
SA62714-08	CMW-1	Ground Water	24-May-07 14:15	25-May-07 14:50
SA62714-09	CMW-2	Ground Water	24-May-07 12:55	25-May-07 14:50

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.

All applicable NELAC requirements have been met

Please note that this report contains 19 pages of analytical data plus Chain of Custody document(s).

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Massachusetts Certification # M-MA138/MA1110

Connecticut # PH-0777

Florida # E87600/E87936

Maine # MA138

New Hampshire # 2538/2972

New Jersey # MA011/MA012

New York # 11393/11840

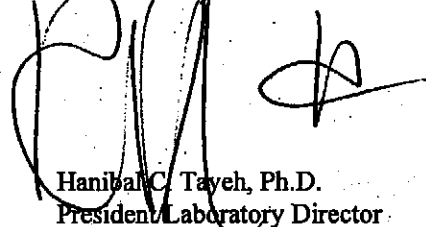
Rhode Island # 98

USDA # S-51435

Vermont # VT-11393



Authorized by:


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

Technical Reviewer's Initial 

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NH-2972, NY-11840, FL-E87936, and NJ-MA012).

CASE NARRATIVE:

The data set for this work order complies with internal QC criteria for the methods performed. The samples were received @ 4.3 degrees Celsius. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

MADEP has published a list of analytical methods (CAM), which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method.

According to WSC-CAM 5/2004 Rev.4, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended 70%-130% recovery range, a range has been set based on historical control limits. Please refer to "Notes and Definitions" for all sample/analyte qualifiers. Qualifiers will narrate any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

Sample Identification

MW-I

SA62714-01

Client Project #

4953

Matrix

Ground Water

Collection Date/Time

24-May-07 15:30

Received

25-May-07

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst
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Extractable Petroleum HydrocarbonsEPH Aliphatic/Aromatic Ranges

Prepared by method SW846 3510C

C9-C18 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1	+MADEP EPH 5/2004	30-May-07	31-May-07	7052181	jd
C19-C36 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1	R				
C11-C22 Aromatic Hydrocarbons	BRL		mg/l	0.2	1					
Unadjusted C11-C22 Aromatic	BRL		mg/l	0.2	1					
Total Petroleum Hydrocarbons	BRL		mg/l	0.2	1					
Unadjusted Total Petroleum	BRL		mg/l	0.2	1					

EPH Target PAH Analytes

Prepared by method SW846 3510C

11-20-3	Naphthalene	BRL	µg/l	5.75	1					
91-57-8	2-Methylnaphthalene	BRL	µg/l	5.75	1					
208-98-8	Acenaphthylene	BRL	µg/l	5.75	1					
3-32-9	Acenaphthene	BRL	µg/l	5.75	1					
6-73-7	Fluorene	BRL	µg/l	5.75	1					
85-01-8	Phenanthrene	BRL	µg/l	5.75	1					
20-12-7	Anthracene	BRL	µg/l	5.75	1					
06-44-0	Fluoranthene	BRL	µg/l	5.75	1					
129-00-0	Pyrene	BRL	µg/l	5.75	1					
56-55-3	Benzo (a) anthracene	BRL	µg/l	5.75	1					
18-01-9	Chrysene	BRL	µg/l	5.75	1					
205-99-2	Benzo (b) fluoranthene	BRL	µg/l	5.75	1					
207-08-9	Benzo (k) fluoranthene	BRL	µg/l	5.75	1					
0-32-8	Benzo (a) pyrene	BRL	µg/l	5.75	1					
93-39-5	Indeno (1,2,3-cd) pyrene	BRL	µg/l	5.75	1					
53-70-3	Dibenzo (a,h) anthracene	BRL	µg/l	5.75	1					
91-24-2	Benzo (g,h,i) perylene	BRL	µg/l	5.75	1					

Surrogate recoveries:

3386-33-2	1-Chlorooctadecane	49	40-140 %							
*4-15-1	Ortho-Terphenyl	70	40-140 %							
90-13-2	2-Bromonaphthalene	41	40-140 %							
321-60-8	2-Fluorobiphenyl	63	40-140 %							

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 3 of 19

Sample Identification
MW-2
SA62714-02

Client Project #
4953

Matrix
Ground Water

Collection Date/Time
24-May-07 15:10

Received
25-May-07

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst
Extractable Petroleum Hydrocarbons											
EPH Aliphatic/Aromatic Ranges											
Prepared by method SW846 3510C											
	C9-C18 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1	+MADEP EPH 5/2004 R	30-May-07	31-May-07	7052181	jd
	C19-C36 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	"
	C11-C22 Aromatic Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	"
	Unadjusted C11-C22 Aromatic	BRL		mg/l	0.2	1	"	"	"	"	"
	Total Petroleum Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	"
	Unadjusted Total Petroleum	BRL		mg/l	0.2	1	"	"	"	"	"
EPH Target PAH Analytes											
Prepared by method SW846 3510C											
11-20-3	Naphthalene	BRL		µg/l	6.67	1	"	"	"	"	"
91-57-6	2-Methylnaphthalene	BRL		µg/l	6.67	1	"	"	"	"	"
208-96-8	Acenaphthylene	BRL		µg/l	6.67	1	"	"	"	"	"
13-32-9	Acenaphthene	BRL		µg/l	6.67	1	"	"	"	"	"
6-73-7	Fluorene	BRL		µg/l	6.67	1	"	"	"	"	"
85-01-8	Phenanthrene	BRL		µg/l	6.67	1	"	"	"	"	"
120-12-7	Anthracene	BRL		µg/l	6.67	1	"	"	"	"	"
106-44-0	Fluoranthene	BRL		µg/l	6.67	1	"	"	"	"	"
129-00-0	Pyrene	BRL		µg/l	6.67	1	"	"	"	"	"
56-55-3	Benzo (a) anthracene	BRL		µg/l	6.67	1	"	"	"	"	"
18-01-9	Chrysene	BRL		µg/l	6.67	1	"	"	"	"	"
105-99-2	Benzo (b) fluoranthene	BRL		µg/l	6.67	1	"	"	"	"	"
207-08-9	Benzo (k) fluoranthene	BRL		µg/l	6.67	1	"	"	"	"	"
10-32-8	Benzo (a) pyrene	BRL		µg/l	6.67	1	"	"	"	"	"
93-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/l	6.67	1	"	"	"	"	"
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/l	6.67	1	"	"	"	"	"
191-24-2	Benzo (g,h,i) perylene	BRL		µg/l	6.67	1	"	"	"	"	"
Surrogate recoveries:											
3386-33-2	1-Chlorooctadecane	56		40-140 %			"	"	"	"	"
94-15-1	Ortho-Terphenyl	77		40-140 %			"	"	"	"	"
80-13-2	2-Bromonaphthalene	29	SGC	40-140 %			"	"	"	"	"
321-60-8	2-Fluorobiphenyl	90		40-140 %			"	"	"	"	"

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 4 of 19

Sample Identification

MW-3

SA62714-03

Client Project #

4953

Matrix

Ground Water

Collection Date/Time

24-May-07 13:50

Received

25-May-07

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst
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Extractable Petroleum HydrocarbonsEPH Aliphatic/Aromatic Ranges

Prepared by method SW846 3510C

C9-C18 Aliphatic Hydrocarbons	BRL			mg/l	0.2	1	+MADEP EPH 5/2004 R	30-May-07	31-May-07	7052181	jd
C19-C36 Aliphatic Hydrocarbons	BRL			mg/l	0.2	1					
C11-C22 Aromatic Hydrocarbons	BRL			mg/l	0.2	1					
Unadjusted C11-C22 Aromatic	BRL			mg/l	0.2	1					
Total Petroleum Hydrocarbons	BRL			mg/l	0.2	1					
Unadjusted Total Petroleum	BRL			mg/l	0.2	1					

EPH Target PAH Analytes

Prepared by method SW846 3510C

11-20-3	Naphthalene	BRL		µg/l	5.38	1					
91-57-6	2-Methylnaphthalene	BRL		µg/l	5.38	1					
208-96-8	Acenaphthylene	BRL		µg/l	5.38	1					
3-32-9	Acenaphthene	BRL		µg/l	5.38	1					
8-73-7	Fluorene	BRL		µg/l	5.38	1					
85-01-8	Phenanthrene	BRL		µg/l	5.38	1					
120-12-7	Anthracene	BRL		µg/l	5.38	1					
106-44-0	Fluoranthene	BRL		µg/l	5.38	1					
129-00-0	Pyrene	BRL		µg/l	5.38	1					
56-55-3	Benzo (a) anthracene	BRL		µg/l	5.38	1					
18-01-9	Chrysene	BRL		µg/l	5.38	1					
105-99-2	Benzo (b) fluoranthene	BRL		µg/l	5.38	1					
207-08-9	Benzo (k) fluoranthene	BRL		µg/l	5.38	1					
0-32-8	Benzo (a) pyrene	BRL		µg/l	5.38	1					
93-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/l	5.38	1					
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/l	5.38	1					
191-24-2	Benzo (g,h,i) perylene	BRL		µg/l	5.38	1					

Surrogate recoveries:

3386-33-2	1-Chlorooctadecane	50			40-140 %						
94-15-1	Ortho-Terphenyl	82			40-140 %						
80-13-2	2-Bromonaphthalene	58			40-140 %						
321-60-8	2-Fluorobiphenyl	77			40-140 %						

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 5 of 19

Sample IdentificationMW-4
SA62714-04Client Project #
4953Matrix
Ground WaterCollection Date/Time
24-May-07 13:30Received
25-May-07

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst
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Extractable Petroleum HydrocarbonsEPH Aliphatic/Aromatic Ranges

Prepared by method SW846 3510C

C9-C18 Aliphatic Hydrocarbons	BRL			mg/l	0.2	1	+MADEP EPH 5/2004 R	30-May-07	01-Jun-07	7052181	jd
C19-C36 Aliphatic Hydrocarbons	BRL			mg/l	0.2	1	"	"	"	"	"
C11-C22 Aromatic Hydrocarbons	BRL			mg/l	0.2	1	"	"	"	"	"
Unadjusted C11-C22 Aromatic	BRL			mg/l	0.2	1	"	"	"	"	"
Total Petroleum Hydrocarbons	BRL			mg/l	0.2	1	"	"	"	"	"
Unadjusted Total Petroleum	BRL			mg/l	0.2	1	"	"	"	"	"

EPH Target PAH Analytes

Prepared by method SW846 3510C

1-20-3	Naphthalene	BRL		µg/l	5.43	1	"	"	"	"	"
91-57-6	2-Methylnaphthalene	BRL		µg/l	5.43	1	"	"	"	"	"
208-96-8	Acenaphthylene	BRL		µg/l	5.43	1	"	"	"	"	"
3-32-9	Acenaphthene	BRL		µg/l	5.43	1	"	"	"	"	"
6-73-7	Fluorene	BRL		µg/l	5.43	1	"	"	"	"	"
85-01-8	Phenanthrene	BRL		µg/l	5.43	1	"	"	"	"	"
20-12-7	Anthracene	BRL		µg/l	5.43	1	"	"	"	"	"
06-44-0	Fluoranthene	BRL		µg/l	5.43	1	"	"	"	"	"
129-00-0	Pyrene	BRL		µg/l	5.43	1	"	"	"	"	"
56-55-3	Benzo (a) anthracene	BRL		µg/l	5.43	1	"	"	"	"	"
18-01-9	Chrysene	BRL		µg/l	5.43	1	"	"	"	"	"
205-99-2	Benzo (b) fluoranthene	BRL		µg/l	5.43	1	"	"	"	"	"
207-08-9	Benzo (k) fluoranthene	BRL		µg/l	5.43	1	"	"	"	"	"
0-32-8	Benzo (a) pyrene	BRL		µg/l	5.43	1	"	"	"	"	"
33-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/l	5.43	1	"	"	"	"	"
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/l	5.43	1	"	"	"	"	"
31-24-2	Benzo (g,h,i) perylene	BRL		µg/l	5.43	1	"	"	"	"	"

Surrogate recoveries:

3386-33-2	1-Chlorooctadecane	51		40-140 %			"	"	"	"	"
14-15-1	Ortho-Terphenyl	78		40-140 %			"	"	"	"	"
90-13-2	2-Bromonaphthalene	41		40-140 %			"	"	"	"	"
321-60-8	2-Fluorobiphenyl	75		40-140 %			"	"	"	"	"

Sample Identification
MW-B1
SA62714-05

Client Project #
4953

Matrix
Ground Water

Collection Date/Time
24-May-07 14:25

Received
25-May-07

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst
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Extractable Petroleum Hydrocarbons

EPH Aliphatic/Aromatic Ranges

Prepared by method SW846 3510C

C9-C18 Aliphatic Hydrocarbons	BRL			mg/l	0.2	1	+MADEP EPH 5/2004 R	30-May-07	01-Jun-07	7052181	jd
C19-C36 Aliphatic Hydrocarbons	BRL			mg/l	0.2	1					
C11-C22 Aromatic Hydrocarbons	BRL			mg/l	0.2	1					
Unadjusted C11-C22 Aromatic	BRL			mg/l	0.2	1					
Total Petroleum Hydrocarbons	BRL			mg/l	0.2	1					
Unadjusted Total Petroleum	BRL			mg/l	0.2	1					

EPH Target PAH Analytes

Prepared by method SW846 3510C

1-20-3	Naphthalene	BRL		µg/l	5.56	1					
91-57-6	2-Methylnaphthalene	BRL		µg/l	5.56	1					
208-96-8	Acenaphthylene	BRL		µg/l	5.56	1					
3-32-9	Acenaphthene	BRL		µg/l	5.56	1					
8-73-7	Fluorene	BRL		µg/l	5.56	1					
85-01-8	Phenanthrene	BRL		µg/l	5.56	1					
20-12-7	Anthracene	BRL		µg/l	5.56	1					
08-44-0	Fluoranthene	BRL		µg/l	5.56	1					
129-00-0	Pyrene	BRL		µg/l	5.56	1					
56-55-3	Benzo (a) anthracene	BRL		µg/l	5.56	1					
18-01-9	Chrysene	BRL		µg/l	5.56	1					
205-99-2	Benzo (b) fluoranthene	BRL		µg/l	5.56	1					
207-08-9	Benzo (k) fluoranthene	BRL		µg/l	5.56	1					
0-32-8	Benzo (a) pyrene	BRL		µg/l	5.56	1					
93-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/l	5.56	1					
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/l	5.56	1					
91-24-2	Benzo (g,h,i) perylene	BRL		µg/l	5.56	1					

Surrogate recoveries:

3386-33-2	1-Chlorooctadecane	62		40-140 %							
4-15-1	Ortho-Terphenyl	81		40-140 %							
80-13-2	2-Bromonaphthalene	56		40-140 %							
321-60-8	2-Fluorobiphenyl	71		40-140 %							

Sample Identification
MW-B2
SA62714-06

Client Project #
4953

Matrix
Ground Water

Collection Date/Time
24-May-07 14:40

Received
25-May-07

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst
Extractable Petroleum Hydrocarbons											
<u>EPH Aliphatic/Aromatic Ranges</u>											
Prepared by method SW846 3510C											
	C9-C18 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1	+MADEP EPH 5/2004 R	30-May-07	01-Jun-07	7052181	jd
	C19-C36 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	"
	C11-C22 Aromatic Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	"
	Unadjusted C11-C22 Aromatic	BRL		mg/l	0.2	1	"	"	"	"	"
	Total Petroleum Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	"
	Unadjusted Total Petroleum	BRL		mg/l	0.2	1	"	"	"	"	"
<u>EPH Target PAH Analytes</u>											
Prepared by method SW846 3510C											
11-20-3	Naphthalene	BRL		µg/l	5.43	1	"	"	"	"	"
91-57-6	2-Methylnaphthalene	BRL		µg/l	5.43	1	"	"	"	"	"
208-96-8	Acenaphthylene	BRL		µg/l	5.43	1	"	"	"	"	"
3-32-9	Acenaphthene	BRL		µg/l	5.43	1	"	"	"	"	"
8-73-7	Fluorene	BRL		µg/l	5.43	1	"	"	"	"	"
85-01-8	Phenanthrene	BRL		µg/l	5.43	1	"	"	"	"	"
20-12-7	Anthracene	BRL		µg/l	5.43	1	"	"	"	"	"
106-44-0	Fluoranthene	BRL		µg/l	5.43	1	"	"	"	"	"
129-00-0	Pyrene	BRL		µg/l	5.43	1	"	"	"	"	"
8-55-3	Benzo (a) anthracene	BRL		µg/l	5.43	1	"	"	"	"	"
18-01-9	Chrysene	BRL		µg/l	5.43	1	"	"	"	"	"
205-99-2	Benzo (b) fluoranthene	BRL		µg/l	5.43	1	"	"	"	"	"
207-08-9	Benzo (k) fluoranthene	BRL		µg/l	5.43	1	"	"	"	"	"
0-32-8	Benzo (a) pyrene	BRL		µg/l	5.43	1	"	"	"	"	"
93-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/l	5.43	1	"	"	"	"	"
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/l	5.43	1	"	"	"	"	"
91-24-2	Benzo (g,h,i) perylene	BRL		µg/l	5.43	1	"	"	"	"	"
<u>Surrogate recoveries:</u>											
3386-33-2	1-Chlorooctadecane	64		40-140 %			"	"	"	"	"
4-15-1	Ortho-Terphenyl	80		40-140 %			"	"	"	"	"
80-13-2	2-Bromonaphthalene	56		40-140 %			"	"	"	"	"
321-80-8	2-Fluorobiphenyl	75		40-140 %			"	"	"	"	"

Sample Identification
MW-B3
 SA62714-07

Client Project #
 4953

Matrix
 Ground Water

Collection Date/Time
 24-May-07 14:50

Received
 25-May-07

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst
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Extractable Petroleum Hydrocarbons

EPH Aliphatic/Aromatic Ranges

Prepared by method SW846 3510C

C9-C18 Aliphatic Hydrocarbons	BRL			mg/l	0.2	1	+MADEP EPH 5/2004 R	30-May-07	01-Jun-07	7052181	jd
C19-C36 Aliphatic Hydrocarbons	BRL			mg/l	0.2	1					
C11-C22 Aromatic Hydrocarbons	BRL			mg/l	0.2	1					
Unadjusted C11-C22 Aromatic	BRL			mg/l	0.2	1					
Total Petroleum Hydrocarbons	BRL			mg/l	0.2	1					
Unadjusted Total Petroleum	BRL			mg/l	0.2	1					

EPH Target PAH Analytes

Prepared by method SW846 3510C

11-20-3	Naphthalene	BRL		µg/l	5.81	1					
91-57-6	2-Methylnaphthalene	BRL		µg/l	5.81	1					
208-96-8	Acenaphthylene	BRL		µg/l	5.81	1					
3-32-9	Acenaphthene	BRL		µg/l	5.81	1					
16-73-7	Fluorene	BRL		µg/l	5.81	1					
85-01-8	Phenanthrene	BRL		µg/l	5.81	1					
20-12-7	Anthracene	BRL		µg/l	5.81	1					
106-44-0	Fluoranthene	BRL		µg/l	5.81	1					
129-00-0	Pyrene	BRL		µg/l	5.81	1					
56-55-3	Benzo (a) anthracene	BRL		µg/l	5.81	1					
118-01-9	Chrysene	BRL		µg/l	5.81	1					
205-99-2	Benzo (b) fluoranthene	BRL		µg/l	5.81	1					
207-08-9	Benzo (k) fluoranthene	BRL		µg/l	5.81	1					
10-32-8	Benzo (a) pyrene	BRL		µg/l	5.81	1					
93-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/l	5.81	1					
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/l	5.81	1					
91-24-2	Benzo (g,h,i) perylene	BRL		µg/l	5.81	1					

Surrogate recoveries:

3386-33-2	1-Chlorooctadecane	41			40-140 %						
74-15-1	Ortho-Terphenyl	51			40-140 %						
80-13-2	2-Bromonaphthalene	44			40-140 %						
321-60-8	2-Fluorobiphenyl	81			40-140 %						

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 9 of 19

Sample IdentificationCMW-1
SA62714-08Client Project #
4953Matrix
Ground WaterCollection Date/Time
24-May-07 14:15Received
25-May-07

<u>CAS No.</u>	<u>Analyte(s)</u>	<u>Result</u>	<u>Flag</u>	<u>Units</u>	<u>*RDL</u>	<u>Dilution</u>	<u>Method Ref.</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Batch</u>	<u>Analyst</u>
Extractable Petroleum Hydrocarbons											
<u>EPH Aliphatic/Aromatic Ranges</u>											
Prepared by method SW846 3510C											
	C9-C18 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1	+MADEP EPH 5/2004 R	30-May-07	01-Jun-07	7052181	jd
	C19-C36 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	"
	C11-C22 Aromatic Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	"
	Unadjusted C11-C22 Aromatic	BRL		mg/l	0.2	1	"	"	"	"	"
	Total Petroleum Hydrocarbons	BRL		mg/l	0.2	1	"	"	"	"	"
	Unadjusted Total Petroleum	BRL		mg/l	0.2	1	"	"	"	"	"
<u>EPH Target PAH Analytes</u>											
Prepared by method SW846 3510C											
11-20-3	Naphthalene	BRL		µg/l	5.56	1	"	"	"	"	"
91-57-6	2-Methylnaphthalene	BRL		µg/l	5.56	1	"	"	"	"	"
208-96-8	Acenaphthylene	BRL		µg/l	5.56	1	"	"	"	"	"
3-32-9	Acenaphthene	BRL		µg/l	5.56	1	"	"	"	"	"
8-73-7	Fluorene	BRL		µg/l	5.56	1	"	"	"	"	"
85-01-8	Phenanthrene	BRL		µg/l	5.56	1	"	"	"	"	"
20-12-7	Anthracene	BRL		µg/l	5.56	1	"	"	"	"	"
06-44-0	Fluoranthene	BRL		µg/l	5.56	1	"	"	"	"	"
129-00-0	Pyrene	BRL		µg/l	5.56	1	"	"	"	"	"
56-55-3	Benzo (a) anthracene	BRL		µg/l	5.56	1	"	"	"	"	"
18-01-9	Chrysene	BRL		µg/l	5.56	1	"	"	"	"	"
205-99-2	Benzo (b) fluoranthene	BRL		µg/l	5.56	1	"	"	"	"	"
207-08-9	Benzo (k) fluoranthene	BRL		µg/l	5.56	1	"	"	"	"	"
3-32-8	Benzo (a) pyrene	BRL		µg/l	5.56	1	"	"	"	"	"
33-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/l	5.56	1	"	"	"	"	"
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/l	5.56	1	"	"	"	"	"
31-24-2	Benzo (g,h,i) perylene	BRL		µg/l	5.56	1	"	"	"	"	"
<u>Surrogate recoveries:</u>											
3386-33-2	1-Chlorooctadecane	69		40-140 %			"	"	"	"	"
14-15-1	Ortho-Terphenyl	76		40-140 %			"	"	"	"	"
30-13-2	2-Bromonaphthalene	56		40-140 %			"	"	"	"	"
321-60-8	2-Fluorobiphenyl	82		40-140 %			"	"	"	"	"

Sample Identification
CMW-2
 SA62714-09

Client Project #
 4953

Matrix
 Ground Water

Collection Date/Time
 24-May-07 12:55

Received
 25-May-07

<u>CAS No.</u>	<u>Analyte(s)</u>	<u>Result</u>	<u>Flag</u>	<u>Units</u>	<u>*RDL</u>	<u>Dilution</u>	<u>Method Ref.</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Batch</u>	<u>Analyst</u>
Extractable Petroleum Hydrocarbons											
<u>EPH Aliphatic/Aromatic Ranges</u>											
Prepared by method SW846 3510C											
	C9-C18 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1	+MADEP EPH 5/2004 R	30-May-07	01-Jun-07	7052181	jd
	C19-C36 Aliphatic Hydrocarbons	BRL		mg/l	0.2	1					
	C11-C22 Aromatic Hydrocarbons	BRL		mg/l	0.2	1					
	Unadjusted C11-C22 Aromatic	BRL		mg/l	0.2	1					
	Total Petroleum Hydrocarbons	BRL		mg/l	0.2	1					
	Unadjusted Total Petroleum	BRL		mg/l	0.2	1					
<u>EPH Target PAH Analytes</u>											
Prepared by method SW846 3510C											
11-20-3	Naphthalene	BRL		µg/l	5.62	1					
91-57-6	2-Methylnaphthalene	BRL		µg/l	5.62	1					
208-96-8	Acenaphthylene	BRL		µg/l	5.62	1					
3-32-8	Acenaphthene	BRL		µg/l	5.62	1					
14-73-7	Fluorene	BRL		µg/l	5.62	1					
85-01-8	Phenanthrene	BRL		µg/l	5.62	1					
20-12-7	Anthracene	BRL		µg/l	5.62	1					
16-44-0	Fluoranthene	BRL		µg/l	5.62	1					
129-00-0	Pyrene	BRL		µg/l	5.62	1					
19-55-3	Benzo (a) anthracene	BRL		µg/l	5.62	1					
18-01-9	Chrysene	BRL		µg/l	5.62	1					
205-99-2	Benzo (b) fluoranthene	BRL		µg/l	5.62	1					
207-08-9	Benzo (k) fluoranthene	BRL		µg/l	5.62	1					
10-32-8	Benzo (a) pyrene	BRL		µg/l	5.62	1					
13-39-5	Indeno (1,2,3-cd) pyrene	BRL		µg/l	5.62	1					
53-70-3	Dibenzo (a,h) anthracene	BRL		µg/l	5.62	1					
31-24-2	Benzo (g,h,i) perylene	BRL		µg/l	5.62	1					
<u>Surrogate recoveries:</u>											
3386-33-2	1-Chlorooctadecane	63		40-140 %							
14-15-1	Ortho-Terphenyl	73		40-140 %							
90-13-2	2-Bromonaphthalene	44		40-140 %							
321-60-8	2-Fluorobiphenyl	73		40-140 %							

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 11 of 19

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC Limits	RPD	RPD Limit
Batch 7052181 - SW846 3510C									
Blank (7052181-BLK1)									
Prepared: 30-May-07 Analyzed: 31-May-07									
C9-C18 Aliphatic Hydrocarbons	BRL		mg/l	0.2					
C19-C36 Aliphatic Hydrocarbons	BRL		mg/l	0.2					
C11-C22 Aromatic Hydrocarbons	BRL		mg/l	0.2					
Unadjusted C11-C22 Aromatic Hydrocarbons	BRL		mg/l	0.2					
Naphthalene	BRL		µg/l	2.50					
2-Methylnaphthalene	BRL		µg/l	2.50					
Acenaphthylene	BRL		µg/l	2.50					
Acenaphthene	BRL		µg/l	2.50					
Fluorene	BRL		µg/l	2.50					
Phenanthrene	BRL		µg/l	2.50					
Anthracene	BRL		µg/l	2.50					
Fluoranthene	BRL		µg/l	2.50					
Pyrene	BRL		µg/l	2.50					
Benzo (a) anthracene	BRL		µg/l	2.50					
Chrysene	BRL		µg/l	2.50					
Benzo (b) fluoranthene	BRL		µg/l	2.50					
Benzo (k) fluoranthene	BRL		µg/l	2.50					
Benzo (a) pyrene	BRL		µg/l	2.50					
Indeno (1,2,3-cd) pyrene	BRL		µg/l	2.50					
Dibenzo (a,h) anthracene	BRL		µg/l	2.50					
Benzo (g,h,i) perylene	BRL		µg/l	2.50					
n-Hexadecane	0.00		µg/l						
n-Tetradecane	0.00		µg/l						
n-Eicosane	0.00		µg/l						
n-Nonadecane	0.00		µg/l						
n-Octacosane	0.00		µg/l						
Naphthalene (aliphatic fraction)	0.00		µg/l						
2-Methylnaphthalene (aliphatic fraction)	0.00		µg/l						
Surrogate: 1-Chlorooctadecane	27.3		µg/l		50.0		55	40-140	
Surrogate: Ortho-Terphenyl	27.3		µg/l		50.0		55	40-140	
Surrogate: 2-Bromonaphthalene	18.7		µg/l		40.0		47	40-140	
Surrogate: 2-Fluorobiphenyl	21.1		µg/l		40.0		53	40-140	
LCS (7052181-BS1)									
Prepared: 30-May-07 Analyzed: 31-May-07									
C9-C18 Aliphatic Hydrocarbons	0.329		mg/l	0.2	0.600		55	40-140	
C19-C36 Aliphatic Hydrocarbons	0.417		mg/l	0.2	0.800		52	40-140	
C11-C22 Aromatic Hydrocarbons	1.06		mg/l	0.2	1.70		62	40-140	
Naphthalene	40.3		µg/l	2.50	100		40	40-140	
2-Methylnaphthalene	43.3		µg/l	2.50	100		43	40-140	
Acenaphthylene	48.8		µg/l	2.50	100		49	40-140	
Acenaphthene	50.7		µg/l	2.50	100		51	40-140	
Fluorene	55.6		µg/l	2.50	100		56	40-140	
Phenanthrene	58.2		µg/l	2.50	100		58	40-140	
Anthracene	63.2		µg/l	2.50	100		63	40-140	
Fluoranthene	66.6		µg/l	2.50	100		67	40-140	
Pyrene	67.8		µg/l	2.50	100		68	40-140	
Benzo (a) anthracene	61.8		µg/l	2.50	100		62	40-140	
Chrysene	81.2		µg/l	2.50	100		81	40-140	
Benzo (b) fluoranthene	66.1		µg/l	2.50	100		66	40-140	
Benzo (k) fluoranthene	75.7		µg/l	2.50	100		76	40-140	
Benzo (a) pyrene	69.7		µg/l	2.50	100		70	40-140	

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 12 of 19

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 7052181 - SW846 3510C										
LCS (7052181-BS1)										
Prepared: 30-May-07 Analyzed: 31-May-07										
Indeno (1,2,3-cd) pyrene	62.5		µg/l	2.50	100		62	40-140		
Dibenzo (a,h) anthracene	59.5		µg/l	2.50	100		60	40-140		
Benzo (g,h,i) perylene	64.7		µg/l	2.50	100		65	40-140		
Naphthalene (aliphatic fraction)	0.00		µg/l		100			0-200		
2-Methylnaphthalene (aliphatic fraction)	0.00		µg/l		100			0-200		
Surrogate: 1-Chlorooctadecane	25.8		µg/l		50.0		52	40-140		
Surrogate: Ortho-Terphenyl	33.8		µg/l		50.0		68	40-140		
Surrogate: 2-Bromonaphthalene	23.0		µg/l		40.0		58	40-140		
Surrogate: 2-Fluorobiphenyl	27.2		µg/l		40.0		68	40-140		
Naphthalene Breakthrough	0.00		%					0-5		
2-Methylnaphthalene Breakthrough	0.00		%					0-5		
LCS (7052181-BS2)										
Prepared & Analyzed: 30-May-07										
C9-C18 Aliphatic Hydrocarbons	0.489		mg/l	0.2	0.600		81	40-140		
C19-C36 Aliphatic Hydrocarbons	0.483		mg/l	0.2	0.800		60	40-140		
C11-C22 Aromatic Hydrocarbons	1.25		mg/l	0.2	1.70		74	40-140		
Naphthalene	51.2		µg/l	2.50	100		51	40-140		
2-Methylnaphthalene	57.6		µg/l	2.50	100		58	40-140		
Acenaphthylene	62.2		µg/l	2.50	100		62	40-140		
Acenaphthene	62.5		µg/l	2.50	100		62	40-140		
Fluorene	66.6		µg/l	2.50	100		67	40-140		
Phenanthrene	68.9		µg/l	2.50	100		69	40-140		
Anthracene	70.0		µg/l	2.50	100		70	40-140		
Fluoranthene	79.4		µg/l	2.50	100		79	40-140		
Pyrene	79.0		µg/l	2.50	100		79	40-140		
Benzo (a) anthracene	76.9		µg/l	2.50	100		77	40-140		
Chrysene	91.6		µg/l	2.50	100		92	40-140		
Benzo (b) fluoranthene	72.7		µg/l	2.50	100		73	40-140		
Benzo (k) fluoranthene	90.7		µg/l	2.50	100		91	40-140		
Benzo (a) pyrene	80.6		µg/l	2.50	100		81	40-140		
Indeno (1,2,3-cd) pyrene	75.6		µg/l	2.50	100		76	40-140		
Dibenzo (a,h) anthracene	68.1		µg/l	2.50	100		68	40-140		
Benzo (g,h,i) perylene	75.6		µg/l	2.50	100		76	40-140		
Naphthalene (aliphatic fraction)	0.00		µg/l		100			0-200		
2-Methylnaphthalene (aliphatic fraction)	0.00		µg/l		100			0-200		
Surrogate: 1-Chlorooctadecane	24.3		µg/l		50.0		49	40-140		
Surrogate: Ortho-Terphenyl	38.4		µg/l		50.0		77	40-140		
Surrogate: 2-Bromonaphthalene	31.5		µg/l		40.0		79	40-140		
Surrogate: 2-Fluorobiphenyl	34.4		µg/l		40.0		86	40-140		
Naphthalene Breakthrough	0.00		%					0-5		
2-Methylnaphthalene Breakthrough	0.00		%					0-5		
LCS Dup (7052181-BS01)										
Prepared: 30-May-07 Analyzed: 31-May-07										
C9-C18 Aliphatic Hydrocarbons	0.353		mg/l	0.2	0.600		59	40-140	7	25
C19-C36 Aliphatic Hydrocarbons	0.441		mg/l	0.2	0.800		55	40-140	6	25
C11-C22 Aromatic Hydrocarbons	1.10		mg/l	0.2	1.70		65	40-140	5	25
Naphthalene	35.8	QC1	µg/l	2.50	100		36	40-140	11	20
2-Methylnaphthalene	41.9		µg/l	2.50	100		42	40-140	2	20
Acenaphthylene	48.8		µg/l	2.50	100		49	40-140	0	20
Acenaphthene	49.4		µg/l	2.50	100		49	40-140	4	20
Fluorene	53.5		µg/l	2.50	100		54	40-140	4	20
Phenanthrene	58.4		µg/l	2.50	100		58	40-140	0	20

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* Reportable Detection Limit

BRL = Below Reporting Limit

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 7052181 - SW846 3510C										
<u>LCS Dup (7052181-BSD1)</u>										
Prepared: 30-May-07 Analyzed: 31-May-07										
Anthracene	62.0		µg/l	2.50	100		62	40-140	2	20
Fluoranthene	67.8		µg/l	2.50	100		68	40-140	1	20
Pyrene	70.5		µg/l	2.50	100		70	40-140	3	20
Benzo (a) anthracene	71.1		µg/l	2.50	100		71	40-140	14	20
Chrysene	78.7		µg/l	2.50	100		79	40-140	2	20
Benzo (b) fluoranthene	65.1		µg/l	2.50	100		65	40-140	2	20
Benzo (k) fluoranthene	88.1		µg/l	2.50	100		88	40-140	15	20
Benzo (a) pyrene	76.4		µg/l	2.50	100		76	40-140	8	20
Indeno (1,2,3-cd) pyrene	68.5		µg/l	2.50	100		68	40-140	9	20
Dibenzo (a,h) anthracene	66.0		µg/l	2.50	100		66	40-140	10	20
Benzo (g,h,i) perylene	69.2		µg/l	2.50	100		69	40-140	6	20
Naphthalene (aliphatic fraction)	0.00		µg/l		100			0-200		200
2-Methylnaphthalene (aliphatic fraction)	0.00		µg/l		100			0-200		200
Surrogate: 1-Chlorooctadecane	24.4		µg/l		50.0		49	40-140		
Surrogate: Ortho-Terphenyl	33.1		µg/l		50.0		66	40-140		
Surrogate: 2-Bromonaphthalene	26.9		µg/l		40.0		67	40-140		
Surrogate: 2-Fluorobiphenyl	30.2		µg/l		40.0		76	40-140		
Naphthalene Breakthrough	0.00		%					0-5		
2-Methylnaphthalene Breakthrough	0.00		%					0-5		

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte	Average RF	CCRF	% D	Limit
Batch 0705757				
Calibration Check (0705757-CCV1)				
C9-C18 Aliphatic Hydrocarbons	1.29467E+11	1.45018E+08	12.0	25.00
C19-C36 Aliphatic Hydrocarbons	1.14918E+11	1.03449E+08	-14.5	25.00
C11-C22 Aromatic Hydrocarbons	17797.1	15.4119	-13.4	25.00
Naphthalene	7.49143	6.29844	-15.9	20.00
2-Methylnaphthalene	4.34714	3.87159	-10.9	20.00
Acenaphthylene	6.64623	6.18223	-6.98	20.00
Acenaphthene	4.18836	3.80421	-9.17	20.00
Fluorene	4.65243	4.2198	-9.30	20.00
Phenanthrene	6.2823	5.66621	-9.81	20.00
Anthracene	6.39254	6.00379	-6.08	20.00
Fluoranthene	6.42075	6.34116	-1.24	20.00
Pyrene	6.58194	6.6314	0.751	20.00
Benzo (a) anthracene	5.48335	5.87034	7.06	20.00
Chrysene	5.33975	5.74089	7.51	20.00
Benzo (b) fluoranthene	4.95865	5.65085	14.0	20.00
Benzo (k) fluoranthene	4.81973	5.17896	7.45	20.00
Benzo (a) pyrene	4.62819	5.3324	15.2	20.00
Indeno (1,2,3-cd) pyrene	4.6884	4.87943	4.07	20.00
Dibenzo (a,h) anthracene	3.88281	3.9415	1.51	20.00
Benzo (g,h,i) perylene	4.14106	4.28047	3.37	20.00
5-alpha-Androstane	3807840	1	-100	
5-alpha-Androstane	3807.84	1	-100	

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* Reportable Detection Limit BRL = Below Reporting Limit

Extractable Petroleum Hydrocarbons - CCV Evaluation Report

Analyte	Average RF	CCRF	% D	Limit
Batch 0706010				
Calibration Check (0706010-CCV2)				
C9-C18 Aliphatic Hydrocarbons	1.29467E+11	1.33448E+08	3.00	25.00
C19-C36 Aliphatic Hydrocarbons	1.14918E+11	1.06969E+08	-11.5	25.00
C11-C22 Aromatic Hydrocarbons	17797.1	15.4962	-12.8	25.00
Naphthalene	7.49143	6.28559	-16.1	20.00
2-Methylnaphthalene	4.34714	3.90292	-10.2	20.00
Acenaphthylene	6.64623	6.26582	-5.72	20.00
Acenaphthene	4.18836	3.79773	-9.33	20.00
Fluorene	4.65243	4.37148	-6.04	20.00
Phenanthrene	6.2823	5.8232	-7.31	20.00
Anthracene	6.39254	6.1903	-3.16	20.00
Fluoranthene	6.42075	6.49984	1.23	20.00
Pyrene	6.58194	6.78084	3.02	20.00
Benzo (a) anthracene	5.48335	5.67463	3.49	20.00
Chrysene	5.33975	6.2869	17.7	20.00
Benzo (b) fluoranthene	4.95865	5.11192	3.09	20.00
Benzo (k) fluoranthene	4.81973	5.54733	15.1	20.00
Benzo (a) pyrene	4.62819	5.19447	12.2	20.00
Indeno (1,2,3-cd) pyrene	4.6884	4.77467	1.84	20.00
Dibenzo (a,h) anthracene	3.88281	4.17349	7.49	20.00
Benzo (g,h,i) perylene	4.14106	4.30395	3.93	20.00
5-alpha-Androstane	3807840	1	-100	
5-alpha-Androstane	3807.84	1	-100	

Notes and Definitions

QC1	Analyte out of acceptance range.
SGC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

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

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

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

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

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

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

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

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

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

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

Matrix	Ground Water				
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 < 2 in lab Comment:				
Temperature	<input type="checkbox"/> Received on ice <input checked="" type="checkbox"/> Received at 4 ± 2 °C <input type="checkbox"/> Other: °C				

Were all QA/QC procedures followed as required by the EPH method? *Yes*

Were any significant modifications made to the EPH method as specified in Section 11.3? *No*

Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

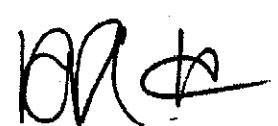
I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:



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

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: Spectrum Analytical, Inc. - Agawam, MA			Project #: 4953		
Project Location: 200 Trapelo Rd - Waltham, MA			MADEP RTN ¹ :		
This form provides certifications for the following data set SA62714-01 through SA62714-09					
Sample matrices:		Ground Water			
MCP SW-846 Methods Used	<input type="checkbox"/> 8260B	<input type="checkbox"/> 8151A	<input type="checkbox"/> 8330	<input type="checkbox"/> 6010B	<input type="checkbox"/> 7470A/1A
	<input type="checkbox"/> 8270C	<input type="checkbox"/> 8081A	<input type="checkbox"/> VPH	<input type="checkbox"/> 6020	<input type="checkbox"/> 9014M ²
	<input type="checkbox"/> 8082	<input type="checkbox"/> 8021B	<input checked="" type="checkbox"/> EPH	<input type="checkbox"/> 7000S ³	<input type="checkbox"/> 7196A
¹ List Release Tracking Number (RTN), if known ² M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide(PAC) Method ³ S - SW-846 Methods 7000 Series List individual method and analyte					
An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status					
A	Were all samples received by the laboratory in a condition consistent with that described on the Chain of Custody documentation for the data set?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	<u>VPH and EPH methods only</u> : Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective methods)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
A response to questions E and F below is required for "Presumptive Certainty" status					
E	Were all analytical QC performance standards and recommendations for the specified methods achieved?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
All negative responses are addressed in a case narrative on the cover page of this report.					
<p>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</p> <div style="text-align: right;">  Hanibal C. Tayeh, Ph.D. President/Laboratory Director Date: 6/1/2007 </div>					

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* Reportable Detection Limit

BRL = Below Reporting Limit

Page 19 of 19



Featuring
HANIBAL TECHNOLOGY

SPECTRUM ANALYTICAL, INC.

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 6/1/10
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Brian Klingler

Invoice To: SAME

Project No.: 4953

Site Name: 200 Treble Road

Location: Wethers State: MA

Sampler(s): FSC

Project Mgr.: Brian Klingler

P.O. No.: 4953

RQN: _____

Containers:

Analyses:

QA Reporting Notes:
(check if needed)

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=____ 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
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# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic
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☒ Provide MA DEP MCP CAM Report
☐ Provide CT DPH RCP Report
QA/QC Reporting Level
☒ Standard ☐ No QC
☐ Other _____
State specific reporting standards: _____

62714-01	MW-1	5/24/07	3:30pm	G	GL	2
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1	1		
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X EPH by DEP

-02	MW-2		3:10pm			
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-03	MW-3		1:50pm			
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-04	MW-4		1:30pm			
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-05	MW-5		8:25pm			
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-06	MW-6		2:40pm			
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-07	MW-7		2:50pm			
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-08	MW-8		2:15pm			
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-09	MW-9		12:55pm			
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Relinquished by:

Received by:

Date: _____ Time: _____

☒ Fax results when available to (508) 697-5996

☒ E-mail to Sciampa@coneco.com

EDD Format _____

Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C 4.3

8A 62714

Groundwater Analytical Results Summary

Groundwater Analytical Results
The Fernald Center - Power Plant
200 Trapelo Road
Waltham, Massachusetts
RTN 3-13467

Analyte	MW-10 ⁽¹⁾										MW-20 ⁽²⁾										GW-3 Standard ⁽³⁾	GW-3 Standard ⁽⁴⁾	Depth to Groundwater ⁽⁵⁾			
	5/1/2003	11/11/2003	2/10/2004	5/4/2004	1/7/2005	5/20/2005	10/6/2005	1/20/2006	3/31/2006	9/5/2006	5/24/2007	8/1/2003	11/11/2003	2/10/2004	5/4/2004	1/7/2005	5/20/2005	10/6/2005	1/20/2006	3/31/2006	9/5/2006	5/24/2007	5,000	50,000	100,000	
C ₆ -C ₁₂ Aliphatics	<200 ⁽⁴⁾	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	5,000	50,000	100,000
C ₁₀ -C ₁₈ Aliphatics	<200	<200	<200	<200	<200	<200	600	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	NA ⁽⁶⁾	50,000	100,000
C ₁₁ -C ₂₂ Aromatics	<200	<200	<200	<200	<200	200	200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	50,000	5,000	100,000
Acenaphthene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	6,000	50,000
Fluorene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	40	30,000
Phenanthrene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	10,000	3,000
Anthracene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	30	30,000
Fluoranthene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	200	3,000
Pyrene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	20	30,000
Benzo(a)anthracene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	1,000	30,000
Chrysene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	70	30,000
Benzo(b)fluoranthene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	400	30,000
Benzo(k)fluoranthene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	100	30,000
Benzo(a)pyrene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	500	30,000
Indeno (1,2,3-cd)pyrene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	100	30,000
Benzo(g,h,i)perylene	<5.0	<5.0	<5.0	<5.0	<6.1	<5.6	<5.6	<5.8	<5.7	<6.3	<5.8	<5.0	<5.0	<5.0	<5.0	<5.6	<5.8	<5.3	<5.5	<6.3	<6.7	<6.7	<6.7	NA	20	30,000
NAPL Thickness	NM ⁽⁶⁾	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM			0.5"

- 1) Monitoring Well ID and Date Sampled
- 2) Method 1 Groundwater Standards derived from 310 CMR 40.0974(2)
- 3) Groundwater Upper Concentration Limit Standards derived from 310 CMR 40.0994(7)
- 4) Analytical Results presented in ug/L
- 5) NA denotes no standards have been promulgated
- 6) NM indicates NAPL thickness was not measured above 0.1 inches in the respective monitoring well
- 7) Bold indicates exceedance of applicable Risk Characterization Standards
- 8) Product measured greater than 0.1 inches but less than 0.5 inches
- 9) Sheet

Groundwater Analytical Results
The Fernald Center - Power Plant
200 Trapelo Road
Waltham, Massachusetts
RTN 3-13467

Analysis	MW-3 ⁽¹⁾										MW-4 ⁽¹⁾										GW-2 Standards ⁽³⁾	GW-3 Standards ⁽³⁾	UCL in Groundwater ⁽⁵⁾			
	5/24/2007	9/5/2006	3/31/2006	1/20/2006	10/6/2005	5/21/2005	1/7/2005	5/4/2004	2/10/2004	11/11/2003	8/12/2003	5/24/2007	9/5/2006	3/31/2006	1/20/2006	10/6/2005	5/21/2005	1/7/2005	5/4/2004	2/10/2004				11/11/2003	8/12/2003	
C ₆ -C ₁₁ Aliphatics	<200 ⁽⁶⁾	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	5,000	50,000	100,000
C ₁₂ -C ₁₆ Aliphatics	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	NA ⁽¹⁾	50,000	100,000
C ₁₇ -C ₂₁ Aromatics	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	50,000	5,000	100,000
Acenaphthene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	6,000	50,000
Fluorene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	40	30,000
Phenanthrene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	10,000	3,000
Anthracene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	30	30,000
Fluoranthene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	200	3,000
Pyrene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	20	30,000
Benzo(a)anthracene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	1,000	30,000
Chrysene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	70	30,000
Benzo(b)fluoranthene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	400	30,000
Benzo(k)fluoranthene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	100	30,000
Benzo(a)pyrene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	500	30,000
Indeno(1,2,3-cd)pyrene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	100	30,000
Benzo(g,h,i)perylene	<5.0	<5.0	<5.0	<5.0	<5.8	<6.1	<5.8	<6.5	<5.5	<5.3	<5.6	<5.4	<5.0	<5.0	<5.0	<5.62	<5.5	<5.9	<5.2	<5.3	<6.1	<5.4	<5.4	NA	20	30,000
NAPL Thickness	NM ⁽⁴⁾	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.5"	

1) Monitoring Well ID and Date Sampled

2) Method 1 Groundwater Standards derived from 310 CMR 40.0974(2)

3) Groundwater Upper Concentration Limit Standards derived from 310 CMR 40.0996(7)

4) Analytical Results presented in ug/L

5) NA denotes no standards have been promulgated

6) NM indicates NAPL thickness was not measured above 0.1 inches in the respective monitoring well

7) Bold indicates exceedance of applicable Risk Characterization Standards

8) Product measured greater than 0.1 inches but less than 0.5 inches

9) Sheet

Groundwater Analytical Results
The Fernald Center - Power Plant
 200 Trapelo Road
 Waltham, Massachusetts
 RTN 3-13467

Analyte	NW-B1 ⁽⁹⁾										NW-B1 ⁽⁹⁾	GW-2 Standard ⁽³⁾	GW-3 Standard ⁽³⁾	UCL in Groundwater ⁽⁹⁾
C ₆ -C ₁₂ Aliphatics	2050 ⁽⁶⁾	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	100,000
C ₁₉ -C ₃₀ Aliphatics	1,470	592	133	290	290	290	290	290	290	290	290	290	290	100,000
C ₁₁ -C ₃₂ Aromatics	6110 ⁽⁶⁾	1,310	545	376	300	300	300	300	300	300	300	300	300	100,000
Aceanaphthene	<5.0	<5.0	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	50,000
Fluorene	<5.0	<5.0	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	50,000
Phenanthrene	10.4	7.24	<5.0	<5.0	<6.02	<5.6	28.9	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Anthracene	<5.0	5.64	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Fluoranthene	<5.0	7.05	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Pyrene	11.8	7.71	<5.0	<5.0	<6.02	<5.6	34.5	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Benzo(a)anthracene	<5.0	5.64	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Chrysene	6.26	5.89	<5.0	<5.0	<6.02	<5.6	32.8	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Benzo(b)fluoranthene	<5.0	<5.0	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Benzo(k)fluoranthene	<5.0	<5.0	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Benzo(a)pyrene	<5.0	<5.0	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Indeno(1,2,3-cd)pyrene	<5.0	<5.0	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
Benzo(g,h,i)perylene	<5.0	<5.0	<5.0	<5.0	<6.02	<5.6	<26.3	<5.3	<5.6	<6.6	<5.6	<5.6	<5.6	30,000
NAPL Thickness	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	NM ⁽⁸⁾	0.5"

1) Monitoring Well ID and Date Sampled

2) Method 1 Groundwater Standards derived from 310 CMR 40.0974(2)

3) Groundwater Upper Concentration Limit Standards derived from 310 CMR 40.0996(7)

4) Analytical Results presented in ug/L

5) N/A denotes no standards have been promulgated

6) NM indicates NAPL thickness was not measured above 0.1 inches in the respective monitoring well

7) Bold indicates exceedance of applicable Risk Characterization Standards

8) Product measured greater than 0.1 inches but less than 0.5 inches

9) Sheen

10) NS indicates sample was not submitted for laboratory analysis due to the presence of separate phase product in collected purge water

Groundwater Analytical Results
The Fernald Center - Power Plant
200 Trapelo Road
Waltham, Massachusetts
RTN 3-13467

Analyte	8/1/2003	11/11/2003	2/10/2004	5/5/2004	1/7/2005	5/21/2005	10/6/2005	1/20/2006	3/31/2006	9/5/2006	5/24/2007	GMW-1 ⁽⁹⁾	GMW-2 ⁽⁹⁾	GW-2 Standards ⁽²⁾	GW-3 Standards ⁽²⁾	UCL in Groundwater ⁽²⁾
C ₇ -C ₁₈ Aliphatics	<200 ⁽⁴⁾	<200	<200	<200	<200	<200	<200	NC ⁽¹⁰⁾	<200	<200	<200	<200	<200	5,000	50,000	100,000
C ₁₀ -C ₂₈ Aliphatics	<200	<200	<200	<200	<200	200	<200	NC	<200	<200	<200	<200	<200	NA ⁽⁵⁾	50,000	100,000
C ₁₁ -C ₂₂ Aromatics	476	<200	<200	<200	<200	300	<200	NC	<200	<200	<200	<200	<200	50,000	5,000	100,000
Acenaphthene	5.33	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	6,000	50,000
Fluorene	6.37	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	40	30,000
Phenanthrene	43.2	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	10,000	3,000
Anthracene	25.6	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	30	30,000
Fluoranthene	53.1	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	200	3,000
Pyrene	49.2 ⁽⁷⁾	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	20	30,000
Benzo(a)anthracene	21.3	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	1,000	30,000
Chrysene	21.8	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	70	30,000
Benzo(b)fluoranthene	16.7	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	400	30,000
Benzo(k)fluoranthene	13.7	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	100	30,000
Benzo(e)pyrene	16.4	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	500	30,000
Indeno (1,2,3-cd)pyrene	9.68	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	100	30,000
Benzo(g,h,i)perylene	9.6	<5.0	<5.0	<5.0	<5.3	<5.3	<5.4	NC	<5.4	<6.0	<5.8	<5.6	<5.6	NA	20	30,000
NAPL Thickness	NM ⁽⁸⁾	NM	NM	NM	NM	NM	NM	NC	NM	NM	NM	NM	NM			0.5"

1) Monitoring Well ID and Date Sampled

2) Method 1 Groundwater Standards derived from 310 CMR 40.0974(2)

3) Groundwater Upper Concentration Limit Standards derived from 310 CMR 40.0996(7)

4) Analytical Results presented in ug/L

5) NA denotes no standards have been promulgated

6) NM indicates NAPL thickness was not measured above 0.1 inches in the respective monitoring well

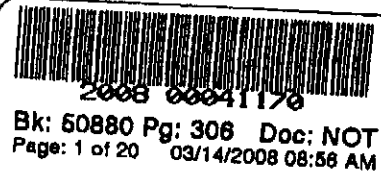
7) **Bold** indicates exceedance of applicable Risk Characterization Standards

8) Product measured greater than 0.1 inches but less than 0.5 inches

9) Sheen

10) NC indicates sample was not collected for laboratory analysis because the well was inaccessible

**Registry of Deeds-Certified Copy of Activity and Use Limitation
and Legal Notice**



Form 1075

NOTICE OF ACTIVITY AND USE LIMITATION

M.G.L. c. 21E, § 6 and 310 CMR 40.0000

Disposal Site Name: The Fernald Center Power Plant
200 Trapelo Road
Waltham, Massachusetts
DEP Release Tracking No.(s): 3-13467

This Notice of Activity and Use Limitation ("Notice") is made as of this 14th day of March, 2008, by the Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Mental Retardation at 500 Harrison Avenue in Boston, Massachusetts 02118, together with its successors and assigns (collectively "Owner").

WITNESSETH:

WHEREAS, the Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Mental Retardation at 500 Harrison Avenue in Boston, Massachusetts, is the owner in fee simple of that certain parcel of land located at 200 Trapelo Road in Waltham, Middlesex County, Massachusetts with the buildings and improvements thereon, pursuant, in part, to a deed recorded with the Middlesex County Registry of Deeds in Book 5600, Page 550, with the remaining portion of the property being unrecorded land;

WHEREAS, said parcel of land, which is partially described in Exhibit A, attached hereto and made a part hereof ("Property") is subject to this Notice of Activity and Use Limitation. The Property is shown, in part, on two plans recorded with the Middlesex County Registry of Deeds in Plan Book 2008, Page 104, and in a plan dated December 26, 1903 and revised in 1922, with the remaining portion of the Property being unrecorded land;

WHEREAS, a portion of the Property ("Portion of the Property") is subject to this Notice of Activity and Use Limitation. The Portion of the Property is more particularly bounded and described in Exhibit A-1, attached hereto and made a part hereof. The Portion of the Property is shown on a plan recorded with the Middlesex County Registry of Deeds in Plan Book 2008, Page 104, and on a sketch plan attached hereto;

WHEREAS, the Portion of the Property comprises all of a disposal site as the result of a release of oil and/or hazardous material. Exhibit B is a sketch plan showing the relationship of the Portion of the Property subject to this Notice of Activity and Use Limitation to the boundaries of said disposal site existing within the limits of the Property and to the extent such boundaries have been established. Exhibit B is attached hereto and made a part hereof; and

WHEREAS, one or more response actions have been selected for the Disposal Site in accordance with M.G.L. c. 21E ("Chapter 21E") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP"). Said response actions are based upon (a) the restriction of human access to and contact with oil and/or hazardous material in soil and/or (b) the restriction of

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5600-550

Coneco Environmental
4 First Street
Bridgewater, MA 02324

certain activities occurring in, on, through, over or under the Portion of the Property. The basis for such restrictions is set forth in an Activity and Use Limitation Opinion ("AUL Opinion"), dated March 6, 2008 (which is attached hereto as Exhibit C and made a part hereof);

NOW, THEREFORE, notice is hereby given that the activity and use limitations set forth in said AUL Opinion are as follows:

1. Activities and Uses Consistent with the AUL Opinion. The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur on the Portion of the Property:

- (i) Any activities and uses consistent with the current use of the Portion of the Property as a power plant facility and parking area;
- (ii) Activities and uses including, but not limited to, maintenance of the asphalt-paved driveway and parking area within the designated AUL Area which do not cause direct contact with, disturbance, or relocation of, the contaminated soil within the designated AUL Area;
- (iii) Excavation associated with limited short term utility work which may be deemed necessary within the designated AUL Area, provided that it is conducted in accordance with the performance standards for Utility Related Abatement Measures (URAMs) set forth by the MCP at 310 CMR 40.0030, and all applicable worker health and safety practices pursuant to 310 CMR 40.0018;
- (iii) Subsurface activities and/or construction, including but not limited to, excavation associated with future construction of buildings and other improvements to support permitted uses on the property which may disturb contaminated soils, provided that such work is conducted in accordance with a Soil Management Plan developed in accordance with Obligation (ii) as set forth in Notice of AUL Item 3;
- (v) Activities and uses not expressly prohibited by the Notice of AUL;
- (vi) Such other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph; and
- (vii) Such other activities and uses not identified in Paragraph 2 as being Activities and Uses Inconsistent with the AUL.

2. Activities and Uses Inconsistent with the AUL Opinion. Activities and uses which are inconsistent with the objectives of this Notice of Activity and Use Limitation, and which, if implemented at the Portion of the Property, may result in a

significant risk of harm to health, safety, public welfare or the environment or in a substantial hazard, are as follows:

- (i) The use of buildings located with the Portion of the Property as an office, store, residence, school, or daycare facility;
- (ii) The cultivation of fruits and vegetables destined for human consumption (e.g., gardening);
- (iii) Recreational activities, such as playing baseball, swimming, fishing and hiking;
- (iv) Leisure activities, such as picnicking, sunbathing and entertaining;
- (v) Relocation of the contaminated soils within the designated AUL Area unless an LSP Opinion is rendered which attests that a condition of "No Significant Risk" is maintained, consistent with the provisions of the MCP; and
- (vi) Any subsurface activity or excavation which may result in direct contact with, disturbance, or relocation of contaminated soils between 2 and 15 feet which is not conducted in accordance with Obligations of the Notice of AUL.

3. Obligations and Conditions Set Forth in the AUL Opinion. If applicable, obligations and/or conditions to be undertaken and/or maintained at the Portion of the Property to maintain a condition of No Significant Risk as set forth in the AUL Opinion shall include the following:

- (i) Prior to the performance of major excavation work which may encounter impacted soils known to exist at depth, or in the event that evidence of petroleum contamination is encountered during shallow excavation work, a Health and Safety Plan must be prepared by a Certified Industrial Hygienist or other qualified professional familiar with worker health and safety procedures and requirements. The Health and Safety Plan must specify the level of personal protection and engineering controls, dust mitigative procedures, and perimeter monitoring necessary to prevent both worker and other receptor exposures to contaminated soils below current site grading. The Health and Safety Plan must also detail the type of protective clothing (i.e. gloves, Tyvek clothing, etc.), respiratory protection, environmental monitoring, and mechanical equipment necessary to prevent exposures to petroleum products via inhalation, ingestion and/or direct dermal contact;
- (ii) Prior to the performance of major excavation work which may encounter impacted soils known to exist at depth, or in the event that evidence of petroleum contamination is encountered during shallow excavation work, a Soil Management Plan must be prepared by a LSP and must describe soil

excavation, handling, storage, on-site reuse, transport, and disposal procedures. Petroleum-impacted soils excavated below currently existing surface grades must either be reused within the Portion of the Property at the same depths or greater below final grades, or must be transported off-site for appropriate disposal. The Soil Management Plan must also include a description of the engineering controls and air monitoring procedures necessary at the site to ensure that receptors in the vicinity of the site are not impacted by petroleum products, fugitive dust, particulates, or exposures to contaminated soil via inhalation, dermal contact and/or ingestion; and

- (iii) Full and immediate repair/replacement of the asphalt following the completion of excavation activities associated with limited short term utility work performed in accordance with Obligations (i) and (ii) above.

4. Proposed Changes in Activities and Uses. Any proposed changes in activities and uses at the Portion of the Property which may result in higher levels of exposure to oil and/or hazardous material than currently exist shall be evaluated by an LSP who shall render an Opinion, in accordance with 310 CMR 40.1080 *et seq.*, as to whether the proposed changes will present a significant risk of harm to health, safety, public welfare or the environment. Any and all requirements set forth in the Opinion to meet the objective of this Notice shall be satisfied before any such activity or use is commenced.

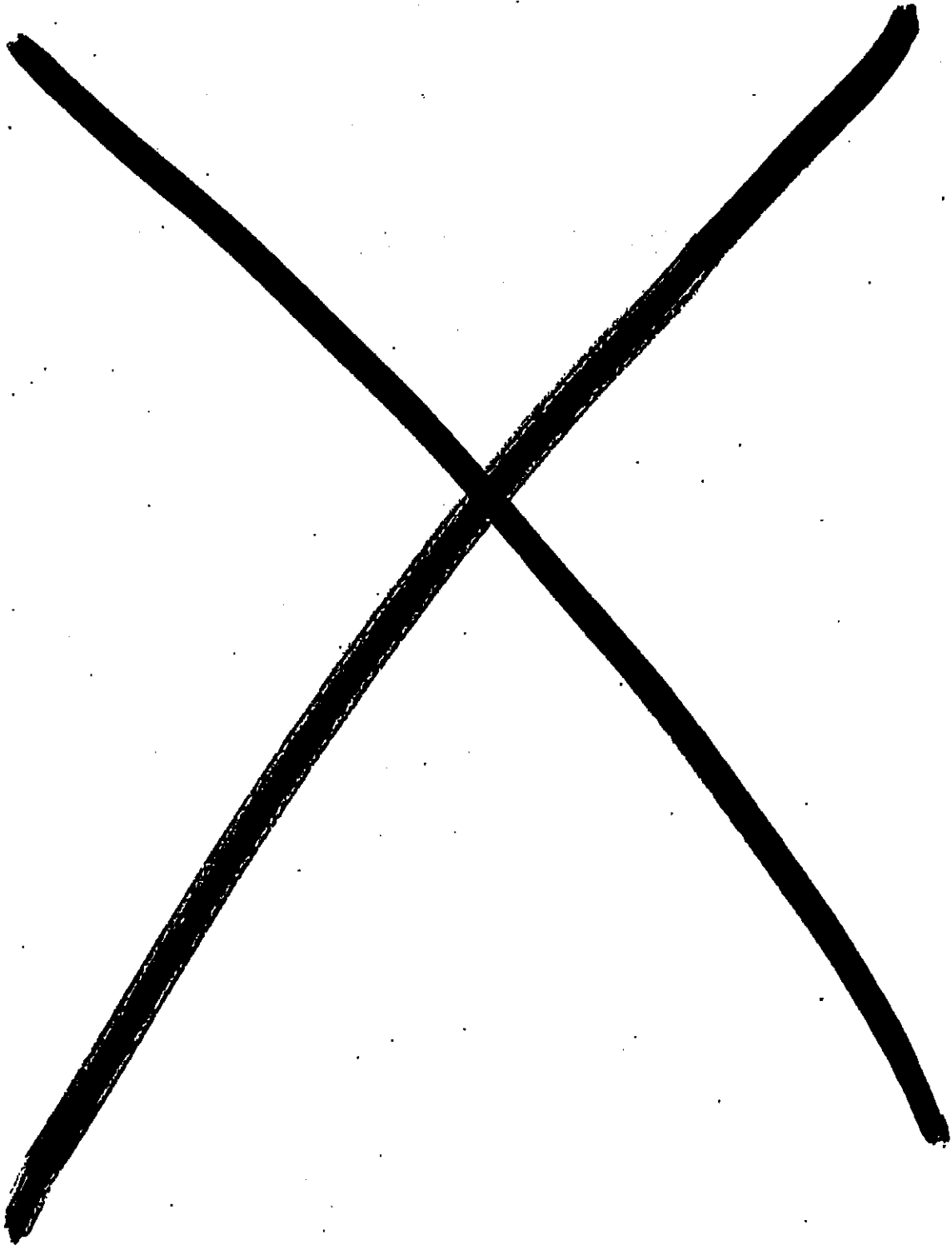
5. Violation of a Response Action Outcome. The activities, uses and/or exposures upon which this Notice is based shall not change at any time to cause a significant risk of harm to health, safety, public welfare, or the environment or to create substantial hazards due to exposure to oil and/or hazardous material without the prior evaluation by an LSP in accordance with 310 CMR 40.1080 *et seq.*, and without additional response actions, if necessary, to achieve or maintain a condition of No Significant Risk or to eliminate substantial hazards.

If the activities, uses, and/or exposures upon which this Notice is based change without the prior evaluation and additional response actions determined to be necessary by an LSP in accordance with 310 CMR 40.1080 *et seq.*, the owner or operator of the Portion of the Property subject to this Notice at the time that the activities, uses and/or exposures change, shall comply with the requirements set forth in 310 CMR 40.0020.

6. Incorporation Into Deeds, Mortgages, Leases, and Instruments of Transfer. This Notice shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in and/or a right to use the Property or a portion thereof is conveyed.

Owner hereby authorizes and consents to the filing and recordation and/or registration of this Notice, said Notice to become effective when executed under seal

by the undersigned LSP, and recorded and/or registered with the appropriate Registry(ies) of Deeds and/or Land Registration Office(s).



WITNESS the execution hereof under seal this 11th day of March, 2008.
2008.

By: Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Mental Retardation

Elin M. Howe

Elin M. Howe
Commissioner

COMMONWEALTH OF MASSACHUSETTS

Suffern, ss

March 11, 2008

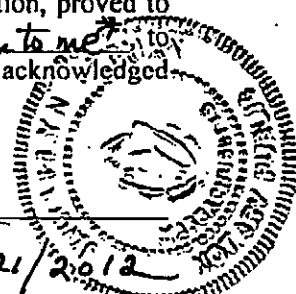
On this 11 day of March, 2008, before me, the undersigned notary public, personally appeared Elin M. Howe, Commissioner of the Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Mental Retardation, proved to me through satisfactory evidence of identification, which were personally known to me to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

* Elin Howe is the Commissioner of the Massachusetts Dept of Mental Retardation and I am one of the attorneys in her employ.

[Signature]
Notary Public:

My Commission Expires: 12/21/2012

Jacquelyn Berman



The undersigned LSP hereby certifies that he executed the aforesaid Activity and Use Limitation Opinion attached hereto as Exhibit C and made a part hereof and that in his Opinion this Notice of Activity and Use Limitation is consistent with the terms set forth in said Activity and Use Limitation Opinion.

Date: 3-13-08

[Signature]
Brian F. Klingler, P.G., L.S.P.

LSP Seal:



COMMONWEALTH OF MASSACHUSETTS

Plymouth County, ss

MARCH 13, 2008

On this 13th day of MARCH, 2008, before me, the undersigned notary public, personally appeared Brian F. Klingler, P.G., L.S.P., proved to me through satisfactory evidence of identification, which were MA LICENSE, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

Jean M. Delmonico
Notary Public:
My Commission Expires: Sept. 22, 2011

Upon recording, return to:

Paul Beaton, P.E.
Project Engineer
Massachusetts Department of Mental Retardation
500 Harrison Avenue
Boston, Massachusetts 02118



Exhibit A

A metes and bounds description of a portion of recorded land located within the larger property which contains the Site is as follows:

COMMENCING Commencing at a point in the dividing line between land of the City of Waltham and land of the Roman Catholic Archbishop of Boston, said bound lying N 37° 49' 30" E a distance of 615.60 feet southerly from its intersection with the southerly line of Trapelo Road;

THENCE S 52° 10' 30" E for a distance of 264.99 feet;

THENCE S 36° 26' 40" W a distance of 51.26 feet;

THENCE S 38° 16' 40" W a distance of 203.22 feet;

THENCE N 48° 33' 50" W a distance of 265.15 feet;

THENCE N 37° 49' 30" E a distance of 237.76 feet to the point of beginning.

Containing 65,340 Square Feet.

The remaining area of the property is composed of unrecorded land owned by the Commonwealth of Massachusetts. No further legal descriptions or title deed is available for the remainder of the property.

Exhibit A-1

A metes and bounds description of the area subject to the AUL is as follows:

COMMENCING Commencing at a drill hole in a stone bound on the southeasterly line of Waverley Oaks Road, said bound lying N 51° 29' 49" E a distance of 1051.13 feet from the center of a stone bound also on the southeasterly line of Waverley Oaks Road which marks the point of curvature at the intersection of the northeasterly line of Beaver Street with the southeasterly line of Waverly Oaks Road;

THENCE N 47°27'49" W for a distance of 579.87 feet to the point of beginning of the herein described AUL area;

THENCE S 10°40'10" W a distance of 123.00 feet;

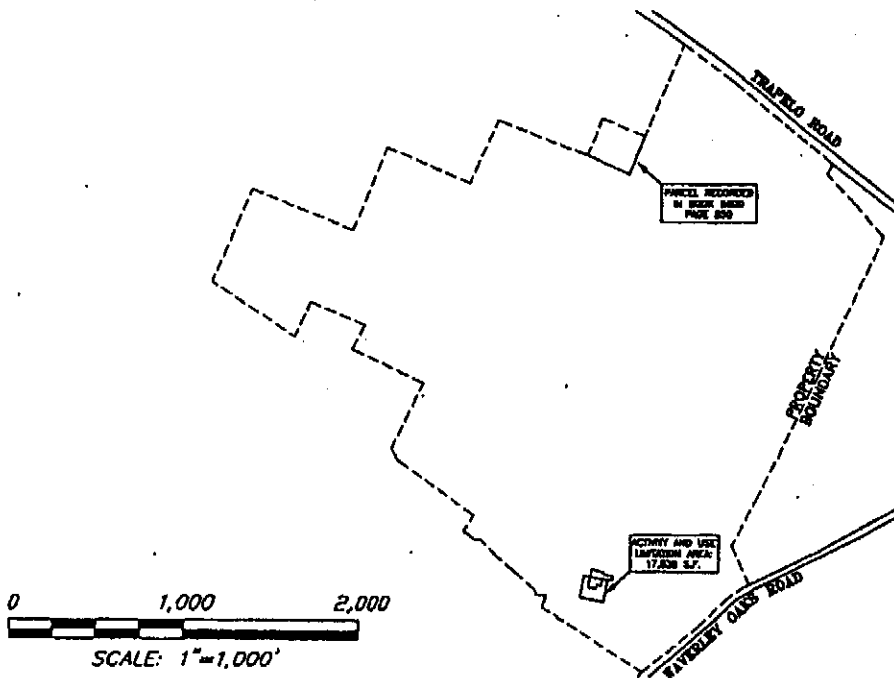
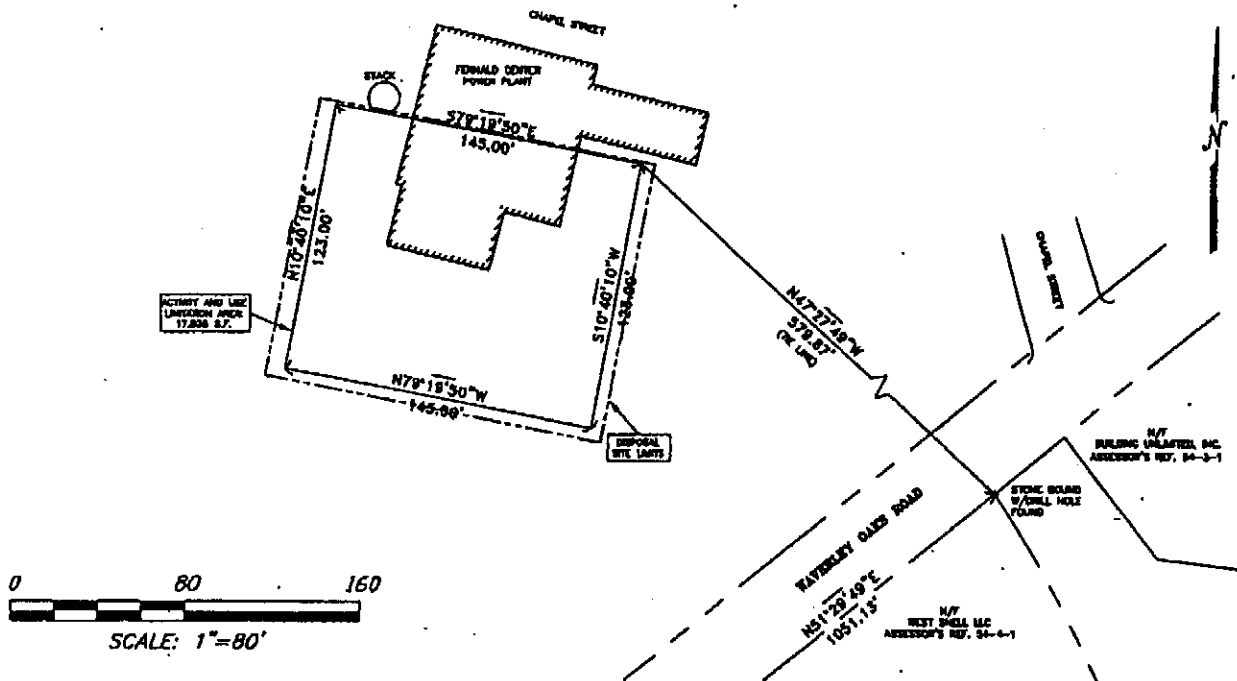
THENCE N 79°19'50" W a distance of 145.00 feet;

THENCE N 10°40'10" E a distance of 123.00 feet;

THENCE S 79°19'50"E a distance of 145.00 feet to the point of beginning.

Containing 17,835 Square Feet and bounded on all sides by other land of the Commonwealth of Massachusetts.

The depth of the area subject to the AUL begins at a depth of approximately 2 feet below surface grade within this area, which comprises an approximate 17,835 square feet and extends 15 feet below the existing surface grade.



NOTE: THE PROPERTY IS SHOWN, IN PART, ON TWO PLANS RECORDED WITH THE MIDDLESEX COUNTY REGISTRY OF DEEDS IN PLAN BOOK 2008, PAGE 104, AND IN A PLAN DATED DECEMBER 26, 1903 AND REVISED IN 1922, WITH THE REMAINING PORTION OF THE PROPERTY BEING UNRECORDED LAND.



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

SKETCH PLAN OF DISPOSAL SITE
FERNALD CENTER - POWER PLANT
200 TRAPELO ROAD
WALTHAM, MASSACHUSETTS
RELEASE TRACKING NUMBER 3-13467

BY	DRAWN	CHECKED	CAD FILE NO.	SCALE	PROJECT NO.	DRAWING NUMBER
DATE	FJC	BFK	2/4/953-Exhibit B.dwg	AS NOTED	4953	EXHIBIT B
	2/4/08	2/15/08				

EXHIBIT "C"

March 6, 2008
Project No. 4953

Bureau of Waste Site Cleanup
Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
Wilmington, Massachusetts 01887

RE: **Activity and Use Limitation Opinion**
The Fernald Center - Power Plant
200 Trapelo Road
Waltham, Massachusetts
Release Tracking Number 3-13467

Dear Sir or Madam:

In accordance with the specifications of 310-CMR 40.1074, on behalf of the Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Mental Retardation (DMR), Coneco Engineers and Scientists (Coneco) has prepared the following Activity and Use Limitation (AUL) Opinion regarding the implementation of an AUL at the above-referenced property, hereinafter, the "Site."

Based upon the Method 1 Risk Characterization performed at the Site, a condition of "No Significant Risk" exists for all current uses of the Site; however, a condition of "No Significant Risk" does not exist for all potential future uses of the Site due to residual petroleum-impacted soil at the Site. To ensure that current and future risk is mitigated at the Site, an AUL is required in the Area of Concern which will limit soil exposure.

HISTORICAL BACKGROUND

Release Identification and Notification

Three No. 6 fuel oil underground storage tanks (USTs) were installed at the Site in 1954, with volumes ranging from 23,000 to 28,000 gallons. On February 20, 1996, personnel of the Fernald Center Power Plant reported that No. 6 fuel oil had released from these USTs and was seeping beneath a concrete retaining wall at the Site. This release reportedly impacted surficial and subsurface soil, an unnamed stream, and a pipe trench associated with the USTs. On this day, this release was reported to the Department of Environmental Protection - Northeast Regional Office (DEP-NERO). This release was assigned release tracking number (RTN) 3-13467.

Immediate Response Actions

At the request of DMR, Vertex Engineering Services, Incorporated (Vertex) of Weymouth, Massachusetts provided oversight for Immediate Response Action (IRA) activities including the deployment of oil absorbent pads and booms at the base of the retaining wall and in the adjacent stream to manually remove oil from the stream area.

An Immediate Response Action Plan (IRAP) was prepared by Vertex and submitted to the DEP-NERO on April 19, 1996. The IRAP consisted of the removal and replacement of the three USTs at the Site. These activities occurred between July and December of 1996. Approximately 1,000 cubic yards of soil and 15,000 gallons of groundwater were reportedly removed from the Site during IRA activities. The excavation was backfilled with clean fill and partially repaved after the completion of excavation activities. An IRA Completion Report was issued by Vertex on May 7, 1997.

Soil samples collected from the sidewalls and bottom of the excavation were submitted by Vertex for laboratory analysis of total petroleum hydrocarbons (TPH) by Environmental Protection Agency (EPA) Method 8100M. Laboratory analytical results of the soil samples indicated that elevated TPH concentrations remained in soil at the Site. As such, additional investigation activities were warranted.

Phase I - Initial Site Investigation / Tier Classification

A Phase I - Initial Site Investigation Report and Tier Classification Submittal were issued by Vertex on February 20, 1997. This investigation included a review of records available at state, federal, and local agencies, the performance of test borings, and the installation of seven groundwater monitoring wells at the Site. Four monitoring wells, designated MW-1 through MW-4, were installed outside the Fernald Power Plant building situated hydraulically upgradient and downgradient from the former USTs. Three monitoring wells, designated MW-B1 through MW-B3, were installed in the basement of the Fernald Power Plant building situated hydraulically crossgradient and downgradient from the former USTs. Soil samples collected during these subsurface investigation activities were submitted for laboratory analysis of TPH by EPA Method 8100M, polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270, and benzene, toluene, ethyl benzene, and xylenes (BTEX) by EPA Method 8020. Laboratory analytical results of the soil samples indicated that elevated TPH concentrations remained in soil at the Site.

On February 6, 1997, Vertex assessed groundwater conditions at the Site, including gauging and sampling of the monitoring wells. Observations regarding the presence of non-aqueous phase liquid (NAPL) were made at each viable on-Site groundwater monitoring well. NAPL thickness was measured in monitoring wells MW-B1 and MW-B2 at a thickness exceeding 0.5 inches. No evidence of NAPL was detected in monitoring wells at the Site that included MW-1 through MW-4, and MW-B3. As such, Vertex collected groundwater samples from these monitoring wells and submitted them for laboratory analysis of TPH by EPA Method 8100M. Based upon these observations and laboratory analysis of soil and groundwater at the Site, a condition of "No Significant Risk" did not exist at the Site.

In addition, the Site was evaluated using the Numerical Ranking System for scoring Disposal Sites for purposes of Tier Classification and permitting. The Site received a score of 270 points, classifying it as a Tier II Site having low priority regulatory status.

Phase II Scope of Work and Comprehensive Site Assessment

A Scope of Work for a Phase II - Comprehensive Site Assessment was prepared by Vertex and submitted to the DEP on June 13, 1997. The Scope of Work detailed activities to be conducted as part of the Phase II Investigation, in accordance with the Massachusetts Contingency Plan (MCP).

In August 1998, Vertex conducted a Phase II - Comprehensive Site Assessment at the Site which included additional sampling and analysis of the existing groundwater monitoring wells, and additional evaluation of the stream adjacent to the Site. On August 5, 1998, Vertex noted that an immiscible layer of NAPL was present in monitoring wells MW-B1 and MW-B2 in excess of 0.5 inches.

No evidence of NAPL was detected in monitoring wells MW-1 through MW-4, and MW-B3. As such, Vertex collected groundwater samples from these monitoring wells and submitted them for laboratory analysis of extractable petroleum hydrocarbons (EPH) by the DEP Method. Analytical results obtained from groundwater samples collected from MW-1 through MW-4, and MW-B3 did not indicate concentrations of EPH carbon fraction ranges exceeding the applicable DEP Method 1 Risk Characterization Standards.

Vertex evaluated environmental conditions within the stream adjacent to the Site and concluded that IRA activities had reduced concentrations of oil and/or hazardous materials to levels below the applicable DEP Method 1 Risk Characterization Standards.

In addition, the Phase II Report included an Exposure Assessment which concluded the extent of the contamination associated with RTN 3-13467 remaining at the Site was confined to a localized area completely covered by the concrete slab floor of the Power Plant building and an area under the north retaining wall of the UST location. Consequently, impacted soil remaining at the Site was categorized as "Isolated Sub-Surface Soils."

A Method 1 Risk Characterization was conducted to determine whether a condition of "No Significant Risk" existed at the Site. The results of the assessment were that no significant migration of the release had occurred at the Site either as a dissolved phase in groundwater, as separate phase in the soil, or through volatilization into indoor air at the Site. The results of the Risk Characterization concluded that a condition of "No Significant Risk" did not exist at the Site due to the presence of NAPL in monitoring wells MW-B1 and MW-B2 at a thickness greater than the applicable Upper Concentration Limit (UCL).

Phase III - Evaluation of Comprehensive Response Action Alternatives, and Class C Response Action Outcome

On June 25, 2002, Vertex completed a Phase III - Remedial Action Plan, and Class C Response Action Outcome for the Site. The Phase III Report identified and evaluated Remedial Action Alternatives which are reasonably feasible to achieve a level of "No Significant Risk" for the release. The Phase III Report also demonstrated that a Permanent Solution is not feasible and that any substantial hazards associated with the Site have been eliminated allowing the implementation of a Class C - Temporary Solution Response Action Outcome.

Quarterly Groundwater Monitoring

On August 1, 2003, Coneco initiated investigatory activities to assess groundwater conditions at the Site and determine if a condition of "No Significant Risk" was present at the Site. These activities included the collection of groundwater samples from viable monitoring wells at the Site between August 2003 and May 2007. Observations regarding the presence of NAPL and the depth to groundwater measurements were made by Coneco personnel at each viable on-Site groundwater monitoring well. On October 6, 2005, Coneco measured NAPL in MW-B2 at a thickness of 0.63 feet. During subsequent sampling events from January 20, 2006 to May 24, 2007, Coneco continued to measure NAPL thickness in monitoring wells at the Site, and NAPL thickness was never measured greater than 0.1 inches in any of the monitoring wells. Therefore, NAPL thickness present within monitoring wells at the Site, specifically MW-B2, has been reduced below the applicable UCL of 0.5 inches.

Stage I Environmental Screening

Based on the reported release of No. 6 fuel oil to the stream adjacent to the Site, a Stage I Environmental Screening was conducted by Coneco to characterize potential exposure to Site biota and habitats. Although the release of No. 6 fuel oil had reportedly impacted the stream adjacent to the Site, subsequent field observations by Coneco between August 2003 and May 2007 did not identify any residual persistent contamination. As such, Coneco is of the opinion that the results of this Screening indicate that no current or future exposure exists at the Site in relation to this release, and a condition of "No Significant Risk of Harm" to Site biota and habitats exists.

METHOD I RISK CHARACTERIZATION

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

The concentration of oil or hazardous material in a specific medium which a human or environmental receptor may contact at the Site is defined as the "Exposure Point Concentration" (EPC). Under the provisions of the MCP, the EPC for an area of contaminated soil and groundwater can be determined by taking an average of all the concentrations detected within a contiguous area, which in this case, constitutes the area impacted by the release of No. 6 fuel oil at the Site. For the purposes of this investigation, the horizontal limits of the Disposal Site are conservatively defined as an approximately 14,000 square-foot area encompassing the location of the former USTs and identified impacted soil and groundwater at the Power Plant, as depicted on Exhibit B. Vertically, the Disposal Site includes soil from approximately 2 feet below grade to 15 feet below grade.

Soil Risk Characterization

Analytical results obtained from soil samples collected by Vertex at the conclusion of excavation activities, and Geoprobe® test boring samples collected by Coneco during monitoring well installation at the Disposal Site were used to calculate the current EPCs. For EPH fraction ranges detected within the limits of the Disposal Site, the EPCs have been defined as the average concentration of the respective EPH fraction ranges detected within

the soil samples collected from the Disposal Site. In soil samples from which the specific fractionation ranges were not detected above the laboratory quantification limits, one-half of the laboratory quantification limit was used to calculate the EPC. In accordance with 310 CMR 40.0902(3) and 310 CMR 40.1020(2), a level of "No Significant Risk" exists for concentrations of oil and/or hazardous materials which have been reduced to "Background." As no concentrations of polycyclic aromatic hydrocarbons (PAHs) or C₁₁-C₂₂ Aromatic Hydrocarbons were identified in soil samples collected from the Site, these analytes were excluded from this Method 1 Risk Characterization. Soil analytical results, calculated EPCs, and the currently applicable Method 1 Risk Characterization Standards are presented below in Table 1.

Table 1 - Soil Exposure Point Concentrations

Sample ID (depth)	Date Collected	C ₉ -C ₁₈ Aliphatic Hydrocarbons	C ₁₉ -C ₃₆ Aliphatic Hydrocarbons	C ₁₁ -C ₂₂ Aromatic Hydrocarbons
Sidewall-West (12')	10/29/1996	170 ⁽¹⁾	380	NT ⁽²⁾
Sidewall-East (12')	10/29/1996	96	480	NT
Sidewall-North (12')	10/28/1996	10,000	15,000	NT
Bottom #1 (17')	10/28/1996	1,900	4,500	NT
Bottom #2 (17')	10/29/1996	730	1,200	NT
Pipeline (3')	11/1/1996	870	2,000	NT
MW-1 (5-7')	2/3/1997	53	450	NT
MW-2 (5-7')	2/3/1997	3	31	NT
MW-3 (5-7')	2/3/1997	13	74	NT
MW-4 (5-7')	2/3/1997	8	26	NT
MW-2B (2-4')	2/3/1997	7,200	12,000	NT
MW-3B (2-4')	2/3/1997	2	12	NT
GP-01/S2 (3-5')	5/17/2007	<40.0	<40.0	<40.0
GP-02/S6 (13-15')	5/17/2007	<30.4	<30.4	<30.4
EPC Value		1,438.7	2,412.6	15.2
DEP Method 1 S-1/GW-2/3 Risk Characterization Standards ⁽³⁾		1,000	2,500	800
DEP Method 1 S-3/GW-2/3 Risk Characterization Standards ⁽³⁾		5,000	5,000	5,000

Notes: 1) Analytical results and Method 1 Risk Characterization Standards are presented in mg/kg.
 2) NT denotes sample not tested for specified analyte
 3) DEP Method 1 Risk Characterization standards are listed in 310 CMR 40.0974 and derived in Section 5.1

Although the Method 1 S-3 GW-2/3 Risk Characterization Standards are currently applicable for the Disposal Site, the more conservative Method 1 S-1 GW-2/3 Risk Characterization Standards are used to protect potential future Site uses. Therefore, a condition of "No Significant Risk" exists at the Disposal Site for current uses; however, a condition of "No Significant Risk" does not exist for potential future uses. The more stringent S-1 GW-2/3

Risk Characterization Standards will be achieved by implementing an Activity and Use Limitation.

Groundwater Risk Characterization

Pursuant to Policy WSC-02-411 Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of the MADEP VPH/EPH Approach, Coneco obtained data from Site monitoring wells on a quarterly basis to determine if a condition of "No Significant Risk" exists at the Disposal Site. On October 6, 2005, Coneco measured NAPL in MW-B2 at a thickness of 0.63 feet exceeding the applicable UCL of 0.5 inches presented in 310 CMR 40.0996(6). During the subsequent sampling events from January 20, 2006 to May 24, 2007, Coneco continued to measure NAPL thickness in monitoring wells at the Site, and NAPL thickness was never measured greater than 0.1 inches in any of the monitoring wells. Therefore, NAPL thickness present within monitoring wells at the Site, specifically MW-B2, have been reduced below the applicable UCL of 0.5 inches as presented in 310 CMR 40.0996(6).

Analytical results obtained from groundwater samples collected from viable on-Site monitoring wells by Coneco during sampling event between January 20, 2006 and May 24, 2007 were used to calculate the current EPCs. For EPH fraction ranges detected within the limits of the Disposal Site, the EPCs have been defined as the average concentration of the respective EPH fraction ranges detected within the groundwater samples collected from viable groundwater monitoring wells at the Site. In groundwater samples from which the specific fractionation ranges were not detected above the laboratory quantification limits, one-half of the laboratory quantification limit was used to calculate the EPC.

In accordance with 310 CMR 40.0902(3) and 310 CMR 40.1020(2), a level of "No Significant Risk" exists for concentrations of oil and/or hazardous materials which have been reduced to "Background." As no concentrations of PAHs were identified in groundwater samples collected from monitoring wells at the Site between January 20, 2006 and May 24, 2007, these analytes were excluded from this Method 1 Risk Characterization. The calculated EPCs for groundwater analytes and the currently applicable Method 1 Risk Characterization Standards are presented below in Table 2.

**Table 2 - Groundwater Exposure Point Concentration Values –
January 20, 2006 through May 24, 2007**

Monitoring Well	C ₇ -C ₁₈ Aliphatic Hydrocarbon EPC	C ₁₉ -C ₃₆ Aliphatic Hydrocarbon EPC	C ₁₁ -C ₂₂ Aromatic Hydrocarbon EPC
MW-1	100.00 ⁽¹⁾	266.67	100.00
MW-2	100.00	100.00	100.00
MW-3	100.00	100.00	100.00
MW-4	100.00	100.00	100.00
MW-B1	300.00	566.67	800.00
MW-B2	100.00	100.00	233.33
MW-B3	100.00	100.00	100.00
CMW-1	100.00	100.00	100.00
CMW-2	100.00	100.00	100.00
DEP Method 1 GW-2 Risk Characterization Standards ⁽²⁾	1,000	NA ⁽³⁾	50,000
DEP Method 1 GW-3 Risk Characterization Standards	20,000	20,000	30,000
Notes: 4) Analytical results and Method 1 Risk Characterization Standards are presented in µg/l. 5) DEP Method 1 Risk Characterization standards are listed in 310 CMR 40.0974 and derived in Section 5.1. 6) NA denotes no standards have been promulgated.			

The calculated EPCs for groundwater samples collected from monitoring wells at the Site on a quarterly basis between January 20, 2006 and May 24, 2007 are below the currently applicable Method 1 Risk Characterization Standards. Therefore, a condition of "No Significant Risk" exists for groundwater at the Disposal Site.

ACTIVITY AND USE LIMITATION

Based upon analytical data collected during Coneco's investigations, the area subject to the AUL is depicted in plan view in Exhibit B and is registered at the Middlesex County Registry of Deeds in Plan Book 2008, Page 104. The description of the soil subject to the Activity and Use Limitation is provided below. Prohibited activities include the following:

- The use of buildings located with the Portion of the Property as an office, store, residence, school, or daycare;
- The cultivation of fruits and vegetables destined for human consumption (e.g., gardening);
- Recreational activities, such as playing baseball, swimming, fishing and hiking;
- Leisure activities, such as picnicking, sunbathing and entertaining;
- Relocation of the contaminated soils within the designated AUL Area unless an LSP Opinion is rendered which attests that a condition of "No Significant Risk" is maintained, consistent with the provisions of the MCP;

- Any subsurface activity or excavation which may result in direct contact with, disturbance, or relocation of contaminated soils between 2 and 15 feet which is not conducted in accordance with Obligations of the Notice of AUL.

The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur within the designated AUL Area:

- Any activities and uses consistent with the current use of the Portion of the Property as a Power Plant facility and parking area;
- Activities and uses including, but not limited to, maintenance of the asphalt-paved driveway and parking area within the designated AUL Area which do not cause direct contact with, disturbance, or relocation of, the contaminated soil within the designated AUL Area;
- Excavation associated with limited short term utility work which may be deemed necessary within the designated AUL Area, provided that it is conducted in accordance with the performance standards for Utility Related Abatement Measures (URAMs) set forth by the MCP at 310 CMR 40.0030, and all applicable worker health and safety practices pursuant to 310 CMR 40.0018;
- Subsurface activities and/or construction, including but not limited to excavation associated with future construction of buildings and other improvements to support permitted uses on the property which may disturb contaminated soils, provided that such work is conducted in accordance with a Soil Management Plan developed in accordance with Obligation (ii) as set forth in Notice of AUL Item 3.
- Activities and uses not expressly prohibited by the Notice of AUL;
- Such other activities and uses which, in the Opinion of a LSP, as defined in 310 CMR 40.0006, shall present no greater risk of harm to health, safety, public welfare, or the environment than the activities and uses set forth in this paragraph.

A metes and bounds description of the area subject to the AUL is as follows:

COMMENCING Commencing at a drill hole in a stone bound on the southeasterly line of Waverley Oaks Road, said bound lying N 51° 29' 49" E a distance of 1051.13 feet from the center of a stone bound also on the southeasterly line of Waverley Oaks Road which marks the point of curvature at the intersection of the northeasterly line of Beaver Street with the southeasterly line of Waverly Oaks Road;

THENCE N 47°27'49" W for a distance of 579.87 feet to the point of beginning of the herein described AUL area;

THENCE S 10°40'10" W a distance of 123.00 feet;

THENCE N 79°19'50" W a distance of 145.00 feet;

THENCE N 10°40'10" E a distance of 123.00 feet;

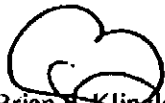
THENCE S 79°19'50"E a distance of 140.00 feet to the point of beginning.

Containing 17,835 Square Feet and bounded on all sides by other land of the Commonwealth of Massachusetts. The depth of the area subject to the AUL begins at a depth of approximately 2 feet below surface grade and extends 15 feet below the existing surface grade.

Notifications to the Chief Municipal Officer, Health Department, Zoning Official, and Building Department, as well as a published legal notice have been made within 30 days of the AUL submittal.

If there are any questions, please contact the undersigned at (508) 697-3191, extension 103.

Sincerely,
Coneco Engineers & Scientists, Incorporated

A handwritten signature in black ink, appearing to read "Brian F. Klingler", written over a circular stamp or seal.

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

Exhibit E

I, Elin M. Howe, do hereby certify that the property identified as "The Fernald Center" located at 200 Trapelo Road in Waltham, Massachusetts is owned by the Commonwealth of Massachusetts. In addition, the Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Mental Retardation conducts operations at the above mentioned property. As ~~Acting~~ Commissioner of the Department of Mental Retardation, I have the authority to sign legal documents on behalf of the Commonwealth.

Elin M. Howe

Elin M. Howe

Eugene C. Prime
Attest Middlesex S. Register

NOTICE OF AN ACTIVITY AND USE LIMITATION

**FERNAL CENTER - POWER PLANT
200 TRAPELO ROAD
WALTHAM, MASSACHUSETTS
RELEASE TRACKING NUMBER 3-13467**

Pursuant to the Massachusetts Contingency Plan 310 CMR 40.1074, an Activity and Use Limitation (AUL) has been issued for the above-referenced location.

A release of petroleum products occurred at this location which is a Disposal Site (defined by M.G.L. c. 21E, Section 2). A Class A-3 Response Action Outcome (RAO) was achieved at this site. The AUL for the Fernald Center Power Plant at 200 Trapelo Road was recorded at the Middlesex County Registry of Deeds and is available for review as Document No. 00041170. The RAO Report can be viewed at the Department of Environmental Protection Northeast Regional Office (DEP NERO). In addition, the Chief Municipal Official, Board of Health, the Zoning Official, and the Building Code Enforcement Official of Waltham have received copies of the Activity and Use Limitation, pursuant to the Massachusetts Contingency Plan 310 CMR 40.1074.

Response actions at this site were conducted by the Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Mental Retardation, who employed Coneco Engineers & Scientists, Incorporated of Bridgewater, Massachusetts to manage response actions in accordance with the Massachusetts Contingency Plan (310 CMR 40.0000). To obtain more information on this Disposal Site, please contact Mr. Brian F. Klingler, P.G., L.S.P., Principal Geologist, of Coneco Engineers & Scientists, Incorporated at 4 First Street, Bridgewater, Massachusetts, 02324, or at (508) 697-3191.

**AUL Transmittal Form (BWSC-113)
and AUL Opinion Form (BWSC-113A)**



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113

J.K

ACTIVITY & USE LIMITATION (AUL) TRANSMITTAL FORM

Release Tracking Number

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

3 - 13467

A. DISPOSAL SITE LOCATION:

1. Disposal Site Name: **POWER PLANT NEAR WAVERLY OAKS ENTRANCE**

2. Street Address: **200 TRAPELO RD**

3. City/Town: **WALTHAM**

4. ZIP Code: **02154-0000**

☒ 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 one)

☒ 1. Submit a certified copy of a **Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1074.

☐ 2. Submit an **Evaluation of Changes in Land Uses/Activities and/or Site Conditions after a Response Action Outcome Statement** has been filed pursuant to 310 CMR 40.1080.

☐ 3. Submit a certified copy of an **Amended Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1081

☐ 4. Submit a certified copy of a **Partial Termination of a Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1083(3).

☐ 5. Submit a certified copy of a **Termination of a Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1083(1)(d).

☐ 6. Submit a certified copy of a **Grant of Environmental Restriction**, pursuant to 310 CMR 40.1071.

☐ 7. Submit a certified copy of an **Amendment of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1081(3).

☐ 8. Submit a certified copy of a **Partial Release of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1083(2).

☐ 9. Submit a certified copy of a **Release of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1083(1)(c).

☐ 10. Submit a certified copy of a **Confirmatory Activity and Use Limitation**, pursuant to 310 CMR 40.1085(4).

11. Provide Additional RTNs:

☐ a. Check here if this AUL Submittal covers additional Release Tracking Numbers (RTNs).

b. Provide the additional Release Tracking Number(s) covered by this AUL Submittal.

☐ -

☐ - **RECEIVED**

MAR 21 2008

(All sections of this transmittal form must be filled out unless otherwise noted above.
BWSC113A is required for all submittals listed above)

DEP
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Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113

ACTIVITY & USE LIMITATION (AUL) TRANSMITTAL FORM

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

Release Tracking Number

3 - 13467

C. AUL INFORMATION:

1. Document (per Section B) Recording and/or Registration Information:

a. Name of Registry of Deeds and/or Land Registration Office: **MIDDLESEX COUNTY REGISTRY OF DEEDS**

b. Book and Page Number and/or Document Number:

c. Date of recording and/or registration:

mm/dd/yyyy

2. Is the address of the property subject to AUL different from the disposal site address listed above?

☒ a. No ☐ b. Yes If yes, then fill out address section below.

3. Street Address:

4. City/Town: 5. ZIP Code:

D. PERSON SUBMITTING AUL TRANSMITTAL FORM:

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: **COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF MENTAL RETARDATION**

3. Contact First Name: **ELIN M**

4. Last Name: **HOWE**

5. Street: **500 HARRISON AVENUE**

6. Title: **COMMISSIONER**

7. City/Town: **BOSTON**

8. State: **MA**

9. ZIP Code: **02118-0000**

10. Telephone: **6177275608**

11. Ext.:

12. FAX: **6176247577**

13. Is the person described in this section the owner of the property?

☒ a. Yes ☐ b. No, if checked then Section G must be filled out by at least one owner.

☐ c. Check here if providing names and addresses of any additional owners in an attachment.

E. RELATIONSHIP TO DISPOSAL SITE OF PERSON SUBMITTING AUL TRANSMITTAL FORM: (check one)

☒ 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 Submitting AUL Specify:



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113

ACTIVITY & USE LIMITATION (AUL) TRANSMITTAL FORM

Release Tracking Number

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

3 - 13467

F. REQUIRED ATTACHMENT AND SUBMITTALS:

- ☐ 1. Check here to certify that notice of the proposed Activity and Use Limitation (AUL) was given to all record-interest holders, if any, in accordance with 310 CMR 40.1074(1)(e), via certified mail.
- ☒ a. Check here if there were no record interest holders. b. Date of certified mailing: _____
mm/dd/yyyy
- ☐ c. Check here to certify that names and addresses of all record holders notified is attached.
- ☒ 2. Check here to certify that within 30 days of recording and/or registering the AUL, including amending, releasing or terminating the AUL, a copy of the AUL was/will be provided to the Chief Municipal Officer, the Board of Health, the Zoning Official, and the Building Code Enforcement Official in the community(ies) where the the property subject to such Activity and Use Limitation is located.
- ☒ 3. Check here to certify that within 30 days of recording and/or registering the AUL, including amending, releasing or terminating the AUL, a Legal Notice was/will be published in a newspaper with circulation in the community(ies) where the property subject to the AUL is located.
- ☒ 4. Check here to certify that within 7 days of publishing a Legal Notice in a newspaper with circulation in the community(ies) where the property subject to the AUL is located, a copy of the notice was/will be submitted to DEP.
- ☒ 5. Check here to certify that within 30 days of recording and/or registering the AUL, including amending, releasing or terminating the AUL, a certified copy of the AUL, including the LSP Opinion containing the material facts, data, and other information, will be submitted to DEP.
- ☐ 6. 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.
- ☐ 7. If an **Evaluation of Changes in Land Uses/Activities and/or Site Conditions after a Response Action Outcome Statement** is being submitted, check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

G. CERTIFICATION OF OWNER OF PROPERTY, IF NOT PERSON SUBMITTING AUL TRANSMITTAL FORM:

1. I, _____, attest under the pains and penalties of perjury that I am the owner of said property(ies), subject to the AUL

2. _____ 3. Date: _____
Signature mm/dd/yyyy

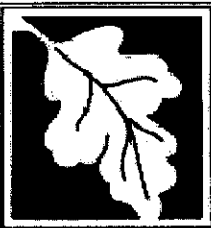
4. Name of Organization: _____

5. Contact First Name: _____ 6. Last Name: _____

7. Street: _____ 8. Title: _____

9. City/Town: _____ 10. State: _____ 11. ZIP Code: _____

12. Telephone: _____ 13. Ext.: _____ 14. FAX: _____



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113

ACTIVITY & USE LIMITATION (AUL) TRANSMITTAL FORM

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

Release Tracking Number

3 - 13457

H. CERTIFICATION OF PERSON MAKING SUBMITTAL:

1. I, Elin M. Howe, 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.

Pursuant to 310 CMR 40.1074 (1)(f), I also hereby certify under penalties of perjury, that either I (if person submitting the AUL Transmittal Form is the property owner), or

2. Name of Property Owner

am/is identified on the Notice of AUL as the owner of the property subject to the AUL, owned such property on the date that the AUL was recorded and /or registered

3. By: Elin M. Howe
Signature

4. Title: **COMMISSIONER**

5. For: **COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF M**
(Name of person or entity recorded in Section D)

6. Date: 03/11/2008
mm/dd/yyyy

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

8. Street: _____

9. City/Town: _____ 10. State: _____ 11. ZIP Code: _____

12. Telephone: _____ 13. Ext.: _____ 14. FAX: _____

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

Date Stamp (DEP USE ONLY:)



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113A ✓

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

Release Tracking Number

3 - 13467

A. DISPOSAL SITE LOCATION:

1. Disposal Site Name: POWER PLANT NEAR WAVERLY OAKS ENTRANCE

2. Street Address: 200 TRAPELO RD

3. City/Town: WALTHAM

4. ZIP Code: 02154-0000

B. THIS FORM IS BEING USED TO: (check one)

- ☒ 1. Provide the LSP Opinion for a **Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1074.
- ☐ 2. Provide the LSP Opinion for an **Evaluation of Changes in Land Uses/Activities and/or Site Conditions after a Response Action Outcome Statement**, pursuant to 310 CMR 40.1080. Include BWSC113A as an attachment to BWSC113. Section A and C do not need to be completed.
- ☐ 3. Provide the LSP Opinion for an **Amended Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1081(4).
- ☐ 4. Provide the LSP Opinion for a **Partial Termination of a Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1083(3).
- ☐ 5. Provide the LSP Opinion for a **Termination of a Notice of Activity and Use Limitation**, pursuant to 310 CMR 40.1083(1)(d).
- ☐ 6. Provide the LSP Opinion for a **Grant of Environmental Restriction**, pursuant to 310 CMR 40.1071.
- ☐ 7. Provide the LSP Opinion for an **Amendment of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1081(3).
- ☐ 8. Provide the LSP Opinion for a **Partial Release of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1083(2).
- ☐ 9. Provide the LSP Opinion for a **Release of a Grant of Environmental Restriction**, pursuant to 310 CMR 40.1083(1)(c).
- ☐ 10. Provide the LSP Opinion for a **Confirmatory Activity and Use Limitation**, pursuant to 310 CMR 40.1085(4).

(Unless otherwise noted above, all sections of this form (BWSC113A) must be completely filled out, printed, stamped, signed with black ink and attached as an exhibit to the AUL Document to be recorded and/or registered with the Registry of Deeds and/or Land Registration Office.)

C. AUL INFORMATION:

1. Is the address of the property subject to AUL different from the disposal site address listed above?

☒ a. No ☐ b. Yes If yes, then fill out address section below.

2. Street Address:

3. City/Town:

4. ZIP Code:

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MAR 21 2008

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Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC113A

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

Release Tracking Number

3 - 13467

D. LSP SIGNATURE AND STAMP:

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

> if Section B indicates that a **Notice of Activity and Use Limitation** is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1074;

> if Section B indicates that an **Evaluation of Changes in Land Uses/Activities and/or Site Conditions after a Response Action Outcome Statement** is being submitted, this evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1080;

> if Section B indicates that an **Amended Notice of Activity and Use Limitation or Amendment to a Grant of Environmental Restriction** is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 40.1081;

> if Section B indicates that a **Termination or a Partial Termination of a Notice of Activity and Use Limitation, or a Release or Partial Release of a Grant of Environmental Restriction** is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1083;

> if Section B indicates that a **Grant of Environmental Restriction** is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1071;

> if Section B indicates that a **Confirmatory Activity and Use Limitation** is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1085(4);

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

1. LSP #: 8493

2. First Name: BRIAN F

3. Last Name: KLINGLER

4. Telephone: 5086973191

5. Ext.:

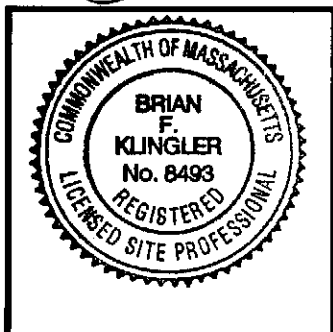
6. FAX:

7. Signature: 

8. Date: 3-13-08

mm/dd/yyyy

9. LSP Stamp:



**RAO Transmittal Form (BWSC-104)
and Copies of Municipal and Public Notification Letters**

**RAO Transmittal Form (BWSC-104)
and Copies of Municipal and Public Notification Letters**



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

March 19, 2008
Project No. 4953


Mayor Jeannette A. McCarthy
Waltham City Hall, Second Floor
610 Main Street
Waltham, Massachusetts 02452

RE: Public Involvement Notification
Class A-3 Response Action Outcome Report
The Fernald Center - Power Plant
200 Trapelo Road
Waltham, Massachusetts
Release Tracking Number 3-13467

Dear Mayor McCarthy

Pursuant to 310 CMR 40.1403 of the Massachusetts Contingency Plan (MCP), the following serves as written notification for the submittal of a Class A-3 Response Action Outcome and Activity and Use Limitation (AUL) for the release of No. 6 fuel oil from three underground storage tanks formerly located at the Fernald Center Power Plant located at 200 Trapelo Road in Waltham, Massachusetts, hereinafter, the "Site." The Department of Environmental Protection - Northeast Regional Office (DEP-NERO) was first notified of the release on February 20, 1996 and the Site was assigned Release Tracking Number (RTN) 3-13467. The Response Action Outcome Statement was issued to the DEP-NERO on March 19, 2008. Please find a copy of a Registry of Deeds-certified copy of the above mentioned AUL enclosed with this letter. A copy of the referenced report is available for review at the DEP-NERO. If you have any questions, please contact the undersigned.

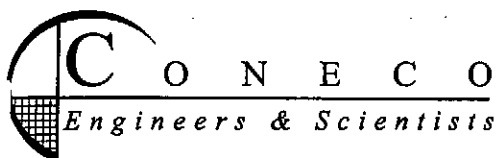
Sincerely,
Coneco Engineers & Scientists, Incorporated



Brian F. Klingler, PG, LSP
Principal Geologist

FJC:BFK:jd
Z://4953 - AUL Public Involvement Notices.doc

cc: DEP-NERO
Ms. Ellen M. Howe, DMR
Mr. Walter S. Sweder, Board of Health
Mr. Ronald G. Vokey, Planning Department



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

March 19, 2008
Project No. 4953


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

RE: **Public Involvement Notification**
Class A-3 Response Action Outcome Report
The Fernald Center - Power Plant
200 Trapelo Road
Waltham, Massachusetts
Release Tracking Number 3-13467

Dear Mr. Sweder:

Pursuant to 310 CMR 40.1403 of the Massachusetts Contingency Plan (MCP), the following serves as written notification for the submittal of a Class A-3 Response Action Outcome and Activity and Use Limitation (AUL) for the release of No. 6 fuel oil from three underground storage tanks formerly located at the Fernald Center Power Plant located at 200 Trapelo Road in Waltham, Massachusetts, hereinafter, the "Site." The Department of Environmental Protection - Northeast Regional Office (DEP-NERO) was first notified of the release on February 20, 1996 and the Site was assigned Release Tracking Number (RTN) 3-13467. The Response Action Outcome Statement was issued to the DEP-NERO on March 19, 2008. Please find a copy of a Registry of Deeds-certified copy of the above mentioned AUL enclosed with this letter. A copy of the referenced report is available for review at the DEP-NERO. If you have any questions, please contact the undersigned.

Sincerely,
Coneco Engineers & Scientists, Incorporated



Brian F. Klingler, PG, LSP
Principal Geologist

FJC:BFK:jd
Z://4953 - AUL Public Involvement Notices.doc

cc: DEP-NERO
Ms. Ellen M. Howe, DMR
Mayor Jeannette A. McCarthy
Mr. Ronald G. Vokey, Planning Department



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ENVIRONMENTAL CONSULTING
REGULATORY COMPLIANCE & PLANNING

March 19, 2008
Project No. 4953

Mr. Ronald G. Vokey
Planning Director
City of Waltham Planning Department
119 School Street, Top Floor
Waltham, Massachusetts 02451

RE: Public Involvement Notification
Class A-3 Response Action Outcome Report
The Fernald Center - Power Plant
200 Trapelo Road
Waltham, Massachusetts
Release Tracking Number 3-13467

Dear Mr. Vokey:

Pursuant to 310 CMR 40.1403 of the Massachusetts Contingency Plan (MCP), the following serves as written notification for the submittal of a Class A-3 Response Action Outcome and Activity and Use Limitation (AUL) for the release of No. 6 fuel oil from three underground storage tanks formerly located at the Fernald Center Power Plant located at 200 Trapelo Road in Waltham, Massachusetts, hereinafter, the "Site." The Department of Environmental Protection - Northeast Regional Office (DEP-NERO) was first notified of the release on February 20, 1996 and the Site was assigned Release Tracking Number (RTN) 3-13467. The Response Action Outcome Statement was issued to the DEP-NERO on March 19, 2008. Please find a copy of a Registry of Deeds-certified copy of the above mentioned AUL enclosed with this letter. A copy of the referenced report is available for review at the DEP-NERO. If you have any questions, please contact the undersigned.

Sincerely,
Coneco Engineers & Scientists, Incorporated

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

Brian F. Klingler, PG, LSP
Principal Geologist

FJC:BFK:jd
Z://4953 - AUL Public Involvement Notices.doc

cc: DEP-NERO
Ms. Ellen M. Howe, DMR
Mayor Jeannette A. McCarthy
Mr. Walter S. Sweder, Board of Health

**RESPONSE ACTION OUTCOME (RAO) STATEMENT &
DOWNGRADIANT PROPERTY STATUS TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking

3 - 13467

DOWNGRADIANT PROPERTY STATUS SUBMITTAL:

If a Downgradient Property Status Submittal Compliance Fee is required, check here to certify that the fee has been submitted. You **MUST** attach a photocopy of the payment.

☐ Check here if a Release(s) of Oil or Hazardous Material(s), other than that which is the subject of this submittal, has occurred at this property.

Release Tracking _____

☐ Check here if the Releases identified above require further Response Actions pursuant to 310 CMR 40.0000.

Required documentation for a Downgradient Property Status Submittal includes, but is not limited to, copies of notices provided to owners and operators of both upgradient and downgradient abutting properties and of any known or suspected source properties.

H. LSP OPINION:

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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> If Section B indicates that a Downgradient Property Status Submittal 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 310 CMR 40.0183(2)(b), and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> 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.

☐ 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 of such order(s), permit(s) and/or approval(s).

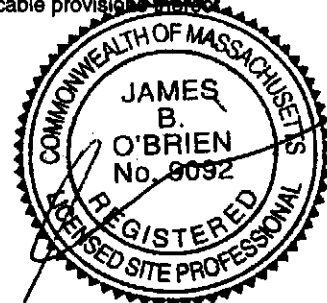
LSP Name: James B. O'Brien LSP #: 9092 Stamp: _____

Telephone: 781-952-6000 Ext.: _____

FAX: (optional) _____

Signature: _____

Date: 6-14-02



I. PERSON MAKING SUBMITTAL:

Name of Commonwealth of Massachusetts Department of Mental Retardation

Name of John Sites Title: Dir. Facilities Management

Street: 500 Harrison Avenue

City/Town: Boston State: MA ZIP Code: 02154-0000

Telephone: 617-624-7886 Ext.: _____ FAX: _____

J. RELATIONSHIP TO SITE OF PERSON MAKING SUBMITTAL: (check one)

☒ RP or PRP Specify: ☒ Owner ☐ Operator ☐ Generator ☐ Transporter Other RP or PRP: _____

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

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

☐ Any Other Person Submitting This Form Specify _____

**RESPONSE ACTION OUTCOME (RAO) STATEMENT &
DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking

3

13467

CERTIFICATION OF PERSON SUBMITTING DOWNGRADIENT PROPERTY STATUS SUBMITTAL:

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 the/those individual(s) immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge, information and belief, true, accurate and complete; (iii) that, to the best of my knowledge, information and belief, I/the person(s) or entity(ies) on whose behalf this submittal is made satisfy(ies) the criteria in 310 CMR 40.0183(2); (iv) that I/the person(s) or entity(ies) on whose behalf this submittal is made have provided notice in accordance with 310 CMR 40.0183(5); and (v) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is/are aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: _____ Title: _____
(signature)

For: _____ Date: _____
(print name of person or entity recorded in Section I)

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

Street: _____

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

Telephone: _____ Ext.: _____ FAX: (optional) _____

L. CERTIFICATION OF PERSON MAKING SUBMITTAL:

If you are completing only a Downgradient Property Status Submittal, you do not need to complete this section of the form.

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

By: [Signature] Title: Dir. Facilities Management
(signature)

For: John Sites Date: 6/25/02
(print name of person or entity recorded in Section I)

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

Street: _____

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

Telephone: _____ Ext.: _____ FAX: (optional) _____

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