

TRC Reference Number: E9202

April 20, 2006

Ms. Anna Mayor
Bureau of Waste Site Cleanup
Massachusetts Department of Environmental Protection
205B Lowell Street
Wilmington, Massachusetts 01887

Subject: Remedy Operation Status Opinion
Reference Site: Former GE Facility (RTN# 3-0518)
Wilmington, Massachusetts

Dear Ms. Mayor,

Enclosed please find a copy of the above referenced report for the Former GE Facility (RTN# 3-0518), located on 50 Fordham Road in Wilmington, Massachusetts.

Should you have any questions or comments, please feel free to call our office.

Sincerely,



Paola E. Macchiaroli, Ph.D.
Senior Project Manager

Enclosure

cc: Bruce Hoskins, LSP, Nobis Engineering
Paul Calligan, Lockheed Martin Corporation
Frank Dardeno, Sr., Wilmington Realty Trust
Frank Bomba, Wilmington Realty Trust (w/o enclosure)
Alan Shafner, Ametek Aerospace, Inc.
Reading Town Library Repository
Gina Snyder, Key PIP Petitioner (w/o enclosure)

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Bureau of Waste Site Cleanup

BWSC108 J.K.

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT

Release Tracking Number

3 - 518

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

A. SITE LOCATION:

1. Site Name: GENERAL ELECTRIC CO FMR

2. Street Address: 50 FORDHAM RD

3. City/Town: WILMINGTON

4. ZIP Code: 01887-0000

5. UTM Coordinates: a. UTM N: 4714267 b. UTM E: 324653

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

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

7. If applicable, provide the Permit Number: 83052

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

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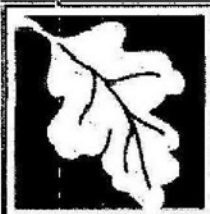
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- ☐ 1. Submit a Phase I Completion Statement, pursuant to 310 CMR 40.0484.
- ☐ 2. Submit a Revised Phase I Completion Statement, pursuant to 310 CMR 40.0484.
- ☐ 3. Submit a Phase II Scope of Work, pursuant to 310 CMR 40.0834.
- ☐ 4. Submit an interim Phase II Report. This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.
- ☐ 5. Submit a final Phase II Report and Completion Statement, pursuant to 310 CMR 40.0836.
- ☐ 6. Submit a Revised Phase II Report and Completion Statement, pursuant to 310 CMR 40.0836.
- ☐ 7. Submit a Phase III Remedial Action Plan and Completion Statement, pursuant to 310 CMR 40.0862.
- ☐ 8. Submit a Revised Phase III Remedial Action Plan and Completion Statement, pursuant to 310 CMR 40.0862.
- ☐ 9. Submit a Phase IV Remedy Implementation Plan, pursuant to 310 CMR 40.0874.
- ☐ 10. Submit a Modified Phase IV Remedy Implementation Plan, pursuant to 310 CMR 40.0874.
- ☐ 11. Submit an As-Built Construction Report, pursuant to 310 CMR 40.0875.
- ☐ 12. Submit a Phase IV Status Report, pursuant to 310 CMR 40.0877.
- ☐ 13. Submit a Phase IV Completion Statement, pursuant to 310 CMR 40.0878 and 40.0879.

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

- ☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Response Action Outcome.
- ☐ b. The requirements of a Class A Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.
- ☐ c. The requirements of a Class C Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.
- ☐ d. The requirements of a Class C Response Action Outcome have been met. Further Operation, Maintenance or Monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.

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



**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT**

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3 - 518

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

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

- ☐ 14. Submit a **Revised Phase IV Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879.
- ☐ 15. Submit a **Phase V Status Report**, pursuant to 310 CMR 40.0892.
- ☐ 16. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP.)
- a. Type of Report: (check one) ☐ i. Initial Report ☐ ii. Interim Report ☐ iii. Final Report
- b. Frequency of Submittal: (check all that apply)
- ☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.
- ☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.
- ☐ iii. A Remedial Monitoring Report(s) submitted concurrent with a Status Report.
- c. Status of Site: (check one) ☐ i. Phase V ☐ ii. Remedy Operation Status ☐ iii. Class C RAO
- d. Number of Remedial Systems and/or Monitoring Programs:

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

- ☒ 17. Submit a **Remedy Operation Status**, pursuant to 310 CMR 40.0893.
- ☐ 18. Submit a **Status Report to maintain a Remedy Operation Status**, pursuant to 310 CMR 40.0893(2).
- ☐ 19. Submit a **Modification of a Remedy Operation Status**, pursuant to 310 CMR 40.0893(5).
- ☐ 20. Submit a **Termination of a Remedy Operation Status**, pursuant to 310 CMR 40.0893(6).
- ☐ 21. Submit a **Phase V Completion Statement**, pursuant to 310 CMR 40.0894.

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

- ☐ a. The requirements of a Class A Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC104) will be submitted to DEP.
- ☐ b. The requirements of a Class C Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.
- ☐ c. The requirements of a Class C Response Action Outcome have been met. Further Operation, Maintenance or Monitoring of the remedial action is necessary to ensure that conditions are maintained and/or that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.
- ☐ 22. Submit a **Revised Phase V Completion Statement**, pursuant to 310 CMR 40.0894.
- ☐ 23. Submit a **Post-Class C Response Action Outcome Status Report**, pursuant to 310 CMR 40.0898.

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



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC108

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

C. LSP SIGNATURE AND STAMP:

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

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

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

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

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

1. LSP #: 7109

2. First Name: BRUCE A

3. Last Name: HOSKINS

4. Telephone: (603) 893-0616 (978) 683-0891

5. Ext.:

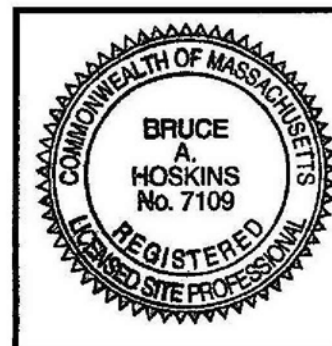
6. FAX: (978) 683-0966

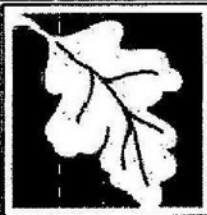
7. Signature:

8. Date: 04/20/2006

(mm/dd/yyyy)

9. LSP Stamp:





Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

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COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
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Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

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

2. Name of Organization: TRC ENVIRONMENTAL CORP

3. Contact First Name: JOSEPH

4. Last Name: YEASTED

5. Street: BOOTT MILLS SOUTH

6. Title: VP

7. City/Town: LOWELL

8. State: MA

9. ZIP Code: 01852-0000

10. Telephone: (978) 970-5600

11. Ext.:

12. FAX:

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS:

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

☒ e. Other RP or PRP Specify: OTHER PRPS

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

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

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

F. REQUIRED ATTACHMENT AND SUBMITTALS:

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

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

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

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

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

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

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

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

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



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

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COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
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Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

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

2. By: *Joseph Yeasted* - TRC Project Manager
Signature

3. Title: **VP**

4. For: **TRC ENVIRONMENTAL CORP**
(Name of person or entity recorded in Section D)

5. Date: **04/20/2006**
(mm/dd/yyyy)

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

7. Street:

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

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

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

Date Stamp (DEP USE ONLY:)

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VIA

REMEDY OPERATIONS STATUS OPINION

50 Fordham Rd. Wilmington
Former GE Facility (RTN# 3-0518)
Wilmington, Massachusetts

Submitted to:

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

Prepared by:

TRC Environmental Corporation
Boott Mills South
Foot of John Street
Lowell, Massachusetts 01852

TRC Project No.: E9202

April 2006

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Table 1. Groundwater Monitoring Schedule

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1.0 INTRODUCTION

1.1 Purpose of Report

The following presents an Opinion for Remedy Operation Status (ROS) at the former General Electric (GE) Facility located at 50 Fordham Road in Wilmington, Massachusetts. This report conforms to the regulatory requirements under 310 CMR 40.0893(3) of the Massachusetts Contingency Plan (MCP) for a ROS Opinion submittal. The site is currently listed as a Tier IA site with Release Tracking Number 3-0518.

The site characterization is complex and a great deal of time and effort was spent to fully understanding the nature and extent of contamination. From 2000 thru 2004, the focus shifted towards implementing appropriate remedial actions to effectively treat, remove, or reduce the level of contaminants at the site. As such, three of the four areas of concern (AOCs) at this site achieved Phase V Operation, Monitoring, and Maintenance Status. During the past two years, response actions were completed at the fourth AOC (Outfalls 001 and 002), resulting in a Partial Response Action Outcome (RAO) Statement for this AOC.

Per 310 CMR 40.0893, as active treatment operations continue at two of the AOCs, the site will now operate under ROS in lieu of Phase V under a Tier IA permit.

1.2 Site Background

The 50 Fordham Road property is an approximately 13-acre parcel of land situated east of Fordham Road and North of Concord Street within an industrial park in Wilmington and North Reading, Massachusetts. General Electric Company's Aerospace Division (GE) occupied the property from 1968 to 1989. GE Aerospace was acquired by Martin Marietta on April 2, 1993, which was later acquired by Lockheed Martin Corporation (LMC) on March 15, 1995. On October 22, 1999, LMC contractually assigned direct responsibility for completion of MCP response actions to TRC Environmental Corporation (TRC). TRC is, therefore, now responsible for execution of the remediation program in compliance with the site's Tier IA permit. AMETEK Aerospace Products, Inc. (AMETEK) and GSI Lumonics, Inc. are the current tenants at the site.

1.2.1 Early Response Actions

On June 11, 1986, the Massachusetts Department of Environmental Quality Engineering (DEQE) issued GE a Notice of Responsibility (NOR) pursuant to Massachusetts General Law (MGL) Chapter 21E, citing that a condition of groundwater contamination by chlorinated hydrocarbons had been documented. Goldberg-Zoino & Associates (GZA) prepared a Phase I study, which was submitted to DEQE on September 15, 1986.

A Phase II Report prepared by Goldberg-Zoino Associates (GZA) was submitted to the Massachusetts Department of Environmental Protection (DEP), formerly known as DEQE, in April 1990, which included a summary of investigations conducted at the site prior to that date.

In December 1991, Arthur D. Little Inc. submitted to the DEP a public health and ecological risk characterization for the site. Wehran Engineering Corporation (Wehran) submitted a Phase II Supplemental Investigation and a Second Supplemental Phase II Investigation in November 1991 and December 1992, respectively.

In 1992, GE Aerospace implemented Interim Measure Remediation Systems at the Tank Farm and Eastern Parking Lot areas. The Tank Farm area remediation system was designed to pump and treat bedrock groundwater for volatile organic compounds. The Eastern Parking Lot area system removed separate phase product (Stoddard solvent) for approximately two years with a Petrobelt System. Continued monitoring of the Eastern Parking Lot recovery wells RW-1 and RW-2 was required by the site's original Tier IA permit in 1994.

The Phase III Remedial Action Plan (RAP) was submitted to DEP on October 20, 1993. However, since 1993, the RAP has been modified based on the results of subsequent investigations, and DEP review and discussions. These modifications are addressed in a chronological manner in later paragraphs.

The October 1993 RAP addressed four separate site AOCs. These areas consist of:

- Eastern Parking Lot/Drum Storage Area and Tank Farm Area;
- Tank K Area;
- Site Groundwater
- Outfalls 001 and 002

From this point forward, all of the response activities were evaluated by AOC and are presented from this perspective.

1.2.2 Tier IA Permits

In 1994, the DEP classified the former GE, 50 Fordham Road, Wilmington, MA site, as a Transition Tier IA site and provided a permit to authorize comprehensive-remedial response actions to meet the requirements of the MCP (Disposal site No. 3-0518; Permit No. 83052). Attachment B of the Tier IA permit contained the requirements to continue the Tank Farm Area Interim Measure, approved on October 16, 1991, and the Eastern Parking Lot Interim Measure, approved on December 19, 1991.

In August 1999, an application for an Extension to the Tier IA permit was submitted. This was approved and a new permit was issued on December 28, 1999 (with an effective date of January 18, 2000) for a duration of four years. Because additional bioremediation studies were needed before completing the installation of the proposed groundwater source control remedy, a second Extension to the Tier IA permit was submitted in December 2003. This was subsequently approved for a duration of two years.

Per 310 CMR 40.0893, as remediation progresses, the site remediation and monitoring systems will continue to operate under ROS until the remedy has been achieved.

1.3 Remedy Operation Status Requirements

Requirements for ROS are contained under 310 CMR 40.0893. Specifically, the performance standards to achieve and maintain ROS are detailed in 310 CMR 40.0893(2) and are as follows:

- Phase III and Phase IV Comprehensive Response Actions shall be completed;
- The remedial system or program shall be adequately designed to achieve a Permanent Solution;
- The remedial system or program shall be operated and maintained in accordance with the requirements of 310 CMR 40.0890, 310 CMR 40.0000 and any applicable permits, approvals, or licenses;
- Each source of oil and/or hazardous material shall be eliminated or controlled;
- Any Substantial Hazard shall be eliminated; and
- Information and data on operation and maintenance or monitoring shall be documented and submitted to the DEP in Status and Remedial Monitoring Reports at the frequency described in 310 CMR 40.0892.

2.0 AOC SUMMARY

2.1 Eastern Parking Lot

2.1.1 Completed Actions

On November 30, 1995, a conditional approval was received from the DEP for the soil remediation portion of the RAP concurring with the soil category S-3 designation for the cleanup standard for the site. Additional soil sampling and analysis were conducted in May and August 1997, to better delineate the extent of impacted soil in the vicinity of the Eastern Parking Lot, Drum Storage area, and the Tank Farm area. The Wilmington Soil Sampling letter report that summarized the sampling results was submitted to DEP for review in December 1996. In March 12, 1997, DEP approved the requested RAP modification to eliminate soil vapor extraction and treatment in the Tank Farm area.

The April 10, 1998, Phase IV Remedy Implementation Plan (RIP) addressed two portions of the remedial action alternative: 1) excavation and reuse/recycling of soil in the Eastern Parking Lot area, and 2) in situ treatment of saturated soil and groundwater in the Tank K area. The Phase IV RIP was submitted for DEP approval on April 14, 1998. The September 21, 1998 Eastern Parking Lot Report documented the collection and interpretation of additional data to be used to define the Remedial Implementation Plan (RIP) for groundwater remediation in the Eastern Parking Lot and Tank Farm areas.

To better delineate the impacted area before implementing remediation activities, TRC submitted a work plan in September 1999 to DEP to evaluate the then current contaminant levels using the new extractable and volatile petroleum hydrocarbon (EPH/VPH) analytical methods. The work plan was approved on November 2, 1999 with fieldwork performed in November and December 1999. The results of this investigation were submitted as a Phase III RAP Addendum in March 2000. This Addendum was approved by DEP on June 9, 2000.

A Phase IV RIP for soil excavation and disposal in the Eastern Parking Lot was prepared based on the results presented in the Phase III RAP Addendum. This revised RIP was submitted to DEP on July 7, 2000 and was approved on August 31, 2000.

Soil excavation and disposal was conducted in the fall of 2000. Removal of the contaminated soil was conducted according to project objectives. In fact, the final soil cleanup results were better than expected in that the confirmatory sampling of the excavation showed that the MCP Method 1 S-1/GW-1 standards were achieved for petroleum hydrocarbons. However, during excavation, small amounts of free-phase Stoddard fuel were observed to enter the excavation from the bedrock fractures on the side of the excavation closest to the facility. This product was allowed to drain in the excavation and was subsequently removed, but it was unclear if similar product movement would occur in the future and possibly re-contaminate the remediated section of the Eastern Parking Lot. Therefore, TRC installed two culvert wells in the area closest to where the product was detected. These wells would represent Stoddard fuel monitoring wells, and recovery wells if necessary.

A Phase IV As-Built and Final Inspection Report was submitted on January 19, 2001 and was approved by DEP on March 29, 2001. In addition, to close out administrative issues set forth in the original Tier IA permit, an Interim Measure Completion Report for the Eastern Parking Lot was submitted on January 22, 2001.

Since the Phase IV completion, the Eastern Parking Lot has been in Phase V Operation, Monitoring and Maintenance (OM&M). While there is no active system or remedy operation status, groundwater gauging continues on a monthly basis and groundwater sampling continues on an annual basis for wells in the vicinity of the Stoddard fuel release area. When product thicknesses are greater than 1/8-inch, TRC completes product recovery actions from impacted wells. Such monitoring and response activities will continue until LNAPL is not detected for a period of 1 year and residual concentrations of petroleum hydrocarbons in the groundwater in the Eastern Parking Lot achieve the MCP Method 1 GW-1 standards. No active groundwater remediation is planned for petroleum-related contamination.

2.1.2 Current Status

The system continues to operate under Phase V and biannual OM&M reports are submitted to DEP.

TRC removed LNAPL from culvert wells CW-1 and CW-2 with two different methods during 2005, with a peristaltic pump, slurping product off the top of the water table, and with three TB-400 absorbent wicks, set in each well. Analysis of both methods indicates the peristaltic pump draws in a limited amount of product and a predominant recovery of water during a work day.

The hydrophobic absorbent wicks target LNAPL only. For the Site specific absorption rate, TRC complete multiple visits to determine the general rate of LNAPL absorption. It appears the wicks become saturated over an approximate period of greater than one week and less than two weeks.

Based on the observations made during LNAPL gauging and recovery to date, TRC will continue to utilize absorbent wicks in the culvert wells to target the residual LNAPL. TRC will also continue to evaluate options with regard to other viable technologies to recover this residual LNAPL.

TRC also collects groundwater samples from the two EPL Area wells remaining in the monitoring program. These wells, TRC-102 and GZA-105S, are located downgradient of the two culvert wells.

At GZA-105S, no contaminants were detected above the MCP GW-1 standards. At TRC-102, no contaminants were detected above MCP GW-1 standards, a trend that has continued since September 2002.

2.2 Tank K

2.2.1 Completed Actions

In 1996, additional data was gathered to further delineate the extent of impacted soil and groundwater in support of a RIP. The fieldwork included a soil vapor extraction pilot test and an aquifer test. A report documenting field activities and results was submitted to the DEP in January 1997.

As previously mentioned, the April 10, 1998, Phase IV RIP addressed in situ treatment of saturated soil and groundwater in the Tank K area. The Phase IV RIP was submitted for DEP approval on April 14, 1998. On May 19, 1999, the Tank K pilot test letter report was submitted to DEP, documenting a variety of field investigation activities and the results of the pilot test of an oxidation technology. The pilot test was not able to determine important design parameters to implement the technology. The letter included a request for DEP approval to change the remedial action alternative for the Tank K area based on a re-evaluation of other feasible technologies.

To re-evaluate an alternate technology, TRC submitted a work plan for a biosparging/soil vapor extraction (SVE) pilot test in October 1999. The plan was approved by DEP on November 4, 1999 and the test was conducted from November to December 1999. A Phase III RAP Addendum detailing the results of the test was submitted on January 24, 2000, recommending that a full-scale system be implemented. DEP approved the RAP Addendum on June 9, 2000.

The Phase IV RIP for the Tank K system was submitted to DEP on July 25, 2000. A system modification that increased the depth of air injection from 5 feet below the water table to 10 feet was submitted to DEP on September 19, 2000. The RIP was approved on October 31, 2000.

The system was installed during the winter 2000-2001 and a Phase IV As-Built and Final Inspection Report was submitted to DEP on March 20, 2001. This report was approved by DEP on June 11, 2001.

Since installation, the system has been operating in Phase V -Operations, Maintenance and Monitoring (OM&M) status under design conditions. Some operation and maintenance issues have occurred that have resulted in the replacement of some of the air sparge points.

2.2.2 Current Status

The system continues to operate under Phase V and biannual OM&M reports are submitted to DEP.

Through March 2005, TRC observed a trend of decreasing and/or stabilized contaminant levels in groundwater. TRC proposed to evaluate options for the final phase of system operations. The result of that evaluation resulted in TRC modifying the system operation, to a cycling schedule.

On June 17, 2005, TRC began a rotating cycling schedule (approximately every two weeks) as follows:

- Turn System Off.
- Turn Laterals A & B On.
- Turn System Off.
- Turn Laterals A & C On.
- Repeat.

All other system operations have not changed.

Groundwater monitoring is completed semi-annually. In summary, exceedances of the MCP GW-1 groundwater standards have increased since system cycling began in June 2005. Groundwater quality in the downgradient monitoring well, TRC-104, continues to be observed below the MCP GW-1 standards.

System cycling appears to have extended the viable life cycle of the treatment system. TRC will continue to operate the treatment system in the cycling mode.

TRC will continue the Tank K Area OM&M Program as detailed in Table 1 with groundwater sampling now completed semi-annually in May and November.

2.3 Site Groundwater

2.3.1 Completed Actions

In November/December 1995, EMCON (formerly Wehran) conducted a comprehensive round of groundwater sampling and analysis to evaluate any changes in ground water conditions since the last comprehensive sampling round conducted in July 1993.

In October 1996, a conditional approval for the groundwater remediation was received from DEP. The letter provides approval for the recommended remedial action Alternative 2- on-property groundwater recovery wells only, with groundwater treatment plant on-property. The Comprehensive Response Action Transmittal Form was submitted to DEP, per their request, for administrative completeness.

The Long Term Groundwater Monitoring Plan (LTGMP) was submitted to DEP on January 31, 1997, as required by the conditional approval of the Phase III RAP. Conditional approval was received from DEP on July 16, 1997.

Between January and September 1997, three bedrock wells were installed at the eastern edge of the property to determine the vertical extent of bedrock impacts, to conduct an aquifer test to define zones of influence, to estimate well yields, and to help predict the groundwater capture zone. This effort, which was intended to support the design of the groundwater pump and treat

component of the Phase III RAP, led to the discovery of volatile organics at much higher concentrations and in much deeper zones than previously observed.

This discovery led to a February 27, 1998 Proposed Change to the Phase III RAP letter report documenting that the remedial action alternative selected in the Phase III RAP (the pumping and treatment of on-property groundwater to achieve GW-1 standards) is not technologically feasible pursuant to 310 CMR 40.0860. An evaluation of other technologies indicated that no other technologies would be feasible. The proposed alternative was a Temporary Solution, which would focus on Periodic Evaluations to identify potentially feasible technologies that would have a high likelihood of achieving the long-term remedial objective. LMC requested DEP approval of the temporary solution in March 1998.

The November 10, 1998 Summary of Field Activities and Analytical Results letter report was prepared to document the installation and sampling of a monitoring well couplet (wells W-1 and W-2) in the wetlands south of the Ipswich River, in the Town of North Reading, Massachusetts. This work was conducted in accordance with the DEP approval letter dated June 23, 1998.

The February 12, 1999, Summary of Groundwater Sampling and Evaluation of Natural Attenuation summarized the methods and results of a study performed by EMCON to evaluate the degree of natural attenuation of volatile organics in groundwater. This evaluation was recommended by EMCON in the March 1998 request for a Temporary Solution based on technical impracticability, and was approved for execution by DEP in the June 23, 1998 letter.

A Groundwater Modeling Plan was prepared by TRC to address monitoring, modeling, and potential remedial actions. This Plan was a required deliverable that was originally recommended by EMCON as an additional component of the proposed Temporary Solution, as per the March 1998 letter reports. The Plan was submitted for DEP approval on May 26, 1999.

On February 10, 2000, DEP issued a letter to present DEP's collective comments on four separate reports that included:

- Eastern Parking Lot Pump Test Report (February 1998)
- Proposed Changes to the Phase III RAP (February 1998)
- Summary of Groundwater Sampling and Evaluation of Natural Attenuation (February 1999)
- Groundwater Modeling Plan (May 1999)

Given the changes to the Phase III RAP and the subsequently collected data concerning groundwater conditions in the deep bedrock aquifer, DEP rejected the request for a Temporary Solution based on technical impracticability. DEP required: 1) adequate source control of the impacted groundwater, and 2) further investigation of the bedrock aquifer to locate groundwater recovery wells. A Scope of Work for this additional investigation was submitted on March 9, 2000. This scope was approved by DEP on December 14, 2000. An addendum to the scope of work was submitted on March 14, 2001 and was approved by DEP on March 29, 2001.

The investigation was conducted in the spring of 2001. This included the installation of two new deep bedrock wells in two separate locations at the site that were highly suspected as containing significant water-bearing fractures in the deep bedrock and high contaminant concentrations. One well location (TRC-201R) was located at the southern portion of the site to investigate the possible extension of a fracture trace located at the neighboring Roadway MCP site. The drilling location was selected using surface geophysical techniques. Upon installation, this well was a virtual dry hole and no such fracture was found. The second well location (TRC-202R) located in the Eastern Parking Lot near the wetlands was located along a line that connected the Tank Farm to several shallow bedrock wells that exhibited some of the highest contaminant concentrations at the site. Well TRC-202R was drilled to approximately 350 feet below ground surface (bgs), transecting a significant water bearing zone (3-5 gallons per minute) between 110 and 170 feet below ground surface; this zone also contained elevated contaminant concentration levels similar to that found in the nearby well EMW-11R3. A report summarizing the new investigation as well as all previous site groundwater data was submitted on September 14, 2001. This report was approved by DEP on October 30, 2001.

A *Phase III RAP Addendum* was submitted on March 22, 2002 and recommended that source control measures be implemented given that aquifer-wide remediation in bedrock is technically infeasible. The selected source control remedy would include a groundwater pump and treat system using well TRC-202R as the single pumping location. In addition, an in-situ bedrock bioremediation system was also proposed, if proven feasible. The RAP Addendum recommended that the feasibility of the technology be evaluated using bench and pilot-scale tests. DEP approved the RAP Addendum on July 12, 2002.

On July 1, 2002, the *Tank Farm Interim Measure Completion Report* was submitted to DEP, documenting the shut down of the Tank Farm pump and treat system in February 2002. The system was no longer recovering significant mass contaminants from the Tank Farm Area, and was, therefore, determined to be ineffectual.

The *Phase IV RIP* for the groundwater system was submitted to DEP on December 1, 2002. The RIP was approved on March 12, 2003.

The groundwater pumping system was installed during the summer of 2003 and a *Phase IV As-Built and Final Inspection Report* was submitted to DEP on September 11, 2003. This report summarized the installation and startup of the groundwater pump and treat system. At the time of submission, the feasibility of the bioremediation system was incomplete. Final testing and feasibility evaluations were completed in August 2005. Based on these results, TRC determined that this in situ remedy would not be effective at this stage in the remediation to implement.

Currently TRC is evaluating the possible implementation of Emulsified Zero Valent Iron (EZVI) for direct treatment of residual DNAPL in the original source area (i.e. the former Tank Farm). A pilot test was initiated in October 2005, and is due for completion in the summer of 2006. If proven appropriate and effective, TRC will proceed with this in situ technology to supplement the existing operating system.

Since installation, the groundwater pump and treat system has been operating in Phase V OM&M.

2.3.2 Current Status

The system continues to operate under Phase V and biannual OM&M reports are submitted to DEP.

At the end of the last reporting period, September 2005, a total of 2,099,227 gallons of groundwater had been pumped and treated in the system, removing an estimated 87.86 pounds of contaminants of concern.

TRC's analysis of the current groundwater sampling data (2005) did not identify any notably anomalous results or trends. The highest concentrations of CVOCs in both overburden and bedrock wells continue to be observed immediately east of the former Tank Farm, though contaminant levels in the Source Control Area continue to trend downward.

TRC will continue the LTGMP Program as outlined on Table 1. Due to the difficult field conditions routinely encountered in the wetland east of the Site during the September sampling events, the LTGMP sampling events will be shifting to November starting in 2006. To continue sampling continuity across all program areas, groundwater sampling activities will now occur in May and November.

Source Control groundwater monitoring was completed quarterly from September 2003 through September 2005. Contaminant concentrations do not appear to be impacted by seasonal influences. As a result, it appears semi-annual sampling at the Source Control monitoring wells is sufficient to observe long term trends in groundwater. As stated previously, to coincide with other groundwater monitoring programs at the Former GE Site, TRC adjusting the groundwater monitoring schedule for Source Control monitoring to the months of May and November.

Analysis of twenty-six consecutive monthly groundwater table gauging events from the Source Control monitoring wells does not indicate a strong influence or pattern to the area groundwater table from pumping activities at TRC-202R. As a result, it is sufficient to collect groundwater elevation data from these monitoring wells semi-annually, during routine sampling events.

2.4 Outfalls 001 and 002

2.4.1 Completed Actions

On November 30, 1995, a conditional approval was received from the DEP for the soil remediation portion of the RAP as well as for the sediment remediation of the Outfall 001 area. Sediment remediation was required to proceed until all contaminants of concern reached or approached background levels, if feasible.

The January 8, 1998 Wilmington Sediment Evaluation letter report documented an additional investigation and evaluation that EMCON conducted at the site to address the extent of sediment

to be remediated in the vicinity of Outfalls 001 and 002. The evaluation results indicated that a condition of No Significant Risk exists at the Outfall locations. Therefore, a recommendation of no further response action was submitted for DEP approval.

In December 1998, DEP issued a written response to the 1998 report, requiring that either a quantitative Stage II ecological risk characterization be conducted or to proceed with the remediation of contaminated sediments. In February 1999, LMC (the responsible party at that time) indicated the desire to proceed with the Stage II ecological assessment.

The *Scope of Work for the Stage II Assessment* was submitted to DEP on January 1, 2002. Work related to the assessment is on going and several rounds of ecological sampling have occurred in 2002 and 2003. A final *Stage II Ecological Risk Characterization Report and Phase IV Remedy Implementation Plan (RIP)* was completed and submitted in January 2004. The remedial plan included the excavation and off-site disposal of the upper 12 inches of impacted wetland soil and sediment in two areas totaling approximately 9,461.5 square feet), with subsequent backfill and restoration.

Remediation activities were conducted in August and September 2004, and restoration activities were completed in October 2004. A summary of these activities is presented in the *Phase IV As-Built Construction and Final Inspection Report and Partial Response Action Outcome Statement*, dated December 2004.

In accordance with the requirements set forth in the 401 Water Quality Certification (WQC), TRC is required to submit Monitoring Reports twice each growing season.

2.4.2 Current Status

This AOC has achieved a Class A RAO (Permanent Solution). Monitoring and reporting will be conducted until 2008 in accordance with the requirements of the 401 WQC. No additional MCP actions are required at this AOC.

2.5 Release Abatement Measure- Sewer Line Replacement

2.5.1 Completed Actions

TRC performed a Release Abatement Measure (RAM) at the Tank K area for the purposes of installing a new sewer line system for the existing facility, which would traverse across the Tank K area.

The RAM Plan was prepared in May 2005 in accordance with 310 CMR 40.0444.

As the objective of the RAM effort was to allow the installation of a new force main at the facility. The RAM was not intended to achieve or approach background conditions. The RAM was intended to be followed similar to a Utility Release Abatement Measure (URAM) under the MCP, whereby actions are taken to deal with contaminated soil and groundwater that may be encountered during the installation of the force main. No additional remedial measures would be

taken outside the work area for the force main installation. Where possible, contaminant concentrations would be reduced to levels that do not present a risk to health, safety, public welfare and the environment.

The construction work was conducted by T.F. Ford in Georgetown, MA, who worked closely with TRC to meet all RAM objectives and all applicable federal, state, and local regulations, including but not limited to:

- 310 CMR: 40.000, Massachusetts Contingency Plan
- 527 CMR: Board of Fire Prevention Regulations
- 29 CFR: Occupational Safety and Health Administration (OSHA) Regulations
- 310 CMR: 30.000, Massachusetts Hazardous Waste Regulation

The sewer line replacement was completed by pipe lining. This ultimately led to minimal subsurface disruption (with only two small excavations completed), eliminating the potential exposure to the contaminated areas in the Tank K area, and the generation of impacted water and soils. The RAM was completed in two weeks, from September 15 – 29, 2005.

2.5.2 Current Status

Following the removal all equipment and confirmation the new piping was operating as designed, a RAM Completion Report was submitted to MA DEP on March 6, 2006.

3.0 SUBSTANTIAL HAZARD EVALUATION

In accordance with 310 CMR 40.0956, a Substantial Hazard evaluation is performed to determine if there is a short-term risk impact to human health or the environment. Such assessments usually evaluate risk for a future period of five years. At this site, there are no current impacts from the COCs. The remaining COCs above Method 1 standards are limited to site groundwater. From a human health perspective, there is no direct exposure to the impacted groundwater as there is no direct contact with the groundwater and the site groundwater is not being used for potable or non-potable purposes. From an ecological perspective, the only such receptors in the adjacent wetlands were related to the AOC Outfalls 001 and 002. Remediation has been completed in this site AOC and a Partial RAO Statement for a permanent solution has been filed. Therefore, there are no longer any potentially impacted ecological receptors at the site.

In accordance with 310 CMR 40.0956(1)(c), as there is no current exposure to the COCs at the site, a quantitative substantial hazard evaluation is not required and it is concluded that a Substantial Hazard does not exist.

4.0 CONCLUSIONS

Given the information presented in the previous sections of this report, this site meets the requirements for ROS. This conclusion is based on the following criteria:

- Phase III and Phase IV Comprehensive Response Actions have been completed for all AOCs at this site;
- The site remedial systems have been designed to achieve a Permanent Solution;
- The site remedial systems and programs have been and continue to be operated and maintained in accordance with the requirements applicable Phase V Operation, Monitoring, and Maintenance requirements as well as applicable permits, approvals, or licenses;
- The site contaminant sources have been eliminated;
- No Substantial Hazard is present at the site; and
- Information and data on operation, maintenance, and monitoring has been and shall continue to be documented and submitted to the DEP in the appropriate report format and required timelines.

This report fulfills the MCP requirements for establishing ROS for this site under 310 CMR 40.0893 as each of the performance standards described in Section 1.3 of this report have been met. In accordance with 310 CMR 40.0893(3), ROS shall be effective upon submission of this report to DEP.

At this point, a schedule for completing work at the site (other than previously mentioned) cannot be provided, as realistic time frames for remediation completion have not been established.

5.0 CONTINUING AND FUTURE ACTIONS

5.1 Treatment System OM&M

5.1.1 Tank K SVE/Air Sparging System

System cycling appears to have extended the viable life cycle of the treatment system. TRC will continue to operate the treatment system in the cycling mode.

TRC will continue the Tank K Area OM&M Program as outlined herein, though the groundwater sampling schedule will be modified to coincide with other Site groundwater monitoring schedules, starting in May and November of 2006. The next Status Report will follow validation of the data collected during the groundwater sampling event in May 2006.

5.1.2 Site Groundwater Pump and Treat System

TRC has completed nine consecutive quarterly sampling events from the Source Control monitoring wells. Contaminant concentrations do not appear to be impacted by seasonal influences. As a result, it appears semi-annual sampling at the Source Control monitoring wells is sufficient to observe long term trends in groundwater. To coincide with other groundwater monitoring programs at the Former GE Site, TRC is adjusting the groundwater monitoring schedule for Source Control monitoring to the months of May and November starting in 2006.

Analysis of twenty-six consecutive monthly groundwater table gauging events from the Source Control monitoring wells does not indicate a strong influence or pattern to the area groundwater table from pumping activities at TRC-202R. As a result, it is sufficient to collect groundwater elevation data from these monitoring wells semi-annually, during routine sampling events.

TRC will continue the Source Control Area OM&M Program as outlined herein. O&MM results will be submitted during the next Status Report following the May 2006 sampling event.

5.1.3 Eastern Parking Lot

Based on the observations made during LNAPL gauging and recovery to date, TRC will continue to utilize absorbent wicks in the culvert wells to target the residual LNAPL. TRC will also continue to evaluate options with regard to other viable technologies to recover this residual LNAPL. An EPL status report will be included in the Status Report submitted following the November 2006 sampling event.

5.2 Overall Site Groundwater Monitoring Program

TRC will continue the LTGMP Program as outlined herein. Due to the difficult field conditions routinely encountered in the wetland east of the Site during the September sampling events, the LTGMP sampling events will be shifting to November starting in 2006. To continue sampling continuity across all program areas, groundwater sampling activities will now occur in May and November.

6.0 FUTURE REPORTING REQUIREMENTS

6.1 Status Reports

Previously under Phase V, Operation, Monitoring, and Maintenance Status reports were prepared every six months for Tank K and the site groundwater treatment systems and every year for the site Long-Term Groundwater Monitoring Program. Timelines for these status reports will remain the same as before. In conformance with the April 2006 revisions to the MCP under 310 CMR 40.0892, Status Reports will no longer be required to include information on the results of sampling and/or screening analyses conducted as part of the monitoring program. Such information will be included in the Remedial Monitoring Reports.

6.2 Remedial Monitoring Reports

As required under the April 2006 revisions to the MCP under 310 CMR 40.0892(3)(a), Remedial Monitoring Reports (RMRs) will now be required for this site. These reports will include the results of sampling analyses conducted as part of the site monitoring programs. As this site is considered to be a site with a Substantial Release Migration, RMRs will be required on a monthly basis. For most RMRs, the information will contain only the monthly analyses of the groundwater treatment system influent and effluent as required by the NPDES discharge permit for that system. The first RMR will be submitted concurrently with the next Status Report submittal and will occur monthly thereafter. RMRs are prepared on forms specifically designed by DEP and can be submitted electronically or in hardcopy until April 2007, by which time all RMRs must be submitted to DEP electronically.

7.0 LIST OF PREVIOUSLY SUBMITTED REPORTS

Phase III Remedial Action Plan, October 1993 - prepared by Wehran Engineering Corporation.

Field Activities to Support Tank K RIP Letter Report, EMCON, January 15, 1997.

Long Term Groundwater Monitoring Plan prepared by EMCON, January 31, 1997.

Wilmington Sediment Evaluation prepared by EMCON, January 8, 1998.

Eastern Parking Lot Pump Test Report prepared by EMCON, February 10, 1998.

Proposed Change to Phase III Remedial Action Plan prepared by EMCON, February 27, 1998.

Work plan for Groundwater Sampling and Evaluation of Natural Attenuation, prepared by EMCON, August 20, 1998.

Phase IV Remedy Implementation Plan, prepared by EMCON, April 10, 1998.

Summary of Groundwater Sampling and Evaluation of Natural Attenuation, prepared by EMCON, February 12, 1999.

Tank Farm Area Remediation System Semi-Annual Operation and Monitoring Report prepared by EMCON, March 25, 1999.

Tank K Pilot Test Report, prepared by EMCON, May 19, 1999.

Groundwater Modeling Plan, prepared by TRC, May 26, 1999.

Phase III Remedial Action Plan Addendum for Tank K Area, prepared by TRC, January 24, 2000.

Phase III Remedial Action Plan Addendum for Eastern Parking Lot/Drum Storage Area, prepared by TRC, March 16, 2000.

Phase IV Remedy Implementation Plan for Eastern Parking Lot/Drum Storage Area, prepared by TRC, July 7, 2000.

Phase IV Remedy Implementation Plan for Tank K Area, prepared by TRC, July 25, 2000.

Phase IV As-Built and Final Inspection Report for Eastern Parking Lot/Drum Storage Area, prepared by TRC, January 19, 2001.

Eastern Parking Lot Interim Measure Completion Report, January 22, 2001.

Phase IV As-Built and Final Inspection Report for Tank K Area, prepared by TRC, March 20, 2001.

Comprehensive Review of Groundwater Data, prepared by TRC, September 14, 2001.

Scope of Work – Stage II Environmental Risk Characterization, prepared by TRC, January 1, 2002.

Phase III Remedial Action Plan Addendum for Groundwater, prepared by TRC, March 22, 2002.

Tank Farm Interim Measure Completion Report, prepared by TRC, July 1, 2002.

Phase IV Remedy Implementation Plan for Groundwater, prepared by TRC, December 1, 2002.

Phase IV As-Built and Final Inspection Report for Groundwater, prepared by TRC, September 11, 2003.

Part I- Stage II Environmental Risk Characterization (ERC) and Part II-Phase IV Remedy Implementation Plan (RIP), Outfalls 001 and 002, prepared by TRC, January 21, 2004.

Phase IV As-Built Construction and Final Inspection Report and Partial Response Action Outcome Statement, prepared by TRC, December 13, 2004.

Release Abatement Measure (RAM) Plan- New Sewer Line System, prepared by TRC, May 5, 2005.

Release Abatement Measure Completion Report, March 6, 2006.

8.0 KEY CORRESPONDENCE RECEIVED FROM DEP

MA DEP Correspondence, November 30, 1995, Conditional Approval for Soil Remediation.

MA DEP Correspondence, August 1996, "Record of Decision" Memorandum of the Phase III Remedial Action Plan.

MA DEP Correspondence, October 11, 1996, Conditional Approval of the Phase III Remedial Action Plan.

MA DEP Correspondence, March 12, 1997, approval to modify Remedy in Tank Farm Area.

MA DEP Correspondence, July 16, 1997, Conditional Approval of Long Term Groundwater Monitoring Plan.

MA DEP Correspondence, November 4, 1999, Conditional Approval of Tank K Biosparging/SVE Pilot Test.

MA DEP Correspondence, February 10, 2000, Comments on 1998-99 Reports on Groundwater Remediation.

MA DEP Correspondence, June 9, 2000, Conditional Approval of Phase III Remedial Action Plan Addendum for Eastern Parking Lot Area.

MA DEP Correspondence, June 9, 2000, Conditional Approval of Phase III Remedial Action Plan Addendum for Tank K Area.

MA DEP Correspondence, August 31, 2000, Conditional Approval of Phase IV Remedy Implementation Plan for Eastern Parking Lot Area.

MA DEP Correspondence, October 31, 2000, Conditional Approval of Phase IV Remedy Implementation Plan for Tank K Area.

MA DEP Correspondence, December 14, 2000, Conditional Approval of Proposed Plan for Groundwater Investigation.

MA DEP Correspondence, March 29, 2001, Conditional Approval of Phase IV As-Built and Final Inspection Report for Eastern Parking Lot Area.

MA DEP Correspondence, March 29, 2001, Conditional Approval of Proposed Work Plan Addendum for Groundwater Investigation.

MA DEP Correspondence, June 11, 2001, Conditional Approval of Phase IV As-Built and Final Inspection Report for Tank K Area.

MA DEP Correspondence, October 30, 2001, Approval of Comprehensive Review of Groundwater Data Report.

MA DEP Correspondence, July 12, 2002, Conditional Approval of Phase III Remedial Action Plan Addendum for Groundwater.

MA DEP Correspondence, March 12, 2003, Conditional Approval of Phase IV Remedy Implementation Plan for Groundwater.

MADEP Correspondence, August 11, 2003, Revisions to the MCP- Direct Oversight No Longer Provided by DEP.

TABLE

Table 1
Groundwater Monitoring Schedule
Former GE Site, Wilmington, MA

GROUNDWATER SAMPLING SPECIFICATIONS											
WELL ID	Overburden/ Bedrock	Analysis	Well Diameter (inches)	Screened Interval (ft bgs)	Total Depth (ft)	Port or PDB Centerline (ft)	Sampling Method	FREQUENCY			
								Semi-Annual	Annual	Biennial	
								Nov (Odd Years)			
Source Control								May-Nov	Nov	Nov (Odd Years)	
BRW-1R2	Shallow Bedrock	VOCs (EPA Method 8260B)	2	46-66	66.19	62	PDB				
TRC-401R-B			0.75	79-89	89.17	86	PDB ^{sd}				
IP-2R1			4	37.5-57.5	57.5	45	PDB				
IP-4R1			1	17.5 - 38	37.73	33	PDB ^{sd}				
BRW-1R4			2	38-48	48.38	41	PDB				
BMW-11R2			0.75	104-114	114.17	111	PDB ^{sd}				
IP-1R2			2	54-74	74.1	60	PDB				
IP-2R3			2	72-92	92.19	87	PDB				
IP-3R2			2	64-84	84.23	76	PDB				
IP-4R3			2	80-115	115.08	111	PDB				
Tank K Area											
TRC-104	Overburden	VPH (MA DEP Method)	1.25	1-10	10	9	PP/Fz				
TRC-106	Overburden		1.25	2-12	12	9	PP/Fz				
WE-4S	Overburden		2	3-13	13	10	PP/Fz				
WE-7	Overburden		1.5	2-12	12	9	PP/Fz				
WE-8	Overburden		4	2-17	17	13	PP/Fz				
WE-9	Overburden		2	2-12	12	9	PP/Fz				
EPL Area											
EMW-11S	Overburden		VPH/EPH/ PAH SIM (MA DEP Method and 8270C)	2	1-11	11	8	PP/Fx			
GZA-105S	Overburden		1.5	4-14	14	10	PP/Fx				
TRC-101	Overburden		1.25	1.5-10.5	10.5	7	PP/Fx				
TRC-102	Overburden		1.25	2.25-12.25	12.25	9	PP/Fx				
TRC-103	Overburden		1.25	1.25-11.25	11.25	8	PP/Fx				
L7GMP											
GZA-101R	Bedrock	VOCs (EPA Method 8260B)	0.5	36.5-38	38.44	37.5	PP/Fx				
GZA-102R2	Bedrock		0.5	25-26.5	29.08	25.5	PP/Purge ^{mod} /Ft				
GZA-103R1	Bedrock		0.5	18-19	19	18.5	PP/Fx				
GZA-103R2	Bedrock		0.5	28-29	29	28.5	PP/Purge ^{mod} /Ft				
GZA-105D	Overburden		1.5	16-26	26	24	PDB ^{sd}				
EMW-10D	Overburden		2	19-29	29	25	PDB ^{sd}				
EMW-10R	Bedrock		2	42-52	52	49	PDB				
EMW-11D	Overburden		2	22-32	32	29	PDB				
BMW-11R3	Bedrock		0.75	158-168	168	165	PP/Fx/OB				
GZA-10	Overburden		1.5	13-38	40.09	18	PDB ^{sd}				
GZA-14	Overburden	1.5	39-49	51.58	46	PDB ^{sd}					
GZA-14A	Overburden	1.5	0-15	17.55	10	PDB ^{sd}					
PS-1S	Overburden	0.62	12-17	20	18	PP/Fx					
PS-1M	Overburden	0.62	34.25-39.25	41	38	PP/Fx					
PS-1D	Overburden	0.62	49.1-54.1	55.2	53	PP/Purge ^{mod} /Ft					
PS-2M	Overburden	0.62	34-39	41	38.5	PP/Purge ^{mod} /Ft					
PS-2D	Overburden	0.62	49.1-54.1	55.2	53	PP/Purge ^{mod} /Ft					
PS-5D	Overburden	0.62	24.1-29.1	30.2	28	PP/Purge ^{mod} /Ft					
STM-8R	Bedrock	0.75	46.5-51.5	51.5	48	PDB ^{sd}					
STM-8M	Overburden	0.75	19.5-24.5	24.5	22	PDB ^{sd}					
STM-8D	Overburden	0.75	34.7-39.7	39.7	37	PDB ^{sd}					
TRC-301R-C	Bedrock	4	66-172	172	87.5	PDB					
W-1	Overburden	2	33.5-38.5	38.5	35.5	PDB					
W-2	Overburden	2	15-25	25	22	PDB					
MW-4	Overburden	1.5	18-28	30	24	PDB ^{sd}					
MW-4A	Overburden	1.5	38-48	50	45	PDB ^{sd}					
MW-5	Overburden	1.5	28-38	40	33	PDB ^{sd}					
MW-7	Overburden	1.5	15-25	27	22	PDB ^{sd}					

Notes:

Fx = Field measurements of pH, temperature, specific conductivity, dissolved oxygen, turbidity.

Fz = Field measurements of pH, temperature, specific conductivity, dissolved oxygen, turbidity, and oxidation/reduction potential.

PDB = Passive Diffusion Bag

PDB_{sd} = Small Diameter PDB sampler.

PP = Peristaltic Pump

OB = Obstruction at depth prevents use of a PDB.

Purge mod = Modified purge method (one tubing volume of water)

bgs = Below ground surface

N/A = Not applicable

(1) - Removed from sampling program April 2004.

(2) - Annual sampling reduced to bi-annual sampling April 2004.

(3) - Removed from sampling program April 2004. Will be re-sampled once well PS-1D meets MCP GW-1 standards.