Environmental
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Management

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Reference: 1922

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

RE: Immediate Response Action - Six-Month Status Report #5
Former Raytheon Facility
430 Boston Post Road
Wayland, Massachusetts ("the Site")
Permit No. 133939

Dear Sir or Madam:

On behalf of Raytheon Company (Raytheon), Environmental Resources Management (ERM) is submitting an Immediate Response Action (IRA) Six-Month Status Report for the Site. This submittal was prepared in accordance with the requirements of the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000.

BACKGROUND

In accordance with the requirements of the MCP, 310 CMR 40.0480, ERM submitted a Phase I-Initial Site Investigation (Phase I) report for the Site to the Massachusetts Department of Environmental Protection (DEP) in July 1996 and a Tier Classification filing in January 1997. The DEP issued Raytheon a Tier IB Permit, effective 21 May 1997. In accordance with the Public Involvement Plan (PIP) dated in 10 November 2000, the draft Phase II-Comprehensive Site Assessment (Phase II) and Phase III Remedial Site Investigation (Phase III) was submitted for Public Comment on 10 October 2001. A completed Phase II and III were submitted to DEP on 28 November 2001.

Results of the Phase II linked a suspected area of stunted growth to elevated levels of metals, polychlorinated biphenyls (PCBs) and polynuclear aromatic hydrocarbons (PAHs). The reduced stem count of biota in this area indicated that a potential imminent hazard may exist,

based on the criteria set forth in 310 CMR 40.0955(3). The potential Imminent Hazard Condition was reported to the DEP on 26 April 2000.

An IRA Plan was submitted to the DEP on 26 June 2000 following the imminent hazard determination. The Imminent Hazard Evaluation determined that the Site did not pose an Imminent Hazard to human health or safety, but posed a potential Imminent Hazard to the environment. The objective of the IRA Plan is to continue to assess Site conditions according to the Phase II Scope of Work and addendum in the wetlands and to delineate the extent of impact to sediments and surface water, and assess risk to human health and the environment.

Pursuant to 310 CMR 40.0530, a Major Permit Modification Application was filed on 25 May 2000 to upgrade the Site tier classification and permit from Tier IB to Tier IA following the re-evaluation of the Site Numerical Ranking Score (NRS). On 7 September 2000, Raytheon received a Notice of Proposed Permit Decision from the DEP. The DEP determined, based on its review of the Major Permit Modification Application, that a new Tier IB permit would be issued with special conditions. The Phase IV Remedy Implementation Plan was submitted on 30 December 2002.

The first Six-month Status Report, dated 25 April 2001, was submitted to the DEP. This report represents the fifth status report for the IRA.

STATUS OF ASSESSMENT

Raytheon submitted a Scope of Work, dated 20 June 2002, to the DEP to conduct additional Site characterization activities to address concerns of the Public Involvement Plan (PIP) participants in the Town of Wayland. Investigation activities in the wetland included:

- Install monitoring wells in a portion of the wetland;
- Conduct waste characterization sampling at select sediment sampling locations; and
- Conduct additional sampling of wetland soil/sediment.

Results from these activities were presented in the previous status report, except for dioxins (PCDDs) and dibenzofurans (PCDFs) data, which was not available from the laboratory at the time of report submittal.

PCDDs/PCDFs data for sediment samples collected in August 2002 are presented in Table 1.

Based on the PCDDs/PCDFs results of the August 2002 sediment sampling event, additional sampling activities were conducted during March 2003. This sampling program was conducted to further evaluate the potential source, nature and extent of PCDDs/PCDFs in wetland sediments. At select locations, additional sediment samples were taken and analyzed for metals, polychlorinated biphenyls (PCBs) and polyaromtaic hydrocarbons (PAHs) to address Public Involvement Plan (PIP) participant concerns.

NEW SITE INFORMATION

On 5 and 20 March 2003, ERM collected sediment samples from 36 locations, labeled WS-1 through WS-36 (Figure 1), for laboratory analysis of one or more of the following parameters:

- PCDDs /PCDFs by EPA Method 8290 (36 samples);
- PCBs by EPA Method 8082 (12 samples);
- PAHs by EPA Method 8270 (7 samples); and
- Metals (Site specific list, See Table 4); 7 samples).

A total of 30 sediment core samples were collected through the ice using hand-held GeoProbe direct-push drilling equipment on 5 March 2003. Five proposed locations (WS-3, WS-8, WS-33, WS-34 and WS-35) were not sampled during this sampling event because the ice was not safe in those areas. These locations were sampled on 20 March 2003 using hand auger techniques. Sediment core samples were collected from 0 to 4 feet depth at most locations. At some locations in close proximity to the Sudbury River, collection of sediment samples to a depth of 4 feet was not possible using the direct-push equipment because the sediments were completely saturated and acted as a fluid. At some of these locations, a hand auger was used to collect a sample from 0 to 2 feet. A summary of sample locations, methods and depths achieved is presented in Table 2.

The sediment samples collected using direct-push techniques were collected directly into Lexan disposal sleeves and characterized for lithology from 0 to 4 feet. Sediment samples were collected for

laboratory analysis from depths of 6 to 12 inches at most locations and from 18 to 24 at select locations. A summary of samples collected for laboratory analysis is presented in Table 3.

PCB, Metals and PAHs data is presented in Table 4. PCDDs/PDCFs data for sediment samples collected in March will be presented in the next status report. Laboratory analytical results are in Appendix A.

MANAGEMENT OF REMEDIAL WASTE

No remediation waste has been generated on-Site.

REMEDIAL SYSTEMS DATA

No remedial systems are operated on-Site. Ongoing monitoring of an in situ chemical oxidation pilot study is being conducted as part of a Release Abatement Measure (RAM). A RAM Plan Modification was submitted to the DEP on 23 October 2002.

OTHER INFORMATION

The installed fence along the wetland boundary at the Site is regularly inspected and appears in good condition.

LSP OPINION

It is the opinion of the LSP that this IRA is being conducted in conformance with the IRA Plan. The IRA Transmittal Form (BWSC-105) is included in Appendix B.

Sincerely,

John C. Drobinski, P.G., LSP
Principal-in-Charge

Rachel Leary
Project Engineer

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Attachment: Table 1 - Summary of Sediment Analytical Results
Table 2 - Sampling Methods
Table 3 - Sampling Log
Table 4 - Metals, PCB and PAH Data
Figure 1 - Sediment Sampling Locations
Appendix A - Analytical Data
Appendix B - BWSC Transmittal Form

cc: Edwin Madera, Raytheon Company
PIP Repository, Wayland Public Library
PIP Repository, Wayland Board of Health
Benson Gould, CMG Environmental
Paula Phillips, Congress Group Ventures
Bill Beck, H&A