Appendix B
DEP Correspondence

Massachusetts Department of Environmental Protection — **BWSC-102B**
Bureau of Waste Site Cleanup

RELEASE LOG FORM ATTACHMENT

Release Tracking Number: 3 - 13574

E. LOG/RELEASE LOCATION INFORMATION: (complete if using BWSC-102B only)

City/Town: WAYLAND Date: 11/12/01 Time: 10:05 ☒ AM ☐ PM

Release Address: 430 BOSTON POST ROAD

Use of Attachment (check one): ☐ Amendment to Release Log Form ☐ Attachment Page(s): _____ of: _____

F. INSPECTIONS OR SITE VISITS (also Follow-up Office Response): (check one)

☐ Initial Compliance Field Response - Announced
☐ Initial Compliance Field Response - Unannounced
☐ Compliance Field Response - Announced
☐ Compliance Field Response - Unannounced
☐ Short Notice Audit Inspection
☐ Field Response - Direct Oversight
☐ Follow-up or Other Field Response
☒ Follow-up Office Response

G. ADDITIONAL DESCRIPTION:

A conditional RAM approval letter was mailed to Raytheon Systems Company on Nov 6, 2001 for application of Remedial Additives ($KMnO_4$ / $NaMnO_4$) at the site. Based on discussions with Joe Fiacco and John Drabinski (LSP) of ERM, it was found that the site (or application location) is located at a distance greater than 800ft from the Baldwin Pond Well Field. Therefore 310 CMR 40.0046(3) of the MCP is not applicable and the RAM plan received by the Dept. on Sept. 12, 2001 did not require a written approval.

However the conditional requirements in the RAM Approval letter of Nov 6, 2001 should be followed for all future oxidant application (particularly $KMnO_4$ & $NaMnO_4$) after NOV 6, 2001.

H. DEP ASSIGNMENT: (complete if using BWSC-102A and 102B or BWSC-102B only)

Preparer of RLFA (please print): NIHAR MOHANTY Signature: Nmohanty

Staff Lead Assigned (if different from preparer): _____

☒ Check here if the Release or Threat of Release is unassigned.

☐ Check here if this RLFA records a change in staff lead.

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Metropolitan Boston – Northeast Regional Office

ARGEO PAUL CELLUCCI
Governor

JANE SWIFT
Lieutenant Governor

BOB DURAND
Secretary

LAUREN A. LISS
Commissioner

NOV 06 2001

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Raytheon Systems Company
1001 Boston Post Road, MS-1-2-1567
Marlborough, MA 01752-3789

Attn: Mr. Ronald C. Slager

RE: **WAYLAND**
430 Boston Post Road
Release Tracking #3-13574

CONDITIONAL APPROVAL OF
RELEASE ABATEMENT MEASURE
M.G.L. Chapter 21E, & 310 CMR 40.0000

Dear Mr. Slager:

On September 12, 2001, the Department of Environmental Protection (DEP) received a Release Abatement Measure (RAM) Plan from you for the performance of a remedial action at the above referenced site. The RAM Plan was prepared by Mr. John C. Drobinski, a Licensed Site Professional (License # 2198) with ERM, Inc., and was submitted to DEP Bureau of Waste Site Cleanup (BWSC) pursuant to 310 CMR 40.0440 of the Massachusetts Contingency Plan (MCP).

Release Abatement Measures are a class of remedial actions that are voluntarily undertaken at locations where a release of oil and/or hazardous material has occurred (disposal sites). Such response actions are intended to reduce risks at the disposal site, and/or to increase the cost effectiveness of future response actions which may be necessary at the disposal site, and are subject to approval by DEP/BWSC pursuant to Massachusetts General Law, Chapter 21E (MGL, c.21E), and 310 CMR 40.0000.

The site is located within the Zone II Wellhead Protection Area for the Baldwin Pond Well Field. Pursuant to 310 CMR 40.0046(3), application of Remedial Additives near water supplies requires written approval by the Department. The purpose of this correspondence is to: (a) inform you that the proposed RAM has been conditionally approved pursuant to 310 CMR 40.0443; and, (b) specify the conditions under which this RAM is granted approval.

RESPONSE ACTION APPROVAL

The proposed RAM Plan, as submitted by Ronald C. Slager, requests approval of the following activities:

(1) **Hydrogeological characterization of the site in the vicinity and up gradient of monitoring well MW-33:** A cone penetrometer (CPT) will be used to collect "real time" stratigraphic and permeability data to characterize hydrogeologic conditions. These data will be used to evaluate subsurface heterogeneity in the vicinity of well MW-33 and will aid in selecting an appropriate oxidant delivery system.

sampling vial/jar. If samples are quenched, data reporting should include the number of days between sample collection and sample analysis. The number of days between sample collection and sample analysis and the screen length of a monitoring well (for groundwater samples) should be collectively utilized in evaluation of the treatment effectiveness discussed in section II (4) earlier.

III. Required Submittals

Pursuant to the provisions of 310 CMR 40.0440, within 120 days of the date of this letter, one of the following reports must be received by DEP:

1.) A Release Abatement Measure Completion Statement (DEP Form BWSC-106) and a completion report, as specified in 310 CMR 40.0446, in cases where the proposed response actions have been completed; or

2.) A Release Abatement Measure Status Report, as specified in 310 CMR 40.0445, (accompanied by DEP Form BWSC-106), if the proposed response actions are ongoing; or

3.) A Response Action Outcome Statement (DEP Form BWSC-104), as specified in 310 CMR 40.1000, in cases where the proposed response actions have eliminated significant risk at the site such that no further response actions are necessary.

Reports concerning Release Abatement Measures should be addressed to DEP, Bureau of Waste Site Cleanup, Risk Reduction Section, 205 A Lowell Street, Wilmington, MA 01887.

Limitations

This letter constitutes conditional authorization from DEP/BWSC to proceed with the response action you have proposed to conduct. Such authorization is required by M.G.L. Chapter 21E, the Massachusetts Contingency Plan (MCP), and other applicable DEP/BWSC policies. However, you should be aware of the following limitations and additional considerations:

1.) In reviewing the Release Abatement Measure Plan, our primary intent was to ascertain whether the proposal, as presented, appeared to be protective of public health and environmental interests, and consistent with pertinent DEP regulations, policies, and accepted engineering practices. Our approval in this matter does not necessarily mean that we have determined that the proposed response action is optimal, sufficient, or cost-effective.

It is incumbent upon the environmental professional directing response operations to fully explain, document, and defend design and operational decisions. All such activities can be audited by DEP in conformance with the provisions of 310 CMR 40.1100;

2.) This approval is granted by DEP/BWSC under the provisions of M.G.L. Chapter 21E, the MCP, and other applicable DEP/BWSC policies. It is the responsibility of parties conducting response actions to obtain any other necessary federal, state, or local permits or approvals; and

3.) The Department's decision in this matter was based upon the information contained in the referenced proposal, and any other accompanying/previous submittals, and would be subject to review if these sources contained any material omissions or misstatements.

I. General Conditions

1.) This response action must be performed in a manner and to a degree which ensures the protection of human health, safety, public welfare and the environment;

2.) This response action must be conducted under the direct supervision of a competent professional with specific experience in site remediation/environmental engineering practices, using good engineering procedures and accepted construction practices, and must be managed, supervised, actually performed, or periodically reviewed by a Licensed Site Professional;

3.) The application of Remedial Additives must be conducted in compliance with the "Management Procedures for Remedial Wastewater and Remedial Additives" provisions specified in 310 CMR 40.0040.

3.) The Release Abatement Measure must be conducted in compliance with all applicable public involvement provisions specified in 310 CMR 40.0447;

4.) Pursuant to 310 CMR 40.0443(7), the remedial actions proposed in this Release Abatement Measure Plan must be initiated within one (1) year of the date of this approval letter;

5.) Pursuant to 310 CMR 40.0446(6), this Release Abatement Measure will not be considered complete until all stockpiled/stored Remediation Waste generated as a result of these activities has been removed from the site, or treated, recycled or reused at the site, unless a Remedy Implementation Plan pursuant to 310 CMR 40.0870 is submitted to the Department as an attachment to the Release Abatement Measure Completion Statement;

6.) All soil samples analyzed for VOCs must be preserved with methanol in accordance with EPA Method 5035;

7.) Pursuant to 310 CMR 40.1020, the feasibility of reducing the concentrations of oil and/or hazardous material in the environment to background conditions, or to levels which approach background conditions, must be evaluated before a Class A Response Action Outcome can be achieved at this site.

II. Site Specific Conditions and Recommendations

(1) **Identification & control of vapor migration pathways:** All potential vapor migration pathways to buildings, including piping, utilities, and sewers, must be identified. At a minimum, these identified locations must be monitored using soil gas probes for lower explosive limit (LEL), VOCs and oxygen (O_2) during data collection for the post-injection groundwater monitoring.

(2) **Baseline Analysis:** Note that pursuant to 310 CMR 40.0046(4)(a), you should collect soil samples in addition to the proposed groundwater samples at the disposal site to document the concentration of contaminants.

(3) **Details of oxidant application:** Note that pursuant to 310 CMR 40.0047(3), you should document and report details of the oxidant application including volume and concentration (or mass) of the applied oxidant.

(4) **Post-injection monitoring and evaluation of treatment effectiveness:** Groundwater monitoring proposed in the plan should be modified as follows: Groundwater samples from up gradient well locations should be included in the monitoring program. At a minimum, groundwater must be sampled quarterly for VOCs pursuant to 40.0046(4)(b) as long as injected oxidants are detected in any of the wells. To evaluate true effectiveness of the treatment, you should sample soil from the treatment zone for the presence of TCE and/or suspect oxidation bi-product(s). Measurement of total organic carbon (TOC) may be helpful to evaluate the treatment effectiveness.

(5) **Data collection:** When collecting soil and /or groundwater samples attempts should be made to quench the oxidants in-situ after sample collection. The effect of quenching on potential contaminant degradation should be evaluated and reported. If quenching is found to affect contaminant concentrations, attempts should be made to analyze the samples as early as possible to reduce additional contaminant degradation in the presence of the oxidant in the

(2) **Installation of injection and monitoring wells:** A total of five nested monitoring wells will be installed in the CPT boreholes in the vicinity of MW-33. The existing MW-33 well cluster will be used as the down gradient monitoring points. The locations of the wells are shown in a revised Figure 1 received by the Department on October 19, 2001.

A total of six single-screen monitoring wells will be installed in the vicinity and down gradient of well MW-43S as shown in Figure 8 of the Plan. The area in the vicinity of well MW-43S is believed to be the potential source area.

(3) **Selection of an oxidant for effective degradation of TCE at the site:** A bench-scale evaluation of the suitability of sodium permanganate, potassium permanganate and sodium persulfate will be conducted using soils from the site. Although all of the oxidants are known to be effective in degradation of trichloroethylene (TCE), oxidant selection will be based on the "soil oxidant demand (SOD)" and the oxidant with a lower SOD will be selected for the proposed pilot-scale study. Based on a discussion with Mr. John C. Drobinski on October 19, 2001, sodium and potassium permanganates were selected as oxidants due to a low SOD of 0.05 gram /kg of soil. Based on TCE concentrations in groundwater at the site, the SOD, persistence of the oxidant in the subsurface, and an estimated radius of influence, application concentration of the chosen oxidant will be estimated.

(4) **Establishing baseline conditions:** Groundwater samples will be collected from the monitoring wells in test areas prior to application of the oxidant to establish background aquifer geochemistry. Samples will be collected for pH, temperature, electrical conductivity, color, Eh, tracer (fluoride), dissolved oxygen (DO), volatile organic compounds (VOCs), manganese and chromium.

(5) **Application of oxidant using the Direct Push Injection in the vicinity of the MW-33 well cluster, located in the southernmost part of the site (Figure 2 of Plan):** The direct push injection will include two to three direct push injection points located up gradient of the MW-33 cluster and a series of direct-push nested monitoring wells located up-gradient, cross-gradient and down gradient of the injection wells. A 2% potassium permanganate solution (oxidant) and a conservative tracer (fluoride) will be injected under pressure and allowed to "mix" in the study area via natural advection and diffusion. Groundwater samples will be collected to evaluate the flowrate and dispersion of the oxidant in the aquifer and contaminant degradation.

(6) **Application of the oxidant using Single Well injection at well MW-43S (Figure 3):** A 4% sodium permanganate solution will be applied under gravity and allowed to migrate under natural advection and diffusion. The radius of influence and the effectiveness of the oxidant in degrading TCE will be monitored at the six down-gradient monitoring wells previously described.

(7) **Post-injection groundwater monitoring:** After a day of oxidant injection, groundwater samples will be collected for field parameters (described in the section 'Establishing baseline conditions'), fluoride, and laboratory analysis of VOCs to evaluate dilution of the oxidant in the subsurface. Field parameters and fluoride monitoring will be conducted weekly following the oxidant injection to evaluate tracer and oxidant breakthrough. Once oxidant breakthrough is detected at a monitoring well, samples will be collected for laboratory analysis of VOCs. Groundwater samples will be collected from all monitoring wells one and two months following the detection of oxidant at the closest down gradient monitoring well. The final monitoring round (the two month round) will also include analysis of manganese and chromium to evaluate residual impacts to groundwater quality.

The Department's approval of the activities described above is contingent upon your adherence to the following conditions of approval, and to the provisions of all applicable DEP Policies governing response actions. Your initiation of the approved activities will constitute your understanding and acceptance of these conditions of approval.

Your cooperation in this matter is appreciated. If you have any further questions regarding this matter, please contact Nihar Mohanty at (978) 661-7691 or at the letterhead address. All future correspondence regarding this location must reference the DEP Release Tracking Number listed in the subject heading.

Very truly yours,

Nihar Mohanty
Environmental Engineer

Iris W. Davis
Section Chief
Permits/Risk Reduction Branch

cc: Wayland Director of Public Health, Wayland Town Building, Board of Health Office, 41 Cochituate Road, Wayland, MA 01778

Wayland Fire Department
Mr. John C. Drobinski, LSP, ERM, Inc., 399 Boylston Street, 6th Floor, Boston, MA 02116
Data Entry/File/ RAM/APWRIT

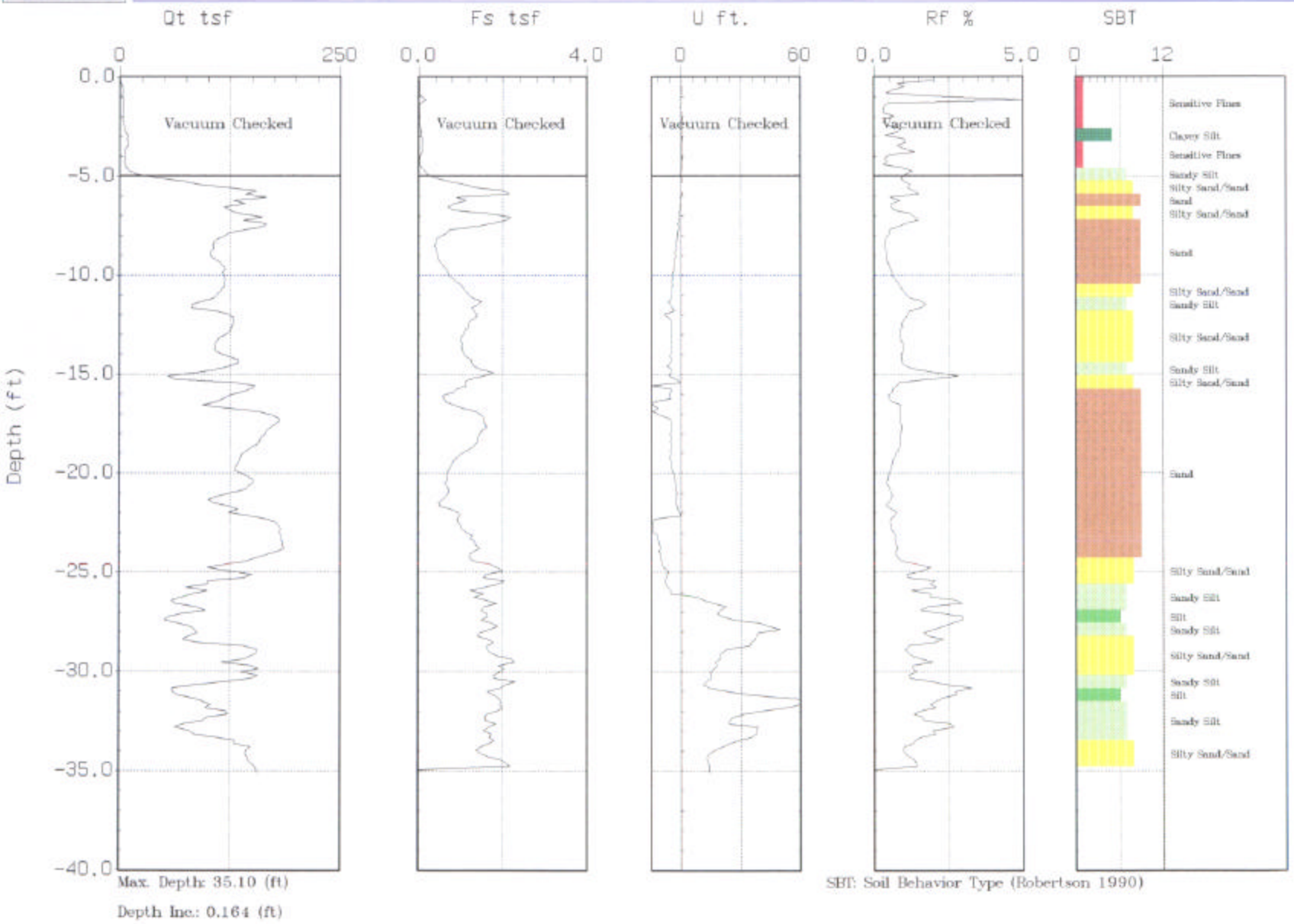
Appendix C
Boring Logs

CONETEC

ERM

Site : MW-107
Location : Raytheon

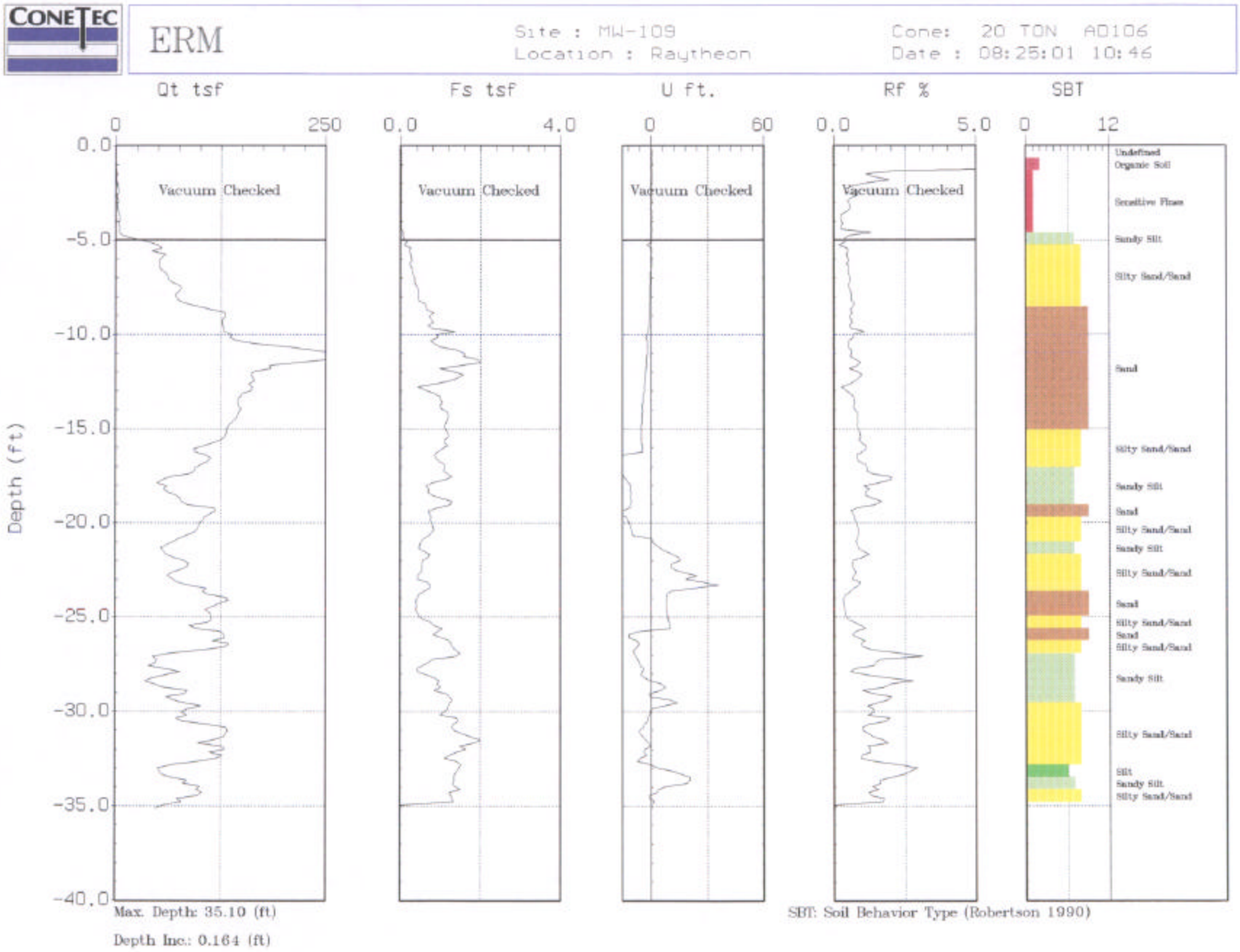
Cone: 20 TON AD106
Date : 08:25:01 08:55



Max. Depth: 35.10 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

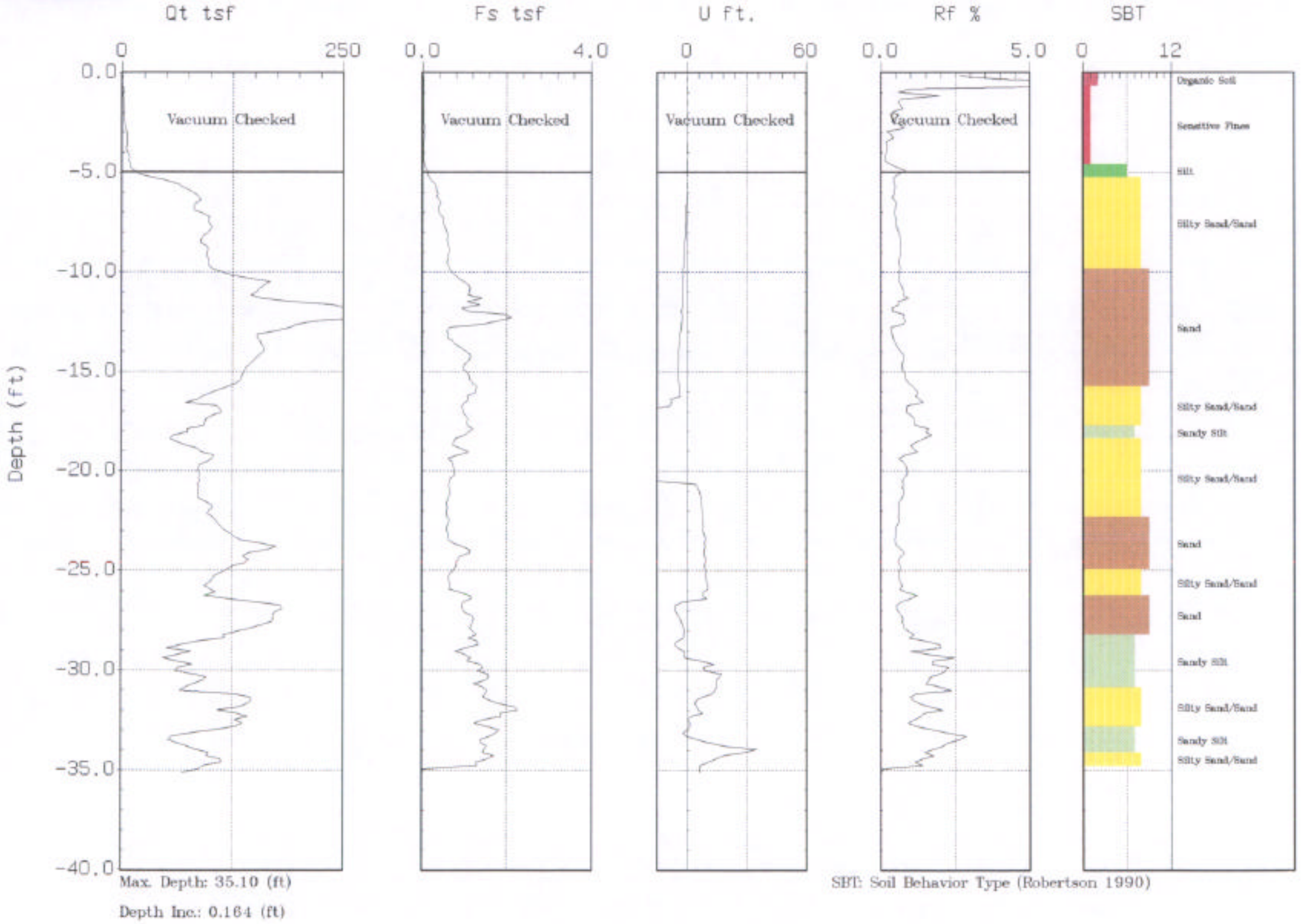

CONETEC
ERM
Site : MW-109
Location : Raytheon
Cone: 20 TON AD106
Date : 08:25:01 10:46
Qt tsf
Fs tsf
U ft.
Rf %
SBT
Vacuum Checked
Vacuum Checked
Vacuum Checked
Vacuum Checked
Depth (ft)
Undefined
Organic Soil
Sensitive Fines
Sandy Silt
Silty Sand/Sand
Sand
Silty Sand/Sand
Sandy Silt
Sand
Silty Sand/Sand
Sandy Silt
Silty Sand/Sand
Sand
Silty Sand/Sand
Sand
Silty Sand/Sand
Sandy Silt
Silty Sand/Sand
Silt
Sandy Silt
Silty Sand/Sand
Max. Depth: 35.10 (ft)
Depth Inc.: 0.164 (ft)
SBT: Soil Behavior Type (Robertson 1990)

CONETEC

ERM

Site : MW-111
Location : Raytheon

Cone: 20 TON AD106
Date : 08:25:01 11:37



Max. Depth: 35.10 (ft)

Depth Inc.: 0.164 (ft)

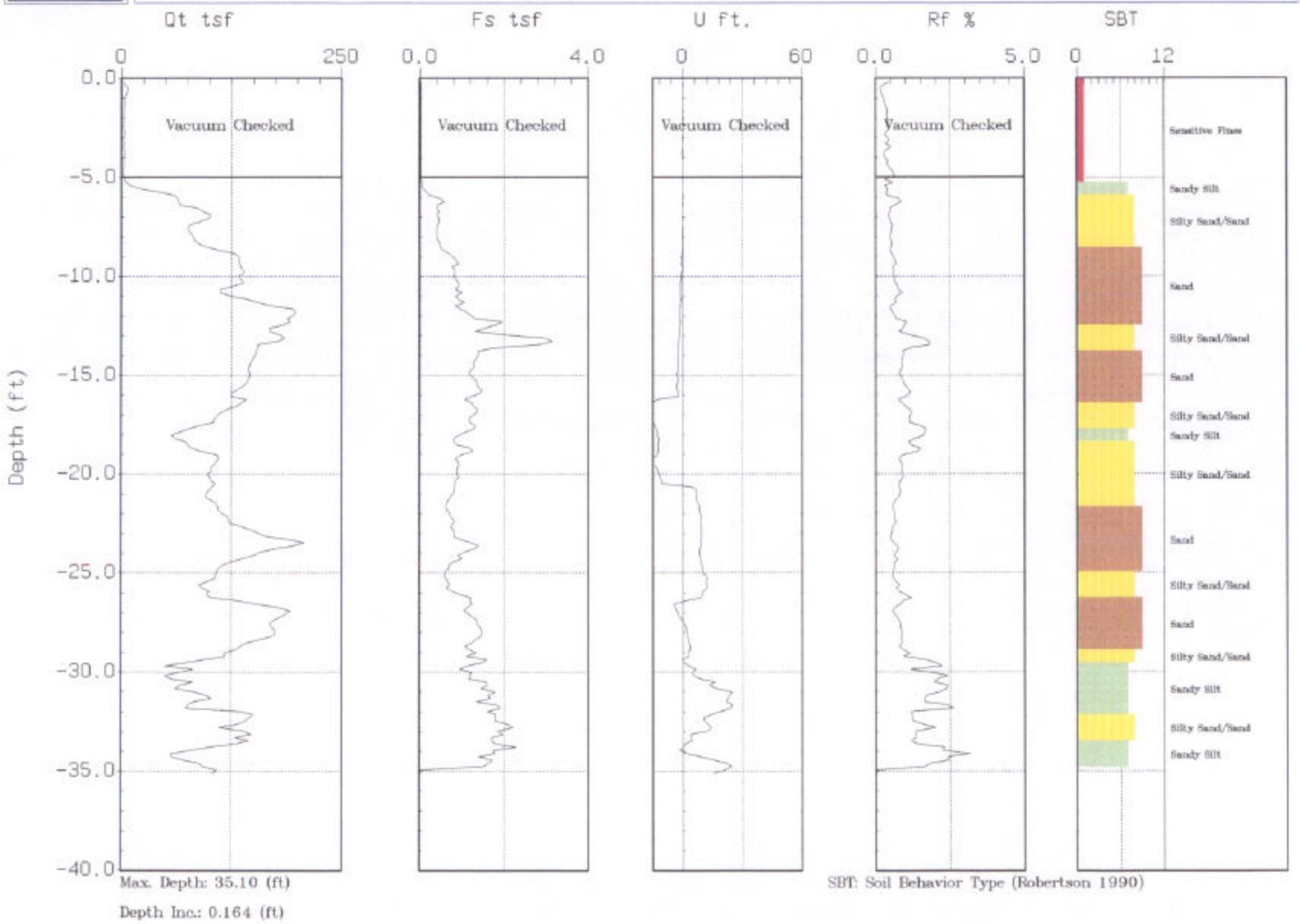
SBT: Soil Behavior Type (Robertson 1990)

CONETEC

ERM

Site : MW-113
Location : Raytheon

Cone: 20 TON AD106
Date : 08:25:01 12:41



Max. Depth: 35.10 (ft)

Depth Inc.: 0.164 (ft)

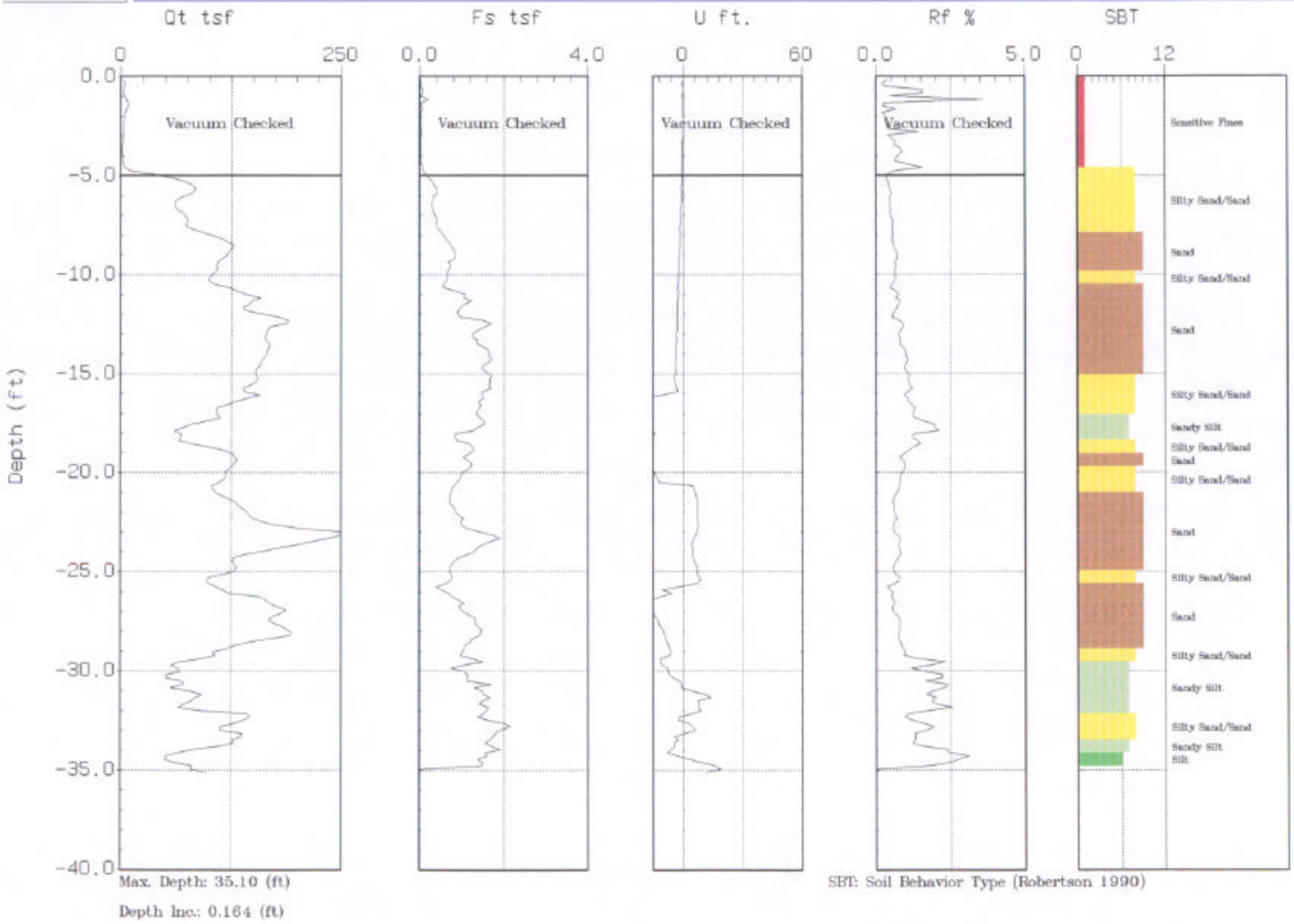
SBT: Soil Behavior Type (Robertson 1990)

CONETEC

ERM

Site : MW-115
Location : Raytheon

Cone: 20 TON AD106
Date : 08:25:01 13:23



Max. Depth: 35.10 (ft)

Depth Inc.: 0.164 (ft)

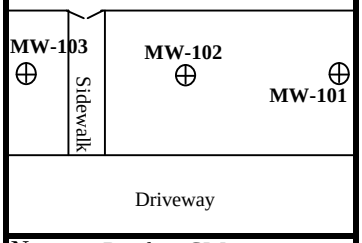
SBT: Soil Behavior Type (Robertson 1990)

DRILLING LOG for Well #: MW-101

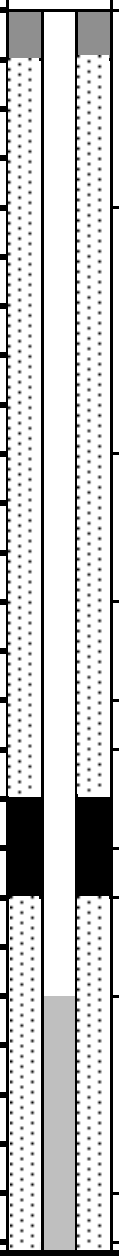
ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.60		
Client:	Raytheon	Logged by:	Viktoria Zoltay		
Drilling Co:	Geosearch, Inc.	Driller:	Steven Law		
Date Started:	25-Aug-01	Date Finished:	25-Aug-01		
Location:	Wayland, Massachusetts	Drilling Method:	GeoProbe		
Screen Diam:	1"	Length:	10'	Slot Size:	0.010"
Casing Diam:	1"	Length:	20'	Type:	PVC
Boring Depth:	30'	Well Depth	30'	Boring Diam.:	3"
Surface Elev.:	134.37	MP:	PVC	Depth to GW:	20.17'
		MP Elev.:	134.05		

SITE MAP ← N



Notes: Depth to GW measured on 8/28/01

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Depth	PID Conc. (ppm)	Lab Sample # & Analyses
0-25		FILL			Backfill.	0'-4'	0.0	
		SAND			Brown, fine SAND w/ interbedded Gravel.	4'-9'	0.0	
		SAND			Light brown, fine SAND.	9'-12.5'	0.0	
		SAND			Brown, very fine SAND to silty SAND.	12.5'-13.5'	0.0	
		SAND			Light brown, fine SAND.	13.5'-15'	0.0	
		SAND			Brown, very fine SAND to silty SAND.	15'-16.5'	0	
		SAND & SILT			Brown, very fine SAND to grey SILT.	16.5'-17.5'	0.0	
		SAND			Brown, very fine SAND.	17.5'-20'	0.0	
		SAND			Brown, fine SAND.	20'-24'	0.0	
		SAND			Brown, medium SAND w/ interbedded Gravel.	24'-25'	0.0	

Key to Well Construction

Sandpack | Well Screen
Bentonite Seal | Cement

DRILLING LOG for Well #: MW-101

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

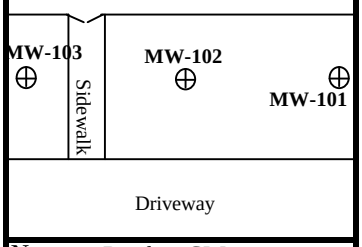
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Depth	PID Conc. (ppm)	Lab Sample # & Analyses
26		SAND			Brown, very fine silty SAND.	25'-27.5'		
27								
28		SILT			Brown, to grey clayey SILT.	27.5'-29'		
29								
30		SILT			Grey SILT.	29'-30'		
31					Bottom of Boring at 30' bgs.			
32								
33								
34								
35					Well Construction Details:			
36					Flushmount Roadbox			
37					0'-1' Concrete Surface Seal			
38					1'-16' Sand			
39					16'-18' Bentonite			
40					18'-30' #1 Silica Sand Filter Pack			
41					20'-30' #0.010" Slotted PVC Well Screen			
42					30' Bottom of Boring			
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								

DRILLING LOG for Well #: MW-102

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.60		
Client:	Raytheon	Logged by:	Viktoria Zoltay		
Drilling Co:	Geosearch, Inc.	Driller:	Steven Law		
Date Started:	25-Aug-01	Date Finished:	25-Aug-01		
Location:	Wayland, Massachusetts	Drilling Method:	GeoProbe		
Screen Diam:	1"	Length:	10'	Slot Size:	0.010"
Casing Diam:	1"	Length:	20'	Type:	PVC
Boring Depth:	30'	Well Depth	30'	Boring Diam.:	3"
Surface Elev.:	134.27	MP:	PVC	Depth to GW:	20.01'
		MP Elev.:	134.24		

SITE MAP ← N



Notes: Depth to GW measured on 8/27/01

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Depth	PID Conc. (ppm)	Lab Sample # & Analyses
0					Soil collected at MW-101.			
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

Key to Well Construction

Sandpack
Well Screen
Bentonite Seal
Cement

DRILLING LOG for Well #: MW-102

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

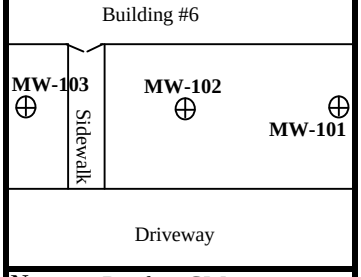
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Depth	PID Conc. (ppm)	Lab Sample # & Analyses
26								
27								
28								
29								
30					Bottom of Boring at 30' bgs.			
31								
32								
33								
34								
35					Well Construction Details:			
36					Flushmount Roadbox			
37					0'-1' Concrete Surface Seal			
38					1'-16' Sand			
39					16'-18' Bentonite			
40					18'-30' #1 Silica Sand Filter Pack			
41					20'-30' #0.010" Slotted PVC Well Screen			
42					30' Bottom of Boring			
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								

DRILLING LOG for Well #: MW-103

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.60		
Client:	Raytheon	Logged by:	Viktoria Zoltay		
Drilling Co:	Geosearch, Inc.	Driller:	Steven Law		
Date Started:	25-Aug-01	Date Finished:	25-Aug-01		
Location:	Wayland, Massachusetts	Drilling Method:	GeoProbe		
Screen Diam:	1"	Length:	10'	Slot Size:	0.010"
Casing Diam:	1"	Length:	20'	Type:	PVC
Boring Depth:	30'	Well Depth	30'	Boring Diam.:	3"
Surface Elev.:	134.28	MP:	PVC	Depth to GW:	17.05'
		MP Elev.:	133.94		

SITE MAP ← N



Notes: Depth to GW measured on 8/27/01

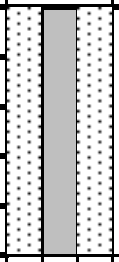
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Depth	PID Conc. (ppm)	Lab Sample # & Analyses
0					Soil collected at MW-101.			
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

Key to Well Construction

Sandpack
Bentonite Seal
Well Screen
Cement

DRILLING LOG for Well #: MW-103

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

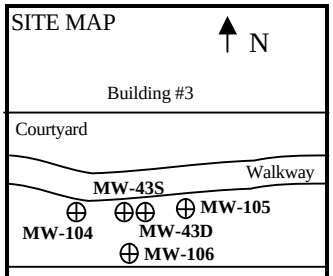
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Depth	PID Conc. (ppm)	Lab Sample # & Analyses
26								
27								
28								
29								
30					Bottom of Boring at 30' bgs.			
31								
32								
33								
34								
35					Well Construction Details:			
36					Flushmount Roadbox			
37					0'-1' Concrete Surface Seal			
38					1'-16' Sand			
39					16'-18' Bentonite			
40					18'-30' #1 Silica Sand Filter Pack			
41					20'-30' #0.010" Slotted PVC Well Screen			
42					30' Bottom of Boring			
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								

DRILLING LOG for Well #: MW-104

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.60		
Client:	Raytheon	Logged by:	Viktoria Zoltay		
Drilling Co:	Geosearch, Inc.	Driller:	Steven Law		
Date Started:	25-Aug-01	Date Finished:	25-Aug-01		
Location:	Wayland, Massachusetts	Drilling Method:	GeoProbe		
Screen Diam:	1"	Length:	10'	Slot Size:	0.010"
Casing Diam:	1"	Length:	10'	Type:	PVC
Boring Depth:	20'	Well Depth	20'	Boring Diam.:	3"
Surface Elev.:	134.37	MP:	PVC	Depth to GW:	15.33'
		MP Elev.:	133.77		

SITE MAP



Notes: Depth to GW measured on 8/27/01

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Depth	PID Conc. (ppm)	Lab Sample # & Analyses
0-7		FILL			Backfill.	0'-7.5'	0.0	
7-10		SAND			Light to dark brown, very fine SAND to silty SAND.	7.5'-10'	0.0	
10-15		SAND			Light to dark brown, medium to coarse SAND with ~0.25" SILT layer.	10'-15'	0.0	
15-20		SAND			Brown, very fine SAND with grey, clayey SILT layers/pockets. Bottom 2" grey clayey SILT. Bottom of Boring at 20' bgs.	15'-20'	0.0	
20-25					Well Construction Details: Flushmount Roadbox 0'-1' Concrete Surface Seal 1'-6' Sand 6'-8' Bentonite 8'-20' #1 Silica Sand Filter Pack 10'-20' #0.010" Slotted PVC Well Screen 20' Bottom of Boring			

Key to Well Construction

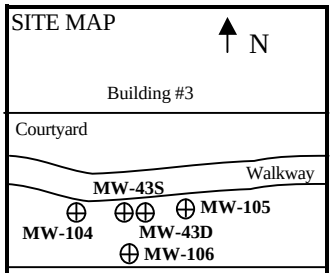
Sandpack | Well Screen
Bentonite Seal | Cement

DRILLING LOG for Well #: MW-105

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.60		
Client:	Raytheon	Logged by:	Viktoria Zoltay		
Drilling Co:	Geosearch, Inc.	Driller:	Steven Law		
Date Started:	25-Aug-01	Date Finished:	25-Aug-01		
Location:	Wayland, Massachusetts	Drilling Method:	GeoProbe		
Screen Diam:	1"	Length:	10'	Slot Size:	0.010"
Casing Diam:	1"	Length:	10'	Type:	PVC
Boring Depth:	20'	Well Depth	20'	Boring Diam.:	3"
Surface Elev.:	134.74	MP:	PVC	Depth to GW:	15.49'
		MP Elev.:	134.29		

SITE MAP



Notes: Depth to GW measured on 8/27/01

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Depth	PID Conc. (ppm)	Lab Sample # & Analyses
0-10		FILL			Backfill.	0'-10'	0.0	
10-11		SAND			Brown, fine to very fine SAND.	10'-11.5'	0.0	
11-12		SAND			Dark brown, medium SAND.	11.5'-13.5'	0.0	
13-14		SILT			Brown to grey-brown, clayey SILT.	13.5'-14.5'	0.0	
14-15		SAND & SILT			Light brown, very fine SAND to SILT.	14.5'-15'	0.0	
15-18		SAND			Brown, medium SAND.	15'-18'	0.0	
18-19		SAND & SILT			Brown/grey SILT w/ trace of Clay; fine SAND.	18'-19'	0.0	
19-20		SAND			Brown, very fine SAND.	19'-20'	0.0	
20-25					Well Construction Details: Flushmount Roadbox 0'-1' Concrete Surface Seal 1'-6' Sand 6'-8' Bentonite 8'-20' #1 Silica Sand Filter Pack 10'-20' #0.010" Slotted PVC Well Screen 20' Bottom of Boring			

Key to Well Construction

Sandpack | Well Screen

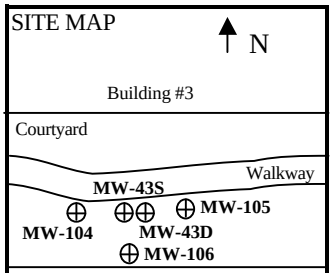
Bentonite Seal | Cement

DRILLING LOG for Well #: MW-106

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.60		
Client:	Raytheon	Logged by:	Viktoria Zoltay		
Drilling Co:	Geosearch, Inc.	Driller:	Steven Law		
Date Started:	25-Aug-01	Date Finished:	25-Aug-01		
Location:	Wayland, Massachusetts	Drilling Method:	GeoProbe		
Screen Diam:	1"	Length:	10'	Slot Size:	0.010"
Casing Diam:	1"	Length:	10'	Type:	PVC
Boring Depth:	20'	Well Depth	20'	Boring Diam.:	3"
Surface Elev.:	135.02	MP:	PVC	Depth to GW:	16.07'
		MP Elev.:	134.47		

SITE MAP



Notes: Depth to GW measured on 8/27/01

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Depth	PID Conc. (ppm)	Lab Sample # & Analyses
0-7		FILL			Backfill.	0'-7'	0.0	
7-8		SAND			Light brown, fine SAND.	7'-8.5'	0.0	
8-9		SAND			Brown/tan, very fine SAND.	8.5'-9.5'	0.0	
9-12		SAND			Brown, medium to coarse SAND w/ interbedded Gravel.	9.5'-12.5'	0.0	
12-13		SAND			Medium SAND w/ SILT.	12.5'-13.5'	0.0	
13-15		SAND			Medium to coarse SAND w/ SILT.	13.5'-15'		
15-17		SAND & SILT			Brown, very fine SAND and greyish brown, clayey SILT.	15'-17'		
17-18		SAND			Brown, fine SAND.	17'-18'	0.0	
18-19		SAND & SILT			Brown, very fine SAND and clayey SILT.	18'-18.5'	0.0	
19-20		SILT			Grey/ dark grey, clayey SILT.	18.5'-20'	0.0	
20-25					Well Construction Details: Flushmount Roadbox 0'-1' Concrete Surface Seal 1'-6' Sand 6'-8' Bentonite 8'-20' #1 Silica Sand Filter Pack 10'-20' #0.010" Slotted PVC Well Screen 20' Bottom of Boring			

Key to Well Construction

Sandpack | Well Screen

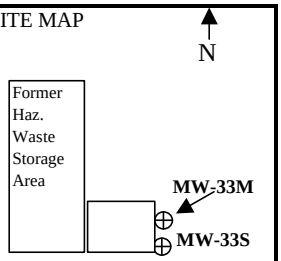
Bentonite Seal | Cement

DRILLING LOG for Well #: MW-33S

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.45		
Client:	Raytheon	Logged by:	Ryan Bagley		
Drilling Co:	Geosearch, Inc.	Driller:	AJ/Rodney K.		
Date Started:	14-May-98	Date Finished:	14-May-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	25'	Type:	PVC
Boring Depth:	30'	Well Depth:	30'	Boring Diam.:	8"
Surface Elev.:	133.91'	MP:	PVC	Depth to GW:	17.02'
		MP Elev.:	133.79'		

SITE MAP



Notes: Depth to GW measured on 5/18/98

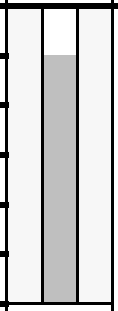
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	HS Conc. (ppm)	Lab Sample # & Analyses
0								
1								
2								
3								
4								
5								
6					No split spoons collected			
7								
8								
9					Well Construction Details:			
10					Steel Protective Standpipe			
11					0'-1' Cement surface seal			
12					1'-22' Portland cement/bentonite grout			
13					22'-24' Bentonite chip seal			
14					24'-30' # 1 silica sand filter pack			
15					25'-30' 0.010" slotted PVC well screen			
16					30' Bottom of boring			
17								
18								
19								
20								
21								
22								
23								

Footnotes for Blowcounts
(1) 140 lb. Hammer
(2) 300 lb. Hammer
(3) Slide Hammer

Key to Well Construction
Sandpack
Well Screen
Portland Cement/Bentonite Grout
Bentonite Seal
Cement

DRILLING LOG for Well #: MW-33S

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

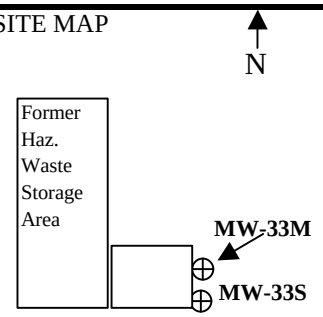
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
25								
26								
27								
28								
29								
30								

DRILLING LOG for Well #: MW-33M

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.45		
Client:	Raytheon	Logged by:	Ryan Bagley		
Drilling Co:	Geosearch, Inc.	Driller:	AJ/Rodney K.		
Date Started:	13-May-98	Date Finished:	13-May-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	45'	Type:	PVC
Boring Depth:	50'	Well Depth	50'	Boring Diam.:	8"
Surface Elev.:	133.91'	MP:	PVC	Depth to GW:	17.74'
		MP Elev.:	133.57'		

SITE MAP



Notes: Depth to GW measured on 5/18/98

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	HS Conc. (ppm)	Lab Sample # & Analyses
0-1		SAND & SILT	2,2 2,5	16"	Brown medium to fine SAND and SILT, well sorted, damp	S-1 0'-2'	0.0	
2-3		SAND & SILT	5,6 8,7	12"	Brown medium to fine SAND and SILT, trace Gravel, damp	S-2 2'-4'	0.0	
4-5		SAND	6,6 4,5	20"	Brown medium to fine SAND, some Silt, trace Gravel, damp	S-3 4'-6'	0.0	
6-8		SAND & SILT	6,6 9,10	18"	Brown fine SAND and SILT, well sorted, damp	S-4 6'-8'	0.0	
8-10		SAND & SILT	7,6 10,9	16"	Brown fine SAND and SILT, well sorted, damp	S-5 8'-10'	0.0	
10-12		SAND	10,9 7,7	18"	Brown medium to coarse SAND, some Silt, wet	S-6 10'-12'	0.0	
12-14		SAND	10,9 8,8	7"	Brown medium to coarse SAND, some Silt, wet	S-7 12'-14'	0.0	
14-16		SAND & SILT	7,14 9,11	12"	Brown-grey fine SAND and SILT, trace Clay, well sorted, saturated	S-8 14'-16'	0.0	
16-20								
20-22		SAND & SILT	4,4 3,4	22"	Brown fine SAND and SILT, trace Clay, well sorted, saturated	S-9 20'-22'	0.0	
22-23								

Footnotes for Blowcounts
(1) 140 lb. Hammer
(2) 300 lb. Hammer
(3) Slide Hammer

Key to Well Construction
Sandpack; Well Screen; Portland Cement/Bentonite Grout; Bentonite Seal; Cement

DRILLING LOG for Well #: MW-33M

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
25								
26		SAND & SILT	6,6 5,6	24"	Brown-grey fine SAND and SILT, trace Clay, well sorted, saturated	S-10 25'-27'	0.0	
27								
28								
29								
30								
31		SAND & SILT	9,14 11,12	24"	Brown fine SAND and SILT, trace Clay, saturated	S-11 30'-32'	0.0	
32								
33								
34								
35								
36		SILT	7,7 6,12	8"	Grey SILT, trace Clay and very fine Sand, saturated	S-12 35'-37'	0.0	
37								
38								
39								
40								
41		SILT	5,5 6,4	10"	Grey SILT, trace Clay and very fine Sand, saturated	S-13 40'-42'	0.0	
42								
43								
44								
45		SILT	4,6 6,5	7"	Grey SILT, trace Clay and very fine Sand, saturated	S-14 45'-47'	0.0	
46								
47		SILT	5,7 7,6	15"	Grey SILT, trace Clay and very fine Sand, saturated	S-15 47'-49'	0.0	
48								
49								
50					Well Construction Details on Following Page			
51								
52								
53								
54								

DRILLING LOG for Well #: MW-33M

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

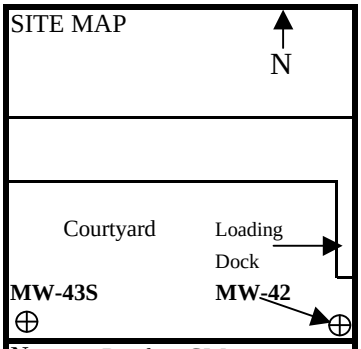
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
56								
57					Well Construction Details:			
58					Steel Protective Standpipe			
59					0'-1' Concrete surface seal			
60					1'-41' Portland cement/bentonite grout			
61					41'-44' Bentonite chip seal			
62					44'-50' # 1 silica sand filter pack			
63					45'-50' 0.010" slotted PVC well screen			
64					50' Bottom of boring			
65								
66								
67								
68								
69								
70								
71								
72								
73								
74								
75								
76								
77								
78								
79								
80								
81								
82								
83								
84								
85								

DRILLING LOG for Well #: MW-43S

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.45		
Client:	Raytheon	Logged by:	Ryan Bagley		
Drilling Co:	Geosearch, Inc.	Driller:	Mike D'Amico		
Date Started:	2-Nov-98	Date Finished:	2-Nov-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	15'	Type:	PVC
Boring Depth:	20'	Well Depth	20'	Boring Diam.:	8"
Surface Elev.:	134.37'	MP:	PVC	Depth to GW:	14.62'
		MP Elev.:	133.82'		

SITE MAP



Notes: Depth to GW measured on 11/17/98

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	HS Conc. (ppm)	Lab Sample # & Analyses
0					Well Construction Details:			
1					Protective Flushmount Roadbox			
2					0'-1' Concrete surface seal			
3					1'-11' Native backfill			
4					11'-13' Bentonite chip seal			
5					13'-20' #1 silica sand filter pack			
6					15'-20' 0.010 slotted PVC well screen			
7					20' Bottom of boring			
8					23' Bottom of Spoon Sampling			
9								
10								
11		FILL	10,13 15,17	10"	Brown to black FILL, Asphalt, some medium to fine Sand, poorly sorted, dry	S-1 10'-12'	0.8	
12								
13								
14								
15								
16		SAND & SILT	10,12 14,14	18"	Brown fine SAND and SILT, well sorted, damp	S-2 15'-17'	3.1	
17								
18		SAND	14,17 21,25	17"	Brown fine SAND, trace Silt, well sorted, saturated	S-3 17'-19'	2.1	
19								
20								
21								
22		SAND & SILT	12,12 12,14	21"	Brown fine SAND and SILT, trace Clay, well sorted, saturated [iron staining]	S-4 21'-23'	2.2	
23								
24								

Footnotes for Blowcounts
(1) 140 lb. Hammer
(2) 300 lb. Hammer
(3) Slide Hammer

Key to Well Construction
Sandpack, Well Screen, Drill Cuttings, Bentonite Seal, Cement

DRILLING LOG for Well #: MW-43S

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

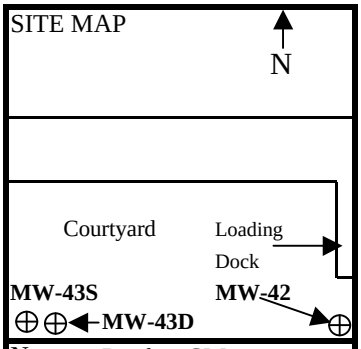
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
					Well Construction Details:			
					Protective Flushmount Roadbox			
					0'-1' Concrete surface seal			
					1'-11' Native backfill			
					11'-13' Bentonite chip seal			
					13'-20' #1 silica sand filter pack			
					15'-20' 0.010 slotted PVC well screen			
					20' Bottom of boring			

DRILLING LOG for Well #: MW-43D

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Project:	Raytheon - Wayland	Project Number:	143.50		
Client:	Raytheon	Logged by:	Ryan Bagley		
Drilling Co:	Geosearch, Inc.	Driller:	Tom Belsky		
Date Started:	24-Mar-00	Date Finished:	24-Mar-00		
Location:	Wayland, Massachusetts	Drilling Method:	4.25" ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	50'	Type:	PVC
Boring Depth:	55'	Well Depth	55'	Boring Diam.:	8"
Surface Elev.:	134.55'	MP:	PVC	Depth to GW:	15.71'
		MP Elev.:	134.55'		

SITE MAP



Notes: Depth to GW measured on 4/5/00

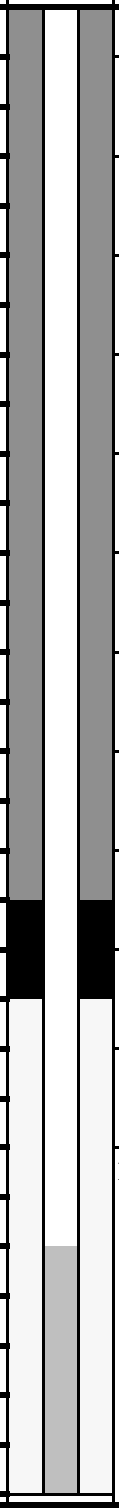
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	HS Conc. (ppm)	Lab Sample # & Analyses
0-10								
10-12		FILL	10,13 15,17	10"		S-1 10'-12'	0.8	
12-15								
15-17		SAND & SILT	10,12 14,14	18"	Brown fine SAND and SILT, well sorted, damp	S-2 15'-17'	3.1	
17-19		SAND	14,17 21,25	17"	Brown fine SAND, trace Silt, well sorted, saturated	S-3 17'-19'	2.1	
19-21								
21-23		SILT SAND	7,7 8,7	15"	Brown fine SAND and SILT, trace Clay, well sorted, saturated [iron staining], bedded, loose, wet	S-4 21'-23'	2.2	
23-24					1/2" layer of med-coarse sand at about 21.5'.			

Footnotes for Blowcounts
(1) 140 lb. Hammer
(2) 300 lb. Hammer
(3) Slide Hammer

Key to Well Construction
Sandpack; Well Screen; Drill Cuttings; Bentonite Seal; Portland cement-bentonite slurry grout

DRILLING LOG for Well #: MW-43D

ERM
399 Boylston Street, 6th Floor
Boston, MA 02116

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
26		SAND	9,9,11,11	18"	Brown, fine to v.fine SAND, some med. Sand, well sorted, loose, bedded, wet; 1/2" layer of orange & black staining at 25'	S-5/25'-26'	33.2	
27		SAND & SILT	10,11 11,10	24"	Brown, interbedded layers of fine SAND and SILT, well sorted, loose, wet; orange staining ~26.5' (2" thick) and 27.5' (1" thick)	S-6 26'-28'	2.2 1.0	
28		SAND	10,10 12,13	24"	Brown, interbedded fine SAND, v.fine SAND and med. SAND, well sorted, loose, wet; orange staining ~29.5' (two 1/2" thick layers)	S-7 28'-30'	0.0	
30		SAND	6,6 7,7	24"	Brown, medium SAND, well sorted, homogenous, loose, wet; orange staining from 31.5'-32.0'	S-8 30'-32'	0.0	
32		SAND	8,9 12,11	24"	Brown, fine SAND, well sorted, homogeneous, loose, wet; orange staining from 33.0'-33.2' and from 33.7'-34.0'	S-9 32'-34'	0.0	
34		SAND	weight of rods	24"	Grey, fine SAND, well sorted, homogenous, loose, wet	S-10 34'-36'	0.0	
36		SAND	weight of rods	18"	Grey, fine SAND, well sorted, homogeneous, loose, wet	S-11 36'-38'	0.0	
38		SAND	weight of rods	24"	Grey, fine to v.fine SAND, well sorted, homogeneous, loose, wet	S-12 38'-40'	0.0	
40		SAND	weight of rods	24"	Grey, fine to v.fine SAND, well sorted, homogeneous, loose, wet; orange staining (two 1"thick layers) between 41.5'-42.0'	S-13 40'-42'	0.0	
42		SAND	12,15 12,11	24"	Grey, fine to v.fine SAND, well sorted, homogeneous, loose, wet; bottom 3" of spoon contains broken rock clasts	S-14 42'-44'	0.0	
44		SILT & SAND	41,46 43,39	12"	Grey SILT and fine SAND, some medium coarse Sand, trace fine to med gravel, poorly sorted, compact, wet; TILL	S-15 44'-46'	0.0	
46		SILT & SAND	38,34 29,31	24"	Grey SILT and fine SAND, some medium coarse Sand, trace fine to med gravel, poorly sorted, compact, wet; TILL	S-14 46'-48'	0.0	
48								

Note: Advanced augers to 55 feet; top of bedrock noted at 54 feet.

<u>Well Construction Details</u>

Flush-mount Roadbox
0-2' Concrete surface seal
2-43' Portland cement-bentonite slurry grout
43-45' Bentonite chip seal
45-55' #1 Silica sand filter pack
50-55' 0.010" slotted PVC well screen
55' Bottom of borehole

Appendix D
Comprehensive Groundwater Monitoring Round Data

Table 1
Summary of Groundwater Gauging Data
Raytheon Company
Wayland, Massachusetts

Well Designation	Measuring Point	Measuring Pt. Elevation (feet ASL)	Depth to Water (feet from measuring point)						
			27-May-98	17-18 Nov 98	28-29 July 99	14-Sep-99	5-Apr-00	10-Jul-00	27-29 Aug 01
MW-1	Steel Microwell	132.98	7.90	-	-	-	8.20	-	-
MW-2	Steel Microwell	136.25	12.49	-	-	-	-	-	-
MW-5	Steel Microwell	132.32	-	17.85	-	-	-	-	-
MW-6	Steel Microwell	134.40	15.69	18.40	-	-	-	-	-
MW-9	Steel Microwell	120.85	4.65	-	-	-	-	-	-
MW-10	PVC	130.86	6.82	10.10	10.87	-	7.41	-	10.26
MW-32	PVC	124.43	2.51	4.81	6.89	-	2.10	-	6.58
MW-33S*	PVC	133.79	17.14	18.74	18.91	19.59	16.40	16.61	18.33
MW-33M*	PVC	133.57	18.71	17.70	19.69	19.47	16.90	18.25	19.10
MW-33D	PVC	133.80	-	-	20.05	19.38	16.93	18.29	18.34
MW-33B	PVC	133.88	-	-	-	-	17.00	18.71	19.20
MW-34	PVC	136.71	5.56	11.36	14.26	-	10.81	-	13.9
MW-35	PVC	132.80	12.84	-	-	-	-	-	-
MW-36	PVC	132.52	14.20	-	-	-	-	-	-
MW-37	PVC	134.41	13.91	16.20	17.54	-	15.29	15.44	17.08
MW-37M	PVC	134.38	-	17.93	19.81	-	16.61	17.65	18.47
MW-38	PVC	134.46	13.94	15.28	16.54	-	14.73	-	16.20
MW-39	PVC	134.89	13.83	15.48	-	-	-	-	-
MW-40	PVC	134.88	13.65	15.46	16.45	-	15.07	-	16.60
MW-40S	PVC	134.87	13.63	15.46	16.44	-	15.04	-	16.00
MW-41	PVC	127.43	11.79	14.42	15.32	-	12.40	-	15.10
MW-42S	PVC	134.44	-	14.41	13.71	-	14.75	-	14.75
MW-43S	PVC	133.82	-	14.62	15.50	16.39	14.49	14.39	14.75
MW-43D	PVC	134.55	-	-	-	-	15.71	16.46	17.35
MW-44S	PVC	134.71	-	16.17	17.45	-	15.49	-	16.73
MW-44M	PVC	134.58	-	16.15	17.35	-	15.49	-	16.75
MW-44D	PVC	134.66	-	16.33	17.54	-	15.40	-	16.93
MW-45S	PVC	132.05	-	18.17	19.15	19.51	16.21	17.37	18.61
MW-45M	PVC	132.31	-	18.33	19.35	19.71	15.35	17.60	18.91
MW-45D	PVC	132.59	-	-	18.80	18.07	13.35	16.62	17.50
MW-45B	PVC	132.25	-	-	-	-	15.31	17.36	17.86
MW-46S	PVC	132.45	-	14.74	16.10	-	13.91	14.26	15.35
MW-46M	PVC	132.54	-	16.98	17.86	-	15.50	16.45	17.04
MW-47S	PVC	131.99	-	17.73	18.85	19.46	16.00	16.70	18.33
MW-47M	PVC	131.30	-	17.20	17.97	18.07	15.33	16.46	17.74
MW-47D	PVC	132.26	-	17.21	18.28	18.16	15.61	17.00	17.77
MW-TP-3	PVC	131.15	9.10	10.87	13.20	-	8.21	-	12.62
BW-1	PVC	135.60	16.20	-	-	-	-	-	-
BW-2	PVC	134.91	15.97	-	-	-	-	-	-
BW-3	PVC	135.57	15.39	-	-	-	-	-	-
HA-101	PVC	127.25	-	8.06	9.31	-	5.19	-	8.80
HA-102	PVC	127.90	-	14.38	15.30	-	12.39	13.80	14.96
HA-103	PVC	132.51	-	14.89	16.12	-	14.05	14.36	15.5
HA-104	PVC	132.33	14.82	17.94	-	-	16.10	16.92	18.46
MW-101	GS	134.50	-	-	-	-	-	-	20.17
MW-102	GS	134.38	-	-	-	-	-	-	20.01
MW-103	GS	134.37	-	-	-	-	-	-	17.05
MW-104	GS	134.58	-	-	-	-	-	-	15.33
MW-105	GS	134.92	-	-	-	-	-	-	15.49
MW-106	GS	135.24	-	-	-	-	-	-	16.07
MW-107	GS	134.63	-	-	-	-	-	-	19.22
MW-108	GS	134.62	-	-	-	-	-	-	19.46
MW-109	GS	134.14	-	-	-	-	-	-	19.00
MW-110	GS	134.12	-	-	-	-	-	-	18.98
MW-111	GS	133.90	-	-	-	-	-	-	18.81
MW-112	GS	133.87	-	-	-	-	-	-	18.61
MW-113	GS	133.84	-	-	-	-	-	-	18.80
MW-115	GS	133.85	-	-	-	-	-	-	-**
MW-116	GS	133.84	-	-	-	-	-	-	18.76

Notes:

ASL = Above Mean Sea Level

- = Not measured

* Wells MW-33S & MW-33M were constructed with steel protective standpipes, which were removed between the first and second monitoring rounds and replaced with flush-mounted roadboxes.

**Water level not measured due to obstruction at the well cap.

Table 1
Summary of Groundwater Gauging Data
Raytheon Company
Wayland, Massachusetts

Well Designation	Measuring Point	Measuring Pt. Elevation (feet ASL)	Groundwater Elevation (feet ASL)						
			27-May-98	17-18 Nov 98	28-29 July 99	14-Sep-99	5-Apr-00	19-Jul-00	27-29 Aug 01
MW-1	Steel Monowell	132.98	125.08	-	-	-	124.78	-	-
MW-2	Steel Monowell	136.25	123.76	-	-	-	-	-	-
MW-5	Steel Monowell	132.32	-	114.47	-	-	-	-	-
MW-6	Steel Monowell	134.40	118.71	116.00	-	-	-	-	-
MW-9	Steel Monowell	120.85	116.20	-	-	-	-	-	-
MW-10	PVC	130.86	124.04	120.76	119.99	-	123.45	-	120.60
MW-32	PVC	124.43	121.92	119.62	117.54	-	122.33	-	117.85
MW-33S*	PVC	133.79	116.65	115.05	114.88	114.20	117.39	117.18	115.46
MW-33M*	PVC	133.57	114.86	115.87	113.88	114.10	116.67	115.32	114.47
MW-33D	PVC	133.80	-	-	-	-	116.87	115.51	115.46
MW-33B	PVC	133.88	-	-	-	-	116.88	115.17	114.68
MW-34	PVC	136.71	131.15	125.35	122.45	-	125.90	-	122.81
MW-35	PVC	132.80	119.96	-	-	-	-	-	-
MW-36	PVC	132.52	118.32	-	-	-	-	-	-
MW-37	PVC	134.41	120.50	118.21	116.87	-	119.12	118.97	117.33
MW-37M	PVC	134.38	-	116.45	114.57	-	117.77	116.73	115.91
MW-38	PVC	134.46	120.52	119.18	117.92	-	119.73	-	118.26
MW-39	PVC	134.89	121.06	119.41	-	-	-	-	-
MW-40	PVC	134.88	121.23	119.42	118.43	-	119.81	-	118.28
MW-40S	PVC	134.87	121.24	119.41	118.43	-	119.83	-	118.87
MW-41	PVC	127.43	115.64	113.01	112.11	-	115.03	-	112.33
MW-42S	PVC	134.44	-	120.03	120.73	-	119.69	-	119.69
MW-43S	PVC	133.82	-	119.20	118.32	117.43	119.33	119.43	119.07
MW-43D	PVC	134.55	-	-	-	-	118.84	118.09	117.20
MW-44S	PVC	134.71	-	118.54	117.21	-	119.22	-	117.98
MW-44M	PVC	134.58	-	118.43	117.23	-	119.09	-	117.83
MW-44D	PVC	134.66	-	118.33	117.12	-	119.26	-	117.73
MW-45S	PVC	132.05	-	113.88	112.90	112.54	115.84	114.68	113.44
MW-45M	PVC	132.31	-	113.98	112.96	112.60	116.96	114.71	113.40
MW-45D	PVC	132.59	-	-	-	-	119.24	115.97	115.09
MW-45B	PVC	132.25	-	-	-	-	116.94	114.89	114.39
MW-46S	PVC	132.45	-	117.71	116.35	-	118.54	118.19	117.10
MW-46M	PVC	132.54	-	115.56	114.68	-	117.04	116.09	115.50
MW-47S	PVC	131.99	-	114.26	113.14	112.53	115.99	115.29	113.66
MW-47M	PVC	131.30	-	114.10	113.33	113.23	115.97	114.84	113.56
MW-47D	PVC	132.26	-	115.05	113.98	114.10	116.65	115.26	114.49
MW-TP-3	PVC	131.15	122.05	120.28	117.95	-	122.94	-	118.53
BW-1	PVC	135.60	119.40	-	-	-	-	-	-
BW-2	PVC	134.91	118.94	-	-	-	-	-	-
BW-3	PVC	135.57	120.18	-	-	-	-	-	-
HA-101	PVC	127.25	-	119.19	117.94	-	122.06	-	118.45
HA-102	PVC	127.90	-	113.52	112.60	-	115.51	114.10	112.94
HA-103	PVC	132.51	-	117.62	116.39	-	118.46	118.15	117.01
HA-104	PVC	132.33	117.51	114.39	-	-	116.23	115.41	113.87
MW-101	GS	134.50	-	-	-	-	-	-	114.33
MW-102	GS	134.38	-	-	-	-	-	-	114.37
MW-103	GS	134.37	-	-	-	-	-	-	117.32
MW-104	GS	134.58	-	-	-	-	-	-	119.25
MW-105	GS	134.92	-	-	-	-	-	-	119.43
MW-106	GS	135.24	-	-	-	-	-	-	119.17
MW-107	GS	134.63	-	-	-	-	-	-	115.41
MW-108	GS	134.62	-	-	-	-	-	-	115.16
MW-109	GS	134.14	-	-	-	-	-	-	115.14
MW-110	GS	134.12	-	-	-	-	-	-	115.14
MW-111	GS	133.90	-	-	-	-	-	-	115.09
MW-112	GS	133.87	-	-	-	-	-	-	115.26
MW-113	GS	133.84	-	-	-	-	-	-	115.04
MW-115	GS	133.85	-	-	-	-	-	-	-
MW-116	GS	133.84	-	-	-	-	-	-	115.08

Notes:

ASL = Above Mean Sea Level

- = Not measured

* Wells MW-33S & MW-33M were constructed with steel protective standpipes, which were removed between the first and second monitoring rounds and replaced with flush-mounted roadboxes.

**Water level not measured due to obstruction at the well cap.

Table 2
Groundwater Field Parameter Measurements
Raytheon Company
Wayland, Massachusetts

Well ID	pH					
	18/19-Nov-98	28/29-July-99	14/15-Sep-99	5/6-Apr-00	10-Jul-00	27/28/29-Aug-01
MW-10	7.3	6.2	-	6.6	-	6.6
MW-32	6.9	6.6	-	7.4	-	6.4
MW-33S	8.2	6.7	7.7	6.3	6.0	6.0
MW-33M	8.9	7.0	7.1	7.5	7.2	6.7
MW-33D	-	-	6.7	6.9	7.0	6.8
MW-33B	-	-	-	7.9	-	7.4
MW-34	8.8	7.0	-	7.1	-	7.3
MW-37	7.3	7.0	-	6.7	6.0	6.5
MW-37M	7.0	6.9	-	7.7	6.9	6.9
MW-38	7.8	6.9	-	6.4	-	6.2
MW-39	7.3	-	-	-	-	-
MW-40	6.9	6.7	-	6.6	-	6.4
MW-40S	6.5	6.3	-	6.9	-	6.4
MW-41	7.2	6.6	-	6.9	-	6.6
MW-42S	7.7	7.3	-	6.9	-	7.0
MW-43S	7.2	7.2	8.5	7.2	7.3	7.3
MW-43D	-	-	-	8.0	7.3	7.7
MW-44S	7.4	6.1	-	7.0	-	7.9
MW-44M	7.7	7.0	-	7.2	-	6.8
MW-44D	7.7	6.7	-	8.0	-	7.6
MW-45S	9.9	7.4	8.3	8.3	9.1	7.9
MW-45M	9.0	6.6	7.3	6.2	6.3	6.1
MW-45D	-	-	12.3	11.3	11.9	11.8
MW-45B	-	-	-	8.3	-	8.6
MW-46S	7.4	6.1	-	6.9	6.8	6.6
MW-46M	6.9	5.3	-	6.7	6.6	-
MW-47S	7.5	5.6	6.9	8.6	6.7	6.0
MW-47M	6.9	5.8	6.5	6.7	7.3	6.3
MW-47D	7.1	6.1	7.5	7.1	6.7	6.5
MW-TP-3	7.1	6.5	-	6.6	-	5.9
HA-101	6.6	6.0	-	6.8	-	6.7
HA-102	7.5	6.2	-	7.2	6.7	6.8
HA-103	7.4	5.7	-	7.0	7.0	6.7
HA-104	7.3	-	-	7.1	6.6	6.6
MW-101	-	-	-	-	-	6.7
MW-102	-	-	-	-	-	6.7
MW-103	-	-	-	-	-	6.8
MW-104	-	-	-	-	-	7.0
MW-105	-	-	-	-	-	7.2
MW-106	-	-	-	-	-	7.3
MW-107	-	-	-	-	-	6.8
MW-108	-	-	-	-	-	5.7
MW-109	-	-	-	-	-	6.5
MW-110	-	-	-	-	-	5.9
MW-111	-	-	-	-	-	6.0
MW-112	-	-	-	-	-	6.1
MW-113	-	-	-	-	-	6.1
MW-115	-	-	-	-	-	6.3
MW-116	-	-	-	-	-	5.8

Notes:
- = Not Measured

Table 2
Groundwater Field Parameter Measurements
Raytheon Company
Wayland, Massachusetts

Well ID	Conductivity (mS/cm)					
	18/19-Nov-98	28/29-July-99	14/15-Sep-99	5/6-Apr-00	10-Jul-00	27/28/29-Aug-01
MW-10	535	484	-	788	-	725
MW-32	70	830	-	72	-	73
MW-33S	74	110	109	104	73	76
MW-33M	191	213	205	175	197	215
MW-33D	-	-	264	274	261	262
MW-33B	-	-	-	251	-	300
MW-34	90	92	-	108	-	546
MW-37	360	448	-	593	279	696
MW-37M	247	351	-	266	275	397
MW-38	429	472	-	2,119	-	566
MW-39	275	-	-	-	-	-
MW-40	199	275	-	434	-	211
MW-40S	938	1,028	-	1,075	-	818
MW-41	427	567	-	336	-	675
MW-42S	537	526	-	487	-	676
MW-43S	1,076	730	688	599	752	965
MW-43D	-	-	-	268	311	353
MW-44S	287	340	-	446	-	312
MW-44M	221	280	-	221	-	280
MW-44D	231	346	-	281	-	320
MW-45S	392	361	418	334	313	385
MW-45M	401	302	310	307	264	219
MW-45D	-	-	3,060	2,524	1,790	1,983
MW-45B	-	-	-	526	-	362
MW-46S	554	753	-	1,200	1,307	1,061
MW-46M	1,477	188	-	1,445	1,739	-
MW-47S	209	260	250	263	181	272
MW-47M	388	565	547	470	346	1,751
MW-47D	272	314	335	265	306	472
MW-TP-3	131	158	-	147	-	166
HA-101	441	430	-	774	-	624
HA-102	323	403	-	407	424	675
HA-103	525	597	-	1,042	714	1,162
HA-104	922	-	-	608	1,015	396
MW-101	-	-	-	-	-	292
MW-102	-	-	-	-	-	1,082
MW-103	-	-	-	-	-	1,576
MW-104	-	-	-	-	-	1,226
MW-105	-	-	-	-	-	1,278
MW-106	-	-	-	-	-	949
MW-107	-	-	-	-	-	592
MW-108	-	-	-	-	-	159
MW-109	-	-	-	-	-	271
MW-110	-	-	-	-	-	72
MW-111	-	-	-	-	-	239
MW-112	-	-	-	-	-	324
MW-113	-	-	-	-	-	306
MW-115	-	-	-	-	-	315
MW-116	-	-	-	-	-	122

Notes:
mS/cm = microsiemens/cm
- = Not Measured

Table 2
Groundwater Field Parameter Measurements
Raytheon Company
Wayland, Massachusetts

Well ID	Temperature (°C)					
	18/19-Nov-98	28/29-July-99	14/15-Sep-99	5/6-Apr-00	10-Jul-00	27/28/29-Aug-01
MW-10	17.4	21.5	-	10.6	-	22.3
MW-32	13.4	18.7	-	7.2	-	16.6
MW-33S	12.5	17.8	17.8	12.1	16.6	13.3
MW-33M	12.9	20.8	23.1	11.0	17.7	17.9
MW-33D	-	-	19.1	13.0	16.6	17.3
MW-33B	-	-	-	10.3	-	16.6
MW-34	11.5	18.4	-	8.2	-	18.7
MW-37	13.6	16.9	-	11.7	14.5	16.2
MW-37M	12.7	27.8	-	11.3	15.5	15.7
MW-38	15.0	17.8	-	10.5	-	18.5
MW-39	11.3	-	-	-	-	-
MW-40	13.5	16.2	-	11.5	-	14.8
MW-40S	12.7	16.9	-	12.1	-	15.8
MW-41	13.8	17.9	-	8.0	-	17.9
MW-42S	14.0	19.6	-	10.0	-	16.5
MW-43S	13.1	21.5	18.5	10.3	14.2	15.9
MW-43D	-	-	-	8.6	16.8	18.1
MW-44S	11.0	17.2	-	10.6	-	14.1
MW-44M	9.0	15.4	-	10.4	-	17.7
MW-44D	6.9	17.4	-	9.9	-	15.4
MW-45S	12.6	23.1	15.1	11.4	19.3	16.7
MW-45M	12.7	21.0	15.0	11.6	18.9	15.6
MW-45D	-	-	18.4	10.9	17.4	19.2
MW-45B	-	-	-	8.2	-	20.4
MW-46S	14.7	18.8	-	11.2	15.7	17.2
MW-46M	12.4	22.1	-	10.8	19.7	-
MW-47S	13.6	28.0	16.3	13.6	16.0	16.8
MW-47M	12.3	26.8	17.2	11.8	20.4	19.3
MW-47D	13.5	20.1	17.6	13.8	16.9	17.0
MW-TP-3	12.3	19.5	-	6.5	-	16.6
HA-101	17.3	22.4	-	11.4	-	21.8
HA-102	14.7	17.5	-	12.1	19.4	22.7
HA-103	15.8	20.8	-	11.3	16.6	16.8
HA-104	14.3	-	-	11.9	21.5	15.1
MW-101	-	-	-	-	-	17.5
MW-102	-	-	-	-	-	17.8
MW-103	-	-	-	-	-	17.0
MW-104	-	-	-	-	-	17.6
MW-105	-	-	-	-	-	17.5
MW-106	-	-	-	-	-	18.1
MW-107	-	-	-	-	-	17.1
MW-108	-	-	-	-	-	17.8
MW-109	-	-	-	-	-	17.5
MW-110	-	-	-	-	-	16.6
MW-111	-	-	-	-	-	16.0
MW-112	-	-	-	-	-	16.2
MW-113	-	-	-	-	-	16.3
MW-115	-	-	-	-	-	16.4
MW-116	-	-	-	-	-	17.4

Notes:
- = Not Measured

Table 2
Groundwater Field Parameter Measurements
Raytheon Company
Wayland, Massachusetts

Well ID	Oxidation Reduction Potential (ORP) (mV)					
	18/19-Nov-98	28/29-July-99	14/15-Sep-99	5/6-Apr-00	10-Jul-00	27/28/29-Aug-01
MW-10	-21.0	43.0	-	166.3	-	-27.2
MW-32	144.3	42.0	-	206.2	-	300.4
MW-33S	130.7	103.0	-	197.0	112.8	306.8
MW-33M	47.3	91.0	-	69.1	10.0	187.9
MW-33D	-	-	-	-22.1	-67.1	-10.3
MW-33B	-	-	-	-18.9	-	168.9
MW-34	176.6	132.0	-	233.0	-	213.8
MW-37	-	100.0	-	137.0	157.9	315.4
MW-37M	45.9	140.0	-	213.0	125.5	250.3
MW-38	122.2	135.0	-	217.9	-	377.2
MW-39	138.4	-	-	-	-	-
MW-40	211.5	156.0	-	210.8	-	355.3
MW-40S	235.9	174.0	-	198.4	-	370.4
MW-41	163.0	78.0	-	229.3	-	56.0
MW-42S	181.2	100.0	-	203.6	-	305.8
MW-43S	180.6	-	-	238.1	109.4	307.7
MW-43D	-	-	-	226.6	119.7	283.4
MW-44S	-12.6	186.0	-	212.3	-	296.0
MW-44M	-69.1	151.0	-	72.3	-	81.7
MW-44D	117.3	173.0	-	208.1	-	294.4
MW-45S	214.3	-9.1	182.0	138.9	34.3	393.9
MW-45M	185.0	114.0	202.0	289.4	-7.2	385.3
MW-45D	-	-	-	-4.5	-99.5	81.7
MW-45B	-	-	-	36.5	-	256.1
MW-46S	170.0	118.0	-	142.0	38.3	389.9
MW-46M	25.2	159.0	-	71.0	-22.3	-
MW-47S	171.5	164.0	189.0	218.4	108.6	379.4
MW-47M	26.9	72.0	150.0	80.0	37.8	300.9
MW-47D	43.3	45.0	124.0	189.4	43.6	356.9
MW-TP-3	99.8	140.0	-	215.6	-	359.9
HA-101	-38.9	70.0	-	1.1	-	-42.0
HA-102	221.4	90.0	-	198.7	106.7	258.7
HA-103	30.7	164.0	-	240.3	64.8	350.5
HA-104	243.5	-	-	211.5	102.2	363.9
MW-101	-	-	-	-	-	-238.0
MW-102	-	-	-	-	-	-27.8
MW-103	-	-	-	-	-	-77.7
MW-104	-	-	-	-	-	-70.7
MW-105	-	-	-	-	-	-516.8
MW-106	-	-	-	-	-	-36.6
MW-107	-	-	-	-	-	-438.1
MW-108	-	-	-	-	-	99.5
MW-109	-	-	-	-	-	-151.2
MW-110	-	-	-	-	-	109.6
MW-111	-	-	-	-	-	-433.8
MW-112	-	-	-	-	-	161.3
MW-113	-	-	-	-	-	-409.7
MW-115	-	-	-	-	-	-480.2
MW-116	-	-	-	-	-	58.3

Notes:
mV = millivolts
- = Not Measured

Table 2
Groundwater Field Parameter Measurements
Raytheon Company
Wayland, Massachusetts

Well ID	Dissolved Oxygen (mg/L)			
	18/19-Nov-98	5/6-Apr-00	10-Jul-00	27/28/29-Aug-01
MW-10	2.3	6.6	-	4.7
MW-32	6.5	11.9	-	7.6
MW-33S	6.6	8.0	4.9	6.5
MW-33M	7.2	-	5.2	5.0
MW-33D	-	3.8	2.6	3.2
MW-33B	-	-	-	2.5
MW-34	10.1	10.7	-	11.4
MW-37	5.3	7.9	6.4	7.3
MW-37M	2.1	3.8	3.2	1.8
MW-38	5.5	8.6	-	7.1
MW-39	10.2	-	-	-
MW-40	4.7	6.7	-	7.1
MW-40S	4.1	5.0	-	5.3
MW-41	7.5	9.9	-	5.1
MW-42S	7.2	9.0	-	9.5
MW-43S	6.7	9.0	6.9	8.8
MW-43D	-	6.6	4.4	5.5
MW-44S	7.5	8.0	-	10.5
MW-44M	4.6	3.8	-	1.8
MW-44D	8.3	5.2	-	5.5
MW-45S	8.4	10.0	9.4	9.1
MW-45M	6.0	-	1.5	3.5
MW-45D	-	5.1	9.0	5.9
MW-45B	-	-	-	4.5
MW-46S	8.1	8.2	9.0	11.0
MW-46M	37.7	6.6	4.0	-
MW-47S	3.1	3.4	3.9	4.7
MW-47M	4.3	-	2.8	7.6
MW-47D	4.8	-	2.3	2.3
MW-TP-3	4.3	7.1	-	4.4
HA-101	2.2	5.0	-	3.5
HA-102	7.6	7.8	8.8	8.9
HA-103	8.8	8.5	9.9	11.4
HA-104	9.1	9.9	9.3	11.8
MW-101	-	-	-	4.6
MW-102	-	-	-	4.7
MW-103	-	-	-	7.1
MW-104	-	-	-	8.9
MW-105	-	-	-	5.2
MW-106	-	-	-	8.5
MW-107	-	-	-	1.0
MW-108	-	-	-	1.1
MW-109	-	-	-	1.2
MW-110	-	-	-	5.0
MW-111	-	-	-	0.8
MW-112	-	-	-	6.2
MW-113	-	-	-	0.4
MW-115	-	-	-	1.5
MW-116	-	-	-	2.9

Notes:
mg/L = milligrams per liter
- = Not Measured

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0107982

Parameter	% Recovery
Volatile Organics by GC 8021 LCS for sample(s) 01-06 (WG91411)	
Chlorobenzene	112
1,1-Dichloroethene	106
Trichloroethene	104
Surrogate Recovery	
4-Bromochlorobenzene	99

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-1 24-Oct-95	MW-1 27-May-98	MW-2 24-Oct-95	MW-2 27-May-98	MW-3 24-Oct-95	MW-4 20-Oct-95	MW-5 25-Oct-95	MW-6 25-Oct-95	MW-6 27-May-98	MW-7 25-Oct-95	MW-7* 25-Nov-95	MW-8 24-Oct-95
Organics												
Volatile Organic Compounds (VOCs) (µg/l)	-	-	-	-		-						
Tetrachloroethene					-		17	-	-	-	0.65	4.1
Trichloroethene					-		8.6	38	20	7.6	21	11
cis-1,2-Dichloroethene					2.0		-	-	-	-	1.2	-
trans-1,2-Dichloroethene					-		-	-	-	-	-	-
Vinyl Chloride					-		-	-	-	-	-	-
1,1,1-Trichloroethane					-		-	12	9.1	1.6	4.0	-
1,1-Dichloroethane					-		-	-	-	-	-	-
1,1-Dichloroethene					-		-	-	-	2.0	2.7	-
Chloroform					-		-	-	-	-	0.59	-
1,1,2,2-Tetrachloroethane					-		-	-	-	-	-	-
Trichlorofluoromethane					-		-	-	-	-	-	-
1,2,3-Trichlorobenzene					-		-	-	-	-	NA	-
1,2-Dichlorobenzene					-		-	-	-	-	-	-
1,3-Dichlorobenzene					-		-	-	-	-	-	-
1,4-Dichlorobenzene					-		-	-	-	-	-	-
Chlorobenzene					-		-	-	-	-	-	-
Isopropylbenzene					-		-	-	-	-	NA	-
sec-Butylbenzene					-		-	-	-	-	NA	-
1,3,5-Trimethylbenzene					-		-	-	-	-	NA	-
1,2,4-Trimethylbenzene					-		-	-	-	-	NA	-
Naphthalene					-		-	-	-	-	NA	-
Benzene					-		-	-	-	-	NA	-
Toluene					-		-	-	-	-	NA	-
Ethylbenzene					-		-	-	-	-	NA	-
Xylenes					-		-	-	-	-	NA	-

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-9 24-Oct-95	MW-9 27-May-98	MW-10 27-May-98	MW-10 18-Nov-98	MW-10 28-Jul-99	MW-10* 6-Apr-00	MW-10* 28-Aug-01	MW-11 28-Dec-95	MW-11 27-May-98	MW-11 27-May-98 DUP-ERM	MW-13 31-Jan-96	MW-13 27-May-98 SPLIT-ERM	MW-13 27-May-98 SPLIT-HA
Organics													
Volatile Organic Compounds (VOCs) (µg/l)	-	-	-	-	-	-	-		-	-			
Tetrachloroethene								1.5			6.1	2.6	7.7
Trichloroethene								10			47	73	100
cis-1,2-Dichloroethene								6.5			77	15	89
trans-1,2-Dichloroethene								-			-	-	-
Vinyl Chloride								-			-	-	7.2
1,1,1-Trichloroethane								-			-	-	-
1,1-Dichloroethane								-			1.6	-	1.2
1,1-Dichloroethene								-			-	-	-
Chloroform								-			-	-	-
1,1,2,2-Tetrachloroethane								-			-	-	-
Trichlorofluoromethane								-			-	-	-
1,2,3-Trichlorobenzene								-			-	-	-
1,2-Dichlorobenzene								-			-	-	1.1
1,3-Dichlorobenzene								-			-	-	-
1,4-Dichlorobenzene								-			-	-	-
Chlorobenzene								-			-	-	-
Isopropylbenzene								8.6			3.4	-	-
sec-Butylbenzene								2.3			1.2	-	-
1,3,5-Trimethylbenzene								31			-	-	-
1,2,4-Trimethylbenzene								120			-	-	-
Naphthalene								30			-	-	-
Benzene								25			11	-	2.6
Toluene								4.1			-	-	-
Ethylbenzene								31			-	-	-
Xylenes								95			-	-	-

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-18 27-May-98	MW-30 27-May-98 SPLIT-ERM	MW-30 27-May-98 SPLIT-HA	MW-31 6-Aug-96	MW-32 27-May-98	MW-32 18-Nov-98	MW-32 28-Jul-99	MW-32* 6-Apr-00	MW-32* 29-Aug-01
Organics									
Volatile Organic Compounds (VOCs) (µg/l)					-	-	-	-	-
Tetrachloroethene	-	-	-	8.0					
Trichloroethene	51	400	25	190					
cis-1,2-Dichloroethene	-	-	-	55					
trans-1,2-Dichloroethene	-	-	-	-					
Vinyl Chloride	-	-	-	2.6					
1,1,1-Trichloroethane	-	-	-	-					
1,1-Dichloroethane	-	-	-	-					
1,1-Dichloroethene	-	-	-	-					
Chloroform	-	-	-	-					
1,1,2,2-Tetrachloroethane	-	-	-	-					
Trichlorofluoromethane	-	-	-	-					
1,2,3-Trichlorobenzene	-	-	-	-					
1,2-Dichlorobenzene	-	-	-	-					
1,3-Dichlorobenzene	-	-	-	-					
1,4-Dichlorobenzene	-	-	-	-					
Chlorobenzene	-	-	-	-					
Isopropylbenzene	-	-	-	-					
sec-Butylbenzene	-	-	-	-					
1,3,5-Trimethylbenzene	-	-	-	-					
1,2,4-Trimethylbenzene	-	-	-	-					
Naphthalene	-	-	-	-					
Benzene	-	-	-	1.2					
Toluene	-	-	-	-					
Ethylbenzene	-	-	-	-					
Xylenes	-	-	-	-					

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-33S 27-May-98	MW-33S 20-Nov-98	MW-33S 20-Nov-98 DUP-ERM	MW-33S* 29-Jul-99	MW-33S* 14-Sep-99	MW-33S* 5-Apr-00	MW-33S* 10-Jul-00	MW-33S* 11-Jul-00 STEP 1300	MW-33S* 11-Jul-00 STEP 1315	MW-33S* 11-Jul-00 STEP 1330	MW-33S* 27-Aug-01	MW-33S* 12-Nov-01	MW-33S* 10-Dec-01
Organics														
Volatile Organic Compounds (VOCs) (µg/l)														
Tetrachloroethene		-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene		530	210	220	240	260	390	170	180	220	190	240	380	360
cis-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride		-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane		160	69	71	80	77	110	40	55	64	51	78	120	110
1,1-Dichloroethane		-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene		-	2.1	2.0	-	-	-	-	-	-	-	-	-	-
Chloroform		-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane		-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane		-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene		-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes		-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-33M 27-May-98	MW-33M 20-Nov-98	MW-33M 29-Jul-99	MW-33M* 14-Sep-99	MW-33M* 5-Apr-00	MW-33M* 10-Jul-00	MW-33M* 27-Aug-01	MW-33M* 13-Nov-01	MW-33M* 10-Dec-01
Organics									
Volatile Organic Compounds (VOCs) (µg/l)		-	-						
Tetrachloroethene	-			-	-	-	-	-	-
Trichloroethene	1.4			1.8	1.5	1.8	3.1	8.6	9.3
cis-1,2-Dichloroethene	-			-	-	-	-	0.97	0.69
trans-1,2-Dichloroethene	-			-	-	-	-	-	-
Vinyl Chloride	-			-	-	-	-	-	-
1,1,1-Trichloroethane	-			-	-	-	-	-	-
1,1-Dichloroethane	-			-	-	-	-	-	-
1,1-Dichloroethene	-			-	-	-	-	-	-
Chloroform	-			-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	-			-	-	-	-	-	-
Trichlorofluoromethane	-			-	-	-	-	-	-
1,2,3-Trichlorobenzene	-			NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	-			-	-	-	-	-	-
1,3-Dichlorobenzene	-			-	-	-	-	-	-
1,4-Dichlorobenzene	-			-	-	-	-	-	-
Chlorobenzene	-			-	-	-	-	-	-
Isopropylbenzene	-			NA	NA	NA	NA	NA	NA
sec-Butylbenzene	-			NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	-			NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	-			NA	NA	NA	NA	NA	NA
Naphthalene	-			NA	NA	NA	NA	NA	NA
Benzene	-			NA	NA	NA	NA	NA	NA
Toluene	-			NA	NA	NA	NA	NA	NA
Ethylbenzene	-			NA	NA	NA	NA	NA	NA
Xylenes	-			NA	NA	NA	NA	NA	NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-33D* 19-Aug-99	MW-33D* 14-Sep-99	MW-33D* 5-Apr-00	MW-33D* 10-Jul-00	MW-33D* 27-Aug-01	MW-33B* 5-Apr-00	MW-33B* 19-Jul-00	MW-33B* 27-Aug-01	MW-34 27-May-98	MW-34 18-Nov-98	MW-34 29-Jul-99	MW-34* 6-Apr-00	MW-34* 28-Aug-01
Organics													
Volatile Organic Compounds (VOCs) (µg/l)		-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	-												
Trichloroethene	7.2												
cis-1,2-Dichloroethene	-												
trans-1,2-Dichloroethene	-												
Vinyl Chloride	-												
1,1,1-Trichloroethane	-												
1,1-Dichloroethane	-												
1,1-Dichloroethene	-												
Chloroform	-												
1,1,2,2-Tetrachloroethane	-												
Trichlorofluoromethane	-												
1,2,3-Trichlorobenzene	NA												
1,2-Dichlorobenzene	-												
1,3-Dichlorobenzene	-												
1,4-Dichlorobenzene	-												
Chlorobenzene	-												
Isopropylbenzene	NA												
sec-Butylbenzene	NA												
1,3,5-Trimethylbenzene	NA												
1,2,4-Trimethylbenzene	NA												
Naphthalene	NA												
Benzene	NA												
Toluene	NA												
Ethylbenzene	NA												
Xylenes	NA												

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-34D 12-Dec-01	MW-34S 12-Dec-01	MW-35 27-May-98	MW-36 27-May-98	MW-37 27-May-98	MW-37 17-Nov-98	MW-37* 29-Jul-99	MW-37* 5-Apr-00	MW-37* 10-Jul-00	MW-37* 28-Aug-01
Organics										
Volatile Organic Compounds (VOCs) (µg/l)	-	-			-					
Tetrachloroethene			2.8	-		-	1.4	1.6	-	1.1
Trichloroethene			1.8	68		5.5	6.8	11	1.0	5.2
cis-1,2-Dichloroethene			-	-		-	-	-	-	-
trans-1,2-Dichloroethene			-	-		-	-	-	-	-
Vinyl Chloride			-	-		-	-	-	-	-
1,1,1-Trichloroethane			2.2	-		-	-	-	-	-
1,1-Dichloroethane			-	-		-	-	-	-	-
1,1-Dichloroethene			-	-		-	-	-	-	-
Chloroform			-	-		-	-	-	-	-
1,1,2,2-Tetrachloroethane			-	-		-	-	-	-	-
Trichlorofluoromethane			-	-		-	-	-	-	-
1,2,3-Trichlorobenzene			-	-		-	NA	NA	NA	NA
1,2-Dichlorobenzene			-	-		-	-	-	-	-
1,3-Dichlorobenzene			-	-		-	-	-	-	-
1,4-Dichlorobenzene			-	-		-	-	-	-	-
Chlorobenzene			-	-		-	-	-	-	-
Isopropylbenzene			-	-		-	NA	NA	NA	NA
sec-Butylbenzene			-	-		-	NA	NA	NA	NA
1,3,5-Trimethylbenzene			-	-		-	NA	NA	NA	NA
1,2,4-Trimethylbenzene			-	-		-	NA	NA	NA	NA
Naphthalene			-	-		-	NA	NA	NA	NA
Benzene			-	-		-	NA	NA	NA	NA
Toluene			-	-		-	NA	NA	NA	NA
Ethylbenzene			-	-		-	NA	NA	NA	NA
Xylenes			-	-		-	NA	NA	NA	NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-37M 17-Nov-98	MW-37M 29-Jul-99	MW-37M 29-Jul-99 DUP-ERM	MW-37M* 5-Apr-00	MW-37M* 10-Jul-00	MW-37M* 28-Aug-01	MW-38 27-May-98	MW-38 17-Nov-98	MW-38* 29-Jul-99	MW-38* 5-Apr-00	MW-38* 28-Aug-01	MW-39 27-May-98	MW-39 17-Nov-98
Organics													
Volatile Organic Compounds (VOCs) (µg/l)	-	-	-		-		-			-		-	-
Tetrachloroethene				-		-		-	-		0.78		
Trichloroethene				1.3		0.65		1.9	2.2		2.1		
cis-1,2-Dichloroethene				-		-		-	-		-		
trans-1,2-Dichloroethene				-		-		-	-		-		
Vinyl Chloride				-		-		-	-		-		
1,1,1-Trichloroethane				-		-		-	-		-		
1,1-Dichloroethane				-		-		-	-		-		
1,1-Dichloroethene				-		-		-	-		-		
Chloroform				-		-		-	-		-		
1,1,2,2-Tetrachloroethane				-		-		-	-		-		
Trichlorofluoromethane				-		-		-	-		-		
1,2,3-Trichlorobenzene				NA		NA		-	NA		NA		
1,2-Dichlorobenzene				-		-		-	-		-		
1,3-Dichlorobenzene				-		-		-	-		-		
1,4-Dichlorobenzene				-		-		-	-		-		
Chlorobenzene				-		-		-	-		-		
Isopropylbenzene				NA		NA		-	NA		NA		
sec-Butylbenzene				NA		NA		-	NA		NA		
1,3,5-Trimethylbenzene				NA		NA		-	NA		NA		
1,2,4-Trimethylbenzene				NA		NA		-	NA		NA		
Naphthalene				NA		NA		-	NA		NA		
Benzene				NA		NA		-	NA		NA		
Toluene				NA		NA		-	NA		NA		
Ethylbenzene				NA		NA		-	NA		NA		
Xylenes				NA		NA		-	NA		NA		

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-40 27-May-98	MW-40 18-Nov-98	MW-40 29-Jul-99	MW-40* 5-Apr-00	MW-40* 28-Aug-01	MW-40S 27-May-98	MW-40S 18-Nov-98	MW-40S 18-Nov-98 DUP-ERM	MW-40S* 29-Jul-99	MW-40S* 5-Apr-00	MW-40S* 28-Aug-01
Organics												
Volatile Organic Compounds (VOCs) (µg/l)												
Tetrachloroethene		1.8	-	1.7	3.3	3.3	1.8	2.9	2.8	-	1.8	1.7
Trichloroethene		5.5	3.3	-	12	10	12	16	16	8.6	16	14
cis-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride		-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane		-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane		-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-
Chloroform		-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane		-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane		-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene		-	-	-	NA	NA	-	-	-	NA	NA	NA
1,2-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene		-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene		-	-	-	NA	NA	-	-	-	NA	NA	NA
sec-Butylbenzene		-	-	-	NA	NA	-	-	-	NA	NA	NA
1,3,5-Trimethylbenzene		-	-	-	NA	NA	-	-	-	NA	NA	NA
1,2,4-Trimethylbenzene		-	-	-	NA	NA	-	-	-	NA	NA	NA
Naphthalene		-	-	-	NA	NA	-	-	-	NA	NA	NA
Benzene		-	-	-	NA	NA	-	-	-	NA	NA	NA
Toluene		-	-	-	NA	NA	-	-	-	NA	NA	NA
Ethylbenzene		-	-	-	NA	NA	-	-	-	NA	NA	NA
Xylenes		-	-	-	NA	NA	-	-	-	NA	NA	NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-41 27-May-98	MW-41 17-Nov-98	MW-41 28-Jul-99	MW-41* 6-Apr-00	MW-41 12-Oct-00	MW-41* 28-Aug-01	MW-42S 17-Nov-98	MW-42S* 29-Jul-99	MW-42S* 5-Apr-00	MW-42S* 27-Aug-01
Organics										
Volatile Organic Compounds (VOCs) (µg/l)	-		-	-						
Tetrachloroethene		-			0.7	0.71	4.9	-	1.0	1.3
Trichloroethene		3.2			6	5.8	14	2.9	3.3	4.0
cis-1,2-Dichloroethene		-			0.5	-	-	-	-	-
trans-1,2-Dichloroethene		-			-	-	-	-	-	-
Vinyl Chloride		-			-	-	-	-	-	-
1,1,1-Trichloroethane		-			-	-	-	-	-	-
1,1-Dichloroethane		-			-	-	-	-	-	-
1,1-Dichloroethene		-			-	-	-	-	-	-
Chloroform		-			-	-	-	-	-	-
1,1,2,2-Tetrachloroethane		-			-	-	-	-	-	-
Trichlorofluoromethane		-			0.8	-	-	5.8	-	-
1,2,3-Trichlorobenzene		-			-	NA	-	NA	NA	NA
1,2-Dichlorobenzene		-			-	-	-	-	-	-
1,3-Dichlorobenzene		-			-	-	-	-	-	-
1,4-Dichlorobenzene		-			-	-	-	-	-	-
Chlorobenzene		-			-	-	-	-	-	-
Isopropylbenzene		-			-	NA	-	NA	NA	NA
sec-Butylbenzene		-			-	NA	-	NA	NA	NA
1,3,5-Trimethylbenzene		-			-	NA	-	NA	NA	NA
1,2,4-Trimethylbenzene		-			-	NA	-	NA	NA	NA
Naphthalene		-			-	NA	-	NA	NA	NA
Benzene		-			-	NA	-	NA	NA	NA
Toluene		-			-	NA	-	NA	NA	NA
Ethylbenzene		-			-	NA	-	NA	NA	NA
Xylenes		-			-	NA	-	NA	NA	NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-43S 17-Nov-98	MW-43S* 29-Jul-99	MW-43S* 29-Jul-99 DUP-ERM	MW-43S* 14-Sep-99	MW-43S* 5-Apr-00	MW-43S* 6-Apr-00 DUP-ERM	MW-43S* 11-Jul-00 STEP 1500	MW-43S* 11-Jul-00 STEP 1515	MW-43S* 11-Jul-00 STEP 1530	MW-43S* 27-Aug-01	MW-43S* 12-Dec-01	MW-43D 6-Apr-00	MW-43D* 10-Jul-00	MW-43D* 27-Aug-01	MW-43D* 12-Dec-01
Organics																
Volatile Organic Compounds (VOCs) (µg/l)													-	-	-	-
Tetrachloroethene		-	-	2.1	-	-	-	7.4	-	-	5.8	-				
Trichloroethene		350	280	180	170	560	530	600	370	330	290	-				
cis-1,2-Dichloroethene		8.6	-	3.9	3.6	9.6	-	-	-	-	-	-				
trans-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-				
Vinyl Chloride		-	-	-	-	-	-	-	-	-	-	-				
1,1,1-Trichloroethane		-	-	-	-	-	-	-	-	-	-	-				
1,1-Dichloroethane		-	-	-	-	-	-	-	-	-	-	-				
1,1-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-				
Chloroform		-	-	-	-	-	-	-	-	-	-	-				
1,1,2,2-Tetrachloroethane		-	-	-	-	-	-	-	-	-	-	-				
Trichlorofluoromethane		-	-	1.6	3.0	-	-	7.4	5.1	-	-	-				
1,2,3-Trichlorobenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
1,2-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-				
1,3-Dichlorobenzene		-	-	-	3.4	-	-	-	-	-	-	-				
1,4-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-				
Chlorobenzene		-	-	-	-	-	-	-	-	-	-	-				
Isopropylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
sec-Butylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
1,3,5-Trimethylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
1,2,4-Trimethylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Naphthalene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Benzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Toluene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Ethylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Xylenes		-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-44S 18-Nov-98	MW-44S 29-Jul-99	MW-44S 6-Apr-00	MW-44S* 27-Aug-01	MW-44M 18-Nov-98	MW-44M 29-Jul-99	MW-44M* 6-Apr-00	MW-44M* 27-Aug-01	MW-44D 18-Nov-98	MW-44D 29-Jul-99	MW-44D* 6-Apr-00	MW-44D* 27-Aug-01
Organics												
Volatile Organic Compounds (VOCs) (µg/l)	-	-	-		-	-	-	-	-	-	-	-
Tetrachloroethene				-								
Trichloroethene				0.78								
cis-1,2-Dichloroethene				-								
trans-1,2-Dichloroethene				-								
Vinyl Chloride				-								
1,1,1-Trichloroethane				-								
1,1-Dichloroethane				-								
1,1-Dichloroethene				-								
Chloroform				-								
1,1,2,2-Tetrachloroethane				-								
Trichlorofluoromethane				-								
1,2,3-Trichlorobenzene				NA								
1,2-Dichlorobenzene				-								
1,3-Dichlorobenzene				-								
1,4-Dichlorobenzene				-								
Chlorobenzene				-								
Isopropylbenzene				NA								
sec-Butylbenzene				NA								
1,3,5-Trimethylbenzene				NA								
1,2,4-Trimethylbenzene				NA								
Naphthalene				NA								
Benzene				NA								
Toluene				NA								
Ethylbenzene				NA								
Xylenes				NA								

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-45S 17-Nov-98	MW-45S* 28-Jul-99	MW-45S* 14-Sep-99	MW-45S* 5-Apr-00	MW-45S* 10-Jul-00	MW-45S* 10-Jul-00 DUP-ERM	MW-45S* 28-Aug-01
Organics								
Volatile Organic Compounds (VOCs) (µg/l)								
Tetrachloroethene		-	1.5	1.1	1.2	1.0	-	2.1
Trichloroethene		5.4	8.4	8.0	8.4	6.0	5.4	8.4
cis-1,2-Dichloroethene		-	-	-	-	-	-	-
trans-1,2-Dichloroethene		-	-	-	-	-	-	-
Vinyl Chloride		-	-	-	-	-	-	-
1,1,1-Trichloroethane		-	-	-	-	-	-	-
1,1-Dichloroethane		-	-	-	-	-	-	-
1,1-Dichloroethene		-	-	-	-	-	-	-
Chloroform		-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane		-	-	-	-	-	-	-
Trichlorofluoromethane		-	-	-	-	-	-	-
1,2,3-Trichlorobenzene		-	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene		-	-	-	-	-	-	-
1,3-Dichlorobenzene		-	-	-	-	-	-	-
1,4-Dichlorobenzene		-	-	-	-	-	-	-
Chlorobenzene		-	-	-	-	-	-	-
Isopropylbenzene		-	NA	NA	NA	NA	NA	NA
sec-Butylbenzene		-	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene		-	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene		-	NA	NA	NA	NA	NA	NA
Naphthalene		-	NA	NA	NA	NA	NA	NA
Benzene		-	NA	NA	NA	NA	NA	NA
Toluene		-	NA	NA	NA	NA	NA	NA
Ethylbenzene		-	NA	NA	NA	NA	NA	NA
Xylenes		-	NA	NA	NA	NA	NA	NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-45M 17-Nov-98	MW-45M* 28-Jul-99	MW-45M* 14-Sep-99	MW-45M* 5-Apr-00	MW-45M* 10-Jul-00	MW-45M* 11-Jul-00 STEP 0900	MW-45M* 11-Jul-00 STEP 0915	MW-45M* 11-Jul-00 STEP 0930	MW-45M* 28-Aug-01	MW-45M* 28-Aug-01 DUP-ERM
Organics											
Volatile Organic Compounds (VOCs) (µg/l)											
Tetrachloroethene		-	-	-	-	-	-	-	-	-	-
Trichloroethene		81	130	140	120	99	120	120	120	97	88
cis-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-
Vinyl Chloride		-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane		24	32	39	24	21	28	26	27	24	24
1,1-Dichloroethane		-	1.2	-	1.5	1.5	-	-	-	1.4	1.5
1,1-Dichloroethene		6.2	8.6	7.3	3.3	3.3	3.6	3.8	4.0	4.5	4.7
Chloroform		-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane		-	-	-	-	-	16	-	-	-	-
Trichlorofluoromethane		-	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-
Chlorobenzene		-	-	-	-	-	-	-	-	-	-
Isopropylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene		-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes		-	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-45D* 19-Aug-99	MW-45D* 14-Sep-99	MW-45D 14-Sep-99	MW-45D* 5-Apr-00	MW-45D* 10-Jul-00	MW-45D* 28-Aug-01	MW-45B* 5-Apr-00	MW-45B* 19-Jul-00	MW-45B* 28-Aug-01
Organics									
Volatile Organic Compounds (VOCs) (µg/l)									
Tetrachloroethene	1.8	1.5	1.8	1.0	1.9	-	-	-	-
Trichloroethene	120	110	95	70	81	51	4.4	7.5	7.8
cis-1,2-Dichloroethene	4.5	4.5	4.4	3.8	3.1	3.0	-	-	-
trans-1,2-Dichloroethene	-	-	-	-	-	-	-	-	-
Vinyl Chloride	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	-	-	-	-	-	-	-	-	-
Chloroform	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene	NA	NA	-	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-
Chlorobenzene	-	-	-	-	-	-	-	-	-
Isopropylbenzene	NA	NA	-	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	-	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	-	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	-	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	-	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	-	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	-	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	-	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	-	NA	NA	NA	NA	NA	NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-46S 17-Nov-98	MW-46S 29-Jul-99	MW-46S* 6-Apr-00	MW-46S* 10-Jul-00	MW-46S* 10-Jul-00 DUP-ERM	MW-46S* 28-Aug-01	MW-46M 18-Nov-98	MW-46M* 29-Jul-99	MW-46M* 6-Apr-00	MW-46M* 10-Jul-00	MW-46M* 28-Aug-01
Organics												
Volatile Organic Compounds (VOCs) (µg/l)			-	-	-	-	-					
Tetrachloroethene		-						-	-	-	-	-
Trichloroethene		1.4						4.1	9.0	8.1	5.4	4.2
cis-1,2-Dichloroethene		-						-	-	-	-	-
trans-1,2-Dichloroethene		-						-	-	-	-	-
Vinyl Chloride		-						-	-	-	-	-
1,1,1-Trichloroethane		-						-	-	-	-	3.0
1,1-Dichloroethane		-						-	-	-	-	-
1,1-Dichloroethene		-						-	2.1	2.1	1.5	2.5
Chloroform		-						-	-	-	-	-
1,1,2,2-Tetrachloroethane		-						-	-	-	-	-
Trichlorofluoromethane		-						-	-	-	-	-
1,2,3-Trichlorobenzene		-						-	NA	NA	NA	NA
1,2-Dichlorobenzene		-						-	-	-	-	-
1,3-Dichlorobenzene		-						-	-	-	-	-
1,4-Dichlorobenzene		-						-	-	-	-	-
Chlorobenzene		-						-	-	-	-	-
Isopropylbenzene		-						-	NA	NA	NA	NA
sec-Butylbenzene		-						-	NA	NA	NA	NA
1,3,5-Trimethylbenzene		-						-	NA	NA	NA	NA
1,2,4-Trimethylbenzene		-						-	NA	NA	NA	NA
Naphthalene		-						-	NA	NA	NA	NA
Benzene		-						-	NA	NA	NA	NA
Toluene		-						-	NA	NA	NA	NA
Ethylbenzene		-						-	NA	NA	NA	NA
Xylenes		-						-	NA	NA	NA	NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-47S 17-Nov-98	MW-47S 28-Jul-99	MW-47S* 14-Sep-99	MW-47S* 5-Apr-00	MW-47S* 10-Jul-00	MW-47S* 28-Aug-01	MW-47M 17-Nov-98	MW-47M* 28-Jul-99	MW-47M* 14-Sep-99	MW-47M* 5-Apr-00	MW-47M* 5-Apr-00 DUP-ERM	MW-47M* 10-Jul-00	MW-47M* 29-Aug-01	MW-47D 17-Nov-98
Organics															
Volatile Organic Compounds (VOCs) (µg/l)			-												-
Tetrachloroethene		3.8		-	-	-	-	-	-	-	1.7	1.6	6.2	2.7	
Trichloroethene		2.4		1.8	43	13	15	67	160	110	140	120	63	67	
cis-1,2-Dichloroethene		-		-	-	-	-	4.6	9.6	6.5	7.8	7.9	4.0	4.3	
trans-1,2-Dichloroethene		-		-	-	-	-	-	-	-	-	-	-	-	
Vinyl Chloride		-		-	-	-	-	-	-	-	-	-	-	-	
1,1,1-Trichloroethane		-		-	12	3.8	4.4	-	-	-	-	-	-	-	
1,1-Dichloroethane		-		-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloroethene		-		-	-	-	-	-	-	-	-	-	-	-	
Chloroform		-		-	-	-	-	-	-	-	-	-	-	-	
1,1,2,2-Tetrachloroethane		-		-	-	-	-	-	-	-	-	-	-	-	
Trichlorofluoromethane		-		-	-	-	-	-	-	-	-	-	-	-	
1,2,3-Trichlorobenzene		-		NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	
1,2-Dichlorobenzene		-		-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichlorobenzene		-		-	-	-	-	-	-	-	-	-	-	-	
1,4-Dichlorobenzene		-		-	-	-	-	-	-	-	-	1.6	-	-	
Chlorobenzene		-		-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene		-		NA	NA	NA	NA	-	NA	NA	NA	-	NA	NA	
sec-Butylbenzene		-		NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	
1,3,5-Trimethylbenzene		-		NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	
1,2,4-Trimethylbenzene		-		NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	
Naphthalene		-		NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	
Benzene		-		NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	
Toluene		-		NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	
Ethylbenzene		-		NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	
Xylenes		-		NA	NA	NA	NA	-	NA	NA	NA	NA	NA	NA	

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-47D* 28-Jul-99	MW-47D* 28-Jul-99 DUP-ERM	MW-47D* 14-Sep-99	MW-47D* 5-Apr-00	MW-47D* 10-Jul-00	MW-47D* 28-Aug-01	MW-TP3 6-Aug-96	MW-TP3 27-May-98	MW-TP3 18-Nov-98	MW-TP3* 29-Jul-99	MW-TP3* 6-Apr-00	MW-TP3* 29-Aug-01	BW-1 12-Dec-96	BW-1 27-May-98
Organics															
Volatile Organic Compounds (VOCs) (µg/l)															
Tetrachloroethene		-	-	-	-	1.0	1.3	-	-	-	2.0	-	1.3	-	2.8
Trichloroethene		5.6	2.9	4.3	2.4	11	10	9.2	-	1.4	23	4.2	12	26	37
cis-1,2-Dichloroethene		-	-	-	-	-	1.2	18	1.7	2.5	35	7.7	16	-	2.6
trans-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride		-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane		-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane		-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-	-	1.1	-
Chloroform		-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane		-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene		NA	NA	NA	NA	NA	NA	2.8	130	79	NA	NA	NA	-	-
1,2-Dichlorobenzene		-	-	-	-	-	-	-	14	10	-	4.2	-	-	-
1,3-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	4.0	-	-	-
Chlorobenzene		-	-	-	-	-	-	-	-	-	-	2.1	-	-	-
Isopropylbenzene		NA	NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	-	-
sec-Butylbenzene		NA	NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	-	-
1,3,5-Trimethylbenzene		NA	NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	-	-
1,2,4-Trimethylbenzene		NA	NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	-	-
Naphthalene		NA	NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	-	-
Benzene		NA	NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	-	-
Toluene		NA	NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	-	-
Ethylbenzene		NA	NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	-	-
Xylenes		NA	NA	NA	NA	NA	NA	-	-	-	NA	NA	NA	-	-

Notes:

* = VOC analysis for chlorinated compounds only by EPA Method 8021B.

- = Analytical result below the method detection limit.

NA = Not Analyzed

µg/l=micrograms per liter (parts per billion (ppb))

GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	BW-2 12-Dec-96	BW-2 27-May-98	BW-2 27-May-98 DUP-ERM	BW-3 12-Dec-96	BW-3 27-May-98	HA-101 18-Nov-98	HA-101 28-Jul-99	HA-101* 6-Apr-00	HA-101* 28-Aug-01
Organics										
Volatile Organic Compounds (VOCs) (µg/l)							-	-	-	
Tetrachloroethene		2.2	4.1	3.8	8.0	5.7				-
Trichloroethene		43	62	36	110	140				0.71
cis-1,2-Dichloroethene		-	1.6	1.2	32	23				-
trans-1,2-Dichloroethene		-	-	-	-	-				-
Vinyl Chloride		-	-	-	-	-				-
1,1,1-Trichloroethane		-	-	-	-	-				-
1,1-Dichloroethane		-	-	-	-	-				-
1,1-Dichloroethene		-	-	-	-	-				-
Chloroform		-	-	-	-	-				-
1,1,2,2-Tetrachloroethane		-	-	-	-	-				-
Trichlorofluoromethane		-	-	-	-	-				-
1,2,3-Trichlorobenzene		-	-	-	-	-				NA
1,2-Dichlorobenzene		-	-	-	-	-				-
1,3-Dichlorobenzene		-	-	-	-	-				-
1,4-Dichlorobenzene		-	-	-	-	-				-
Chlorobenzene		-	-	-	-	-				-
Isopropylbenzene		-	-	-	-	-				NA
sec-Butylbenzene		-	-	-	-	-				NA
1,3,5-Trimethylbenzene		-	-	-	-	-				NA
1,2,4-Trimethylbenzene		-	-	-	-	-				NA
Naphthalene		-	-	-	-	-				NA
Benzene		-	-	-	-	-				NA
Toluene		-	-	-	-	-				NA
Ethylbenzene		-	-	-	-	-				NA
Xylenes		-	-	-	-	-				NA

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	HA-102 18-Nov-98	HA-102* 28-Jul-99	HA-102* 6-Apr-00	HA-102* 10-Jul-00	HA-102 12-Oct-00	HA-102* 28-Aug-01	HA-103 18-Nov-98	HA-103 29-Jul-99	HA-103* 6-Apr-00	HA-103* 10-Jul-00	HA-103* 28-Aug-01
Organics												
Volatile Organic Compounds (VOCs) (µg/l)								-	-	-	-	-
Tetrachloroethene		3.0	4.4	5.4	2.9	3	2.6					
Trichloroethene		6.3	13	17	11	11	8.4					
cis-1,2-Dichloroethene		-	-	-	-	-	-					
trans-1,2-Dichloroethene		-	-	-	-	-	-					
Vinyl Chloride		-	-	-	-	-	-					
1,1,1-Trichloroethane		-	-	-	-	0.5	-					
1,1-Dichloroethane		-	-	-	-	-	-					
1,1-Dichloroethene		-	-	-	-	-	-					
Chloroform		-	-	-	-	-	-					
1,1,2,2-Tetrachloroethane		-	-	-	-	-	-					
Trichlorofluoromethane		-	-	-	-	-	-					
1,2,3-Trichlorobenzene		-	NA	NA	NA	-	NA					
1,2-Dichlorobenzene		-	-	-	-	-	-					
1,3-Dichlorobenzene		-	-	-	-	-	-					
1,4-Dichlorobenzene		-	-	-	-	-	-					
Chlorobenzene		-	-	-	-	-	-					
Isopropylbenzene		-	NA	NA	NA	-	NA					
sec-Butylbenzene		-	NA	NA	NA	-	NA					
1,3,5-Trimethylbenzene		-	NA	NA	NA	-	NA					
1,2,4-Trimethylbenzene		-	NA	NA	NA	-	NA					
Naphthalene		-	NA	NA	NA	-	NA					
Benzene		-	NA	NA	NA	-	NA					
Toluene		-	NA	NA	NA	-	NA					
Ethylbenzene		-	NA	NA	NA	-	NA					
Xylenes		-	NA	NA	NA	-	NA					

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	HA-104 27-May-98	HA-104 18-Nov-98	HA-104* 6-Apr-00	HA-104* 11-Jul-00	HA-104* 28-Aug-01	RAY-01 24-Oct-95	RAY-01* 20-Nov-95	RAY-01 27-May-98	MW-101 28-Aug-01	MW-102 27-Aug-01	MW-103 27-Aug-01	MW-104 27-Aug-01	MW-104 12-Dec-01
Organics													
Volatile Organic Compounds (VOCs) (µg/l)													-
Tetrachloroethene	39	11	36	24	4.0	2.1	3.5	2.1	-	-	0.65	-	
Trichloroethene	36	47	69	18	5.2	68	-	45	2.3	500	5.9	290	
cis-1,2-Dichloroethene	-	-	-	-	-	3.3	6.4	1.1	-	-	-	-	
trans-1,2-Dichloroethene	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl Chloride	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,1-Trichloroethane	-	-	-	-	-	-	72	-	-	-	-	-	
1,1-Dichloroethane	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloroethene	-	-	-	-	-	4.6	4.8	-	-	-	-	-	
Chloroform	-	-	-	-	-	-	2.5	-	-	-	-	-	
1,1,2,2-Tetrachloroethane	-	-	-	-	-	-	-	-	-	-	-	-	
Trichlorofluoromethane	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,3-Trichlorobenzene	-	-	NA	NA	NA	-	NA	-	-	-	-	-	
1,2-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	
Chlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	-	-	NA	NA	NA	-	NA	-	-	-	-	-	
sec-Butylbenzene	-	-	NA	NA	NA	-	NA	-	-	-	-	-	
1,3,5-Trimethylbenzene	-	-	NA	NA	NA	-	NA	-	-	-	-	-	
1,2,4-Trimethylbenzene	-	-	NA	NA	NA	-	NA	-	-	-	-	-	
Naphthalene	-	-	NA	NA	NA	-	NA	-	-	-	-	-	
Benzene	-	-	NA	NA	NA	-	NA	-	-	-	-	-	
Toluene	-	-	NA	NA	NA	-	NA	-	-	-	-	-	
Ethylbenzene	-	-	NA	NA	NA	-	NA	-	-	-	-	-	
Xylenes	-	-	NA	NA	NA	-	NA	-	-	-	-	-	

Notes:

* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-105 27-Aug-01	MW-105 27-Aug-01 DUP-1	MW-105 12-Dec-01	MW-106 27-Aug-01	MW-106 12-Dec-01	MW-107 28-Aug-01	MW-107 13-Nov-01	MW-107 11-Dec-01	MW-108 28-Aug-01	MW-108 13-Nov-01	MW-108 11-Dec-01
Organics												
Volatile Organic Compounds (VOCs) (µg/l)												
Tetrachloroethene		1.8	1.8	-	3.3	-	-	-	-	-	-	-
Trichloroethene		60	66	82	160	120	34	65	68	1.4	3.7	4.6
cis-1,2-Dichloroethene		12	12	1.6	-	-	2.0	3.4	2.6	-	-	-
trans-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride		-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane		-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane		-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene		-	-	-	-	-	-	-	-	-	-	-
Chloroform		-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane		-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane		-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene		-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene		-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene		-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene		-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene		-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene		-	-	-	-	-	-	-	-	-	-	-
Naphthalene		-	-	-	-	-	-	-	-	-	-	-
Benzene		-	-	-	-	-	-	-	-	-	-	-
Toluene		-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene		-	-	-	-	-	-	-	-	-	-	-
Xylenes		-	-	-	-	-	-	-	-	-	-	-

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter / Sample I.D. / Date Sampled / Comments	MW-109 28-Aug-01	MW-109 13-Nov-01	MW-109 11-Dec-01	MW-110 28-Aug-01	MW-110 13-Nov-01	MW-110 11-Dec-01	MW-111 28-Aug-01	MW-111 13-Nov-01	MW-111 11-Dec-01	MW-112 28-Aug-01	MW-112 13-Nov-01	MW-112 11-Dec-01
Organics												
Volatile Organic Compounds (VOCs) (µg/l)				-	-	-						
Tetrachloroethene	-	-	-				-	-	-	-	-	-
Trichloroethene	18	26	35				70	9.3	6.6	82	47	37
cis-1,2-Dichloroethene	1.6	2.0	2.3				-	-	-	-	-	-
trans-1,2-Dichloroethene	-	-	-				-	-	-	-	-	-
Vinyl Chloride	-	-	-				-	-	-	-	-	-
1,1,1-Trichloroethane	-	-	-				24	2	-	29	15	12
1,1-Dichloroethane	-	-	-				-	-	-	-	-	-
1,1-Dichloroethene	-	-	-				0.72	-	-	-	-	-
Chloroform	-	-	-				-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	-	-	-				-	-	-	-	-	-
Trichlorofluoromethane	-	-	-				-	-	-	-	-	-
1,2,3-Trichlorobenzene	-	-	-				-	-	-	-	-	-
1,2-Dichlorobenzene	-	-	-				-	-	-	-	-	-
1,3-Dichlorobenzene	-	-	-				-	-	-	-	-	-
1,4-Dichlorobenzene	-	-	-				-	-	-	-	-	-
Chlorobenzene	-	-	-				-	-	-	-	-	-
Isopropylbenzene	-	-	-				-	-	-	-	-	-
sec-Butylbenzene	-	-	-				-	-	-	-	-	-
1,3,5-Trimethylbenzene	-	-	-				-	-	-	-	-	-
1,2,4-Trimethylbenzene	-	-	-				-	-	-	-	-	-
Naphthalene	-	-	-				-	-	-	-	-	-
Benzene	-	-	-				-	-	-	-	-	-
Toluene	-	-	-				-	-	-	-	-	-
Ethylbenzene	-	-	-				-	-	-	-	-	-
Xylenes	-	-	-				-	-	-	-	-	-

Notes:

* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-113 29-Aug-01	MW-113 13-Nov-01	MW-113 11-Dec-01	MW-113 11-Dec-01 DUP-1	MW-114 28-Sep-01	MW-114 12-Nov-01	MW-114 10-Dec-01	MW-115 29-Aug-01	MW-115 12-Nov-01	MW-115 10-Dec-01
Organics											
Volatile Organic Compounds (VOCs) (µg/l)											
Tetrachloroethene		-	-	-	-	-	-	-	-	-	-
Trichloroethene		24	14	14	12	23	24	14	81	60	42
cis-1,2-Dichloroethene		-	0.9	0.71	-	-	-	-	-	-	-
trans-1,2-Dichloroethene		-	-	-	-	-	-	-	-	-	-
Vinyl Chloride		-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane		6.5	0.55	-	-	5.5	8.4	4.2	24	17	10
1,1-Dichloroethane		-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene		-	-	-	-	-	-	-	-	-	-
Chloroform		-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane		-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane		-	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene		-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene		-	-	-	-	-	-	-	-	-	-
Chlorobenzene		-	-	-	-	-	-	-	-	-	-
Isopropylbenzene		-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene		-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene		-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene		-	-	-	-	-	-	-	-	-	-
Naphthalene		-	-	-	-	-	-	-	-	-	-
Benzene		-	-	-	-	-	-	-	-	-	-
Toluene		-	-	-	-	-	-	-	-	-	-
Ethylbenzene		-	-	-	-	-	-	-	-	-	-
Xylenes		-	-	-	-	-	-	-	-	-	-

Notes:
* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.

Table 3
Summary of Groundwater VOC Analytical Results
Raytheon Company
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	MW-116 28-Aug-01	MW-116 12-Nov-01	MW-116 12-Nov-01 DUP-1	MW-116 10-Dec-01
Organics					
Volatile Organic Compounds (VOCs) (µg/l)					
Tetrachloroethene		-	-	-	-
Trichloroethene		180	130	120	81
cis-1,2-Dichloroethene		-	-	-	-
trans-1,2-Dichloroethene		-	-	-	-
Vinyl Chloride		-	-	-	-
1,1,1-Trichloroethane		64	44	39	26
1,1-Dichloroethane		-	-	-	-
1,1-Dichloroethene		-	-	-	-
Chloroform		-	-	-	-
1,1,2,2-Tetrachloroethane		-	-	-	-
Trichlorofluoromethane		-	-	-	-
1,2,3-Trichlorobenzene		-	-	-	-
1,2-Dichlorobenzene		-	-	-	-
1,3-Dichlorobenzene		-	-	-	-
1,4-Dichlorobenzene		-	-	-	-
Chlorobenzene		-	-	-	-
Isopropylbenzene		-	-	-	-
sec-Butylbenzene		-	-	-	-
1,3,5-Trimethylbenzene		-	-	-	-
1,2,4-Trimethylbenzene		-	-	-	-
Naphthalene		-	-	-	-
Benzene		-	-	-	-
Toluene		-	-	-	-
Ethylbenzene		-	-	-	-
Xylenes		-	-	-	-

Notes:

* = VOC analysis for chlorinated compounds only by EPA Method 8021B.
- = Analytical result below the method detection limit.
NA = Not Analyzed
µg/l=micrograms per liter (parts per billion (ppb))
GW samples were collected during step drawdown tests for wells MW-33S, MW-43S and MW-45M. Analytical results are not representative of ambient conditions.