

Table 1
Chronology of RAM Activities
Raytheon Company
Wayland, Massachusetts

Date	Activity	Wells	Parameters
Original RAM Activities (Both MW-33 and MW-43 Pilot Study Areas)			
11-Sep-03	Report Submittal	RAM Plan	
25-Aug-01	Well Installation	15 Monitoring Wells (9 in MW-33 Pilot Area, 6 in MW-43 Pilot Area)	
27-28-Aug-03	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area except MW-114 All Wells in MW-43 Pilot Study Area and MW-43D MW-101, MW-102, MW-103	Field Parameters, Fluoride, Diss. Mn & Cr, VOCs (MW-43D VOCs only)
24-Sep-01	Well Installation	1 Well in MW-33 Pilot Study Area	
28-Sep-01	Groundwater Monitoring	MW-114	Field Parameters, Fluoride, Diss. Mn & Cr, VOCs
5-Oct-01	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area All Wells in MW-43 Pilot Study Area	Field Parameters, Fluoride
6-7-Oct-01	Oxidant Injection	Approx. 2,500 gal of 2% potassium permanganate and tracer at Temporary Injection Point (MW-33 Pilot Study Area) Approx. 250 gal of 4% sodium permanganate and 120 gal of potable water at MW-43S	
8-Oct-01	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area All Wells in MW-43 Pilot Study Area	Field Parameters, Fluoride-MW-107 through MW-110
10-Oct-01	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area except MW-33M	Field Parameters
12-Oct-01	Groundwater Monitoring	MW-33S, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116	Field Parameters, Fluoride-MW-113
14-Oct-01	Groundwater Monitoring	MW-33S, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116	Field Parameters, Fluoride - MW-111, MW-112, MW-114, MW-115, MW-116
16-Oct-01	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area All Wells in MW-43 Pilot Study Area	Field Parameters, Fluoride-MW-107 through MW-110
18-Oct-01	Groundwater Monitoring	MW-33S, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116	Field Parameters
20-Oct-01	Groundwater Monitoring	MW-33S, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116	Field Parameters
22-Oct-01	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area All Wells in MW-43 Pilot Study Area	Field Parameters, Fluoride-MW-107 through MW-110
24-Oct-01	Groundwater Monitoring	MW-33S, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116	Field Parameters, Fluoride-MW-111 through MW-116
26-Oct-01	Groundwater Monitoring	MW-33S, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116	Field Parameters
28-Oct-01	Groundwater Monitoring	MW-33S, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116	Field Parameters
30-Oct-01	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area All Wells in MW-43 Pilot Study Area	Field Parameters
1-Nov-01	Groundwater Monitoring	MW-33S, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116	Field Parameters
5-Nov-01	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area All Wells in MW-43 Pilot Study Area	Field Parameters, Fluoride-MW-33 Pilot Study Area
12-13-Nov-01	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area	Field Parameters, Fluoride, VOCs
10-12-Dec-01	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area All Wells in MW-43 Pilot Study Area and MW-43D	Field Parameters, VOCs Fluoride-MW-33 Area
15-16-Jan-02	Groundwater Monitoring	All Wells in MW-33 Pilot Study Area	Field Parameters, VOCs, Diss. Mn & Cr
		All Wells in MW-43 Pilot Study Area and MW-43D	Field Parameters
31-Jan-02	Report Submittal	120-Day Status Report	
18-Feb-02	Groundwater Monitoring	All Wells in MW-43 Pilot Study Area and MW-43D	Field Parameters, VOCs, (Permanganate-MW-43S and MW-104)
4-Mar-02	Groundwater Monitoring	MW-33S, MW-33M, MW-43S, MW-43D	VOCs
14-Mar-02	Groundwater Monitoring	MW-102	Field Parameters, VOCs

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Date	Activity	Wells	Parameters
11-12-Apr-02	Groundwater Monitoring	All Wells in MW-43 Pilot Study Area and MW-43D MW-101, MW-102, MW-103	Field Parameters, VOCs, (Permanganate-MW-43S and MW-104)
21-May-02	Groundwater Monitoring	All Wells in MW-43 Pilot Study Area	Field Parameters
6-Jun-02	Groundwater Monitoring	All Wells in MW-43 Pilot Study Area and MW-43D MW-101, MW-102, MW-103	Field Parameters, VOCs
25-Jul-02	Report Submittal	Six-Month Status Report	
22-Oct-02	Report Submittal	RAM Plan - Modification #1	
RAM Plan Modification #1 Activities (MW-43 Pilot Study Area Only)			
9-Nov-02	Well Installation	MW-105M, MW-106M, MW-117, MW-118, and MW-212M	
11-12-Nov-02	Baseline Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area except MW-117 and MW-118	Field Parameters, VOCs, Dissolved Cr/Mn/Na, Chloride
13-14-Nov-02	Oxidant Injection	Approximately 9,000 gal (23%) at five temporary Injection Points	
21-Nov-02	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area except MW-117 and MW-118	Field Parameters
23-Nov-02	Soil Boring Installation	B-1, B-2, B-3, B-4 for confirmation of chemical injection radius	Field screen color & PID, lab VOCs
2-3-Dec-02	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters, also VOCs, Cl, dissolved Na, Mn, Cr+3, Cr+6 for MW-117 and MW-118
11-Dec-02	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
19-Dec-02	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
2-Jan-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
16-17-Jan-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
23-Jan-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
30-31-Jan-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
31-Jan-03	Report Submittal	Six-Month Status Report	
11-12-Feb-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters, VOCs, Cl, dissolved Na, Mn, Cr+3, Cr+6
27-28-Feb-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
13-Mar-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
27-Mar-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
11-Apr-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
22-Apr-03 to 1-May-03	Groundwater Monitoring	Site wide groundwater monitoring including MW-33 Pilot Study Area and MW-43 Modified Pilot Study Area	Field Parameters, VOCs, Cl, dissolved Na, Mn, Cr+3, Cr+6
15-May-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
12-Jun-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
28-30-Jul-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters, VOCs, Cl, dissolved Na, Mn, Cr+3, Cr+6
31-Jul-03	Report Submittal	Six-Month Status Report	
25-Aug-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
17-Sep-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters
30-Sep-03 to 3-Oct-03	Groundwater Monitoring	All Wells in MW-43 Modified Pilot Study Area	Field Parameters, VOCs, Cl, dissolved Na, Mn, Cr+3, Cr+6

Notes:

Fluoride Samples only taken at MW-33 Pilot Study Area

Field Parameters = Depth to Water, Conductivity, Oxidation Reduction Potential, Dissolved Oxygen, pH, Temperature, Color/Permanganate

All Wells in MW-33 Pilot Study Area = MW-33S, MW-33M, MW-107, MW-108, MW-109, MW-110, W-111, MW-112, MW-113, MW-114, MW-115, MW-116

All Wells in MW-43 Pilot Study Area = MW-43S, MW-104, MW-105, MW-106 (initial RAM activities)

All Wells in MW-43 Modified Pilot Study Area = MW-43S, MW-43D, MW-44S, MW-44M, MW-44D, MW-101, MW-102, MW-103, MW-104, MW-105, MW-105M, MW-106, MW-106M, MW-107, MW-108, MW-117, MW-118, MW-209, MW-210, MW-211, MW-212, MW-212M, MW-213, MW-214 (RAM Plan Modification #1 activities)