

Table 5
Groundwater Quality Data
MW-33 Pilot Study Area
Former Raytheon Facility
Wayland, Massachusetts

Parameter	Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-33S 27-Aug-01 Baseline	MW-33S 05-Nov-01	MW-33S 12-Nov-01	MW-33S 10-Dec-01 low-flow	MW-33S 10-Dec-01 bailer	MW-33S 15-Jan-02	MW-33S 04-Mar-02	MW-33S 09-Jul-02	MW-33S 01-May-03	Pre-Pilot Concentration Range
Organics												
Volatile Organic Compounds (VOCs) (µg/l)												
Tetrachloroethene		5	-	NA	-	-	-	-	-	NA	-	-
Trichloroethene		5	240		380	360	350	260	560		530	170 - 530
cis-1,2-Dichloroethene		70	-		-	-	-	-	-		-	-
1,1,1-Trichloroethane		200	78		120	110	110	75	170		160	40 - 160
1,1-Dichloroethene		7	-		-	-	-	-	-		-	ND - 2.1
Inorganics												
Dissolved Metals (mg/L)												
Chromium (III)		0.1	-	NA	NA	NA	NA		NA	NA	NA	NA
Manganese		NS	0.01					0.06				
Other Ions												
Fluoride (mg/L)		NS	0.39	-	-	-	-	NA	NA	-	NA	NA

Notes:

- = Analytical result below the method detection limit.

NA = Not Analyzed

NS = No Standard

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

Bold values exceed Method 1 GW-1 Cleanup Standards

GW samples were collected during step drawdown tests for well

MW-33S on August 27, 2001. Analytical results are not

representative of ambient conditions.

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Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-33M 27-Aug-01 Baseline	MW-33M 05-Nov-01	MW-33M 12-Nov-01	MW-33M 10-Dec-01	MW-33M 15-Jan-02	MW-33M 04-Mar-02	MW-33M 09-Jul-02	MW-33M 01-May-03	Pre-Pilot Concentration Range
Organics										
Volatile Organic Compounds (VOCs) (µg/l)										
Tetrachloroethene	5	-	NA	-	-	-	-	NA	-	-
Trichloroethene	5	3.1		8.6	9.3	7.2	9.8		16	ND - 3.1
cis-1,2-Dichloroethene	70	-		0.97	0.69	-	0.9		1.7	-
1,1,1-Trichloroethane	200	-		-	-	-	-		-	-
1,1-Dichloroethene	7	-		-	-	-	-		-	-
Inorganics										
Dissolved Metals (mg/L)										
Chromium (III)	0.1	-	NA	NA	NA	-	NA	NA	NA	NA
Manganese	NS	0.73				0.54				
Other Ions										
Fluoride (mg/L)	NS	0.28	-	-	-	NA	NA	0.08	NA	NA

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Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-107 28-Aug-01 Baseline	MW-107 08-Oct-01	MW-107 16-Oct-01	MW-107 05-Nov-01	MW-107 13-Nov-01	MW-107 11-Dec-01	MW-107 15-Jan-02	MW-107 12-Nov-02	MW-107 11-Feb-03	MW-107 22-Apr-03	MW-107 28-Jul-03	MW-107 02-Oct-03
Organics													
Volatile Organic Compounds (VOCs) (µg/l)													
Tetrachloroethene	5	-	NA	NA	NA	-	-	-	-	-	-	-	-
Trichloroethene	5	34				65	68	65	72	98	88	78	74
cis-1,2-Dichloroethene	70	2.0				3.4	2.6	2.2	2.8	2.9	2.7	3.2	3.5
1,1,1-Trichloroethane	200	-				-	-	-	-	-	-	-	-
1,1-Dichloroethene	7	-				-	-	-	-	-	-	-	-
Inorganics													
Dissolved Metals (mg/L)													
Chromium (III)	0.1	-	NA	NA	NA	NA	NA			NA			
Manganese	NS	3.3						2.5	4.6		4.6	4.7	4.5
Other Ions													
Fluoride (mg/L)	NS	1.6	0.45	-	0.62	0.36	0.73	NA	NA	NA	NA	NA	NA

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Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-108 28-Aug-01 Baseline	MW-108 08-Oct-01	MW-108 16-Oct-01	MW-108 05-Nov-01	MW-108 13-Nov-01	MW-108 11-Dec-01	MW-108 15-Jan-02	MW-108 12-Nov-02	MW-108 11-Feb-03	MW-108 22-Apr-03	MW-108 28-Jul-03	MW-108 02-Oct-03
Organics													
Volatile Organic Compounds (VOCs) (µg/l)													
Tetrachloroethene	5	-	NA	NA	NA	-	-	1.4	1.2	-	-	-	-
Trichloroethene	5	1.4				3.7	4.6	8.2	6.4				
cis-1,2-Dichloroethene	70	-				-	-	-	-				
1,1,1-Trichloroethane	200	-				-	-	-	-				
1,1-Dichloroethene	7	-				-	-	-	-				
Inorganics													
Dissolved Metals (mg/L)													
Chromium (III)	0.1	-	NA	NA	NA	NA	NA	-	-	NA	0.01	-	-
Manganese	NS	1.7						4.4	0.64		0.09	0.11	0.12
Other Ions													
Fluoride (mg/L)	NS	-	-	-	-	-	-	NA	NA	NA	NA	NA	NA

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Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-109 28-Aug-01 Baseline	MW-109 08-Oct-01	MW-109 16-Oct-01	MW-109 05-Nov-01	MW-109 13-Nov-01	MW-109 11-Dec-01	MW-109 15-Jan-02	MW-109 01-May-03
Organics									
Volatile Organic Compounds (VOCs) (µg/l)									
Tetrachloroethene	5	-	NA	NA	NA	-	-	-	-
Trichloroethene	5	18				26	35	36	46
cis-1,2-Dichloroethene	70	1.6				2.0	2.3	2.8	4.0
1,1,1-Trichloroethane	200	-				-	-	-	-
1,1-Dichloroethene	7	-				-	-	-	-
Inorganics									
Dissolved Metals (mg/L)									
Chromium (III)	0.1	-	NA	NA	NA	NA	NA	-	NA
Manganese	NS	1.5						1.5	
Other Ions									
Fluoride (mg/L)	NS	0.55	4.4	2.6	2.2	0.45	2.6	NA	NA

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Parameter	Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-110 28-Aug-01 Baseline	MW-110 08-Oct-01	MW-110 16-Oct-01	MW-110 05-Nov-01	MW-110 13-Nov-01	MW-110 11-Dec-01	MW-110 15-Jan-02
Organics									
Volatile Organic Compounds (VOCs) (µg/l)									
Tetrachloroethene		5	-	NA	NA	NA	-	-	-
Trichloroethene		5							
cis-1,2-Dichloroethene		70							
1,1,1-Trichloroethane		200							
1,1-Dichloroethene		7							
Inorganics									
Dissolved Metals (mg/L)									
Chromium (III)		0.1	-	NA	NA	NA	NA	NA	-
Manganese		NS	0.24						0.08
Other Ions									
Fluoride (mg/L)		NS	0.32	7.9	2.4	0.66	0.43	0.44	NA

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Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-111 28-Aug-01 Baseline	MW-111 14-Oct-01	MW-111 24-Oct-01	MW-111 05-Nov-01	MW-111 13-Nov-01	MW-111 11-Dec-01	MW-111 15-Jan-02	MW-111 01-May-03
Organics									
Volatile Organic Compounds (VOCs) (µg/l)									
Tetrachloroethene	5	-	NA	NA	NA	-	-	-	-
Trichloroethene	5	70				9.3	6.6	4.6	80
cis-1,2-Dichloroethene	70	-				-	-	-	1.8
1,1,1-Trichloroethane	200	24				2.0	-	-	80
1,1-Dichloroethene	7	0.72				-	-	-	8.4
Inorganics									
Dissolved Metals (mg/L)									
Chromium (III)	0.1	-	NA	NA	NA	NA	NA	-	NA
Manganese	NS	1.1						0.67	
Other Ions									
Fluoride (mg/L)	NS	0.48	-	-	-	-	-	NA	NA

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Parameter	Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-112 28-Aug-01 Baseline	MW-112 14-Oct-01	MW-112 24-Oct-01	MW-112 05-Nov-01	MW-112 13-Nov-01	MW-112 11-Dec-01	MW-112 15-Jan-02	MW-112 01-May-03
Organics										
Volatile Organic Compounds (VOCs) (µg/l)										
Tetrachloroethene		5	-	NA	NA	NA	-	-	4.4	-
Trichloroethene		5	82				47	37	36	
cis-1,2-Dichloroethene		70	-				-	-	-	
1,1,1-Trichloroethane		200	29			15	12	10		
1,1-Dichloroethene		7	-			-	-	-		
Inorganics										
Dissolved Metals (mg/L)										
Chromium (III)		0.1	-	NA	NA	NA	NA	NA	-	NA
Manganese		NS	0.13						0.04	
Other Ions										
Fluoride (mg/L)		NS	-	-	-	-	-	-	NA	NA

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Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-113 29-Aug-01 Baseline	MW-113 12-Oct-01	MW-113 24-Oct-01	MW-113 05-Nov-01	MW-113 12-Nov-01	MW-113 11-Dec-01	DUP-1 11-Dec-01	MW-113 15-Jan-02	MW-113 01-May-03
Organics										
Volatile Organic Compounds (VOCs) (µg/l)										
Tetrachloroethene	5	-	NA	NA	NA	-	-	-	-	-
Trichloroethene	5	24				14	14	12	12	80
cis-1,2-Dichloroethene	70	-				0.9	0.71	-	0.82	-
1,1,1-Trichloroethane	200	6.5				0.55	-	-	-	30
1,1-Dichloroethene	7	-				-	-	-	-	0.78
Inorganics										
Dissolved Metals (mg/L)										
Chromium (III)	0.1	-	NA	NA	NA	NA	NA	NA	-	NA
Manganese	NS	1.5							1.7	
Other Ions										
Fluoride (mg/L)	NS	-	-	-	-	-	-	-	NA	NA

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Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-114 28-Sep-01 Baseline	MW-114 14-Oct-01	MW-114 24-Oct-01	MW-114 05-Nov-01	MW-114 12-Nov-01	MW-114 10-Dec-01	MW-114 15-Jan-02	MW-114 01-May-03
Organics									
Volatile Organic Compounds (VOCs) (µg/l)									
Tetrachloroethene	5	-	NA	NA	NA	-	-	-	-
Trichloroethene	5	23				24	14	16	
cis-1,2-Dichloroethene	70	-				-	-	-	
1,1,1-Trichloroethane	200	5.5				8.4	4.2	4.6	
1,1-Dichloroethene	7	-				-	-	-	
Inorganics									
Dissolved Metals (mg/L)									
Chromium (III)	0.1	-	NA	NA	NA	NA	NA	-	NA
Manganese	NS	1.7						0.04	
Other Ions									
Fluoride (mg/L)	NS	-	-	-	-	-	-	NA	NA

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Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-115 29-Aug-01 Baseline	MW-115 14-Oct-01	MW-115 24-Oct-01	MW-115 05-Nov-01	MW-115 12-Nov-01	MW-115 10-Dec-01	MW-115 15-Jan-02	MW-115 01-May-03
Organics									
Volatile Organic Compounds (VOCs) (µg/l)									
Tetrachloroethene	5	-	NA	NA	NA	-	-	-	-
Trichloroethene	5	81				60	41	22	80
cis-1,2-Dichloroethene	70	-				-	-	-	1.5
1,1,1-Trichloroethane	200	24				17	10	3.8	80
1,1-Dichloroethene	7	-				-	-	-	8.4
Inorganics									
Dissolved Metals (mg/L)									
Chromium (III)	0.1	-	NA	NA	NA	NA	NA	-	NA
Manganese	NS	1.7						1.7	
Other Ions									
Fluoride (mg/L)	NS	-	-	-	-	-	-	NA	NA

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Sample I.D. Date Sampled Comments	Method 1 GW-1 Cleanup Standard (mg/L)	MW-116 28-Aug-01 Baseline	MW-116 14-Oct-01	MW-116 24-Oct-01	MW-116 05-Nov-01	MW-116 12-Nov-01	DUP-1 12-Nov-01	MW-116 10-Dec-01	MW-116 15-Jan-02	DUP-1 15-Jan-02	MW-116 01-May-03
Organics											
Volatile Organic Compounds (VOCs) (µg/l)											
Tetrachloroethene	5	-	NA	NA	NA	-	-	-	-	-	-
Trichloroethene	5	180				130	120	81	59	74	
cis-1,2-Dichloroethene	70	-				-	-	-	-	-	
1,1,1-Trichloroethane	200	64				44	39	26	19	23	
1,1-Dichloroethene	7	-				-	-	-	-	-	
Inorganics											
Dissolved Metals (mg/L)											
Chromium (III)	0.1	-	NA	NA	NA	NA	NA	NA	-	-	NA
Manganese	NS	0.41							0.06	0.06	
Other Ions											
Fluoride (mg/L)	NS	-	-	-	-	-	-	0.29	NA	NA	NA

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