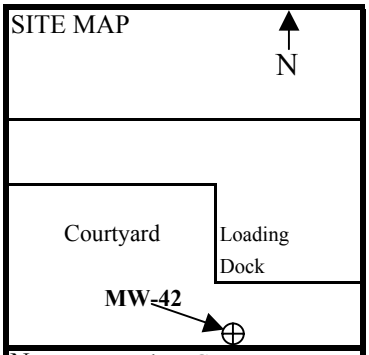
DRILLING LOG for Well #: MW-42S

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.:	134.83'	MP:	PVC	Depth to GW:	14.41'
		MP Elev.:	134.44'		

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								
1								
2								
3								
4								
5								
6		SAND &	3,3	4"	Brown medium to coarse SAND and FILL,	S-1	0.5	
7		FILL	3,3		some Gravel, dry to damp	5'-7'		
8								
9								
10								
11		SAND	5,21	5"	Brown fine SAND to Silt, damp to wet	S-2	0.5	
12			21,22			10'-12'		
13								
14								
15								
16		SAND	8,11	15"	Brown fine SAND, trace Silt, wet to saturated	S-3	0.7	
17			14,14			15'-17'		
18		SAND &	14,17	24"	Brown fine SAND and SILT, interbedded, saturated	S-4	0.7	
19		SILT	20,21			17'-19'		
20								
21								
22		SAND &	9,8	24"	Brown fine SAND and SILT, trace Clay	S-5	0.8	
23		SILT	7,7		interbedded, well sorted, saturated [iron staining]	21'-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-42S

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

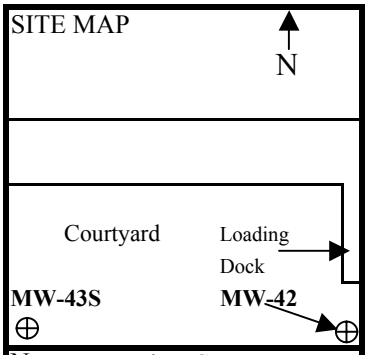
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
25								
26					Well Construction Details:			
27					Protective Flushmount Roadbox			
28					0'-1' Concrete surface seal			
29					1'-11' Native backfill			
30					11'-13' Bentonite chip seal			
31					13'-20' #1 silica sand filter pack			
32					15'-20' 0.010 slotted PVC well screen			
33					20' Bottom of boring			
34					23' Bottom of Spoon Sampling			
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								

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	10"	Brown to black FILL, Asphalt, some medium to	S-1	0.8	
12			15,17		fine Sand, poorly sorted, dry	10'-12'		
13								
14								
15								
16		SAND &	10,12	18"	Brown fine SAND and SILT, well sorted, damp	S-2	3.1	
17		SILT	14,14			15'-17'		
18		SAND	14,17	17"	Brown fine SAND, trace Silt, well sorted, saturated	S-3	2.1	
19			21,25			17'-19'		
20								
21								
22		SAND &	12,12	21"	Brown fine SAND and SILT, trace Clay, well	S-4	2.2	
23		SILT	12,14		sorted, saturated [iron staining]	21'-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

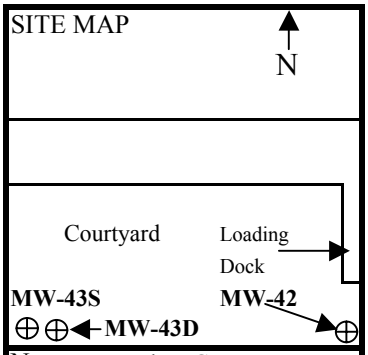
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
					Well Construction Details:			
					Protective Flushmount Roadbox			
					0'-1' Concrete surface seal			
					1'-11' Native backfill			
					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

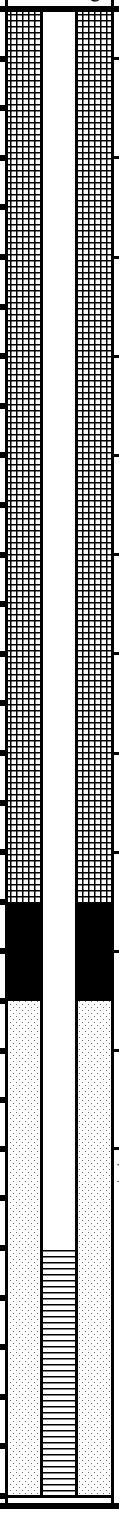
Key to Well Construction
Sandpack; Well Screen; Drill Cuttings; Bentonite Seal; Portland cement-bentonite slurry grout

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.



Well Construction Details

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

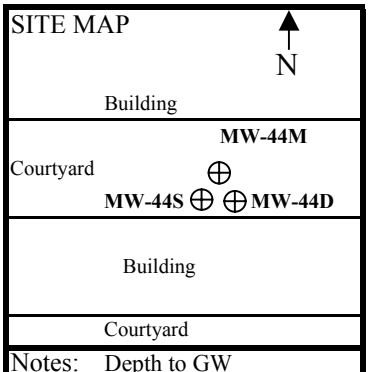
55' Bottom of borehole

DRILLING LOG for Well #: MW-44S

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:	Tom Belsky		
Date Started:	5-Nov-98	Date Finished:	5-Nov-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	27'	Type:	PVC
Boring Depth:	32'	Well Depth	32'	Boring Diam.:	8"
Surface Elev.:	135.02'	MP:	PVC	Depth to GW:	16.17'
		MP Elev.:	134.71'		

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								
2								
4								
6								
8								
10					No Split-Spoon Samples Collected			
12								
14								
16					Well Construction Details:			
18					Protective Flushmount Roadbox			
20					0'-1' Concrete surface seal			
22					1'-5' Native backfill			
24					5'-22' Grout			
26					22'-25' Bentonite chip seal			
28					25'-32' #1 silica sand filter pack			
30					27'-32' 0.010 slotted PVC well screen			
32					32' Bottom of boring			
34								
36								
38								
40								
42								
44								
46								
48								

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

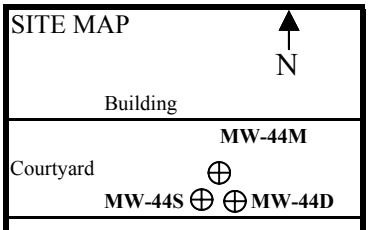
Key to Well Construction
Sandpack, Well Screen, Drill Cuttings
Bentonite Seal, Cement, Grout

DRILLING LOG for Well #: MW-44M

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:	5-Nov-98	Date Finished:	5-Nov-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	43'	Type:	PVC
Boring Depth:	48'	Well Depth	48'	Boring Diam.:	8"
Surface Elev.:	134.84'	MP:	PVC	Depth to GW:	16.15'
		MP Elev.:	134.58'		

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								
5					No Split-Spoon Samples Collected			
10								
15					Well Construction Details:			
20					Protective Flushmount Roadbox			
25					0'-1' Concrete surface seal			
30					1'-12' Native backfill			
35					12'-39' Grout			
40					39'-41' Bentonite chip seal			
45					41'-48' #1 silica sand filter pack			
50					43'-48' 0.010 slotted PVC well screen			
55					48' Bottom of boring			
60								
65								
70								
75								
80								
85								
90								
95								
100								
105								
110								
115								
120								

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

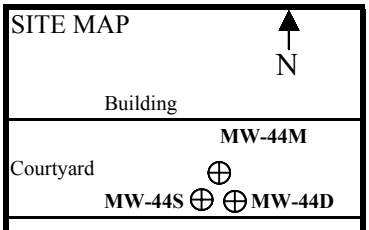
Key to Well Construction
Sandpack, Well Screen, Drill Cuttings
Bentonite Seal, Cement, Grout

DRILLING LOG for Well #: MW-44D

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:	Tom Belsky		
Date Started:	3-Nov-98	Date Finished:	5-Nov-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	63'	Type:	PVC
Boring Depth:	68'	Well Depth	68'	Boring Diam.:	8"
Surface Elev.:	134.94'	MP:	PVC	Depth to GW:	16.33'
		MP Elev.:	134.66'		

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								
1								
2								
3								
4								
5								
6		SAND	7,9	23"	Light brown fine SAND, trace Gravel,	S-1	1.7	
7			11,8		loose, damp	5'-7'		
8								
9								
10								
11		SAND &	4,4	20.5"	Top 12": Light brown fine SAND, moist	S-2	2.0	
12		SILT	4,5		Bottom 9": Brown SILT, some fine Sand, wet	10'-12'		
13								
14								
15								
16		SAND &	4,2	22"	Brown SAND and SILT, wet to saturated	S-3	2.4	
17		SILT	2,2			15'-17'		
18		SILT	4,3	23"	Brown SILT, some fine Sand	S-4	2.1	
19			2,3			17'-19'		
20		SAND &	7,8	20.5"	Top 10": Brown SILT	S-5	1.4	
21		SILT	10,13		Bottom 9.5": Brown fine SAND, some Silt	19'-21'		
22		SAND &	9,11	14"	Top 8": Brown SAND and SILT	S-6	1.8	
23		SILT	9,14		Bottom 6": Brown coarse SAND, some fine Gravel	21'-23'		
24		SAND	17,21,27,34	18"	Brown fine SAND, some Gravel, loose	S-7 23'-25'	2.6	

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, Grout

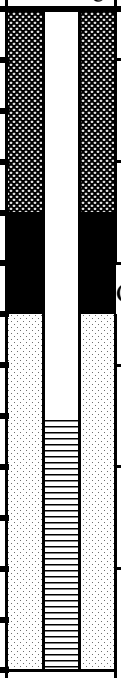
DRILLING LOG for Well #: MW-44D

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								
27								
28		SAND	7,15	13"	Brown coarse SAND, some fine Gravel, poorly	S-8	0.7	
29			19,11		sorted, loose	28'-30'		
30		SAND	17,14	18"	Brown coarse SAND, some fine Gravel, poorly	S-9	0.8	
31			23,60(4")		sorted, loose	30'-32'		
32		SAND &	29,41	14"	Top 7": Brown SAND, some Gravel, trace Silt	S-10	1.0	
33		SILT	44,17		Bottom 7": Brown SILT, some fine Sand, dense	32'-34'		
34		SAND &	29,34	18"	Brown SAND and SILT, some Gravel	S-11	0.8	
35		SILT	31,27			34'-36'		
36		SAND &	27,32	19"	Brown SAND and SILT	S-12	1.0	
37		SILT	38,31			36'-38'		
38		SAND	17,19	12"	Brown coarse SAND, trace Silt, odor, loose	S-13	0.8	
39			21,33			38'-40'		
40		SAND	11,14	10"	Brown medium to coarse SAND, little Gravel,	S-14	1.8	
41			12,13		loose, wet	40'-42'		
42		SAND	12,12	16"	Brown medium to coarse SAND, little Gravel,	S-15	2.0	
43			13,16		trace Silt, loose	42'-44'		
44			12,17	0"	No Recovery			
45			31,34					
46		SAND &	31,27	12"	Brown medium coarse SAND and GRAVEL,	S-16	1.6	
47		GRAVEL	17,12		rock fragments	46'-48'		
48			15,17	0"	No Recovery			
49			17,23					
50		SAND &	5,6	10"	Brown coarse SAND and GRAVEL,	S-17	0.7	
51		GRAVEL	6,8		loose	50'-52'		
52		SAND &	5,7	12"	Dark grey SAND and SILT, some Gravel,	S-18	0.4	
53		SILT	15,24		poorly sorted, dense	52'-54'		
54		SAND	54,44,48,39	16"	Dk.Grey med to fine SAND, some Silt, lt. Gravel, stiff	S-19 54-56'	0.6	
55								

DRILLING LOG for Well #: MW-44D

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

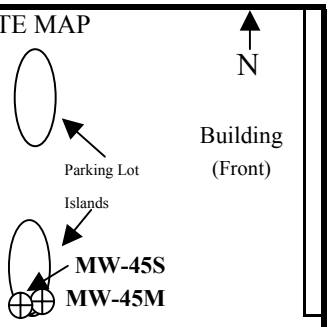
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
56								
57		SAND	51,53	10"	Dark grey medium to fine SAND, some	S-20	0.8	
58			49,58		Silt, little Gravel, stiff	56'-58'		
59		SAND	58,40	16"	Dark grey medium to fine SAND, some	S-21	0.7	
60			89,65		Silt, little Gravel, stiff	58'-60'		
61		GRAVEL	28,54	10"	Coarse GRAVEL, little to trace fine Sand and	S-22	0.6	
62			100		Silt	60'-62'		
63								
64		TILL	75,100	7"	Grey TILL, very stiff	S-23	0.7	
65			(4")			64'-66'		
66								
67								
68					Well Construction Details:			
69					Protective Flushmount Roadbox			
70					0'-1' Concrete surface seal			
71					1'-12' Native backfill			
72					12'-59' Grout			
73					59'-61' Bentonite chip seal			
74					61-68' #1 silica sand filter pack			
75					63'-68' 0.010 slotted PVC well screen			
76					68' Bottom of boring			
77								
78								
79								
80								
81								
82								
83								
84								
85								

DRILLING LOG for Well #: MW-45S

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:	3-Nov-98	Date Finished:	3-Nov-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	32'	Type:	PVC
Boring Depth:	37'	Well Depth	37'	Boring Diam.:	8"
Surface Elev.:	132.51'	MP:	PVC	Depth to GW:	18.17'
		MP Elev.:	132.05'		

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								
2								
4								
6					No Split-Spoon Samples Collected			
8								
10								
12					Well Construction Details:			
14					Protective Flushmount Roadbox			
16					0'-1' Concrete surface seal			
18					1'-17' Native backfill			
20					17'-28' Grout			
22					28'-30' Bentonite chip seal			
24					30'-37 #1 silica sand filter pack			
26					32'-37' 0.010 slotted PVC well screen			
28					37' Bottom of boring			
30								
32								
34								
36								
38								
40								
42								
44								
46								
48								

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

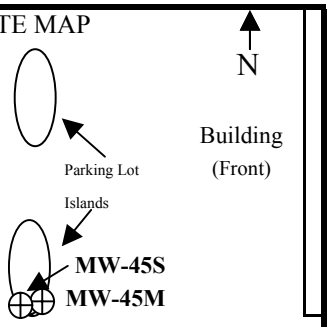
Key to Well Construction
Sandpack, Well Screen, Drill Cuttings
Bentonite Seal, Cement, Grout

DRILLING LOG for Well #: MW-45M

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:	3-Nov-98	Date Finished:	3-Nov-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	43'	Type:	PVC
Boring Depth:	48'	Well Depth	48'	Boring Diam.:	8"
Surface Elev.:	132.56'	MP:	PVC	Depth to GW:	18.33'
		MP Elev.:	132.31'		

SITE MAP



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

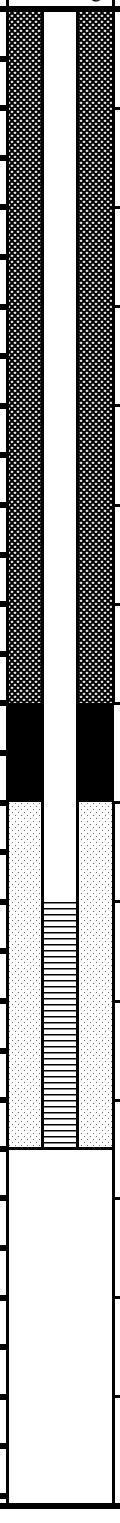
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	HS Conc. (ppm)	Lab Sample # & Analyses
0								
1								
2								
3								
4								
5								
6		SAND & FILL	12,10 7,7	21"	Light brown medium SAND and FILL, dry	S-1 5'-7'	1.9	
7								
8								
9								
10								
11		SAND	11,14 12,9	14"	Light brown medium to fine SAND, some Gravel, poorly sorted, dry	S-2 10'-12'	1.4	
12								
13								
14								
15								
16		SAND	7,9 5,8	12"	Brown medium SAND, some Gravel, poorly sorted, dry to damp	S-3 15'-17'	3.0	
17								
18								
19								
20								
21		SAND	5,8 8,6	16"	Brown medium to fine SAND, trace Gravel, poorly sorted, saturated	S-4 20'-22'	0.0	
22								
23		SAND	10,11 10,10	20"	Brown medium to fine SAND, trace Gravel, poorly sorted, saturated	S-5 22'-24'	0.0	
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, Grout

DRILLING LOG for Well #: MW-45M

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		SAND	8,9 11,11	24"	Brown medium SAND, some fine Sand, trace Gravel, saturated	S-6 24'-26'	0.0	
26		SAND	10,10 12,11	24"	Brown medium SAND, some fine Sand,well sorted, saturated	S-7 26'-28'	0.0	
27		SAND	18,20 22,20	24"	Brown medium SAND, some fine Sand,well sorted, saturated	S-8 28-30'	0.0	
28		SAND	18,20 15,12	24"	Brown medium SAND, some fine Sand saturated	S-9 30'-32'	0.0	
29		SAND	18,15 15,13	24"	Brown medium to fine SAND, well sorted, saturated	S-10 32'-34'	0.0	
30		SAND	9,10 12,10	24"	Brown fine SAND, trace Silt, well sorted, saturated	S-11 34'-36'	0.0	
31		SAND & SILT	17,15 13,13	24"	Top 16": Brown medium SAND, well sorted, sat. Bottom 8": Brown fine SAND and SILT, sat.	S-12 36'-38'	0.0	
32		SAND & SILT	16,12 11,14	24"	Brown fine SAND and SILT, well sorted, saturated	S-13 38'-40'	0.0	
33		SAND	3,5 7,7	24"	Brown fine SAND, trace Silt, well sorted, saturated	S-14 40'-42'	0.0	
34		SAND	10,10 11,14	24"	Brown fine SAND, trace Silt, well sorted, saturated	S-15 42'-44'	0.0	
35		SAND	5,7 9,12	24"	Brown fine SAND, trace Silt, well sorted, saturated [iron staining]	S-16 44'-46'	0.0	
36		SAND	12,12 14,22	24"	Brown fine SAND, trace Silt, well sorted, saturated	S-17 46'-48'	0.0	
37		SAND	14,10 10,10	24"	Brown fine SAND, trace Silt, well sorted, saturated	S-18 48'-50'	0.0	
38		SAND	12,12 9,9	24"	Brown fine SAND, trace Silt, well sorted, saturated	S-19 50'-52'	0.0	
39					Well Construction Details on Following Page			
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								

DRILLING LOG for Well #: MW-45M

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					Protective Flushmount Roadbox			
59					0'-1' Concrete surface seal			
60					1'-17' Native backfill			
61					17'-39' Grout			
62					39'-41' Bentonite chip seal			
63					41'-48' #1 silica sand filter pack			
64					43'-48' 0.010 slotted PVC well screen			
65					48' Bottom of boring			
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-45D

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								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53		SAND	8,9	14"	Top 12": Br. Med. SAND, some fine Sand, w.s., sat.	S-1	0.0	
54			9,10		Btm 2": Grey fine SAND & SILT, compact, sat.	52'-54'		
55		SAND &SILT	12,7,10,11	24"	Grey fine SAND and SILT, well sorted, compact, sat.	S-2 54'-56'	0.0	

DRILLING LOG for Well #: MW-45D

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

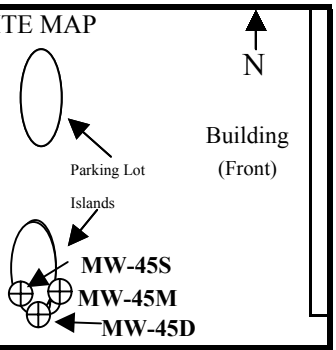
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
56								
57		SAND & SILT	5,7 10,9	24"	Grey fine SAND & SILT, compact, well sorted, saturated	S-3 56'-58'	0.0	
58		SAND & SILT	10,9 10,12	17"	Grey fine SAND & SILT, compact, well sorted,	S-4 58'-60'	0.0	
60		SAND & SILT	7,7 6,8	21"	Grey fine SAND & SILT, well sorted, compact, saturated	S-5 60'-62'	0.0	
62		SAND & SILT	9,11 11,14	24"	Grey fine SAND & SILT, trace Clay, well sorted, compact, saturated	S-6 62'-64'	0.0	
64		SAND & SILT	6,6 8,11	24"	Grey fine SAND & SILT, trace Clay, well sorted, compact, saturated	S-7 64'-66'	0.0	
66		SAND & SILT	7,9 11,10	20"	Top 6": Grey-dk.br. Fine SAND & SILT, sat. Mid4": Grey fine SAND & SILT, some Clay Btm 10": Br fine SAND, trace. Silt	S-8 66'-68'	0.0	
68			10,10 9,10	0"	No Recovery	S-9 69'-70'		
70		SAND	9,10 7,7	22"	Top 10": Grey med to fine SAND, trace Silt, w.s., sat Btm 12": Br to grey fine SAND, trace Silt, w.s., sat	S-10 70'-72'	2.6	
72		SAND	11,13 10,10	24"	Brown to lt. Grey fine SAND, trace Silt, well sorted, saturated	S-11 72'-74'	0.0	
74		SAND	10,11 13,13	14"	Brown to lt. Grey fine SAND, trace Silt and Gravel (interbedded), saturated	S-12 74'-76'	0.0	
76		TILL	12,11 14,60(2")	20"	Top 4": Br med to fine SAND, little Gravel, sat. Mid 6": Grey fine SAND & SILT Bottom 10": Grey TILL, tight, sat	S-13 76'-78'	0.0	
78					Top of bedrock at 78' bgs			
79								
80								
81								
82								
83								
84								
85								

DRILLING LOG for Well #: MW-45D

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

Project:	Raytheon - Wayland	Project Number:	143.48		
Client:	Raytheon	Logged by:	Ryan Bagley		
Drilling Co:	Geosearch, Inc.	Driller:	Tom Belsky		
Date Started:	9-Aug-99	Date Finished:	10-Aug-99		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA/Drive and Wash		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	73'	Type:	PVC
Boring Depth:	78'	Well Depth	78'	Boring Diam.:	8"
Surface Elev.:	132.59'	MP:	PVC	Depth to GW:	18.80'
		MP Elev.:	132.59'		

SITE MAP



Notes: Depth to GW measured on 7/29/99

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					Augered using 4.25" flights from 0'-40'			
4					Advanced 5" casing to 40'			
5					Telescoped 4" casing from 40'-78'			
6								
7								
8					Well Construction Details:			
9					Protective Flushmount Roadbox			
10					0'-1' Concrete surface seal			
11					1'-10' Native backfill			
12					10'-70' Grout			
13					70'-72' Bentonite chip seal			
14					72'-78' #1 silica sand filter pack			
15					73'-78' 0.010 slotted PVC well screen			
16					78' Bottom of boring			
17								
18								
19								
20								
21								
22								
23								

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

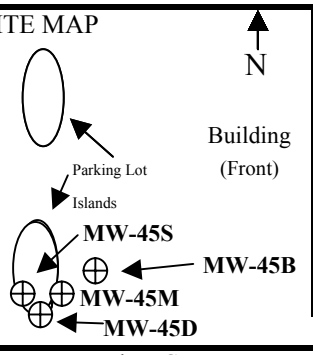
Key to Well Construction
Sandpack, Well Screen, Drill Cuttings
Bentonite Seal, Cement, Grout

DRILLING LOG for Well #: MW-45B

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:	M. Bovenzi		
Date Started:	24-Mar-00	Date Finished:	27-Mar-00		
Location:	Wayland, Massachusetts	Drilling Method:	4.25" ID HSA/Drive and Wash/HV Rk Core		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	92'	Type:	PVC
Boring Depth:	97'	Well Depth	97'	Boring Diam.:	8"
Surface Elev.:	132.25'	MP:	PVC	Depth to GW:	15.31'
		MP Elev.:	132.25'		

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								
2								
4					No Split spoon samples collected			
6					Augered using 4.25" flights from 0'-40'			
8					Advanced using 5" casing to 40'			
10					Telescoped 4" casing from 40'-76'			
12					HV Rock core from 76'-97'			
14								
16					Well Construction Details:			
18					Protective Flushmount Roadbox			
20					0'-1' Concrete surface seal			
22					1'-5' Native backfill			
24					5'-75' Grout			
26					75'-91' Bentonite chip seal			
28					91'-97' #1 silica sand filter pack			
30					92'-97' 0.010 slotted PVC well screen			
32					97' Bottom of boring			
34								
36								
38								
40								
42								
44								
46								
48								

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, Grout

DRILLING LOG for Well #: MW-45B

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

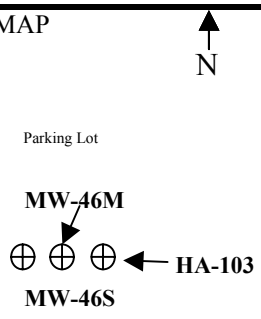
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
50					76'-77.5' Hard to moderately hard, very slight weathering, sound, unfractured, light grey, DIORITE (fine grained).			
52								
56								
58					77.5'-80.0' Moderately hard, medium to severe weathering reduced to mainly (>90%) Gravel size fragments, extremely fractured GABBRO/ DIORITE (fine grained).			
60								
62								
64					81' - 84' Moderately hard, severe weathering, reduced to mainly (>90%) Gravel size frags, extremely fractured GABBRO/ DIORITE Oxidation apparent on >50% of joint surfaces.			
66								
68								
70								
72								
74					85' Same as above. GABBRO with some Feldspar.			
76		DIORITE	Rec = 32"	RQD = 51%	86' - 88' Moderately hard, moderately weathered, moderate to slightly fractured, medium grained, green/ grey GABBRO.	76'-80'		CORE RUN C-1
80		GABBRO DIORITE	Rec = 16"	RQD = 0%		81' - 84'		CORE RUN C-2
82								
84		GABBRO	Rec = 9"	RQD = 0%	88.0' - 88.2' Fracture 40 degrees, evidence of healed fracturing (chlorite).	85'		CORE RUN C-3
86		GABBRO	Rec = 86"	RQD = 95%	93' - 93.7' Moderately hard, moderately weathered, moderately fractured, medium grained, green/ gray GABBRO. Evidence of silt/ clay caps and jointing.	86' - 92'		CORE RUN C-4
88								
92		GABBRO	Rec = 41"	RQD = 92%		93' - 97'		CORE RUN C-5
94								
96					93.7' - 93.1' Fracture, highly weathered, evidence of clay coatings.			
98					96.1' - 97.0' Fracture, highly weathered, reduced to mainly Gravel size fragments.			
100								

DRILLING LOG for Well #: MW-46S

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:	4-Nov-98	Date Finished:	4-Nov-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	20'	Type:	PVC
Boring Depth:	25'	Well Depth	25'	Boring Diam.:	8"
Surface Elev.:	132.81'	MP:	PVC	Depth to GW:	14.74'
		MP Elev.:	132.45'		

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								
1					No Split-Spoon Samples Collected			
2								
3								
4								
5								
6					Well Construction Details:			
7					Protective Flushmount Roadbox			
8					0'-1' Concrete surface seal			
9					1'-14' Native backfill			
10					14'-16' Grout			
11					16'-18' Bentonite chip seal			
12					18'-25' #1 silica sand filter pack			
13					20'-25' 0.010 slotted PVC well screen			
14					25' Bottom of boring			
15								
16								
17								
18								
19								
20								
21								
22								
23								
25								

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

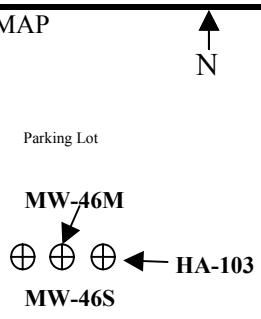
Key to Well Construction
Sandpack, Well Screen, Drill Cuttings
Bentonite Seal, Cement, Grout

DRILLING LOG for Well #: MW-46M

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:	4-Nov-98	Date Finished:	4-Nov-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.:	132.84'	MP:	PVC	Depth to GW:	16.98'
		MP Elev.:	132.54'		

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								
1								
2								
3								
4								
5								
6		SAND	7,9 13,20	9"	Brown medium SAND [FILL], some Gravel, loose poorly sorted, dry	S-1 5'-7'	1.3	
7								
8								
9								
10								
11		SAND & GRAVEL	11,14 12,9	11"	Brown medium SAND and GRAVEL, loose [FILL], poorly sorted, dry	S-2 10'-12'	1.5	
12								
13								
14								
15								
16		SAND	6,8 9,7	7"	Brown medium SAND, some fine Sand, trace Silt, saturated	S-3 15'-17'	1.4	
17								
18		SAND	11,14 10,11	24"	Brown medium to fine SAND, trace Silt, well sorted, saturated	S-4 17'-19'	1.7	
19								
20		SAND	7,9 6,9	18"	Brown medium to coarse SAND, some Gravel, poorly sorted, loose, saturated	S-5 19'-21'	1.5	
21								
22		SAND & SILT	11,13 12,12	20"	Top 15": Brown med to coarse SAND, some Gravel Bottom 5": Brown SILT, well sorted, saturated	S-6 21'-23'	1.2	
23								
24		SAND	20,23	24"	Top 22": Brown med to coarse SAND, some Gravel	S-7	1.0	

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, Grout

DRILLING LOG for Well #: MW-46M

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		SILT	27,30	24"	Bottom 2": Brown fine SILT, well sorted, sat.	23'-25'		
26		SILT	16,21	14"	Brown SILT, trace Clay, well sorted, compact	S-8	1.2	
27			22,18		saturated	25'-27'		
28		SILT	19,24	24"	Brown SILT, trace Clay, compact, saturated	S-9	1.2	
29			28,20			27'-29'		
30		SILT	8,11	18"	Brown SILT, some Clay, saturated [iron staining]	S-10	1.3	
31			10,11			29'-31'		
32		SILT	15,17	22"	Brown SILT, trace Clay, saturated	S-11	0.5	
33			12,12			31'-33'		
34		SILT	11,9	20"	Brown SILT, trace Clay, saturated [iron staining]	S-12	1.5	
35			13,11			33'-35'		
36		SILT	7,7	12"	Brown SILT, trace Clay, saturated	S-13	1.3	
37			7,7			35'-37'		
38		SILT	10,12	24"	Brown SILT, trace Clay, trace fine Sand,	S-14	1.4	
39			12,10		saturated	37'-39'		
40		SILT	6,8	20"	Brown SILT, trace Clay, saturated	S-15	1.1	
41			10,10			39'-41'		
42		SILT	7,11	24"	Brown SILT, trace Clay, saturated [iron staining]	S-16	1.3	
43			13,12			41'-43'		
44		SILT	14,16	24"	Brown to grey SILT, trace Clay, saturated	S-17	1.4	
45			15,13			43'-45'		
46		SILT	0,0	24"	Grey SILT, trace Clay, trace fine Sand, saturated	S-18	1.1	
47			3,3			45'-47'		
48		SILT	7,8	24"	Grey SILT, trace Clay, saturated	S-19	1.1	
49			9,7			47'-49'		
50								
51								
52								
53					Well Construction Details on Following Page			
54								

DRILLING LOG for Well #: MW-46M

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

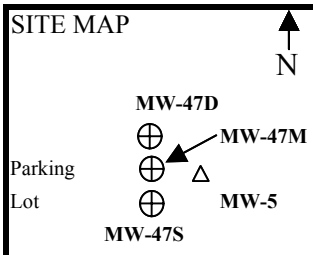
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
56								
57					Well Construction Details:			
58					Protective Flushmount Roadbox			
59					0'-1' Concrete surface seal			
60					1'-15' Native backfill			
61					15'-41' Grout			
62					41'-43' Bentonite chip seal			
63					43'-50' #1 silica sand filter pack			
64					45'-50' 0.010 slotted PVC well screen			
65					50' Bottom of boring			
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-47S

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:	Tom Belsky		
Date Started:	6-Nov-98	Date Finished:	6-Nov-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	31'	Type:	PVC
Boring Depth:	37'	Well Depth	36'	Boring Diam.:	8"
Surface Elev.:	132.58'	MP:	PVC	Depth to GW:	17.73'
		MP Elev.:	131.99'		

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								
2								
4								
6					No Split-Spoon Samples Collected			
8								
10								
12					Well Construction Details:			
					Protective Flushmount Roadbox			
16					0'-1' Concrete surface seal			
18					1'-10' Native backfill			
20					10'-26' Grout			
22					26'-29' Bentonite chip seal			
24					29'-37' #1 silica sand filter pack			
26					31'-36' 0.010 slotted PVC well screen			
28					37' Bottom of boring			
30								
32								
34								
36								
38								
40								
42								
44								
46								
48								

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

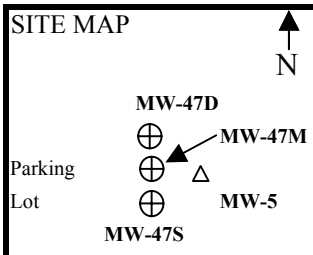
Key to Well Construction
Sandpack, Well Screen, Drill Cuttings
Bentonite Seal, Cement, Grout

DRILLING LOG for Well #: MW-47M

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:	5-Nov-98	Date Finished:	5-Nov-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.:	132.58'	MP:	PVC	Depth to GW:	17.20'
		MP Elev.:	131.30'		

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								
1								
2								
3								
4								
5								
6		SAND	5,7 6,6	16"	Brown medium to fine SAND, well sorted, dry	S-1 5'-7'	0.8	
7								
8								
9								
10								
11		SAND	5,7 6,5	14"	Brown medium to fine SAND, well sorted, dry to damp	S-2 10'-12'	1.0	
12								
13								
14								
15								
16		SAND	5,5 7,8	15"	Brown fine SAND, well sorted, damp	S-3 15'-17'	2.6	
17								
18								
19								
20								
21		SAND & SILT	3,3 3,3	22"	Top 20": Brown fine SAND and SILT, w.sorted, sat. Bottom 2": Brown medium to fine SAND, sat.	S-4 20'-22'	2.1	
22								
23		SAND & SILT	4,4 5,4	24"	Top 8": Brown fine SAND and SILT, sat. Bottom 16": Brown med to fine SAND, sat.	S-5 22'-24'	5.0	
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, Grout

DRILLING LOG for Well #: MW-47M

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		SAND	7,8	24"	Brown medium to fine SAND, well sorted,	S-6	2.4	
26			5,5		saturated	24'-26'		
27		SAND	7,7	24"	Brown medium to fine SAND, well sorted,	S-7	3.0	
28			7,7		saturated	26'-28'		
29		SAND	7,9	24"	Brown medium to fine SAND, well sorted,	S-8	3.0	
30			10,10		saturated	28'-30'		
31		SAND	8,8	24"	Brown medium to fine SAND, well sorted,	S-9	1.7	
32			11,14		saturated	30'-32'		
33		SAND	10,10	24"	Brown medium to fine SAND, well sorted,	S-10	2.1	
34			10,10		saturated	32'-34'		
35		SAND	7,11	20"	Brown medium to fine SAND, well sorted,	S-11	2.3	
36			12,14		saturated	34'-36'		
37		SAND &	11,15	24"	Top 18": Brown med to fine SAND, saturated	S-12	2.1	
38		SILT	13,16		Bottom 6": Brown SILT, well sorted, sat.	36'-38'		
39		SAND &	7,10	18"	Grey fine SAND and SILT, well sorted,	S-13	2.7	
40		SILT	5,5		saturated	38'-40'		
41		SAND &	11,9	24"	Top 16": Grey fine SAND and SILT	S-14	2.0	
42		SILT	9,9		Bottom 8": Grey SILT, saturated	40'-42'		
43		SILT	5,8	16"	Grey SILT, well sorted, saturated	S-15	1.2	
44			7,5			42'-44'		
45		SAND &	8,13	24"	Top 12": Grey fine SAND, saturated	S-16	2.0	
46		SILT	10,14		Bottom 12": Grey SILT, saturated	44'-46'		
47		SILT	9,7	24"	Grey SILT, well sorted, saturated	S-17	1.1	
48			7,7			46'-48'		
49		SILT	10,9	24"	Grey SILT, well sorted, saturated	S-18	1.1	
50			9,11			48'-50'		
51								
52								
53					Well Construction Details on Following Page			
54								

DRILLING LOG for Well #: MW-47M

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

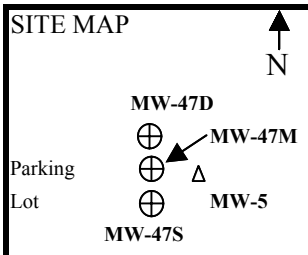
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
56								
57					Well Construction Details:			
58					Protective Flushmount Roadbox			
59					0'-1' Concrete surface seal			
60					1'-15' Native backfill			
61					15'-41' Grout			
62					41'-43' Bentonite chip seal			
63					43'-50' #1 silica sand filter pack			
64					45'-50' 0.010 slotted PVC well screen			
65					50' Bottom of boring			
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-47D

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:	5-Nov-98	Date Finished:	6-Nov-98		
Location:	Wayland, Massachusetts	Drilling Method:	4.25 ID HSA		
Screen Diam:	2"	Length:	5'	Slot Size:	0.01
Casing Diam:	2"	Length:	66'	Type:	PVC
Boring Depth:	72'	Well Depth	71'	Boring Diam.:	8"
Surface Elev.:	132.57'	MP:	PVC	Depth to GW:	17.21'
		MP Elev.:	132.26'		

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					Augered using 4" flights from 0'-23'			
1					Advanced 5" casing to 40'			
2					Telescoped 4" casing from 40'-70'			
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
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, Drill Cuttings
Bentonite Seal, Cement, Grout

DRILLING LOG for Well #: MW-47D

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								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50		SILT	5,6	18"	Grey SILT, well sorted, compact, saturated	S-1	0.8	
51			5,7			50'-52'		
52		SAND	9,8	10"	Grey fine SAND, well sorted, saturated	S-2	0.8	
53			8,11			52'-54'		
54		SAND &SILT	8,8,7,10	10"	Grey fine SAND and SILT, well sorted, sat.	S-3 54'-56'	0.9	
55								

DRILLING LOG for Well #: MW-47D

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		SAND & SILT	7,9 13,16	17"	Grey to brown fine SAND and SILT, well sorted, saturated [some iron staining]	S-4 56'-58'	1.0	
58		SAND	11,15 17,16	2"	Brown fine SAND, saturated	S-5 58'-60'	0.9	
59		SAND	9,14 16,17	19"	Brown medium to fine SAND, well sorted, saturated	S-6 60'-62'	0.8	
60		SAND & SILT	12,15 19,23	15"	Brown fine SAND and SILT, well sorted, saturated	S-7 62'-64'	0.2	
61		SAND	17,12 15,9	7"	Light grey medium to fine SAND, some Silt, saturated	S-8 64'-66'	0.4	
62		SAND	9,9 11,14	24"	Brown medium to fine SAND, trace Silt, saturated	S-9 66'-68'	0.5	
63		TILL	32,44 51,45	15"	Grey fine SAND and SILT, trace coarse Sand, and fine Gravel, poorly sorted, compact	S-10 68'-70'	2.2	
64				0"	Refusal Top of bedrock at 70'			
65								
66								
67								
68								
69								
70								
71								
72					Well Construction Details: Protective Flushmount Roadbox 0'-1' Concrete surface seal 1'-10' Native backfill 10'-62' Grout 62'-64' Bentonite chip seal 64'-72' #1 silica sand filter pack 66'-71' 0.010 slotted PVC well screen 72' Bottom of boring			
73								
74								
75								
76								
77								
78								
79								
80								
81								
82								
83								
84								
85								