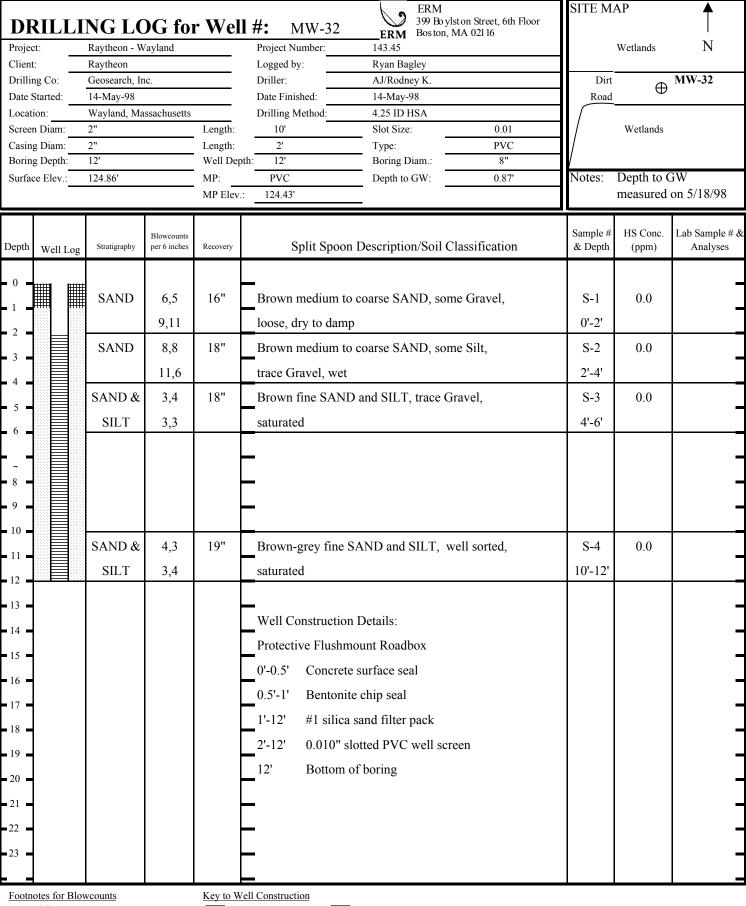
Appendix C Boring Logs



(1) 140 lb. Hammer

(2) 300 lb. Hammer

(3) Slide Hammer



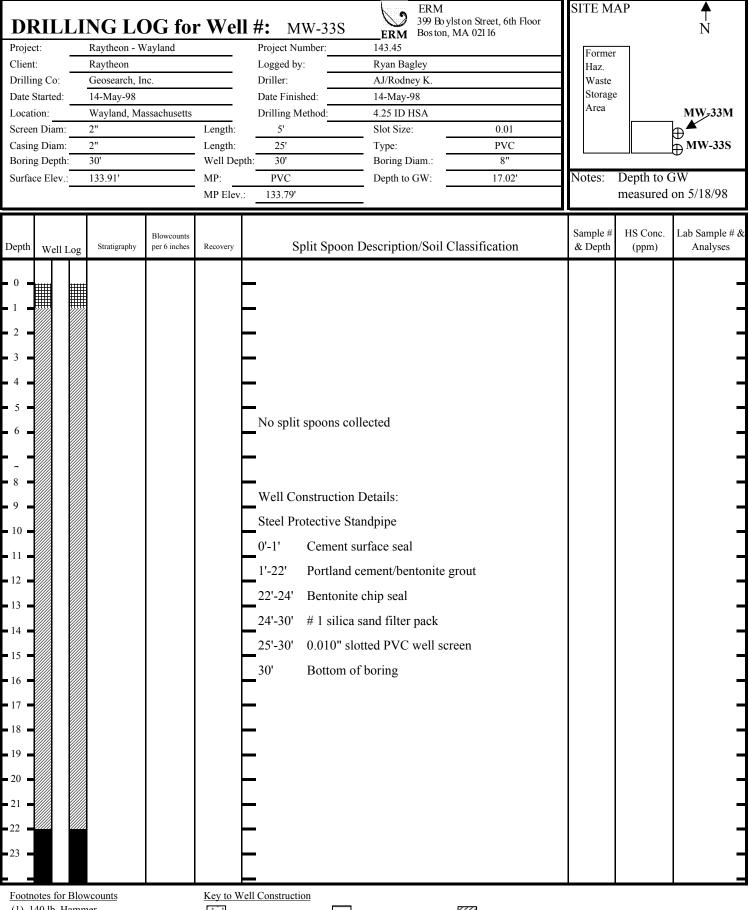


Well Screen

Cement



Drill Cuttings



(1) 140 lb. Hammer

(2) 300 lb. Hammer

(3) Slide Hammer









Cement



ERM 399 Boylston Street, 6th Floor ERM Boston, MA 02116 **DRILLING LOG for Well #:** MW-33S 2 2 Page of PID Conc. Sample # (ppm) Lab Sample # & Blowcounts Split Spoon Description/Soil Classification Analyses Depth & Depth spoon/HS Well Log Stratigraphy per 6 inches **2**5 **2**6 27 28 **2**9

DRILL	ING LOG for	r Well	#: MW-33M	ERM 399 Bo yls ERM Boston, M	st on Street, 6th Floor MA 02116	SITE MAI	P ↑ N
Project:	Raytheon - Wayland		Project Number:	143.45		Former	7
Client:	Raytheon		Logged by:	Ryan Bagley		Haz.	
Drilling Co:	Geosearch, Inc.		Driller:	AJ/Rodney K.		Waste	
Date Started:	13-May-98		Date Finished:	13-May-98		Storage	
Location:	Wayland, Massachusetts		Drilling Method:	4.25 ID HSA		Area	MW-33M
Screen Diam:	2"	Length:	5'	Slot Size:	0.01]]	
Casing Diam:	2"	Length:	45'	Type:	PVC		₩W-33S
Boring Depth:	50'	Well Dept	h 50'	Boring Diam.:	8"		
Surface Elev.:	133.91'	MP:	PVC	Depth to GW:	17.74'	Notes: D	epth to GW
_		MP Elev.:	133.57'	_ _		m	neasured on 5/18/98

Depth	Well L	og	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	HS Conc. (ppm)	Lab Sample # & Analyses
- 0 -			SAND &	2,2 2,5	16"	Brown medium to fine SAND and SILT, well sorted, damp	S-1 0'-2'	0.0	
- 2 - 3 -			SAND &	5,6	12"	Brown medium to fine SAND and SILT, trace	S-2	0.0	
- 4 - - 5 -			SILT SAND	8,7 6,6	20"	Gravel, damp Brown medium to fine SAND, some Silt, trace	2'-4' S-3	0.0	
- 6 -			SAND &	4,5 6,6	18"	Gravel, damp Brown fine SAND and SILT, well sorted, damp	4'-6' S-4	0.0	_
 - 8 -			SILT	9,10	10	Brown fine 5711/5 and 5721, wen sorted, damp	6'-8'	0.0	
- 9 -			SAND & SILT	7,6 10,9	16"	Brown fine SAND and SILT, well sorted, damp	S-5 8'-10'	0.0	-
- 10 - - 11 -			SAND	10,9	18"	Brown medium to coarse SAND, some Silt, wet	S-6	0.0	_
- 12 - 13 -			SAND	7,7	7"	Brown medium to coarse SAND, some Silt, wet	10'-12' S-7	0.0	
- 14 -			SAND &	8,8 7,14	12"	Brown-grey fine SAND and SILT, trace Clay, well	12'-14' S-8	0.0	_
- 15 - - 16 -			SILT	9,11		sorted, saturated	14'-16'		
- 17 - 18 -						- -			_
- 19 -						_			
- 20 - 21 -			SAND &	4,4	22"	Brown fine SAND and SILT, trace Clay, well sorted,	S-9	0.0	
- 22 -			SILT	3,4		saturated	20'-22'		<u> </u>
- 23						_			

(1) 140 lb. Hammer

(2) 300 lb. Hammer (3) Slide Hammer







DRILLING LOG for Well #:

MW-33M



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

Page 2 of

3

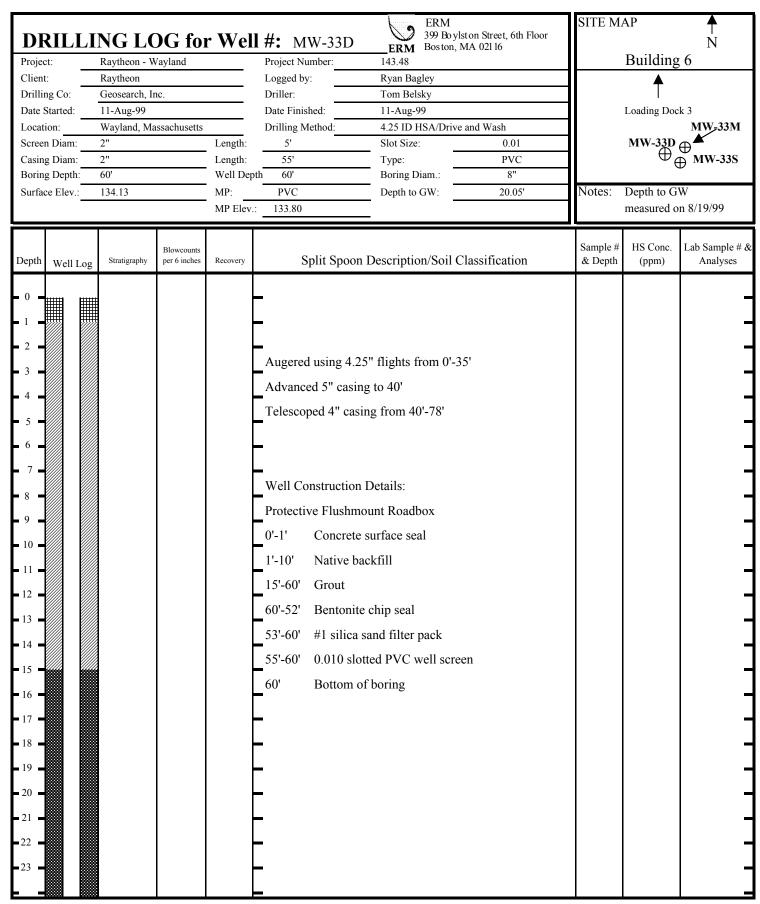
PID Conc. Sample # (ppm) Lab Sample # & Blowcounts Split Spoon Description/Soil Classification Depth Stratigraphy per 6 inches Recovery & Depth spoon/HS Analyses Well Log 25 SAND & 24" Brown-grey fine SAND and SILT, trace Clay, well S-10 0.0 6,6 26 SILT 5,6 sorted, saturated 25'-27' **-** 27 28 **2**9 30 24" 0.0 SAND & 9,14 Brown fine SAND and SILT, trace Clay, saturated S-11 **3**1 **SILT** 11,12 30'-32' **3**2 **3**3 34 **3**5 SILT 7,7 8" Grey SILT, trace Clay and very fine Sand, saturated S-12 0.0 **3**6 6,12 35'-37' **3**7 **3**8 **3**9 40 SILT 5,5 10" Grey SILT, trace Clay and very fine Sand, saturated S-13 0.0 40'-42' 6,4 **4**2 **4**3 44 **4**5 SILT 7" Grey SILT, trace Clay and very fine Sand, saturated S-14 0.0 4,6 **4**6 6,5 45'-47' 47 SILT 15" Grey SILT, trace Clay and very fine Sand, saturated S-15 0.0 5,7 48 7,6 47'-49' 49 **5**0 Well Construction Details on Following Page **5**1 **-** 52 **5**3

DRILLING LOG for Well #	•

MW-33M ERM 399 Bo ylst on Street, 6th Floor Bos ton, MA 021 16

Page 3 of 3

_ ^					ERIVI BOSIOII, WA 02110			
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:			
					Steel Protective Standpipe			
- 58 -					0'-1' Concrete surface seal			
- 59 -					1'-41' Portland cement/bentonite grout			
- 60 -	ı				41'-44' Bentonite chip seal			
- 61 -	i				44'-50' # 1 silica sand filter pack			_
- 62 -					45'-50' 0.010" slotted PVC well screen			_
- 63 -	l				50' Bottom of boring			_
- 64 -	1							-
- 65 -	ı				-			-
- 66 -	1				-			-
- 67 -	1				 -			_
- 68 -	I				-			_
- 69 -	1				_			-
- 70 -	I				-			_
- 71 -	1				_			_
- 72 -	1				-			_
- 73 -	I				<u> </u>			_
- 74 -	1				<u> </u>			_
- 75 -	I				_			_
- 76 -	.				_			_
- 77 -	ı				_			_
- 78 -	1				_			_
- 79 -					_			
- 80 -	ļ				_			
-81 -	i				_			
- 82 -								
- 83 -								
- 84 -	1				Γ			
85			İ					



(1) 140 lb. Hammer

(2) 300 lb. Hammer (3) Slide Hammer

Key to Well Construction



Sandpack



Well Screen Cement



Drill Cuttings

Grout

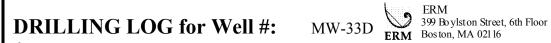
DRILLING LOG for Well #:

MW-33D



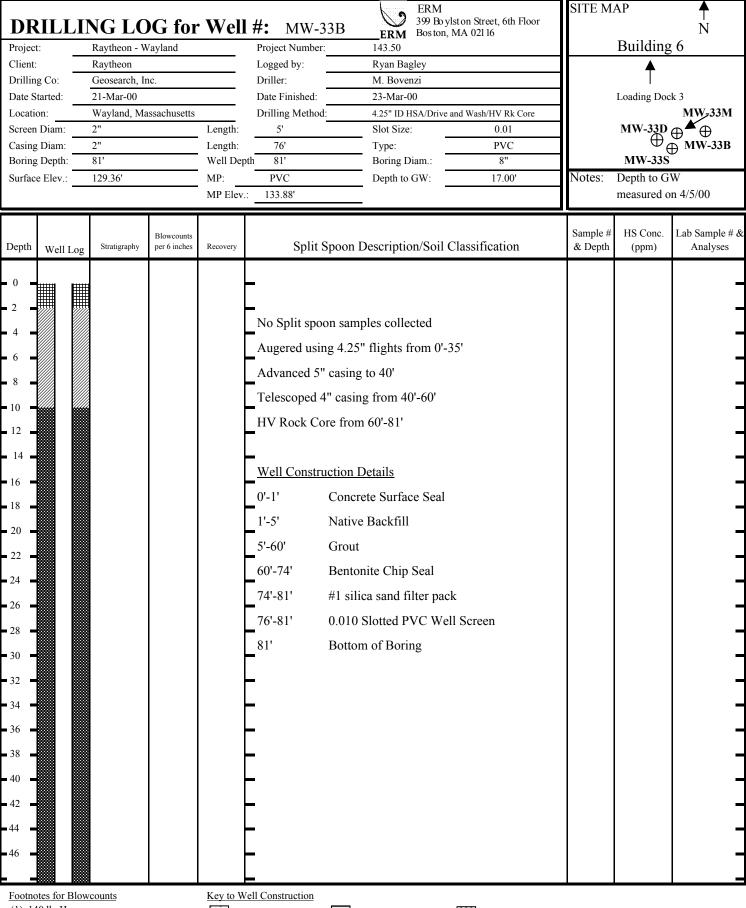
ERM 399 Boylston Street, 6th Floor Boston, MA 02116

					ERM BOSTOII, IVIA 021 10			
epth	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				ļ	_			
28				ļ	_			
9 -				ı	_			
0 -				ı	_			
1 -				!	-			
2				!	-			
3				i	-			
4 -				i	-			
5 –				!	-			
6 -				1				
7 -					_			
9				,				
0				ı	_			
1				ı	_			
2				ı	<u>-</u>			
3				!	<u> </u>			
4 -				1	-			
5				i	-			
6				!	-			
7 -				1	-			
8 -				1	_			
9				'	-			
0 -		SAND	7,4	10"	Grey medium to fine SAND, trace Silt, well sorted,	S-1	0.0	
2			7,6		saturated	50'-52'		
3 =		SAND	7,6	17"	Grey medium to fine SAND, trace Silt, well sorted,	S-2	0.0	
4 =			6,7		saturated, slight odor	52'-54'		
5 🗕		SAND	7,6,4,4	24"	Grey fine SAND, some Silt, trace Clay, w.s., saturated	S-3 54'-56'	0.0	



Page 3 of 3

		NG LC	70 101	• • • • • • • • • • • • • • • • • • •	ERM Boston, MA 02116	Page	3 01	3
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
5.6								
- 56 -		SAND &	9,12	24"	Top 14": Grey fine SAND, some Silt, w.s., saturated	S-4	0.0	
- 57 -		TILL	27,45		Btm 10": Grey TILL, tight, compact, saturated	56'-58'		7
- 58 -		TILL	24,27	20"	Top 12": Dk grey TILL, tight, compact, saturated	S-5	0.0	
- 59 -			29,32		Btm 8": Brown TILL, tight, saturated	58'-60'		
- 60 - 61 -					Top of bedrock at 60' bgs			
- 62 -					4" casing refusal at 60' bgs			
= 63 =								
= 64 =								
= 65 =								_
– 66 –								_
– 67 –					_			_
- 68 -					_			_
- 69 -					_			_
- 70 -					_			_
- 71 -					_			_
- 72 -					_			_
- 73 -	_				_			_
- 74 -	-				_			4
- 75 -					_			4
- 76 -					_			4
- 77 -	-				_			4
- 78 -	-				_			4
- 79 -	-				_			4
- 80 -	-				<u> </u>			_
- 81 -	-				<u> </u>			_
- 82 -	-				<u> </u>			_
- 83 -	1				<u>-</u>			_
= 84 =	1				<u>-</u>			_
85					_			_



(1) 140 lb. Hammer

(2) 300 lb. Hammer (3) Slide Hammer

Sandpack

Bentonite Seal



Well Screen

Cement



Drill Cuttings

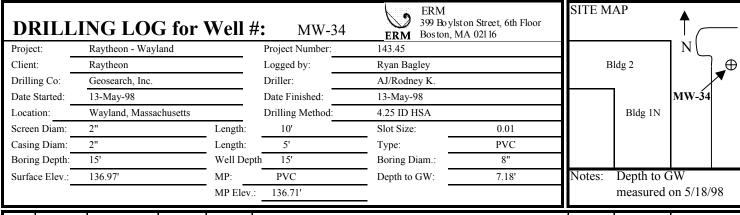
Grout

DRILLING LOG for Well #:

MW-33B



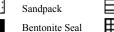
					ERIVI BOSTON, IVIT 021 10			
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
- 50 - 52 - 54 - 56 - 58 - 60 - 62 - 64 - 66 - 70 - 72 - 72		DIORITE	Rec = 30" Rec = 108"	RQD = 0% RQD = 74%	60' - 65' Moderately hard, moderate to severe weathering, reduced to mainly (>90%) Cobbles and Gravel sized fragments, extremely fractured, grey to light grey, fine grained DIORITE/Gabbro. 66' - 76' Moderately hard, moderately weathered, slightly fractured, grey to light grey, fine grained DIORITE/Gabbro. 2.5" Quartz vein at 68.0' with rose Feldspar. Healed fractures (chlorite) throughout. 70' 0.5" fracture 3 to 5 degrees off vertical. 76.0' evidence of	60' - 65' 66' - 76'		CORE RUN C-1 CORE RUN C-2
- 74 - 76 -					3 to 5 degrees off vertical. 76.0' evidence of chlorite at plannar joint.			_
- 78 -		DIORITE	Rec =	RQD =		77' -		CORE RUN
- 80 -			54"	85%	77' - 82' Moderately hard, moderately	81'		C-3
- 82 - 84 - 88 - 90 - 92 - 94 94					weathered, slightly fractured, grey to light grey DIORITE. Highly fractured, coarse to fine Gravel sized fragments at 79.5' - 81.0'. 78.1' Fracture at 5 degrees off vertical.			



- 0 -			Recovery	Split Spoon Description/Soil Classification	& Depth	(ppm)	Analyses
2 -3 -	SAND SAND	4,6 6,3 5,7	18"	Brown fine to medium SAND, some Silt, dry to damp Light brown fine to medium SAND, some Silt, well	S-1 0'-2' S-2	0.0	- - -
- 4 - - 5 -	SAND &	6,6 7,7 9,5	20"	Brown-grey fine SAND and SILT, well sorted, wet	2'-4' S-3 4'-6'	0.0	
- 6 - - 8 -	SAND & SILT	6,4 7,4	17"	Brown fine SAND and SILT, well sorted, saturated	S-4 6'-8'	0.0	_
- 9 - - 10 - - 11 -	SAND & SILT	10, 13 9,10	15"	Brown medium to fine SAND and SILT, trace Clay, well sorted, saturated	S-5	0.0	- -
- 12 - - 13 - - 14 - - 15 -	SILI	9,10		Well Construction Details: Protective Flushmount Roadbox	10-12		- -
- 16 - - 17 - - 18 -				0'-1' Concrete surface seal 1'-2' Native backfill 2'-4' Bentonite chip seal			- -
- 19 - - 20 -				4'-15' #1 silica sand filter pack 5'-15' 0.010" slotted PVC well screen 15' Bottom of boring			_
- 21 - - 22 - - 23 -				- - -			- -

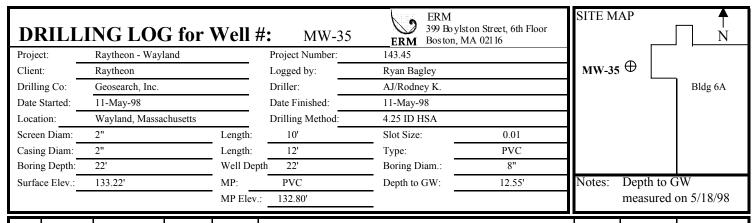
(1) 140 lb. Hammer

(2) 300 lb. Hammer(3) Slide Hammer









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	25,18	18"	Brown-grey medium SAND, some Cobbles and	S-1	0.0	_
- 2 -			15,14		Rock fragments, damp	0'-2'		_
- 3 -		SAND	21,19	8"	Brown medium SAND, trace Cobbles and Rock	S-2	0.0	_
- 4 -			24,17		fragments, damp	2'-4'		_
- 5 -		SAND	10,12	16"	Brown-grey medium SAND, some coarse Gravel,	S-3	0.0	_
- 6 -			13,14		trace Rock fragments, damp	4'-6'		_
		SAND	36,63	16"	Light brown medium to fine SAND, trace Gravel,	S-4	0.0	_
- - 8 -			17,10		well sorted, damp	6'-8'		
- 9 -			10,12	0'	No Sample recovered in spoon	S-5	0.0	
= 10 =			12,15			8'-10'		
- 10 -		SAND	10,12	15"	Brown medium to fine SAND, some coarse Gravel,	S-6	0.0	
12 =			9,13		trace Rock fragments, damp	10'-12'		
13		SAND	9,10	15"	Brown medium to fine SAND, trace coarse Gravel,	S-7	0.0	
			8,9		damp to wet	12'-14'		
- 14 -								
- 15 -					_			
- 16 -								_
- 17 -					_			_
- 18 -					_			_
- 19 -		SAND	19,21	2"	Brown medium to fine SAND, trace Gravel,	S-8	0.0	_
- 20 -			24,25		saturated	19'-21'		-
- 21 -			21,23			11, 21		_
- 22 -					Well Construction Details on Following Page			-
- 23 -					wen Construction Details on Following Page			-
<u> </u>								_

(1) 140 lb. Hammer

(2) 300 lb. Hammer(3) Slide Hammer







DRILLING LOG for Well #: MW-35

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

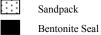
Dr	(ILLI	NG LC	<i>J</i> G 101	vvei	ERM Boston, MA 02116	Page	2 of	2
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
Depth	Well Log	Stratigraphy		Recovery			(ppm)	Lab Sample # & Analyses

	ING LOG for	r Well		ERM Boston, N	st on Street, 6th Floor AA 02116	SITE M	IAP	
Project:	Raytheon - Wayland		Project Number:	143.45		41	IN	
Client:	Raytheon		Logged by:	Ryan Bagley				
Drilling Co:	Geosearch, Inc.		Driller:	AJ/Rodney K.				
Date Started:	12-May-98		Date Finished:	12-May-98				
Location:	Wayland, Massachusetts		Drilling Method:	4.25 ID HSA			MW-36	Bldg 6
Screen Diam:	2"	Length:	10'	Slot Size:	0.01		\oplus	
Casing Diam:	2"	Length:	12'	Type:	PVC			
Boring Depth:	22'	Well Dept	h 22'	Boring Diam.:	8"			
Surface Elev.:	132.94'	MP:	PVC	Depth to GW:	14.10'	Notes:	Depth to C	GW
		MP Elev.:	132.52'				measured	on 5/18/98

SAND 27,19 18" Brown fine SAND, t	race Asphalt, dry			
		S-1 0'-2'	0.0	-
SAND 14,7 18" Brown medium to fin	ne SAND, trace Gravel, dry	S-2	0.0	
7,6		2'-4'		
SAND 9,17 14" Brown medium to fin	ne SAND, some Gravel, dry	S-3	0.0	
14,15		4'-6'		
SAND 11,14 18" Brown fine SAND, v	well sorted, dry to damp	S-4	0.0	
15,17		6'-8'		
SAND & 11,14 12" Brown fine SAND at	nd SILT, well sorted, damp	S-5	0.0	
SILT 14,16		8'-10'		_
	nd SILT, well sorted, damp	S-6	0.0	
SILT 15,18		10'-12'		
	nd SILT, well sorted, damp to	S-7	0.0	
SILT 19,22 wet		12'-14'		
	nd SILT, well sorted, wet to	S-8	0.0	
SILT 22,21 saturated		14'-16'		
	nd SILT, well sorted, saturated	S-9	0.0	
SILT 22,27		16'-18'		
	nd SILT, well sorted, saturated	S-10	0.0	
SILT 14,12		20'-22'		
23 -				
	etails on Following Page]

(1) 140 lb. Hammer

(2) 300 lb. Hammer (3) Slide Hammer







DRILLING LOG for Well #:

MW-36

ERM
399 Boylston Street, 6th Floor
Boston, MA 021 16

			1		ERM Boston, MA 021 16		
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	Lab Sample # Analyses
					Well Construction Details:		
					Protective Flushmount Roadbox		
					0'-1' Concrete surface seal		
					1'-9' Native backfill		
					9'-11' Bentonite chip seal		
					11'-22' #1 silica sand filter pack		
					12'-22' 0.010" slotted PVC well screen		
					22' Bottom of boring		
					<u> </u>		
					<u> </u>		
					<u> </u>		
٦					-		
-					-		
7					-		
-					 -		
_							

DRILL	ING LOG for	r Well	#: MW-37	ERM 399 Bo ylst ERM Boston, M	on Street, 6th Floor A 02116	SITE M	1AP N
Project:	Raytheon - Wayland		Project Number:	143.45			
Client:	Raytheon		Logged by:	Ryan Bagley		_	
Drilling Co:	Geosearch, Inc.		Driller:	AJ/Rodney K.			Bldg 5
Date Started:	12-May-98		Date Finished:	12-May-98			
Location:	Wayland, Massachusetts		Drilling Method:	4.25 ID HSA		FHWSA	
Screen Diam:	2"	Length:	10'	Slot Size:	0.01		
Casing Diam:	2"	Length:	12'	Type:	PVC		MW-37
Boring Depth:	22'	Well Dept	h 22'	Boring Diam.:	8"		Φ
Surface Elev.:	134.72'	MP:	PVC	Depth to GW:	13.52'	Notes:	Depth to GW
		MP Elev.:	134.41'				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 -		SAND	7,5 4,4	12"	Brown medium to coarse SAND, trace Gravel, dry to damp	S-1 0'-2'	0.0	- -
3		SAND	9,13	14"	Brown medium to fine SAND, some Silt, trace	S-2	0.0	_
			12,15		Gravel, dry to damp	2'-4'		
5		SAND	7,9	18"	Brown medium SAND, little Silt, trace Gravel,	S-3	0.0	
6 =			11,11		damp	4'-6'		
		SAND	7,9	16"	Brown medium SAND, little Silt, trace Gravel,	S-4	0.0	
- - 8 -			6,6		damp	6'-8'		
9 =		SAND &	8,6	16"	Brown medium to fine SAND and SILT, trace	S-5	0.0	_
- 10 -		SILT	7,5		Gravel, damp	8'-10'		
- 11 -	transacti transacti	SAND &	5,5	19"	Brown fine SAND and SILT, trace Gravel, damp	S-6	0.0	_
- 12 -		SILT	5,6			10'-12'		
- 13 -		SAND	5,9	12"	Brown-grey fine SAND, some Silt, trace Gravel,	S-7	0.0	_
- 14 -			11,16		wet	12'-14'		_
- 15 -		SAND &	7,9	20"	Brown fine SAND and SILT, saturated	S-8	0.0	_
- 16 -		SILT	14,22			14'-16'		_
- 17 -					_			_
- 18 -					_			_
- 19 -					_			_
- 20 -								_
- 21 -		SAND &	4,9	20"	Brown fine SAND and SILT, well sorted, saturated	S-9	0.0	_
- 22 -		SILT	11,14			20'-22'		_
-23 -					_			_
					Well Construction Details on Following Page			

(1) 140 lb. Hammer

(2) 300 lb. Hammer (3) Slide Hammer

Key to Well Construction





Well Screen



Drill Cuttings

DRILLING LOG for Well #: MW-37

ERM 399 Boylston Street, 6th Floor Bos ton, MA 021 16

Depth Well Log Stratigraphy Per 6 inches Recovery Split Spoon Description/Soil Classification Sample Depth Well Construction Details: Protective Flushmount Roadbox	# (ppm) h spoon/HS	Lab Sample # & Analyses
Protective Flushmount Roadbox		-
0'-1' Concrete surface seal 1'-9' Native backfill 9'-11' Bentonite chip seal 11'-22' #1 silica sand filter pack 12'-22' 0.010 slotted PVC well screen 22' Bottom of boring		

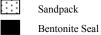
DRILL	ING LOG for	· Well	#: MW-37M	ERM 399 Boylst ERM Boston, M	ton Street, 6th Floor IA 02116	SITE MAP	n N
Project:	Raytheon - Wayland		Project Number:	143.45		Buildii	ng
Client:	Raytheon		Logged by:	Ryan Bagley		11	
Drilling Co:	Geosearch, Inc.		Driller:	Mike D'Amico			
Date Started:	2-Nov-98		Date Finished:	2-Nov-98		11	
Location:	Wayland, Massachusetts		Drilling Method:	4.25 ID HSA		11	MW_{37}
Screen Diam:	2"	Length:	5'	Slot Size:	0.01	MW-33M	
Casing Diam:	2"	Length:	45'	Туре:	PVC	\blacksquare	MW-37M
Boring Depth:	50'	Well Dept	h 50'	Boring Diam.:	8"	⊕ MW-33S	Φ.σ.
Surface Elev.:	134.72'	MP:	PVC	Depth to GW:	17.93'	Notes: Depth t	o GW
		MP Elev.:	134.38'	_		measur	ed 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 - 7 -					- -			_
- 8 -					_			_
9 –					_			_
- 10 -								
- 12 -								_
- 13 -					_			_
- 14 -								_
- 15 - - 16 -								
- 17 -					_			_
- 18 -								_
- 19 - - 20 -								
- 21 -		SAND	14,10	14"	Brown medium to fine SAND, well sorted,	S-1	2.0	_
- 22 -		SAND	8,8	24"	Brown fine SAND, trace Silt, well sorted,	20'-22' S-2	1.0	_
-23 - -24 -			9,11		saturated [iron staining]	22'-24'		

(1) 140 lb. Hammer

(2) 300 lb. Hammer (3) Slide Hammer

Key to Well Construction





Well Screen

Cement



Drill Cuttings

Grout



					ERM Boston, WIT 021 to			
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 to grey fine SAND and SILT,	S-3	1.2	
26		SILT	9,10		well sorted, saturated	24'-26'		
27		SAND &	8,10	24"	Brown to grey fine SAND and SILT, well sorted,	S-4	1.1	
- 28 -		SILT	10,9		trace Clay, interbedded, saturated	26'-28'		
- 29 -		SAND &	5,5	24"	Brown to grey fine SAND and SILT, trace Clay,	S-5	1.2	
30	 	SILT	7,9		well sorted, saturated	28-30'		
31 =	 	SAND &	6,5	16"	Grey fine SAND and SILT, trace Clay,	S-6	0.9	_
32	₩	SILT	9,7		well sorted, saturated	30'-32'		
33	₩	SAND &	7,5	20"	Grey fine SAND and SILT, trace Clay,	S-7	1.3	_
34	 	SILT	5,5		well sorted, saturated	32'-34'		
- 35 -		SAND &	6,3	24"	Grey fine SAND and SILT, trace Clay,	S-8	1.0	_
- 36 -		SILT	3,3		well sorted, saturated	34'-36'		
- 37 -		SAND &	5,4	21"	Grey fine SAND and SILT, trace Clay,	S-9	1.1	_
- 38 -	 	SILT	5,3		well sorted, saturated	36'-38'		_
- 39 -	 	SAND &	6,4	24"	Grey fine SAND and SILT, trace Clay,	S-10	1.0	_
4 0 –		SILT	5,5		well sorted, saturated	38'-40'		_
- 41 -		SAND	1,1	23"	Grey fine SAND, some Silt, well sorted,	S-11	1.2	_
42			1,1		saturated	40'-42'		_
43		SAND &	1,3	24"	Grey fine SAND and SILT, trace Clay,	S-12	1.3	_
- 44 -		SILT	2,3		well sorted, saturated	42'-44'		_
4 5		SAND &	1,2	24"	Grey to brown fine SAND and SILT, trace Clay,	S-13	1.1	_
- 46 -		SILT	4,4		[iron staining throughout spoon], saturated	44'-46'		_
- 47 -		SAND &	4,8	16"	Grey to brown fine SAND and SILT, trace Clay,	S-14	1.1	_
- 48 -		SILT	12,11		trace Rock Fragments, saturated	46'-48'		_
4 9 –				ı	_			_
- 50 -				ı				_
- 51 -				1				_
- 52 -				1	_			_
- 53 -				1	Well Construction Details on Following Page			_
- 54 -				i	_			_
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DRILLING LOG for Well #	•

MW-37M



399 Bo ylst on Street, 6th Floor Bos ton, MA 02116

3 of Page

3

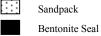
PID Conc. Sample # (ppm) Lab Sample # & Blowcounts Split Spoon Description/Soil Classification Depth Stratigraphy per 6 inches & Depth spoon/HS Analyses Well Log Recovery 56 Well Construction Details: 57 Protective Flushmount Roadbox **5**8 0'-1' Concrete surface seal 59 1'-15' Native backfill 60 15'-41' Grout 61 Bentonite chip seal 41'-43' 62 43'-50' #1 silica sand filter pack 63 45'-50' 0.010 slotted PVC well screen 64 50' Bottom of boring 65 66 67 68 **6**9 70 72 73 74 75 76 78 79 80 81 82 **8**3 84

	ING LOG for	r Well		ERM Boston, N	st on Street, 6th Floor MA 02116	SITE M	IAP †
Project:	Raytheon - Wayland		Project Number:	143.45			
Client:	Raytheon		Logged by:	Ryan Bagley		Ш	
Drilling Co:	Geosearch, Inc.		Driller:	AJ/Rodney K.			Bldg 5
Date Started:	12-May-98		Date Finished:	12-May-98			
Location:	Wayland, Massachusetts		Drilling Method:	4.25 ID HSA			
Screen Diam:	2"	Length:	10'	Slot Size:	0.01		
Casing Diam:	2"	Length:	12'	Type:	PVC	MW-37	MW-38
Boring Depth:	22'	Well Dept	h 22'	Boring Diam.:	8"	\oplus	\oplus
Surface Elev.:	134.76'	MP:	PVC	Depth to GW:	13.41'	Notes:	Depth to GW
		MP Elev.:	134.46'	_][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 -		SAND &	9,11	14"	Brown medium to coarse SAND and SILT, some	S-1	0.0	-
- 2 -		SILT	13,14		Gravel, trace Rock fragments, damp	0'-2'		-
- 3 -		SAND &	4,4	14"	Brown medium to coarse SAND and SILT, some	S-2	0.0	4
4		SILT	6,7		Gravel, damp	2'-4'		_
- 5 -		SAND &	9,14	14"	Brown medium to coarse SAND and SILT, trace	S-3	0.0	_
6		SILT	17,15		Gravel, damp	4'-6'		_
L _		SAND &	22,21	15"	Brown medium to coarse SAND and SILT, some	S-4	0.0	
- 8		SILT	22,21		Gravel, damp	6'-8'		
9		SAND &	8,10	12"	Brown medium to coarse SAND and SILT, some	S-5	0.0	
- 10 -		SILT	9,10		Gravel, damp	8'-10'		
- 10 -		SAND &	4,6	9"	Brown medium to fine SAND and SILT, trace	S-6	0.0	
- 11 -		SILT	6,25		Gravel, damp to wet	10'-12'		
			25,25	0"	No sample recovered in spoon	S-7	0.0	
- 13 -			25,23		_	12'-14'		
- 14 -		SAND &	6,5	15"	Brown medium SAND and SILT, trace Gravel,	S-8	0.0	_
- 15 -		SILT	5,7		saturated	14'-16'		_
- 16 -			,					_
- 17 -					_			
- 18 -					-			_
- 19 -					-			_
- 20 -		SAND &	18,19	18"	Brown medium SAND and SILT, trace Clay,	S-9	0.0	_
- 21 -		SILT	21,20	10	saturated	20'-22'	0.0	-
- 22 -		SILI	21,20		Saturateu	20-22		_
- 23 -					Willow C. D. H. Dill. D. H. C. D.			-
<u> </u>	otos for Play				Well Construction Details on Following Page			_

(1) 140 lb. Hammer

(2) 300 lb. Hammer (3) Slide Hammer









DRILLING LOG for Well #: MW-38

ERM 399 Boylston Street, 6th Floor Bos ton, MA 021 16

		III LC			ERM Boston, MA 02116	1 agc	2 01	
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 Log	Strangtaphy	per o menes	Recovery	Well Construction Details: Protective Flushmount Roadbox 0'-1' Concrete surface seal 1'-9' Native backfill 9'-11' Bentonite chip seal 11'-22' #1 silica sand filter pack 12'-22' 0.010" slotted PVC well screen 22' Bottom of boring	е Беріп	Spool 113	Allalyses
 				,	- - - - -			-
 					- - - - -			

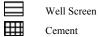
DRILL	ING LOG for	r Well	#: MW-39	ERM 399 Bo yls ERM Boston, M	st on Street, 6th Floor MA 02116	SITE M	AP	h N
Project:	Raytheon - Wayland		Project Number:	143.45				
Client:	Raytheon		Logged by:	Ryan Bagley		Bldg 1S		
Drilling Co:	Geosearch, Inc.		Driller:	AJ/Rodney K.				Road
Date Started:	12-May-98		Date Finished:	12-May-98				
Location:	Wayland, Massachusetts		Drilling Method:	4.25 ID HSA				Grass Lawn
Screen Diam:	2"	Length:	10'	Slot Size:	0.01	Bldg 1C		
Casing Diam:	2"	Length:	12'	Type:	PVC			MW-39
Boring Depth:	22'	Well Dept	h 22'	Boring Diam.:	8"			\oplus
Surface Elev.:	135.20'	MP:	PVC	Depth to GW:	13.56'	Notes:	Depth	to GW
		MP Elev.:	134.89'][measu	red on 5/18/98

Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification		HS Conc. (ppm)	Lab Sample # & Analyses
- 0 -		SAND	9,11 7,7	18"	Brown medium to fine SAND, well sorted, loose,	S-1 0'-2'	0.0	
- 2 -		SAND	6,6	18"	Brown medium to fine SAND, well sorted, loose,	S-2	0.0	
- 3 -			10,9		damp	2'-4'		1
5		SAND	4,6	24"	Brown fine SAND, trace Silt, well sorted, loose,	S-3	0.0	
6			6,7		damp	4'-6'		
		SAND &	9,11	20"	Brown fine SAND and SILT, well sorted, damp	S-4	0.0	
- 8 -		SILT	10,12			6'-8'		
9 -		SAND &	5,6	18"	Brown fine SAND and SILT, well sorted, damp to	S-5	0.0	_
- 10 -		SILT	6,5		wet	8'-10'		
- 11 -		SAND &	15,13	18"	Brown fine SAND and SILT, trace Clay, well	S-6	0.0	_
- 12 -		SILT	10,9		sorted, damp to wet	10'-12'		
- 13 -		SAND &	25,20	16"	Brown medium to fine SAND and SILT, well	S-7	0.0	_
- 14 -		SILT	15,15		sorted, loose, wet	12'-14'		
- 15 -		SAND &	6,10	16"	Brown fine SAND and SILT, trace Clay, well	S-8	0.0	_
- 16 -		SILT	10,10		sorted, saturated	14'-16'		_
- 17 -					_			_
- 18 -					_			_
- 19 -					_			_
- 20 -								_
- 21 -		SAND &	6,7	24"	Brown fine SAND and SILT, well sorted,	S-9	0.0	_
- 22 -		SILT	8,7		saturated	20'-22'		_
-23 -								_
					Well Construction Details on Following Page			_

(1) 140 lb. Hammer

(2) 300 lb. Hammer (3) Slide Hammer



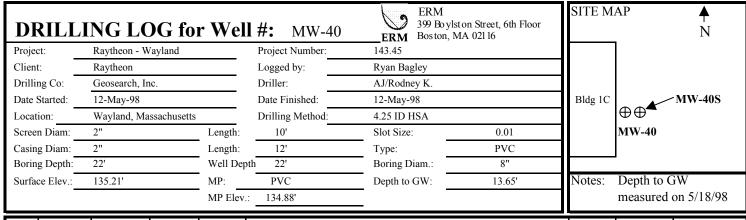




DRILLING LOG for Well #: MW-39

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

DI	VILLI	NG LC	<i>J</i> G 101	vvei	ERM Boston, MA 02116	Page	2 of	2
Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	PID Conc. (ppm) spoon/HS	Lab Sample # & Analyses
			Blowcounts		ERIVI Boston, MIT 02170	Sample #	PID Conc. (ppm)	Lab Sample # &

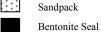


Depth	Well Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoon Description/Soil Classification	Sample # & Depth	HS Conc. (ppm)	Lab Sample # & Analyses
- 0 -		SAND &	17,14 12,11	12"	Brown fine SAND and SILT, trace Gravel, dry to damp	S-1 0'-2'	0.0	-
- 2 -		SAND &	7,7	14"	Brown fine SAND and SILT, trace Gravel, dry to	S-2	0.0	-
- 3 -		SILT	6,4		damp	2'-4'		1
- 5 -		SAND &	6,6	20"	Brown fine SAND and SILT, trace Clay, wet	S-3	0.0	
_ 6 _		SILT	8,7			4'-6'		_
		SAND &	7,11	16"	Brown fine SAND and SILT, trace Clay, damp to	S-4	0.0	
- 8 -		SILT	10,9		wet	6'-8'		_
9 -		SAND &	6,9	14"	Brown fine SAND and SILT, well sorted, damp	S-5	0.0	_
- 10 -		SILT	10,9			8'-10'		
- 11 -		SAND &	5,7	17"	Brown fine SAND and SILT, well sorted, damp	S-6	0.0	_
- 12 -		SILT	8,9			10'-12'		
- 13 -		SAND &	15,17	16"	Brown fine SAND and SILT, trace Clay, well	S-7	0.0	
- 14 -		SILT	23,22		sorted, damp to wet	12'-14'		_
- 15 -		SAND &	7,14	18"	Brown fine SAND and SILT, trace Clay, well	S-8	0.0	
- 16 -		SILT	21,27		sorted, saturated	14'-16'		
- 17 -					_			_
- 18 -					_			_
- 19 -					_			_
- 20 -					_			<u> </u>
- 21 -		SAND &	8,12	24"	Brown medium to fine SAND and SILT, trace Clay,	S-9	0.0	_
- 22 -		SILT	14,18		saturated	20'-22'		_
- 23 -					_			
					Well Construction Details on Following Page			_

(1) 140 lb. Hammer

(2) 300 lb. Hammer

Key to Well Construction



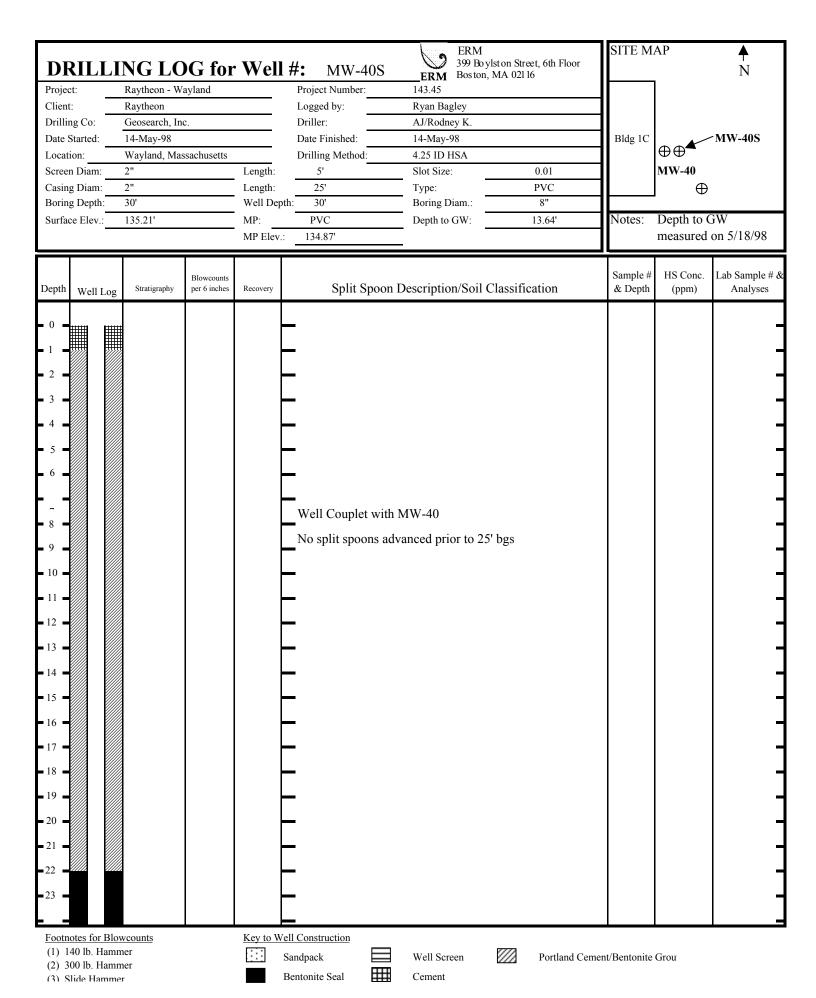




Drill Cuttings

DRILLING LOG for Well #: MW-40

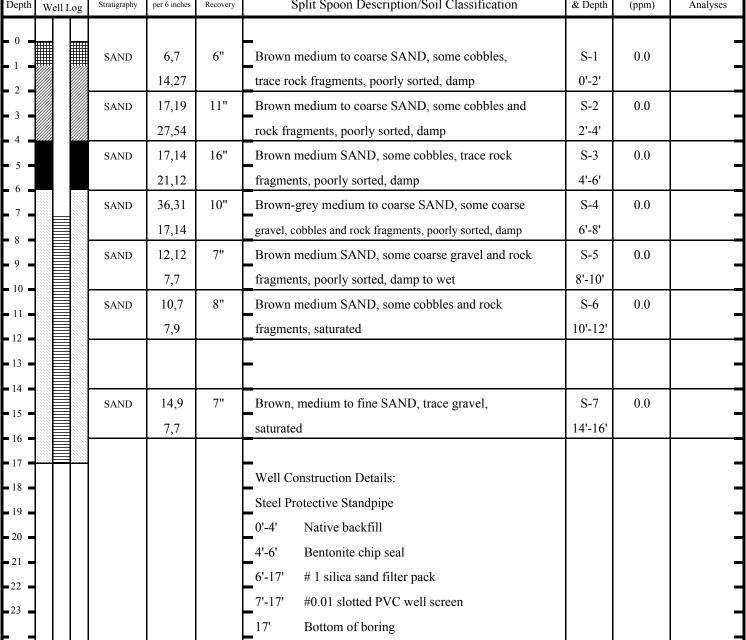
ERM 399 Boylston Street, 6th Floor Boston, MA 02116





<i>D</i> 1	XILLI.	III LC	7 101	*****	ERM Boston, MA 02116	rage	2 01	2
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								
- 25 - - 26 -		SAND	21,24	20"	Brown medium SAND, some Silt, trace Clay	S-1	0.0	
			26,28		and Gravel, saturated	25'-27'		
- 27 -								
- 28 -								
- 29 - 30 -								
31		SAND &	11,11	14"	Grey fine SAND and SILT, trace Clay,	S-2	0.0	
32		SILT	15,20		saturated	30'-32'		
33		SAND &	12,10	16"	Grey fine SAND and SILT, trace Clay,	S-3	0.0	
34		SILT	11,11		saturated	32'-34'		
34 =								
					Well Construction Details:			
					Protective Flushmount Roadbox			
					0'-1' Concrete surface seal			
					1'-22' Portland cement & bentonite grout			
					22'-24' Bentonite chip seal			
					24'-30' # 1 silica sand filter pack			
					25'-30' 0.010" slotted PVC well screen			
L _					30' Bottom of boring			
L								
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								_
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								<u> </u>
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	LLI	NG LO	OG fo	r Well		ERM 399 Bo ylst or Boston, MA	n Street, 6th Floor 021 16	SITE MA	AP	† N
Project:		Raytheon - W	Vayland		Project Number: 143.45 Logged by: Ryan Bagley			41		
Client:	lient: Raytheon				Logged by:	MW-41	Θ / I	Bldg. 12		
Drilling Co		Geosearch, Ir	ıc.		Driller:	AJ/Rodney K.		4		Diag. 12
Date Starte	:d:	11-May-98			Date Finished:	11-May-98		- 	// L	
Location:		Wayland, Ma	ssachusetts		Drilling Method:	4.25 ID HSA				
Screen Dia		2"		Length:	10'	Slot Size:	0.01		Road	
-	Casing Diam: 2"		Length:	7'	Type:	PVC	4			
	Boring Depth: 17'		Well Dep		Boring Diam.:	8"				
Surface Ele	Surface Elev.: 125.21'		MP:	PVC	Depth to GW:	10.54'		Depth to C		
				MP Elev.:	127.43'	_			measured	on 5/18/98
Depth We	ll Log	Stratigraphy	Blowcounts per 6 inches	Recovery	Split Spoor	n Description/Soil Clas	ssification	Sample # & Depth	HS Conc. (ppm)	Lab Sample # & Analyses
					_					
		SAND	6,7	6"	Brown medium to	coarse SAND, some	cobbles,	S-1	0.0	_
7			14,27		trace rock fragmen	nts, poorly sorted, dam	np	0'-2'		
· - 7		SAND	17 19	11"	Brown medium to	coarse SAND, some o	cobbles and	S-2	0.0	



(1) 140 lb. Hammer

(2) 300 lb. Hammer(3) Slide Hammer

Key to Well Construction









Drill Cuttings