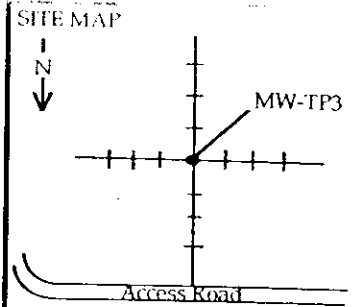


DRILLING LOG for Well #: MW-TP3

ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114



Project: Raytheon, Wayland Project Number: 143.41
 Client: Raytheon Corporation Log By: J. McTigue
 Drilling Co.: T & K Drilling Driller: Kevin & Alan
 Date Started: 30 July 1996 Date Finished: 30 July 1996
 Location: Wayland, MA Drilling Method: 4" Hollow Stem Auger
 Screen Diameter: 2 inch PVC Length: 10 ft Slot Size: 0.01
 Casing Diameter: 2 inch PVC Length: 7 ft Type: H.S. Auger
 Boring Depth: 18 ft bgs Well Depth: 17 feet Boring Diam.: 4.25" I.D.
 Surface Elev.: Not Measured MP: _____ Depth to GW: -9.5
 MP Elev.: _____

NOTES

Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1			SAND	3-4 4-6	18"	Tan, very fine loose SAND, sweet odor	0.0 to 1.5 ft	0.0 / 7.2	S-1 8080
2			Fine tan to brown SAND	8-5 9-7	20"	Upper 4": Tan very fine SAND Lower 16" Brown to Black Fine SAND, some cobble	2.0 to 4.0 ft	0.0 / 4.0	S-2 8080
3				7-6 8-12	22"	Upper 10": Tan to brown Fine SAND (loose) Lower 10": Brown to Black very fine SAND, SILT w/ Clay	4.0 to 6.0 ft	0.0 / 0.0	S-3 8080
4									
5									
6									
7									
8									
9									
10									
11			Med. Tan SAND	7-14 22-18	18"	Loose to dense, Tan Fine to Med. SAND (wet)		0.0 / 0.0	No Sample
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

Footnotes for Blowcounts
 (1) 140 LB. HAMMER
 (2) 300 LB. HAMMER
 (3) SLIDE HAMMER

Key to Well Construction

- Sandpack
- Well Screen
- Bentonite Seal
- Cement
- Grout

Key to Geologic Symbols

- Till
- Clay
- Silty Clay
- Silt
- Silty Sand
- Sand

- Sandy Gravel
- Gravel
- Fill
- Bedrock (Fine-Grain)
- Bedrock (Coarse-Grain)



ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114

WELL NUMBER: MW-1

PROJECT: Raytheon Company

PROJECT NUMBER: 143-40

DATE INSTALLED: 10/18/95

FASTWELL INSTALLATION FORM

Personnel: J. D'Agostino & C. McKenna

Pipe ID: 0.5"

Pipe Material: Carbon Steel

Riser Length: 8'

Screen Length: 10.0'

Screen Slot Size: 0.015"

Depth to Groundwater: 9.85'

Well Depth: 19'

Refusal Depth: No

Cap and Lock: Yes

Map

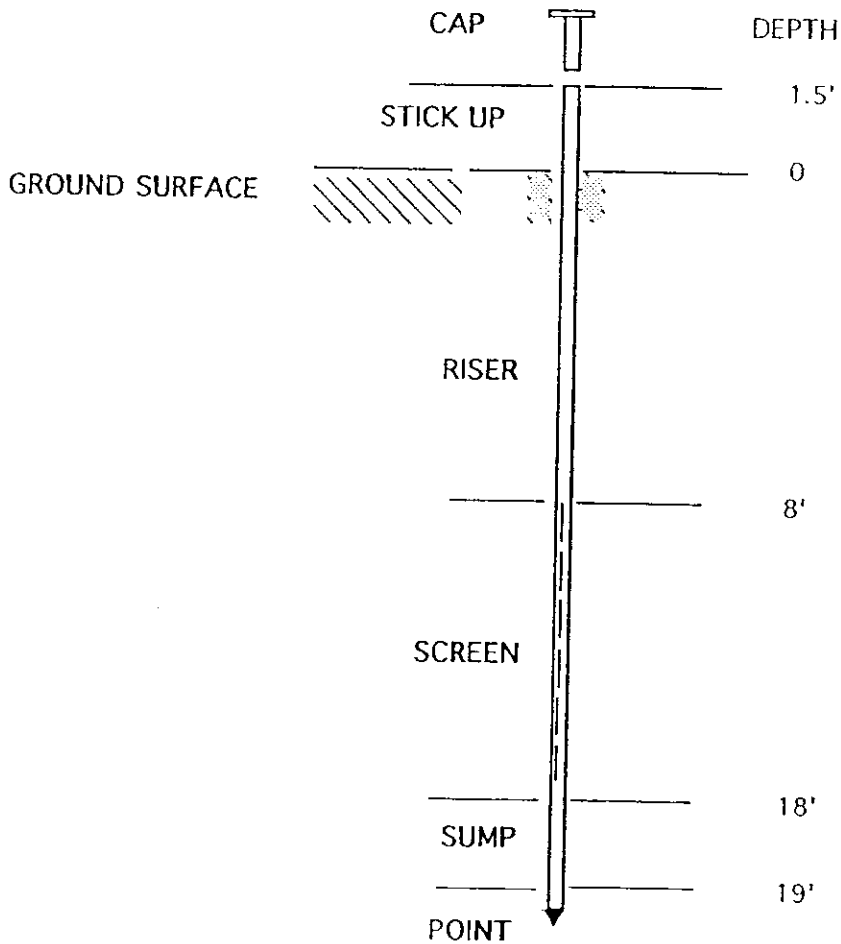


MW-1

ABANDONED
SAND FILTER
BED

BUILDING
#2

Notes:





ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
BOSTON, MA 02114

WELL NUMBER: MW-2

PROJECT: Raytheon Company

PROJECT NUMBER: 143-40

DATE INSTALLED: 10/18/95

FASTWELL INSTALLATION FORM

Personnel: J. D'Agostino & C. McKenna

Pipe ID: 0.5"

Pipe Material: Carbon Steel

Riser Length: 11'

Screen Length: 10.0'

Screen Slot Size: 0.015"

Depth to Groundwater: 16.26'

Well Depth: 22'

Refusal Depth: No

Cap and Lock: Yes

Map



GRASS

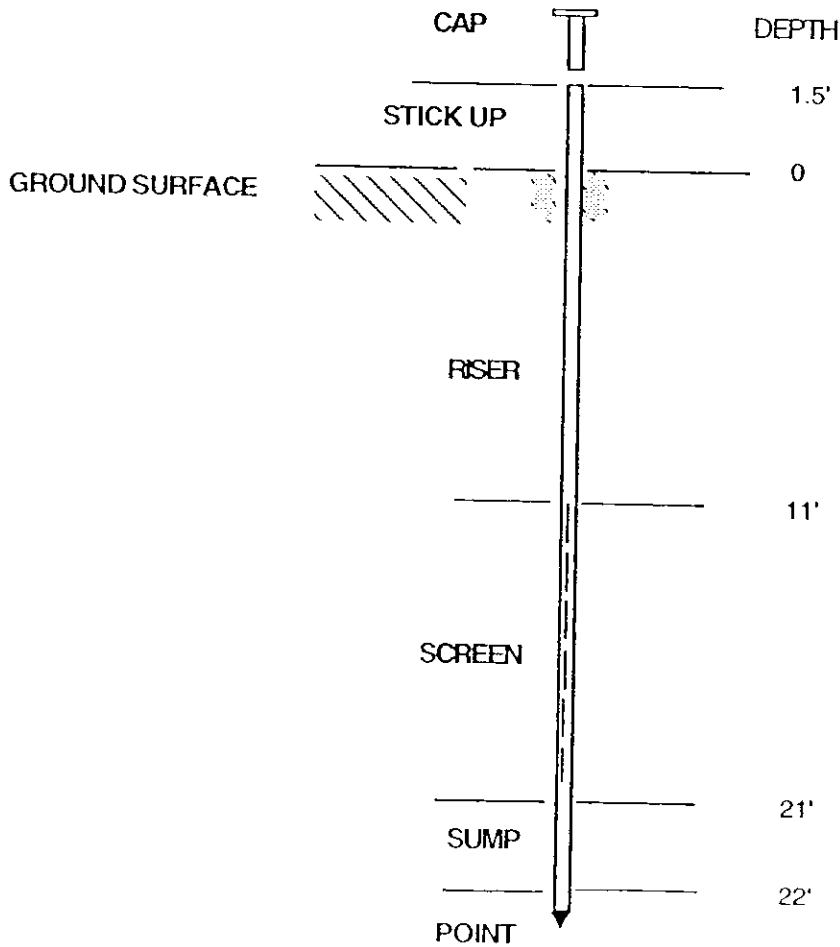
MW-2



DW-01

BUILDING
#2

Notes:





ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
BOSTON, MA 02114

WELL NUMBER: MW-3

PROJECT: Raytheon Company

PROJECT NUMBER: 143-40

DATE INSTALLED: 10/18/95

FASTWELL INSTALLATION FORM

Personnel: J. D'Agostino & C. McKenna

Pipe ID: 0.5"

Pipe Material: Carbon Steel

Riser Length: 12'

Screen Length: 10.0'

Screen Slot Size: 0.015"

Depth to Groundwater: 18.72'

Well Depth: 23'

Refusal Depth: No

Cap and Lock: Yes

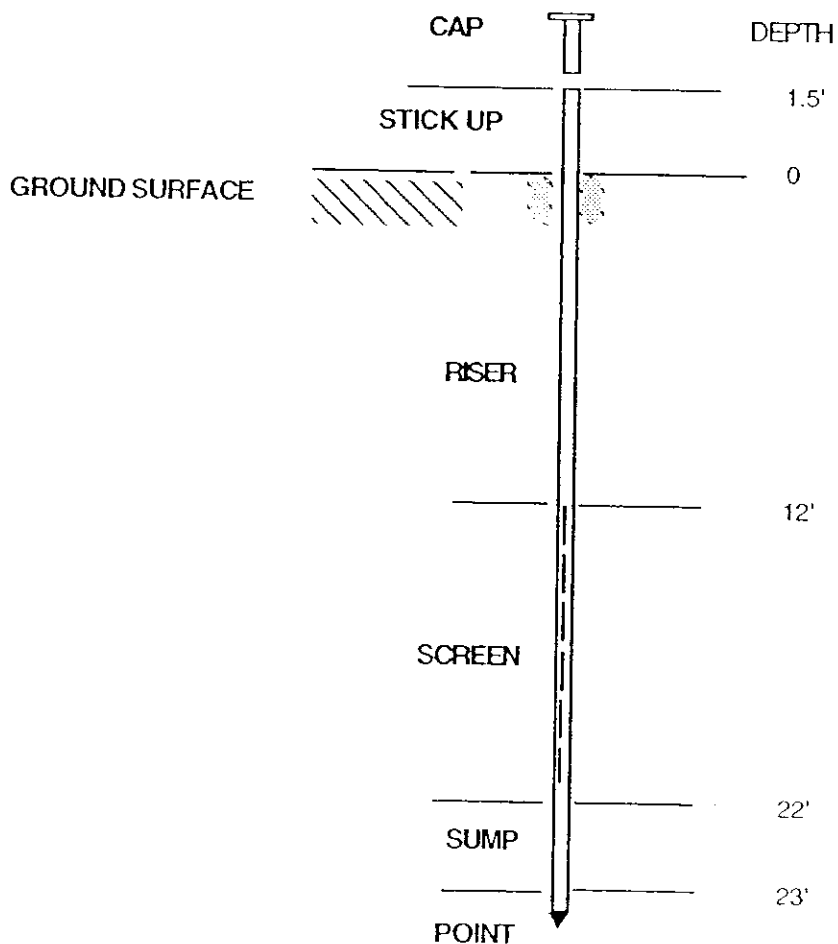
Map



GRASS

BUILDING
#3

Notes:





ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
BOSTON, MA 02114

WELL NUMBER: MW-4

PROJECT: Raytheon Company

PROJECT NUMBER: 143-40

DATE INSTALLED: 10/18/95

FASTWELL INSTALLATION FORM

Personnel: J. D'Agostino & C. McKenna

Pipe ID: 0.5"

Pipe Material: Carbon Steel

Riser Length: 13'

Screen Length: 10.0'

Screen Slot Size: 0.015"

Depth to Groundwater: _____

Well Depth: 24.0'

Refusal Depth: No

Cap and Lock: Yes



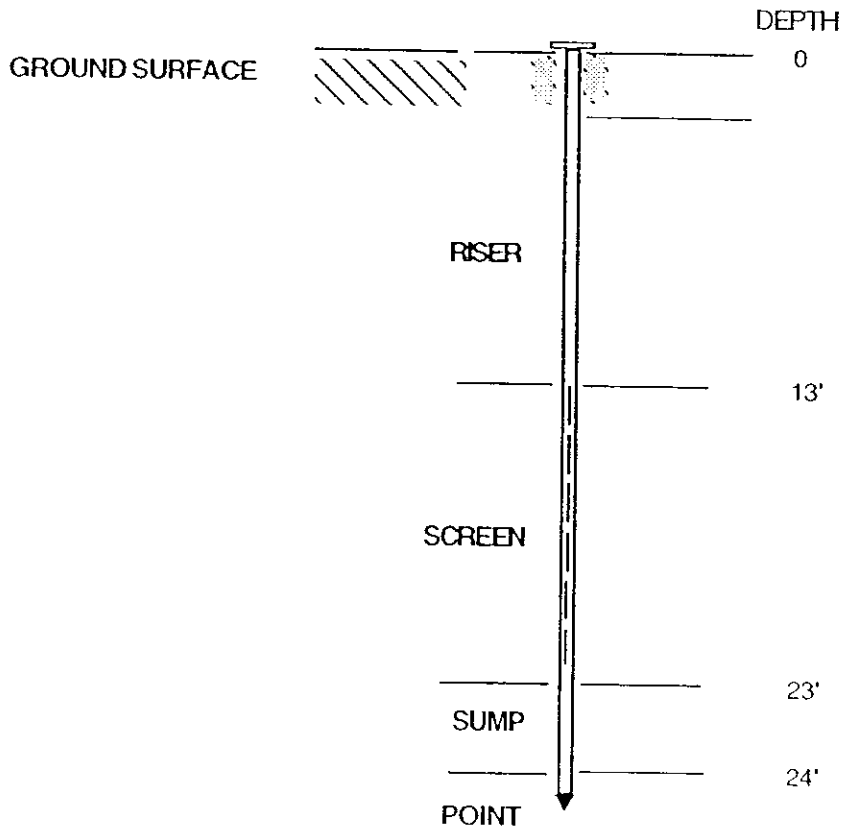
BUILDING #3

DW-06



MW-4

Notes:



WELL NUMBER: MW-5

PROJECT: Raytheon Corporation

PROJECT NUMBER: 143-40

DATE INSTALLED: 10/18/95

FASTWELL INSTALLATION FORM

Personnel: J. D'Agostino & C. McKenna

Pipe ID: 0.5"

Pipe Material: Carbon Steel

Riser Length: 14'

Screen Length: 10.0'

Screen Slot Size: 0.015"

Depth to Groundwater: _____

Well Depth: 25.0'

Refusal Depth: No

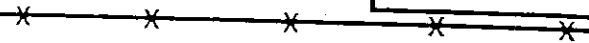
Cap and Lock: Yes

Map

RAYTHEON BUILDING

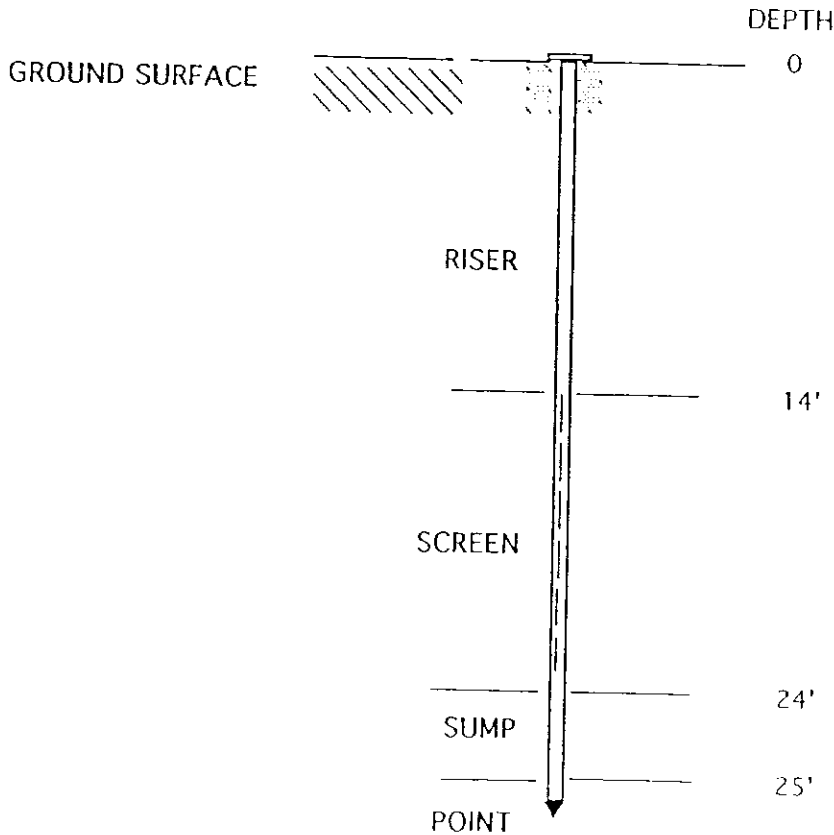


OLD HAZARDOUS
WASTE BUILDING



MW-5

Notes:





ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
BOSTON, MA 02114

WELL NUMBER: MW-6

PROJECT: Raytheon Company

PROJECT NUMBER: 143-40

DATE INSTALLED: 10/18/95

FASTWELL INSTALLATION FORM

Personnel: J. D'Agostino & C. McKenna

Pipe ID: 0.5"

Pipe Material: Carbon Steel

Riser Length: 13'

Screen Length: 10.0'

Screen Slot Size: 0.015"

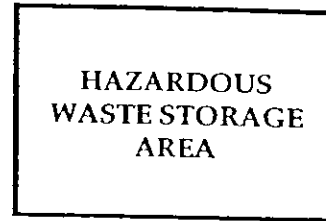
Depth to Groundwater: 17.82'

Well Depth: 24.0'

Refusal Depth: No

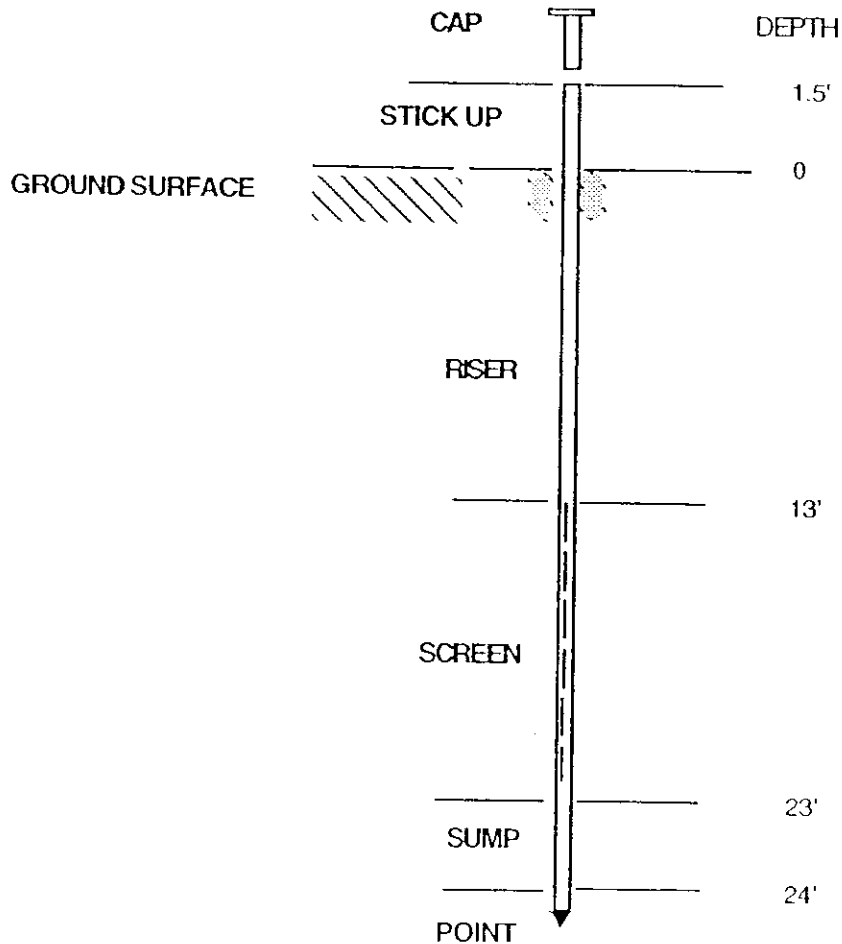
Cap and Lock: Yes

Map



MW-6 ●

Notes:





ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114

WELL NUMBER: MW-7

PROJECT: Raytheon Company

PROJECT NUMBER: 143-40

DATE INSTALLED: 10/18/95

FASTWELL INSTALLATION FORM

Personnel: J. D'Agostino & C. McKenna

Pipe ID: 0.5"

Pipe Material: Carbon Steel

Riser Length: 9'

Screen Length: 10.0'

Screen Slot Size: 0.015"

Depth to Groundwater: 18.38'

Well Depth: 20.0'

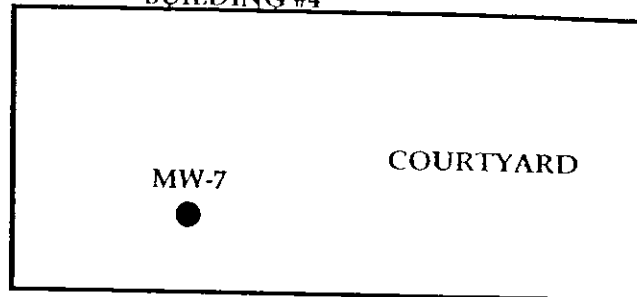
Refusal Depth: No

Cap and Lock: Yes

Map



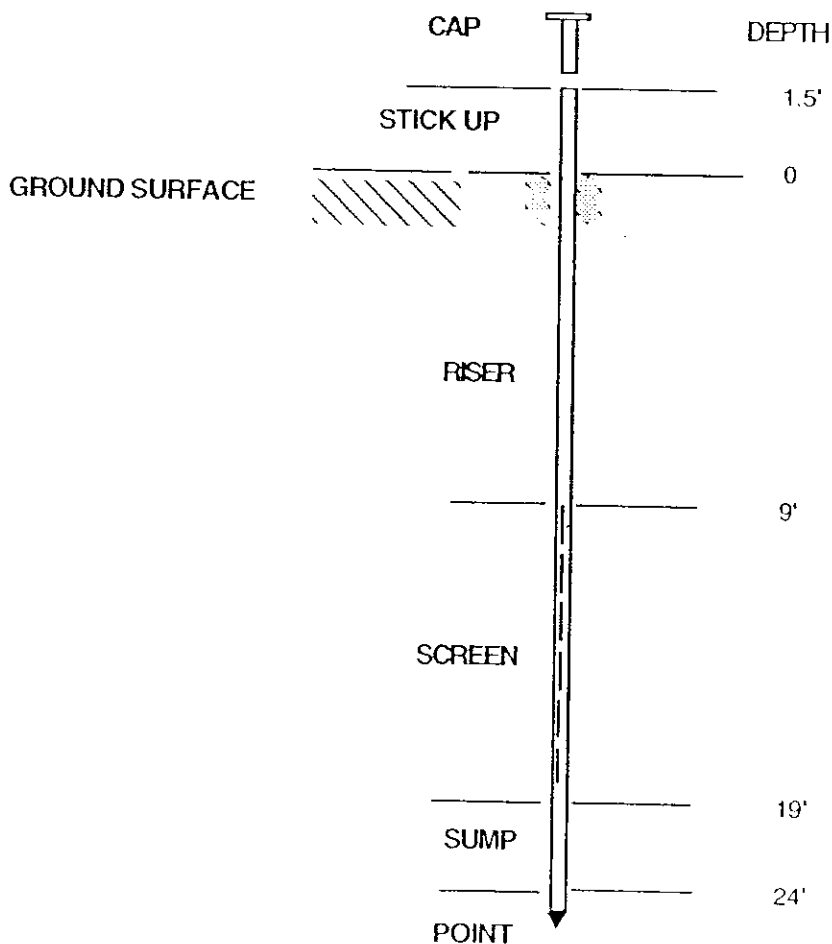
BUILDING #4



COURTYARD

BUILDING #5

Notes:





ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
BOSTON, MA 02114

WELL NUMBER: MW-8

PROJECT: Raytheon Company

PROJECT NUMBER: 143-40

DATE INSTALLED: 10/18/95

FASTWELL INSTALLATION FORM

Personnel: J. D'Agostino & C. McKenna

Pipe ID: 0.5"

Pipe Material: Carbon Steel

Riser Length: 12.5'

Screen Length: 10.0'

Screen Slot Size: 0.015"

Depth to Groundwater: 18.68'

Well Depth: 23.50'

Refusal Depth: No

Cap and Lock: Yes

Map



BUILDING
#1C

MW-8

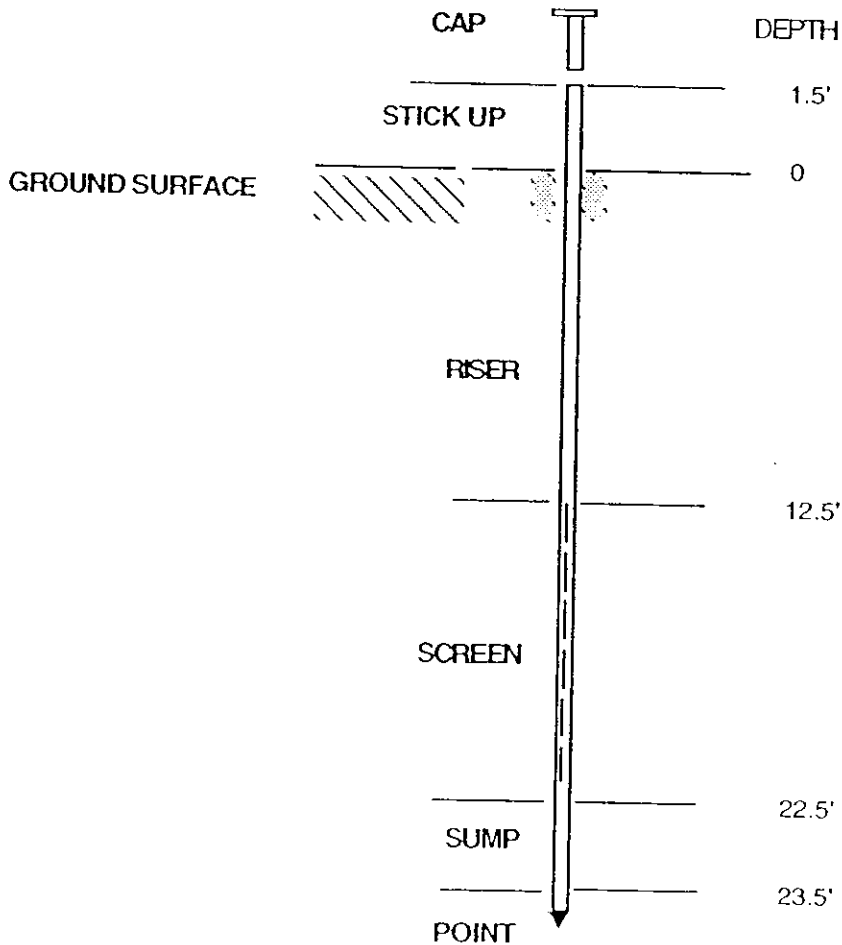


DW-05



← CURB

Notes:





ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
BOSTON, MA 02114

WELL NUMBER: MW-9

PROJECT: Raytheon Company

PROJECT NUMBER: 143-40

DATE INSTALLED: 10/18/95

FASTWELL INSTALLATION FORM

Personnel: J. D'Agostino & C. McKenna

Pipe ID: 0.5"

Pipe Material: Carbon Steel

Riser Length: 6'

Screen Length: 10.0'

Screen Slot Size: 0.015"

Depth to Groundwater: 4.89'

Well Depth: 17'

Refusal Depth: No

Cap and Lock: Yes

Map

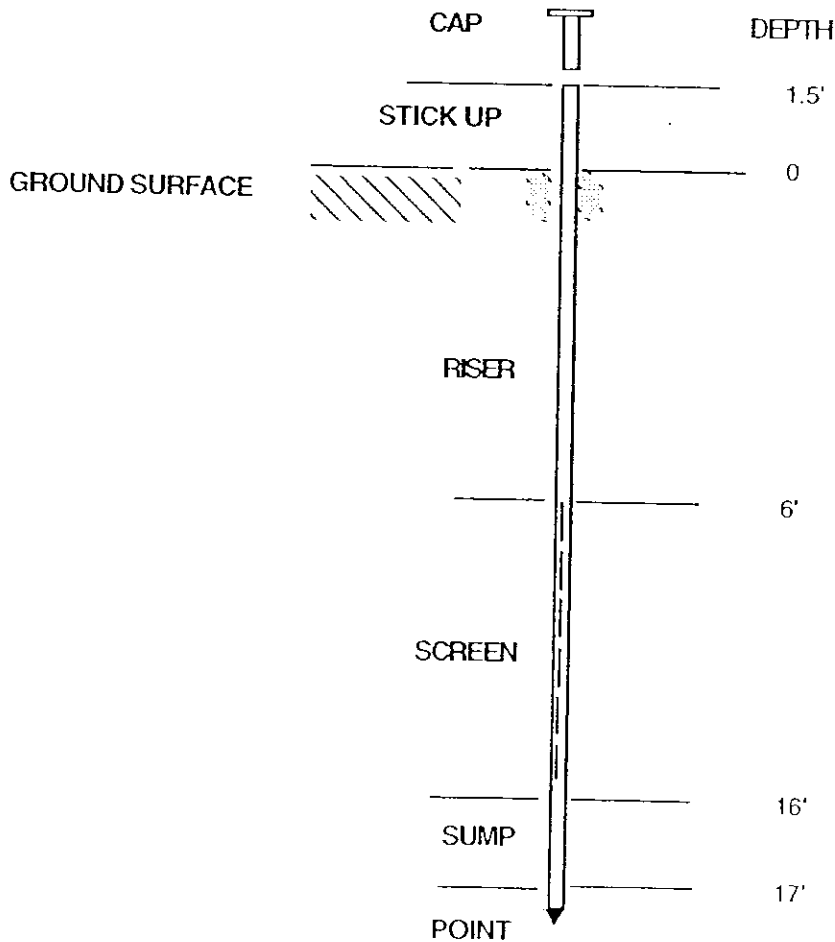


MW-9



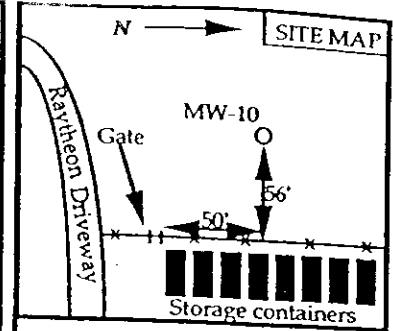
BUILDING
#12/21

Notes:



DRILLING LOG for Well #: MW-10

ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114



Project: Raytheon Wayland Project Number: 14340
 Client: Raytheon Company Log By: I. D'Agostino
 Drilling Co.: T & K Drilling Driller: Kevin & Alan
 Date Started: 21 December 1995 Date Finished: 21 December 1995
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
 Screen Diameter: 2" Length: 10' Slot Size: _____
 Casing Diameter: _____ Length: _____ Type: _____
 Boring Depth: 14.5' Well Depth: 18' Boring Diam.: 4.25" I.D.
 Surface Elev.: _____ MP: _____ Depth to GW: ~12'
 MP Elev.: _____

NOTES: Standard two-foot split-spoon sampling with 140lb hammer.

Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1									
2									
3									
4									
5				10 - 24	12"	12" - Lt brown, v-fine SAND & silt, some gravel; no odor, no staining, dry. Top 3" - dense. Next 3" - loose. Next 6" - moderately packed.	S - 1 4' - 6'	0.0	
6				23 - 24			10:35AM	1.2	
7				9 - 20	12"	Light brown-brown, fine-med. SAND & SILT with some gravel, few cobbles(3/4"), tightly packed; area of moist sand =6"; no odor; no staining; dry.	S - 2 6' - 8'	0.2	PCB
8				20 - 17			10:45AM	4.2	
9				9 - 14	15"	Top 4" - Light brown, very fine SAND & SILT with trace gravel, poor sorting, no odor, no stain, dry. Bottom 11" - Brown, coarse-med SAND & silt with some gravel, poor sorting, no odor or stain, dry.	S - 3 8' - 10"	0.0	
10				10 - 6			10:50AM	6.4	
11				5 - 13	14"	Top 9" - Dark brown SAND & silt with some gravel, no odor, no staining. Top 4" - dry; bottom 5" - moist.	S - 4 10' - 12'	0.0	
12				9 - 12		Bottom 5" - Dark brown very fine sand & SILT, some clay, trace gravel; wet-saturated; no odor, no staining.	10:55AM	4.7	
13				12 - 13	12"	Top 6" - Gray, med-coarse SAND & Silt with some gravel, saturated; no odor, no staining. Bottom 6" - Brown-black very fine SILT, CLAY & sand, some areas of gray clay; contains organics (almost a peat); slight sewage odor, dry.	S - 5 12' - 14'	0.0	
14				6 - 8			11:05AM	54.6	
15						Well specifications:			
16						Screen: 18'-8"			
17						Sand: 18'-7"			
18						Bentonite: 7'-5"			
19						Sand & grout: 5'-0"			
20									
21									
22									
23									
24									

Footnotes for Blowcounts
 (1) 140 LB HAMMER
 (2) 300 LB HAMMER
 (3) SLIDE HAMMER

Key to Well Construction

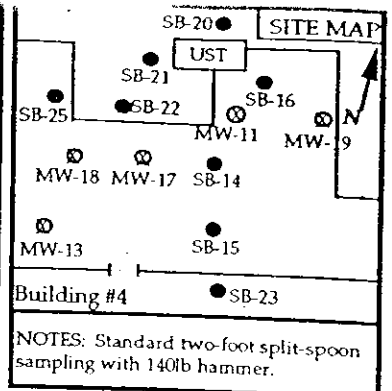
- Sand pack
- Well Screen
- Bentonite Seal
- Cement
- Grout

Key to Geologic Symbols

- Fill
- Silt
- Sandy Gravel
- Bedrock (Fine Grain)
- Clay
- Silty Sand
- Gravel
- Bedrock (Coarse-Grain)
- Silty Clay
- Sand
- Fill

DRILLING LOG for Well #: MW-11

ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114



Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: L. D'Agostino
 Drilling Co.: T & K Drilling Driller: Kevin & Alan
 Date Started: 21 December 1995 Date Finished: 21 December 1995
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
 Screen Diameter: 2" Length: 10' Slot Size: _____
 Casing Diameter: _____ Length: _____ Type: _____
 Boring Depth: 25' Well Depth: 25' Boring Diam.: 4.25" I.D.
 Surface Elev.: _____ MP: _____ Depth to GW: ≈17'
 MP Elev.: _____

NOTES: Standard two-foot split-spoon sampling with 140lb hammer.

Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1									
2									
3				12 - 11	10"	Black, fine-med SAND & Silt with gravel, loose & poorly sorted; petrol odor, visible staining in places; dry.	S - 1 2 - 4' 12:50	8.2 11.4	
4									
5									
6									
7				11 - 51/6	4"	Black, oil soaked, coarse SAND & Silt with gravel, very poorly sorted. Refusal encountered at 7'.	S - 2 6' - 8' 1:10	50.2 31.3	
8									
9									
10									
11				4 - 12	11"	Top 1" - Black, coarse SAND & Silt, loose & poorly sorted, oil soaked, dry. Mid 7" - Grey med-coarse SAND & silt with gravel & cobbles, oil soaked, dry (no water). Bottom 3" Gray sand & silt with some gravel, saturated with oil.	S - 3 10' - 12" 2:10	16.9 36.6	
12									
13									
14									
15				11 - 14	20"	Gray-green, very fine SAND, Silt & Clay; completely saturated with very sticky oil (#6?); some areas contain no oil but entire spoon contains visible contamination. Bottom 2" - Same as above but coarser SAND.	S - 4 14 - 16' 2:20	91.6 130	TPH-8100 VOC S260
16									
17									
18									
19				14 - 15	22"	Top 18" - Black oil saturated fine-med. SAND, Silt & Clay areas of gray clay; oil soaked throughout spoon. Bottom 4" - Gray-green SILT & clay with petroleum odor no visible staining in bottom 4"; dry.	S - 5 18' - 20' 2:30	41.6 95.8	
20									
21									
22									
23				14 - 28	24"	Top 20" - Medium-coarse brown SAND & Silt; no evidence of staining present; no gravel; well sorted saturated. Bottom 4" - Brown, very fine SAND, silt & clay; no odor, no staining; dry.	S - 6 22' - 24' 2:45	6.2	
24									

Footnotes for Blowcounts
 (1) 140 LB HAMMER
 (2) 300 LB HAMMER
 (3) SLIDE HAMMER

Key to Well Construction

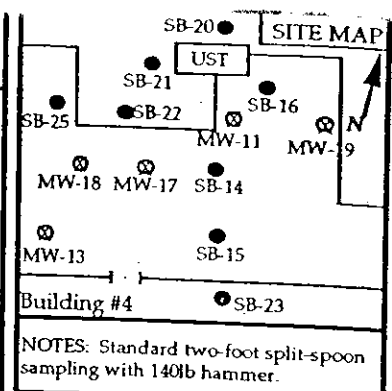
- Sand/pack
- Well Screen
- Bentonite Seal
- Cement
- Grout

Key to Geologic Symbols

- Till
- Silt
- Sandy Gravel
- Bedrock (Fine-Grain)
- Clay
- Silty Sand
- Gravel
- Bedrock (Coarse-Grain)
- Silty Clay
- Sand
- Fill

DRILLING LOG for Well #: MW-13

ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114



Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: L. D'Agostino
 Drilling Co.: T & K Drilling Driller: Kevin & Alan
 Date Started: 23 January 1996 Date Finished: 23 January 1996
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
 Screen Diameter: 2" Length: 10' Slot Size: .015"
 Casing Diameter: _____ Length: _____ Type: _____
 Boring Depth: 23' Well Depth: 22' Boring Diam.: 4.25" I.D.
 Surface Elev.: _____ MP: _____ Depth to GW: =17
 MP Elev.: _____

Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc (ppm) initial/2 hr	Lab Samp. # & Anal.
1						Ashphalt & Frost			
2				19 - 15	14"	Top 8" - Dark brown, med-coarse SAND and Silt, trace fine gravel, no odor or stain, dry. Next 2" - Coarse SAND and gravel with silt and med sand. Bottom 4" - same as 5' - 7' interval.	S - 1 1' - 3' 11:05AM	342	
3				12 - 10					
4									
5									
6				4 - 7	15"	15" - Light brown, fine SAND and Silt with layers of coarse sand =1" thick throughout, well sorted no odor or stain, dry.	S - 2 5' - 7' 11:10AM	430	
7				13 - 11					
8									
9									
10				3 - 19	12"	Top 6" - Light brown, V-fine SAND & Silt, well sorted, no odor or stain, dry. Cobble at 6". Next 3" - Dark brown fine-med SAND & Silt w/trace coarse sand. Bottom 3" - Brown, fine-coarse SAND & Silt, no odor, no stain, dry.	S - 3 9' - 11' 11:15AM	424	
11				21 - 13					
12									
13									
14				12 - 18	18"	Top 3" - Light brown, med-coarse SAND & Silt, loose, well sorted, no odor or stain, damp. Bottom 15" - Light brown-dark br., fine SAND & Silt, well sorted, no odor or stain, bottom 4" wet.	S - 4 13' - 15' 11:25AM	408	
15				21 - 28					
16									
17									
18				8 - 12	18"	Top 6" - Light brown, fine SAND & Silt, no gravel, well sorted, saturated. Next 6" - Same as above but med-coarse SAND. Bottom 6" - Same as top 6" with clay and silt.	S - 5 17' - 19' 11:40AM	354	
19				11 - 16					
20									
21									
22									
23									
24									

Footnotes for Blow counts
 (1) 140 LB HAMMER
 (2) 300 LB HAMMER
 (3) SLIDE HAMMER

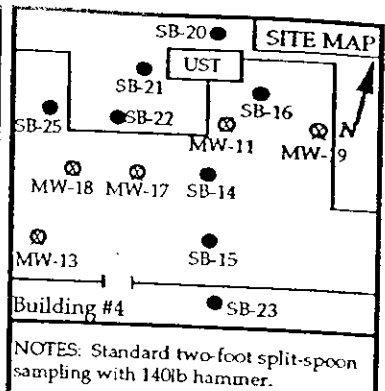
Key to Well Construction
 Sandpack
 Well Screen
 Bentonite Seal
 Cement
 Grout

Key to Geologic Symbols
 Till
 Clay
 Silty Clay
 Silt
 Silty Sand
 Sand

Sandy Gravel
 Gravel
 Fill
 Bedrock (Fine-Grain)
 Bedrock (Coarse-Grain)

DRILLING LOG for Well #: MW-17

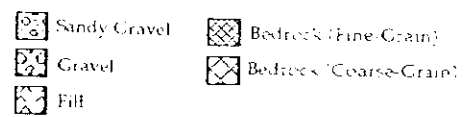
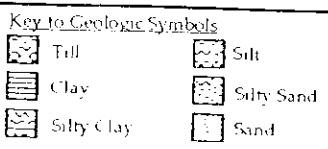
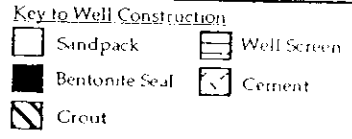
ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114



Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: J. D'Agostino
 Drilling Co.: T & K Drilling Driller: Kevin & Alan
 Date Started: 23 January 1996 Date Finished: 23 January 1996
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
 Screen Diameter: 2" Length: 10' Slot Size: _____
 Casing Diameter: _____ Length: _____ Type: _____
 Boring Depth: 25' Well Depth: 25' Boring Diam.: 4.25" I.D.
 Surface Elev.: _____ MP: _____ Depth to GW: ≈17'
 MP Elev.: _____

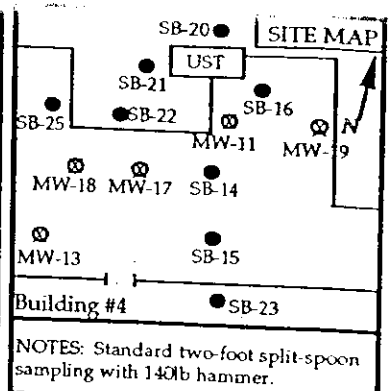
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1						Asphalt and frost			
2				13 - 35 41 - 44	8"	8" - Brown-gray, fine SAND and Silt with gravel, cobbles and associated rock flour, no odor or stain, poor sorting, dry.	S - 1 1' - 3' 7:45AM	0.0 37.7	
3									
4				14 - 29 19 - 33	16"	16" - Brown-gray, fine-coarse SAND and Silt with coarse gravel, cobbles and rock flour, no odor or stain, poor sorting, dry.	S - 2 3' - 5' 7:50AM	1.6 114	
5									
6				18 - 25 16 - 14	11"	11" - Brown-gray, fine-coarse SAND and Silt with trace fine gravel and no cobbles, no odor or stain, poor sorting, dry.	S - 3 5' - 7' 8:05AM	4.5 103	
7									
8				4 - 8 9 - 13	15"	14" - Brown, fine-med SAND and Silt with trace coarse sand and fine gravel, no odor or stain, moist-damp. 1" - (end of spoon) fine-med SAND and Silt, oil soaked.	S - 4 7' - 9' 8:15AM	16 103	
9									
10				11 - 19 23 - 21	14"	Top 2" - Brown fine-med SAND and Silt, no stain. 12" - Grey-black, fine-med SAND and Silt w/trace gravel, saturated with oil in places and clean in others. (=1" sections), dry.	S - 5 9' - 11' 8:25AM	22 29.5	Hanby = >1000ppm
11									
12				10 - 14 11 - 15	12"	Top 7" - Black, oil saturated, fine SAND and Silt with trace gravel. Bottom 5" - Same as above with 2-1" layers of fine gravel at bottom 1" and mid 1"	S - 6 11' - 13' 10:15AM	18.5	
13									
14				22 - 19 17 - 23	22"	Top 5" - Gray, fine SAND and Silt, saturated w/oil. Mid 6" - Gray, fine SAND, Silt and gravel saturated with oil. Bottom 11" - Gray, fine med SAND and silt, no gravel, saturated with oil.	S - 7 13' - 15' 10:25AM	22	
15									
16				4 - 16 22 - 19	22"	21.5" - Gray, fine SAND, Silt and Clay, saturated with oil, except mid 6" has areas where oil could not permeate. Bottom 5" - Brown-gray, v-fine SAND and Silt, clean.	S - 8 15' - 17' 10:50AM	34	
17									
18				9 - 14 21 - 24	22"	Top 12" - Gray, fine SAND and Silt, clean, no gravel, grades into bottom 10" - Brown fine SAND and Silt, clean, no odor or stain, saturated with water.	S - 9 17' - 19' 11:05AM		
19									
20				14 - 13 16 - 26	24"	24" - Brown, fine SAND and Silt, no odor or stain, saturated with water.	S - 10 19' - 21' 11:20AM		
21									
22									
23									
24									

Footnotes for Blowcounts
 (1) 140 LB HAMMER
 (2) 300 LB HAMMER
 (3) SLIDE HAMMER



DRILLING LOG for Well #: MW-18

ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114



Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: J. D'Agostino
 Drilling Co.: T & K Drilling Driller: Kevin & Alan
 Date Started: 24 January 1996 Date Finished: 24 January 1996
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
 Screen Diameter: 2" Length: 10' Slot Size: _____
 Casing Diameter: _____ Length: _____ Type: _____
 Boring Depth: 25' Well Depth: 25' Boring Diam.: 4.25" I.D.
 Surface Elev.: _____ MP: _____ Depth to GW: ≈17'
 MP Elev.: _____

NOTES: Standard two-foot split-spoon sampling with 140lb hammer.

Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc (ppm) in bal/2hr	Lab Samp # & Anal.
1									
2									
3									
4									
5									
6				16 - 24	9"	9" - Brown-gray, fine-med SAND and Silt with trace coarse sand, fine gravel and cobbles, poorly sorted, no odor or stain, dry.	S - 1 5' - 7' 8:55AM	2 199	
7				22 - 14					
8				6 - 9	18"	Top 6" - Brown, fine-coarse SAND and Silt with trace fine gravel, poor sorting, no odor or stain, dry. Bottom 12" - Brown, fine SAND and Silt, homogeneous, no odor or stain, dry.	S - 2 7' - 9' 9:05AM	2.4 278	
9				14 - 14					
10				10 - 14	16"	Top 8" - Lt. brown-brown, fine SAND, Silt and trace clay and gravel, no odor or stain, damp. Bottom 8" - Brown, fine-med SAND and Silt w/ trace gravel, poor sorting, no odor or stain, dry-damp.	S - 3 9' - 11' 9:10AM	6 341	
11				20 - 25					
12				11 - 21	20"	Top 6" - Lt. brown, v-fine SAND, Silt and trace clay, no odor or stain, damp. Next 10" - Brown, med. SAND w/ trace coarse SAND, well sorted, grades into bottom 4" - br. v-fine SAND, Silt and clay, no odor or stain, damp.	S - 4 11' - 13' 9:15AM	4.6 103	
13				20 - 28					
14				18 - 20	17"	17" - Brown, V-fine SAND, Silt and trace clay, homogeneous, no odor or stain, moist-wet, grades into bottom 2" - Silty clay, wet.	S - 5 13' - 15' 9:20AM	25.2 28.3	
15				26 - 28					
16				17 - 21	17"	17" - Brown, fine-med SAND, Silt and trace clay, no odor or stain, homogeneous, saturated with water.	S - 6 15' - 17' 9:30AM	6.4 136	
17				19 - 20					
18				19 - 13	22"	22" - Brown, fine-med SAND, silt and trace clay, no odor or stain, saturated with water. Layer of silty-clay in bottom of spoon.	S - 7 17' - 19' 9:40AM	5.2 330	
19				21 - 23					
20									
21									
22									
23									
24									

Footnotes for Blowcounts
 (1) 140 LB HAMMER
 (2) 300 LB HAMMER
 (3) SLIDE HAMMER

Key to Well Construction

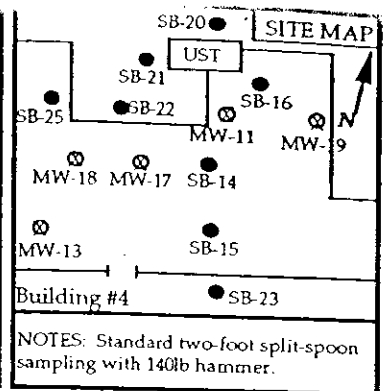
- Sandpack
- Well Screen
- Bentonite Seal
- Cement
- Grout

Key to Geologic Symbols

- Fill
- Silt
- Sandy Gravel
- Bedrock (Fine-Grain)
- Clay
- Silty Sand
- Gravel
- Bedrock (Coarse-Grain)
- Silty Clay
- Sand
- Fill

DRILLING LOG for Well #: MW-19

ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114



Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: I. D'Agostino
 Drilling Co.: T & K Drilling Driller: Kevin & Alan
 Date Started: 24 January 1996 Date Finished: 24 January 1996
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
 Screen Diameter: 2" Length: 10' Slot Size: _____
 Casing Diameter: _____ Length: _____ Type: _____
 Boring Depth: 25' Well Depth: 25' Boring Diam.: 4.25" I.D.
 Surface Elev.: _____ MP: _____ Depth to GW: ≈17'
 MP Elev.: _____

Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) Initial/2hr	Lab Samp # & Anal.
1						18" - Concrete and 1" steel rebar.			
2						Cuttings - Brown Sand and gravel, backfill inside loading dock ramp.			
3									
4									
5									
6				8 - 41 58	5"	5" - Brown, fine-med SAND and Silt with gravel and cobbles, unsorted, loose, no odor or stain, dry.	S - 1 5' - 6.5' 2:00PM	0.0 274	
7						Augered through refusal			
8				8 - 77 60	6"	6" - Brown, fine-coarse SAND and Silt, with gravel, no odor or stain, unsorted, dry.	S - 2 7' - 8.5' 2:15PM	0.0 17.9	
9						Augered through refusal			
10				11 - 11 24 - 38	13"	13" - Gray-black, med-coarse SAND and Silt with trace gravel and cobbles, oil soaked throughout, small area of fine sand at ~6".	S - 3 9' - 11' 2:30PM	48 370	
11									
12				15 - 29 16 - 18	9"	3" - Same as above (from same interval) 6" - Brown, fine-coarse SAND and Silt with gravel, no visible staining, dry.	S - 4 11' - 13' 2:40PM	6.4 330	
13									
14				11 - 24 28 - 29	17"	Top 12" - Black oil saturated, med. SAND and Silt. Next 2" - Clean, gray fine SAND and Silt with 1" broken up cobble. Bottom 3" - Gray-black, fine SAND and silt with visible oil staining.	S - 5 13' - 15' 2:50PM	43 363	
15									
16				6 - 13 24 - 28	18"	18" - Black oil saturated, fine SAND and Silt, no gravel, no clay, damp.	S - 6 15' - 17' 3:00PM	470	
17									
18				14 - 15 28 - 24	19"	Top 11" - Black oil saturated, fine SAND and Silt. Bottom 8" - Clean, brown, SILTY-Clay with v-fine sand, no odor or stain, damp.	S - 7 17' - 19' 3:10PM	267	
19									
20				None Taken	20"	20" - Brown, fine SAND and silt with some clay, no odor or stain, homogeneous, saturated with water.	S - 8 19' - 21' 3:20PM	190	
21									
22									
23									
24									

Footnote: for Blowcounts
 (1) 140 LB HAMMER
 (2) 300 LB HAMMER
 (3) SLIDE HAMMER

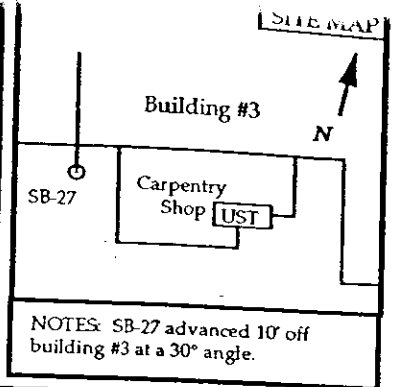
Key to Well Construction
 [Symbol] Sandpack [Symbol] Well Screen
 [Symbol] Bentonite Seal [Symbol] Cement
 [Symbol] Grout

Key to Geologic Symbols
 [Symbol] Till [Symbol] Silt [Symbol] Silty Gravel [Symbol] Bedrock (Fine-Grain)
 [Symbol] Clay [Symbol] Silty Sand [Symbol] Gravel [Symbol] Bedrock (Coarse-Grain)
 [Symbol] Silty Clay [Symbol] Sand [Symbol] Fill

DRILLING LOG for Well #: MW-27

205 PORTLAND STREET
ERM BOSTON, MA 02114

Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: I. D'Agostino
 Drilling Co.: Geologic Driller: Mike & Darell
 Date Started: 22 March 1996 Date Finished: 22 March 1996
 Location: Wayland, MA Drilling Method: Odex Air Rotary
 Screen Diameter: 2" Length: 15' Slot Size: .01"
 Casing Diameter: 6" Length: 40' @ 30° angle Type: _____
 Boring Depth: ≈23' vertical Well Depth: _____ Boring Diam.: 6"
 Surface Elev.: _____ MP: _____ Depth to GW: ≈17'
 MP Elev.: _____



Depth	Well Log	Casing Distance	General Stratigraphy	Blowcounts per 6 inches	Rec.	Soil Classification based on inspection of cuttings (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) Initial/2hr	Lab Samp. # & Anal.
1						Asphalt			
2									
3									
4						1'-11' - Brown, fine-med SAND, SILT some Gravel; dry; clean, no evidence of petroleum impact based on visual and olfactory observations.			
5		9							
6									
7									
8									
9									
10		18							
11									
12						Brown, fine-med SAND, SILT, trace Gravel; dry; clean, no evidence of petroleum impact based on visual and olfactory observations.	S-1, 11'-13' 1:05PM		9-10' horizontally under building
13									
14						Black, med-coarse SAND and SILT, trace gravel, damp, slight petrol odor, no visible evidence of petroleum impact.	S-2, 13'-15' 1:35PM		10-12' horizontally under building
15		27							
16						Brown-black, med-coarse SAND and SILT with trace Gravel, moist, strong petroleum odor, visibly impacted with petroleum.	S-3, 15'-17' 1:40PM		12'-15' horizontally under building
17									
18						Brown-black, coarse SAND and SILT, trace Gravel, damp, strong petroleum odor, visibly impacted with petroleum.	S-4, 17'-18' 1:45PM		15-17' under TPH-building 8100
19						Brown-black, med-coarse SAND, SILT, and Gravel, moist, strong petroleum odor, visibly impacted with petroleum.	S-5, 18'-19' 2:00PM		17-18' horizontally under building.
20		36							
21						Brown-black, fine-med SAND, SILT, and Gravel, wet, strong petroleum odor, visibly impacted with petroleum.	S-6, 19'-21' 2:10PM		18'-20' horizontally under building
22									
23		40				Brown-black, v-fine SAND, SILT, and trace gravel, wet, strong petroleum odor, visibly impacted with petroleum.	S-7, 21'-23' 2:25 PM		20'-23' horizontally under building
24									

Footnotes for Blowcounts
 (1) 140 LB HAMMER
 (2) 300 LB HAMMER
 (3) SLIDE HAMMER

Key to Well Construction

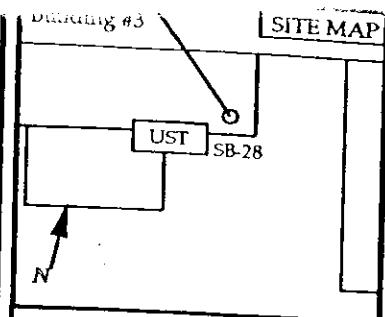
- Sandpack
- Well Screen
- Bentonite Seal
- Cement
- Grout

Key to Geologic Symbols

- Till
- Silt
- Sandy Gravel
- Bedrock (Fine-Grain)
- Clay
- Silty Sand
- Gravel
- Bedrock (Coarse-Grain)
- Silty Clay
- Sand
- Fill

DRILLING LOG for Well #: MW-28

ERM 205 PORTLAND STREET
BOSTON, MA 02114



Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: I. D'Agostino
 Drilling Co.: Geologic Driller: Mike & Darell
 Date Started: 18 March 1996 Date Finished: 19 March 1996
 Location: Wayland, MA Drilling Method: Odex Air Rotary
 Screen Diameter: 2" Length: 15' Slot Size: .01"
 Casing Diameter: 6" Length: 40' @ 30° angle Type: _____
 Boring Depth: ≈23' vertical Well Depth: _____ Boring Diam.: 6"
 Surface Elev.: _____ MP: _____ Depth to GW: ≈17'
 MP Elev.: _____

NOTES: Standard two-foot split-spoon sampling with 140lb hammer.

Depth	Well Log	Casing Distance	General Stratigraphy	Blowcounts per 6 inches	Rec.	Soil Classification based on inspection of cuttings (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1						Concrete			
2						1'-10" - Brown, med-coarse SAND, SILT and Gravel; damp-dry; clean with no evidence of petroleum impact based on visual and olfactory observations.			
3									
4						Notes:			
5						• SB-28 was advanced at a 30° angle, to a depth of 24' bgs (40' on the hypotenuse) using air rotary techniques,			
6						• SB-28 is located 15' off Building #3 inside the old carpentry shop			
7						• Petroleum impacted soils were encountered from 13'-20' bgs			
8									
9									
10									
11						Brown, med-coarse SAND and Gravel w/trace silt, poorly sorted, damp-moist. Hanby Test Kit = 100-200ppm	S-1, 10'-11' 1:45PM		Under building foundation
12						Brown-Gray, fine-med SAND, SILT and Gravel, poorly sorted, dry, faint petroleum odor.	S-2, 11'-12' 4:00PM		1-2' horizontally under bldg
13						Br-gray, med SAND, SILT and fine Gravel, dry-damp petroleum odor. Hanby = >1,000ppm TPH	S-3, 12'-13' 4:45PM		3-5' horizontally under bldg
14						Br-Black, med-coarse SAND, SILT and Gravel, poorly sorted, moist, visibly impacted, strong petrol odor.	S-4, 13'-15' 5:00PM		5-7' horizontally under building
15						Br-gray, med SAND with trace gravel & silt, poorly sorted, moist, strong petrol odor, visibly impacted	S-5, 14'-15' 8:00AM		7-9' under building TPH-8100
16						Br-gray, med-coarse SAND and Gravel with trace silt, strong petroleum odor, visibly impacted	S-6, 15'-16' 8:30 AM		9-11' horizontally under building
17						Brown-gray, med-coarse SAND and Gravel with trace silt, strong petroleum odor, visibly impacted with petroleum.	S-7, 16'-18' 8:45 AM		11-13' horizontally under building
18									
19						Brown-gray, coarse SAND and Gravel with trace silt, strong petroleum odor, visibly impacted with petroleum.	S-8, 18-20' 9:00 AM		13-15' horizontally under building
20									
21						Brown-gray, coarse SAND and Gravel, soil cuttings appear cleaner but are still visibly impacted and have strong petroleum odor.	S-9, 20-22' 9:20 AM		15-17' horizontally under building
22									
23						Brown-gray, coarse SAND and Gravel, soil cuttings appear clean but are still visibly stained and have strong petroleum odor. End of hammer contained unimpacted soils.	S-10, 22-24' 9:35 AM		17-18' horizontally under building.
24									

Footnotes for Blowcounts
 (1) 140 LB HAMMER
 (2) 300 LB. HAMMER
 (3) SLIDE HAMMER

Key to Well Construction

- Sand pack
- Bentonite Seal
- Grout
- Well Screen
- Cement

Key to Geologic Symbols

- Till
- Clay
- Silty Clay
- Silt
- Silty Sand
- Sand
- Sandy Gravel
- Gravel
- Fill
- Bedrock (Fine-Grain)
- Bedrock (Coarse-Grain)