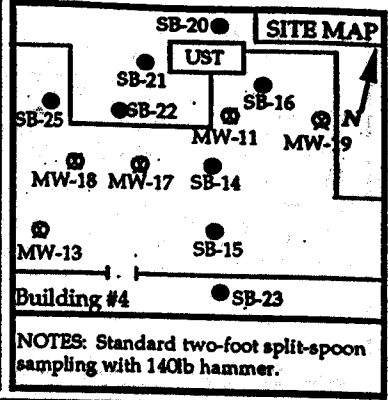


# DRILLING LOG for Well #: MW-18

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



Project: Raytheon, Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: 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									
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									
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									
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									
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									
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									
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									
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									
20									
21									
22									
23									
24									

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

Key to Well Construction

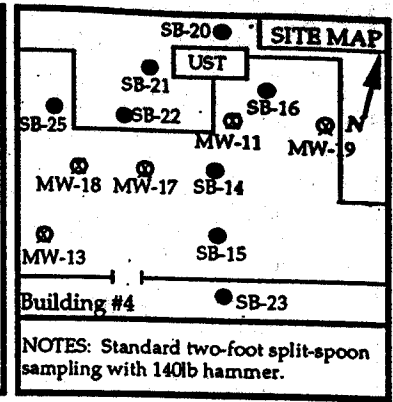
- Sandpack
- Well Screen
- Bentonite Seal
- Cement
- Grout

Key to Geologic Symbols

- Till
- 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: 14340  
 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.: \_\_\_\_\_

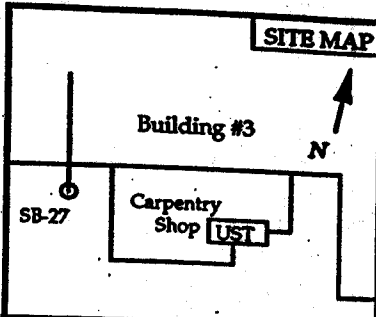
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) Initial/2 hr	Lab Samp. # & Anal.
1						18" - Concrete and 1" steel rebar.			
2						Cuttings - Brown Sand and gravel, 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									

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

Key to Well Construction		Key to Geologic Symbols	
Sandpack	Well Screen	Till	Silt
Bentonite Seal	Cement	Clay	Silty Sand
Grout		Silty Clay	Sand
		Sandy Gravel	Gravel
		Fill	Bedrock (Fine-Grain)
			Bedrock (Coarse-Grain)

# DRILLING LOG for Well #: MW-27

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.: 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.: \_\_\_\_\_

NOTES: SB-27 advanced 10' off building #3 at a 30° angle.

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						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

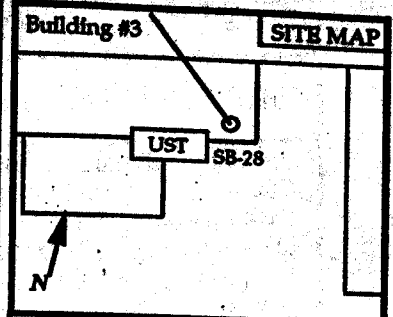
Key to Well Construction  
 Sandpack  
 Well Screen  
 Bentonite Seal  
 Cement  
 Grout

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

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

# DRILLING LOG for Well #: MW-28

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.: 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/2hr	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		3-7' 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 TPH-building 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  
 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)

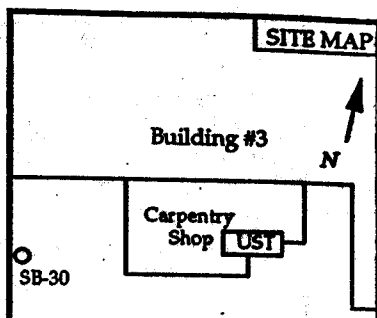
# DRILLING LOG for Well #: MW-30

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

SITE MAP

Project: Raytheon, Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: I. D'Agostino  
 Drilling Co.: Geologic Driller: Mike & Darell  
 Date Started: 21 March 1996 Date Finished: 21 March 1996  
 Location: Wayland, MA Drilling Method: Odex Air Rotary  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: ≈23' vertical Well Depth: \_\_\_\_\_ Boring Diam.: 6"  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: ≈17'  
 MP Elev.: \_\_\_\_\_

NOTES: SB-30 advanced vertically 54' off the carpentry shop, to a depth of 20'.



Depth	Well Log	Graphic Log	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									
5									
6									
7						1-10' - Brown, med-coarse SAND, SILT and trace Gravel; dry; clean, no evidence of petroleum impact based on visual and olfactory observations.			
8									
9									
10									
11						Brown, med SAND, Silt, with trace Gravel; dry; clean, no evidence impact from petroleum based on visual and olfactory observations.	S-1, 10'-12.5' 3:30 AM		
12									
13						Brown, v-fine SAND, Silt and trace Clay, clean, dry, no evidence petroleum impact.	S-2, 12.5'-15' 3:35AM		
14									
15									
16						Brown, SILT and Clay with trace v-fine Sand, wet, slight petroleum odor, no visible evidence of petroleum impact. Hanby test kit detected ≈50 ppm TPH.	S-3, 15'-17.5' 3:45 AM		TPH-8100
17									
18						Brown v-fine SAND and Silt and Clay, slight petroleum odor with sheen visible on wetted surfaces. Hanby test kit detected 50-100ppm TPH.	S-4, 17.5'-20' 3:55PM		
19									
20									
21									
22									
23									
24									

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

Key to Well Construction

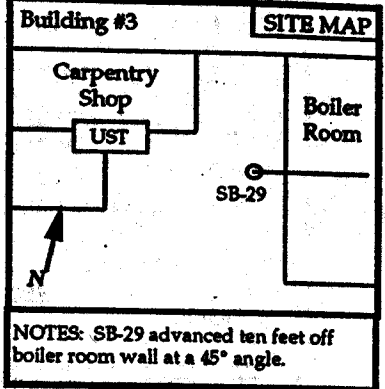
- Sandpack
- Well Screen
- Bentonite Seal
- Cement
- Grout

Key to Geologic Symbols

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

# DRILLING LOG for Well #: SB-29

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.: Geologic Driller: Mike & Darell  
 Date Started: 20 March 1996 Date Finished: 20 March 1996  
 Location: Wayland, MA Drilling Method: Odex Air Rotary  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: 30' @ 45° angle Type: \_\_\_\_\_  
 Boring Depth: ~23' vertical Well Depth: \_\_\_\_\_ Boring Diam.: 6"  
 Surface Elev.: Not measured MP: \_\_\_\_\_ Depth to GW: ~17'  
 MP Elev.: \_\_\_\_\_

Depth	Well Log	Graphic Log	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						Concrete and rebar			
2									
3						Brown, med-coarse SAND, SILT and trace Gravel; dry; clean, no evidence of petroleum impact based on visual and olfactory observations.	S-1, 1'-4' 8:15 AM		
4									
5									
6						Brown, med-coarse SAND, SILT and trace Gravel; dry; clean, no evidence of petroleum impacts to soil.	S-2, 4'-7' 9:55AM		
7									
8						Brown, med-coarse SAND, SILT, some Gravel; dry; clean, no evidence of petroleum impacts to soil based on visual and olfactory observations.	S-3, 7'-9' 10:15 AM		
9									
10									
11									
12						Brown, med-coarse SAND, SILT and Gravel; dry; clean, no evidence of petroleum impacts to soil based on visual and olfactory observations.	S-4, 9'-14' 3:00PM		
13									
14									
15						Brown-black, med SAND with trace gravel and silt, poorly sorted, moist, strong petroleum odor, visibly impacted with petroleum	S-5, 14'-16' 3:10PM		TPH-8100
16									3-5' horizontally under building
17						Brown-black, med-coarse SAND and Gravel trace silt, strong petroleum odor, visibly impacted with petroleum	S-6, 16-18' 3:25 PM		5-7' horizontally under building
18									
19						Brown-black, coarse SAND and Silt with trace gravel, strong petroleum odor, visibly impacted in places. Two samples collected: one of relatively clean material and one from visibly contaminated soils.	S-7, 18-20' 3:35 PM		TPH-8100
20							S-8, 18'-20' 3:35 AM		7-10' horizontally under building
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)

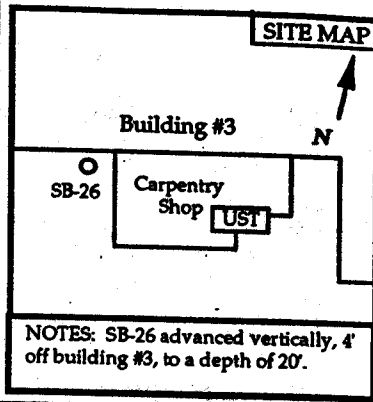
# DRILLING LOG for Well #: SB-26

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

SITE MAP

Project: Raytheon, Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: I. D'Agostino  
 Drilling Co.: Geologic Driller: Mike & Darell  
 Date Started: 21 March 1996 Date Finished: 21 March 1996  
 Location: Wayland, MA Drilling Method: Odex Air Rotary  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: ≈20' vertical Well Depth: \_\_\_\_\_ Boring Diam.: 6"  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: ≈17'  
 MP Elev.: \_\_\_\_\_

NOTES: SB-26 advanced vertically, 4' off building #3, to a depth of 20'.



Depth	Well Log	Graphic Log	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									
5									
6									
7						1-10' - Brown, med-coarse SAND, Silt and trace Gravel; dry; clean, no evidence of petroleum impact based on visual and olfactory observations.			
8									
9									
10									
11									
12									
13						Brown, fine SAND, SILT and trace Gravel, clean, dry, no evidence of petroleum impact based on visual and olfactory observations.	S-1, 10'-15' 12:30PM		
14									
15									
16						Brown, SILT and CLAY with trace v-fine Sand, wet, strong petroleum odor, visibly saturated with petroleum.	S-2, 15'-17.5' 12:55 AM		TPH-8100
17									
18									
19						Brown SILT and CLAY with trace v-fine Sand, slight petroleum odor, visibly saturated with petroleum. Unimpacted soils observed on end of drill hammer.	S-3, 17.5'-20' 1:10PM		
20									
21						Notes:			
22						• Soils were impacted with petroleum from 15' - 20' below ground surface based upon visual and olfactory observations.			
23						• Soils on end of hammer appeared clean and free from petroleum impact.			
24									

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

Key to Well Construction

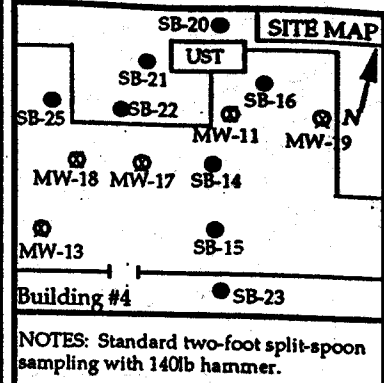
Sandpack  
 Well Screen  
 Bentonite Seal  
 Cement  
 Grout

Key to Geologic Symbols

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

# DRILLING LOG for Well #: SB-25

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.: ERM-New England Driller: Kurt & John  
 Date Started: 25 January 1996 Date Finished: 25 January 1996  
 Location: Wayland, MA Drilling Method: Geoprobe  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: \_\_\_\_\_ Well Depth: \_\_\_\_\_ Boring Diam.: \_\_\_\_\_  
 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				X	20"	Top 14" - Brown, fine-med SAND and Silt, dry. Borrom 6" - Brown, fine SAND and Silt, dry.	S - 1 0' - 2' 3:55PM		
- 2				X					
- 3				X	24"	Top 14" - Brown, fine-med SAND and Silt with some coarse sand, dry. Next 5" - Brown, v-fine SAND, Silt and clay, damp. Bottom 5" - Brown, med. SAND and Silt.	S - 2 2' - 4' 4:00PM		
- 4				X					
- 5				X	5"	5" - Gray-brown, fine SAND and Silt with trace fine gravel, loose, clean, dry.	S - 3 4' - 6' 4:05PM		
- 6				X					
- 7				X	5"	5" - Brown, fine-coarse SAND and Silt with trace fine gravel, loose and unconsolidated, dry.	S - 4 6' - 8' 4:10PM		
- 8				X					
- 9				X	8"	Top 4" - Brown, fine SAND and Silt with trace fine gravel, no odor or stain, damp. Bottom 4" - Brown, med-coarse SAND and Silt, clean, damp, nose of spoon has silty clay.	S - 5 8' - 10' 4:15PM		
- 10				X					
- 11				X	12"	12" - Brown, med-coarse SAND and Silt with trace fine gravel, clean and damp.	S - 6 10' - 12' 4:20PM		
- 12				X					
- 13				X	5"	5" - Brown, fine-coarse SAND and Silt with trace fine gravel, med gravel in top of spoon, sweet smell, traces of oil in bottom of spoon.	S - 7 12' - 14' 4:25PM		
- 14				X					
- 15				X	12"	12" - Black, oil soaked fine SAND and SILT with trace fine gravel in certain areas(=1" sections).	S - 8 14' - 16' 4:30PM		
- 16				X					
- 17				X	18"	18" - Black, oil saturated v-fine SAND and Silt.	S - 9 16' - 18' 4:35PM		
- 18				X					
- 19				X	17"	Top 3" - Black, oil coated fine SAND and silt. Next 4" - Clean, brown, fine SAND and silt. Next 7" - Black oil coated fine SAND and silt. Bottom 3" - Clean, brown, fine SAND and silt.	S - 10 18' - 20' 4:40PM		
- 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

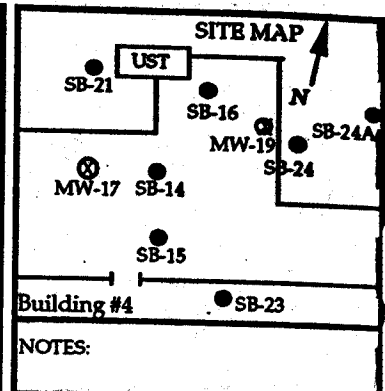
**Key to Geologic Symbols**  
 Till  
 Clay  
 Silty Clay  
 Silt  
 Silty Sand  
 Sand

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



# DRILLING LOG for Well #: SB-24A

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.: ERM-New England Driller: Kurt & John  
 Date Started: 25 January 1996 Date Finished: 25 January 1996  
 Location: Wayland, MA Drilling Method: Geoprobe  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: \_\_\_\_\_ Well Depth: \_\_\_\_\_ Boring Diam.: 1"  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: \_\_\_\_\_  
 MP Elev.: \_\_\_\_\_

Building #4  
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									
2									
3									
4									
5					22"	22" - Clean, brown, fine-med SAND and Silt, well sorted, no odor or stain, dry (appears to be backfill from prior removal action).	S-1 4' - 6'		
6							5:10 PM		
7					20"	Top 6" - Same as above. Bottom 14" - Dark brown, medium SAND, Silt, Gravel and cobbles, poorly sorted, no odor or stain, dry.	S-1 6' - 8'		
8							5:30 PM		
9					18"	Brown, fine-coarse SAND, Silt and Gravel, unconsolidated, poorly sorted, no odor or stain, dry.	S-3 8' - 10'		
10							5:40 PM		
11					4"	4" - Same as above. Refusal at ~10.5'.	S-4 10' - 10.5'		
12							5:50 PM		
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

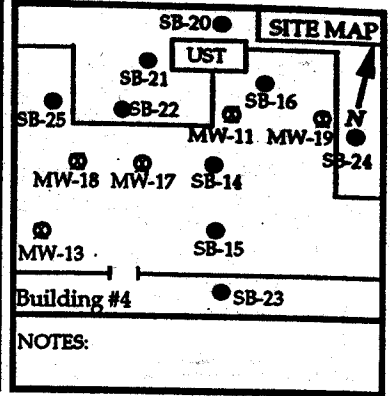
**Key to Well Construction**  
 Sandpack  
 Well Screen  
 Bentonite Seal  
 Cement  
 Grout

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

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

# DRILLING LOG for Well #: SB-24

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.: ERM-New England Driller: Kurt & John  
 Date Started: 25 January 1996 Date Finished: 25 January 1996  
 Location: Wayland, MA Drilling Method: Geoprobe  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: \_\_\_\_\_ Well Depth: \_\_\_\_\_ Boring Diam.: 1"  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: \_\_\_\_\_  
 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					20"	20" - Brown, fine-med SAND, Silt & Gravel, loose, unsorted, no odor or stain, dry.	S-1 0' - 2' 2:10 PM		
2					20"	20" - Brown-dark brown, med SAND and Gravel, poor sorting, unconsolidated, no odor or stain, dry.	S-1 2' - 4' 2:30 PM		
3					4"	4" - GRAVEL pieces and brown fine Sand, dry refusal at ~6'.	S-3 4' - 6' 2:40 PM		
4									
5									
6									
7						Note: • SB-24 completed to 6' below ground surface • SB-24A was advanced inside boiler room sump to characterized soil below 6' bgs inside boiler room.			
8									
9									
10									
11									
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**

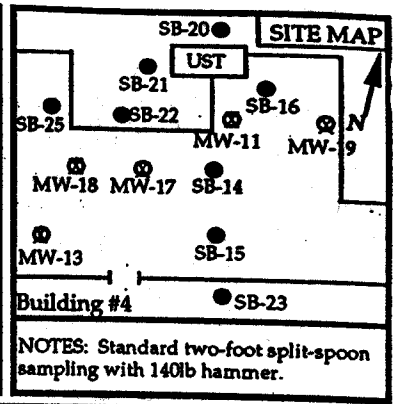
- Sandpack
- Well Screen
- Bentonite Seal
- Cement
- Grout

**Key to Geologic Symbols**

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

# DRILLING LOG for Well #: SB-23

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



Project: Raytheon Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: I. D'Agostino  
 Drilling Co.: ERM-New England Driller: Kurt & John  
 Date Started: 25 January 1996 Date Finished: 25 January 1996  
 Location: Wayland, MA Drilling Method: Geoprobe  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: \_\_\_\_\_ Well Depth: \_\_\_\_\_ Boring Diam.: 4  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: ≈16'  
 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				X	22"	22" - Brown, fine SAND and Silt, no odor or stain, dry.	S - 1 0' - 2' 11:10AM		
2				X	20"	20" - Lt. brown, fine SAND and Silt, no odor or stain, dry.	S - 1 2' - 4' 11:20AM		
3				X	20"	20" - Lt. brown, fine SAND and Silt, no odor or stain, dry.	S - 3 4' - 6' 11:30AM		
4				X	20"	Top 14" - Lt. brown, fine SAND and Silt, no odor or stain, dry. Bottom 6" - Lt. brown, v-fine SAND and Silt, no odor or stain, dry.	S - 4 6' - 8' 11:40AM		
5				X	20"	Top 10" - Lt. brown, v-fine SAND and Silt, clean and dry. Bottom 10" - Lt. brown, v-fine SAND, SILT and Clay, clean, damp.	S - 5 8' - 10' 11:50AM		
6				X	20"	20" - Brown, v-fine SAND and Silt, clean and dry.	S - 6 10' - 12' 12:00PM		
7				X	20"	20" - Brown, v-fine SAND and Silt, clean and damp.	S - 7 12' - 14' 12:10PM		
8				X	20"	20" - Brown, v-fine SAND and Silt, clean, saturated.	S - 8 14' - 16' 12:20PM		
9									
10									
11									
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**

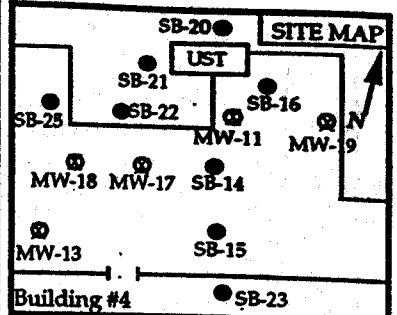
- Sandpack
- Well Screen
- Bentonite Seal
- Cement
- Grout

**Key to Geologic Symbols**

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

# DRILLING LOG for Well #: SB-22

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.: Geologic Driller: Chirs & Tom  
 Date Started: 26 January 1996 Date Finished: 26 January 1996  
 Location: Wayland, MA Drilling Method: 2.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 8.5' Well Depth: \_\_\_\_\_ Boring Diam.: \_\_\_\_\_  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: \_\_\_\_\_  
 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/2hr	Lab Samp. # & Anal.
1									
2									
3									
4									
5				9 - 14 11 - 3	9"	9" - Brown, fine-med SAND and Silt with trace coarse sand and fine gravel, no odor or stain, dry.	S - 1 4' - 6' 8:00AM	65	
6									
7				8 - 11 37 - 52	5"	5" - Brown, fine-med SAND and silt, with some coarse sand and fine gravel, one cobble, no odor or stain, damp	S - 2 6' - 8' 8:05AM	62.3	
8									
9						Refusal encountered at 8.5'			
10									
11									
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

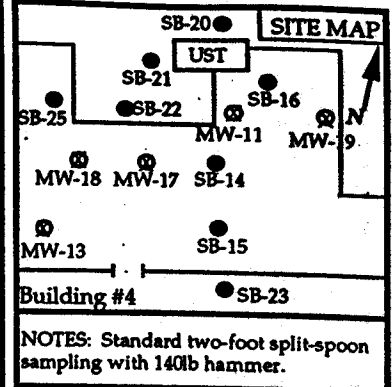
Key to Well Construction  
 Sandpack  
 Well Screen  
 Bentonite Seal  
 Cement  
 Grout

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

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

# DRILLING LOG for Well #: SB-21

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.: Geologic Driller: Chirs & Tom  
 Date Started: 25 January 1996 Date Finished: 25 January 1996  
 Location: Wayland, MA Drilling Method: Geoprobe  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 8' Well Depth: \_\_\_\_\_ Boring Diam.: 2"  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: \_\_\_\_\_  
 MP Elev.: \_\_\_\_\_

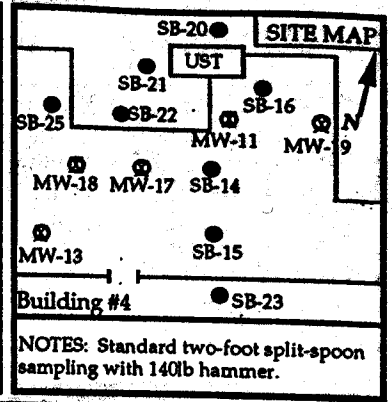
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
						Concrete			
1					18"	Top 6" - Light brown, v-fine SAND and Silt. Mid 6" - Br, fine-med SAND & Silt, trace coarse sand. Bot. 6" - Br, v-fine SAND, Silt & clay, trace coarse sand.	S - 1 0.5' - 2' 12:15	192 52.2	
2					18"	Top 9" - Brown, v-fine SAND, Silt and trace clay, no odor or stain, damp. Bottom 9" - Light brown, fine-med. SAND and Silt, no odor or stain, dry.	S - 2 2' - 4' 12:30	0.0 82	
3					2"	2" - Light brown, fine-med SAND and Silt, no odor or stain, dry.	S - 3 4' - 6' 12:35	- 217	
4						Rock bit used to break through refusal.			
5					2"	2" - Light brown, fine-med SAND and Silt, loose, no odor or stain, dry.	S - 4 6.7' - 8' 1:30	-	
6									
7									
8									
9									
10									
11									
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		Key to Geologic Symbols	
Sandpack	Well Screen	Till	Silt
Bentonite Seal	Cement	Clay	Silty Sand
Grout		Silty Clay	Sand
			Sandy Gravel
			Gravel
			Fill
			Bedrock (Fine-Grain)
			Bedrock (Coarse-Grain)

# DRILLING LOG for Well #: SB-20

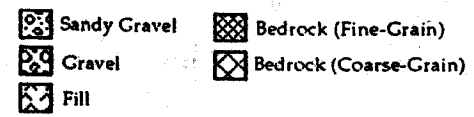
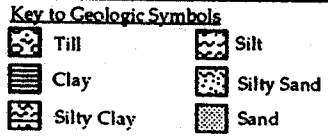
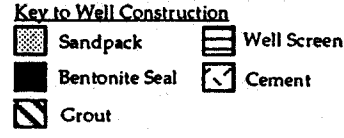
ERM-NEW ENGLAND, INC.  
205 PORTLAND STREET  
ERM BOSTON, MA 02114



Project: Raytheon Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: L. D'Agostino  
 Drilling Co.: Geologic Driller: Chirs & Tom  
 Date Started: 25 January 1996 Date Finished: 25 January 1996  
 Location: Wayland, MA Drilling Method: 2.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: \_\_\_\_\_ Well Depth: \_\_\_\_\_ Boring Diam.: 2.25" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: \_\_\_\_\_  
 MP Elev.: \_\_\_\_\_

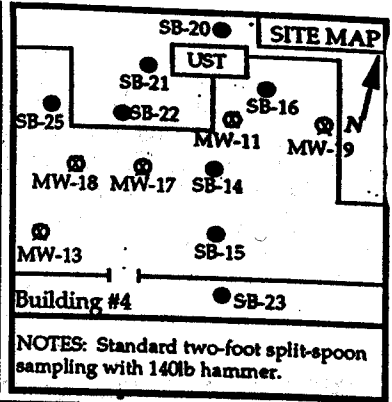
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1				14 - 17	15"	13" - Brown, fine-med SAND and Silt with trace gravel and wood, no odor or stain, dry.	S - 1	4.4	
2				19 - 23		2" - Light brown, v-fine SAND, Silt and Clay(silty-clay) No odor or stain, dry.	.5' - 2.5' 8:45AM	0.0	
3				14 - 22	16"	Top 6" - Light brown, v-fine SAND and Silt with little or no clay, no odor or stain, dry.	S - 2	0.0	
4				26		Bottom 10" - Brown, fine-med. SAND and Silt with trace coarse sand, no odor or stain, dry.	2.5' - 4' 8:50AM	0.0	
5				6 - 9	18"	Top 4" - Light brown, med. SAND and Silt with trace coarse sand, no odor or stain, dry. Next 12" - Lt. brown v-fine SAND and Silt, no odor or stain, dry.	S - 3	0.0	
6				14 - 33		Bottom 2" - Fine-coarse SAND, Silt and gravel.	4' - 6' 9:15AM	0.0	
7				102 -	5"	5" - Brown-gray, fine-coarse SAND and Silt with gravel; loose, unconsolidated and poorly sorted, areas of oil stained sand and gravel(cohesive masses), not saturated.	S - 4	0.0	
8				100/2.5"			6' - 8' 9:20AM	0.0	
9				144 - 95	14"	14" - Gray, fine-coarse SAND and gravel with some silt(mainly gravel), pockets of oil throughout spoon, not liquid but cohesive.(Last 18" driven with 300lb hammer.)	S - 5		
10				72 -			8' - 10' 11:15AM	316	
11									
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



# DRILLING LOG for Well #: SB-16

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: 23 January 1996 Date Finished: 23 January 1996  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 7 Well Depth: \_\_\_\_\_ 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				4-2 5-8	10"	10" - Brown, fine-med SAND and Silt with trace coarse sand and gravel, no odor or stain, dry.	S-1 1'-3' 3:40PM	0.0 155	
3									
4				4-5 21-12	7"	Top 4" - Brown, fine-med SAND and Silt with trace coarse sand and gravel, no odor or stain, dry. Bottom 3" - V-dark brown, fine-med SAND and Silt with trace coarse sand, slight odor, no stain, dry.	S-2 3'-5' 3:50PM	0.0 280	
5									
6				4-6 8-4	9"	9" - Black, oil stained and saturated, fine-med SAND and Silt with trace gravel, petroleum odor.	S-3 5'-7' 4:05PM	11.6 250	
7									
8									
9									
10									
11									
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

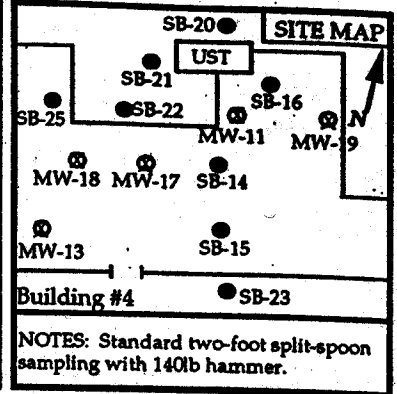
Key to Well Construction  
 Sandpack  
 Well Screen  
 Bentonite Seal  
 Cement  
 Grout

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

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

# DRILLING LOG for Well #: SB-15

**ERM-NEW ENGLAND, INC.**  
 205 PORTLAND STREET  
 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: 23 January 1996 Date Finished: 24 January 1996  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 17 Well Depth: \_\_\_\_\_ 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				20 - 15 6 - 6	12"	12" - Light brown-brown, fine-coarse SAND and Silt with trace fine gravel, loose, no odor, no stain dry.	S - 1 1' - 3' 2:50PM	0.0 250	
3									
4				7 - 7 6 - 5	2"	2" - Brown, fine-med SAND and Silt with trace coarse sand, loose, dry. Two chunks of coarse gravel in spoon.	S - 2 3' - 5' 2:55PM	0.0 842	
5									
6				5 - 6 4 - 4	12"	Top 6" - Brown, fine-coarse SAND and Silt with fine gravel, loose and unconsolidated, no odor or stain, dry Bottom 6" - Fine-med SAND and Silt with trace coarse sand, homogeneous, no odor or stain, dry.	S - 3 5' - 7' 3:05PM	0.0 607	
7									
8				13 - 7 8 - 16	16"	16" - Brown, fine-med SAND and Silt with trace coarse sand and fine gravel, loose no odor or stain, dry.	S - 4 7' - 9' 3:10 PM	0.0 290	
9									
10				18 - 18 17 - 14	16"	Top 10" - Brown, fine-coarse SAND and Silt with trace fine gravel, loose, dry. Some oil in top 10". Bottom 6" - Black, sticky oil coated fine SAND and SILT w/trace coarse sand; silt and clay in nose of spoon.	S - 5 9' - 11' 3:20PM	8.4 1036	
11									
12				5 - 7 14 - 15	17"	17" - Black, oil saturated fine-med. SAND and Silt, trace gravel and cobbles, pockets of oil visible in certain places.	S - 6 11' - 13' 11:15AM	104 467	
13									
14				10 - 10 15 - 25	16"	Top 11" - Gray-black, fine SAND and Silt, well sorted, intermittent oil saturated zones throughout. Bottom 5" - Brown, fine SAND and Silt, no visible contamination, wet.	S - 7 13' - 15' 11:25AM	38.2 251	
15									
16				6 - 12 15 - 19	15"	15" - Brown, fine-med SAND and Silt, no gravel or cobbles, homogeneous, saturated with water.	S - 8 15' - 17' 11:35AM	14.4 11.6	
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

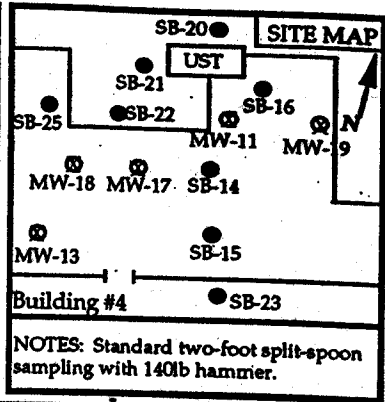
**Key to Geologic Symbols**

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



# DRILLING LOG for Well #: SB-14

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: 23 January 1996 Date Finished: 23 January 1996  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 11' Well Depth: \_\_\_\_\_ Boring Diam.: 4.25" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: \_\_\_\_\_  
 MP Elev.: \_\_\_\_\_

pth	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									
2				30 - 44 47 - 55	17"	17" - Brown-lt. brown, med-coarse SAND and Silt, with gravel, v-poorly sorted, no odor or stain, dry.	S - 1 1' - 3' 1:05PM	0.0 310	
3				17 - 38 35 - 40	12"	12" - Brown, med-coarse SAND, Silt and gravel, with rock flour from cobbles, loose and unconsolidated, poor sorting, no odor or stain, dry.	S - 2 3' - 5' 1:45PM	0.0 280	
4				22 - 39 20 - 29	12"	12" - Brown, med-coarse SAND, Silt and gravel, loose, poorly sorted, no odor or stain, dry; backfill(?)	S - 3 5' - 7' 2:05PM	0.0 300	
5				11 - 17 26 - 19	10"	10" - Brown-gray, med-coarse SAND and Silt with gravel, poorly sorted, loose, dry; v-small pocket of oil in end of spoon.	S - 4 7' - 9' 2:15PM	0.0 270	
6				15 - 24 27 - 21	2"	2" - Rock fragments covered in oil; no sand or silt.	S - 5 9' - 11' 2:25PM	0.0 -	
7									
8									
9									
10									
11									
12									
13									
14									
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16									
17									
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35									
36									
37									
38									
39									
40									

Notes for Blowcounts  
 3 LB. HAMMER  
 3 LB. HAMMER  
 10 LB. HAMMER

**Key to Well Construction**

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

**Key to Geologic Symbols**

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

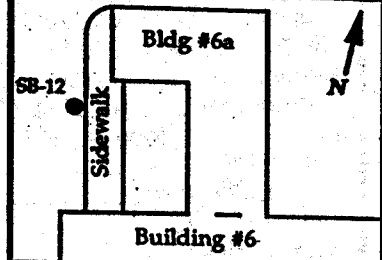
- Sandy Gravel
- Gravel
- Fill
- Bedrock (Fine-Grain)
- Bedrock (Coarse-Grain)

# DRILLING LOG for Well #: SB-12

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

SITE MAP

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: 23 January 1996 Date Finished: 23 January 1996  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 17 Well Depth: \_\_\_\_\_ 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) <small>initial/2hr</small>	Lab Samp. # & Anal.
1						Asphalt and frost			
2				9-13 12-11	3"	Top 1" - Dark brown-black, med-coarse, SAND and Silt with some gravel, poorly sorted, dry. Bottom 2" - Light brown - same material.	S-1 1'-3' 8:55AM	0.0 0.0	
3				5-7 6-8	14"	14" - Light brown, fine SAND and Silt, no gravel or cobbles, well sorted (all sand & silt), no odor, no stain, dry.	S-2 3'-5' 9:05 AM	0.0 0.0	
4				5-6 7-18	15"	15" - Light brown, V-fine SAND and Silt, no gravel or cobbles, well sorted, no odor, no stain, wet on outside of spoon, moist on inside of sample.	S-3 5'-7' 9:10AM	0.0 0.0	
5				16-18 10-42	9"	9" - Light brown, V-fine SAND and Silt, trace coarse sand, few cobbles, not well sorted, no odor, no stain, dry.	S-4 7'-9' 9:15AM	0.0 0.0	
6				10-12 18-21	23"	23" - Light brown, fine SAND and Silt, some coarse sand, trace gravel, well sorted, no odor, no stain, dry.	S-5 9'-11" 9:25AM	0.0 0.0	
7				22-26 30-34	16"	Top 8" - Brown, fine-coarse SAND and Silt, with trace coarse gravel, poor sorting, no odor, no stain, dry. Bottom 8" - Brown, coarse SAND and Silt with significant gravel, poorly sorted, no odor, no stain, dry.	S-6 11'-13' 9:30AM	0.0 0.0	
8				22-20 19-21	13"	Top 7" - Light brown, med-coarse SAND and Silt, with gravel, poorly sorted, no odor or stain, moist-wet. Bottom 6" - Light brown V-fine SAND and Silt, well sorted, cohesive, no odor or staining, wet.	S-7 13'-15' 9:40AM	2.5 0.0	TPH-8100 VOC 8260
9				6-16 18-20	16"	16" - Light brown-brown, V-fine SAND and Silt w/trace clay, no gravel, well sorted, no odor or staining, wet-saturated (in the water table).	S-8 15'-17' 9:50AM	0.0 0.0	
10						Notes: • No well set at this location • Water table at ~16'-17'			
11									
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**

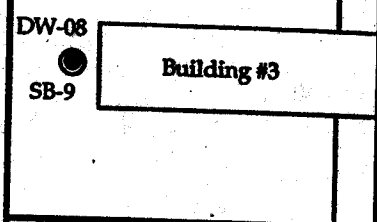
- Till
- Clay
- Silty Clay
- Silt
- Silty Sand
- Sand
- Sandy Gravel
- Gravel
- Fill
- Bedrock (Fine-Grain)
- Bedrock (Coarse-Grain)

# DRILLING LOG for Well #: SB-9

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

SITE MAP

Project: Raytheon Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: C. McKenna  
 Drilling Co.: ERM-New England Driller: C. McKenna  
 Date Started: 20 October 1995 Date Finished: 20 October 1995  
 Location: Wayland, MA Drilling Method: Hand Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: \_\_\_\_\_ Well Depth: \_\_\_\_\_ Boring Diam.: ≈2.0" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: NM  
 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) <small>min/2hr</small>	Lab Samp. # & Anal.
1									
2									
3									
4									
5						Tan, dry, very fine to fine SAND, well sorted.			VOC, SVOC, PCB, Metals
6									
7						Note: • SB - 9 was collected using a hand auger from the bottom drywell #8			
8									
9									
10									
11									
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  
 Pill  
 Bedrock (Fine-Grain)  
 Bedrock (Coarse-Grain)

# DRILLING LOG for Well #: SB-8A

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

Project: Raytheon, Wayland Project Number: 14340  
 Client: Raytheon Company Log By: C. McKenna/C. Frate  
 Drilling Co.: T & K Drilling Driller: Kevin & Alan  
 Date Started: 20 October 1995 Date Finished: 20 October 1995  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 14.5' Well Depth: \_\_\_\_\_ Boring Diam.: 4.25" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: -18'  
 MP Elev.: \_\_\_\_\_

**SITE MAP**

← Curb

Building # 1C

● DW-05  
● SB-8A

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				4-14		Top 3" - FILL - cinders/asphalt	S-1	0.0	
2				6-7	12"	Bottom 9" - Brown fine SAND and medium gravel; dry.	0.5' - 2.5' 14:20	31.2	
3				8-5		Brown, fine to medium SAND; dry.	S-2	0.0	
4				4-4	12"		2.5' - 4.5' 14:25	15.2	
5				2-2		Same as above.	S-3	0.0	PCB's & Total Metals
6				1-2	13"		4.5' - 6.5' 14:30	0.0	
7				7-8		Same as above; damp.	S-4	0.0	
8				10-10	14"		6.5' - 8.5' 14:35	0.0	
9				5-7		Same as above; damp.	S-5	0.0	PCB's & Total Metals
10				7-9	18"		8.5' - 10.5' 14:40	0.0	
11				13-15		Same as above; damp. Bottom 10" - layering evident.	S-6	0.0	
12				16-29	20"		10.5' - 12.5' 14:45	0.0	
13				18-18		Same as above.	S-7	0.0	
14				20-22	17"		12.5' - 14.5' 14:50	0.0	
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

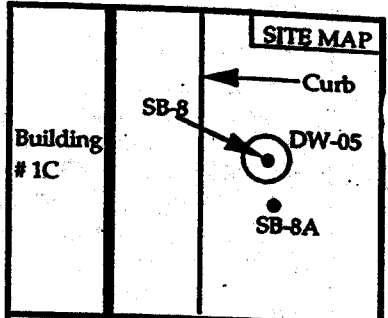
**Key to Geologic Symbols**

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

# DRILLING LOG for Well #: SB-8

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

## SITE MAP



Project: Raytheon, Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: C. McKenna/C. Frate  
 Drilling Co.: T & K Drilling Driller: Kevin & Alan  
 Date Started: 20 October 1995 Date Finished: 20 October 1995  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 14.5' Well Depth: \_\_\_\_\_ Boring Diam.: 4.25" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: ~18'  
 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/2hr	Lab Samp. # & Anal.
1									
2									
3									
4									
5				.5 - 5		Top 8" - Dark brown slimy muck with bright green material (Cu or Ni?) Bottom 7" - Iron oxidized medium SAND.	S - 1	0.0	PCB; Pest. VOC; Tot. Metals
6			1 - 1	15"	4.5' - 6.5'		13:30	33.5	
7				4 - 4		Fine-medium brown SAND. Some iron oxidation staining present.	S - 2	0.0	PCB; Total Metals
8				7 - 8	14"		6.5' - 8.5'	13:40	
9				11 - 13		Fine to coarse Brown SAND; damp.	S - 3	0.0	PCB; Total Metals
10				15 - 19	14"		8.5' - 10.5'	13:50	
11				13 - 21		Fine to medium varved SAND; tan; damp.	S - 4	0.0	PCB; SVOC Total Metals
12				22 - 26	14"		10.5' - 12.5'	13:55	
13				9 - 19		Fine to medium varved SAND; tan; damp.	S - 5	0.0	
14				17 - 24	14"		12.5' - 14.5'	14:00	
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)

# DRILLING LOG for Well #: SB-6

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

**SITE MAP** Building #3

Building #4

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

Project: Raytheon Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: C. McKenna/C. Prate  
 Drilling Co.: T & K Drilling Driller: Kevin & Alan  
 Date Started: 20 October 1995 Date Finished: 20 October 1995  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 14.5' Well Depth: \_\_\_\_\_ Boring Diam.: 4.25" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: -16.5'  
 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				4-6	15"	Dark brown medium SAND; damp; little coarse sand.	S-1 5' - 2.5'	0.0	
2				5-6			11:30	0.0	
3				4-6	18"	Top 2" - Dark brown med. SAND, damp; little coarse sand.	S-2 2.5' - 4.5'	0.0	
4				7-8		Bottom 16" - Very fine to fine tan SAND; dry.	11:35	0.0	
5				3-6	15"	Top 2" - Dk br. med. SAND; damp; little coarse sand.	S-3 4.5' - 6.5'	0.0	
6				8-11		Mid 4" - Clayey silt. Bottom 9" - Medium brown SAND.	11:40	0.0	
7				24-20	12"	Chunk of rock at 7'	S-4 6.5' - 8.5'	0.0	
8				18-21		Fine to medium brown SAND, little silt.	11:45	0.0	
9				6-10	15"	Dark brown, silty fine SAND. Dry, pockets of brown clay.	S-5 8.5' - 10.5'	0.0	TPH-8100
10				10-11			11:50	0.0	
11				22-18	18"	Top 6" - Dark brown med. SAND; damp; little coarse sand.	S-6 10.5' - 12.5'	0.0	
12				19-16		Bottom 12" - Varved very fine and fine SAND. Dry.	11:55	0.0	
13				12-14		Top 6" - Dark brown med. SAND; damp; little coarse sand.	S-7 12.5' - 14.5'	0.0	
14				12-14		Bottom 12" - Varved very fine and fine SAND. Dry.	12:00	0.0	
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
- Bentonite Seal
- Grout
- Well Screen
- Cement

**Key to Geologic Symbols**

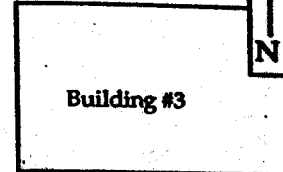
- Till
- Clay
- Silty Clay
- Silt
- Silty Sand
- Sand
- Sandy Gravel
- Gravel
- Fill
- Bedrock (Fine-Grain)
- Bedrock (Coarse-Grain)

# DRILLING LOG for Well #: SB-5



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

## SITE MAP



Project: Raytheon Wayland Project Number: 14340  
 Client: Raytheon Company Log By: C. McKenna/C. Frate  
 Drilling Co.: T & K Drilling Driller: Kevin & Alan  
 Date Started: 20 October 1995 Date Finished: 20 October 1995  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 14.5' Well Depth: \_\_\_\_\_ Boring Diam.: 4.25" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: -18'  
 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				10 - 14	15"	Dark brown, fine-medium SAND; trace coarse sand; trace silt; dry.	S - 1 5' - 2.5' 12:20	1.2 0.0	
2				8 - 9					
3				6 - 6	19"	Dark brown, fine-medium SAND; trace coarse sand; trace silt; dry.	S - 2 2.5' - 4.5' 12:25	0.0 0.0	
4				9 - 17		Mid 4" - Tan fine SAND.			
5				5 - 6	14"	Medium brown fine SAND; moist at top.	S - 3 4.5' - 6.5' 12:30	0.0 0.0	
6				9 - 13		Mid 4" - very coarse SAND to fine SAND with trace gravel.			
7				18 - 8	15"	Brown, fine SAND and some Silt; little medium sand.	S - 4 6.5' - 8.5' 12:35	0.0 0.0	PCB, Total Metals
8				19 - 22		Mid 6" - fine-med SAND with some coarse sand.			
9				13 - 18	12"	Very poorly sorted mix of fine SAND to fine gravel.	S - 5 8.5' - 10.5' 12:40	0.0 0.0	
10				19 - 28		Damp; dark brown.			
11				26 - 24	22"	Top 2" - v-poorly sorted mix of fine SAND-fine gravel.	S - 6 10.5' - 12.5' 12:45	0.0 0.0	
12				22 - 24		Next 8" - Very fine tan SAND. Next 8" - Clayey SILT.			
13						Bottom 4" - Medium brown SAND.			
14				13 - 18	19"	Top 6" - Brown SILT.	S - 7 12.5' - 14.5' 12:50	0.0 0.0	
15				21 - 22		Bottom 13" - Tan, fine SAND, minor layering			
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

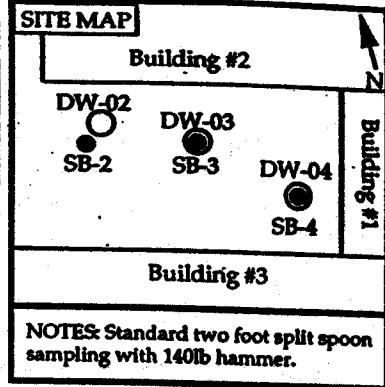
- Sandpack
- Well Screen
- Bentonite Seal
- Cement
- Grout

### Key to Geologic Symbols

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

# DRILLING LOG for Well #: SB-4

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



Project: Raytheon Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: C. McKenna/C. Frate  
 Drilling Co.: T & K Drilling Driller: Kevin & Alan  
 Date Started: 20 October 1995 Date Finished: 20 October 1995  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 14.5' Well Depth: \_\_\_\_\_ Boring Diam.: 4.25" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: -15'  
 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						Boring started at the bottom of drywell DW-04, 3.5' below ground surface.			
-2									
-3									
-4				1-1	15"	Top 2" - Black cinders, asphalt.	S-1	0.0	
-5				1-1		Bottom 13" - Tan, dry, very fine SAND.	3.5' - 5.5'	0.0	
-6				1-1	18"	Tan, dry, very fine SAND.	S-2	0.0	
-7				1-1			5.5' - 7.5'	0.0	
-8				4-8	20"	Top 18" - alternating layers of fine and very fine SAND, tan, dry.	S-3	0.0	
-9				4-3		Bottom 2" - Gray-brown SILT.	7.5' - 9.5'	0.0	
-10				3-5	16"	SATURATED, fine brown SAND; little silt; iron oxidation staining in alternating layers.	S-4	0.0	
-11				5-8			9.5' - 11.5'	0.0	
-12				6-6	15"	Top 8" - Fine brown saturated SAND; little silt; iron oxidation in alternating layers.	S-5	0.0	
-13				8-7		Bottom 7" - Gray-brown CLAY, some silt.	11.5' - 13.5'	0.0	
-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**

- [Symbol] Sandpack
- [Symbol] Well Screen
- [Symbol] Bentonite Seal
- [Symbol] Cement
- [Symbol] Grout

**Key to Geologic Symbols**

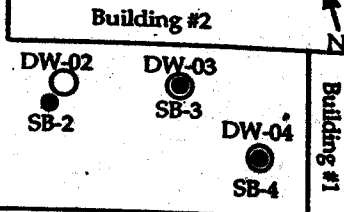
- [Symbol] Till
- [Symbol] Clay
- [Symbol] Silty Clay
- [Symbol] Silt
- [Symbol] Silty Sand
- [Symbol] Sand
- [Symbol] Sandy Gravel
- [Symbol] Gravel
- [Symbol] Fill
- [Symbol] Bedrock (Fine-Grain)
- [Symbol] Bedrock (Coarse-Grain)



# DRILLING LOG for Well #: SB-3

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

## SITE MAP



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

Project: Raytheon, Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: C. McKenna/C. Frate  
 Drilling Co.: T & K Drilling Driller: Kevin & Alan  
 Date Started: 20 October 1995 Date Finished: 20 October 1995  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 14.5' Well Depth: \_\_\_\_\_ Boring Diam.: 4.25" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: ~15'  
 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						Boring started inside drywell, DW-03, at 6' below ground surface.			
2									
3									
4									
5									
6									
7				2-6 7-8	22"	Top 6" - Dark brown to black, mix of SILT, sand & clay; damp.	S-1 6'-8'	0.0 / 2.1	PCB, Pest. VOC, SVOC
8									
9				8-10 10-12	20"	Tan, very fine to fine SAND, dry.	S-2 8'-10'	0.0 / 0.0	
10									
11									
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

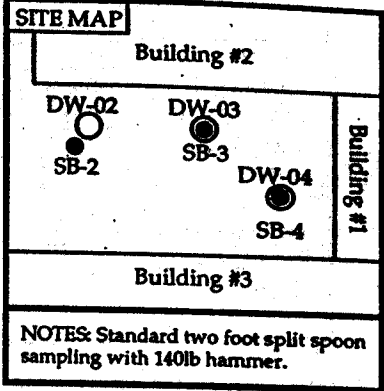
- Sandpack
- Well Screen
- Bentonite Seal
- Cement
- Grout

### Key to Geologic Symbols

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

# DRILLING LOG for Well #: SB-2

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



Project: Raytheon, Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: C. McKenna/C. Frate  
 Drilling Co.: T & K Drilling Driller: Kevin & Alan  
 Date Started: 20 October 1995 Date Finished: 20 October 1995  
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: 14.5' Well Depth: \_\_\_\_\_ Boring Diam.: 4.25" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: -15'  
 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				4-5	15"	Tan, dry, very fine to fine SAND.	S-1 5' - 2.5' 9:10AM	0.0 / 0.0	
2			3-3						
3				2-4	12"	Top 6" - Tan, dry, very fine to fine SAND. Piece of clay pipe at 3'. Bottom 5" - Dark brown, dry, fine to medium SAND trace Silt - fill.	S-2 2.5' - 4.5' 9:15AM	0.0 / 0.0	PCB
4			4-7						
5				12-10	18"	Top 8" - Dark brown, dry, fine to med. SAND with trace Silt - fill. Bottom 10" - Light brown SILT, trace Clay, trace fine Sand, damp to wet.	S-3 4.5' - 6.5' 9:20AM	0.0 / 0.0	
6			9-16						
7				17-16	20"	Tan, dry, very fine to fine SAND.	S-4 6.5' - 8.5' 9:25AM	0.0 / 0.0	
8			16-15						
9				8-14		Tan, dry, very fine to fine SAND.	S-5 8.5' - 10.5' 9:30AM	0.0 / 0.0	
10				14-16					
11				23-14		Tan, dry, very fine to fine SAND. Bottom 3" - wet	S-6 10.5' - 12.5' 9:35AM	0.0 / 0.0	
12				16-15					
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

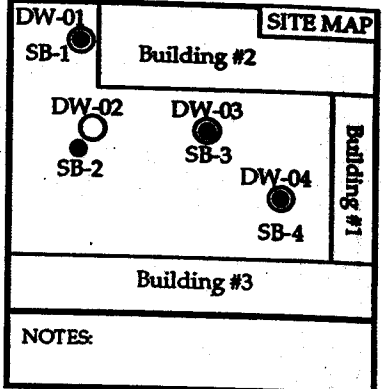
**Key to Geologic Symbols**

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

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

# DRILLING LOG for Well #: SB-1

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



Project: Raytheon Wayland Project Number: 143.40  
 Client: Raytheon Company Log By: C. McKenna  
 Drilling Co.: ERM-New England Driller: C. McKenna  
 Date Started: 20 October 1995 Date Finished: 20 October 1995  
 Location: Wayland, MA Drilling Method: Hand Auger  
 Screen Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Slot Size: \_\_\_\_\_  
 Casing Diameter: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_  
 Boring Depth: \_\_\_\_\_ Well Depth: \_\_\_\_\_ Boring Diam.: ~2.0" I.D.  
 Surface Elev.: \_\_\_\_\_ MP: \_\_\_\_\_ Depth to GW: NM  
 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									
2									
3									
4						Tan, dry, very fine to fine SAND.			VOC, SVOC, PCB, Metals
5									
6						Note: • SB - 1 was collected using a hand auger from the bottom of the drywell			
7									
8									
9									
10									
11									
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	Silt	Sandy Gravel	Bedrock (Fine-Grain)
Clay	Silty Sand	Gravel	Bedrock (Coarse-Grain)
Silty Clay	Sand	Fill	