

Appendix B
Well Construction and Boring Logs



ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
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

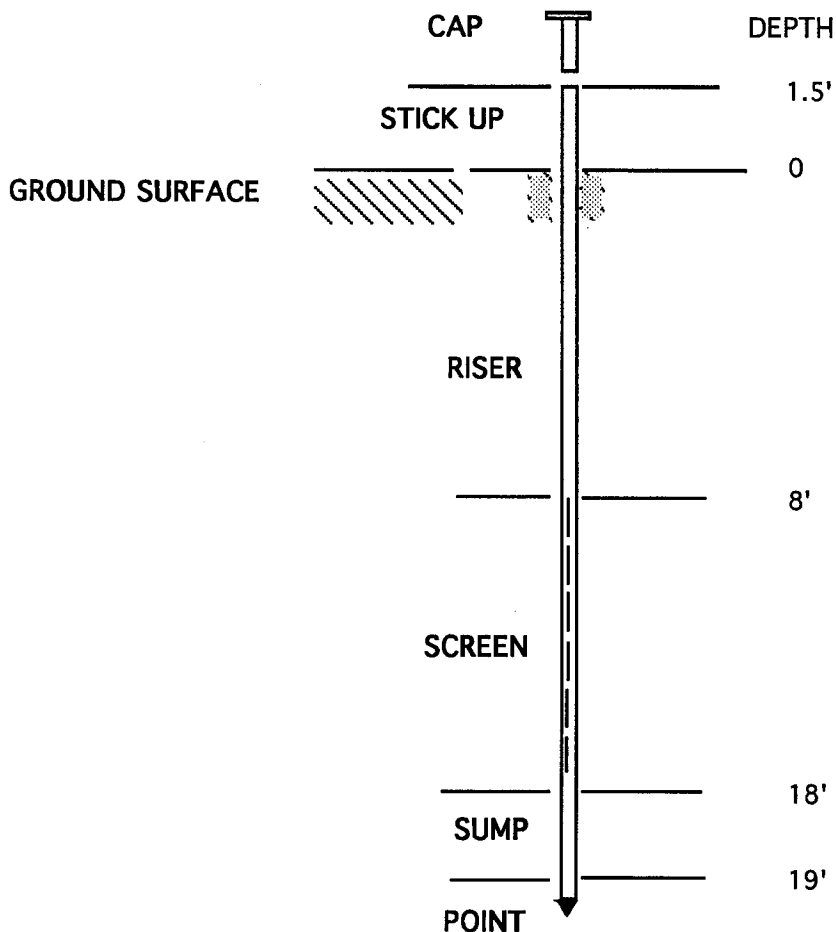


MW-1

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

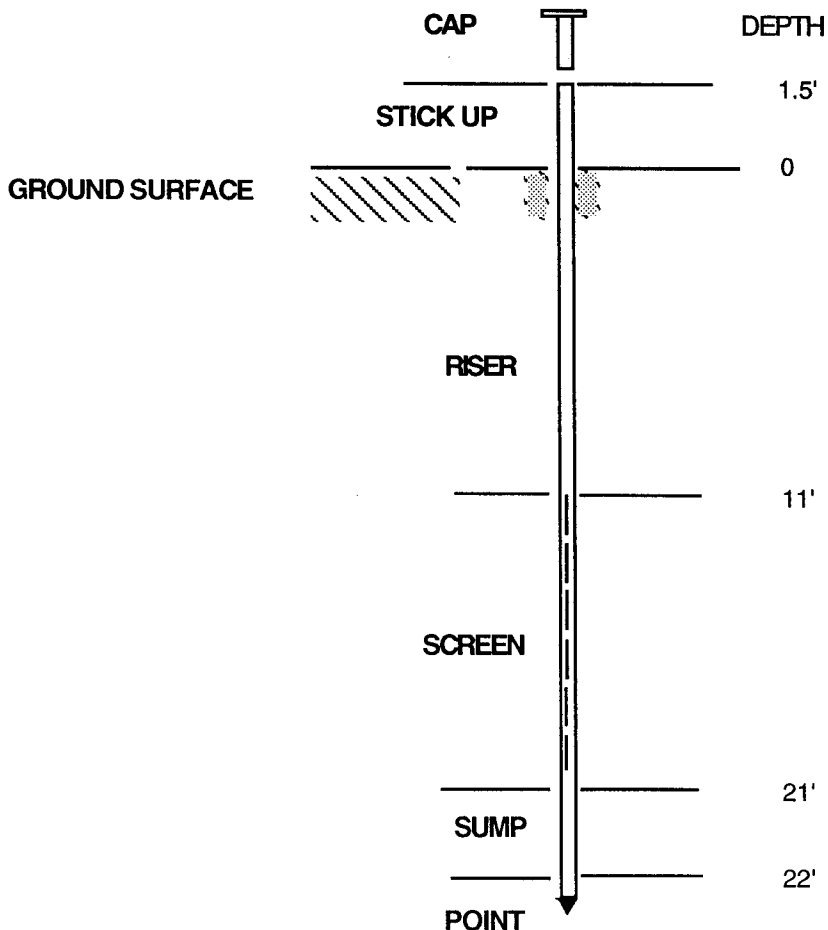
MW-2



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

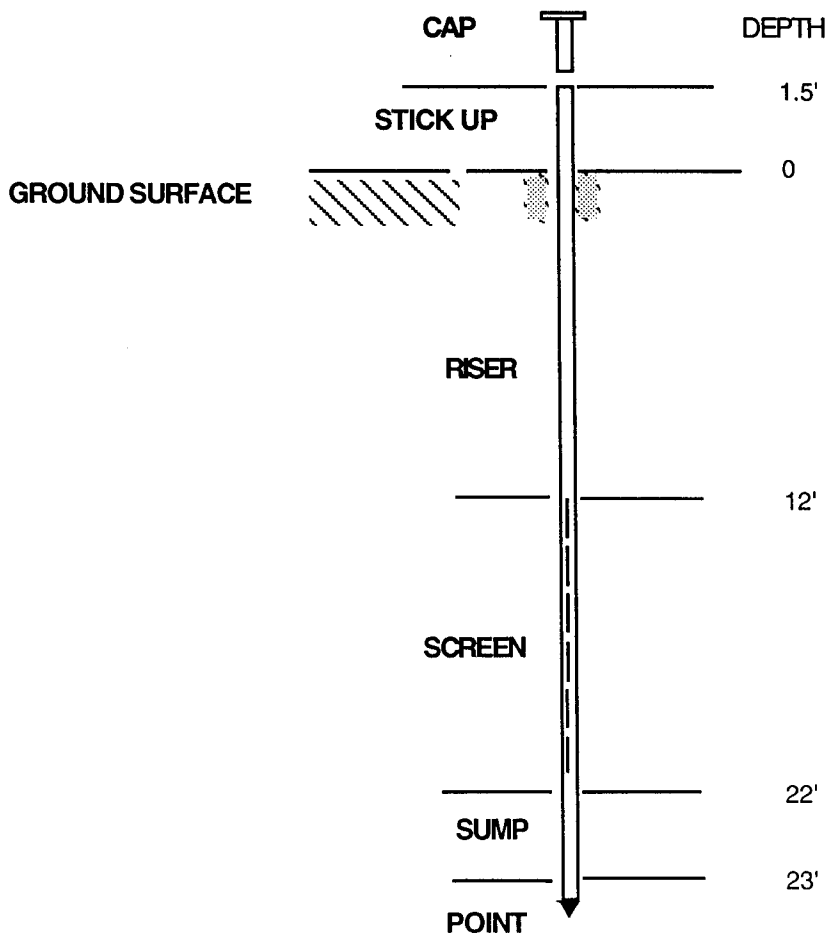
Map



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



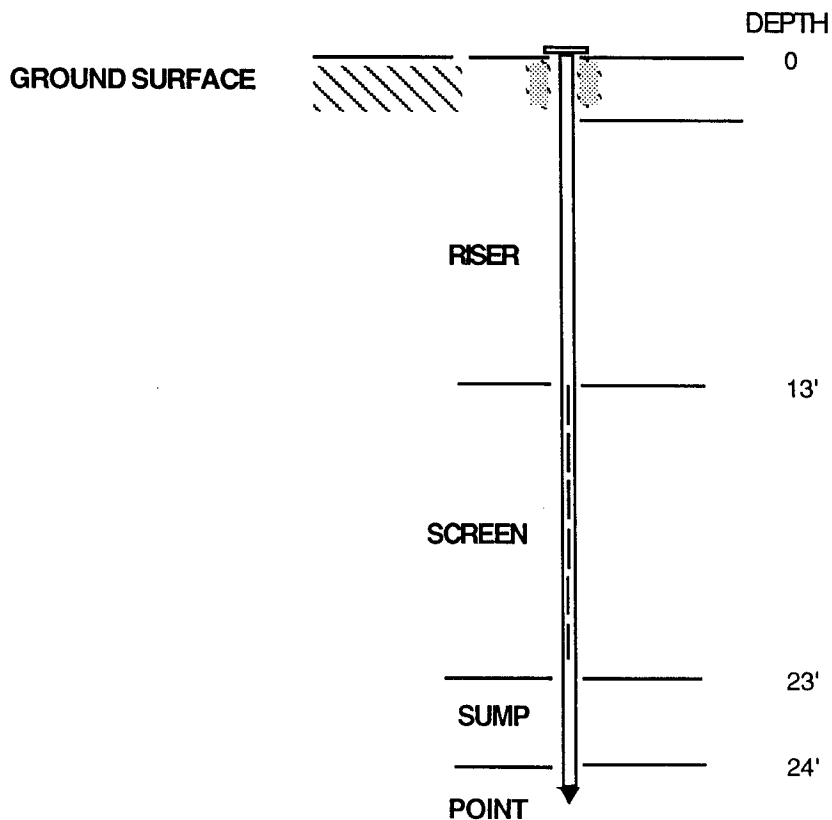
BUILDING #3

DW-06



● MW-4

Notes:





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

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: _____

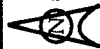
Well Depth: 25.0'

Refusal Depth: No

Cap and Lock: Yes

Map

RAYTHEON BUILDING

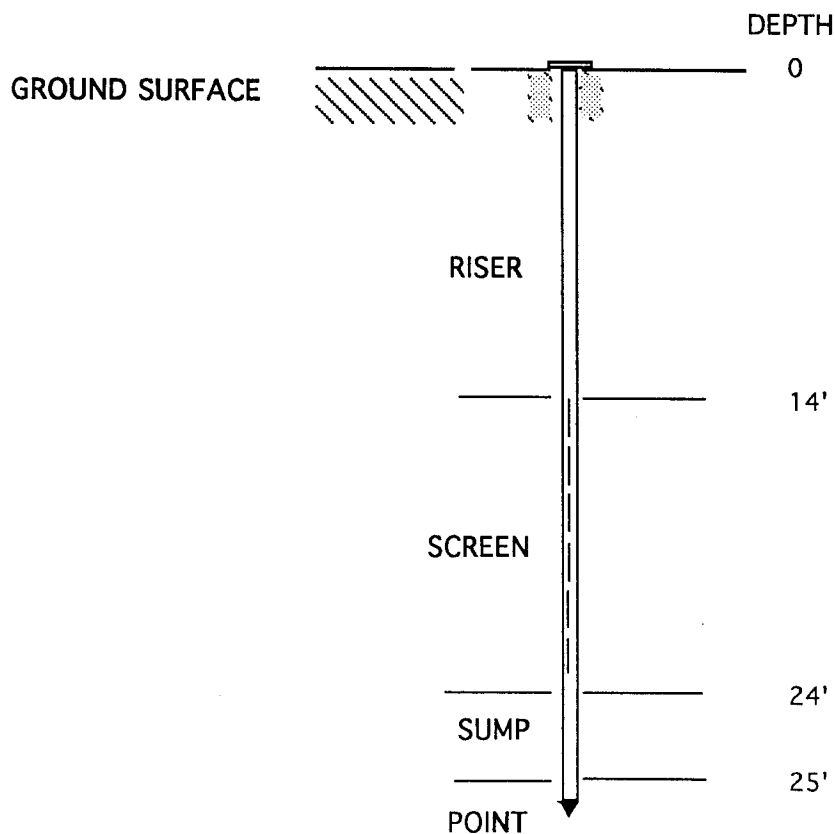


OLD HAZARDOUS
WASTE BUILDING

x x x x x

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

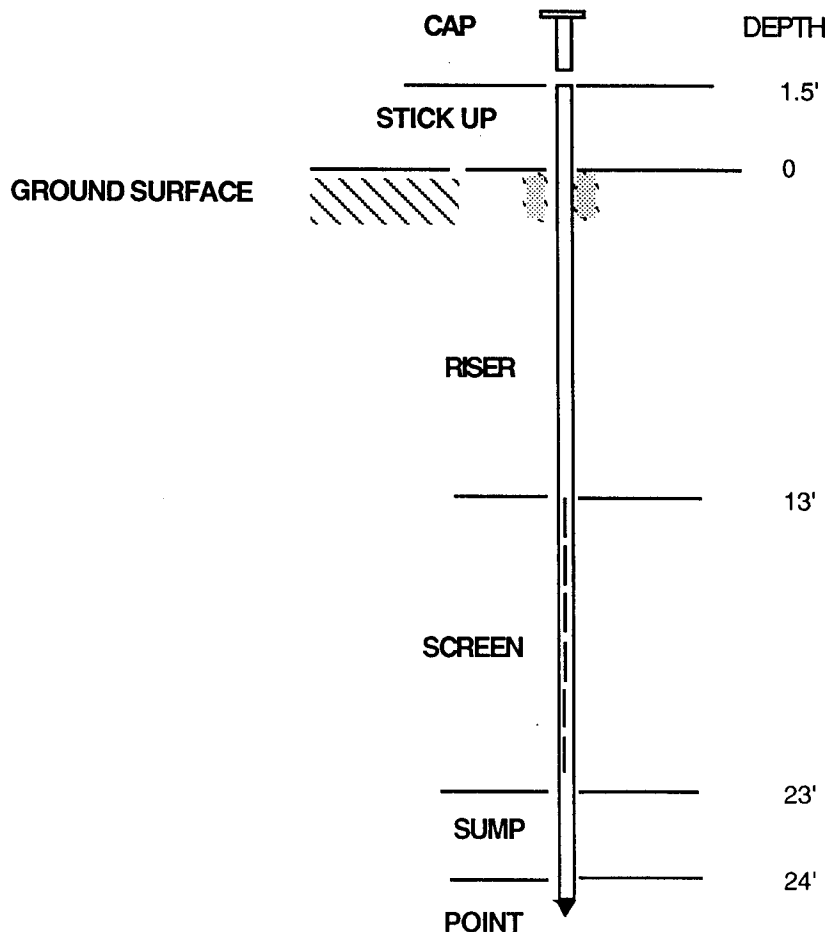
Map



HAZARDOUS
WASTE STORAGE
AREA

MW-6 ●

Notes:





ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
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'

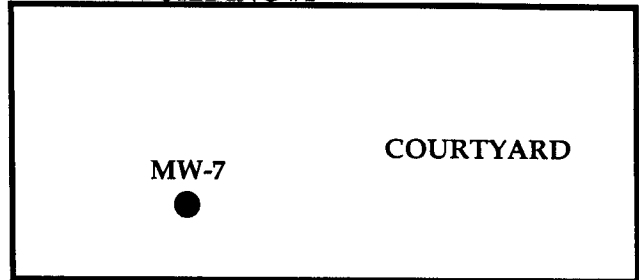
Refusal Depth: No

Cap and Lock: Yes

Map

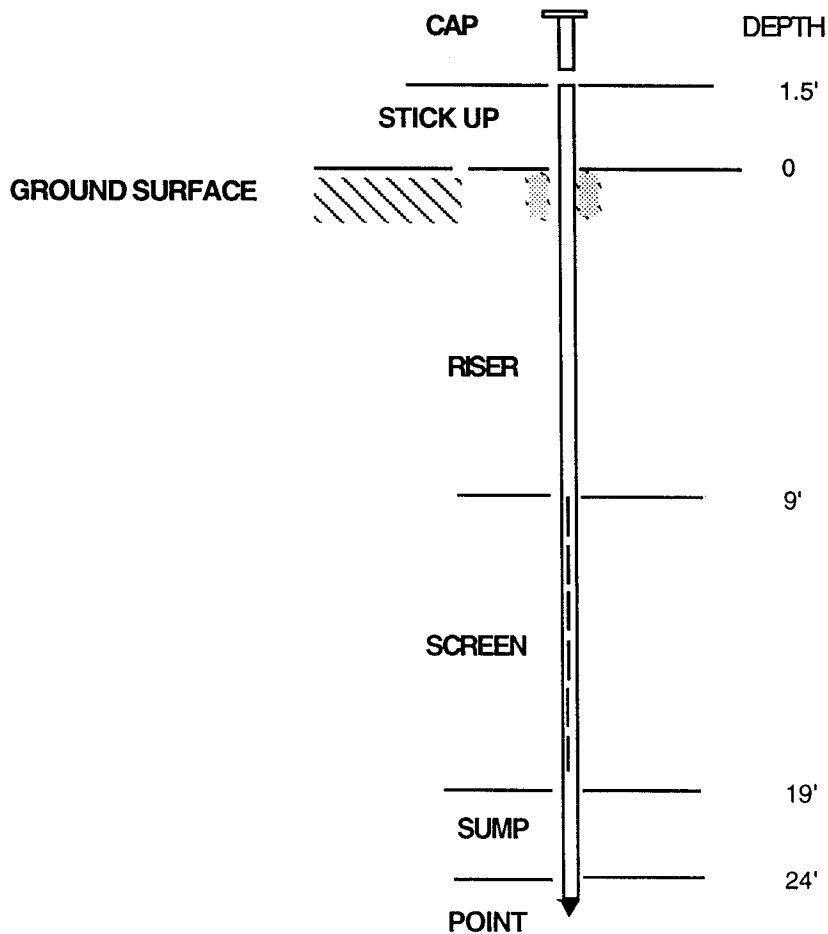


BUILDING #4



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: 23.5.0'

Refusal Depth: No

Cap and Lock: Yes

Map



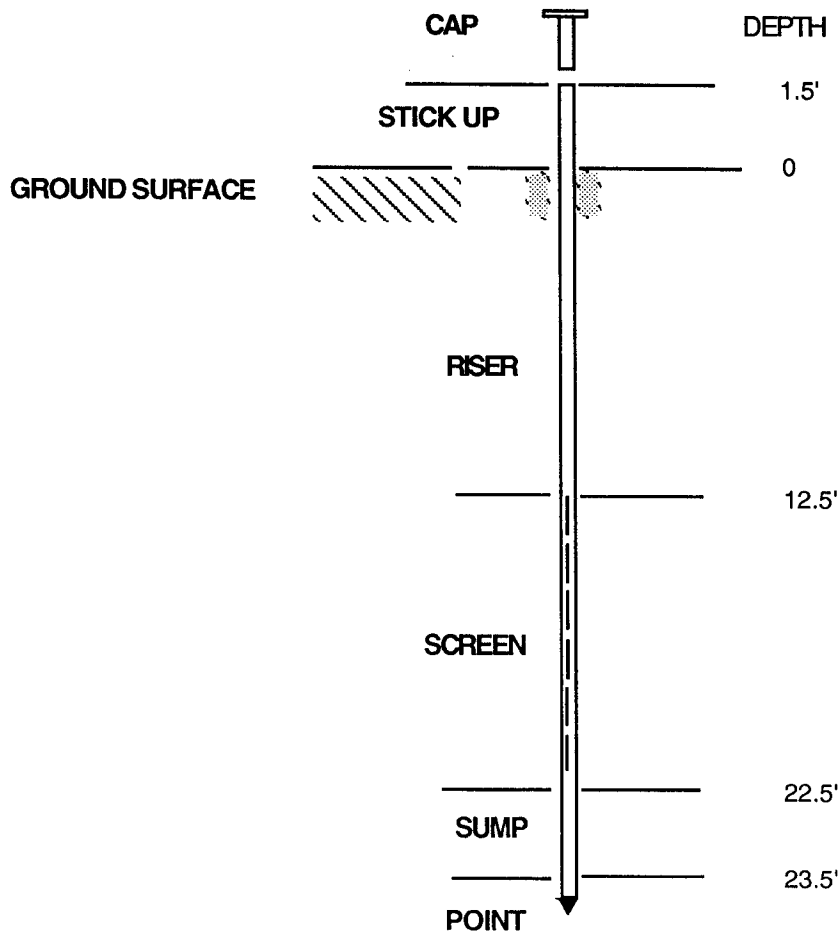
BUILDING
#1C

MW-8

CURB

DW-05

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

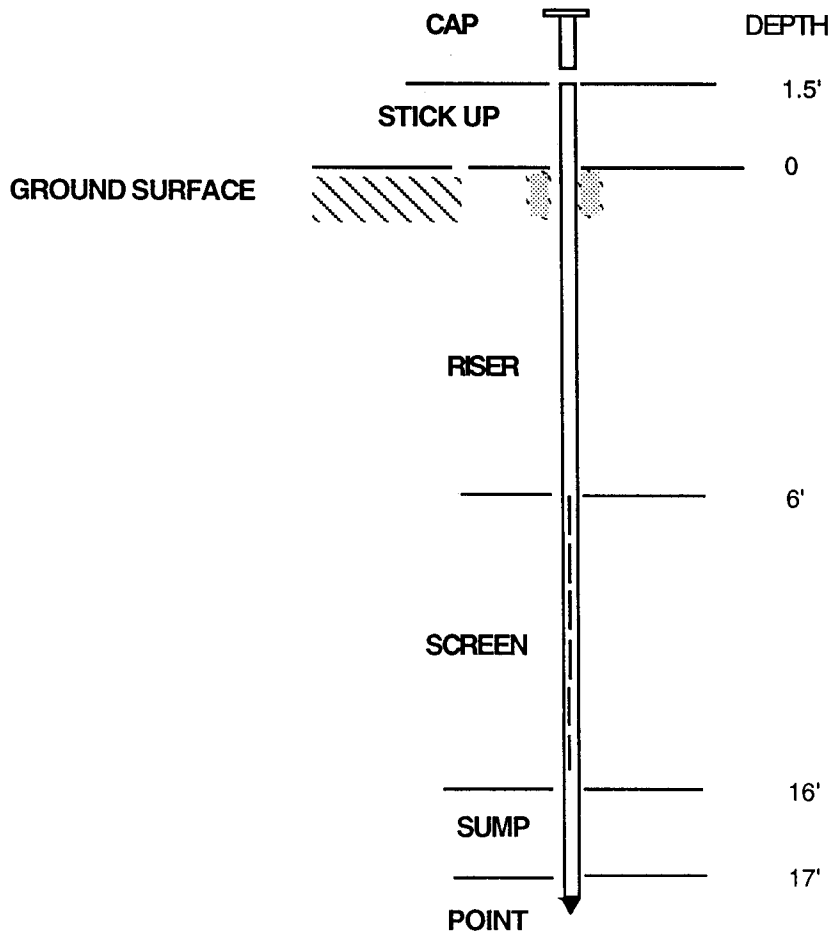
Map



MW-9

BUILDING
#12/21

Notes:

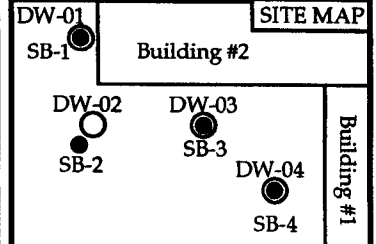


DRILLING LOG for Well #: SB-1



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

SITE MAP



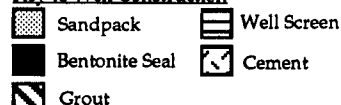
Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: C. McKenna
 Drilling Co.: ERM-New England Driller: C. McKenna
 Date Started: 20 October 1995 Date Finished: 20 October 1995
 Location: Wayland, MA Drilling Method: Hand Auger
 Screen Diameter: _____ Length: _____ Slot 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:

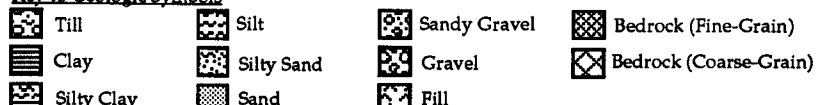
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1									
2									
3									
4						Tan, dry, very fine to fine SAND.			VOC, SVOC, 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



Key to Geologic Symbols



DRILLING LOG for Well #: SB-2



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

SITE MAP

Building #2

DW-02

SB-2

DW-03

SB-3

DW-04

SB-4

Building #1

Building #3

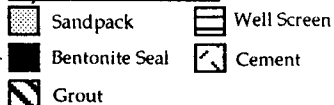
NOTES: Standard two foot split spoon sampling with 140lb hammer.

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				4 - 5	15"	Tan, dry, very fine to fine SAND.	S - 1 .5' - 2.5'	0.0	
2				3 - 3			9:10AM	0.0	
3				2 - 4	12"	Top 6" - Tan, dry, very fine to fine SAND. Piece of clay pipe at 3'.	S - 2 2.5' - 4.5'	0.0	PCB
4				4 - 7		Bottom 5" - Dark brown, dry, fine to medium SAND trace Silt - fill.	9:15AM	0.0	
5				12 - 10	18"	Top 8" - Dark brown, dry, fine to med. SAND with trace Silt - fill.	S - 3 4.5' - 6.5'	0.0	
6				9 - 16		Bottom 10" - Light brown SILT, trace Clay, trace fine Sand, damp to wet.	9:20AM	0.0	
7				17 - 16	20"	Tan, dry, very fine to fine SAND.	S - 4 6.5' - 8.5'	0.0	
8				16 - 15			9:25AM	0.0	
9				8 - 14		Tan, dry, very fine to fine SAND.	S - 5 8.5' - 10.5'	0.0	
10				14 - 16			9:30AM	0.0	
11				23 - 14		Tan, dry, very fine to fine SAND.	S - 6 10.5' - 12.5'	0.0	
12				16 - 15		Bottom 3" - wet	9:35AM	0.0	
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



DRILLING LOG for Well #: SB-3



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

SITE MAP

Building #2

DW-02
SB-2

DW-03
SB-3

DW-04
SB-4

Building #1

Building #3

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

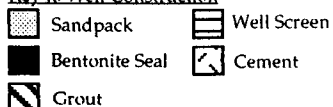
Project: Raytheon Wayland Project Number: 143.40
Client: Raytheon Company Log By: C. McKenna/C. Frate
Drilling Co.: T & K Drilling Driller: Kevin & Alan
Date Started: 20 October 1995 Date Finished: 20 October 1995
Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
Screen Diameter: _____ Length: _____ 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	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				7 - 8					
9				8 - 10	20"	Tan, very fine to fine SAND, dry.	S - 2 8' - 10'	0.0 0.0	
10				10 - 12					
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

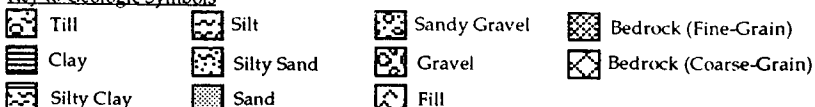
Footnotes for Blowcounts

- (1) 140 LB. HAMMER
- (2) 300 LB. HAMMER
- (3) SLIDE HAMMER

Key to Well Construction



Key to Geologic Symbols

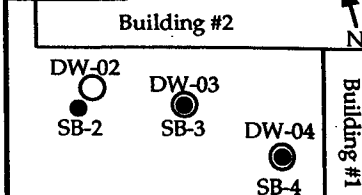


DRILLING LOG for Well #: SB-4



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

SITE MAP



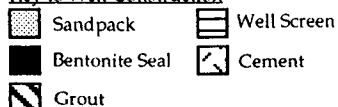
NOTES: Standard two foot split spoon sampling with 140lb hammer.

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 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



Key to Geologic Symbols



DRILLING LOG for Well #: SB-5



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

SITE MAP

Building #3

MW - 4
SB - 5
DW - 6

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

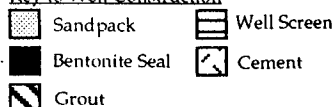
Project: Raytheon, Wayland Project Number: 143.40
Client: Raytheon Company Log By: C. McKenna/C. Frate
Drilling Co.: T & K Drilling Driller: Kevin & Alan
Date Started: 20 October 1995 Date Finished: 20 October 1995
Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
Screen Diameter: _____ 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: ≈18'
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				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



Key to Geologic Symbols



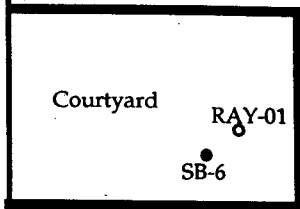
DRILLING LOG for Well #: SB-6



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

SITE MAP

Building #3



Bldg. #1

Building #4

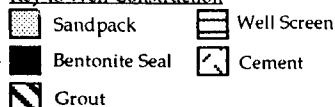
NOTES: Standard two foot split spoon sampling with 140lb hammer.

Project: Raytheon Wayland Project Number: 143.40
Client: Raytheon Company Log By: C. McKenna/C. 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: ≈16.5'
MP Elev.: _____

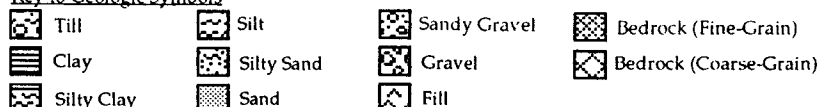
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1				4 - 6	15"	Dark brown medium SAND; damp; little coarse sand.	S - 1 .5' - 2.5'	0.0	
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.	11:40	0.0	
7						Bottom 9" - Medium brown SAND.			
8				24 - 20	12"	Chunk of rock at 7'	S - 4 6.5' - 8.5'	0.0	
9				18 - 21		Fine to medium brown SAND, little silt.	11:45	0.0	
10				6 - 10	15"	Dark brown, silty fine SAND. Dry, pockets of brown clay.	S - 5 8.5' - 10.5'	0.0	TPH-8100
11				10 - 11			11:50	0.0	
12				22 - 18	18"	Top 6" - Dark brown med. SAND; damp; little coarse sand.	S - 6 10.5' - 12.5'	0.0	
13				19 - 16		Bottom 12" - Varved very fine and fine SAND. Dry.	11:55	0.0	
14				12 - 14		Top 6" - Dark brown med. SAND; damp; little coarse sand.	S - 7 12.5' - 14.5'	0.0	
15				12 - 14		Bottom 12" - Varved very fine and fine SAND. Dry.	12:00	0.0	
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



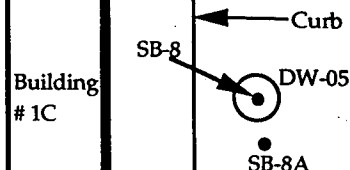
DRILLING LOG for Well #: SB-8



ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
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: ≈18'
MP Elev.: _____

SITE MAP



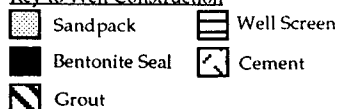
NOTES: Standard two-foot split-spoon sampling with 140lb hammer.

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				.5 - .5	15"	Top 8" - Dark brown slimy muck with bright green material (Cu or Ni?)	S - 1	0.0	PCB; Pest.
6				1 - 1		Bottom 7" - Iron oxidized medium SAND.	4.5' - 6.5'	33.5	VOC; Tot. Metals
7				4 - 4	14"	Fine-medium brown SAND. Some iron oxidation staining present.	S - 2	0.0	PCB; Total Metals
8				7 - 8			6.5' - 8.5'	10.6	
9				11 - 13	14"	Fine to coarse Brown SAND; damp.	S - 3	0.0	PCB; Total Metals
10				15 - 19			8.5' - 10.5'	2.5	
11				13 - 21	14"	Fine to medium varved SAND; tan; damp.	S - 4	0.0	PCB; SVOC Total Metals
12				22 - 26			10.5' - 12.5'	34.8	
13				9 - 19	14"	Fine to medium varved SAND; tan; damp.	S - 5	0.0	
14				17 - 24			12.5' - 14.5'	0.0	
15							14:00		
16									
17									
18									
19									
20									
21									
22									
23									
24									

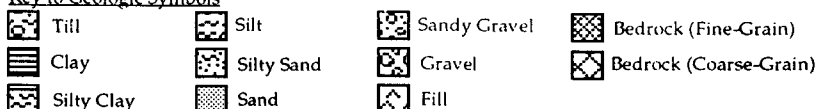
Footnotes for Blowcounts

- (1) 140 LB. HAMMER
- (2) 300 LB. HAMMER
- (3) SLIDE HAMMER

Key to Well Construction



Key to Geologic Symbols



DRILLING LOG for Well #: SB-8A

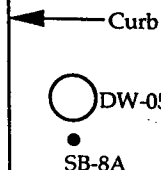


ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
ERM BOSTON, MA 02114

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: =18'
MP Elev.: _____

SITE MAP

Building
1C

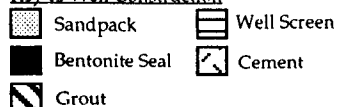


NOTES: Standard two-foot split-spoon sampling with 140lb hammer.

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



Key to Geologic Symbols



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.: _____

DW-08



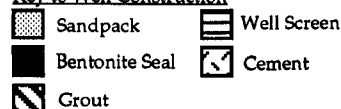
Building #3

NOTES:

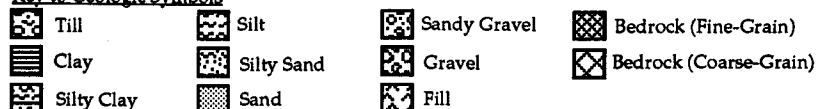
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1									
2									
3									
4						Tan, dry, very fine to fine SAND, well sorted.			VOC, SVOC, PCB, Metals
5									
6						Note: • SB - 9 was collected using a hand auger from the bottom drywell #8			
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

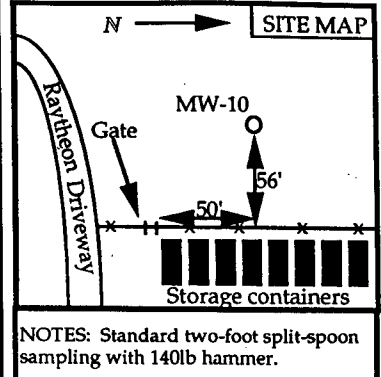


DRILLING LOG for Well #: MW-10



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

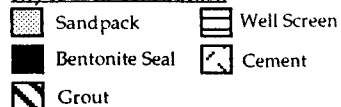
Project: Raytheon Wayland Project Number: 143.40
Client: Raytheon Company Log By: I. D'Agostino
Drilling Co.: T & K Drilling Driller: Kevin & Alan
Date Started: 21 December 1995 Date Finished: 21 December 1995
Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
Screen Diameter: 2" Length: 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.: _____



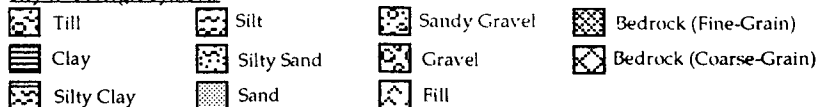
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1									
2									
3									
4									
5				10 - 24	12"	12" - Lt brown, v-fine SAND & silt, some gravel; no odor, no staining, dry. Top 3" - dense. Next 3" - loose. Next 6" - moderately packed.	S - 1 4' - 6' 10:35AM	0.0 1.2	
6				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' 10:45AM	0.2 4.2	PCB
7				20 - 17	12"				
8				9 - 14	15"	Top 4" - Light brown, very fine SAND & SILT with trace gravel, poor sorting, no odor, no stain, dry.	S - 3 8' - 10" 10:50AM	0.0 6.4	
9				10 - 6	15"	Bottom 11" - Brown, coarse-med SAND & silt with some gravel, poor sorting, no odor or stain, dry.			
10				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' 10:55AM	0.0 4.7	
11				9 - 12	14"	Bottom 5" - Dark brown very fine sand & SILT, some clay, trace gravel; wet- saturated; no odor, no staining.			
12				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' 11:05AM	0.0 54.6	
13				6 - 8	12"				
14									
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

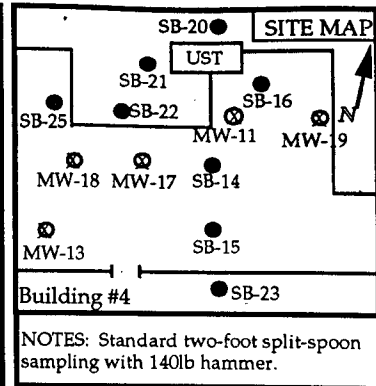


Key to Geologic Symbols



DRILLING LOG for Well #: MW-11

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



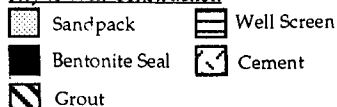
Project: Raytheon Wayland Project Number: 143.40
 Client: Raytheon Company Log By: I. D'Agostino
 Drilling Co.: T & K Drilling Driller: Kevin & Alan
 Date Started: 21 December 1995 Date Finished: 21 December 1995
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
 Screen Diameter: 2" Length: 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.: _____

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 8 - 6	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' 24 - 33	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 15 - 16	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 22 - 23	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 8260
16									
17									
18									
19				14 - 15 19 - 21	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 29 - 30	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									

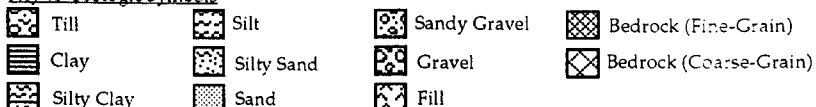
Footnotes for Blowcounts

- (1) 140 LB. HAMMER
- (2) 300 LB. HAMMER
- (3) SLIDE HAMMER

Key to Well Construction



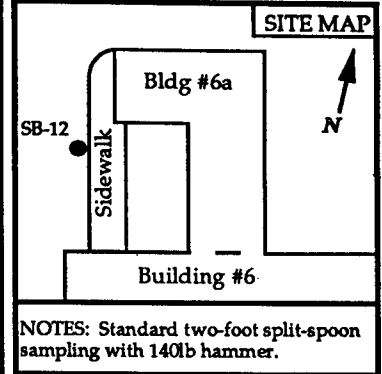
Key to Geologic Symbols



DRILLING LOG for Well #: SB-12

ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
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: _____ 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.: _____

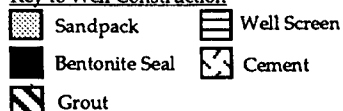


Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1						Asphalt and frost			
2				9 - 13 12 - 11	3"	Top 1" - Dark brown-black, med-coarse, 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									

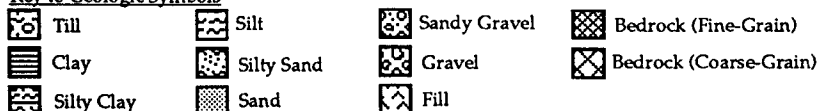
Footnotes for Blowcounts

- (1) 140 LB. HAMMER
(2) 300 LB. HAMMER
(3) SLIDE HAMMER

Key to Well Construction



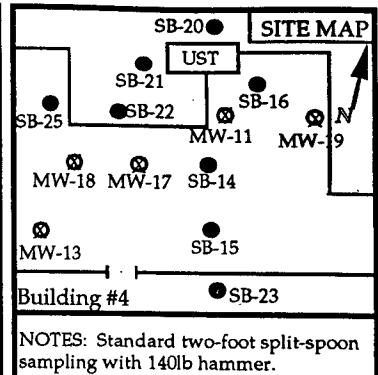
Key to Geologic Symbols



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: 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: 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									
4									
5				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	
6									
7									
8									
9				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	
10									
11									
12				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	
13									
14									
15									
16									
17				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	
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		

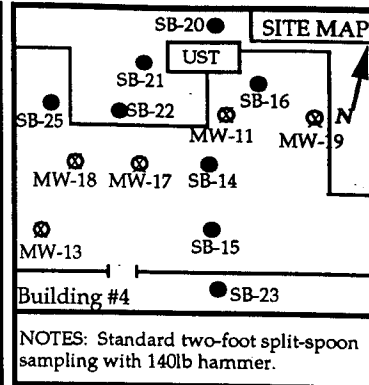
Key to Geologic Symbols

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

DRILLING LOG for Well #: SB-14

ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
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: _____ 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.: _____



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				30 - 44	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				47 - 55					
4				17 - 38	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	
5				35 - 40					
6				22 - 39	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	
7				20 - 29					
8				11 - 17	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	
9				26 - 19					
10				15 - 24	2"	2" - Rock fragments covered in oil; no sand or silt.	S - 5 9' - 11' 2:25PM	0.0 -	
11				27 - 21					
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
 Bentonite Seal
 Grout
 Well Screen
 Cement

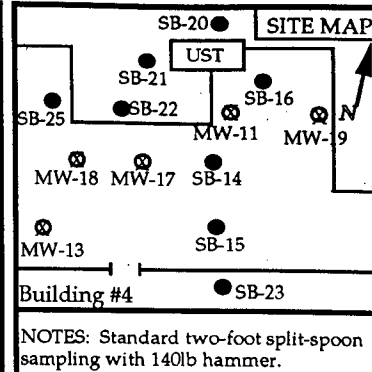
Key to Geologic Symbols

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

DRILLING LOG for Well #: SB-15

ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
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: 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.: _____

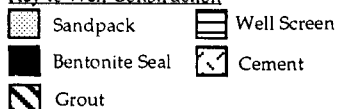


Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) Initial/2 hr	Lab Samp. # & Anal.
1						Asphalt and frost.			
2				20 - 15 6 - 6	12"	12" - Light brown-brown, fine-coarse SAND and Silt with trace fine gravel, loose, no odor, no stain dry.	S - 1 1' - 3' 2:50PM	0.0 250	
3				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	
4				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	
5				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	
6				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	
7				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	
8				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	
9				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	
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

Footnotes for Blowcounts

- 140 LB. HAMMER
- 300 LB. HAMMER
- SLIDE HAMMER

Key to Well Construction



Key to Geologic Symbols

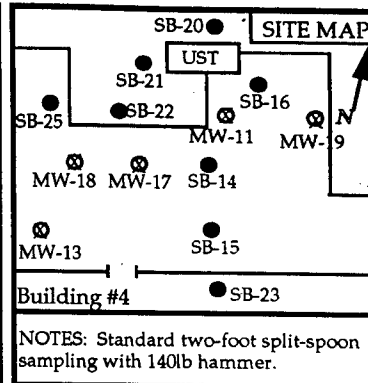


DRILLING LOG for Well #: SB-16



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: 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.: _____



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	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				5 - 8					
4				4 - 5	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				21 - 12					
6				4 - 6	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 - 4					
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
 Bentonite Seal
 Grout
 Well Screen
 Cement

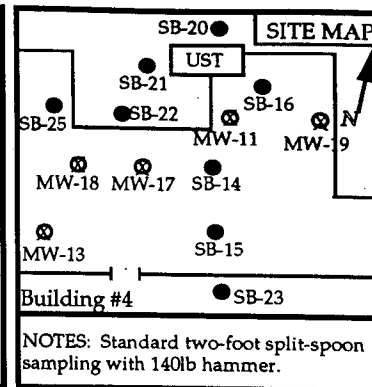
Key to Geologic Symbols

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

DRILLING LOG for Well #: MW-17



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



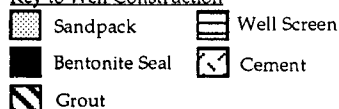
Project: Raytheon Wayland Project Number: 143.40
 Client: Raytheon Company Log By: L.D'Agostino
 Drilling Co.: T & K Drilling Driller: Kevin & Alan
 Date Started: 23 January 1996 Date Finished: 23 January 1996
 Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
 Screen Diameter: 2" Length: 10' Slot Size: _____
 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				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	
4				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	
5				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	
6				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
7				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 -	
8				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 -	
9				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 -	
10				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	- -	
11				14 - 13 16 - 26	24"	24" - Brown, fine SAND and Silt, no odor or stain, saturated with water.	S - 10 19' - 21' 11:20AM	- -	
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

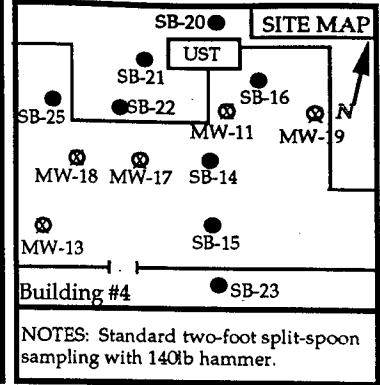


DRILLING LOG for Well #: MW-18



ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
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: 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.: _____

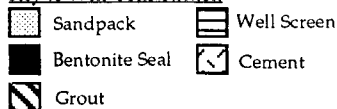


Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1									
2									
3									
4									
5									
6				16 - 24	9"	9" - Brown-gray, 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				6 - 9	18"	Top 6" - Brown, fine-coarse SAND and Silt with trace fine gravel, poor sorting, no odor or stain, dry.	S - 2 7' - 9' 9:05AM	2.4 278	
8				14 - 14		Bottom 12" - Brown, fine SAND and Silt, homogeneous, no odor or stain, dry.			
9				10 - 14	16"	Top 8" - Lt. brown-brown, fine SAND, Silt and trace clay and gravel, no odor or stain, damp.	S - 3 9' - 11' 9:10AM	6 341	
10				20 - 25		Bottom 8" - Brown, fine-med SAND and Silt w/ trace gravel, poor sorting, no odor or stain, dry-damp.			
11				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	
12				20 - 28					
13				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	
14				26 - 28					
15				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	
16				19 - 20					
17				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	
18				21 - 23					
19									
20									
21									
22									
23									
24									

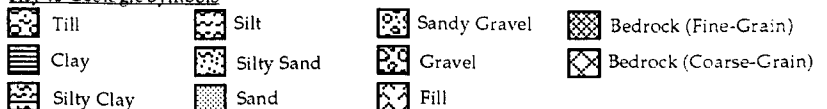
Footnotes for Blowcounts

- (1) 140 LB. HAMMER
(2) 300 LB. HAMMER
(3) SLIDE HAMMER

Key to Well Construction



Key to Geologic Symbols

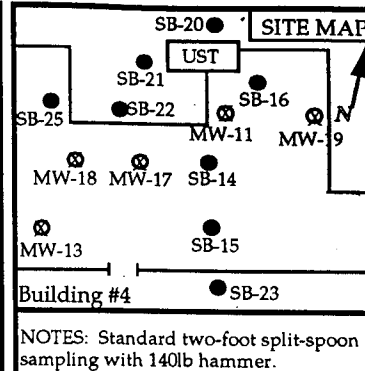


DRILLING LOG for Well #: MW-19



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

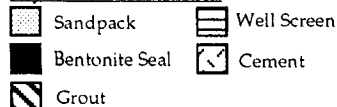
Project: Raytheon, Wayland Project Number: 143.40
Client: Raytheon Company Log By: J. D'Agostino
Drilling Co.: T & K Drilling Driller: Kevin & Alan
Date Started: 24 January 1996 Date Finished: 24 January 1996
Location: Wayland, MA Drilling Method: 4.25" Hollow Stem Auger
Screen Diameter: 2" Length: 10' 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.: _____



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

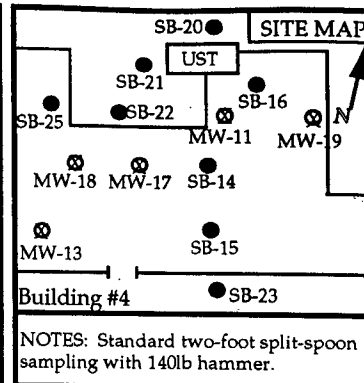


DRILLING LOG for Well #: SB-20



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

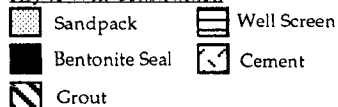
Project: Raytheon Wayland Project Number: 143.40
Client: Raytheon Company Log By: J. D'Agostino
Drilling Co.: Geologic Driller: Chirs & Tom
Date Started: 25 January 1996 Date Finished: 25 January 1996
Location: Wayland, MA Drilling Method: 2.25" Hollow Stem Auger
Screen Diameter: _____ Length: _____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



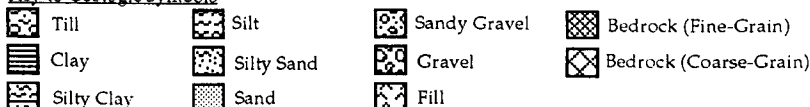
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) Initial/2 hr	Lab Samp # & Anal.
1				14 - 17	15"	13" - Brown, fine-med SAND and Silt with trace gravel and wood, no odor 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 - 100/2.5"	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							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 - 50/2.5"			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

Key to Well Construction



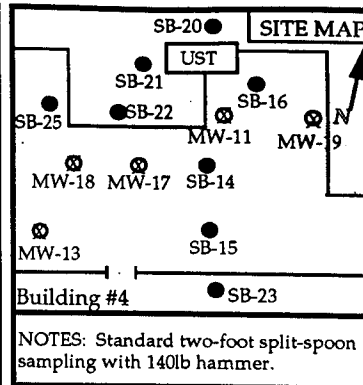
Key to Geologic Symbols



DRILLING LOG for Well #: SB-21



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



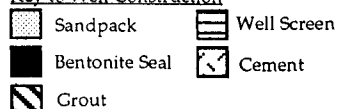
Project: Raytheon Wayland Project Number: 143.40
Client: Raytheon Company Log By: I.D'Agostino
Drilling Co.: Geologic Driller: Chirs & Tom
Date Started: 25 January 1996 Date Finished: 25 January 1996
Location: Wayland, MA Drilling Method: Geoprobe
Screen Diameter: _____ Length: _____ Slot Size: _____
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.
1						Concrete			
2					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	
3					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	
4					2"	2" - Light brown, fine-med SAND and Silt, no odor or stain, dry.	S - 3 4' - 6' 12:35	- 217	
5						Rock bit used to break through refusal.			
6					2"	2" - Light brown, fine-med SAND and Silt, loose, no odor or stain, dry.	S - 4 6.7' - 8' 1:30	- -	
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

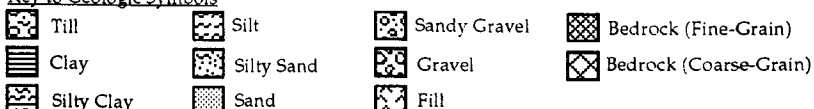
Footnotes for Blowcounts

- (1) 140 LB. HAMMER
(2) 300 LB. HAMMER
(3) SLIDE HAMMER

Key to Well Construction



Key to Geologic Symbols

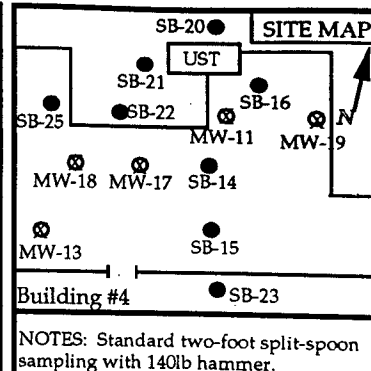


DRILLING LOG for Well #: SB-22



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

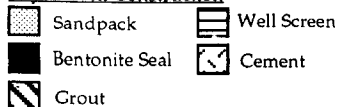
Project: Raytheon, Wayland Project Number: 143.40
Client: Raytheon Company Log By: J. D'Agostino
Drilling Co.: Geologic Driller: Chirs & Tom
Date Started: 26 January 1996 Date Finished: 26 January 1996
Location: Wayland, MA Drilling Method: 2.25" Hollow Stem Auger
Screen Diameter: _____ Length: _____ Slot Size: _____
Casing Diameter: _____ Length: _____ Type: _____
Boring Depth: 8.5' Well Depth: _____ Boring Diam.: _____
Surface Elev.: _____ MP: _____ Depth to GW: _____
MP Elev.: _____



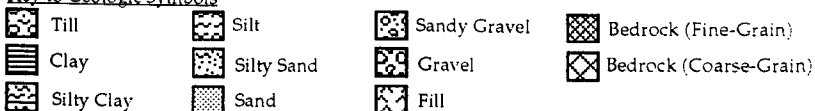
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1									
2									
3									
4									
5				9 - 14	9"	9" - Brown, fine-med SAND and Silt with trace coarse sand and fine gravel, no odor or stain, dry.	S - 1 4' - 6' 8:00AM	65	
6				11 - 3				-	
7				8 - 11	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				37 - 52				-	
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



Key to Geologic Symbols

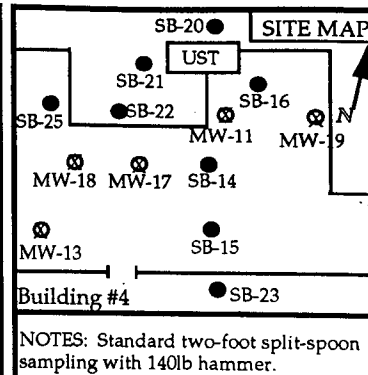


DRILLING LOG for Well #: SB-23



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

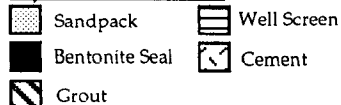
Project: Raytheon Wayland Project Number: 143.40
 Client: Raytheon Company Log By: I. D'Agostino
 Drilling Co.: ERM-New England Driller: Kurt & John
 Date Started: 25 January 1996 Date Finished: 25 January 1996
 Location: Wayland, MA Drilling Method: Geoprobe
 Screen Diameter: _____ Length: _____ Slot 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'		
2				X			11:10AM		
3				X	20"	20" - Lt. brown, fine SAND and Silt, no odor or stain, dry.	S - 1 2' - 4'		
4				X			11:20AM		
5				X	20"	20" - Lt. brown, fine SAND and Silt, no odor or stain, dry.	S - 3 4' - 6'		
6				X			11:30AM		
7				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'		
8				X			11:40AM		
9				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'		
10				X			11:50AM		
11				X	20"	20" - Brown, v-fine SAND and Silt, clean and dry.	S - 6 10' - 12'		
12				X			12:00PM		
13				X	20"	20" - Brown, v-fine SAND and Silt, clean and damp.	S - 7 12' - 14'		
14				X			12:10PM		
15				X	20"	20" - Brown, v-fine SAND and Silt, clean, saturated.	S - 8 14' - 16'		
16							12:20PM		
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

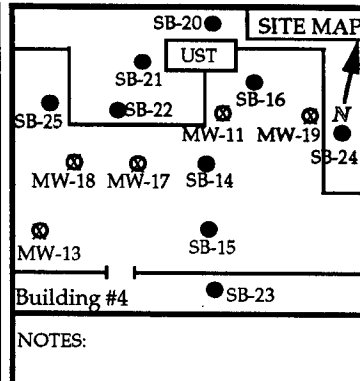


DRILLING LOG for Well #: SB-24



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

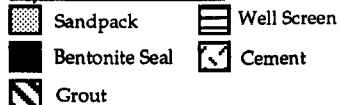
Project: Raytheon Wayland Project Number: 143.40
 Client: Raytheon Company Log By: I. D'Agostino
 Drilling Co.: ERM-New England Driller: Kurt & John
 Date Started: 25 January 1996 Date Finished: 25 January 1996
 Location: Wayland, MA Drilling Method: Geoprobe
 Screen Diameter: _____ Length: _____ Slot Size: _____
 Casing Diameter: _____ Length: _____ Type: _____
 Boring Depth: _____ Well Depth: _____ Boring Diam.: 1"
 Surface Elev.: _____ MP: _____ Depth to GW: _____
 MP Elev.: _____



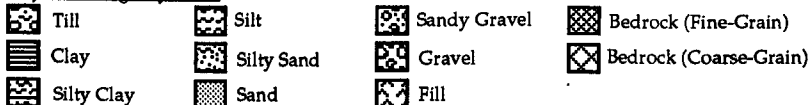
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1					20"	20" - Brown, fine-med SAND, Silt & Gravel, loose, unsorted, no odor or stain, 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



Key to Geologic Symbols

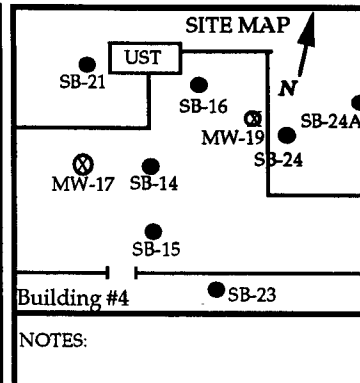


DRILLING LOG for Well #: SB-24A



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.: 1"
Surface Elev.: _____ MP: _____ Depth to GW: _____
MP Elev.: _____

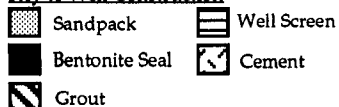


Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Split Spoon Description/Soil Classification (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) Initial/2 hr	Lab Samp. # & Anal.
1									
2									
3									
4									
5					22"	22" - Clean, brown, fine-med SAND and Silt, well sorted, no odor or stain, dry (appears to be backfill from prior removal action).	S - 1 4' - 6' 5:10 PM		
6									
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' 5:30 PM		
8									
9					18"	Brown, fine-coarse SAND, Silt and Gravel, unconsolidated, poorly sorted, no odor or stain, dry.	S - 3 8' - 10' 5:40 PM		
10									
11					4"	4" - Same as above. Refusal at ≈10.5'.	S - 4 10' - 10.5' 5:50 PM		
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

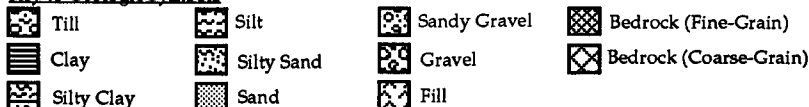
Footnotes for Blowcounts

- (1) 140 LB. HAMMER
(2) 300 LB. HAMMER
(3) SLIDE HAMMER

Key to Well Construction



Key to Geologic Symbols

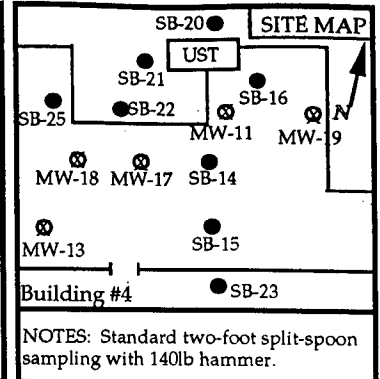


DRILLING LOG for Well #: SB-25



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

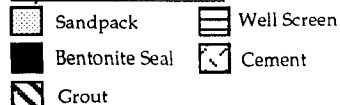
Project: Raytheon Wayland Project Number: 143.40
Client: Raytheon Company Log By: I. D'Agostino
Drilling Co.: ERM-New England Driller: Kurt & John
Date Started: 25 January 1996 Date Finished: 25 January 1996
Location: Wayland, MA Drilling Method: Geoprobe
Screen Diameter: _____ Length: _____ Slot Size: _____
Casing Diameter: _____ Length: _____ Type: _____
Boring Depth: _____ Well Depth: _____ Boring Diam.: _____
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					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									
3					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									
5					5"	5" - Gray-brown, fine SAND and Silt with trace fine gravel, loose, clean, dry.	S - 3 4' - 6' 4:05PM		
6									
7					5"	5" - Brown, fine-coarse SAND and Silt with trace fine gravel, loose and unconsolidated, dry.	S - 4 6' - 8' 4:10PM		
8									
9					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									
11					12"	12" - Brown, med-coarse SAND and Silt with trace fine gravel, clean and damp.	S - 6 10' - 12' 4:20PM		
12									
13					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									
15					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									
17					18"	18" - Black, oil saturated v-fine SAND and Silt.	S - 9 16' - 18' 4:35PM		
18									
19					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



Key to Geologic Symbols



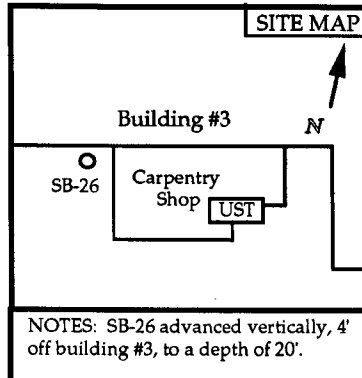
DRILLING LOG for Well #: SB-26



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

SITE MAP

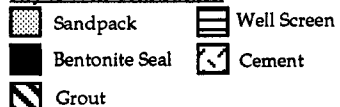
Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: I. D'Agostino
 Drilling Co.: Geologic Driller: Mike & Darell
 Date Started: 21 March 1996 Date Finished: 21 March 1996
 Location: Wayland, MA Drilling Method: Odex Air Rotary
 Screen Diameter: _____ Length: _____ Slot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



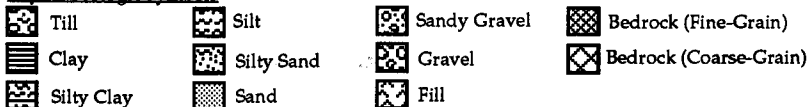
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Soil Classification based on inspection of cuttings (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1						Asphalt			
2									
3									
4									
5									
6						1-10' - Brown, med-coarse SAND, Silt and trace Gravel; dry; clean, no evidence of petroleum impact based on visual and olfactory observations.			
7									
8									
9									
10									
11									
12						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		
13									
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						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		
19									
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



Key to Geologic Symbols

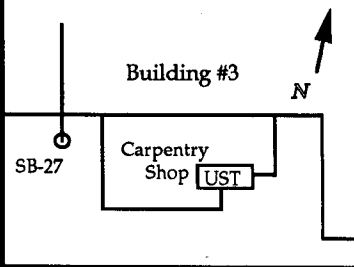


DRILLING LOG for Well #: SB-27

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

SITE MAP

Project: Raytheon, Wayland Project Number: 143.40
 Client: Raytheon Company Log By: J. 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						1'-11' - Brown, fine-med SAND, SILT some Gravel; dry; clean, no evidence of petroleum impact based on visual and olfactory observations.			
4									
5									
6									
7									
8									
9									
10									
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									
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						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	
21									
22						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	
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	

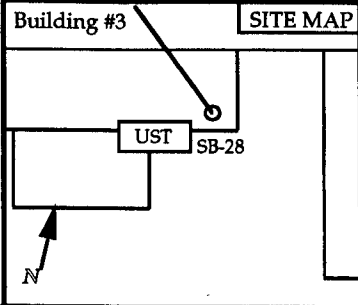
Key to Geologic Symbols

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

DRILLING LOG for Well #: SB-28



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



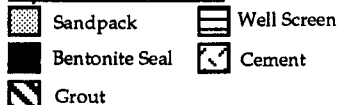
NOTES: Standard two-foot split-spoon sampling with 140lb hammer.

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.: _____

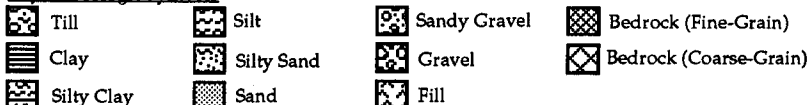
Depth	Well Log	Casing Distance	General Stratigraphy	Blowcounts per 6 inches	Rec.	Soil Classification based on inspection of cuttings (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1						Concrete			
2						1'-10' - Brown, med-coarse SAND, SILT and Gravel; 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 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



Key to Geologic Symbols



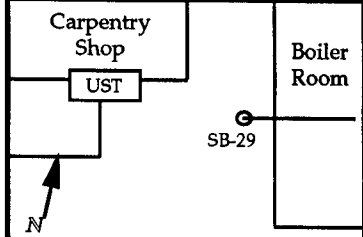
DRILLING LOG for Well #: SB-29



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

Building #3

SITE MAP



NOTES: SB-29 advanced ten feet off boiler room wall at a 45° angle.

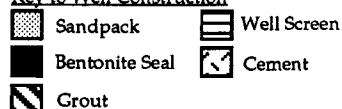
Project: Raytheon, Wayland Project Number: 143.40
Client: Raytheon Company Log By: J. D'Agostino
Drilling Co.: Geologic Driller: Mike & Darell
Date Started: 20 March 1996 Date Finished: 20 March 1996
Location: Wayland, MA Drilling Method: Odex Air Rotary
Screen Diameter: _____ Length: _____ Slot Size: _____
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/2 hr	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									

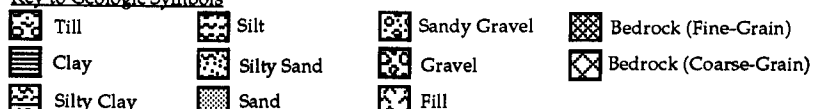
Footnotes for Blowcounts

- (1) 140 LB. HAMMER
(2) 300 LB. HAMMER
(3) SLIDE HAMMER

Key to Well Construction



Key to Geologic Symbols



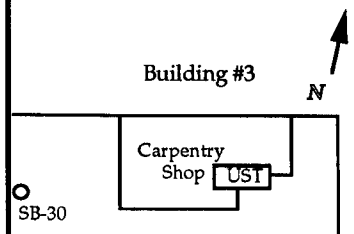
DRILLING LOG for Well #: SB-30



ERM-NEW ENGLAND, INC.
205 PORTLAND STREET
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.: _____

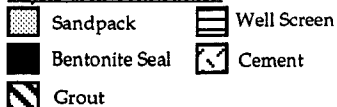


NOTES: SB-30 advanced vertically 54' off the carpentry shop, to a depth of 20'.

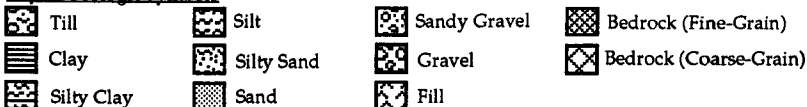
Depth	Well Log	Graphic Log	General Stratigraphy	Blowcounts per 6 inches	Rec.	Soil Classification based on inspection of cuttings (Color, Texture, Structures)	Sample # & Depth	PID conc. (ppm) initial/2 hr	Lab Samp. # & Anal.
1						Asphalt			
2									
3									
4									
5									
6						1-10' - Brown, med-coarse SAND, SILT and trace Gravel; dry; clean, no evidence of petroleum impact based on visual and olfactory observations.			
7									
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



Key to Geologic Symbols

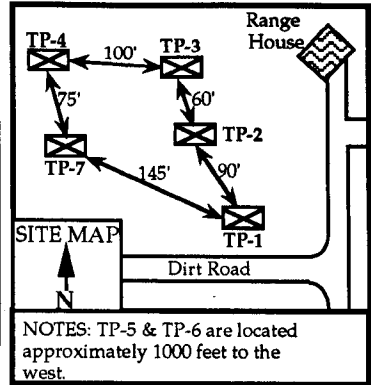


TEST PIT LOG for Test Pit #:

1



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

Project: Raytheon, WaylandProject Number: 143.40Client: Raytheon CompanyLog By: John D'AgostinoContractor: Enpro, Inc.Contractor Personnel: DennisDate Started: 2/15/96Date Finished: 2/15/96Location: Wayland, MAEquipment Used: John Deere, 410D BackhoeSurface Elevation: Not MeasuredTotal Depth: 5.0 feetDepth to GW: ≈5.0 feet

Scale (Feet)	Strata	Sample		Rock and Soil Description	Comments (headspace readings)
		Type/No.	Depth		
1			0.0' - 2.0'	Dark brown fine-medium SAND and SILT, with some organics, clean, dry.	Photo #1 taken of TP-1
2			2.0' - 4.0'	Lt.-brown fine SAND and SILT with trace clay and gravel, clean, layering evident.	
3					
4		TP-1 S-1, 4'-5' 9:30	4.0' - 5.0'	Lt.-brown-brown SILT and CLAY, clean, no evidence of contamination, water entering hole at 5 foot depth.	
5					
6					
7					

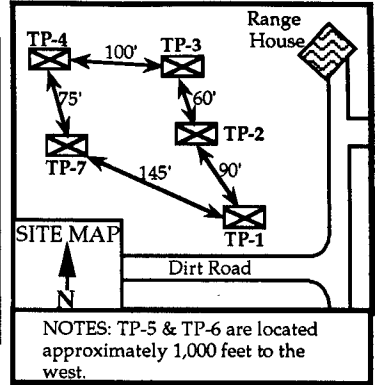
TEST PIT LOG for Test Pit #: 2



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

Project: Raytheon, Wayland
Client: Raytheon Company
Contractor: Enpro, Inc.
Date Started: 2/15/96
Location: Wayland, MA
Surface Elevation: Not Measured
Total Depth: 7.5 feet
Depth to GW: 6.0 feet

Project Number: 143.40
Log By: John D'Agostino
Contractor Personnel: Dennis
Date Finished: 2/15/96
Equipment Used: John Deere, 410D Backhoe



Scale (Feet)	Strata	Sample		Rock and Soil Description	Comments (headspace readings)
		Type/No.	Depth		
1			0.0' - 2.0'	Light brown, fine-medium SAND and SILT with some organics, trace coarse gravel, trace fill material (cinder block pieces), dry, clean,	Photo #2 taken of TP-2
2			2.0' - 4.0'	Brown, fine SAND and SILT with trace gravel and clay, cinder block pieces found in places, no other fill materials evident. Dry-damp, clean.	
3				Water seeping into hole at ≈4' level in places.	
4		TP-2 S-1, 4'-5' 10:00	4.0' - 5.0'	Black, fine SAND and SILT with some clay, organic rich sandy loam, slight odor.	
5			5.0' - 6.0'	Brown, fine-med SAND and SILT, wet, layering evident, water entering hole in certain areas.	
6			6.0' - 7.5'	Gray-brown, v-fine SAND, SILT and Clay, oxidation stains evident in places, saturated, clean, bottom of excavation filled with water after 10 minutes.	
7					

TEST PIT LOG for Test Pit #:

3



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

Project: Raytheon, Wayland

Project Number: 143.40

Client: Raytheon Company

Log By: John D'Agostino

Contractor: Enpro, Inc.

Contractor Personnel: Dennis

Date Started: 2/15/96

Date Finished: 2/15/96

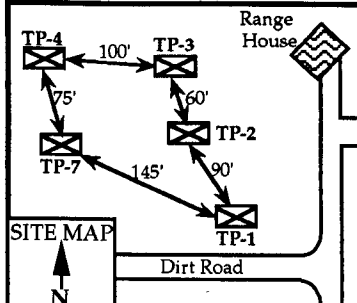
Location: Wayland, MA

Equipment Used: John Deere, 410D Backhoe

Surface Elevation: Not Measured

Total Depth: 7.5 feet

Depth to GW: ≈ 7 feet



NOTES: TP-5 & TP-6 are located approximately 1,000 feet to the west.

Scale (Feet)	Strata	Sample		Rock and Soil Description	Comments (headspace readings)
		Type/No.	Depth		
			0.0' - 0.25'	Grass, topsoil and organics	
1		TP-3 S-1, .25'-2' 10:30	0.25' - 2.0'	Tan, v-fine SAND and SILT with trace coarse sand and fine gravel, dry; strong odor, slightly sweet, no visible staining. No elevated PID reading from soil on sides of excavation.	PID = 625ppm VOC 8260 TPH-8100
2			2.0' - 3.0'	Dark brown, fine-med SAND, Silt and Clay, some gravel.	
3			3.0' - 3.5'	Brown-tan, coarse SAND and SILT, trace gravel, damp-moist. Water seepage at 3.5 feet.	
4			3.5' - 5.0'	Dark brown, medium SAND and SILT with trace clay, moist-wet.	
5		TP-3 S-2, 5'-6' 10:35	5.0' - 6.0'	Black, fine-med SAND, Silt and Clay with organics present, sandy loam, no odor, trace debris (crushed glass, brick, etc.).	PID = Not measured
6			6.0' - 7.5'	Gray-brown, fine-medium SAND, wet Silt and Clay, horizontally stratified.	
7					

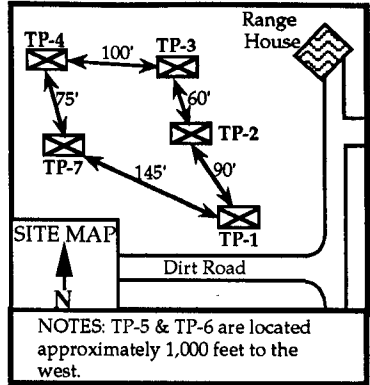
TEST PIT LOG for Test Pit #: 4



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

Project: Raytheon, Wayland
Client: Raytheon Company
Contractor: Enpro, Inc.
Date Started: 2/15/96
Location: Wayland, MA
Surface Elevation: Not Measured
Total Depth: 9.0 feet
Depth to GW: 7.0 feet

Project Number: 143.40
Log By: John D'Agostino
Contractor Personnel: Dennis
Date Finished: 2/15/96
Equipment Used: John Deere, 410D Backhoe



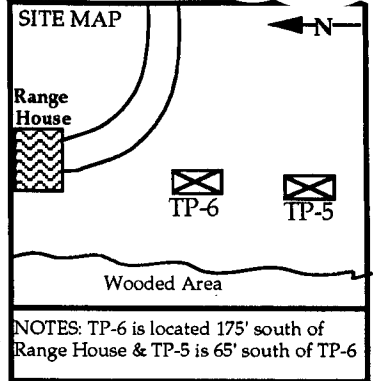
Scale (Feet)	Strata	Sample		Rock and Soil Description	Comments (headspace readings)
		Type/No.	Depth		
			0.0' - 0.5'	Grass, topsoil, lt.-brown coarse sand with trace gravel. Three copper insulated wires (≈1/16" thick) were broken during initial scoop with backhoe.	
1			0.5' - 1.5'	12" - Dark brown, fine-medium SAND and SILT with trace gravel, dry.	
2			1.5' - 7.0'	Light brown, fine-medium SAND and GRAVEL, with some silt, some fill material (clay pipe pieces), no layering, no staining or odor. Primarily sand and gravel fill.	Photo #5 & #6 are of TP-4.
3					
4					
5					
6					
7					
		TP-4 S-1, 4'-5' 11:00			
		TP-4 S-2, 7'-8' 11:05	7.0' - 9.0'	Black, fine SAND and SILT with trace clay (sandy loam), organic rich, slight sewage smell, excavation collapsed to 8.0' depth.	

TEST PIT LOG for Test Pit #:

5


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

 Project: Raytheon, Wayland
 Client: Raytheon Company
 Contractor: Enpro, Inc.
 Date Started: 2/15/96
 Location: Wayland, MA
 Surface Elevation: Not Measured
 Total Depth: 7.0 feet
 Depth to GW: 7.0 feet

 Project Number: 143.40
 Log By: John D'Agostino
 Contractor Personnel: Dennis
 Date Finished: 2/15/96
 Equipment Used: John Deere, 410D Backhoe


Scale (Feet)	Strata	Sample		Rock and Soil Description	Comments (headspace readings)
		Type/No.	Depth		
1		TP-5 S-1, 0'-2' 8:50AM	0' - 2.0'	24" - Dark brown, fine-med SAND and SILT with trace gravel, fill material evident in this layer (metal wire, particle board, clay pipe), organic material evident. Discontinuous lt. brown med sand layer ≈0.5' thick located at ≈1.0' depth.	PID = 9.9ppm Photo #7 is of TP-5
2			2.0' - 4.0'	24" - Brown, med-coarse SAND, SILT and Clay, trace gravel, heterogeneous.	
3					
4		TP-5 S-3, 4'-4.5' 8:50AM	4.0 - 4.5'	6" - Layer of brown coarse sand above 4.5' level where water is entering hole.	
5			4.5' - 7.0'	24" - Brown, fine-med SAND and SILT with trace fine gravel, tight. Water table at seven feet. Excavation collapsing at seven foot level due to water entering from sidewalls.	PID = 10ppm (soils screened in backhoe bucket)
6					
7		TP-5 S-2, 7.0' 9:00AM			

TEST PIT LOG for Test Pit #:

6



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

Project: Raytheon, Wayland

Project Number: 143.40

Client: Raytheon Company

Log By: John D'Agostino

Contractor: Enpro, Inc.

Contractor Personnel: Dennis

Date Started: 2/15/96

Date Finished: 2/15/96

Location: Wayland, MA

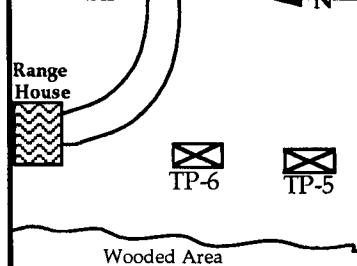
Equipment Used: John Deere, 410D Backhoe

Surface Elevation: Not Measured

Total Depth: 9.0 feet

Depth to GW: 7.0 feet

SITE MAP



NOTES: TP-6 is located 175' south of Range House & TP-5 is 65' south of TP-6

Scale (Feet)	Strata	Sample		Rock and Soil Description	Comments (headspace readings)
		Type/No.	Depth		
1			0.0 - 1.0'	12" - Dark brown, medium SAND and SILT, clean and damp-dry.	Photo #8 is of TP-6
		TP-6 S-2, 1-1.5' 8:30	1.0' - 1.5'	6" - Black-gray, fine-coarse GRAVEL and SAND, damp, crushed gravel pack, possibly old road.	
2			1.5' - 4.0'	30" - Brown, med-coarse SAND, SILT and Gravel, clean, moist- wet.	
3					
4			4.0' - 5.0'	12" - Brown, med SAND, SILT and Clay, clean, wet, dense. Water seeping into hole above this layer.	
5			5.0' - 7.0'	24" - Brown, fine SAND and SILT, laminated, tight.	
6					
7				▽ Water table at 7'.	
		TP-6 S-1, 7'-9' 8:20	7.0' - 9.0'	24" - Brown, med.-coarse, SAND and SILT, layering evident. Excavation collapsing due to water entering from sidewalls at this level.	PID = 8.9ppm TPH-8100 VOC-8260

TEST PIT LOG for Test Pit #:

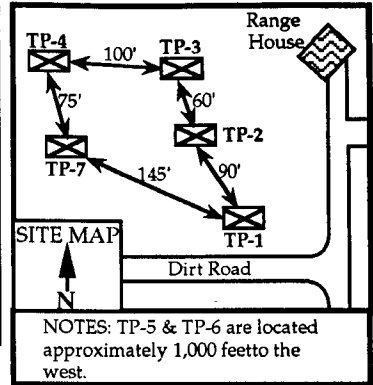
7



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

Project: Raytheon, Wayland
Client: Raytheon Company
Contractor: Enpro, Inc.
Date Started: 2/15/96
Location: Wayland, MA
Surface Elevation: Not Measured
Total Depth: 6.0 feet
Depth to GW: 5.0 feet

Project Number: 143.40
Log By: John D'Agostino
Contractor Personnel: Dennis
Date Finished: 2/15/96
Equipment Used: John Deere, 410D Backhoe



Scale (Feet)	Strata	Sample		Rock and Soil Description	Comments (headspace readings)
		Type/No.	Depth		
0			0 - 1.0'	Top 6" - Grass and tan well sorted fine-med SAND and Silt (topsoil), clean and dry. Next 6" - Same as above but dark brown(subsoil).	Photos #9 & #10 are of TP-7
1			1.0' - 2.0'	Brown, SAND and SILT with trace fine gravel, fill material, water seeping out of this interval.	
2			2.0' - 5.0'	Black, fine SAND and SILT with some clay, organic rich sandy loam.	
3					
4					
5		TP-7 S-1, 5'-6' 11:30	5.0' - 6.0'	Gray-brown, fine SAND and SILT with trace clay, layering evident at this level. Excavation filled with water at this level and collapsed to 5'.	
6					
7					