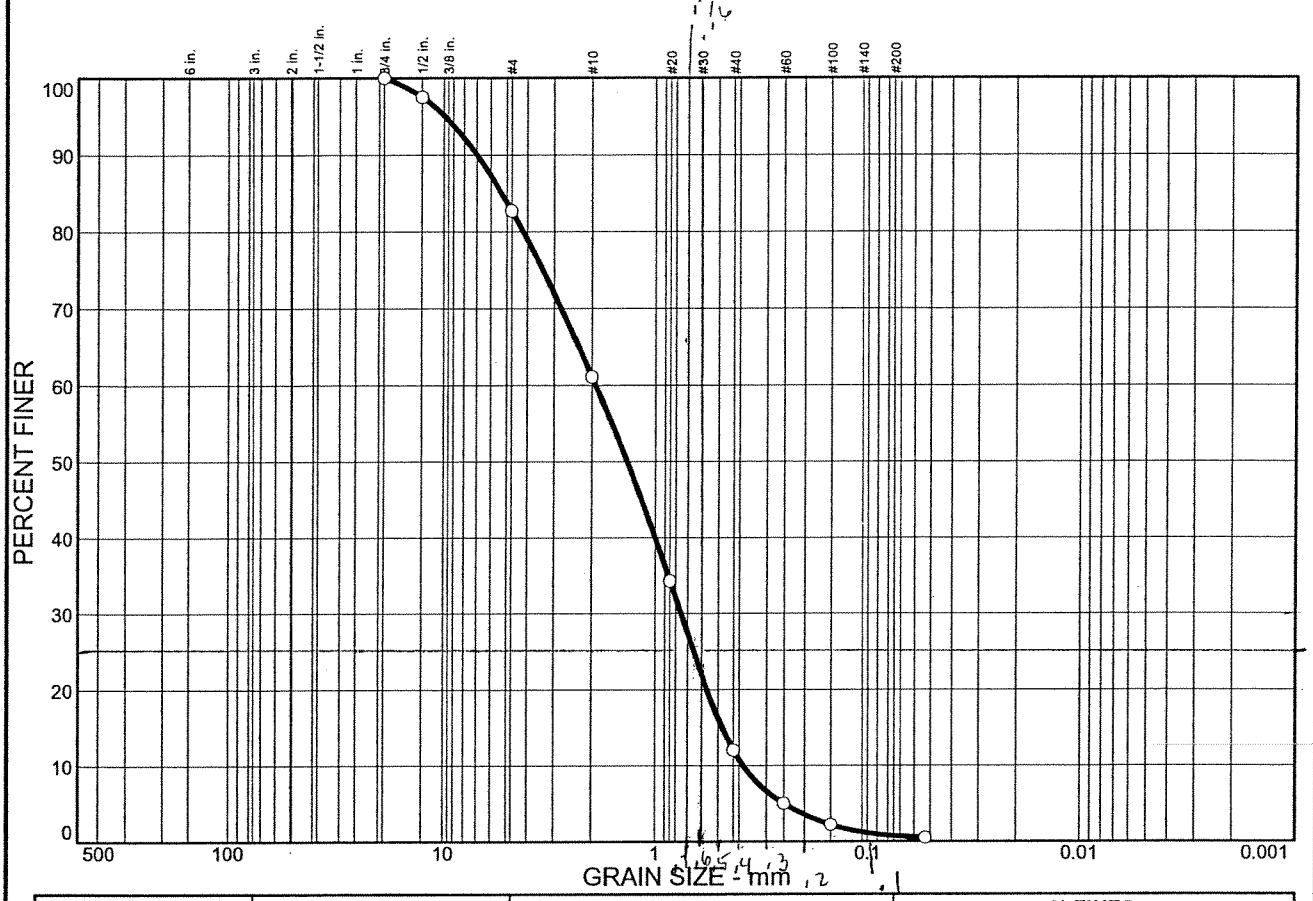
APPENDIX F: GRAIN SIZE DISTRIBUTION CURVES

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	17.3	21.6	49.1	11.3	0.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4 in.	100.0		
1/2 in.	97.5		
#4	82.7		
#10	61.1		
#20	34.3		
#40	12.0		
#60	5.0		
#100	2.2		
#270	0.5		

* (no specification provided)

Soil Description

Poorly graded sand with gravel

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 5.32 D_{60}= 1.92 D_{50}= 1.37
D_{30}= 0.753 D_{15}= 0.479 D_{10}= 0.385
C_u= 5.00 C_c= 0.77

Classification

USCS= SP AASHTO= A-1-b

Remarks

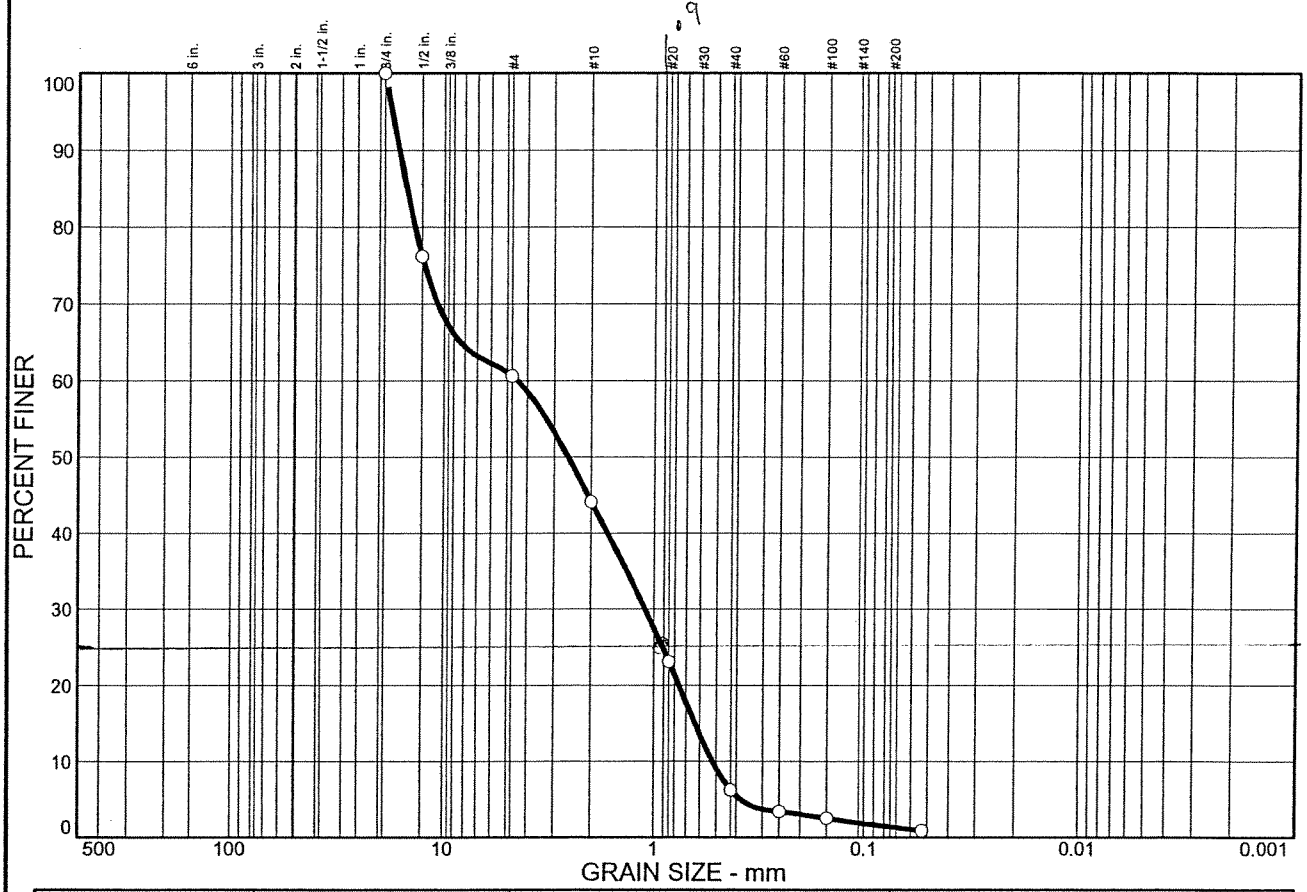
as rec'd w% = 4.1

Sample No.: S-1 **Source of Sample:** Test Pit 32105-1 **Date:** 5/5/05
Location: **Elev./Depth:** 15-17'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	39.4	16.5	37.9	4.8	1.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4 in.	100.0		
1/2 in.	76.2		
#4	60.6		
#10	44.1		
#20	23.1		
#40	6.2		
#60	3.4		
#100	2.5		
#270	0.9		

* (no specification provided)

Soil Description

Poorly graded sand with gravel

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 15.0 D_{60}= 4.49 D_{50}= 2.58
D_{30}= 1.11 D_{15}= 0.636 D_{10}= 0.522
C_u= 8.61 C_c= 0.52

Classification

USCS= SP AASHTO= A-1-a

Remarks

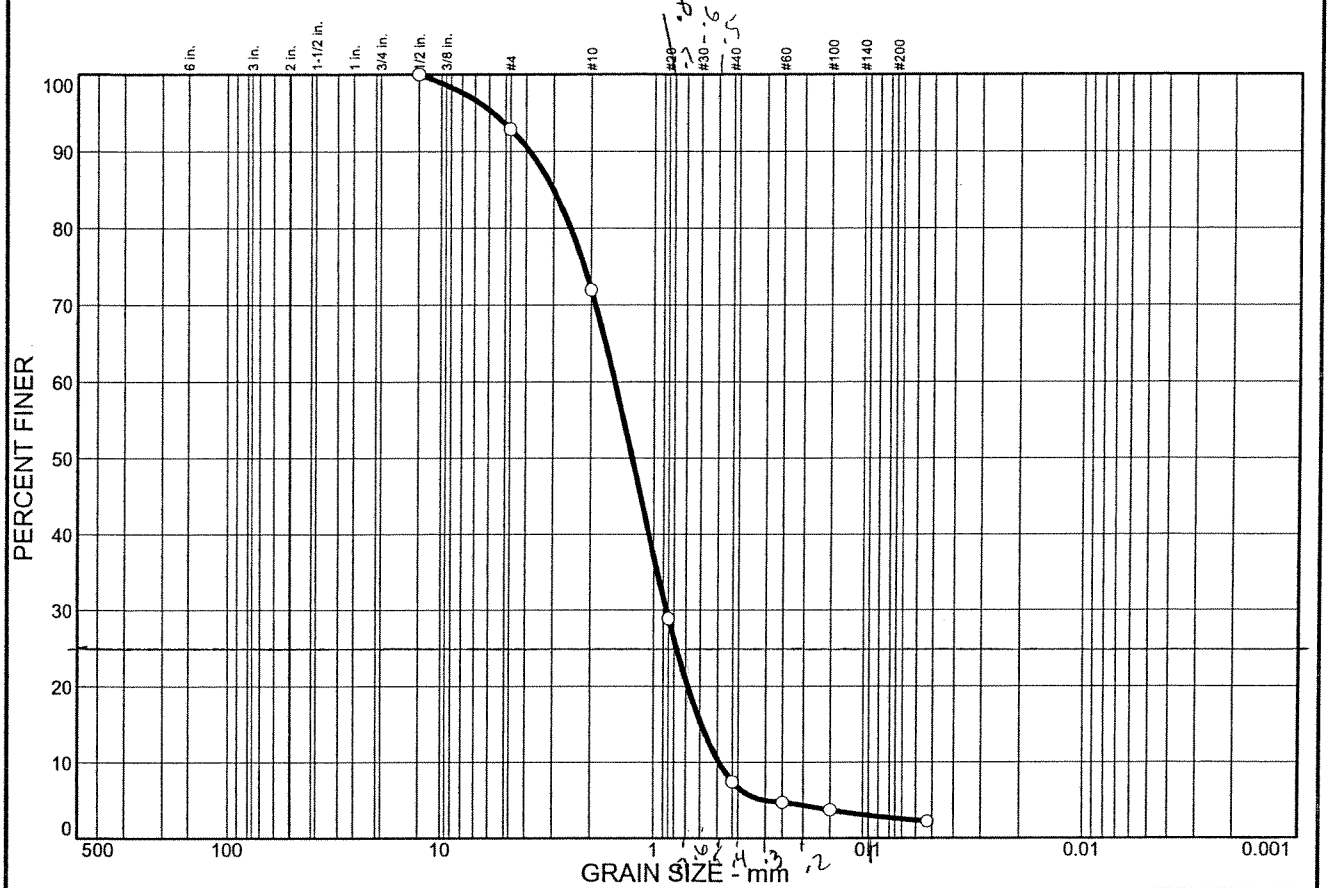
as rec'd w% = 3.4

Sample No.: S-1 **Source of Sample:** Test Pit 32105-2 **Date:** 5/5/05
Location: **Elev./Depth:** 14-15'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	7.1	20.9	64.6	4.8	2.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2 in.	100.0		
#4	92.9		
#10	72.0		
#20	28.9		
#40	7.4		
#60	4.7		
#100	3.7		
#270	2.2		

* (no specification provided)

Soil Description

Poorly graded sand

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 3.01 D_{60}= 1.55 D_{50}= 1.28
D_{30}= 0.870 D_{15}= 0.594 D_{10}= 0.491
C_u= 3.15 C_c= 1.00

Classification

USCS= SP AASHTO= A-1-b

Remarks

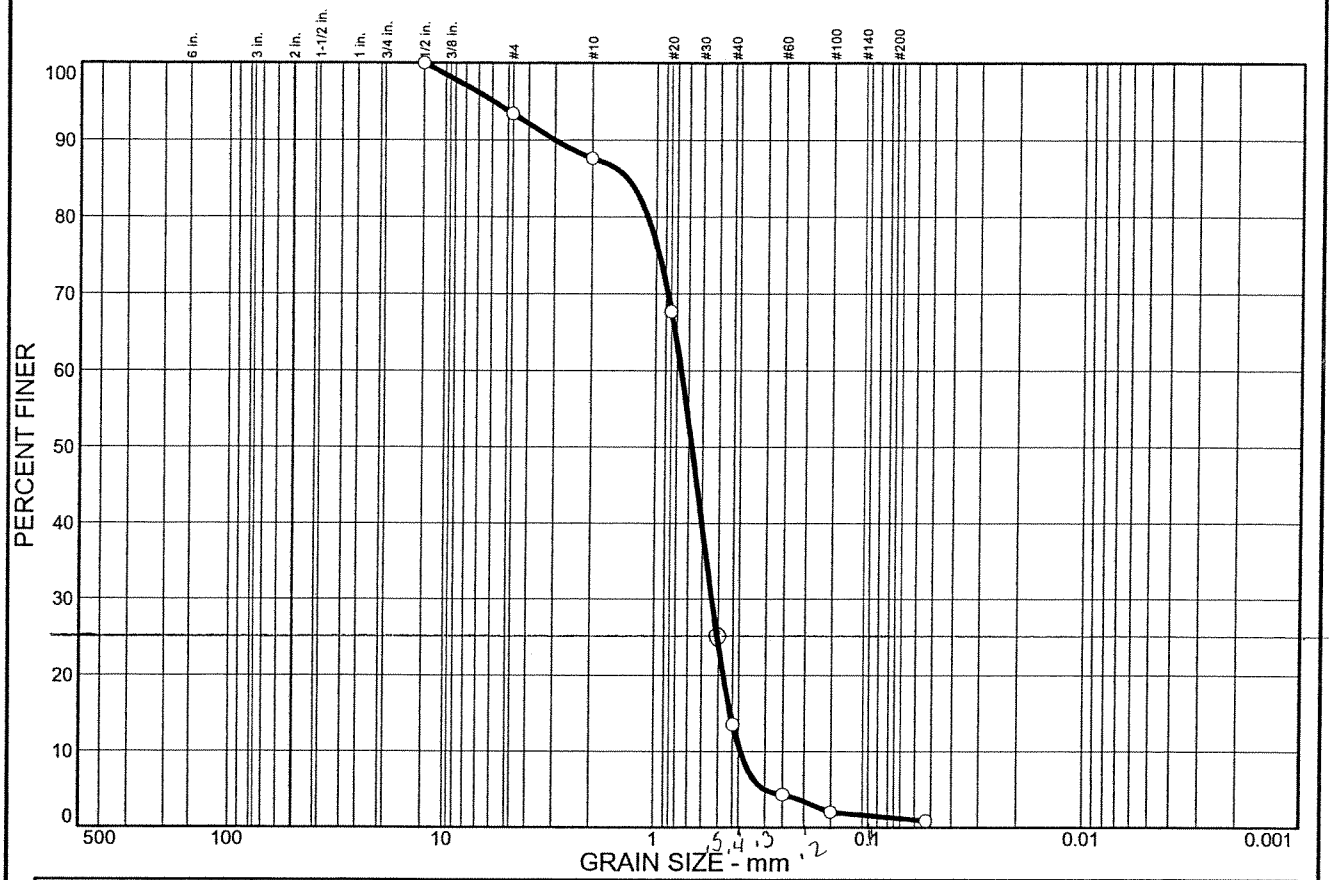
as rec'd w% = 6.8

Sample No.: S-2 **Source of Sample:** Test Pit 32105-5 **Date:** 5/5/05
Location: **Elev./Depth:** 6-9'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



25% = F.O

% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	6.6	5.8	74.1	12.2	1.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2 in.	100.0		
#4	93.4		
#10	87.6		
#20	67.7		
#40	13.5		
#60	4.3		
#100	2.0		
#270	0.9		

* (no specification provided)

Soil Description

Poorly graded sand

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 1.37 D_{60}= 0.765 D_{50}= 0.678
D_{30}= 0.539 D_{15}= 0.437 D_{10}= 0.392
C_u= 1.95 C_c= 0.97

Classification

USCS= SP AASHTO= A-1-b

Remarks

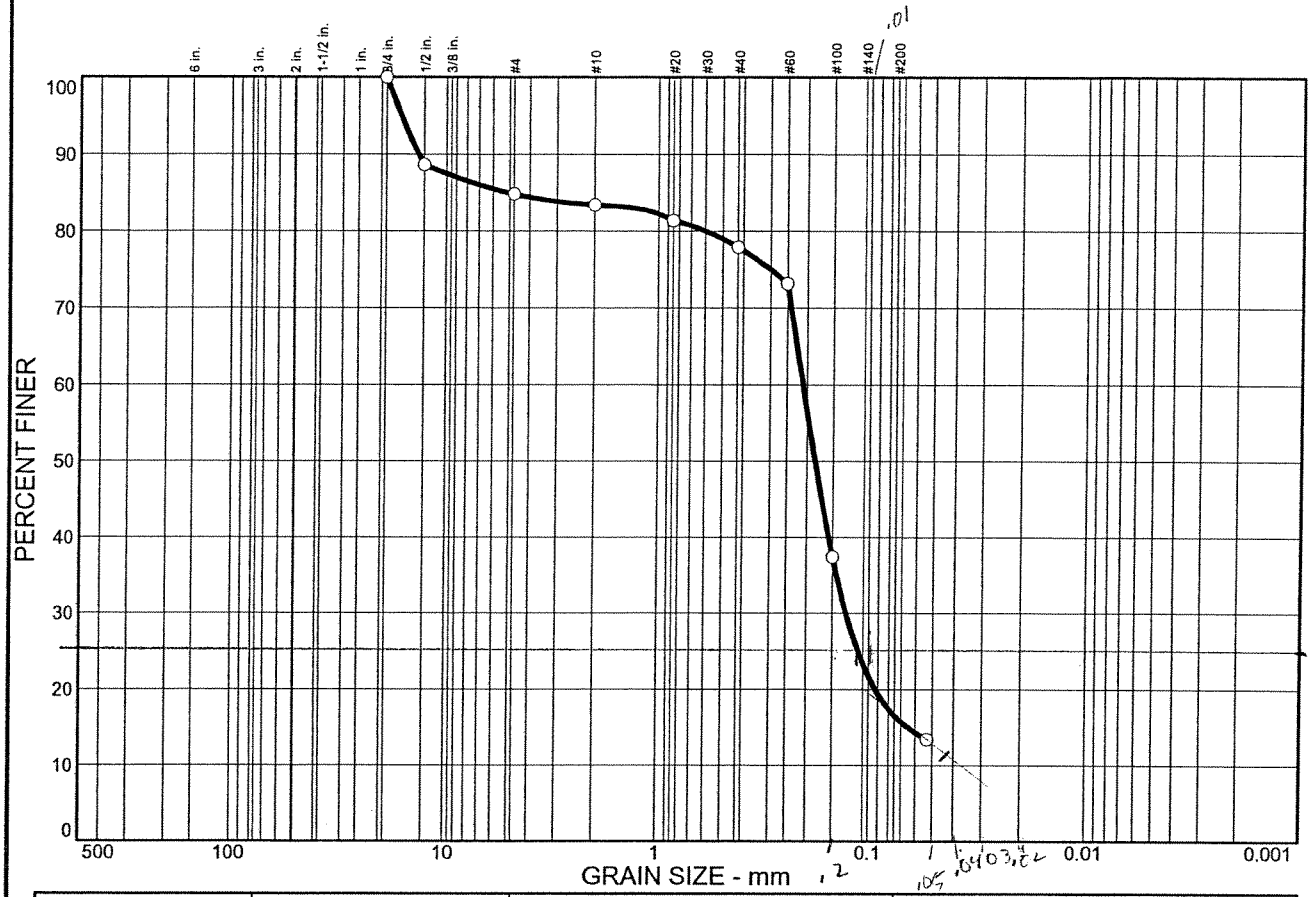
as rec'd w% = 7.4

Sample No.: S-2 **Source of Sample:** Test Pit 32105-6 **Date:** 5/5/05
Location: **Elev./Depth:** 5-13'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	15.2	1.4	5.5	61.4	16.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4 in.	100.0		
1/2 in.	88.6		
#4	84.8		
#10	83.4		
#20	81.4		
#40	77.9		
#60	73.2		
#100	37.4		
#270	13.4		

* (no specification provided)

Soil Description

Silty sand with gravel

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 5.11 D_{60}= 0.210 D_{50}= 0.183
D_{30}= 0.129 D_{15}= 0.0651 D_{10}=
C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

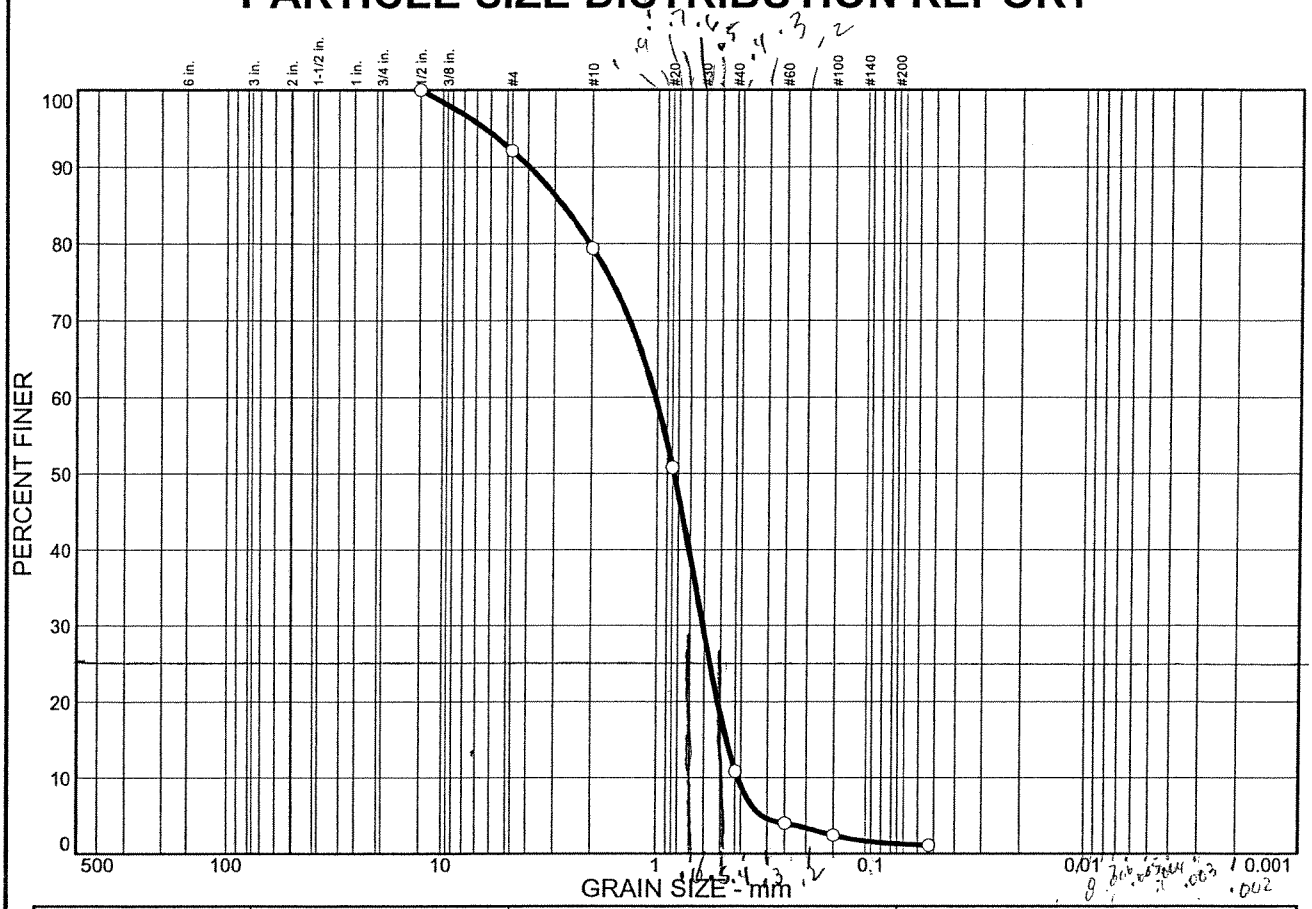
as rec'd w% = 19.5

Sample No.: S-3 **Source of Sample:** Boring W-1 **Date:** 5/5/05
Location: **Elev./Depth:** 10-10.5'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	7.9	12.7	68.6	9.5	1.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2 in.	100.0		
#4	92.1		
#10	79.4		
#20	50.8		
#40	10.8		
#60	4.0		
#100	2.4		
#270	1.1		

* (no specification provided)

Soil Description

Poorly graded sand

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 2.75 D_{60}= 1.02 D_{50}= 0.838
D_{30}= 0.610 D_{15}= 0.470 D_{10}= 0.415
C_u= 2.46 C_c= 0.88

Classification

USCS= SP AASHTO= A-1-b

Remarks

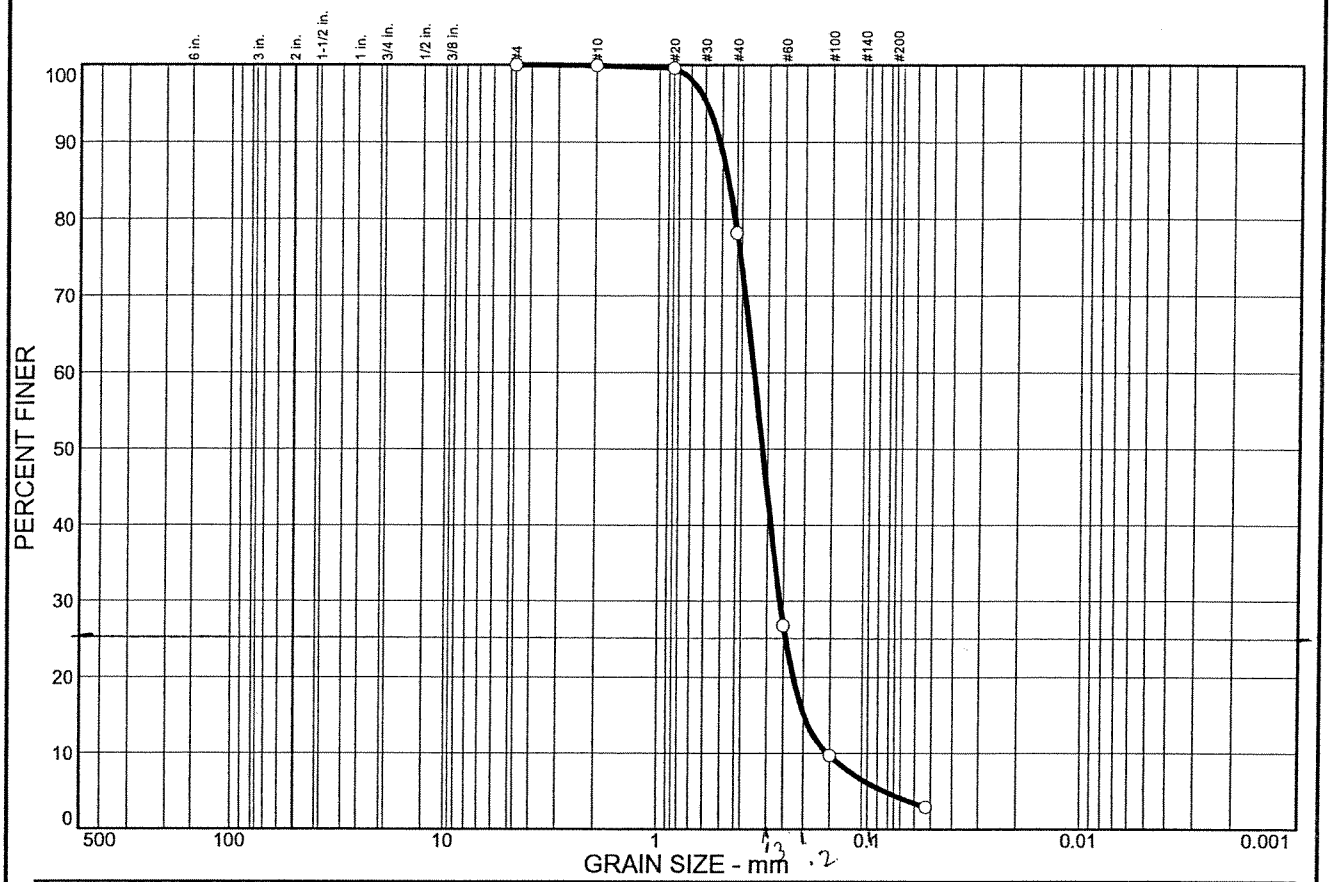
as rec'd w% = 18.8

Sample No.: S-4 **Source of Sample:** Boring W-1 **Date:** 5/5/05
Location: **Elev./Depth:** 15-17'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



25% = .23

% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.1	21.7	73.8	4.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.6		
#40	78.2		
#60	26.8		
#100	9.7		
#270	2.9		

* (no specification provided)

Soil Description

Poorly graded sand

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.468 D_{60}= 0.351 D_{50}= 0.320
D_{30}= 0.260 D_{15}= 0.199 D_{10}= 0.154
C_u= 2.28 C_c= 1.25

Classification

USCS= SP AASHTO= A-3

Remarks

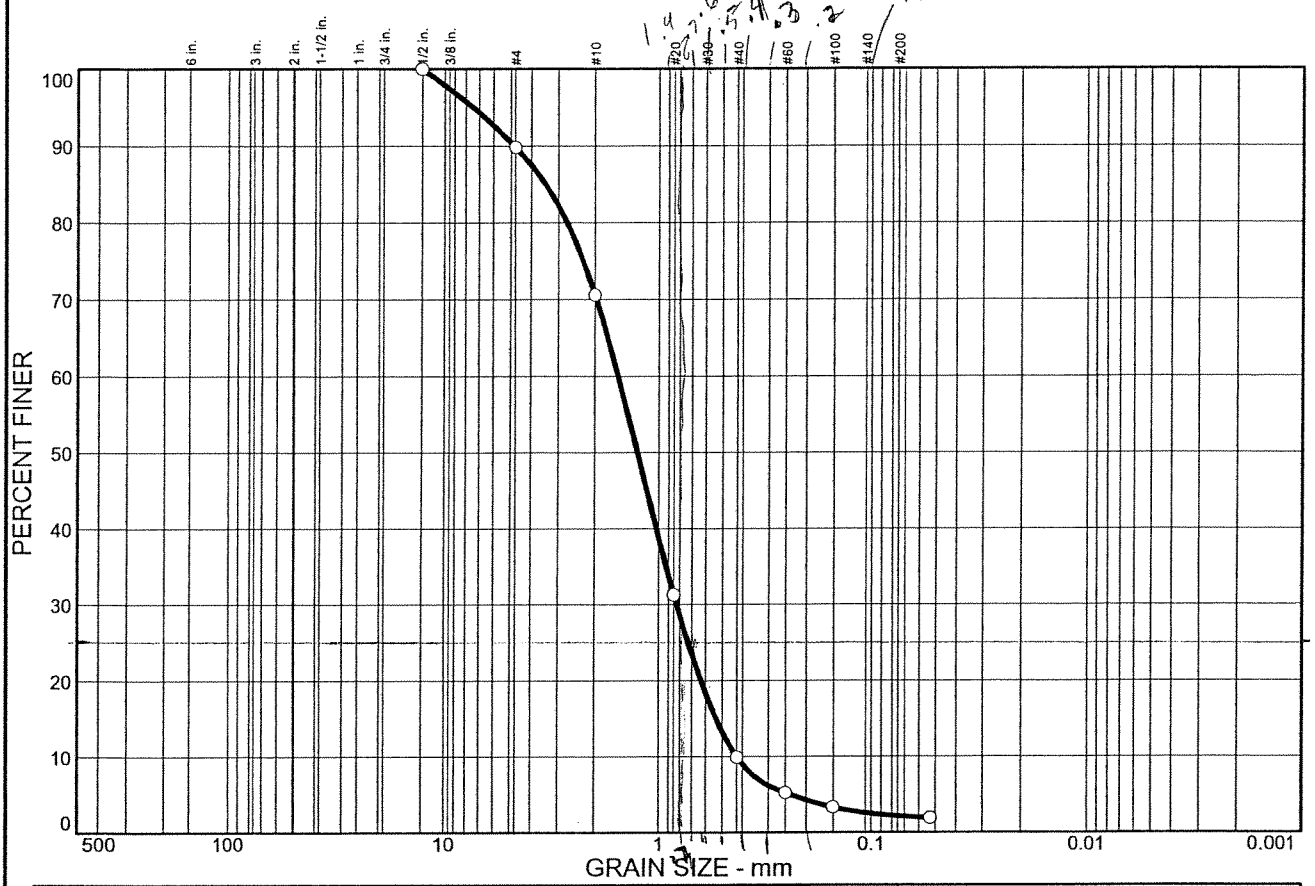
as rec'd w% = 27.8

Sample No.: S-7 **Source of Sample:** Boring W-1 **Date:** 5/5/05
Location: **Elev./Depth:** 30-32'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	10.2	19.2	60.7	7.8	2.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2 in.	100.0		
#4	89.8		
#10	70.6		
#20	31.3		
#40	9.9		
#60	5.2		
#100	3.3		
#270	1.9		

* (no specification provided)

Soil Description

Poorly graded sand

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 3.46 D_{60}= 1.55 D_{50}= 1.26
D_{30}= 0.825 D_{15}= 0.536 D_{10}= 0.428
C_u= 3.64 C_c= 1.02

Classification

USCS= SP AASHTO= A-1-b

Remarks

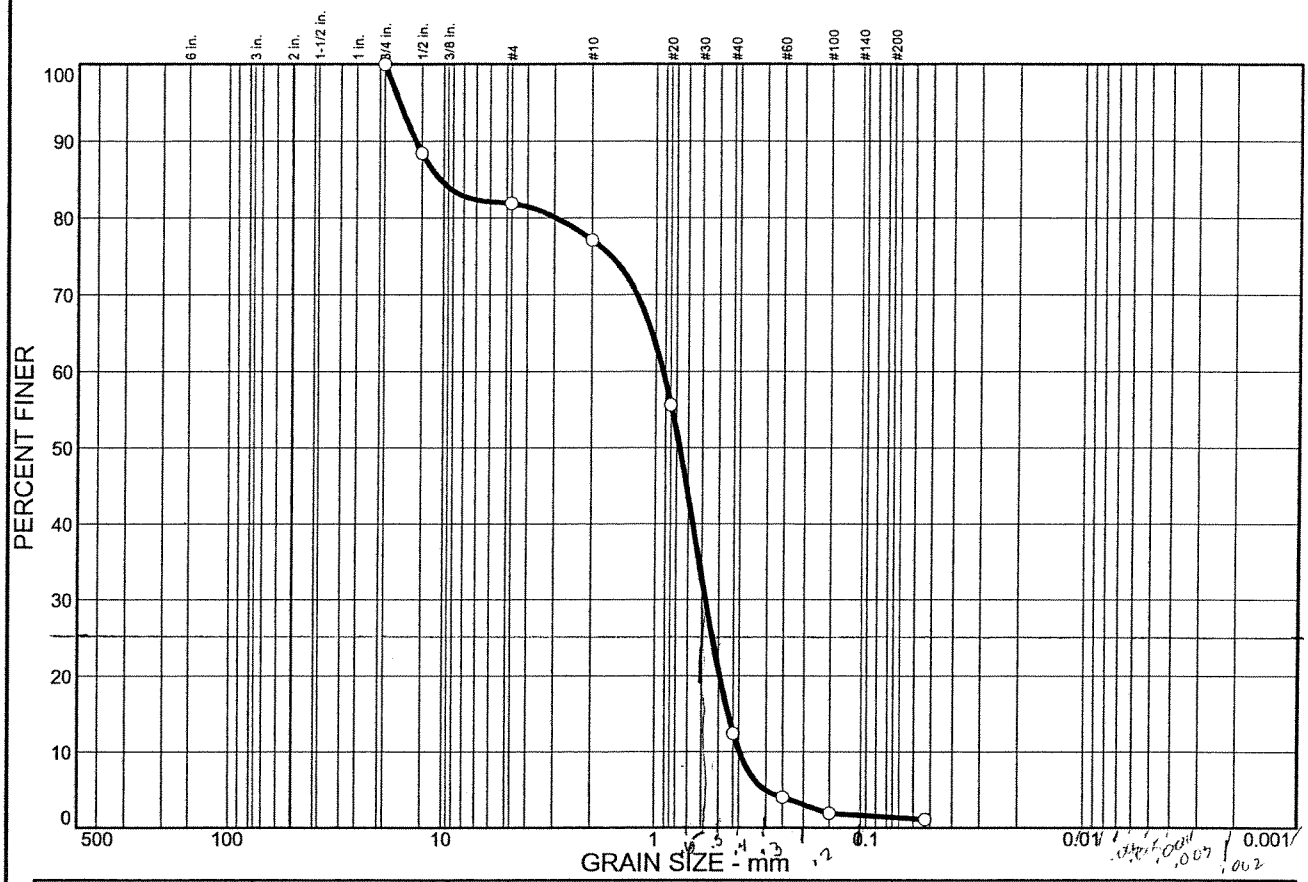
as rec'd w% = 17.2

Sample No.: S-3 **Source of Sample:** Boring W-4 **Date:** 5/5/05
Location: **Elev./Depth:** 10-12'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



25% = .52

% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	18.1	4.8	64.7	11.0	1.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4 in.	100.0		
1/2 in.	88.4		
#4	81.9		
#10	77.1		
#20	55.6		
#40	12.4		
#60	4.0		
#100	1.9		
#270	1.1		

* (no specification provided)

Soil Description

Poorly graded sand with gravel

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 10.4 D_{60}= 0.927 D_{50}= 0.774
D_{30}= 0.577 D_{15}= 0.450 D_{10}= 0.398
C_u= 2.33 C_c= 0.90

Classification

USCS= SP AASHTO= A-1-b

Remarks

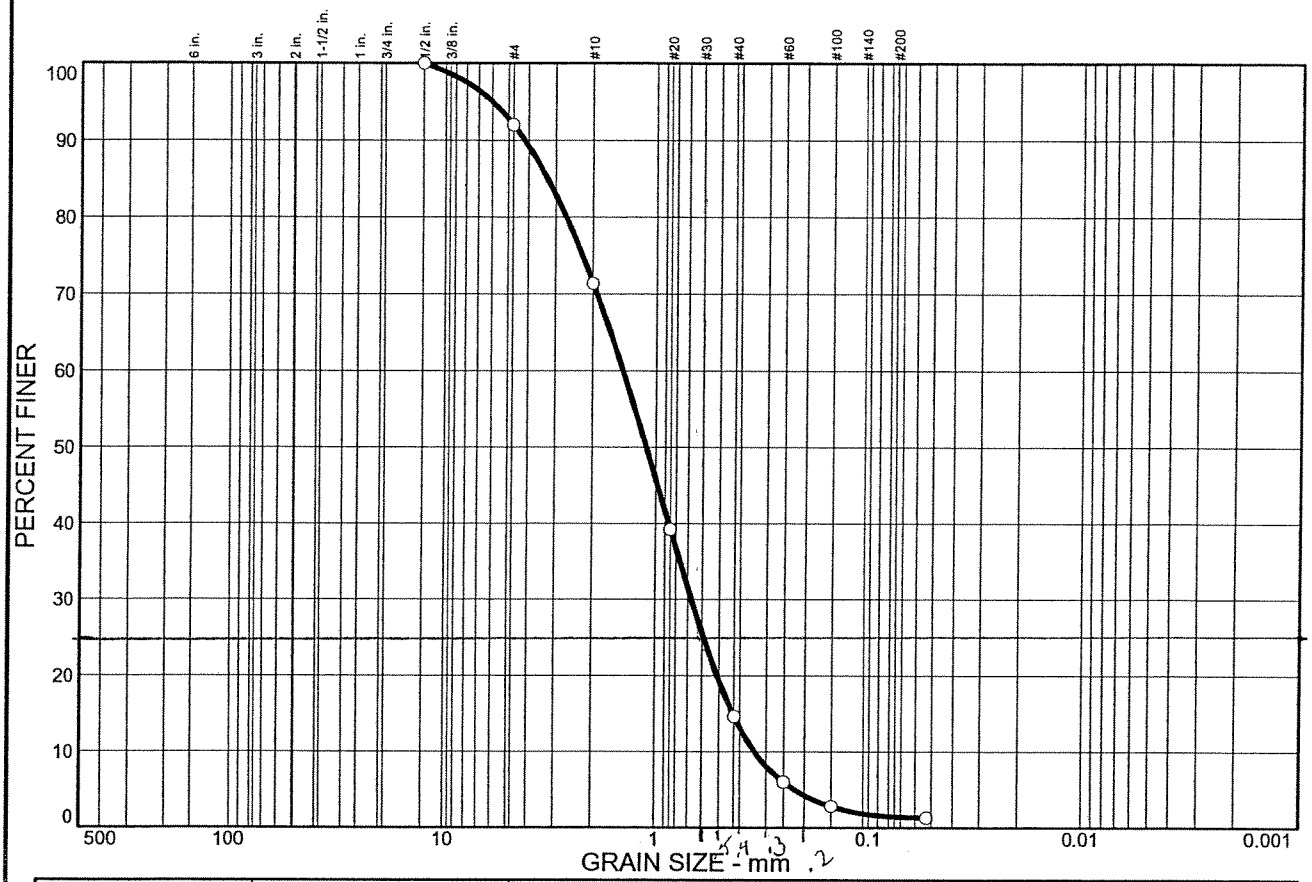
as rec'd w% = 15.9

Sample No.: S-6 **Source of Sample:** Boring W-4 **Date:** 5/5/05
Location: **Elev./Depth:** 25-27'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	8.0	20.6	56.8	13.2	1.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2 in.	100.0		
#4	92.0		
#10	71.4		
#20	39.2		
#40	14.6		
#60	6.0		
#100	2.8		
#270	1.3		

* (no specification provided)

Soil Description

Poorly graded sand

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 3.28 D_{60}= 1.44 D_{50}= 1.11
D_{30}= 0.675 D_{15}= 0.432 D_{10}= 0.341
C_u= 4.23 C_c= 0.93

Classification

USCS= SP AASHTO= A-1-b

Remarks

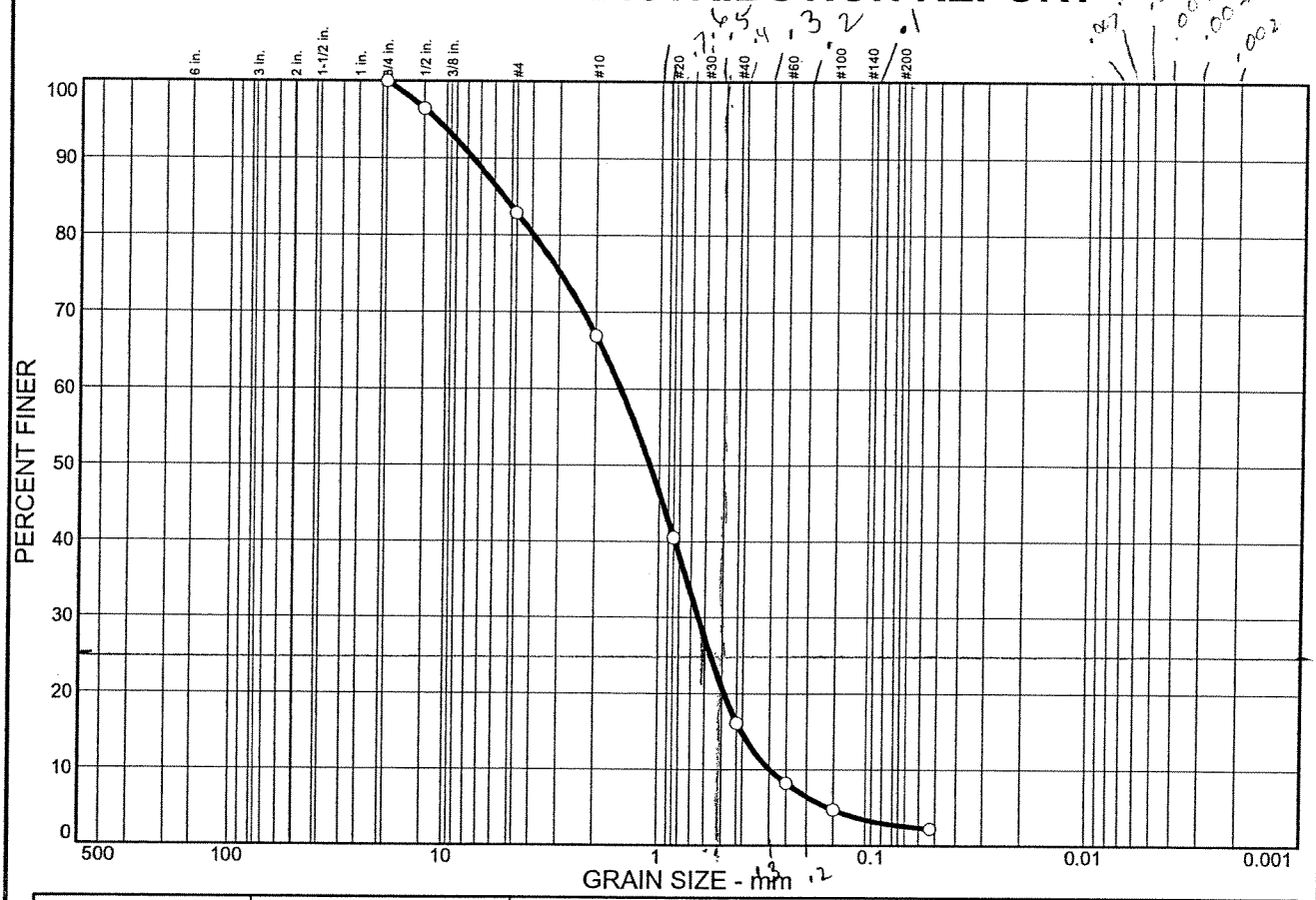
as rec'd w% = 16.0

Sample No.: S-8 **Source of Sample:** Boring W-4 **Date:** 5/5/05
Location: **Elev./Depth:** 35-36.5'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	17.1	16.0	50.8	13.5	2.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4 in.	100.0		
1/2 in.	96.4		
#4	82.9		
#10	66.9		
#20	40.5		
#40	16.1		
#60	8.2		
#100	4.7		
#270	2.2		

* (no specification provided)

Soil Description

Poorly graded sand with gravel

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 5.43 D_{60}= 1.53 D_{50}= 1.11
D_{30}= 0.648 D_{15}= 0.406 D_{10}= 0.299
C_u= 5.12 C_c= 0.91

Classification

USCS= SP AASHTO= A-1-b

Remarks

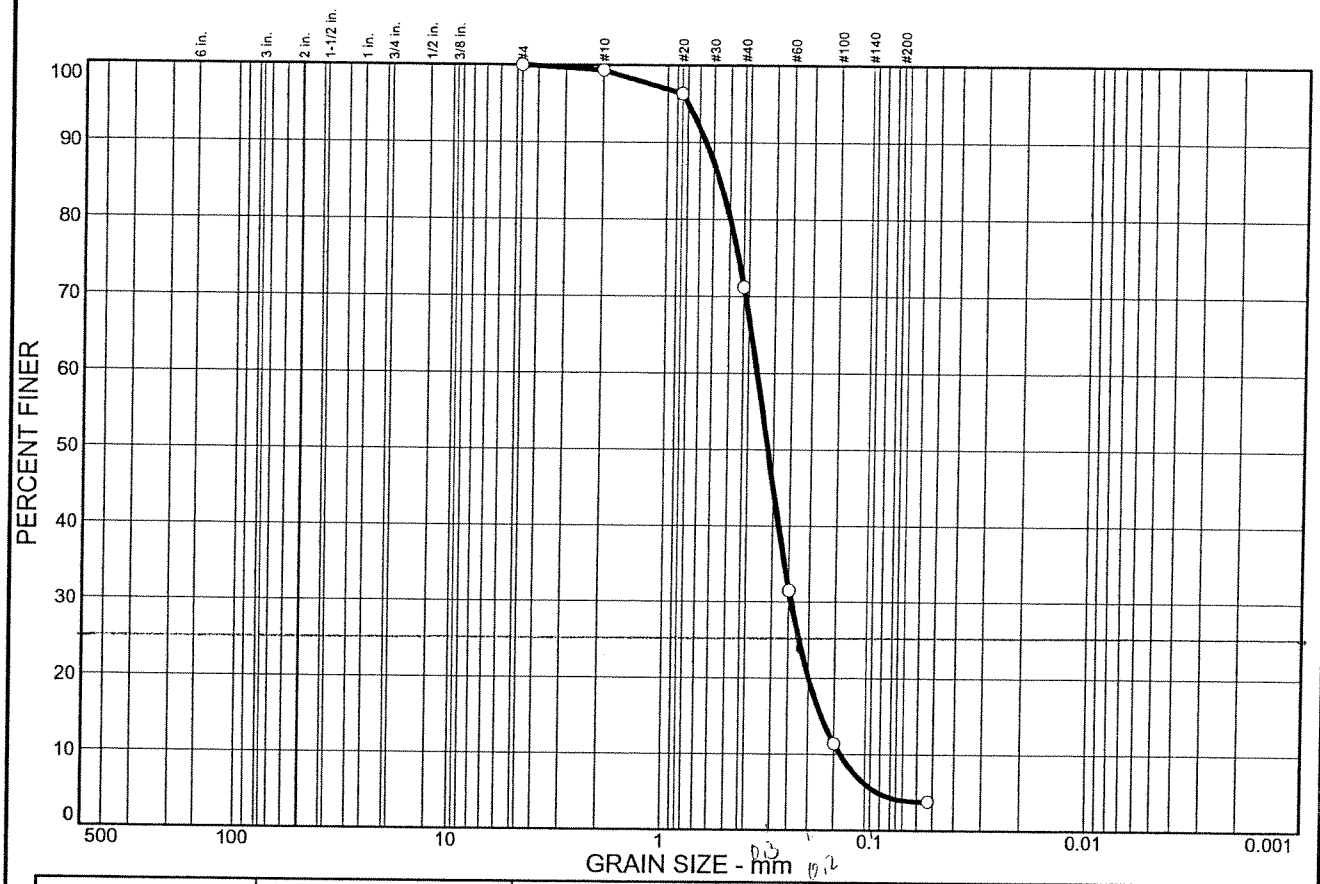
as rec'd w% = 11.5

Sample No.: S-5 **Source of Sample:** Boring NA-1 **Date:** 5/5/05
Location: **Elev./Depth:** 20-21.5'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.7	28.1	67.1	4.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.3		
#20	96.3		
#40	71.2		
#60	31.5		
#100	11.4		
#270	3.8		

* (no specification provided)

Soil Description

Poorly graded sand

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.561 D_{60}= 0.364 D_{50}= 0.321
D_{30}= 0.244 D_{15}= 0.173 D_{10}= 0.140
C_u= 2.60 C_c= 1.17

Classification

USCS= SP AASHTO= A-3

Remarks

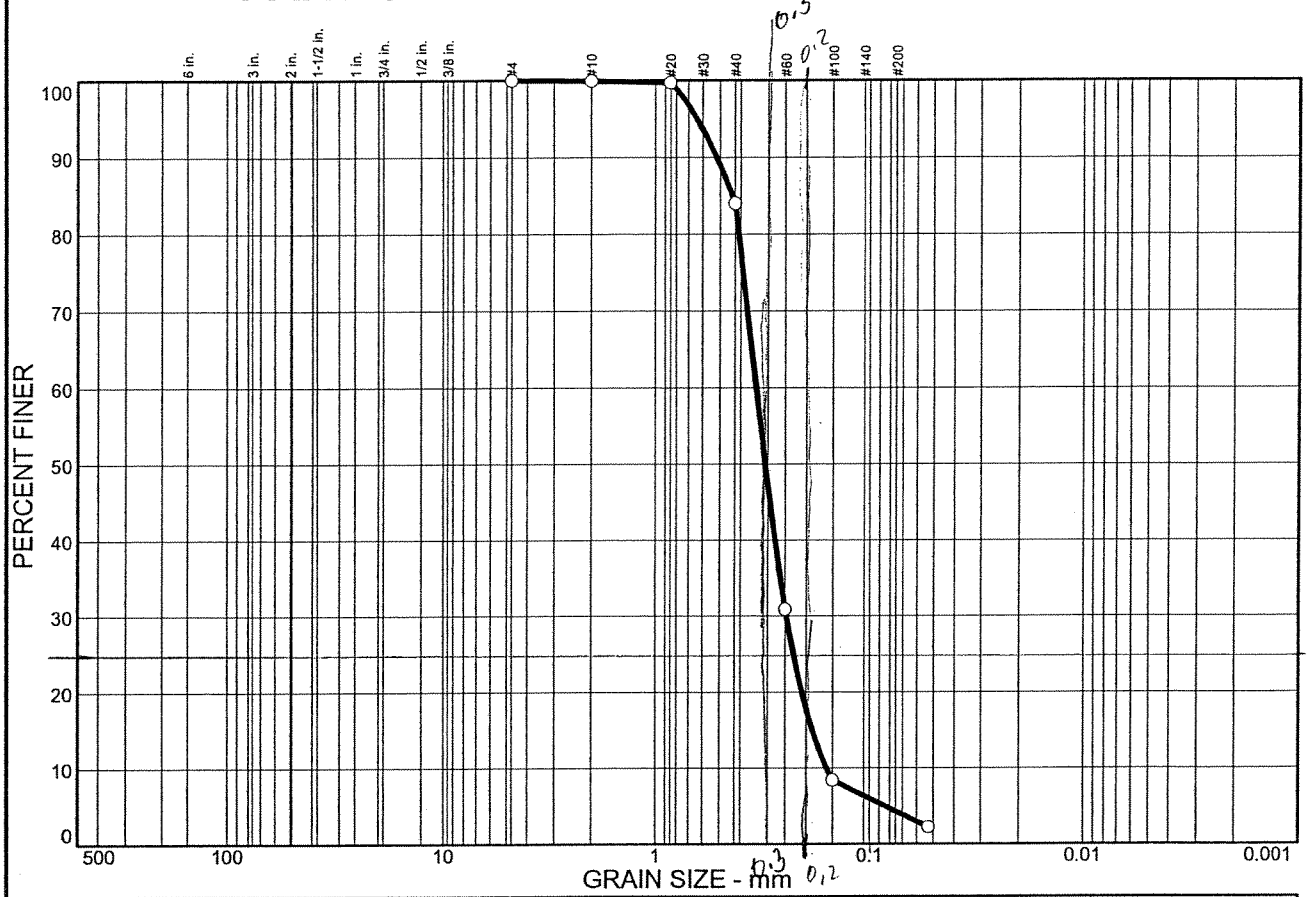
as rec'd w% = 5.1

Sample No.: S-4 Source of Sample: Boring A-1 Date: 5/5/05
Location: Elev./Depth: 15-17'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 Lab. No. SL-1158

PARTICLE SIZE DISTRIBUTION REPORT



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.1	15.9	79.7	4.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.7		
#40	84.0		
#60	30.9		
#100	8.4		
#270	2.2		

* (no specification provided)

Soil Description

Poorly graded sand

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.438 D_{60}= 0.341 D_{50}= 0.310
D_{30}= 0.247 D_{15}= 0.187 D_{10}= 0.160
C_u= 2.13 C_c= 1.12

Classification

USCS= SP AASHTO= A-3

Remarks

as rec'd w% = 23.7

Sample No.: S-4 **Source of Sample:** Boring A-2 **Date:** 5/5/05
Location: **Elev./Depth:** 15-17'

THE GEOTECHNICAL GROUP, INC.

Client: Woodard & Curran
Project: Town of Acton
Acton, MA
Project No: 212605 **Lab. No.** SL-1158

APPENDIX G: HVORSLEV BOREHOLE SLUG TEST ANALYSES

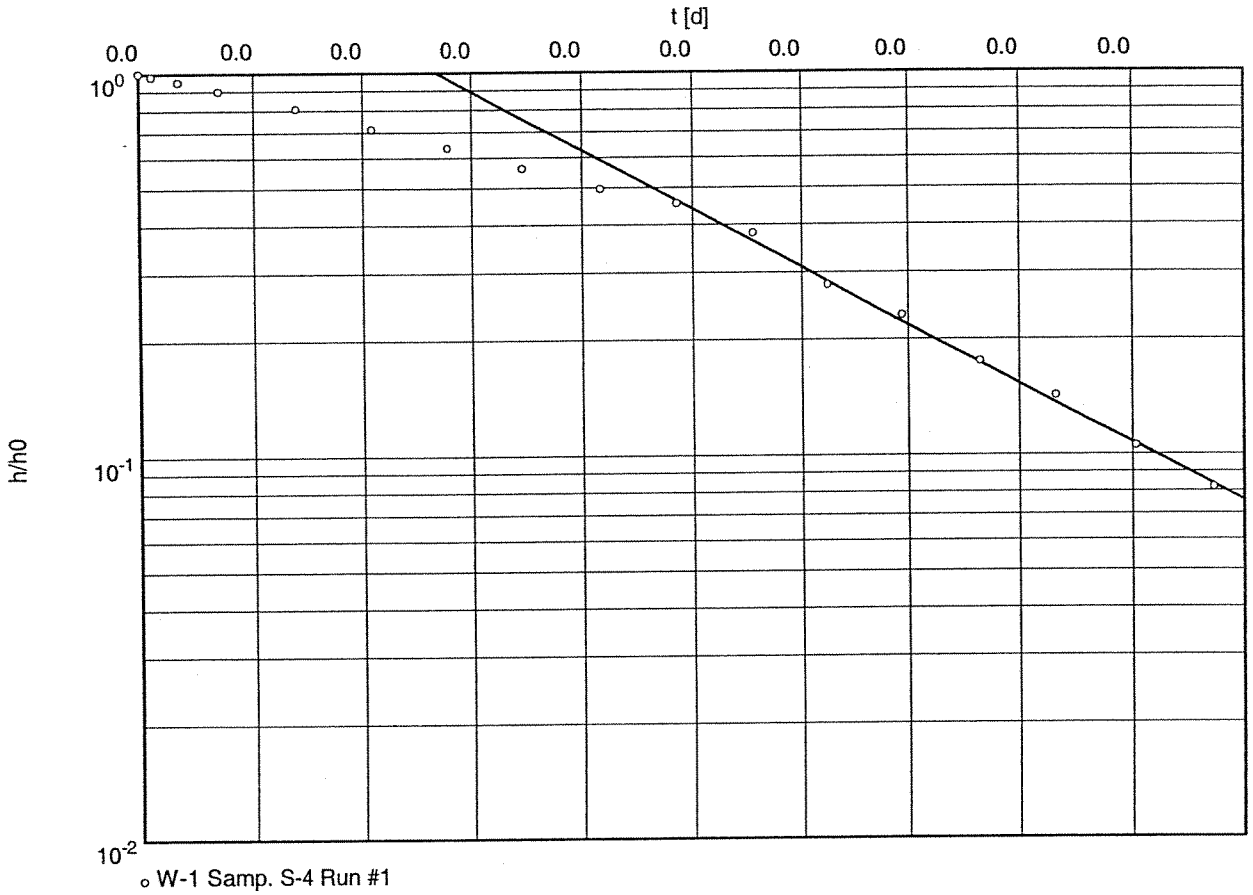
Waterloo Hydrogeologic
180 Columbia St. W.
Waterloo,Ontario,Canada
ph.(519)746-1798

HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-4 Run #1	Test conducted on: 3-21-05
W-1 Wetherbee Site	



Hydraulic conductivity [ft/d]: 8.87×10^{0}

180 Columbia St. W.
Waterloo,Ontario,Canada
ph.(519)746-1798

HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-4 Run #1

Test conducted on: 3-21-05

W-1 Wetherbee Site

W-1 Samp. S-4 Run #1

Static water level: 17.88 ft below datum

	Pumping test duration [d]	Water level [ft]	Change in Waterlevel [ft]
1	0.00000	0.00	-17.88
2	0.00012	0.33	-17.55
3	0.00035	0.92	-16.96
4	0.00069	1.83	-16.05
5	0.00139	3.44	-14.44
6	0.00208	5.13	-12.76
7	0.00278	6.50	-11.38
8	0.00347	7.83	-10.05
9	0.00417	9.00	-8.88
10	0.00486	9.75	-8.13
11	0.00556	11.08	-6.80
12	0.00625	12.92	-4.96
13	0.00694	13.75	-4.13
14	0.00764	14.75	-3.13
15	0.00833	15.33	-2.55
16	0.00903	16.00	-1.88
17	0.00972	16.42	-1.46

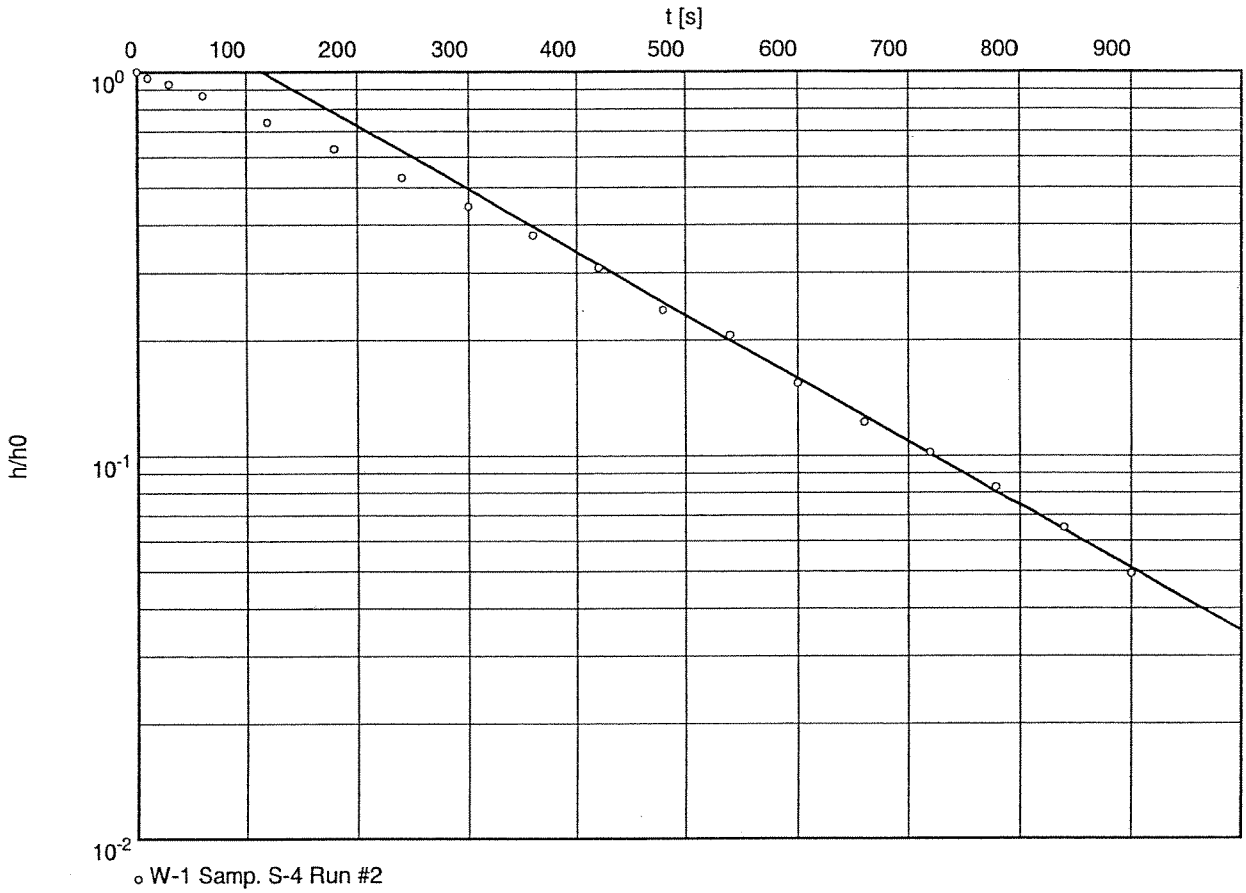
Waterloo Hydrogeologic
180 Columbia St. W.
Waterloo,Ontario,Canada
ph.(519)746-1798

Slug test analysis
HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-4 Run #2	Test conducted on: 3-21-05
W-1 Wetherbee Site	



Hydraulic conductivity [cm/s]: 2.90×10^{-3}

180 Columbia St. W.
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HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-4 Run #2

Test conducted on: 3-21-05

W-1 Wetherbee Site

W-1 Samp. S-4 Run #2

Static water level: 545.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Change in Waterlevel [cm]	
1	0	0.0	-545.0	
2	10	20.3	-524.7	
3	30	39.0	-506.0	
4	60	73.2	-471.8	
5	120	142.0	-403.0	
6	180	202.4	-342.6	
7	240	256.0	-289.0	
8	300	302.4	-242.6	
9	360	340.8	-204.2	
10	420	376.7	-168.3	
11	480	414.5	-130.5	
12	540	432.8	-112.2	
13	600	460.9	-84.1	
14	660	478.5	-66.5	
15	720	489.5	-55.5	
16	780	499.9	-45.1	
17	840	509.6	-35.4	
18	900	518.2	-26.8	

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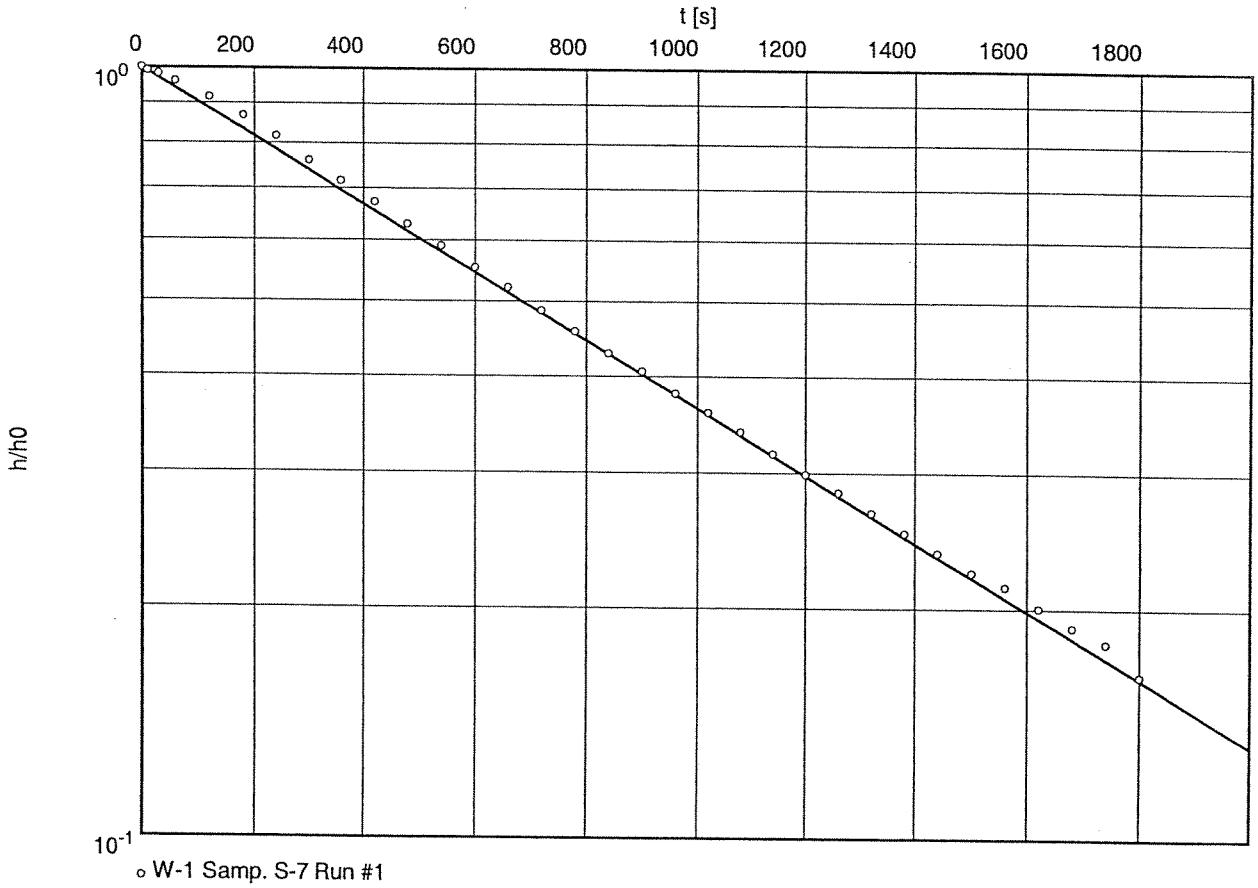
slug/ball test analysis
HVORSLEV's method

Date: 05.08.2005 | Prelim Hydrogeo Report

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-7 Run #1	Test conducted on: 3-21-05
W-1 Wetherbee Site	



Hydraulic conductivity [cm/s]: 7.75×10^{-4}

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Slug/bail test analysis
HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-7 Run #1

Test conducted on: 3-21-05

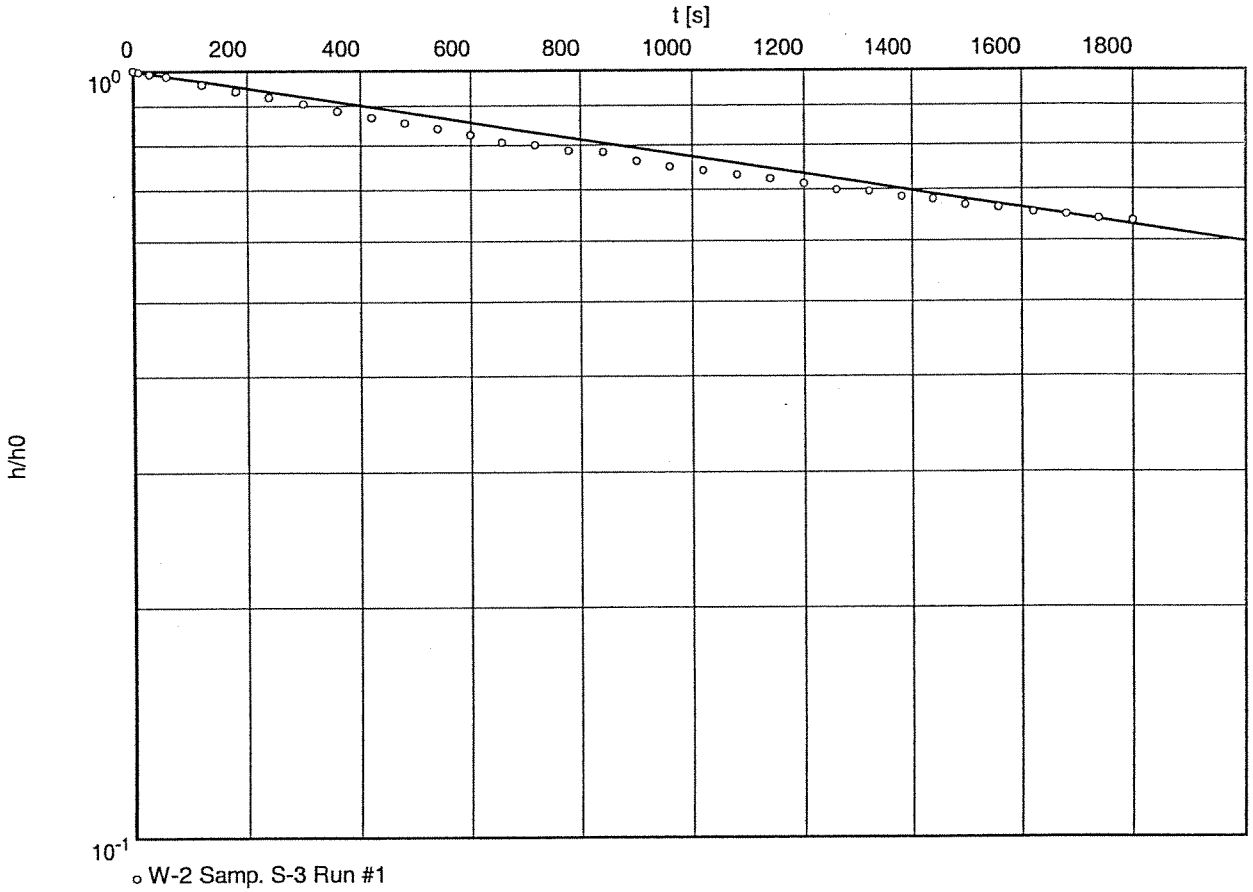
W-1 Wetherbee Site

W-1 Samp. S-7 Run #1

Static water level: 545.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Change in Waterlevel [cm]
1	0	0.0	-545.0
2	10	5.1	-539.9
3	30	9.6	-535.4
4	60	21.6	-523.4
5	120	45.7	-499.3
6	180	72.5	-472.5
7	240	100.0	-445.0
8	300	131.1	-413.9
9	360	155.4	-389.6
10	420	179.2	-365.8
11	480	202.4	-342.6
12	540	223.7	-321.3
13	600	243.8	-301.2
14	660	260.9	-284.1
15	720	279.8	-265.2
16	780	295.7	-249.3
17	840	311.5	-233.5
18	900	323.7	-221.3
19	960	337.7	-207.3
20	1020	349.3	-195.7
21	1080	360.3	-184.7
22	1140	371.9	-173.1
23	1200	382.2	-162.8
24	1260	390.8	-154.2
25	1320	399.9	-145.1
26	1380	408.4	-136.6
27	1440	416.4	-128.6
28	1500	423.7	-121.3
29	1560	428.5	-116.5
30	1620	435.9	-109.1
31	1680	442.0	-103.0
32	1740	446.8	-98.2
33	1800	456.0	-89.0

180 Columbia St. W. Waterloo,Ontario,Canada ph.(519)746-1798	HVORSLEV's method	Project: New Acton RIB Sites Evaluated by: VLT
Slug Test No. S-3 Run #1		Test conducted on: 3-22-05
W-2 Wetherbee site		



Hydraulic conductivity [cm/s]: 1.97×10^{-4}

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HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-3 Run #1

Test conducted on: 3-22-05

W-2 Wetherbee site

W-2 Samp. S-3 Run #1

Static water level: 362.1 cm below datum

	Pumping test duration [s]	Water level [cm]	Change in Waterlevel [cm]	
1	0	0.0	-362.1	
2	10	1.3	-360.8	
3	30	3.8	-358.3	
4	60	6.3	-355.8	
5	120	14.6	-347.5	
6	180	21.6	-340.5	
7	240	27.9	-334.2	
8	300	34.1	-328.0	
9	360	41.5	-320.6	
10	420	47.5	-314.6	
11	480	52.4	-309.7	
12	540	57.9	-304.2	
13	600	63.4	-298.7	
14	660	70.1	-292.0	
15	720	72.5	-289.6	
16	780	77.4	-284.7	
17	840	78.6	-283.5	
18	900	86.0	-276.1	
19	960	90.8	-271.3	
20	1020	93.9	-268.2	
21	1080	97.5	-264.6	
22	1140	100.6	-261.5	
23	1200	104.2	-257.9	
24	1260	109.1	-253.0	
25	1320	110.3	-251.8	
26	1380	114.6	-247.5	
27	1440	116.4	-245.7	
28	1500	120.7	-241.4	
29	1560	122.5	-239.6	
30	1620	125.6	-236.5	
31	1680	127.4	-234.7	
32	1740	130.5	-231.6	
33	1800	131.7	-230.4	

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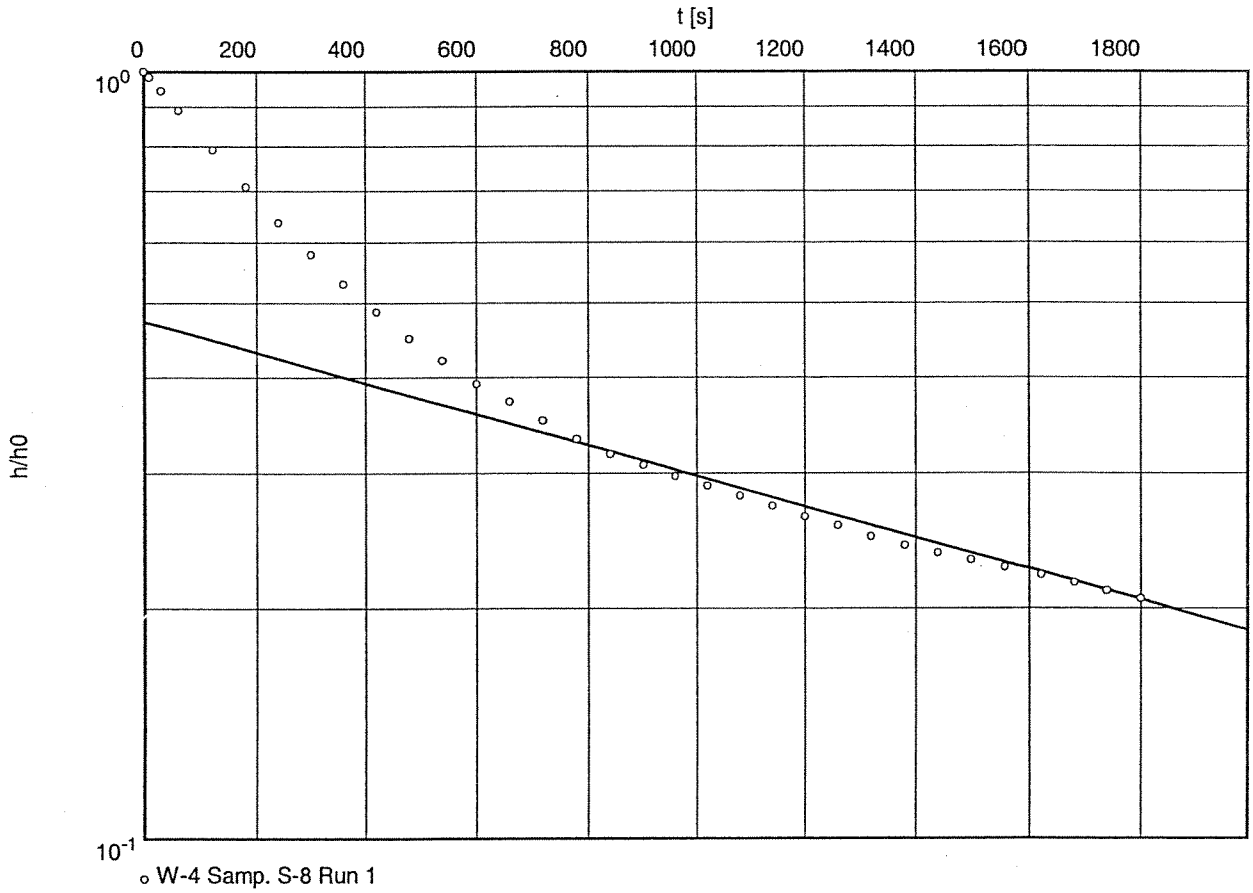
HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-8 Run #1	Test conducted on: 3-22-05
Wetherbee Site Well # W-4	



Hydraulic conductivity [cm/s]: 3.55×10^{-4}

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HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-8 Run #1

Test conducted on: 3-22-05

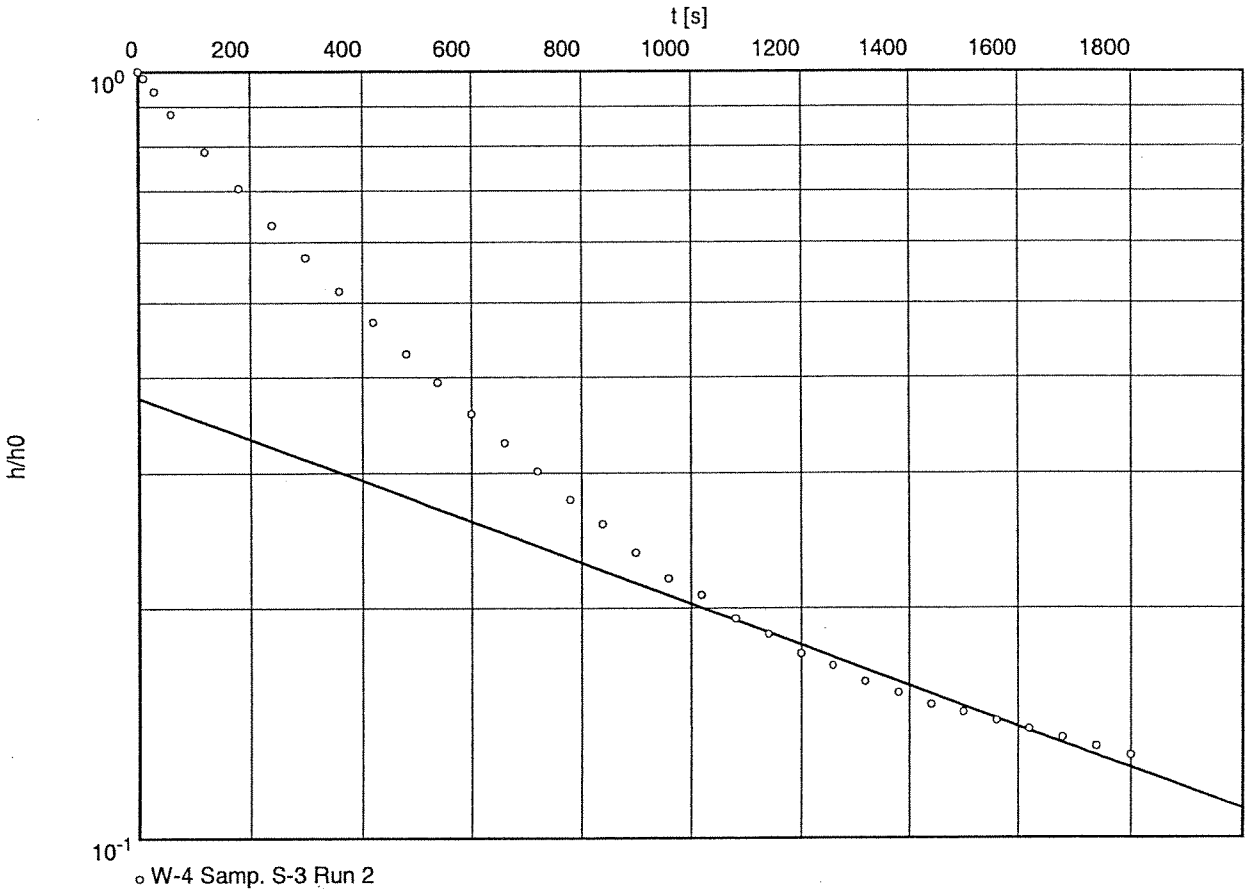
Wetherbee Site Well # W-4

W-4 Samp. S-8 Run 1

Static water level: 360.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Change in Waterlevel [cm]	
1	0	0.0	-360.0	
2	10	6.3	-353.6	
3	30	20.3	-339.6	
4	60	39.6	-320.3	
5	120	75.0	-285.0	
6	180	104.9	-255.1	
7	240	131.1	-228.9	
8	300	151.8	-208.2	
9	360	169.5	-190.5	
10	420	184.7	-175.3	
11	480	198.1	-161.8	
12	540	208.5	-151.5	
13	600	218.8	-141.1	
14	660	226.2	-133.8	
15	720	233.5	-126.5	
16	780	240.2	-119.8	
17	840	245.7	-114.3	
18	900	249.3	-110.6	
19	960	253.0	-107.0	
20	1020	256.0	-103.9	
21	1080	259.1	-100.9	
22	1140	262.1	-97.8	
23	1200	265.2	-94.8	
24	1260	267.6	-92.4	
25	1320	270.7	-89.3	
26	1380	273.1	-86.9	
27	1440	274.9	-85.0	
28	1500	276.8	-83.2	
29	1560	278.6	-81.4	
30	1620	280.4	-79.6	
31	1680	282.2	-77.7	
32	1740	284.1	-75.9	
33	1800	285.9	-74.1	

180 Columbia St. W. Waterloo,Ontario,Canada ph.(519)746-1798	HVORSLEV's method	Project: New Acton RIB Sites Evaluated by: VLT
Slug Test No. S-3 Run #2		Test conducted on: 3-22-05
Wetherbee Site Well # W-4		



Hydraulic conductivity [cm/s]: 4.73×10^{-4}

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HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-3 Run #2

Test conducted on: 3-22-05

Wetherbee Site Well # W-4

W-4 Samp. S-3 Run 2

Static water level: 344.7 cm below datum

	Pumping test duration [s]	Water level [cm]	Change in Waterlevel [cm]	
1	0	0.0	-344.7	
2	10	7.0	-337.7	
3	30	20.4	-324.3	
4	60	41.5	-303.3	
5	120	73.8	-271.0	
6	180	101.8	-242.9	
7	240	127.4	-217.3	
8	300	147.5	-197.2	
9	360	166.4	-178.3	
10	420	182.3	-162.5	
11	480	196.9	-147.8	
12	540	209.1	-135.6	
13	600	221.3	-123.4	
14	660	231.6	-113.1	
15	720	240.8	-103.9	
16	780	249.3	-95.4	
17	840	256.0	-88.7	
18	900	263.3	-81.4	
19	960	269.4	-75.3	
20	1020	273.1	-71.6	
21	1080	278.0	-66.8	
22	1140	281.0	-63.7	
23	1200	284.7	-60.0	
24	1260	286.8	-57.9	
25	1320	289.6	-55.2	
26	1380	291.4	-53.3	
27	1440	293.2	-51.5	
28	1500	294.4	-50.3	
29	1560	295.7	-49.1	
30	1620	296.9	-47.9	
31	1680	298.1	-46.6	
32	1740	299.3	-45.4	
33	1800	300.5	-44.2	

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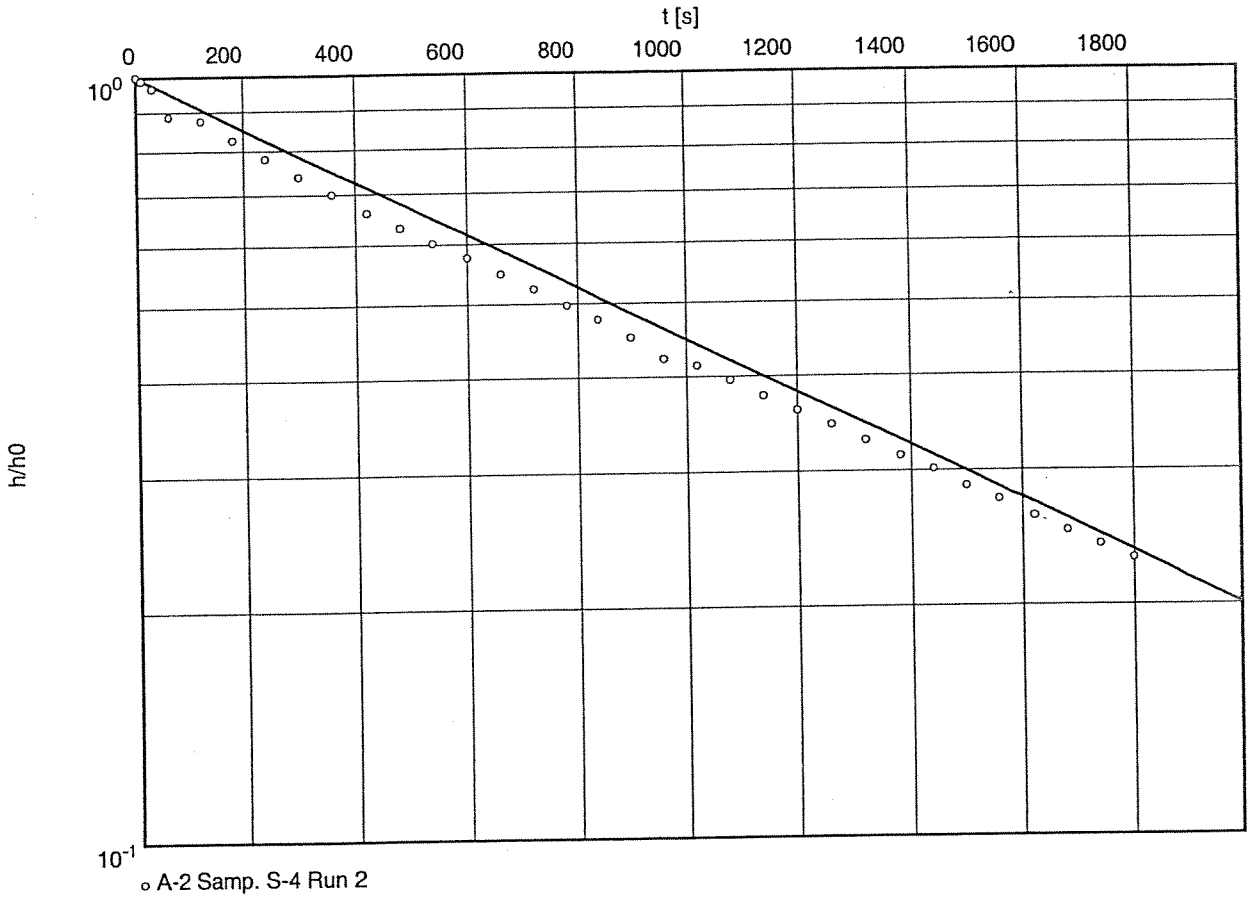
HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-4 Run # 2	Test conducted on: 3-22-05
A-2 Adams St	



Hydraulic conductivity [cm/s]: 6.15×10^{-4}

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HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-4 Run # 2

Test conducted on: 3-22-05

A-2 Adams St

A-2 Samp. S-4 Run 2

Static water level: 485.2 cm below datum

	Pumping test duration [s]	Water level [cm]	Change in Waterlevel [cm]	
1	0	0.0	-485.2	
2	10	5.7	-479.5	
3	30	16.5	-468.7	
4	60	54.9	-430.3	
5	120	60.4	-424.8	
6	180	84.7	-400.5	
7	240	106.7	-378.5	
8	300	126.8	-358.4	
9	360	145.7	-339.5	
10	420	164.6	-320.6	
11	480	179.2	-306.0	
12	540	193.2	-292.0	
13	600	206.0	-279.2	
14	660	219.5	-265.7	
15	720	231.6	-253.6	
16	780	243.8	-241.4	
17	840	254.2	-231.0	
18	900	266.4	-218.8	
19	960	280.4	-204.8	
20	1020	284.7	-200.5	
21	1080	293.2	-192.0	
22	1140	302.4	-182.8	
23	1200	310.3	-174.9	
24	1260	317.6	-167.6	
25	1320	325.5	-159.7	
26	1380	332.8	-152.4	
27	1440	338.9	-146.3	
28	1500	346.3	-138.9	
29	1560	351.7	-133.5	
30	1620	358.4	-126.8	
31	1680	363.9	-121.3	
32	1740	368.8	-116.4	
33	1800	373.7	-111.5	

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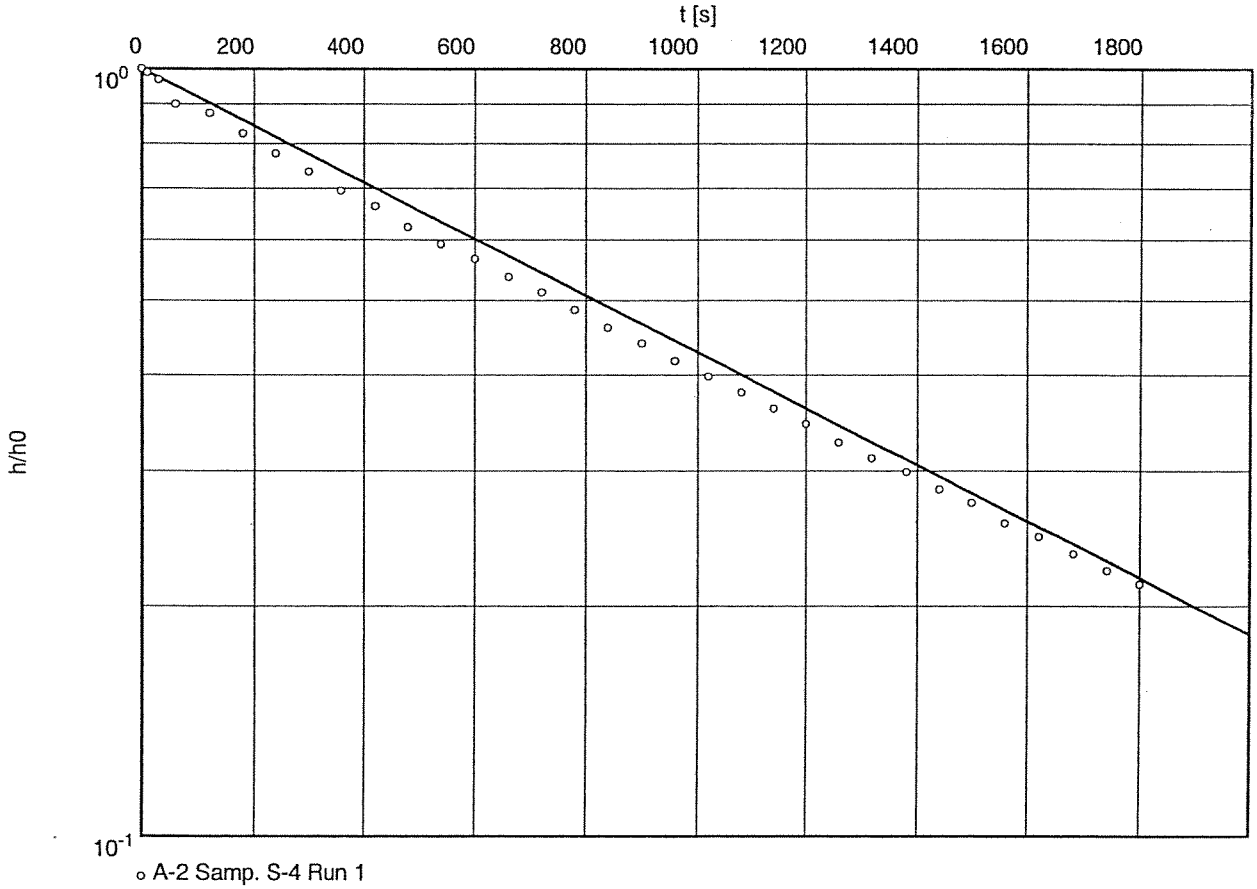
Slug/bail test analysis
HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-4 Run #1	Test conducted on: 3-24-05
A-2 Adams St	



Hydraulic conductivity [cm/s]: 6.49×10^{-4}

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HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-4 Run #1

Test conducted on: 3-24-05

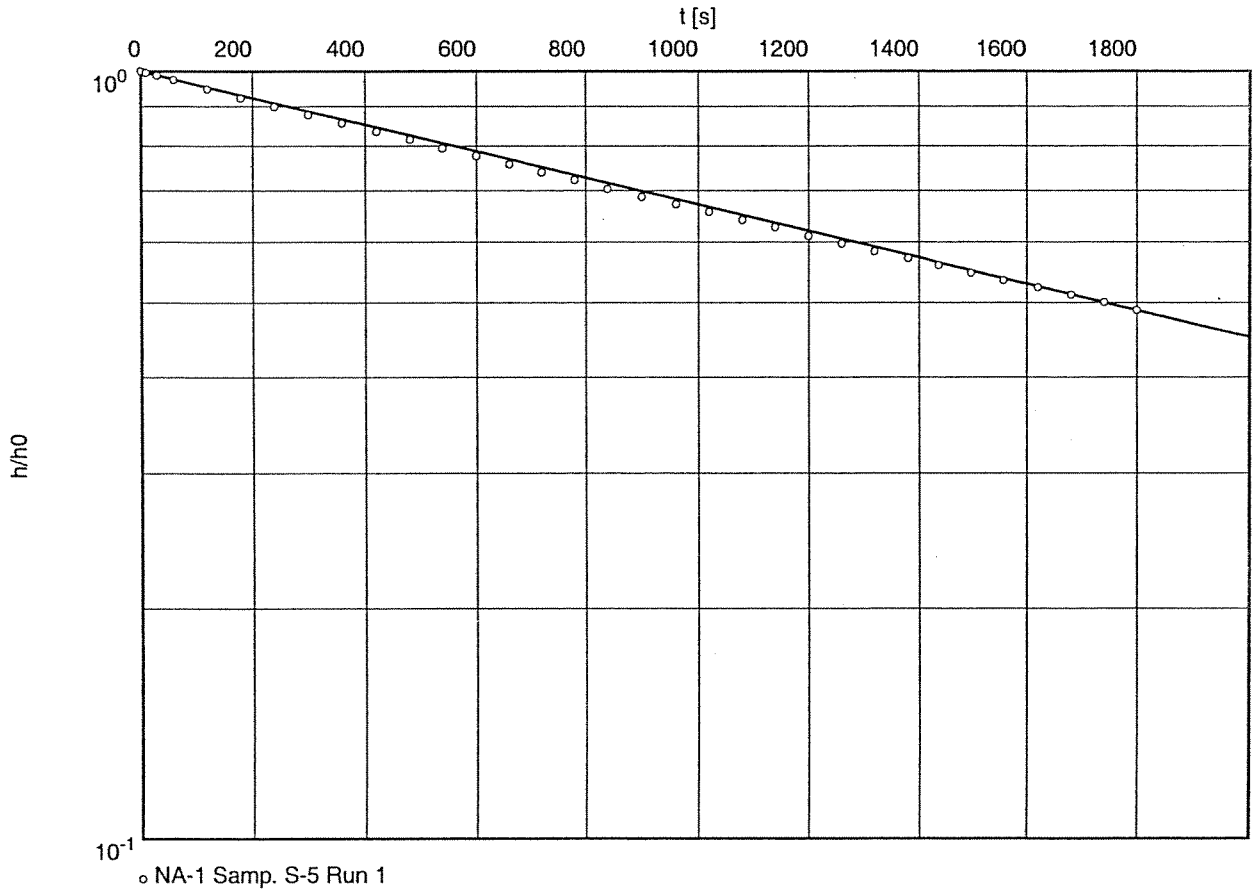
A-2 Adams St

A-2 Samp. S-4 Run 1

Static water level: 485.2 cm below datum

	Pumping test duration [s]	Water level [cm]	Change in Waterlevel [cm]	
1	0	0.0	-485.2	
2	10	5.7	-479.5	
3	30	15.6	-469.6	
4	60	48.8	-436.4	
5	120	60.4	-424.8	
6	180	85.3	-399.9	
7	240	108.5	-376.7	
8	300	128.6	-356.6	
9	360	148.1	-337.1	
10	420	163.4	-321.8	
11	480	182.9	-302.3	
12	540	198.1	-287.1	
13	600	210.3	-274.9	
14	660	224.9	-260.3	
15	720	236.5	-248.7	
16	780	249.3	-235.9	
17	840	261.5	-223.7	
18	900	271.9	-213.3	
19	960	282.9	-202.3	
20	1020	292.0	-193.2	
21	1080	301.1	-184.1	
22	1140	309.7	-175.5	
23	1200	317.6	-167.6	
24	1260	326.7	-158.5	
25	1320	334.1	-151.1	
26	1380	340.2	-145.0	
27	1440	347.5	-137.7	
28	1500	353.0	-132.2	
29	1560	360.9	-124.3	
30	1620	365.8	-119.4	
31	1680	371.9	-113.3	
32	1740	377.3	-107.9	
33	1800	381.6	-103.6	

180 Columbia St. W. Waterloo,Ontario,Canada ph.(519)746-1798	HVORSLEV's method	Project: New Acton RIB Sites Evaluated by: VLT
Slug Test No. S-5 Run 1		Test conducted on: 3-22-05
NA-1 North Acton		



Hydraulic conductivity [cm/s]: 3.04×10^{-4}

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Slug/bail test analysis
HVORSLEV's method

Project: New Acton RIB Sites

Evaluated by: VLT

Slug Test No. S-5 Run 1	Test conducted on: 3-22-05
NA-1 North Acton	NA-1 Samp. S-5 Run 1

Static water level: 717.8 cm below datum

	Pumping test duration [s]	Water level [cm]	Change in Waterlevel [cm]	
1	0	0.0	-717.8	
2	10	3.5	-714.3	
3	30	9.5	-708.3	
4	60	18.7	-699.1	
5	120	37.8	-680.0	
6	180	55.5	-662.3	
7	240	72.5	-645.3	
8	300	87.8	-630.0	
9	360	103.6	-614.2	
10	420	118.9	-598.9	
11	480	132.9	-584.9	
12	540	148.1	-569.7	
13	600	160.9	-556.9	
14	660	175.0	-542.8	
15	720	187.8	-530.0	
16	780	199.9	-517.9	
17	840	213.4	-504.4	
18	900	224.9	-492.9	
19	960	235.9	-481.9	
20	1020	246.9	-470.9	
21	1080	257.9	-459.9	
22	1140	268.2	-449.6	
23	1200	279.8	-438.0	
24	1260	289.6	-428.2	
25	1320	299.3	-418.5	
26	1380	307.8	-410.0	
27	1440	316.4	-401.4	
28	1500	325.5	-392.3	
29	1560	334.1	-383.7	
30	1620	342.0	-375.8	
31	1680	350.5	-367.3	
32	1740	358.4	-359.4	
33	1800	367.0	-350.8	

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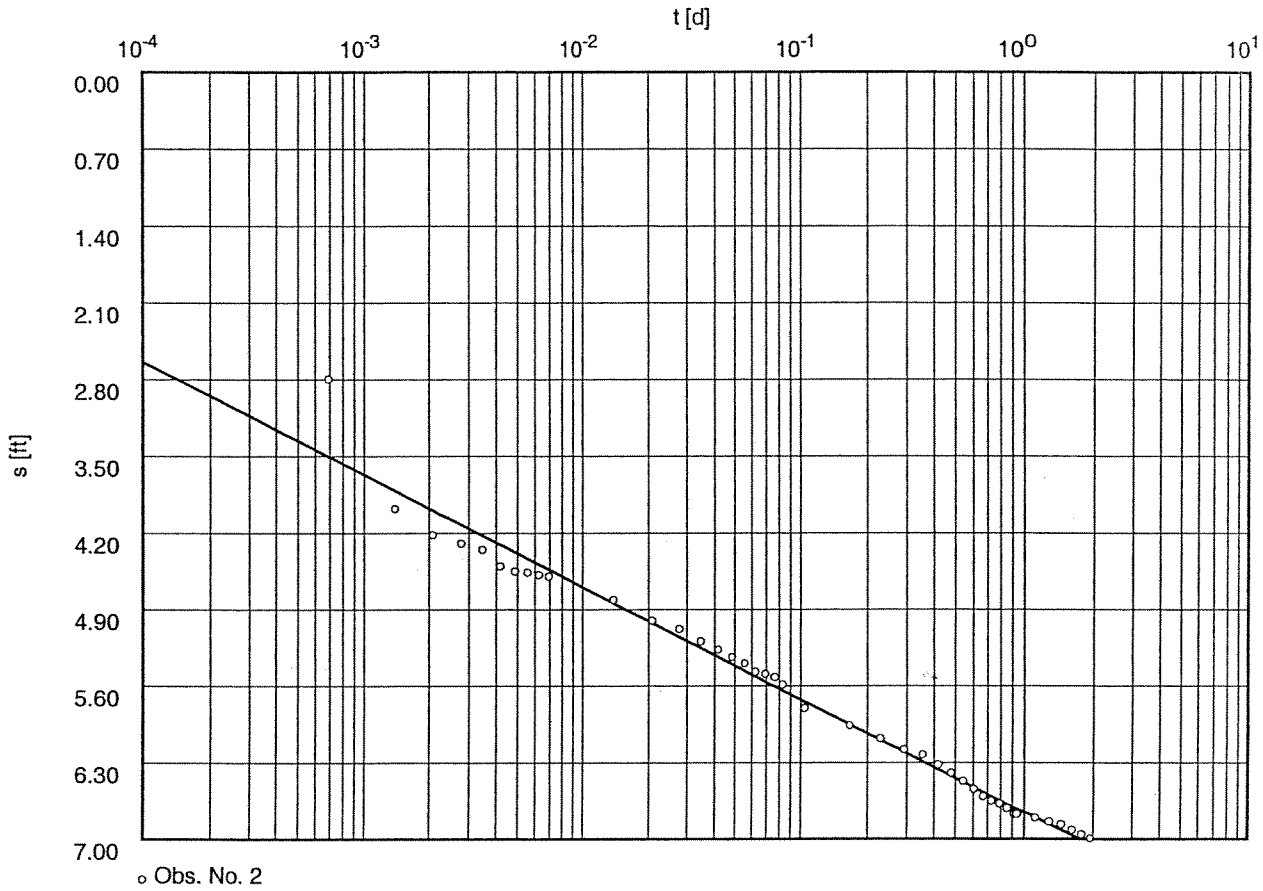
Pumping test analysis
Time-Drawdown-method after
COOPER & JACOB
Unconfined aquifer

Date: 19.08.2003 | Prelim Hydrogeo Repor

Project: New Acton Rib Sites

Evaluated by: VLT

Pumping Test No. Well 2A	Test conducted on: 5-3-00 - 5-4-00
Assabet 2A High St. Site	
Discharge 401.00 U.S.gal/min	



Transmissivity [ft²/d]: 1.37×10^4

Hydraulic conductivity [ft/d]: 5.70×10^2

Aquifer thickness [ft]: 24.10

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Pumping test analysis
Time-Drawdown-method after
COOPER & JACOB
Unconfined aquifer

Project: New Acton Rib Sites

Evaluated by: VLT

Pumping Test No. Well 2A

Test conducted on: 5-3-00 - 5-4-00

Assabet 2A High St. Site

Obs. No. 2

Discharge 401.00 U.S.gal/min

Distance from the pumping well 2.00 ft

Static water level: 8.35 ft below datum

	Pumping test duration [d]	Water level [ft]	Drawdown [ft]	Corrected drawdown [ft]
2	0.00069	11.33	2.98	2.80
3	0.00139	12.73	4.38	3.98
4	0.00208	13.02	4.67	4.22
5	0.00278	13.12	4.77	4.30
6	0.00347	13.19	4.84	4.35
7	0.00417	13.38	5.03	4.51
8	0.00486	13.44	5.09	4.55
9	0.00556	13.45	5.10	4.56
10	0.00625	13.48	5.13	4.58
11	0.00694	13.50	5.15	4.60
12	0.01389	13.77	5.42	4.81
13	0.02083	14.02	5.67	5.00
14	0.02778	14.12	5.77	5.08
15	0.03472	14.27	5.92	5.19
16	0.04167	14.37	6.02	5.27
17	0.04861	14.46	6.11	5.34
18	0.05556	14.54	6.19	5.40
19	0.06250	14.64	6.29	5.47
20	0.06944	14.67	6.32	5.49
21	0.07639	14.71	6.36	5.52
22	0.08333	14.80	6.45	5.59
23	0.10417	15.10	6.75	5.80
24	0.16667	15.32	6.97	5.96
25	0.22917	15.49	7.14	6.08
26	0.29167	15.63	7.28	6.18
27	0.35417	15.70	7.35	6.23
28	0.41667	15.83	7.48	6.32
29	0.47917	15.94	7.59	6.39
30	0.54167	16.05	7.70	6.47
31	0.60417	16.16	7.81	6.54
32	0.66667	16.26	7.91	6.61
33	0.72917	16.32	7.97	6.65
34	0.79167	16.36	8.01	6.68
35	0.85417	16.42	8.07	6.72
36	0.91667	16.50	8.15	6.77
37	0.93750	16.50	8.15	6.77
38	1.10417	16.55	8.20	6.80
39	1.27083	16.60	8.25	6.84
40	1.43750	16.64	8.29	6.86
41	1.60417	16.72	8.37	6.92
42	1.77083	16.78	8.43	6.96
43	1.93750	16.84	8.49	6.99

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Pumping test analysis
Time-Drawdown-method after
COOPER & JACOB
Unconfined aquifer

Project: New Acton Rib Sites

Evaluated by: VLT

Pumping Test No. Well 2A	Test conducted on: 5-3-00 - 5-4-00
Assabet 2A High St. Site	Performance Test Assabet 2-A
Discharge 401.00 U.S.gal/min	

	Pumping test duration [d]	Discharge [U.S.gal/min]		
1	0.00000	401.00		
2	1.93750	401.00		