STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-201
SHEET 1 of 2
DATE STARTED: 11/30/06
DATE COMPLETED: 12/13/06

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+62.70
OFFSET: -35.40
VTSPG NAD83: N 888189.22 ft E 1721048.66 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 822.97 ft
GROUNDWATER DEPTH: 11.4 ft 12/14/06
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: HOLT
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

Top of Well Elevation: 824.47 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, SaSi, brn, Moist, Rec. = 1.1 ft		7	14.4	11.6	37.2	51.2		
		A-4, SaSI, gry, Molst, Rec. = 1.3 ft		22	13.1	10.3	37.0	52.7		
5		A-4, SaSi, gry, Wet, Rec. = 0.7 ft		3	16.9	12.7	33.8	53.5		
		Field Note:, No Recovery, Wood in sampler.		5						
		A-4, SaSi, gry, Wet, Rec. = 0.7 ft		6	14.3	16.2	28.2	55.6		
		A-4, SaSi, brn, Wet, Rec. = 0.5 ft			14.6	2.1	38.8	59.1		
10		A-4, SaSi, gry-brn, Wet, Rec. = 1.3 ft	▽	32	15.4	1.8	31.1	67.1		
		A-4, SaSI, brn, Molst, Rec. = 1.75 ft		34	14.1	8.2	27.1	64.7		
15		A-4, SaSi, brn, Moist, Rec. = 1.5 ft		31	15.1	5.5	33.5	61.0		
		A-4, SaSi, gry, Moist, Rec. = 1.8 ft		31	18.2	4.1	23.4	72.5		
		A-4, Si, brn, Moist, Rec. = 0.4 ft		10	23.7	0.2	5.7	94.1		
		A-4, SaSi, gry, Moist, Rec. = 1.2 ft			18.2	5.3	34.5	60.2		
20		A-4, SaSi, gry, Moist, Rec. = 1.0 ft		15	18.1	13.1	28.4	58.5		
		A-4, SaSI, gry, Molst, Rec. = 1.0 ft		7	18.3	15.0	38.4	46.6		
25		Field Note:, No Recovery		19						
		Field Note:, No Recovery		15						
		A-4, SaSi, brn, Moist, Rec. = 1.5 ft		7	16.2	7.0	29.7	63.3		
30		A-4, SaSi, brn, Moist, Rec. = 0.8 ft		12	15.2	8.5	24.4	67.1		
		A-4, SaSi, gry, Moist, Rec. = 0.7 ft			12.1	14.0	22.0	64.0		
		A-4, SaSI (HP), gry, Molst, Rec. = 1.0 ft		26	10.3	17.6	21.8	60.6		
35		A-4, SaSi (HP), gry, Moist, Rec. = 0.7 ft		16	10.5	14.6	25.3	60.1		
		Field Note:, No Recovery, Stone in end of sampler.		23						
		A-4, GrSaSi, gry, Moist, Rec. = 0.7 ft		R	12.2	24.3	36.1	39.6		
		Field Note:, NXDC, Cored ahead, Cobbles								

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-201
SHEET 2 of 2
DATE STARTED: 11/30/06
DATE COMPLETED: 12/13/06

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+62.70
OFFSET: -35.40
VTSPG NAD83: N 888189.22 ft E 1721048.66 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 822.97 ft
GROUNDWATER DEPTH: 11.4 ft 12/14/06
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: HOLT
DRILLER: GARROW
LOGGER: WERNER

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-3, Sa, gry, Wet, Rec. = 0.3 ft		R	21.2	7.2	86.9	5.9		
		A-2-4, SiSaGr, gry, Wet, Rec. = 1.7 ft, Pulled casing and replaced shoe with diamond bit.			11.9	35.9	35.7	28.4		
		A-4, GrSiSa, gry, Wet, Rec. = 1.0 ft		77	14.5	22.3	40.9	36.8		
		A-4, SaSi, gry, Wet, Rec. = 0.6 ft			22.0	2.7	47.3	50.0		
45		A-4, SaSi, gry, Wet, Rec. = 1.7 ft		41	18.6	10.7	41.4	47.9		
		A-2-4, GrSiSa, gry, Wet, Rec. = 0.6 ft		44	15.4	21.8	46.6	31.6		
		A-4, SaSI, gry, Wet, Rec. = 1.0 ft			16.3	19.1	30.0	50.9		
		A-4, Si, gry, Wet, Rec. = 0.6 ft		32	18.3	1.8	18.4	79.8		
		A-6, SiCl, gry, Wet, Rec. = 0.9 ft			26.1	0.0	3.1	96.9	37	16
50		A-6, SiCl, gry, Moist, Rec. = 2.0 ft		31	25.0	0.9	4.5	94.6	33	11
55		A-6, SiCl, gry, Moist, Rec. = 2.0 ft		27	27.2	0.0	3.7	96.3	40	16
60		A-4, GrSaSi, gry, Moist, Rec. = 1.3 ft		R	11.8	29.7	34.2	36.1		
		Field Note:, NXDC, Cleaned out casing.								
65		A-4, SiSa, gry, Moist, Rec. = 1.5 ft, Sample was a combination of silt and ground granite.		78	21.5	2.1	52.8	45.1		
		Field Note:, Roller cored ahead, Advanced casing, Cleaned out casing, NXDC								
70		A-4, ClSi, gry, Moist, Rec. = 1.4 ft		R	12.2	1.9	22.1	76.0	24	7
		Hole stopped @ 71.5 ft								
75		DRILLER'S NOTES: 1. Installed Inclinometer to 70.0 ft. 2. Top of Inclinometer is 1.5 ft. above ground surface.								

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-202
SHEET 1 of 3
DATE STARTED: 12/13/07
DATE COMPLETED: 1/17/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 113+17.00
OFFSET: 133.00
VTSPG NAD83: N 888157.65 ft E 1721345.48 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 812.5 ft
GROUNDWATER DEPTH: 32.5 ft 1/09/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

Top of Well Elevation: 815.2 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-2-4, SlSa, brn, Moist, Rec. = 1.7 ft, Top of Inclinometer casing is 2.7 feet above ground level.		12	12.0	16.3	58.5	25.2		
		NXDC, Cleaned out casing,. 4.5 ft - 5.0 ft								
		A-1-b, GrSa, brn, Wet, Rec. = 1.0 ft		25	9.9	35.1	52.0	12.9		
10		A-4, SaSl, gry, Wet, Rec. = 0.7 ft		13	14.2	19.3	33.6	47.1		
		No recovery, Stone in end of sampler,. 15.0 ft - 17.0 ft		24						
20		A-4, SaSl, gry, Wet, Rec. = 0.9 ft		20	21.7	14.3	24.4	61.3		
		A-2-4, SlSa, brn, Wet, Rec. = 1.9 ft		18	19.5	5.6	62.9	31.5		
30		A-4, SaSl, gry-brn, Moist, Rec. = 1.2 ft		26	16.5	12.6	27.1	60.3		
		Cleaned out casing,. 34.4 ft - 35.0 ft		18	18.4	10.2	22.3	67.5		
		A-4, SaSl, brn, Moist, Rec. = 1.4 ft								
40		Visual Classification, A-4, with broken rock, brn, Moist, Rec. = 0.3 ft, Insufficient sample for testing.		R						
		Cobbles, 40.8 ft - 42.8 ft, NXDC, Cored ahead.								
		A-7-6, Cl, brn-gry, Moist, Rec. = 1.3 ft, Advanced casing to 47.0 ft.		14	29.2	1.3	4.7	94.0	48	22
		Visual Classification, Cl with large stones through-out the sample, brn-gry, MTW, Rec. = 1.0 ft, The end of the tube was crushed.								
50		A-7-6, Cl, brn, Wet, Rec. = 0.35 ft, Insufficient sample for other testing.		18	29.6 12.1	39.8	39.2	21.0	47	22
		A-1-b, SlSaGr, gry, Wet, Rec. = 0.65 ft								
		A-2-4, GrSa, brn, Wet, Rec. = 0.5 ft		41	16.5	21.6	63.9	14.5		

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-202
SHEET 2 of 3
DATE STARTED: 12/13/07
DATE COMPLETED: 1/17/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 113+17.00
OFFSET: 133.00
VTSPG NAD83: N 888157.65 ft E 1721345.48 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 812.5 ft
GROUNDWATER DEPTH: 32.5 ft 1/09/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-2-4, GrSlSa, gry-brn, Moist, Rec. = 1.0 ft		42	17.8	22.0	48.4	29.6		
		A-2-4, SlSa, brn, Moist, Rec. = 1.1 ft		33	14.7	19.1	58.5	22.4		
70		Cobbles 66.0'-70.0' & gravel, NXDC 69.5'-70.0' , Cored ahead, Advanced casing to 70.0 ft., 67.0 ft - 70.0 ft								
		A-2-4, GrSa, brn-gry, Moist, Rec. = 1.5 ft		34	15.4	24.5	57.3	18.2		
		A-4, SaSl, gry, Moist, Rec. = 2.0 ft, Sample was hard packed with a trace of clay (NP).		22	18.7	2.6	47.6	49.8		
80		A-2-4, SaSlGr, gry, Wet, Rec. = 1.2 ft		29	16.3	40.6	29.2	30.2		
		A-4, GrSaSl, gry, Moist, Rec. = 1.4 ft, Hard packed material.		55	10.3	21.1	30.7	48.2		
90		Visual Classification, A-2-4, GrSaSi, gry, Wet, Rec. = 0.3 ft, Insufficient sample for testing.		19						
		Visual Classification, A-2-4, GrSl, gry, Wet, Rec. = 0.5 ft, Insufficient sample for testing. Roller-coned ahead & advanced casing.		39						
100		A-4, Sl, brn, Moist, Rec. = 1.25 ft		74	17.3	19.5	14.9	65.6		
		NXDC, Cleaned out casing,. 101.3 ft - 105.0 ft								
		A-4, GrSl, brn-gry, Moist, Rec. = 1.85 ft		75	16.8	30.9	14.0	55.1		
110		A-4, SaGrSl, brn, Moist, Rec. = 0.7 ft, Roller-coned ahead.		R	15.3	35.0	20.5	44.5		
		A-4, GrSi, gry-brn, Moist, Rec. = 1.0 ft, Roller-coned ahead. Advanced casing.		R	19.6	21.4	18.2	60.4		

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-202
SHEET 3 of 3
DATE STARTED: 12/13/07
DATE COMPLETED: 1/17/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 113+17.00
OFFSET: 133.00
VTSPG NAD83: N 888157.65 ft E 1721345.48 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 812.5 ft
GROUNDWATER DEPTH: 32.5 ft 1/09/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, Sl, gry-brn, Moist, Rec. = 1.0 ft, Roller-coned ahead. Advanced casing.		R	18.1	19.7	18.8	61.5		
		A-4, GrSl, gry, Moist, Rec. = 0.8 ft, Roller-coned ahead. Advanced casing.		R	18.0	27.4	17.0	55.6		
130		A-4, Sl, gry, Moist, Rec. = 0.9 ft, Roller-coned ahead. Advanced casing.		R	22.6	10.9	15.4	73.7		
		A-4, Sl, gry-brn, Moist, Rec. = 1.2 ft, Roller-coned ahead. Advanced casing.		R	23.3	10.4	16.5	73.1		
140		A-4, SaSl, gry, Moist, Rec. = 0.5 ft, Roller-coned ahead. Advanced casing.		R	14.2	17.4	26.3	56.3		
		A-4, Sl, brn, Moist, Rec. = 0.5 ft, Advanced casing.		R	22.7	0.4	17.0	82.6		
150		A-2-4, SlSaGr, brn, Moist, Rec. = 0.25 ft, Broken rock was throughout sample.		R	10.9	41.0	32.2	26.8		
		Hole stopped @ 150.25 ft								
160										
170										

DRILLER'S NOTES:
1. Installed Inclinometer to 147.3 ft.
2. Top of Inclinometer is 2.7 ft above ground surface.

Ground water tables with dates.
22.5' on 12/26/07
20.1' on 12/27/07
35.5' on 12/28/07
34.8' on 01/04/08
35.5' on 01/07/08
33.9' on 01/08/08
32.5' on 01/09/08

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-203
SHEET 1 of 3
DATE STARTED: 12/20/06
DATE COMPLETED: 3/16/07

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+15.00
OFFSET: 129.00
VTSPG NAD83: N 888283.55 ft E 1721191.24 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 811.59 ft
GROUNDWATER DEPTH: 29.0 ft 2/27/07
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

Top of Well Elevation: 814.19 ft

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
	A-2-4, SISa, brn, Moist, Rec. = 1.6 ft	9	9.9	7.5	67.1	25.4		
	A-2-4, Sa, brn, Moist, Rec. = 1.8 ft	12	8.7	8.7	74.8	16.5		
5	A-2-4, Sa, brn, Moist, Rec. = 1.7 ft	8	9.3	9.8	72.3	17.9		
	Visual Classification, A-2-4, Gr SI Sa, brn, Moist, Rec. = 0.4 ft, Insufficient sample for testing. Cleaned out casing with NXDC.	50						
	A-4, SaSI, brn-gry, Moist, Rec. = 1.2 ft	9	18.1	7.6	34.8	57.6		
10	A-4, SaSI, brn, Moist, Rec. = 1.7 ft	21	18.3	1.2	29.3	69.5		
	A-2-4, SISa, brn, Wet, Rec. = 1.25 ft	29	16.4	2.0	63.0	35.0		
15	A-2-4, SISa, brn, Wet, Rec. = 1.2 ft	21	17.6	4.3	68.7	27.0		
	A-4, SISa, gry, Wet, Rec. = 1.7 ft	30	17.5	2.3	60.8	36.9		
	A-2-4, SiSa, brn, Moist, Rec. = 1.6 ft	27	15.2	0.9	67.6	31.5		
20	A-2-4, SiSa, brn, Moist, Rec. = 1.7 ft	29	16.1	1.2	70.3	28.5		
	A-2-4, SiSa, brn, Moist, Rec. = 1.1 ft	24	16.2	4.0	70.3	25.7		
25	A-2-4, SiSa, brn, Moist, Rec. = 1.0 ft	18	16.8	1.1	69.2	29.7		
	A-2-4, SiSa, brn, Moist, Rec. = 1.8 ft, Some small roots & reed/grassy material were within the sample.	14	20.4	4.1	69.9	26.0		
30	A-2-4, SISa, gry, Moist, Rec. = 0.6 ft, Broken rock was within the sample.	44	12.9	10.4	55.9	33.7		
	A-4, SaSI, gry, Moist, Rec. = 1.5 ft	13	18.9	0.7	42.5	56.8		
	A-4, SaSI, gry, Moist, Rec. = 1.7 ft, Small pieces of burnt wood were within the sample.	9	22.9	7.5	42.4	50.1		
35	Field Note: No sample, Stone in end of sampler.	25						
	A-4, SISa with some burnt wood and ash material, gry, Moist, Rec. = 0.5 ft	12	15.9	8.1	49.7	42.2		
	A-1-b, GrSa, gry, Wet, Rec. = 0.5 ft		16.2	30.3	58.8	10.9		
40	Field Note: Boulder, Cored ahead with NXDC and advanced casing							
	A-4, SaSI, brn, Wet, Rec. = 1.1 ft	8	13.0	19.1	32.6	48.3		
	A-4, GrSaSI, brn, Wet, Rec. = 0.6 ft	19	12.9	21.2	31.6	47.2		
45	A-4, SaSI, gry, Moist, Rec. = 1.2 ft	24	10.7	16.4	28.7	54.9		
	Visual Classification, A-4, Sa SI, gry, Moist, Rec. = 0.2 ft, Insufficient sample for testing.	31	13.7					
	A-2-4, GrSISa, gry, MTW, Rec. = 1.1 ft	22	13.3	25.8	43.7	30.5		

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-203
SHEET 2 of 3
DATE STARTED: 12/20/06
DATE COMPLETED: 3/16/07

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+15.00
OFFSET: 129.00
VTSPG NAD83: N 888283.55 ft E 1721191.24 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 811.59 ft
GROUNDWATER DEPTH: 29.0 ft 2/27/07
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
	A-4, SISa, gry, Moist, Rec. = 0.5 ft	12	14.0	13.5	44.3	42.2		
	A-2-4, GrSISa, gry, Moist, Rec. = 1.1 ft	13	11.0	29.5	36.9	33.6		
55	A-4, GrSaSI, gry, Wet, Rec. = 1.01 ft	16	11.0	31.1	33.1	35.8		
	A-4, SaSI, gry, Moist, Rec. = 0.5 ft	30	12.9	9.7	30.3	60.0		
	A-4, SI, gry, Moist, Rec. = 1.1 ft	43	19.5	4.1	13.1	82.8		
60	A-6, SICI, gry, Moist, Rec. = 1.6 ft	22	32.1	0.3	4.1	95.6	39	16
	A-6, SICI, gry, Moist, Rec. = 1.1 ft	29	30.9	0.0	3.7	96.3	36	15
65	A-6, SICI, gry, Moist, Rec. = 2.0 ft	27	28.8	0.0	2.3	97.7	40	17
	A-7-6, SICI, gry, Moist, Rec. = 0.6 ft	7	33.4	0.0	1.9	98.1	41	19
	A-6, SICI, gry, Moist, Rec. = 2.0 ft, Cleaned out casing with roller cone.	25	30.2	0.0	1.0	99.0	34	14
70	Visual Classification, A-6, Sa CI, gry, Wet, Rec. = 0.2 ft, Insufficient sample for testing.	26	41.4					
75	A-4, GrSISa, gry, Moist, Rec. = 1.5 ft, Cleaned out casing with roller- cone.	52	17.5	23.3	39.9	36.8		
80	A-4, SaSI HP, gry, Moist, Rec. = 1.7 ft, Cleaned out casing with roller-cone.	49	11.5	7.4	40.4	52.2		
85	A-4, SaSI, gry, Moist, Rec. = 1.2 ft	16	14.0	6.9	25.9	67.2		
90	A-2-4, SISa, gry, Moist, Rec. = 1.5 ft	17	20.7	10.8	55.4	33.8		
95	A-4, SI, gry-brn, Wet, Rec. = 1.7 ft	45	25.5	0.3	3.5	96.2	26	5

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-203
SHEET 3 of 3
DATE STARTED: 12/20/06
DATE COMPLETED: 3/16/07

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+15.00
OFFSET: 129.00
VTSPG NAD83: N 888283.55 ft E 1721191.24 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 811.59 ft
GROUNDWATER DEPTH: 29.0 ft 2/27/07
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
	A-6, SICI, brn, Moist, Rec. = 1.5 ft	39	23.2	0.6	11.8	87.6	40	19
	A-4, SI, brn, Moist, Rec. = 0.5 ft		26.2	0.0	3.4	96.6		
	Field Note: Change in material at 103.0'. Cleaned out casing with roller cone.							
105	A-7-6, CI Varved, gry-brn, Moist, Rec. = 2.0 ft	26	32.9	0.0	0.7	99.3	58	32
	Field Note: Roller-coned ahead and advanced casing.							
110	A-7-6, CI Varved, gry-brn, Moist, Rec. = 2.0 ft	31	31.1	0.0	0.9	99.1	53	27
115	A-7-6, CI Varved, gry-brn, Moist, Rec. = 2.0 ft, Roller-coned ahead.	43	34.1	0.0	0.9	99.1	56	26
120	A-4, SI, gry, Moist, Rec. = 1.5 ft, Roller-coned ahead.	50	22.9	1.6	9.2	89.2		
125	A-4, SaGrSI, gry, Moist, Rec. = 1.0 ft, Broken rock was within the sample.	R	15.8	27.2	21.4	51.4		
130	A-2-4, GrSISa, gry, Wet, Rec. = 0.5 ft	55	17.6	27.2	38.9	33.9		
	A-6, SICI, brn, Moist, Rec. = 1.3 ft		25.9	9.2	9.1	81.7	38	11
	Hole stopped @ 132.0 ft							
135	DRILLER'S NOTES: 1. Installed Inclinometer to 130.0 ft. 2. Top of Inclinometer is 2.6 ft. above ground surface.							
140								
145								

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-204
SHEET 1 of 4
DATE STARTED: 1/22/08
DATE COMPLETED: 3/07/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 117+10.00
OFFSET: 132.00
VTSPG NAD83: N 888409.14 ft E 1721039.58 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 784.0 ft
GROUNDWATER DEPTH: 23.4 ft 3/06/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

Top of Well Elevation: 786.6 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-2-4, SiSa, brn, Moist, Rec. = 1.2 ft		11	10.1	19.5	57.3	23.2		
5		A-1-b, SaGr, gry, Moist, Rec. = 0.5 ft		11	11.0	56.9	28.3	14.8		
10		A-2-4, SiSa, gry, Moist, Rec. = 0.2 ft		17	19.5	7.1	58.9	34.0		
15		A-2-4, SiSa, gry, Moist, Rec. = 1.1 ft		23	13.9	7.3	67.0	25.7		
20		A-8, Organic Silt (20.9%), brn, Moist, Rec. = 0.2 ft A-4, SaSi, gry, Moist, Rec. = 1.0 ft		15	103.8 15.4	8.1	33.3	58.6		
25		A-4, SaSi, gry, Moist, Rec. = 1.8 ft		37	23.1	1.4	20.9	77.7		
30		Cobbles, 29.5 ft - 30.5 ft A-6, SiCl, gry, Moist, Rec. = 1.4 ft, Roller-coned ahead.		23	24.1	7.5	15.5	77.0	37	16
35		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft, Advanced casing. Roller-coned ahead.		39	27.4	0.0	1.3	98.7	44	20

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-204
SHEET 2 of 4
DATE STARTED: 1/22/08
DATE COMPLETED: 3/07/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 117+10.00
OFFSET: 132.00
VTSPG NAD83: N 888409.14 ft E 1721039.58 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 784.0 ft
GROUNDWATER DEPTH: 23.4 ft 3/06/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		Field Class., ClSi, gry, Moist, Rec. = 1.8 ft, Advanced casing. Roller-coned ahead. Sample delivered to UVM for testing.		28						
45		A-4, SaSi, gry, Moist, Rec. = 1.6 ft, Advanced casing. Roller-coned ahead.		60	18.1	2.6	20.1	77.3		
50		A-1-b, SlGrSa, gry, Wet, Rec. = 2.0 ft, Advanced casing. Roller-coned ahead. Field Note, Possible cobbles and gravel. Very hard drilling.		41	9.2	22.4	56.5	21.1		
55		A-4, SaSl, gry, Molst, Rec. = 1.3 ft, Advanced casing.		20	15.3	14.8	25.0	60.2		
60		A-4, SaSi, gry, Moist, Rec. = 1.6 ft, Roller-coned ahead.		56	12.5	18.4	21.8	59.8		
65		Field Class., SaSi, gry, Moist, Rec. = 1.6 ft, Advanced casing. Roller-coned ahead. Sample delivered to UVM for testing.		68						
70		A-4, Sl, gry, Molst, Rec. = 1.4 ft, Advanced casing. NXDC, Cobbles, 71.4 ft - 75.0 ft		R	14.4	11.7	14.7	73.6		
75		A-4, Si, gry, Moist, Rec. = 1.6 ft, Advanced casing. Roller-coned ahead.		44	14.5	3.5	19.9	76.6		

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-204
SHEET 3 of 4
DATE STARTED: 1/22/08
DATE COMPLETED: 3/07/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 117+10.00
OFFSET: 132.00
VTSPG NAD83: N 888409.14 ft E 1721039.58 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 784.0 ft
GROUNDWATER DEPTH: 23.4 ft 3/06/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		Field Class., ClSi, gry, Moist, Rec. = 1.8 ft, Advanced casing. Roller-coned ahead. Sample delivered to UVM for testing.		64						
85		Field Class., ClSi, gry, Moist, Rec. = 1.5 ft, Advanced casing. Roller-coned ahead. Sample delivered to UVM for testing.		R						
90		Field Class., Sa, gry, Molst, Rec. = 2.0 ft, Advanced casing.		73						
95		A-2-4, SiSa, gry, Molst, Rec. = 1.9 ft, Advanced casing. Roller-coned ahead.		85	16.6	3.9	61.9	34.2		
100		A-4, SaSi, gry, Moist, Rec. = 1.5 ft, Roller-coned ahead. Hydrometer Analysis: Particles smaller than 0.002mm = 2.6%		R	23.0	0.5	22.3	77.2		
105		Field Class., SaClSi (varved), brn-gry, Moist, Rec. = 2.0 ft, Advanced casing. Roller-coned ahead. Sample delivered to UVM for testing.		55						
110		Field Class., SlSaCl (varved), brn-gry, Molst, Rec. = 2.0 ft, Advanced casing. Roller-coned ahead. Cleaned out casing. Sample delivered to UVM for testing.		33						
115		Field Class., SiSaCl Shelby tube. Rec. = 1.8 ft, Roller-coned ahead. Tube delivered to UVM for testing. 118.0 ft, Water return changed from brown to gray.								

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-204
SHEET 4 of 4
DATE STARTED: 1/22/08
DATE COMPLETED: 3/07/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 117+10.00
OFFSET: 132.00
VTSPG NAD83: N 888409.14 ft E 1721039.58 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 784.0 ft
GROUNDWATER DEPTH: 23.4 ft 3/06/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)	LL (%)	PI (%)
		A-4, Si, brn-gry, Moist, Rec. = 1.5 ft, Advanced casing. Roller-coned ahead. Hydrometer analysis for particles passing 0.002mm = 11.4% 121.5 ft - 125.0 ft, Advanced casing. Roller-coned ahead. Very hard drilling. Possible cobbles.		94	18.0	2.7	13.1	84.2		
125		Field Class., SiSa with rock, gry, Moist, Rec. = 0.25 ft, Sample delivered to UVM for testing. Cobbles & Boulders, 125.25 ft - 127.0 ft		R						
130		A-2-4, SiSaGr, brn, Wet, Rec. = 1.0 ft, Advanced casing.		R	14.9	44.3	28.1	27.6		
135		A-4, GrSi, gry, Moist, Rec. = 1.1 ft, Advanced casing. Hydrometer analysis for particle size passing 0.002mm = 4.7%		R	31.6	23.1	17.0	59.9		
140		A-4, SaSl, gry, Molst, Rec. = 1.0 ft, Advanced casing. Hydrometer analysis for particle size passing 0.002mm = 3.5%		R	29.5	17.2	20.1	62.7		
145		Visual Class., SlGr, gry, Molst, Rec. = 0.25 ft A-4, SaSl, brn, Molst, Rec. = 1.0 ft, Advanced casing.		39	16.9 25.7	3.1	47.5	49.4		
		Top of Bedrock @ 147.5 ft								
		147.5 ft - 149.5 ft, Hard, Slightly weathered, NXDC, Vitreous quartz and gray quartzose and micaceous metallmestone.		1	73	0	?			
150		149.5 ft - 154.5 ft, Hard, NXMDC, Gray quartzose and micaceous metallmestone with vitreous quartz in the bottom 1 foot of run. Top 0.7 ft moderately weathered. Remainder of core run unweathered.		2	100	84	45			
155		Hole stopped @ 154.5 ft								

DRILLER'S NOTES:
1. Installed Inclinometer to 154.0 ft.
2. Top of Inclinometer is 2.6 ft. above ground surface.
NOTE: Accuracy of UVM results could not be relied upon for laboratory soil classification.

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-205
SHEET 1 of 3
DATE STARTED: 5/07/08
DATE COMPLETED: 5/19/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 113+22.00
OFFSET: -31.50
VTSPG NAD83: N 888036.14 ft E 1721234.47 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 838.53 ft
GROUNDWATER DEPTH: 58.9 ft 5/15/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

Top of Well Elevation: 841.03 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		Visual Classification, GrSa, brn, Wet, Rec. = 0.3 ft, Insufficient sample for testing.		9						
		Field Class., NXDC, Cobbles, Cleaned out casing.								
10		A-4, SaSi, gry, Wet, Rec. = 0.7 ft		13	11.4	17.9	33.7	48.4		
		No recovery, Trace of coarse sand, 15.0 ft - 17.0 ft		5						
20		A-4, SaSI, gry, Moist, Rec. = 1.0 ft		4	18.5	3.8	24.0	72.2		
		A-4, SaSI, gry, Moist, Rec. = 1.9 ft		31	21.5	1.7	24.4	73.9	22	6
30		A-1-b, SaGr, gry, Wet, Rec. = 0.85 ft		R	12.0	49.2	31.8	19.0		
		Field Class., NXDC, Cobbles								
		A-4, SI, gry, Moist, Rec. = 0.2 ft		57	21.6	10.1	17.1	72.8		
40		A-6, SICl, gry, Moist, Rec. = 2.0 ft		30	27.6	0.0	0.9	99.1	34	12
		A-7-6, Cl, gry, Wet, Rec. = 1.2 ft		29	43.7	0.5	1.7	97.8	43	20
		Field Note, Lost water at 47.5', Cleaned out casing with roller cone.								
50		A-4, ClSI, gry, Moist, Rec. = 2.0 ft		52	19.9	4.7	29.1	66.2	22	7

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-205
SHEET 2 of 3
DATE STARTED: 5/07/08
DATE COMPLETED: 5/19/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 113+22.00
OFFSET: -31.50
VTSPG NAD83: N 888036.14 ft E 1721234.47 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 838.53 ft
GROUNDWATER DEPTH: 58.9 ft 5/15/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-6, SICl, gry, Moist, Rec. = 0.7 ft		R	26.5	0.0	1.6	98.4	39	18
60		A-4, SaSI, gry, Moist, Rec. = 1.9 ft		33	15.5	0.8	25.0	74.2	21	3
		A-4, SaSi, gry, Moist, Rec. = 1.9 ft		47	12.9	7.1	40.0	52.9		
70		A-4, SaSi, gry, Moist, Rec. = 1.8 ft		61	14.3	5.4	24.3	70.3		
		A-4, SI, gry, Moist, Rec. = 1.3 ft		80	18.1	19.9	16.7	63.4		
80		A-2-4, GrSISa, gry, Moist, Rec. = 0.9 ft		R	14.0	32.8	34.3	32.9		
		A-2-4, SIGrSa, gry, Moist, Rec. = 1.2 ft		83	13.6	35.4	37.9	26.7		
90		Field Class., NXDC, Cobbles								
		A-4, SaSI, gry, Moist, Rec. = 0.8 ft		R	11.3	16.9	41.2	41.9		
		A-4, SaGrSI, gry, Moist, Rec. = 1.3 ft		R	14.7	30.5	24.1	45.4		
100		A-4, GrSI, gry, Moist, Rec. = 1.0 ft		96	20.2	30.7	12.5	56.8		
		A-4, GrSI, gry, Moist, Rec. = 0.9 ft		R	17.9	29.4	14.0	56.6		

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-205
SHEET 3 of 3
DATE STARTED: 5/07/08
DATE COMPLETED: 5/19/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 113+22.00
OFFSET: -31.50
VTSPG NAD83: N 888036.14 ft E 1721234.47 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 838.53 ft
GROUNDWATER DEPTH: 58.9 ft 5/15/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, SI, gry, Moist, Rec. = 0.8 ft, Some broken rock was within sample.		R	24.1	10.1	17.7	72.2		
		A-4, SaSI Highly weathered, brn-gry, Moist, Rec. = 1.5 ft, (Mottled brown and gray Saprolite)		R	22.4	6.5	28.4	65.1		
120		A-4, Si Highly weathered, brn-gry, Moist, Rec. = 0.3 ft, (Mottled brown and gray Saprolite)		R	13.8	5.1	15.8	79.1		
		A-4, Si Highly weathered, brn-gry, Moist, Rec. = 1.7 ft, (Mottled brown and gray Saprolite)		37	32.9	0.2	11.4	88.4		
130		A-4, SI Highly weathered, brn-gry, Moist, Rec. = 0.9 ft, (Mottled brown and gray Saprolite)		R	21.5	4.2	14.5	81.3		
		A-2-4, SIGr Highly weathered, brn-gry, Moist, Rec. = 0.4 ft, (Mottled brown and gray Saprolite)		R	9.7	54.4	16.9	28.7		
		Weathered broken rock, 137.0 ft - 140.5 ft, (Mottled brown and gray Saprolite)								
140		A-4, GrSaSI Highly weathered, brn-gry, Moist, Rec. = 1.1 ft, (Mottled brown and gray Saprolite)		90	19.4	20.3	22.8	56.9		
		Hole stopped @ 141.6 ft								
150										
160										

DRILLER'S NOTES:
1. Installed Monitoring Well to 75.0 ft.
2. Top of Monitoring Well is 2.5 ft. above ground surface.

GEOLOGIST'S REPORT:
Possible highly weathered bedrock from 115.0' to bottom of boring. (Mottled brown and gray Saprolite)

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-209
SHEET 1 of 3
DATE STARTED: 5/20/08
DATE COMPLETED: 8/01/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 118+22.00
OFFSET: -25.00
VTSPG NAD83: N 888364.41 ft E 1720843.89 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 812.5 ft
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, GrSaSl, gry, Moist, Rec. = 0.9 ft	31	12.3	22.8	24.5	52.7		
		Field Note: NXDC, Granite cobbles 6.4'-9.0'							
10		A-4, Sl, gry, Moist, Rec. = 1.9 ft	43	17.0	11.4	14.2	74.4	23	5
		Field Note: NXDC, Cobbles 14.6'-16.0'							
		A-4, SaSl, gry, Moist, Rec. = 1.3 ft	52	10.9	13.1	26.0	60.9		
20		A-4, SaGrSl, gry, Moist, Rec. = 1.7 ft	74	11.3	24.0	22.7	53.3		
		A-4, SaSlGr, gry, Moist, Rec. = 1.5 ft	65	9.4	42.7	21.8	35.5		
30		A-2-4, SiSa, gry, Wet, Rec. = 1.7 ft	55	14.9	14.7	64.4	20.9		
		A-4, Sl, gry, Wet, Rec. = 1.9 ft	37	21.3	0.0	12.4	87.6	24	5
40		A-4, SaSl, gry, Wet, Rec. = 1.1 ft	R	20.7	0.5	47.1	52.4		
		A-7-6, Cl, gry, Moist, Rec. = 1.9 ft	43	25.2	0.1	1.9	98.0	41	19
		Field Note: Lost water at 47.0 ft., Roller cored ahead.							
50		A-4, ClSl, gry, Moist, Rec. = 2.0 ft	45	26.8	0.7	2.0	97.3	30	10
		A-4, SaSl, gry, Moist, Rec. = 1.5 ft	89	21.3	0.6	21.5	77.9		

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-209
SHEET 2 of 3
DATE STARTED: 5/20/08
DATE COMPLETED: 8/01/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 118+22.00
OFFSET: -25.00
VTSPG NAD83: N 888364.41 ft E 1720843.89 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 812.5 ft
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, Sl, gry, Moist, Rec. = 1.7 ft	75	20.8	0.1	9.9	90.0		
		Field Note: Granite boulder 63.0'-65.0', Cored ahead.							
		A-4, SaSl, gry, Moist, Rec. = 1.3 ft	79	14.8	1.1	31.9	67.0		
70		A-4, Sl, gry, Moist, Rec. = 1.0 ft	R	16.9	0.4	13.5	86.1		
		A-4, SaSl, gry, Moist, Rec. = 0.7 ft	R	10.3	8.0	44.5	47.5		
80		A-4, SaSl, gry, Moist, Rec. = 1.3 ft	85	11.1	9.0	40.3	50.7		
		A-4, SlSa, gry, Moist, Rec. = 0.4 ft	R	10.1	16.2	42.1	41.7		
90		A-4, SaSl, gry, Moist, Rec. = 0.6 ft	R	9.5	7.7	33.9	58.4		
		A-4, SaSl, gry, Moist, Rec. = 0.6 ft	R	10.9	11.7	34.6	53.7		
100		A-4, SaSl, gry, Moist, Rec. = 0.8 ft	R	16.8	1.8	29.2	69.0	25	6
		A-4, SlSa, gry, Wet, Rec. = 0.7 ft	R	19.1	1.1	49.7	49.2		
110		A-4, SaSl, gry, Moist, Rec. = 0.8 ft	R	19.5	0.8	38.1	61.1		
		A-4, Sl, gry, Wet, Rec. = 2.0 ft	81	24.6	0.0	2.7	97.3		

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
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SUBSURFACE INFORMATION

BORING NUMBER: B-209
SHEET 3 of 3
DATE STARTED: 5/20/08
DATE COMPLETED: 8/01/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 118+22.00
OFFSET: -25.00
VTSPG NAD83: N 888364.41 ft E 1720843.89 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 812.5 ft
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, Sl, gry, Moist, Rec. = 2.0 ft	68	25.1	0.0	5.6	94.4		
		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft	48	26.3	0.3	4.4	95.3	49	21
130		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft, Varved clay.	29	32.3	0.0	2.1	97.9	59	29
		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft, Highly varved clay.	27	32.0	0.0	1.4	98.6	63	33
		Shelby tube, Field Class: Si Cl, brn-gry, Moist, 138.0 ft - 139.5 ft							
140		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft, Highly varved clay.	71	33.5	0.0	4.2	95.8	46	20
		A-4, Sl, brn, Moist, Rec. = 1.3 ft	85	24.8	0.0	3.5	96.5		
150		A-4, SaGrSi, brn, Moist, Rec. = 0.9 ft	R	15.0	30.5	25.6	43.9		
		Hole stopped @ 151.0 ft							
160									
170									

DRILLER'S NOTES:

Ground water tables with dates:
a. 2.3' on 05/23/08
b. 6.0' on 05/28/08
c. 43.6' on 06/01/08
d. 27.6' on 06/05/08
e. 41.3' on 07/29/08

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-212
SHEET 1 of 2
DATE STARTED: 10/09/09
DATE COMPLETED: 10/23/09

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+32
OFFSET: 555.00
VTSPG NAD83: N 888619.76 ft E 1721454.52 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 721.40 See Note #3
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description) Top of Well Elevation: 723.9 ft	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-2-4, SISaGr, brn, Wet, Rec. = 1.0 ft		6	20.3	38.4	32.8	28.8		
10		A-6, SiCl, gry, Moist, Rec. = 1.4 ft		14	28.1	0.6	8.5	90.9	37	12
		A-4, ClSi, gry, Wet, Rec. = 0.6 ft		27	26.0	3.7	14.3	82.0	30	10
20		A-4, SaSi, gry, Wet, Rec. = 1.5 ft		21	14.7	15.4	39.6	45.0	18	2
		A-4, Si, gry, Wet, Rec. = 1.6 ft		18	24.2	7.5	19.1	73.4	23	3
30		A-4, Si, gry, Wet, Rec. = 1.8 ft		20	28.5	0.0	1.1	98.9	27	4
		Shelby Tube, Rec. = 1.4 ft, 30.0 ft - 31.4 ft, R @ 31.4' 600 psi								
		A-4, Si, gry, Moist, Rec. = 1.3 ft		28	17.2	8.7	17.5	73.8		
40		A-7-6, Cl, gry, Moist, Rec. = 1.4 ft		21	30.2	0.0	1.0	99.0	49	22
		SiCl Shelby Tube, gry, Moist, Rec. = 1.5 ft, 40.0 ft - 41.5 ft, R @ 41.5'								
		A-1-b, Sa, gry, Wet, Rec. = 1.7 ft		46	17.5	11.4	69.9	18.7		
50		A-4, GrSI, gry, Wet, Rec. = 0.9 ft		42	19.8	23.0	19.4	57.6		
		A-7-6, Cl, gry, Wet, Rec. = 1.6 ft		10	37.3	0.0	2.9	97.1	59	30
		SiCl Shelby Tube, gry, Wet, Rec. = 1.8 ft, 55.0 ft - 57.0 ft								
60		A-7-6, Cl, gry, Moist, Rec. = 1.6 ft, Varved material		14	33.9	0.0	0.8	99.2	59	30
		Cl Shelby Tube, gry, Moist, Rec. = 1.5 ft, 60.0 ft - 62.0 ft								
		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft, Varved material		14	34.4	0.0	1.2	98.8	54	24
		SiCl Shelby Tube, gry, Moist, Rec. = 1.4 ft, 65.0 ft - 67.0 ft								
70		A-6, SiCl, gry, Moist, Rec. = 1.8 ft, Varved material		26	30.5	0.0	4.2	95.8	38	13
		A-4, Si, gry, Moist, Rec. = 1.5 ft		30	31.3	0.0	11.6	88.4		

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
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SUBSURFACE INFORMATION

BORING NUMBER: B-212
SHEET 2 of 2
DATE STARTED: 10/09/09
DATE COMPLETED: 10/23/09

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+32
OFFSET: 555.00
VTSPG NAD83: N 888619.76 ft E 1721454.52 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 721.40 See Note #3
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)	LL (%)	PI (%)
80		A-4, SI, gry, Moist, Rec. = 1.8 ft		31	31.0	0.0	3.7	96.3		
		A-4, Si, gry, Moist, Rec. = 2.0 ft		32	31.0	0.1	3.4	96.5		
90		Visual Classification, Weathered Rock, gry, Wet, Rec. = 0.2 ft		R						
		Field Note:, NXDC, Cobbles, Cored ahead								
		A-1-b, SiSaGr, gry, Wet, Rec. = 1.4 ft		80	15.5	41.2	38.2	20.6		
100		A-4, GrSaSi, brn, Moist, Rec. = 1.4 ft		67	19.3	22.6	29.1	48.3		
		Field Note:, Boulder/Cobbles /Weathered Rock								
					Top of Bedrock @ 105.5 ft					
		105.5 ft - 110.5 ft, Gray, Meta-Limestone, Hard, Unweathered, BXMDC, Competent		1	96	36	50	9 10 9 9 10		
110		Hole stopped @ 110.5 ft								

DRILLER'S NOTES:
1. Installed Inclinometer to 105.5 ft.
2. Top of Inclinometer is 2.5 ft. above ground surface.
3. Boring elevation approximated from contours on plan sheet.

Ground water tables with dates:
a. 1.9' on 10/14/09 (drilled to 28.0')
b. 3.0' on 10/15/09 (drilled to 53.0')
c. Overflow on 10/16/09 (drilled to 73.0' with casing 8.0' above ground)
d. Overflow on 10/20/09 (drilled to 98.0' with casing 3.0' above ground)

120
130
140

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
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MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-213
SHEET 1 of 3
DATE STARTED: 10/07/08
DATE COMPLETED: 11/07/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+78
OFFSET: 217.50
VTSPG NAD83: N 888391.59 ft E 1721200.67 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 756.73 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-2-4, GrSiSa, brn, Moist, Rec. = 1.1 ft	3	21.4	25.8	40.2	34.0		
5		NXDC, Cobbles, 3.6 ft - 5.5 ft, Cleaned out casing & cored ahead. Rec. = 0.3 ft	8	14.1	17.9	54.7	27.4		
		A-2-4, SISa, brn, Moist							
10		No Recovery, 10.0 ft - 12.0 ft, Very easy drilling.	7						
15		A-4, SI, gry, Wet, Rec. = 1.35 ft	12	25.7	4.6	4.8	90.6	24	3
20		A-4, SaSI, gry, Wet, Rec. = 1.0 ft, Roller coned ahead.	11	14.7	3.7	27.4	68.9		
25		A-4, SaSI, gry, Wet, Rec. = 1.2 ft, Roller coned ahead.	20	16.1	2.7	30.3	67.0	22	2
30		A-4, SaSI, gry, Moist, Rec. = 1.2 ft, Roller coned ahead.	15	15.3	5.7	26.1	68.2	24	4
35		A-4, SI, gry, Moist, Rec. = 1.3 ft, Roller coned ahead.	27	15.6	6.8	17.1	76.1	25	4
40		A-4, CISI, gry, Moist, Rec. = 1.3 ft, Roller coned ahead.	21	18.8	1.9	12.1	86.0	30	10
45		A-4, SaSI, gry, Moist, Rec. = 1.6 ft, Roller coned ahead.	47	14.2	5.2	26.2	68.6	22	4

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STATE OF VERMONT
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BORING NUMBER: B-213
SHEET 2 of 3
DATE STARTED: 10/07/08
DATE COMPLETED: 11/07/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+78
OFFSET: 217.50
VTSPG NAD83: N 888391.59 ft E 1721200.67 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 756.73 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, SaSI, gry, Moist, Rec. = 0.8 ft, Roller coned ahead.	46	14.9	12.1	27.0	60.9	21	2
55		A-4, SaSI, gry, Moist, Rec. = 1.6 ft, Roller coned ahead.	48	11.7	16.9	34.1	49.0		
60		A-4, SI, gry, MTW, Rec. = 0.4 ft	74	21.6	12.4	6.7	80.9		
		A-2-4, SISa, gry, MTW, Rec. = 1.4 ft, Roller coned ahead.		16.4	10.4	63.8	25.8		
65		No Recovery, Trace of clay at 65.0 ft., 65.0 ft - 67.0 ft, Roller coned ahead.	31						
70		A-7-5, CI, brn, Moist, Rec. = 1.7 ft, 600 lb. down pressure.		32.8	0.0	0.0	100.0	65	34
75		A-7-5, CI, brn, Moist, Rec. = 1.5 ft, Roller coned ahead.	27	31.2	0.0	0.8	99.2	55	25
80		A-7-5, CI, brn, Moist, Rec. = 1.6 ft, Roller coned ahead.		30.1	0.0	7.0	93.0	57	24
85		A-7-6, CI, gry-brn, Moist, Rec. = 1.7 ft, Roller coned ahead.	18	36.9	0.0	0.4	99.6	58	29
90		A-7-6, CI, gry-brn, Moist, Rec. = 2.0 ft		54.6	0.0	1.4	98.6	54	26
		Visual Classification, SI, brn, Moist							
95		A-2-4, SaSIGr, brn, Moist, Rec. = 0.9 ft, Some weathered rock was within sample.	R	18.4	41.7	25.1	33.2		
		95.9 ft - 100.0 ft, NXDC, Difficult drilling. Layers of cobbles or weathered rock.							

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-213
SHEET 3 of 3
DATE STARTED: 10/07/08
DATE COMPLETED: 11/07/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+78
OFFSET: 217.50
VTSPG NAD83: N 888391.59 ft E 1721200.67 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 756.73 ft
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, SI, brn, Moist, Rec. = 1.0 ft, Material was weathered and had the consistency of powder.	R	30.1	1.4	8.2	90.4		
105		A-4, SI, brn, Moist, Rec. = 0.4 ft, Material was weathered and had the consistency of powder.	R	27.1	16.1	15.1	68.8		
110		A-4, SI, brn, Moist, Rec. = 1.0 ft, Material was weathered and had the consistency of powder.	R	29.6	0.0	6.9	93.1		
		Field Note: No Recovery	R						
		Field Note: Hard drilling.	R						
115		Field Note: Run #1, NXDC, 115'-117', Rec. = 1.0 ft, NXDC, Advanced casing.							
		Field Note: Run #2, NXDC, 117'-120', NXDC, Cored ahead.							
120		A-2-4, SaSIGr, brn, Moist, Rec. = 0.5 ft, Material was weathered.	R	11.6	43.6	23.2	33.2		
		Hole stopped @ 120.5 ft							
125									
130									
135									
140									
145									

DRILLER'S NOTES:
1. Attempted to Install Inclinometer, but failed.
2. Drilled another hole near B-213 named B-213A.
3. Installed Inclinometer In B-213A.

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-213A
SHEET 1 of 1
DATE STARTED: 11/07/08
DATE COMPLETED: 11/07/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+73
OFFSET: 217.50
VTSPG NAD83: N 888388.34 ft E 1721204.51 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 757.38 ft
GROUNDWATER DEPTH: No water
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE:
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		Top of Well Elevation: 759.88 ft						
		No samples taken, 0.0 ft - 107.0 ft						
10								
20								
30								
40								
50								
60								
70								
80								
90								
100								
110		Hole stopped @ 107.0 ft						

DRILLER'S NOTES:
1. Installed Inclinometer to 107.0 ft.
2. Top of Inclinometer is 2.5 ft. above ground surface.
3. No samples taken for this boring.

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BORING NUMBER: B-214
SHEET 1 of 3
DATE STARTED: 3/12/08
DATE COMPLETED: 4/03/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+77
OFFSET: 338.00
VTSPG NAD83: N 888479.63 ft E 1721283.41 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 747.93 ft
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		Top of Well Elevation: 750.43 ft								
5		A-4, SaSl, gry, Wet, Rec. = 0.95 ft		4	21.5	10.9	28.4	60.7	23	6
10		A-4, SiSa, brn, Wet, Rec. = 0.85 ft		13	16.8	14.0	43.6	42.4		
15		A-4, SaSl, brn, Wet, Rec. = 0.9 ft		6	15.8	8.4	38.7	52.9		
20		A-4, SaSl, brn, Wet, Rec. = 0.4 ft		14	14.1	16.0	35.3	48.7		
25		Visual Classification, Broken Granite rock pieces, Rec. = 0.2 ft								
		Field Class., Cobbles, Cleaned out casing, Advanced rollercone ahead								
30		A-4, SaSl, gry, Molst, Rec. = 1.2 ft		17	15.3	3.3	23.0	73.7	24	6
35		A-2-4, SlGrSa, gry, Molst, Rec. = 1.5 ft, Roller-coned ahead, Advanced casing.		89	10.7	30.3	42.0	27.7		
40		Field Class., NXDC, Cobbles								
		A-7-6, Cl Varved, gry-brn, Molst, Rec. = 1.0 ft, Hydrometer Analysis: Particles smaller than 0.002mm = 35.7%		22	25.8	14.6	8.9	76.5	46	22
45		A-6, SlCl, brn-gry, Molst, Rec. = 1.6 ft, Roller-coned ahead, Advanced casing.		30	25.0	1.7	13.5	84.8	39	16

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AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-214
SHEET 2 of 3
DATE STARTED: 3/12/08
DATE COMPLETED: 4/03/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+77
OFFSET: 338.00
VTSPG NAD83: N 888479.63 ft E 1721283.41 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 747.93 ft
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-4, Sl, brn, Molst, Rec. = 1.7 ft, Advanced casing.		59	25.1	0.0	3.6	96.4		
55		A-4, SaGrSl, brn, Molst, Rec. = 0.75 ft		R	14.0	31.4	20.3	48.3		
60		A-4, SaSi, brn, Moist, Rec. = 1.5 ft		88	12.3	19.4	38.3	42.3		
65		A-6, SlCl, brn-gry, Molst, Rec. = 1.2 ft		36	25.6	2.5	9.5	88.0	34	13
70		A-7-5, Cl, brn, Molst, Rec. = 2.0 ft, Roller-coned ahead.		29	32.2	0.0	1.2	98.8	66	34
75		A-7-6, Cl, brn-gry, Moist, Rec. = 2.0 ft, Roller-coned ahead, Advanced casing.		22	34.9	0.0	1.0	99.0	56	29
80		A-7-5, Cl, brn-gry, Molst, Rec. = 2.0 ft, Roller-coned ahead, Advanced casing.		22	35.7	0.0	0.6	99.4	65	34
		A-7-5, Cl, brn-gry, Molst, Rec. = 1.8 ft, Tube sample useing trimmings from triaxial & direct shear tests.			31.6	0.0	0.6	99.4	63	31
85		A-7-6, Cl, brn-gry, Molst, Rec. = 2.0 ft, Roller-coned ahead.		23	37.9	0.0	1.0	99.0	61	31
		A-7-6, Cl, gry, Molst, Rec. = 2.0 ft, Used material from Triaxial sample "A".			35.1	0.0	0.6	99.4	53	32
90		A-7-6, SiCl, gry, Moist, Rec. = 2.0 ft, Roller-coned ahead. Hydrometer Analysis: Particles smaller than 0.002mm = 30.3%		25	32.0	0.0	1.8	98.2	42	17
95		A-4, Sl, gry, Molst, Rec. = 1.7 ft		44	28.6	0.0	4.7	95.3		

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-214
SHEET 3 of 3
DATE STARTED: 3/12/08
DATE COMPLETED: 4/03/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 115+77
OFFSET: 338.00
VTSPG NAD83: N 888479.63 ft E 1721283.41 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 747.93 ft
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)	LL (%)	PI (%)
		A-4, SaGrSl, gry, Wet, Rec. = 1.0 ft, Broken rock was within sample.		R	16.0	39.1	21.7	39.2		
105		A-4, SaGrSl, brn, Molst, Rec. = 2.0 ft		38	16.8	26.2	21.1	52.7		
110		A-4, Sl, brn, Wet, Rec. = 1.1 ft		62	32.1	8.3	11.7	80.0		
115		A-4, SlGr, brn, Wet, Rec. = 0.9 ft, Broken rock and some weathered rock was within sample.		R	15.4	43.9	14.6	41.5		
					Top of Bedrock @ 115.9 ft					
		115.9 ft - 118.0 ft, NXDC, No Recovery.		1	0		?			
		Suspect severly weathered rock. 118.0 ft - 123.0 ft, Hard, NXMDC, Gray quartzose and micaceous metalimestone with vitreous quartz in the bottom 0.35 ft of run. Unweathered to slightly weathered.		2	44	36	45	12 6 2 3 4		
120		Hole stopped @ 123.0 ft								
125		DRILLER'S NOTES: 1. Installed Inclinometer to 117.8 ft. 2. Top of Inclinometer is 2.5 ft. above ground surface.								
130		Ground water tables with dates. 16.3' on 03/14/08 14.5' on 03/18/08 12.6' on 03/20/08 1.4' on 03/21/08 4.7' on 03/25/08								
135										
140										
145										

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-215
SHEET 1 of 2
DATE STARTED: 10/26/09
DATE COMPLETED: 10/30/09

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 117+94
OFFSET: 545.00
VTSPG NAD83: N 888781.10 ft E 1721247.30 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 708.60 See Note #3
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

Top of Well Elevation: 710.6 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		Field Note:, Cobbles								
5		A-4, SaSi, brn, Wet, Rec. = 0.4 ft		26	25.9	4.0	31.1	64.9		
		A-4, SaSi, brn, Wet, Rec. = 0.4 ft		8	25.3	0.4	36.8	62.8		
10										
		A-4, Si, gry, Wet, Rec. = 0.4 ft		35	23.8	12.9	16.9	70.2		
15										
		A-4, ClSi, gry, Wet, Rec. = 1.4 ft		21	28.5	0.0	4.5	95.5	30	8
20										
		A-7-6, Cl, gry, Wet, Rec. = 0.4 ft		10	37.5	0.2	3.1	96.7	60	31
25		Shelby Tube, brn, Wet, Rec. = 1.3 ft, 25.0 ft - 27.0 ft								
		A-7-6, Cl, brn, Moist, Rec. = 1.3 ft		7	35.1	0.0	0.8	99.2	62	33
30		Shelby Tube, brn, Moist, Rec. = 1.5 ft, 30.0 ft - 32.0 ft								
		A-7-6, Cl, brn, Moist, Rec. = 1.4 ft, Thin silt varves every 6-7 inches.		10	35.6	0.0	4.3	95.7	62	33
35		Shelby Tube, brn, Moist, Rec. = 1.6 ft, 35.0 ft - 37.0 ft								
		A-7-6, Cl, brn, Moist, Rec. = 1.6 ft		11	33.8	0.0	1.9	98.1	55	28
40		Shelby Tube, brn, Moist, Rec. = 1.5 ft, 40.0 ft - 42.0 ft								
		A-7-6, Cl, brn, Moist, Rec. = 1.4 ft, Silt varves about every 5 inches.		5	36.5	0.0	2.6	97.4	58	30
45		Shelby Tube, brn, Moist, Rec. = 1.4 ft, 45.0 ft - 47.0 ft								
		A-7-6, Cl, brn, Moist, Rec. = 1.8 ft, Silt varves about every 1/2-1 Inch.		6	18.7	0.0	2.2	97.8	60	33

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-215
SHEET 2 of 2
DATE STARTED: 10/26/09
DATE COMPLETED: 10/30/09

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 117+94
OFFSET: 545.00
VTSPG NAD83: N 888781.10 ft E 1721247.30 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 708.60 See Note #3
GROUNDWATER DEPTH: See Driller's Notes
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE / RUN	M.C. (%) / REC (%)	GRAVEL (%) / RQD (%)	SAND (%) / Dip (deg)	FINES (%) / Drill Rate (min/ft)	LL (%)	PI (%)
		Shelby Tube, brn, Moist, Rec. = 1.4 ft, 50.0 ft - 52.0 ft								
55		A-7-6, Cl, brn-gry, Moist, Rec. = 1.5 ft, Silt varves about every 1/2-1 inch.		11	37.1	0.0	1.5	98.5	45	20
60		A-7-6, SiCl, brn-gry, Moist, Rec. = 1.6 ft, Silt varves about every 1/2-3 Inches.		11	32.1	0.0	0.5	99.5	43	18
65		A-4, Si with noticeable layers, gry, Moist, Rec. = 1.6 ft		28	27.5	1.3	3.3	95.4		
70		A-4, Si with noticeable layers, gry, Moist, Rec. = 1.5 ft		27	28.5	0.0	5.0	95.0		
75		A-2-4, SiSaGr, gry, Wet, Rec. = 0.7 ft Field Note:, NXDC, Soft broken rock		R	15.8	37.6	35.8	26.6		
					Top of Bedrock @ 78.0 ft					
80		78.0 ft - 83.0 ft, Gray, Meta-Limestone, Hard, Unweathered, BXMDC, Competent		1	87	36	50	11 9 11 12 10		
		Hole stopped @ 83.0 ft								
85		DRILLER'S NOTES: 1. Installed Inclinometer to 78.0 ft. 2. Top of Inclinometer is 2.0 ft. above ground surface. 3. Boring elevation approximated from contours on plan sheet.								
90		Ground water table: a. Artesian Condition: Overflow on 10/30/09 (drilled to 83.0' with casing 11.0' above ground)								
95										

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-216
SHEET 1 of 2
DATE STARTED: 11/13/08
DATE COMPLETED: 12/05/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 118+97
OFFSET: 282.00
VTSPG NAD83: N 888653.86 ft E 1720991.12 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 746.5 ft
GROUNDWATER DEPTH: 6.6 ft 11/21/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

Top of Well Elevation: 749.0 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		Cobbles, No samples taken, 0.0 ft - 7.0 ft								
10		A-4, SaSi, gry, Wet, Rec. = 0.1 ft		8	20.5	9.6	32.5	57.9		
		A-4, GrSI, gry, Wet, Rec. = 1.0 ft		11	17.4	34.1	19.2	46.7		
		Field Class:, Layer of broken rock								
		Field Class:, NXDC, Boulders & Cobbles								
20		A-4, SaSi, gry, Moist, Rec. = 1.3 ft		26	18.2	10.0	22.1	67.9		
		A-2-4, Sa, gry, Wet, Rec. = 1.5 ft		20	18.9	6.7	76.1	17.2		
30		A-2-4, Sa, gry, Wet, Rec. = 1.2 ft		33	23.2	7.8	75.4	16.8		
		A-4, SiSa, gry, Wet, Rec. = 1.8 ft		40	24.6	0.5	49.8	49.7		
40		A-4, SaSi, gry, Wet, Rec. = 2.0 ft		28	26.4	0.0	34.0	66.0		
		A-4, SI, gry, Moist, Rec. = 1.0 ft		51	24.7	0.6	12.7	86.7		
50		A-4, SaSi, gry, Moist, Rec. = 2.0 ft		60	26.3	0.0	26.7	73.3		
		A-4, Si, gry, Moist, Rec. = 1.8 ft		50	27.1	0.0	1.3	98.7		
60		A-4, Si, gry, Moist, Rec. = 1.7 ft		42	26.0	0.0	4.1	95.9		

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B-216
SHEET 2 of 2
DATE STARTED: 11/13/08
DATE COMPLETED: 12/05/08

PROJECT NAME: NEWPORT
SITE NAME: SLIDE
STATION: 118+97
OFFSET: 282.00
VTSPG NAD83: N 888653.86 ft E 1720991.12 ft

PROJECT NUMBER: STP 1343(22)
SITE NUMBER: VT 191
GROUND ELEVATION: 746.5 ft
GROUNDWATER DEPTH: 6.6 ft 11/21/08
PROJECT PIN NUMBER: 07B156

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	N VALUE	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		A-7-6, CI, gry, Moist, Rec. = 0.5 ft		R	28.4	21.3	9.5	69.2	54	26
		Field Class:, Granite Boulder								
70		A-7-5, CI, brn, Moist, Rec. = 2.0 ft		17	34.6	0.0	3.7	96.3	59	27
		A-7-6, CI, brn, Moist, Rec. = 1.6 ft			39.6	0.0	0.6	99.4	60	31
		A-7-5, CI, brn, Moist, Rec. = 2.0 ft		20	34.8	0.0	1.2	98.8	66	34
80		A-7-6, CI, brn, Moist, Rec. = 1.3 ft			34.9	0.0	0.6	99.4	58	30
		A-7-5, CI Varved, gry, Moist, Rec. = 2.0 ft			34.0	0.0	0.4	99.6	63	33
90		A-7-5, CI, gry, Moist, Rec. = 2.0 ft		20	36.1	0.0	3.7	96.3	60	29
		A-7-6, SiCI, gry, Moist, Rec. = 1.9 ft			31.7	0.0	2.0	98.0	45	17
100		A-4, Si, gry, Moist, Rec. = 2.0 ft		41	32.2	0.0	2.5	97.5		
		A-4, Si, gry, Wet, Rec. = 2.0 ft		39	31.2	0.0	1.8	98.2		
110		A-4, SaSIGr with weathered rock, brn, Moist, Rec. = 0.7 ft		R	13.3	37.9	26.0	36.1		
		A-1-b, SiSaGr with little weathered rock, brn, Moist, Rec. = 0.8 ft		R	13.2	51.0	25.9	23.1		
		Hole stopped @ 117.0 ft								
120										

DRILLER'S NOTES:
1. Installed Inclinometer to 117.0 ft.
2. Top of Inclinometer Is 2.5 ft. above ground surface.
3. No ground water present on 12/16/08.

LOG OF BORING NEWPORT SLOPE STABILITY VT191.GPJ VT AOT.GDT 8/18/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B302a
SHEET 1 of 8
DATE STARTED: 6/03/13
DATE COMPLETED: 6/04/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888103.78 ft E 1721020.69 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 834.33 ft
GROUNDWATER DEPTH: 35.0 ft 6/04/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

Top of Well Elevation: 836.7 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		0.0 ft - 1.0 ft, Dark brown to black, wet, TOPSOIL.								
		1.0 ft - 2.0 ft, A-4, dark brown, wet, silty SAND, little gravel, (SM).								
		2.0 ft - 10.0 ft, A-4, gray-brown and gray, moist, silty fine to medium SAND, trace gravel, trace clay, gravel is rounded to subangular, (SM).								
		10.0 ft - 19.0 ft, A-4, dark gray, dry, SILT, some fine sand, little gravel, (ML).								
		19.0 ft - 19.3 ft, A-4, dark gray, damp, SILT, some fine SAND, 3/4" thick, (ML).								
		19.3 ft - 22.0 ft, A-4, dark gray, dry, SILT, some fine sand, little gravel, little clay, (ML).			7.3	14.1	24.2	61.7		
		22.0 ft - 35.0 ft, A-4, dark gray, dry, SILT, some fine sand, little clay, Grading at about 30' to same but slight increase medium sand. At 34'+ trace gravel, (ML).			14.3	2.0	23.0	75.0		

LOG OF BORING & WELL NEWPORT.GPJ VT AOT.GDT 8/13/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B302a
SHEET 2 of 8
DATE STARTED: 6/03/13
DATE COMPLETED: 6/04/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888103.78 ft E 1721020.69 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 834.33 ft
GROUNDWATER DEPTH: 35.0 ft 6/04/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		35.0 ft - 35.1 ft, A-3, brown-gray, fine to medium SAND (clean), (SP).								
		35.1 ft - 36.0 ft, A-4, dark gray, dry to damp, dense, silty fine to medium SAND, little gravel, (SM).								
		36.0 ft - 46.0 ft, A-4, dark gray, dry, silty fine SAND, little gravel, (SM). Brown, dense, medium sand layers at approx. 39', 43', and 44'.								
		46.0 ft - 49.0 ft, A-4, dark gray, dry, medium dense, silty fine SAND, little gravel. Pockets of clean brown sand, (SM). Relatively softer (medium dense) than 36' to 46'.								
		49.0 ft - 66.0 ft, A-4, dark gray, dry, very dense, SILT, little fine sand. Grading to dark gray.								

LOG OF BORING & WELL NEWPORT.GPJ VT AOT.GDT 8/13/14

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AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B302a
SHEET 3 of 8
DATE STARTED: 6/03/13
DATE COMPLETED: 6/04/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888103.78 ft E 1721020.69 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 834.33 ft
GROUNDWATER DEPTH: 35.0 ft 6/04/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		clayey SILT, (ML).								
		A-4			11.2	0.0	12.3	87.7	21	1
		66.0 ft - 74.0 ft, A-2-4, dark gray, dry, fine to medium SAND, some gravel, some silt (SM).			8.1	26.8	45.0	28.2		
		74.0 ft - 91.0 ft, A-4, dark gray, dry, stiff, silty CLAY, some fine to medium sand, trace gravel.								

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B302a
SHEET 4 of 8
DATE STARTED: 6/03/13
DATE COMPLETED: 6/04/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888103.78 ft E 1721020.69 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 834.33 ft
GROUNDWATER DEPTH: 35.0 ft 6/04/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		(CL), Slickensides +/- 83° on silty surfaces.								
					14.6				26	8
		91.0 ft - 91.5 ft, Cobble 91' to 91.5'								
		91.5 ft - 92.5 ft, A-4, dark gray and light gray, dry, SILT with slickensides, little sand, trace gravel, (ML).			18.3	1.3	16.4	82.3		
		92.5 ft - 93.0 ft, Cobble								
		93.0 ft - 98.0 ft, A-4, brown-gray, dry, silty fine to coarse SAND, trace gravel. At +/-98' grades to gray-brown, fine to coarse SAND, some gravel, some silt, (SM).								
		98.0 ft - 104.0 ft, A-2-4, gray-brown, dry, fine to coarse SAND, some gravel, some silt, (SM).								

LOG OF BORING & WELL NEWPORT.GPJ VT AOT.GDT 8/13/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B302a
SHEET 5 of 8
DATE STARTED: 6/03/13
DATE COMPLETED: 6/04/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888103.78 ft E 1721020.69 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 834.33 ft
GROUNDWATER DEPTH: 35.0 ft 6/04/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
					7.0	22.8	45.8	31.4		
		104.0 ft - 108.0 ft, A-4, dark gray, dry, fine sandy SILT, trace gravel, slickensides, (ML).								
		108.0 ft - 110.0 ft, A-4, dark gray and black, dry to damp, silty fine to coarse SAND, little gravel, (SM).								
		110.0 ft - 117.0 ft, A-4, medium brown, dry to damp, fine sandy SILT, trace gravel, (ML).								
		117.0 ft - 121.0 ft, A-4, medium brown, dry, SILT, some fine SAND, trace gravel to 121', (ML).			13.7	4.6	25.3	70.1		
		121.0 ft - 125.0 ft, A-4, medium brown, trace black layers, dry, fine sandy SILT, trace gravel, trace clay, (MH).								

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B302a
SHEET 6 of 8
DATE STARTED: 6/03/13
DATE COMPLETED: 6/04/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888103.78 ft E 1721020.69 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 834.33 ft
GROUNDWATER DEPTH: 35.0 ft 6/04/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		125.0 ft - 127.0 ft, A-7-5, orange-brown and dark gray, dry to damp, varved SILT, (CH-MH). Banded color a few mm thick. Same material, different color.								
		127.0 ft - 128.0 ft, A-7-5, orange-brown and dark gray, dry to damp, varved fine SAND and SILT, trace gravel, (CH-MH). Banding color not as apparent.								
		128.0 ft - 138.0 ft, A-7-5, orange brown, damp, SILT, (CH-MH).								
		A-7-5			32.2	0.0	0.9	99.1	61	29
		138.0 ft - 146.0 ft, A-7-5, gray-brown, dry, SILT, some gravel (weathered subangular phyllite), little fine to coarse sand, (MH).								
		146.0 ft - 152.0 ft, A-7-5, dark gray and orange-brown, dry, varved SILT, slickensides, (MH).				34.0	16.7	49.3		

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MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B302a
SHEET 7 of 8
DATE STARTED: 6/03/13
DATE COMPLETED: 6/04/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888103.78 ft E 1721020.69 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 834.33 ft
GROUNDWATER DEPTH: 35.0 ft 6/04/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE / RUN	M.C. (%) / REC (%)	AASHTO GRAVEL (%) / RQD (%)	AASHTO SAND (%) / Drill Rate (min/ft)	AASHTO FINES (%) / UCS (psi)	LL (%)	PI (%)
		152.0 ft - 155.0 ft, A-4, dark brown, moist, soft, SILT, trace fine sand, (ML). PP = 1.25, 1.50, 1.00, 1.25 tsf.			28.3	0.0	8.6	91.4		
		153.0 ft - 154.0 ft, Weathered micaceous cobble.								
		155.0 ft - 156.0 ft, A-4, alternating dark brown, dry to damp, SILT, with orange-brown fine to medium sand, layers +/- 1/2" thick, (ML).								
		156.0 ft - 158.0 ft, Cobble slightly weathered, dark gray and orange-brown, micaceous schist.								
		158.0 ft - 160.0 ft, A-4, dark gray, clayey SILT, with fragments of cobble as described above, reworked by rig, (ML).								
		160.0 ft - 161.0 ft, Highly weathered micaceous rock as described above, dry.								
		161.0 ft - 164.0 ft, Highly weathered micaceous rock as described above, dry.								
		164.0 ft - 166.0 ft, A-4, dark brown, moist to wet, silty fine SAND, with interspaced rock fragments (as described above), (SM).								
		166.0 ft - 171.0 ft, A-4, dark brown, moist to wet, silty fine SAND, with interspaced competent rock fragments at bottom reworked by rig, (SM).								
		171.0 ft - 176.0 ft, Dark gray, lustrous micaceous PHYLLITE, slightly weathered, very strong. Possible fracture zone 172.5' to 173' as depicted by smaller, weathered rock fragments.			Top of Bedrock @ 171.0 ft					

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SUBSURFACE INFORMATION

BORING NUMBER: B302a
SHEET 8 of 8
DATE STARTED: 6/03/13
DATE COMPLETED: 6/04/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888103.78 ft E 1721020.69 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 834.33 ft
GROUNDWATER DEPTH: 35.0 ft 6/04/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	RUN	REC (%)	RQD (%)	Drill Rate (min/ft)	UCS (psi)		
		Hole stopped @ 176.0 ft								

Notes:
- 8" casing with continuous 4" core barrel sampling used in exploration.
- Entire hole was redrilled using 8" casing and 6" core barrel to install inclinometer casing.
- Piezometers installed at 43ft, 103 ft, and 166 ft.
- 3.3" inclinometer casing installed to 176 ft.
- Reported water level was measured with casing in borehole.
- Densities indicated in soil descriptions are based on adjacent SPT values and field experience.

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SUBSURFACE INFORMATION

BORING NUMBER: B304a
SHEET 1 of 7
DATE STARTED: 6/11/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888291.11 ft E 1721201.34 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.66 ft
GROUNDWATER DEPTH: 25.45 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		Top of Well Elevation: 803.02 ft.						
		0.0 ft - 0.5 ft, Topsoil and root mat.						
		0.5 ft - 10.0 ft, A-2-4, brown, dry to damp, fine to medium SAND, little silt, trace gravel, (FILL), (SP).						
		10.0 ft - 28.0 ft, A-2-4, gray-brown, dry to damp, fine to coarse SAND, some silt, trace gravel, trace clay, (FILL), (SM). Occasional pockets of clayey SILT. Soil is grayer in color from 25-26 ft.						
		16.0 ft, Cobble encountered.			15.6	4.3	66.6	29.1

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SUBSURFACE INFORMATION

BORING NUMBER: B304a
SHEET 2 of 7
DATE STARTED: 6/11/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888291.11 ft E 1721201.34 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.66 ft
GROUNDWATER DEPTH: 25.45 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		28.0 ft - 31.0 ft, A-2-4, gray-brown, dry to damp, fine to coarse SAND, some silt, little clay, trace gravel, (FILL), (SM).						
		31.0 ft - 34.0 ft, A-4, dark brown, dry to damp, sandy SILT, trace gravel, little roots (ML).						
		34.0 ft - 36.0 ft, A-4, dark brown gray, moist, loose, SILT, trace gravel, trace fine to coarse sand, (ML).						
		36.0 ft - 51.0 ft, A-4, brown-gray, moist, very stiff, fine to medium sandy SILT, (ML). Layers of coarse SAND at approx. 38', 40' and 45'. Color change to dark gray after 49 ft.						

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BORING NUMBER: B304a
SHEET 3 of 7
DATE STARTED: 6/11/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888291.11 ft E 1721201.34 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.66 ft
GROUNDWATER DEPTH: 25.45 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		51.0 ft - 55.0 ft, A-4, dark gray, dry to moist, dense, silty fine SAND, little gravel, (SM). Slickensides at 54'. Grades to a silty clay, trace gravel.						
		55.0 ft - 56.0 ft, A-4, dark gray, dry to moist, silty fine SAND, little gravel, (SM). Varves beginning.						
		56.0 ft - 71.0 ft, A-6, dark gray, dry to moist, hard, silty CLAY, trace gravel, (CL). Varves of silty CLAY and fine sand between 56-71'.						
		71.0 ft - 101.5 ft, A-4, dark gray, dry to damp, silty fine to medium SAND, little clay, trace gravel. Gravel decreases with depth. Clay varies from trace to little through interval (71'-96'), (SM).						

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SUBSURFACE INFORMATION

BORING NUMBER: B304a
SHEET 4 of 7
DATE STARTED: 6/11/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888291.11 ft E 1721201.34 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.66 ft
GROUNDWATER DEPTH: 25.45 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		82.0 ft - 84.0 ft, Slickensides.						

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BORING NUMBER: B304a
SHEET 5 of 7
DATE STARTED: 6/11/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888291.11 ft E 1721201.34 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.66 ft
GROUNDWATER DEPTH: 25.45 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		101.5 ft - 104.0 ft, A-7-6, mixed dark gray, moist, dense, silty CLAY pockets within a matrix of dark gray fine to coarse SAND, some silt, little clay. Silty clay appears as reworked soil. (CL/ML). Possible disturbed zone.				12.3	58.3	29.4
		104.0 ft - 111.0 ft, A-7-6, medium brown and gray, dry to moist, stiff, silty CLAY, slightly varved with fine sand, (CL/ML). Varves become more defined at 106'. Depths between 106'-126' are approximate due to sample.						
		111.0 ft - 121.0 ft, A-7-6, gray, dry to moist, stiff, silty CLAY, varved with fine sand, (CL/ML). Varves grade from silty clay to clayey fine sand at approx. 118'. Depths between 106'-126' are approximate due to sample stretch in core barrel.						
		120.9 ft - 125.5 ft, A-4, gray and brown, dry to damp, SILT, little gravel (subangular weathered PHYLLITE), little fine sand, (ML). 121.0 ft, A-4, folded concentric SILT varves at 121'. Possible slide zone, (ML).						

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SUBSURFACE INFORMATION

BORING NUMBER: B304a
SHEET 6 of 7
DATE STARTED: 6/11/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888291.11 ft E 1721201.34 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.66 ft
GROUNDWATER DEPTH: 25.45 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		125.5 ft - 126.5 ft, A-6, gray, dry to moist, stiff, silty CLAY, varved with fine sand, (CL-ML), (approximate depths).						
		126.5 ft - 129.0 ft, A-4, mixed zone of medium orange-brown clayey SILT with gray clayey SILT, some subangular gravel, (ML), (approximate depths).						
		129.0 ft - 130.0 ft, A-4, medium orange-brown, SILT, trace clay, (ML), (approximate depths).						
		130.0 ft - 132.0 ft, A-4, medium brown, dry to moist, SILT, with orange-brown varves, clayey SILT, (ML). Appears reworked/disturbed, (approximate depths).						
		132.0 ft - 136.0 ft, A-4, medium brown, dry to moist, SILT and clayey SILT, with orange-brown varves, (ML). Has clearly defined varves that appear folded, (approximate depths)						
		136.0 ft - 137.0 ft, A-4, medium brown, dry to moist, silty fine to medium SAND, some gravel, trace clay, (SM), (approximate depths).			28.7	0.0	0.6	99.4
		137.0 ft - 141.0 ft, A-4, gray and brown, dry to damp, SILT, little fine sand, some gravel (subangular weathered PHYLLITE), (ML).						
		141.0 ft - 143.0 ft, A-4, gray and orange-brown SILT. Zone appears reworked, (ML).						
		143.0 ft - 143.5 ft, A-4, orange brown, wet, SILT, (ML).						
		143.5 ft - 149.0 ft, A-4, dark gray-brown, moist, SILT, appears mottled, (ML).						
		149.0 ft - 153.0 ft, A-4, gray and brown, dry to damp, SILT, little fine sand, little gravel (subangular weathered PHYLLITE).						

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SUBSURFACE INFORMATION

BORING NUMBER: B304a
SHEET 7 of 7
DATE STARTED: 6/11/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888291.11 ft E 1721201.34 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.66 ft
GROUNDWATER DEPTH: 25.45 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		(ML).						
		153.0 ft - 159.0 ft, A-4, dark brown-gray, moist, soft, SILT, (ML).						
		159.0 ft - 161.0 ft, A-6, cobble, followed by dark gray, moist, soft, silty CLAY, mixed with fresh rock fragments, (CL).						
		161.0 ft - 162.0 ft, A-6, dark gray, stiff, silty CLAY, mixed with fresh rock fragments, (CL).						
		162.0 ft - 163.0 ft, A-4, dark brown, medium dense, SILT, (ML).						
		Top of Bedrock @ 163.0 ft						
		Hole stopped @ 163.0 ft						

Notes:
- Densities indicated in soil descriptions are based on adjacent SPT values and field experience.
- 2" well screen set 140 to 145 ft. Sand pack from 137.5 to 146 ft. Bentonite chips from 133 to 137.5 ft and 146 to 163 ft. Grouted from 133 ft to ground surface.

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SUBSURFACE INFORMATION

BORING NUMBER: B304b
SHEET 1 of 5
DATE STARTED: 6/27/13
DATE COMPLETED: 7/01/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888287.70 ft E 1721197.05 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.75 ft
GROUNDWATER DEPTH: 31.8 ft 7/01/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

Top of Well Elevation: 803.26 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S1: 0.0 ft - 0.33 ft, Topsoil and root mat. [Top 4"]. Rec. = 1.25 ft 0.33 ft - 2.0 ft, A-1-b, medium brown, slightly moist, medium dense, fine to medium SAND, some silt, trace gravel, (FILL), (SM), [Bottom 7"].		2-5-9-10 (14)						
		S2: 5.0 ft - 7.0 ft, A-1-b, medium brown, slightly moist, medium dense, fine to medium SAND, some silt, trace gravel. 1" seam of gray clayey silt, (FILL), (SM),. Rec. = 1.5 ft		4-13-29-30 (42)						
		S3: 10.0 ft - 12.0 ft, A-2-4, gray-brown, moist, medium dense, fine to coarse SAND, some silt, little gravel, (FILL), (SM),. Rec. = 1.0 ft		4-9-7-9 (16)	15.1	14.8	51.7	33.5		
		S4: 15.0 ft - 17.0 ft, A-4, gray and gray-brown, moist, dense, alternating seams and pockets of fine to medium sandy SILT and silty fine to medium SAND, trace gravel, trace roots, (SM),. Rec. = 1.5 ft		14-22-27-33 (49)						
		S5: 20.0 ft - 22.0 ft, A-4, gray and gray-brown, moist, dense, alternating seams and pockets of fine to medium sandy SILT and silty fine to medium SAND, trace gravel, possible mixing of FILL and NATIVE soil, (SM),. Rec. = 1.17 ft		5-19-16-21 (35)						

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AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B304b
SHEET 2 of 5
DATE STARTED: 6/27/13
DATE COMPLETED: 7/01/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888287.70 ft E 1721197.05 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.75 ft
GROUNDWATER DEPTH: 31.8 ft 7/01/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S6: 25.0 ft - 27.0 ft, A-4, gray and gray-brown (mottled), wet, medium dense, alternating seams and pockets of fine to medium sandy SILT and silty fine to medium SAND, trace gravel, trace roots, (SM),. Rec. = 1.17 ft		11-11-5-5 (16)						
		S7: 30.0 ft - 32.0 ft, A-4, gray and gray-brown (mottled), moist, medium dense, alternating seams and pockets of fine to medium sandy SILT and silty fine to medium SAND, trace gravel, trace roots, (ML),. Rec. = 0.83 ft		11-9-8-6 (17)	15.0	5.3	44.3	50.4		
		S8: 35.0 ft - 37.0 ft, A-4, dark brown-gray, wet, loose, SILT some organics (roots, peat fibers), trace wood, trace gravel, trace fine to coarse sand, trace clay, buried wetands TOPSOIL, (ML-OL),. Rec. = 0.17 ft 37.0 ft, Note: 3" split spoon used from 37 ft to EOB.		3-2-7-10 (9)						
		S9: 40.0 ft - 42.0 ft, A-4, brown-gray, moist, medium dense, fine to medium sandy SILT, trace gravel (very weathered subangular phyllite and rounded gravel), trace clay. (ML),. Rec. = 1.17 ft		19-16-10-9* (26)	12.9	11.0	34.2	54.8		
		S10: 45.0 ft - 47.0 ft, A-1-a, gray and brown, wet, dense, fine to coarse sandy GRAVEL, rounded with angular rock fragments, (GP),. Rec. = 0.67 ft		25-24-24-28* (48)						

LOG OF BORING & WELL NEWPORT.GPJ VT AOT.GDT 8/13/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B304b
SHEET 3 of 5
DATE STARTED: 6/27/13
DATE COMPLETED: 7/01/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888287.70 ft E 1721197.05 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.75 ft
GROUNDWATER DEPTH: 31.8 ft 7/01/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S11: 50.0 ft - 52.0 ft, A-4, dark gray, moist, very dense, silty fine to medium SAND, little gravel, trace coarse sand, (SM),. Rec. = 0.58 ft		18-29-29-42* (58)	8.5	24.7	36.6	38.7		
		S12: 55.0 ft - 57.0 ft, A-4, dark gray, moist, very dense, silty fine to medium SAND, some gravel, (SM),. Rec. = 1.33 ft		17-33-30-68* (63)						
		S13: 60.0 ft - 62.0 ft, A-6, dark gray, moist, hard, silty CLAY, little gravel (rounded), (CL). PP = 1.5, 2.5, 2.25, 3.5 tsf Tv = 4.5 tsf, Rec. = 1.67 ft 64.0 ft, Soil heaved overnight from 65 ft to 64 ft.		19-36-46-34* (82)	23.4	12.9	1.2	85.9	39	16
		S14: 65.0 ft - 67.0 ft, A-7-6, dark gray, slightly moist, hard, silty CLAY, varved with fine sand, (CL). PP = 3.5, 4.5, 4.25, 4.25 tsf Tv = 8 tsf, Rec. = 1.67 ft		35-29-34-50* (63)						
		S15: 70.0 ft - 72.0 ft, A-7-6, dark gray, slightly moist, hard, silty CLAY, varved with fine sand, (CL),. Rec. = 1.83 ft		24-27-30-40* (57)	28.0				41	18

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MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B304b
SHEET 4 of 5
DATE STARTED: 6/27/13
DATE COMPLETED: 7/01/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888287.70 ft E 1721197.05 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.75 ft
GROUNDWATER DEPTH: 31.8 ft 7/01/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S16: 75.0 ft - 77.0 ft, A-4, dark gray, slightly moist, hard, fine to medium silty SAND, little gravel (rounded), (SM),. Rec. = 1.83 ft		25-40-44-48* (84)						
		S17: 80.0 ft - 82.0 ft, A-4, dark gray, slightly moist, hard, fine to medium silty SAND, little gravel (rounded), (SM),. Rec. = 1.83 ft		20-37-40-44* (77)	11.5	14.3	36.8	48.9		
		S18: 85.0 ft - 86.5 ft, A-4, dark gray, slightly moist, hard, silty fine to medium SAND, trace gravel (rounded), (SM),. Rec. = 1.5 ft		49-85-100/6"* (R)						
		S19: 90.0 ft - 91.5 ft, A-4, dark gray, slightly moist, hard, SILT, some fine sand, trace gravel, (ML),. Rec. = 1.5 ft		63-70-90/6"* (R)						
		S20: 95.0 ft - 97.0 ft, A-4, dark gray, slightly moist, hard, SILT, some fine sand, little clay, trace gravel, (ML),. Rec. = 1.67 ft		30-40-29-46* (69)	14.0	5.5	27.3	67.2		

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BORING NUMBER: B304b
SHEET 5 of 5
DATE STARTED: 6/27/13
DATE COMPLETED: 7/01/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888287.70 ft E 1721197.05 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.75 ft
GROUNDWATER DEPTH: 31.8 ft 7/01/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S21: 100.0 ft - 100.5 ft, A-4, dark gray, very dense, SILT, few pockets of silty clay, possible slide zone, [Top 6"]. Rec. = 1.17 ft 100.5 ft - 102.0 ft, A-7-6, medium brown, slightly moist, silty CLAY, slightly varved. (CH) [Bottom 8"]. 103.0 ft - 104.0 ft, Driller indicated color change in the wash.		15-19-36-41* (55)						
		S22: 105.0 ft - 107.0 ft, A-7-6, brown-gray, moist, hard, CLAY, trace fine sand layers, fissured, (CH-MH),. Rec. = 1.25 ft 108.0 ft, Suspected transition to varved clay.		21-27-43-40* (70)	31.5				62	31
		S23: 110.0 ft - 112.0 ft, A-7-5, brown-gray, moist, hard, silty CLAY, little gravel, trace fine sand layers, varved, (CH-MH). PP = 0.7, 1.5 tsf, Rec. = 0.67 ft		7-12-21-24* (33)	29.6	12.0	0.9	87.1		
		S24: 115.0 ft - 117.0 ft, A-7-5, brown-gray, moist, hard, silty CLAY, trace fine sand layers, varved, (CH-MH), thicker sand varves (approx. 0.5" thick) in the top of spoon. PP = 1.9 tsf, Rec. = 1.5 ft		12-16-21-23* (37)	38.1				60	29
		117.0 ft - 119.0 ft, A-7-5, U1: Shelby tube attempted. (Rec. 2.3 ft) 300 psi for 0-12" 1000 psi for 12-24" Hole stopped @ 119.0 ft			36.7	0.0	1.2	98.8	54	23

Notes:
- * 3" spoon used below 37ft. N-Values should not be used for design.
- 2" well screen set 87 to 98.5 ft. Sand pack from 87 to 98.5 ft. Bentonite chips from 85 to 87 ft and 98.5 to 105.5 ft. Grouted from 85 ft to ground surface.

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BORING NUMBER: B305a
SHEET 1 of 3
DATE STARTED: 6/10/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 12.0 ft 6/11/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg
BORING RIG: CME-750

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		S1: 0.0 ft - 2.0 ft, A-1-b, A-1-b, dark brown, moist, loose, well graded fine to coarse SAND, little gravel, little organics, (FILL), (SP). Rec. = 0.17 ft	1-3-4-5 (7)				
		S2: 5.0 ft - 7.0 ft, A-4, A-1-b, top 3": Gray brown, wet, medium dense, medium SAND, little gravel, (SP). A-4, bottom 12": Gray, wet, medium dense, SILT, some fine to medium sand, little gravel, (FILL), (ML). Rec. = 1.25 ft	10-12-12-11 (24)	10.4	15.4	30.2	54.4
		S3: 10.0 ft - 12.0 ft, A-4, A-4, gray brown, wet, medium dense, SILT, some fine to medium SAND, little gravel, (FILL), (ML). Rec. = 1.42 ft	13-16-19-26 (35)				
		13.5 ft, Refusal of casing at approximately 13.5'. 6-8" cobble.					
		S4: 15.0 ft - 17.0 ft, No recovery.	35-49-46-50 (95)				
		S5: 20.0 ft - 22.0 ft, A-4, gray-brown, wet, dense, SILT, some fine sand, (FILL), (ML). Black stain 12" from top. Rec. = 1.33 ft	13-17-20-26 (37)	16.0			
					2.0	23.4	74.6

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BORING NUMBER: B305a
SHEET 2 of 3
DATE STARTED: 6/10/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 12.0 ft 6/11/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg
BORING RIG: CME-750

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		S6: 25.0 ft - 27.0 ft, A-4, gray-brown, wet, dense, SILT, some fine to coarse sand, little gravel, (FILL), (SM). Layer of clayey sand about 8" from top of sample, Rec. = 0.92 ft	11-15-23-28 (38)				
		S7: 30.0 ft - 32.0 ft, A-4, top 6": Medium brown, wet, very dense, fine to medium SAND, little gravel, little silt, (FILL), (SM). A-4, bottom 5": Gray brown, wet, very dense, sandy SILT, trace clay. Low plasticity, high dilatency, trace organics (roots), (ML). Rec. = 0.92 ft	15-33-32-27 (65)	11.0	19.7	63.6	16.7
		S8: 35.0 ft - 37.0 ft, A-4, gray brown, wet, very dense, silty fine to medium SAND, trace clay, (SM). Rec. = 1.08 ft	15-24-27-26 (51)				
		S9: 40.0 ft - 42.0 ft, A-4, gray brown, wet, medium dense, silty fine SAND grading to gray, medium dense, silty medium SAND, (SM). Rec. = 1.08 ft	7-7-9-7 (16)				
		S10: 42.0 ft - 44.0 ft, A-4, top 9": Gray, wet, medium dense, silty fine SAND, (SM). A-4, bottom 9": Brown-gray, wet, medium dense, silty fine SAND, little gravel, (SM). Rec. = 1.5 ft	5-8-11-15 (19)				
		S11: 44.0 ft - 46.0 ft, A-4, gray-brown, wet, medium dense, sandy SILT, some gravel, some clay, low plasticity, high dilatency, (ML). Gravel blocking top of spoon. Top 8-10" suspected wash, Rec. = 1.25 ft	12-13-12-12 (25)				
		S12: 46.0 ft - 48.0 ft, No recovery: spoon full of wash.	16-21-29-32 (50)				

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BORING NUMBER: B305a
SHEET 3 of 3
DATE STARTED: 6/10/13
DATE COMPLETED: 6/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 12.0 ft 6/11/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg
BORING RIG: CME-750

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		S13: 50.0 ft - 52.0 ft, A-4, gray, moist, dense, SILT, some fine sand, trace gravel, trace clay, (ML). PP = 3.2 tsf, Rec. = 1.33 ft	17-17-26-35 (43)	14.6	7.9	23.0	69.1
		54.0 ft - 55.0 ft, Approx. 10" of cobble based on drill rig behavior.					
		S14: 55.0 ft - 57.0 ft, A-4, gray, wet, medium dense, silty fine to medium SAND, some coarse gravel, trace clay, (SM). Rec. = 0.67 ft	17-15-10-15 (25)				
		57.0 ft - 60.0 ft, Driller reported cobbles 57-60'.					
		S15: 60.0 ft - 62.0 ft, A-4, gray, wet, very dense, silty fine SAND, (SM). Top 2" of sample clayey silt. PP = 1.5, 1.7, 2.1 tsf. Tv = 0.25, 0.21 tsf, Rec. = 0.75 ft	32-35-40-54 (75)				

Hole stopped @ 62.0 ft

Notes:
- Drilled with 60 ft of 5" casing.
- Hole abandoned at 62 ft due to deviation of casing on suspected boulder/cobble. Casing broke at 55 ft during removal. See log for B305b for depths greater than 62 ft.

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BORING NUMBER: B305b
SHEET 1 of 8
DATE STARTED: 6/11/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport Clty STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 35.15 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg / Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN N VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		Top of Well Elevation: 828.72 ft								
		1.0 ft - 65.0 ft, Note: Continuation of B305a. Washed to 65 ft.								

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BORING NUMBER: B305b
SHEET 2 of 8
DATE STARTED: 6/11/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport Clty STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 35.15 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg / Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN N VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		48.0 ft, Driller reported cobbles.								

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BORING NUMBER: B305b
SHEET 3 of 8
DATE STARTED: 6/11/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport Clty STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 35.15 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg / Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN N VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		52.0 ft - 53.0 ft, Driller reported cobbles.								
		64.0 ft - 65.0 ft, Driller reported cobbles.								
		S16: 65.0 ft - 67.0 ft, A-6, gray, moist, hard, silty CLAY, little fine sand, High plasticity, low dilatency, (CL), PP = 3.25, 3.2, 3.3 tsf, Tv = 0.75, 0.63, 1.0 tsf, Rec. = 0.92 ft		32-34-49-78 (83)	27.4				40	15
		S17: 70.0 ft - 72.0 ft, A-4, gray, wet, hard, SILT, trace fine sand, High plasticity, high dilatency, (ML), Rec. = 1.0 ft		26-30-27-29 (57)	24.1	0.0	2.0	98.0		

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BORING NUMBER: B305b
SHEET 4 of 8
DATE STARTED: 6/11/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport Clty STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 35.15 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg / Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN N VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S18: 75.0 ft - 77.0 ft, No recovery., Rec. = 0.0 ft		14-17-32-50 (49)						
		S19: 80.0 ft - 82.0 ft, A-4, gray, wet, very dense, SILT, some fine to medium sand, trace gravel, (ML), PP = 2.2 tsf, Rec. = 0.33 ft		40-38-42-33 (80)						
		S20: 85.0 ft - 86.2 ft, A-4, gray, wet, very dense, SILT, some fine sand, trace gravel, (ML), Suspected wash., Rec. = 0.42 ft		29-35-50/2" (R)						
		S21: 90.0 ft - 92.0 ft, A-4, no recovery - resampled with 3"spoon; Gray, moist, very dense, SILT, some fine to medium sand, trace gravel, (ML).		76-100/5"* (R)	13.8	6.6	27.3	66.1		
		S22: 95.0 ft - 97.0 ft, A-4, gray, moist, very dense, SILT, some fine to medium sand, trace gravel, (ML), PP = >4.5 tsf Resampled with 3" spoon to get additional sample., Rec. = 0.17 ft		33-43-80-91 (123)						

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BORING NUMBER: B305b
SHEET 5 of 8
DATE STARTED: 6/11/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport Clty STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 35.15 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg / Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN N VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S23: 100.0 ft - 102.0 ft, A-4, gray, moist, very dense, SILT, some fine sand, little clay, (ML), PP = 4.2, 4.5 tsf, (Sample split around piston - may not be representative), Rec. = 0.83 ft		35-49-46-37 (95)						
		S24: 105.0 ft - 105.2 ft, A-4, gray, moist, very dense, SILT, some fine SAND, little clay, (ML), PP = 2.3 (sample split around piston - may not be representative), Rec. = 0.17 ft		50/2" (R)						
		S25: 107.0 ft - 109.0 ft, A-6, no recovery - resampled with 3" spoon; Gray, moist, hard, silty CLAY, little fine sand, trace gravel. Suspected slickensides about 8" from top of spoon, Tv = 0.8, 0.8, 0.75 tsf, PP = 3.25, 4.5 tsf., Rec. = 1.0 ft		21-22-32-60 (54)						
		S26: 109.0 ft - 110.4 ft, A-6, top 10"; Gray, moist, hard, silty CLAY, some fine sand, trace gravel. Bottom 2": Mixed medium brown and gray, silty CLAY, little fine sand, (CL). Slickensides above bottom 2" layer. Thin layer of black clean fine SAND with gravel at bottom of spoon., Rec. = 1.0 ft		51-86-120/4"* (R)	18.3	6.1	14.0	79.9	32	13
		S27: 112.0 ft - 113.8 ft, A-6, gray with medium brown streaks at top, moist, hard silty CLAY, little fine sand, trace gravel, (CL), PP > 4.5 tsf, Tv = 2.5 tsf., Rec. = 1.0 ft		30-23-70-70/4"* (93)	14.9				30	11
		S28: 115.0 ft - 117.0 ft, A-6, no recovery with 2" spoon, resampled with 3" spoon, Gray, moist, very dense, silty CLAY, little fine sand, trace gravel, (CL), Rec. = 1.5 ft		32-36-45-50 (81)						
		S29: 120.0 ft - 122.0 ft, A-1-b, dark gray, wet, very dense, fine to medium SAND, some silt, trace gravel, (SM), Rec. = 1.33 ft		30-57-60-75* (117)						

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AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B305b
SHEET 6 of 8
DATE STARTED: 6/11/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport Clty STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 35.15 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg / Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN N VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S30: 125.0 ft - 126.4 ft, A-7-6, dark gray and brown, dry to moist, hard, varved SILT, trace gravel, trace fine sand in varves, (ML), Rec. = 1.33 ft		31-50-100/4"* (R)	27.6				42	15
		S31: 130.0 ft - 131.4 ft, A-4, gray-brown, dry, hard, slightly varved SILT, dry. Change at +- 130.8' to a gray-brown, wet, fine sand, Rec. = 1.08 ft		37-73-120/5"* (R)						
		S32: 135.0 ft - 135.8 ft, A-4, dark gray-brown and orange-brown varved, wet, very dense, SILT, some fine to coarse sand, trace gravel (subangular weathered phyllite), trace clay, (ML), Rec. = 1.0 ft		79-100/3"* (R)	22.7	14.2	26.5	59.3		
		S33: 140.0 ft - 140.8 ft, A-4, dark gray-brown and orange-brown, wet, very dense, varved SILT, trace fine sand, trace clay, (ML). Cobble in spoon tip., Rec. = 0.75 ft		28-100/3"* (R)	25.6	0.6	4.8	94.6		
		S34: 141.0 ft - 141.8 ft, A-4, gray-brown, wet, hard, SILT, trace gravel (subangular weathered phyllite), (ML), Rec. = 0.67 ft		50-100/2" (R)						
		142.0 ft - 144.0 ft, Driller reports dense (142-146.4').								
		S35: 144.0 ft - 144.4 ft, A-4, gray-brown clayey SILT, trace gravel (subangular weathered phyllite), (ML), Driller reports dense (142-146.4'), Rec. = 0.33 ft		125/5" (R)						
		146.0 ft - 146.5 ft, Driller reports dense (142-146.4'), Possible cobble, Relatively softer at 147.1 ft.								
		S36: 147.0 ft - 149.0 ft, A-7-6, top 4": Gray-brown clayey SILT, trace gravel (subangular weathered phyllite), (ML). Transitions to an orange-brown varved, dry, hard, silty CLAY, trace medium brown fine sand in varves, (CL), Rec. = 1.75 ft		19-71-81-100 (152)	26.6	0.0	4.2	95.8	48	21

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BORING NUMBER: B305b
SHEET 7 of 8
DATE STARTED: 6/11/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport Clty STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 35.15 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg / Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN N VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		149.0 ft - 151.0 ft, Rollercone ahead, Driller reports still very stiff with occasional "softer" layers +/- 2'.								
		152.0 ft - 152.3 ft, U1: Tube attempt: 4" recovery, Not saved		32-57-100/4" (R)						
		S37: 152.3 ft - 153.6 ft, A-6, orange-brown, dry, hard, varved silty CLAY, some fine sand, (CL), Rec. = 0.33 ft								
		154.0 ft - 154.7 ft, U2: Unsuccessful tube attempt, No Recovery (rig pushed with 750 lbs pressure).								
		158.2 ft - 159.8 ft, Gravel layer based on drill rig behavior.								
		S38: 160.0 ft - 160.9 ft, A-4, gray-brown clayey, wet, hard, SILT, trace gravel (subangular weathered phyllite), (ML), Rec. = 0.83 ft		57-120/4"* (R)	19.6					
		S39: 165.0 ft - 165.5 ft, A-4, dark brown, wet, hard, SILT, little fine sand, (ML), Rec. = 0.5 ft		100/6"* (R)			2.0	13.4	84.6	
		S40: 170.0 ft - 170.5 ft, A-4, dark brown, wet, hard, SILT, (ML), Rec. = 0.25 ft		150/6"* (R)						
		172.5 ft - 178.0 ft, Possible bedrock surface based on drill rig behavior. Rollercone ahead 172.5'-178'.								

Top of Bedrock @ 172.5 ft

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BORING NUMBER: B305b
SHEET 8 of 8
DATE STARTED: 6/11/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport Clty STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888253.58 ft E 1721088.23 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 825.16 ft
GROUNDWATER DEPTH: 35.15 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg / Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN N VALUE / RUN	M.C. (%) / REC (%)	AASHTO GRAVEL (%) / RQD (%)	AASHTO SAND (%) / Drill Rate (min/ft)	AASHTO FINES (%) / UCS (psi)	LL (%)	PI (%)
		R1: 178.0 ft - 183.0 ft, NQ, Rec. = 5.0 ft, Medium dark gray (N4) to dark grey (N3), very fine grained, fresh, strong (R4) to very strong (R5), weakly foliated to massive, strongly calcareous, muscovite-quartz METALIMESTONE, with trace pyrite; discontinuities mostly parallel with foliation, dipping 10-20 degrees, planar, rough, spaced 4-26 cm (very close to moderately spaced), with rare coatings of FeOx [WAITS RIVER FORMATION - PHYLLITE AND LIMESTONE MEMBER].		R1	100	82			
		Hole stopped @ 183.0 ft								

Notes:
- Drilled with 50 ft of 5" casing and 85 ft of 4" casing.
- * Sampled with 3" spoon, N-values should not be used for design.
- Piezometers Installed at 55ft, 120ft, and 165ft in grouted boreholes.
- 1" SAA casing Installed to 157ft.

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BORING NUMBER: B306a
SHEET 1 of 7
DATE STARTED: 6/09/13
DATE COMPLETED: 6/10/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888366.74 ft E 1721114.15 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.5 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		Top of Well Elevation: 795.84 ft.						
		0.0 ft - 0.5 ft, Topsoil and root mat.						
		0.5 ft - 2.0 ft, A-1-b, dark brown, dry to moist, fine to coarse SAND, little silt, trace gravel, (SW).						
		2.0 ft - 30.0 ft, A-2-4, gray and brown, dry, fine to coarse SAND, some silt, some gravel (mixed fill and native silty CLAY). Slightly moist at 16' grading to a dark gray-brown, very moist, silty fine to medium SAND, trace gravel, trace clay, (SM).						

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BORING NUMBER: B306a
SHEET 2 of 7
DATE STARTED: 6/09/13
DATE COMPLETED: 6/10/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888366.74 ft E 1721114.15 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.5 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		30.0 ft - 36.0 ft, A-6, slightly moist, silty CLAY grading to clayey SILT, trace coarse sand, (CL to ML). PP = 0.5 to 4.5 tsf. Tv = 0.5 to 1.25 tsf.						
		36.0 ft - 48.0 ft, A-4, gray, wet, silty fine SAND, (SM). At 44' trace clay. Softer zone 46'-48'.						
		48.0 ft - 56.0 ft, A-4, stiff, clayey SILT, trace gravel (rounded), (ML). PP = 3.5, 4.0, 4.25 tsf. Tv = 2 tsf.						

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BORING NUMBER: B306a
SHEET 3 of 7
DATE STARTED: 6/09/13
DATE COMPLETED: 6/10/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888366.74 ft E 1721114.15 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.5 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		52.0 ft, Slickensides 52-53 ft.						
		56.0 ft - 76.0 ft, A-6, very stiff, dry, silty CLAY, some fine sand, little gravel, (CL). PP > 4.5 tsf.						
		71.0 ft, Slickensides 71-73 ft.						

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BORING NUMBER: B306a
SHEET 4 of 7
DATE STARTED: 6/09/13
DATE COMPLETED: 6/10/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888366.74 ft E 1721114.15 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.5 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		76.0 ft - 80.0 ft, A-4, gray, wet, silty fine SAND, (SM). Driller reported soft conditions, hard at 80 ft.						
		80.0 ft - 86.0 ft, A-6, gray, dry, very stiff, silty CLAY, some fine sand, little gravel, (CL).						
		86.0 ft - 86.5 ft, A-4, gray, wet, silty fine SAND, (SM).						
		86.5 ft - 89.0 ft, A-1-b, gray-brown, wet, fine to coarse SAND, some silt, little gravel, (SM).						
		89.0 ft - 94.0 ft, A-4, gray to gray-brown, wet, fine to medium SAND and SILT grading to SILT, trace gravel, (SM).						
		94.0 ft - 97.0 ft, A-4, mixed zone of gray and brown, slightly moist, SILT and fine to coarse sand, little gravel, (ML). Possible slide zone.						
		97.0 ft - 116.0 ft, A-6, medium brown, slightly moist, very stiff, silty CLAY, varved, (CL). Varves are medium brown silty CLAY and gray fine sand. Color change at 103' to gray. PP = 2.5, 2.5, 2.5, 2.25, tsf.						

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BORING NUMBER: B306a
SHEET 5 of 7
DATE STARTED: 6/09/13
DATE COMPLETED: 6/10/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888366.74 ft E 1721114.15 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.5 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		110.0 ft, Sand varves increasing in thickness 110-116 ft.						
		116.0 ft - 119.0 ft, A-6, gray-brown, firm to stiff, silty CLAY, little fine sand, relatively much softer than material above, (CL). Zone appears to be same soil as 97'-116' but reworked. Some pockets of undisturbed silty clay. Possible slide zone?						
		119.0 ft - 126.0 ft, A-4, gray-brown, dry, SILT, some fine to medium sand, some gravel, (gravel is weathered PHYLLITE).						

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BORING NUMBER: B306a
SHEET 6 of 7
DATE STARTED: 6/09/13
DATE COMPLETED: 6/10/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888366.74 ft E 1721114.15 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.5 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		126.0 ft - 132.0 ft, A-6, cobbly layer of highly weathered PHYLLITE with pockets of gray-brown, dry, silty CLAY, (CL).						
		132.0 ft - 142.0 ft, A-4, dark brown, moist to wet, soft, SILT, trace fine sand, little clay, (ML).				0.3	7.5	92.2
		142.0 ft - 144.0 ft, Moderately weathered PHYLLITE (cobble).						
		144.0 ft - 149.0 ft, A-4, gray-brown, moist, gravelly clayey SILT, (ML). Gravel is weathered PHYLLITE.						
		149.0 ft - 151.0 ft, Dry, moderately weathered PHYLLITE fragments, garnets weathered to fine powder (cobble).						

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BORING NUMBER: B306a
SHEET 7 of 7
DATE STARTED: 6/09/13
DATE COMPLETED: 6/10/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888366.74 ft E 1721114.15 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.5 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN IN VALUE	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		151.0 ft - 156.0 ft, A-4, dark brown grading to gray, SILT, (ML). Trace gravel (angular moderately weathered PHYLLITE) present at 154'-156'. Slightly moist at 151' grading to dry at 156'.						
		156.0 ft - 160.0 ft, A-4, dark gray, moist, clayey SILT with fresh metasiltstone cobbles (ML).			Top of Bedrock @ 160.0 ft			
		160.0 ft - 168.0 ft, Slightly weathered, dark gray metasiltstone. Possible fracture zone +/- 166' indicated by iron staining on tumbled rock fragments.						
		Hole stopped @ 168.0 ft						

Notes:
- 6" casing with continuous 4" core barrel sampling used in exploration.
- 3.3" Inclinometer casing installed to 168 ft.
- Densities indicated in soil descriptions are based on adjacent SPT values and field experience.

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BORING NUMBER: B306b
SHEET 1 of 6
DATE STARTED: 6/20/13
DATE COMPLETED: 6/26/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888362.58 ft E 1721113.60 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.7 ft
GROUNDWATER DEPTH: 23.9 ft 6/24/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

Top of Well Elevation: 795.84 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S1: 0.0 ft - 0.33 ft, Topsoil and root mat, Rec. = 1.5 ft 0.33 ft - 2.0 ft, A-3, dark brown, slightly moist, medium dense, fine to medium SAND, trace gravel, trace silt, cobble fragments in spoon tip, (FILL), (SW).		3-4-8-22 (12)						
		S2: 5.0 ft - 7.0 ft, A-1-b, dark brown, wet (drill water), dense, fine to coarse SAND, some gravel, little silt, (FILL), (SW), Rec. = 0.83 ft		13-19-21-30 (40)						
		S3: 10.0 ft - 12.0 ft, A-1-b, dark brown, wet (drill water), medium dense, fine to coarse SAND, some gravel, some silt, (FILL), (SM), Rec. = 0.5 ft		10-7-5-4 (12)						
		S4: 15.0 ft - 17.0 ft, A-1-b, gray-brown, wet, medium dense, mixed zone of: silty fine SAND, trace clay, and fine SAND, trace silt, (FILL and NATIVE mix), (SM), Rec. = 1.08 ft		11-13-17-21 (30)						
		S5: 20.0 ft - 20.25 ft, Buried topsoil/root mat, Rec. = 1.42 ft S5: 20.25 ft - 22.0 ft, A-2-4, gray-brown, moist, medium dense, fine SAND, some silt, little clay, (NATIVE), (SM)		8-13-9-10 (22) NA (R)						

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BORING NUMBER: B306b
SHEET 2 of 6
DATE STARTED: 6/20/13
DATE COMPLETED: 6/26/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888362.58 ft E 1721113.60 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.7 ft
GROUNDWATER DEPTH: 23.9 ft 6/24/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S6: 25.0 ft - 27.0 ft, A-2-4, gray-brown, very moist, medium dense, fine to medium SAND, some silt, trace gravel, (SM), Rec. = 1.08 ft		13-18-11-11 (29)	12.9	11.1	63.6	25.3		
		S7: 30.0 ft - 32.0 ft, A-6, dark gray, slightly moist, stiff, silty CLAY, trace fine sand, changing at 31.8 ft to clayey SILT, (CL), Rec. = 1.58 ft		6-7-8-10 (15)	26.9	0.0	1.0	99.0	39	16
		S8: 35.0 ft - 37.0 ft, A-6, dark gray, wet, very stiff, alternating seams of fine SAND, some silt, and silty CLAY, (CL), Rec. = 0.58 ft		11-8-10-15 (18)						
		S9: 40.0 ft - 42.0 ft, A-4, dark gray, wet, dense, silty fine SAND, trace clay, (SM), Rec. = 1.5 ft		12-17-17-21 (34)						
		S10: 44.0 ft - 46.0 ft, A-6, dark gray, wet, very stiff, alternating seams of fine SAND, some silt (1-1.5" thick), and silty CLAY, (CL), Rec. = 1.67 ft		11-8-8-6 (16)						
		S11: 48.0 ft - 50.0 ft, A-4, dark gray, moist, very dense, fine to medium sandy SILT, trace gravel (rounded), cobble from 49.5 to 49.7 ft, (ML), Rec. = 1.17 ft		27-34-59-78 (93)	12.0	7.1	34.8	58.1		

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B306b
SHEET 3 of 6
DATE STARTED: 6/20/13
DATE COMPLETED: 6/26/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888362.58 ft E 1721113.60 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.7 ft
GROUNDWATER DEPTH: 23.9 ft 6/24/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S12: 55.0 ft - 57.0 ft, A-4, dark gray, slightly moist, very dense, fine to medium sandy SILT, trace gravel (rounded), (ML), Rec. = 1.25 ft		38-60-68-76 (128)						
		S13: 60.0 ft - 62.0 ft, A-4, No recovery with 2" split spoon. Resampled with 3" split spoon. A-4, dark gray, slighly moist, very dense, fine sandy SILT, trace gravel (rounded), trace clay, (ML), Rec. = 1.17 ft 62.0 ft, Note: 3" split spoon used from 70 ft to EOB.		29-42-41-32 (83)						
		S14: 65.0 ft - 66.7 ft, A-4, dark gray, moist, very dense, fine to medium sandy SILT, trace gravel (rounded), trace clay, (ML), Rec. = 1.25 ft		30-63-60-100/5** (123)						
		70.0 ft - 70.3 ft, U1: Attemped a shelby tube. The tube advanced 3.5" with 1000 lbs down pressure. End of tube folded in., Rec. = 0.29 ft S15: 70.3 ft - 71.8 ft, A-4, dark gray, moist, very dense, fine to medium sandy SILT, trace gravel (rounded), trace clay, (ML). Slickensides at approx. 71.5 ft. P.P. > 4.5 tsf, Rec. = 1.25 ft		NA (R) 38-86-115/6** (R)						

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BORING NUMBER: B306b
SHEET 4 of 6
DATE STARTED: 6/20/13
DATE COMPLETED: 6/26/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888362.58 ft E 1721113.60 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.7 ft
GROUNDWATER DEPTH: 23.9 ft 6/24/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S16: 75.0 ft - 76.0 ft, A-4, dark gray, slightly moist, very dense, silty fine to medium SAND, some gravel, (SM), Rec. = 0.58 ft		67-120/6** (R)						
		S17: 80.0 ft - 80.8 ft, A-4, dark gray, slightly moist, very dense, silty fine to medium SAND, some gravel, (SM), Rec. = 0.67 ft		86-120/4** (R)	10.4	26.3	30.0	43.7		
		S18: 85.0 ft - 85.83 ft, A-6, dark gray, moist, hard, silty CLAY, (CL), Rec. = 1.5 ft 85.83 ft - 86.5 ft, A-4, dark gray, moist, very dense, fine to medium SAND, little silt, (SM).		37-80-110/6** (R)						
		S19: 88.0 ft - 89.0 ft, A-1-b, dark gray, moist, very dense, fine to medium SAND, little silt, layered with silty CLAY seams, (SM), Rec. = 1.0 ft		77-120/6** (R)						
		S20: 90.0 ft - 92.0 ft, A-1-b, dark gray, wet, very dense, fine SAND, some silt, with occasional layers of silty CLAY, (SM), Rec. = 1.67 ft		40-80-103-126* (183)						
		S21: 95.0 ft - 96.0 ft, A-6, gray and gray brown (slightly mottled), very moist, very dense, fine SAND and silty CLAY, trace angular gravel (phyllite), (SC), Rec. = 0.58 ft		65-113/6** (R)						

STATE OF VERMONT
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SUBSURFACE INFORMATION

BORING NUMBER: B306b
SHEET 5 of 6
DATE STARTED: 6/20/13
DATE COMPLETED: 6/26/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888362.58 ft E 1721113.60 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.7 ft
GROUNDWATER DEPTH: 23.9 ft 6/24/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S22: 100.0 ft - 102.0 ft, A-7-6, medium brown, slightly moist, hard, SILT, trace fine sand, (ML), Rec. = 0.67 ft		25-36-40-66* (76)	27.1	0.0	1.3	98.7	49	20
		S23: 105.0 ft - 107.0 ft, A-7-6, medium brown and dark gray, slightly moist, hard, CLAY, varved with fine sand. Trace gravel fragments at 105.8 ft, (CH)		26-23-29-34* (52)	26.4				56	27
		110.0 ft - 112.0 ft, A-7-5, U2: Shelby tube, pushed with 1150 lbs of pressure, Tube was not rotated to extract, Rec. 1.54 ft. Silty CLAY, (CH-MH).			30.9	0.0	1.6	98.4	54	24
		S24: 114.0 ft - 116.0 ft, A-7-6, gray-brown, slightly moist, hard, silty CLAY, varved with fine sand, (CL), Rec. = 1.33 ft		19-28-52-48* (80)	28.8	0.0	1.6	98.4	48	22
		117.0 ft - 118.8 ft, A-4, U3: Shelby tube pushed with 1200 lbs pressure, Rec. = 1.75 ft.			24.0	0.0	2.0	98.0	34	10
		S25: 120.0 ft - 120.8 ft, A-4, gray-brown, slightly moist, hard, SILT, varved with fine sand, (ML). Note: Similar to S24 but thinner fine sand seams, Rec. = 0.42 ft		5-120/3** (R)	23.9				32	5

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BORING NUMBER: B306b
SHEET 6 of 6
DATE STARTED: 6/20/13
DATE COMPLETED: 6/26/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888362.58 ft E 1721113.60 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 793.7 ft
GROUNDWATER DEPTH: 23.9 ft 6/24/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Helena Hollauer
BORING RIG: CME-750

BORING TYPE: Wash Bore
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S26: 125.0 ft - 125.8 ft, A-4, gray-brown, slightly moist, hard, SILT, some fine to medium sand, some gravel (subangular weathered phyllite), (ML), Rec. = 0.58 ft		66-100/3** (R)						
		S27: 132.0 ft - 133.0 ft, A-1-b, brown and gray, slighly moist, very dense, fine to coarse SAND, some gravel, little silt, (SM), Rec. = 0.92 ft 133.0 ft - 136.5 ft, 133 - 134.5 ft Driller reports gravelly conditions 134.5 - 136.5 ft Driller reports softer material 135.5 - 136.5 ft Driller reports gravelly conditions 136.5 ft Driller reports softer material		94-140/6** (R)	11.4	43.0	38.8	18.2		
		S28: 137.0 ft - 137.8 ft, A-4, gray-brown (mottled), very dense, SILT, (ML), Rec. = 0.5 ft Hole stopped @ 138.0 ft		119-120/4** (R)		0.3	7.5	92.2		

Notes:
- * Sampled with 3" split spoon. Do not use N-values for design.
- Vibrating wire piezometers installed at 41 ft, 91 ft, and 137 ft in grouted borehole.

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SUBSURFACE INFORMATION

BORING NUMBER: B307a
SHEET 1 of 7
DATE STARTED: 6/06/13
DATE COMPLETED: 6/06/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888411.18 ft E 1721046.56 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 788.42 ft
GROUNDWATER DEPTH: 12.3 ft 6/07/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: SONIC
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

Top of Well Elevation: 790.83 ft

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
	0.0 ft - 0.5 ft, Topsoil and root mat, (SM).						
	0.5 ft - 4.0 ft, A-2 dark brown, moist, silty fine to coarse SAND, little gravel, (FILL), (SM).						
	4.0 ft - 6.0 ft, A-2-4, dark gray, moist, fine to coarse SAND, some silt, little gravel rounded, (FILL), (SM).						
	6.0 ft - 11.0 ft, A-2-4, dark gray mixed with dark brown, moist, fine to coarse SAND, some silt, little gravel, (MIXED FILL), (SM).						
	11.0 ft - 21.0 ft, A-4, gray-brown, moist, silty fine to medium SAND, trace roots. Depositional layering of sands and silts apparent. Trace wood, and trace fine roots at 16', (SM).	17.9	2.8	60.1	37.1		
	21.0 ft - 22.0 ft, Dark brown, moist, root mat and topsoil (silty).						
	22.0 ft - 26.0 ft, A-4, dark gray, moist, SILT and fine SAND, occasional clean medium to coarse sand layers, (SM).						

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SUBSURFACE INFORMATION

BORING NUMBER: B307a
SHEET 2 of 7
DATE STARTED: 6/06/13
DATE COMPLETED: 6/06/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888411.18 ft E 1721046.56 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 788.42 ft
GROUNDWATER DEPTH: 12.3 ft 6/07/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: SONIC
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
	26.0 ft - 32.0 ft, A-2-4, dark brown, very soft, moist to wet, fine to medium SAND, some silt, trace gravel, trace fine roots, (SM).						
	32.0 ft - 35.0 ft, A-1-b, dark brown, moist, fine to coarse SAND, little silt, trace gravel (rounded), (SW).						
	35.0 ft - 40.5 ft, A-6, dark gray, wet, silty CLAY, (CL).						
	40.5 ft - 42.5 ft, A-6, dark gray, wet, varved silty CLAY, fine SAND in varves, (CL).						
	42.5 ft - 46.5 ft, A-4, dark gray, moist, varved fine sand and SILT with occasional pockets of medium to coarse sand, (ML). P.P. = 4.0, 4.0, 4.0, 4.25 tsf.						
	46.5 ft - 56.0 ft, A-4, dark gray, moist, fine to medium SAND and SILT, little gravel, trace clay, (SM).						

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AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B307a
SHEET 3 of 7
DATE STARTED: 6/06/13
DATE COMPLETED: 6/06/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888411.18 ft E 1721046.56 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 788.42 ft
GROUNDWATER DEPTH: 12.3 ft 6/07/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: SONIC
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
	56.0 ft - 76.0 ft, A-4, dark gray, dry to moist, clayey SILT, trace gravel, (ML).						
	65.0 ft - 70.0 ft, Driller reported softer zone. Could not recover.						
	74.0 ft, Slickensides. Tv = 1.5 tsf.						

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SUBSURFACE INFORMATION

BORING NUMBER: B307a
SHEET 4 of 7
DATE STARTED: 6/06/13
DATE COMPLETED: 6/06/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888411.18 ft E 1721046.56 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 788.42 ft
GROUNDWATER DEPTH: 12.3 ft 6/07/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: SONIC
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
	PP > 4.5 tsf.						
	76.0 ft - 86.0 ft, A-6, dark gray, dry, silty CLAY, trace gravel, (CL), grading to a dark gray, dry, silty fine SAND, little clay, trace gravel, (SM).						
	86.0 ft - 89.0 ft, A-6, dark gray, moist, silty CLAY, trace gravel, grading to dark gray, moist, silty fine SAND, trace gravel, with mottled light brown color banding (SM/CL).						
	89.0 ft - 96.0 ft, A-1-b, dark gray to gray-brown, moist, fine to medium SAND, little silt, trace gravel, grading to fine to coarse SAND, little silt, trace gravel, (SW).						
	96.0 ft - 102.0 ft, A-4, dark gray, slightly mottled, wet, silty fine SAND, (SM).						

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AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B307a
SHEET 5 of 7
DATE STARTED: 6/06/13
DATE COMPLETED: 6/06/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888411.18 ft E 1721046.56 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 788.42 ft
GROUNDWATER DEPTH: 12.3 ft 6/07/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: SONIC
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
	102.0 ft - 106.5 ft, A-4, dark gray to brown and orange-brown, wet, varved clayey SILT, (ML).						
	106.5 ft - 115.0 ft, A-2-4, dark gray-brown, wet, fine SAND, little silt, grading to fine SAND, little silt, trace clay, (SM).						
	115.0 ft - 120.5 ft, A-4, dark gray to brown and orange-brown, moist, varved clayey SILT, grading to dark gray after 116 ft, (ML).						
	119.0 ft, PP = 4.5, 4.5, 4.5, 4.25 tsf.						
	120.5 ft - 121.0 ft, A-4, dark gray, moist, varved clayey SILT, trace angular rock fragments (METASILTSTONE), zone appears reworked or disturbed, possible slide zone? (ML).						
	121.0 ft - 125.0 ft, A-4, dark gray-brown, moist, SILT, trace angular rock fragments (METASILTSTONE), grading to silty fine SAND, (ML).	15.4				26	1

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BORING NUMBER: B307a
SHEET 6 of 7
DATE STARTED: 6/06/13
DATE COMPLETED: 6/06/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888411.18 ft E 1721046.56 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 788.42 ft
GROUNDWATER DEPTH: 12.3 ft 6/07/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: SONIC
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	CLASSIFICATION OF MATERIALS (Description)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
	125.0 ft - 126.0 ft, Moderately weathered PHYLLITE cobble, garnets weathered.						
	126.0 ft - 135.5 ft, A-4, dark gray and brown, dry, silty fine GRAVEL, some fine to coarse sand, Highly weathered to moderately weathered subangular rock fragments (PHYLLITE), (GM).	8.2	47.2	16.6	36.2		
	134.0 ft - 135.0 ft, Highly weathered PHYLLITE cobble, weathered garnets.						
	135.5 ft - 136.0 ft, A-4, dark brown to orange-brown, moist, SILT, some fine sand, (ML).						
	136.0 ft - 139.0 ft, A-4, dark gray and brown, moist, silty fine GRAVEL, some fine to coarse sand, Highly weathered to moderately weathered subangular rock fragments (PHYLLITE), (GM).						
	139.0 ft - 144.0 ft, A-4, dark brown, wet, SILT, trace fine sand, (ML).	23.7	0.0	3.5	96.5		
	144.0 ft - 150.0 ft, PHYLLITE, pulverized rock/rock fragments from sonic action.	Top of Bedrock @ 144.0 ft					

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MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B307a
SHEET 7 of 7
DATE STARTED: 6/06/13
DATE COMPLETED: 6/06/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888411.18 ft E 1721046.56 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 788.42 ft
GROUNDWATER DEPTH: 12.3 ft 6/07/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: SONIC
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

Hole stopped @ 150.0 ft

Notes:
- 6" casing with continuous 4" core barrel sampling used in exploration.
- 2" well screen set 139 to 144 ft. Sand pack from 136 to 145 ft. Bentonite chips from 134 to 136 ft and 145 to 150 ft. Grouted from 134 ft to ground surface.
- Densities indicated in soil descriptions are based on adjacent SPT values and field experience.

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B307b
SHEET 1 of 5
DATE STARTED: 7/10/13
DATE COMPLETED: 7/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888421.24 ft E 1721034.47 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 786.6 ft
GROUNDWATER DEPTH: 35.0 ft 7/10/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		Top of Well Elevation: 789.13 ft								
		S1: 0.0 ft - 2.0 ft, A-1-b, medium brown, moist, medium dense, fine to coarse SAND, some gravel, little silt, little organics (grass roots), (SM), Rec. = 1.08 ft		4-7-10-6 (17)						
		S2: 5.0 ft - 7.0 ft, A-1-b, medium brown with gray layers, moist, medium dense, fine to coarse sandy GRAVEL, some silt, (GM), Rec. = 1.33 ft		34-14-12-14 (26)	6.2	49.6	28.0	22.4		
		S3: 10.0 ft - 11.25 ft, A-4, medium brown, moist, loose, silty fine SAND, little gravel, trace organics (roots), (SM),, Rec. = 1.17 ft		4-6-4-5 (10)						
		11.25 ft - 12.0 ft, A-6, gray, moist, loose, fine to medium SAND interbedded with sandy CLAY, (SP-CL).								
		S4: 15.0 ft - 17.0 ft, A-4, gray, moist, loose, silty fine to medium SAND, little coarse sand, little sandy clay in layers, trace organics (roots), (SM), Rec. = 1.33 ft		3-2-8-5 (10)						
		S5: 20.0 ft - 20.75 ft, A-6, brown-gray, moist, very stiff, silty CLAY, little fine sand, (CL), Rec. = 1.67 ft		2-8-18-22 (26)						
		20.75 ft - 22.0 ft, A-1-b, gray, wet, medium dense, fine to coarse SAND, little silt, trace gravel, (SM).								

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BORING NUMBER: B307b
SHEET 2 of 5
DATE STARTED: 7/10/13
DATE COMPLETED: 7/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888421.24 ft E 1721034.47 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 786.6 ft
GROUNDWATER DEPTH: 35.0 ft 7/10/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S6: 25.0 ft - 27.0 ft, A-4, gray, wet, very dense, SILT, little fine sand, trace gravel, (ML), Rec. = 1.42 ft		20-28-38-68 (66)	19.8	0.7	16.5	82.8		
		S7: 30.0 ft - 32.0 ft, A-6, gray, moist, very stiff, silty CLAY, trace gravel, trace fine sand (layers), (CL). End of casing at 30 ft bgs, Rec. = 1.42 ft		11-12-16-25 (28)	23.9	10.3	1.5	88.2	40	16
		S8: 35.0 ft - 36.5 ft, A-4, gray, moist, hard, silty CLAY, trace fine sand (layers), (CL), Rec. = 1.58 ft		9-16-22-26 (38)	26.6				28	8
		36.5 ft - 37.0 ft, A-4, gray, moist, SILT, (ML).								
		S9: 40.0 ft - 42.0 ft, A-4, gray, moist, hard, silty CLAY, fine sand and silt in layers, (CL-ML), Rec. = 1.67 ft		14-16-29-38 (45)	23.9				25	4
		44.8 ft, Cobble encountered.								
		S10: 45.0 ft - 47.0 ft, A-4, gray, moist, hard, clayey SILT, some fine sand, little gravel, (ML), Rec. = 1.5 ft		28-32-39-30 (71)						

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BORING NUMBER: B307b
SHEET 3 of 5
DATE STARTED: 7/10/13
DATE COMPLETED: 7/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888421.24 ft E 1721034.47 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 786.6 ft
GROUNDWATER DEPTH: 35.0 ft 7/10/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S11: 50.0 ft - 52.0 ft, A-4, gray, moist, hard, clayey SILT, some fine sand, trace gravel, (ML), Rec. = 1.25 ft		21-22-21-16 (43)						
		S12: 55.0 ft - 55.9 ft, A-4, gray, moist, hard, clayey SILT, some fine sand, trace gravel, (ML), Rec. = 0.75 ft		30-100/5" (R)						
		S13: 60.0 ft - 62.0 ft, A-4, gray, moist, hard, clayey SILT, some fine sand, trace gravel, (ML), Rec. = 1.58 ft		16-23-28-47 (51)	12.8	11.0	18.8	70.2		
		S14: 65.0 ft - 67.0 ft, A-4, gray, moist, hard, clayey SILT, some fine sand, trace gravel, (ML), Rec. = 1.83 ft 66.3 ft, Slickensides.		16-26-42-60 (68)						
		S15: 70.0 ft - 72.0 ft, A-4, gray, moist, hard, silty CLAY, little fine to coarse sand, little gravel, (CL), Rec. = 1.83 ft		40-41-50-46 (91)	16.4				30	10

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BORING NUMBER: B307b
SHEET 4 of 5
DATE STARTED: 7/10/13
DATE COMPLETED: 7/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888421.24 ft E 1721034.47 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 786.6 ft
GROUNDWATER DEPTH: 35.0 ft 7/10/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S16: 75.0 ft - 77.0 ft, A-6, gray, moist, hard, silty CLAY, little fine sand, trace gravel, (CL), Rec. = 2.0 ft		21-34-42-50 (76)						
		S17: 80.0 ft - 80.67 ft, A-4, gray, moist, hard, clayey SILT, little fine to coarse sand, little gravel, (ML), Rec. = 1.0 ft		54-100/6" (R)						
		80.67 ft - 81.0 ft, A-3, fine SAND, (SP).								
		S18: 85.0 ft - 85.8 ft, A-2-4, gray, wet, fine SAND, some silt, (SM), Rec. = 0.83 ft		80-100/4" (R)						
		S19: 90.0 ft - 91.5 ft, A-4, brown-gray and gray, moist, hard, clayey SILT, little fine sand (layers), (ML), Rec. = 1.58 ft		19-25-32-78 (57)						
		91.5 ft - 92.0 ft, A-1-b, gray, wet, very dense, medium to coarse SAND, (SP).								
		S20: 95.0 ft - 96.3 ft, A-4, gray, wet, hard, SILT, little fine sand, (ML), Rec. = 0.75 ft		43-70-100/4" (R)	24.5	0.0	12.5	87.5		

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BORING NUMBER: B307b
SHEET 5 of 5
DATE STARTED: 7/10/13
DATE COMPLETED: 7/11/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888421.24 ft E 1721034.47 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 786.6 ft
GROUNDWATER DEPTH: 35.0 ft 7/10/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S21: 100.0 ft - 101.6 ft, A-4, gray, wet, hard, SILT, trace fine sand, (ML), Rec. = 1.33 ft		20-57-78-100/3" (135)	24.1	0.0	9.7	90.3		
		101.6 ft - 101.8 ft, A-4, clayey SILT, little fine sand, layered, (ML).								
		S22: 105.0 ft - 106.6 ft, A-6, gray and dark brown (mottled), moist, hard, varved SILT, trace fine sand in varves, (ML). P.P. = 74.5 tsf Tv = 0.3, 0.35 tsf, Rec. = 1.42 ft		25-40-84-100/3" (124)	27.5	0.0	1.0	99.0	37	11
		106.6 ft - 106.8 ft, A-1-b, medium SAND, (SP).								
		S23: 110.0 ft - 112.0 ft, A-4, brown and gray, moist, very dense, silty fine to coarse SAND, some gravel, (SM). Note: Piece of gravel blocking spoon tip, Rec. = 0.5 ft		76-58-49-58 (107)						
		S24: 115.0 ft - 116.9 ft, A-4, gray, moist, hard, clayey SILT, some fine sand, varved, (ML), Rec. = 1.75 ft		29-47-57-100/5" (104)						
		117.5 ft - 118.0 ft, U1: Shelby tube attemped but could not advance past 6".								
		118.5 ft, Gravel lenses inferred from wash.								
		119.5 ft - 120.0 ft, U2: Less gravel observed in the wash. Second shelby tube attempted but was crushed after being advanced 6".								
		Hole stopped @ 120.0 ft								

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BORING NUMBER: B311a
SHEET 1 of 5
DATE STARTED: 6/19/13
DATE COMPLETED: 6/20/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888714.22 ft E 1721178.73 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 721.99 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		Top of Well Elevation: 724.42 ft								
		0.0 ft - 0.5 ft, Root mat.								
		0.5 ft - 7.0 ft, A-4, medium brown, moist, dense, silty fine to medium SAND, some organics (roots), trace to little clay, (SM).								
		6.0 ft, Possible pulverized cobble (dry fine to coarse SAND and GRAVEL)								
		7.0 ft - 8.0 ft, A-1-a, light brown, moist, loose, medium to coarse SAND and GRAVEL, clean, (GW).								
		8.0 ft - 10.0 ft, A-1-a, dark brown, moist, loose, medium to coarse SAND and GRAVEL, clean, (GW).								
		10.0 ft - 11.0 ft, A-6, medium brown, moist, very stiff, silty CLAY, some fine to coarse sand, some fine to coarse gravel, (CL). P.P. = 1.8 tsf								
		11.0 ft - 12.0 ft, A-1-a, dark brown, loose, medium to coarse SAND and GRAVEL, (GW).								
		12.0 ft - 16.0 ft, A-6, brown-gray, very stiff, silty CLAY, little rounded gravel, fissured, (CL). Note: The amount of gravel decreases with depth. P.P. = 3.7 tsf								
		16.0 ft - 20.0 ft, Driller noted soft conditions (No Recovery).								
		20.0 ft - 26.0 ft, A-6, brown-gray, moist, very stiff, silty CLAY, trace gravel, (CL). P.P. = 0.7, 4.2 tsf								

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BORING NUMBER: B311a
SHEET 2 of 5
DATE STARTED: 6/19/13
DATE COMPLETED: 6/20/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888714.22 ft E 1721178.73 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 721.99 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		26.0 ft - 31.0 ft, A-6, brown-gray, moist, very stiff, silty CLAY, trace gray fine sand in lenses, fissured, (CL). P.P. = 2.7, 4.5 tsf								
		31.0 ft - 41.0 ft, A-6, brown-gray, moist, very stiff to hard, silty CLAY, trace coarse rounded gravel (> 3" dia.), fissured, (CL). P.P. = 3.2, 3.5 tsf								
		39.0 ft, A-7-6, A-7-6, CLAY, (CH).			31.0	0.0	0.0	100.0	56	27
		41.0 ft - 51.0 ft, A-6, brown-gray, moist, very stiff to hard, silty CLAY, trace gray fine sand in layers, fissured, (CL). P.P. = 2.9, 2.6 tsf								

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SUBSURFACE INFORMATION

BORING NUMBER: B311a
SHEET 3 of 5
DATE STARTED: 6/19/13
DATE COMPLETED: 6/20/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888714.22 ft E 1721178.73 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 721.99 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		51.0 ft - 65.0 ft, A-6, brown-gray, moist, very stiff to hard, silty CLAY, trace fine gray sand in layers, fissured, (CL).								
		55.0 ft, 1/2" soft layer (possible slip zone).								
		59.0 ft, No softening in layers above the slip/mixing zone as observed in B-316.								
		60.0 ft, Increasing thickness of fine sand layers. Suspected slip/mixing zone.								
		64.0 ft - 65.0 ft, Increasing thickness of sand layers. Suspected slip/mixing zone similar to 60 ft.								
		65.0 ft - 65.5 ft, A-4, gray, silty fine SAND layer, (SM).								
		65.5 ft - 73.0 ft, A-6, brown-gray, firm to hard, silty CLAY, little fine sand in layers, fissured, (CL).								
		66.0 ft - 71.0 ft, Layered fine sand increasing.								
		70.0 ft, Suspected slip/mixing zone similar to 64 ft.								
		71.0 ft, P.P. = 3.1 tsf								
		73.0 ft - 78.0 ft, A-4, mixing/interbedded transition to: gray-brown, moist, compact, SILT, trace fine sand, (ML). P.P. = 1.0 tsf			28.0	0.0	3.3	96.7		

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BORING NUMBER: B311a
SHEET 4 of 5
DATE STARTED: 6/19/13
DATE COMPLETED: 6/20/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888714.22 ft E 1721178.73 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 721.99 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		75.0 ft, Grading to gray-brown, fine SAND, little silt. 76.0 ft, Grading to medium-brown, moist, medium dense, fine SAND, little silt.								
		78.0 ft - 84.0 ft, A-1-b, gray, moist, medium dense, fine SAND, little silt, (SM). P.P. = 1.3 tsf								
		84.0 ft - 87.0 ft, A-4, Grading to gray, moist, medium dense to dense, fine SAND and SILT, trace black fine sand in 1/8" layers throughout, (SM).								
		87.0 ft - 95.0 ft, A-1-b, brown gray, moist, medium dense, gravelly fine to coarse SAND, (SP).								
		91.0 ft, Grading to brown-gray, moist, dense, gravelly fine to coarse SAND, little silt.								
		95.0 ft - 97.0 ft, A-1-b, brown-gray, moist, very dense, fine to coarse SAND, little gravel, little silt, (SP).								
		97.0 ft - 102.0 ft, A-4, rusty mixing with dark gray, very dense, fine SAND and SILT, little gravel, (SM).								
		98.0 ft - 100.0 ft, Angular rock fragments. Possible pulverized boulder.								

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BORING NUMBER: B311a
SHEET 5 of 5
DATE STARTED: 6/19/13
DATE COMPLETED: 6/20/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888714.22 ft E 1721178.73 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 721.99 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE) / RUN	M.C. (%) / REC (%)	AASHTO GRAVEL (%) / RQD (%)	AASHTO SAND (%) / Drill Rate (min/ft)	AASHTO FINES (%) / UCS (psi)	LL (%)	PI (%)
		101.0 ft - 102.0 ft, Possible pieces of weathered cobble throughout.								
		102.0 ft - 103.0 ft, A-1-a, gray, moist, fine to coarse SAND and GRAVEL, (GW).			Top of Bedrock @ 103.0 ft					
		103.0 ft - 110.0 ft, PHYLLITE.								
		Hole stopped @ 110.0 ft								

Notes:
- 3.34" Inclinometer casing installed in fully grouted borehole.
- Densities indicated in soil descriptions are based on adjacent SPT values and field experience.

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BORING NUMBER: B311b
SHEET 1 of 4
DATE STARTED: 7/18/13
DATE COMPLETED: 7/23/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888708.35 ft E 1721175.25 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 722.22 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

Top of Well Elevation: 725.12 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S1: 0.0 ft - 2.0 ft, A-4, gray-brown (mottled), very moist, medium stiff, SILT, some fine to medium sand, trace roots (0-4"), trace clay, (ML), Rec. = 1.83 ft		2-3-4-4 (7)						
		4.3 ft - 6.2 ft, Encountered boulders. Casing could not be advanced beyond 5 ft.								
		S2: 5.0 ft - 7.0 ft, A-4, gray-brown (mottled), very moist, hard, SILT, some fine to medium sand, trace roots (0-4"), trace clay, (ML). Note: End of casing. Boulders prevented driving casing further, Rec. = 1.0 ft		15-20-42-34 (62)						
		9.0 ft - 9.8 ft, Encountered boulders.								
		S3: 10.0 ft - 10.33 ft, A-1-b, gray-brown, wet, medium dense, clean medium to coarse SAND, some angular rock fragments, (SP), Rec. = 1.0 ft		5-9-13-22 (22)						
		10.33 ft - 12.0 ft, A-7-6, gray and brown, slightly moist, very stiff, SILT, thinly varved, (MH). P.P. = 1.25, 1.75 tsf								
		S4: 15.0 ft - 17.0 ft, A-7-6, gray and brown, slightly moist, very stiff, SILT, thinly varved, (MH). Tv = 4.5 tsf, Rec. = 0.83 ft		7-12-14-29 (26)						
		S5: 17.0 ft - 19.0 ft, A-7-6, gray and brown, slightly moist, hard, SILT, trace gravel, trace fine sand, thinly varved, (MH). P.P. = 4.5, 1.5, 2.5, tsf; Tv = 1.0 tsf, Rec. = 1.33 ft		7-13-19-29 (32)	37.0	1.8	0.8	97.4	53	23
		S6: 19.0 ft - 21.0 ft, A-7-6, gray and brown, slightly moist, hard, SILT, trace gravel, thinly varved, (MH), Rec. = 0.17 ft		14-18-20-17 (38)						

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MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B311b
SHEET 2 of 4
DATE STARTED: 7/18/13
DATE COMPLETED: 7/23/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888708.35 ft E 1721175.25 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 722.22 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S7: 25.0 ft - 27.0 ft, A-7-6, gray and brown, slightly moist, hard, SILT, trace gravel, thinly varved, (MH). P.P. = 2.5, 2.75 tsf; Tv = 1.25 tsf, Rec. = 1.17 ft		8-14-21-25 (35)						
		S8: 30.0 ft - 32.0 ft, A-7-6, gray and brown, slightly moist, very stiff, SILT, trace gravel, thinly varved, (MH). P.P. = 2.25, 3.0, 1.5 tsf; Tv = 0.625 tsf, Rec. = 2.0 ft		7-12-16-19 (28)						
		S9: 35.0 ft - 37.0 ft, A-7-6, gray and brown, slightly moist, very stiff, SILT, trace gravel, thinly varved, (MH). P.P. = 2.75, 2.75, 3.0 tsf; Tv = 1.0 tsf Note: 3/4" seam of gray fine sand at bottom of sample, Rec. = 1.67 ft		6-11-16-23 (27)						
		S10: 40.0 ft - 42.0 ft, A-7-5, gray and brown, slightly moist, very stiff, SILT, thinly varved, (CH-MH). P.P. = 2.0, 2.0, 2.0 tsf; Tv = 0.625 tsf Note: 1/2" seams of gray, very stiff, fine sand at bottom of sample, Rec. = 1.5 ft		8-12-17-22 (29)	38.4	0.0	0.5	99.5	56	26
		S11: 45.0 ft - 47.0 ft, A-7-6, gray and brown, slightly moist, hard, SILT, thinly varved, (MH). P.P. = 2.5, 2.5, 2.75 tsf; Tv = 1.25 tsf, Rec. = 1.5 ft		9-20-22-30 (42)						

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BORING NUMBER: B311b
SHEET 3 of 4
DATE STARTED: 7/18/13
DATE COMPLETED: 7/23/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888708.35 ft E 1721175.25 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 722.22 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S12: 50.0 ft - 52.0 ft, A-7-6, gray and brown, slightly moist, hard, SILT, trace gravel, thinly varved, (MH). P.P. = 2.0, 2.0, 1.5 tsf; Tv = 1.0 tsf Note: 1/2" seams of gray, very stiff, fine sand at bottom of sample, Rec. = 1.83 ft		9-18-22-25 (40)						
		S13: 55.0 ft - 57.0 ft, A-7-6, gray and brown, slightly moist, very stiff, silty CLAY, thinly varved, (CH-MH). P.P. = 2.25, 1.25, 3.0 tsf; Tv = 0.875 tsf Note: A seam of gray fine sand at bottom of sample and occasional fine sand partings, Rec. = 1.5 ft		9-11-16-23 (27)	38.0	0.0	0.4	99.6	52	23
		60.2 ft - 61.7 ft, A-7-5, U1: Shelby tube pushed 19". Rig jack slipped and rig moved. Tube bottom was crushed possibly from subsurface material and not rig movement. Clay, (CH)			32.0				51	26
		A-7-5 S14: 61.9 ft - 63.9 ft, A-1-b, dark gray, wet, very dense, fine SAND, brown silty clay seams, (SP), Rec. = 1.33 ft		19-28-25-29 (53)	33.8	0.0	0.6	99.4	58	28
		S15: 63.9 ft - 65.9 ft, A-7-5, brown, slightly moist, CLAY, gray fine sand seams, (CH), Rec. = 1.33 ft		14-21-25-34 (46)	35.4				60	30
		66.0 ft - 68.0 ft, A-7-6, U2: Tube sample taken, Rec. = 2.25 ft. Clay (CH).			36.0	0.0	1.0	99.0	58	29
		70.0 ft - 72.0 ft, A-7-6, U3: Tube sample taken, Rec. = 2.0 ft. Clay (CH).			27.0				55	28

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BORING NUMBER: B311b
SHEET 4 of 4
DATE STARTED: 7/18/13
DATE COMPLETED: 7/23/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888708.35 ft E 1721175.25 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 722.22 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S16: 75.0 ft - 77.0 ft, A-3, brown-gray, wet, very dense, fine SAND, (SP). Note: Mica particles are visible, Rec. = 1.67 ft		15-28-38-49 (66)						
		S17: 80.0 ft - 82.0 ft, A-3, gray-brown, wet, very dense, fine SAND, (SP). Note: Mica particles are visible, Rec. = 1.83 ft		20-33-42-51 (75)						
		S18: 85.0 ft - 87.0 ft, A-1-b, gray-brown, wet, very dense, fine SAND, little silt, trace clay, occasional black seams of silty clay (1/8" thick), (SP), Rec. = 1.83 ft		17-36-49-58 (85)						
		S19: 90.0 ft - 92.0 ft, A-1-b, brown and gray, wet, very dense, fine to medium SAND, little fine to coarse gravel (rounded), little silt, (SP), Rec. = 1.67 ft		36-80-72-59 (152)						

Hole stopped @ 92.0 ft

Notes:
- Vibrating wire piezometers installed at 63 and 89.3 ft. Hole fully backfilled with grout.

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BORING NUMBER: B313a
SHEET 1 of 4
DATE STARTED: 6/20/13
DATE COMPLETED: 6/21/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888823.04 ft E 1721235.08 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 708.2 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		Top of Well Elevation: 710.86 ft								
		0.0 ft - 4.0 ft, A-1-b, dark brown, wet, loose, fine to medium SAND, some organics (roots), little silt, (SP).								
		3.0 ft - 3.5 ft, Gray, wet, loose, fine SAND.								
		3.5 ft - 4.0 ft, A-1-b, dark brown, wet, fine to medium SAND, some organics (roots).								
		4.0 ft - 6.0 ft, A-4, gray, moist, firm, SILT, some gravel (possibly from cobble at 4ft), little fine sand, (ML).								
		5.0 ft, Boulder encountered.								
		6.0 ft - 13.0 ft, A-1-b, stratigraphy changes to gray, wet, loose, clean fine to coarse SAND, (SP). Depth of stratigraphy change unknown due to poor recovery (cobble in core barrel).								
		13.0 ft - 15.0 ft, A-1-b, gray, wet, loose, clean fine to coarse SAND, (SP).								
		15.0 ft - 17.0 ft, A-4, gray, moist, firm, SILT, little fine sand, little gravel, (ML). Note: Cobbles encountered in sample. P.P. = 1.2, 0.7 tsf; Tv = 0.4, 0.4 tsf.								
		17.0 ft - 36.0 ft, A-4, brown-gray, moist, very stiff to hard, SILT, trace fine gray sand layers, fissured, (ML).								
		21.0 ft, Same as above with less sand in layers.								
		23.0 ft, A-7-6, CLAY, (CH).			32.0	0.0	0.0	100.0	60	30

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BORING NUMBER: B313a
SHEET 2 of 4
DATE STARTED: 6/20/13
DATE COMPLETED: 6/21/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888823.04 ft E 1721235.08 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 708.2 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		30.5 ft, Same as above with additional sand (trace) in layers.			34.2	0.0	0.4	99.6		
		36.0 ft - 41.0 ft, A-7-6, brown-gray, moist, soft, CLAY, trace fine sand throughout, (CH).								
		38.0 ft, P.P. = 0.5, 0.0, 0.2 tsf			40.6				59	30
		40.0 ft, Tv = 0.45, 0.20, 0.20 tsf								
		41.0 ft - 54.0 ft, A-7-6, brown-gray, moist, firm-hard, CLAY, trace fine sand layers, fissured, (CH). 42.0 ft, P.P. = 3.2 tsf								
		44.0 ft, P.P. = 2.7 tsf								
		45.0 ft - 51.0 ft, Thickness of Sand layers increasing to 0.5 - 1.0".								

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BORING NUMBER: B313a
SHEET 3 of 4
DATE STARTED: 6/20/13
DATE COMPLETED: 6/21/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888823.04 ft E 1721235.08 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 708.2 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		50.0 ft, P.P. = 0.0, 0.0, 0.5 tsf; Tv = 0.2, 0.2 tsf								
		51.0 ft - 51.25 ft, A-3, black, clean fine SAND, (SP).								
		52.0 ft, Amount of sand in soil decreasing. P.P. = 2.7 tsf; Tv = 0.75 tsf								
		53.0 ft, P.P. = 3.7 tsf; Tv = 0.80 tsf								
		54.0 ft - 57.0 ft, A-7-6, brown-gray, moist, firm-hard, CLAY, trace to little fine sand layers, fissured, (CH). P.P. = 3.0 tsf; Tv = 1.00 tsf								
		57.0 ft - 59.0 ft, A-7-6, gray, moist, firm, CLAY, trace to little fine sand in varves, (CH). P.P. = 3.0 tsf								
		59.0 ft - 62.0 ft, A-4, gray, moist, firm, SILT, some clay, little fine and coarse sand interbedded in layers, (ML).								
		62.0 ft - 66.0 ft, A-4, gray, moist, firm, SILT, some clay, little fine and coarse sand interbedded in layers, (ML). PP = 2.1 tsf								
		65.0 ft - 66.0 ft, Fractured rock. Driller noted increase in water pressure from 65 - 66 ft and a decrease past 66 ft.								
		66.0 ft - 72.0 ft, A-4, gray, wet, firm, clayey SILT, trace fine sand, interbedded with fractured rock pieces, (ML). Note: Density increases at 72 ft.								
		72.0 ft - 73.0 ft, A-4, gray, moist, hard, clayey SILT, trace fine sand, interbedded with rock fragments, (ML).								
		73.0 ft - 78.0 ft, A-4, gray, wet, firm, clayey SILT, trace fine sand, interbedded with rock fragments, (ML).								

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BORING NUMBER: B313a
SHEET 4 of 4
DATE STARTED: 6/20/13
DATE COMPLETED: 6/21/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888823.04 ft E 1721235.08 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 708.2 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		Top of Bedrock @ 78.0 ft								
		78.0 ft - 80.0 ft, Bedrock. Pulverized rock (rock flour). Driller indicated that this occurs when drilling compenent bedrock dry.								
		81.0 ft - 86.0 ft, Bedrock (PHYLLITE).								
		Hole stopped @ 86.0 ft								

Notes:
- 3.34" Inclinometer casing installed in fully grouted borehole.
- Densities indicated in soil descriptions are based on adjacent SPT values and field experience.

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BORING NUMBER: B313b
SHEET 1 of 3
DATE STARTED: 7/24/13
DATE COMPLETED: 7/25/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888821.93 ft E 1721229.79 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 708.26 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		0.0 ft - 5.0 ft, No samples taken.								
		S1: 5.0 ft - 6.0 ft, A-4, gray-brown, wet, hard, clayey SILT, (ML), Rec. = 1.5 ft		7-22-19-26 (41)						
		6.0 ft - 7.0 ft, A-4, gray-brown, wet, dense, fine sandy SILT, (ML).								
		S2: 7.0 ft - 9.0 ft, A-4, gray-brown, wet, very dense, fine sandy SILT, (ML)., Rec. = 0.67 ft		31-31-28-37 (59)	23.2	0.9	36.9	62.2		
		S3: 10.0 ft - 12.0 ft, A-7-5, gray-brown, wet, very stiff, CLAY, thinly varved with 1.5" layer of medium sand, little silt, (CH). Note: Casing driven to 10 ft, open hole below, Rec. = 1.17 ft		10-8-11-15 (19)						
		S4: 12.0 ft - 14.0 ft, A-7-5, gray-brown, slightly moist, very stiff, CLAY, thinly varved with a few gray fine sand seams, (CH), Rec. = 1.5 ft		6-12-16-21 (28)						
		S5: 16.0 ft - 18.0 ft, A-7-5, brown-gray, slightly moist, very stiff, CLAY, thinly varved with a few gray fine sand seams, (CH). P.P. = 1.25, 1.25, 1.25 tsf; Tv = 0.875 tsf, Rec. = 1.33 ft		5-7-11-20 (18)						
		S6: 20.0 ft - 22.0 ft, A-7-5, brown-gray, slightly moist, very stiff, CLAY, thinly varved with a few gray fine sand seams, (CH). MV1: 22.0-22.2 ft Vane attempted, advanced 2.5", Rec. = 1.33 ft		3-7-9-12 (16)	36.8	0.0	0.3	99.7	60	30
		S7: 22.0 ft - 24.0 ft, A-7-6, brown-gray, slightly moist, very stiff, CLAY, thinly varved with a few gray fine sand seams, (CH), Rec. = 1.33 ft		5-8-12-14 (20)						

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BORING NUMBER: B313b
SHEET 2 of 3
DATE STARTED: 7/24/13
DATE COMPLETED: 7/25/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888821.93 ft E 1721229.79 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 708.26 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S8: 26.0 ft - 28.0 ft, A-7-6, brown-gray, slightly moist, very stiff, CLAY, thinly varved with a few gray fine sand seams, (CH). PP = 1.25, 1.25 tsf; Tv = 0.82 tsf, Rec. = 1.17 ft		5-7-11-14 (18)						
		S9: 30.0 ft - 32.0 ft, A-7-6, brown-gray, slightly moist, very stiff, CLAY, thinly varved with a few gray fine sand seams, (CH). P.P. = 1.75, 1.75, 1.75 tsf; Tv = 1.5 tsf, Rec. = 1.17 ft		3-7-10-13 (17)	36.6				60	31
		32.0 ft, MV2: Vane attempted, advanced 2.5".								
		S10: 35.0 ft - 37.0 ft, A-7-5, brown-gray, slightly moist, very stiff, CLAY, thinly varved with a few gray fine sand seams, (CH). P.P. = 1.25, 1.25, tsf; Tv = 1.0 tsf, Rec. = 1.5 ft		6-9-12-16 (21)						
		37.0 ft - 39.0 ft, U1: Tube pushed 24" with 500 lbs of pressure 0-12" and 700 lbs of pressure 12-24", Rec. = 2.0 ft, A-7-5, silty CLAY, (CH)			35.0				65	32
		S11: 39.0 ft - 41.0 ft, A-7-6, brown-gray, slightly moist, very stiff, CLAY, thinly varved with a few gray fine sand seams, (CH). Note: Fine sand seams becoming slightly wider. Vane attempted at 39 ft but could not be advanced with two men. P.P. = 2.0, 2.25, 2.25 tsf; Tv = 0.5 tsf, Rec. = 1.5 ft		7-11-16-20 (27)	53.3	0.0	1.6	98.4	64	33
		45.0 ft - 47.0 ft, A-7-6, U2: Tube pushed 24" with 550 lbs of force, Rec. = 2.0 ft, A-7-6, CLAYEY SILT, little fine sand, (CH).			33.0	0.0	11.0	89.0	52	27
		46.9 ft, MV3: Vane attempted, advanced 1".								
		S12: 47.0 ft - 49.0 ft, A-7-6, brown-gray, slightly moist, very stiff, CLAY, thinly varved with a few gray fine sand seams, (CH). Note: Numerous seams of gray fine sand, Rec. = 1.83 ft		7-10-14-19 (24)						

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AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
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BORING NUMBER: B313b
SHEET 3 of 3
DATE STARTED: 7/24/13
DATE COMPLETED: 7/25/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888821.93 ft E 1721229.79 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 708.26 ft
GROUNDWATER DEPTH: Not measured
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		50.0 ft - 52.0 ft, U3: Tube pushed 24" with 500 lbs of pressure, Rec. = 2.0 ft.								
		52.0 ft, MV4: Vane attempted, advanced 2".								
		54.0 ft - 56.0 ft, U4: Tube pushed 24" with 475 lbs of pressure, Rec. = 2.0 ft.								
		55.9 ft, MV5: 56.0-56.1 ft Vane attempted, advanced 1".		10-13-13-16 (26)						
		S13: 56.0 ft - 58.0 ft, A-6, dark gray and brown-gray, wet, medium dense, alternating/varved seams of gray fine SAND with silty CLAY, (SC). Note: Seams are of equal thicknesses, Rec. = 1.33 ft								
		S14: 60.0 ft - 62.0 ft, A-4, dark gray to brown-gray to orange brown, wet, dense, alternating/varved seams of gray fine SAND with silty CLAY and SILT, (SM). Note: Seams are of equal thicknesses, Rec. = 2.0 ft		10-15-27-37 (42)						
		S15: 64.0 ft - 66.0 ft, A-4, orange brown to gray-brown, wet, very dense, SILT, some silty clay seams, trace fine sand, (ML), Rec. = 1.67 ft		12-17-36-67 (53)	30.4	0.0	0.6	99.4		
		Hole stopped @ 66.0 ft			35.0				58	29

Notes:
- Vibrating wire piezometers installed at 8ft and 66ft in fully grouted borehole.

LOG OF BORING & WELL NEWPORT.GPJ VT AOT.GDT 8/13/14

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B316a
SHEET 1 of 6
DATE STARTED: 6/18/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888528.82 ft E 1721177.85 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.34 ft
GROUNDWATER DEPTH: 7.2 ft 6/19/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		Top of Well Elevation: 750.66 ft								
		0.0 ft - 0.5 ft, Topsoil and root mat.								
		0.5 ft - 6.0 ft, A-4, brown-gray, moist, medium dense, silty fine SAND, some gravel, (SM). P.P. = 1.7, 1.5 tsf.								
		5.5 ft, A-3, brown, fine SAND lens, (SP), approx. 1/2" thick.								
		6.0 ft - 8.5 ft, A-2-4, gray, moist, loose, fine SAND, some silt, trace gravel, (SM). Driller reported softer conditions 6-16 ft.								
		8.5 ft - 9.0 ft, Root mat.								
		9.0 ft - 12.5 ft, A-3, dark brown with gray-brown layering, moist, loose, fine SAND, trace silt, some organics (roots), (SP). Decreasing amount of roots with depth.								
		12.0 ft, Lens of clean medium to coarse SAND approx. 1" thick.								
		12.5 ft - 14.0 ft, A-4, brown-gray with black (mottled), moist, loose, silty fine SAND, some medium to coarse sand, some gravel, (SM). P.P. = 1.7 tsf.			16.2	11.9	27.7	60.4	19	2
		14.0 ft - 22.0 ft, A-4, gray, SILT, some fine to medium sand trace gravel, (ML). P.P. = 0.7, 0.4 tsf.								
		15.0 ft, Lens of brown, fine to coarse SAND, approx. 2" thick.								
		17.0 ft, Lens of brown, fine to coarse SAND, approx. 2" thick.								
		21.0 ft, Cobble encountered.								
		22.0 ft - 24.0 ft, A-4, gray brown grading to brown, wet, loose, silty fine SAND grading to fine to coarse SAND, some silt, trace gravel, (SP-SM). P.P. = 1.2 tsf.								
		24.0 ft - 28.0 ft, A-1-b, gray, wet, loose, silty fine SAND, trace coarse gravel, grading to gray, wet,								

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BORING NUMBER: B316a
SHEET 2 of 6
DATE STARTED: 6/18/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888528.82 ft E 1721177.85 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.34 ft
GROUNDWATER DEPTH: 7.2 ft 6/19/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		loose, clean fine to coarse SAND and GRAVEL, (GP).								
		28.0 ft - 30.0 ft, A-6, gray, wet, very soft, silty CLAY, little fine sand, (CL). Tv = 0.1, 0.1 tsf								
		30.0 ft - 35.0 ft, A-6, gray, moist, hard, silty CLAY, little fine to coarse sand and fine gravel, (CL). Increasing silt with depth. P.P. > 4.5 tsf 31.0 ft, Possible slickensides.								
		35.0 ft - 36.0 ft, Boulder encountered.								
		36.0 ft - 39.5 ft, No recovery.								
		39.5 ft - 41.0 ft, Boulder encountered.								
		41.0 ft - 55.0 ft, A-4, gray, moist, hard, clayey SILT, little fine to coarse sand, little gravel, (ML). Decreasing clay with depth. Note: Sand and gravel particles are generally well rounded.								
		48.0 ft - 49.0 ft, Boulder encountered.								

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BORING NUMBER: B316a
SHEET 3 of 6
DATE STARTED: 6/18/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888528.82 ft E 1721177.85 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.34 ft
GROUNDWATER DEPTH: 7.2 ft 6/19/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		50.0 ft, Slickensides 50-52 ft.								
		55.0 ft - 57.0 ft, A-6, light brown transitioning to dark brown, moist, stiff to hard, silty CLAY, trace fine sand varves, high plasticity, (CL). Note: Possible folding zone. PP = 4.6 tsf								
		57.0 ft - 60.0 ft, A-1-b, gray, wet, loose, clean medium to coarse SAND, little gravel, (SP).								
		60.0 ft - 62.0 ft, A-2-4, brown-gray, wet, medium dense, fine SAND, some silt, (SM).								
		62.0 ft - 65.0 ft, A-1-b, gray, wet, loose, clean medium to coarse SAND, little gravel, (SP).								
		65.0 ft - 67.0 ft, A-4, gray, brown with orange layers, moist, firm to stiff, clayey SILT, (ML).								
		66.9 ft, Grading to fine SAND and SILT								
		67.0 ft - 68.0 ft, A-6, light brown mixing with gray-brown, silty CLAY, (CL). Note: Possible folding zone.								
		68.0 ft - 69.0 ft, A-4, brown-gray, silty fine SAND, (SM).								
		69.0 ft - 92.0 ft, A-6, brown-gray, moist, hard, silty CLAY, fissured, (CL).								
		72.0 ft, P.P. = 4.6 tsf								

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BORING NUMBER: B316a
SHEET 4 of 6
DATE STARTED: 6/18/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888528.82 ft E 1721177.85 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.34 ft
GROUNDWATER DEPTH: 7.2 ft 6/19/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		80.0 ft, Folding zone.								
		90.0 ft, clay becoming slightly softer approaching folding zone.								
		92.0 ft - 96.0 ft, A-6, brown-gray, moist, hard, silty CLAY, varved with trace to little fine sand in varves, (CL). Note: Folding zone (92-95 ft) with increased fine sand in varves.								
		96.0 ft - 103.0 ft, A-4, gray, moist, stiff, sandy SILT, (ML). P.P. = 1.7, 2.4 tsf.								

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BORING NUMBER: B316a
SHEET 5 of 6
DATE STARTED: 6/18/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888528.82 ft E 1721177.85 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.34 ft
GROUNDWATER DEPTH: 7.2 ft 6/19/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		103.0 ft - 106.0 ft, A-4, brown, moist, dense, interbedded silty fine SAND. P.P > 4.5 tsf. Layer of black fine sand at 103 ft. Possible pulverized boulder at 105 ft.								
		106.0 ft - 123.0 ft, A-4, brown-gray, moist, dense to very dense, silty fine to coarse SAND and GRAVEL, (GP). Decreasing moisture content and increasing density with depth. P.P. = 0.7, 1.0 tsf.								
		119.0 ft, Gravel zone approx. 1 ft thick.								
		123.0 ft - 124.0 ft, A-4, dark brown, wet, stiff, SILT, some fine sand, (ML). P.P. = 0.6 tsf.								
		124.0 ft - 132.0 ft, A-6, gray, moist, hard, silty CLAY, trace gravel, trace fine sand. 2-4" angular								

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BORING NUMBER: B316a
SHEET 6 of 6
DATE STARTED: 6/18/13
DATE COMPLETED: 6/19/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888528.82 ft E 1721177.85 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.34 ft
GROUNDWATER DEPTH: 7.2 ft 6/19/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Noah Chinburg
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE) RUN	M.C. (%) REC (%)	AASHTO GRAVEL (%) RQD (%)	AASHTO SAND (%) Drill Rate (min/ft)	AASHTO FINES (%) UCS (psi)	LL (%)	PI (%)
		rock fragments throughout, (CL).								
		132.0 ft, Possible top of bedrock. Noticable increase in rock fragments in sample.			Top of Bedrock @ 132.0 ft					
		134.0 ft - 139.0 ft, Bedrock. (PHYLLITE). Driller used water to get better recovery.								
		Hole stopped @ 139.0 ft								

Notes:
- 2" well installed: Screen from 117 to 122 ft: sand pack from 114 to 123 ft: bentonite chips from 111 to 114 ft: grout from 111 ft to ground surface. Hole backfilled below 123 ft with bentonite chips.
- Densities indicated in soil descriptions are based on adjacent SPT values and field experience.

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SUBSURFACE INFORMATION

BORING NUMBER: B316b
SHEET 1 of 4
DATE STARTED: 7/15/13
DATE COMPLETED: 7/17/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888534.05 ft E 1721175.80 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.37 ft
GROUNDWATER DEPTH: 21.25 ft 7/18/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

Top of Well Elevation: 750.63 ft

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S1: 0.0 ft - 0.33 ft, Topsoil and rootmat., Rec. = 1.5 ft 0.33 ft - 2.0 ft, A-4, gray-brown, slightly moist, loose, fine sandy SILT, grading to a silty fine SAND, trace gravel, trace roots, (FILL), (ML).		2-3-7-9 (10)						
		S2: 5.0 ft - 7.0 ft, A-2-4, dark gray, slightly moist, loose, fine SAND, some silt, little gravel, (FILL), (SM), Rec. = 1.5 ft		4-3-2-2 (5)						
		S3: 10.0 ft - 12.0 ft, A-4, brown, moist, soft, SILT, trace medium to coarse sand, trace wood, slight structure, possible native surface, (ML), Rec. = 0.67 ft		3-2-2-3 (4)						
		S4: 15.0 ft - 17.0 ft, A-4, gray-brown (slightly mottled), moist, medium stiff, fine sandy SILT, trace clay, trace gravel. Pocket of clean medium to coarse sand, depositional structure, (ML), Rec. = 1.67 ft		3-3-4-6 (7)						
		S5: 20.0 ft - 22.0 ft, A-4, gray-brown, wet, medium stiff, clayey SILT, trace fine to medium sand, trace gravel, trace wood, (ML), Rec. = 0.83 ft		4-5-3-5 (8)						

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SUBSURFACE INFORMATION

BORING NUMBER: B316b
SHEET 2 of 4
DATE STARTED: 7/15/13
DATE COMPLETED: 7/17/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888534.05 ft E 1721175.80 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.37 ft
GROUNDWATER DEPTH: 21.25 ft 7/18/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S6: 25.0 ft - 27.0 ft, Rec. = 0.0 ft		4-4-5-7 (9)						
		S7: 30.0 ft - 32.0 ft, A-4, gray-brown (slightly mottled), moist, hard, fine sandy SILT, trace gravel, (ML), Rec. = 1.0 ft		10-31-64-32 (95)	13.6	4.0	37.2	58.8		
		S8: 35.0 ft - 37.0 ft, A-4, gray-brown (slightly mottled), moist, very stiff, fine sandy SILT, trace gravel, (ML), Note: Cobble in spoon tip, Rec. = 0.17 ft		10-12-10-18 (22)						
		S9: 40.0 ft - 42.0 ft, A-4, gray, slightly moist, hard, fine to coarse sandy SILT, trace gravel, (ML), Rec. = 1.17 ft		10-19-28-37 (47)	12.4				18	2
		S10: 45.0 ft - 47.0 ft, A-4, gray, slightly moist, hard, fine to coarse sandy SILT, trace gravel, (ML), Rec. = 1.67 ft		25-28-45-38 (73)	11.6	10.2	31.3	58.5		

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SUBSURFACE INFORMATION

BORING NUMBER: B316b
SHEET 3 of 4
DATE STARTED: 7/15/13
DATE COMPLETED: 7/17/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888534.05 ft E 1721175.80 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.37 ft
GROUNDWATER DEPTH: 21.25 ft 7/18/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S11: 50.0 ft - 50.4 ft, A-4, dry, hard, fine sandy SILT, trace gravel, (ML), Note: Bottom 3" of sample had a mix of weathered rock, Rec. = 0.83 ft		50-50/5" (R)						
		S12: 55.0 ft - 57.0 ft, A-1-b, gray-brown, wet, very dense, fine to medium SAND, little silt, trace gravel (SM), Rec. = 1.5 ft		33-50-43-47 (93)	16.6	6.7	77.2	16.1		
		S13: 60.0 ft - 62.0 ft, A-2-4, gray-brown, wet, very dense, fine to medium SAND, little silt, trace gravel (SM), Rec. = 1.83 ft		28-40-44-66 (84)	16.4	5.0	76.7	18.3		
		S14: 65.0 ft - 66.0 ft, A-6, gray-brown and orange, dry, hard, silty CLAY, fine sand varves, (CL), Rec. = 1.33 ft 66.0 ft - 66.9 ft, A-3, gray-brown, moist, very dense, clean fine SAND, trace silt, (SP) 66.9 ft - 67.0 ft, A-4, gray-brown, dry, SILT, (ML)		18-52-65-66 (117)						
		S15: 70.0 ft - 72.0 ft, A-7-5, gray and brown, slightly moist, hard, CLAYEY SILT, thin fine sand varves, (CH-MH), Rec. = 1.33 ft		17-30-30-40 (60)	30.5				58	28

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SUBSURFACE INFORMATION

BORING NUMBER: B316b
SHEET 4 of 4
DATE STARTED: 7/15/13
DATE COMPLETED: 7/17/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888534.05 ft E 1721175.80 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 748.37 ft
GROUNDWATER DEPTH: 21.25 ft 7/18/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Helena Hollauer
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S16: 75.0 ft - 77.0 ft, A-7-5, gray and brown, slightly moist, hard, CLAYEY SILT, thin fine sand varves, (CH-MH), Rec. = 1.67 ft		17-24-28-37 (52)						
		78.0 ft - 80.0 ft, A-7-5, U1: Shelby tube taken with about 800lbs of applied pressure, Rec. = 2.0 ft. (MH).			34.0	0.0	0.4	99.6	58	25
		S17: 80.0 ft - 82.0 ft, A-7-5, gray and brown, slightly moist, hard, CLAYEY SILT, thin fine sand varves, (CH-MH). Note: Varves spaced wider than at Sample D15 (1/8-1/4"), Rec. = 1.0 ft		16-23-26-42 (49)						
		84.0 ft - 85.2 ft, A-7-5, U2: Shelby tube taken with about 1000lbs of applied pressure, Rec. = 1.5 ft. (CH-MH).			33.3	2.0	1.4	96.6	56	26
		S18: 87.0 ft - 89.0 ft, A-7-5, gray and brown, very slightly moist, hard, CLAYEY SILT, thin fine sand varves, (CH-MH), Rec. = 1.83 ft		12-16-24-32 (40)	35.5				58	27
		91.0 ft - 92.6 ft, U3: Shelby tube attempted with about 1000lbs of applied pressure (19" push). No recovery.								

Hole stopped @ 92.6 ft

Notes:
- 2" well installed. Screen from 55 to 60 ft; sand pack from 53 to 61.5 ft; bentonite chips from 50 to 53 ft; grouted from 50 to ground surface. Hole backfilled below 61.5 ft with alternating layers of sand and bentonite chips.

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STATE OF VERMONT
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MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B318a
SHEET 1 of 2
DATE STARTED: 7/02/13
DATE COMPLETED: 7/03/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG:

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 815.33 ft
GROUNDWATER DEPTH: Not encountered
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg
BORING RIG: CME-750 ATV

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		0.0 ft - 5.0 ft, Drilling pad. No samples until 5 ft.							
		S1: 5.0 ft - 7.0 ft, A-2-4, medium-brown, moist, medium dense, fine to coarse SAND, some gravel, some silt, (SM), Rec. = 1.58 ft	6-7-11-12 (18)	8.1	33.3	38.7	28.0		
		S2: 10.0 ft - 12.0 ft, A-4, light-brown, moist, stiff, clayey SILT, some gravel, some fine sand, (ML). Note: Low sample recovery. Possibly wash material, Rec. = 0.08 ft	8-7-7-7 (14)						
		S3: 15.0 ft - 17.0 ft, A-4, gray-brown, moist, medium dense, silty fine to coarse SAND, little gravel, trace organics (roots), (SM). Note: Possible root mat recovered in spoon, Rec. = 0.67 ft	22-14-15-15 (29)	13.3	19.3	37.8	42.9		
		18.0 ft, Driller indicated soft conditions.							
		S4: 20.0 ft - 22.0 ft, A-4, gray, wet, medium dense, silty fine to medium SAND, little gravel, (SM). Note: Low sample recovery. Posible wash material, Rec. = 0.08 ft	3-7-11-6 (18)						

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AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B318a
SHEET 2 of 2
DATE STARTED: 7/02/13
DATE COMPLETED: 7/03/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG:

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 815.33 ft
GROUNDWATER DEPTH: Not encountered
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Bub Thompson
LOGGER: Noah Chinburg
BORING RIG: CME-750 ATV

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S5: 25.0 ft - 27.0 ft, A-4, brown-gray, stiff, SILT, little gravel, little fine to coarse sand, (ML). Note: Low recovery (gravel in tip of spoon). Suspected wash material, Rec. = 0.17 ft	19-12-6-7 (18)						
		28.0 ft, Cobble suspected due to drill response.							
		S6: 30.0 ft - 32.0 ft, A-4, gray, moist, hard, SILT, trace fine to medium sand in lenses, (ML). P.P. = 1.5, 1.9, 1.7 tsf; Tv = 0.5, 0.45, 0.35 tsf,, Rec. = 1.17 ft	33-26-19-23* (45)	22.6				24	4
		S7: 35.0 ft - 37.0 ft, A-4, gray, moist, hard, SILT, little fine to medium sand, trace gravel, (ML)., Rec. = 1.0 ft	26-32-28-29* (60)	13.0	10.8	16.5	72.7	18	1
		S8: 40.0 ft - 40.3 ft, Spoon was bouncing during driving. Hole stopped @ 40.0 ft	60/4" (R)						

Notes:
- * 3" spoon used. Do not use N-values for design.
- Hole abandoned after encountering suspected horizontal drain. Hole backfilled with grout. Boring continued in B318b.

LOG OF BORING & WELL NEWPORT.GPJ VT AOT.GDT 8/13/14

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AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: B318b
SHEET 1 of 5
DATE STARTED: 7/08/13
DATE COMPLETED: 7/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888401.75 ft E 1720911.72 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 815.33 ft
GROUNDWATER DEPTH: 19.4 ft 7/09/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		Top of Well Elevation: 817.7 ft 0.0 ft. Washed ahead to 40 ft to resume exploration from boring B-318a.								

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AGENCY OF TRANSPORTATION
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SUBSURFACE INFORMATION

BORING NUMBER: B318b
SHEET 2 of 5
DATE STARTED: 7/08/13
DATE COMPLETED: 7/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888401.75 ft E 1720911.72 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 815.33 ft
GROUNDWATER DEPTH: 19.4 ft 7/09/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S1: 40.0 ft - 42.0 ft, A-4, gray, wet, very dense, silty fine to medium SAND, (SM). P.P. = 1.2, 0.9 tsf, Rec. = 1.33 ft		24-34-46-51 (80)	19.2	0.0	53.2	46.8		
		S2: 45.0 ft - 47.0 ft, A-4, gray, wet, hard, SILT, some silty fine sand in layers, (ML). P.P. = 3.7, 1.5 tsf; Tv = 0.45 tsf, Rec. = 1.83 ft		24-36-39-51 (75)	23.6				28	5

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BORING NUMBER: B318b
SHEET 3 of 5
DATE STARTED: 7/08/13
DATE COMPLETED: 7/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888401.75 ft E 1720911.72 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 815.33 ft
GROUNDWATER DEPTH: 19.4 ft 7/09/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S3: 50.0 ft - 52.0 ft, A-7-6, gray, moist, hard, silty CLAY, trace fine sand in layers, (CL-ML). P.P. = 4.2 tsf; Tv = 0.45 tsf, Rec. = 2.0 ft		18-23-30-39 (53)	26.9				41	15
		S4: 55.0 ft - 56.5 ft, A-4, gray, wet, very dense, interbedded silty fine SAND and SILT, layers (0.5-2" thick), (SM), Rec. = 1.42 ft		28-56-85-50/2" (141)						
		S5: 60.0 ft - 62.0 ft, A-4, gray, moist, hard, interbedded silty CLAY and SILT, (ML), Rec. = 0.92 ft		28-39-57-100 (96)	24.9				24	2
		S6: 65.0 ft - 67.0 ft, A-4, gray, moist, hard, interbedded silty CLAY and SILT, (CL-ML). P.P. = 1.8, 2.6 tsf (sample cracked); Tv = 0.3, 0.3 tsf, Rec. = 1.25 ft		24-55-80-100/5" (135)						
		69.2 ft, Gravel based on drill rig behavior.								
		S7: 70.0 ft - 70.5 ft, A-6, gray, moist, hard, silty CLAY and fine to coarse SAND and GRAVEL, (CL-GP), Rec. = 0.33 ft		100/6" (R)						

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SUBSURFACE INFORMATION

BORING NUMBER: B318b
SHEET 4 of 5
DATE STARTED: 7/08/13
DATE COMPLETED: 7/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888401.75 ft E 1720911.72 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 815.33 ft
GROUNDWATER DEPTH: 19.4 ft 7/09/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S8: 75.0 ft - 76.5 ft, A-4, gray, moist, hard, SILT, some fine to coarse sand, trace fine gravel, (ML), Rec. = 1.5 ft		54-60-100/6" (R)	14.4	8.8	26.4	64.8		
		S9: 80.0 ft - 80.5 ft, A-4, gray, moist, hard, SILT, some fine to coarse sand, trace fine gravel, (ML), Rec. = 0.5 ft		120/6" (R)						
		S10: 85.0 ft - 85.9 ft, A-1-b, gray, moist, very dense, gravelly fine to coarse SAND, trace silt, (SW-SM), Rec. = 0.92 ft		86-100/5" (R)						
		S11: 90.0 ft - 90.8 ft, A-4, gray, moist, hard, SILT, some fine to coarse sand, trace fine gravel, (ML), Rec. = 0.83 ft		59-100/4" (R)						
		S12: 95.0 ft - 95.8 ft, A-4, gray, moist, hard, SILT, some fine to coarse sand, some fine gravel, (ML), Rec. = 0.83 ft		69-100/4" (R)						

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BORING NUMBER: B318b
SHEET 5 of 5
DATE STARTED: 7/08/13
DATE COMPLETED: 7/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888401.75 ft E 1720911.72 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 815.33 ft
GROUNDWATER DEPTH: 19.4 ft 7/09/13
PROJECT PIN NUMBER: -

BORING CREW: New Hampshire Boring
DRILLER: Rich Leonard
LOGGER: Noah Chinburg
BORING RIG: Mobile B-53 Track

BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
HAMMER TYPE: ROPE & CATHEAD
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)	LL (%)	PI (%)
		S13: 100.0 ft - 100.8 ft, A-4, gray, moist, hard, SILT, some fine to medium sand, trace fine gravel, (ML), Rec. = 0.83 ft		78-100/4" (R)	14.9	2.8	24.7	72.5		
		S14: 105.0 ft - 105.7 ft, A-6, brown gray, moist, hard, silty CLAY, some fine sand pockets, (CL), Rec. = 1.0 ft 105.7 ft - 106.0 ft, A-1-b, gray, moist, medium to coarse SAND, (SP) 106.5 ft, Hole washed ahead to 106.5 ft for piezometer installation.		45-100/6" (R)						

Hole stopped @ 106.5 ft

Notes:
- Boring terminated above bedrock surface.
- 1" casing installed for SAA. Two vibrating wire piezometers installed at 41.5 and 106.5 ft.
- Hole backfilled with grout.

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SUBSURFACE INFORMATION

BORING NUMBER: MW-304c
SHEET 1 of 3
DATE STARTED: 6/12/13
DATE COMPLETED: 6/12/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888295.13 ft E 1721196.97 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.19 ft
GROUNDWATER DEPTH: 41.78 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		Top of Well Elevation: 802.56 ft						
		0.0 ft - 46.0 ft, No samples taken.						

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STATE OF VERMONT
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SUBSURFACE INFORMATION

BORING NUMBER: MW-304c
SHEET 2 of 3
DATE STARTED: 6/12/13
DATE COMPLETED: 6/12/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888295.13 ft E 1721196.97 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 800.19 ft
GROUNDWATER DEPTH: 41.78 ft 6/13/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)

Hole stopped @ 46.0 ft

Notes:
- 6" casing with continuous 4" core barrel sampling used in exploration.
- Boring completed to set well casing. Use B-304a and B-304b for stratigraphy.
- 2" well screen set 40 to 45 ft. Sand pack from 37 to 46 ft. Bentonite chips from 34 to 37 ft. Grouted from 37 ft to ground

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SUBSURFACE INFORMATION

BORING NUMBER: PTWa
SHEET 6 of 8
DATE STARTED: 6/07/13
DATE COMPLETED: 6/08/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888334.52 ft E 1721114.01 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.58 ft
GROUNDWATER DEPTH: 33.6 ft 6/08/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		128.0 ft - 134.0 ft, A-4, brown-gray, moist, clayey SILT, trace fine sand with orange, varved silty CLAY, (ML). Some varves are concentric and folded rather than oriented near horizontal. Possible slide zone. P.P. = 1.5, 2.5, 2.5, 2.75 tsf.						
		132.0 ft, Mica flakes and mottling visible to 134 ft.						
		134.0 ft - 140.0 ft, A-4, gray-orange-brown, slightly moist, silty fine to coarse SAND, some gravel (angular weathered PHYLLITE and rounded gravel), (SM).						
		140.0 ft - 141.5 ft, Highly weathered PHYLLITE cobble, garnets weathered.						
		141.5 ft - 147.0 ft, A-4, gray-brown, slightly moist, clayey SILT, some gravel (angular, highly weathered PHYLLITE), some fine to coarse sand, (ML).						
		147.0 ft - 149.0 ft, Moderately weathered cobble, PHYLLITE.						
		149.0 ft - 150.0 ft, A-1-a, gray-brown, wet, fine SAND, little silt, trace gravel (rounded), trace clay, (SP).						

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MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: PTWa
SHEET 7 of 8
DATE STARTED: 6/07/13
DATE COMPLETED: 6/08/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888334.52 ft E 1721114.01 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.58 ft
GROUNDWATER DEPTH: 33.6 ft 6/08/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		150.0 ft - 160.0 ft, A-4, gray-brown, slightly moist, clayey SILT, some gravel (angular, moderately weathered PHYLLITE), little fine to coarse sand, (ML). 152.5 ft, Sample is dry.						
		160.0 ft - 162.0 ft, A-6, Driller reports softer material while drilling. A-6, dark gray, moist, silty CLAY, some gravel (angular, moderately weathered PHYLLITE), little fine to coarse sand, (CL). P.P. < 0.25 tsf. Tv = 0.25, 0.25, 0.25, 0.25 tsf.						
		162.0 ft - 163.0 ft, Dark gray, moist, very highly weathered rock (PHYLLITE) with some rock layering/structure. Garnets weathered.						
		163.0 ft - 165.8 ft, A-6, dark gray brown, moist, silty CLAY grading to mottled, clayey SILT, (CL). Soil becomes dark gray-black about 165.5'. P.P. = 3.25, 1.5, 2.5, 2.75 tsf. Tv = 0.625, 0.625, 0.625 tsf.			Top of Bedrock @ 166.0 ft			
		165.8 ft - 166.0 ft, Competent rock fragments						
		166.0 ft - 171.0 ft, Bedrock (PHYLLITE).						

Hole stopped @ 171.0 ft

Notes:
- 6" casing with continuous 4" core barrel sampling used in exploration.
- Entire hole was over-cored using 8" casing and 6" core barrel to install monitoring well.
- 4" well screen set 135 to 140 ft. Sand pack from 132 to 141 ft. Bentonite chips from 128.5 to 132. Grout from 128.5 ft to

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BORING NUMBER: PTWa
SHEET 8 of 8
DATE STARTED: 6/07/13
DATE COMPLETED: 6/08/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888334.52 ft E 1721114.01 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.58 ft
GROUNDWATER DEPTH: 33.6 ft 6/08/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		ground surface. Boring below 141 ft backfilled with bentonite chips. - Densities indicated in soil descriptions are based on adjacent SPT values and field experience.						

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BORING NUMBER: PTWb
SHEET 1 of 4
DATE STARTED: 6/09/13
DATE COMPLETED: 6/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888336.61 ft E 1721110.45 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.42 ft
GROUNDWATER DEPTH: 14.5 ft 6/09/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		Top of Well Elevation: 798.76 ft						
		0.0 ft - 86.0 ft, No samples taken.						

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BORING NUMBER: PTWb
SHEET 2 of 4
DATE STARTED: 6/09/13
DATE COMPLETED: 6/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888336.61 ft E 1721110.45 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.42 ft
GROUNDWATER DEPTH: 14.5 ft 6/09/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)

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BORING NUMBER: PTWb
SHEET 3 of 4
DATE STARTED: 6/09/13
DATE COMPLETED: 6/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888336.61 ft E 1721110.45 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.42 ft
GROUNDWATER DEPTH: 14.5 ft 6/09/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)

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SUBSURFACE INFORMATION

BORING NUMBER: PTWb
SHEET 4 of 4
DATE STARTED: 6/09/13
DATE COMPLETED: 6/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION: -
OFFSET: -
VTSPG: N 888336.61 ft E 1721110.45 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.42 ft
GROUNDWATER DEPTH: 14.5 ft 6/09/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)

Hole stopped @ 86.0 ft

Notes:
- 6" casing with continuous 4" core barrel sampling used in exploration.
- Entire hole was over-cored using 8" casing and 6" core barrel to install monitoring well.
- Boring completed set well casing. Use PTWa for stratigraphy.
- 4" well screen set 80 to 85 ft. Sand pack from 78 to 86 ft. Bentonite chips from 75 to 78 ft. Grout from 75 ft to ground surface.

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: PTWc
SHEET 1 of 3
DATE STARTED: 6/09/13
DATE COMPLETED: 6/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION:
OFFSET:
VTSPG: N 888339.75 ft E 1721107.04 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.1 ft
GROUNDWATER DEPTH: 17.65 ft 6/12/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		Top of Well Elevation: 798.37 ft						
		0.0 ft - 48.0 ft, No samples taken.						

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: PTWc
SHEET 2 of 3
DATE STARTED: 6/09/13
DATE COMPLETED: 6/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION:
OFFSET:
VTSPG: N 888339.75 ft E 1721107.04 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.1 ft
GROUNDWATER DEPTH: 17.65 ft 6/12/13
PROJECT PIN NUMBER: -

BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		Hole stopped @ 48.0 ft						

Notes:
- 6" casing with continuous 4" core barrel sampling used in

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STATE OF VERMONT
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MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING NUMBER: PTWc
SHEET 3 of 3
DATE STARTED: 6/09/13
DATE COMPLETED: 6/09/13

PROJECT NAME: Newport City STP 134-3(22)
SITE NAME: Route 191 Landslide
STATION:
OFFSET:
VTSPG: N 888339.75 ft E 1721107.04 ft

PROJECT NUMBER: GAI 133-87312
SITE NUMBER: -
GROUND ELEVATION: 796.1 ft
GROUNDWATER DEPTH: 17.65 ft 6/12/13
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BORING CREW: Boart Longyear
DRILLER: Jason Koering
LOGGER: Helena Hollauer
BORING RIG: 600T Sonic

BORING TYPE: Sonic
SAMPLE TYPE: Continuous Core
HAMMER TYPE: N/A
CHECKED BY:

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER 6 IN (N VALUE)	M.C. (%)	AASHTO GRAVEL (%)	AASHTO SAND (%)	AASHTO FINES (%)
		exploration. - Entire hole was over-cored using 8" casing and 6" core barrel to install monitoring well. - Boring completed to set well casing. Use PTWa for stratigraphy. - 4" well screen set 41 to 46 ft. Sand pack from 37 to 48 ft. Bentonite chips from 32 to 37 ft. Grout from 32 ft to ground surface.						

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