



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

BORING NUMBER: B-102
SHEET 1 of 1
DATE STARTED: 4/14/08
DATE COMPLETED: 4/24/08

PROJECT NAME: CAMBRIDGE
SITE NAME: VT-108
STATION: 16+88
OFFSET: 48.00
VTSPG: N 777923.30 ft E 1554945.00 ft

PROJECT NUMBER: STP 0235(9)
SITE NUMBER: MM 8.0 SOIL SLOPE
GROUND ELEVATION: 639.5 ft
GROUNDWATER DEPTH: 30.0 ft 4/26/08
PROJECT PIN NUMBER: 07C152

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MALMATONIC

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
				RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)		
Top of Well Elevation: 641.4 ft										
		No recovery, 0.0 ft - 2.0 ft		WR						
		A-4, SiSa, gry-brn, Moist, Rec. = 0.7 ft, Cleaned out casing.		3	21.1	11.0	45.0	44.0		
5		A-2-4, GrSiSa, gry, Moist, Rec. = 0.8 ft		13	15.5	25.0	43.5	31.5		
		Visual Classification, Slightly weathered, soft shale type broken rock pieces, grn, Moist, Rec. = 0.3 ft		17						
		No recovery, 6.0 ft - 8.0 ft, Cleaned out casing.		20	13.9	37.6	37.5	24.9		
10		A-1-b, SiSaGr, grn, Moist, Rec. = 1.2 ft		20	11.7	38.0	34.8	27.2		
		A-2-4, SiSaGr, grn, Moist, Rec. = 1.1 ft		22	14.7	9.7	31.3	59.0		
15		A-4, SaSi, grn, Moist, Rec. = 1.0 ft, Cleaned out casing.								
		Field Class., Cl, gry, Moist, Rec. = 1.15 ft								
		16.5 ft - 17.0 ft, Cleaned out casing.			28.4	0.1	0.8	99.1	38	15
		A-6, SiCl, gry, Moist, Rec. = 2.0 ft								
20		19.5 ft - 20.0 ft, Cleaned out casing.								
		Field Class., GrCISi, gry, Moist, Rec. = 1.3 ft								
		21.5 ft - 23.0 ft, Cleaned out casing.								
		Field Class., GrCISi, gry, Moist, Rec. = 1.25 ft								
25		25.5 ft - 26.0 ft, Cleaned out casing.								
		Field Class., Cl, gry, Moist, Rec. = 0.9 ft								
		28.2 ft - 29.0 ft, Cleaned out casing.								
30		A-1-b, SaGr, gry, Moist, Rec. = 0.8 ft		95	11.2	52.3	31.1	16.6		
		Field Note, NXMDC, Cobbles, Advanced and cleaned out casing.								
		A-1-b, GrSa, gry, Moist, Rec. = 0.7 ft		R	7.6	21.3	34.0	11.4		
35		Green-silver, Chlorite-quartz-muscovite meta-greywacke, Moderately hard, Unweathered, NXMDC, 34.0 ft - 38.0 ft, Rec. = 3.6 ft		1	90	83	50	10		
								20		
								10		
								10		
40		Green-silver, Chlorite-quartz-muscovite meta-greywacke, Moderately hard, Unweathered, NXMDC, 38.0 ft - 43.0 ft, Rec. = 4.8 ft		2	96	87	50	10		
								12		
								10		
								10		
45		Hole stopped @ 43.0 ft								
		DRILLER'S NOTES: 1. An inclinometer was installed to 42.1 ft. 2. Top of inclinometer casing is 1.9 ft above ground surface.								

LOG OF BORING CAMBRIDGE STP 0235(9) GPJ VT AOT.GDT 8/25/08



STATE OF VERMONT
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SUBSURFACE INFORMATION

BORING NUMBER: B-103
SHEET 1 of 1
DATE STARTED: 4/30/08
DATE COMPLETED: 5/05/08

PROJECT NAME: CAMBRIDGE
SITE NAME: VT-108
STATION: 17+57
OFFSET: 44.00
VTSPG: N 777991.30 ft E 1554958.00 ft

PROJECT NUMBER: STP 0235(9)
SITE NUMBER: MM 8.0 SOIL SLOPE
GROUND ELEVATION: 639.8 ft
GROUNDWATER DEPTH: 24.8 ft 5/07/08
PROJECT PIN NUMBER: 07C152

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MALMATONIC

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL & TUBE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)	
Top of Well Elevation: 642.85 ft											
		A-2-4, SiSa with burnt wood particles, gry-brn, Moist, Rec. = 0.5 ft		WH	37.6	13.7	64.5	21.8			
		A-4, SiSa, gry-brn, Moist, Rec. = 1.0 ft				31.6	10.0	49.6	40.4		
		Field Class., SaSi, gry, Moist, Rec. = 1.6 ft									
5		A-2-4, GrSiSa, gry, Moist, Rec. = 1.1 ft			7	13.4	23.4	44.9	31.7		
		A-2-4, GrSiSa, gry, Moist, Rec. = 1.3 ft			11	12.2	23.9	43.2	32.9		
10		Field Note, NXDC, Cleaned out casing									
		A-2-4, SiSaGr, gry, Moist, Rec. = 1.2 ft, Cleaned out casing.			16	11.0	37.9	35.6	26.5		
		A-4, SaSi, gry, Moist, Rec. = 1.6 ft, Cleaned out casing.			20	19.0	3.1	20.8	76.1		
15		Field Class., Cisi, gry, Moist, Rec. = 1.2 ft									
		Field Note, Cleaned out casing									
		Field Class., GrSiCl, gry, Moist, Rec. = 1.25 ft									
20		Field Note, Cleaned out casing									
		A-6, SiCl, gry, Moist, Rec. = 1.9 ft, Roller coned ahead.		16	28.0	1.5	11.7	86.8	31	11	
		A-6, SiCl, gry, Moist, Rec. = 1.7 ft, Roller coned ahead.		18	28.4	1.9	6.5	91.6	32	12	
25		A-6, SiCl, gry, Moist, Rec. = 1.9 ft, Roller coned ahead.		32	27.8	0.0	8.8	91.2	35	15	
		A-1-b, GrSa, gry-brn, Moist, Rec. = 1.8 ft, Roller coned ahead.		81	6.8	35.5	49.4	15.1			
		A-1-b, GrSa, gry-brn, Moist, Rec. = 1.4 ft		R	10.4	34.7	49.0	16.3			
30		29.4 ft, Possible bedrock. Hole stopped @ 29.4 ft									
35		DRILLER'S NOTES: 1. Hole stopped at 29.4 ft in possible bedrock. 2. A Monitoring Well was installed to 26.75 ft. 3. Top of Monitoring Well casing is 3.05 ft above ground surface.									

LOG OF BORING CAMBRIDGE STP 0235(9).GPJ VT AOT.GDT 8/25/08



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BORING NUMBER: B-104
SHEET 1 of 1
DATE STARTED: 5/07/08
DATE COMPLETED: 5/14/08

PROJECT NAME: CAMBRIDGE
SITE NAME: VT-108
STATION: 17+61
OFFSET: -32.00
VTSPG: N 778011.70 ft E 1554885.00 ft

PROJECT NUMBER: STP 0235(9)
SITE NUMBER: MM 8.0 SOIL SLOPE
GROUND ELEVATION: 653.2 ft
GROUNDWATER DEPTH: 3.5 ft 5/14/08
PROJECT PIN NUMBER: 07C152

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MALMATONIC

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
Top of Well Elevation: 655.7 ft										
		A-2-4, SiSa, Dk/brn, MTW, Rec. = 0.5 ft, Wood & Roots were within sample.		WH	65.8	9.7	65.9	24.4		
		A-1-b, SiGrSa, brn-gry, MTW, Rec. = 1.1 ft		7	15.3	39.3	40.2	20.5		
5		A-1-b, GrSa, gry, MTW, Rec. = 0.8 ft		9	13.5	32.1	49.7	18.2		
		A-1-a, SaGr, gry, MTW, Rec. = 0.6 ft		8	10.3	51.5	37.8	10.7		
		A-2-4, SiGrSa, gry, MTW, Rec. = 1.1 ft		5	13.0	33.7	42.9	23.4		
10		A-4, SiSa, gry, MTW, Rec. = 0.6 ft		5	18.6	12.2	52.2	35.6		
		A-4, CiSi, gry, Moist, Rec. = 0.4 ft		47	21.7	1.1	10.3	88.6	27	7
		A-4, GrSi, gry, Moist, Rec. = 1.7 ft			14.9	24.1	18.9	57.0		
15		A-4, SaGrSi, gry, Moist, Rec. = 0.9 ft		R	11.8	33.4	28.2	38.4		
		Field Class., NXDC, Cobbles & Gravel								
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft		29	15.6	18.7	27.2	54.1		
		A-4, Si, gry, Moist, Rec. = 0.8 ft		R	19.8	7.8	5.5	86.7		
20		A-2-4, SiGrSa, gry, MTW, Rec. = 1.4 ft		31	16.0	29.0	45.6	25.4		
		A-2-4, SiGrSa, gry, MTW, Rec. = 1.5 ft		84	15.6	29.7	44.6	25.7		
25		A-4, SaSi, gry, Moist, Rec. = 1.7 ft		41	24.2	1.4	20.1	78.5		
		A-4, SaSi, gry-brn, Moist, Rec. = 1.9 ft		65	17.9	12.6	32.1	55.3		
		A-4, GrSaSi, gry-brn, Moist, Rec. = 2.0 ft		53	18.3	29.2	34.6	36.2		
30		A-1-b, SiGrSa, gry-brn, Moist, Rec. = 1.9 ft		33	16.3	36.5	38.5	25.0		
		A-4, SiSa, brn, Moist, Rec. = 2.0 ft		25	20.6	19.1	44.9	36.0		
35		A-2-4, GrSa, gry-brn, Moist, Rec. = 1.5 ft		55	16.4	27.1	53.8	19.1		
40		A-4, SaGrSi, gry, Moist, Rec. = 0.6 ft		R	21.9	20.5	20.1	59.4		
		40.8 ft, Possible Bedrock. Hole stopped @ 40.8 ft								
45		DRILLER'S NOTES: 1. Hole stopped at 40.8 ft in possible bedrock. 2. A Monitoring Well was installed to 40.25 ft. 3. Top of Monitoring Well casing is 2.5 ft above ground surface.								

LOG OF BORING CAMBRIDGE STP 0235(9).GPJ VT AOT.GDT 8/25/08



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BORING NUMBER: B-105
SHEET 1 of 1
DATE STARTED: 5/16/08
DATE COMPLETED: 5/20/08

PROJECT NAME: CAMBRIDGE
SITE NAME: VT-108
STATION: 17+32
OFFSET: 180.00
VTSPG: N 777937.80 ft E 1555083.00 ft

PROJECT NUMBER: STP 0235(9)
SITE NUMBER: MM 8.0 SOIL SLOPE
GROUND ELEVATION: 586.0 ft
GROUNDWATER DEPTH: None Taken
PROJECT PIN NUMBER: 07C152

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MALMATONIC

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	WELL DIAGRAM	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
				RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
Top of Well Elevation: 588.1 ft								
		A-4, SiSa, brn, Moist, Rec. = 1.6 ft		2	30.2	3.5	51.1	45.4
		A-4, SiSa, brn, Moist, Rec. = 1.5 ft		2	25.8	4.5	48.3	47.2
5		A-2-4, SiGrSa, brn, Moist, Rec. = 1.3 ft		24	12.1	31.9	41.3	26.8
		A-1-b, SiSaGr, gry-brn, MTW, Rec. = 0.9 ft		6	15.9	41.8	34.2	24.0
		A-1-b, SiSaGr, gry, Moist, Rec. = 0.6 ft		R	12.2	39.6	35.9	24.5
Top of Bedrock @ 9.7 ft								
10		Black, Graphitic schist, Moderately hard, Unweathered, NXMDC, 9.7 ft - 12.7 ft, Rec. = 2.2 ft		1	73	40	80	11
								20
								20
15		Black, Graphitic schist, grading to black graphitic phyllite., Moderately hard, Unweathered, NXMDC, 12.7 ft - 17.7 ft, Rec. = 3.7 ft		2	74	74	80	11
								12
								12
								12
								12
20		Black, Graphitic phyllite, Moderately hard, Unweathered, NXMDC, 17.7 ft - 19.7 ft, Rec. = 1.9 ft		3	95	95	80	12
								12
		Hole stopped @ 19.7 ft						
		DRILLER'S NOTES: 1. An inclinometer was installed to 19.15 ft. 2. Top of inclinometer casing is 2.1 ft above ground surface.						
25								

LOG OF BORING - CAMBRIDGE - STP 0235(9).GPJ - VT AOT.GDT 8/25/08



STATE OF VERMONT
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BORING NUMBER: B-106
SHEET 1 of 1
DATE STARTED: 9/16/08
DATE COMPLETED: 9/16/08

PROJECT NAME: CAMBRIDGE
SITE NAME: VT-108
STATION: 17+93
OFFSET: 43.00
VTSPG: N 778025.60 ft E 1554965.40 ft

PROJECT NUMBER: STP 0235(9)
SITE NUMBER: MM 8.0 SOIL SLOPE
GROUND ELEVATION: 638.87 ft
GROUNDWATER DEPTH: 1.2 ft 9/17/08
PROJECT PIN NUMBER: 07C152

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MALMATONIC

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	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
Top of Well Elevation: 641.28 ft								
		A-4, SiSa, gry, Moist, Rec. = 1.5 ft		5	34.2	0.6	56.3	43.1
2.5		A-4, SiSa, brn-gry, MTW, Rec. = 1.0 ft		26	16.1	6.7	55.7	37.6
		A-2-4, GrSiSa, gry, MTW, Rec. = 0.9 ft		6	15.2	28.5	41.9	29.6
5.0		Field Note: No Recovery						
7.5		A-1-b, SaGr, gry, Wet, Rec. = 0.6 ft		7	13.1	54.1	33.7	12.2
10.0		Visual Classification, A-2-4, GrSiSa, Rec. = 0.3 ft, Insufficient sample for testing.		8				
12.5		Hole stopped @ 12.0 ft						
		DRILLER'S NOTES: 1. A Monitoring Well was installed to 10.0 ft. 2. Top of Monitoring Well casing is 2.45 ft above ground surface.						
15.0								
17.5								

LOG OF BORING CAMBRIDGE STP 0235(9).GPJ VT AOT.GDT 9/25/08