



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

BORING NUMBER: B-101
SHEET 1 of 1
DATE STARTED: 2/03/09
DATE COMPLETED: 2/05/09

PROJECT NAME: CHESTER
SITE NAME: VT-103
STATION: 12+76
OFFSET: -31.00
VTSPG: N 276326.55 ft E 1616990.57 ft

PROJECT NUMBER: BRF 025-1(37)SC
SITE NUMBER: BR-9
GROUND ELEVATION: 583.47 ft
GROUNDWATER DEPTH: 9.5 ft 2/04/09
PROJECT PIN NUMBER: 95B168

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

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

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
		Visual Classification, A-2-4, GrSiSa with roots & leaves, brn, Moist, Rec. = 0.8 ft	30	29.8			
		A-2-4, GrSa, brn, MTW, Rec. = 0.5 ft	16	23.5	23.4	58.6	18.0
		A-1-b, SaGr, brn, MTW, Rec. = 0.7 ft	15	18.8	43.9	43.0	13.1
		A-1-b, GrSa, brn, MTW, Rec. = 1.4 ft	12	14.5	32.7	57.4	9.9
		A-1-a, SaGr, brn, Wet, Rec. = 1.0 ft	28	19.0	63.0	31.6	5.4
		A-1-a, SaGr, brn, Wet, Rec. = 1.1 ft	41	10.7	61.7	26.7	11.6
		A-4, GrSiSa, gry, MTW, Rec. = 1.2 ft	41	14.8	24.2	38.0	37.8
		A-4, SaGrSi, gry, MTW, Rec. = 0.7 ft	25	14.8	37.1	23.4	39.5
		A-4, SaSi, gry, MTW, Rec. = 1.4 ft	35	17.0	16.1	41.6	42.3
		A-2-4, SiSa, gry, MTW, Rec. = 1.3 ft	43	22.1	0.7	68.7	30.6
		A-3, Sa, gry, MTW, Rec. = 1.7 ft	62	17.8	4.8	86.2	9.0
		Field Class:, BXMDC, Cobbles					
		Field Class:, BXMDC, Boulder, Advanced casing.					
		Field Class:, BXMDC, Cobbles, Advanced casing.					
		Field Note:, No recovery, Appears to be cobbles and silt, Changed bit	R				
		A-1-a, SaGr, gry, MTW, Rec. = 0.4 ft, Broken rock was within sample.	R	8.3	65.4	28.0	6.6
		A-3, Sa, gry, MTW, Rec. = 0.3 ft	R	17.3	0.8	92.2	7.0
		Field Note:, No recovery, Appears to be sand	R				
		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 57.1 ft - 62.1 ft, Rec. = 5.0 ft	1	100	48	20	14 12 12 12
		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 62.1 ft - 67.1 ft, Rec. = 5.0 ft	2	100	44	20	12 12 12 12
		Hole stopped @ 67.1 ft					12

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT.AGT.GDT 5/13/09

Top of Bedrock @ 57.1 ft



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BORING NUMBER: B-103
 SHEET 1 of 1
 DATE STARTED: 3/20/09
 DATE COMPLETED: 4/09/09

PROJECT NAME: CHESTER
 SITE NAME: VT-103
 STATION: 12+18
 OFFSET: 10.00
 VTSPG: N 276342.22 ft E 1616923.35 ft

PROJECT NUMBER: BRF 025-1(37)SC
 SITE NUMBER: BR-9
 GROUND ELEVATION: 585.45 ft
 GROUNDWATER DEPTH: 13.0 ft 4/08/09
 PROJECT PIN NUMBER: 95B168

BORING CREW
 CREW CHIEF: GARROW
 DRILLER: GARROW
 LOGGER: PORTER

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

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
0.0		Asphalt Pavement, 0.0 ft - 0.8 ft					
0.8		A-1-b, SaGr, brn, Moist, Rec. = 1.0 ft	37	13.6	48.3	39.3	12.4
1.8		A-2-4, GrSa, brn, Moist, Rec. = 1.0 ft, Advanced & cleaned out casing to 8.0 ft.	7	18.3	27.7	54.2	18.1
10.0		A-1-a, SaGr, brn, Moist, Rec. = 1.0 ft, Broken Rock was within sample.	40	9.6	62.1	30.7	7.2
11.0		BXDC, Cobbles, 10.0 ft - 11.0 ft					
15.0		A-2-4, GrSa, brn, Moist, Rec. = 1.5 ft	30	13.5	25.4	60.0	14.6
20.0		BXDC, Cobbles, 18.0 ft - 20.0 ft					
30.0		A-4, SaSi, gry, Moist, Rec. = 1.4 ft	44	20.5	5.1	30.6	64.3
32.0		A-2-4, GrSa, gry, Moist, Rec. = 1.2 ft, Broken Rock was within sample.	68	14.1	35.9	46.0	18.1
34.0		A-4, SaGrSi, gry, Moist, Rec. = 1.4 ft, Broken Rock was within sample.	88	12.8	35.7	28.0	36.3
38.0		Visual Classification, Very Fine Sand					
39.0		BXMDC, Cobbles, 37.8 ft - 41.8 ft					
41.0		Visual Classification, Appears to be Sand					
50.0		Visual Classification, Appears to be Silty Sand					
60.8		Top of Bedrock @ 60.8 ft					
60.8		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 60.8 ft - 65.8 ft, Rec. = 4.8 ft	1	96	58	35	7
65.8		Hole stopped @ 65.8 ft					6
							7
							7
							7
70.0							

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT_AOT.GDT 5/13/09



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BORING NUMBER: B-105
 SHEET 1 of 1
 DATE STARTED: 2/11/09
 DATE COMPLETED: 2/13/09

PROJECT NAME: CHESTER
 SITE NAME: VT-103
 STATION: 13+90
 OFFSET: -11.00
 VTSPG: N 276233.15 ft E 1617057.43 ft

PROJECT NUMBER: BRF 025-1(37)SC
 SITE NUMBER: BR-9
 GROUND ELEVATION: 584.84 ft
 GROUNDWATER DEPTH:
 PROJECT PIN NUMBER: 95B168

BORING CREW
 CREW CHIEF: GARROW
 DRILLER: GARROW
 LOGGER: MAHMUTOVIC

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

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		Asphalt Pavement, 0.0 ft - 0.7 ft					
		Field Note: No Recovery	R				
		BXDC, Concrete, 1.5 ft - 2.5 ft					
5		A-2-4, SiGrSa, gry, MTW, Rec. = 1.2 ft	49	13.3	26.9	46.6	26.5
		A-1-b, SaGr, gry, Wet, Rec. = 0.5 ft	13	10.5	55.5	33.5	11.0
		A-1-b, SaGr, gry, Wet, Rec. = 1.1 ft	22	9.5	47.1	40.7	12.2
10		A-1-a, SaGr, gry, Wet, Rec. = 0.7 ft	R	9.7	63.9	25.9	10.2
		Field Note: BXDC, Cleaned out casing to 10.5 ft.					
		A-2-4, GrSa, gry, Wet, Rec. = 0.4 ft	12	15.1	32.8	49.9	17.3
		Field Class: BXDC, Cobbles					
15		A-2-4, SiGrSa, gry, Wet, Rec. = 1.3 ft	43	12.5	36.6	41.1	22.3
		A-2-4, GrSiSa, gry, Wet, Rec. = 1.4 ft	64	10.8	20.8	47.8	31.4
20		A-2-4, SiSa, gry, Wet, Rec. = 1.2 ft	34	17.3	11.1	68.3	20.6
25		A-2-4, GrSa, gry, Wet, Rec. = 0.6 ft	R	13.2	32.6	54.8	12.6
30		Field Class: BXDC, Cobbles, Cored ahead.					
35		Field Class: BXDC, Cobbles, Changed bit. Very hard drilling.					
		Field Note: Casing broke off. About 5 ft of casing remains in hole. Hole stopped @ 35.0 ft					

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT.AOT.GDT 5/13/09



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BORING NUMBER: B-105A
SHEET 1 of 1
DATE STARTED: 2/13/09
DATE COMPLETED: 3/18/09

PROJECT NAME: CHESTER
SITE NAME: VT-103
STATION: 13+86
OFFSET: -10.00
VTSPG: N 276236.57 ft E 1617053.20 ft

PROJECT NUMBER: BRF 025-1(37)SC
SITE NUMBER: BR-9
GROUND ELEVATION: 584.9 ft
GROUNDWATER DEPTH: 15.5 ft 3/18/09
PROJECT PIN NUMBER: 95B168

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

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

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
10		BXDC, Cobbles, 2.5 ft - 9.5 ft					
15		BXDC, Cobbles, 13.0 ft - 14.0 ft					
20		BXDC, Cored ahead, 17.2 ft - 19.0 ft					
20		BXDC, Cored ahead, 19.1 ft - 21.0 ft					
25		BXDC, Cobbles, 22.5 ft - 24.0 ft					
25		BXDC, Boulder, 25.0 ft - 27.0 ft					
30		BXDC, Cobbles, 27.0 ft - 31.0 ft					
35		BXDC, Cored ahead, 33.5 ft - 35.0 ft					
35		A-1-b, GrSa, gry, Wet, Rec. = 0.9 ft	R	11.2	42.4	42.9	14.7
35		Field Note: Pulled out casing. Changed bit. Changed casing from 4" to 3.5".					
40		No Recovery, 40.0 ft - 41.0 ft	R				
40		BXMDC, Cobbles, 41.0 ft - 42.5 ft					
45		A-4, SiSa, gry, Wet, Rec. = 0.6 ft	84	21.5	2.8	60.2	37.0
50		A-3, Sa, gry, Wet, Rec. = 0.8 ft	R	23.6	0.0	92.4	7.6
55		A-4, SaSi, gry, MTW, Rec. = 0.6 ft	R	27.6	0.0	26.7	73.3
60		A-4, SaSi, gry, MTW, Rec. = 0.7 ft	R	22.5	0.0	24.0	76.0
60		Top of Bedrock @ 60.7 ft					
60		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 60.7 ft - 65.7 ft, Rec. = 4.8 ft	1	96	60	35	5
60							5
60							10
60							10
60							12
60		Gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 65.7 ft - 70.7 ft, Rec. = 4.85 ft	2	97	70	35	7
60							11
60							10
60							12
60							18
70		Hole stopped @ 70.7 ft					

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT.AOT.GDT 5/13/09



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BORING NUMBER: B-106
SHEET 1 of 1
DATE STARTED: 2/09/09
DATE COMPLETED: 2/11/09

PROJECT NAME: CHESTER
SITE NAME: VT-103
STATION: 13+81
OFFSET: 29.00
VTSPG: N 276215.83 ft E 1617021.04 ft

PROJECT NUMBER: BRF 025-1(37)SC
SITE NUMBER: BR-9
GROUND ELEVATION: 584.78 ft
GROUNDWATER DEPTH: 10.8 ft 2/10/09
PROJECT PIN NUMBER: 95B168

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

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

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)		
10		A-2-4, SiSa, brn, Moist, Rec. = 1.1 ft, Very strong petroleum odor.	49	9.0	17.6	58.9	23.5	39	15
		A-1-a, SaGr, brn, Moist, Rec. = 1.1 ft, Very strong petroleum odor.	14	6.3	52.1	41.4	6.5		
		A-2-4, GrSa, brn, Moist, Rec. = 0.9 ft	13	7.5	30.3	56.0	13.7		
		A-1-b, GrSa, brn, Moist, Rec. = 1.0 ft	18	9.8	37.7	45.5	16.8		
		A-1-b, GrSa, brn, MTW, Rec. = 0.8 ft	27	7.8	44.7	44.9	10.4		
		A-1-b, GrSa, brn, MTW, Rec. = 0.5 ft	R	10.9	35.5	47.0	17.5		
		BXDC, Boulder, 10.6 ft - 12.0 ft	23	17.9	21.8	63.5	14.7		
		A-2-4, GrSa, gry, Wet, Rec. = 0.8 ft	9	18.3	32.2	59.4	8.4		
		A-3, GrSa, gry, Wet, Rec. = 0.3 ft, There was one stone in sample.	25						
		Field Note: No Recovery, Stone in sampler.	17	16.1	20.3	48.8	30.9		
20		A-2-4, GrSiSa, gry, Wet, Rec. = 0.9 ft	36	18.8	10.0	52.8	37.2		
		A-4, SiSa, gry, Wet, Rec. = 1.5 ft							
30		A-4, SaSi, gry, Wet, Rec. = 1.6 ft	78	20.2	10.5	29.5	60.0		
		A-6, SiCl, gry, Wet, Rec. = 0.7 ft	6	35.1	0.0	2.3	97.7		
		BXDC, Boulder, 32.3 ft - 34.5 ft							
		A-2-4, SiSa, gry, Wet, Rec. = 0.4 ft	R	12.1	19.6	50.1	30.3		
40		BXMDC, Boulder, 38.8 ft - 41.8 ft							
		A-2-4, GrSiSa, gry, Wet, Rec. = 0.5 ft	R	11.0	26.6	43.8	29.6		
		A-2-4, SiSa, gry, Wet, Rec. = 0.7 ft	R	20.1	0.0	69.3	30.7		
50		A-2-4, SiSa, gry, Wet, Rec. = 0.7 ft	R	21.2	0.8	74.2	25.0		
		A-2-4, SiSa, gry, Wet, Rec. = 0.7 ft	R						
60		Black and gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 58.0 ft - 63.0 ft, Rec. = 4.9 ft	1	98	52	20	6 10 10 10		
		Black and gray, Biotite Gneiss, Competent, Very hard, Unweathered, BXMDC, 63.0 ft - 68.0 ft, Rec. = 4.2 ft	2	84	48	20	10 10 10		
70		Hole stopped @ 68.0 ft					9 8		

LOG OF BORING CHESTER BRF 025-1(37)SC.GPJ VT_AOT.GDT 5/13/09