



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

BORING NUMBER: SB-1
 SHEET 1 of 1
 DATE STARTED: 5/02/06
 DATE COMPLETED: 5/02/06

PROJECT NAME: WATERBURY
 SITE NAME: PARK-&-RIDE
 STATION: 1+43.00
 OFFSET: 133.00
 VTSPG: N 672745.42 ft E 1576759.39 ft

PROJECT NUMBER: CMG PARK(11)SC
 SITE NUMBER:
 GROUND ELEVATION: 505.03 ft
 GROUNDWATER DEPTH: No Water Found 5/02/06
 PROJECT PIN NUMBER: 99K002

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

BORING RIG: LAG TRACK RIG w/AUTO HAMMER
 BORING TYPE: HOLLOW STEM AUGER
 SAMPLE TYPE: SPLIT BARREL
 CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
2.5		A-7-5, SiCl, brn, Moist, Rec. = 0.4 ft	4	35.3	0.0	9.0	91.0	45	12
5.0		A-7-6, SiCl, brn, Moist, Rec. = 1.7 ft	10	32.2	0.0	3.2	96.8	41	16
10.0		A-4, Cisi, brn-gry, Moist, Rec. = 1.5 ft	7	37.8	0.0	1.7	98.3	36	9
15.0		A-4, Cisi, gry, Moist, Rec. = 2.0 ft	6	40.3	0.0	0.9	99.1	36	8
20.0		A-4, Si, gry, Moist, Rec. = 1.6 ft	6	38.9	0.0	1.0	99.0	35	3
22.5		Hole stopped @ 22.0 ft							
		DRILLER'S NOTES: 1. No ledge to depth.							

LOG OF BORING - WATERBURY CMG PARK(11)SC.GPJ - VT AOT.GDT - 12/8/06



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

BORING NUMBER: SB-2
 SHEET 1 of 1
 DATE STARTED: 5/04/06
 DATE COMPLETED: 5/04/06

PROJECT NAME: WATERBURY
 SITE NAME: PARK-&-RIDE
 STATION: 0+89.00
 OFFSET: 107.00
 VTSPG: N 672692.28 ft E 1576782.91 ft

PROJECT NUMBER: CMG PARK(11)SC
 SITE NUMBER:
 GROUND ELEVATION: 508.78 ft
 GROUNDWATER DEPTH: 6.0 ft 11/09/06
 PROJECT PIN NUMBER: 99K002

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

BORING RIG: LAG TRACK RIG w/AUTO HAMMER
 BORING TYPE: HOLLOW STEM AUGER
 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: 511.08 ft										
		A-7-6, SiCl, brn, Moist, Rec. = 1.4 ft		4	34.3	0.0	3.9	96.1	41	14
5		A-6, SiCl, Lt/gry, Moist, Rec. = 2.0 ft		4	42.4	0.0	1.1	98.9	40	15
10		A-4, Cisi, gry, Moist, Rec. = 1.9 ft		4	40.4	0.0	1.3	98.7	37	9
15		A-6, SiCl, gry, Moist, Rec. = 2.0 ft		4	41.0	0.0	0.9	99.1	40	14
20		A-6, SiCl, gry, Moist, Rec. = 2.0 ft		4	41.0	0.0	0.7	99.3	38	12
		Hole stopped @ 22.0 ft								
25		DRILLER'S NOTES: 1. No ledge to depth. 2. Installed Monitoring Well on 05/05/06. 3. Well has 10.0 ft. of screen casing in ground. 4. Well has a total of 7.7 ft. of solid casing in ground. 5. Well has 2.3 ft. of solid casing above ground. 6. No water depth was found during drilling. 7. Water depth was 8.6 ft. on 5/9/06 (from top of well), which equals 6.3 ft. below ground. 8. Water depth was 8.3 ft. on 11/9/06 (from top of well), which equals 6.0 ft. below ground.								

LOG OF BORING WATERBURY CMG PARK(11)SC.GPJ VT AOT.GDT 12/8/06



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

BORING NUMBER: SB-3
 SHEET 1 of 1
 DATE STARTED: 5/05/06
 DATE COMPLETED: 5/05/06

PROJECT NAME: WATERBURY
 SITE NAME: PARK-&-RIDE
 STATION: 2+30.00
 OFFSET: 24.00
 VTSPG: N 672732.53 ft E 1576616.96 ft

PROJECT NUMBER: CMG PARK(11)SC
 SITE NUMBER:
 GROUND ELEVATION: 503.06 ft
 GROUNDWATER DEPTH: 5.0 ft 5/05/06
 PROJECT PIN NUMBER: 99K002

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

BORING RIG: LAG TRACK RIG
 BORING TYPE: AUGER
 SAMPLE TYPE: AUGER
 CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		Field Class., Asphalt, 0.0'-0.7'					
2.5		A-1-b, GrSa, brn, Moist		5.6	39.7	43.7	16.6
5.0		A-4, SaSi, gry-brn, Moist		25.0	3.9	40.4	55.7
10.0		Hole stopped @ 10.0 ft					
12.5		DRILLER'S NOTES: 1. No ledge to depth.					

LOG OF BORING - WATERBURY CMG PARK(11)SC.GPJ - VT AOT.GDT 12/8/06



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

BORING NUMBER: SB-4
 SHEET 1 of 1
 DATE STARTED: 5/05/06
 DATE COMPLETED: 5/05/06

PROJECT NAME: WATERBURY
 SITE NAME: PARK-&-RIDE
 STATION: 1+79.00
 OFFSET: 30.00
 VTSPG: N 672698.98 ft E 1576658.61 ft

PROJECT NUMBER: CMG PARK(11)SC
 SITE NUMBER:
 GROUND ELEVATION: 503.57 ft
 GROUNDWATER DEPTH: 5.2 ft 5/05/06
 PROJECT PIN NUMBER: 99K002

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

BORING RIG: LAG TRACK RIG
 BORING TYPE: AUGER
 SAMPLE TYPE: AUGER
 CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
0.0 - 0.1		Field Class.: Asphalt, 0.0'-0.1'		4.3	64.5	28.2	7.3
0.1 - 1.0		A-1-a, SaGr, brn, Moist					
1.0 - 2.5		A-1-b, GrSa, brn, Moist		5.5	42.8	43.4	13.8
2.5 - 5.0		A-4, SaSi with a Trace of Organics (2.9%), blk, Moist		28.5	0.8	23.5	75.7
5.0 - 7.5		A-4, SaSi, gry-brn, Moist		25.4	0.6	37.0	62.4
7.5 - 10.0		A-2-4, SiGrSa, brn-gry, Wet		20.5	29.3	42.5	28.2
10.0 - 12.5		Hole stopped @ 10.0 ft					
		DRILLER'S NOTES: 1. No ledge to depth.					

LOG OF BORING - WATERBURY CMG PARK(11)SC.GPJ - VT AOT.GDT - 12/8/06



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

BORING NUMBER: SB-5
 SHEET 1 of 1
 DATE STARTED: 5/05/06
 DATE COMPLETED: 5/05/06

PROJECT NAME: WATERBURY
 SITE NAME: PARK-&-RIDE
 STATION: 1+79.00
 OFFSET: -44.00
 VTSPG: N 672648.95 ft E 1576605.22 ft

PROJECT NUMBER: CMG PARK(11)SC
 SITE NUMBER:
 GROUND ELEVATION: 504.19 ft
 GROUNDWATER DEPTH: 6.0 ft 5/05/06
 PROJECT PIN NUMBER: 99K002

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

BORING RIG: LAG TRACK RIG
 BORING TYPE: AUGER
 SAMPLE TYPE: AUGER
 CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		Field Class., Asphalt, 0.0'-0.6'					
		A-1-b, SaGr, brn, Moist		5.7	46.1	38.2	15.7
2.5		A-4, SaSi, gry-brn, Moist		21.8	5.5	43.2	51.3
7.5		A-2-4, SiGrSa, gry-brn, Moist		19.0	29.4	45.4	25.2
10.0		Hole stopped @ 10.0 ft					
12.5		DRILLER'S NOTES: 1. No ledge to depth.					

LOG OF BORING - WATERBURY CMG PARK(11)SC.GPJ - VT AOT.GDT - 12/8/06



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

BORING NUMBER: SB-6
SHEET 1 of 1
DATE STARTED: 8/31/06
DATE COMPLETED: 9/06/06

PROJECT NAME: WATERBURY
SITE NAME: PARK-&-RIDE
STATION: BL2: 6+82.4
OFFSET: 52.30
VTSPG: N 672725.79 ft E 1576789.32 ft

PROJECT NUMBER: CMG PARK(11)SC
SITE NUMBER:
GROUND ELEVATION: 511.52 ft
GROUNDWATER DEPTH: Hole Caved In
PROJECT PIN NUMBER: 99K002

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

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: TUBE & VANE
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
5		A-4, Cisi, gry, Moist, Sample A from UU test, Su = 1900 psf	36.0	0.0	1.6	98.4	40	7	
		A-7-6, SiCl, gry, Moist, Sample B&C from UU test, Su = 1165 psf, Total Tube Rec. = 1.7 ft.	38.9	0.0	0.6	99.4	42	14	
		Vane Shear 1100/300 psf, 8.58 ft - 9.0 ft							
10		Rod Friction 375 psf, 10.0 ft - 11.5 ft							
15		A-4, Cisi Vane Shear 2350/350 psf, gry, Moist, Sample off Vane.	39.1	0.0	0.8	99.2	35	9	
		A-7-6, SiCl, gry, Moist, UU Sample A, Su = 1060 psf	40.1	0.0	1.5	98.5	41	12	
		A-4, Cisi, gry, Moist, UU Sample B, Su = 1300 psf	41.0	0.0	0.7	99.3	38	8	
		A-7-6, SiCl, gry, Moist, UU Sample C, Su = 885 psf, Total Tube Rec. = 2.0 ft.	41.8	0.0	0.5	99.5	42	16	
		A-6, SiCl Vane Shear 1725/300 psf, gry, Moist, Sample off Vane.	42.4	0.0	0.9	99.1	40	15	
20		Rod Friction 375 psf, 20.0 ft - 20.5 ft							
		Vane Shear 850/125 psf, 23.58 ft - 24.0 ft							
25		A-4, Cisi, gry, Moist, Rec. = 2.0 ft, Sample A, B, & C from UU Test, Su = 1510 psf	39.6	0.0	0.3	99.7	39	7	
		A-4, Si Vane Shear 2100/400 psf, gry, Moist	41.1	0.0	0.6	99.4	37	5	
30		Rod Friction 450 psf, 29.5 ft - 30.0 ft							
		Hole stopped @ 30.0 ft							
35		DRILLER'S NOTES: 1. Vane used was 2.5x5 inches. 2. Vane Shear = Initial/Remold 3. See Geotechnical Report for further explanation of Triaxial test results. 4. UU tests conducted in accordance with AASHTO T296.							

LOG OF BORING WATERBURY CMG PARK(11)SC.GPJ VT AOT.GDT 12/8/06



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

BORING NUMBER: SB-7
 SHEET 1 of 1
 DATE STARTED: 1/05/09
 DATE COMPLETED: 1/09/09

PROJECT NAME: WATERBURY
 SITE NAME: PARK-&-RIDE
 STATION: 6+80
 OFFSET: 39.00
 VTSPG: N 672716.86 ft E 1576776.53 ft

PROJECT NUMBER: CMG PARK(11)SC
 SITE NUMBER:
 GROUND ELEVATION: 513.52 ft
 GROUNDWATER DEPTH: 16.2 ft 1/09/09
 PROJECT PIN NUMBER: 99K002

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

BORING RIG: LARGE SKID RIG w/AUTO HAMMER
 BORING TYPE: HOLLOW STEM AUGER
 SAMPLE TYPE: TUBE & VANE
 CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
		Gry, Moist, Rec. = 1.6 ft, 5.0 ft - 7.0 ft							
10		Vane Shear 925/225 psf, 8.0 ft - 8.5 ft, Pushed vane 7-8.5 ft.							
		A-6, SiCl, gry, Moist, Rec. = 1.9 ft, Triaxial "A&B"		42.7	0.0	0.6	99.4	40	15
		A-4, CISI, gry, Moist, Triaxial "C", Triaxial Results: phi=31.0 degrees, c'=150 psf.		40.2	0.0	0.2	99.8	36	10
		Gry, MTW, Rec. = 1.6 ft, 15.0 ft - 17.0 ft							
20		Vane Shear 1000/175 psf, 18.0 ft - 18.5 ft, Pushed vane 17-18.5 ft.							
		A-7-6, SiCl, gry, Wet, Rec. = 1.75 ft, Triaxial "A&B"		41.5	0.0	0.5	99.5	42	16
		A-4, CISI, gry, Wet, Triaxial "C", Triaxial Results: phi=29.0 degrees, c'=0 psf.		39.8	0.0	0.5	99.5	38	10
		Gry, Wet, Rec. = 1.85 ft, 25.0 ft - 27.0 ft							
30		Vane Shear 1050/280 psf, 28.0 ft - 28.5 ft, Pushed vane 27-28.5 ft.							
		Gry, Wet, Rec. = 1.9 ft, 30.0 ft - 32.0 ft							
		Vane Shear 1100/300 psf, 33.0 ft - 33.5 ft, Pushed vane 32-33.5 ft.							
		Gry, Wet, Rec. = 1.5 ft, 35.0 ft - 36.5 ft							
40		Vane Shear 925/200 psf, 38.0 ft - 38.5 ft, Pushed vane 37-38.5 ft.							
		Gry, Wet, Rec. = 1.9 ft, 40.0 ft - 42.0 ft							
		Hole stopped @ 42.0 ft							
50		DRILLER'S NOTES: 1. Vane used was 3x6 inches. 2. Vane Shear = Initial/Remold 3. See Geotechnical Report for further explanation of Triaxial test results. 4. CU tests conducted in accordance with AASHTO T297. 5. Vane shear readings were not corrected for rod friction.							

LOG OF BORING WATERBURY CMG PARK(11)SC.GPJ VT AOT.GDT 2/24/09