



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

BORING LOG

WATERBURY
IM 089-2(43)
EXIT #10 NB OFF RAMP-A BR-47

Boring No.: B-101
Page No.: 1 of 1
Pin No.: 10A076
Checked By: CEE

Boring Crew: GARROW, WERNER
Date Started: 12/03/10 Date Finished: 12/08/10
VTSPG NAD83: N 671084.20 ft E 1575484.96 ft
Station: 103+38.35 Offset: -29.21
Ground Elevation: 469.03 ft

Casing Type: WB
Sampler Type: SS
I.D.: 4 in 1.5 in
Hammer Wt: N.A. 140 lb.
Hammer Fall: N.A. 30 in.
Hammer/Rod Type: Auto/AWJ
Rig: CME 45C TRACK CE = 1.34

| Groundwater Observations | | |
|--------------------------|------------|--------------------|
| Date | Depth (ft) | Notes |
| 12/08/10 | 17.8 | Overnight reading. |
| | | |
| | | |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (RQD %) | Drill Rate minutes/ft | Blows/6" (N Value) | Moisture Content % | Gravel % | Sand % | Fines % | | | | | | | | |
|------------|------------|--|----------------|---------------------|-----------------------|--------------------------|--------------------|----------|--------|---------|--|--|--|--|--|--|--|--|
| 5 | | A-1-b, SiGrSa, brn, Moist, Rec. = 0.5 ft | | | | 1-1-2-8 (3) | 17.3 | 30.8 | 47.1 | 22.1 | | | | | | | | |
| | | A-1-b, GrSa, brn, Moist, Rec. = 0.8 ft | | | | 12-9-4-4 (13) | 11.6 | 41.2 | 46.8 | 12.0 | | | | | | | | |
| | | A-1-b, SiSaGr, gry, Moist, Rec. = 0.9 ft | | | | 5-6-5-9 (11) | 11.8 | 53.0 | 26.9 | 20.1 | | | | | | | | |
| | | A-1-b, SaGr, gry, Wet, Rec. = 0.6 ft | | | | 5-3-8-7 (11) | 11.7 | 56.1 | 27.0 | 16.9 | | | | | | | | |
| | | A-1-b, SiSaGr, gry, Wet, Rec. = 1.0 ft | | | | 3-5-4-4 (9) | 12.8 | 43.9 | 31.4 | 24.7 | | | | | | | | |
| 10 | | A-1-b, SaGr, gry, Wet, Rec. = 1.2 ft | | | | 8-9-7-5 (16) | 11.1 | 57.3 | 26.5 | 16.2 | | | | | | | | |
| | | Field Note: No Recovery | | | | 2-2-2-3 (4) | | | | | | | | | | | | |
| 15 | | A-4, SaSi, gry-brn, Wet, Rec. = 0.9 ft | | | | 1-2-2-7 (4) | 30.9 | 9.1 | 29.8 | 61.1 | | | | | | | | |
| | | A-2-4, SaSiGr, brn, Wet, Rec. = 1.3 ft | | | | 5-10-33-24 (43) | 14.4 | 36.9 | 29.8 | 33.3 | | | | | | | | |
| | | A-2-4, SiGrSa, brn, Wet, Rec. = 1.2 ft, Broken Rock was within sample. | | | | 19-21-18-42 (39) | 14.6 | 33.8 | 37.1 | 29.1 | | | | | | | | |
| 20 | | 20.5 ft - 22.0 ft, Light gray, Quartz-sericite-chlorite Phyllitic Schist, Moderately hard, Unweathered, Fair rock, NXMDC | 1 (70) | 80 (47) | 16 (20) | Top of Bedrock @ 20.5 ft | | | | | | | | | | | | |
| | | 22.0 ft - 25.5 ft, Light gray, Quartz-sericite-chlorite Phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 2 (70) | 74 (74) | 22 (25) | | | | | | | | | | | | | |
| | | 25.5 ft - 30.5 ft, Light gray, Quartz-sericite-chlorite Phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 3 (70) | 100 (76) | 11 (9) | | | | | | | | | | | | | |
| 25 | | Hole stopped @ 30.5 ft | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 30 | | Hole stopped @ 30.5 ft | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 35 | | Hole stopped @ 30.5 ft | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 40 | | Hole stopped @ 30.5 ft | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 45 | | Hole stopped @ 30.5 ft | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

BORING LOG 2 WATERBURY IM 089-2(43).GPJ VERMONT AOT.GDT 4/13/11

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



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

BORING LOG

WATERBURY
IM 089-2(43)
EXIT #10 NB OFF RAMP-A BR-47

Boring No.: B-102
Page No.: 1 of 1
Pin No.: 10A076
Checked By: CEE

Boring Crew: GARROW, WERNER
Date Started: 12/09/10 Date Finished: 3/18/11
VTSPG NAD83: N 671095.76 ft E 1575510.29 ft
Station: 103+37.75 Offset: -1.37
Ground Elevation: 469.58 ft

Casing Type: WB
Sampler Type: SS
I.D.: 4 in 1.5 in
Hammer Wt: N.A. 140 lb.
Hammer Fall: N.A. 30 in.
Hammer/Rod Type: Auto/AWJ
Rig: CME 45C TRACK CE = 1.34

| Groundwater Observations | | |
|--------------------------|------------|-------|
| Date | Depth (ft) | Notes |
| | | |
| | | |
| | | |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (ROD %) | Drill Rate minutes/ft | Blows/6" (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|-------------|------------|--|----------------|---------------------|-----------------------|--------------------|--------------------|----------|--------|---------|
| 0.0 - 0.4 | | Asphalt Pavement, 0.0 ft - 0.4 ft | | | | | | | | |
| 0.4 - 1.4 | | Concrete, 0.4 ft - 1.4 ft | | | | | | | | |
| 1.4 - 3.0 | | Visual Classification, 3" minus crushed rock | | | | 7-5-15-5 (20) | 8.1 | 39.2 | 47.5 | 13.3 |
| 3.0 - 3.7 | | A-1-b, GrSa, brn, Moist, Rec. = 0.3 ft | | | | | | | | |
| 3.7 - 4.6 | | A-1-b, SiSaGr, gry, Wet, Rec. = 0.9 ft | | | | 7-8-11-14 (19) | 10.8 | 54.3 | 25.3 | 20.4 |
| 4.6 - 5.8 | | A-1-a, SaGr, gry, Wet, Rec. = 1.2 ft, Rock Fill was within sample. | | | | 16-32-6-6 (38) | 9.0 | 66.9 | 20.9 | 12.2 |
| 5.8 - 6.6 | | A-1-b, SaGr, gry, Wet, Rec. = 0.8 ft, Rock Fill was within sample. | | | | 9-5-2-6 (7) | 11.8 | 53.4 | 27.7 | 18.9 |
| 6.6 - 8.0 | | A-1-a, SaGr, gry, Wet, Rec. = 1.4 ft, Lots of Rock Fill was within sample. | | | | 11-9-7-6 (16) | 8.7 | 61.9 | 24.1 | 14.0 |
| 8.0 - 9.1 | | A-1-a, SaGr, gry, Wet, Rec. = 1.1 ft, Sample was mostly Rock Fill. | | | | 12-48-53-R (R) | 10.0 | 57.2 | 29.0 | 13.8 |
| 9.1 - 10.0 | | A-1-a, SaGr, gry, Wet, Rec. = 0.9 ft, Sample was mostly Rock Fill. | | | | 18-15-15-13 (30) | 10.0 | 59.1 | 27.7 | 13.2 |
| 10.0 - 10.6 | | A-1-b, SaGr, gry, Wet, Rec. = 0.6 ft, Sample was mostly Rock Fill. | | | | 11-13-8-12 (21) | 13.7 | 53.0 | 31.4 | 15.6 |
| 10.6 - 11.5 | | A-1-a, SaGr, gry, Wet, Rec. = 0.7 ft, Sample was mostly Rock Fill. | | | | 8-9-9-14 (18) | 11.8 | 61.4 | 27.1 | 11.5 |
| 11.5 - 12.4 | | A-1-b, SaGr, gry, Wet, Rec. = 0.9 ft, Sample was mostly Rock Fill. | | | | 10-10-10-6 (20) | 13.8 | 55.1 | 28.3 | 16.6 |
| 24.8 - 25.8 | | 24.8 ft - 25.8 ft, Light gray, Quartz-sericite-chlorite Phyllitic Schist, Moderately hard, Unweathered, Fair rock, NXMDC | 1 (70) | 60 (0) | 16 | | | | | |
| 25.8 - 26.9 | | 25.8 ft - 26.9 ft, Same as above. Fair rock, NXMDC | 2 (70) | 87 (43) | 15 | | | | | |
| 26.9 - 27.4 | | 26.9 ft - 27.4 ft, Drilling Break. | | | 10 | | | | | |
| 27.4 - 28.8 | | 27.4 ft - 28.8 ft, Same as top section. Fair rock | | | 12 | | | | | |
| 28.8 - 33.8 | | 28.8 ft - 33.8 ft, Light gray, Quartz-sericite-chlorite Phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 3 (70) | 70 (72) | 4 | | | | | |
| 33.8 - 34.8 | | 33.8 ft - 34.8 ft, Light gray, Quartz-sericite-chlorite Phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 4 (70) | 100 (100) | 4 | | | | | |
| 34.8 - 35.0 | | Hole stopped @ 34.8 ft | | | | | | | | |
| 35.0 - 40.0 | | Remarks: No water table reading was taken. | | | | | | | | |

BORING LOG 2 WATERBURY IM 089-2(43).GPJ VERMONT AOT.GDT 4/13/11

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



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

BORING LOG
WATERBURY
IM 089-2(43)
EXIT #10 NB OFF RAMP-A BR-47

Boring No.: B-103A
Page No.: 1 of 1
Pin No.: 10A076
Checked By: CEE

Boring Crew: GARROW, WERNER, PORTER
Date Started: 11/29/10 Date Finished: 11/30/10
VTSPG NAD83: N 671212.81 ft E 1575430.84 ft
Station: 104+77.70 Offset: -22.03
Ground Elevation: 432.09 ft

Casing Type: WB
Sampler: SS
I.D.: 4 in 1.5 in
Hammer Wt: N.A. 140 lb.
Hammer Fall: N.A. 30 in.
Hammer/Rod Type: Auto/AWJ
Rig: CME 45C TRACK CE = 1.34

| Groundwater Observations | | |
|--------------------------|------------|--------------------|
| Date | Depth (ft) | Notes |
| 11/30/10 | 5.4 | After drilling. |
| 12/01/10 | 8.2 | Overnight reading. |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (ROD %) | Drill Rate minutes/ft | Blows/6" (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|------------|------------|--|----------------|---------------------|-----------------------|--------------------|--------------------|----------|--------|---------|
| 5 | | A-1-b, SaGr, gry, Moist, Rec. = 1.1 ft, Broken Rockl was within sample. | | | | 8-24-21-22 (45) | 8.7 | 56.0 | 25.2 | 18.8 |
| 10 | | A-4, SaSi, gry, MTW, Rec. = 0.6 ft | | | | 8-4-4-2 (8) | 30.4 | 15.0 | 32.2 | 52.8 |
| 15 | | A-1-a, SaGr, gry, Wet, Rec. = 0.7 ft, Broken Rock was within sample. | | | | 3-7-17-10 (24) | 12.7 | 61.3 | 30.4 | 8.3 |
| 20 | | Field Note:, No Recovery | | | | 7-4-5-7 (9) | | | | |
| 25 | | A-1-b, SiGrSa, gry, Wet, Rec. = 0.7 ft, Broken Rock was within sample. | | | | 15-20-RO1 (R) | 14.7 | 38.4 | 38.9 | 22.7 |
| 25 | | Field Note:, Broken rock | | | | | | | | |
| 25 | | 24.9 ft - 28.7 ft, Light gray, Quartz-sericite-chlorite phyllitic Schist, with near vertical slightly stained joint from 24.9 to 27.5 feet. Moderately hard, Unweathered, Fair rock, NXMDC | 1 (70) | 95 (0) | 15 | | | | | |
| 30 | | 28.7 ft - 33.7 ft, Light gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 2 (70) | 88 (82) | 12 | | | | | |
| 35 | | 33.7 ft - 34.9 ft, Light gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 3 (70) | 100 (100) | 12 | | | | | |
| 35 | | Hole stopped @ 34.9 ft | | | | | | | | |

BORING LOG 2 WATERBURY IM 089-2(43).GPJ VERMONT AOT.GDT 4/13/11

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



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

BORING LOG

WATERBURY
IM 089-2(43)
EXIT #10 NB OFF RAMP-A BR-47

Boring No.: B-104
Page No.: 1 of 1
Pin No.: 10A076
Checked By: CEE

Boring Crew: GARROW, WERNER, PORTER
Date Started: 11/30/10 Date Finished: 12/02/10
VTSPG NAD83: N 671224.36 ft E 1575453.24 ft
Station: 104+78.36 Offset: 3.17
Ground Elevation: 432.29 ft

Casing Type: WB
Sampler: SS
I.D.: 4 in 1.5 in
Hammer Wt: N.A. 140 lb.
Hammer Fall: N.A. 30 in.
Hammer/Rod Type: Auto/AWJ
Rig: CME 45C TRACK CE = 1.34

| Groundwater Observations | | |
|--------------------------|------------|--------------------|
| Date | Depth (ft) | Notes |
| 12/02/10 | 7.1 | After hard rain. |
| 12/03/10 | 4.8 | Overnight reading. |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (ROD %) | Drill Rate minutes/ft | Blows/6" (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|------------|------------|--|----------------|---------------------|-----------------------|--------------------|--------------------|----------|--------|---------|
| | | Asphalt Pavement, 0.0 ft - 0.4 ft | | | | | | | | |
| | | A-1-a, SaGr, brn, Moist, Rec. = 1.2 ft | | | | 5-5-6-4 (11) | 8.8 | 55.5 | 29.9 | 14.6 |
| 5 | | A-4, Si, gry, MTW, Rec. = 0.9 ft | | | | 4-4-5-9 (9) | 24.9 | 4.6 | 2.4 | 93.0 |
| 10 | | Field Note: No Recovery, Rock in end of sampler, Appears to be Silt. | | | | 1-1-1-3 (2) | | | | |
| 15 | | A-4, Si, gry, MTW, Rec. = 0.8 ft | | | | 2-3-3-5 (6) | 25.7 | 4.3 | 12.9 | 82.8 |
| 20 | | A-4, Si, gry, MTW, Rec. = 1.3 ft | | | | 3-4-5-8 (9) | 31.6 | 1.8 | 2.0 | 96.2 |
| 25 | | Visual Classification, Broken rock with silt, gry, Moist, Rec. = 1.0 ft | | | | 7-9-14-15 (23) | 11.9 | | | |
| | | 25.5 ft - 27.5 ft, Light gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Fair rock, NXMDC | 1 (70) | 85 (0) | 12 16 | | | | | |
| | | 27.5 ft - 29.5 ft, Light gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Fair rock, NXMDC | 2 (70) | 95 (0) | 15 18 | | | | | |
| | | 29.5 ft - 34.5 ft, Light gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 3 (70) | 94 (90) | 10 11 11 11 | | | | | |
| 35 | | 34.5 ft - 35.5 ft, Light gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 4 (70) | 90 (90) | 11 | | | | | |
| | | Hole stopped @ 35.5 ft | | | | | | | | |

BORING LOG 2 WATERBURY IM 089-2(43).GPJ VERMONT AOT.GDT 4/13/11

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



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

BORING LOG
WATERBURY
IM 089-2(43)
EXIT #10 NB OFF RAMP-A BR-47

Boring No.: B-105
Page No.: 1 of 1
Pin No.: 10A076
Checked By: CEE

Boring Crew: GARROW, WERNER
Date Started: 11/23/10 Date Finished: 11/23/10
VTSPG NAD83: N 671378.85 ft E 1575352.19 ft
Station: 106+61.42 Offset: -20.67
Ground Elevation: 431.68 ft

Casing Type: WB
Sampler Type: SS
I.D.: 4 in 1.5 in
Hammer Wt: N.A. 140 lb.
Hammer Fall: N.A. 30 in.
Hammer/Rod Type: Auto/AWJ
Rig: CME 45C TRACK CE = 1.34

| Groundwater Observations | | |
|--------------------------|------------|--------------------|
| Date | Depth (ft) | Notes |
| 11/24/10 | 9.9 | Overnight reading. |
| | | |
| | | |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (ROD %) | Drill Rate minutes/ft | Blows/6" (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|-------------|------------------|--|----------------|---------------------|-----------------------|--------------------------|--------------------|----------|--------|---------|
| 5 | [Diagonal lines] | A-2-4, SiSaGr, brn, Moist, Rec. = 1.1 ft | | | | 1-1-2-4 (3) | 17.8 | 34.2 | 34.0 | 31.8 |
| | | A-2-4, SiSaGr, gry, Moist, Rec. = 0.7 ft, Broken rock was within sample. | | | | 3-8-R@3.5" (R) | 11.7 | 41.7 | 32.1 | 26.2 |
| 10 | [Cross-hatch] | Field Note:, No Recovery. A stone with silt was in sampler | | | | 2-1-1-1 (2) | | | | |
| 15 | [Diagonal lines] | A-4, Si, gry, Wet, Rec. = 0.8 ft | | | | 2-3-3-5 (6) | 24.3 | 2.0 | 10.0 | 88.0 |
| 20 | [Diagonal lines] | A-4, Si, gry, Wet, Rec. = 1.1 ft | | | | 1-1-1-1 (2) | 27.4 | 0.1 | 2.9 | 97.0 |
| 25 | [Diagonal lines] | A-4, Si, gry, Wet, Rec. = 1.3 ft | | | | 1-3-3-4 (6) | 30.1 | 2.8 | 2.9 | 94.3 |
| 25.8 - 29.3 | [Diagonal lines] | 25.8 ft - 29.3 ft, Gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 1 (70) | 91 (80) | 15 | Top of Bedrock @ 25.8 ft | | | | |
| 29.3 - 31.6 | [Diagonal lines] | 29.3 ft - 31.6 ft, Gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 2 (70) | 100 (52) | 16 | | | | | |
| 31.6 - 33.6 | [Diagonal lines] | 31.6 ft - 33.6 ft, Gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 3 (70) | 100 (85) | 14 | | | | | |
| 33.6 - 35.8 | [Diagonal lines] | 33.6 ft - 35.8 ft, Gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 4 (70) | 86 (86) | 13 | | | | | |
| 35.8 | | Hole stopped @ 35.8 ft | | | 14 | | | | | |

BORING LOG 2 WATERBURY IM 089-2(43).GPJ VERMONT AOT.GDT 4/13/11

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



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

BORING LOG
WATERBURY
IM 089-2(43)
EXIT #10 NB OFF RAMP-A BR-47

Boring No.: B-106
Page No.: 1 of 1
Pin No.: 10A076
Checked By: CEE

Boring Crew: GARROW, WERNER
Date Started: 11/19/10 Date Finished: 11/22/10
VTSPG NAD83: N 671399.11 ft E 1575367.98 ft
Station: 106+72.80 Offset: 2.36
Ground Elevation: 431.87 ft

Casing Type: WB
Sampler: SS
I.D.: 4 in 1.5 in
Hammer Wt: N.A. 140 lb.
Hammer Fall: N.A. 30 in.
Hammer/Rod Type: Auto/AWJ
Rig: CME 45C TRACK CE = 1.34

| Groundwater Observations | | |
|--------------------------|------------|----------------|
| Date | Depth (ft) | Notes |
| 11/22/10 | 8.0 | After weekend. |
| | | |
| | | |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (ROD %) | Drill Rate minutes/ft | Blows/6" (N Value) | Moisture Content % | Gravel % | Sand % | Fines % | |
|------------|------------|--|----------------|---------------------|-----------------------|--------------------------|--------------------|----------|--------|---------|--|
| 5 | | A-1-b, SaGr, brn, Moist, Rec. = 0.8 ft | | | | 3-5-5-7 (10) | 5.9 | 50.2 | 34.4 | 15.4 | |
| | | A-1-b, SiSaGr, brn, Wet, Rec. = 0.7 ft | | | | 8-6-4-3 (10) | 17.7 | 41.0 | 35.3 | 23.7 | |
| 10 | | A-4, SaSiGr, gry, Wet, Rec. = 1.1 ft, Broken thin rock pieces were within sample. See Lab Note. | | | | 13-5-5-11 (10) | 17.2 | 39.9 | 23.5 | 36.6 | |
| | | A-4, Si, gry, Wet, Rec. = 1.2 ft | | | | 6-5-5-5 (10) | 29.8 | 3.5 | 2.1 | 94.4 | |
| 20 | | A-4, Si, gry, Wet, Rec. = 1.3 ft | | | | 1-2-3-3 (5) | 26.0 | | 3.6 | 96.4 | |
| | | A-4, Si, gry, Wet, Rec. = 1.5 ft | | | | 1-2-2-3 (4) | 34.5 | | 1.2 | 98.8 | |
| 30 | | 26.5 ft - 31.5 ft, Light gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Fair rock, NXMDC | 1 (70) | 90 (46) | 12 | Top of Bedrock @ 26.5 ft | | | | | |
| | | 31.5 ft - 36.5 ft, Light gray, Quartz-sericite-chlorite phyllitic Schist, Moderately hard, Unweathered, Good rock, NXMDC | 2 (70) | 94 (74) | 15 | | | | | | |
| 35 | | Hole stopped @ 36.5 ft | | | 14 | | | | | | |
| | | | | | 14 | | | | | | |
| | | | | | 15 | | | | | | |
| | | | | | 16 | | | | | | |
| 40 | | Remarks: LAB NOTE: In the sample from 7'-9', there was a slight oder of a possible old septic/sewer system. | | | | | | | | | |
| 45 | | | | | | | | | | | |

BORING LOG 2 WATERBURY IM 089-2(43).GPJ VERMONT AOT.GDT 4/13/11

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



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

BORING LOG

WATERBURY
IM 089-2(43)
EXIT #10 NB OFF RAMP-A BR-47

Boring No.: B-107
Page No.: 1 of 1
Pin No.: 10A076
Checked By: CEE

Boring Crew: GARROW, WERNER, PORTER
Date Started: 3/23/11 Date Finished: 3/30/11
VTSPG NAD83: N 671488.32 ft E 1575297.66 ft
Station: 107+83.71 Offset: -22.18
Ground Elevation: 473.44 ft

Casing Type: WB
Sampler: SS
I.D.: 4 in 1.5 in
Hammer Wt: N.A. 140 lb.
Hammer Fall: N.A. 30 in.
Hammer/Rod Type: Auto/AWJ
Rig: CME 45C SKID CE = 1.33

| Groundwater Observations | | |
|--------------------------|------------|--------------|
| Date | Depth (ft) | Notes |
| 03/30/11 | 47.7 | After 24 hr. |
| | | |
| | | |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (RQD %) | Drill Rate minutes/ft | Blows/6" (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|-------------|------------|---|----------------|---------------------|-----------------------|--------------------|--------------------|----------|--------|---------|
| 0.0 - 0.5 | | Asphalt Pavement, 0.0 ft - 0.5 ft | | | | | | | | |
| 0.5 - 1.15 | | Concrete, 0.5 ft - 1.15 ft | | | | | | | | |
| 1.15 - 3.0 | | 3 inch minus rock, 1.65 ft - 3.0 ft | | | | | | | | |
| 3.0 - 10.0 | | A-1-b, SiSaGr, gry, Wet, Rec. = 0.6 ft, Rock Fill was within sample. | | | | 13-11-8-8 (19) | 15.7 | 49.0 | 27.3 | 23.7 |
| 10.0 - 20.0 | | A-1-a, SaGr, gry, Wet, Rec. = 0.5 ft, Rock Fill was within sample. | | | | 1-5-9-22 (14) | 12.0 | 61.1 | 24.5 | 14.4 |
| 20.0 - 30.0 | | A-1-a, SaGr, gry, Wet, Rec. = 0.8 ft, Rock Fill was within sample. | | | | 3-14-18-21 (32) | 8.7 | 59.9 | 25.3 | 14.8 |
| 30.0 - 40.0 | | A-1-a, SaGr, gry, Wet, Rec. = 1.0 ft, Rock Fill was within sample. | | | | 17-23-37-38 (60) | 8.7 | 56.3 | 29.2 | 14.5 |
| 40.0 - 45.0 | | Visual Classification, GrSa (Rock Fill), gry, Wet, Rec. = 0.2 ft, Insufficient sample for testing. No blow counts due to hammer not operating properly. | | | | | 15.7 | | | |
| 45.0 - 50.0 | | A-1-a, SaGr, gry, Wet, Rec. = 0.5 ft, Sample was mostly Rock Fill. | | | | 40-58-R (R) | 8.4 | 64.4 | 21.7 | 13.9 |
| 50.0 - 55.0 | | A-1-b, SiGrSa, brn, Moist, Rec. = 0.8 ft, Chunks of wood were within sample. | | | | 14-42-53-R (R) | 11.4 | 35.0 | 40.9 | 24.1 |
| 55.0 - 60.0 | | A-2-4, SiGrSa, gry, Moist, Rec. = 1.1 ft | | | | 14-25-45-39 (70) | 10.1 | 33.2 | 36.8 | 30.0 |
| 60.0 - 65.0 | | A-1-b, SaGr, gry, Moist, Rec. = 0.8 ft | | | | 25-20-23-36 (43) | 13.7 | 47.8 | 34.7 | 17.5 |
| 65.0 - 70.0 | | A-4, Si, brn, Wet, Rec. = 0.4 ft | | | | 29-59-R (R) | 27.4 | 4.5 | 9.8 | 85.7 |
| 70.0 - 75.0 | | A-4, Si, gry, Wet, Rec. = 1.5 ft | | | | 2-3-4-8 (7) | 31.0 | | 3.5 | 96.5 |
| 75.0 - 80.0 | | A-4, Si, gry, Wet, Rec. = 1.1 ft | | | | 4-20-41-10 (61) | 28.3 | 3.8 | 6.7 | 89.5 |
| 80.0 - 85.0 | | A-4, Si, gry, Wet, Rec. = 1.4 ft, Advanced casing to 70.5 feet. Used the manual hammer for blow counts. Manual hammer correction: 1.15 | | | | 5-4-7-15 (11) | 33.1 | 0.7 | 4.1 | 95.2 |
| 69.7 - 72.7 | | 69.7 ft - 72.7 ft, Light gray, Quartz-sericite-chlorite Phyllitic Schist, Moderately hard, Unweathered, Fair rock, NXMDC | 1 (65) | 67 (0) | 10 (14) | | | | | |
| 72.7 - 77.7 | | 72.7 ft - 77.7 ft, Same as Run #1. Moderately hard, Unweathered, Fair rock, NXMDC, Low RQD value may be due to mechanical breakage during drilling. | 2 (65) | 94 (36) | 20 (15) | | | | | |
| 77.7 - 79.7 | | 77.7 ft - 79.7 ft, Same as Run #1. Moderately hard, Unweathered, Good rock, NXMDC | 3 (65) | 100 (85) | 8 (7) | | | | | |
| 79.7 | | Hole stopped @ 79.7 ft | | | 8 (12) | | | | | |

BORING LOG 2 WATERBURY IM 089-2(43).GPJ VERMONT AOT.GDT 4/13/11

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



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

BORING LOG

WATERBURY
IM 089-2(43)
EXIT #10 NB OFF RAMP-A BR-47

Boring No.: B-108
Page No.: 1 of 1
Pin No.: 10A076
Checked By: CEE

Boring Crew: GARROW, WERNER, PORTER
Date Started: 1/26/11 Date Finished: 4/04/11
VTSPG NAD83: N 671501.77 ft E 1575328.85 ft
Station: 107+82.26 Offset: 11.75
Ground Elevation: 472.03 ft

Casing Type: WB
Sampler: SS
I.D.: 4 in 1.5 in
Hammer Wt: N.A. 140 lb.
Hammer Fall: N.A. 30 in.
Hammer/Rod Type: Manual/AWJ
Rig: SMALL SKID RIG CE =

| Groundwater Observations | | |
|--------------------------|------------|-------|
| Date | Depth (ft) | Notes |
| | | |
| | | |
| | | |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Blows/6" (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|------------|---|--|--------------------|--------------------|----------|--------|---------|
| | | A-1-b, GrSa, brn, Moist, Rec. = 1.0 ft | 15-18-R (R) | 18.4 | 24.7 | 58.9 | 16.4 |
| | | Field Note:, No Recovery | 11-5-4-3 (9) | | | | |
| 5 | | A-1-b, SiSaGr, brn, Wet, Rec. = 0.7 ft | 3-3-4-6 (7) | 14.2 | 48.8 | 28.4 | 22.8 |
| | | Field Note:, No Recovery, No blow counts on field log. | | | | | |
| | | A-4, SaSiGr, brn, Wet, Rec. = 0.9 ft | 5-4-3-2 (7) | 18.3 | 42.3 | 20.6 | 37.1 |
| 10 | | A-1-b, SaGr, gry, Wet, Rec. = 1.1 ft, Sample was mostly Rock Fill. | 6-12-13-7 (25) | 10.3 | 57.3 | 24.5 | 18.2 |
| | | A-1-a, SaGr, gry, Wet, Rec. = 0.3 ft, Rock Fill was within sample. | 5-16-6-6 (22) | 12.2 | 56.5 | 30.6 | 12.9 |
| 15 | | Field Note:, No Recovery | 6-5-4-3 (9) | | | | |
| | | A-1-a, SaGr, gry, Wet, Rec. = 0.7 ft | 5-5-19-27 (24) | 9.1 | 70.7 | 20.6 | 8.7 |
| 20 | Hole stopped @ 18.0 ft | | | | | | |
| 25 | Remarks: 1. Drill Rig would not stay running. Stopped drilling at 18.0 feet. | | | | | | |
| 30 | | | | | | | |
| 35 | | | | | | | |
| 40 | | | | | | | |
| 45 | | | | | | | |

BORING LOG 2 WATERBURY IM 089-2(43).GPJ VERMONT AOT.GDT 4/13/11

Notes:
1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.