



BORING LOG

BRADFORD
BF 0191(29)
VT-25B BR-1

Boring No.: **B-101**
Page No.: **1 of 2**
Pin No.: **13C054**
Checked By: **BLS**

Boring Crew: **DAIGNEAULT, JUDKINS**
Date Started: **7/10/14** Date Finished: **7/14/14**
VTSPG NAD83: **N 542360.40 ft E 1735388.25 ft**
Station: **14+08** Offset: **-5.80**
Ground Elevation: **471.0 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** **C = 1.34**

| Groundwater Observations | | |
|--------------------------|------------|-------|
| Date | Depth (ft) | Notes |
| 07/11/14 | 5.3 | AM |
| 07/14/14 | 4.3 | AM |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (ROD %) | Drift Rate minutes/ft | Blows/6" (N Value) | | | | |
|------------|------------|--|----------------|---------------------|-----------------------|--------------------|----------|--------|---------|------|
| | | | | | | Moisture Content % | Gravel % | Sand % | Fines % | |
| | | A-3, Sa, brn, Moist, Rec. = 0.7 ft | | | | WH-1-2-1 (3) | 16.6 | 1.9 | 88.1 | 10.0 |
| | | A-2-4, GrSa, brn, Moist, Rec. = 1.7 ft, Lab Note: Broken Rock was within sample. | | | | 2-3-5-6 (8) | 13.6 | 22.0 | 65.4 | 12.6 |
| 5 | | Visual Description: Wood with silty sand, Dk/brn, MTW, Rec. = 0.6 ft, Cleaned out with roller cone. | | | | 3-22-5-5 (27) | | 76.7 | | |
| | | A-1-a, SaGr, brn, MTW, Rec. = 0.7 ft, Cleaned out with roller cone. Lab Note: Broken Rock was within sample. | | | | 8-5-6-7 (11) | 11.3 | 60.3 | 32.8 | 6.9 |
| | | A-1-b, GrSa, brn, MTW, Rec. = 0.8 ft, Cleaned out with roller cone. Lab Note: Broken Rock was within sample. | | | | 6-8-6-20 (14) | 18.1 | 30.6 | 53.6 | 15.8 |
| 10 | | A-2-4, GrSa, brn, MTW, Rec. = 0.7 ft, Cleaned out with roller cone. Lab Note: Broken Rock was within sample. | | | | 9-6-5-7 (11) | 20.3 | 28.1 | 55.6 | 16.3 |
| | | A-1-a, SaGr, brn, MTW, Rec. = 0.5 ft, Cleaned out with roller cone. Lab Note: Broken Rock was within sample. | | | | 10-7-25-23 (32) | 11.5 | 58.1 | 32.9 | 9.0 |
| 15 | | Field Note: No Recovery, Cleaned out with roller cone. | | | | 33-10-6-5 (16) | | | | |
| | | A-1-b, GrSa, brn, MTW, Rec. = 0.9 ft, Cleaned out with roller cone. Lab Note: Broken Rock was within sample. | | | | 4-3-8-7 (11) | 16.4 | 24.8 | 67.9 | 7.3 |
| | | A-1-b, SaGr, brn, MTW, Rec. = 0.4 ft, Cleaned out with roller cone. Lab Note: Broken Rock was within sample. | | | | 6-5-5-4 (10) | 13.7 | 47.5 | 37.6 | 14.9 |
| 20 | | A-1-b, SaGr, Dk/brn, Moist, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample. | | | | 13-23-27-24 (50) | 10.4 | 50.9 | 34.3 | 14.8 |
| | | Field Note: NXDC, Cleaned out casing | | | | | | | | |
| 25 | | A-1-b, GrSa, Dk/brn, Moist, Rec. = 0.5 ft, NXDC, Cleaned out casing | | | | 10-6-6-8 (12) | 14.7 | 41.9 | 47.1 | 11.0 |
| | | Field Note: NXDC, Cleaned out casing | | | | | | | | |
| 30 | | A-1-b, GrSa, Dk/brn, MTW, Rec. = 0.4 ft, Lab Note: Broken Rock was within sample. | | | | 9-19-10-5 (29) | 14.5 | 39.5 | 40.8 | 19.7 |
| | | Field Note: NXDC, Cleaned out casing | | | | | | | | |
| 35 | | A-1-b, SaGr, brn, Moist, Rec. = 0.3 ft, Lab Note: Broken Rock was within sample. | | | | 18-21-19-30 (40) | 7.6 | 52.3 | 30.4 | 17.3 |

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



BORING LOG

BRADFORD
BF 0191(29)
VT-25B BR-1

Boring No.: **B-101**
Page No.: **2 of 2**
Pin No.: **13C054**
Checked By: **BLS**

Boring Crew: **DAIGNEAULT, JUDKINS**
Date Started: **7/10/14** Date Finished: **7/14/14**
VTSPG NAD83: **N 542360.40 ft E 1735388.25 ft**
Station: **14+08** Offset: **-5.80**
Ground Elevation: **471.0 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** **C = 1.34**

| Groundwater Observations | | |
|--------------------------|------------|-------|
| Date | Depth (ft) | Notes |
| 07/11/14 | 5.3 | AM |
| 07/14/14 | 4.3 | AM |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (ROD %) | Drift Rate minutes/ft | Blows/6" (N Value) | | | | | |
|------------|------------|---|----------------|---------------------|-----------------------|--------------------|----------|--------|---------|------|------|
| | | | | | | Moisture Content % | Gravel % | Sand % | Fines % | | |
| | | Field Note: NXDC, Cleaned out casing | | | | | | | | | |
| | | A-1-b, GrSa, brn, Moist, Rec. = 0.6 ft | | | | 14-22-11-18 (33) | | 11.8 | 28.7 | 53.8 | 17.5 |
| 45 | | Field Note: NXDC, Cleaned out casing | | | | | | | | | |
| | | Lab Note, Sample was mostly Broken Rock, brn-gry, Moist, Rec. = 0.2 ft | | | | 25-R@2.5" (R) | | 10.7 | 51.6 | 29.2 | 19.2 |
| | | Field Note: NXDC, Cleaned out casing | | | | | | | | | |
| 50 | | A-1-b, GrSa, Lt/brn, MTW, Rec. = 0.6 ft, Lab Note: Broken Rock was within sample. | | | | 20-28-18-9 (46) | | 10.8 | 38.2 | 46.7 | 15.1 |
| | | Field Note: NXDC, Cleaned out casing | | | | | | | | | |
| 55 | | A-1-b, SiGrSa, brn, Moist, Rec. = 0.6 ft, Lab Note: Broken Rock was within sample. | | | | 11-10-13-11 (23) | | 12.7 | 36.0 | 43.0 | 21.0 |
| | | Field Note: NXDC, Cleaned out casing | | | | | | | | | |
| 60 | | Field Note: NXDC, Cleaned out casing | | | | | | | | | |
| | | A-2-4, SiGrSa, gry, Moist, Rec. = 0.4 ft | | | | | | | | | |
| | | 60.7 ft - 65.7 ft, Gray to light gray, Micaceous quartzite with thin dark-gray Graphitic Phyllite, fine-grained. Hard, Unweathered, Fair rock, NXMDC, RMR=52 | 1 (45) | 100 (48) | 11 (8) | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 65 | | 65.7 ft - 70.7 ft, Gray to light gray, Micaceous quartzite with thin dark-gray Granite, fine-grained. Hard, Unweathered, Good rock, NXMDC, RMR=61 | 2 (45) | 100 (88) | 3 (3) | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 70 | | Hole stopped @ 70.7 ft | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 75 | | Remarks: 1. Hole was drilled through Bridge Deck. 2. Top of Bridge Deck was 10.0 feet above ground surface. 3. Bridge Deck Asphalt depth was at 0.0-0.27 ft. 4. Bridge Deck Concrete depth was at 0.27-0.87 ft. 5. Soil sample depths were taken from ground surface. 6. Hole collapsed at 16.2 ft. | | | | | | | | | |

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

BORING LOG 2 BRADFORD BF 0191(29).GP1 VERMONT AOT.GDT 8/6/14

BORING LOG 2 BRADFORD BF 0191(29).GP1 VERMONT AOT.GDT 8/6/14



BORING LOG

BRADFORD
BF 0191(29)
VT-25B BR-1

Boring No.: **B-102**
Page No.: 1 of 2
Pln No.: 13C054
Checked By: BLS

Boring Crew: DAIGNEAULT, GARROW, NIETO
Date Started: 6/30/14 Date Finished: 7/02/14
VTSFG NAD83: N 542336.83 ft E 1735402.24 ft
Station: 14+13 Offset: 20.90
Ground Elevation: 472.6 ft

Casing Sampler
Type: WB 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 55 TRACK C = 1.46

| Groundwater Observations | | |
|--------------------------|------------|-------|
| Date | Depth (ft) | Notes |
| 07/02/14 | 7.4 | AM |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (RCD %) | Drill Rate minutes/ft | Blows/ft (N Value) | Moisture Content % | Gravel % | Sand % | Fines % | |
|------------|------------|--|----------------|---------------------|-----------------------|--------------------|--------------------|----------|--------|---------|------|
| | | | | | | | | | | | |
| 5 | | A-3, Sa with sticks, brn, Moist, Rec. = 0.5 ft | | | | WH-WH-1-4 (1) | 9.9 | 6.3 | 83.7 | 10.0 | |
| | | Field Note: No Recovery | | | | 2-2-2-2 (4) | | | | | |
| 10 | | A-2-4, Sa, brn, Moist, Rec. = 0.3 ft | | | | 3-2-2-2 (4) | 10.8 | 1.5 | 82.8 | 15.7 | |
| | | A-2-4, GrSa, brn, Moist, Rec. = 0.5 ft | | | | 6-5-2-5 (7) | 7.6 | 27.0 | 62.4 | 10.6 | |
| | | A-4, GrSaSi, gry, MTW, Rec. = 0.4 ft | | | | 7-13-19-16 (32) | 30.0 | 21.0 | 26.8 | 52.2 | |
| | | A-1-b, SaGr, gry, Wet, Rec. = 1.2 ft, Lab Note: Broken Rock was within sample. | | | | 10-6-8-33 (14) | 14.0 | 46.1 | 44.8 | 9.1 | |
| 15 | | A-1-a, SaGr, brn-gry, Wet, Rec. = 1.1 ft, NXDC, Cleaned out casing. Lab Note: Broken Rock was within sample. | | | | R@1.0" (R) | 13.6 | 50.1 | 42.0 | 7.9 | |
| | | Field Note: No Recovery | | | | | | | | | |
| | | Field Note: NXDC, Cleaned out casing., Appears to be Gravel. | | | | | | | | | |
| | | A-1-a, SaGr, gry, Wet, Rec. = 0.4 ft, NXDC, Cleaned out casing. Lab Note: Broken Rock was within sample. | | | | | 15-7-28-26 (35) | 11.1 | 55.8 | 34.4 | 9.8 |
| | | A-1-a, SaGr, brn, Wet, Rec. = 0.5 ft, NXDC, Cleaned out casing. Lab Note: Broken Rock was within sample. | | | | | 28-20-11-5 (31) | 11.9 | 55.3 | 36.0 | 8.7 |
| | | A-1-b, GrSa, brn, Wet, Rec. = 0.4 ft, NXDC, Cleaned out casing. Lab Note: Broken Rock was within sample. | | | | | 4-3-5-7 (8) | 13.8 | 45.4 | 46.5 | 8.1 |
| 20 | | A-1-b, GrSa, brn, Wet, Rec. = 0.6 ft | | | | 7-5-5-5 (10) | 12.7 | 41.0 | 46.5 | 12.5 | |
| | | Field Note: NXDC, Cleaned out casing., Appears to be Cobbles. | | | | | | | | | |
| 25 | | A-1-a, SaGr, brn, MTW, Rec. = 0.4 ft | | | | 6-3-4-4 (7) | 12.9 | 50.4 | 37.5 | 12.1 | |
| | | Field Note: NXDC, Cleaned out casing., Appears to be Cobbles. | | | | | | | | | |
| 30 | | Field Note: NXDC, Cleaned out casing., Appears to be Cobbles. | | | | | | | | | |
| | | A-1-b, GrSa, brn, MTW, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample. | | | | | 7-7-8-18 (15) | 14.1 | 32.4 | 52.0 | 15.6 |
| | | Field Note: NXDC, Cleaned out casing., Appears to be Gravel & Cobbles. | | | | | | | | | |
| | | Field Note: No Recovery | | | | | | | | | |
| 35 | | Field Note: NXDC, Cleaned out casing., Appears to be Gravel & Cobbles. | | | | | | | | | |
| | | Field Note: No Recovery | | | | | | | | | |
| 75 | | Field Note: NXDC, Cleaned out casing., Appears to be Gravel & Cobbles. | | | | 11-12-13-9 (25) | | | | | |
| | | | | | | | | | | | |

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
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3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.



BORING LOG

BRADFORD
BF 0191(29)
VT-25B BR-1

Boring No.: **B-102**
Page No.: 2 of 2
Pln No.: 13C054
Checked By: BLS

Boring Crew: DAIGNEAULT, GARROW, NIETO
Date Started: 6/30/14 Date Finished: 7/02/14
VTSFG NAD83: N 542336.83 ft E 1735402.24 ft
Station: 14+13 Offset: 20.90
Ground Elevation: 472.6 ft

Casing Sampler
Type: WB 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 55 TRACK C = 1.46

| Groundwater Observations | | |
|--------------------------|------------|-------|
| Date | Depth (ft) | Notes |
| 07/02/14 | 7.4 | AM |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (RCD %) | Drill Rate minutes/ft | Blows/ft (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|------------|------------|--|----------------|---------------------|-----------------------|--------------------|--------------------|----------|--------|---------|
| | | | | | | | | | | |
| 45 | | A-1-a, SaGr, brn-white, Moist, Rec. = 0.4 ft, Lab Note: Broken Rock was within sample. | | | | 8-8-14-40 (22) | 10.0 | 64.9 | 29.5 | 5.6 |
| | | Field Note: NXDC, Cleaned out casing., Appears to be a Boulder. | | | | | | | | |
| 50 | | A-1-b, SaGr, gry-brn, Molst, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample. | | | | 16-22-26-16 (48) | 9.5 | 50.4 | 36.2 | 13.4 |
| | | Field Note: NXDC, Cleaned out casing., Appears to be Cobbles. | | | | | | | | |
| 55 | | A-1-a, SaGr, brn, Moist, Rec. = 0.6 ft, Lab Note: Broken Rock was within sample. | | | | 18-30-17-37 (47) | 9.9 | 52.4 | 37.0 | 10.6 |
| | | Field Note: NXDC, Cleaned out casing., Appears to be Silty Sand. | | | | | | | | |
| 60 | | A-1-b, SaGr, brn, Moist, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample. | | | | 8-16-12-12 (28) | 10.3 | 53.3 | 32.7 | 14.0 |
| | | Field Note: NXDC, Cleaned out casing. | | | | | | | | |
| 65 | | A-1-b, SaGr, brn, Moist, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample. | | | | 16-20-30-21 (50) | 10.3 | 51.1 | 34.3 | 14.6 |
| | | Field Note: NXDC, Cleaned out casing., Appears to be a Boulder with Cobbles. | | | | | | | | |
| 70 | | 63.5 ft - 68.5 ft, Gray to light gray, Micaceous quartzite with thin dark-gray Graphitic Phyllite, fine-grained. Hard, Unweathered, Good rock, NXMDC, RMR=61 | 1 (45) | 98 (84) | 6 | | | | | |
| | | | | | 4 | | | | | |
| | | | | | 4 | | | | | |
| | | | | | 4 | | | | | |
| 75 | | 68.5 ft - 73.5 ft, Gray to light gray, Micaceous quartzite with thin dark-gray Graphitic Phyllite, fine-grained. Hard, Unweathered, Fair rock, NXMDC, RMR=57 | 2 (45) | 96 (66) | 3 | | | | | |
| | | | | | 3 | | | | | |
| | | | | | 3 | | | | | |
| | | | | | 3 | | | | | |
| 75 | | Hole stopped @ 73.5 ft | | | | | | | | |

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

BORING LOG 2 BRADFORD BF 0191(29) GPJ VERMONT AOT.GDT 8/6/14

BORING LOG 2 BRADFORD BF 0191(29) GPJ VERMONT AOT.GDT 8/6/14



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

BORING LOG

BRADFORD
BF 0191(29)
VT-25B BR-1

Boring No.: B-103

Page No.: 1 of 1

Pin No.: 13C054

Checked By: BLS

Boring Crew: GARROW, JUDKINS
Date Started: 6/19/14 Date Finished: 6/19/14
VTSPG NAD83: N 542417.70 ft E 1735506.47 ft
Station: 15+39 Offset: -20.10
Ground Elevation: 480.3 ft

Type: WB 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 55 TRACK C_c = 1.46

Groundwater Observations

| Date | Depth (ft) | Notes |
|----------|------------|------------------|
| 06/20/14 | 13.1 | AM, with casing. |
| | | |
| | | |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (RCD %) | Drill Rate minutes/ft | Blows/6" (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|------------|------------|--|----------------|---------------------|-----------------------|--------------------------|--------------------|----------|--------|---------|
| 5 | | A-1-b, GrSa, brn, Moist, Rec. = 1.0 ft, NXDC, Cobbles 1.3-2.0 ft. Lab Note: Broken Rock was witin sample. | | | | 1-5-12-6 (17) | 5.4 | 42.9 | 45.7 | 11.4 |
| | | A-1-b, GrSa, brn, Moist, Rec. = 1.0 ft, NXDC, Cleaned out casing. Lab Note: Broken Rock was within sample. | | | | 6-9-14-8 (23) | 13.6 | 38.7 | 49.3 | 12.0 |
| | | A-1-b, GrSa, brn, Moist, Rec. = 0.4 ft, NXDC, Cleaned out casing. Lab Note: Broken Rock was within sample. | | | | 5-5-12-8 (17) | 11.9 | 41.3 | 49.0 | 9.7 |
| | | Visual Description:, GrSa, brn, Moist, Rec. = 0.1 ft, NXDC, Cleaned out casing. Insufficient sample for testing. | | | | 6-9-14-5 (23) | 12.1 | | | |
| 10 | | A-2-4, SiSa, brn, Moist, Rec. = 1.0 ft, Cleaned out casing. | | | | 3-3-2-3 (5) | 24.4 | 8.3 | 62.8 | 28.9 |
| | | A-4, SiSa, brn, MTW, Rec. = 0.7 ft | | | | 3-1-2-2 (3) | 23.4 | 3.1 | 58.5 | 38.4 |
| 15 | | A-4, SiSa, brn, MTW, Rec. = 1.2 ft | | | | 3-2-2-4 (4) | 25.5 | 1.4 | 59.0 | 39.6 |
| | | A-2-4, Sa, brn, Moist, Rec. = 0.7 ft | | | | 7-14-20-30 (34) | 19.9 | 11.4 | 75.1 | 13.5 |
| | | A-1-b, GrSa, brn-orange, Moist, Rec. = 0.9 ft, Lab Note: Broken Rock was within sample. | | | | 26-29-22-18 (51) | 10.3 | 44.8 | 45.6 | 9.6 |
| 20 | | A-1-b, SaGr, gry, Moist, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample. | | | | 15-14-11-4 (25) | 9.9 | 45.6 | 42.3 | 12.1 |
| | | A-1-a, SaGr, yel-brn, Moist, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample. | | | | | 10.6 | 64.9 | 29.7 | 5.4 |
| | | Field Note:, No Recovery | | | | | | | | |
| 25 | | | | | | 3-2-2-3 (4) | | | | |
| | | A-2-4, GrSa, gry, Moist, Rec. = 0.6 ft, Lab Note: Broken Rock was within sample. | | | | 1-1-1-R@5.0" (2) | 15.0 | 37.9 | 42.9 | 19.2 |
| 30 | | 28.3 ft - 33.3 ft. Gray, Micaceous quartzite with thin dark-gray Graphitic Phyllite, fine-grained. Hard, Unweathered, Fair rock, NXMDC, RMR=53 | 1 (45) | 90 (78) | 4 | Top of Bedrock @ 28.3 ft | | | | |
| | | | | | 3 | | | | | |
| | | | | | 4 | | | | | |
| | | | | | 4 | | | | | |
| 35 | | 33.3 ft - 38.3 ft. Gray, Micaceous quartzite with thin dark-gray Graphitic Phyllite, fine-grained. Hard, Unweathered, Fair rock, NXMDC, RMR=53 | 2 (45) | 100 (88) | 3 | | | | | |
| | | | | | 3 | | | | | |
| | | | | | 3 | | | | | |
| | | | | | 3 | | | | | |
| 40 | | Hole stopped @ 38.3 ft | | | | | | | | |
| | | Remarks: Hole collapsed at 18.7 ft. | | | | | | | | |

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

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BF 0191(29)
VT-25B BR-1

Boring No.: **B-104**
Page No.: 1 of 2
Pin No.: 13C054
Checked By: BLS

| | | | | | | |
|--|---------------------------|--------------------|--------------------------|------------|-------|--|
| Boring Crew: JUDKINS, HOOK, STRINGER | Type: WB | Casing Sampler: SS | Groundwater Observations | | | |
| Date Started: 6/20/14 Date Finished: 6/30/14 | I.D.: 4 in | SS: 1.5 in | Date | Depth (ft) | Notes | |
| VTSPG NAD83: N 542391.36 ft E 1735533.85 ft | Hammer Wt: N.A. | 140 lb. | 06/24/14 | 14.6 | AM | |
| Station: 15+55 Offset: 14.50 | Hammer Fall: N.A. | 30 in. | 06/26/14 | 12.8 | AM | |
| Ground Elevation: 480.0 ft | Hammer/Rod Type: Auto/AWJ | | 06/30/14 | 14.2 | AM | |
| | Rig: CME 55 TRACK | C = 1.46 | | | | |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (ROD %) | Drill Rate min/ft | Blows/ft (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|------------|------------|--|----------------|---------------------|-------------------|----------------------|--------------------|----------|--------|---------|
| 5 | | A-1-b, Sa, brn, Moist, Rec. = 0.7 ft | | | | WH-1-1-2 (2) | 8.5 | 17.6 | 70.4 | 12.0 |
| | | A-1-b, GrSa, brn, Moist, Rec. = 0.6 ft | | | | 1-1-1 (2) | 10.3 | 24.5 | 63.6 | 11.9 |
| | | A-1-b, GrSa, Lt/brn, Moist, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample. | | | | 2-1-2-2 (3) | 7.2 | 35.3 | 58.0 | 6.7 |
| | | A-1-b, GrSa, Lt/brn, Moist, Rec. = 0.7 ft, Lab Note: Broken Rock was within sample. | | | | 2-2-4-5 (6) | 6.2 | 37.3 | 56.7 | 6.0 |
| | | Visual Description: GrSa, brn, Moist, Rec. = 0.2 ft, Lab Note: Material similar as 6-8 ft. | | | | 6-3-4-4 (7) | | | | |
| | | Field Note: No Recovery, Appears to be tree root, Cleaned out with Roller cone. | | | | 4-4-3-3 (7) | | | | |
| | | A-2-4, SiSa, Lt/brn, MTW, Rec. = 0.1 ft | | | | 4-2-2-2 (4) | 23.2 | 3.2 | 70.2 | 26.6 |
| | | A-2-4, GrSa, Lt/brn, Moist, Rec. = 1.2 ft, Cleaned out with NXDC. Lab Note: Broken Rock was within sample. | | | | 3-13-26-27 (39) | 13.8 | 26.7 | 54.0 | 19.3 |
| | | A-1-b, GrSa, brn-white, Moist, Rec. = 0.7 ft, Cleaned out with NXDC. Lab Note: Broken Rock was within sample. | | | | 30-26-24-R@1.0" (50) | 10.9 | 42.9 | 44.3 | 12.8 |
| | | A-1-a, SaGr, brn, Moist, Rec. = 0.7 ft, Cleaned out with NXDC. Lab Note: Broken Rock was within sample. | | | | 15-17-12-14 (29) | 11.8 | 63.0 | 29.2 | 7.8 |
| | | Lab Note: Sample was mostly Broken Rock, brn-yellow, Moist, Rec. = 0.5 ft, Cleaned out with NXDC. Lab Note: Broken Rock was within sample. | | | | 9-5-4-3 (9) | 8.3 | 82.3 | 14.8 | 2.9 |
| | | Field Note: Cleaned out with NXDC | | | | | | | | |
| | | Field Note: No Recovery, Rock in sampler. | | | | 6-5-8-4 (13) | | | | |
| | | Field Note: No Recovery | | | | | | | | |
| | | Field Note: No Recovery | | | | 2-3-2-4 (5) | | | | |
| | | A-2-4, Sa, brn, Moist, Rec. = 1.1 ft, Lab Note: Broken Rock was within sample. | | | | 2-2-3-4 (5) | 20.1 | 18.8 | 64.8 | 16.4 |
| | | Field Note: Cleaned out with NXDC | | | | | | | | |
| | | A-4, SiSa, brn, Moist, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample. | | | | 11-7-7-11 (14) | 18.5 | 17.8 | 43.1 | 39.1 |
| | | Field Note: Cleaned out with NXDC | | | | | | | | |
| | | A-2-4, GrSa, brn-orange, Moist, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample. | | | | 24-20-20-29 | 14.7 | 21.6 | 63.0 | 15.4 |

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



BORING LOG

BRADFORD
BF 0191(29)
VT-25B BR-1

Boring No.: **B-104**
Page No.: 2 of 2
Pin No.: 13C054
Checked By: BLS

| | | | | | | |
|--|---------------------------|--------------------|--------------------------|------------|-------|--|
| Boring Crew: JUDKINS, HOOK, STRINGER | Type: WB | Casing Sampler: SS | Groundwater Observations | | | |
| Date Started: 6/20/14 Date Finished: 6/30/14 | I.D.: 4 in | SS: 1.5 in | Date | Depth (ft) | Notes | |
| VTSPG NAD83: N 542391.36 ft E 1735533.85 ft | Hammer Wt: N.A. | 140 lb. | 06/24/14 | 14.6 | AM | |
| Station: 15+55 Offset: 14.50 | Hammer Fall: N.A. | 30 in. | 06/26/14 | 12.8 | AM | |
| Ground Elevation: 480.0 ft | Hammer/Rod Type: Auto/AWJ | | 06/30/14 | 14.2 | AM | |
| | Rig: CME 55 TRACK | C = 1.46 | | | | |

| Depth (ft) | Strata (1) | CLASSIFICATION OF MATERIALS (Description) | Run (Dip deg.) | Core Rec. % (ROD %) | Drill Rate min/ft | Blows/ft (N Value) | Moisture Content % | Gravel % | Sand % | Fines % |
|------------|------------|--|----------------|---------------------|-------------------|--------------------|--------------------|----------|--------|--------------------------|
| 50 | | Field Note: Cleaned out with NXDC A-2-4, GrSa, gry, Moist, Rec. = 1.5 ft | | | | (40) | | | | |
| | | Field Note: Cleaned out with NXDC | | | | 18-18-28-40 (46) | 12.4 | 31.7 | 50.3 | 18.0 |
| | | Field Note: Cleaned out with NXDC | | | | | | | | |
| | | A-1-b, GrSa, gry-brn, MTW, Rec. = 1.0 ft, Lab Note: Broken Rock was within sample. | | | | 30-17-10-12 (27) | 15.4 | 37.8 | 49.8 | 12.4 |
| | | Field Note: Cleaned out with NXDC | | | | | | | | |
| | | A-1-a, SaGr, brn, Moist, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample. | | | | 6-4-5-4 (9) | 10.0 | 62.1 | 27.7 | 10.2 |
| | | Field Note: Cleaned out with NXDC | | | | | | | | |
| | | A-1-b, SaGr, brn, Moist, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample. | | | | 30-32-15-12 (47) | 12.6 | 43.1 | 42.9 | 14.0 |
| | | Field Note: NXDC, Cobbles, Pulled casing and changed bit. | | | | | | | | |
| | | Field Note: Cleaned out with NXDC | | | | | | | | |
| | | Field Note: No Recovery | | | | | | | | |
| | | Field Note: NXDC, Cobbles | | | | R@2.5" (R) | | | | |
| | | 77.9 ft - 80.9 ft, Gray, Micaceous quartzite with thin dark-gray Graphitic Phyllite, fine-grained and gray to light-gray. Hard, Unweathered, Poor rock, NXMDC, RMR=39. Poor RQD may be due to mechanical breakage. | 1 (20) | 73 (0) | 3 | | | | | Top of Bedrock @ 77.9 ft |
| | | 80.9 ft - 85.9 ft, Gray, Micaceous quartzite with thin dark-gray Graphitic Phyllite, fine-grained and gray to light-gray. Hard, Unweathered, Poor rock, NXMDC, RMR=39. Poor RQD may be due to mechanical breakage. | 2 (20) | 66 (0) | 5 | | | | | |
| | | 85.9 ft - 90.9 ft, Gray, Micaceous quartzite with thin dark-gray Graphitic Phyllite, fine-grained and gray to light-gray. Hard, Unweathered, Poor rock, NXMDC, RMR=39. Poor RQD may be due to mechanical breakage. | 3 (20) | 88 (0.5) | 3 | | | | | |
| | | Hole stopped @ 90.9 ft | | | | | | | | |

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

BORING LOG 2 BRADFORD BF 0191(29) GPS VERMONT AOT.GDT 8/6/14

BORING LOG 2 BRADFORD BF 0191(29) GPS VERMONT AOT.GDT 8/6/14