



STATE OF VERMONT
 AGENCY OF TRANSPORTATION
 CONSTRUCTION AND
 MATERIALS BUREAU
 CENTRAL LABORATORY

BORING LOG

South Burlington-Williston
 NH 2944(1)
 US2 Mast Arms

Boring No.: B-101

Page No.: 1 of 1

Pin No.: 11d340

Checked By: MLM

Boring Crew: Whitlock, Garrow, Mazzei
 Date Started: 6/26/17 Date Finished: 6/27/17
 VTSPG NAD83: N 712249.38 ft E 1479268.79 ft
 Station: 55+41.8 Offset: -41.70
 Ground Elevation: 341.7 ft

Type: _____ Casing H.S.A. Sampler SS
 I.D.: 3 in 1.5 in
 Hammer Wt: N.A. 140 lb.
 Hammer Fall: N.A. 30 in.
 Hammer/Rod Type: Auto/AWJ
 Rig: Diedrich D25 CE = Unknown

Groundwater Observations

Date	Depth (ft)	Notes
06/27/17	5.5	Water Table

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
5		A-2-4, SiSa, brn, Moist, Rec. = 1.2 ft, Lab Note: A lot of plant roots were within sample	1-1-2-3 (3)	19.8	5.9	69.6	24.5		
		A-2-4, SiSa, brn, Moist, Rec. = 1.1 ft	3-1-1-1 (2)	19.1	14.5	61.5	24.0		
		A-1-a, SaGr, brn, Moist, Rec. = 0.45 ft	2-1-1-2 (2)	13.2	64.8	28.2	7.0		
10		A-2-4, GrSa, brn, Wet, Rec. = 1.8 ft, Lab Note: Broken rock was within sample	4-1-2-1 (3)	32.7	24.7	60.2	15.1		
		Field Note:, No Recovery	2-2-1-1 (3)						
15		A-2-4, SiSa, brn, Wet, Rec. = 1.35 ft, Lab Note: Pieces of broken pipe, red vinyl tape, wire sheathing, and some organics were within sample	2-6-4-6 (10)	49.8	6.1	59.1	34.8		
		Field Note:, Encountered flowing sand							
20		A-2-4, Sa, brn, Wet, Rec. = 1.8 ft	6-6-6-3 (12)	24.1		82.8	17.2		
		A-6, SiCl, brn, Wet, Rec. = 2.0 ft	WH (WH)	37.3	0.3	6.6	93.1	35	15
Hole stopped @ 27.0 ft									
30	Remarks: Hole collapsed at 8.0 feet.								
	1. Cleaned sand out of auger 10 feet to 20 feet.								

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
 <<SUB>><<SUB>> 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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BORING LOG

**South Burlington-Williston
 NH 2944(1)
 US2 Mast Arms**

Boring No.: **B-102**
 Page No.: 1 of 1
 Pin No.: 11d340
 Checked By: **MLM**

Boring Crew: Emerson, Garrow, Mazzei
 Date Started: 6/28/17 Date Finished: 6/28/17
 VTSPG NAD83: N 712173.56 ft E 1479253.85 ft
 Station: 55+70.0 Offset: 29.10
 Ground Elevation: 341.1 ft

Type: _____
 I.D.: 3 in
 Hammer Wt: N.A.
 Hammer Fall: N.A.
 Hammer/Rod Type: Auto/AWJ
 Rig: Diedrich D25 CE = Unknown

Casing H.S.A. Sampler SS
1.5 in
140 lb.
30 in.

Groundwater Observations

Date	Depth (ft)	Notes
06/28/17	4.0	Water Table

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		A-4, SiSa, brn, Moist, Rec. = 0.8 ft	2-1-3-4 (4)	18.4	11.6	49.2	39.2		
		A-1-b, SaGr, brn, Moist, Rec. = 0.3 ft	3-1-2-1 (3)	8.9	57.7	31.7	10.6		
5		A-2-4, SiSa, brn, Moist, Rec. = 1.5 ft	WH-2-2 (2)	28.3	3.3	68.8	27.9		
		A-2-4, Sa, brn, Wet, Rec. = 2.0 ft	WH-1-1 (1)	28.2	9.4	71.6	19.0		
		A-2-4, Sa, brn, Wet, Rec. = 0.3 ft	WH-1-1-1 (2)	35.3	6.7	75.9	17.4		
10		Field Note:, No Recovery	WH (WH)						
15		A-2-4, Sa, brn, Wet, Rec. = 2.0 ft, Lab Note: A small amount of plant material was within sample	2-1-1-2 (2)	27.4	4.0	80.0	16.0		
		Field Note:, BXDC, Cleaned out casing							
20		A-3, Sa, gry, Wet, Rec. = 1.8 ft	2-5-4-2 (9)	23.8	2.0	88.0	10.0		
25		A-6, SiCl, gry, Wet, Rec. = 2.0 ft	WH-2-2 (2)	43.3	0.7	37.4	61.9	30	14
		Hole stopped @ 27.0 ft							
30		Remarks: Hole collapsed at 5.8 feet.							

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
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BORING LOG

**South Burlington-Williston
 NH 2944(1)
 US2 Mast Arms**

Boring No.: B-103
 Page No.: 1 of 1
 Pin No.: 11d340
 Checked By: MLM

Boring Crew: Emerson, Garrow, Mazzei
 Date Started: 6/27/17 Date Finished: 6/28/17
 VTSPG NAD83: N 712199.04 ft E 1479158.83 ft
 Station: 54+75 Offset: 69.90
 Ground Elevation: 341.7 ft

Type: H.S.A. SS
 I.D.: 3 in 1.5 in
 Hammer Wt: N.A. 140 lb.
 Hammer Fall: N.A. 30 in.
 Hammer/Rod Type: Auto/AWJ
 Rig: Diedrich D25 CE = Unknown

Groundwater Observations

Date	Depth (ft)	Notes
06/28/17	3.4	Water Table

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-2-4, SiGrSa, brn, Moist, Rec. = 0.95 ft	2-2-4-6 (6)	14.1	24.6	51.5	23.9
		A-2-4, SiSa, brn, Moist, Rec. = 1.1 ft	5-6-5-3 (11)	17.4	18.7	60.9	20.4
		A-2-4, Sa, brn, Moist, Rec. = 1.8 ft	3-6-7-8 (13)	21.2	7.9	73.6	18.5
		A-2-4, Sa, brn, Moist, Rec. = 2.0 ft	5-6-6-8 (12)	19.5	1.2	87.7	11.1
10		A-2-4, SiSa, brn, Moist, Rec. = 2.0 ft Field Note:, BXDC, Cleaned out casing, flowing sand	3-5-7-7 (12)	20.7	1.9	76.2	21.9
		A-3, Sa, brn, Wet, Rec. = 0.95 ft Field Note:, BXDC, Cleaned out casing, flowing sand	3-4-4-5 (8)	22.6	3.7	89.6	6.7
15		A-2-4, Sa, brn, Wet, Rec. = 1.5 ft	5-4-4-5 (8)	25.9	3.1	77.1	19.8
		Field Note:, BXDC, Cleaned out casing, flowing sand					
		A-2-4, SiSa, brn, Wet, Rec. = 1.4 ft Field Note:, BXDC, Cleaned out casing, flowing sand	1-2-2-1 (4)	26.7	0.2	76.2	23.6
25		A-3, Sa, brn, Wet, Rec. = 1.1 ft	4-3-2-4 (5)	23.7		95.5	4.5
Hole stopped @ 27.0 ft							
30		Remarks: Hole collapsed at 5.8 feet.					

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 2 SOUTH BURLINGTON-WILLISTON NH 2944(1) US2 3 VERMONT AGENCY OF TRANSPORTATION



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BORING LOG

South Burlington-Williston
 NH 2944(1)
 US2 Mast Arms

Boring No.: B-104
 Page No.: 1 of 1
 Pin No.: 11d340
 Checked By: MLM

Boring Crew: Garrow, Mazzei
 Date Started: 6/27/17 Date Finished: 6/27/17
 VTSPG NAD83: N 712292.82 ft E 1479191.90 ft
 Station: 54+54 Offset: -27.90
 Ground Elevation: 342.2 ft

Type: H.S.A. SS
 I.D.: 3 in 1.5 in
 Hammer Wt: N.A. 140 lb.
 Hammer Fall: N.A. 30 in.
 Hammer/Rod Type: Auto/AWJ
 Rig: Diedrich D25 CE = Unknown

Groundwater Observations

Date	Depth (ft)	Notes
06/27/17	5.0	Water Table

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-2-4, SiSa, brn, Moist, Rec. = 0.8 ft	2-2-3-6 (5)	13.5	15.3	61.0	23.7
		A-4, SiSa, brn, Moist, Rec. = 1.6 ft	5-6-5-7 (11)	20.0	3.3	50.6	46.1
		A-4, SiSa, brn, Wet, Rec. = 0.8 ft	6-7-7-7 (14)	23.8	2.5	61.7	35.8
10		A-2-4, Sa, brn, Moist, Rec. = 2.0 ft	5-6-7-6 (13)	20.5	1.3	81.3	17.4
		A-3, Sa, brn, Wet, Rec. = 1.7 ft	6-2-2-4 (4)	21.4	2.2	89.7	8.1
		A-3, Sa, brn, Wet, Rec. = 1.3 ft	8-10-5-4 (15)	21.8	2.2	92.1	5.7
15		A-2-4, Sa, brn, Wet, Rec. = 1.4 ft	2-2-5-6 (7)	24.7	2.7	79.1	18.2
		Field Note:, Encountered Flowing Sand at 15.0 feet					
		A-4, SiSa, brn, Wet, Rec. = 2.0 ft	4-9-3-3 (12)	23.9	0.7	60.9	38.4
20		Field Note:, Cleaned out auger, sand					
		A-2-4, Sa, brn, Wet, Rec. = 0.7 ft	4-2-2-1 (4)	26.4	0.6	83.6	15.8
		Field Note:, Cleaned out auger, sand					
25		A-2-4, SiSa, gry, Wet, Rec. = 1.0 ft	8-5-3-3 (8)	22.4	0.1	72.5	27.4
Hole stopped @ 27.0 ft							
30		Remarks: Hole collapsed at 6.7 feet.					

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BORING LOG 2 SOUTH BURLINGTON-WILLISTON NH2944(1).JGPJ VERMONT AOT.GDI 7/27/17



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BORING LOG

South Burlington-Williston
 NH 2944(1)
 US2 Mast Arms

Boring No.: B-105
 Page No.: 1 of 1
 Pin No.: 11d340
 Checked By: MLM

Boring Crew: Emerson, Garrow, Mazzei
 Date Started: 6/29/17 Date Finished: 6/30/17
 VTSPG NAD83: N 713216.96 ft E 1477723.97 ft
 Station: 37+26 Offset: -46.30
 Ground Elevation: 342.9 ft

Type: _____
 I.D.: _____
 Hammer Wt: _____
 Hammer Fall: _____
 Hammer/Rod Type: _____
 Rig: _____

Casing H.S.A. Sampler SS
3 in 1.5 in
N.A. 140 lb.
N.A. 30 in.
Auto/AWJ
Diedrich D25 CE = Unknown

Groundwater Observations

Date	Depth (ft)	Notes
06/29/17		No W.T. observed

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-2-4, Sa, brn, Moist, Rec. = 1.4 ft	WH-1-2-1 (3)	9.4	5.0	77.0	18.0
		A-2-4, Sa, brn, Moist, Rec. = 1.3 ft	1-1-1-1 (2)	9.0	3.9	80.8	15.3
		A-2-4, Sa, brn, Moist, Rec. = 1.7 ft, Lab Note: Plant roots were within sample	1-1-2-3 (3)	9.8	3.0	80.0	17.0
10		A-3, Sa, brn, Moist, Rec. = 1.9 ft	3-3-2-3 (5)	11.5	5.8	85.7	8.5
		A-3, Sa, brn, Moist, Rec. = 1.4 ft	4-4-8-6 (12)	21.6	1.7	92.1	6.2
		A-3, Sa, brn, Wet, Rec. = 2.0 ft	2-3-6-8 (9)	21.0	2.9	88.3	8.8
15		A-2-4, Sa, brn, Wet, Rec. = 1.8 ft	8-3-3-4 (6)	23.2	3.5	82.6	13.9
		Field Note:, NXDC, cleaned out casing, Flowing Sand					
20		A-3, Sa, brn, Wet, Rec. = 1.4 ft	3-1-2-3 (3)	24.8	0.5	91.4	8.1
		Field Note:, NXDC, cleaned out casing, Flowing Sand					
25		A-3, Sa, brn, Wet, Rec. = 1.1 ft	4-3-2-2 (5)	27.6		92.6	7.4
Hole stopped @ 27.0 ft							
30		Remarks: Hole collapsed at 8.4 feet.					

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BORING LOG - SOUTH BURLINGTON-WILLISTON NH 2944 (1) - GPO VERMONT AOT.GDT 7/12/17



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BORING LOG

South Burlington-Williston
 NH 2944(1)
 US2 Mast Arms

Boring No.: **B-106**

Page No.: 1 of 1

Pin No.: 11d340

Checked By: MLM

Boring Crew: Emerson, Garrow, Mazzei
 Date Started: 6/29/17 Date Finished: 6/29/17
 VTSPG NAD83: N 713249.33 ft E 1477660.02 ft
 Station: 36+48 Offset: -27.80
 Ground Elevation: 343.2 ft

Type: H.S.A. SS
 I.D.: 3 in 1.5 in
 Hammer Wt: N.A. 140 lb.
 Hammer Fall: N.A. 30 in.
 Hammer/Rod Type: Auto/AWJ
 Rig: Diedrich D25 CE = Unknown

Groundwater Observations

Date	Depth (ft)	Notes
06/29/17	20.0	Possible W.T. depth

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		A-2-4, GrSa, brn, Moist, Rec. = 0.6 ft, Lab Note: A small amount of asphalt pavement was within sample	3-2-2-1 (4)	11.0	26.1	58.6	15.3
		Field Note:, Asphalt pavement 1.5" thick					
		A-1-b, GrSa, brn, Moist, Rec. = 0.7 ft, Lab Note: A small amount of asphalt pavement and decomposing plant material was within sample	8-6-6-5 (12)	14.4	35.0	51.6	13.4
5		A-2-4, SiSa, brn, Moist, Rec. = 1.1 ft	8-5-4-3 (9)	15.6	4.5	66.9	28.6
		A-3, Sa, brn, Moist, Rec. = 1.7 ft	9-4-4-8 (8)	6.9	5.7	83.8	10.5
		A-2-4, Sa, brn, Moist, Rec. = 1.2 ft	6-7-7-7 (14)	15.9	16.1	69.3	14.6
10		A-2-4, Sa, brn, Moist, Rec. = 1.7 ft, Lab Note: A small amount of decomposing plant material was within sample	5-4-4-5 (8)	19.9	5.7	82.2	12.1
		Field Note:, NXDC, cleaned out casing, flowing sand					
15		A-3, Sa, brn, Moist, Rec. = 1.0 ft	3-4-2-2 (6)	24.2	5.0	87.6	7.4
		Field Note:, NXDC, cleaned out casing, flowing sand					
20		A-3, Sa, brn, Wet, Rec. = 1.1 ft, Lab Note: Decomposing wood was within sample	2-1-3-4 (4)	26.1	1.3	91.2	7.5
		Field Note:, NXDC, cleaned out casing, flowing sand					
25		A-2-4, SiSa, brn, Wet, Rec. = 1.4 ft, Lab Note: Decomposing wood was within sample	WH (WH)	27.8	0.1	76.8	23.1
		Hole stopped @ 27.0 ft					
30		Remarks: Hole collapsed 7.2 feet.					

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BORING LOG
South Burlington-Williston
NH 2944(1)
US2 Mast Arms

Boring No.: **B-107**
 Page No.: 1 of 1
 Pin No.: 11d340
 Checked By: **MLM**

Boring Crew: Emerson, Garrow, Mazzei
 Date Started: 6/29/17 Date Finished: 6/29/17
 VTSPG NAD83: N 713195.91 ft E 1477633.56 ft
 Station: 36+54 Offset: 34.00
 Ground Elevation: 341.3 ft

Type: H.S.A. Sampler: SS
 I.D.: 3 in 1.5 in
 Hammer Wt: N.A. 140 lb.
 Hammer Fall: N.A. 30 in.
 Hammer/Rod Type: Auto/AWJ
 Rig: Diedrich D25 CE = Unknown

Groundwater Observations		
Date	Depth (ft)	Notes
06/29/17		No W.T. Observed

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		A-2-4, SiSa, brn, Moist, Rec. = 0.8 ft, Lab Note: A small amount of plant material was within sample	2-3-3-3 (6)	12.6	17.4	62.1	20.5
		A-2-4, SiSa, brn, Moist, Rec. = 1.4 ft	2-2-3-2 (5)	10.8	3.0	74.2	22.8
		A-2-4, Sa, brn, Moist, Rec. = 1.6 ft	8-6-7-13 (13)	9.2	5.8	77.2	17.0
		A-2-4, Sa, brn, Moist, Rec. = 1.7 ft	3-6-8-9 (14)	20.4	2.4	86.8	10.8
		A-2-4, Sa, brn-gry, Moist, Rec. = 2.0 ft	6-6-8-8 (14)	20.8	1.6	85.5	12.9
10		A-2-4, Sa, brn-gry, Moist, Rec. = 2.0 ft	5-5-1-8 (6)	18.7	2.0	86.3	11.7
15		A-2-4, Sa, brn, Wet, Rec. = 1.6 ft, Lab Note: A small amount of plant material was within sample	7-5-3-6 (8)	25.4	9.2	73.1	17.7
		Field Note:, NXDC, Cleaned out casing					
		A-2-4, Sa, brn, Wet, Rec. = 1.4 ft, Lab Note: A small amount of plant material was within sample	2-3-4-4 (7)	25.5	2.3	78.1	19.6
20		Field Note:, NXDC, Cleaned out casing					
25		A-3, Sa, brn, Wet, Rec. = 1.35 ft	3-2-1-2 (3)	27.6	0.1	91.9	8.0
Hole stopped @ 27.0 ft							
30		Remarks: Hole collapsed at 4.4 feet.					

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.
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BORING LOG - 2 SOUTH BURLINGTON-WILLISTON NH2944(1).GPJ VERMONT AOT.GDI 7/12/17