

**STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION**

HOLE NO.: B-1
SHEET 1 OF 1
DATE STARTED: 10/22/02
DATE COMPLETED: 10/23/02

PROJECT NAME: NEWFANE
SITE NAME: BR 14
STATION: *@ I+076.30
GROUND EL.:

PROJECT NUMBER: BHF 0106(3)S
SITE NO.: TH 2
OFFSET: *@ -2.50
G.W. DEPTH: DRILLING IN RIVER

BORING CREW
CREW CHIEF: HOLT
DRILLER: YOUNG
LOGGER: GARROW
ADDITIONAL CREW:

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	CONCRE	Concrete Footing, 0.00m-0.81m							
		No sample, Boulders	R						
		A-4, SaSi HP, gry, Moist, Rec. = 0.07m BXDC, Sample from core barrel A-4, SaSi HP, gry, Moist	R	11.4 15.5	15.1 2.2	32.7 25.6	52.2 72.2		
		A-4, SaSi HP, gry, Moist, Rec. = 0.16m	R	13	0.9	25.3	73.8		
		4.00m-4.11m, No Rec.	R						
5		A-1-b, SisaGr, gry, Moist, Rec. = 0.13m	R	11.4	40.7	38.7	20.6		
		6.60m-7.00m, Appeared to be Boulders or cobbles.					Top of bedrock @ 7.00 m		
		Run#1: BXDC, 7.00m-7.60m, Rec. = 0.27m, See Geologist's Report.	RUN	REC%	RQD%	Dip°			
		Run#2: BXGDC, 7.60m-9.10m, Rec. = 0.42m, See Geologist's Report.	1	45	0	40			
		Run#3: BXGDC, 9.10m-10.60m, Rec. = 0.79m, See Geologist's Report.	2	28	0	40			
10		Run#4: BXGDC, 10.60m-12.10m, Rec. = 0.82m, See Geologist's Report.	3	53	0	40			
		Run#4: BXGDC, 10.60m-12.10m, Rec. = 0.82m, See Geologist's Report.	4	55	0	40			
		Hole stopped @ 12.10m Could not get core barrel down core hole at this point.							
		DRILLER'S NOTES: 1. * Approx. station and offset. Near outer corner of this footing. 2. We did not encounter any noticeable voids while coring from 7.00m to 12.10m. 3. From top of deck to top of footing is about 6.83m.							

GEOLOGISTS REPORT:

Run#1: Dark green amphibolite, Hard, Unweathered, Poor competency.
 Run#2: 7.60m-7.90m, Dark green amphibolite, Hard, Unweathered, Poor competency.
 7.90m-9.10m, Gray quartzo-feldspathic gneiss, Very hard,
 Unweathered, Poor competency.
 Run#3: 9.10m-9.84m, Gray quartzo-feldspathic gneiss, Very hard, Unweathered,
 Poor competency.
 9.84m-10.60m, Dark green amphibolite, Hard, Unweathered,
 Poor competency.
 Run#4: Dark green amphibolite with felsic vein from 11.10m to 11.23m,
 Hard, Unweathered, Poor competency.



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

BORING NUMBER: B-201
SHEET 1 of 2
DATE STARTED: 10/24/04
DATE COMPLETED: 10/27/04

PROJECT NAME: NEWFANE
SITE NAME: BR-14
STATION:
OFFSET:
VTSPG: N 48414.07 m E 483060.55 m

PROJECT NUMBER: BHF 0106(3)
SITE NUMBER: TH-2
GROUND ELEVATION: 195.31 m
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 95J280

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

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
1		Boulder, 0.12 m - 0.44 m					
		A-3, Sa, brn, Moist, Rec. = 0.18 m	R	16.6	12.9	81.8	5.3
		Boulder, 1.39 m - 1.76 m					
2		Appears to be going through gravel and cobbles., 2.00 m - 2.08 m	R				
		Boulder, No Rec., 2.08 m - 3.00 m					
3		A-2-4, GrSa, brn, Moist, Rec. = 0.32 m	23	18.1	23.4	61.3	15.3
4		A-1-b, GrSa, gry, Moist, Rec. = 0.39 m	26	10.0	39.5	44.8	15.7
5		A-1-b, GrSa, gry, Moist, Rec. = 0.34 m	59	10.2	40.5	44.6	14.9
6		A-4, SaSi HP, gry, Moist, Rec. = 0.34 m	R	8.7	18.8	38.5	42.7
7		BXDC, Cleaned out casing., 6.75 m - 7.00 m					
		A-4, SiSa HP, gry, Moist, Rec. = 0.21 m	R	9.5	7.9	46.3	45.8
8		A-2-4, SiGrSa, gry, Moist, Rec. = 0.45 m	74	9.8	32.5	35.8	31.7
9		BXDC, Cleaned out casing., 8.70 m - 9.00 m					
		A-4, SaSi HP (*), gry, Moist, Rec. = 0.54 m	42	24.3	0.7	20.9	78.4
10		A-4, SaSi HP (*), gry, Moist, Rec. = 0.57 m	70	23.8	1.6	45.1	53.3
11		A-4, Si HP (*), gry, MTW, Rec. = 0.45 m	47	35.5	0.0	1.2	98.8
12		A-4, Si HP (*), gry, Moist, Rec. = 0.54 m	65	27.6	0.0	13.5	86.5
13							
14		A-4, Si HP (*), gry, Moist, Rec. = 0.57 m	48	31.6	2.4	3.6	94.0

LOG OF BORING NEWFANE BHF0106(3).GPJ VT AOT.GDT 5/23/07



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

BORING NUMBER: B-201
SHEET 2 of 2
DATE STARTED: 10/24/04
DATE COMPLETED: 10/27/04

PROJECT NAME: NEWFANE
SITE NAME: BR-14
STATION:
OFFSET:
VTSPG: N 48414.07 m E 483060.55 m

PROJECT NUMBER: BHF 0106(3)
SITE NUMBER: TH-2
GROUND ELEVATION: 195.31 m
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 95J280

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

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/0.3m)
16		A-4, Si (*), gry, Moist, Rec. = 0.54 m	37	32.2	0.0	1.8	98.2
17		A-4, Si (*), gry, Moist, Rec. = 0.60 m	41	37.3	1.0	3.0	96.0
18		A-2-4, SiSaGr, gry, Moist, Rec. = 0.33 m	R	11.2	46.2	27.2	26.6
		BXMDC, Boulders, 18.33 m - 19.72 m					
20		BXMDC, Boulders, Broke through boulder, 19.80 m - 19.93 m					
		BXMDC, Boulder, 20.20 m - 20.63 m					
22		A-1-b, GrSa, gry, Moist, Rec. = 0.27 m	R	9.1	37.6	44.5	17.9
23		Visual Class: Broken Rock, 23.00 m - 23.10 m	R				
		Dark gray, Biotite Schist, with closely spaced jointing, Competent, Moderately hard, Unweathered, BXMDC, 23.10 m - 24.60 m, Rec. = 1.42 m	1	95	35	50	
25		Dark gray, Biotite Schist, with 1.6m thick layer of white/gray Biotite Gneiss at 29.43m, Moderately closely spaced jointing, Competent, Moderately hard, Unweathered, BXMDC, 24.60 m - 26.10 m, Rec. = 1.50 m	2	100	59	50	
26		Hole stopped @ 26.10 m					
27		DRILLER'S NOTE: No water elevation because the hole caved in. LAB NOTE: (*) Sporadically thin layers of clay material. Tested NP.					
28							
29							

LOG OF BORING NEWFANE BHF0106(3).GPJ VT AOT.GDT 5/23/07



PROJECT NAME: NEWFANE
SITE NAME: BR-14
STATION:
OFFSET:
VTSPG: N 48402.86 m E 483062.09 m

PROJECT NUMBER: BHF 0106(3)
SITE NUMBER: TH-2
GROUND ELEVATION: 195.30 m
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 95J280

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

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
1		Some Cobbles and Boulders while driving casing, 0.00 m - 1.50 m					
2		A-1-a, SaGr, yel-brn, Moist, Rec. = 0.27 m	11	9.1	69.5	24.2	6.3
3		Visual Class: A-1-b, Gravel, gry, Moist, Rec. = 0.07 m, 3.00 m - 3.60 m, Insufficient sample for testing.	49				
4							
5		A-4, SaSi HP, gry, Moist, Rec. = 0.51 m	R	11.2	5.1	37.6	57.3
6		A-4, SaSi HP, gry, Moist, Rec. = 0.30 m	R	10.3	10.9	43.4	45.7
7							
8		A-4, SaSi HP, gry, Moist, Rec. = 0.17 m	R	8.6	9.0	42.8	48.2
9		A-4, SaGrSi, gry, Moist, Rec. = 0.54 m	92	16.4	28.2	27.9	43.9
10							
11		A-2-4, Sa, gry, Moist, Rec. = 0.60 m	50	22.3	0.7	84.9	14.4
11		A-4, Si (*), gry, Moist		28.3	0.0	2.5	97.5
12		A-4, Si (*), gry, Moist, Rec. = 0.54 m	53	23.0	11.3	7.4	81.3
13							
14		A-4, Si (*), gry, Moist, Rec. = 0.54 m	45	33.1	0.0	4.3	95.7

LOG OF BORING NEWFANE BHF0106(3).GPJ VT AOT.GDT 3/23/07



PROJECT NAME: NEWFANE
SITE NAME: BR-14
STATION:
OFFSET:
VTSPG: N 48402.86 m E 483062.09 m

PROJECT NUMBER: BHF 0106(3)
SITE NUMBER: TH-2
GROUND ELEVATION: 195.30 m
GROUNDWATER DEPTH:
PROJECT PIN NUMBER: 95J280

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

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/0.3m)
16		A-2-4, SiSaGr, white-gray, Moist, Rec. = 0.39 m	R	15.5	38.0	31.2	30.8
17		A-1-b, SiSaGr, gry, Moist, Rec. = 0.24 m	R	11.3	44.3	33.8	21.9
18		A-2-4, SiGrSa, blk, Moist, Rec. = 0.30 m	R	13.7	33.0	38.4	28.6
19		Top of Bedrock @ 19.50 m					
20		Greenish gray, Quartz-mica Schist, with moderately close spaced jointing, Competent, Moderately hard, Unweathered, BXMDC, 19.50 m - 20.40 m, Rec. = 1.15 m	1	85	57	50	
21		Gray, Biotite Gneiss, Competent, Hard, Unweathered, 20.40 m - 20.85 m	2	69	0	50	
21		Greenish gray, Quartz-mica Schist, with thin Gneissic zones, Poor RQD, Moderately hard, Unweathered, BXMDC, 20.85 m - 21.30 m, Rec. = 0.31 m	3	100	69	50	
22		Greenish gray, Quartz-mica Schist, with alternating layers of Biotitic Gneiss and Quartz Mica Schist near end of run, Moderately close spaced jointing, Competent, Moderately hard, Unweathered, BXMDC, 21.30 m - 22.45 m, Rec. = 1.50 m					
23		Gray, Quartz-mica Schist, and Biotitic Gneiss, Competent, Moderately hard, Slightly weathered to unweathered, 22.45 m - 22.80 m Hole stopped @ 22.80 m					
24		DRILLER'S NOTE: No water elevation because the hole caved in. LAB NOTE: (*) Sporadically thin layers of clay material. Tested NP.					
25							
26							
27							
28							
29							

LOG OF BORING NEWFANE BHF0106(3).GPJ VT AOT.GDT 3/23/07



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

BORING NUMBER: B-203
 SHEET 1 of 1
 DATE STARTED: 11/04/04
 DATE COMPLETED: 11/04/04

PROJECT NAME: NEWFANE
 SITE NAME: BR-14
 STATION:
 OFFSET:
 VTSPG: N 48436.21 m E 483094.18 m

PROJECT NUMBER: BHF 0106(3)
 SITE NUMBER: TH-2
 GROUND ELEVATION: 197.22 m
 GROUNDWATER DEPTH:
 PROJECT PIN NUMBER: 95J280

BORING CREW
 CREW CHIEF: GARROW
 DRILLER: GARROW
 LOGGER: PAULWAN

BORING RIG: LAG TRACK RIG
 BORING TYPE: WASH BORE
 SAMPLE TYPE: SPLIT BARREL
 CHECKED BY: DLG

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/0.3m)	
0.0 - 1.30		Encountered Boulders, 0.00 m - 1.30 m						
1.30		Top of Bedrock @ 1.30 m						
1.30 - 1.58		Amphibolite, with Feldspar Porphyroblasts, Not Competent, May be Boulder, Hard, Unweathered, BXMDC, 1.30 m - 1.58 m, Rec. = 0.52 m	1	87	55	50		
1.58 - 1.90		Gray, Quartz-mica Schist, Moderately soft, Slightly weathered, 1.58 m - 1.90 m						
1.90 - 3.12		Gray, Quartz-mica Schist, with Quartz vein at bottom of core run, Competent, Moderately soft, Slightly weathered, BXMDC, 1.90 m - 3.12 m, Rec. = 0.98 m	2	80	60	50		
3.12 - 3.75		Gray, Quartz-mica Schist, Poor RQD, Moderately soft, Slightly weathered, BXMDC, 3.12 m - 3.75 m, Rec. = 0.32 m	3	51	0	50		
3.75 - 4.19		Dark gray, Biotite Schist, Competent, Moderately hard, Unweathered, BXMDC, 3.75 m - 4.19 m, Rec. = 0.44 m	4	100	80	50		
4.19 - 5.16		Dark gray, Biotite Schist, with vertical Quartz lined joint runs the length of the core run, Joint is open and weathered, Not competent, Poor RQD, BXMDC, 4.19 m - 5.16 m, Rec. = 0.92 m	5	95	0	50		
5.16		Hole stopped @ 5.16 m						
5.5		DRILLER'S NOTE: No water elevation to depth.						

LOG OF BORING - NEWFANE BHF0106(3).SPJ VT AOT.GDT 3/23/07



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

BORING NUMBER: B-204
 SHEET 1 of 1
 DATE STARTED: 11/03/04
 DATE COMPLETED: 11/03/04

PROJECT NAME: NEWFANE PROJECT NUMBER: BHF 0106(3)
 SITE NAME: BR-14 SITE NUMBER: TH-2
 STATION: GROUND ELEVATION: 199.80 m
 OFFSET: GROUNDWATER DEPTH:
 VTSPG: N 48419.20 m E 483096.46 m PROJECT PIN NUMBER: 95J280

BORING CREW BORING RIG: LAG TRACK RIG
 CREW CHIEF: GARROW BORING TYPE: WASH BORE
 DRILLER: GARROW SAMPLE TYPE: SPLIT BARREL
 LOGGER: PAULWAN CHECKED BY: DLG

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/0.3m)
0.5							
1.0							
1.5		Visual Class: A-1-a, Gravel, brn, Moist, Rec. = 0.03 m, 1.50 m - 2.10 m, Insufficient sample for testing.	11				
2.0							
2.5							
3.0		Visual Class: Weathered Rock, yel-brn, Moist, Rec. = 0.06 m, 3.00 m - 3.12 m	R				
3.12		Top of Bedrock @ 3.12 m	1	89	33	45	
3.5		Gray, Quartz-mica Schist, with closely spaced jointing with rusty stained joint surfaces, Competent, Moderately soft, Slightly weathered, BXMDC, 3.12 m - 4.02 m, Rec. = 1.34 m					
4.0		Dark gray, Biotite Schist, Competent, Moderately hard, Unweathered, 4.02 m - 4.62 m					
4.5		Gray, Quartz-mica Schist, with moderately close spaced jointing, Competent, Moderately soft, Slightly weathered, BXMDC, 4.62 m - 5.82 m, Rec. = 1.50 m	2	100	53	45	
5.0							
5.5							
6.0		Dark gray, Biotite Schist, Competent, Moderately hard, Unweathered, 5.82 m - 6.12 m					
6.12		Hole stopped @ 6.12 m					
6.5		DRILLER'S NOTE: No water elevation to depth.					
7.0							
7.5							

LOG OF BORING - NEWFANE BHF0106(3).SPJ VT AOT.GDT 3/23/07