



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

BORING NUMBER: BW1
 SHEET 1 of 1
 DATE STARTED: 3/27/06
 DATE COMPLETED: 3/28/06

PROJECT NAME: RANDOLPH
 SITE NAME: PRINCE ST.
 STATION: 13+90.00
 OFFSET: -27.00
 VTSPG: N 519850.9153 ft E 1596740.7418 ft

PROJECT NUMBER: BRF 0241(29)
 SITE NUMBER: RETAINING WALL
 GROUND ELEVATION: 681.24 ft
 GROUNDWATER DEPTH: No water found.
 PROJECT PIN NUMBER: 88J096

BORING CREW
 CREW CHIEF: GARROW
 DRILLER: GARROW
 LOGGER: RUSSELL

BORING RIG: SMALL SKID RIG
 BORING TYPE: WASH BORE
 SAMPLE TYPE: SPLIT BARREL
 CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, Si, brn, Moist, Rec. = 1.5 ft	6	45.3	0.0	10.8	89.2
5		A-4, SaSi, gry-brn, Moist, Rec. = 1.7 ft	9	28.5	0.0	33.3	66.7
10		A-4, SaSi, brn-gry, Moist, Rec. = 1.1 ft	9	21.8	2.0	42.9	55.1
15		A-4, SaSi, brn-gry, Moist, Rec. = 1.2 ft	13	22.7	0.0	38.7	61.3
20		A-4, SaSi, brn-gry, Moist, Rec. = 1.4 ft	15	27.8	0.0	25.8	74.2
25		A-4, SiSa, brn-gry, Moist, Rec. = 1.0 ft	14	18.9	0.0	59.7	40.3
		Hole stopped @ 27.0 ft					
30							
35							
40							
45							

LOG OF BORING - RANDOLPH BRF 0241(29).CP1_VT_AOT.GDT_4/13/06



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BORING NUMBER: BW2
 SHEET 1 of 1
 DATE STARTED: 3/23/06
 DATE COMPLETED: 3/24/06

PROJECT NAME: RANDOLPH
 SITE NAME: PRINCE ST.
 STATION: 13+96.00
 OFFSET: -50.00
 VTSPG: N 519850.7533 ft E 1596716.9699 ft

PROJECT NUMBER: BRF 0241(29)
 SITE NUMBER: RETAINING WALL
 GROUND ELEVATION: 681.14 ft
 GROUNDWATER DEPTH: Hole caved in at 36.0'
 PROJECT PIN NUMBER: 88J096

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

BORING RIG: SMALL SKID RIG
 BORING TYPE: WASH BORE
 SAMPLE TYPE: SPLIT BARREL
 CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, SaSi, gry-brn, Moist, Rec. = 1.7 ft	17	30.8	0.6	26.4	73.0
5		Field Note: Cleaned out casing. A-1-b, SaGr, brn, Moist, Rec. = 0.7 ft	24	10.5	47.3	41.1	11.6
10		A-4, SiSa, brn, Moist, Rec. = 0.2 ft	16	22.7	2.5	60.7	36.8
15		A-4, SaSi, gry, Moist, Rec. = 1.3 ft	9	21.1	0.0	33.8	66.2
20		A-4, SaSi, brn-gry, Moist, Rec. = 1.4 ft	16	22.8	0.0	39.8	60.2
25		A-4, SaSi, brn-gry, Moist, Rec. = 1.1 ft	12	22.4	0.0	37.2	62.8
30		A-4, Si, brn-gry, Moist, Rec. = 1.3 ft	16	25.1	0.0	19.2	80.8
35		A-4, Si, brn-gry, Moist, Rec. = 1.0 ft	13	27.7	0.0	13.7	86.3
40		A-4, Si, gry, Moist, Rec. = 1.4 ft	9	27.7	0.0	19.6	80.4
		Hole stopped @ 42.0 ft					
45							

LOG OF BORING - RANDOLPH BRF 0241(29).CP1 VT_AOT.GDT 4/13/06

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HOLE NO.: B-03
 SHEET 1 OF 1
 DATE STARTED: 6/12/97
 DATE COMPLETED: 6/13/97

PROJECT NAME: RANDOLPH
 SITE NAME: BRIDGE 42
 STATION: 16+55.00
 GROUND EL.: 636.01

PROJECT NUMBER: BRF 0241(29)
 SITE NO.: Rt. 12
 OFFSET: -20.00
 G.W. DEPTH:

BORING CREW
 CREW CHIEF: MCGLYNN
 DRILLER: TALLMAN R
 LOGGER: GAMMELL

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

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Standard)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
0	G	No Rec., Boulders	80						
5		BXDC, 2.6'-6.0', No Rec., Mostly Concrete	R						
10		BXDC, 6.0'-8.0', Boulders	12	18	68.7	22.8	8.5		
10		A-1-a, SaGr with trace of concrete, Wet, gr, Rec. = 0.4'	R	14.3	78.5	13	8.5		
15		BXDC, 10.0'-11.5', Boulders	Top						
15		A-1-a, Gr, Wet, gr, Rec. = 0.6'	DIP						
20		Run #1: BXDC, 12.7'-17.2', Rec. = 4.4'	RUN 1	35	98	94			
20		See Geologist's Report.	RUN 2	30	94	80			
25		Run #2: BXDC, 17.2'-22.2', Rec. = 4.7'							
25		See Geologist's Report.							
25		Geologist's Report							
45		Run #1: Blue-gray phyllite. Moderately hard. Unweathered. Competent.							
55		Run #2: Blue-gray phyllite. Moderately hard. Unweathered. Competent.							
22.2		Hole stopped @ 22.2' in bedrock							

ELEVATION = 637.61

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HOLE NO.: B-04
 SHEET 1 OF 1
 DATE STARTED: 6/16/97
 DATE COMPLETED: 6/17/97

PROJECT NAME: RANDOLPH
 SITE NAME: BRIDGE 42
 STATION: 16+55.00
 GROUND EL.: 637.67

PROJECT NUMBER: BRF 0241(29)
 SITE NO.: Rt. 12
 OFFSET: 21.00
 G.W. DEPTH:

BORING CREW
 CREW CHIEF: MCGLYNN
 DRILLER: TALLMAN R
 LOGGER: GAMMELL .

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

ELEVATION = 637.67

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
0.0' - 1.5'		Mostly Boulders,							
1.5' - 7.8'		BXDC, Mostly Concrete,							
7.8' - 11.2'		A-1-b, Gr-Sa, Wet, br, Rec. = 1.0'	R	8.7	47.6	48.1	4.3		
11.2' - 95'			Hole stopped @ 11.2' Due to loss of casing shoe.						

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HOLE NO.: B-04A
 SHEET 1 OF 1
 DATE STARTED: 6/16/97
 DATE COMPLETED: 6/17/97

PROJECT NAME: RANDOLPH
 SITE NAME: BRIDGE 42
 STATION: 16+55.00
 GROUND EL.: 637.94

PROJECT NUMBER: BRF 024 (29)
 SITE NO.: Rt. 12
 OFFSET: 22.00
 G.W. DEPTH:

BORING CREW
 CREW CHIEF: MCGLYNN
 DRILLER: TALLMAN R
 LOGGER: GAMMELL .

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

ELEVATION = 637.67

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI	
5		BXDC, 2.0'-5.0', Rec. = 1.0', Granite								
5		BXDC, 5.0'-6.5', Boulders & Wood								
10		BXDC, 6.5'-9.0', Rec. = 2.5', Concrete, Advanced casing to 11.2'								
10		Top of bedrock @ 11.2'								
15		Run #1: BXDC, 11.2'-16.2', Rec. = 4.7', See Geologist's Report	RUN 1	45	94	52				
20		Run #2: BXDC, 16.2'-21.2', Rec. = 5.0', See Geologist's Report	RUN 2	30	100	83				
20		Hole stopped @ 21.2'								
30		Geologist's Report								
35		Run #1: Blue-gray siliceous limestone to 15.1 feet. Moderately hard. Unweathered. Competent. Blue-gray phyllite below 15.1 feet. Hard. Unweathered. Competent.								
50		Run #2: Blue-gray siliceous limestone. Hard. Unweathered. Competent. Quartz vein 20.8'-21.2'.								

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HOLE NO.: B-07
 SHEET 1 OF 1
 DATE STARTED: 7/10/97
 DATE COMPLETED: 7/10/97

PROJECT NAME: RANDOLPH
 SITE NAME: BRIDGE 42
 STATION: 17+62.00
 GROUND EL.: 665.65

PROJECT NUMBER: BRF 024(29)
 SITE NO.: Rt. 12
 OFFSET: -20.00
 G.W. DEPTH:

BORING CREW
 CREW CHIEF: MCGLYNN
 DRILLER: CHABOT E J
 LOGGER: TALLMAN .

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

ELEVATION - 640.00

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Described)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
0-5	[Cross-hatch symbol]	No Rec. Loose stone fill, 0.0'-5.0'							
5-10	[Diagonal lines symbol]	BXDC, 5.0'-9.5', Rec. = 0.3', Concrete							
10-15	[Cross-hatch symbol]	No Rec., 10.0'-12.0'	20						
15-20	[Dotted symbol]	A-1-b, Gr-Ss, Wet, br/trace of light brown. Rec. = 0.9'	12	19.3	38.8	44	17.2		
20		Top of bedrock @ 20.0'							
20-25	[Horizontal lines symbol]	Run #1: BXDC 20.0'-25.0', Rec. = 4.8' See Geologist's Report.							
25-30	[Horizontal lines symbol]	Run #2: BXDC 25.0'-30.0', Rec. = 4.8' See Geologist's Report.							
30									
30-35									
35-40		Geologist's Report							
40-45		Run #1: Blue-gray siliceous limestone. Hard. Unweathered. Rock is competent.							
45-50									
50-55		Run #2: Blue-gray siliceous limestone. Hard. Unweathered. Rock is competent.							
55-60									
60-65									
65-70									
70-75									
75-80									
80-85									
85-90									
90-95									
95									

Hole stopped @ 30.0'
 In bedrock.

	Bl'*	REC %	ROD %
RUN 1	45	96	95
RUN 2	65	96	88

ELEVATION = 637.67

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HOLE NO.: B-10
 SHEET 1 OF 1
 DATE STARTED: 6/5/97
 DATE COMPLETED: 6/6/97

PROJECT NAME: RANDOLPH
 SITE NAME: BRIDGE 42
 STATION: 16+58.00
 GROUND EL.: 637.41

PROJECT NUMBER: BRF 0241(29)
 SITE NO.: Rt. 12
 OFFSET: 12.00
 G.W. DEPTH:

BORING CREW
 CREW CHIEF: MCGLYNN
 DRILLER: WILLIS
 LOGGER: TALLMAN

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

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(described)</i>	BLOBS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI	
5		A-1-a, Sgr, Wet, br, Rec. = 0.7'	21	12.5	65.4	27.2	7.4			
5		A-1-a, Sgr, Wet, br, Rec. = 0.2'	84	13.7	62.6	29J	8.3			
10		Weathered Bedrock, Rec. = 1.0'	Top of bedrock @ 9.0'							
10		BXMD, 6.0'-9.0', Boulders		DIP	REC %	ROD %				
15		Run #1: BXMD, 9.0'-14.0' Rec. = 4.6'	RUN 1	70	92	92				
15		See Geologist's Report.	RUN 2	70	96	90				
20		Run #2: BXMD, 14.0'-19.0' Rec. = 4.8'	Hole stopped @ 19.0'							
20		See Geologist's Report.	In bedrock							
30		Geologist's Report								
35		Run #1: Blue-gray siliceous limestone. Hard. Unweathered. Thin								
40		Blue-gray phyllite bed at 11.5 feet. Competent.								
45		Run #2: Blue-gray siliceous limestone. Hard. Unweathered. Competent.								
50										
55										
60										
65										
70										
75										
80										
85										
90										
95										

ELEVATION = 655.00

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HOLE NO.: B-11
SHEET 1 OF 1
DATE STARTED: 11/26/97
DATE COMPLETED: 12/4/97

PROJECT NAME: RANDOLPH
SITE NAME: BRIDGE 42
STATION: 15+25.00
GROUND EL.: 655.08

PROJECT NUMBER: BRF 0241(29)
SITE NO.: Rt. 12
OFFSET: -24.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: MCGLYNN
DRILLER: CHABOT E J
LOGGER: WILLIS

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

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (described)	BLOCKS PER FOOT	CL. %	GRAVEL %	SAND %	FINES %	LL	PI
5		No Rec.	5						
10		A-4, SiSa with broken rock, gry, moist, Rec. = 0.9'	26	8.4	13.7	45.1	4.2		
15		No Rec.	R						
20		A-4, SiSa with broken rock, gry, moist, Rec. = 0.6'	40	13.2	2.5	49.9	47.6		
25		BXMDC, 22.5'-27.5', Boulders, Rec. = 2.2'							
30		No Rec., Boulders							
35		A-2-4, SiSa with broken rock, gry, moist, Rec. = 0.5'	R	12.1	12.2	59	28.8		
40		BXMDC, 35.6'-39.5', Boulders							
45		A-4, SaSl with broken rock, gry, moist, Rec. = 1.3'	97	12.7	8.2	38	53.8		
		Top of bedrock @ 48.0'							
50		Run #1: BXMDC, 48.0'-52.0' Rec. = 2.8' See Geologist's Report.	1	70	17	25			
55		Run #2: BXMDC, 52.0'-57.0' Rec. = 4.5', See Geologist's Report.	2	90	70	25			
60		Run #3: BXMDC, 57.0'-59.0', Rec. = 1.8' See Geologist's Report.	3	90	90	25			
65									
70		Geologist's Report							
75		Run #1: (48.0'-49.0') Blue-Gray siliceous Limestone. Hard. Unweathered.							
80		(49.0'-52.0') Blue- Gray phyllite. Moderately hard. Unweathered.							
85		Poor RQD due to mechanical breakage during drilling.							
90		Run #2: Blue-Gray phyllite Moderately hard. Unweathered. Competent							
95		Run #3: Same as Run #2.							

Hole stopped @ 59.0'
In bedrock

ELEVATION - 637.67

**STATE OF VERMONT
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HOLE NO.: B-13
SHEET 1 OF 1
DATE STARTED: 4/4/02
DATE COMPLETED: 4/1/02

PROJECT NAME: RANDOLPH
SITE NAME: BRIDGE 42
STATION: 16+36.00
GROUND EL.: 640.49

PROJECT NUMBER: BRF 0241(29)
SITE NO.: Rt. 12
OFFSET: -10.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

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

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(described)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %			
		BXDC, 3.0' - 4.5', Boulder								
5		BXDC, 4.5' - 5.5', Boulder								
		No Rec., Plugged sampler	28							
		NXMDC, 8.0' - 9.5', No sample, Broke through rock.								
10		NXMDC, 10.0' - 11.0', No sample, Broke through rock.								
		A-1-b, Silty, gray, moist. Rec. = 0.45'	R	10.3	54J	24J	21.8	Top of bedrock @ 13.9'		
15		Run#1: NXMDC, 13.9' - 18.9', Rec. = 5.0', See Geologist's Report.	RUN	REC	ROD	Dip	SD	Co	Es	
			1	100	46	35	17.1	3474	1303	
							17.9	7865	2065	
20		Run#2: NXMDC, 18.9' - 23.9', Rec. = 4.5', See Geologist's Report.	2	90	70	35	20.2	6400	1383	
							20.8	5862	2389	
							21.8	6079	3216	
							22.3	5102	2554	
							22.9	7342	2612	

Hole stopped @ 23.9'

Geologist's Reports:

Run#1: Dark gray slate, Moderately hard, Unweathered, Competent.
Run#2: Same as Run#1, Competent.

SD = Sample Center Depth, ft.
Co = Uniaxial Compressive Strength of Intact Rock, psi
Es = Elastic Modulus of Intact Rock, ksi

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HOLE NO.: B-14
SHEET 1 OF 1
DATE STARTED: 4/12/02
DATE COMPLETED: 5/2/02

PROJECT NAME: RANDOLPH
SITE NAME: BRIDGE 42
STATION: 16+36.00
GROUND EL.: 639.48

PROJECT NUMBER: BRF 0241(29)
SITE NO.: Rt. 12
OFFSET: 10.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

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

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (described)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %			
		A-1-b, SaGr, brn-blk, Moist, Rec. = 0.8'	21	15.9	56	28.7	15.3			
5		A-1-a, Gr, blk, Moist, Broken Rec. = 0.4' Rock was within sample.	R	6.1	75.5	16.6	7.9			
		BXDC, 6.0'-8.1', Boulders Advanced casing, cleaned out casing.								
10		A-1-b, GrSa, gry, Moist, Rec. = 0.4',	19	15.7	36.4	56.8	6.8			Broken Rock was within sample.
		BXDC, 10.1'-10.75', Boulders								
		NXGDC, 10.75'-12.50', Boulders, Broke through at 12.5'								
15		BXDC, 13.65'-14.0', Cleaned out casing.	86	11.1	36.7	27.7	35.6			
		A-4, SaStGr, gry, Moist, Rec. = 1.65'	R	14.5	21.3	39.4	39.3			Broken Rock was within sample
		A-4, GrStSa, gry, Moist, Rec. = 0.6'								Top of bedrock @ 17.0'
		Run#1: NXGDC, 17.0'-22.0', Rec. = 5.0', See Geologist's Report.	1	100	100	60	17.9 19.1	16658 21766	5284 5169	
		Run#2: NXGDC, 22.0'-27.0', Rec. = 5.0' See Geologist's Report.	2	100	100	60	21.2 22.4 23.5 24.4 26.1	23177 23652 23383 22206 19983	6621 7730 6053 5726 6056	

Hole stopped @ 27.0'

Geologist's Report:

Run#1: Light gray meta-limestone, Hard, Unweathered,
Competent.

Run#2: Same as Run#1, Competent.

SD = Sample Center Depth, ft.

Co = Uniaxial Compressive Strength of Intact Rock, psi

Eo = Elastic Modulus of Intact Rock, ksi