

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

HOLE NO.: B-1
SHEET 1 OF 1
DATE STARTED: 5/23/02
DATE COMPLETED: 5/28/02

PROJECT NAME: BETHEL
SITE NAME: BR 31
STATION: 3+111.00
GROUND EL.: 177.418

PROJECT NUMBER: BRF 0241(33) C/1
SITE NO.: VT 12
OFFSET: -4.00
G.W. DEPTH: Hole caved in

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: SMALL SKID RIG
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
		A-2-4, SiSa, brn-gry, Moist, Rec. = 0.33m	4	16.9	10	66.4	23.6		
		A-4, SaSi, gry, Moist, Rec. = 0.50m	18	22	1.4	30.5	68.1		
5		A-4, SaSi, gry, Moist, Rec. = 0.56m	51	12.8	16	35.5	48.5		
		BXMDC, 5.48m-6.04m, Broke through Boulder							
		BXMDC, 6.24m-6.84m, Broke through Boulder							
		A-2-4, SiSaGr, gry, Moist, Rec. = 0.10m	R	11.5	37.4	35.4	27.2		
		BXMDC, 7.80m-8.10m, Broke through Boulder							
				Top of bedrock @ 8.53 m					
		Run#1: BXMDC, 8.53m-10.05m, Rec. = 1.52m, See Geologist's Report.	RUN	REC%	RQD%	Dip°			
10			1	100	80	50			
		Run#2: BXMDC, 10.05m-11.57m, Rec. = 1.52m, See Geologist's Report.	2	100	95	50			
		Hole stopped @ 11.57m							
		Driller's Notes: 1. No ground water elevavation. Hole caved in. 05/28/02 2. Moved hole 1.00m to the west.							

GEOLOGISTS REPORT:

Run#1: Light gray hornblende gneiss, Hard to very hard,
Unweathered, Competent.

Run#2: Light gray hornblende gneiss, Hard to very hard,
Unweathered, Competent.

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HOLE NO.: B-2
SHEET 1 OF 1
DATE STARTED: 5/21/02
DATE COMPLETED: 5/21/02

PROJECT NAME: BETHEL
SITE NAME: BR 31
STATION: 3+112.00
GROUND EL.: 176.790

PROJECT NUMBER: BRF 0241(33) C/1
SITE NO.: VT 12
OFFSET: 4.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: SMALL SKID RIG
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	
		A-4, SiSa, Lt/gry, Moist, Rec. = 0.40m	16	13.3	2.2	51.6	46.2			
		A-4, SiSa, brn-gry, Moist, Rec. = 0.28m	47	24.8	0.2	61.8	38			
5		A-4, SiSa, brn-gry, Moist, Rec. = 0.30m	42	21.5		56.1	43.9			
		A-2-4, SiGrSa, gry, Moist, Rec. = 0.25m	R	12.7	35.1	39.2	25.7			
		Broken Rock or Possible Ledge at 6.40m								
				Top of bedrock @ 7.31 m						
		Run#1: BXMDC, 7.31m-8.83m, Rec. = 1.23m, See Geologist's Report.	RUN	REC%	RQD%	Dip°				
			1	81	70	50				
		Run#2: BXMDC, 8.83m-10.35m, Rec. = 1.52m, See Geologist's Report.	2	100	95	50				
10				Hole stopped @ 10.35m						

GEOLOGISTS REPORT:

Run#1: Gray hornblende gneiss, Hard to very hard,
Unweathered, Competent.

Run#2: Gray hornblende gneiss, Hard to very hard,
Unweathered, Competent.

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HOLE NO.: B-3
SHEET 1 OF 1
DATE STARTED: 4/26/02
DATE COMPLETED: 4/26/02

PROJECT NAME: BETHEL
SITE NAME: BR 31
STATION: 3+173.00
GROUND EL.: 175.972

PROJECT NUMBER: BRF 0241(33) C/1
SITE NO.: VT 12
OFFSET: -7.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
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
		A-2-4, SiSa, brn, Moist, Rec. = 0.29m	2	17.9	14	62.4	23.6		
		A-2-4, Sa, brn, Moist, Rec. = 0.18m	4	16.5	7.6	72.6	19.8		
		A-2-4, SiSa, brn, Moist, Rec. = 0.28m	2	17.2	8.4	67.6	24		
		Visual Class: Broken Brick, red, Dry, Rec. = 0.31m	8	24.8					
5		Visual Class: Various Fill Material, red-brn, Moist, Rec. = 0.22m	10	13.9					
		A-4, SaSi, brn, Moist, Rec. = 0.53m	2	29.3	12.3	41.1	46.6		
		A-4, SaSi, brn, Moist, Rec. 0.11m	R	32.7	0.1	46	53.9		
		VC: Weathered Rock, gry, Dry, Rec. = 0.11m		13.7					
		Top of bedrock @ 7.37 m							
		Run#1: BXGDC, 7.37m-8.87m, Rec. = 1.47m, See Geologist's Report.	1	98	56	40			
		Run#2: BXGDC, 8.87m-10.37m, Rec. = 1.42m, See Geologist's Report.	2	95	52	40			
10									
Hole stopped @ 10.37m									

GEOLOGISTS REPORT:

Run#1: Light gray hornblende gneiss, Hard to very hard, Unweathered, Competent.

Run#2: Same as Run#1, but with quartz veins, Competent.

PROJECT NAME: BETHEL SITE NAME: BR 31 STATION: 3+173.00 GROUND EL.: 175.725	PROJECT NUMBER: BRF 0241(33) C/1 SITE NO.: VT 12 OFFSET: -0.50 G.W. DEPTH: No water found (04/29/02)
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BORING CREW CREW CHIEF: TALLMAN DRILLER: TALLMAN LOGGER: RUSSELL ADDITIONAL CREW:	BORING RIG: LARGE SKID RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL
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DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No Rec.	8						
		A-3, Sa, brn, Moist, Rec. = 0.23m	5	28.1	0.2	89.9	9.9		
5		A-1-b, SiSaGr, brn, Moist, Rec. = 0.07m, Particles of Brick were within sample.	3	12	48.8	29.7	21.5		
		A-4, SaSi, brn, Moist, Rec. = 0.25m	4	30	16.4	38.4	45.2		
		A-4, SaSi, gry, Moist, Rec. = 0.10m, Wood particles were within sample.	4	41.7	4	41	55		
				Top of bedrock @ 8.83 m					
		Run#1: BXMDC, 8.83m-10.35m, Rec. = 1.50m, See Geologist's Report.	RUN	REC%	RQD%	Dip°			
10			1	99	88	40			
		Run#2: BXMDC, 10.35m-11.87m, Rec. = 1.48m, See Geologist's Report.	2	97	92	40			
		Hole stopped @ 11.87m							
		Driller's Notes: 1. No ground water elevation found. 04/29/02							

GEOLOGISTS REPORT:

Run#1: Light gray hornblende gneiss with quartz veins, Hard to very hard, Unweathered, Competent.

Run#2: Light gray hornblende gneiss with quartz veins, Hard to very hard, Unweathered, Competent.

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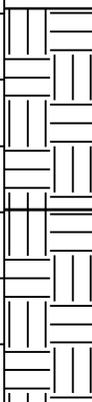
HOLE NO.: B-4A
SHEET 1 OF 1
DATE STARTED: 5/7/02
DATE COMPLETED: 5/10/02

PROJECT NAME: BETHEL
SITE NAME: BR 3I
STATION: 3+173.00
GROUND EL.: 170.448

PROJECT NUMBER: BRF 0241(33) C/1
SITE NO.: VT 12
OFFSET: 7.35
G.W. DEPTH: 1.80 05/10/02

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

BORING RIG: SMALL SKID RIG
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
▽		A-4, GrSiSa & Wood, brn, Moist Rec. = 0.05m	3	42.5	20.9	40.5	38.6		
		Into Wood at 2.10m							
		No sample, Wood sections							
				Top of bedrock @ 3.96 m					
5		Run#1: BXMDC, 3.96m-5.48m, Rec. = 1.52m, See Geologist's Report.	RUN	REC%	RQD%	Dip°			
			1	100	75	40			
		Run#2: BXMDC, 5.48m-7.00m, Rec. = 1.52m, See Geologist's Report.	2	100	90	40			
			Hole stopped @ 7.0m						
		<p>Driller's Notes:</p> <ol style="list-style-type: none"> Drillers had a difficult time drilling through three sections of wood timber. Each timber was about six inches thick. Ground water elevation was 1.80m on 05/10/02. 							
10									

GEOLOGISTS REPORT:

Run#1: 3.96m-5.00m, Gray garnetiferous hornblende gneiss with greenstone, Highly deformed foliation, Moderately hard, Unweathered, Competent.
5.00m-5.45m, Light gray hornblende gneiss, Hard to very hard, Unweathered, Competent.
5.45m-5.48m, Same as beginning of Run#1.

Run#2: 5.48m-6.03m, Gray garnetiferous hornblende gneiss with greenstone and quartz veins, Highly deformed foliation, Moderately hard, Unweathered, Competent.
6.03m-7.00m, Light gray hornblende gneiss, Hard to very hard, Unweathered, Competent.

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HOLE NO.: B-5
SHEET 1 OF 1
DATE STARTED: 5/29/02
DATE COMPLETED: 5/29/02

PROJECT NAME: BETHEL
SITE NAME: BR 31
STATION: 3+115.00
GROUND EL.: 176.598

PROJECT NUMBER: BRF 0241(33) C/1
SITE NO.: VT 12
OFFSET: -15.00
G.W. DEPTH: Hole caved in

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

BORING RIG: LARGE SKID RIG
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
		A-1-b, Sa, gry, Moist, Rec. = 0.15m	4	16.8	15.2	73.5	11.3		
		A-4, SaSi, brn, Moist, Rec. = 0.40m	6	22.5	0.5	37.7	61.8		
5		A-4, SaSi, gry, Moist, Rec. = 0.32m	43	15.4	9.3	44.6	46.1		
		5.48m-5.79, Boulder							
		A-4, SiSa with rock fragments, gry, Moist, Rec. = 0.35m	61	14.6	10.1	51	38.9		
				Top of bedrock @		6.75	m		
		Run#1: BXMDC, 6.75m-8.27m, Rec. = 1.50m, See Geologist's Report.	RUN	REC%	RQD%	Dip°			
			1	99	50	50			
		Run#2: BXMDC, 8.27m-9.79m, Rec. = 1.52m, See Geologist's Report.	2	100	94	50			
10		Hole stopped @ 9.79m							
		Driller's Notes: 1. No ground water elevation found. Hole caved in.							

GEOLOGISTS REPORT:

Run#1: Gray hornblende gneiss with quartz veins, Hard to very hard, Unweathered, Competent.

Run#2: Gray hornblende gneiss with quartz veins, Bottom 0.4m of Run is quartz, Hard to very hard, Unweathered, Competent.

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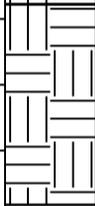
HOLE NO.: B-6
SHEET 1 OF 1
DATE STARTED: 5/16/02
DATE COMPLETED: 5/16/02

PROJECT NAME: BETHEL
SITE NAME: BR 31
STATION: 3+126.00
GROUND EL.: 174.961

PROJECT NUMBER: BRF 0241(33) C/1
SITE NO.: VT 12
OFFSET: -15.00
G.W. DEPTH: No water found (05/16/02)

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

BORING RIG: LARGE SKID RIG
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
		No sample. Possible GrSa.	2						
		A-2-4, GrSiSa, gry, Moist, Rec. = 0.15m	3	17	21.6	52	26.4		
		BXMDC, 4.06m-4.60m, Broke through Boulder.							
				Top of bedrock @ 4.87 m					
5		Run#1: BXMDC, 4.87m-6.39m, Rec. = 1.46m, See Geologist's Report.	RUN	REC%	RQD%	Dip°			
			1	96	80	50			
		Run#2: BXMDC, 6.39m-7.91m, Rec. = 1.06m, Lost part of core and could not retrieve it. See Geologist's Report.	2	70	54	50			
			Hole stopped @ 7.91m						
10		Driller's Notes: 1. No ground water elevation found 05/16/02. 2. Could not retrieve part of Run#2's rock core.							

GEOLOGISTS REPORT:

Run#1: Gray hornblende gneiss, Hard to very hard, Unweathered, Competent.

Run#2: Gray hornblende gneiss, Hard to very hard, Unweathered, Competent.

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HOLE NO.: B-7
SHEET 1 OF 1
DATE STARTED: 5/1/02
DATE COMPLETED: 5/1/02

PROJECT NAME: BETHEL
SITE NAME: BR 31
STATION: 3+171.00
GROUND EL.: 173.576

PROJECT NUMBER: BRF 0241(33) C/1
SITE NO.: VT 12
OFFSET: -16.00
G.W. DEPTH:

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

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		No Rec., Piece of granite in the end of the barrel.	R						
		A-1-b, GrSa, brn, Moist, Rec. = 0.03m	5	15.8	45.7	48.7	5.6		
5		A-2-4, SiSaGr, gry, Moist, Rec. = 0.32m,	21 Broken	14.7	39.2	33.7	27.1		
		Run#1: BXMDC, 5.18m-6.70m, Rec. = 1.23m, See Geologist's Report.	RUN	REC%	RQD%	Dip°			
			1	81	70	40			
		Run#2: BXMDC, 6.70m-8.22m, Rec. = 1.52m, See Geologist's Report.	2	100	50	40			
		Hole stopped @ 8.22m							
10		Driller's Notes: 1. Moved station three feet toward town.							

GEOLOGISTS REPORT:

Run#1: Light gray biotite gneiss, Hard to very hard, Unweathered, Competent.
Run#2: Light gray biotite gneiss, Hard to very hard, Unweathered, Competent.