

PROJECT NAME: BRISTOL SITE NAME: BR 6 STATION: 10+053.00 GROUND EL.: 100.321	PROJECT NUMBER: BRF/STP F021-1(15) SITE NO.: VT 116 OFFSET: -7.00 G.W. DEPTH: 2.25 (09/12/02)
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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
		A-4, SiSa with Trace of Organics (2.3%), gry, Moist, Rec. = 0.35m	2	36.3		50.6	49.4		
		A-1-a, SaGr, gry, Moist, Rec. = 0.08m	17	11.2	65.2	30.3	4.5		
5		A-2-4, SiGr, gry, Moist, Rec. = 0.07m	17	14	53.4	17.2	29.4		
		A-4, SaSi, gry, Moist, Rec. = 0.34m	8	23.7	6.2	27.6	66.2		
		A-4, SaSi, gry, Moist, Rec. = 0.40m	4	28.5	0.1	21.9	78		
		A-4, GrSaSi, gry, Moist, Rec. = 0.23m	4	15.3	25.2	34.6	40.2		
10		BXDC, 9.80m-10.2m, Boulder							
		A-4, SiSa, gry, Moist, Rec. = 0.25m	16	21.6	1.5	57.3	41.2		
		BXDC, 11.70m-12.00m, No Rec., Stone in sampler.	R						
		BXDC, 13.15m-14.00m, No Sample, Boulder							
		BXDC, 14.7m-15.1m, Cleaned out							

GEOLOGISTS REPORT:

PROJECT NAME: BRISTOL SITE NAME: BR 6 STATION: 10+053.00 GROUND EL.: 100.321	PROJECT NUMBER: BRF/STP F021-1(15) SITE NO.: VT 116 OFFSET: -7.00 G.W. DEPTH: 2.25 (09/12/02)
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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
		A-1-b, SiSaGr, gry, Moist, Rec. = 0.40m	R	7.7	42.7	35.2	22.1		
		No Rec., Possible stone in front of sampler.	R						
		BXDC, 17.65m-18.00m, Cleaned out casing. A-4, SaSi HP, gry, Moist, Rec. = 0.55m	87	14.7	3.5	25.4	71.1		
20		A-4, SiSa HP, gry, Moist, Rec. = 0.35m Advanced casing to 20.26m	R	8.8	19.5	45	35.5		
Hole stopped @ 20.26m									
25									

GEOLOGISTS REPORT:

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION		HOLE NO.: B-4 SHEET 1 OF 2 DATE STARTED: 7/2/02 DATE COMPLETED: 7/16/02	
PROJECT NAME: BRISTOL SITE NAME: BR 6 STATION: 10+058.60 GROUND EL.: 100.458		PROJECT NUMBER: BRF/STP F021-1(15) SITE NO.: VT 116 OFFSET: 6.60 G.W. DEPTH: 2.43 (07/16/02)	
BORING CREW CREW CHIEF: YOUNG DRILLER: YOUNG LOGGER: SOMERS ADDITIONAL CREW:		BORING RIG: LAG TRACK 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, Appears to be SiSaGr	3						
		A-1-b, GrSa, gry, Moist, Rec. = 0.29m	2	20.2	26.9	62.2	10.9		
5		No Sample, Appears to be SiGrSa	6						
		A-4, Si, gry, Moist, Rec. = 0.38m	6	21.1		15.3	84.7		
		A-4, Si, gry, Moist, Rec. = 0.30m	4	22.5		11.8	88.2		
		A-4, SaSi, gry, Moist, Rec. = 0.37m	9	23.2	9.9	32.9	57.2		
10		A-4, SaSi, gry, Moist, Rec. = 0.23m	8	16.5	20	30.4	49.6		
		Visual Class: Broken Rock, Rec. = 0.065m NXGDC, 12.19m-15.0m, Boulders	R						

GEOLOGISTS REPORT:

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION		HOLE NO.: B-4 SHEET 2 OF 2 DATE STARTED: 7/2/02 DATE COMPLETED: 7/16/02	
PROJECT NAME: BRISTOL SITE NAME: BR 6 STATION: 10+058.60 GROUND EL.: 100.458		PROJECT NUMBER: BRF/STP F021-1(15) SITE NO.: VT 116 OFFSET: 6.60 G.W. DEPTH: 2.43 (07/16/02)	
BORING CREW CREW CHIEF: YOUNG DRILLER: YOUNG LOGGER: SOMERS ADDITIONAL CREW:		BORING RIG: LAG TRACK 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, SiSaGr, gry, Moist, Rec. = 0.12m NXDC, 15.31m-16.13m, Boulders	R	8.3	41.3	33.9	24.8		
		A-4, Si, gry, Moist, Rec. = 0.50m	79	13.9	5.1	19.1	75.8	18	2
		A-4, GrSi, gry, Moist, Rec. = 0.43m	R	13.3	23.5	12.6	63.9	22	5
20		A-4, GrSi, gry, Moist, Rec. = 0.43m	R	11.8	20.5	18.1	61.4	20	4
		A-4, SaSi, gry, Moist, Rec. = 0.18m	R	11	18.8	21.3	59.9		
		A-4, GrSiSa, gry, Moist, Rec. = 0.40m	R	14.1	22.8	39.9	37.3		
		A-2-4, SiSa, gry, Moist, Rec. = 0.39m	R	14	13.9	55.4	30.7		
25		24.9m-26.4m, Boulders							

Hole stopped @ 26.40m

DRILLER'S NOTES:

- A boring was started at 10+058.6, offset 6.35m Rt. Boring was discontinued at 16.13m. Casing broke off at 13.5m.
- A second boring was started at 10+058.6, offset 6.85m Rt, and was discontinued at 13.5m due to wearing out of casing bit in boulders from 11.0m-13.5m.

GEOLOGISTS REPORT:

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION			HOLE NO.: B-7 SHEET 1 OF 2 DATE STARTED: 7/2/02 DATE COMPLETED: 7/29/02						
PROJECT NAME: BRISTOL SITE NAME: BR 8 STATION: 10+600.00 GROUND EL.: 100.753			PROJECT NUMBER: BRF/STP F02I-I(15) SITE NO.: VT 116 OFFSET: -4.50 G.W. DEPTH: 2.15 (07/29/02)						
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
		A-2-4, GrSa, gry, Moist, Rec. = 0.32m	26	15.9	35.9	51.2	12.9		
		BXDC, 2.89m-3.50m, Boulder							
5		BXDC, 4.26m-4.50m A-4, GrSaSi, gry, Moist, Rec. = 0.18m	58	17.8	25.1	26.1	48.8		
		A-2-4, SiSa, gry, Moist, Rec. = 0.60m	63	19.8	1.5	63.2	35.3		
		BXDC, 7.20m-7.50m, Cleaned out casing. A-4, SaSi, gry, Moist, Rec. = 0.30m	52	20.8	2.2	47.6	50.2		
		A-4, GrSaSi, gry, Moist, Rec. = 0.30m	85	15.9	22	32.5	45.5		
10		A-2-4, SaGrSi, gry, Moist, Rec. = 0.15m	R	14	34.6	30.2	35.2		
		A-2-4, GrSaSi, gry, Moist, Rec. = 0.40m	81	12.8	29.6	35	35.4		
		A-4, SaSi, gry, Moist, Rec. = 0.50m	74	21.4	10.5	25.6	63.9		

GEOLOGISTS REPORT:

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION			HOLE NO.: B-7 SHEET 2 OF 2 DATE STARTED: 7/2/02 DATE COMPLETED: 7/29/02						
PROJECT NAME: BRISTOL SITE NAME: BR 8 STATION: 10+600.00 GROUND EL.: 100.753			PROJECT NUMBER: BRF/STP F02I-I(15) SITE NO.: VT 116 OFFSET: -4.50 G.W. DEPTH: 2.15 (07/29/02)						
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
		A-4, Si, gry, Moist, Rec. = 0.40m	96	21.1		12.5	87.5		
		A-4, SaSi, gry, Moist, Rec. = 0.43m	R	20.6	1.2	21.4	77.4		
		A-3, Sa, gry, Moist, Rec. = 0.40m	R	20.6	0.5	89.4	10.1		
20		A-2-4, GrSa, gry, Moist, Rec. = 0.30m	58	14.8	21	66.4	12.6		
		20.57m-21.18m, Various Cobbles							
		No Rec., Rock in end of sampler	80						
		Trouble with casing, Ended hole							
		Hole stopped @ 22.25m							
		DRILLER'S NOTES:							
		1. At 4.26m-4.50m the core barrel got stuck, Pulled casing to free it, Went back down.							
25		2. At 7.20m we could not advance casing, Pulled casing and moved hole 0.60m closer to the road							

GEOLOGISTS REPORT:

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION			HOLE NO.: B-8 SHEET 1 OF 2 DATE STARTED: 8/1/02 DATE COMPLETED: 8/8/02						
PROJECT NAME: BRISTOL SITE NAME: BR 8 STATION: 10+502.00 GROUND EL.: 99.982			PROJECT NUMBER: BRF/STP F021-I(15) SITE NO.: VT 116 OFFSET: 0.00 G.W. DEPTH: 1.4 (08/08/02)						
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
▽									
		A-1-a, SaGr, gry, Moist, Rec. = 0.20m	14	11.7	63.9	30.3	5.8		
		A-4, SaSi, gry, Moist, Rec. = 0.30m	10	14.5	10.7	44.4	44.9		
5		Not enough sample.	16						
		A-4, SiSa, gry, Moist, Rec. = 0.27m	20	16	6.9	49.8	43.3		
		No Rec., Stone in end of sampler.	71						
		A-2-4, Sa, gry, Moist, Rec. = 0.50m	92	21.5	2.3	86.1	11.6		
10		A-2-4, SiSa, gry, Moist, Rec. = 0.55m	86	15.8		77.1	22.9		
		BXDC, 11.40m-12.00m, Cleaned out casing.							
		A-1-b, SaGr, gry, Moist, Rec. = 0.15m	48	7.3	54.3	28.6	17.1		
		A-4, SaSi, gry, Moist, Rec. = 0.13m	R	13.2	13.6	29.9	56.5		

GEOLOGISTS REPORT:

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION			HOLE NO.: B-8 SHEET 2 OF 2 DATE STARTED: 8/1/02 DATE COMPLETED: 8/8/02						
PROJECT NAME: BRISTOL SITE NAME: BR 8 STATION: 10+502.00 GROUND EL.: 99.982			PROJECT NUMBER: BRF/STP F021-I(15) SITE NO.: VT 116 OFFSET: 0.00 G.W. DEPTH: 1.4 (08/08/02)						
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
		A-4, SaSi HP, gry, Moist, Rec. = 0.30m	R	13.4	10.4	26	63.6		
		BXDC, 16.35m-16.50m, Cleaned out casing							
		A-2-4, SaSiGr HP, gry, Moist, Rec. = 0.18m	R	12.2	48.2	24.5	27.3		
		BXDC, 17.85m-18.0m	R	8.2	37.1	40.2	22.7		
		A-1-b, SiGrSa, gry, Moist, Rec. = 0.15m							
		Hole stopped @ 18.15m							

GEOLOGISTS REPORT:

PROJECT NAME: BRISTOL SITE NAME: BR 8 STATION: 10+554.00 GROUND EL.: 99.537	PROJECT NUMBER: BRF/STP F021-I(15) SITE NO.: VT 116 OFFSET: 3.00 G.W. DEPTH: 2.2 (08/20/02)
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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
		A-2-4, Sa, brn-gry, Moist, Rec. = 0.27m	2	25.1	9.4	78.8	11.8		
		Wood was within sample							
		BXDC, 2.65m-3.00m, Cleaned out casing.	17	15.3	18.7	38.5	42.8		
		A-4, SaSi, brn, Moist, Rec. = 0.25m							
5		A-1-b, GrSa, gry, Moist, Rec. = 0.20m	7	13.7	41.5	47.9	10.6		
		BXDC, 5.70m-6.00m, Cleaned out casing.	41	15.5	20.6	69.2	10.2		
		A-3, GrSa, gry, Moist, Rec. = 0.45m							
		A-3, Sa, gry, Moist, Rec. = 0.40m	42	18.9	6.1	84.6	9.3		
10		A-2-4, GrSa, gry, Moist, Rec. = 0.45m	45	13.4	27	61.9	11.1		
		A-1-a, SaGr, gry, Moist, Rec. = 0.35m	75	8.2	54.1	31.8	14.1		
		A-4, GrSiSa, gry, Moist, Rec. = 0.50m	R	13.7	23.6	39.8	36.6		
		A-4, SaSi HP, gry, Moist, Rec. = 0.10m	R	8.8	19.9	36.5	43.6		

GEOLOGISTS REPORT:

PROJECT NAME: BRISTOL SITE NAME: BR 8 STATION: 10+554.00 GROUND EL.: 99.537	PROJECT NUMBER: BRF/STP F021-I(15) SITE NO.: VT 116 OFFSET: 3.00 G.W. DEPTH: 2.2 (08/20/02)
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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
		Not enough sample	R						
		A-1-b, SiSaGr, gry, Moist, Rec. = 0.12m	R	8.1	48.6	26.5	24.9		
		BXDC, 16.75m-17.40m, Cored ahead, Very hard material							
		A-4, GrSaSi, gry, Moist, Rec. = 0.15m	R	10.5	29.3	32.8	37.9		
		Hole stopped @ 18.15m							

GEOLOGISTS REPORT:



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

BORING NUMBER: R-41
 SHEET 1 of 1
 DATE STARTED: 2/20/08
 DATE COMPLETED: 2/20/08

PROJECT NAME: BRISTOL
 SITE NAME: VT 116
 STATION: 10+700.00
 OFFSET: -11.00
 VTSPG: N 177637.44 m E 452374.90 m

PROJECT NUMBER: STP F021-1(15)
 SITE NUMBER:
 GROUND ELEVATION: 108.59 m
 GROUNDWATER DEPTH: No Water Found 2/20/08
 PROJECT PIN NUMBER: 78F187

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

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
 BORING TYPE: HOLLOW STEM AUGER
 SAMPLE TYPE: SPLIT BARREL & TUBE
 CHECKED BY: CCB

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
0.5									
1.0	[Diagonal Hatching]	A-7-6, Cl, brn, Moist, Rec. = 0.53 m, Hydrometer Analysis: Particles smaller than 0.002mm = 82.8%		44.5	0.0	0.4	99.6	66	36
1.5		A-7-6, Cl, brn, Moist		44.5	0.0	8.5	91.5	68	38
2.0	[Diagonal Hatching]	A-7-6, Cl, brn, Moist, Rec. = 0.60 m	5	45.6	0.0	0.4	99.6	65	36
2.5		A-7-6, Cl, brn, Moist, Rec. = 0.60 m, Hydrometer Analysis: Particles smaller than 0.002mm = 63.1%		41.1	0.0	0.6	99.4	60	32
3.0	[Diagonal Hatching]	A-7-6, Cl, brn, Moist		46.2	0.0	1.5	98.5	62	35
3.5		A-7-6, Cl, brn, Moist		43.0	0.0	1.9	98.1	62	34
4.0		A-7-6, Cl, brn, Moist, Rec. = 0.60 m	4	44.2	0.0	0.5	99.5	56	31
4.5	[Diagonal Hatching]	A-7-6, Cl, brn, Moist, Rec. = 0.60 m	5	47.8	0.0	0.9	99.1	51	28
4.20		Hole stopped @ 4.20 m							

LOG OF BORING BRISTOL STP F021-1(15) GPJ VT AOT.GDT 7/17/08



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

BORING NUMBER: R-42
 SHEET 1 of 1
 DATE STARTED: 2/21/08
 DATE COMPLETED: 2/21/08

PROJECT NAME: BRISTOL
 SITE NAME: VT 116
 STATION: 10+720.00
 OFFSET: -10.00
 VTSPG: N 177654.09 m E 452361.22 m

PROJECT NUMBER: STP F021-1(15)
 SITE NUMBER:
 GROUND ELEVATION: 109.14 m
 GROUNDWATER DEPTH: No Water Found 2/21/08
 PROJECT PIN NUMBER: 78F187

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

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
 BORING TYPE: HOLLOW STEM AUGER
 SAMPLE TYPE: SPLIT BARREL & TUBE
 CHECKED BY: CCB

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	LL (%)	PI (%)
0.5									
1.0		Field Class., Cl, brn, Moist, Rec. = 0.50 m, Shelby Tube saved for future use.							
1.5									
1.78		A-7-6, Cl, brn, Moist, Rec. = 0.28 m	5	42.6	0.0	3.8	96.2	53	27
2.10		A-6, SiCl, brn, Moist, Rec. = 0.32 m		38.1	0.0	1.3	98.7	38	16
2.5									
2.57		A-7-6, Cl, brn, Moist, Rec. = 0.57 m, Hydrometer Analysis: Particles smaller than 0.002mm = 48.9%		39.0	0.0	0.2	99.8	49	23
2.82		A-7-5, Cl, brn, Moist		39.4	0.0	0.8	99.2	66	36
3.07		A-7-6, Cl, brn, Moist, Hydrometer Analysis: Particles smaller than 0.002mm = 67.6%		44.9	0.0	0.2	99.8	64	28
3.5									
3.59		A-7-6, Cl, brn, Moist, Rec. = 0.59 m, Hydrometer Analysis: Particles smaller than 0.002mm = 51.5%		40.9	0.0	0.2	99.8	50	27
3.84		A-6, SiCl, brn, Moist, Hydrometer Analysis: Particles smaller than 0.002mm = 35.0%		39.2	0.0	2.4	97.6	40	19
4.07		A-7-6, Cl, brn, Moist, Hydrometer Analysis: Particles smaller than 0.002mm = 43.3%		41.7	0.0	0.4	99.6	43	20
4.0		Hole stopped @ 4.00 m							
4.5									

LOG OF BORING BRISTOL STP F021-1(15) GPJ VT AOT.GDT 7/17/08



PROJECT NAME: BRISTOL
SITE NAME: VT-116
STATION: 122+15
OFFSET: 40.00
VTSPG NAD83: N 582823.84 ft E 1484769.31 ft

PROJECT NUMBER: BRF 021-1(15)
SITE NUMBER: BR-6&8
GROUND ELEVATION: 327.16 ft
GROUNDWATER DEPTH: 0.8 ft 7/24/09
PROJECT PIN NUMBER: 78F187

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
0		A-4, SaSi, brn, Wet, Rec. = 1.2 ft	2	48.9	0.4	41.6	58.0
1.2		A-4, SaSi with wood and small roots, brn, Wet, Rec. = 0.6 ft	2	70.0	0.4	38.1	61.5
1.8		A-2-4, GrSiSa, gry, Wet, Rec. = 0.5 ft	7	16.2	28.5	40.4	31.1
2.3		Visual Classification, Broken Rock, gry, Wet, Rec. = 0.2 ft, Insufficient sample for testing.	16				
2.5		A-2-4, GrSiSa, gry, Wet, Rec. = 1.0 ft	11	12.8	26.4	40.8	32.8
3.5		A-2-4, SiSa, gry, Wet, Rec. = 1.1 ft	5	17.7	8.5	61.3	30.2
4.6		A-2-4, SiSa, brn, Wet, Rec. = 0.7 ft	78	20.9	2.8	64.9	32.3
5.3		A-2-4, SiSa, brn, Wet, Rec. = 1.3 ft	69	18.0	4.0	69.5	26.5
6.6		A-2-4, GrSa, brn, Wet, Rec. = 0.7 ft	50	14.4	24.1	58.8	17.1
7.3		Field Note: Cobbles, NXDC, Cleaned out casing.					
8.0		A-2-4, GrSiSa, gry, Moist, Rec. = 0.3 ft	R	8.6	25.4	42.0	32.6
8.3		A-1-b, SiGrSa, gry, Wet, Rec. = 0.2 ft	R	19.1	36.0	41.0	23.0

LOG OF BORING BRISTOL BRF 021-1(15).GPJ VT AOT.GDT 12/16/09



PROJECT NAME: BRISTOL
SITE NAME: VT-116
STATION: 122+15
OFFSET: 40.00
VTSPG NAD83: N 582823.84 ft E 1484769.31 ft

PROJECT NUMBER: BRF 021-1(15)
SITE NUMBER: BR-6&8
GROUND ELEVATION: 327.16 ft
GROUNDWATER DEPTH: 0.8 ft 7/24/09
PROJECT PIN NUMBER: 78F187

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
55		A-4, SaGrSi, gry, Moist, Rec. = 0.5 ft	R	11.7	31.4	23.2	45.4
60		A-4, Si, gry, Moist, Rec. = 0.7 ft	R	18.4	5.7	17.3	77.0
65		A-4, Si, gry, Moist, Rec. = 0.5 ft	R	16.1	12.7	18.2	69.1
70		A-2-4, SiGrSa, gry, Wet, Rec. = 0.8 ft	R	12.4	31.7	38.4	29.9
75		Field Note: No Recovery Field Note: Cored ahead to 77.0 ft, Flowing sand. Used Bentonite.	R				
80		Field Note: Unable to advance casing. Bit worn out., Put a 3" casing inside the 4" casing. A-2-4, GrSiSa, gry, Moist, Rec. = 0.5 ft	R	10.0	29.7	35.6	34.7
85		A-2-4, SiSaGr, brn, Moist, Rec. = 0.7 ft	R	9.1	47.0	27.3	25.7
90		Visual Classification, GrSiSa, brn, Moist, Rec. = 0.5 ft Hole stopped @ 87.5 ft	R	10.2			

LOG OF BORING BRISTOL BRF 021-1(15).GPJ VT AOT.GDT 12/16/09



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

BORING NUMBER: RB-04
SHEET 1 of 2
DATE STARTED: 7/28/09
DATE COMPLETED: 8/05/09

PROJECT NAME: BRISTOL
SITE NAME: VT-116
STATION: 123+92
OFFSET: 20.00
VTSPG NAD83: N 582824.91 ft E 1484590.18 ft

PROJECT NUMBER: BRF 021-1(15)
SITE NUMBER: BR-6&8
GROUND ELEVATION: 328.53 ft
GROUNDWATER DEPTH: 3.9 ft 8/05/09
PROJECT PIN NUMBER: 78F187

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, SiSa, gry-brn, Moist, Rec. = 1.5 ft	2	29.8	6.0	50.9	43.1
5		A-2-4, Sa, brn, Wet, Rec. = 2.0 ft	9	22.5	19.4	67.0	13.6
		Cobbles, 6.2 ft - 8.0 ft					
10		A-4, SaSi, brn, Wet, Rec. = 1.2 ft	14	17.6	19.3	31.9	48.8
15		A-4, SiSa, brn, Wet, Rec. = 1.7 ft	29	18.3	16.3	42.7	41.0
		Field Note: No Recovery	R				
20							
25		Field Note: No Recovery	R				
30		A-3, Sa, brn, Wet, Rec. = 1.4 ft	43	19.1	6.1	84.7	9.2
		Field Note: Lost water at 30.0 ft.					
35		A-1-b, SiSaGr, gry, Wet, Rec. = 0.5 ft Field Note: Water returned at 34.0 ft.	R	8.0	44.6	32.3	23.1
40		A-4, GrSaSi, gry, Wet, Rec. = 0.7 ft	R	12.3	26.6	28.0	45.4
45		A-4, SiGr, gry, Wet, Rec. = 0.9 ft	R	11.5	41.9	17.2	40.9
		A-4, Si, gry, Wet, Rec. = 0.8 ft	R	15.2	16.9	18.4	64.7
		Field Note: Put a 3" casing inside the 4" casing.					

LOG OF BORING BRISTOL BRF 021-1(15).CPJ VT AOT.GDT 12/16/09



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

BORING NUMBER: RB-04
SHEET 2 of 2
DATE STARTED: 7/28/09
DATE COMPLETED: 8/05/09

PROJECT NAME: BRISTOL
SITE NAME: VT-116
STATION: 123+92
OFFSET: 20.00
VTSPG NAD83: N 582824.91 ft E 1484590.18 ft

PROJECT NUMBER: BRF 021-1(15)
SITE NUMBER: BR-6&8
GROUND ELEVATION: 328.53 ft
GROUNDWATER DEPTH: 3.9 ft 8/05/09
PROJECT PIN NUMBER: 78F187

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
55		Field Note: No Recovery	R				
60		A-4, SaSi, gry, Wet, Rec. = 0.7 ft	R	14.0	19.5	30.1	50.4
65		A-4, SiSa, brn, Wet, Rec. = 0.8 ft	R	17.9	2.2	59.6	38.2
70		Cobbles, 67.5 ft - 68.5 ft A-2-4, GrSiSa, gry, Wet, Rec. = 0.4 ft	R	8.4	25.4	40.2	34.4
75		A-2-4, SiGrSa, gry, Moist, Rec. = 0.8 ft	R	8.9	33.5	40.2	26.3
80		A-4, SiSa, gry, Moist, Rec. = 1.1 ft	R	10.2	16.7	46.3	37.0
		Hole stopped @ 79.5 ft					

LOG OF BORING BRISTOL BRF 021-1(15).CPJ VT AOT.GDT 12/16/09



STATE OF VERMONT
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SUBSURFACE INFORMATION

BORING NUMBER: RB-05
SHEET 1 of 2
DATE STARTED: 8/07/09
DATE COMPLETED: 8/13/09

PROJECT NAME: BRISTOL
SITE NAME: VT-116
STATION: 125+47
OFFSET: -22.00
VTSPG NAD83: N 582801.57 ft E 1484430.72 ft

PROJECT NUMBER: BRF 021-1(15)
SITE NUMBER: BR-6&8
GROUND ELEVATION: 330.34 ft
GROUNDWATER DEPTH: 5.2 ft 8/14/09
PROJECT PIN NUMBER: 78F187

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, SiSa, brn, Moist, Rec. = 0.9 ft	2	23.0	0.0	58.0	42.0
		A-4, SiSa, brn, Moist, Rec. = 1.3 ft	2	35.4	0.0	57.7	42.3
5		NXDC, Boulder, 6.6 ft - 8.0 ft					
		A-4, SiSa, gry, Wet, Rec. = 0.7 ft	12	15.4	10.4	49.1	40.5
10							
		A-4, SaSi, gry, Wet, Rec. = 0.6 ft	14	17.7	17.2	35.1	47.7
15							
		A-4, SaSi, gry, Wet, Rec. = 1.1 ft	11	18.8	11.0	39.7	49.3
20							
		A-4, SaSi, gry, Wet, Rec. = 0.9 ft	R	17.4	13.8	22.5	63.7
25							
		A-4, SaSi, gry, Wet, Rec. = 1.0 ft	78	17.7	13.0	36.3	50.7
30							
		NXDC, Cobbles, 31.7 ft - 33.5 ft					
		A-4, GrSiSa, gry, Wet, Rec. = 0.4 ft	R	10.4	20.6	43.9	35.5
35		Field Note: Bit worn out. Inserted 3.5 inch casing.					
		Visual Classification, SiSaGr with broken rock., gry, Wet, Rec. = 0.5 ft, Insufficient sample for testing.	R				
40							
		A-4, SaSi, gry, MTW, Rec. = 1.5 ft	R	22.6	0.0	28.5	71.5
45							
		A-4, SaSi, gry, MTW, Rec. = 1.0 ft	R	23.6	0.0	35.3	64.7

LOG OF BORING BRISTOL BRF 021-1(15).GPJ VT AOT.GDT 12/16/09



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BORING NUMBER: RB-05
SHEET 2 of 2
DATE STARTED: 8/07/09
DATE COMPLETED: 8/13/09

PROJECT NAME: BRISTOL
SITE NAME: VT-116
STATION: 125+47
OFFSET: -22.00
VTSPG NAD83: N 582801.57 ft E 1484430.72 ft

PROJECT NUMBER: BRF 021-1(15)
SITE NUMBER: BR-6&8
GROUND ELEVATION: 330.34 ft
GROUNDWATER DEPTH: 5.2 ft 8/14/09
PROJECT PIN NUMBER: 78F187

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, Si, gry, MTW, Rec. = 1.3 ft	R	23.4	0.4	9.3	90.3
55							
		A-4, SiSa, gry, MTW, Rec. = 1.5 ft	R	21.4	0.0	50.6	49.4
60							
		A-2-4, SiSa, gry, MTW, Rec. = 1.4 ft, Flowing sand. Added Bentonite.	R	19.3	0.0	71.9	28.1
65							
		A-2-4, SiSa, gry, Moist, Rec. = 1.3 ft, Flowing sand. Added Bentonite.	R	19.8	0.0	74.0	26.0
70							
		A-4, SiSa, gry, MTW, Rec. = 1.5 ft, Flowing sand. Added Bentonite.	71	22.3	0.0	61.1	38.9
75							
		A-2-4, Sa, gry, Wet, Rec. = 1.4 ft, Flowing sand. Added Bentonite.	50	17.3	11.5	72.8	15.7
80							
		A-2-4, Sa, gry, Wet, Rec. = 1.2 ft	45	16.9	12.2	68.4	19.4
85		BXDC, Cobbles, 84.5 ft - 88.0 ft					
		A-2-4, GrSiSa, gry, Wet, Rec. = 0.5 ft	R	12.1	26.7	45.2	28.1
90		Boulder, 89.6 ft - 91.5 ft					
		Visual Classification, SaGr with broken rock., gry, Wet, Rec. = 0.3 ft, Insufficient sample for testing.	R				
95							
		A-4, GrSaSi, gry, Wet, Rec. = 0.4 ft	R	12.9	24.2	34.7	41.1

LOG OF BORING BRISTOL BRF 021-1(15).GPJ VT AOT.GDT 12/16/09

Hole stopped @ 98.4 ft



STATE OF VERMONT
AGENCY OF TRANSPORTATION
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BORING NUMBER: RB-06
SHEET 1 of 2
DATE STARTED: 8/20/09
DATE COMPLETED: 8/25/09

PROJECT NAME: BRISTOL PROJECT NUMBER: BRF 021-1(15)
SITE NAME: VT-116 SITE NUMBER: BR-6&8
STATION: 125+75 GROUND ELEVATION: 326.08 ft
OFFSET: 15.00 GROUNDWATER DEPTH: NONE TAKEN
VTSPG NAD83: N 582842.88 ft E 1484409.36 ft PROJECT PIN NUMBER: 78F187

BORING CREW BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
CREW CHIEF: PORTER BORING TYPE: WASH BORE
DRILLER: PORTER SAMPLE TYPE: SPLIT BARREL
LOGGER: MAHMUTOVIC CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
5		Visual Classification, GrSiSa with Wood, brn, Wet, Rec. = 0.6 ft	14	22.2			
		NXDC, Boulders & Cobbles, 5.3 ft - 7.0 ft					
		A-4, SiSa, gry, Wet, Rec. = 1.2 ft	11	16.1	16.6	44.3	39.1
10							
		A-2-4, SiSa, gry, Wet, Rec. = 2.0 ft	13	19.0	0.6	72.4	27.0
15							
		A-4, GrSaSi, gry, MTW, Rec. = 1.2 ft, Broken Rock was within sample.	36	15.4	22.6	34.2	43.2
20							
		A-4, SaSi, gry, MTW, Rec. = 1.5 ft, Broken Rock was within sample.	71	19.5	15.7	33.1	51.2
25							
		A-4, GrSiSa, gry, Wet, Rec. = 0.7 ft	R	11.2	25.8	38.6	35.6
30							
		A-2-4, SiGrSa, gry, Wet, Rec. = 0.5 ft	R	10.4	33.4	39.3	27.3
35							
		A-4, SaSi, gry, MTW, Rec. = 1.3 ft	R	18.8	0.0	25.5	74.5
40							
		A-4, SaSi, gry, MTW, Rec. = 1.2 ft	R	22.6	1.4	26.6	72.0
45							
		A-4, Si, gry, MTW, Rec. = 1.3 ft	R	21.7	0.0	14.7	85.3

LOG OF BORING BRISTOL BRF 021-1(15).GPJ VT AOT.GDT 12/16/09



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SUBSURFACE INFORMATION

BORING NUMBER: RB-06
SHEET 2 of 2
DATE STARTED: 8/20/09
DATE COMPLETED: 8/25/09

PROJECT NAME: BRISTOL PROJECT NUMBER: BRF 021-1(15)
SITE NAME: VT-116 SITE NUMBER: BR-6&8
STATION: 125+75 GROUND ELEVATION: 326.08 ft
OFFSET: 15.00 GROUNDWATER DEPTH: NONE TAKEN
VTSPG NAD83: N 582842.88 ft E 1484409.36 ft PROJECT PIN NUMBER: 78F187

BORING CREW BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
CREW CHIEF: PORTER BORING TYPE: WASH BORE
DRILLER: PORTER SAMPLE TYPE: SPLIT BARREL
LOGGER: MAHMUTOVIC CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
55		A-4, Si, gry, MTW, Rec. = 1.4 ft	R	21.1	1.2	17.6	81.2
60							
		A-2-4, SiSa, gry, MTW, Rec. = 1.2 ft	R	21.1	0.0	71.6	28.4
65							
		A-2-4, Sa, gry, MTW, Rec. = 1.0 ft, Flowing Sand. Added Bentonite.	62	22.6	0.0	84.7	15.3
70							
		A-2-4, GrSa, gry, MTW, Rec. = 1.5 ft, Flowing Sand. Added Bentonite.	45	20.9	23.1	63.9	13.0
75							
		A-3, Sa, gry, MTW, Rec. = 2.0 ft, Flowing Sand. Added Bentonite.	63	18.1	8.4	84.4	7.2
80							
		A-2-4, Sa, gry, MTW, Rec. = 0.8 ft, Flowing Sand. Added Bentonite.	65	18.6	10.2	75.5	14.3
85							
		A-2-4, SiSa, gry, MTW, Rec. = 2.0 ft, Flowing Sand. Unable to advance casing.	64	19.7	0.3	79.1	20.6
		Hole stopped @ 84.0 ft					

LOG OF BORING BRISTOL BRF 021-1(15).GPJ VT AOT.GDT 12/16/09



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SUBSURFACE INFORMATION

BORING NUMBER: RB-07
SHEET 1 of 2
DATE STARTED: 8/26/09
DATE COMPLETED: 8/26/09

PROJECT NAME: BRISTOL
SITE NAME: VT-116
STATION: 126+25
OFFSET: 15.00
VTSPG NAD83: N 582854.90 ft E 1484362.36 ft

PROJECT NUMBER: BRF 021-1(15)
SITE NUMBER: BR-6&8
GROUND ELEVATION: 331.4 ft
GROUNDWATER DEPTH: NONE TAKEN
PROJECT PIN NUMBER: 78F187

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: MAHMUTOVIC

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
5		Field Class:, Silt					
		Field Class:, NXDC, Cobbles & Gravel					
		A-1-a, SaGr, brn, Wet, Rec. = 0.7 ft	23	13.1	58.3	36.6	5.1
10							
		A-4, GrSaSi, gry, Wet, Rec. = 0.6 ft	20	12.7	27.3	34.4	38.3
15							
		No Recovery, 17.0 ft - 19.0 ft	14				
20							
		NXDC, Cobbles, 21.3 ft - 22.0 ft					
		A-4, GrSaSi, gry, MTW, Rec. = 1.3 ft	49	14.2	24.5	31.9	43.6
25							
		NXDC, Cobbles, 26.3 ft - 27.0 ft					
		A-1-b, SiGrSa, gry, Wet, Rec. = 0.6 ft	R	9.9	37.6	38.8	23.6
30							
		A-1-b, SiGrSa, gry, Wet, Rec. = 0.7 ft	R	10.3	36.6	38.1	25.3
35							
		A-4, GrSaSi, gry, Wet, Rec. = 0.6 ft	R	19.2	20.2	38.4	41.4
40							
		A-4, SaSi, gry, MTW, Rec. = 0.8 ft	R	20.5	1.5	26.7	71.8
45							
		A-4, Si, gry, MTW, Rec. = 1.2 ft	R	22.3	0.0	14.8	85.2

LOG OF BORING BRISTOL BRF 021-1(15).GPJ VT_AOT.GDT 12/16/09



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SUBSURFACE INFORMATION

BORING NUMBER: RB-07
SHEET 2 of 2
DATE STARTED: 8/26/09
DATE COMPLETED: 8/26/09

PROJECT NAME: BRISTOL
SITE NAME: VT-116
STATION: 126+25
OFFSET: 15.00
VTSPG NAD83: N 582854.90 ft E 1484362.36 ft

PROJECT NUMBER: BRF 021-1(15)
SITE NUMBER: BR-6&8
GROUND ELEVATION: 331.4 ft
GROUNDWATER DEPTH: NONE TAKEN
PROJECT PIN NUMBER: 78F187

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: MAHMUTOVIC

BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CEE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
55		A-4, Si, gry, MTW, Rec. = 1.0 ft	R	23.1	0.0	4.7	95.3
60							
		A-4, Si, gry, MTW, Rec. = 0.9 ft	R	24.3	0.0	16.8	83.2
65							
		A-4, SaSi, gry, MTW, Rec. = 1.0 ft	64	19.7	0.0	40.9	59.1
70							
		A-4, SaSi, gry, MTW, Rec. = 1.4 ft	63	23.3	0.0	37.3	62.7
75							
		A-2-4, Sa, gry, MTW, Rec. = 1.2 ft	60	21.5	0.0	82.9	17.1
80							
		A-4, SiSa, gry, MTW, Rec. = 1.3 ft	R	18.7	0.8	56.2	43.0
85							
		A-3, Sa, gry, MTW, Rec. = 0.5 ft	48	24.1	0.1	90.7	9.2
		Hole stopped @ 84.0 ft					

LOG OF BORING BRISTOL BRF 021-1(15).GPJ VT_AOT.GDT 12/16/09