

SOIL CLASSIFICATION

AASHTO

- A1 GRAVEL AND SAND
- A3 FINE SAND
- A2 SILTY OR CLAYEY GRAVEL AND SAND
- A4 SILTY SOIL - LOW COMPRESSIBILITY
- A5 SILTY SOIL - HIGHLY COMPRESSIBLE
- A6 CLAYEY SOIL - LOW COMPRESSIBILITY
- A7 CLAYEY SOIL - HIGHLY COMPRESSIBLE

UNIFIED SOIL SYSTEM

- GW/GP CLEAN GRAVELS (FEW FINES)
- GM/GC GRAVELS (APPRECIABLE FINES)
- SW/SP CLEAN SANDS (FEW FINES)
- SM/SC SAND (APPRECIABLE FINES)
- ML/CL LOW PLASTIC SILTS AND CLAYS
- OL LOW PLASTIC ORGANIC SILT
- MH/CH HIGH PLASTIC SILTS AND CLAYS
- OH HIGH PLASTIC ORGANIC SILT
- PT HIGHLY ORGANIC SILTS

MOISTURE

DESCRIPTIVE TERM	OBSERVED IN FIELD	% ± BY ANALYSIS
DRY	NO VISIBLE WATER	<10
MOIST	DAMP	10-20
MOIST TO WET	MOIST TO WET	21-50
WET	VISIBLE WATER	51-70
SATURATED		>70

ROCK QUALITY DESIGNATION

R.O.D.	ROCK DESCRIPTION
<.25	VERY POOR
.25 TO .50	POOR
.51 TO .75	FAIR
.76 TO .90	GOOD
>.90	EXCELLENT

SHEAR STRENGTH

UNRESTRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	VERY SOFT
250-500	SOFT
500-1000	MED. STIFF
1000-2000	STIFF
2000-4000	VERY STIFF
>4000	HARD

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	VERY LOOSE	<2	VERY SOFT
5-10	LOOSE	2-4	SOFT
11-24	MED. DENSE	5-8	MED. STIFF
25-50	DENSE	9-15	STIFF
>50	VERY DENSE	16-30	VERY STIFF
		31-60	HARD
		>60	VERY HARD

DEFINITIONS (AASHTO)

- BEDROCK (LEDGE)** - ROCK IN ITS NATIVE LOCATION OF INDEFINITE THICKNESS.
- BOULDER** - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION > 12 INCHES.
- COBBLE** - ROCK FRAGMENTS WITH AN AVERAGE DIMENSION BETWEEN 3 AND 12 INCHES.
- GRAVEL** - ROUNDED PARTICLES OF ROCK < 3 INCHES AND > 0.075 INCHES (#10 SIEVE)
- SAND** - PARTICLES OF ROCK < 0.075 INCHES (#10 SIEVE) AND > 0.0029 INCHES (#200 SIEVE)
- SILT** - SOIL < 0.0029 INCHES (#200 SIEVE), NON OR SLIGHTLY PLASTIC AND EXHIBITS NO STRENGTH WHEN AIR DRIED.
- CLAY** - FINE GRAINED SOIL, EXHIBITS PLASTICITY WHEN MOIST AND CONSIDERABLE STRENGTH WHEN AIR DRIED.

- VARVED** - ALTERNATE LAYERS OF SILT AND CLAY.
- HARDPAN** - EXTREMELY DENSE SOIL, CEMENTED LAYER, NOT SOFTENED WHEN WET.
- MUCK** - SOFT ORGANIC SOIL (CONTAINING > 10% ORGANIC MATERIALS).
- MOISTURE CONTENT** - WEIGHT OF WATER DIVIDED BY DRY WEIGHT OF SOIL.
- FLOWING SAND** - GRANULAR SOIL SO SATURATED (LOOSE) THAT IT FLOWS INTO DRILL CASING DURING EXTRACTION OF WASH ROD.
- STRIKE** - ANGLE FROM MAGNETIC NORTH TO LINE OF INTERSECTION OF BED WITH A HORIZONTAL PLANE.
- DIP** - INCLINATION OF BED WITH A HORIZONTAL PLANE.
- REFUSAL** - RATE OF 100 OR MORE BLOWS PER 1 FOOT PENETRATION DURING STANDARD PENETRATION TEST.

COMMONLY USED SYMBOLS

- ▼ WATER ELEVATION
- ⊕ STANDARD PENETRATION BORING
- ⊙ AUGER BORING
- ROD SOUNDING
- S SAMPLE
- N STANDARD PENETRATION TEST BLOW COUNT PER FOOT FOR: 2" O.D. SAMPLER 1 3/8" I.D. SAMPLER HAMMER WEIGHT OF 140 LBS. HAMMER FALL OF 30"
- VS FIELD VANE SHEAR TEST
- US UNDISTURBED SOIL SAMPLE
- B BLAST
- DC DIAMOND CORE
- MD MUD DRILL
- WA WASH AHEAD
- HSA HOLLOW STEAM AUGER
- AX CORE SIZE 1 1/8"
- BX CORE SIZE 1 3/8"
- NX CORE SIZE 2 1/8"
- M DOUBLE TUBE CORE BARREL USED
- LL LIQUID LIMIT
- PL PLASTIC LIMIT
- PI PLASTICITY INDEX
- NP NON PLASTIC
- w MOISTURE CONTENT (DRY WGT. BASIS)
- D DRY
- M MOIST
- MTW MOIST TO WET
- W WET
- SAT SATURATED
- Bo BOULDER
- Gr GRAVEL
- Sa SAND
- SI SILT
- CL CLAY
- HP HARDPAN
- Le LEDGE
- NLTD NO LEDGE TO DEPTH
- CNPF CAN NOT PENETRATE FURTHER
- TLOB TO LEDGE OR BOULDER
- NR NO RECOVERY
- REC RECOVERY
- %REC PERCENT RECOVERY
- ROD ROCK QUALITY DESIGNATION
- CBR CALIFORNIA BEARING RATIO
- < LESS THAN
- > GREATER THAN
- R REFUSAL

COLOR

BLK	BLACK	PNK	PINK
BL	BLUE	PU	PURPLE
BRN	BROWN	RD	RED
DK	DARK	TN	TAN
GR	GRAY	WH	WHITE
GN	GREEN	YEL	YELLOW
LT	LIGHT	MLTC	MULTICOLORED
OR	ORANGE		

SPRINGFIELD BRS-RS-013(8)
BORING NO. R-1

ELEV.	DEPTH	BLOWS ON CASING	STANDARD PENETRATION	SAMPLE NUMBER	MOISTURE	COLOR	LABORATORY CLASSIFICATION OF SOIL
306.5							
	5		16		M	BRN	A-4, SANDY SILT, REC=1.0 W=33.9% 9/7/94
	10		12		W	BRN	A-4, SANDY SILT, REC=1.0 W=30.4% POS. BEDROCK @ 12.0' ADV. CASING 12.0-15.0' HOLE STOPPED @ 15.0' IN POSS. BEDROCK
	15						
	20						

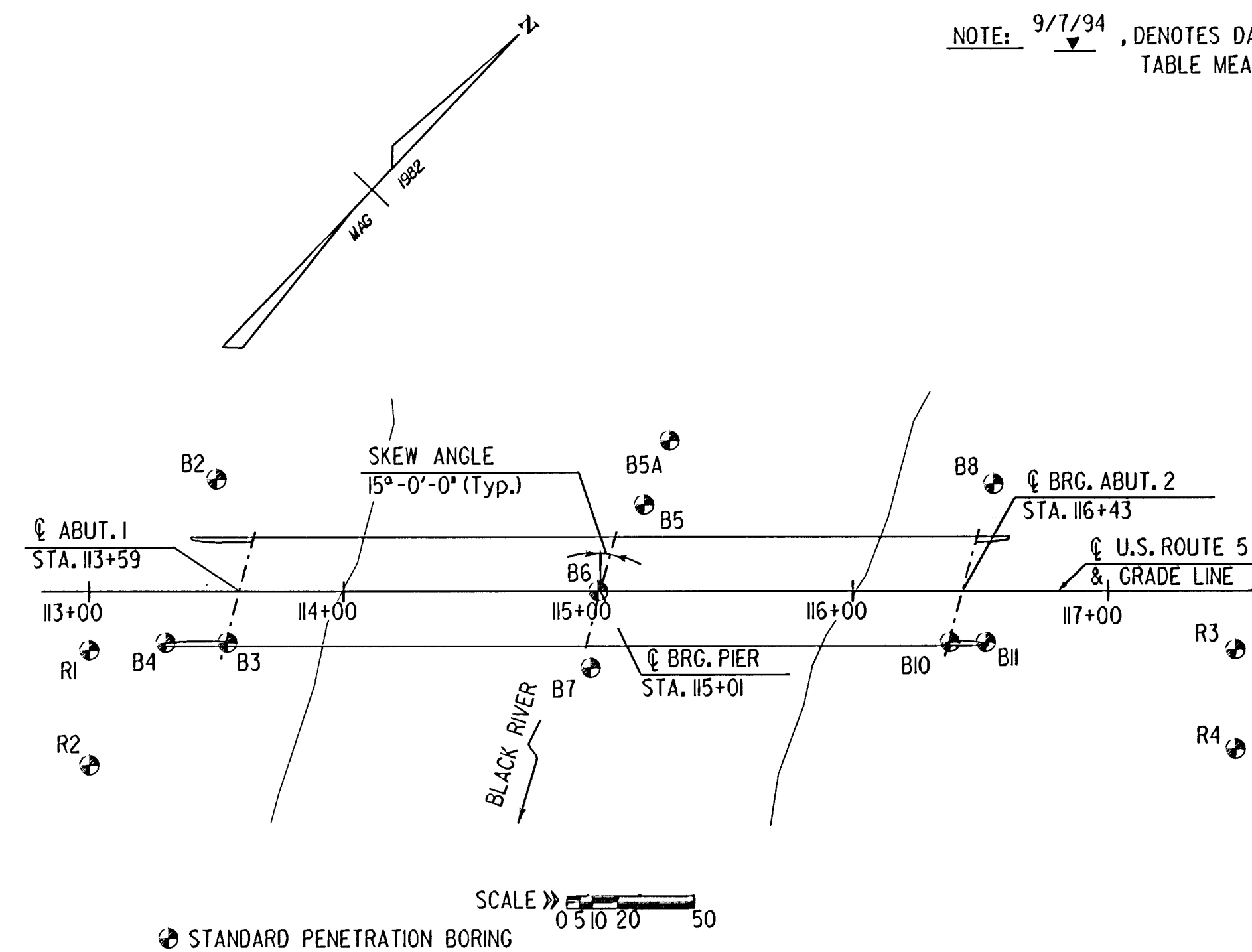
SPRINGFIELD BRS-RS-013(8)
BORING NO. R-2

ELEV.	DEPTH	BLOWS ON CASING	STANDARD PENETRATION	SAMPLE NUMBER	MOISTURE	COLOR	LABORATORY CLASSIFICATION OF SOIL
305.0							
	5		16		M	BRN	A-4, SILTY SAND, REC=0.9 W=27.2% 9/7/94
	10		8		M	BRN	A-4, SILTY SAND, REC=1.3 W=32.7%
	15		29		M	BRN	A-4, GRAVELLY SILT, REC=0.4 W=16.9%
	20						POSS. BEDROCK @ 20.0'
	25						ADVANCED CASING 20.0'-25.0' IN ROCK HOLE STOPPED @ 25.0'

STANDARD PENETRATION BORINGS

BORING NO.	STATION	OFFSET
R1	113+00	23' RT.
R2	113+00	68' RT.
R3	117+50	23' RT.
R4	117+50	62' RT.
B2	113+50	44' LT.
B3	113+50	20' RT.
B4	113+30	20' RT.
B5	115+18	34' LT.
B5A	115+28	59' LT.
B6	115+00	℄
B7	114+97	30' RT.
B8	116+55	42' LT.
B10	116+38	20' RT.
B11	116+52	20' RT.

NOTE: 9/7/94, DENOTES DATE OF GROUND TABLE MEASUREMENT.



GENERAL NOTES

- THE SUBSURFACE EXPLORATIONS SHOWN HEREIN WERE MADE BETWEEN 8/1/94 AND 9/8/94 BY THE AGENCY.
- SOIL AND ROCK CLASSIFICATIONS, PROPERTIES AND DESCRIPTIONS ARE BASED ON ENGINEERING INTERPRETATION FROM AVAILABLE SUBSURFACE INFORMATION BY THE AGENCY AND MAY NOT NECESSARILY REFLECT ACTUAL VARIATIONS IN SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED BETWEEN INDIVIDUAL BORING OR SAMPLE LOCATIONS.
- OBSERVED WATER LEVELS AND/OR CONDITIONS INDICATED ARE AS RECORDED AT THE TIME OF EXPLORATION AND MAY VARY ACCORDING TO THE PREVAILING RAINFALL, METHODS OF EXPLORATION AND OTHER FACTORS.
- ENGINEERING JUDGEMENT WAS EXERCISED IN PREPARING THE SUBSURFACE INFORMATION PRESENTED HEREIN. ANALYSIS AND INTERPRETATION OF SUBSURFACE DATA WAS PERFORMED AND INTERPRETED FOR AGENCY DESIGN AND ESTIMATING PURPOSES. PRESENTATION OF THE INFORMATION IN THE CONTRACT IS INTENDED TO PROVIDE THE CONTRACTOR ACCESS TO THE SAME DATA AVAILABLE TO THE AGENCY. THE INFORMATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION, INDEPENDENT INTERPRETATION, INDEPENDENT ANALYSIS OR JUDGEMENT BY THE CONTRACTOR.
- PICTORIAL STRUCTURE DETAILS SHOWN ON THE BORING PLAN LAYOUT OR SOILS PROFILE ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY NOT ACCURATELY PORTRAY FINAL CONTRACT DETAILS

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	SPRINGFIELD	Bridge No.	44
Highway No.	U.S. ROUTE 5	Log Sta.	
		Surv. Sta.	
U.S. ROUTE 5 OVER BLACK RIVER			
BORING INFORMATION SHT-1			
Designed By	S. BAKI	Drawn By	K. NICHOLS/W. GAYNOR
Checked By	S. BAKI	Date	MARCH 1995
		Bridge Design Supervisor	P. PIERCE
		Date	5/96
PROJECT	SPRINGFIELD	PROJECT NO.	BRS-RS 0113 (8)
I.G.C. Info.	c:\usr\j9145622\sprborlg.dgn		
Bridge Sheet No.	BR105	Sheet	34 of 90