



GEOTECHNICAL CORING LOG

Prepared By: MBL Date: 3/5/14

Checked By: JCM Date: 3/5/14

SHEET 1 OF 2

BECHTEL PROJECT NO.: 25847				AMEC PROJECT NO.: 6468-13-1072				COUNTY: Roane, TN		GEOLOGIST: M. Flanik			
SITE DESCRIPTION: Clinch River SMR Project, Roane County, Tennessee								DRILLER: J. Landeros/N. Molinalara				Boring Orientation	
BORING NO.: MP-115				DRILL METHOD: Mud Rotary/Core				DRILL MACHINE: CME-550X (P)				Inclination: Vertical	
GROUND ELEV.: 796.9 ft (NAVD88)				NORTHING: 570,095 US ft (NAD83)				EASTING: 2,448,562 US ft (NAD83)				Azimuth: NA	
TOTAL DEPTH: 99.1 ft			SAMPLE METHODS: ASTM D 1586-11; 2488-09a; 2113-08; 6032-08							HAMMER (ID): 140-lb Auto (337153)			
DATE STARTED: 6/23/13			COMPLETED: 6/24/13		CASING DEPTH: 16.7 ft		CORE BARREL TYPE: HQ3/Diamond Impregnated core bits						
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %		RQD (ft) %	SAMP. NO.	L O G	ROCK DESCRIPTION AND REMARKS				
									Begin Coring @ 17.5 ft				
779.4 777.8	17.5 19.1	1.6	6:30 2:54/0.6	(1.6) 100%	(0.9) 56%	Run 1			179.4	LIMESTONE (MICRITE), gray (N 6/ to N 5/), strong, very thinly to moderately bedded, slightly weathered to fresh, interbedded with few to little, mostly laminated to thin, wavy and diffuse Calcareous SILTSTONE, very dark gray (N 3/); locally strongly bioturbated with vertical and horizontal burrows, trace to few calcite filled pits and burrows and sparry calcite "bird eyes", strong HCl reaction (Benbolt Formation-Unit E) 17.8,18.1,18.5ft: BJ, 10-25°, PS-US, PO-O, C, III-IV 19.3-19.5ft: FZ, 30-40°, PS-SR, O, D, IV 20.0ft: J, 35°, SR, PO, C, III 20.4,20.7,20.8,21.7,22.2,22.4,23.4,23.6ft: BJ, 30-35°, PR-PS, T-O, B-D, II-IV 23.1ft: J, 45°, T, A, I (intact) 24.0,24.5,24.7,24.8ft: BJ, 25-30°, PR, PO-O, C, IV 25.1,25.2,25.4,25.5,27.0,28.0,28.7ft: BJ, 30°, PR, T-O,B-D, III-IV 25.3,25.6,26.2,26.8,27.4ft: J, 40-60°, PR, T-PO, C, III		17.5	
		5.0	3:30 2:49 2:33 3:22 5:00	(5.0) 100%	(2.9) 58%	Run 2							
772.8	24.1	5.0	3:29 4:30 3:58 5:10 4:37	(5.0) 100%	(3.1) 62%	Run 3							
767.8	29.1	5.0	2:50 3:30 4:30 4:55 4:33	(5.0) 100%	(4.5) 90%	Run 4							
		5.0	4:06 3:57 4:29 4:09 3:04	(5.0) 100%	(4.9) 98%	Run 5							
757.8	39.1	5.0	2:54 2:35 2:39 2:47 2:53	(5.0) 100%	(5.0) 100%	Run 6							
		5.0	3:33 3:36 2:59 3:09 2:59	(5.0) 100%	(4.7) 94%	Run 7							
747.8	49.1	5.0	4:59 4:07 3:33 3:20 3:02	(5.0) 100%	(5.0) 100%	Run 8							
742.8	54.1	5.0	2:20 2:25 2:22 2:30 2:45	(5.0) 100%	(4.7) 94%	Run 9							
737.8	59.1	1.2	2:20	(1.2) 100%	(1.2) 100%	Run 10							
736.6	60.3	3.8	0:24/0.2 3:36/0.8 3:09 3:33 3:31	(3.8) 100%	(3.8) 100%	Run 11 L3-23							
732.8	64.1	5.0	3:27 2:39	(5.0) 100%	(5.0) 100%	Run 12							

CLINCH RIVER SMR CORE FINAL CLINCH FINAL LOGS.GPJ CLINCH BORING DATA TEMPLATE.GDT 3/5/14



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GROUND ELEV.: 796.9 ft (NAVD88)		NORTHING: 570,095 US ft (NAD83)		EASTING: 2,448,562 US ft (NAD83)	Azimuth: NA
TOTAL DEPTH: 99.1 ft		SAMPLE METHODS: ASTM D 1586-11; 2488-09a; 2113-08; 6032-08			HAMMER (ID): 140-lb Auto (337153)
DATE STARTED: 6/23/13		COMPLETED: 6/24/13	CASING DEPTH: 16.7 ft	CORE BARREL TYPE: HQ3/Diamond Impregnated core bits	

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	REC. (ft) %	RQD (ft) %	SAMP. NO.	LOG	ROCK DESCRIPTION AND REMARKS
								Continued from previous page
727.8	69.1	5.0	2:48 2:36 2:12			Run 13 L3-24		LIMESTONE (MICRITE), gray (N 6/ to N 5/), strong, very thinly to moderately bedded, slightly weathered to fresh, interbedded with few to little, mostly laminated to thin, wavy and diffuse Calcareous SILTSTONE, very dark gray (N 3/); locally strongly bioturbated with vertical and horizontal burrows, trace to few calcite filled pits and burrows and sparry calcite "bird eyes", strong HCl reaction (Benbolt Formation-Unit E) (<i>continued</i>)
722.8	74.1	5.0	3:23 2:40 2:27 3:15 3:25	(5.0) 100%	(5.0) 100%	Run 14		71.1ft: As above, little to some Calcareous SILTSTONE interbeds
717.8	79.1	5.0	3:29 3:04 3:22 3:50 3:27	(5.0) 100%	(5.0) 100%	Run 15		723.5 721.0 CALCAREOUS SILTSTONE, greenish black (10Y 2.5/1), weak to medium strong, very thinly to moderately bedded, fresh, interbedded with few, laminated to very thin, amorphous LIMESTONE (MICRITE), dark gray (N 4/); strong HCl reaction
712.8	84.1	5.0	4:27 3:43 3:24 3:27 3:21	(5.0) 100%	(4.5) 90%	Run 16		713.4 LIMESTONE (MICRITE), dark gray (N 4/), medium strong to strong, laminated to very thinly bedded, fresh, interbedded with some, laminated to very thinly bedded Calcareous SILTSTONE, greenish black (10Y 2.5/1); trace calcite filled pits and burrows, strong HCl reaction
707.8	89.1	5.0	5:08 3:35 3:24 3:45 2:33	(5.0) 100%	(4.2) 84%	Run 17		83.1ft: BJ, 30°, PR, PO, B, II
702.8	94.1	5.0	3:23 2:54 3:00 3:00 2:41	(4.9) 98%	(4.9) 98%	Run 18		713.4 LIMESTONE (MICRITE/WACKESTONE), gray (N 5/) to dark gray (N 4/), medium strong to strong, very thinly to moderately bedded, fresh, interbedded with little, laminated to thin, wavy to irregular Calcareous SILTSTONE, greenish black (10Y 2.5/1), and few very thin to thin chert beds, lenses, and nodules (dark gray to black, with calcite healed tensional fractures orthogonal to bedding); trace calcite and pyrite filled burrows, strong HCl reaction
697.8	99.1							83.6,83.7,83.8,83.9ft: SH, 20-25°, PL, T, B, II 85.2ft: BJ, 25°, PR, T, B, III, trace pyrite 90.3,93.7ft: BJ, 30°, PS, T, B, II-III 93.2ft: J, 65°, PR, T, C, III
								Boring and coring terminated at 99.1 feet.

CLINCH RIVER SMR CORE FINAL CLINCH FINAL LOGS.GPJ CLINCH BORING DATA TEMPLATE.GDT 3/5/14

MP-115 – Boxes 1 and 2



MP-115 – Boxes 3 and 4



MP-115 – Boxes 5 and 6



