



GEOTECHNICAL BORING LOG

Prepared By JPM Date 5-3-08
Checked By JPM Date 5-3-08

SHEET 1 OF 2

BECHTEL PROJECT NO.: 25409				MACTEC PROJECT NO.: 6468-07-1950				COUNTY: Miami-Dade		GEOLOGIST: G. Pillappa						
SITE DESCRIPTION: Turkey Point COL				DRILL MACHINE: CME-550 (ATL)				DRILLER: L. Carter/ J. Landeros				GROUND WATER (ft)				
BORING NO.: B-721				DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/Core				0 HR. NA				
GROUND ELEV.: -1.5 ft (NAVD88)				NORTHING: 397,338 US ft (NAD83/90)				EASTING: 876,120 US ft (NAD83/90)				24 HR. NA				
TOTAL DEPTH: 127.4 ft				BORING DIAMETER: 4" to 36.0', 3" to 127.4'				CASING DEPTH: 4" to 36.0', 3" to 117.2'				HAMMER (ID): 140 lb. Auto (MEC-03)				
DATE STARTED: 4/21/08				COMPLETED: 4/23/08				CORE SIZE: HQ3				BITS USED: 2 7/8" Tricone				
ELEV.	DEPTH	BLOW COUNT			BLOWS PER FOOT					SAMP.	LOG	SOIL AND ROCK DESCRIPTION				
(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	20	40	60	80	100			NO.	MOI		
-1.5					Ground Surface											
-1.5	0.0	WOH	WOH	WOH	0						721-1		-1.5		0.0	MUCK, very dense, gray (10YR3/1), very soft, wet, mostly organic, strong HCl reaction
-4.0	2.5										721-2A&B		-5.0		3.5	2.5ft: very dark brown (10YR3/3), to dark yellowish brown (10YR4/4)
-6.5	5.0	WOH	9	16							721-3					LIMESTONE, boundstone, light olive gray (5YR6/2), soft, wet, strong HCl reaction (Miami Formation)
-9.0	7.5										721-4					5.0ft: white (10YR8/1), very soft, fossiliferous, oolitic
-11.5	10.0										721-5					7.5ft: light gray (10YR7/1), soft
-14.0	12.5										721-6					10.0ft: white (10YR8/1), very soft
-16.5	15.0										721-7					12.5ft: soft
																15.0ft: light gray (10YR7/1), hard
-21.2	19.7										721-8					19.7ft: white (10YR8/1), very soft
-26.0	24.5										721-9		-25.5		24.0	LIMESTONE, boundstone, white (10YR8/1), medium hard, wet, trace shell fragments, strong HCl reaction (Upper Fort Thompson Formation)
-31.0	29.5										721-10					29.5ft: very soft, trace coralline
																31.5ft: loss of circulation
-36.0	34.5										721-11					34.5ft: light gray (10YR7/1)
-37.5	36.0										RUN-1					36.0ft: Switch sampling method to coring
-38.7	37.2										RUN-2					LIMESTONE, boundstone, white (10YR8/1), to light gray (10YR7/1), medium hard to hard, indurated, trace coralline, fossiliferous, trace clayey sand, strong HCl reaction, few vugs
																37.2ft: hard
-43.7	42.2										RUN-3					42.2ft: white (10YR8/1), to 45.7ft then gray (10YR6/1), very hard
-48.7	47.2										RUN-4		-49.2		47.7	47.2ft: light gray (10YR7/2) to 47.7ft. hard
																LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace vugs, fossiliferous, trace to few shell molds and casts, strong HCl reaction (Lower Fort Thompson Formation)
-53.7	52.2										RUN-5					52.2ft: medium hard to hard, friable to indurated, trace clayey sand
-58.7	57.2										RUN-6					57.2ft: moderately hard to hard, indurated
-63.7	62.2										RUN-7					62.2ft: moderately hard to hard
-68.7	67.2										RUN-8					67.2ft: hard
																67.2 to 72.2ft: possible sand interbeds
-73.7	72.2										RUN-9					

TURKEY POINT COL BORE TURKEY POINT GP1 TURKEY POINT COL GDT 5/3/08



SHEET 2 OF 2

BECHTEL PROJECT NO.: 25409			MACTEC PROJECT NO.: 6468-07-1950			COUNTY: Miami-Dade			GEOLOGIST: G. Pillappa					
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BORING NO.: B-721			DRILL METHOD: Mud Rotary/Core			SAMPLE METHODS: SPT/Core			0 HR. NA					
GROUND ELEV.: -1.5 ft (NAVD88)			NORTHING: 397,338 US ft (NAD83/90)			EASTING: 876,120 US ft (NAD83/90)			24 HR. NA					
TOTAL DEPTH: 127.4 ft			BORING DIAMETER: 4" to 36.0', 3" to 127.4'			CASING DEPTH: 4" to 36.0', 3" to 117.2'			HAMMER (ID): 140 lb. Auto (MEC-03)					
DATE STARTED: 4/21/08			COMPLETED: 4/23/08			CORE SIZE: HQ3			BITS USED: 2 7/8" Tricone					
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100	MOI			
-76.3					Continued from previous page									
-78.7	77.2									RUN-10		LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace vugs, fossiliferous, trace to few shell molds and casts, strong HCl reaction (Lower Fort Thompson Formation) (continued) 77.2ft: moderately hard to hard, trace to few shell molds and casts 82.2ft: hard		
-83.7	82.2									RUN-11				
-88.7	87.2									RUN-12				
-93.7	92.2									RUN-13				
-98.7	97.2									RUN-14		94.2ft: possible 0.9ft-thick sand interbed		
-103.7	102.2									RUN-15				
-108.7	107.2									RUN-16				
-113.7	112.2									RUN-17				
-118.7	117.2	9	5	6						721-12		112.2ft: white (10YR8/1), to very pale brown (10YR8/4), to light gray (10YR7/1) Silty SAND (SM), pale yellow (5Y7/4), medium dense, wet, trace limestone fragments, weak HCl reaction, fine grained sand (Tamiami Formation) 117.2ft: Switch sampling method to SPT		
-127.4	125.9	13	14	8						721-13				
												-115.5	114.0	
												-128.9	127.4	
Boring Terminated at Elevation -128.9 ft														

TURKEY POINT COL BORE TURKEY POINT COL GDI 5/30/08



SHEET 1 OF 2

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TOTAL DEPTH: 127.4 ft		CASING DEPTH: 4" to 36.0', 3" to 117.2'			HAMMER (ID): 140 lb. Auto (MEC-03)
DATE STARTED: 4/21/08		COMPLETED: 4/23/08		CORE SIZE: HQ3	CORE BARREL TYPE: Triple Tube Wireline (Split inner liners)

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		L O G	DESCRIPTION AND REMARKS
REC. (ft) %	ROD (ft) %	REC. (ft) %	ROD (ft) %							
										Begin Coring @ 36.0 ft
-37.5	36.0	1.2	1.02	(1.2)	(0.0)	RUN-1	(11.3)	(8.1)		LIMESTONE, boundstone, white (10YR8/1), medium hard, wet, trace shell fragments, strong HCl reaction (Upper Fort Thompson Formation) (continued)
-38.7	37.2	5.0	0.10/0.2	100%	0%	RUN-2	97%	69%		LIMESTONE, boundstone, white (10YR8/1), to light gray (10YR7/1), medium hard to hard, indurated, trace coralline, fossiliferous, trace clayey sand, strong HCl reaction, few vugs
-43.7	42.2		1.45	(4.6)	(2.6)					37.2ft: hard
			3.36	92%	52%					42.2ft: white (10YR8/1), to 45.7ft then gray (10YR6/1), very hard
		5.0	2.14			RUN-3				
			2.36							
			2.37	(5.0)	(5.0)					
-48.7	47.2		4.33	100%	100%					
		5.0	3.42			RUN-4				
			2.45							
			2.17							
			2.01							
-53.7	52.2		1.52	(5.0)	(5.0)		(48.7)	(27.8)		47.2ft: light gray (10YR7/2) to 47.7ft, hard
		5.0	1.49	100%	100%	RUN-5	73%	42%		LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace vugs, fossiliferous, trace to few shell molds and casts, strong HCl reaction (Lower Fort Thompson Formation)
			2.20							
			1.47							
			1.39							
-58.7	57.2		1.15	(5.0)	(2.8)	RUN-6				52.2ft: medium hard to hard, friable to indurated, trace clayey sand
		5.0	1.31	100%	56%					
			2.02							
			1.32							
			1.34							
-63.7	62.2		0.40	(4.6)	(3.7)	RUN-7				57.2ft: moderately hard to hard, indurated
		5.0	1.41	92%	74%					
			2.03							
			2.43							
			1.29							
-68.7	67.2		0.57	(4.0)	(1.5)	RUN-8				62.2ft: moderately hard to hard
		5.0	0.21	80%	30%					
			1.59							
			2.00							
			2.03							
-73.7	72.2		1.10	(1.8)	(0.0)	RUN-9				67.2ft: hard
		5.0	1.05	36%	0%					67.2 to 72.2ft: possible sand interbeds
			3.37							
			1.10							
			0.53							
-78.7	77.2		1.27	(4.5)	(3.4)	RUN-10				
		5.0	1.52	90%	68%					
			1.34							
			0.59							
			2.12							
-83.7	82.2		1.43	(3.3)	(0.8)	RUN-11				77.2ft: moderately hard to hard, trace to few shell molds and casts
		5.0	0.55	66%	16%					
			1.07							
			1.12							
			1.31							
-88.7	87.2		0.45	(3.9)	(2.2)	RUN-12				82.2ft: hard
		5.0	1.41	78%	44%					
			0.40							
			4.08							
			3.07							
-93.7	92.2		2.49	(3.1)	(1.9)	RUN-13				
		5.0	2.30	62%	38%					
			0.31							
			1.26							
			1.11							
-98.7	97.2		0.42	(2.6)	(1.2)	RUN-14				94.2ft: possible 0.9ft-thick sand interbed
		5.0	0.37	52%	24%					
			0.02							
			0.39							
			0.26							
-103.7	102.2		0.04	(3.2)	(1.7)	RUN-15				
		5.0	0.10	64%	34%					
			0.59							
			2.42							
			1.10							
-108.7	107.2		2.10	(5.0)	(2.8)	RUN-16				
		5.0	2.19	100%	56%					
			1.12							
			0.59							
			1.22							
			0.39	(3.0)	(1.3)					
			0.29	60%	26%					
			0.35							

TURKEY POINT COL CORE TURKEY POINT COL GDT 5-30-08