



GEOTECHNICAL BORING LOG

Prepared By WFL Date 9-27-08

Checked By WFL Date 9-29-08

Revised  
9-29-08

SHEET 1 OF 3

BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade		GEOLOGIST: G. Pillappa							
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-55 LC (RAL)		DRILLER: R. Banks/ J. Rosser		GROUND WATER (ft)							
BORING NO.: B-615		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core		0 HR.	NA						
GROUND ELEV.: -1.5 ft (NAVD88)		NORTHING: 397,167 US ft (NAD83/90)		EASTING: 876,762 US ft (NAD83/90)		24 HR.	NA						
TOTAL DEPTH: 150.6 ft		BORING DIAMETER: 4" to 23.6', 3" to 150.6'		CASING DEPTH: 4" to 23.6', 3" to 117.3'		HAMMER (ID): 140 lb. Auto (MEC-02)							
DATE STARTED: 3/24/08		COMPLETED: 3/26/08		CORE SIZE: HQ3		BITS USED: 2 7/8" & 3 7/8" Tricones							
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
-1.5	0.0	WOH	WOH	WOH	Ground Surface								0.0
-4.3	2.8	WOH	WOH	WOH						615-1		MUCK, dark brown (7.5Y3/2), very soft, wet, strong HCl reaction	
-6.0	4.5	WOH	WOH	WOH						615-2			
-8.5	7.0	1	4	5						615-3		LIMESTONE, boundstone, white (10YR8/1), very soft, wet, strong HCl reaction, oolitic (Miami Formation)	4.5
-10.5	9.0	50/0.5								615-4		7.0ft: hard	
-13.0	11.5	2	8	8						615-5		9.0ft: very soft	
-14.7	13.2	6	27	14						615-6		11.5ft: medium hard, trace shells	
-19.8	18.3	7	8	6						615-7		13.2ft: very soft	
-24.5	23.0	11	5	9						615-8			
-26.0	24.5	5	11	50/0.5						615-9		23.0ft: hard	
-26.8	25.3									RUN-1		Field notes do not indicate that sample 615-9 was split into two jars	24.0
-31.8	30.3									RUN-2		LIMESTONE, boundstone, white (10YR8/1), hard, wet, strong HCl reaction (Upper Fort Thompson Formation)	
-36.8	35.3									RUN-3		24.5ft: Switch sampling method to coring	
-41.8	40.3									RUN-4		24.5ft: white, 10YR8/1, hard, indurated, coralline, strong HCl reaction, recrystallized calcite	
-46.8	45.3									RUN-5		25.3ft: white (10YR8/1), to light yellowish brown (10YR6/4)	
-51.8	50.3									RUN-6		30.3ft: white (10YR8/1), fossiliferous	
-56.8	55.3									RUN-7		35.3ft: few vugs	
-61.8	60.3									RUN-8			
-66.8	65.3									RUN-9		40.3ft: white (2.5Y8/1)	
-71.8	70.3									RUN-10			
										RUN-11		45.3ft: white (2.5Y8/1) to 45.7ft, then gray (10YR6/1) to 48.0ft	48.0
												LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, fossiliferous, trace shells, few vugs, strong HCl reaction (Lower Fort Thompson Formation)	
												70.3ft: white (5Y8/1), trace fine sand	

TURKEY POINT COL BORE TURKEY POINT GPJ TURKEY POINT COL GDT 9/29/08



BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade		GEOLOGIST: G. Pillappa							
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-55 LC (RAL)		DRILLER: R. Banks/ J. Rosser		GROUND WATER (ft)							
BORING NO.: B-615		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core		0 HR. NA							
GROUND ELEV.: -1.5 ft (NAVD88)		NORTHING: 397,167 US ft (NAD83/90)		EASTING: 876,762 US ft (NAD83/90)		24 HR. NA							
TOTAL DEPTH: 150.6 ft		BORING DIAMETER: 4" to 23.6', 3" to 150.6'		CASING DEPTH: 4" to 23.6', 3" to 117.3'		HAMMER (ID): 140 lb. Auto (MEC-02)							
DATE STARTED: 3/24/08		COMPLETED: 3/26/08		CORE SIZE: HQ3		BITS USED: 2 7/8" & 3 7/8" Tricones							
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
-76.3					Continued from previous page								
-76.8	75.3												
-81.8	80.3									RUN-12		LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, fossiliferous, trace shells, few vugs, strong HCl reaction (Lower Fort Thompson Formation) (continued)	
-84.8	83.3									RUN-13		Silty SAND (SM), white (5Y8/1), wet, trace shell fragments, strong HCl reaction	
-88.8	87.3									RUN-14		LIMESTONE, boundstone, white (5Y8/1), hard, indurated, trace fine sand, fossiliferous, strong HCl reaction, few vugs	
-93.8	92.3									RUN-15		87.3ft: few shell molds and casts	
-98.8	97.3									RUN-16			
-103.8	102.3									RUN-17		97.3ft: coralline, little shell molds and casts	
-108.8	107.3									RUN-18			
-113.8	112.3									RUN-19		107.3ft: few to little shell molds and casts	
-118.8	117.3									RUN-20		-114.5	
-118.8	117.3	27	22	31						615-10		Silty SAND (SM), pale yellow (5Y8/2), very dense, moist, fine grained sand, limestone fragments, strong HCl reaction (Tamiami Formation) 117.3ft: Switch sampling method to SPT	
-128.5	127.0	4	8	8						615-11		127ft: dark greenish gray (10Y4/1), medium dense, weak HCl reaction	
-140.6	139.1	27	24	16						615-12		139.1ft: dense, trace shell fragments	
-150.6	149.1												

TURKEY POINT COL BORE TURKEY POINT GP1 TURKEY POINT COL.GDT 9:29/08

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BECHTEL PROJECT NO.: 25409			MACTEC PROJECT NO.: 6468-07-1950			COUNTY: Miami-Dade		GEOLOGIST: G. Pillappa					
SITE DESCRIPTION: Turkey Point COL			DRILL MACHINE: CME-55 LC (RAL)			DRILLER: R. Banks/ J. Rosser			GROUND WATER (ft)				
BORING NO.: B-615			DRILL METHOD: Mud Rotary/ Core			SAMPLE METHODS: SPT/Core			0 HR. NA				
GROUND ELEV.: -1.5 ft (NAVD88)			NORTHING: 397,167 US ft (NAD83/90)			EASTING: 876,762 US ft (NAD83/90)			24 HR. NA				
TOTAL DEPTH: 150.6 ft		BORING DIAMETER: 4" to 23.6', 3" to 150.6'			CASING DEPTH: 4" to 23.6', 3" to 117.3'			HAMMER (ID): 140 lb. Auto (MEC-02)					
DATE STARTED: 3/24/08		COMPLETED: 3/26/08		CORE SIZE: HQ3			BITS USED: 2 7/8" & 3 7/8" Tricones						
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
-151.1													
		6	10	12						615-13			
													Continued from previous page
													149.1ft: medium dense Boring Terminated at Elevation -152.1 ft

TURKEY POINT COL BORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 9:29:08



BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade		GEOLOGIST: G. Pillappa	
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-55 LC (RAL)		DRILLER: R. Banks/ J. Rosser		GROUND WATER (ft)	
BORING NO.: B-615		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core		0 HR. NA	
GROUND ELEV.: -1.5 ft (NAVD88)		NORTHING: 397,167 US ft (NAD83/90)		EASTING: 876,762 US ft (NAD83/90)		24 HR. NA	
TOTAL DEPTH: 150.6 ft		CASING DEPTH: 4" to 23.6', 3" to 117.3'				HAMMER (ID): 140 lb. Auto (MEC-02)	
DATE STARTED: 3/24/08		COMPLETED: 3/26/08		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		LOG	DESCRIPTION AND REMARKS
				REC. (%)	ROD (%)		REC. (%)	ROD (%)		
										Begin Coring @ 24.5 ft
-26.0	24.5	0.8	0:30/0.8	(0.7)	(0.5)	RUN-1	(17.2)	(12.5)		LIMESTONE, boundstone, white (10YR8/1), hard, wet, strong HCl reaction (Upper Fort Thompson Formation)
-26.8	25.3	5.0	0:42	88%	63%	RUN-2	73%	53%		24.5ft: Switch sampling method to coring (continued)
			0:19	(3.3)	(2.5)					24.5ft: white, 10YR8/1, hard, indurated, coralline, strong HCl reaction, recrystallized calcite
			0:34	66%	50%					25.3ft: white (10YR8/1), to light yellowish brown (10YR6/4)
			0:26							30.3ft: white (10YR8/1), fossiliferous
			0:21							
-31.8	30.3	5.0	0:32	(4.6)	(3.6)	RUN-3				
			0:46	92%	72%					
			0:35							
			0:33							
			0:23							
-36.8	35.3	5.0	0:41	(2.3)	(0.5)	RUN-4				35.3ft: few vugs
			0:22	46%	10%					
			0:23							
			0:23							
			0:31							
-41.8	40.3	5.0	0:25	(3.7)	(2.9)	RUN-5				40.3ft: white (2.5Y8/1)
			0:15	74%	58%					
			0:26							
			0:39							
			0:40							
-46.8	45.3	5.0	0:34	(4.9)	(4.8)	RUN-6				45.3ft: white (2.5Y8/1) to 45.7ft, then gray (10YR6/1) to 48.0ft
			0:33	98%	96%					
			0:25							
			0:17							
			0:34				(22.0)	(13.2)		48.5
-51.8	50.3	5.0	1:01	(5.0)	(4.2)	RUN-7	70%	42%		LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, fossiliferous, trace shells, few vugs, strong HCl reaction (Lower Fort Thompson Formation)
			0:28	100%	84%					
			0:25							
			0:19							
			0:24							
-56.8	55.3	5.0	0:22	(4.9)	(3.1)	RUN-8				
			0:21	98%	62%					
			0:25							
			0:23							
			0:21							
-61.8	60.3	5.0	0:23	(2.0)	(0.0)	RUN-9				
			0:23	40%	0%					
			0:22							
			0:17							
			0:21							
-66.8	65.3	5.0	0:40	(3.1)	(1.7)	RUN-10				
			0:17	62%	34%					
			0:21							
			0:16							
			0:17							
-71.8	70.3	5.0	0:10	(0.8)	(0.4)	RUN-11				70.3ft: white (5Y8/1), trace fine sand
			0:15	16%	8%					
			0:20							
			0:36							
			0:21							
-76.8	75.3	5.0	0:32	(3.9)	(1.5)	RUN-12				
			0:25	78%	30%					
			0:29							
			0:35							
			0:40							
-81.8	80.3	3.0	0:34	(3.0)	(0.5)	RUN-13	(2.0)	(NA)		80.8
			0:31	100%	17%		67%			
			0:17							
-84.8	83.3	4.0	0:44	(3.3)	(2.9)	RUN-14	(22.4)	(11.0)		83.8
			0:32	83%	73%		73%	36%		
			0:21							
			0:42							
-88.8	87.3	5.0	0:22	(4.6)	(2.3)	RUN-15				87.3ft: few shell molds and casts
			0:28	92%	46%					
			0:22							
			0:26							
			0:24							
-93.8	92.3	5.0	0:34	(1.3)	(0.0)	RUN-16				
			0:25	26%	0%					
			0:22							
			0:29							
			0:49							
-98.8	97.3	5.0	0:25	(2.8)	(0.0)	RUN-17				97.3ft: coralline, little shell molds and casts
			0:16	56%	0%					

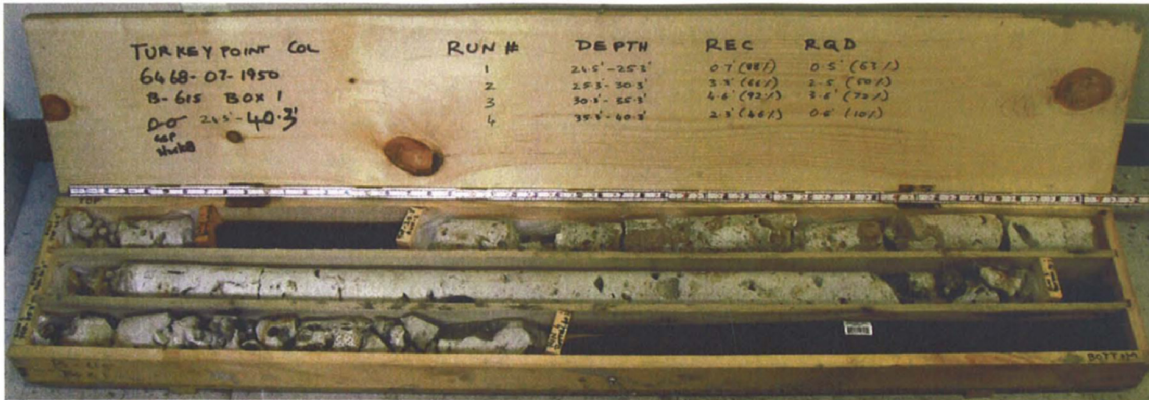
TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 5/30/08



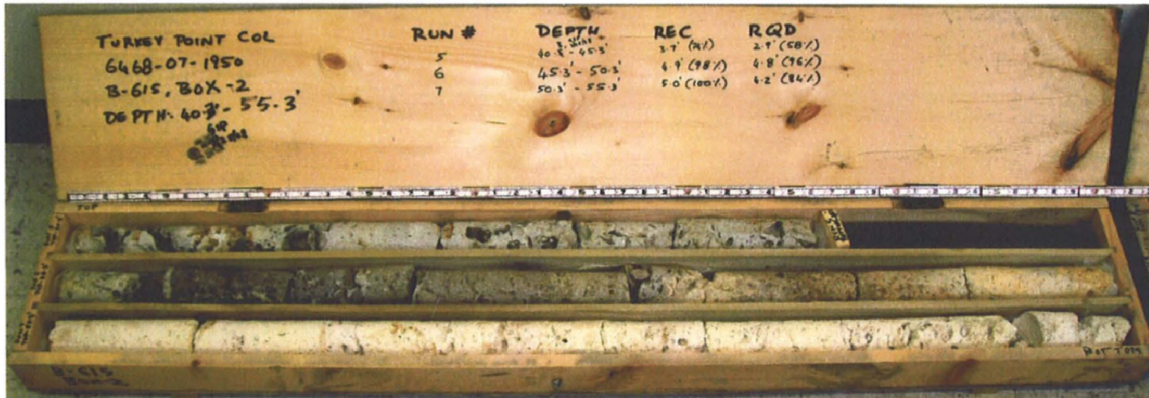
BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: G. Pillappa
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-55 LC (RAL)	DRILLER: R. Banks/ J. Rosser	GROUND WATER (ft) 0 HR. NA 24 HR. NA
BORING NO.: B-615	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	
GROUND ELEV.: -1.5 ft (NAVD88)	NORTHING: 397,167 US ft (NAD83/90)	EASTING: 876,762 US ft (NAD83/90)	
TOTAL DEPTH: 150.6 ft	CASING DEPTH: 4" to 23.6', 3" to 117.3'		HAMMER (ID): 140 lb. Auto (MEC-02)
DATE STARTED: 3/24/08	COMPLETED: 3/26/08	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		LOG	DESCRIPTION AND REMARKS
				REC. (ft) %	RQD (ft) %		REC. (ft) %	RQD (ft) %		
										Continued from previous page
-103.8	102.3		0:12 0:15 0:27							LIMESTONE, boundstone, white (5Y8/1), hard, indurated, trace fine sand, fossiliferous, strong HCl reaction, few vugs (continued)
		5.0	0:29 0:25 0:19 0:23 0:29	(4.9) 98%	(3.6) 72%	RUN-18				
-108.8	107.3									107.3ft: few to little shell molds and casts
		5.0	0:28 0:12 0:14 0:17 0:14	(4.0) 80%	(1.7) 34%	RUN-19				
-113.8	112.3									
		5.0	0:31 0:24 0:18 0:50 0:24	(0.5) 10%	(0.0) 0%	RUN-20	(0.0) 0%	(NA)		-114.5 Silty SAND (SM), pale yellow (5Y8/2), very dense, moist, fine grained sand, limestone fragments, strong HCl reaction (Tamiami Formation) -118.8
-118.8	117.3									113.0 117.3 Coring Terminated at Elevation -118.8

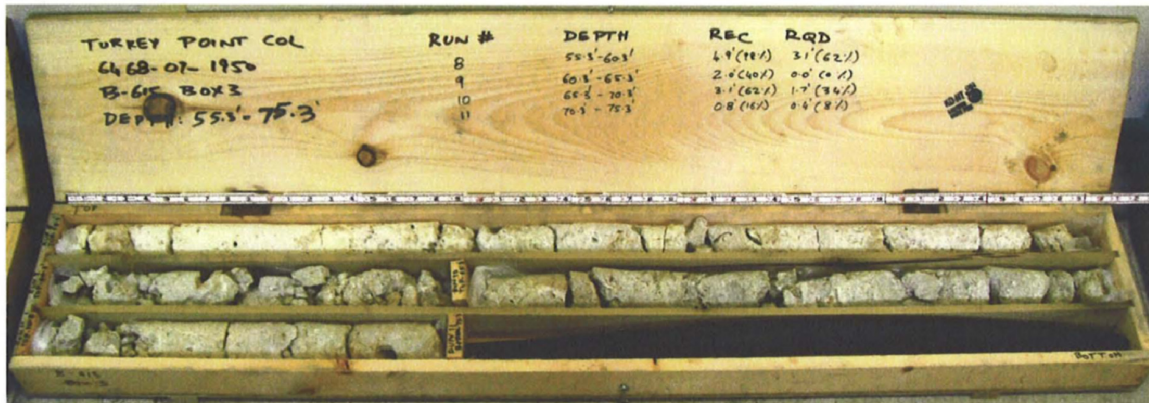
TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 5/30/08



B-615 - Box 1



B-615 - Box 2



B-615 - Box 3



B-615 - Box 4



B-615 - Box 5



B-615 - Box 6



GEOTECHNICAL BORING LOG

Prepared By PPZ Date 5-30-08

Checked By JM Date 5-20-08

SHEET 1 OF 2

BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade		GEOLOGIST: H. Lyatuu							
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-550 (ATL)		DRILLER: L. Carter/ J. Landeros		GROUND WATER (ft)							
BORING NO.: B-616		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core		0 HR.	NA						
GROUND ELEV.: -1.2 ft (NAVD88)		NORTHING: 397,208 US ft (NAD83/90)		EASTING: 876,724 US ft (NAD83/90)		24 HR.	NA						
TOTAL DEPTH: 125.0 ft		BORING DIAMETER: 4" to 35.0', 3" to 125.0'		CASING DEPTH: 4" to 35.0', 3" to 123.0'		HAMMER (ID): 140 lb. Auto (MEC-03)							
DATE STARTED: 3/19/08		COMPLETED: 3/21/08		CORE SIZE: HQ3		BITS USED: 4" & 3" Tricones							
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
-1.2					Ground Surface								0.0
-1.2	0.0	WOR	WOR	WOR							616-1	MUCK, very dark gray (7.5YR3/1), very soft, wet, mostly organics, weak HCl reaction	
-3.7	2.5	WOH	WOH	WOH							616-2		2.5ft: trace shell fragments, weak HCl reaction
-6.2	5.0	WOH	WOH	WOH							616-3		
-8.7	7.5	11	1	1							616-4	Silty SAND with limestone fragments (SM), greenish gray (10Y6/1), very loose, wet, fine grained sand	7.0
-11.2	10.0	2	3	25							616-5		9.5
-13.7	12.5	4	9	5							616-6	MUCK with limestone fragments, brown (7.5YR4/3), firm, wet, mostly organics	11.0
-16.2	15.0	2	3	4							616-7	LIMESTONE, white (10YR8/1), soft, wet, fossiliferous, strong HCl reaction (Miami Formation)	14.5
-20.7	19.5	2	2	3							616-8	12.5ft: boundstone, very soft, oolitic	18.0
-25.7	24.5	3	28	39							616-9	POORLY GRADED SAND with limestone fragments (SP), light reddish brown (2.5YR6/3), loose, wet, fine to coarse grained sand, strong HCl reaction	24.0
-30.7	29.5	4	5	7							616-10	LIMESTONE, boundstone, white (10YR8/1), very soft, wet, fossiliferous, strong HCl reaction, trace fine grained sand, oolitic	
-35.7	34.5	9	19	50/0.3							616-11	23.0ft: loss of circulation	
-37.2	36.0										RUN-1	LIMESTONE, boundstone, white (2.5Y8/1), hard, wet, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation)	
-39.2	38.0										RUN-2	29.5ft: mottled, light brownish gray (2.5Y6/2), very soft, trace fine grained sand, strong HCl reaction	
-44.2	43.0										RUN-3	34.5ft: hard, mottled light gray (7.5Y7/1)	
-49.2	48.0										RUN-4	36.0ft: Switch sampling method to coring	
-54.2	53.0										RUN-5	36.0ft: white (10YR8/1), hard, indurated, coralline, trace sand, fossiliferous, strong HCl reaction, trace shell casts, few vugs	
-59.2	58.0										RUN-6		
-64.2	63.0										616-CS-04	43.0ft: white (10YR8/1), to 46.1ft then gray (10YR6/1) to 48.0ft	
-69.2	68.0										RUN-7		
-74.2	73.0										RUN-8	LIMESTONE, boundstone, white (10YR8/1), hard, indurated, few vugs, porous, fossiliferous, trace shell casts, trace recrystallized calcite, strong HCl reaction (Lower Fort Thompson Formation)	
											RUN-9	53.0ft: moderately hard, moderately indurated	
												68.0ft: sandy	

TURKEY POINT COL BORE TURKEY POINT GPJ TURKEY POINT COL GDT 5/30/08





BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade		GEOLOGIST: H. Lyatuu							
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-550 (ATL)		DRILLER: L. Carter/ J. Landeros		GROUND WATER (ft)							
BORING NO.: B-616		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core		0 HR. NA							
GROUND ELEV.: -1.2 ft (NAVD88)		NORTHING: 397,208 US ft (NAD83/90)		EASTING: 876,724 US ft (NAD83/90)		24 HR. NA							
TOTAL DEPTH: 125.0 ft		BORING DIAMETER: 4" to 35.0', 3" to 125.0'		CASING DEPTH: 4" to 35.0', 3" to 123.0'		HAMMER (ID): 140 lb. Auto (MEC-03)							
DATE STARTED: 3/19/08		COMPLETED: 3/21/08		CORE SIZE: HQ3		BITS USED: 4" & 3" Tricones							
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
-76.0					Continued from previous page								
-79.2	78.0										RUN-10	<p>LIMESTONE, boundstone, white (10YR8/1), hard, indurated, few vugs, porous, fossiliferous, trace shell casts, trace recrystallized calcite, strong HCl reaction (Lower Fort Thompson Formation) (continued)</p> <p>88.0ft: hard, indurated, trace shell casts</p> <p>93.0ft: hard to moderately hard, indurated to moderately indurated</p> <p>98.0ft: hard, indurated, some shell casts</p> <p>103.0ft: mostly shell casts</p> <p>108.0ft: mottled brownish yellow (10YR6/8)</p> <p>113.0ft: moderately hard, moderately indurated, sandy</p> <p>115.0ft: Silty SAND (SM), light brownish gray (10YR6/2), medium dense, wet, fine to medium grained sand, weak HCl reaction on sand, and lenses of fine to coarse LIMESTONE gravel, boundstone, moderately hard, moderately indurated, sandy, fossiliferous (Tamiami Formation)</p> <p>123.0ft: Switch sampling method to SPT</p> <p>Boring Terminated at Elevation -126.2 ft</p>	
-84.2	83.0										RUN-11		
-89.2	88.0										RUN-12		
-94.2	93.0										RUN-13		
-99.2	98.0										RUN-14		
-104.2	103.0										RUN-15		
-109.2	108.0										RUN-16		
-114.2	113.0										RUN-17		
-119.2	118.0										RUN-18		
-124.2	123.0	10	7	8							616-12		

TURKEY POINT COL BORE, TURKEY POINT.GPJ, TURKEY POINT COL.GDT 5:30/08



BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade		GEOLOGIST: H. Lyatuu	
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-550 (ATL)		DRILLER: L. Carter/ J. Landeros		GROUND WATER (ft)	
BORING NO.: B-616		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core		0 HR. NA	
GROUND ELEV.: -1.2 ft (NAVD88)		NORTHING: 397,208 US ft (NAD83/90)		EASTING: 876,724 US ft (NAD83/90)		24 HR. NA	
TOTAL DEPTH: 125.0 ft		CASING DEPTH: 4" to 35.0', 3" to 123.0'				HAMMER (ID): 140 lb. Auto (MEC-03)	
DATE STARTED: 3/19/08		COMPLETED: 3/21/08		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		LOG	DESCRIPTION AND REMARKS
				REC (ft) %	RQD (ft) %		REC (ft) %	RQD (ft) %		
										Begin Coring @ 36.0 ft
-37.2	36.0	2.0	1:23	(2.0)	(2.0)	RUN-1	(11.9)	(9.5)		LIMESTONE, boundstone, white (2.5Y8/1), hard, wet, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation) <i>(continued)</i>
-39.2	38.0	5.0	1:21	100%	100%	616-CS-01	99%	79%		
			2:05	(5.0)	(4.3)	RUN-2				36.0ft: white (10YR8/1), hard, indurated, coralline, trace sand, fossiliferous, strong HCl reaction, trace shell casts, few vugs
			2:29	100%	86%					
			2:03							43.0ft: white (10YR8/1), to 46.1ft then gray (10YR6/1) to 48.0ft
			2:37							
-44.2	43.0	5.0	2:18	(4.9)	(3.2)	RUN-3				
			1:10	98%	64%					-49.2
			1:50							
			1:00							LIMESTONE, boundstone, white (10YR8/1), hard, indurated, few vugs, porous, fossiliferous, trace shell casts, trace recrystallized calcite, strong HCl reaction (Lower Fort Thompson Formation)
			3:00							
-49.2	48.0	5.0	3:11	(5.0)	(4.7)	RUN-4	(47.3)	(26.8)		
			1:15	100%	94%		71%	40%		53.0ft: moderately hard, moderately indurated
			1:01							
			1:47							68.0ft: sandy
			1:35							
-54.2	53.0	5.0	1:10	(5.0)	(4.7)	RUN-5				
			0:24	100%	94%					88.0ft: hard, indurated, trace shell casts
			0:59							
			0:36							93.0ft: hard to moderately hard, indurated to moderately indurated
			0:45							
-59.2	58.0	5.0	0:42	(4.0)	(1.7)	RUN-6				
			1:06	80%	34%					98.0ft: hard, indurated, some shell casts
			1:00							
			0:53							103.0ft: mostly shell casts
			0:59							
-64.2	63.0	5.0	1:20	(3.8)	(1.8)	RUN-7				
			1:21	76%	36%					108.0ft: mottled brownish yellow (10YR6/8)
			1:04							
			0:58							
			0:36							
-69.2	68.0	5.0	0:23	(1.8)	(0.4)	RUN-8				
			0:16	36%	8%					
			0:30							
			0:08							
-74.2	73.0	5.0	0:15	(3.2)	(1.6)	RUN-9				
			0:31	64%	32%					
			1:47							
			1:36							
-79.2	78.0	5.0	1:28	(2.0)	(0.4)	RUN-10				
			1:19	40%	8%					
			0:08							
			0:20							
-84.2	83.0	5.0	0:28	(2.3)	(0.0)	RUN-11				
			0:33	46%	0%					
			0:25							
			0:10							
-89.2	88.0	5.0	0:31	(4.8)	(3.0)	RUN-12				
			1:26	96%	60%					
			1:35							
			1:08							
			0:55							
-94.2	93.0	5.0	0:51	(3.0)	(2.2)	RUN-13				
			0:54	60%	44%					
			0:24							
			0:15							
-99.2	98.0	5.0	0:18	(3.8)	(2.7)	RUN-14				
			0:31	76%	54%					
			0:20							
			0:28							
			0:47							
-104.2	103.0	5.0	0:37	(4.2)	(1.6)	RUN-15				
			0:50	84%	32%					
			0:52							
			0:48							
			0:53							
			0:56							
-109.2	108.0	5.0	0:47	(3.4)	(2.0)	RUN-16				
			1:00	68%	40%					
			0:42							
			1:04							

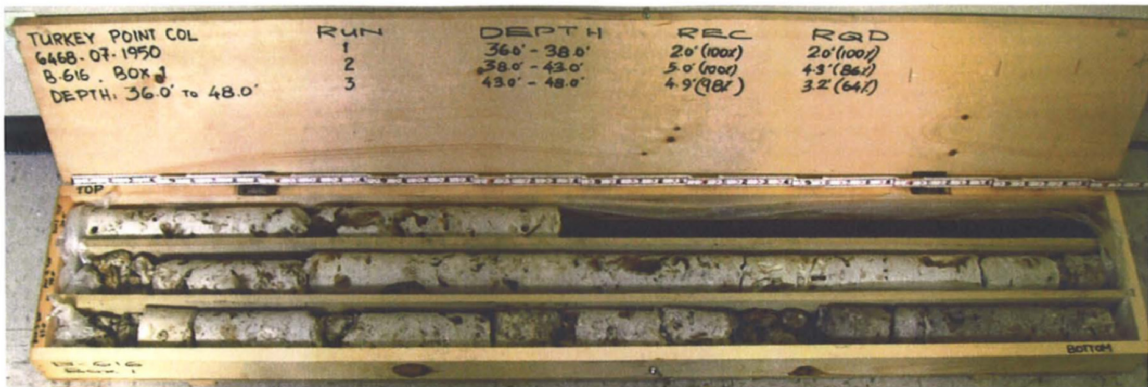
TURKEY POINT COL CORE TURKEY POINT GPJ TURKEY POINT COL GDT 5:30 08



BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: H. Lyatuu
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft) 0 HR. NA 24 HR. NA
BORING NO.: B-616	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	
GROUND ELEV.: -1.2 ft (NAVD88)	NORTHING: 397,208 US ft (NAD83/90)	EASTING: 876,724 US ft (NAD83/90)	
TOTAL DEPTH: 125.0 ft	CASING DEPTH: 4" to 35.0', 3" to 123.0'		HAMMER (ID): 140 lb. Auto (MEC-03)
DATE STARTED: 3/19/08	COMPLETED: 3/21/08	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		LOG	DESCRIPTION AND REMARKS
				REC (ft) %	RQD (ft) %		REC (ft) %	RQD (ft) %		
			0.28 0.43							Continued from previous page
-114.2	113.0	5.0	0.42 0.33 0.12 0.12 0.39	(1.0) 20%	(0.0) 0%	RUN-17	(0.4) 5%	(NA)		LIMESTONE, boundstone, white (10YR8/1), hard, indurated, few vugs, porous, fossiliferous, trace shell casts, trace recrystallized calcite, strong HCl reaction (Lower Fort Thompson Formation) (continued) 113.0ft: moderately hard, moderately indurated, sandy
-119.2	118.0	5.0	0.35 0.28 0.46 0.08 0.09	(0.4) 8%	(0.0) 0%	RUN-18				Silty SAND (SM), light brownish gray (10YR6/2), medium dense, wet, fine to medium grained sand, weak HCl reaction on sand, and lenses of fine to coarse LIMESTONE gravel, boundstone, moderately hard, moderately indurated, sandy, fossiliferous (Tamiami Formation)
-124.2	123.0									Coring Terminated at Elevation -124.2

TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDI 5:30:08



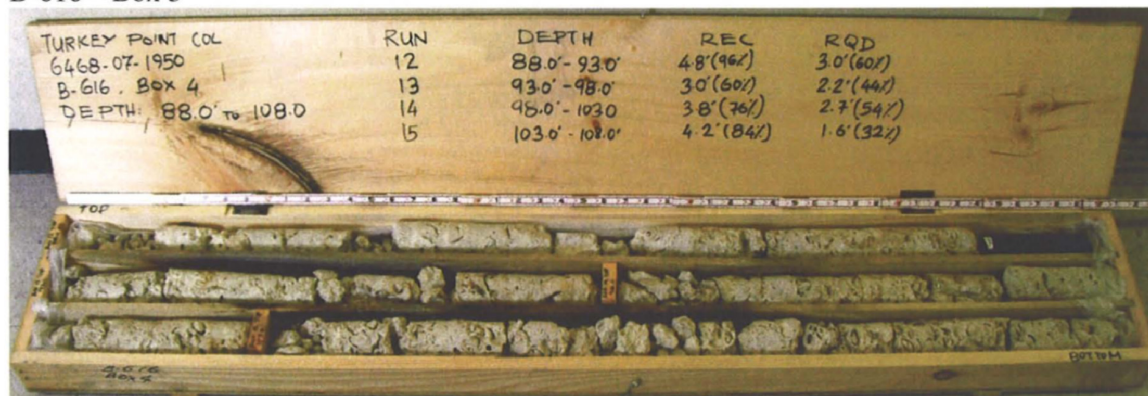
B-616 - Box 1



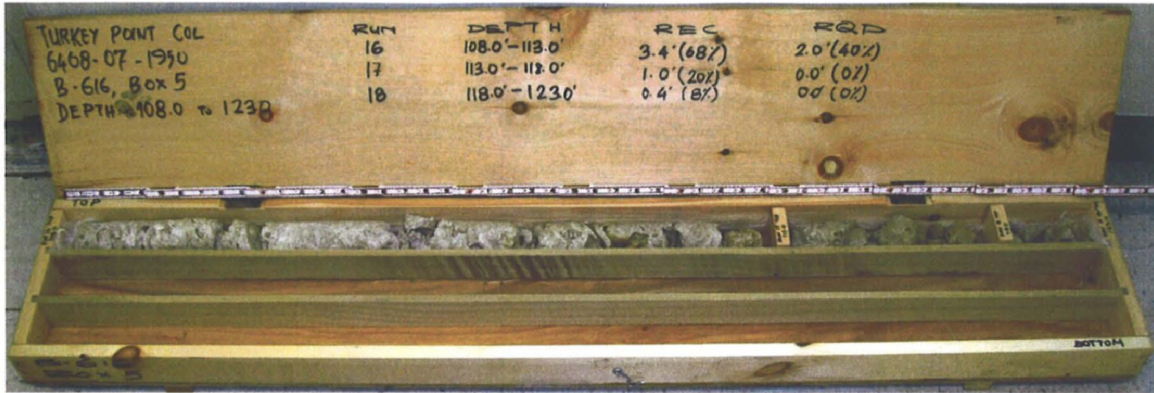
B-616 - Box 2



B-616 - Box 3



B-616 - Box 4



B-616 - Box 5



GEOTECHNICAL BORING LOG

Prepared By DDK Date 5-30-08  
 Checked By TMM Date 5-30-08

SHEET 1 OF 2

BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade		GEOLOGIST: H. Lyatuu								
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-550 (ATL)		DRILLER: L. Carter/ J. Landeros		GROUND WATER (ft)								
BORING NO.: B-617		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core		0 HR. NA								
GROUND ELEV.: -1.4 ft (NAVD88)		NORTHING: 397,288 US ft (NAD83/90)		EASTING: 876,722 US ft (NAD83/90)		24 HR. NA								
TOTAL DEPTH: 126.1 ft		BORING DIAMETER: 4" to 31.0', 3" to 126.1'		CASING DEPTH: 4" to 31.0', 3" to 120.0'		HAMMER (ID): 140 lb. Auto (MEC-03)								
DATE STARTED: 3/13/08		COMPLETED: 3/19/08		CORE SIZE: HQ3		BITS USED: 4" & 3" Roller Cones								
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	
-1.4	0.0	WOR	WOR	WOR	Ground Surface					617-1		-1.4	0.0	
-3.9	2.5	WOH	4	6	10	SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA					617-2		-3.4	2.0
-6.4	5.0		8	6	12						617-3			
-8.9	7.5		13	6	12						617-4			
-11.4	10.0		5	5	24						617-5		10ft: soft	
-13.9	12.5		3	7	12						617-6		12.5ft: very soft	
-16.4	15.0		18	13	30						617-7		15.0ft: white (2.5Y8/1), medium hard	
-20.9	19.5		5	5	5						617-8		19.5ft: very soft	
-25.9	24.5		1	5	7						617-9		-25.4	24.0
-30.9	29.5										617-10		LIMESTONE, boundstone, white (10YR8/1), mottled very pale brown (10YR7/4), and gray (10YR3/1), very soft, wet, trace recrystallized calcite, strong HCl reaction (Upper Fort Thompson Formation)	
-31.8	30.4	20	50/0.4								RUN-1		25.0ft: loss of circulation	
-34.7	33.3										RUN-2		29.5ft hard	
-39.7	38.3										RUN-3		30.4ft: Switch sampling method to coring	
-44.7	43.3										RUN-4		30.4ft: white (10YR8/1), hard, indurated, coralline, fossiliferous, strong HCl reaction, few vugs	
-49.7	48.3										RUN-5		-49.1	47.7
-54.7	53.3										RUN-6		LIMESTONE, boundstone, white (10YR8/1) and (2.5Y8/1), hard, indurated, trace to few vugs, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation)	
-59.7	58.3										RUN-7		53.3ft: moderately hard to hard, moderately indurated to indurated	
-64.7	63.3										RUN-8		63.3ft: moderately hard, moderately indurated	
-69.7	68.3										RUN-9		68.3ft: moderately hard to hard, moderately indurated to indurated	
-74.7	73.3										RUN-10		73.3ft: hard, indurated	

TURKEY POINT COL BORE TURKEY POINT GPJ TURKEY POINT COL GDT 5:30 08



BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade		GEOLOGIST: H. Lyatuu							
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-550 (ATL)		DRILLER: L. Carter/ J. Landeros		GROUND WATER (ft)							
BORING NO.: B-617		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core		0 HR.	NA						
GROUND ELEV.: -1.4 ft (NAVD88)		NORTHING: 397,288 US ft (NAD83/90)		EASTING: 876,722 US ft (NAD83/90)		24 HR.	NA						
TOTAL DEPTH: 126.1 ft		BORING DIAMETER: 4" to 31.0', 3" to 126.1'		CASING DEPTH: 4" to 31.0', 3" to 120.0'		HAMMER (ID): 140 lb. Auto (MEC-03)							
DATE STARTED: 3/13/08		COMPLETED: 3/19/08		CORE SIZE: HQ3		BITS USED: 4" & 3" Roller Cones							
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
-76.2					Continued from previous page								
-79.7	78.3											LIMESTONE, boundstone, white (10YR8/1) and (2.5Y8/1), hard, indurated, trace to few vugs, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation) <i>(continued)</i>	
-81.7	80.3									RUN-11			
-84.7	83.3									RUN-12			
-89.7	88.3									RUN-13			
-94.7	93.3									RUN-14			
-99.7	98.3									RUN-15			
-104.7	103.3									RUN-16	98.3ft: little shell molds and casts		
-109.7	108.3									RUN-17			
-114.7	113.3									RUN-18	108.3ft: hard to moderately hard, indurated to moderately indurated, trace shell molds and casts		
-120.2	118.8	4	17	11						RUN-19	-115.4 113.3ft: hard, indurated Silty SAND (SM), light gray (7.5YR7/1), medium dense, wet, fine grained sand, strong HCl reaction (Tamiami Formation)		
-126.0	124.6	4	4	3						617-11	118.8ft: Switch sampling method to SPT		
										617-12	-127.5 124.6ft: very pale brown (10YR7/6), loose, weak HCl reaction Boring Terminated at Elevation -127.5 ft		

TURKEY POINT COL BORE TURKEY POINT GPJ TURKEY POINT COL GDT S 30'08



BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade		GEOLOGIST: H. Lyatuu	
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-550 (ATL)		DRILLER: L. Carter/ J. Landeros		GROUND WATER (ft)	
BORING NO.: B-617		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core		0 HR. NA	
GROUND ELEV.: -1.4 ft (NAVD88)		NORTHING: 397,288 US ft (NAD83/90)		EASTING: 876,722 US ft (NAD83/90)		24 HR. NA	
TOTAL DEPTH: 126.1 ft		CASING DEPTH: 4" to 31.0', 3" to 120.0'				HAMMER (ID): 140 lb. Auto (MEC-03)	
DATE STARTED: 3/13/08		COMPLETED: 3/19/08		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		LOG	DESCRIPTION AND REMARKS	
				REC (ft) %	RQD (ft) %		REC (ft) %	RQD (ft) %			
										Begin Coring @ 30.4 ft	
-31.8	30.4	2.9	1.37	(2.9)	(2.7)	RUN-1	(16.5)	(15.2)		LIMESTONE, boundstone, white (10YR8/1), mottled very pale brown (10YR7/4), and gray (10YR3/1), very soft, wet, trace recrystallized calcite, strong HCl reaction (Upper Fort Thompson Formation)	
-34.7	33.3		1.52	100%	93%		95%	88%			
		5.0	1.24	(4.4)	(4.2)	RUN-2					25.0ft: loss of circulation ( <i>continued</i> )
			1.18	88%	84%						30.4ft: white (10YR8/1), hard, indurated, coralline, fossiliferous, strong HCl reaction, few vugs
-39.7	38.3		1.23								
		5.0	1.36								
			1.09								
		5.0	1.44	(5.0)	(5.0)	RUN-3					
			1.51	100%	100%						
-44.7	43.3		2.03								
		5.0	1.40								
			1.56								
		5.0	1.49	(4.7)	(3.8)	RUN-4					43.3ft: white (10YR8/1), to 45.5ft then gray (10YR6/1), to 47.7ft, trace recrystallized calcite
			3.23	94%	76%						
-49.7	48.3		2.19								
		5.0	2.37				(52.0)	(33.0)			
			2.15				78%	50%			
		5.0	1.11	(4.6)	(4.3)	RUN-5				LIMESTONE, boundstone, white (10YR8/1) and (2.5Y8/1), hard, indurated, trace to few vugs, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation)	
			1.10	92%	86%						
-54.7	53.3		1.18								
		5.0	1.17								
			1.15								
		5.0	0.36	(3.8)	(3.0)	RUN-6				53.3ft: moderately hard to hard, moderately indurated to indurated	
			2.05	76%	60%						
-59.7	58.3		0.58								
		5.0	1.10								
			1.01	(4.7)	(4.2)	RUN-7					
			0.58	94%	84%						
-64.7	63.3		1.20								
		5.0	1.18								
			1.07								
		5.0	0.48	(3.5)	(1.7)	RUN-8				63.3ft: moderately hard, moderately indurated	
			0.52	70%	34%						
-69.7	68.3		1.08								
		5.0	0.38	(3.5)	(1.8)	RUN-9				68.3ft: moderately hard to hard, moderately indurated to indurated	
			0.25	70%	36%						
-74.7	73.3		1.00								
		5.0	0.37	(1.5)	(0.0)	RUN-10				73.3ft: hard, indurated	
			0.55	30%	0%						
-79.7	78.3		1.00								
		5.0	0.24	(2.0)	(0.8)	RUN-11					
			0.33	100%	40%						
-81.7	80.3	2.0	1.06								
		3.0	1.15	(2.8)	(2.0)	RUN-12					
			1.40	93%	67%						
-84.7	83.3		0.10								
		5.0	0.14	(3.5)	(0.8)	RUN-13					
			0.20	70%	16%						
-89.7	88.3		0.28								
		5.0	1.35								
		5.0	1.03	(4.3)	(2.6)	RUN-14					
			1.13	86%	52%						
-94.7	93.3		1.11								
		5.0	0.52								
		5.0	0.38	(3.5)	(2.1)	RUN-15					
			0.10	70%	42%						
-99.7	98.3		0.10								
		5.0	0.40								
			1.01	(5.0)	(3.6)	RUN-16				98.3ft: little shell molds and casts	
		5.0	0.45	100%	72%						
-104.7	103.3		0.57								
		5.0	0.47	(5.0)	(4.1)	RUN-17					
			1.00								
			1.02								
			0.55								

TURKEY POINT CORE: TURKEY POINT/GPJ TURKEY POINT COL.GDT 530.08





BECHTEL PROJECT NO.: 25409		MACTEC PROJECT NO.: 6468-07-1950		COUNTY: Miami-Dade	GEOLOGIST: H. Lyatuu
SITE DESCRIPTION: Turkey Point COL		DRILL MACHINE: CME-550 (ATL)		DRILLER: L. Carter/ J. Landeros	
BORING NO.: B-617		DRILL METHOD: Mud Rotary/ Core		SAMPLE METHODS: SPT/Core	
GROUND ELEV.: -1.4 ft (NAVD88)		NORTHING: 397,288 US ft (NAD83/90)		EASTING: 876,722 US ft (NAD83/90)	
TOTAL DEPTH: 126.1 ft		CASING DEPTH: 4" to 31.0', 3" to 120.0'			HAMMER (ID): 140 lb. Auto (MEC-03)
DATE STARTED: 3/13/08		COMPLETED: 3/19/08	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		LOG	DESCRIPTION AND REMARKS
				REC. (ft) %	RQD (ft) %		REC. (ft) %	RQD (ft) %		
										Continued from previous page
-109.7	108.3		0.38 0.42 0.58	100%	82%					LIMESTONE, boundstone, white (10YR8/1) and (2.5Y8/1), hard, indurated, trace to few vugs, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation) (continued)
		5.0	0.23 0.35 0.52 0.53 0.32	(3.4) 68%	(1.5) 30%	RUN-18				108.3ft: hard to moderately hard, indurated to moderately indurated, trace shell molds and casts
-114.7	113.3									
		5.0	0.11 0.23 0.08 0.06 0.08	(0.4) 8%	(0.0) 0%	RUN-19	(0.0) 0%	(NA)		113.3ft: hard, indurated
-119.7	118.3									Silty SAND (SM), light gray (7.5YR7/1), medium dense, wet, fine grained sand, strong HCl reaction (Tamiami Formation)
										Coring Terminated at Elevation -119.7

TURKEY POINT COL CORE TURKEY POINT GPJ TURKEY POINT COL GDT 5/30/08