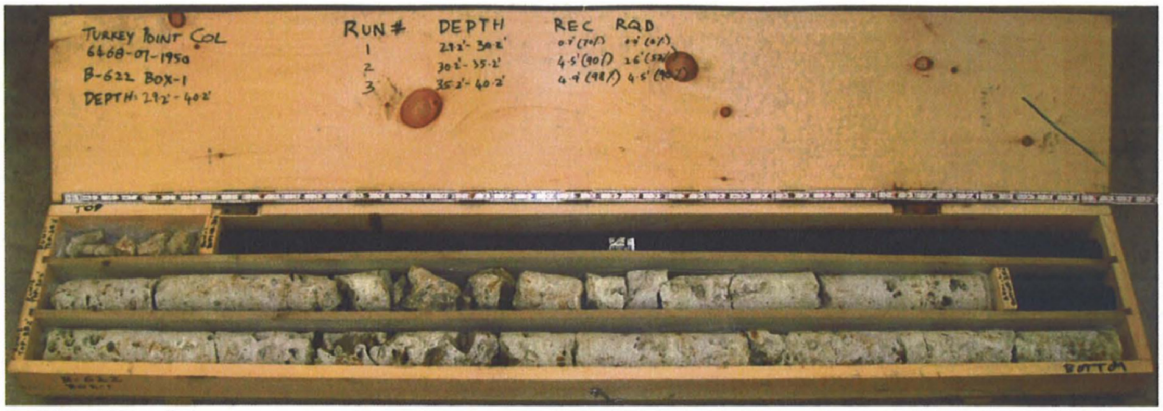
MACTEC

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-622	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: 0.2 ft (NAVD88)	NORTHING: 397,421 US ft (NAD83/90)	EASTING: 876,811 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 100.2 ft	CASING DEPTH: 4" to 28.9'		HAMMER (ID): 140 lb. Auto (MEC-02)
DATE STARTED: 4/4/08	COMPLETED: 4/6/08	CORE SIZE: HQ3	CORE BARREL TYPE: Triple Tube Wireline (Split inner liners)

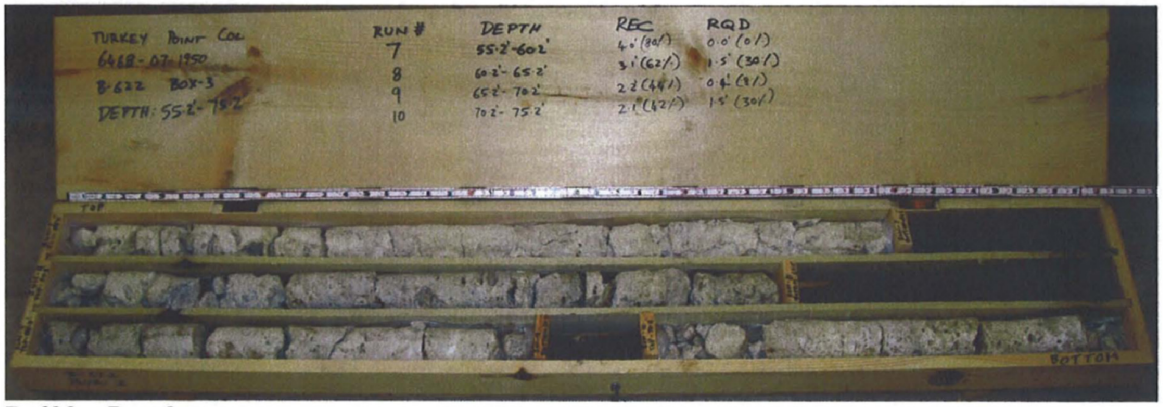
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Begin Coring @ 29.2 ft
-29.0	29.2	1.0	1:20	(0.7) 70%	(0.0) 0%	RUN-1	(16.8) 90%	(10.2) 55%		LIMESTONE, boundstone, white (10YR8/1), hard, wet, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation) *(continued)*
-30.0	30.2	5.0	0:59 0:30 0:29 0:38 0:37	(4.5) 90%	(2.6) 52%	RUN-2				29.2ft: white (10YR8/1), hard, indurated, trace coralline. strong HCl reaction, few vugs
-35.0	35.2	5.0	0:49 0:30 0:30 0:26 0:27	(4.9) 98%	(4.5) 90%	RUN-3				
-40.0	40.2	5.0	0:36 0:41 0:21 0:28 0:36	(4.6) 92%	(2.4) 48%	RUN-4				40.2ft: recrystallized calcite
-45.0	45.2	5.0	0:40 0:31 0:28 0:47 0:50	(4.5) 90%	(1.9) 38%	RUN-5				45.2ft: white (10YR8/1) to 46.5ft then light gray (10YR7/1) to 47.8ft
-47.6										47.8
-50.0	50.2	5.0	0:51 0:42 0:33 0:30 0:30	(4.4) 88%	(3.9) 78%	RUN-6	(31.1) 59%	(11.9) 23%		LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace vugs, trace to few gastropod shell molds and casts, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation)
-55.0	55.2	5.0	0:29 0:22 0:16 0:23 0:24	(4.0) 80%	(0.0) 0%	RUN-7				55.2ft: moderately hard to hard, moderately indurated to indurated, few shell molds and casts
-60.0	60.2	5.0	0:31 0:19 0:30 0:29 0:35	(3.1) 62%	(1.5) 30%	RUN-8				60.2ft: hard, indurated
-65.0	65.2	5.0	0:32 0:35 0:12 0:10 0:21	(2.2) 44%	(0.4) 8%	RUN-9				
-70.0	70.2	5.0	0:28 0:28 0:49 0:34 0:32	(2.1) 42%	(1.5) 30%	RUN-10				
-75.0	75.2	5.0	0:43 0:36 0:37 0:40 0:50	(2.3) 46%	(0.0) 0%	RUN-11				75.2ft: moderately hard to hard, moderately indurated
-80.0	80.2	5.0	0:50 0:43 0:17 0:24 0:28	(3.3) 66%	(1.6) 32%	RUN-12				80.2ft: moderately hard, moderately indurated
-85.0	85.2	5.0	0:28 0:15 0:16 0:24 0:41	(2.3) 46%	(0.5) 10%	RUN-13				85.2ft: trace fine grained sand
-90.0	90.2	5.0	0:26 0:24 0:23 0:33 0:35	(3.0) 60%	(1.3) 26%	RUN-14				90.2ft: hard, indurated, few to little shell molds and casts
-95.0	95.2	5.0	0:24 0:20 0:13 0:23 0:18	(2.0) 40%	(0.0) 0%	RUN-15				95.2ft: moderately hard to hard, moderately indurated, trace shell molds and casts
-100.0	100.2									-100.0 100.2
										Coring Terminated at Elevation -100.0

TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 8/18/08



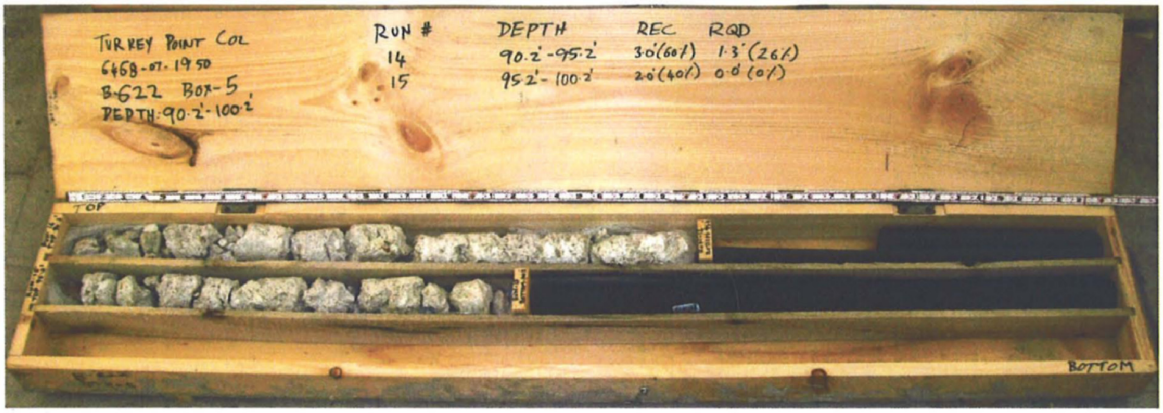
B-622 – Box 1

B-622 – Box 2



B-622 – Box 3

B-622 – Box 4


TURKEY POINT COL
6468-07-1950
B-622 BOX-5
DEPTH: 90.2'-100.2'
RUN #
14
15
DEPTH
90.2'-95.2'
95.2'-100.2'
REC
3.0'(60%)
2.0'(40%)
RQD
1.3'(26%)
0.0'(0%)
TOP
BOTTOM

B-622 – Box 5

MACTEC

GEOTECHNICAL BORING LOG

Prepared By _____ Date 5-30-08

Checked By _____ Date 5-30-08

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-55 LC (RAL)	DRILLER: R. Banks/ J. Rosser	GROUND WATER (ft)	
BORING NO.: B-623	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR.	NA
GROUND ELEV.: -1.3 ft (NAVD88)	NORTHING: 397,423 US ft (NAD83/90)	EASTING: 876,523 US ft (NAD83/90)	24 HR.	NA
TOTAL DEPTH: 100.2 ft	BORING DIAMETER: 4" to 33.8', 3" to 100.2'	CASING DEPTH: 4" to 33.8', 3" to 100.2'	HAMMER (ID):140 lb. Auto (MEC-02)	
DATE STARTED: 4/1/08	COMPLETED: 4/2/08	CORE SIZE: HQ3	BITS USED: 3 7/8" Tricone	

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
-1.3					Ground Surface				-1.3 0.0
-1.3	0.0	WOH	WOH	WOH	WOH 0	623-1			MUCK, light brownish gray (10YR6/3), to very dark gray (10YR3/1), wet, mostly organic, strong HCl reaction
-3.8	2.5	WOH	WOH	2	2	623-2			-5.0 Field notes do not indicate that sample 623-2 was split into separate jars 3.7
-5.8	4.5	5	9	9	18	623-3			LIMESTONE, boundstone, white (10YR8/1), very soft, wet, trace organics at top of formation, strong HCl reaction (Miami Formation)
-8.3	7.0	5	9	7	16	623-4			4.5ft: oolitic
-10.3	9.0	3	5	5	10	623-5			11.5ft: soft
-12.8	11.5	3	5	18	23	623-6			14.0ft: very soft
-15.3	14.0	2	3	15	18	623-7			
-19.3	18.0	5	7	5	12	623-8			
-24.8	23.5	3	4	25	29	623-9			-26.3 23.5ft: soft 25.0
-29.8	28.5	25	37	7	44	623-10			LIMESTONE, boundstone, white (10YR8/1), medium hard, wet, trace shells, strong HCl reaction (Upper Fort Thompson Formation)
-34.8	33.5	50/0.4			50/0.4	623-11			33.5ft: hard
-36.5	35.2					RUN-1			35.2ft: Switch sampling method to coring
-41.5	40.2					RUN-2			35.2ft: white (10YR8/1), hard, indurated, fossiliferous, coralline, strong HCl reaction, few vugs
-46.5	45.2					RUN-3			45.2ft: white (10YR8/1) to 46.6ft then gray (10YR6/1) to 48.5ft, trace coralline
-51.5	50.2					RUN-4			-49.8 48.5 LIMESTONE, boundstone, white (10YR8/1), hard, indurated, fossiliferous, few vugs, trace to few shells and shell molds/casts, strong HCl reaction (Lower Fort Thompson Formation)
-56.5	55.2					RUN-5			
-61.5	60.2					RUN-6			
-66.5	65.2					RUN-7			65.2ft: trace fine sand
-71.5	70.2					RUN-8			

SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA

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

MACTEC

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-623	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR.	NA
GROUND ELEV.: -1.3 ft (NAVD88)	NORTHING: 397,423 US ft (NAD83/90)	EASTING: 876,523 US ft (NAD83/90)	24 HR.	NA
TOTAL DEPTH: 100.2 ft	BORING DIAMETER: 4" to 33.8', 3" to 100.2'	CASING DEPTH: 4" to 33.8', 3" to 100.2'	HAMMER (ID):140 lb. Auto (MEC-02)	
DATE STARTED: 4/1/08	COMPLETED: 4/2/08	CORE SIZE: HQ3	BITS USED: 3 7/8" Tricone	

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
-76.1					Continued from previous page				
-76.5	75.2					RUN-9			LIMESTONE, boundstone, white (10YR8/1), hard, indurated, fossiliferous, few vugs, trace to few shells and shell molds/casts, strong HCl reaction (Lower Fort Thompson Formation) *(continued)*
-81.5	80.2					RUN-10			
-86.5	85.2								85.2ft: Switch sampling method to SPT 85.2ft: white (10YR8/1), soft, wet, some fine grained sand, strong HCl reaction
-88.0	86.7	18	15	7	●22	623-12			86.7ft: Switch sampling method to coring 86.7ft: hard, indurated, fossiliferous, few vugs
-91.5	90.2					RUN-11			
-96.5	95.2					RUN-12			
						RUN-13			
									-101.5 100.2 Boring Terminated at Elevation -101.5 ft

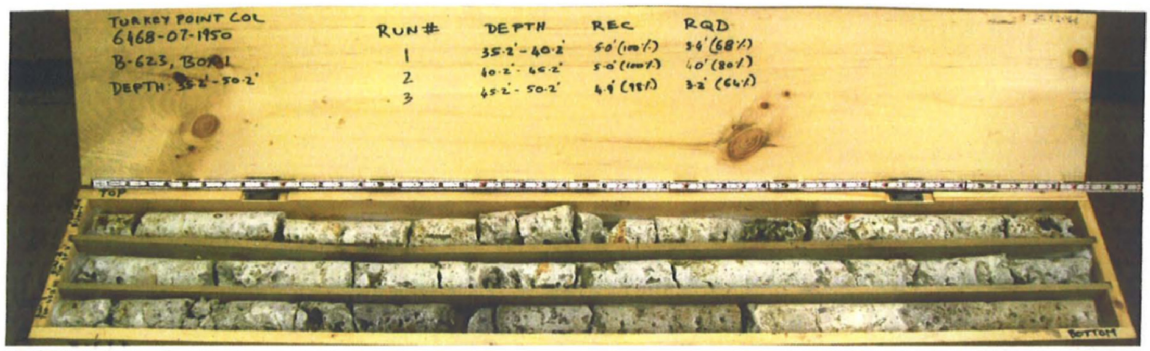
TURKEY POINT COL BORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 5/30/08

MACTEC

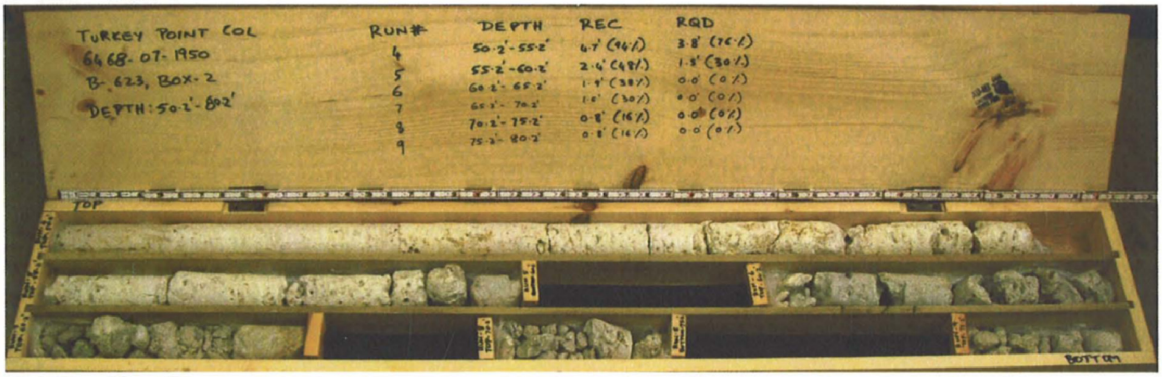
BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: G. Pillappa
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-55 LC (RAL)	DRILLER: R. Banks/ J. Rosser	GROUND WATER (ft)
BORING NO.: B-623	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.3 ft (NAVD88)	NORTHING: 397,423 US ft (NAD83/90)	EASTING: 876,523 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 100.2 ft	CASING DEPTH: 4" to 33.8', 3" to 100.2'		HAMMER (ID): 140 lb. Auto (MEC-02)
DATE STARTED: 4/1/08	COMPLETED: 4/2/08	CORE SIZE: HQ3	CORE BARREL TYPE: Triple Tube Wireline (Split inner liners)

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Begin Coring @ 35.2 ft
-36.5	35.2	5.0	0:45 0:27 0:23 0:27 0:32	(5.0) 100%	(3.4) 68%	RUN-1	(13.2) 99%	(8.9) 67%		LIMESTONE, boundstone, white (10YR8/1), medium hard, wet, trace shells, strong HCl reaction (Upper Fort Thompson Formation) *(continued)* 35.2ft: white (10YR8/1), hard, indurated, fossiliferous, coralline, strong HCl reaction, few vugs
-41.5	40.2									
		5.0	0:29 0:29 0:31 0:22 0:24	(5.0) 100%	(4.0) 80%	RUN-2				
-46.5	45.2									
		5.0	0:21 0:28 0:29 0:30 0:25	(4.9) 98%	(3.2) 64%	RUN-3				45.2ft: white (10YR8/1) to 46.6ft then gray (10YR6/1) to 48.5ft, trace coralline
										-49.8 48.5
-51.5	50.2						(23.2) 45%	(10.2) 20%		LIMESTONE, boundstone, white (10YR8/1), hard, indurated, fossiliferous, few vugs, trace to few shells and shell molds/casts, strong HCl reaction (Lower Fort Thompson Formation)
		5.0	0:30 0:33 0:23 0:17 0:23	(4.7) 94%	(3.8) 76%	RUN-4				
-56.5	55.2									
		5.0	0:20 0:16 0:06 0:07 0:18	(2.4) 48%	(1.5) 30%	RUN-5				
-61.5	60.2									
		5.0	0:20 0:16 0:10 0:06 0:21	(1.9) 38%	(0.0) 0%	RUN-6				
-66.5	65.2									
		5.0	0:13 0:15 0:20 1:16 0:14	(1.5) 30%	(0.0) 0%	RUN-7				65.2ft: trace fine sand
-71.5	70.2									
		5.0	0:26 0:12 0:16 0:17 0:12	(0.8) 16%	(0.0) 0%	RUN-8				
-76.5	75.2									
		5.0	0:15 0:25 0:27 0:20 0:14	(0.8) 16%	(0.0) 0%	RUN-9				
-81.5	80.2									
		5.0	0:19 0:23 0:26 0:28 0:19	(0.5) 10%	(0.0) 0%	RUN-10				
-86.5	85.2									
			N=22			*623-12*				85.2ft: Switch sampling method to SPT
-88.0	86.7	3.5	0:10/0.5 0:17 0:23 0:31	(2.4) 69%	(0.5) 14%	RUN-11				85.2ft: white (10YR8/1), soft, wet, some fine grained sand, strong HCl reaction 86.7ft: Switch sampling method to coring 86.7ft: hard, indurated, fossiliferous, few vugs
-91.5	90.2									
		5.0	0:30 0:19 0:18 0:25 0:28	(4.3) 86%	(2.7) 54%	RUN-12				
-96.5	95.2									
		5.0	0:16 0:15 0:14 0:18 0:17	(2.2) 44%	(0.0) 0%	RUN-13				
-101.5	100.2									-101.5 100.2
										Coring Terminated at Elevation -101.5

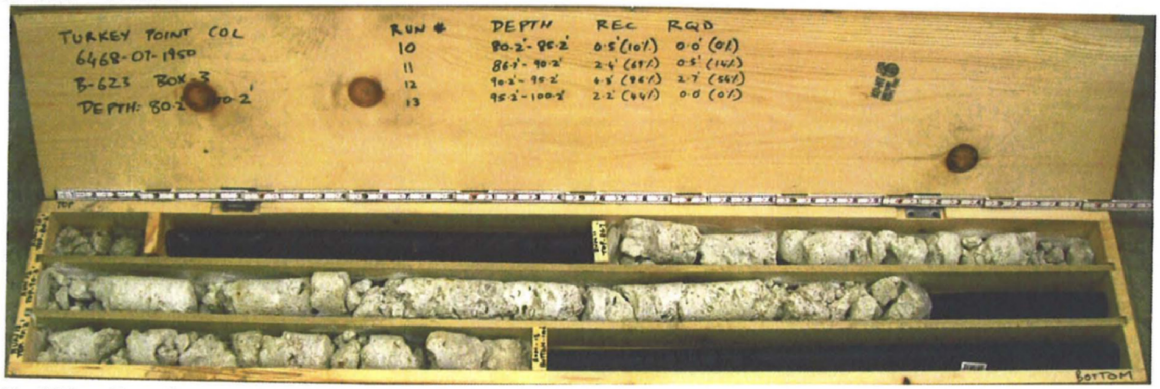
TURKEY POINT COL CORE: TURKEY POINT.GPJ TURKEY POINT COL.GDT 5/30/08



B-623 – Box 1



B-623 – Box 2



B-623 – Box 3

MACTEC

GEOTECHNICAL BORING LOG

Prepared By [illegible] Date 5-30-08

Checked By [illegible] Date 5-30-08

SHEET 1 OF 2

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: L. Bisson
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft)
BORING NO.: B-624	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 397,327 US ft (NAD83/90)	EASTING: 876,514 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 103.2 ft	BORING DIAMETER: 4" to 36.0', 3" to 103.2'	CASING DEPTH: 4" to 36.0', 3" to 103.0'	HAMMER (ID):140 lb. Auto (MEC-03)
DATE STARTED: 4/1/08	COMPLETED: 4/2/08	CORE SIZE: HQ3	BITS USED: 4" Roller Cone

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
-1.4					Ground Surface				
-1.4	0.0	WOR	WOR	WOR	WOR	624-1			MUCK, light olive brown (2.5Y5/3), to very dark grayish brown (2.5Y3/2), very soft, wet, organic, strong HCl reaction
-3.9	2.5								
-4.4	3.0	3	7	7	14	624-2A&B			
-6.4	5.0				SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA				LIMESTONE, boundstone, pale yellow (2.5Y8/2), to light gray (2.5Y7/1), very soft, wet, trace sand, strong HCl reaction, oolitic (Miami Formation)
-8.9	7.5	12	12	9	21	624-3			5.0ft: soft
-11.4	10.0	5	48	9	57	624-4			7.5ft: white (10YR8/1), to gray (10YR5/1), hard, fossiliferous
-13.9	12.5	5	5	16	21	624-5			10.0ft: white (10YR8/1), soft
-16.4	15.0	6	17	17	34	624-6			12.5ft: white (2.5Y8/1), to light gray (2.5Y7/1), medium hard, trace sand
-20.9	19.5	6	4	16	20	624-7			15.0ft: soft
-25.9	24.5	5	5	4	9	624-8			19.5ft: white (10YR8/1), very soft
-25.4	24.0								
-30.9	29.5	25	14	19	33	624-9			LIMESTONE, boundstone, white (2.5Y8/1), medium hard, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation)
-35.9	34.5	26	46	34	80	624-10			29.5ft: light gray (2.5Y7/1), hard
-37.1	35.7	11	48	50/0.2	98/0.7	624-11			34.5ft: mottled gray (2.5Y6/1)
-39.6	38.2					RUN-1			35.7ft: Switch sampling method to coring
-44.6	43.2					RUN-2			35.7ft: white (10YR8/1), to light gray (10YR7/1), hard, indurated, coralline, recrystallized calcite, strong HCl reaction, few to little vugs
-49.6	48.2					RUN-3			36.8ft: loss of circulation 38.2ft: white (2.5Y8/1), mottled light gray (10YR7/1), and olive yellow (2.5Y6/6) 43.2ft: white (10YR8/1), to 46.6ft then grayish brown (10YR5/2), fossiliferous, trace vugs
-49.6	48.2								
-54.6	53.2					RUN-4			LIMESTONE, boundstone, white (10YR8/1), hard, indurated, fossiliferous, little to few vugs, strong HCl reaction (Lower Fort Thompson Formation)
-59.6	58.2					RUN-5			53.2ft: white (2.5Y8/1), hard to moderately hard
-64.6	63.2					RUN-6			58.2ft: white (5Y8/1), medium hard to hard, moderately indurated, some coarse grained sand, few vugs
-66.6	65.2					RUN-7			63.2ft: white (10YR8/1), hard, indurated
-69.6	68.2					RUN-8			65.2ft: white (2.5Y8/1)
-74.6	73.2					RUN-9			
						RUN-10			73.2ft: white (10YR8/1)

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

MACTEC

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: L. Bisson	
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft)	
BORING NO.: B-624	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR.	NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 397,327 US ft (NAD83/90)	EASTING: 876,514 US ft (NAD83/90)	24 HR.	NA
TOTAL DEPTH: 103.2 ft	BORING DIAMETER: 4" to 36.0', 3" to 103.2'	CASING DEPTH: 4" to 36.0', 3" to 103.0'	HAMMER (ID):140 lb. Auto (MEC-03)	
DATE STARTED: 4/1/08	COMPLETED: 4/2/08	CORE SIZE: HQ3	BITS USED: 4" Roller Cone	

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
-76.2					Continued from previous page				
-77.6	76.2					RUN-11			LIMESTONE, boundstone, white (10YR8/1), hard, indurated, fossiliferous, little to few vugs, strong HCl reaction (Lower Fort Thompson Formation) *(continued)*
-79.6	78.2					RUN-12			76.2ft: moderately hard, moderately indurated, some coarse sand
-84.6	83.2					RUN-13			84.2 to 86.2ft: sand lenses; very soft/fast drilling
-89.6	88.2					RUN-14			88.2ft: moderately hard to hard, trace vugs
-94.6	93.2					RUN-15			93.2ft: white (2.5Y8/1), moderately hard, moderately indurated
-99.6	98.2					RUN-16			98.2ft: hard, indurated, few vugs
-104.6	103.2								Boring Terminated at Elevation -104.6 ft

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

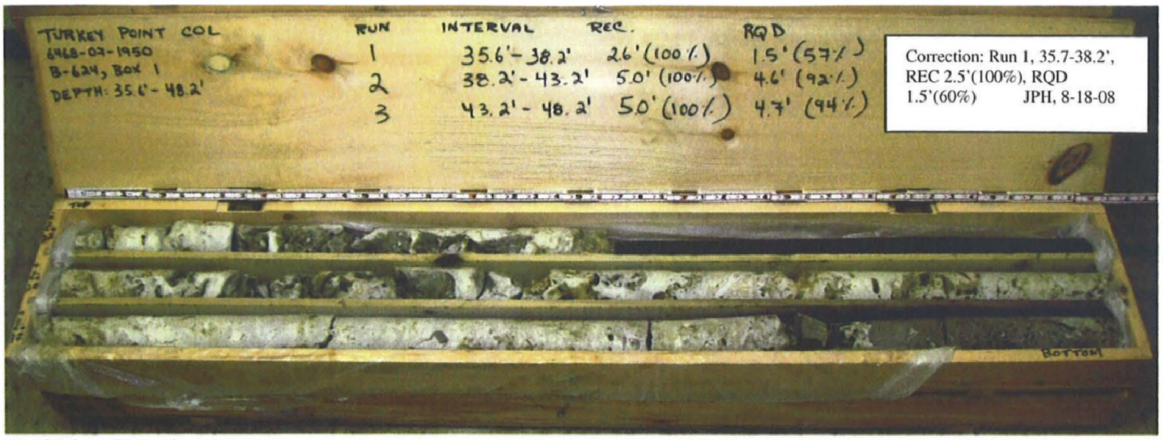
MACTEC

SHEET 1 OF 1

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: L. Bisson	
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft)	
BORING NO.: B-624	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR.	NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 397,327 US ft (NAD83/90)	EASTING: 876,514 US ft (NAD83/90)	24 HR.	NA
TOTAL DEPTH: 103.2 ft	CASING DEPTH: 4" to 36.0', 3" to 103.0'		HAMMER (ID): 140 lb. Auto (MEC-03)	
DATE STARTED: 4/1/08	COMPLETED: 4/2/08	CORE SIZE: HQ3	CORE BARREL TYPE: Triple Tube Wireline (Split inner liners)	

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Begin Coring @ 35.7 ft
-37.1	35.7	2.5	1:27 1:29 1:80/0.5	(2.5) 100%	(1.5) 60%	RUN-1	(12.5) 100%	(10.8) 86%		LIMESTONE, boundstone, white (2.5Y8/1), medium hard, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation) *(continued)*
-39.6	38.2	5.0	1:20 1:31 1:36 1:29 1:50	(5.0) 100%	(4.6) 92%	RUN-2				35.7ft: white (10YR8/1), to light gray (10YR7/1), hard, indurated, coralline, recrystallized calcite, strong HCl reaction, few to little vugs 36.8ft: loss of circulation
-44.6	43.2	5.0	1:29 1:33 1:11 1:19 1:27	(5.0) 100%	(4.7) 94%	RUN-3				38.2ft: white (2.5Y8/1), mottled light gray (10YR7/1), and olive yellow (2.5Y6/6) 43.2ft: white (10YR8/1), to 46.6ft then grayish brown (10YR5/2), fossiliferous, trace vugs
-49.6	48.2	5.0	1:01 0:59 1:14 1:03 0:33	(5.0) 100%	(4.6) 92%	RUN-4	(40.7) 74%	(21.4) 39%		-49.6 LIMESTONE, boundstone, white (10YR8/1), hard, indurated, fossiliferous, little to few vugs, strong HCl reaction (Lower Fort Thompson Formation) 48.2
-54.6	53.2	5.0	0:18 0:25 0:34 0:16 0:03	(4.0) 80%	(1.7) 34%	RUN-5				53.2ft: white (2.5Y8/1), hard to moderately hard
-59.6	58.2	5.0	0:26 1:08 1:22 0:42 0:25	(4.3) 86%	(2.4) 48%	RUN-6				58.2ft: white (5Y8/1), medium hard to hard, moderately indurated, some coarse grained sand, few vugs
-64.6	63.2	2.0	0:23 0:35	(0.5) 25%	(0.0) 0%	RUN-7				63.2ft: white (10YR8/1), hard, indurated
-66.6	65.2	3.0	1:02 2:10 0:03	(2.0) 67%	(1.0) 33%	RUN-8				65.2ft: white (2.5Y8/1)
-69.6	68.2	5.0	0:09 0:26 1:00 1:52 1:52	(2.6) 52%	(0.4) 8%	RUN-9				
-74.6	73.2	3.0	0:57 0:40 1:50	(2.0) 67%	(0.0) 0%	RUN-10				73.2ft: white (10YR8/1)
-77.6	76.2	2.0	1:53 1:05	(2.0) 100%	(1.8) 90%	RUN-11				76.2ft: moderately hard, moderately indurated, some coarse sand
-79.6	78.2	5.0	1:35 1:10 1:16 1:20 0:50	(4.7) 94%	(3.5) 70%	RUN-12				
-84.6	83.2	5.0	0:45 0:03 0:07 1:59 0:48	(1.6) 32%	(0.0) 0%	RUN-13				84.2 to 86.2ft: sand lenses; very soft/fast drilling
-89.6	88.2	5.0	1:12 2:07 0:35 0:53 0:59	(4.3) 86%	(1.8) 36%	RUN-14				88.2ft: moderately hard to hard, trace vugs
-94.6	93.2	5.0	0:36 0:48 0:50 0:48 0:41	(4.0) 80%	(2.5) 50%	RUN-15				93.2ft: white (2.5Y8/1), moderately hard, moderately indurated
-99.6	98.2	5.0	0:52 0:47 0:21 0:33 0:30	(3.7) 74%	(1.7) 34%	RUN-16				98.2ft: hard, indurated, few vugs
-104.6	103.2									-104.6 103.2
										Coring Terminated at Elevation -104.6

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



B-624 – Box 1

B-624 – Box 2

B-624 – Box 3

B-624 – Box 4

MACTEC

GEOTECHNICAL BORING LOG

Prepared By _____ Date 7/10-08

Checked By _____ Date 7-10-08

SHEET 1 OF 2

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: J. Liles	
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (Miller)	DRILLER: R. White/ J. Dugger/ C. White	GROUND WATER (ft)	
BORING NO.: B-625	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR.	NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 397,107 US ft (NAD83/90)	EASTING: 876,961 US ft (NAD83/90)	24 HR.	NA
TOTAL DEPTH: 126.7 ft	BORING DIAMETER: 4" to 15.1', 3" to 126.7'	CASING DEPTH: 4" to 15.1'	HAMMER (ID):140 lb. Auto (M06)	
DATE STARTED: 3/23/08	COMPLETED: 3/24/08	CORE SIZE: HQ3	BITS USED: 2 7/8" Tricone	

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO	MOI	LOG	SOIL AND ROCK DESCRIPTION
-1.4					Ground Surface				
-1.4	0.0	WOH	WOH	WOH	WOH 0	625-1			-1.4 0.0 MUCK, black (2.5Y2.5/1), very soft, wet, strong HCl reaction, mostly organic, fibrous
-3.6	2.2	1	4	10	14	625-2A&B			-4.2 2.8 LIMESTONE, boundstone, white (2.5Y8/1), very soft, wet, little to some fine grained sand, strong HCl reaction, oolitic (Miami Formation)
-6.5	5.1	10	9	9	18	625-3			
-9.0	7.6	10	9	5	14	625-4			7.6ft: trace sand
-11.5	10.1	8	6	8	14	625-5			
-13.9	12.5	9	13	12	25	625-6			12.5ft: soft
-16.6	15.2								15.2ft: hard
-17.8	16.4	5	15	50/0.2		625-7			16.4ft: Switch sampling method to coring
					65.0 7	RUN-1			16.4ft: white (2.5Y8/1), moderately hard, moderately indurated, strong HCl reaction, trace coarse grained sand, locally interconnected vugs filled with sand
-21.8	20.4					RUN-2			
-25.4	24.0								LIMESTONE, boundstone, white (2.5Y8/1), moderately hard, moderately indurated, strong HCl reaction, coralline, trace vugs (Upper Fort Thompson Formation)
-26.8	25.4					RUN-3			
-31.8	30.4					RUN-4			
-36.8	35.4					RUN-5			
-41.8	40.4					RUN-6			40.4ft: hard, indurated, recrystallized calcite, few vugs
-46.8	45.4					RUN-7			45.4ft: white (2.5Y8/1) to 48.1ft then light gray (10YR7/1) to 50.4ft
-51.8	50.4								-51.8 50.4 LIMESTONE, boundstone, white (2.5Y8/1), moderately hard, moderately indurated, trace vugs, strong HCl reaction (Lower Fort Thompson Formation)
-56.8	55.4					RUN-8			
-61.8	60.4					RUN-9			
-66.8	65.4					RUN-10			
-71.8	70.4					RUN-11			-66.8 65.4 POORLY GRADED SAND (SP), light gray (5Y7/1), wet, fine grained sand, strong HCl reaction, trace limestone fragments
						RUN-12			-71.8 70.4 LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, strong HCl reaction, trace vugs

SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA

TURKEY POINT COL BORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 7/10/08

MACTEC

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: J. Liles	
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (Miller)	DRILLER: R. White/ J. Dugger/ C. White	GROUND WATER (ft)	
BORING NO.: B-625	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR.	NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 397,107 US ft (NAD83/90)	EASTING: 876,961 US ft (NAD83/90)	24 HR.	NA
TOTAL DEPTH: 126.7 ft	BORING DIAMETER: 4" to 15.1', 3" to 126.7'	CASING DEPTH: 4" to 15.1'	HAMMER (ID):140 lb. Auto (M06)	
DATE STARTED: 3/23/08	COMPLETED: 3/24/08	CORE SIZE: HQ3	BITS USED: 2 7/8" Tricone	

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
-76.2					Continued from previous page				
-76.8	75.4					RUN-13			LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, strong HCl reaction, trace vugs *(continued)* 75.4ft: moderately hard, moderately indurated
-81.8	80.4					RUN-14			80.4ft: fossiliferous, sandy
-86.8	85.4					RUN-15			85.4ft: some vugs
-91.8	90.4					RUN-16			90.4ft: indurated
-96.8	95.4					RUN-17			95.4ft: moderately indurated, few vugs
-101.8	100.4					RUN-18			100.4ft: mostly vugs, few shell molds and casts
-106.8	105.4					RUN-19			105.4ft: little to some shell molds and casts
-111.8	110.4					RUN-20			
-116.8	115.4					RUN-21			-117.5 116.1 Silty SAND (SM), light gray (5Y7/1), wet, fine to coarse grained sand, strong HCl reaction, trace fine to coarse limestone gravel fragments (Tamiami Formation) 120.4ft: Switch sampling method to SPT 120.4ft: light olive gray (5Y6/2), very dense
-121.8	120.4	20	50/0.4		70/0.9	625-8			
-126.6	125.2	5	8	12	20	625-9			-128.1 125.2ft: medium dense 126.7 Boring Terminated at Elevation -128.1 ft

TURKEY POINT COL BORE TURKEY POINT GPJ TURKEY POINT COL.GDT 7/10/08

MACTEC

SHEET 1 OF 2

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: J. Liles
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (Miller)	DRILLER: R. White/ J. Dugger/ C. White	GROUND WATER (ft)
BORING NO.: B-625	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 397,107 US ft (NAD83/90)	EASTING: 876,961 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 126.7 ft	CASING DEPTH: 4" to 15.1'		HAMMER (ID): 140 lb. Auto (M06)
DATE STARTED: 3/23/08	COMPLETED: 3/24/08	CORE SIZE: HQ3	CORE BARREL TYPE: Triple Tube Wireline (Split inner liners)

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Begin Coring @ 16.4 ft
-17.8	16.4	4.0	1:30 1:34 0:37 0:10	(1.0) 25%	(0.9) 23%	RUN-1	(1.9) 25%	(0.9) 12%		LIMESTONE, boundstone, white (2.5Y8/1), very soft, wet, little to some fine grained sand, strong HCl reaction, oolitic (Miami Formation) *(continued)* 16.4ft: white (2.5Y8/1), moderately hard, moderately indurated, strong HCl reaction, trace coarse grained sand, locally interconnected vugs filled with sand
-21.8	20.4									
		5.0	0:15 0:21 0:22 1:31	(0.9) 18%	(0.0) 0%	RUN-2				
-25.4										24.0
-26.8	25.4		1:15				(18.4) 70%	(13.2) 50%		LIMESTONE, boundstone, white (2.5Y8/1), moderately hard, moderately indurated, strong HCl reaction, coralline, trace vugs (Upper Fort Thompson Formation)
		5.0	1:31 1:07 1:10 1:22	(4.0) 80%	(2.1) 42%	RUN-3				
-31.8	30.4		1:44							
		5.0	1:27 1:49 0:51 0:52	(2.8) 56%	(1.9) 38%	RUN-4				
-36.8	35.4		1:49							
		5.0	0:42 1:11 0:37 0:32	(2.0) 40%	(1.1) 22%	RUN-5				
-41.8	40.4		0:05							
		5.0	1:34 1:23 1:28 2:15	(4.6) 92%	(3.8) 76%	RUN-6				40.4ft: hard, indurated, recrystallized calcite, few vugs
-46.8	45.4		2:04							
		5.0	3:50 1:45 2:24 2:55	(5.0) 100%	(4.3) 86%	RUN-7				45.4ft: white (2.5Y8/1) to 48.1ft then light gray (10YR7/1) to 50.4ft
-51.8	50.4		2:37							
-51.8										50.4
		5.0	1:41 1:34 1:30 1:30	(4.6) 92%	(4.3) 86%	RUN-8	(12.6) 84%	(9.0) 60%		LIMESTONE, boundstone, white (2.5Y8/1), moderately hard, moderately indurated, trace vugs, strong HCl reaction (Lower Fort Thompson Formation)
-56.8	55.4		0:48							
		5.0	0:57 1:00 0:56 1:12	(4.8) 96%	(2.6) 52%	RUN-9				
-61.8	60.4		0:55							
		5.0	0:59 0:58 0:56 0:10	(3.2) 64%	(2.1) 42%	RUN-10				
-66.8	65.4		0:07							
-66.8										65.4
		5.0	0:06 0:32 0:10 0:24	(1.4) 28%	(N/A)	RUN-11	(1.4) 28%	(NA)		POORLY GRADED SAND (SP), light gray (5Y7/1), wet, fine grained sand, strong HCl reaction, trace limestone fragments
-71.8	70.4		0:07							
-71.8										70.4
		5.0	0:44 0:08 0:09 0:10	(1.7) 34%	(0.5) 10%	RUN-12	(24.0) 53%	(9.4) 21%		LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, strong HCl reaction, trace vugs
-76.8	75.4		0:51							
		5.0	0:19 0:10 0:20 0:37	(1.2) 24%	(0.5) 10%	RUN-13				75.4ft: moderately hard, moderately indurated
-81.8	80.4		1:52							
		5.0	0:28 0:36 0:38 1:10	(3.8) 76%	(1.5) 30%	RUN-14				80.4ft: fossiliferous, sandy
-86.8	85.4		0:20							
		5.0	0:10 0:20 0:34 0:25	(1.4) 28%	(0.0) 0%	RUN-15				85.4ft: some vugs
-91.8	90.4		0:08							

TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 7/10/08

MACTEC

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: J. Liles
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (Miller)	DRILLER: R. White/ J. Dugger/ C. White	GROUND WATER (ft)
BORING NO.: B-625	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 397,107 US ft (NAD83/90)	EASTING: 876,961 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 126.7 ft	CASING DEPTH: 4" to 15.1'		HAMMER (ID): 140 lb. Auto (M06)
DATE STARTED: 3/23/08	COMPLETED: 3/24/08	CORE SIZE: HQ3	CORE BARREL TYPE: Triple Tube Wireline (Split inner liners)

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Continued from previous page
		5.0	0:22 0:08 0:17 0:15 0:13	(1.5) 30%	(0.5) 10%	RUN-16				90.4ft: indurated LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, strong HCl reaction, trace vugs *(continued)*
-96.8	95.4									
		5.0	0:20 0:14 0:31 0:18 0:27	(3.4) 68%	(0.9) 18%	RUN-17				95.4ft: moderately indurated, few vugs
-101.8	100.4									
		5.0	0:39 0:24 0:25 0:31 0:28	(4.4) 88%	(2.0) 40%	RUN-18				100.4ft: mostly vugs, few shell molds and casts
-106.8	105.4									
		5.0	0:24 0:29 0:24 0:20 0:30	(3.5) 70%	(3.2) 64%	RUN-19				105.4ft: little to some shell molds and casts
-111.8	110.4									
		5.0	0:23 0:34 0:46 0:21 0:12	(2.4) 48%	(0.3) 6%	RUN-20				
-116.8	115.4									
		5.0	0:28 0:27 0:17 0:24 0:34	(1.8) 36%	(0.0) 0%	RUN-21	(1.1) 26%	(NA)		-117.5 116.1 Silty SAND (SM), light gray (5Y7/1), wet, fine to coarse grained sand, strong HCl reaction, trace fine to coarse limestone gravel fragments (Tamiami Formation)
-121.8	120.4									-121.8 120.4 Coring Terminated at Elevation -121.8

TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 7/10/08