MACTEC

GEOTECHNICAL BORING LOG

Prepared By JDM Date 8-19-08

Checked By GSR Date 8/19/08

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 Marsh Buggy	DRILLER: D. White/ R. Hall	GROUND WATER (ft)	
BORING NO.: B-810	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR.	NA
GROUND ELEV.: -1.2 ft (NAVD88)	NORTHING: 397,807 US ft (NAD83/90)	EASTING: 875,012 US ft (NAD83/90)	24 HR.	NA
TOTAL DEPTH: 127.0 ft	BORING DIAMETER: 4" to 127.0'	CASING DEPTH: 4" to 20.0'	HAMMER (ID):140 lb. Auto (893)	
DATE STARTED: 5/16/08	COMPLETED: 5/18/08	CORE SIZE: HQ3	BITS USED: 3 15/16" 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
-1.2					Ground Surface				
-1.2	0.0	WOH	WOH	WOH	WOH	810-1			FAT CLAY (CH) with sand, light brownish gray (10YR6/2), very soft, wet, some fine grained sand, trace organics, strong HCl reaction
-3.7	2.5								
		2	5	5	10	810-2			
-6.2	5.0								
		24	7	5	12	810-3			
-8.7	7.5								
		7	10	5	15	810-4			
-11.2	10.0								
		5	3	10	13	810-5			
-13.7	12.5								
		9	10	9	19	810-6			12.5ft: recrystallized calcite
-16.2	15.0								
		50/0.5			50/0.5	810-7			15.0ft: hard
-21.2	20.0								
		5	9	28	37	810-8			20.0ft: white (7.5Y8/1), medium hard
-26.2	25.0								
-26.7	25.5	50/0.4			50/0.4	810-9 RUN-1			LIMESTONE, boundstone, white (10YR8/1), hard, wet, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation)
-29.2	28.0								25.5ft: Switch sampling method to coring
						RUN-2			25.5ft: indurated, trace locally interconnected vugs, fossiliferous
-34.2	33.0								28.0ft: little vugs, trace coralline
-35.7	34.5					RUN-3			33.0ft: few vugs
						RUN-4			34.5ft: little vugs
-39.2	38.0								
-40.2	39.0					RUN-5			38.0ft: few vugs
						RUN-6			
-44.2	43.0								
						RUN-7			43.0ft: white (10YR8/1) to 44.0ft; then light gray (10YR7/1) to 48.0ft
-49.2	48.0								
						RUN-8			LIMESTONE. boundstone, white (10YR8/1), hard, indurated. few vugs, fossiliferous, trace shell molds and casts, strong HCl reaction (Lower Fort Thompson Formation)
-54.2	53.0								
						RUN-9			53.0ft: moderately hard, moderately indurated, trace sand
-59.2	58.0								
						RUN-10			58.0ft: hard, indurated, trace vugs
-64.2	63.0								
						RUN-11			63.0ft: moderately hard, moderately indurated
-69.2	68.0								
						RUN-12			68.0ft: few vugs
-74.2	73.0								
						RUN-13			73.0ft: medium hard

SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA

-3.2 2.0

-4.3 3.1

MUCK, dark gray (10YR4/1), soft, moist, mostly organic, strong HCl reaction, strong HCl reaction

LIMESTONE, boundstone, white (10YR8/1), very soft, fossiliferous, strong HCl reaction, oolitic (Miami Formation)

-25.2 24.0

-49.2 48.0

TURKEY POINT COL BORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 8.19.08

MACTEC

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 Marsh Buggy	DRILLER: D. White/ R. Hall	GROUND WATER (ft)
BORING NO.: B-810	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.2 ft (NAVD88)	NORTHING: 397,807 US ft (NAD83/90)	EASTING: 875,012 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 127.0 ft	BORING DIAMETER: 4" to 127.0'	CASING DEPTH: 4" to 20.0'	HAMMER (ID):140 lb. Auto (893)
DATE STARTED: 5/16/08	COMPLETED: 5/18/08	CORE SIZE: HQ3	BITS USED: 3 15/16" 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
-76.0					Continued from previous page				
-79.2	78.0					RUN-14			LIMESTONE. boundstone, white (10YR8/1), hard, indurated, few vugs, fossiliferous, trace shell molds and casts, strong HCl reaction (Lower Fort Thompson Formation) *(continued)* 78.0ft: few vugs
-84.2	83.0					RUN-15			83.0ft: moderately hard, trace shell casts
-89.2	88.0					RUN-16			88.0ft: trace vugs, layers of soft, friable limestone
-94.2	93.0					RUN-17			
-99.2	98.0					RUN-18			98.0ft: few vugs
-104.2	103.0					RUN-19			103.0ft: moderately hard to medium hard, some shell casts
-109.2	108.0					RUN-20			108.0ft: moderately hard, sandy
-111.2	110.0								Silty SAND (SM), light gray (10YR7/2), dense, wet, fine grained sand, strong HCl reaction (Tamiami Formation)
-114.2	113.0					RUN-21			
-119.2	118.0	4	9	30	39	810-10			118.0ft: Switch sampling method to SPT
-126.7	125.5	6	8	11	19	810-11			125.0ft: greenish gray (10Y6/1), medium dense
-128.2	127.0								Boring Terminated at Elevation -128.2 ft

TURKEY POINT COL BORE TURKEY POINT GPJ TURKEY POINT COL.GDT 8/19/08

MACTEC

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 Marsh Buggy	DRILLER: D. White/ R. Hall	GROUND WATER (ft)
BORING NO.: B-810	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.2 ft (NAVD88)	NORTHING: 397,807 US ft (NAD83/90)	EASTING: 875,012 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 127.0 ft	CASING DEPTH: 4" to 20.0'		HAMMER (ID): 140 lb. Auto (893)
DATE STARTED: 5/16/08	COMPLETED: 5/18/08	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 @ 25.5 ft
-26.7	25.5	2.5	1:17 1:17 0:53/0.5	(2.5) 100%	(2.5) 100%	RUN-1	(22.1) 98%	(17.8) 79%		LIMESTONE, boundstone, white (10YR8/1), hard, wet, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation) *(continued)*
-29.2	28.0	5.0	1:09 1:08 1:03 1:05 2:01	(5.0) 100%	(3.1) 62%	RUN-2				25.5ft: indurated, trace locally interconnected vugs, fossiliferous 28.0ft: little vugs, trace coralline
-34.2	33.0									
-35.7	34.5	1.5	1:40 2:52/0.5	(1.3) 87%	(0.0) 0%	RUN-3				33.0ft: few vugs
		3.5	1:00 2:24 2:00	(3.5) 100%	(3.5) 100%	RUN-4				34.5ft: little vugs
-39.2	38.0									
-40.2	39.0	1.0	2:06/0.5	(1.0) 100%	(1.0) 100%	RUN-5				38.0ft: few vugs
		4.0	3:05 2:43 2:50 3:07	(3.8) 95%	(3.4) 85%	RUN-6				
-44.2	43.0	5.0	3:50 2:22 2:02 2:22 2:02	(5.0) 100%	(4.3) 86%	RUN-7				43.0ft: white (10YR8/1) to 44.0ft; then light gray (10YR7/1) to 48.0ft
-49.2	48.0		2:42							-49.2 48.0
		5.0	2:50 1:30 1:20 1:00 0:40	(4.9) 98%	(4.6) 92%	RUN-8	(44.6) 72%	(30.3) 49%		LIMESTONE. boundstone, white (10YR8/1), hard, indurated, few vugs, fossiliferous, trace shell molds and casts, strong HCl reaction (Lower Fort Thompson Formation)
-54.2	53.0	5.0	1:00 1:00 1:40 1:20 1:20	(4.3) 86%	(3.0) 60%	RUN-9				53.0ft: moderately hard, moderately indurated, trace sand
-59.2	58.0	5.0	1:00 1:30 0:50 0:36 0:10	(3.8) 76%	(3.8) 76%	RUN-10				58.0ft: hard, indurated, trace vugs
-64.2	63.0	5.0	1:30 1:10 0:51 2:12 1:55	(3.6) 72%	(2.9) 58%	RUN-11				63.0ft: moderately hard, moderately indurated
-69.2	68.0	5.0	1:50 1:25 0:53 1:26 1:35	(4.4) 88%	(3.5) 70%	RUN-12				68.0ft: few vugs
-74.2	73.0	5.0	1:15 0:55 1:13 0:45 0:15	(1.6) 32%	(0.0) 0%	RUN-13				73.0ft: medium hard
-79.2	78.0	5.0	0:20 0:40 1:28 3:30 1:53	(3.3) 66%	(0.8) 16%	RUN-14				78.0ft: few vugs
-84.2	83.0	5.0	0:20 1:30 1:20 2:10 1:26	(3.7) 74%	(2.6) 52%	RUN-15				83.0ft: moderately hard, trace shell casts
-89.2	88.0	5.0	0:27 0:51 1:51 1:20 0:27	(2.7) 54%	(1.5) 30%	RUN-16				88.0ft: trace vugs, layers of soft, friable limestone
-94.2	93.0	5.0	0:40 0:10 0:28 0:51 1:25	(2.2) 44%	(0.0) 0%	RUN-17				
-99.2	98.0	5.0	1:00 1:22	(5.0) 100%	(5.0) 100%	RUN-18				98.0ft: few vugs

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

MACTEC

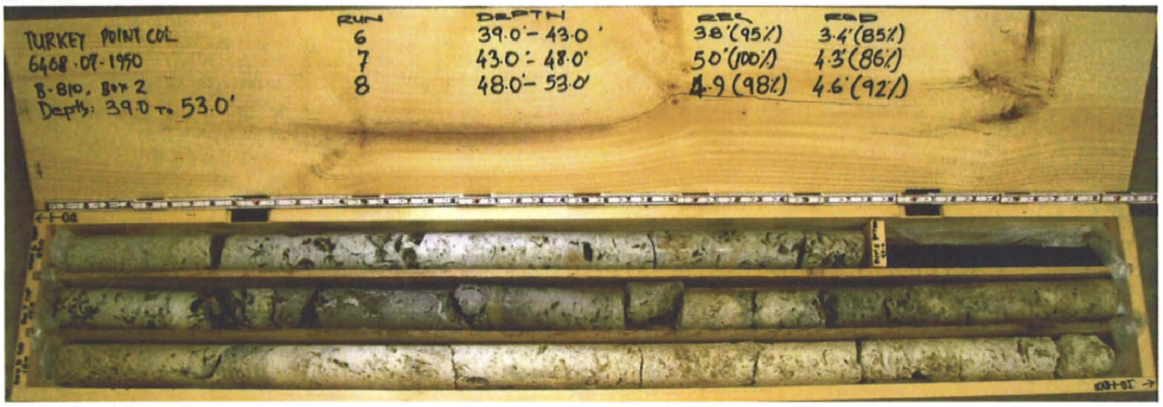
BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: H. Lyatuu
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 Marsh Buggy	DRILLER: D. White/ R. Hall	GROUND WATER (ft)
BORING NO.: B-810	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.2 ft (NAVD88)	NORTHING: 397,807 US ft (NAD83/90)	EASTING: 875,012 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 127.0 ft	CASING DEPTH: 4" to 20.0'		HAMMER (ID): 140 lb. Auto (893)
DATE STARTED: 5/16/08	COMPLETED: 5/18/08	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
-104.2	103.0		1:05 1:15 1:30							LIMESTONE. boundstone, white (10YR8/1), hard, indurated, few vugs, fossiliferous, trace shell molds and casts, strong HCl reaction (Lower Fort Thompson Formation) *(continued)* 103.0ft: moderately hard to medium hard, some shell casts
-109.2	108.0	5.0	1:40 1:25 1:00 0:55 1:45	(4.0) 80%	(2.1) 42%	RUN-19				
-111.2	110.0	5.0	1:29 1:00 0:15 0:18 0:10	(1.1) 22%	(0.5) 10%	RUN-20				108.0ft: moderately hard, sandy
-114.2	113.0						(0.0) 0%	(NA)		Silty SAND (SM), light gray (10YR7/2), dense, wet, fine grained sand, strong HCl reaction (Tamiami Formation)
-119.2	118.0	5.0	0:10 0:05 0:08 0:15 0:31	(0.0) 0%	(0.0) 0%	RUN-21				
										Coring Terminated at Elevation -119.2

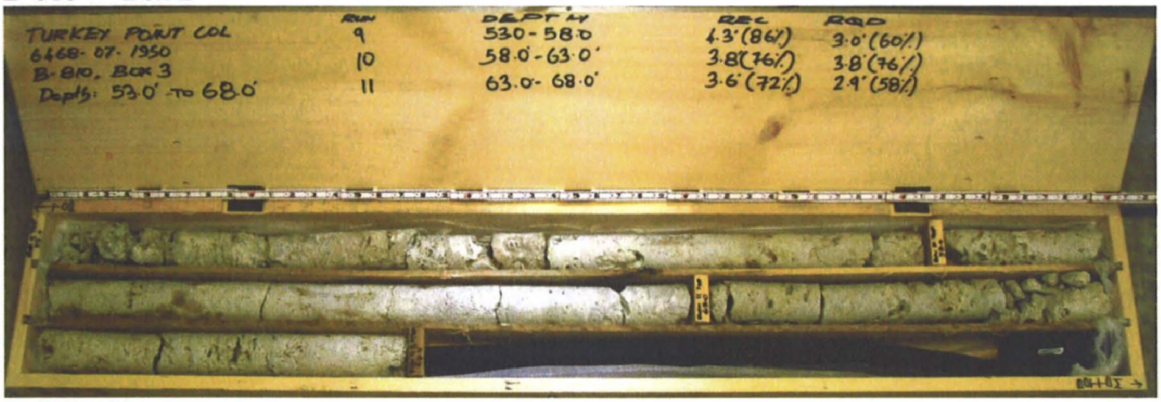
TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 7/10/08



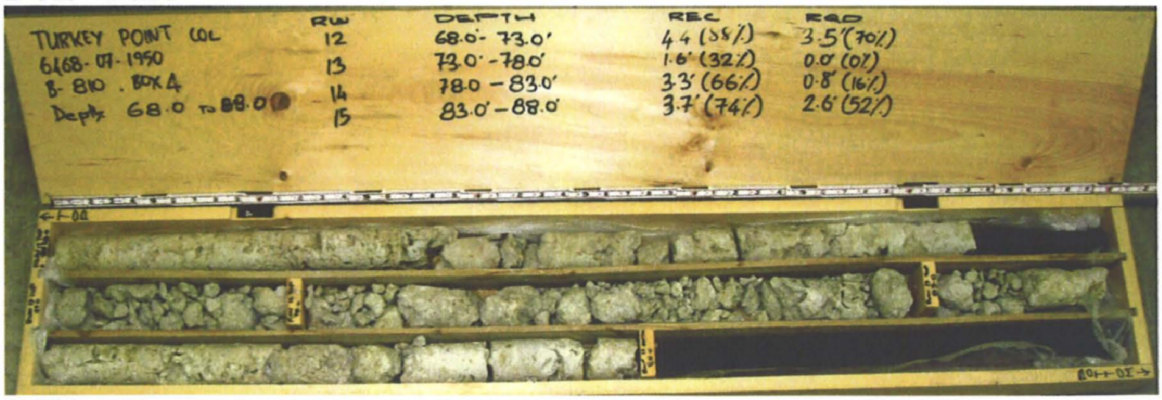
B-810– Box 1



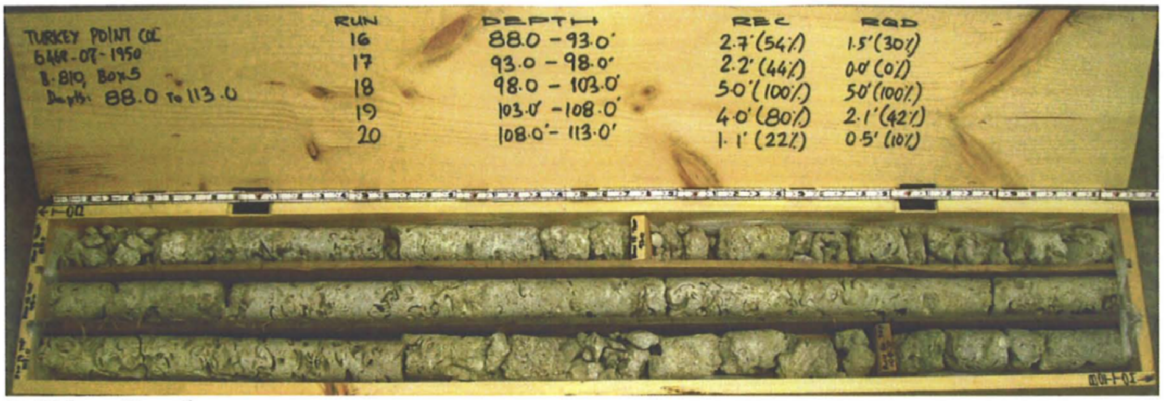
B-810 – Box 2



B-810 – Box 3



B-810 – Box 4


TURKEY POINT COL
6468-07-1950
B-810, Box-5
Depth: 88.0 To 113.0
RUN
16
17
18
19
20
DEPTH
88.0 - 93.0'
93.0 - 98.0'
98.0 - 103.0'
103.0' - 108.0'
108.0'- 113.0'
REC
2.7'(54%)
2.2'(44%)
5.0'(100%)
4.0'(80%)
1.1'(22%)
RQD
1.5'(30%)
0.0'(0%)
5.0'(100%)
2.1'(42%)
0.5'(10%)

B-810 – Box 5

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: 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-811	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 398,325 US ft (NAD83/90)	EASTING: 874,954 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 127.3 ft	BORING DIAMETER: 4" to 127.3'	CASING DEPTH: 4" to 125.1'	HAMMER (ID):140 lb. Auto (M06)
DATE STARTED: 5/13/08	COMPLETED: 5/15/08	CORE SIZE: HQ3	BITS USED: 2 7/8" 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	WOH	WOH	WOH	WOH 0	811-1			MUCK, black (2.5Y2.5/1), very soft, wet, strong HCl reaction
-4.3	2.9								
-6.5	5.1	WOH	WOH	2	2	811-2			
-8.8	7.4	11	8	5	13	811-3			LIMESTONE, boundstone, light gray (2.5Y7/1), very soft, wet, some fine grained sand, strong HCl reaction, oolitic (Miami Formation)
-11.4	10.0	12	5	14	19	811-4			
-13.7	12.3	6	9	50/0.2	59/0.7	811-5			10.0ft: hard, little sand
-15.9	14.5	9	12	9	21	811-6			12.3ft; soft
-22.3	20.9	9	24	14	38	811-7			14.5ft: medium hard, few sand
-27.8	26.4	3	7	5	12	811-8			20.9ft: very soft, trace fine grained sand
-32.6	31.2	14	18	37	55	811-9			LIMESTONE, boundstone, white (2.5Y8/1), moderately hard, wet, little fine grained sand, strong HCl reaction (Upper Fort Thompson Formation)
-37.8	36.4	16	8	5	13	811-10			31.2ft: very soft, trace sand
-38.5	37.1	22	50/0.2		50/0.7	811-11			36.4ft: hard
-42.7	41.3					RUN-1			37.1ft: Switch sampling method to coring 37.1ft: indurated, few vugs. fossiliferous, recrystallized calcite
-47.7	46.3					RUN-2			41.3ft: white (2.5Y8/1) to 45.3ft then gray (10YR6/1) to 46.3ft
-52.7	51.3					RUN-3			LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, trace vugs, fossiliferous, recrystallized calcite, strong HCl reaction (Lower Fort Thompson Formation)
-57.7	56.3					RUN-4			51.3ft: medium hard to hard, friable to indurated, trace fine grained sand
-62.7	61.3					RUN-5			
-67.7	66.3					RUN-6			POORLY GRADED SAND (SP), white (2.5Y8/1), wet, strong HCl reaction 61.3 to 65.3: rod drop
-69.2	67.8	13	9	8	17	811-12			66.3ft: Switch sampling method to SPT 66.3ft: LIMESTONE, boundstone, white (2.5Y8/1), very soft, friable to indurated, some fine sand, little vugs, strong HCl reaction, fossiliferous
-72.7	71.3					RUN-7			67.8ft: Switch sampling method to coring 67.8ft: medium hard to hard 71.3ft: moderately hard, indurated
						RUN-8			

SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA

-1.4 0.0

-5.3 3.9

-26.4 25.0

-47.7 46.3

-62.7 61.3

-66.7 65.3

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: 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-811	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA	
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 398,325 US ft (NAD83/90)	EASTING: 874,954 US ft (NAD83/90)	24 HR. NA	
TOTAL DEPTH: 127.3 ft	BORING DIAMETER: 4" to 127.3'	CASING DEPTH: 4" to 125.1'	HAMMER (ID):140 lb. Auto (M06)	
DATE STARTED: 5/13/08	COMPLETED: 5/15/08	CORE SIZE: HQ3	BITS USED: 2 7/8" 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				
-77.7	76.3					RUN-9			66.3ft: Switch sampling method to SPT 66.3ft: LIMESTONE, boundstone, white (2.5Y8/1), very soft, friable to indurated, some fine sand, little vugs, strong HCl reaction, fossiliferous *(continued)*
-82.7	81.3					RUN-10			76.3ft: medium hard to hard, friable to indurated, trace fine grained sand 81.3ft: moderately hard, moderately indurated, mostly vugs
-87.7	86.3					RUN-11			86.3ft: friable to indurated, few vugs
-92.7	91.3					RUN-12			91.3ft: medium hard to moderately hard, some vugs
-97.7	96.3					RUN-13			96.3ft: friable to moderately indurated, some fine grained sand
-102.7	101.3					RUN-14			101.3ft: moderately hard, moderately indurated, mostly vugs
-107.7	106.3					RUN-15			106.3ft: medium hard to moderately hard, friable to moderately indurated, little sand
-112.7	111.3					RUN-16			-112.7 111.3 POORLY GRADED SAND (SP), light gray (2.5Y8/1), wet, fine grained sand, limestone fragments, strong HCl reaction (Tamiami Formation)
-118.5	117.1	6	3	2	5	811-13			117.1ft: Switch sampling method to SPT 117.1ft: pale yellow (2.5Y7/3), loose
-127.2	125.8	3	3	5	8	811-14			-128.7 125.8ft: greenish gray (10Y5/1) 127.3 Boring Terminated at Elevation -128.7 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: 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-811	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR.	NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 398,325 US ft (NAD83/90)	EASTING: 874,954 US ft (NAD83/90)	24 HR.	NA
TOTAL DEPTH: 127.3 ft	CASING DEPTH: 4" to 125.1'		HAMMER (ID): 140 lb. Auto (M06)	
DATE STARTED: 5/13/08	COMPLETED: 5/15/08	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 @ 37.1 ft
-38.5	37.1	4.2	0:55 0:51 0:49 1:21/1.2	(4.2) 100%	(2.9) 69%	RUN-1	(9.0) 98%	(7.1) 77%		LIMESTONE, boundstone, white (2.5Y8/1), moderately hard, wet, little fine grained sand, strong HCl reaction (Upper Fort Thompson Formation) *(continued)* 37.1ft: indurated, few vugs, fossiliferous, recrystallized calcite 41.3ft: white (2.5Y8/1) to 45.3ft then gray (10YR6/1) to 46.3ft
-42.7	41.3									
-47.7	46.3	5.0	1:30 1:24 1:03 1:10 1:18	(4.8) 96%	(4.2) 84%	RUN-2				-47.7 46.3
-52.7	51.3	5.0	1:10 1:29 1:20 1:03 0:35	(5.0) 100%	(3.6) 72%	RUN-3	(11.7) 78%	(6.3) 42%		LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, trace vugs, fossiliferous, recrystallized calcite, strong HCl reaction (Lower Fort Thompson Formation)
-57.7	56.3	5.0	1:21 0:51 0:15 0:31 0:43	(3.4) 68%	(1.8) 36%	RUN-4				51.3ft: medium hard to hard, friable to indurated, trace fine grained sand
-62.7	61.3	5.0	0:50 0:47 0:33 0:31 0:46	(3.3) 66%	(0.9) 18%	RUN-5				-62.7 61.3
-67.7	66.3	5.0	NA NA NA NA 0:31	(1.5) 30%	(0.0) 0%	RUN-6	(1.5) 38%	(NA)		POORLY GRADED SAND (SP), white (2.5Y8/1), wet, strong HCl reaction 61.3 to 65.3: rod drop -66.7 65.3
			N=17			*811-12*	(29.5) 64%	(5.1) 11%		66.3ft: Switch sampling method to SPT 66.3ft: LIMESTONE, boundstone, white (2.5Y8/1), very soft, friable to indurated, some fine sand, little vugs, strong HCl reaction, fossiliferous 67.8ft: Switch sampling method to coring 67.8ft: medium hard to hard
-69.2	67.8	3.5	0:25/0.5 0:50 0:55 0:40	(2.7) 77%	(0.0) 0%	RUN-7				
-72.7	71.3	5.0	0:44 0:17 0:40 0:38	(2.4) 48%	(0.0) 0%	RUN-8				71.3ft: moderately hard, indurated
-77.7	76.3	5.0	0:36 0:19 0:16 0:18 0:57	(1.5) 30%	(0.0) 0%	RUN-9				76.3ft: medium hard to hard, friable to indurated, trace fine grained sand
-82.7	81.3	5.0	1:35 1:10 0:49 0:29 1:02	(3.1) 62%	(0.7) 14%	RUN-10				81.3ft: moderately hard, moderately indurated, mostly vugs
-87.7	86.3	5.0	0:56 0:59 1:17 0:42 0:13	(3.7) 74%	(0.8) 16%	RUN-11				86.3ft: friable to indurated, few vugs
-92.7	91.3	5.0	0:43 0:38 0:59 0:43 0:44	(4.3) 86%	(0.7) 14%	RUN-12				91.3ft: medium hard to moderately hard, some vugs
-97.7	96.3	5.0	0:27 0:55 0:52 0:51 0:48	(4.4) 88%	(1.4) 28%	RUN-13				96.3ft: friable to moderately indurated, some fine grained sand
-102.7	101.3	5.0	0:57 1:12 0:49 0:38 0:42	(4.8) 96%	(1.2) 24%	RUN-14				101.3ft: moderately hard, moderately indurated, mostly vugs
-107.7	106.3	5.0	0:20 0:37 0:46 0:48 0:15	(2.6) 52%	(0.3) 6%	RUN-15				106.3ft: medium hard to moderately hard, friable to moderately indurated, little sand
-112.7	111.3		1:03							-112.7 111.3

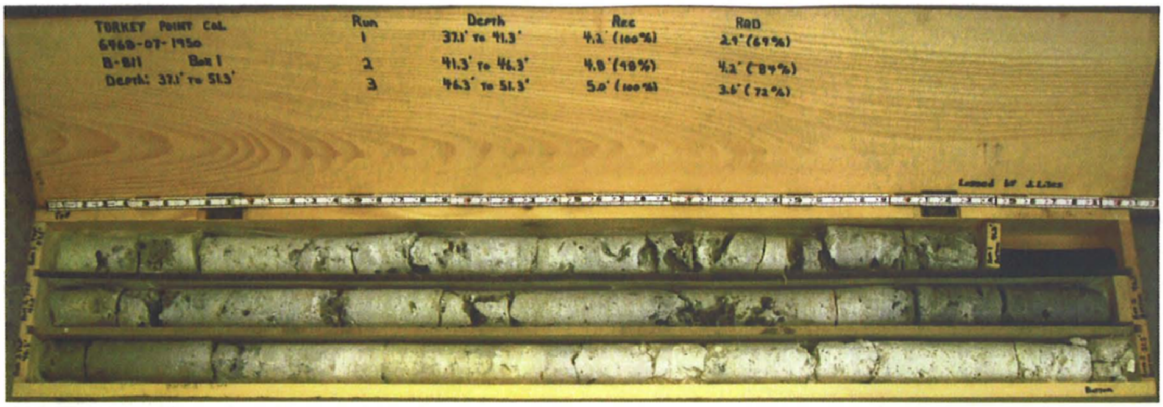
TURKEY POINT COL CORE TURKEY POINT GPJ TURKEY POINT COL.GDT 5.30.08

MACTEC

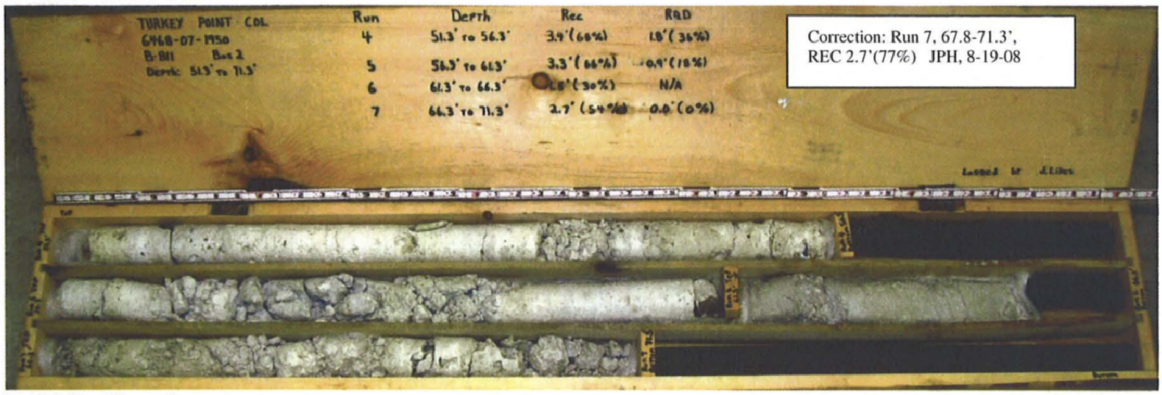
BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: J. Liles	
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (Miller)	DRILLER: R. White/ J. Dugger/ C. White	GROUND WATER (ft)	
BORING NO.: B-811	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR.	NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 398,325 US ft (NAD83/90)	EASTING: 874,954 US ft (NAD83/90)	24 HR.	NA
TOTAL DEPTH: 127.3 ft	CASING DEPTH: 4" to 125.1'	HAMMER (ID): 140 lb. Auto (M06)		
DATE STARTED: 5/13/08	COMPLETED: 5/15/08	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	0:37 0:34 0:24 0:48 0:34	(2.0) 40%	(0.0) 0%	RUN-16	(2.0) 40%	(NA)		POORLY GRADED SAND (SP), light gray (2.5Y8/1), wet, fine grained sand, limestone fragments, strong HCl reaction (Tamiami Formation) *(continued)*
-117.7	116.3									-117.7 116.3
										Coring Terminated at Elevation -117.7

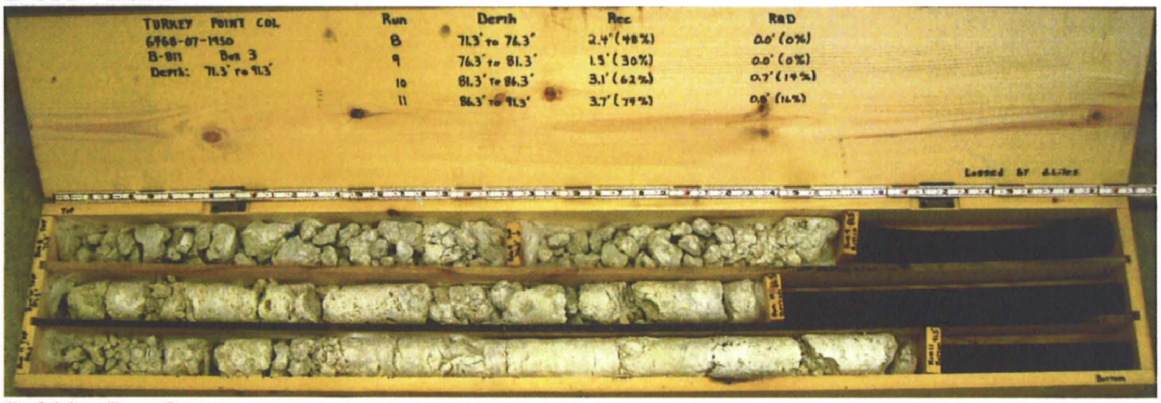
TURKEY POINT COL CORE TURKEY POINT GPJ TURKEY POINT COL.GDT 5/30/08



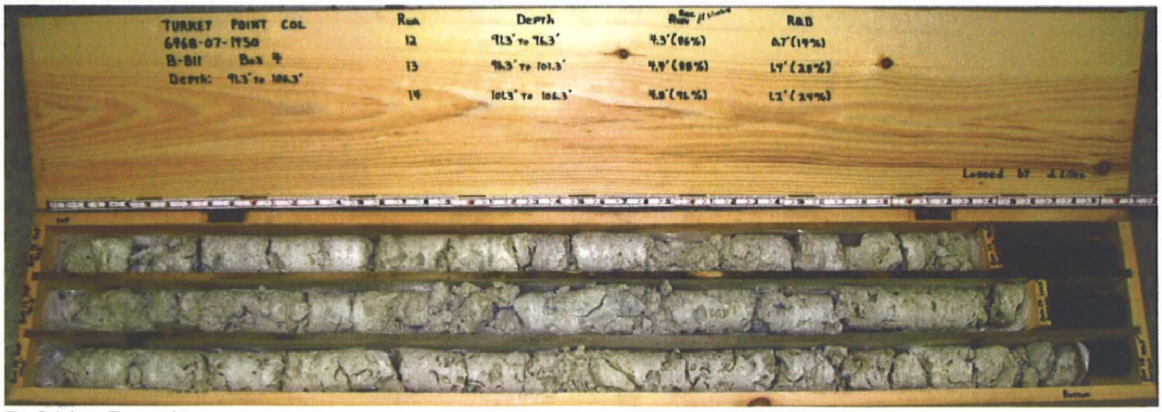
B-811 – Box 1



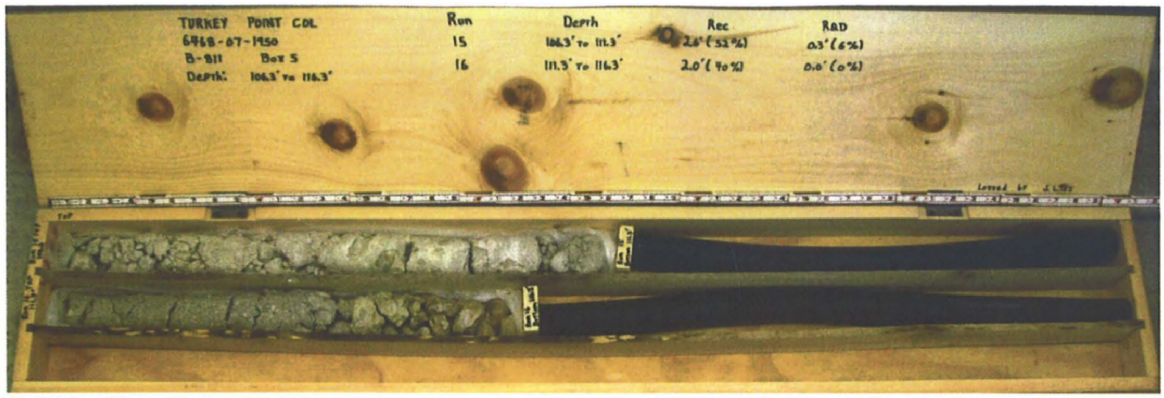
B-811 – Box 2



B-811 – Box 3



B-811 – Box 4


TURKEY POINT COL
6468-07-1950
B-811 Box 5
Depth: 106.3' To 116.3'
Run
15
16
Depth
106.3' To 111.3'
111.3' To 116.3'
Rec
2.8' (56%)
2.0' (40%)
RQD
0.3' (6%)
0.0' (0%)

B-811 – Box 5

MACTEC

GEOTECHNICAL BORING LOG

Prepared By [illegible] Date 5-30-08

Checked By [illegible] Date [illegible]

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 Marsh Buggy	DRILLER: D. White/ R. Hall	GROUND WATER (ft)
BORING NO.: B-812	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.4 ft (NAVD88)	NORTHING: 398,913 US ft (NAD83/90)	EASTING: 875,043 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 128.7 ft	BORING DIAMETER: 4" to 128.7'	CASING DEPTH: 4" to 35.0'	HAMMER (ID):140 lb. Auto (893)
DATE STARTED: 4/19/08	COMPLETED: 4/22/08	CORE SIZE: HQ3	BITS USED: 2 15/16" 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	812-1			-1.4 0.0
-3.9	2.5								-2.9 Sandy FAT CLAY (CH), very pale brown (10YR7/2), very soft, wet, some fine grained sand, trace organics, trace shell fragments, strong HCl reaction 1.5
		4	43	20	63	812-2A&B			-4.1 MUCK, very dark gray (10YR3/1), soft, wet, mostly organic, trace shell fragments, strong HCl reaction 2.7
-6.4	5.0				SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA				
		7	6	6	12	812-3			
-8.9	7.5								
		14	7	11	18	812-4			LIMESTONE, boundstone, white (10YR8/1), hard, wet, fossiliferous, strong HCl reaction, oolitic (Miami Formation)
-11.4	10.0								5.0ft: very soft
		11	11	16	27	812-5			10.0ft: soft, trace fine grained sand
-13.9	12.5								12.5ft: trace coarse sand
		9	12	10	22	812-6			
-16.4	15.0								15.0ft: fine grained sand
		18	11	12	23	812-7			
-20.7	19.3								19.3ft: very soft
		7	2	1	3	812-8			
-25.7	24.3								
		1	1	1	2	812-9			
-30.4	29.0								-28.4 27.0
		9	26	48	74	812-10			LIMESTONE, boundstone, white (10YR8/1), hard, wet, trace shell fragments, trace coralline, strong HCl reaction (Upper Fort Thompson Formation)
-35.4	34.0								
-35.6	34.2	50/0.2			50/0.2	812-11			34.0ft: hard
						RUN-1			34.2ft: Switch sampling method to coring
-38.6	37.2								34.2ft: indurated, few vugs, fossiliferous
						RUN-2			37.2ft: white (10YR8/1), to pale olive (5Y6/3), hard to medium hard, indurated to moderately indurated
-43.6	42.2					RUN-3			42.2ft: gray (5YR6/1), to white (10YR8/1), hard, indurated, coralline
-48.6	47.2					RUN-4			47.2ft: white (10YR8/1) and gray (5Y6/1) to 49.4ft
-50.8	49.4								LIMESTONE, boundstone, white (10YR8/1), moderately hard, moderately indurated, few vugs, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation)
-53.6	52.2					RUN-5			52.2ft: medium hard
									52.2 to 87.2ft: possible interbedded sand layers; based on recovery and drilling rates
-58.6	57.2					RUN-6			57.2ft: moderately hard, trace vugs
-63.6	62.2								
-65.1	63.7	12	5	2	7	812-12			62.2ft: Alternate sampling method between coring and SPT
						RUN-7			62.2ft: very soft
-68.6	67.2								63.7ft: medium hard, moderately indurated
-73.6	72.2					RUN-8			
-75.1	73.7	5	1	1	2	812-13			72.2ft: very soft
						RUN-9			

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