MACTEC

GEOTECHNICAL BORING LOG

Prepared By [illegible] Date 5-30-08
Checked By [illegible] Date 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-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. (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
-1.5					Ground Surface				
-1.5	0.0	WOH	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	WOH	9	16	25	721-2A&B			-5.0 2.5ft: very dark brown (10YR3/3), to dark yellowish brown (10YR4/4) 3.5
-6.5	5.0	11	10	7	17	721-3			LIMESTONE, boundstone, light olive gray (5YR6/2), soft, wet, strong HCl reaction (Miami Formation
-9.0	7.5	10	19	8	27	721-4			5.0ft: white (10YR8/1), very soft, fossiliferous, oolitic
-11.5	10.0	7	4	6	10	721-5			7.5ft: light gray (10YR7/1), soft 10.0ft: white (10YR8/1), very soft
-14.0	12.5	8	11	11	22	721-6			12.5ft: soft
-16.5	15.0	33	29	50	79	721-7			15.0ft: light gray (10YR7/1), hard
-21.2	19.7	4	4	7	11	721-8			19.7ft: white (10YR8/1), very soft
-26.0	24.5	24	27	8	35	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	22	7	3	10	721-10			29.5ft: very soft, trace coralline
-36.0	34.5	5	5	3	8	721-11			31.5ft: loss of circulation 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 47.2ft: light gray (10YR7/2) to 47.7ft, hard 47.7 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			

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-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. (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
-76.3					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
-83.7	82.2					RUN-11			82.2ft: hard
-88.7	87.2					RUN-12			
-93.7	92.2					RUN-13			94.2ft: possible 0.9ft-thick sand interbed
-98.7	97.2					RUN-14			
-103.7	102.2					RUN-15			
-108.7	107.2					RUN-16			
-113.7	112.2					RUN-17			112.2ft: white (10YR8/1), to very pale brown (10YR8/4), to light gray (10YR7/1)
-115.5									114.0
-118.7	117.2								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
		9	5	6	11	721-12			
-127.4	125.9								
		13	14	8	22	721-13			
-128.9									125.9ft: olive (5Y5/3)
									127.4
									Boring Terminated at Elevation -128.9 ft

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

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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 REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Begin Coring @ 36.0 ft
-37.5	36.0	1.2	1:02	(1.2) 100%	(0.0) 0%	RUN-1	(11.3) 97%	(8.1) 69%		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			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
			1:45 3:36 2:14 2:36 2:37	(4.6) 92%	(2.6) 52%					37.2ft: hard
-43.7	42.2									42.2ft: white (10YR8/1), to 45.7ft then gray (10YR6/1), very hard
		5.0	4:33 3:42 2:45 2:17 2:01	(5.0) 100%	(5.0) 100%	RUN-3				
-48.7	47.2									-49.2 47.2ft: light gray (10YR7/2) to 47.7ft, hard 47.7
		5.0	1:52 1:49 2:20 1:47 1:39	(5.0) 100%	(5.0) 100%	RUN-4	(48.7) 73%	(27.8) 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)
-53.7	52.2									52.2ft: medium hard to hard, friable to indurated, trace clayey sand
		5.0	1:15 1:31 2:02 1:32 1:34	(5.0) 100%	(2.8) 56%	RUN-5				
-58.7	57.2									57.2ft: moderately hard to hard, indurated
		5.0	0:40 1:41 2:03 2:43 1:29	(4.6) 92%	(3.7) 74%	RUN-6				
-63.7	62.2									62.2ft: moderately hard to hard
		5.0	0:57 0:21 1:59 2:00 2:03	(4.0) 80%	(1.5) 30%	RUN-7				
-68.7	67.2									67.2ft: hard 67.2 to 72.2ft: possible sand interbeds
		5.0	1:10 1:05 3:37 1:10 0:53	(1.8) 36%	(0.0) 0%	RUN-8				
-73.7	72.2									
		5.0	1:27 1:52 1:34 0:59 2:12	(4.5) 90%	(3.4) 68%	RUN-9				
-78.7	77.2									77.2ft: moderately hard to hard, trace to few shell molds and casts
		5.0	1:43 0:55 1:07 1:12 1:31	(3.3) 66%	(0.8) 16%	RUN-10				
-83.7	82.2									82.2ft: hard
		5.0	0:45 1:41 0:40 4:08 3:07	(3.9) 78%	(2.2) 44%	RUN-11				
-88.7	87.2									
		5.0	2:49 2:30 0:31 1:26 1:11	(3.1) 62%	(1.9) 38%	RUN-12				
-93.7	92.2									94.2ft: possible 0.9ft-thick sand interbed
		5.0	0:42 0:37 0:02 0:39 0:26	(2.6) 52%	(1.2) 24%	RUN-13				
-98.7	97.2									
		5.0	0:04 0:10 0:59 2:42 1:10	(3.2) 64%	(1.7) 34%	RUN-14				
-103.7	102.2									
		5.0	2:10 2:19 1:12 0:59 1:22	(5.0) 100%	(2.8) 56%	RUN-15				
-108.7	107.2									
		5.0	0:39 0:29 0:35	(3.0) 60%	(1.3) 26%	RUN-16				

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

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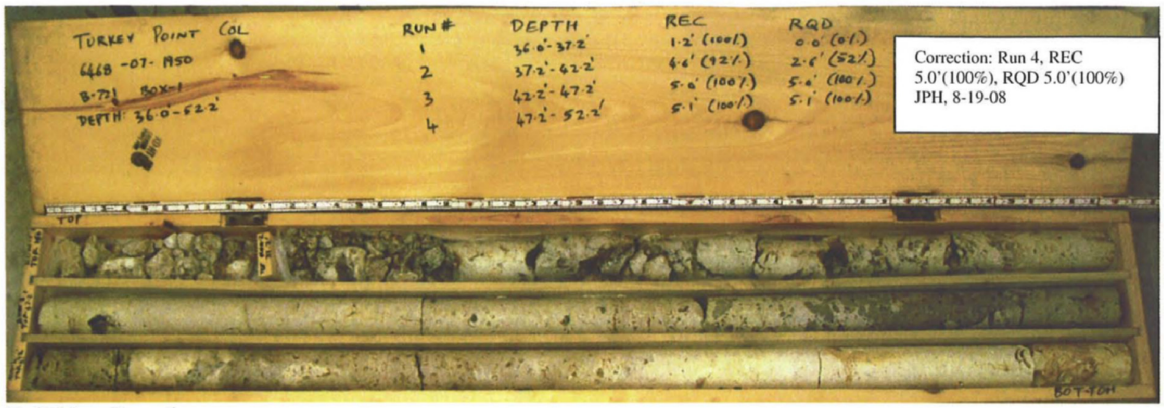
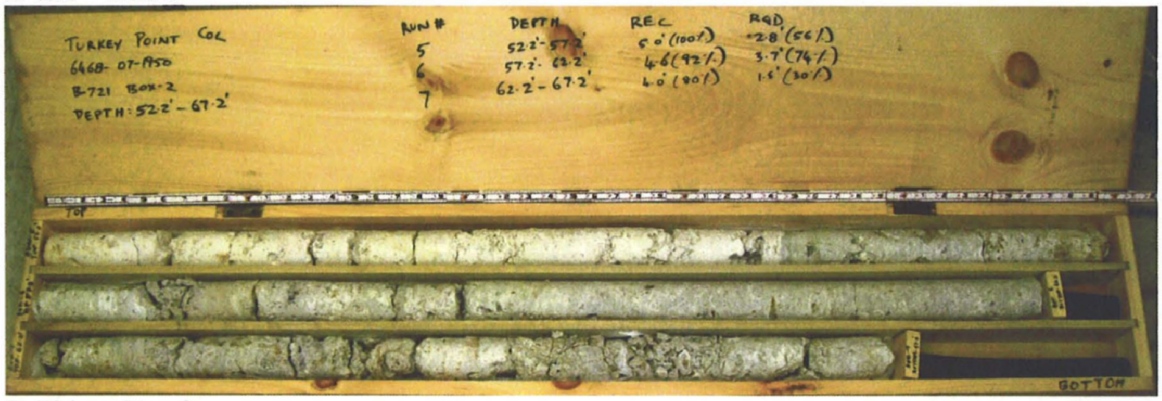
BORING NO.: B-721	DRILL METHOD: Mud Rotary/Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.5 ft (NAVD88)	NORTHING: 397,338 US ft (NAD83/90)	EASTING: 876,120 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 127.4 ft	CASING DEPTH: 4" to 36.0', 3" to 117.2'		HAMMER (ID): 140 lb. Auto (MEC-03)
DATE STARTED: 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 REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Continued from previous page
-113.7	112.2		0:51 0:36							
		5.0	0:41 1:03 0:32 0:36 1:56	(0.4) 8%	(0.0) 0%	RUN-17	(0.0) 0%	(NA)		-115.5 112.2ft: white (10YR8/1), to very pale brown (10YR8/4), to light gray (10YR7/1) 114.0 Silty SAND (SM), pale yellow (5Y7/4), medium dense, wet, trace limestone fragments, weak HCl reaction, fine grained sand (Tamiami Formation)
-118.7	117.2									-118.7 117.2 Coring Terminated at Elevation -118.7

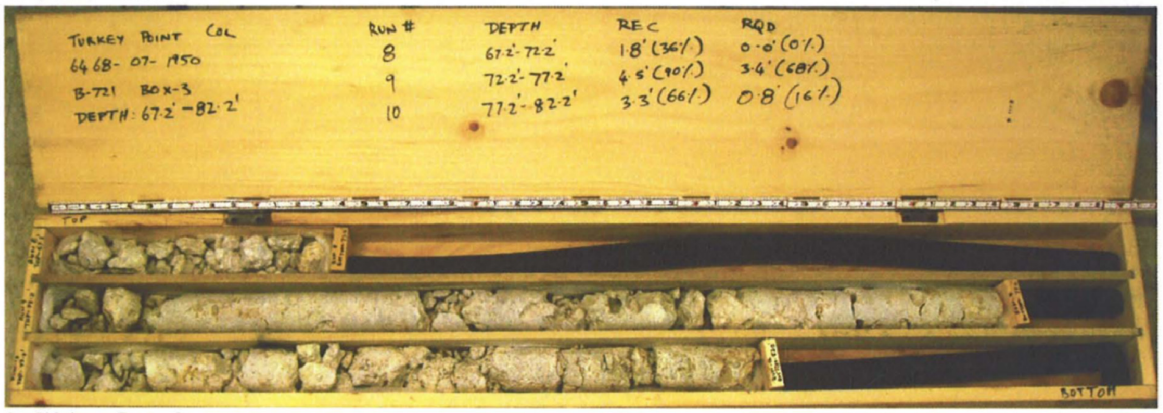
TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 5/30/08



B-721 – Box 1

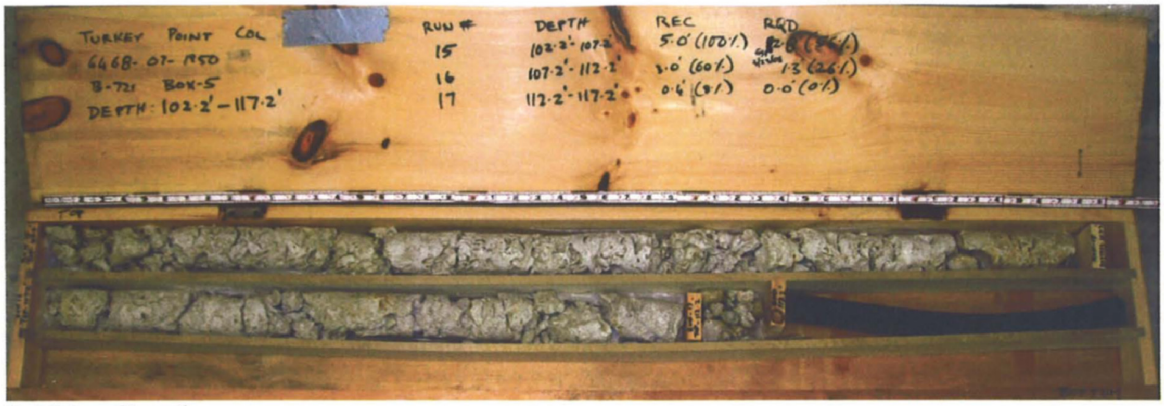


B-721 – Box 2



B-721 – Box 3

B-721 – Box 4


TURKEY POINT COL
6468-07-1950
B-721 BOX-5
DEPTH: 102.2'-117.2'
RUN #
15
16
17
DEPTH
102.2'-107.2'
107.2'-112.2'
112.2'-117.2'
REC
5.0' (100%)
3.0' (60%)
0.6' (9%)
RQD
1.3 (26%)
0.0' (0%)

B-721 – Box 5

MACTEC

GEOTECHNICAL BORING LOG

Prepared By [illegible] Date [illegible]
Checked By [illegible] Date 8/19/08

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: G. Pillappa
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Rosser	GROUND WATER (ft)
BORING NO.: B-722	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.0 ft (NAVD88)	NORTHING: 397,434 US ft (NAD83/90)	EASTING: 875,980 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 103.2 ft	BORING DIAMETER: 4" to 25.0', 3" to 103.2'	CASING DEPTH: 4" to 25.0'	HAMMER (ID):140 lb. Auto (MEC-03)
DATE STARTED: 4/29/08	COMPLETED: 4/30/08	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
-1.0					Ground Surface				-1.0 / 0.0
-1.0 / -3.5	0.0 / 2.5	WOH	WOH	WOH	WOH 0	722-1			MUCK, light brownish gray (10YR6/3), to very dark gray (10YR3/1), very soft, dry to wet, mostly organic, strong HCl reaction -3.5 / 2.5
-6.0	5.0	18	15	16	31	722-2			LIMESTONE, boundstone, white (10YR8/1), to very dark gray (10YR3/1), medium hard, wet, strong HCl reaction, oolitic (Miami Formation)
-8.5	7.5	10	10	8	18	722-3			5.0ft: white (10YR8/1), very soft
-11.0	10.0	16	10	15	25	722-4			7.5ft: soft
-13.5	12.5	8	10	7	17	722-5			10.0ft: very soft
-16.0	15.0	10	14	10	24	722-6			12.5ft: soft
-20.7	19.7	8	14	34	48	722-7			15.0ft: moderately hard
-25.7	24.7	4	5	5	10	722-8			19.7ft: very soft
-26.2	25.2	50/0.5			50/0.5	722-9 RUN-1			-25.5 / 24.5 LIMESTONE, boundstone, white (10YR8/1), hard, wet, strong HCl reaction, fossiliferous (Upper Fort Thompson Formation)
-29.2	28.2					RUN-2			25.2ft: Switch sampling method to coring 25.2ft: white (2.5Y8/1), moderately hard to hard, indurated, few vugs, coralline, fossiliferous 28.2ft: hard, recrystallized calcite
-34.2	33.2					RUN-3			33.2ft: white (2.5Y8/1, 10YR8/1), trace vugs, trace clayey sand
-39.2	38.2					RUN-4			38.2ft: light gray (10YR7/1), to white (10YR8/1)
-44.2	43.2					RUN-5			43.2ft: white (10YR8/1) to light gray (10YR7/1) to 48.4ft
-49.2	48.2					RUN-6			-49.4 / 48.4 LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace to few shell molds and casts, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation)
-54.2	53.2					RUN-7			53.2ft: hard to moderately hard, indurated to moderately indurated, trace vugs, trace fine clayey sand, few shell molds and casts
-58.7	57.7					RUN-8			57.7ft: hard, indurated, no vugs
-59.2	58.2					RUN-9			58.2ft: white (10YR8/1), to very pale brown (10YR7/4), hard to moderately hard, indurated to moderately indurated, trace vugs
-64.2	63.2					RUN-10			63.2ft: white (10YR8/1), hard, indurated
-69.2	68.2					RUN-11			68.2ft: possible interbedded sand layers; based on poor recovery and drill rates
-74.2	73.2					RUN-12			73.2ft: white (10YR8/1), to very pale brown

SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA

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

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TOTAL DEPTH: 103.2 ft	BORING DIAMETER: 4" to 25.0', 3" to 103.2'	CASING DEPTH: 4" to 25.0'	HAMMER (ID):140 lb. Auto (MEC-03)
DATE STARTED: 4/29/08	COMPLETED: 4/30/08	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
-75.8					Continued from previous page				
-79.2	78.2								(10YR7/4), hard to moderately hard, indurated to moderately indurated LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace to few shell molds and casts, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation) *(continued)*
						RUN-13			78.2ft: white (10YR8/1), hard, indurated, few vugs
-84.2	83.2								83.2 to 86.2ft: possible interbedded sand layers; based on poor recovery and drill rates
						RUN-14			
-89.2	88.2								
						RUN-15			88.2ft: white (2.5Y8/1)
-94.2	93.2								
						RUN-16			93.2ft: white (10YR8/1), soft to hard, friable to indurated, trace vugs, trace clayey sand, possible interbedded sand layers
-99.2	98.2								
						RUN-17			98.2ft: hard, few to little shell molds and casts
									-104.2 103.2
									Boring Terminated at Elevation -104.2 ft

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

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DATE STARTED: 4/29/08	COMPLETED: 4/30/08	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 @ 25.2 ft
-26.2	25.2	3.0	5:16 2:12 0:54	(2.4) 80%	(1.0) 33%	RUN-1	(21.1) 91%	(14.9) 64%		LIMESTONE, boundstone, white (10YR8/1), hard, wet, strong HCl reaction, fossiliferous (Upper Fort Thompson Formation) *(continued)*
-29.2	28.2									25.2ft: white (2.5Y8/1), moderately hard to hard, indurated, few vugs, coralline, fossiliferous
		5.0	1:02 1:04 1:18 1:22 1:25	(5.0) 100%	(3.8) 76%	RUN-2				28.2ft: hard, recrystallized calcite
-34.2	33.2									
		5.0	1:21 1:56 2:10 2:43 6:29	(3.7) 74%	(3.0) 60%	RUN-3				33.2ft: white (2.5Y8/1, 10YR8/1), trace vugs, trace clayey sand
-39.2	38.2									
		5.0	1:16 1:36 1:32 1:26 1:55	(4.8) 96%	(2.1) 42%	RUN-4				38.2ft: light gray (10YR7/1), to white (10YR8/1)
-44.2	43.2									
		5.0	1:52 1:49 1:45 1:49 1:37	(5.0) 100%	(4.8) 96%	RUN-5				43.2ft: white (10YR8/1) to light gray (10YR7/1) to 48.4ft
-49.2	48.2									-49.4 48.4
		5.0	1:11 1:30 1:25 1:16 1:09	(4.9) 98%	(4.9) 98%	RUN-6	(40.9) 75%	(20.6) 38%		LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace to few shell molds and casts, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation)
-54.2	53.2									
		4.5	1:09 1:13 0:45 0:54 1:12/0.5	(4.3) 96%	(3.0) 67%	RUN-7				53.2ft: hard to moderately hard, indurated to moderately indurated, trace vugs, trace fine clayey sand, few shell molds and casts
-58.7	57.7									
-59.2	58.2	0.5	0:35/0.5	(0.4) 80%	(0.0) 0%	RUN-8				57.7ft: hard, indurated, no vugs
		5.0	1:34 0:43 2:56 2:04 2:32	(4.1) 82%	(2.9) 58%	RUN-9				58.2ft: white (10YR8/1), to very pale brown (10YR7/4), hard to moderately hard, indurated to moderately indurated, trace vugs
-64.2	63.2									
		5.0	2:18 1:47 2:27 1:37 0:41	(3.7) 74%	(2.1) 42%	RUN-10				63.2ft: white (10YR8/1), hard, indurated
-69.2	68.2									
		5.0	0:39 0:27 1:03 3:04 4:03	(1.8) 36%	(0.6) 12%	RUN-11				68.2ft: possible interbedded sand layers; based on poor recovery and drill rates
-74.2	73.2									
		5.0	3:39 2:04 3:47 2:49 3:44	(4.9) 98%	(2.2) 44%	RUN-12				73.2ft: white (10YR8/1), to very pale brown (10YR7/4), hard to moderately hard, indurated to moderately indurated
-79.2	78.2									
		5.0	2:35 1:52 1:41 1:53 2:36	(4.7) 94%	(1.5) 30%	RUN-13				78.2ft: white (10YR8/1), hard, indurated, few vugs
-84.2	83.2									
		5.0	0:36 0:04 0:32 2:07 3:08	(2.3) 46%	(1.8) 36%	RUN-14				83.2 to 86.2ft: possible interbedded sand layers; based on poor recovery and drill rates
-89.2	88.2									
		5.0	2:27 1:44 1:27 2:24 0:45	(4.3) 86%	(1.8) 36%	RUN-15				88.2ft: white (2.5Y8/1)
-94.2	93.2									
		5.0	0:39 0:09 1:51 0:27 0:56	(1.7) 34%	(0.0) 0%	RUN-16				93.2ft: white (10YR8/1), soft to hard, friable to indurated, trace vugs, trace clayey sand, possible interbedded sand layers
-99.2	98.2									
		5.0	0:47 0:39	(4.0)	(0.0)	RUN-17				98.2ft: hard, few to little shell molds and casts

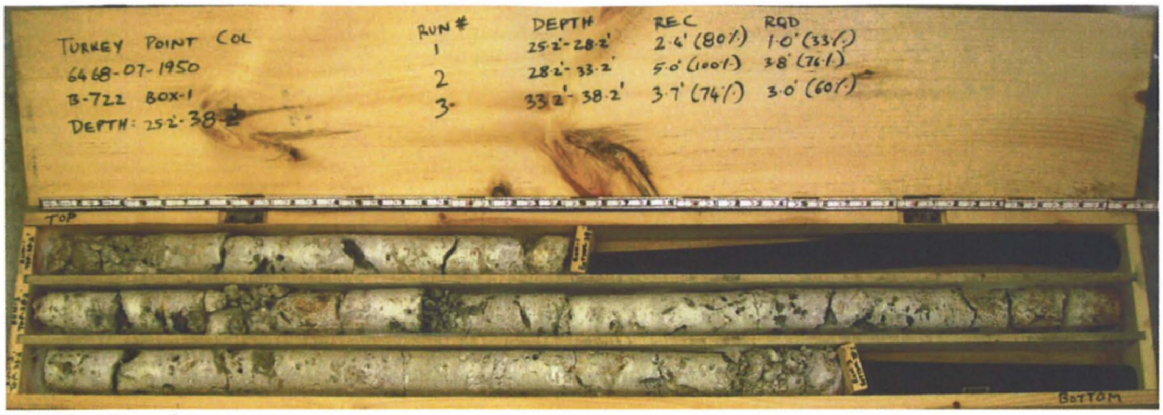
TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 8/19/08

MACTEC

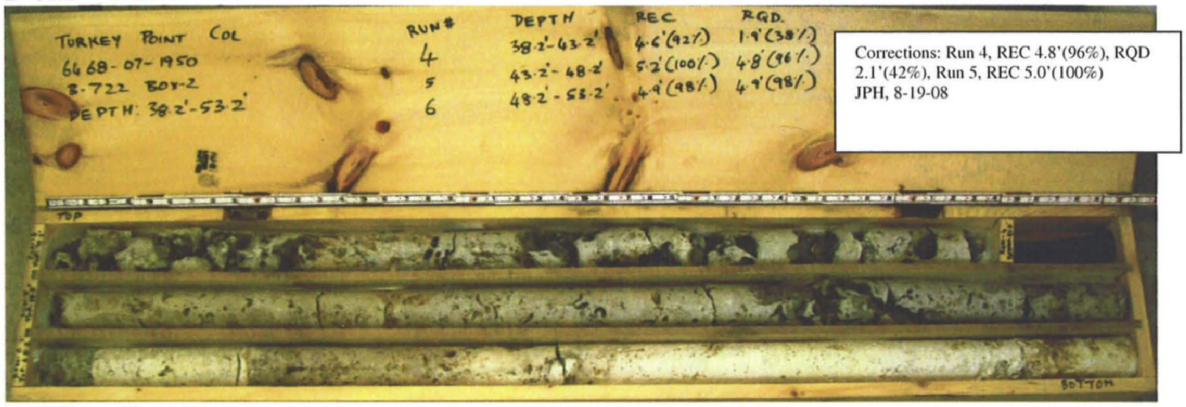
BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: G. Pillappa
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Rosser	GROUND WATER (ft)
BORING NO.: B-722	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.0 ft (NAVD88)	NORTHING: 397,434 US ft (NAD83/90)	EASTING: 875,980 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 103.2 ft	CASING DEPTH: 4" to 25.0'		HAMMER (ID): 140 lb. Auto (MEC-03)
DATE STARTED: 4/29/08	COMPLETED: 4/30/08	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	103.2		0:46 0:43 1:04	80%	0%					-104.2 103.2
										Coring Terminated at Elevation -104.2

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

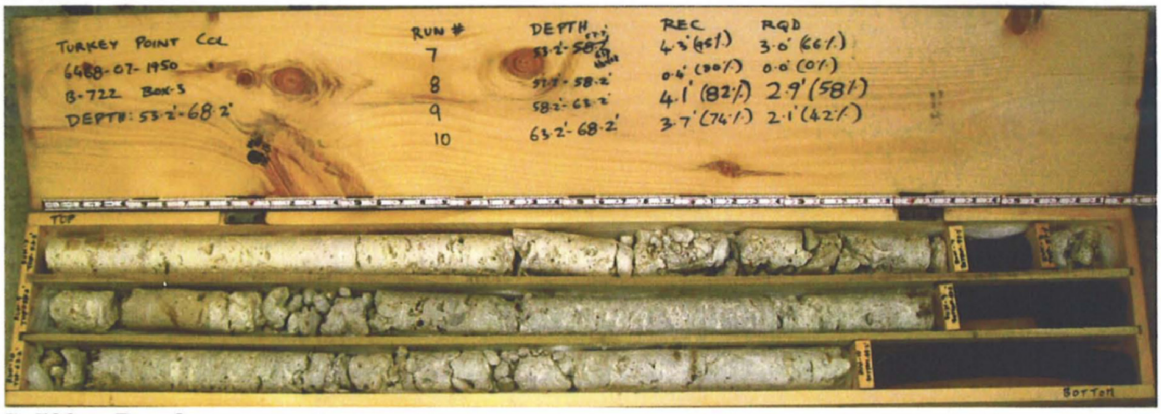


B-722 – Box 1

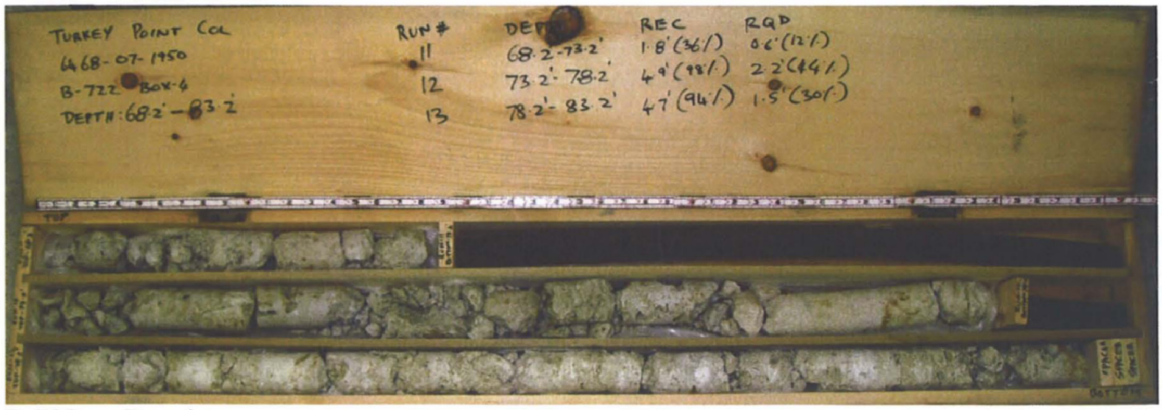


Corrections: Run 4, REC 4.8'(96%), RQD 2.1'(42%), Run 5, REC 5.0'(100%)
JPH, 8-19-08

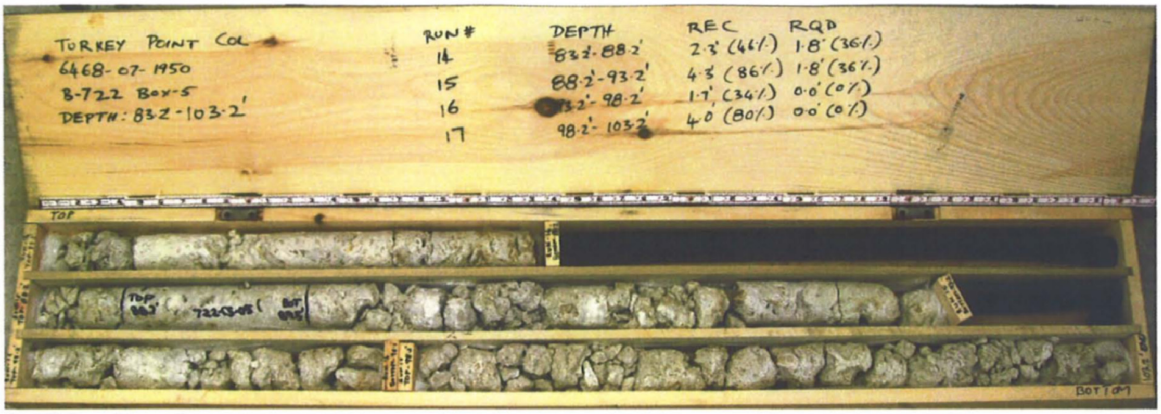
B-722 – Box 2



B-722 – Box 3



B-722 – Box 4


TURKEY POINT COL
6468-07-1950
B-722 Box-5
DEPTH: 83.2-103.2'
RUN #
DEPTH
REC
RQD
14
83.2-88.2'
2.3' (46%)
1.8' (36%)
15
88.2'-93.2'
4.3' (86%)
1.8' (36%)
16
93.2'-98.2'
1.7' (34%)
0.0' (0%)
17
98.2'-103.2'
4.0 (80%)
0.0' (0%)
TOP
BOTTOM

B-722 – 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-723	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.0 ft (NAVD88)	NORTHING: 397,421 US ft (NAD83/90)	EASTING: 875,675 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 100.6 ft	BORING DIAMETER: 4" to 25.1', 3" to 100.6'	CASING DEPTH: 4" to 25.1'	HAMMER (ID):140 lb. Auto (M06)
DATE STARTED: 4/22/08	COMPLETED: 4/23/08	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
-1.0					Ground Surface				-1.0 / 0.0
-1.0 / -3.7	0.0 / 2.7	WOH	WOH	WOH	WOH, 0	723-1			MUCK, very dark grayish brown (2.5Y3/2), very soft to soft, wet, trace fine grained sand, strong HCl reaction
-6.1	5.1	WOH	WOH	4	4	723-2A&B			-5.0 / 4.0 LIMESTONE, boundstone, white (2.5Y8/1), very soft, wet, few fine grained sand, strong HCl reaction, oolitic (Miami Formation)
-8.6	7.6	6	6	9	15	723-3			5.1ft: some fine grained sand
-11.0	10.0	2	18	6	24	723-4			7.6ft: soft
-13.2	12.2	4	3	6	9	723-5			10.0ft: very soft, little fine grained sand
-16.1	15.1	9	16	13	29	723-6			12.2ft: soft, few sand
-22.9	21.9	20	26	19	45	723-7			15.1ft: medium hard, trace fine to medium grained sand
-27.3	26.3	6	9	23	32	723-8			-26.0 / 25.0
-28.6	27.6	4	18	50/0.3	68/0.8	723-9			LIMESTONE, boundstone, white (2.5Y8/1), hard, wet, strong HCl reaction, trace fine grained sand (Upper Fort Thompson Formation)
-31.6	30.6					RUN-1			27.6ft: Switch sampling method to coring
-36.6	35.6					RUN-2			27.6ft: moderately hard to hard, moderately indurated to indurated, little vugs, recrystallized calcite
-41.6	40.6					RUN-3			35.6ft: hard, indurated, coralline
-46.6	45.6					RUN-4			
-51.6	50.6					RUN-5			45.6ft: gray (2.5Y6/1)
-56.6	55.6					RUN-6			-49.5 / 48.5 LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, trace vugs, strong HCl reaction (Lower Fort Thompson Formation)
-61.6	60.6					RUN-7			55.6ft: medium hard to moderately hard, friable to moderately indurated, few sand
-66.6	65.6					RUN-8			60.6ft: medium hard to hard, friable to indurated, few to little sand
-71.6	70.6					RUN-9			
						RUN-10			70.6ft: trace vugs, trace to few sand

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: 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-723	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.0 ft (NAVD88)	NORTHING: 397,421 US ft (NAD83/90)	EASTING: 875,675 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 100.6 ft	BORING DIAMETER: 4" to 25.1', 3" to 100.6'	CASING DEPTH: 4" to 25.1'	HAMMER (ID):140 lb. Auto (M06)
DATE STARTED: 4/22/08	COMPLETED: 4/23/08	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
-75.8					Continued from previous page				
-76.6	75.6					RUN-11			LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, trace vugs, strong HCl reaction (Lower Fort Thompson Formation) *(continued)*
-81.6	80.6					RUN-12			75.6ft: moderately indurated to indurated, trace shell molds and casts 80.6ft: medium hard to hard, friable to indurated, few vugs, some fine grained sand, few shell molds and casts
-86.6	85.6					RUN-13			85.6ft: little fine grained sand, trace vugs
-91.6	90.6					RUN-14			90.6ft: hard, indurated
-96.6	95.6					RUN-15			95.6ft: moderately hard to hard, moderately indurated to indurated, possible interbedded sand layers: based on drilling rates and recovery
									-101.6 100.6 Boring Terminated at Elevation -101.6 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: 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-723	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.0 ft (NAVD88)	NORTHING: 397,421 US ft (NAD83/90)	EASTING: 875,675 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 100.6 ft	CASING DEPTH: 4" to 25.1'		HAMMER (ID): 140 lb. Auto (M06)
DATE STARTED: 4/22/08	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 REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Begin Coring @ 27.6 ft
-28.6	27.6	3.0	1:28 0:48 0:58	(3.0) 100%	(2.4) 80%	RUN-1	(15.8) 76%	(10.7) 51%		LIMESTONE, boundstone, white (2.5Y8/1), hard, wet, strong HCl reaction, trace fine grained sand (Upper Fort Thompson Formation) *(continued)*
-31.6	30.6	5.0	0:43 1:31 0:57 1:15 0:49	(4.0) 80%	(2.0) 40%	RUN-2				27.6ft: moderately hard to hard, moderately indurated to indurated, little vugs, recrystallized calcite
-36.6	35.6	5.0	0:19 0:10 0:12 0:20 0:54	(1.5) 30%	(0.9) 18%	RUN-3				35.6ft: hard, indurated, coralline
-41.6	40.6	5.0	1:10 1:01 0:51 0:52 0:55	(4.4) 88%	(2.9) 58%	RUN-4				
-46.6	45.6	5.0	1:28 1:47 1:59 1:56 1:23	(4.9) 98%	(4.5) 90%	RUN-5				45.6ft: gray (2.5Y6/1)
							(36.1) 69%	(14.4) 28%		-49.5 LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, trace vugs, strong HCl reaction (Lower Fort Thompson Formation) 48.5
-51.6	50.6	5.0	1:52 1:44 1:52 1:50 1:15	(4.8) 96%	(4.0) 80%	RUN-6				
-56.6	55.6	5.0	0:34 1:44 1:10 1:05 0:50	(3.7) 74%	(0.0) 0%	RUN-7				55.6ft: medium hard to moderately hard, friable to moderately indurated, few sand
-61.6	60.6	5.0	0:43 2:21 1:01 0:50 1:17	(3.5) 70%	(1.6) 32%	RUN-8				60.6ft: medium hard to hard, friable to indurated, few to little sand
-66.6	65.6	5.0	0:11 0:19 0:20 1:24 1:12	(2.8) 56%	(0.0) 0%	RUN-9				
-71.6	70.6	5.0	1:26 1:11 0:31 2:08 1:24	(3.9) 78%	(1.9) 38%	RUN-10				70.6ft: trace vugs, trace to few sand
-76.6	75.6	5.0	1:51 1:56 0:59 1:01 1:29	(4.7) 94%	(2.2) 44%	RUN-11				75.6ft: moderately indurated to indurated, trace shell molds and casts
-81.6	80.6	5.0	1:07 1:18 1:35 0:46 0:47	(4.5) 90%	(1.6) 32%	RUN-12				80.6ft: medium hard to hard, friable to indurated, few vugs, some fine grained sand, few shell molds and casts
-86.6	85.6	5.0	1:00 2:00 1:49 1:05 0:31	(4.3) 86%	(1.1) 22%	RUN-13				85.6ft: little fine grained sand, trace vugs
-91.6	90.6	5.0	1:09 0:41 0:52 1:34 1:14	(1.3) 26%	(0.0) 0%	RUN-14				90.6ft: hard, indurated
-96.6	95.6	5.0	2:02 0:55 0:44 0:28 0:46	(0.6) 12%	(0.0) 0%	RUN-15				95.6ft: moderately hard to hard, moderately indurated to indurated, possible interbedded sand layers; based on drilling rates and recovery
-101.6	100.6									-101.6 100.6
										Coring Terminated at Elevation -101.6

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