B-716 – Box 5

B-716 – Box 6

MACTEC

GEOTECHNICAL BORING LOG

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

SHEET 1 OF 2

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: M. Lear
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft)
BORING NO.: B-717	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 397,287 US ft (NAD83/90)	EASTING: 875,873 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 127.2 ft	BORING DIAMETER: 4" to 18.3', 3" to 127.2'	CASING DEPTH: 4" to 18.3', 3" to 118.1'	HAMMER (ID):140 lb. Auto (MEC-03)
DATE STARTED: 4/15/08	COMPLETED: 4/17/08	CORE SIZE: HQ3	BITS USED: 3" & 4" Tricones

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
-1.1					Ground Surface				-1.1 / 0.0
-1.1 / -3.7	0.0 / 2.6	WOH	WOH	WOH	WOH 0	717-1			MUCK, dark grayish brown (2.5Y4/2), very soft, wet, mostly organic
-6.1	5.0	WOH	1	16	17	717-2A&B			-4.7 / 3.6 LIMESTONE, boundstone, light gray (10YR7/2), very soft, wet, sandy, fossiliferous, friable, oolitic, strong HCl reaction (Miami Formation)
-8.5	7.4	8	6	6	12 (SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA)	717-3			
-11.1	10.0	5	4	7	11	717-4			
-13.6	12.5	7	5	9	14	717-5			10.0ft: pale yellow (2.5Y8/2).
-15.9	14.8	4	14	14	28	717-6			12.5ft: light gray (10YR7/2), soft, friable to moderately indurated
-20.5	19.4	18	17	46	63	717-7			14.8ft: hard
-21.0	19.9	50/0.5			50/0.5	717-8			19.9ft: Switch sampling method to coring
-24.2	23.1					RUN-1			19.9ft: medium hard to moderately hard, moderately indurated, locally interconnected vugs
-29.2	28.1					RUN-2			-26.1 / 25.0 LIMESTONE, boundstone, white (10YR8/1), moderately hard, moderately indurated to indurated, trace vugs, coralline, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation)
-34.2	33.1					RUN-3			25.0ft: loss of circulation
-39.2	38.1					RUN-4			28.1ft: moderately hard to hard, indurated, little vugs, recrystallized calcite 33.1ft: moderately hard, moderately indurated to indurated, few vugs
-44.2	43.1					RUN-5			38.1ft: light gray (10YR7/1), hard, indurated
-49.2	48.1					RUN-6			43.1ft: horizontal bedding plane at 47.5ft
-54.2	53.1					RUN-7			-50.0 / 48.9 48.1ft: light gray (10YR7/1) to 48.9ft, horizontal bedding plane at 48.9ft LIMESTONE, boundstone, white (7.5YR8/1), hard, indurated, trace vugs, fossiliferous, few shell molds and casts, strong HCl reaction (Lower Fort Thompson Formation)
-59.2	58.1					RUN-8			53.1ft: white (7.5YR8/1)
-64.2	63.1					RUN-9			58.1ft: light gray (10YR7/1), trace vugs, trace shell molds and casts
-69.2	68.1					RUN-10			63.1ft: moderately hard, moderately indurated -67.0 / 65.9 possible POORLY SORTED SAND (SP), based on fast drilling rate and lack of recovery
-74.2	73.1					RUN-11			-70.7 / 69.6 LIMESTONE, boundstone, light gray (10YR7/1), moderately hard, moderately indurated, trace vugs, fossiliferous, strong HCl reaction, sandy
						RUN-12			

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: M. Lear
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft)
BORING NO.: B-717	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 397,287 US ft (NAD83/90)	EASTING: 875,873 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 127.2 ft	BORING DIAMETER: 4" to 18.3', 3" to 127.2'	CASING DEPTH: 4" to 18.3', 3" to 118.1'	HAMMER (ID):140 lb. Auto (MEC-03)
DATE STARTED: 4/15/08	COMPLETED: 4/17/08	CORE SIZE: HQ3	BITS USED: 3" & 4" Tricones

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
-75.9					Continued from previous page				
-79.2	78.1					RUN-13			73.1ft: light gray (10YR7/1), to white (7.5YR8/1) 75.0 to 76.0ft: possible interbedded sand layer LIMESTONE, boundstone, light gray (10YR7/1), moderately hard, moderately indurated, trace vugs, fossiliferous, strong HCl reaction, sandy *(continued)* 78.1ft: white (7.5YR8/1) 83.1ft: few shell molds and casts
-84.2	83.1					RUN-14			
-89.2	88.1					RUN-15			
-94.2	93.1					RUN-16			93.1ft: indurated, little to some shell molds and casts
-99.2	98.1					RUN-17			
-104.2	103.1					RUN-18			
-109.2	108.1					RUN-19			108.1ft: moderately indurated
-114.2	113.1					RUN-20			-115.1 114.0
-119.2	118.1	28	27	27	54	717-9			-116.2 115.1 SANDSTONE, light greenish gray (10Y7/1), medium hard, moderately indurated, trace shell fragments, strong HCl reaction (Tamiami Formation) Silty SAND (SM), greenish gray (10Y5/1), very dense, wet, fine grained sand, little fines, strong HCl reaction, trace shell fragments 118.1ft: Switch sampling method to SPT
-126.8	125.7	6	9	14	23	717-10			-128.3 127.2 125.7ft: medium dense, weak HCl reaction, trace limestone fragments Boring Terminated at Elevation -128.3 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: M. Lear
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft)
BORING NO.: B-717	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 397,287 US ft (NAD83/90)	EASTING: 875,873 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 127.2 ft	CASING DEPTH: 4" to 18.3', 3" to 118.1'		HAMMER (ID): 140 lb. Auto (MEC-03)
DATE STARTED: 4/15/08	COMPLETED: 4/17/08	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 @ 19.9 ft
-21.0	19.9	3.2	0:23/0.2 0:29 0:13 0:15	(1.6) 50%	(0.0) 0%	RUN-1	(1.9) 37%	(0.0) 0%		LIMESTONE, boundstone, light gray (10YR7/2), very soft, wet, sandy, fossiliferous, friable, oolitic, strong HCl reaction (Miami Formation) *(continued)* 19.9ft: medium hard to moderately hard, moderately indurated, locally interconnected vugs
-24.2	23.1	5.0	2:13 0:19 1:05 1:50 1:17	(3.4) 68%	(2.0) 40%	RUN-2	(21.3) 89%	(18.3) 77%		-26.1 — 25.0 LIMESTONE, boundstone, white (10YR8/1), moderately hard, moderately indurated to indurated, trace vugs, coralline, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation)
-29.2	28.1	5.0	3:29 1:31 1:23 1:07 1:16	(5.0) 100%	(4.3) 86%	RUN-3				25.0ft: loss of circulation 28.1ft: moderately hard to hard, indurated, little vugs, recrystallized calcite
-34.2	33.1	5.0	1:48 0:45 0:17 0:37 0:48	(2.7) 54%	(1.8) 36%	RUN-4				33.1ft: moderately hard, moderately indurated to indurated, few vugs
-39.2	38.1	5.0	0:52 1:50 2:03 2:15 2:04	(4.7) 94%	(4.4) 88%	RUN-5				38.1ft: light gray (10YR7/1), hard, indurated
-44.2	43.1	5.0	2:00 3:04 2:42 2:44 2:39	(5.0) 100%	(5.0) 100%	RUN-6				43.1ft: horizontal bedding plane at 47.5ft
-49.2	48.1	5.0	2:16 1:55 2:12 1:52 1:36	(5.0) 100%	(5.0) 100%	RUN-7	(16.7) 98%	(13.9) 82%		-50.0 — 48.9 48.1ft: light gray (10YR7/1) to 48.9ft, horizontal bedding plane at 48.9ft LIMESTONE, boundstone, white (7.5YR8/1), hard, indurated, trace vugs, fossiliferous, few shell molds and casts, strong HCl reaction (Lower Fort Thompson Formation)
-54.2	53.1	5.0	1:00 1:01 1:18 1:28 0:48	(4.7) 94%	(3.8) 76%	RUN-8				53.1ft: white (7.5YR8/1)
-59.2	58.1	5.0	1:22 1:56 2:21 2:12 1:59	(5.0) 100%	(4.2) 84%	RUN-9				58.1ft: light gray (10YR7/1), trace vugs, trace shell molds and casts
-64.2	63.1	5.0	1:31 1:17 1:08 0:42 0:22	(2.8) 56%	(1.7) 34%	RUN-10				63.1ft: moderately hard, moderately indurated
-69.2	68.1	5.0	0:25 1:30 2:47 1:32 1:38	(3.5) 70%	(2.4) 48%	RUN-11	(0.0) 0%	(NA)		-67.0 — 65.9 possible POORLY SORTED SAND (SP), based on fast drilling rate and lack of recovery -70.7 — 69.6
-74.2	73.1	5.0	1:38 2:02 0:07 2:28 1:13	(3.4) 68%	(1.9) 38%	RUN-12	(35.4) 80%	(21.2) 48%		LIMESTONE, boundstone, light gray (10YR7/1), moderately hard, moderately indurated, trace vugs, fossiliferous, strong HCl reaction, sandy 73.1ft: light gray (10YR7/1), to white (7.5YR8/1) 75.0 to 76.0ft: possible interbedded sand layer
-79.2	78.1	5.0	1:44 2:27 1:26 1:10 1:04	(4.2) 84%	(2.7) 54%	RUN-13				78.1ft: white (7.5YR8/1)
-84.2	83.1	5.0	0:52 0:49 0:50 2:53 1:26	(3.4) 68%	(1.4) 28%	RUN-14				83.1ft: few shell molds and casts
-89.2	88.1	5.0	2:33 1:15 0:53 1:30 1:11	(3.9) 78%	(2.0) 40%	RUN-15				
-94.2	93.1	5.0	0:26	(4.9)	(4.1)	RUN-16				93.1ft: indurated, little to some shell molds and casts

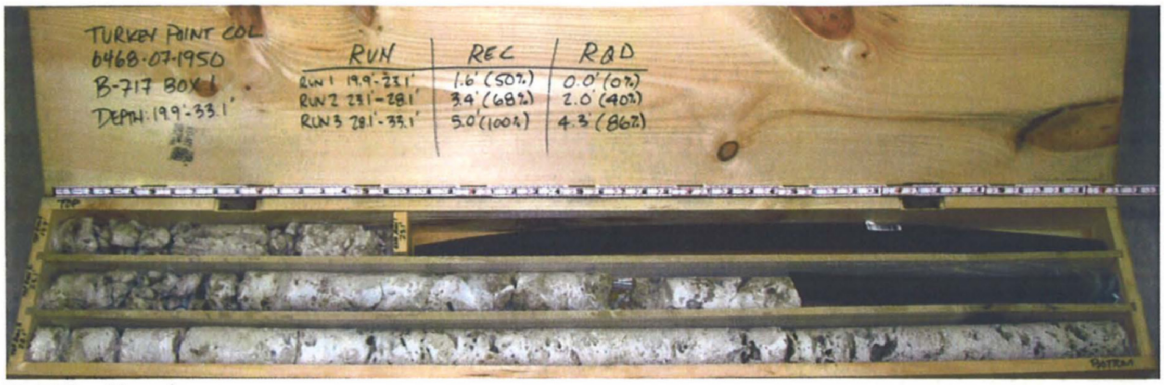
TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 8/19/08

MACTEC

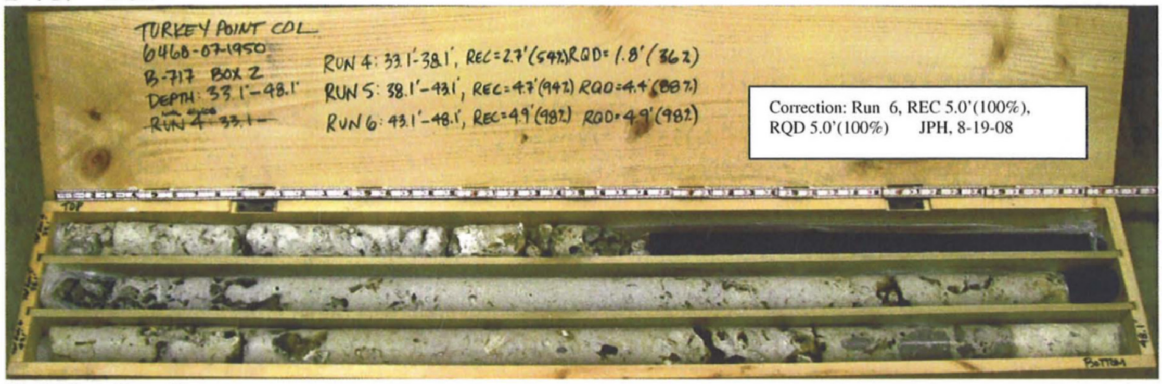
BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: M. Lear
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft)
BORING NO.: B-717	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 397,287 US ft (NAD83/90)	EASTING: 875,873 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 127.2 ft	CASING DEPTH: 4" to 18.3', 3" to 118.1'		HAMMER (ID): 140 lb. Auto (MEC-03)
DATE STARTED: 4/15/08	COMPLETED: 4/17/08	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
			0:15 0:22 0:31 0:38	98%	82%					LIMESTONE, boundstone, light gray (10YR7/1), moderately hard, moderately indurated, trace vugs, fossiliferous, strong HCl reaction, sandy *(continued)*
-99.2	98.1									
		5.0	0:35 0:31 0:49 0:37 0:45	(3.8) 76%	(1.5) 30%	RUN-17				
-104.2	103.1									
		5.0	0:42 0:47 0:50 0:51 0:38	(5.0) 100%	(4.3) 86%	RUN-18				
-109.2	108.1									
		5.0	0:46 1:16 1:24 1:12 0:55	(2.4) 48%	(0.9) 18%	RUN-19				108.1ft: moderately indurated
-114.2	113.1									
		5.0	0:41 0:49 0:28 0:44 0:57	(2.0) 40%	(0.0) 0%	RUN-20	(1.1) 100%	(0.0) 0%		-115.1 — 114.0 -116.2 — 115.1 SANDSTONE, light greenish gray (10Y7/1), medium hard, moderately indurated, trace shell fragments, strong HCl reaction (Tamiami Formation)
-119.2	118.1						(0.0) 0%	(NA)		-119.2 — 118.1 Silty SAND (SM), greenish gray (10Y5/1), very dense, wet, fine grained sand, little fines, strong HCl reaction, trace shell fragments
										Coring Terminated at Elevation -119.2

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

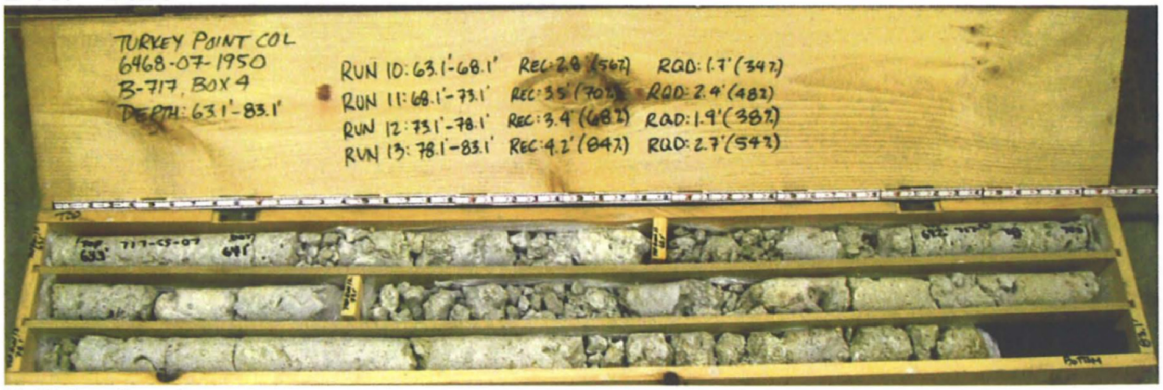


B-717 – Box 1



B-717 – Box 2

B-717 – Box 3



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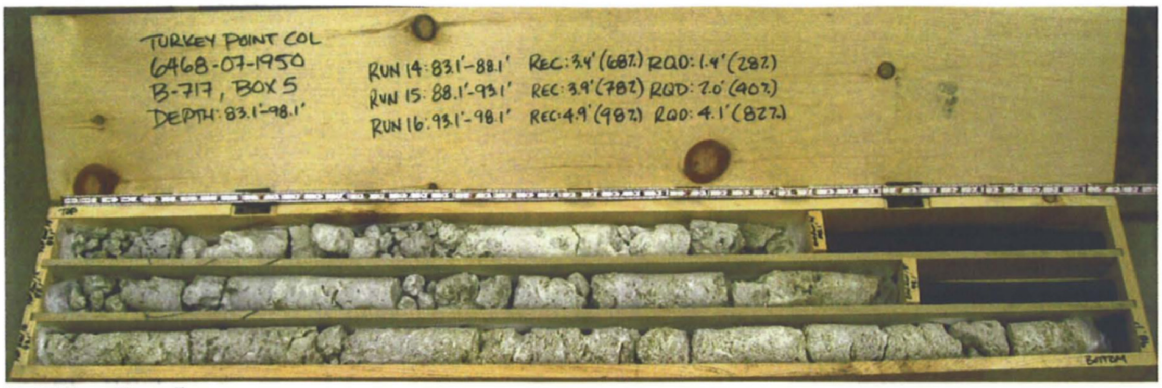
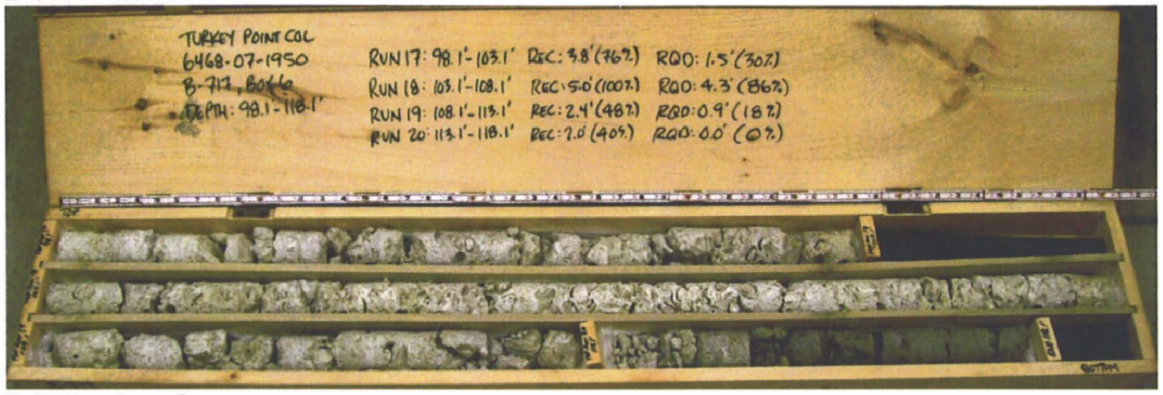


B-717 – Box 5



B-717 – Box 6

MACTEC

GEOTECHNICAL BORING LOG

Prepared By [illegible] Date 5-30-08
Checked By [illegible] Date [illegible]

SHEET 1 OF 3

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-718	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.2 ft (NAVD88)	NORTHING: 397,191 US ft (NAD83/90)	EASTING: 875,793 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 150.8 ft	BORING DIAMETER: 4" to 34.8', 3" to 150.8'	CASING DEPTH: 4" to 34.8', 3" to 120.0'	HAMMER (ID):140 lb. Auto (MEC-03)
DATE STARTED: 4/3/08	COMPLETED: 4/5/08	CORE SIZE: HQ3	BITS USED: 3" & 4" Roller Cones

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
-1.2 / -3.7	0.0 / 2.5	WOR	WOR	WOR	WOR 0	718-1			MUCK, brown (10YR5/3), to very dark grayish brown (10YR3/2), very soft, wet, organic, strong HCl reaction, trace shells
-6.2	5.0	4	5	8	13	718-2A&B			-4.3 3.1 2.5ft: very dark gray (10YR3/1), to black (10YR2/1)
-8.7	7.5	8	7	6	13	718-3			LIMESTONE, boundstone, pale yellow (2.5Y8/2), very soft, wet, sandy, fossiliferous, strong HCl reaction, oolitic (Miami Formation)
-11.2	10.0	8	11	4	15	718-4			7.5ft: pale yellow (2.5Y8/2), to very dark gray (2.5Y3/1)
-13.7	12.5	WOH	3	13	16	718-5			10.0ft: white (10YR8/1), to very dark gray (10YR3/1), trace vugs
-16.2	15.0	6	10	14	24	718-6			12.5ft: white (10YR8/1), to light gray (10YR7/1), soft
-20.7	19.5	20	22	21	43	718-7			15.0ft: white (10YR8/1), medium hard
-25.7	24.5	6	4	5	9	718-8			19.5ft: very soft
-30.7	29.5	6	23	30	53	718-9			24.5ft: white (10YR8/1), to light gray (10YR7/1), moderately hard
-35.7	34.5	9	33	13	46	718-10			-33.2 32.0
-36.0	34.8	50/0.3			50/0.3	718-11			LIMESTONE, boundstone, white (10YR8/1), to light brownish gray (10YR6/2), hard, wet, fossiliferous, trace vugs, strong HCl reaction (Upper Fort Thompson Formation)
-39.1	37.9					RUN-1			34.0ft: loss of circulation
-44.1	42.9					RUN-2			34.8ft: Switch sampling method to coring 34.8ft: white (2.5Y8/1) and gray (2.5Y6/1), indurated, coralline, little vugs 37.9ft: white (2.5Y8/1), trace vugs, trace recrystallized calcite
-49.1	47.9					RUN-3			42.9ft: white (2.5Y8/1), to pale yellow (2.5Y7/4), to gray (2.5Y6/1), moderately hard, moderately indurated, mostly coralline, horizontal bedding plane at 47.1ft -48.3 47.1
-54.1	52.9					RUN-4			LIMESTONE, boundstone, white (10YR8/1), to pale brown (10YR6/3), hard, indurated, fossiliferous, trace shell molds, trace vugs, strong HCl reaction (Lower Fort Thompson Formation)
-59.1	57.9					RUN-5			52.9ft: white (10YR8/1), trace sandy
-64.1	62.9					RUN-6			57.9ft: white (2.5Y 8/1), to light gray (2.5Y7/1), moderately hard to hard, sandy, trace to few shell molds and casts
-69.1	67.9					RUN-7			62.9ft: light gray (10YR7/1), moderately hard, moderately indurated
-74.1	72.9					RUN-8			67.9ft: white (10YR8/1), moderately hard, moderately indurated to indurated
						RUN-9			72.9ft: medium hard to moderately hard,

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: L. Bisson
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BORING NO.: B-718	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
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TOTAL DEPTH: 150.8 ft	BORING DIAMETER: 4" to 34.8', 3" to 150.8'	CASING DEPTH: 4" to 34.8', 3" to 120.0'	HAMMER (ID):140 lb. Auto (MEC-03)
DATE STARTED: 4/3/08	COMPLETED: 4/5/08	CORE SIZE: HQ3	BITS USED: 3" & 4" Roller Cones

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				
-79.1	77.9								moderately indurated 74.0 to 83.0ft: possible interbedded sand layers; based on drill rates LIMESTONE, boundstone, white (10YR8/1), to pale brown (10YR6/3), hard, indurated, fossiliferous, trace shell molds, trace vugs, strong HCl reaction (Lower Fort Thompson Formation) *(continued)*
-84.1	82.9					RUN-10			77.9ft: medium hard, interbedded sand layers through out 82.9ft: moderately hard, moderately indurated to indurated
-89.1	87.9					RUN-11			87.9ft: moderately hard to hard
-94.1	92.9					RUN-12			92.9ft: medium hard
-99.1	97.9					RUN-13			97.7ft: few vugs, little shell molds and casts
-104.1	102.9					RUN-14			102.9ft: moderately hard
-109.1	107.9					RUN-15			107.9ft: white (2.5Y8/1), to light gray (10YR7/1), medium hard, few shell molds and casts
-114.1	112.9					RUN-16			112.9ft: light gray (10YR7/1), moderately hard, trace vugs
-116.2						RUN-17			115.0
-119.5	118.3	4	5	9	14	718-12			Silty SAND (SM), light gray (2.5Y7/1), to light greenish gray (10Y7/1), medium dense, wet, fine grained sand, strong HCl reaction, trace shell fragments (Tamiami Formation) 118.3ft: Switched sampling method to SPT
-128.6	127.4	3	5	5	10	718-13			127.4ft: olive gray (5Y5/2), loose
-136.2									135.0
-138.6	137.4	7	7	9	16	718-14			Sandy SILT (ML), olive gray (5Y4/3), very stiff, wet, strong HCl reaction
-150.5	149.3								

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: L. Bisson
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft)
BORING NO.: B-718	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.2 ft (NAVD88)	NORTHING: 397,191 US ft (NAD83/90)	EASTING: 875,793 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 150.8 ft	BORING DIAMETER: 4" to 34.8', 3" to 150.8'	CASING DEPTH: 4" to 34.8', 3" to 120.0'	HAMMER (ID):140 lb. Auto (MEC-03)
DATE STARTED: 4/3/08	COMPLETED: 4/5/08	CORE SIZE: HQ3	BITS USED: 3" & 4" Roller Cones

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
-150.8					Continued from previous page				
		5	7	9	●16	718-15			-152.0 150.8
									Boring Terminated at Elevation -152.0 ft

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

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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-718	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.2 ft (NAVD88)	NORTHING: 397,191 US ft (NAD83/90)	EASTING: 875,793 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 150.8 ft	CASING DEPTH: 4" to 34.8', 3" to 120.0'		HAMMER (ID): 140 lb. Auto (MEC-03)
DATE STARTED: 4/3/08	COMPLETED: 4/5/08	CORE SIZE: HQ3	CORE BARREL TYPE: Triple Tube Wireline (Split inner liners)

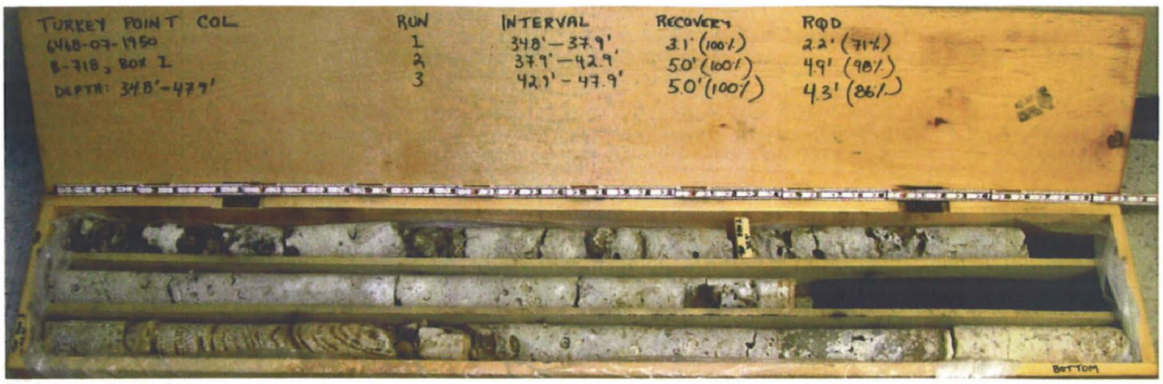
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Begin Coring @ 34.8 ft
-36.0	34.8	3.1	0:48 0:37 1:00	(3.1) 100%	(2.2) 71%	RUN-1	(12.3) 100%	(10.6) 86%		LIMESTONE, boundstone, white (10YR8/1), to light brownish gray (10YR6/2), hard, wet, fossiliferous, trace vugs, strong HCl reaction (Upper Fort Thompson Formation) *(continued)*
-39.1	37.9	5.0	0:09/0.1 0:59 0:49 1:26 1:17	(5.0) 100%	(4.9) 98%	RUN-2				34.8ft: white (2.5Y8/1) and gray (2.5Y6/1), indurated, coralline, little vugs 37.9ft: white (2.5Y8/1), trace vugs, trace recrystallized calcite
-44.1	42.9	5.0	1:16 1:20 1:08 1:28 1:53	(5.0) 100%	(4.3) 86%	RUN-3				42.9ft: white (2.5Y8/1), to pale yellow (2.5Y7/4), to gray (2.5Y6/1), moderately hard, moderately indurated, mostly coralline, horizontal bedding plane at 47.1ft
-49.1	47.9	5.0	1:20 1:19 2:01 2:03 2:47	(5.0) 100%	(4.5) 90%	RUN-4	(56.0) 82%	(35.3) 52%		-48.3 47.1 LIMESTONE, boundstone, white (10YR8/1), to pale brown (10YR6/3), hard, indurated, fossiliferous, trace shell molds, trace vugs, strong HCl reaction (Lower Fort Thompson Formation)
-54.1	52.9	5.0	2:04 1:05 1:26 1:28 1:05	(4.6) 92%	(3.9) 78%	RUN-5				52.9ft: white (10YR8/1), trace sandy
-59.1	57.9	5.0	2:08 1:42 2:49 1:40 1:42	(5.0) 100%	(3.7) 74%	RUN-6				57.9ft: white (2.5Y 8/1), to light gray (2.5Y7/1), moderately hard to hard, sandy, trace to few shell molds and casts
-64.1	62.9	5.0	1:51 1:13 1:06 1:26 1:08	(4.6) 92%	(3.1) 62%	RUN-7				62.9ft: light gray (10YR7/1), moderately hard, moderately indurated
-69.1	67.9	5.0	0:50 0:20 1:29 2:11 1:25	(4.4) 88%	(2.7) 54%	RUN-8				67.9ft: white (10YR8/1), moderately hard, moderately indurated to indurated
-74.1	72.9	5.0	1:24 1:03 0:21 0:23 1:01	(3.5) 70%	(1.1) 22%	RUN-9				72.9ft: medium hard to moderately hard, moderately indurated 74.0 to 83.0ft: possible interbedded sand layers, based on drill rates
-79.1	77.9	5.0	3:39 0:46 0:23 0:22 0:09	(2.2) 44%	(0.8) 16%	RUN-10				77.9ft: medium hard, interbedded sand layers through out
-84.1	82.9	5.0	0:38 0:30 0:25 1:04 1:34	(4.2) 84%	(1.7) 34%	RUN-11				82.9ft: moderately hard, moderately indurated to indurated
-89.1	87.9	5.0	2:49 1:40 0:48 1:45 1:30	(4.7) 94%	(3.0) 60%	RUN-12				87.9ft: moderately hard to hard
-94.1	92.9	5.0	1:35 0:24 0:26 0:26 0:57	(4.2) 84%	(2.5) 50%	RUN-13				92.9ft: medium hard
-99.1	97.9	5.0	0:45 0:25 0:14 0:42 0:32	(3.7) 74%	(2.8) 56%	RUN-14				97.7ft: few vugs, little shell molds and casts
-104.1	102.9	5.0	0:50 0:48 0:42 0:39 0:27	(4.9) 98%	(3.4) 68%	RUN-15				102.9ft: moderately hard
-109.1	107.9	5.0	0:52 0:39	(3.5)	(1.3)	RUN-16				107.9ft: white (2.5Y8/1), to light gray (10YR7/1), medium hard, few shell molds

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

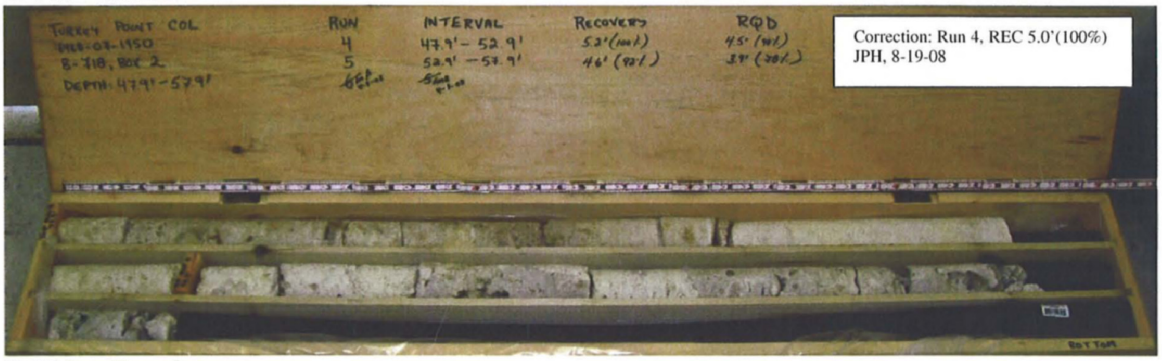
MACTEC

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: L. Bisson
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-550 (ATL)	DRILLER: L. Carter/ J. Landeros	GROUND WATER (ft)
BORING NO.: B-718	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.2 ft (NAVD88)	NORTHING: 397,191 US ft (NAD83/90)	EASTING: 875,793 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 150.8 ft	CASING DEPTH: 4" to 34.8', 3" to 120.0'		HAMMER (ID): 140 lb. Auto (MEC-03)
DATE STARTED: 4/3/08	COMPLETED: 4/5/08	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
			0:38 0:54 0:43 1:32	70%	26%					and casts LIMESTONE, boundstone, white (10YR8/1), to pale brown (10YR6/3), hard, indurated, fossiliferous, trace shell molds, trace vugs, strong HCl reaction (Lower Fort Thompson Formation) *(continued)*
-114.1	112.9									
		5.0	0:27 0:32 0:08 0:10 0:18	(0.7) 14%	(0.0) 0%	RUN-17	(0.0) 0%	(NA)		-116.2 112.9ft: light gray (10YR7/1), moderately hard, trace vugs 115.0 Silty SAND (SM), light gray (2.5Y7/1), to light greenish gray (10Y7/1), medium dense, wet, fine grained sand, strong HCl reaction, trace shell fragments (Tamiami Formation) 117.9
-119.1	117.9									-119.1
										Coring Terminated at Elevation -119.1

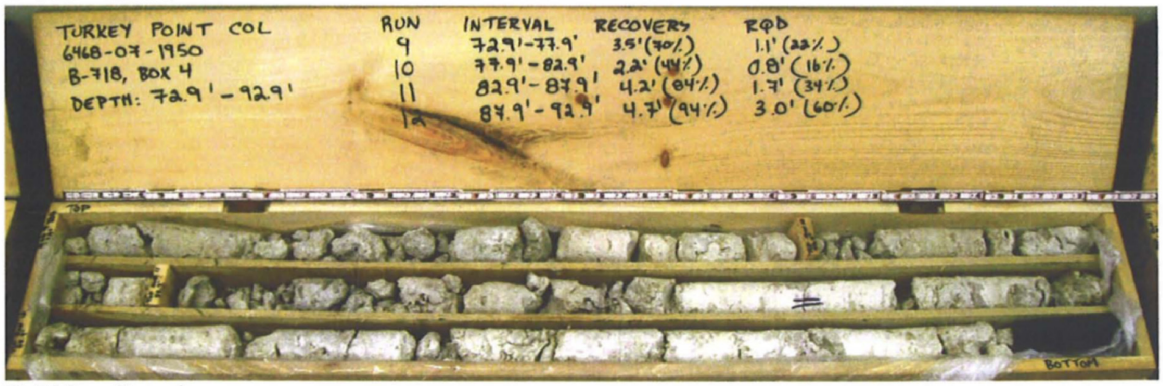


B-718 – Box 1



B-718 – Box 2

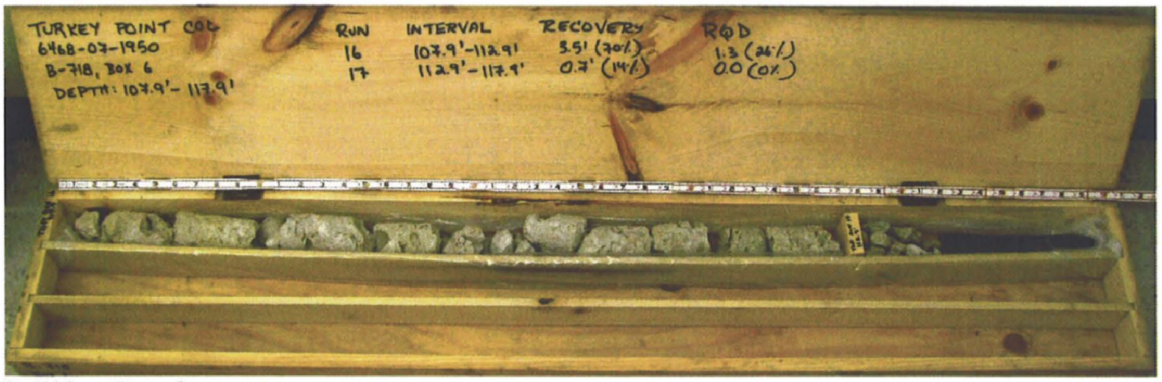
B-718 – Box 3



B-718 – Box 4

Corrections: Run 14, REC 3.7'(7.4%), Run 15, RQD 3.4'(68%) JPH, 8-19-08

B-718 – Box 5



B-718 – Box 6

MACTEC

GEOTECHNICAL BORING LOG

Prepared By JPR Date 5-30-08
Checked By TJM 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-55 LC (RAL)	DRILLER: R. Banks/ J. Rosser	GROUND WATER (ft)
BORING NO.: B-719	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 397,293 US ft (NAD83/90)	EASTING: 875,791 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 126.7 ft	BORING DIAMETER: 4" to 23.6', 3" to 126.7'	CASING DEPTH: 4" to 23.6', 3" to 115.2'	HAMMER (ID):140 lb. Auto (MEC-02)
DATE STARTED: 4/6/08	COMPLETED: 4/8/08	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
-1.1					Ground Surface				-1.1 0.0
-1.1 / -3.7	0.0 / 2.6	WOH	WOH	WOH	WOH 0	719-1			MUCK, light brownish gray (10YR6/3), to very dark gray (10YR3/1), very soft, wet, mostly organic, strong HCl reaction -4.1 3.0
-6.1	5.0	WOH	8	50/0.4	58/0.9	719-2			Field notes do not indicate that sample 719-2 was split into separate jars
-8.6	7.5	14	19	13	32	719-3			LIMESTONE, boundstone, white (10YR8/1), hard, wet, fossiliferous, strong HCl reaction, oolitic (Miami Formation)
-11.0	9.9	14	8	5	13	719-4			5.0ft: medium hard
-13.6	12.5	4	4	6	10	719-5			7.5ft: very soft
-16.1	15.0	3	8	8	16	719-6			
-20.0	18.9	6	7	13	20	719-7			15.0ft: soft
-24.6	23.5	7	9	12	21	719-8			
-26.3	25.2	9	41	50/0.2	91/0.7	719-9			23.5ft: hard -26.1 25.0 25.2ft: Switch sampling method to coring
-31.3	30.2					RUN-1			LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace fine grained sand, strong HCl reaction (Upper Fort Thompson Formation)
-36.3	35.2					RUN-2			30.2ft: fossiliferous, coralline, trace vugs
-41.3	40.2					RUN-3			35.2ft: white (10YR8/1), to light gray (10YR7/1)
-46.3	45.2					RUN-4			40.2ft: white (10YR8/1)
-51.3	50.2					RUN-5			45.2ft: light gray (10YR7/1) to 47.4ft -48.5 47.4
-56.3	55.2					RUN-6			LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace vugs, fossiliferous, strong HCl reaction, trace fine grained sand (Lower Fort Thompson Formation)
-61.3	60.2					RUN-7			55.2ft: few shell molds and casts
-66.3	65.2					RUN-8			
-71.3	70.2					RUN-9			
						RUN-10			

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-719	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 397,293 US ft (NAD83/90)	EASTING: 875,791 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 126.7 ft	BORING DIAMETER: 4" to 23.6', 3" to 126.7'	CASING DEPTH: 4" to 23.6', 3" to 115.2'	HAMMER (ID):140 lb. Auto (MEC-02)
DATE STARTED: 4/6/08	COMPLETED: 4/8/08	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
-75.9					Continued from previous page				
-76.3	75.2					RUN-11			LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace vugs, fossiliferous, strong HCl reaction, trace fine grained sand (Lower Fort Thompson Formation) *(continued)* 75.2 to 80.2ft: possible interbedded sand layers
-81.3	80.2					RUN-12			
-86.3	85.2					RUN-13			
-91.3	90.2					RUN-14			
-96.3	95.2					RUN-15			95.2 to 100.2ft: possible interbedded sand layers
-101.3	100.2					RUN-16			100.2ft: little to some shell molds and casts
-106.3	105.2					RUN-17			
-111.3	110.2					RUN-18			110.2ft: white (10YR8/1), to greenish gray (5GY6/1)
-114.1	113.0								Silty SAND (SM), light gray (10YR7/1), dense, wet, fine grained sand, strong HCl reaction, trace shell fragments (Tamiami Formation) 115.2ft: Switched sampling method to SPT
-116.3	115.2	11	26	14	40	719-10			
-126.3	125.2	5	7	8	15	719-11			
-127.8	126.7								125.2ft: greenish gray (10Y6/1), medium dense
									Boring Terminated at Elevation -127.8 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-719	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 397,293 US ft (NAD83/90)	EASTING: 875,791 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 126.7 ft	CASING DEPTH: 4" to 23.6', 3" to 115.2'		HAMMER (ID): 140 lb. Auto (MEC-02)
DATE STARTED: 4/6/08	COMPLETED: 4/8/08	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
-26.3	25.2	5.0	0:23 0:17 0:26 0:39 0:46	(0.3) 6%	(0.0) 0%	RUN-1	(13.9) 63%	(10.6) 48%		LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace fine grained sand, strong HCl reaction (Upper Fort Thompson Formation) *(continued)*
-31.3	30.2	5.0	1:01 1:02 0:34 0:29 0:44	(1.4) 28%	(0.4) 8%	RUN-2				30.2ft: fossiliferous, coralline, trace vugs
-36.3	35.2	5.0	0:36 0:39 0:39 0:39 0:46	(5.0) 100%	(4.7) 94%	RUN-3				35.2ft: white (10YR8/1), to light gray (10YR7/1)
-41.3	40.2	5.0	0:36 0:39 0:36 0:39 0:37	(5.0) 100%	(3.3) 66%	RUN-4				40.2ft: white (10YR8/1)
-46.3	45.2	5.0	0:52 0:41 0:46 0:42 0:41	(5.0) 100%	(4.9) 98%	RUN-5				45.2ft: light gray (10YR7/1) to 47.4ft
-51.3	50.2	5.0	0:50 0:42 0:37 0:31 0:29	(3.8) 76%	(3.1) 62%	RUN-6	(39.5) 60%	(23.6) 36%		-48.5 47.4 LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace vugs, fossiliferous, strong HCl reaction, trace fine grained sand (Lower Fort Thompson Formation)
-56.3	55.2	5.0	0:29 0:32 0:31 0:40 0:34	(3.3) 66%	(1.0) 20%	RUN-7				55.2ft: few shell molds and casts
-61.3	60.2	5.0	0:42 0:38 0:30 0:21 0:14	(2.3) 46%	(0.9) 18%	RUN-8				
-66.3	65.2	5.0	0:29 0:14 0:16 0:51 1:07	(2.0) 40%	(1.2) 24%	RUN-9				
-71.3	70.2	5.0	0:55 0:55 0:49 0:55 0:43	(5.0) 100%	(4.4) 88%	RUN-10				
-76.3	75.2	5.0	0:57 0:48 0:55 0:35 0:41	(1.4) 28%	(0.6) 12%	RUN-11				75.2 to 80.2ft: possible interbedded sand layers
-81.3	80.2	5.0	0:26 0:33 0:38 0:35 0:41	(0.5) 10%	(0.0) 0%	RUN-12				
-86.3	85.2	5.0	0:42 1:01 0:41 0:46 0:35	(4.2) 84%	(2.3) 46%	RUN-13				
-91.3	90.2	5.0	0:33 0:41 0:31 0:28 0:29	(1.9) 38%	(0.4) 8%	RUN-14				
-96.3	95.2	5.0	0:28 0:26 0:22 0:21 0:29	(1.7) 34%	(0.0) 0%	RUN-15				95.2 to 100.2ft: possible interbedded sand layers
-101.3	100.2									

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: G. Pillappa
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-55 LC (RAL)	DRILLER: R. Banks/ J. Rosser	GROUND WATER (ft)
BORING NO.: B-719	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 397,293 US ft (NAD83/90)	EASTING: 875,791 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 126.7 ft	CASING DEPTH: 4" to 23.6', 3" to 115.2'		HAMMER (ID): 140 lb. Auto (MEC-02)
DATE STARTED: 4/6/08	COMPLETED: 4/8/08	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	0:54 0:48 0:38 0:32 0:26	(4.9) 98%	(4.0) 80%	RUN-16				LIMESTONE, boundstone, white (10YR8/1), hard, indurated, trace vugs, fossiliferous, strong HCl reaction, trace fine grained sand (Lower Fort Thompson Formation) *(continued)* 100.2ft: little to some shell molds and casts
-106.3	105.2									
		5.0	0:42 0:42 0:39 0:49 0:32	(4.4) 88%	(3.0) 60%	RUN-17				
-111.3	110.2									
		5.0	0:52 0:41 0:54 0:15 0:14	(1.3) 26%	(0.0) 0%	RUN-18	(0.0) 0%	(NA)		110.2ft: white (10YR8/1), to greenish gray (5GY6/1) -114.1 113.0 Silty SAND (SM), light gray (10YR7/1), dense, wet, fine grained sand, strong HCl reaction, trace shell fragments (Tamiami Formation) -116.3 115.2
-116.3	115.2									
										Coring Terminated at Elevation -116.3

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