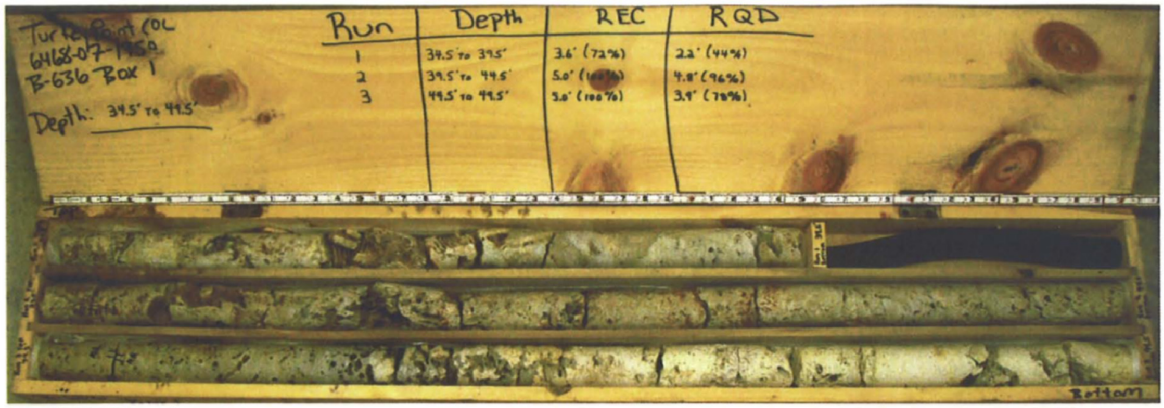
MACTEC

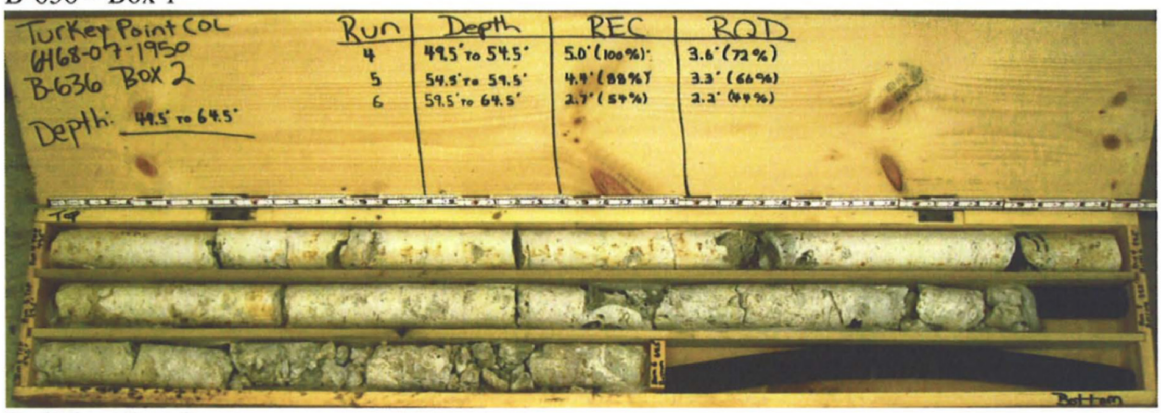
BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: Burroughs/ Liles/ Lehman
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-55 Marsh Buggy	DRILLER: P. Pitts/ B. Carrasco	GROUND WATER (ft)
BORING NO.: B-636	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 395,715 US ft (NAD83/90)	EASTING: 877,193 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 126.0 ft	CASING DEPTH: 4" to 27.6', 3" to 119.5'		HAMMER (ID): 140 lb. Auto (MEC-425)
DATE STARTED: 4/23/08	COMPLETED: 5/1/08	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	2:32 5:02 4:20 4:14 3:24	(2.5) 50%	(1.8) 36%	RUN-16				LIMESTONE, boundstone, white (2.5YR8/1), hard, indurated, few vugs, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation) *(continued)* 109.5ft: moderately hard, moderately indurated, trace vugs
-113.1										112.0
-115.6	114.5						(0.0) 0%	(NA) 0%		POORLY GRADED SAND with silt (SP-SM), light yellowish brown (2.5YR6/3), wet, strong HCl reaction, fine grained sand, trace shell fragments (Tamiami Formation) 114.5ft: No recovery (SP-SM)
		5.0	1:18 1:36 1:30 2:36 2:24	(0.0) 0%	(0.0) 0%	RUN-17				
-120.6	119.5									
										Coring Terminated at Elevation -120.6

TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 10/2/08

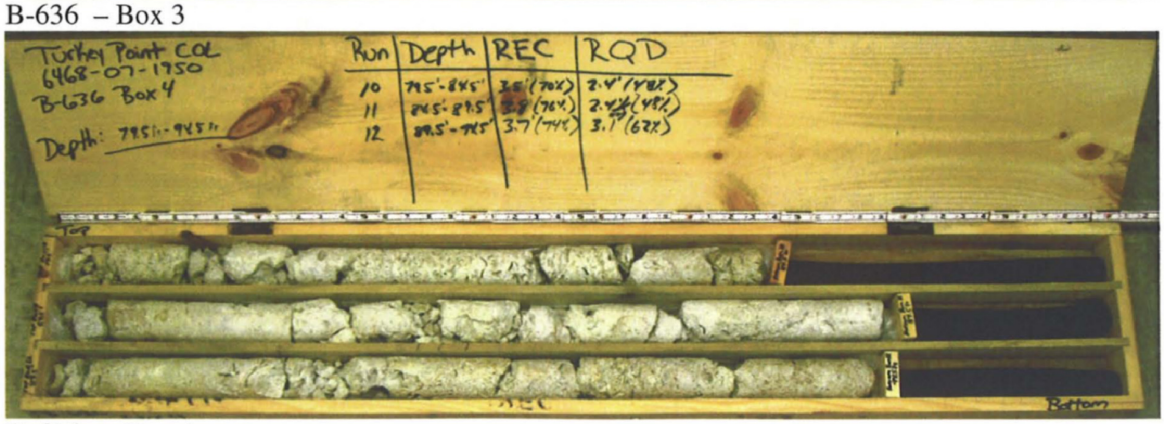


B-636 – Box 1

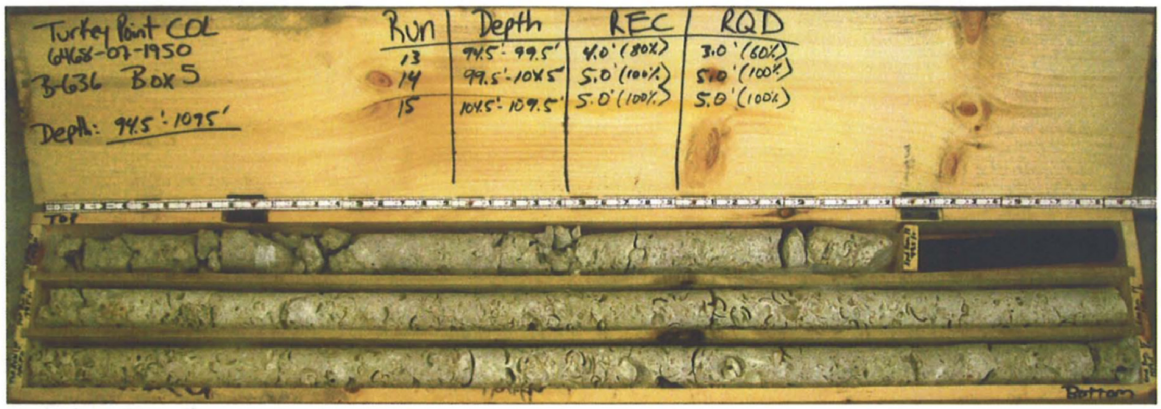


B-636 – Box 2

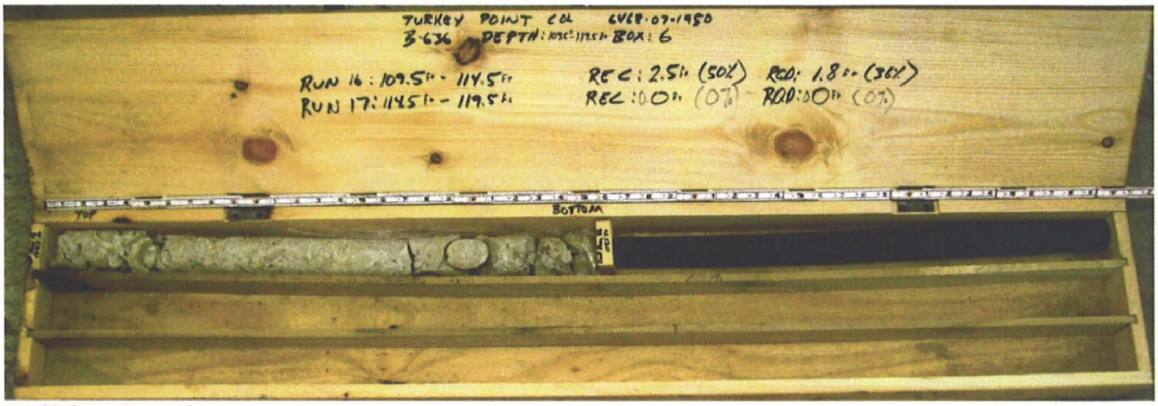
B-636 – Box 3



B-636 – Box 4



B-636 – Box 5



B-636 – Box 6

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: S. Lehman
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-55 Marsh Buggy	DRILLER: P. Pitts/ B. Carrasco	GROUND WATER (ft)
BORING NO.: B-637	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -0.2 ft (NAVD88)	NORTHING: 395,693 US ft (NAD83/90)	EASTING: 877,310 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 150.0 ft	BORING DIAMETER: 4" to 47.2', 3" to 150.0'	CASING DEPTH: 4" to 47.2', 3" to 121.5'	HAMMER (ID):140 lb. Auto (MEC-425)
DATE STARTED: 5/2/08	COMPLETED: 5/6/08	CORE SIZE: HQ3	BITS USED: 3 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
-0.2					Ground Surface				-0.2 / 0.0
-0.2	0.0	WOH	WOH	WOH	WOH 0	637-1			MUCK, very dark grayish brown (2.5Y3/2), very soft, moist, strong HCl reaction
-3.7	3.5								-4.2 / 4.0
-6.2	6.0	1	4	25	29 SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA	637-2			Field notes do not indicate sample 637-2 was split into separate jars
-8.5	8.3	10	11	17	28	637-3			LIMESTONE, boundstone, white (2.5Y8/1), soft, moderately indurated, wet, strong HCl reaction, oolitic (Miami Formation)
-11.5	11.3	14	6	3	9	637-4			8.3ft: very soft
-13.7	13.5	5	3	3	6	637-5			
-18.8	18.6	6	50/0.3		56/0.8	637-6			13.5ft: white (2.5Y8/1), to light gray (2.5Y7/1), hard, indurated
-23.8	23.6	4	5	11	16	637-7			18.6ft: very soft, friable to moderately indurated
-28.8	28.6	5	8	10	18	637-8			23.6ft: moderately indurated
-33.8	33.6	WOR	WOR	4	4	637-9			28.6 to 30.6ft: rod drop
-35.3	35.1	35	18	11	29	637-10			-33.2 / 33.0 LIMESTONE, boundstone, white (2.5Y8/1), soft, wet, moderately indurated, strong HCl reaction, little medium to coarse sand (Upper Fort Thompson Formation) 35.1ft: Switch sampling method to coring
-40.3	40.1					RUN-1			35.1ft: hard, indurated, recrystallized calcite, little vugs
-45.3	45.1					RUN-2			40.1ft: white (2.5Y8/1), to gray (2.5Y5/1), few vugs, coralline
-50.3	50.1					RUN-3			45.1ft: gray (2.5Y5/1), fossiliferous, trace vugs, to 47.6ft
-55.3	55.1					RUN-4			-47.8 / 47.6 LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, fossiliferous, trace vugs, strong HCl reaction (Lower Fort Thompson Formation) 50.1ft: few vugs
-60.3	60.1					RUN-5			
-65.3	65.1					RUN-6			
-70.3	70.1					RUN-7			65.1ft: moderately indurated to indurated, trace vugs, trace to few sand
-75.0	74.8					RUN-8			70.1ft: indurated, few vugs, few shell molds and casts

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: S. Lehman
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-55 Marsh Buggy	DRILLER: P. Pitts/ B. Carrasco	GROUND WATER (ft)
BORING NO.: B-637	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -0.2 ft (NAVD88)	NORTHING: 395,693 US ft (NAD83/90)	EASTING: 877,310 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 150.0 ft	BORING DIAMETER: 4" to 47.2', 3" to 150.0'	CASING DEPTH: 4" to 47.2', 3" to 121.5'	HAMMER (ID):140 lb. Auto (MEC-425)
DATE STARTED: 5/2/08	COMPLETED: 5/6/08	CORE SIZE: HQ3	BITS USED: 3 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
-75.0					Continued from previous page				
						RUN-9			74.8ft: moderately hard, moderately indurated, few vugs, few to little shell molds and casts LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, fossiliferous, trace vugs, strong HCl reaction (Lower Fort Thompson Formation) *(continued)*
-80.0	79.8					RUN-10			79.8ft: medium hard to hard, moderately indurated to indurated, few vugs
-85.0	84.8					RUN-11			84.8ft: moderately hard, moderately indurated, trace vugs, trace shell molds
-90.0	89.8					RUN-12			89.8ft: little shell molds and casts
-95.0	94.8					RUN-13			94.8ft: hard, indurated, few shell molds and casts
-100.0	99.8					RUN-14			99.8ft: moderately hard to hard, moderately indurated to indurated, few to little shell molds
-105.0	104.8					RUN-15			104.8ft: indurated
-110.0	109.8					RUN-16			109.8ft: moderately hard, moderately indurated, some sand, few vugs, trace shell molds and casts
-115.0	114.8					RUN-17			-116.2 — 116.0
-121.7	121.5								POORLY GRADED SAND with silt (SP-SM), greenish gray (10Y6/1), wet, strong HCl reaction, fine grained sand, trace shell fragments (Tamiami Formation)
-128.7	128.5	16	10	12	22	637-11			121.5ft: Switch sampling method to SPT 121.5ft: medium dense
-138.7	138.5	7	13	26	39	637-12			128.5ft: dense -134.2 — 134.0
-148.7	148.5	3	4	18	22	637-13			Silty SAND (SM), greenish gray (10Y6/1), medium dense, wet, strong HCl reaction, fine grained sand, cemented sand fragments
		13	21	30	64	637-14			

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: S. Lehman
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-55 Marsh Buggy	DRILLER: P. Pitts/ B. Carrasco	GROUND WATER (ft)
BORING NO.: B-637	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -0.2 ft (NAVD88)	NORTHING: 395,693 US ft (NAD83/90)	EASTING: 877,310 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 150.0 ft	BORING DIAMETER: 4" to 47.2', 3" to 150.0'	CASING DEPTH: 4" to 47.2', 3" to 121.5'	HAMMER (ID):140 lb. Auto (MEC-425)
DATE STARTED: 5/2/08	COMPLETED: 5/6/08	CORE SIZE: HQ3	BITS USED: 3 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
-149.8					Continued from previous page				
									-150.2 148.5ft: very dense 150.0
									Boring Terminated at Elevation -150.2 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: S. Lehman
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-55 Marsh Buggy	DRILLER: P. Pitts/ B. Carrasco	GROUND WATER (ft)
BORING NO.: B-637	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -0.2 ft (NAVD88)	NORTHING: 395,693 US ft (NAD83/90)	EASTING: 877,310 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 150.0 ft	CASING DEPTH: 4" to 47.2', 3" to 121.5'		HAMMER (ID): 140 lb. Auto (MEC-425)
DATE STARTED: 5/2/08	COMPLETED: 5/6/08	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 @ 35.1 ft
-35.3	35.1	5.0	4:43 4:45 4:23 4:14 5:48	(4.2) 84%	(4.0) 80%	RUN-1	(11.6) 93%	(11.4) 91%		LIMESTONE, boundstone, white (2.5Y8/1), soft, wet, moderately indurated, strong HCl reaction, little medium to coarse sand (Upper Fort Thompson Formation) *(continued)*
-40.3	40.1									35.1ft: hard, indurated, recrystallized calcite, little vugs
		5.0	5:56 4:16 4:32 7:14 10:28	(4.9) 98%	(4.9) 98%	RUN-2				40.1ft: white (2.5Y8/1), to gray (2.5Y5/1), few vugs, coralline
-45.3	45.1									
		5.0	8:33 6:30 2:21 3:10 2:29	(5.0) 100%	(4.7) 94%	RUN-3				45.1ft: gray (2.5Y5/1), fossiliferous, trace vugs, to 47.6ft
										-47.8 — 47.6
-50.3	50.1						(55.1) 81%	(41.8) 61%		LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, fossiliferous, trace vugs, strong HCl reaction (Lower Fort Thompson Formation)
		5.0	4:50 4:00 4:26 4:30 3:50	(4.5) 90%	(4.2) 84%	RUN-4				50.1ft: few vugs
-55.3	55.1									
		5.0	4:50 8:24 11:43 16:56 5:26	(5.0) 100%	(4.0) 80%	RUN-5				
-60.3	60.1									
		5.0	4:10 0:42 4:05 4:27 4:39	(3.6) 72%	(2.4) 48%	RUN-6				
-65.3	65.1									
		5.0	1:40 0:13 0:56 0:30 6:29	(1.4) 28%	(0.6) 12%	RUN-7				65.1ft: moderately indurated to indurated, trace vugs, trace to few sand
-70.3	70.1									
		4.7	2:52/0.7 4:07 3:35 14:50 10:23	(3.4) 72%	(1.6) 34%	RUN-8				70.1ft: indurated, few vugs, few shell molds and casts
-75.0	74.8									
		5.0	3:53 8:06 7:44 5:07 2:46	(3.7) 74%	(2.9) 58%	RUN-9				74.8ft: moderately hard, moderately indurated. few vugs, few to little shell molds and casts
-80.0	79.8									
		5.0	6:51 7:59 2:36 5:47 6:10	(3.0) 60%	(1.1) 22%	RUN-10				79.8ft: medium hard to hard. moderately indurated to indurated, few vugs
-85.0	84.8									
		5.0	2:08 2:54 3:08 4:22 3:58	(4.4) 88%	(3.7) 74%	RUN-11				84.8ft: moderately hard, moderately indurated, trace vugs, trace shell molds
-90.0	89.8									
		5.0	3:08 4:13 3:51 5:10 7:56	(5.0) 100%	(5.0) 100%	RUN-12				89.8ft: little shell molds and casts
-95.0	94.8									
		5.0	4:33 3:19 2:50 4:37 6:35	(4.0) 80%	(1.4) 28%	RUN-13				94.8ft: hard, indurated. few shell molds and casts
-100.0	99.8									
		5.0	4:18 6:42 3:33 3:07 4:15	(5.0) 100%	(4.7) 94%	RUN-14				99.8ft: moderately hard to hard, moderately indurated to indurated, few to little shell molds
-105.0	104.8									
		5.0	5:13 2:55 5:30 5:34 3:43	(4.8) 96%	(4.8) 96%	RUN-15				104.8ft: indurated
-110.0	109.8									

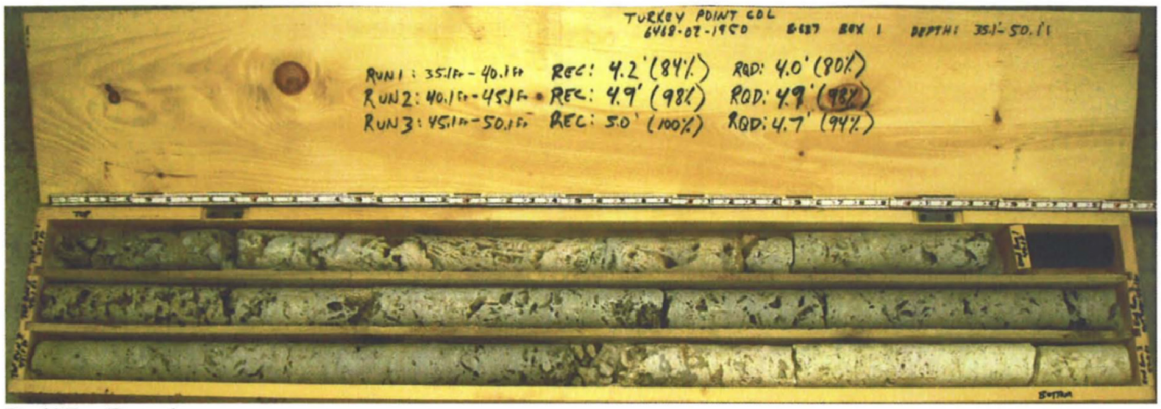
TURKEY POINT COL CORE TURKEY POINT GPJ TURKEY POINT COL GDT 5/30/08

MACTEC

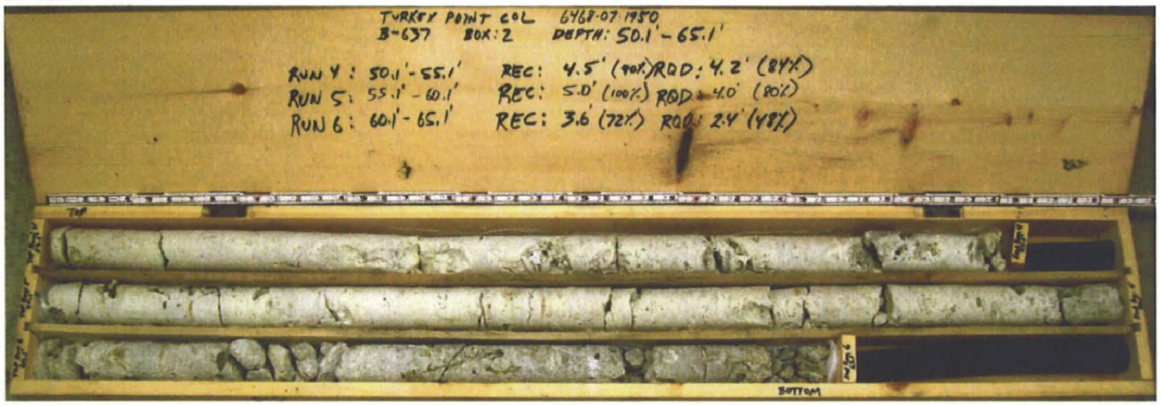
BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: S. Lehman
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-55 Marsh Buggy	DRILLER: P. Pitts/ B. Carrasco	GROUND WATER (ft)
BORING NO.: B-637	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -0.2 ft (NAVD88)	NORTHING: 395,693 US ft (NAD83/90)	EASTING: 877,310 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 150.0 ft	CASING DEPTH: 4" to 47.2', 3" to 121.5'		HAMMER (ID): 140 lb. Auto (MEC-425)
DATE STARTED: 5/2/08	COMPLETED: 5/6/08	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
										Continued from previous page
-115.0	114.8	5.0	3:49 3:31 3:16 4:12 2:52	(4.0) 80%	(2.8) 56%	RUN-16				109.8ft: moderately hard, moderately indurated, some sand, few vugs, trace shell molds and casts LIMESTONE, boundstone, white (2.5Y8/1), hard, indurated, fossiliferous, trace vugs, strong HCl reaction (Lower Fort Thompson Formation) *(continued)*
-120.0	119.8	5.0	1:54 3:55 3:40 5:06 2:08	(0.8) 16%	(0.4) 8%	RUN-17	(0.0) 0%	(NA)		-116.2 116.0 POORLY GRADED SAND with silt (SP-SM), greenish gray (10Y6/1), wet, strong HCl reaction, fine grained sand, trace shell fragments (Tamiami Formation) -120.0 119.8
										Coring Terminated at Elevation -120.0

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

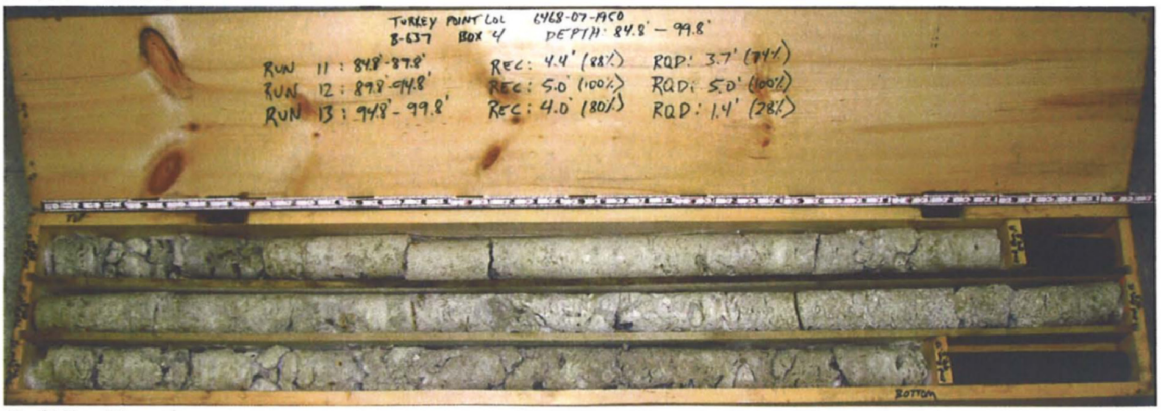


B-637 – Box 1



B-637 – Box 2

B-637 – Box 3



B-637 – Box 4

TURKEY POINT COL
B-637
BOX 5
6468-07-1950
DEPTH: 99.8' - 119.8'
Run 14: 99.8' - 104.8'
REC: 5.0' (100%) RQD: 4.7' (94%)
RUN 15: 104.8 - 109.8'
REC: 4.8' (96%) RQD: 4.8' (96%)
RUN 16: 109.8 - 114.8'
REC: 4.0' (80%) RQD: 2.8' (51%)
RUN 17: 114.8' - 119.8'
REC: 0.8' (16%) RQD: 0.4' (8%)
TOP

B-637 – Box 5