MACTEC

BECHTEL PROJECT NO.: 25409	MACTEC PROJECT NO.: 6468-07-1950	COUNTY: Miami-Dade	GEOLOGIST: R. Clark
SITE DESCRIPTION: Turkey Point COL	DRILL MACHINE: CME-750 (Miller)	DRILLER: G.Bilbrey/P.McKorkle/J.Tucker	GROUND WATER (ft)
BORING NO.: B-701(DH)	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 396,976 US ft (NAD83/90)	EASTING: 875,792 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 615.5 ft	CASING DEPTH: 6" to 16.0', 4" to 457.5'		HAMMER (ID): 140 lb. Auto (07)
DATE STARTED: 4/3/08	COMPLETED: 5/5/08	CORE SIZE: PQ3/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
										POORLY GRADED SAND with silt (SP-SM), gray (5Y6/1), very dense, wet, fine grained sand, few fines, weak HCl reaction *(continued)*
			N=99/1.0			701(DH)-38				397.5ft: light gray (5Y7/1), fine to medium grained sand
			N=82			701(DH)-39				407.5ft: gray (5Y6/1)
			N=92/0.9			701(DH)-40				
			N=91/0.9			701(DH)-41				
			N=87			701(DH)-42				437.7ft: crossbedding/laminations, trace silt/clay lenses
			N=37			701(DH)-43				447.5ft: greenish gray (10Y6/1), dense
										-456.1 455.0
							(1.7) 100%	(0.3) 18%		DOLOSTONE, grainstone, gray (5Y6/1), hard, indurated, wet, weak HCl reaction (Hawthorn Group)
-458.7	457.6	2.9	N=50/0.1 1:48/0.9 2:22 2:34	(1.7) 59%	(0.3) 10%	701(DH)-44 RUN-21				457.6ft: Switched sampling method to coring
										-460.4 459.3
-461.6	460.5						(1.1) 27%	(NA) 0%		light greenish gray (10Y7/1), few gastropod shell molds and casts, sugary texture, slight organic odor
		4.1	1:30 1:39 1:52 9:15	(2.4) 59%	(1.2) 29%	RUN-22				Silty SAND (SM), light greenish gray (10YR7/1), wet, fine grained sand, weak HCl reaction, little shell hash
										-464.5 463.4
-465.7	464.6						(7.5)	(6.1)		

TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 9 25 08

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BORING NO.: B-701(DH)	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 396,976 US ft (NAD83/90)	EASTING: 875,792 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 615.5 ft	CASING DEPTH: 6" to 16.0', 4" to 457.5'		HAMMER (ID): 140 lb. Auto (07)
DATE STARTED: 4/3/08	COMPLETED: 5/5/08	CORE SIZE: PQ3/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
-466.6	465.5	0.9	4:57/0.1	(0.3)	(0.0)	RUN-23	93%	75%		464.6ft: green gray (10Y6/1), hard, indurated, fossiliferous
		5.0	2:50/0.9	33%	0%	RUN-24				DOLOSTONE, wackestone, light greenish gray (10Y7/1), soft, friable to moderately indurated, wet, weak HCl reaction *(continued)*
			1:54	(5.0)	(4.5)					465.5ft: pale olive (5Y6/3), soft, friable to moderately indurated,
			1:18	100%	90%					
			1:09							
-471.6	470.5		1:20							
		5.0	2:28	(0.9)	(0.4)	RUN-25				-472.6 470.5ft: greenish gray (5GY6/1), hard, indurated 471.5
			4:27	18%	8%		(0.0)	(NA)		Silty SAND (SM), no recovery-cuttings observed in drill fluid return, dark in color
			1:21				0%	0%		
			2:49							
			4:58							
-476.6	475.5		1:47							
		5.0	WOR	(4.2)	(2.0)	RUN-26				-477.6 476.5
			2:12	84%	40%		(9.2)	(5.0)		LIMESTONE, packstone, pale yellow (5Y8/2), soft to hard, friable to indurated, wet, strong HCl reaction, fossiliferous, mostly shell molds and casts, few vugs
			3:07				92%	50%		
			4:08							
-481.6	480.5		1:53							
		5.0	2:18	(4.0)	(2.6)	RUN-27				480.5ft: soft to very soft, friable
			4:04	80%	52%					
			4:24							
			3:38							
-486.6	485.5		3:27							
		5.0	1:14	(3.8)	(1.6)	RUN-28				-487.6 485.5ft: hard, indurated 486.5
			1:58	76%	32%		(12.8)	(8.3)		LIMESTONE, wackestone, pale yellow (5Y8/2), soft, friable to moderately indurated, wet, strong HCl reaction, fossiliferous
			4:48				91%	59%		
			3:23							
-491.6	490.5		5:11							490.5ft: medium hard to very soft, moderately indurated to friable
		5.0	3:44	(5.0)	(4.8)	RUN-29				
			3:14	100%	96%					
			2:52							
			2:58							
-496.6	495.5		4:20							
		5.0	1:34	(4.7)	(2.3)	RUN-30				495.5ft: soft to hard, friable to moderately indurated
			1:23	94%	46%					
			2:25							
			4:07							
-501.6	500.5		4:32							-501.6 500.5
		5.0	1:21	(3.8)	(1.8)	RUN-31	(1.1)	(NA)		Silty SAND (SM), gray (5Y5/1), wet, strong HCl reaction, trace mica, some limestone fragments (Interpreted as medium dense to dense based on drill rate and recovery)
			3:34	76%	36%		55%	0%		-503.6 502.5
			3:05				(20.8)	(14.2)		LIMESTONE, packstone, pale yellow (5Y8/2), wet, soft, friable, fossiliferous, mostly shell molds and casts
			2:34				90%	62%		
-506.6	505.5		4:15							
		5.0	1:35	(5.0)	(5.0)	RUN-32				505.5ft: soft to medium hard, friable to moderately indurated, fossil-rich mud zones
			1:35	100%	100%					
			2:32							
			3:11							
-511.6	510.5		4:04							
		5.0	1:39	(5.0)	(3.6)	RUN-33				510.5ft: medium hard, moderately indurated, and soft, friable zones
			3:38	100%	72%					
			2:58							
			1:41							
-516.6	515.5		1:35							
		5.0	0:29	(3.5)	(1.9)	RUN-34				515.5ft: hard, indurated
			0:37	70%	38%					
			1:25							
			1:19							
-521.6	520.5		3:17							
		5.0	1:43	(4.6)	(1.9)	RUN-35				520.5ft: medium hard to moderately hard, moderately indurated to indurated, 524.5 to 525.5ft: soft zone
			1:01	92%	38%					
			1:48							
			2:03							
-526.6	525.5		1:45							-526.6 525.5
		5.0	1:50	(3.4)	(2.8)	RUN-36	(19.8)	(11.0)		LIMESTONE, wackestone, white (5Y8/1), soft to medium hard, friable to moderately indurated, wet, strong HCl reaction, fossiliferous, shell molds and casts
			1:35	68%	56%		79%	44%		
			3:05							
			3:18							
-531.6	530.5		4:06							
		5.0	1:31	(3.7)	(1.3)	RUN-37				530.5ft: pale yellow (5Y8/2), soft to moderately hard, friable to indurated
			2:01	74%	26%					
			1:40							
			1:41							
-536.6	535.5		4:47							
		5.0	1:16	(4.1)	(3.0)	RUN-38				535.5ft: medium hard to moderately hard, moderately indurated to indurated
			3:03	82%	60%					
			5:40							
			2:35							

TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 9/25/08

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BORING NO.: B-701(DH)	DRILL METHOD: Mud Rotary/ Core	SAMPLE METHODS: SPT/Core	0 HR. NA
GROUND ELEV.: -1.1 ft (NAVD88)	NORTHING: 396,976 US ft (NAD83/90)	EASTING: 875,792 US ft (NAD83/90)	24 HR. NA
TOTAL DEPTH: 615.5 ft	CASING DEPTH: 6" to 16.0', 4" to 457.5'		HAMMER (ID): 140 lb. Auto (07)
DATE STARTED: 4/3/08	COMPLETED: 5/5/08	CORE SIZE: PQ3/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
-541.6	540.5	5.0	3:21 1:24 1:13 0:48 1:05 1:00	(4.9) 98%	(2.3) 46%	RUN-39				LIMESTONE, wackestone, white (5Y8/1), soft to medium hard, friable to moderately indurated, wet, strong HCl reaction, fossiliferous, shell molds and casts *(continued)* 540.5ft: moderately hard, moderately indurated
-546.6	545.5	5.0	0:37 0:34 2:00 2:35 5:04	(3.7) 74%	(1.6) 32%	RUN-40				545.5ft: trace dark phosphatic material, trace soft friable zone
-551.6	550.5	5.0	2:07 2:11 2:14 2:14 3:24	(5.0) 100%	(4.1) 82%	RUN-41	(38.3) 92%	(31.2) 75%		-551.6 — 550.5 LIMESTONE, mudstone, light greenish gray (10Y8/1), moderately hard, moderately indurated, wet, strong HCl reaction, fossiliferous
-556.6	555.5	5.0	2:10 0:52 1:18 1:08 1:49	(4.4) 88%	(3.8) 76%	RUN-42				555.5ft: medium hard
-561.6	560.5	5.0	1:09 1:09 0:58 1:00 0:58	(4.3) 86%	(1.3) 26%	RUN-43				
-566.6	565.5	5.0	0:16 0:22 0:39 1:34 1:12	(3.2) 64%	(2.9) 58%	RUN-44				565.5ft: soft to medium hard
-571.6	570.5	5.0	1:22 1:32 1:49 0:25 1:23	(5.0) 100%	(3.7) 74%	RUN-45				570.5ft: medium hard
-576.6	575.5	5.0	1:28 0:54 0:28 1:28 2:36	(5.0) 100%	(5.0) 100%	RUN-46				575.5ft: pale yellow (5Y8/2), very soft to soft, friable to moderately indurated
-581.6	580.5	5.0	1:22 0:59 1:06 2:33 4:03	(5.0) 100%	(4.0) 80%	RUN-47				580.5ft: light greenish gray (10Y7/1), to pale yellow (5Y8/2), very soft to medium hard
-586.6	585.5	5.0	2:04 2:54 2:37 2:04 1:42	(4.9) 98%	(4.9) 98%	RUN-48				585.5ft: light gray (5Y7/2), medium hard, trace fine grained sand-sized dark material (possible phosphate)
-591.6	590.5	5.0	0:58 2:22 2:24 3:20 2:20	(4.7) 94%	(4.1) 82%	RUN-49	(1.0) 100%	(0.4) 40%		-593.1 — 592.0 590.5ft: pale yellow (5Y7/3) -594.1 — 593.0 LIMESTONE, wackestone, white (5Y8/1), hard, indurated, fossiliferous, mostly shell molds and casts
-596.6	595.5	5.0	1:22 2:20 2:40 1:26 2:23	(3.0) 60%	(1.0) 20%	RUN-50	(2.7) 90% (1.0) 100% (14.9) 81%	(2.2) 73% (0.0) 0% (13.7) 74%		-597.1 — 596.0 LIMESTONE, mudstone, white (5Y8/1), soft to medium hard, friable to moderately indurated, moist, strong HCl reaction, fossiliferous -598.1 — 597.0 LIMESTONE, wackestone, white (5Y8/1), hard, indurated, moist, fossiliferous, mostly shell fragments, strong HCl reaction LIMESTONE, mudstone, pale yellow (5Y8/2), soft, friable, wet, strong HCl reaction, fossiliferous, trace fine grained sand 600.5ft: light gray (5Y7/3), medium hard, moderately indurated
-601.6	600.5	5.0	2:21 3:54 4:07 4:26 2:39	(5.0) 100%	(4.7) 94%	RUN-51				
-606.6	605.5	5.0	3:40 3:27 3:31 3:24 2:21	(3.2) 64%	(3.2) 64%	RUN-52				605.5ft: pale yellow (5Y8/2)
-611.6	610.5	2.0	1:05 1:04	(2.0) 100%	(1.6) 80%	RUN-53				
-613.6	612.5	3.0	2:21 5:13	(3.0)	(3.0)	RUN-54				

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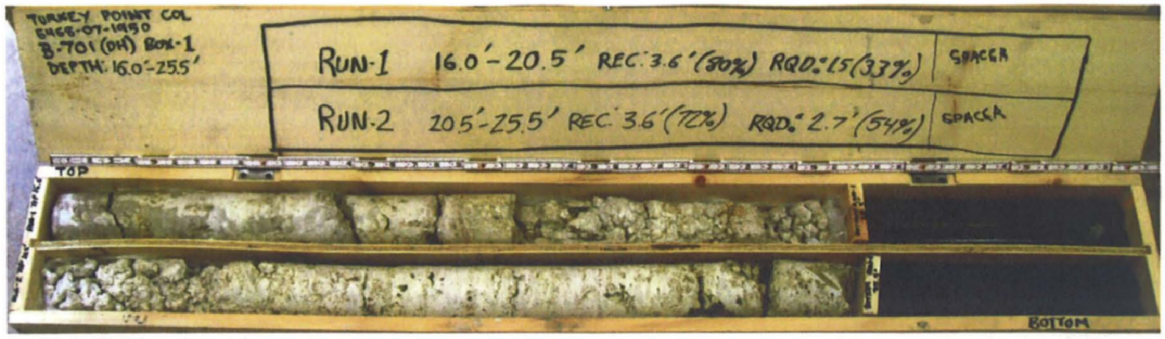
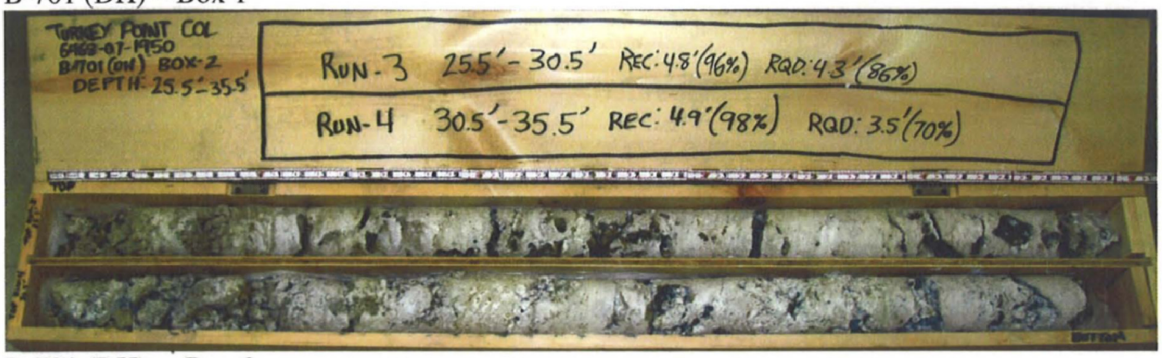
TOTAL DEPTH: 615.5 ft	CASING DEPTH: 6" to 16.0', 4" to 457.5'		HAMMER (ID): 140 lb. Auto (07)
DATE STARTED: 4/3/08	COMPLETED: 5/5/08	CORE SIZE: PQ3/HQ3	CORE BARREL TYPE: Triple Tube Wireline (Split inner liners)

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
-616.6	615.5		4:04	100%	100%					-616.6 615.5
										Coring Terminated at Elevation -616.6

TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 9/25/08



B-701 (DH) – Box 1



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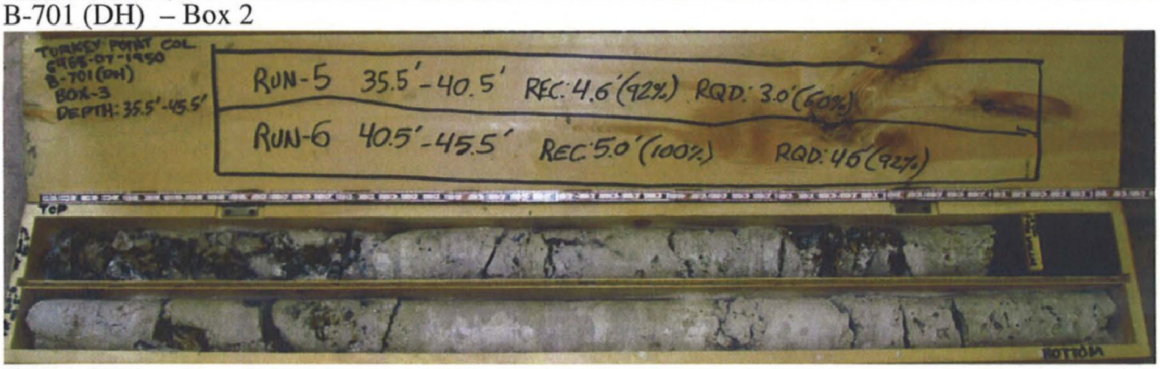

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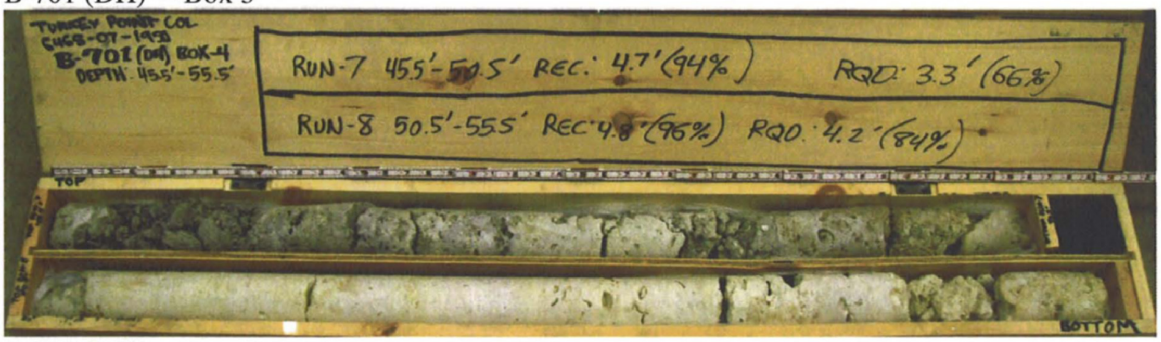
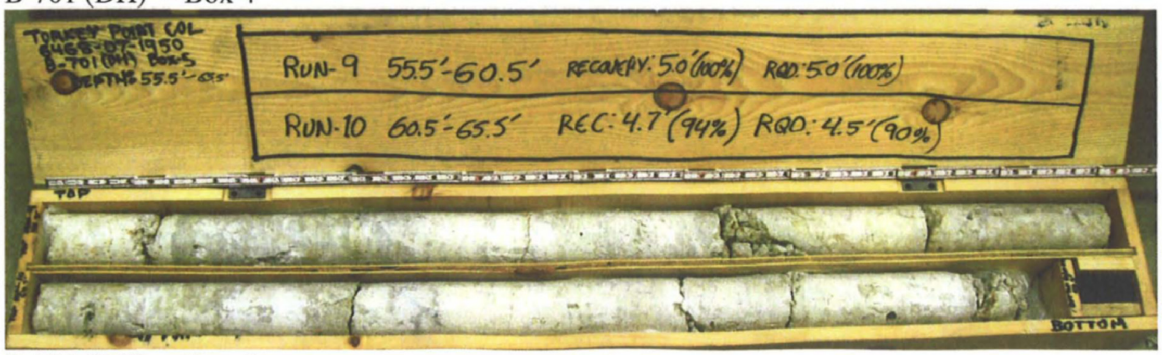


B-701 (DH) – Box 4



B-701 (DH) – Box 5