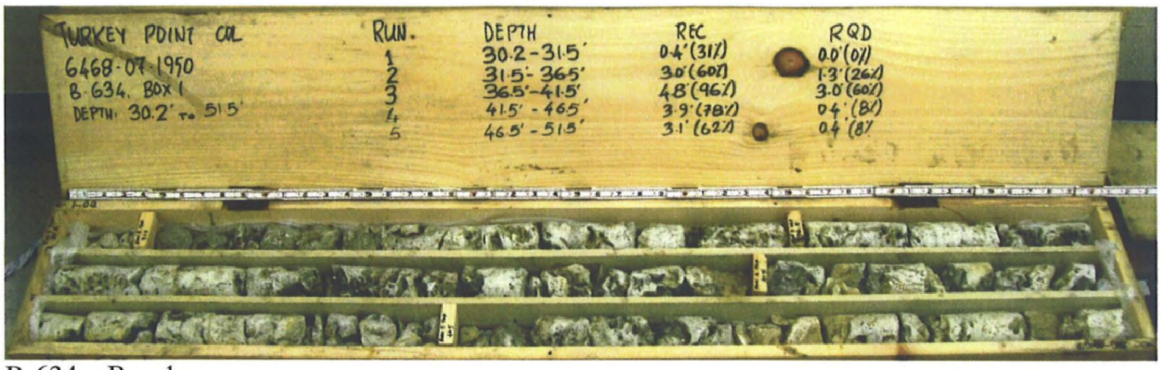
MACTEC



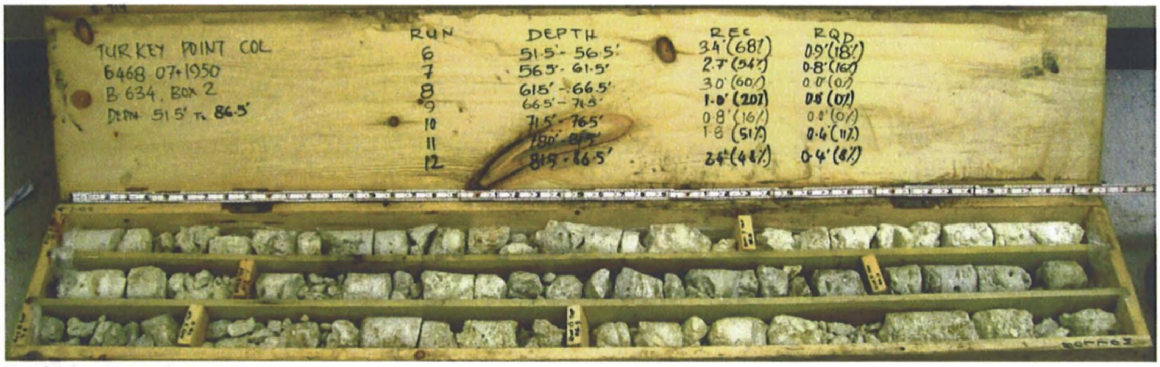
| | | | |
|---|---|---|---|
| BECHTEL PROJECT NO.: 25409 | MACTEC PROJECT NO.: 6468-07-1950 | COUNTY: Miami-Dade | GEOLOGIST: H. Lyatuu |
| SITE DESCRIPTION: Turkey Point COL | DRILL MACHINE: CME-550 Marsh Buggy | DRILLER: D. White/ R. Hall | GROUND WATER (ft) |
| BORING NO.: B-634 | DRILL METHOD: Mud Rotary/ Core | SAMPLE METHODS: SPT/Core | 0 HR. NA |
| GROUND ELEV.: -0.7 ft (NAVD88) | NORTHING: 395,758 US ft (NAD83/90) | EASTING: 876,677 US ft (NAD83/90) | 24 HR. NA |
| TOTAL DEPTH: 127.5 ft | CASING DEPTH: 4" to 30.0', 3" to 126.0' | | HAMMER (ID): 140 lb. Auto (893) |
| DATE STARTED: 4/7/08 | COMPLETED: 4/9/08 | 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 |
| -107.2 | 106.5 | | 0:22<br>0:31 | | | | | | | LIMESTONE, boundstone, white (7.5YR8/1), moderately hard, moderately indurated, trace shell molds and casts (Lower Fort Thompson Formation) *(continued)* |
| | | 5.0 | 0:43<br>0:43<br>0:43<br>0:53 | (3.2)<br>64% | (0.0)<br>0% | RUN-17 | | | | |
| -112.2 | 111.5 | | 0:53 | | | | | | | |
| | | 5.0 | 0:31<br>0:41<br>0:31<br>0:31 | (1.7)<br>34% | (0.0)<br>0% | RUN-18 | | | | 111.5ft: trace shell molds and casts |
| | | | | | | | | | | -115.7 115.0 |
| -117.2 | 116.5 | | 0:21 | | | | (0.0)<br>0% | (NA) | | -117.2 Silty SAND (SM), light gray (10YR7/2), medium dense, wet, interbedded friable sandy limestone lenses (Tamiami Formation) 116.5 |
| | | | | | | | | | | Coring Terminated at Elevation -117.2 |

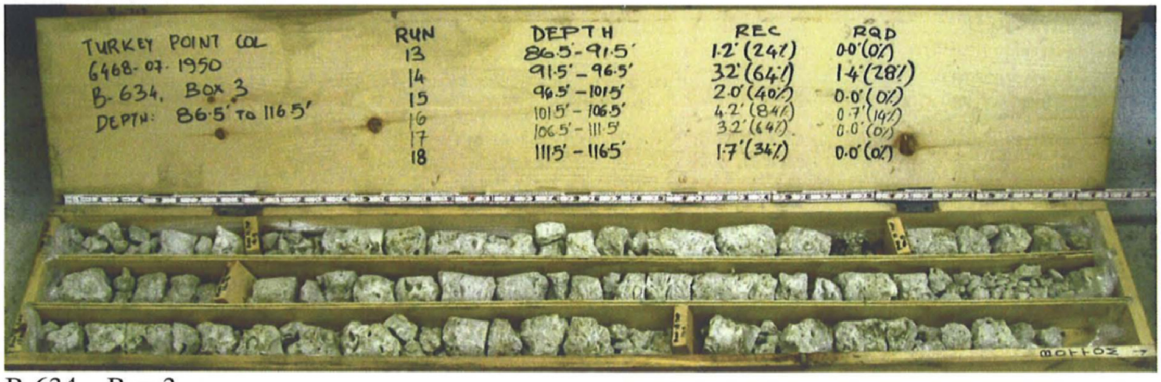
TURKEY POINT COL CORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 7/10/08




B-634 – Box 1




B-634 – Box 2




B-634 – Box 3

MACTEC

GEOTECHNICAL BORING LOG

Prepared By JPH Date 5-30-08

Checked By TM Date 5-30-08

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-635 | DRILL METHOD: Mud Rotary/ Core | SAMPLE METHODS: SPT/Core | 0 HR. NA |
| GROUND ELEV.: -0.9 ft (NAVD88) | NORTHING: 395,771 US ft (NAD83/90) | EASTING: 876,798 US ft (NAD83/90) | 24 HR. NA |
| TOTAL DEPTH: 128.5 ft | BORING DIAMETER: 4" to 35.0', 3" to 128.5' | CASING DEPTH: 4" to 35.0', 3" to 127.0' | HAMMER (ID):140 lb. Auto (893) |
| DATE STARTED: 4/15/08 | COMPLETED: 4/17/08 | 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 |
|---|---|---|---|---|---|---|---|---|---|
| -0.9 | | | | | Ground Surface | | | | |
| -0.9 | 0.0 | WOH | WOH | WOH | WOH | 635-1 | | | -0.9 0.0 Sandy FAT CLAY (CH), very dark gray (10YR3/1), to very pale brown (10YR7/3), very soft, wet, some fine grained sand, trace organics, strong HCl reaction -2.9 2.0 -4.1 3.2 MUCK, very dark gray (10YR3/1), very soft, wet, trace shell fragments, mostly organic, weak HCl reaction |
| -3.4 | 2.5 | | | | | | | | |
| -5.9 | 5.0 | WOH | 4 | 3 | 7 | 635-2A/B | | | |
| -8.4 | 7.5 | 5 | 4 | 4 | 8 | 635-3 | | | |
| -10.9 | 10.0 | 18 | 5 | 4 | 9 | 635-4 | | | LIMESTONE, boundstone, white (10YR8/1), very soft, wet, fossiliferous, strong HCl reaction (Miami Formation) 5.0ft: oolitic 10.0ft: white (2.5Y8/1) 12.5ft: medium hard |
| -13.4 | 12.5 | 8 | 7 | 5 | 12 | 635-5 | | | |
| -15.9 | 15.0 | 20 | 15 | 19 | 34 | 635-6 | | | 15.0ft: white (10YR8/1), soft |
| -19.9 | 19.0 | 12 | 11 | 18 | 29 | 635-7 | | | |
| -24.9 | 24.0 | 18 | 13 | 11 | 24 | 635-8 | | | 24.0ft: very soft |
| -27.9 | 27.0 | 7 | 8 | 6 | 14 | 635-9 | | | -27.9 27.0 POORLY GRADED SAND (SP), light gray (10Y7/1), medium dense, wet, fine grained sand, calcareous, trace shell fragments, strong HCl reaction |
| -29.9 | 29.0 | 10 | 7 | 8 | 15 | 635-10 | | | |
| -32.9 | 32.0 | | | | | | | | -32.9 32.0 LIMESTONE with interbedded sand layers, boundstone, white (10YR8/1), hard, wet, fossiliferous, fine grained sand, recrystallized calcite, strong HCl reaction (Upper Fort Thompson Formation) 35.0ft: Switch sampling method to coring 35.0ft: white (10YR8/1), moderately hard, moderately indurated, fossiliferous, strong HCl reaction, few vugs 37.0ft: hard, indurated, coralline, recrystallized calcite, little vugs |
| -34.9 | 34.0 | | | | | | | | |
| -35.9 | 35.0 | 30 | 50/0.3 | | 80/0.8 | 635-11 | | | |
| -37.9 | 37.0 | | | | | RUN-1 | | | |
| -42.9 | 42.0 | | | | | RUN-2 | | | |
| -47.9 | 47.0 | | | | | RUN-3 | | | 47.0ft: hard to moderately hard |
| -52.9 | 52.0 | | | | | RUN-4 | | | -52.9 52.0 LIMESTONE, boundstone, white (7.5YR8/1), medium hard, moderately indurated, few vugs, fossiliferous, little shell molds and casts, porous, strong HCl reaction (Lower Fort Thompson Formation) 57ft: moderately hard, moderately indurated, trace shell molds and casts |
| -57.9 | 57.0 | | | | | RUN-5 | | | |
| -62.9 | 62.0 | | | | | RUN-6 | | | 62.0ft: white (10YR8/1), trace fine grained sand |
| -67.9 | 67.0 | | | | | RUN-7 | | | 67.0ft: hard, indurated |
| -72.9 | 72.0 | | | | | RUN-8 | | | 72.0ft: moderately hard to medium hard, moderately indurated |
| | | | | | | 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



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|---|---|---|---|---|
| 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-635 | DRILL METHOD: Mud Rotary/ Core | SAMPLE METHODS: SPT/Core | 0 HR. | NA |
| GROUND ELEV.: -0.9 ft (NAVD88) | NORTHING: 395,771 US ft (NAD83/90) | EASTING: 876,798 US ft (NAD83/90) | 24 HR. | NA |
| TOTAL DEPTH: 128.5 ft | BORING DIAMETER: 4" to 35.0', 3" to 128.5' | CASING DEPTH: 4" to 35.0', 3" to 127.0' | HAMMER (ID):140 lb. Auto (893) | |
| DATE STARTED: 4/15/08 | COMPLETED: 4/17/08 | 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 |
|---|---|---|---|---|---|---|---|---|---|
| -75.7 | | | | | Continued from previous page | | | | |
| -77.9 | 77.0 | | | | | RUN-10 | | | LIMESTONE, boundstone, white (7.5YR8/1), medium hard, moderately indurated, few vugs, fossiliferous, little shell molds and casts, porous, strong HCl reaction (Lower Fort Thompson Formation) *(continued)* |
| -82.9 | 82.0 | | | | | RUN-11 | | | 82.0ft: hard, indurated |
| -87.9 | 87.0 | | | | | RUN-12 | | | 87.0ft: medium hard, moderately indurated |
| -92.9 | 92.0 | | | | | RUN-13 | | | 92.0ft: some shell molds and casts |
| -97.9 | 97.0 | | | | | RUN-14 | | | 97.0ft: moderately hard |
| -102.9 | 102.0 | | | | | RUN-15 | | | 102.0ft: hard, indurated, mostly shell molds and casts |
| -107.9 | 107.0 | | | | | RUN-16 | | | 107.0ft: moderately hard, moderately indurated, trace shell molds and casts |
| -112.9 | 112.0 | | | | | RUN-17 | | | -112.9 Interbedded Silty SAND (SM), light greenish gray (10Y7/1), wet, fine grained sand, strong HCl reaction, with sandstone, medium hard, moderately indurated (Tamiami Formation) 112.0 |
| -117.9 | 117.0 | 17 | 23 | 20 | 43 | 635-12 | | | 117.0ft: Switch sampling method to SPT<br>117.0ft: light greenish gray (5BG7/1), dense, weak HCl reaction |
| -127.9 | 127.0 | 6 | 6 | 8 | 14 | 635-13 | | | -129.4 127.0ft: greenish gray (10Y6/1), medium dense 128.5<br>Boring Terminated at Elevation -129.4 ft |

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

MACTEC



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|---|---|---|---|---|
| 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-635 | DRILL METHOD: Mud Rotary/ Core | SAMPLE METHODS: SPT/Core | 0 HR. | NA |
| GROUND ELEV.: -0.9 ft (NAVD88) | NORTHING: 395,771 US ft (NAD83/90) | EASTING: 876,798 US ft (NAD83/90) | 24 HR. | NA |
| TOTAL DEPTH: 128.5 ft | CASING DEPTH: 4" to 35.0', 3" to 127.0' | | HAMMER (ID): 140 lb. Auto (893) | |
| 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 @ 35.0 ft |
| -35.9 | 35.0 | 2.0 | 2:11<br>1:28 | (1.4)<br>70% | (0.0)<br>0% | RUN-1 | (13.1)<br>77% | (8.4)<br>49% | | LIMESTONE with interbedded sand layers, boundstone, white (10YR8/1), hard, wet, fossiliferous, fine grained sand, recrystallized calcite, strong HCl reaction (Upper Fort Thompson Formation) *(continued)* |
| -37.9 | 37.0 | 5.0 | 2:10<br>1:11<br>1:32<br>1:33 | (5.0)<br>100% | (3.9)<br>78% | RUN-2 | | | | 35.0ft: white (10YR8/1), moderately hard, moderately indurated, fossiliferous, strong HCl reaction, few vugs |
| -42.9 | 42.0 | 5.0 | 1:04<br>1:02<br>2:24<br>1:33 | (4.3)<br>86% | (3.8)<br>76% | RUN-3 | | | | 37.0ft: hard, indurated, coralline, recrystallized calcite, little vugs |
| -47.9 | 47.0 | 5.0 | 1:49<br>1:08<br>0:34<br>1:23 | (2.4)<br>48% | (0.7)<br>14% | RUN-4 | | | | 47.0ft: hard to moderately hard |
| -52.9 | 52.0 | 5.0 | 0:25<br>0:12<br>0:13<br>0:34 | (3.0)<br>60% | (0.7)<br>14% | RUN-5 | (34.2)<br>57% | (13.1)<br>22% | | -52.9 ——— 52.0<br>LIMESTONE, boundstone, white (7.5YR8/1), medium hard, moderately indurated, few vugs, fossiliferous, little shell molds and casts, porous, strong HCl reaction (Lower Fort Thompson Formation) |
| -57.9 | 57.0 | 5.0 | 0:30<br>0:53<br>0:31<br>0:30<br>1:05 | (4.0)<br>80% | (2.8)<br>56% | RUN-6 | | | | 57ft: moderately hard, moderately indurated, trace shell molds and casts |
| -62.9 | 62.0 | 5.0 | 0:35<br>0:15<br>1:25<br>1:15<br>1:23 | (2.1)<br>42% | (1.5)<br>30% | RUN-7 | | | | 62.0ft: white (10YR8/1), trace fine grained sand |
| -67.9 | 67.0 | 5.0 | 0:36<br>0:09<br>0:09<br>0:07<br>0:23 | (4.0)<br>80% | (2.5)<br>50% | RUN-8 | | | | 67.0ft: hard, indurated |
| -72.9 | 72.0 | 5.0 | 1:32<br>0:54<br>1:12<br>1:14<br>1:35 | (3.5)<br>70% | (1.4)<br>28% | RUN-9 | | | | 72.0ft: moderately hard to medium hard, moderately indurated |
| -77.9 | 77.0 | 5.0 | 0:35<br>1:05<br>0:45<br>0:45<br>0:45 | (3.5)<br>70% | (1.6)<br>32% | RUN-10 | | | | |
| -82.9 | 82.0 | 5.0 | 0:45<br>1:29<br>1:09<br>0:39<br>0:25 | (2.5)<br>50% | (0.5)<br>10% | RUN-11 | | | | 82.0ft: hard, indurated |
| -87.9 | 87.0 | 5.0 | 0:10<br>0:20<br>0:50<br>0:35<br>1:05 | (2.0)<br>40% | (0.0)<br>0% | RUN-12 | | | | 87.0ft: medium hard, moderately indurated |
| -92.9 | 92.0 | 5.0 | 0:45<br>0:35<br>0:25<br>0:55<br>0:33 | (2.1)<br>42% | (0.4)<br>8% | RUN-13 | | | | 92.0ft: some shell molds and casts |
| -97.9 | 97.0 | 5.0 | 0:44<br>0:35<br>0:11<br>0:25<br>0:28 | (2.9)<br>58% | (0.9)<br>18% | RUN-14 | | | | 97.0ft: moderately hard |
| -102.9 | 102.0 | 5.0 | 0:28<br>0:35<br>0:45<br>0:20<br>0:50 | (3.0)<br>60% | (0.8)<br>16% | RUN-15 | | | | 102.0ft: hard, indurated, mostly shell molds and casts |
| -107.9 | 107.0 | 5.0 | 0:45<br>0:30<br>0:30<br>0:35<br>0:40 | (1.6)<br>32% | (0.0)<br>0% | RUN-16 | | | | 107.0ft: moderately hard, moderately indurated, trace shell molds and casts |
| | | | 1:10<br>1:05 | | | | | | | |

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

MACTEC



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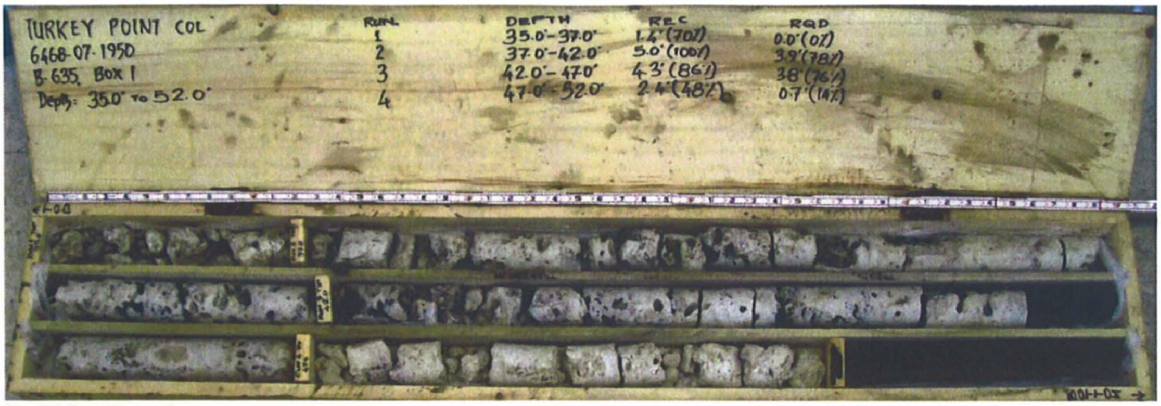
|---|---|---|---|
| BECHTEL PROJECT NO.: 25409 | MACTEC PROJECT NO.: 6468-07-1950 | COUNTY: Miami-Dade | GEOLOGIST: H. Lyatuu |
| SITE DESCRIPTION: Turkey Point COL | DRILL MACHINE: CME-550 Marsh Buggy | DRILLER: D. White/ R. Hall | GROUND WATER (ft) |
| BORING NO.: B-635 | DRILL METHOD: Mud Rotary/ Core | SAMPLE METHODS: SPT/Core | 0 HR. NA |
| GROUND ELEV.: -0.9 ft (NAVD88) | NORTHING: 395,771 US ft (NAD83/90) | EASTING: 876,798 US ft (NAD83/90) | 24 HR. NA |
| TOTAL DEPTH: 128.5 ft | CASING DEPTH: 4" to 35.0', 3" to 127.0' | | HAMMER (ID): 140 lb. Auto (893) |
| DATE STARTED: 4/15/08 | COMPLETED: 4/17/08 | CORE SIZE: HQ3 | CORE BARREL TYPE: Triple Tube Wireline (Split inner liners) |

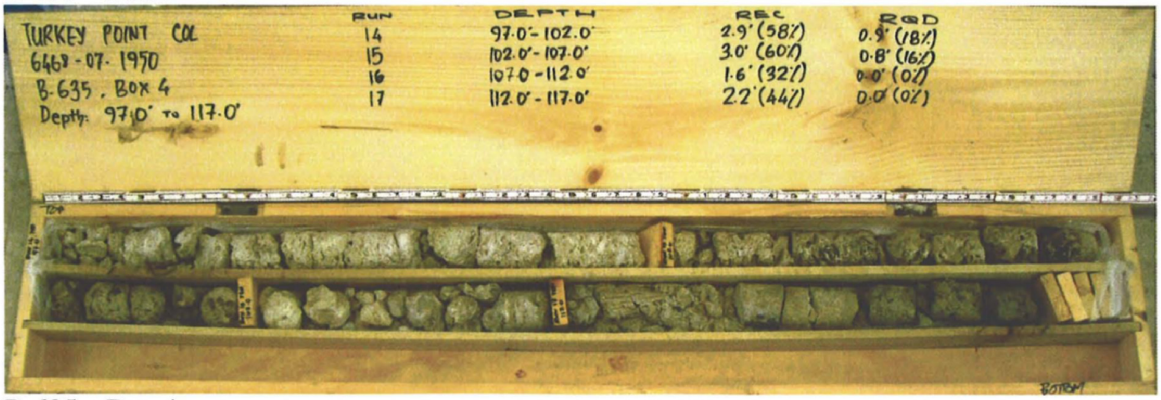
| ELEV. (ft) | DEPTH (ft) | RUN (ft) | DRILL RATE (Min/ft) | RUN REC (ft) % | RUN RQD (ft) % | SAMP. NO. | STRATA REC (ft) % | STRATA RQD (ft) % | LOG | DESCRIPTION AND REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Continued from previous page |
| -112.9 | 112.0 | | 0:25<br>0:55 | | | | | | | -112.9 112.0 |
| | | 5.0 | 0:20<br>0:48<br>0:18<br>0:10 | (2.2)<br>44% | (0.0)<br>0% | RUN-17 | (2.2)<br>44% | (NA) | | Interbedded Silty SAND (SM), light greenish gray (10Y7/1), wet, fine grained sand, strong HCl reaction, with sandstone, medium hard, moderately indurated (Tamiami Formation) |
| -117.9 | 117.0 | | 0:50 | | | | | | | -117.9 117.0<br>Coring Terminated at Elevation -117.9 |




B-635 – Box 1

B-635 – Box 2

B-635 – Box 3




B-635 – Box 4

MACTEC

# GEOTECHNICAL BORING LOG

Prepared By [illegible] Date [illegible]

Checked By [illegible] Date 10/24/08

Revised 10/24/08

SHEET 1 OF 2

| | | | |
|---|---|---|---|
| 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 | BORING DIAMETER: 4" to 27.6', 3" to 126.0' | 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 | BITS USED: 2 7/8 & 3 7/8" 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 |
|---|---|---|---|---|---|---|---|---|---|
| -1.1 | | | | | Ground Surface | | | | |
| -1.1 | 0.0 | WOR | WOR | WOR | WOR | 636-1 | | | MUCK, black (10YR2/1), to gray (10YR5/1), very soft, moist, mostly organic, strong HCl reaction |
| -4.1 | 3.0 | | | | | | | | |
| -4.8 | 3.7 | WOH | 3 | 6 | 9 | 636-2A&B | | | LIMESTONE, boundstone, white (10YR8/1), very soft, wet, strong HCl reaction, oolitic (Miami Formation) |
| -6.1 | 5.0 | 25 | 13 | 22 | 35 | 636-3 | | | 5.0ft: medium hard |
| -8.3 | 7.2 | 13 | 11 | 9 | 20 | 636-4 | | | 7.2ft: very soft |
| -10.9 | 9.8 | 4 | 5 | 5 | 10 | 636-5 | | | |
| -13.6 | 12.5 | 7 | 5 | 6 | 11 | 636-6 | | | 12.5ft: white (10YR8/1), to light gray (10YR7/1) |
| -15.9 | 14.8 | 26 | 26 | 38 | 64 | 636-7 | | | 14.8ft: white (10YR8/1), hard |
| -17.4 | 16.3 | 31 | 50/0.3 | | 81/0.8 | 636-8 | | | |
| -20.0 | 18.9 | 5 | 15 | 17 | 32 | 636-9 | | | 18.9ft: medium hard |
| -25.0 | 23.9 | 6 | 7 | 5 | 12 | 636-10 | | | 23.9ft: very soft |
| -30.2 | 29.1 | 3 | 4 | 3 | 7 | 636-11 | | | 29.1ft: white (10YR8/1), to gray (10YR6/1), fossiliferous, sandy |
| -33.1 | 32.0 | | | | | | | | |
| -34.8 | 33.7 | | | | | | | | Silty SAND (SM), white (10YR8/1), very loose, |
| -35.1 | 34.0 | 4 | 50/0.3 | | 54/0.8 | 636-12A&B | | | wet, fine grained sand, strong HCl reaction |
| -35.6 | 34.5 | | | | | RUN-1 | | | LIMESTONE, boundstone, white (10YR8/1), hard, wet, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation) |
| -40.6 | 39.5 | | | | | RUN-2 | | | 34.5ft: Switch sampling method to coring |
| -45.6 | 44.5 | | | | | RUN-3 | | | 34.5ft: white (2.5Y8/1), indurated, some vugs, recrystallized calcite, coralline |
| -48.6 | 47.5 | | | | | | | | 39.5ft: mostly vugs |
| -50.6 | 49.5 | | | | | RUN-4 | | | 44.5ft: light gray (10Y7/1) to 47.5ft |
| -55.6 | 54.5 | | | | | RUN-5 | | | LIMESTONE, boundstone, white (2.5YR8/1), hard, indurated, few vugs, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation) |
| -60.6 | 59.5 | | | | | RUN-6 | | | 49.5ft: moderately indurated |
| -65.6 | 64.5 | | | | | RUN-7 | | | 54.5ft: indurated, trace sand, trace shell molds and casts |
| -70.6 | 69.5 | | | | | RUN-8 | | | 59.5ft: moderately hard to hard, moderately indurated to indurated, trace sand |
| -75.6 | 74.5 | | | | | | | | 64.5ft: hard, indurated, trace vugs |
| | | | | | | | | | 69.5ft: moderately hard, moderately indurated, little vugs, trace to few shell molds and casts |

SEE LEGEND FOR ROCK HARDNESS CRITERIA BASED ON SPT DATA

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

MACTEC



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|---|---|---|---|
| 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 | BORING DIAMETER: 4" to 27.6', 3" to 126.0' | 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 | BITS USED: 2 7/8 & 3 7/8" 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 |
|---|---|---|---|---|---|---|---|---|---|
| -75.9 | | | | | Continued from previous page | | | | |
| | | | | | | RUN-9 | | | 74.5ft: few vugs, vertical solution cavities |
| -80.6 | 79.5 | | | | | RUN-10 | | | LIMESTONE, boundstone, white (2.5YR8/1), hard, indurated, few vugs, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation) *(continued)* |
| -85.6 | 84.5 | | | | | RUN-11 | | | 84.5ft: moderately hard to hard, moderately indurated to indurated, trace vugs |
| -90.6 | 89.5 | | | | | RUN-12 | | | 89.5ft: hard, indurated, few vugs, little shell molds and casts |
| -95.6 | 94.5 | | | | | RUN-13 | | | 94.5ft: trace vugs |
| -100.6 | 99.5 | | | | | RUN-14 | | | 99.5ft: few vugs |
| -105.6 | 104.5 | | | | | RUN-15 | | | |
| -110.6 | 109.5 | | | | | RUN-16 | | | 109.5ft: moderately hard, moderately indurated, trace vugs |
| -113.1 | 112.0 | | | | | | | | 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) |
| -115.6 | 114.5 | | | | | RUN-17 | | | 114.5ft: No recovery (SP-SM) |
| -120.6 | 119.5 | 5 | 11 | 12 | 23 | 636-13 | | | 119.5ft: Switch sampling method to SPT<br>119.5ft medium dense |
| -125.6 | 124.5 | 8 | 23 | 21 | 44 | 636-14 | | | |
| -127.1 | 126.0 | | | | | | | | 124.5ft: light gray (2.5Y7/2), dense, friable cemented sand fragments<br>Boring Terminated at Elevation -127.1 ft |

TURKEY POINT COL BORE TURKEY POINT.GPJ TURKEY POINT COL.GDT 10.2.08

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Begin Coring @ 34.5 ft |
| -35.6 | 34.5 | 5.0 | 2:02<br>1:58<br>2:32<br>9:10<br>5:22 | (3.6)<br>72% | (2.2)<br>44% | RUN-1 | (10.6)<br>82% | (8.6)<br>66% | | LIMESTONE, boundstone, white (10YR8/1), hard, wet, fossiliferous, strong HCl reaction (Upper Fort Thompson Formation) *(continued)*<br>34.5ft: white (2.5Y8/1), indurated, some vugs, recrystallized calcite, coralline |
| -40.6 | 39.5 | | | | | | | | | |
| -45.6 | 44.5 | 5.0 | 7:22<br>5:07<br>7:04<br>9:34<br>7:28 | (5.0)<br>100% | (4.8)<br>96% | RUN-2 | | | | 39.5ft: mostly vugs |
| -48.6 | | 5.0 | 3:50<br>2:51<br>4:17<br>6:46<br>3:10 | (5.0)<br>100% | (3.9)<br>78% | RUN-3 | | | | 44.5ft: light gray (10Y7/1) to 47.5ft |
| -50.6 | 49.5 | | | | | | (51.5)<br>80% | (38.3)<br>59% | | 47.5<br>LIMESTONE, boundstone, white (2.5YR8/1), hard, indurated, few vugs, fossiliferous, strong HCl reaction (Lower Fort Thompson Formation)<br>49.5ft: moderately indurated |
| -55.6 | 54.5 | 5.0 | 8:36<br>8:23<br>4:39<br>3:18<br>3:58 | (5.0)<br>100% | (3.6)<br>72% | RUN-4 | | | | |
| -60.6 | 59.5 | 5.0 | 5:43<br>9:03<br>5:50<br>4:41<br>4:06 | (4.4)<br>88% | (3.3)<br>66% | RUN-5 | | | | 54.5ft: indurated, trace sand, trace shell molds and casts |
| -65.6 | 64.5 | 5.0 | 5:22<br>3:02<br>2:47<br>2:10<br>7:22 | (2.7)<br>54% | (2.2)<br>44% | RUN-6 | | | | 59.5ft: moderately hard to hard, moderately indurated to indurated, trace sand |
| -70.6 | 69.5 | 5.0 | 0:52<br>1:23<br>1:10<br>2:05<br>6:32 | (1.7)<br>34% | (0.7)<br>14% | RUN-7 | | | | 64.5ft: hard, indurated, trace vugs |
| -75.6 | 74.5 | 5.0 | 2:10<br>1:42<br>3:38<br>7:52<br>8:04 | (4.2)<br>84% | (2.1)<br>42% | RUN-8 | | | | 69.5ft: moderately hard, moderately indurated, little vugs, trace to few shell molds and casts |
| -80.6 | 79.5 | 5.0 | 3:09<br>6:31<br>6:54<br>3:25<br>2:54 | (3.0)<br>60% | (1.4)<br>28% | RUN-9 | | | | 74.5ft: few vugs, vertical solution cavities |
| -85.6 | 84.5 | 5.0 | 3:01<br>4:37<br>8:36<br>5:05<br>0:54 | (3.5)<br>70% | (2.4)<br>48% | RUN-10 | | | | |
| -90.6 | 89.5 | 5.0 | 4:39<br>2:28<br>2:36<br>1:34<br>1:47 | (3.8)<br>76% | (2.4)<br>48% | RUN-11 | | | | 84.5ft: moderately hard to hard, moderately indurated to indurated, trace vugs |
| -95.6 | 94.5 | 5.0 | 2:42<br>3:07<br>5:13<br>4:03<br>2:25 | (3.7)<br>74% | (3.1)<br>62% | RUN-12 | | | | 89.5ft: hard, indurated, few vugs, little shell molds and casts |
| -100.6 | 99.5 | 5.0 | 1:40<br>2:20<br>2:29<br>4:29<br>4:03 | (4.0)<br>80% | (3.0)<br>60% | RUN-13 | | | | 94.5ft: trace vugs |
| -105.6 | 104.5 | 5.0 | 3:39<br>3:17<br>3:12<br>3:50<br>4:18 | (5.0)<br>100% | (5.0)<br>100% | RUN-14 | | | | 99.5ft: few vugs |
| -110.6 | 109.5 | 5.0 | 2:40<br>3:05<br>3:24<br>3:34<br>5:56 | (5.0)<br>100% | (5.0)<br>100% | RUN-15 | | | | |

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