(267)

Hole No. CB-CH89-15

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT: CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT: SEE REMARKS
2. LOCATION (Coordinates or Station): X=648418 Y=1471970	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
3. DRILLING AGENCY: CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL: S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number): CB-CH89-15	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER: R. GORDON	14. TOTAL NUMBER CORE BOXES: 1
6. DIRECTION OF HOLE: XX VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: TIDAL
7. THICKNESS OF OVERBURDEN	16. DATE HOLE: STARTED 2-8-89 / COMPLETED 2-8-89
8. DEPTH DRILLED INTO ROCK	17. ELEVATION TOP OF HOLE: -45.2
9. TOTAL DEPTH OF HOLE: 11.0'	18. TOTAL CORE RECOVERY FOR BORING: 100 %
	19. SIGNATURE OF ~~XXXXXXXXX~~ GEOLOGIST: J GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-45.2	0.0					BIT OR BARREL -45.2 BLS/FT.
-47.7	2.5		CLAY, plastic, dark gray, wet (CH)		1	2" SAMPLER SETTLED
-51.2	6.0		SAND, fine to medium, quartz, trace silt, gray, trace shell, (SP)	100	2	4 18 27 29 -51.2
-53.2	8.0		SAND, very fine, quartz, clayey, trace shell, gray, (SC)	100	3	" SETTLED
-56.2	11.0		CLAY, plastic, fat, stiff, organic stain dark gray, (CH)		4	-56.2

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-45.2 to -47.7	(CH)*
-47.7 to -51.2	(SP-SM)*
-51.2 to -53.2	(SC-H)*
-53.2 to -56.7	(CH)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE.
NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler.

BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

(268)

Hole No. CB-CH89-16

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=647891 Y=1472908	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-16	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-8-89 / COMPLETED 2-8-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -41.8
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 44 %
9. TOTAL DEPTH OF HOLE 11.4'	19. SIGNATURE OF ~~INSPECTOR~~ GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-41.8	0.0					BIT OR BARREL -41.8 BLS/FT.
-43.8	2.0		CLAY, slightly plastic, soupy, wet, little sand, some silt, gray (CL)			SETTLED 2" SAMPLER
			SAND, very fine, quartz, clayey, little silt, gray, trace shell (SC)	44	1 2	
-53.2	11.4					-53.2
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM SAMPLE ELEVATION — LABORATORY CLASSIFICATION -43.8 to -53.2 (SC-H)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer with 18' drop used on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

Hole No. CB-CH89-17

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=647383 Y=1472289	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-17	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-27-89 / COMPLETED 2-27-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -42.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 50 %
9. TOTAL DEPTH OF HOLE 10.0'	19. SIGNATURE OF ~~INSPECTOR~~ GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-42.0	0.0					BIT OR BARREL -42.0 BLS/FT.
-49.0	7.0		CLAY, plastic, sandy, little silt, gray, wet, trace shell (CH)	50	1	2" SAMPLER SETTLED
-52.0	10.0		SAND, fine to medium, quartz, very clayey, gray, trace shell, wet, (SC)		2	-52.0

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-42.0 to -49.0	(CH) *

NOTE:
* VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler.

BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

(270)

Hole No. CB-CH89-18

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT: CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT: SEE REMARKS
2. LOCATION (Coordinates or Station): X=646872 Y=1473219	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
3. DRILLING AGENCY: CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL: S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number): CB-CH89-18	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER: R. GORDON	14. TOTAL NUMBER CORE BOXES: 1
6. DIRECTION OF HOLE: XXX VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: TIDAL
	16. DATE HOLE: STARTED 2-27-89 / COMPLETED 2-27-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE: -45.1'
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING: 71 %
9. TOTAL DEPTH OF HOLE: 7.0'	19. SIGNATURE OF INSPECTOR: J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-45.1	0.0					BIT OR BARREL -45.1 BLS/FT.
-50.1	5.0		CLAY, plastic, gray-black, wet, trace shell (CH)	71	1 2	2" SAMPLER SETTLED
-52.1	7.0		SAND, very fine, quartz, clayey, gray (SC)			3" -52.1 10

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

300# hammer with 18" drop used on 2" Sampler

BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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(22.1)

Hole No. CB-CH 89-19

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE District	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=645859 Y=1473547	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-19	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: UNDISTURBED:
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDADL
	16. DATE HOLE: STARTED 2-23-89; COMPLETED 2-23-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -40.1
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 43 %
9. TOTAL DEPTH OF HOLE 11.6'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-40.1	0.0					BIT OR BARREL -40.1 BLS/FT. SETTLED
-51.7	11.6		CLAY, slightly plastic, sandy, silty, gray, wet, trace shell (CL)	43	1	2" SAMPLER -51.7
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM SAMPLE ELEVATION — LABORATORY CLASSIFICATION -40.1 to -51.7 (CH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE

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Hole No. CB-CH89-20

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE, DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=646,381 Y=1,474,409	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-20	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-28-89 / COMPLETED 2-28-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -46.1
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 50 %
9. TOTAL DEPTH OF HOLE 10.5'	19. SIGNATURE OF INSPECTOR GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-41.6	0.0					BIT OR BARREL -41.6 BLS/FT.
-49.1	7.5		CLAY, plastic, trace sand & silt, trace shell, gray (CH)	50	1	2" SAMPLER SETTLED
-52.1	10.5		SAND, fine to medium, quartz, clayey, gray, wet, trace shell (SC)		2	-52.1
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM SAMPLE ELEVATION — LABORATORY CLASSIFICATION -49.1 to -52.1 (SC-H)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-21

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT: CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT: SEE REMARKS
2. LOCATION (Coordinates or Station): X= 645,385 Y= 1,474,468	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
3. DRILLING AGENCY: CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL: S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number): CB-CH89-21	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: ; UNDISTURBED:
5. NAME OF DRILLER: R. GORDON	14. TOTAL NUMBER CORE BOXES: 1
6. DIRECTION OF HOLE: [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: TIDAL
	16. DATE HOLE: STARTED 2-28-89; COMPLETED 2-28-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE: -48.2
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING: 80 %
9. TOTAL DEPTH OF HOLE: 5.2'	19. SIGNATURE OF INSPECTOR: J. GENTILE; GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-48.2	0.0					BIT OR BARREL -48.2 BLS/FT.
-51.2	3.0		CLAY, plastic, gray, wet to damp, trace shell (CH)	80	1	2" SAMPLER SETTLED
-53.4	5.2		SAND, fine to medium, quartz, very clayey, gray (SC)		2	-53.4

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-48.1 to -51.2	(CH)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler

BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-22

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=644847 Y=1475421	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-22	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-23-89 / COMPLETED 2-23-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -39.8
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 80 %
9. TOTAL DEPTH OF HOLE 13.4'	19. SIGNATURE OF INSPECTOR GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-39.8	0.0					BIT OR BARREL -39.8 BLS/FT.
-48.2	8.4		CLAY, sandy, trace shell, gray, many seams clayey sand, slightly plastic (CL)	60	1	2" SAMPLER SETTLED -48.2
-53.2	13.4		CLAY, plastic, fat, damp, trace shell, gray (CH)	100	2	SETTLED -53.2 4
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTE. SAMPLE ELEVATION / LABORATORY CLASSIFICATION -48.2 to -53.2 (CH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-23

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=644,357 Y= 1,474,783	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-23	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-28-89 / COMPLETED 2-28-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -40.9
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 83 %
9. TOTAL DEPTH OF HOLE 12.4'	19. SIGNATURE OF INSPECTOR J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-40.9	0.0					BIT OR BARREL -40.9 BLS/FT.
			CLAY, plastic, trace silt & sand, trace shell, gray, damp (CH) (CH) CLAY, very plastic, fat from -48.3 to -53.3	67	1	2" SAMPLER SETTLED -48.3
				100	2	2 SETTLED 1 -53.3 2
-53.3	12.4					
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM SAMPLE ELEVATION / LABORATORY CLASSIFICATION -40.9 to -48.3 (CH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-24

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=643868 Y=1475770	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-24	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-23-89 / COMPLETED 2-23-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -47.3
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 80 %
9. TOTAL DEPTH OF HOLE 5.0'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-47.3	0.0					BIT OR BARREL -47.3 BLS/FT.
-51.3	4.0		CLAY, plastic, soupy, wet, gray (CH) Seams of clayey sand from -50.3 to -51.3			2" SAMPLER SETTLED
-52.3	5.0		SAND, fine to medium, quartz, clean, gray (SP)			-52.3 22
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM SAMPLE ELEVATION / LABORATORY CLASSIFICATION -47.3 to -51.3 (MH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.	80	1 2	300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

ENG FORM 1836

(320)

Hole No. CB-CH89-25

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=642878 Y=1476105	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-25	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-22-89 / COMPLETED 2-22-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -39.5
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 81 %
9. TOTAL DEPTH OF HOLE 13.0'	19. SIGNATURE OF INSPECTOR J. GENTILE XXXXXXX GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-39.5	0.0					BIT OR BARREL -39.5 BLS/FT.
-43.5	4.0		CLAY, plastic, wet, little sand, with seams clayey sand, gray (CH)	63	1	2" SAMPLER SETTLED
			Very plastic, fat, damp, wood fragments, gray (CH) from -43.5 to -52.5		2	-47.5
-52.5	13.0			100	3	" SETTLED -52.5
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

ENG FORM 1836

(278)

Hole No. CB-CH89-26

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=643324 Y=1476688	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-26	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-22-89 / COMPLETED 2-22-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -38.9
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 81 %
9. TOTAL DEPTH OF HOLE 13.0'	19. SIGNATURE OF INSPECTOR XXXXXXXXX J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-38.9	0.0					BIT OR BARREL -38.9 BLS/FT.
-42.9	4.0		CLAY, plastic, sandy, with seam clayey sand, gray, wet, (CH)	63	1	2" SAMPLER SETTLED
			Very plastic, fat, damp, dark gray, organic stain (wood fragments), from -42.9 to -50.9		2	-46.9
-50.9	12.0			100	3 4	" SETTLED
-51.9	13.0		SAND, fine to medium, quartz, some clay, little shell, gray (SC)			-51.9 8

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-38.9 to -42.7	(CH)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler.

BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

ENG FORM

(279)

Hole No. CB-CH89-27

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=642336 Y=1477010	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-27	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES
	15. ELEVATION GROUND WATER TIDAL
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	16. DATE HOLE: STARTED 2-22-89 / COMPLETED 2-22-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -46.7
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 67 %
9. TOTAL DEPTH OF HOLE 6.0'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-46.7	0.0					BIT OR BARREL -46.7 BLS/FT.
-51.3	4.6		CLAY, plastic, wet, soupy, disturbed, (CH)	67	1	2" SAMPLER SETTLED 4
-52.7	6.0		SAND, fine to medium, quartz, little to some clay, trace silt, brown-gray (SC)			-52.7 10
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CPPRELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

ENG FORM 1836

(280)

Hole No. CB-CH89-28

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X= 641828 Y=1477956	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-28	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-28-89 / COMPLETED 2-28-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -38.8
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 83 %
9. TOTAL DEPTH OF HOLE 12.5'	19. SIGNATURE OF ~~INSPECTOR~~ GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-38.8	0.0					BIT OR BARREL -38.8 BLS/FT.
-46.3	7.5		CLAY, slightly plastic, little to some sand with seams of clayey sand, wet, trace shell (CL)	67	1	2" SAMPLER SETTLED -46.3
-48.3	9.5		SAND, fine to medium, quartz, trace clay, little shell, lt. gray (SP)	100	2	1 " 2 1
-51.3	12.5		CLAY, very plastic, fat, dark gray, damp, little shell (CH)		3	2 -51.3 1
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM			300# hammer with 18" drop used on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

(29)

Hole No. CB-CH89-29

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=641321 Y=1477332	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-29	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-23-89 / COMPLETED 2-23-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -36.5
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 89 %
9. TOTAL DEPTH OF HOLE 17.0'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-36.5	0.0					BIT OR BARREL -36.5
-44.0	7.5		CLAY, plastic, little silt & sand, trace shell, damp to wet, gray (CH)	67	1	2" SAMPLER SETTLED -49.0
-53.5	17.0		Fat, plastic, dark gray from -44.0 to -49.0	100	2	" SETTLED -53.5
			Very plastic, fat, gray from -49.0 to -53.5	100	3	" SETTLED 4
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM SAMPLE ELEVATION — LABORATORY CLASSIFICATION -36.5 to -44.0 (MH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-30

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=640,800 Y=1,478,358	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-30	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 1-31-89 / COMPLETED 1-31-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -46.4
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 54 %
9. TOTAL DEPTH OF HOLE 9.3'	19. SIGNATURE OF INSPECTOR GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-46.4	0.0					BIT OR BARREL -46.4 BLS/FT.
-52.7	6.3		CLAY, plastic, gray, wet, (CH)	54	1	SETTLED 2" SAMPLER
-55.7	9.3		Very plastic, undisturbed gray from -52.7 to -55.7			-55.7
			Soils are field visually classified in accordance with the Unified Soils Classification System. SAMPLE ELEVATION / LABORATORY CLASSIFICATION -46.4 to -55.7 (MH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer used with 18" drop on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

(283)

Hole No. CB-CH89-31

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=639,796 Y=1,478,605	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-31	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 1-31-89 / COMPLETED 1-31-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -34.9
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 69 %
9. TOTAL DEPTH OF HOLE 19.0'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-34.9	0.0					BIT OR BARREL -34.9 BLS/FT.
-36.9	2.0		CLAY, plastic, very wet gray, from -34.9' to -36.9'			SETTLED
			CLAY, plastic, damp, trace shell, gray (CH) undisturbed from -36.9' to -53.9', seams of clay with little silt from -36.9' to -53.9'	54	1	2" SAMPLER
					2	-43.9
				52	3	" SETTLED -48.9
-53.9	19.0			100	4	" SETTLED -53.9

Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-34.9 to -36.9	(MH)*
-36.9 to -43.9	(MH)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer used with 18" drop on 2" Sampler.

BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

(284)

Hole No. CB-CH8 9-32

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=640286 Y=1,479,185	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL SPRAGUE & HENWOOD
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-32	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED • UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 1/31/83 COMPLETED 1/31/83
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -38.1
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 88 %
9. TOTAL DEPTH OF HOLE 16.0 FEET	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-38.1	0.0					BIT OR BARREL -38.1 BLS/FT
-39.8	1.7		SILT, plastic, little shell, gray (MH) SAND (SP) from -38.1 to -38.3			SETTLED 2" SAMPLER
			CLAY, plastic, gray, damp, little shell, trace organic stain below -44.1' (CH)	83	1 2	-44.1
				100	3	SETTLED " -49.1
-51.1	13.0		Bed, silty SAND (SM) with organic stain from -49.6' to -50.1'	80	4	" 2 4
-54.1	16.0		CLAY, little to some silt, slightly plastic, limey, lt gray to green, damp (CL)		5	4 5 -54.1 5
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer used with 18" drop on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

(28)

Hole No. CB-CH89-33

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=639,283 Y=1,479,503	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-33	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE [XX] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-1-89 / COMPLETED 2-1-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -46.4
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 80 %
9. TOTAL DEPTH OF HOLE 6.2'	19. SIGNATURE OF INSPECTOR XXXXXXXXX J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-46.4	0.0					BIT OR BARREL -46.4 BLS/FT.
-47.4	1.0		CLAY, plastic, gray, damp, trace to little shell, wet, soupy from -46.4 to -47.4 (CH)	80	1	2" SAMPLER SETTLED
-52.6	6.7					-52.0
			Soils are field visually classified in accordance with the Unified Soils Classification System. SAMPLE ELEVATION / LABORATORY CLASSIFICATION -46.4 to -52.6 (MH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer used with 18" drop on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

(288)

Hole No. CB-CH89-34

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT
2. LOCATION (Coordinates or Station) X=638,305 Y=1,479,848	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-34	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
	15. ELEVATION GROUND WATER TIDAL
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	16. DATE HOLE: STARTED 2-1-89 / COMPLETED 2-1-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -32.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 61 %
9. TOTAL DEPTH OF HOLE 19.5'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-32.0	0.0					BIT OR BARREL -32.0 BLS/FT.
			CLAY, plastic, gray, damp, trace to little shell, (CH)	52	1	2" SAMPLER -41.5 Y
			Slight organic stain, dark gray from -46.5 to -48.5	60	2	" SETTLED -46.5 Y
-48.5	16.5		SAND, very fine quartz, clayey, some silt, organic stain, dark gray (SC) Gray, limey, isolated limestone lenses from -49.5 to -51.5	80	3	" SETTLED Y
-49.5	17.5				4	3
-51.5	19.5					3 -51.5 3

Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-32.0 to -41.5	(MH)*
-41.5 to -48.5	(CH)*
-48.5 to -51.5	(SM-H)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer used with 18" drop on 2" Sampler.

BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-35

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=638,812 Y=1,480,443	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-35	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2/1/89 COMPLETED 2/1/89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -34.4
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 51 %
9. TOTAL DEPTH OF HOLE 19.5'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-34.4	0.0					BIT OR BARREL -34.4 BLS/FT.
			CLAY, plastic, gray, damp, trace shell, (CH)	35	1	SETTLED 2" SAMPLER -48.9
-53.9	19.5		Organic stain, dark gray from -48.9 to -53.9	100	2	SETTLED -53.9
			Soils are field visually classified in accordance with the Unified Soils Classification System. SAMPLE ELEVATION / LABORATORY CLASSIFICATION -48.9 to -53.9 (CH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer used with 18" drop on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-36

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=637,789 Y=1,480,768	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-36	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 1-30-89 / COMPLETED 1-30-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -47.7
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 50 %
9. TOTAL DEPTH OF HOLE 10.0'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-47.7	0.0					BIT OR BARREL -47.7 BLS/FT.
			CLAY, plastic, wet, dark gray, (CH)	50	1	SETTLED 2" SAMPLER
-57.7	10.0		Very plastic, thin lenses medium hard limestone, green to gray fat, (CH) from -56.2' to -57.7'		2	-57.7 4
			Soils are field visually classified in accordance with the Unified Soils Classification System. SAMPLE ELEVATION / LABORATORY CLASSIFICATION -47.2 to -56.2 (MH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer used with 18" drop on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT . REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-37

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT
2. LOCATION (Coordinates or Station) X=636,956 Y=1,481,399	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-37	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-1-89 / COMPLETED 2-1-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -47.7
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 37 %
9. TOTAL DEPTH OF HOLE 9.6'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-47.7	0.0					BIT OR BARREL -47.7 BLS/FT. SETTLED
-55.2	8.0		CLAY plastic, damp, trace shell, gray (CH) Limey clay with limestone fragments. from -55.2 to -56.8	37	1	2" SAMPLER
-56.8	9.6					-56.8
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer used with 18" drop on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAM:LER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2"I.D. X 2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

Hole No. CB-CH89-38

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=636,198 Y=1,481,755	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-38	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
	15. ELEVATION GROUND WATER TIDAL
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	16. DATE HOLE: STARTED 2-2-89; COMPLETED 2-2-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -47.2
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 44 %
9. TOTAL DEPTH OF HOLE 11.5'	19. SIGNATURE OF ~~INSPECTOR~~ GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-47.2	0.0					BIT OR BARREL -47.2 BLS/FT SETTLED
			CLAY, black plastic, wet (CH) Gray, plastic, trace shell, (CH), from -49.2 to -57.2	44	1	2" SAMPLER
-57.2	10.0		Trace to little sand, with little shell, seams of clayey sand, lt. gray, from -57.2 to -58.7			
-58.7	11.5					-58.7

Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-47.2 to -58.7	(MH)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer used with 18" drop on 2" Sampler.

BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-39

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=634,194 Y=1,481,744	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-39	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-2-89 / COMPLETED 2-2-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -46.1
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 64 %
9. TOTAL DEPTH OF HOLE 7.8'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-46.1	0.0					BIT OR BARREL -46.1 BLS/FT.
-51.2	5.1		CLAY, plastic, dk. gray, trace sand, wet to damp, (CH)	64	1 2	SETTLED 2" SAMPLER
-53.9	7.8		SAND, fine quartz, clayey, dk. gray, (SC)			-53.9

Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-46.1 to -51.2	(MH)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer used with 18" drop on 2" Sampler.

BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½ O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-40

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) x = 634,050 y = 1,481,725	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-40	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-13-89 / COMPLETED 2-13-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -46.5
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 76 %
9. TOTAL DEPTH OF HOLE 10.0'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-46.5	0.0					BIT OR BARREL -46.5
-49.8	3.3		SAND, fine, quartz, clayey, little silt, dark gray, wet, soupy (SC)	100	1 2	2" SAMPLER SETTLED 16 21
-51.5	5.0		SAND, fine to medium, quartz, gray, trace clay & silt (SP)			-51.5
-53.0	6.5		Fine quartz, with seams of clayey sand, from -51.5 to -53.0	52	3	" 3 2 1 1
-56.5	10.0		CLAY, plastic, fat, gray, damp (CH)			-56.5 1

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-46.5 to -49.8	(SM-H)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler.

BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

Hole No. CB-CH89-41

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=633079 Y=1481730	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-41	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-10-89 / COMPLETED 2-10-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -46.6
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 54 %
9. TOTAL DEPTH OF HOLE 10.2'	19. SIGNATURE OF ~~INSPECTOR~~ GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-46.6	0.0					BIT OR BARREL -46.6
-48.6	7.0		CLAY, black, wet, soupy, silty, littly sand (CL)			2" SAMPLER SETTLED
-54.6	8.0		SAND, fine, quartz, silty, little clay, dark gray, wet (SM)	54	1 2 3	
-56.8	10.2		SAND, fine to medium, quartz, trace silt, gray (SP)			-56.8

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-48.6 to -54.6	(SM)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler.

BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB- CH89-42

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=632107 Y=1481700	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-42	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-10-89 / COMPLETED 2-10-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -49.5
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 53 %
9. TOTAL DEPTH OF HOLE 10.3'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						BIT OR BARREL
-49.5	0.0					-49.5
-50.0	0.5		SAND, fine, quartz, clean, tan (SP)			2" SAMPLER SETTLED
			CLAY, black, soft, wet, soupy, sandy, slightly plastic, seams silty sand (CL)	53	1 2	
-56.5	7.0					
			CLAY, plastic, fat, gray (CH)		3	
-59.8	10.3					-59.8
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE PROJECT

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Hole No. CB-CH89-43

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=631069 Y=1481700	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-43	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-14-89 / COMPLETED 2-14-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -40.6
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 47 %
9. TOTAL DEPTH OF HOLE 15.0'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-40.6	0.0					BIT OR BARREL -40.6 BLS/FT.
-47.6	7.0		SAND, fine quartz, clean, gray, wet (SP)	40	1	2" SAMPLER SETTLED 4 -45.6 3
-49.1	8.5		SAND, fine quartz, clayey, dark gray, wet (SC)	40	2	" 1 4
					3	1 6 -50.6 23
-55.6	15.0		Firm, damp, undisturbed, very fine quartz, gray-green from -49.1 to -55.6	60	4	" 2 4 12 22 -55.6 30
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM SAMPLE ELEVATION / LABORATORY CLASSIFICATION -40.6 to -47.6 (SP-SM) -50.6 to -55.6 (CL)			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-44

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=630079 Y=1481700	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-44	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-13-89; COMPLETED 2-13-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -39.1
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 35 %
9. TOTAL DEPTH OF HOLE 8.7'	19. SIGNATURE OF ~~INSPECTOR~~ GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-39.1	0.0					BIT OR BARREL -39.1 BLS/FT.
-41.1	2.0		CLAY, plastic, trace to little sand, gray, wet, soupy (CH)			2" SAMPLER SETTLED
-46.1	7.0		SAND, fine, quartz, little clay to clayey, gray, loose, wet (SC)	35	1 2 3	
-47.8	8.7		CLAY, plastic, fat, undisturbed, gray, damp (CH)			-47.8

SOILS HAVE BEEN FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-39.1 to -41.1	(MH)*
-41.1 to -46.1	(SM)*
-46.1 to -47.8	(CH)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler.

BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-45

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=629,071 Y= 1,481,710	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-45	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER
	16. DATE HOLE: STARTED 2-13-89 / COMPLETED 2-13-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -40.3
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 77 %
9. TOTAL DEPTH OF HOLE 6.5'	19. SIGNATURE OF ~~INSPECTOR~~ GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-40.3	0.0					BIT OR BARREL -40.3 BLS/FT.
-44.8	4.5		CLAY, plastic, gray, wet from -40.3 to -44.8 (CH)	77	1	2" SAMPLER SETTLED
-46.8	6.5		Undisturbed, fat (CH) from -44.8 to -46.8			-46.8
			SOILS HAVE BEEN FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-46

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=628096 Y=1481710	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-46	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-10-89 / COMPLETED 2-10-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -40.8
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 80 %
9. TOTAL DEPTH OF HOLE 4.5'	19. SIGNATURE OF ~~INSPECTOR~~ GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-40.8	0.0					BIT OR BARREL -40.8 BLS/FT.
-45.3	4.5		CLAY, plastic, fat, stiff, gray (CH)	80	1	2" SAMPLER SETTLED -45.3
			SOILS HAVE BEEN FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

ENG FORM 1836 PREVIOUS EDITIONS ... PROJECT

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Hole No. CB-CH89-47

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT: CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT: SEE REMARKS
2. LOCATION (Coordinates or Station): X=627094 Y=1481680	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
3. DRILLING AGENCY: CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL: S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number): CB-CH89-47	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: ; UNDISTURBED:
5. NAME OF DRILLER: R. GORDON	14. TOTAL NUMBER CORE BOXES: 1
6. DIRECTION OF HOLE: [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: TIDAL
	16. DATE HOLE: STARTED 2-10-89; COMPLETED 2-10-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE: -41.9
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING: 83 %
9. TOTAL DEPTH OF HOLE: 5.0'	19. SIGNATURE OF INSPECTOR: J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-41.9	0.0					BIT OR BARREL -41.9 BLS/FT.
-46.9	5.0		CLAY, plastic, fat, damp, gray, stiff (CH)	83	1	2" SAMPLER SETTLED -46.9
			SOILS HAVE BEEN FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED CLASSIFICATION SYSTEM SAMPLE ELEVATION — LABORATORY CLASSIFICATION -41.9 to -46.9 (CH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

ENG FORM 1836 PREVIOUS EDITIONS ... PROJECT

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Hole No. CB-CH89-48

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=626086 Y=1,481,625	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-48	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED ; UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE XX VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-9-89; COMPLETED 2-9-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -39.8
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 100 %
9. TOTAL DEPTH OF HOLE 4.7'	19. SIGNATURE OF INSPECTOR XXXXXXXX J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-39.8	0.0					BIT OR BARREL -39.8 BLS/FT.
-44.5	4.7		CLAY, plastic, gray, fat, (CH)	100	1	2" SAMPLER SETTLED -44.5
			SOILS HAVE BEEN FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM SAMPLE ELEVATION — LABORATORY CLASSIFICATION -39.8 to -44.5 (CH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer with 18" drop used on 2" Sampler. BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-49

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=625066 Y=1481680	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-49	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
	15. ELEVATION GROUND WATER TIDAL
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	16. DATE HOLE: STARTED 2-9-89 / COMPLETED 2-9-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -37.3
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 100 %
9. TOTAL DEPTH OF HOLE 7.3'	19. SIGNATURE OF INSPECTOR GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-37.3	0.0					BIT OR BARREL -37.3 BLS/FT.
-41.3	4.0		CLAY, slightly plastic, black, wet, soft, (CL)	100	1	2" SAMPLER SETTLED
					2	-42.3 2
-44.6	7.3		CLAY, plastic, stiff, fat, gray (CH)	100	3	" 1 -44.6 1 SETTLED

SOILS HAVE BEEN FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-37.3 to -41.3	(MH)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler.

BLOWS COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

Hole No. CB-CH89-52

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT: CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT: SEE REMARKS
2. LOCATION (Coordinates or Station): X=625274 Y=1482292	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
3. DRILLING AGENCY: CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL: S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number): CB-CH89-52	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER: R. GORDON	14. TOTAL NUMBER CORE BOXES: 1
6. DIRECTION OF HOLE: [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: TIDAL
	16. DATE HOLE: STARTED 2-14-89 / COMPLETED 2-14-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE: -35.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING: 45 %
9. TOTAL DEPTH OF HOLE: 11.0'	19. SIGNATURE OF ~~INSPECTOR~~ GEOLOGIST: J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-35.0	0.0					BIT OR BARREL -35.0 BLS/FT.
-44.0			CLAY, plastic, wet, gray (CH) Undisturbed below -44.0	1	45	2" SAMPLER SETTLED
-46.0						-46.0
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM SAMPLE ELEVATION / LABORATORY CLASSIFICATION -35.0 to -46.0 (CH)* NOTE: *VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.			300# hammer with 18" drop used on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN CORRELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-53

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=624010 Y=1481800	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-53	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-15-89 / COMPLETED 2-15-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -35.7
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 91 %
9. TOTAL DEPTH OF HOLE 11.0'	19. SIGNATURE OF INSPECTOR XXXXXXXX J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-35.7	0.0					BIT OR BARREL -35.7 BLS/FT.
-42.2	6.5		CLAY, plastic, fat, damp, undisturbed, gray (CH)	83	1	2.0" SAMPLER SETTLED -41.7
-44.7	9.0		SILT, sandy, organic stain, dark brown, trace clay, SL plastic (ML)	100	2	SETTLED 3
-46.7	11.0		SAND, fine, quartz, clayey, gray-green, little shell wet, limestone lenses from -44.7 to 45.7 (SC)		3	6 -46.7 12

SOILS HAVE BEEN FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-35.7 to -42.2	(CH)*
-42.2 to -44.7	(CH)*
-44.7 to -46.7	(ML)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler.

BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

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Hole No. CB-CH89-54

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=623008 Y=1481762	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-54	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-15-89 / COMPLETED 2-15-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -36.2
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 73 %
9. TOTAL DEPTH OF HOLE 11.5'	19. SIGNATURE OF INSPECTOR J. GENTILE GEOLOGIST

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-36.6	0.0					BIT OR BARREL -36.6 BLS/FT.
-42.7	6.5		CLAY, plastic, wet, soupy, disturbed, gray, sandy, with clayey sand seams, (CH)	46	1	2" SAMPLER SETTLED -42.7
-47.7	11.5		SAND, fine, quartz, clayey, wet, gray (SC) very shelly from -42.7 to -43.7 Some shell, gray, wet, fine quartz, from -43.7 to -47.7	100	2	7 3 1 1 -47.7 4
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer with 18" drop used on 2" Sampler. BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE 2" SAMPLER. BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

ENG FORM 1836 PREVIOUS EDITIONS ... PROJECT

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Hole No. CB-CH89-55

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 1 SHEETS

1. PROJECT CANAVERAL HARBOR	10. SIZE AND TYPE OF BIT SEE REMARKS
2. LOCATION (Coordinates or Station) X=622015 Y=1481741	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY CORPS OF ENGINEERS	12. MANUFACTURER'S DESIGNATION OF DRILL S&H SKID RIG
4. HOLE NO. (As shown on drawing title and file number) CB-CH89-55	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER R. GORDON	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE: STARTED 2-15-89 / COMPLETED 2-15-89
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -37.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 100 %
9. TOTAL DEPTH OF HOLE 10.0'	19. SIGNATURE OF ~~XXXXXXXX~~ GEOLOGIST J. GENTILE

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-37.0	0.0					BIT OR BARREL -37.0 BLS/FT.
-40.0	3.0		SILT, sandy, gray, wet scupy, seams silty sand, (ML) little shell	100	1 2	2" SAMPLER SETTLED
-41.0	4.0		SHELL, sand size shell fragments silty, wet gray		3	6 -42.0 10
-42.5	5.5		SAND, fine, quartz, some clay, little shell, lt gray (SC)			" SETTLED
-47.0	10.0		SILT, undisturbed, trace shell, gray-green, damp, (ML)	100	4	-47.0 2

SOILS HAVE BEEN FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-37.0 to -40.0	(SC)*
-40.0 to -41.0	(SP)*
-41.0 to -42.5	(SM)*
-42.5 to -47.0	(CL)*

NOTE:
*VISUAL CLASSIFICATION BASED ON GRADATION CURVE. NO ATTERBERG LIMITS.

300# hammer with 18" drop used on 2" Sampler.

BLOW COUNTS FOR THE 2" SAMPLER HAVE NOT BEEN COORELATED WITH STANDARD SPLIT-SPOON TESTS AS DESIGNATED IN ASTM D-1586. JUDGEMENT IS NEEDED IN THE USE OF THE BLOW COUNT DATA FOR THE 2" SAMPLER.

BLS/FT. REFERS TO THE NUMBER OF HAMMER BLOWS REQUIRED TO ADVANCE A 2" SAMPLER (2" I.D. X 2 ½" O.D.) ONE FOOT. THE SAMPLER IS 5 FT. LONG AND DRIVEN CONTINUOUSLY 5 FT. WHERE POSSIBLE.

HOLE NO. CB-CH91-6

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 1 SHEETS
1. PROJECT	Canaveral Harbor Maintenance Dredging
2. LOCATION (Coordinates or Station)	x=625,256 y=1,481,590
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH91-6
5. NAME OF DRILLER	LC Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	
8. DEPTH DRILLED INTO ROCK	
9. TOTAL DEPTH OF HOLE	20.0'
10. SIZE AND TYPE OF BIT	See remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED: ; UNDISTURBED:
14. TOTAL NUMBER CORE BOXES	1
15. ELEVATION GROUND WATER	Tidal
16. DATE HOLE	STARTED 5/7/91; COMPLETED 5/7/91
17. ELEVATION TOP OF HOLE	-31.4
18. TOTAL CORE RECOVERY FOR BORING	53 %
19. SIGNATURE OF INSPECTOR	Geologist, G. Holem

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-31.4	0.0					Bit or Barrel -31.4 Blows/Ft
-36.3	4.9		CLAY, trace sand, trace silt, strong organic odor, trace shell, soupy, dark gray (CL)	10	1	2" Sampler settled -36.4
-37.9	6.5		SAND, fine grained, clayey, trace shell, organic odor, dark gray (SC)	40	2	2" Sampler settled 1
-41.9	10.5		CLAY, some sand, trace shell, soft, organic odor, dark gray (CL)		3	settled -41.4
-45.4	14.0		CLAY, trace sand, trace shell, wood fragments, organic odor, stiff, dark gray (CH) shell layer from -44.9 to -45.4	90	4 5	2" Sampler settled 1 2 3 -46.4 6
-51.4	20.0		SAND, silty, fine grained quartz, some shell, limestone fragments and nodules from -45.4 to -45.9, light gray (SM) shelly from -48.4 to -51.4	70	6	2" Sampler 4 4 6 5 -51.4 4
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer with 30" drop used on 2" sampler.

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Canaveral Hbr Maint. Dredg. HOLE NO. CB-CH91-6

HOLE NO. CB-CH91-7

(314)

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance Dredging	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) x=625,818 y=1,483,086	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH91-7	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER M. Whitson	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 5/1/91 COMPLETED 5/1/91
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -31.1
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 73 %
9. TOTAL DEPTH OF HOLE 20.0'	19. SIGNATURE OF INSPECTOR Geologist, G. Holem

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-31.1	0.0					Bit or Barrel -31.1 Blows/Ft
-38.6	7.5		CLAY, trace silt, strong organic odor, trace sand, trace shell, light to dark gray (CL)	30	1	2" Sampler settled -36.1
-43.1	12.0		CLAY, trace sand, trace shell, strong organic odor, wood fibers throughout, stiff, gray (CH) sandstone fragments and some sand from -42.6 to -43.1	80	2 3	2" Sampler settled 1 -41.1 1
-51.1	20.0		SAND, fine grain quartz, silty, shelly, slight organic odor, light gray (SM) sandstone fragments and nodules from -47.1 to -51.1	100 60	4 5 6	2" Sampler 2 4 6 7 -46.1 11 2" Sampler 5 4 4 1 -51.1 2
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer with 30" drop used on 2" sampler.

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance Dredging | HOLE NO. CB-CH91-7

Hole No. CB-CH91-8

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 1 SHEETS
1. PROJECT	Canaveral Harbor Maintenance Dredging
2. LOCATION (Coordinates or Station)	x=627,599 y=1,481,824
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH91-8
5. NAME OF DRILLER	M. Whitson
6. DIRECTION OF HOLE	[X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	
8. DEPTH DRILLED INTO ROCK	
9. TOTAL DEPTH OF HOLE	20.0'
10. SIZE AND TYPE OF BIT	See remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED: ; UNDISTURBED:
14. TOTAL NUMBER CORE BOXES	1
15. ELEVATION GROUND WATER	Tidal
16. DATE HOLE	STARTED 5/9/91 ; COMPLETED 5/9/91
17. ELEVATION TOP OF HOLE	-32.6
18. TOTAL CORE RECOVERY FOR BORING	59 %
19. SIGNATURE OF INSPECTOR	Geologist, G. Holem

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	Blows/Ft
-32.6	0.0					Bit or Barrel -32.6	
-36.6	4.0		CLAY, trace sand, trace shell, soupy, dark gray (CL)	16		2" Sampler settled	1
-39.6	7.0		SAND, medium to fine grained quartz, little silt, little shell, dark gray (SM)		1	-37.6	9
					2	2" Sampler	25, 25
-46.7	14.1		CLAY, trace sand, trace shell, stiff, slight organic odor, wood fragments, dark gray (CH)	20	3	-42.6	6, 5, 5
			shell layer from -45.1 to -45.5	100	4	2" Sampler	1, 3, 2, 5
-47.4	14.8		SAND, clayey, little silt, trace shell, brown (SC)		5	-47.6	3
-49.1	16.5				6	2" Sampler	3
-52.6	20.0		SAND, fine to very fine grained, silty, little clay, trace shell, light green (SM)	100	7	-52.6	10, 17, 16, 20
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer with 30" drop used on 2" sampler.	

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance Dredging | HOLE NO. CB-CH91-8

Hole No. CB-CH91-9

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance Dredging	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) x=628,217 y=1,481,825	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH91-9	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED ; UNDISTURBED
5. NAME OF DRILLER M. Whitson	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 5/9/91; COMPLETED 5/9/91
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -31.6
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 63 %
9. TOTAL DEPTH OF HOLE 20.0'	19. SIGNATURE OF INSPECTOR Geologist, G. Holem

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-31.6	0.0					Bit or Barrel -31.6 Blows/Ft
			CLAY, little sand, trace shell, organic odor, soft, dark gray (CL)	40	1	2" Sampler settled -36.6
-41.6	10.0			16	2	2" Sampler 1 settled 1 -41.6
			CLAY, trace sand, little shell, organic odor, firm, dark gray (CH)	94	3	2" Sampler 1 settled 3 3 5 -46.6
-49.6	18.0			100	4	2" Sampler 1 settled 3
-51.6	20.0		SAND, fine to very fine grained, silty, little clay, little shell, limestone fragments, light green (SM)		5	7 10 -51.6

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Hbr Maint. Dredge | HOLE NO. CB-CH91-9

Hole No. CB-CH91-10

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance Dredging	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) x=629,710 y=1,481,563	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH91-10	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER M. Whitson	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 5/9/91 COMPLETED 5/9/91
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -35.6
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 52 %
9. TOTAL DEPTH OF HOLE 20.4'	19. SIGNATURE OF INSPECTOR Geologist, G. Holem

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						Bit or Barrel
-35.6	0.0					-35.6 Blows/Ft
			CLAY, trace sand, trace shell, organic odor, soupy, dark gray (CL)	20	1	2" Sampler 1 settled 1 settled
-39.8	4.2					
			SAND, medium to fine grained quartz, some silt, little clay, trace shell, dark gray (SM)		2	-40.6
					3	2" Sampler 2 1
-43.0	7.4					
			CLAY, trace sand, trace shell, organic odor, wood fragments, dark gray, stiff (CH)	60	4	1 2 2
						-45.6
					5	2" Sampler 2 3 2 3
			shelly from -48.7 to -49.5	80		
-47.9	14.3					
-50.6	15.0		sand, clayey, little silt, trace shell, brown (SC)		6	4
-51.0	15.4					-51.0
			Soils are field visually classified in accordance with the Unified Soils Classification System.			300# hammer with 30" drop used on 2" sampler.

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance Dredging | HOLE NO. CB-CH91-10

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	Canaveral Harbor Maintenance Dredging
2. LOCATION (Coordinates or Station)	x=630,794 y=1,481,572
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH91-11
5. NAME OF DRILLER	M. Whitson
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	
8. DEPTH DRILLED INTO ROCK	
9. TOTAL DEPTH OF HOLE	23.0'
10. SIZE AND TYPE OF BIT	See remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED: ; UNDISTURBED:
14. TOTAL NUMBER CORE BOXES	1
15. ELEVATION GROUND WATER	Tidal
16. DATE HOLE	STARTED 5/10/91 ; COMPLETED 5/10/91
17. ELEVATION TOP OF HOLE	-29.0
18. TOTAL CORE RECOVERY FOR BORING	55 %
19. SIGNATURE OF INSPECTOR	Geologist, G. Holem

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						Bit or Barrel
-29.0	0.0					-29.0 Blows/Ft
			SAND, fine grained quartz, trace silt, trace shell, tan (SP)	40	1	2" Sampler 1 1 4 4 2
-34.5	5.5					-34.0
			SAND, fine grained quartz, little clay, trace silt, trace shell, dark gray (SC)	30	2	2" Sampler 3 2
-36.0	7.0		SAND, fine to coarse grained quartz, trace shell, trace silt, gray (SP-SM)		3	5 5 14
						-39.0
				40	4	2" Sampler 18 24 28 24 15
						-44.0
-46.0	17.0				5	2" Sampler 6 4
			CLAY, sandy, trace shell, stiff, slight organic odor, wood fragments, dark gray (CH)	84	6	5 5 6
						-49.0

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE -29.0 | Hole No. CB-CH91-11

PROJECT: Canaveral Harbor Maint. Dredging | INSTALLATION: Jacksonville District | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						-49.0
-50.5	21.5			100	7	2" Sampler 5
-51.0	22.0		SAND, clayey, little silt, trace shell, brown (SC)		8	8
-52.0	23.0		SAND, fine to very fine grained, silty, little clay, trace shell, light green (SM)		9	-52.0 19

Soils are field visually classified in accordance with the Unified Soils Classification System.

300# hammer with 30" drop used on 2" sampler.

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Hole No. CB-CH91-12 A

DRILLING LOG	DIVISION SOUTH ATLANTIC	INSTALLATION JACKSONVILLE DISTRICT	SHEET 1 OF 3 SHEETS
1. PROJECT: CANAVERAL HARBOR PROJECT		10. SIZE AND TYPE BIT: 1 3/8"ID X 2"OD SPLITSPOON	
2. LOCATION (Coordinates or Station) N= 1481335.65 E= 630624.64		11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MEAN SEA LEVEL	
3. DRILLING AGENCY: TET, INC.		12. MANUFACTURER'S DESIGNATION OF DRILL: SIMCO 2400 SK-1	
4. HOLE NO. (As shown on drawing title and file number): CB-CH91-12		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED 44	UNDISTURBED
5. NAME OF DRILLER: CHARLIE WESTON		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE: [X] VERTICAL [ ] INCLINED ____ DEGREES FROM VERTICAL		15. ELEVATION GROUND WATER: 3.06	
		16. DATE HOLE: STARTED 10-20-91	COMPLETED 10-20-91
7. THICKNESS OF OVERBURDEN: 0.0 FEET		17. ELEVATION TOP OF HOLE: 8.26	
8. DEPTH DRILLED INTO ROCK: 0.0 FEET		18. TOTAL CORE RECOVERY FOR BORING: 62.5%	
9. TOTAL DEPTH OF HOLE: 66.0 FEET		19. SIGNATURE OF INSPECTOR: Charlie Weston	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE f	REMARKS (Drilling time, Water Loss, Depth of Weathering, Etc., if Significant) g
8.26	0.00					8.26 BLOWS/6 INCH
	1.25		Fine Tan SAND, Some Shell Fragments (SP-SM)	70	1	6.76 6 5 6
5.26	2.50			60	2	5.26 6 6 16
	3.75		Fine to Medium Tan SAND, Some Shell Fragments (SP)	60	3	3.76 14 16 18
	5.00			60	4	2.26 8 10 13
	6.25			60	5	0.76 5 8 11
	7.50			70	6	-0.74 5 7 8
-1.24	8.75			75	7	-2.24 7 13 20
-1.74	10.00		Fine to Medium Tan SAND (SP-SM)			
	11.25		Fine to Medium Tan SAND, Some Shell Fragments (SP-SM)	50	8	-3.74 8 13 22
-5.24	12.50			30	9	-5.24 22 17 10
	13.75		Fine Gray Sand, Some Shell Fragments (SP-SM)	60	10	-6.74 20 21 20
-7.24	15.00			60	11	-8.24 8 18 22
	16.25		Fine Gray SAND (SP-SM)	60	12	-9.74 14 18 18
	17.50			70	13	-11.24 5 8 16
	18.75			70	14	-12.74 12 15 15
-12.74	20.00					
			CORE BORINGS CONTINUED ON PAGE 2.			

ENG FORM 1836

PROJECT: CANAVERAL HARBOR PROJECT BREVARD COUNTY | HOLE NO. CB-CH91-12A

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE: 8.26

Hole No.: CB-CH91-12A

1. PROJECT: CANAVERAL HARBOR PROJECT

INSTALLATION: JACKSONVILLE DISTRICT

SHEET 2 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE No. f	REMARKS (Drilling time, Water Loss, Depth of Weathering, Etc., If Significant) g
			CONTINUED FROM PAGE 1			WOH = WEIGHT OF HAMMER
	21.25					BLOWS/6 INC. 10
				60	15	12
	22.50					-14.24 14
				80	16	11
	23.75					11
						-15.74 11
	25.00			70	17	7
						8
						-17.24 9
	26.25			70	18	9
						11
						-18.74 13
	27.50			70	19	10
						9
						-20.24 10
	28.75			80	20	12
						12
	30.00					-21.74 15
				70	21	12
	31.25					16
						-23.24 20
	32.50			60	22	11
						12
						-24.74 14
	33.75			60	23	9
						11
						-26.24 11
	35.00			60	24	10
						12
	36.25					-27.74 15
				70	25	9
						16
	37.50					-29.24 12
				70	26	13
	38.75					13
						-30.74 15
	40.00			60	27	13
						15
						-32.24 14
	41.25			60	28	25
-33.74						17
						-33.74 18
-34.24	42.50		SHELL Fragments			
			Gray Sandy CLAY (CL)	60	29	10
						6
-35.24						-35.24 4
	43.75		Gray CLAY (CH)	60	30	2
						3
	45.00					-36.74 2
				70	31	WOH
						WOH
-38.24	46.25					-38.24 WOH
			CORE BORINGS CONTINUED ON PAGE 3			

DRILLING LOG (Cont. Sheet) | ELEVATION TOP OF HOLE: 8.26 | Hole No.: CB-CH91-12A

1. PROJECT: CANAVERAL HARBOR PROJECT | INSTALLATION: JACKSONVILLE DISTRICT | SHEET 3 OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE # f	REMARKS (Drilling time, Water Loss, Depth of Weathering, Etc., If Significant) g	BLOWS/6 FOOT
			CONTINUED FROM PAGE 2			WOR = WEGHT OF ROD WOH = WEIGHT OF HAMMER	
	46.75		Gray SILT, Trace Wood (MH)				
	48.00			60	32	-39.74	2 2 2
	49.25			60	33	-41.24	4 4 6
	50.50			65	34	-42.74	WOR WOH 2
	51.75			80	35	-44.24 MC = 73.34% LL = 66.2% PL = 42.3% PI = 23.9%	2 2 2
	53.00			20	36	-45.74	WOH WOH WOH
	54.25			60	37	-47.24	2 1 3
	55.50			80	38	-48.74	2 3 3
	56.75			90	39	-50.24	3 4 3
	58.00			30	40	-51.74	2 2 2
	59.25			30	41	-53.24	3 1 2
-53.24	60.50						
	61.75		Fine Gray Silty SAND, Trace Shell (SM)	70	42	-54.74	4 6 8
	63.00			60	43	-56.24 MC = 36.41% NONPLASTIC	9 13 13
	64.25			60	44	-57.74	13 16 16
-57.74	65.50						

NOTE: 140 LB. HAMMER WITH 30" DROP USED ON 2.0 FT. SPLIT-SPOON (1 3/8"ID X 2" OD)

AN OBSTRUCTION WAS ENCOUNTERED AT A DEPTH OF -13.5 FEET FROM SURFACE AND THE TEST BORING WAS RELOCATED APPROXIMATELY 50 FEET SOUTH OF THE ORIGINAL TEST BORING. THE NEW COORDINATES ARE:

N: 1481277.09
E: 630618.61

SOILS ARE VISUALLY CLASSIFIED IN THE FIELD IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM

LABORATORY RESULTS

SAMPLE NO.	U.S.C.S.
S-16	(SP-SM)
S-35	(MH)
S-43	(SM)

DRILLING LOG

DIVISION: South Atlantic

INSTALLATION: Jacksonville District

SHEET 1 OF 2

1. PROJECT: Canaveral Harbor Deepening	10. SIZE AND TYPE OF BIT: See Remarks
2. LOCATION (Coordinates or Station): X=630,197, Y=1,481,941	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW (FEET)
3. DRILLING AGENCY: Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL: Failing 1500
4. HOLE NO. (As shown on drawing title and file number): CB-CH92-1	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 0 undisturbed: 0
5. NAME OF DRILLER: L. C. Gregory	14. TOTAL NUMBER OF CORE BOXES: 1
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER: TIDAL
7. THICKNESS OF BURDEN: ft.	16. DATE HOLE STARTED: 2/28/92 COMPLETED: 2/28/92
8. DEPTH DRILLED INTO ROCK: 0 ft.	17. ELEVATION TOP OF HOLE: -11.0
9. TOTAL DEPTH OF HOLE: 33 ft.	18. TOTAL CORE RECOVERY FOR BORING: 63
	19. SIGNATURE OF GEOLOGIST: J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-11	0					-11.0	
			SAND, fine to medium quartz, clean, shelly (sand size), Lt. Gray (SP)	60	1	SPLIT SPOON	4, 4, 3
-13.0	2.0		Bed silty, shelly sand (SM), from -13.0 to -14.0	60	2	-12.5 "	5, 1, 2
-14.0	3.0		SAND, (SP), trace silt little shell, gray, from -14.0 to -16.5		3	-14.0	
				60	4	"	4, 4, 8
-16.5	5.5			46	5	-15.5 "	5, 5, 2
-18.0	7.0		SAND, fine to medium quartz, little silt, little shell, gray (SM)	33	6	-17.0 "	2, 1, 12
			SAND, fine quartz, trace silt, trace shell, gray (SP)	73	7	-18.5 "	6, 5, 8
-21.5	10.5			88	8	-20.0 "	9, 7, 9
			SAND, fine quartz, little silt, gray, trace shell, damp (SM)	88	9	-21.5 "	6, 8, 6
-24.5	13.5			73	10	-23.0 "	6, 6, 7
			SAND, fine to medium quartz, trace silt, trace shell, gray, (SP)	80	11	-24.5 "	9, 8, 8
-26.0	15.0					-26.0	
			SAND, fine quartz, little to some silt, gray, trace shell (SM)	88	12	"	7, 11, 11
			Some shell, little silt, gray, (SM) From - 29.5 to -30.5	88	13	-27.5 "	11, 10, 6
						-29.0	

(continued)

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PROJECT: Canaveral Harbor Deepening

HOLE NUMBER: CB-CH92-1

Hole No.CB-CH92-1

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE: -11.0 ft.

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-29	18					-29.0	
			Trace shell from -30.5 to -31.7	93	14	" -30.5	2, 9, 8
-31.7	20.7			100	15, 16	" -32.0	11, 2, 1
			CLAY, plastic, gray, damp, trace shell (CH)	100	17	" -33.5	Settled
				100	18	" -35.0	Settled, 2, 3
				100	19	" -36.5	Settled, 2
				100	20	" -38.0	Settled, 2, 4
-39.5	28.5		Shelly from -39.5 to -40.5	100	21	" -39.5	Settled, 3
-40.5	29.5		Trace shell, dark gray, fat, isolated seams organic material (CH) from -40.5 to -42.5	100	22	" -41.0	Settled, 2
-42.5	31.5			100	23	" -42.5	Settled, 2, 3
-43.0	32.0		Shell bed, little silt, from -42.5 to -43.0	100	24, 25	" -44.0	2, 4, 5
-44.0	33.0		Fat clay (CH) from -43.0 to -44.0				

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-11.0/-12.5	(SP)*
-14.0/-15.5	(SP)*
-18.5/-20.5	(SP-SM)*
-24.5/-20.5	(SP-SM)*
-32.0/-33.5	(MH)*

NOTE:
*Visual classification based on Gradation Curve. No Atterbert Limits.

140# HAMMER WITH 30" DROP USED ON 2.0' SPLIT SPOON (1 3/8" I.D. X 2" O.D.)

DRILLING LOG

DIVISION: South Atlantic

INSTALLATION: Jacksonville District

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1. PROJECT: Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station): X=630,941, Y=1,481,423
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-CH92-1A
5. NAME OF DRILLER: L. C. Gregory
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN: ft.
8. DEPTH DRILLED INTO ROCK: 0 ft.
9. TOTAL DEPTH OF HOLE: 30 ft.
10. SIZE AND TYPE OF BIT: See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL: Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES: 1
15. ELEVATION GROUND WATER: TIDAL
16. DATE HOLE: STARTED 2/6/92 COMPLETED 2/6/92
17. ELEVATION TOP OF HOLE: -15.0
18. TOTAL CORE RECOVERY FOR BORING: 86
19. SIGNATURE OF GEOLOGIST: J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-15	0					-15.0	
			SAND, fine to medium quartz, clean, trace shell, light Gray (SP)	100	1	SPLIT SPOON -16.5	3 2 3
				86	2	" -18.0	4 3 4
				66	3	" -19.5	4 3 5
-21.0	6.0			88	4	" -21.0	4 5 7
			SAND, fine to medium quartz, little silt, little shell, gray (SM)	73	5	" -22.5	6 6 7
				88	6	" -24.0	7 7 8
-25.5	10.5			100	7	" -25.5	5 7 9
			SAND, fine to medium quartz, clean, gray, trace shell, gray (SP) Fine quartz from -27.5 to -29.5	66	8	" -27.0	8 8 11
				66	9	" -28.5	8 22 35
-29.5	14.5			73	10	" -30.0	18 32 13
			SAND, fine quartz, some silt, trace clay, shelly, gray (SM)	80	11	" -31.5	4 8 6
-31.1	16.1						
			CLAY, plastic, gray, trace sand and shell, damp (CH)	100	12	" -33.0	2 2 1
				(continued)			

Hole No.CB-CH92-1A

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE -15.0 ft.

SHEET 2 OF 2

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/ .5'
-33	18					-33.0	
-34.5	19.5			100	13	" -34.5	1 1 3
-37.5	22.5		SILT, plastic, little clay, trace sand, trace shell, gray (MH)	88	14	" -36.0	1 1 1
				66	15	" -37.5	1 1 2
			CLAY, plastic, little silt, trace shell, damp (CH) Isolated seams, organic material from -40.5 to -45.0.	100	16	" -39.0	1 1 2
				100	17	" -40.5	2 1 2
				100	18	" -42.0	1 1 2
				100	19	" -43.5	1 1 2
-45.0	30.0			100	20	" -45.0	1 2 2

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-15.0/-16.5	(SP)*
-21.0/-22.5	(SP-SM)*
-24.0/-25.2	(SM)*
-31.5/-33.0	(CH)*
-34.4/-36.5	(MH)*
-37.5/-39.0	(CH)*

NOTE:
*Visual classification based on Gradation Curve. No Atterbert Limits.

140# HAMMER WITH 30" DROP USED ON 2.0' SPLIT SPOON (1 3/8" I.D. X 2" O.D.)

18 20 22 24 26 28 30 32 34 36 38 40

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PROJECT: Canaveral Harbor Deepening

HOLE NUMBER: CB-CH92-1A

Hole No.CB-CH92-2

DRILLING LOG

DIVISION: South Atlantic

INSTALLATION: Jacksonville District

SHEET 1 OF 1

1. PROJECT: Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station): X=629,590, Y=1,481,857
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-CH92-2
5. NAME OF DRILLER: L. Wooters
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN: ft.
8. DEPTH DRILLED INTO ROCK: 0 ft.
9. TOTAL DEPTH OF HOLE: 11 ft.
10. SIZE AND TYPE OF BIT: See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL: Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES: 1
15. ELEVATION GROUND WATER: TIDAL
16. DATE HOLE: STARTED 1/27/92 COMPLETED 1/27/92
17. ELEVATION TOP OF HOLE: -34.0
18. TOTAL CORE RECOVERY FOR BORING: 45%
19. SIGNATURE OF GEOLOGIST: J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-34	0					-34.0	
-40.0	6.0		CLAY, plastic, dark gray, isolated seams fine sand (CH)	50	1	2" SAMPLER	Settled
-45.0	11.0		SAND, fine to medium, quartz, little silt, some shell, gray (SM)	40	2	-40.0	5, 13, 12, 18, 9
			NOTE: Soils are field visually classified in accordance with the Unified Soils Classification System.			-45.0 300# HAMMER WITH 18" DROP USED ON 2.0" SAMPLER	

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-34.0/-40.0	(MH)*
-40.0/-45.0	(SP-SM)*

NOTE:
* Visual classification based on Gradation Curve. No Atterbert Limits

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PROJECT: Canaveral Harbor Deepening

HOLE NUMBER: CB-CH92-2

Hole No.CB-CH92-3

DRILLING LOG

DIVISION South Atlantic

INSTALLATION Jacksonville District

SHEET 1 OF 2

1. PROJECT Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station) X=629,194, Y=1,481,972
3. DRILLING AGENCY Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number) CB-CH92-3
5. NAME OF DRILLER L. C. Gregory
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN ft.
8. DEPTH DRILLED INTO ROCK 0 ft.
9. TOTAL DEPTH OF HOLE 31.5 ft.
10. SIZE AND TYPE OF BIT See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES 1
15. ELEVATION GROUND WATER TIDAL
16. DATE HOLE STARTED 3/13/92 COMPLETED 3/13/92
17. ELEVATION TOP OF HOLE -13.2
18. TOTAL CORE RECOVERY FOR BORING 77%
19. SIGNATURE OF GEOLOGIST J. GENTILE

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ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/5"
-13.2	0.0					-13.2	
			SAND, fine to medium, quartz, shelly, gray, clean (SP)	54	1	SPLIT SPOON	1 3 6
			Trace silt, little shell from -14.7' to -17.7'			-14.7	
				54	2	"	7 5 5
						-16.2	
				54	3	"	4 7 12
						-17.7	
			Clean some shell from -17.7' to -22.2'	40	4	"	3 4 3
						-19.2	
				60	5	"	2 1 2
						-20.7	
				54	6	"	2 1 1
						-22.2	
			Trace silt, some shell from -22.2' to -23.7', shelly, clean, tan, from -23.7' to -25.7'	80	7	"	1 2 2
						-23.7	
				88	8	"	1 1 1
						-25.2	
-26.2	13.0			73	9	"	3 2 6
						-26.7	
			SAND, fine to medium, quartz, gray, little silt, trace clay, trace shell (SM)	80	10	"	10 5 10
						-28.2	
			Little shell, from -28.2' to -29.7', little silt, trace shell from -29.7' to -32.2'	66	11		8 8 9
						-29.7	
				88	12	"	12 6 6
						-31.2	
			Shelly, some silt, wet from -32.2' to -33.0'	88	13	"	6 5 3
						-32.7	
				88	14	"	7 5 4
						-34.2	
			Little shell, some silt from -33.0' to -35.7'	88	15	"	6 4 5
						-35.7	
				(continued)			

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT Canaveral Harbor Deepening

HOLE NUMBER CB-CH92-3

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE -13.2 ft.

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/ .5'
-31.2	18					-31.2	
			Shelly, some silt, wet from -32.2' to -33.0'	88	13	" -32.7	6 5 3
			Little shell, some silt from -33.0' to -35.7'	88	14	" -34.2	7 5 4
				88	15	" -35.7	6 4 5
			Silty, gray, trace shell, fine quartz, from -35.7' to -37.2'	100	16	" -37.2	8 4 2
-37.2	24.0		CLAY, plastic, trace shell, damp (CH)	100	17	" -38.7	Settled ↓
				88	18	" -40.2	1 2 2
				100	19	" -41.7	Settled 1 1
			Slightly organic stain from -41.7' to -44.7'	100	20	" -43.2	Settled ↓ 3
-44.7	31.5			100	21	" -44.7	Settled 2 3

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-14.7/-16.2	(SP)*
-22.2/-23.7	(SP)*
-26.7/-28.2	(SM)*
-37.2/-38.7	(CH)*

NOTE:
* Visual classification based on Gradation Curve. No Atterbert Limits

140# HAMMER WITH 30" DROP USED ON 2.0' SPLIT SPOON (1 3/8" I.D. X 2" O.D.)

Hole No.CB-CH92-4

DRILLING LOG

DIVISION: South Atlantic

INSTALLATION: Jacksonville District

SHEET 1 OF 1

1. PROJECT: Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station): X=629,101, Y=1,481,562
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-CH92-4
5. NAME OF DRILLER: L. Wooters
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN: ft.
8. DEPTH DRILLED INTO ROCK: 0 ft.
9. TOTAL DEPTH OF HOLE: 5 ft.
10. SIZE AND TYPE OF BIT: See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW (FEET)
12. MANUFACTURER'R DESGNATION OF DRILL: Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES: 1
15. ELEVATION GROUND WATER: TIDAL
16. DATE HOLE STARTED: 1/27/92 COMPLETED: 1/27/92
17. ELEVATION TOP OF HOLE: -43.4
18. TOTAL CORE RECOVERY FOR BORING: 84%
19. SIGNATURE OF GEOLOGIST: J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-43.4	0					-43.4	
			CLAY, plastic, gray, (CH) Little sand, with seams fine sand, from -43.4' to -44.9'				Settled
-44.9	1.5						
			Undisturbed, fat from -44.9' to -48.4'	84	1	2" SAMPLER	3
-48.4	5.0					-48.4	2
			NOTE: Soils are field visually classified accordance with the Unified Soils Classification System.			300# HAMMER WITH 18" DROP USED ON 2.0" SAMPLER.	

0 2 4 6 8 10 12 14 16 18

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PROJECT: Canaveral Harbor Deepening

HOLE NUMBER: CB-CH92-4

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 1
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=628,618, Y=1,481,596
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-5
5. NAME OF DRILLER	L. Wooters
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	5 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE STARTED / COMPLETED	1/27/92 1/27/92
17. ELEVATION TOP OF HOLE	-42.4
18. TOTAL CORE RECOVERY FOR BORING	92%
19. SIGNATURE OF GEOLOGIST	J. GENTILE

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ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-42.4	0					-42.4	
-43.9	1.5		CLAY, plastic, gray, trace shell (CH) Wet from -42.0' to -43.9'				Settled
-47.4	5.0			92	1	2" SAMPLER -47.4	
			NOTE: Soils are field visually classified in accordance with the Unified Soils Classification.			300# HAMMER WITH 18" DROP USED on 2.0" SAMPLER	

0 2 4 6 8 10 12 14 16 18

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PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-5

DRILLING LOG

DIVISION South Atlantic

INSTALLATION Jacksonville District

1. PROJECT: Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station): X=628,384, Y=1,481,804
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-CH92-6
5. NAME OF DRILLER: L. C. Gregory
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN: ft.
8. DEPTH DRILLED INTO ROCK: 0 ft.
9. TOTAL DEPTH OF HOLE: 21 ft.
10. SIZE AND TYPE OF BIT: See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL: Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES: 1
15. ELEVATION GROUND WATER: TIDAL
16. DATE HOLE STARTED: 2/27/92 COMPLETED: 2/27/92
17. ELEVATION TOP OF HOLE: -22.5
18. TOTAL CORE RECOVERY FOR BORING: 78
19. SIGNATURE OF GEOLOGIST: J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-22.5	0					-22.5	
			SAND, fine to medium quartz, shelly, gray, trace silt (SP)	66	1	SPLIT SPOON -24.0	2, 4, 5
			Little shell, from -24.0 to -25.5	47	2	" -25.5	10, 11, 10
			Shelly, light gray, clean from -25.5 to -28.9	33	3	" -27.0	5, 4, 5
				47	4	" -28.5	6, 6, 3
-28.9	6.4						
			SAND, fine to medium quartz, little silt, shelly, gray, wet (SM)	60	5	" -30.0	2, 1, 2
-30.5	8.0						
			SILT, plastic, trace shell, gray, little sand, (MH)	54	6	" -31.5	1, 1, 1
-31.5	9.0						
			CLAY, plastic, gray, trace shell, trace silt, damp (CH) some seams of silt and fine sand	80	7	" -33.0	Settled ↓ 2
				100	8	" -34.5	Settled ↓ 3
				100	9	" -36.0	Settled ↓ 2
				100	10	" -37.5	Settled ↓ 3
				100	11	" -39.0	Settled ↓ 4
				100	12	" -40.5	Settled ↓ 3

(continued)

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE: -22.5 ft.

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-40.5	18					-40.5	
				100	13	"	Settled ↓ 3
						-42.0	
				100	14	"	Settled 2 2
-43.5	21.0					-43.5	

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-22.5/-24.0	(SP)*
-31.5/-33.0	(CH)*

NOTE:
* Visual classification based on Gradation Curve. No Atterbert Limits.

140# HAMMER WITH 30" DROP USED ON 2.0' SPLIT SPOON (1 3/8" I.D. X 2" O.D.)

18 20 22 24 26 28 30 32 34 36 38 40

Hole No.CB-CH92-7

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District — SHEET 1 OF 1
1. PROJECT Canaveral Harbor Deepening	10. SIZE AND TYPE OF BIT See Remarks
2. LOCATION (Coordinates or Station) X=828,133, Y=1,481,577	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW (FEET)
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'R DESGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH92-7	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 0 undisturbed: 0
5. NAME OF DRILLER L. C. Gregory	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER TIDAL
7. THICKNESS OF BURDEN ft.	16. DATE HOLE STARTED 1/25/92 COMPLETED 1/25/92
8. DEPTH DRILLED INTO ROCK 0 ft.	17. ELEVATION TOP OF HOLE -42.6
9. TOTAL DEPTH OF HOLE 5 ft.	18. TOTAL CORE RECOVERY FOR BORING 100
	19. SIGNATURE OF GEOLOGIST J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-42.6	0					-42.6	
			CLAY, plastic, gray, trace shell, trace organic material, undisturbed, damp (CH)	100	1	2" SAMPLER	Settled 2
-47.6	5.0					-47.6	
			NOTE: Soils are field visually classified in accordance with the Unified Soils Classification System.			300# HAMMER WITH 18" DROP USED ON 2.0' SAMPLER	

0 2 4 6 8 10 12 14 16 18

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PROJECT Canaveral Harbor Deepening | HOLE NUMBER CB-CH92-7

Hole No.CB-CH92-8

DRILLING LOG

DIVISION: South Atlantic

INSTALLATION: Jacksonville District

SHEET 1 OF 1

1. PROJECT: Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station): X=627,306, Y=1,481,567
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-CH92-8
5. NAME OF DRILLER: L. C. Gregory
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN: ft.
8. DEPTH DRILLED INTO ROCK: 0 ft.
9. TOTAL DEPTH OF HOLE: 10 ft.
10. SIZE AND TYPE OF BIT: See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW (FEET)
12. MANUFACTURER'R DESGNATION OF DRILL: Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES: 1
15. ELEVATION GROUND WATER: TIDAL
16. DATE HOLE: STARTED 2/25/92 COMPLETED 2/25/92
17. ELEVATION TOP OF HOLE: -36.7
18. TOTAL CORE RECOVERY FOR BORING: 75
19. SIGNATURE OF GEOLOGIST: J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1"
-36.7	0					-36.7	
-40.7	4.0		CLAY, plastic,wet, gray, trace shell, disturbed to 40.7	50	1	2" SAMPLER -41.7	Settled
-46.7	10.0		Undisturbed below -40.7	100	2	-46.7	Settled 2
			NOTE: Soils are field visually classified in accordance with the Unified Soils Classification System. SAMPLE ELEVATION / LABORATORY CLASSIFICATION -36.7/-41.7 (MH)* -41.7/-46.2 (CH)* NOTE: * Visual classification based on Gradation Curve. No Atterbert Limits.			300# HAMMER WITH 18" DROP USED IN 2.0" SAMPLER.	

0 2 4 6 8 10 12 14 16 18

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PROJECT: Canaveral Harbor Deepening

HOLE NUMBER: CB-CH92-8

Hole No. CB-CH92-9

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=627,503, Y=1,481,983
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-9
5. NAME OF DRILLER	L. C. Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	30 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE STARTED / COMPLETED	3/3/92 3/3/92
17. ELEVATION TOP OF HOLE	-15.0
18. TOTAL CORE RECOVERY FOR BORING	81
19. SIGNATURE OF GEOLOGIST	J. GENTILE

(330)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-15	0					-15.0	
			SAND, fine to medium quartz, trace silt, shelly (Sand Size), Lt. Gray (SP) Tan	93	1	SPLIT SPOON	Settled, 1, 1
						-16.5	
				40	2	"	4, 4, 3
			Clean, Shelly, from -18.0 to -21.0			-18.0	
				46	3	"	5, 6, 8
						-19.5	
				54	4	"	10, 12, 12
-21.0	6.0					-21.0	
			SAND, fine to medium quartz, trace shell, clean, Lt. gray (SP)	54	5	"	12, 17, 21
						-22.5	
				80	6	"	15, 22, 25
						-24.0	
-24.5	9.5			66	7	"	6, 3, 6
-25.2	10.2		BED, (CH) Clay, from -24.5 to -25.2		8		
						-25.5	
			SAND, fine quartz, silty, trace clay, gray (SM) Trace shell	40	9	"	3, 3, 4
						-27.0	
				93	10	"	4, 4, 3
						-28.5	
				73	11	"	4, 2, 3
-30.0	15.0					-30.0	
			SILT, little sand, gray, trace shell, trace clay, damp (ML)	100	12	"	1, 1, 2
-31.2	16.2					-31.5	
			CLAY, plastic, trace shell, trace silt, damp, gray to light gray (CH)	100	13	"	1, 2, 2
						-33.0	
				(continued)			

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PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-9

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE: -15.0 ft.

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-33	18					-33.0	
				100	14	" -34.5	Settled ↓ 2
				100	15	" -36.0	Settled ↓ 3
				100	16	" -37.5	Settled 1 4
				100	17	" -39.0	Settled 1 2
				100	18	" -40.5	Settled 1 3
				100	19	" -42.0	Settled 2 2
				100	20	" -43.5	Settled 2 3
				100	21	" -45.0	Settled 2 3
-45.0	30.0						

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-15.0/-16.5	(SP)*
-22.5/-24.0	(SP)*
-27.0/-28.5	(SM)*
-30.0/-31.2	(ML)*
-36.0/-37.5	(CH)*

NOTE:
* Visual classification based on Gradation Curve. No Atterbert Limits.

140# HAMMER WITH 30" DROP USED IN 2.0' SPLIT SPOON (1 3/8" I.D. X 2" O.D.)

Hole No.CB-CH92-10

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor Deepening	10. SIZE AND TYPE OF BIT See Remarks
2. LOCATION (Coordinates or Station) X=626,894, Y=1,482,157	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW (FEET)
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH92-10	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 0 undisturbed: 0
5. NAME OF DRILLER L. C. Gregory	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE STARTED 2/7/92 COMPLETED 2/7/92
7. THICKNESS OF BURDEN ft.	17. ELEVATION TOP OF HOLE -35.8
8. DEPTH DRILLED INTO ROCK 0 ft.	18. TOTAL CORE RECOVERY FOR BORING 70
9. TOTAL DEPTH OF HOLE 10 ft.	19. SIGNATURE OF GEOLOGIST J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-35.8	0					-35.8	
			CLAY, plastic,wet, disturbed, gray (CH)	60	1	2" SAMPLER	Settled
-39.3	3.5				2		
-39.8	4.0		BED SILT with Sand Seams from -39.3 to -39.8				
			Undisturbed damp plastic clay (CH) from -39.8 to -45.8		3	-40.8	
				80	4		Settled
-45.8	10.0					-45.8	
			NOTE: Soils are field visually classified in accordance with the Unified Soils Classification System.			300# HAMMER WITH 18" DROP USED IN 2.0" SAMPLER	
			SAMPLE ELEVATION / LABORATORY CLASSIFICATION				
			-35.8/-39.3 (MH)*				
			NOTE: * Visual classification based on Gradation Curve. No Atterbert Limits.				

0 2 4 6 8 10 12 14 16 18

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PROJECT Canaveral Harbor Deepening

HOLE NUMBER CB-CH92-10

Hole No.CB-CH92-11

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 1
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=826,491, Y=1,481,969
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-11
5. NAME OF DRILLER	L. Wooters
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	5 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'R DESGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE STARTED / COMPLETED	1/24/92 1/24/92
17. ELEVATION TOP OF HOLE	-39.9
18. TOTAL CORE RECOVERY FOR BORING	100%
19. SIGNATURE OF GEOLOGIST	J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-39.9	0					-39.9	
			CLAY, plastic, damp, gray, (CH)	100	1	2" SAMPLER	Settled 4
-44.9	5.0					-44.9	
			NOTE: Soils are field visually classified in accordance with the Unified Soils Classification System.			300# HAMMER WITH 18" DROP USED IN 2.0" SAMPLER	

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PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-11

Hole No.CB-CH92-12

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 1
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=625,729, Y=1,481,517
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-12
5. NAME OF DRILLER	L. C. Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	10 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE	STARTED 2/25/92 COMPLETED 2/25/92
17. ELEVATION TOP OF HOLE	-37.7
18. TOTAL CORE RECOVERY FOR BORING	55
19. SIGNATURE OF GEOLOGIST	J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-37.7	0					-37.7	
			CLAY, plastic,wet, disturbed, gray (CH)	30	1	2" SAMPLER -42.7	Settled
-44.7	7.0			80	2		Settled
			Undisturbed, dark gray from -44.7 to -46.2				
-46.2	8.5				3		2 7
			SAND, fine quartz, little to some clay, trace silt, dark gray - green (SC)				
-47.7	10.0					-47.7	
			NOTE: Soils are field visually classified in accordance with Unified Soils Classification System.			300# HAMMER WITH 30" DROP USED IN 2.0" SAMPLER	

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-37.7/-42.7	(MH)*

NOTE:
* Visual classification based on Gradation Curve. No Atterbert Limits.

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PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-12

Hole No.CB-CH92-16

DRILLING LOG

DIVISION: South Atlantic

INSTALLATION: Jacksonville District

SHEET 1 OF 2

1. PROJECT: Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station): X=624,566, Y=1,481,393
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-CH92-16
5. NAME OF DRILLER: L. C. Gregory
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN: ft.
8. DEPTH DRILLED INTO ROCK: 0 ft.
9. TOTAL DEPTH OF HOLE: 31.5 ft.
10. SIZE AND TYPE OF BIT: See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL: Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES: 1
15. ELEVATION GROUND WATER: TIDAL
16. DATE HOLE STARTED: 3/12/92 COMPLETED: 3/12/92
17. ELEVATION TOP OF HOLE: -13.5
18. TOTAL CORE RECOVERY FOR BORING: 90
19. SIGNATURE OF GEOLOGIST: J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-13.5	0					-13.5	
			SAND, fine to medium, quartz, little silt, some shell gray (SM)	88	1	SPLIT SPOON -15.0	Settled, 1
-16.0	2.5			100	2, 3	" -16.5	1, 2, 1
-16.5	3.0		BED SILT (ML) from -16.0 to -16.5				
			Shelly from -17.5 to -19.0	88	4	" -18.0	Settled, 8
-19.0	5.5			33	5	" -19.5	5, 8, 2
-19.5	6.0		Bed silt (ML) from -19.0 to -19.5				
			CLAY, plastic, gray, trace sand, damp (CH)	100	6	" -21.0	Settled, 1, 1
-21.5	8.0			73	7, 8	" -22.5	Settled, 2, 2
-22.5	9.0		Bed silty sand (SM), from -21.5 to -27.5				
			CLAY, slightly plastic, little silt, gray, trace sand (CL)	88	9	" -24.0	Settled
-24.3	10.8			100	10	" -25.5	Settled
			CLAY, plastic, gray, damp, trace shell (CH)	100	11	" -27.0	Settled
				73	12	" -28.5	Settled
				93	13	" -30.0	Settled, 1
				100	14	" -31.5	Settled, 2, 2

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PROJECT: Canaveral Harbor Deepening

HOLE NUMBER: CB-CH92-16

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE: -13.5 ft.

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-31.5	18					-31.5	
				100	15	" -33.0	Settled 2 3
				100	16	" -34.5	Settled 1 1
				100	17	" -36.0	Settled ↓ 3
				80	18	" -37.5	1 2 2
				100	19	" -39.0	Settled 1 2
			Isolated seams, organic material from -40.5' to -45.0'	100	20	" -40.5	Settled ↓ 2
				100	21	" -42.0	Settled ↓ 1
				80	22	" -43.5	Settled ↓
-43.7	30.2		SAND, fine quartz, silty limy, isolated lenses; medium hard sandstone, tan-gray, some shell (SM)	88	23	" -45.0	4 6 11
-45.0	31.5						

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-13.5/-15.0	(SM)*
-16.5/-18.0	(SM)*
-19.5/-21.0	(CH)*
-37.5/-39.0	(CH)*

NOTE:
* Visual classification based on Gradation Curve. No Atterbert Limits.

140# HAMMER WITH 30" DROP USED ON 2.0' SPLIT SPOON (1 3/8" I.D. X 2" O.D.)

Hole No.CB-CH92-17

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 1
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=824,576, Y=1,481,729
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-17
5. NAME OF DRILLER	L. C. Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	9 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE STARTED / COMPLETED	2/28/92 2/28/92
17. ELEVATION TOP OF HOLE	-35.7
18. TOTAL CORE RECOVERY FOR BORING	71
19. SIGNATURE OF GEOLOGIST	J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/5"
-35.7	0					-35.7	
			CLAY, plastic, very wet, soupy, dark gray, trace sand, little silt (CH) Damp to wet, isolated seams silty sand from -38.7 to -40.2 gray, damp from -40.2 to -43.8	44	1	SPLIT SPOON -40.2	Settled
				100	2	" -41.7	Settled
				110	3	" -43.2	Settled
-43.8	7.8			93	4	"	Settled
			SAND, fine quartz, clayey, slight organic stain, dark brown (SC)		5	-44.7	1 2
-44.7	9.0						

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-35.7/-40.2	(MH)*

NOTES:
* Visual classification based on Gradation Curve. No Atterbert Limits.

140# HAMMER WITH 30" DROP USED IN 2.0' SPLIT SPOON (1 3/8" I.D. X 2" O.D.)

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PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-17

Hole No.CB-CH92-18

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=824,043, Y=1,481,451
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-18
5. NAME OF DRILLER	L. C. Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	30 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE	STARTED 3/2/92 COMPLETED 3/2/92
17. ELEVATION TOP OF HOLE	-14.7
18. TOTAL CORE RECOVERY FOR BORING	88
19. SIGNATURE OF GEOLOGIST	J. GENTILE

(339)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-14.7	0					-14.7	
			SAND, fine to medium quartz, little to some silt, gray, wet, trace shell (SM)	84	1	2" SAMPLER	Settled, 5, 3, 2, 2
-19.7	5.0					-19.7	
			CLAY, plastic, damp, little sand, trace shell, gray (CH)	100	2	"	Settled, 1, 3, 2
-22.8	8.1						
-23.3	8.6		Bed Silty Sand (SM) from -22.8 to -23.3				
			Trace sand and silt, trace organic material, damp from -24.7 to -43.7			-24.7	
				100	3	"	Settled
						-29.7	
				88	4	"	Settled

0 2 4 6 8 10 12 14 16 18

(continued)

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PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-18

Hole No.CB-CH92-18

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE -14.7 ft.

SHEET 2 OF 2

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-32.7	18						
				88	4	"	
						-34.7	
				74	5	"	Settled
							2
						-39.7	
				100	6	"	Settled
					7		4
-43.7	29.0						10
-44.7	30.0		SAND, fine quartz, clayey, some lenses medium hard, calcareous sandstone, trace shell, green/gray, damp (SC)			-44.7	

300# HAMMER WITH 18" DROP USED IN 2.0" SAMPLER

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-14.7/-19.7	(SM)*
-19.7/-24.7	(MH)*
-34.7/-39.7	(CH)*

NOTES:
* Visual classification based on Gradation Curve. No Atterbert Limits.

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=623,540, Y=1,481,452
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-19
5. NAME OF DRILLER	L. C. Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	35 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE STARTED / COMPLETED	3/2/92 3/2/92
17. ELEVATION TOP OF HOLE	-12.0
18. TOTAL CORE RECOVERY FOR BORING	83
19. SIGNATURE OF GEOLOGIST	J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-12	0					-12.0	
			SAND, fine to mediu, quartz, little silt, little shell, gray, wet (SM)	54	1	2" SAMPLER	7, 8, 12
-15.0	3.0						
			SAND, fine to medium, quartz, trace silt, light gray (SP)		2		22, 30
						-17.0	
					3		19, 30
-19.0	7.0						
			CLAY, plastic, sandy, gray, damp, trace shell, (CH)	50	4	"	18, 15, 15
						-22.0	
			Trace of sand -22.0' to -44.0'	100	5	"	Settled
						-27.0	
				100	6	"	Settled

(continued)

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PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-19

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE -12.0 ft.

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-30	18						
				100	6	"	3
						-32.0	
				100	7	"	Settled 2
						-37.0	
				100	8	"	Settled 2 4
						-42.0	
-44.0	32.0			80	9	"	Settled 2
-45.0	33.0		Slightly plastic clay (CL), with thin lenses moderately hard sandstone from -44.0' to -45.0'		10		6
-47.0	35.0		SAND, fine quartz, shelly, some clay, gray-green (SC)		11	"	13 15
						-47.0	

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-17.0/-19.0	(SM)*
-19.0/-22.0	(MH)*
-32.0/-37.0	(CH)*

NOTE:
* Visual classification based on Gradation Curve. No Atterbert Limits.

300# HAMMER WITH 18" DROP USED ON 2.0" SAMPLER

18 20 22 24 26 28 30 32 34 36 38 40

Hole No.CB-CH92-20

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 1
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=623,733, Y=1,481,779
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-20
5. NAME OF DRILLER	L. C. Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	7.5 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE	STARTED 2/28/92 COMPLETED 2/28/92
17. ELEVATION TOP OF HOLE	-37.4
18. TOTAL CORE RECOVERY FOR BORING	80
19. SIGNATURE OF GEOLOGIST	J. GENTILE

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ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-37.4	0					-37.4	
			CLAY, plastic, soupy, wet, little silt, dark gray (CH)	66	1, 2	SPLIT SPOON	Settled
						-40.4	
			Damp, trace shell, fat, gray from -38.9' to -44.4'	100	3	"	Settled
						-41.9	
				80	4	"	Settled
						-43.4	
				86	5, 6	"	Settled 2 8
-44.4	7.0						
-44.9	7.5		SAND, fine to medium quartz, little silt, some shell, many thin lenses, moderately hard calcareous sandstones (SM)			-44.9	

140# HAMMER WITH 30" DROP USED IN 2.0' SPLIT SPOON (1 3/8" I.D. X 2" O.D.)

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-37.4/-38.9	(MH)*

NOTE:
* Visual classification based on Gradation Curve. No Atterbert Limits.

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-20

Hole No.CB-CH92-21

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 2

1. PROJECT Canaveral Harbor Deepening	10. SIZE AND TYPE OF BIT See Remarks
2. LOCATION (Coordinates or Station) X=623,015, Y=1,481,456	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW (FEET)
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH92-21	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 0 undisturbed: 0
5. NAME OF DRILLER L. C. Gregory	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE STARTED 3/4/92 COMPLETED 3/4/92
7. THICKNESS OF BURDEN ft.	17. ELEVATION TOP OF HOLE -13.0
8. DEPTH DRILLED INTO ROCK 0 ft.	18. TOTAL CORE RECOVERY FOR BORING 78
9. TOTAL DEPTH OF HOLE 32 ft.	19. SIGNATURE OF GEOLOGIST J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-13	0					-13.0	
-14.0	1.0		SAND, fine to medium, quartz, little silt, shelly (SM)				8
			SAND, fine to medium, quartz, gray, shelly, trace silt (SP)	30	1	2" SAMPLER	8
							9
					2		24
						-18.0	46
-19.0	6.0			30	3		12
-19.7	6.7		Bed silty sand (SM) from -19.0' to -19.7'.				4
			CLAY, plastic, gray, damp, trace shell, trace sand (CH)		4	"	3
							4
						-23.0	3
				100	5	"	Settled
							2
						-28.0	
				100	6	"	Settled

(continued)

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE. MAR 71

PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-21

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE: -13.0 ft.

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-31	18						
				100	6	"	1, 3
						-33.0	
				100	7	"	Settled
						-38.0	4
			Isolated seams silty shell from -38.0' to -41.0'.	100	8	"	3, 2, 3
-41.0	28.0		Bed shelly sand with little silt from -41.0' to -41.5' (SM)				
-41.5	28.5		LIMESTONE, soft weathered seams calcareous silt, tan, lenses medium hard (LS)		9		18, 27
						-43.0	
-43.5	30.5		SAND, fine quartz, some silt, limy, some shell, light gray, damp (SM)	100	10	"	9, 18
-45.0	32.0					-45.0	

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-14.0/-18.0	(SP-SM)*
-23.0/-28.0	(MH)*

NOTE:
* Visual classification based on Gradation Curve. No Atterbert Limits.

300# HAMMER WITH 18" DROP USED IN 5.0' STANDARD SPLIT SPOON (2" ID X 2 1/2" OD)

Hole No.CB-CH92-22

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 2	
1. PROJECT Canaveral Harbor Deepening	10. SIZE AND TYPE OF BIT See Remarks
2. LOCATION (Coordinates or Station) X=622,506, Y=1,481,450	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW (FEET)
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH92-22	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 0 undisturbed: 0
5. NAME OF DRILLER M. Whitson	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER TIDAL
	16. DATE HOLE STARTED 3/4/92 COMPLETED 3/4/92
7. THICKNESS OF BURDEN ft.	17. ELEVATION TOP OF HOLE -14.5
8. DEPTH DRILLED INTO ROCK 0 ft.	18. TOTAL CORE RECOVERY FOR BORING 72
9. TOTAL DEPTH OF HOLE 30 ft.	19. SIGNATURE OF GEOLOGIST J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1"
-14.5	0					-14.5	
			SAND, fine to medium, quartz, little shell, gray, little silt (SM)	30	1	2" SAMPLER	5, 3, 4, 8, 5
-19.5	5.0		Fine quartz, silty, many seams, sandy silt, from -19.5' to -22.0'.	530	2	-19.5 "	Settled, 1, 2, 3, 3
-22.0	7.5		CLAY, plastic, damp, trace shell, gray, little silt, seams clay with some shell (CH)			-24.5	
			Very plastic, damp, trace shell form -26.0' to -36.3'	100	3	-29.5 "	Settled
				100	4	"	Settled

(continued)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT Canaveral Harbor Deepening

HOLE NUMBER CB-CH92-22

Hole No.CB-CH92-22

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE: -14.5 ft.

SHEET 2 OF 2

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-32.5	18						
				100	4	"	
						-34.5	
					5		Settled
-36.3	21.8						12
-36.9	22.4		Bed clayey sand with organic stain (SC) from -36.3' to -36.9'		6		
				100		"	7
-37.5	23.0		Limestone, moderately hard, fossilliferous		7		
			SAND, fine to medium, quartz, little silt, little shell, wet with lenses of moderately hard sandstone, shelly, light gray (SM)				38
					8		34
						-39.5	
							5
							14
-42.0	27.5		Some silt from -42.0' to -44.5'	50	9	"	14
							14
							8
-44.5	30.0					-44.5	

NOTE:
Soils are field visually classified in accordance with the Unified Soils Classification System.

300# HAMMER WITH 18" DROP USED IN 2.0" SAMPLER

18 20 22 24 26 28 30 32 34 36 38 40

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: Canaveral Harbor Deepening

HOLE NUMBER: CB-CH92-22

Hole No.CB-CH92-23

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1

1. PROJECT Canaveral Harbor Deepening	10. SIZE AND TYPE OF BIT See Remarks
2. LOCATION (Coordinates or Station) X=622,523, Y=1,481,580	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW (FEET)
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'R DESGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH92-23	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 0 undisturbed: 0
5. NAME OF DRILLER M. Whitson	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER TIDAL
7. THICKNESS OF BURDEN ft.	16. DATE HOLE STARTED 3/6/92 COMPLETED 3/6/92
8. DEPTH DRILLED INTO ROCK 0 ft.	17. ELEVATION TOP OF HOLE -34.4
9. TOTAL DEPTH OF HOLE 10 ft.	18. TOTAL CORE RECOVERY FOR BORING 45%
	19. SIGNATURE OF GEOLOGIST J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1"
-34.4	0					-34.4	
			CLAY, plastic, gray, damp (CH)		1		Settled
-36.9	2.5			60		2" SAMPLER	2
			SAND, fine to medium quartz, shelly, little to some silt, light gray (SM)		2		7
							7
-39.9	5.5					-39.4	
			Shell bed from -39.9' to -40.9'		3		10
-40.9	6.5						12
			silty, some shell, light gray from -40.0' to -44.4'	40			9
					42		4
-44.4	10.0					-44.4	2
			NOTE: Soils are field visually classified in accordance with the Unified Soils Classification System.			300# HAMMER WITH 18" DROP USED IN 2.0" SAMPLER	

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.
MAR 71

PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-23

Hole No.CB-CH92-24

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=621,995, Y=1,481,468
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-24
5. NAME OF DRILLER	L. C. Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	21 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE STARTED / COMPLETED	2/10/92 2/10/92
17. ELEVATION TOP OF HOLE	-21.0
18. TOTAL CORE RECOVERY FOR BORING	68%
19. SIGNATURE OF GEOLOGIST	J. GENTILE

(345)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/6"
-21	0					-21.0	
-21.2	0.2		Bed silty sand (SM), shelly from -21.0' to -21.2'				Settled
-22.0	1.0		CLAY, plastic, gray, little shell, damp (CH)				
			SAND, fine to medium, quartz, some silt, shelly, gray (SM)	40	1	SPLIT SPOON	3
							5
-24.5	3.5						3
			CLAY, plastic, damp, gray, undistrubed (CH)		2		Settled
						-26.0	
							Settled
				100	3	"	
						-31.0	
							Settled
					4		
-33.0	12.0						
			SAND, fine to medium, quartz, some silt, trace clay, dark brown (SM)	80		"	
					5		4
-35.0	14.0						
			SHELL, sand size fragments, trace silt, trace quartz, tan				28
						-36.0	
							52
-37.5	16.5				8		
			SAND, fine quartz, little to some shell, tan, little silt, dry (SM) Trace shell below -43.0'	42		"	41
					8		40

(continued)

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-24

Hole No.CB-CH92-24

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE -21.0 ft.

SHEET 2 OF 2

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/1'
-39	18						
				42	8	"	43
							52
						-41.0	
							2
							11
-43.0	22.0						
			SILT, damp, trace shell, trace sand, slightly plastic, gray (ML)	76		"	6
					9		2
							4
-46.0	25.0					-46.0	
			NOTE: Soils are field visually classified in accordance with the Unified Soils Classification System.			300# HAMMER WITH 18" DROP USED IN 2.0" SAMPLER	

18 20 22 24 26 28 30 32 34 36 38 40

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: Canaveral Harbor Deepening

HOLE NUMBER: CB-CH92-24

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2
1. PROJECT	Canaveral Harbor Deepening
2. LOCATION (Coordinates or Station)	X=671,334, Y=1,481,468
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH92-25
5. NAME OF DRILLER	L. C. Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	ft.
8. DEPTH DRILLED INTO ROCK	0 ft.
9. TOTAL DEPTH OF HOLE	31.5 ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW (FEET)
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 0 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	TIDAL
16. DATE HOLE	STARTED 3/10/92 COMPLETED 3/10/92
17. ELEVATION TOP OF HOLE	-14.3
18. TOTAL CORE RECOVERY FOR BORING	84%
19. SIGNATURE OF GEOLOGIST	J. GENTILE

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-14.3	0					-14.3	
			SAND, fine to medium, quartz, shelly, trace silt, gray (SP)	60	1	SPLIT SPOON	2, 4, 8
			Little shell from -15.3' to -17.3'			-15.8	
				66	2	"	7, 6, 9
			Trace to little silt, little shell, gray, from -17.3' to -20.3			-17.3	
				88	3	"	8, 7, 6
						-18.8	
				48	4	"	6, 8, 4
-20.3	6.0					-20.3	
			SAND, fine quartz, some silt, trace clay, gray, trace shell (SM)	100	5	"	2, 2, 2
						-21.8	
				80	6	"	1, 3, 1
-23.3	9.0					-23.3	
			CLAY, plastic, gray, damp, trace sand, trace shell (CH)	100	7	"	1, Settled
						-24.8	
				100	8	"	Settled
						-26.3	
				100	9	"	Settled
						-27.8	
			Isloated seams sand from -28.3' to -29.3'	100	10	"	Settled
						-29.3	
			Trace organic material from -29.3' to -31.3'	100	11		Settled
						-30.8	
-31.3	17.0						Settled
			SAND, fine to medium quartz, little silt, organic stain, dark brown (SM)	66	12	"	2, 2
						-32.3	

(continued)

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE. MAR 71

PROJECT	HOLE NUMBER
Canaveral Harbor Deepening	CB-CH92-25

Hole No.CB-CH92-25

DRILLING LOG (Cont. Sheet)

ELEVATION TOP OF HOLE -14.3 ft.

SHEET 2 OF 2

PROJECT: Canaveral Harbor Deepening

INSTALLATION: Jacksonville District

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Bit or Barrel	BLOWS/.5'
-32.3	18					-32.3	
			Tan seams, moderately hard calcareous sandstone from -33.3' to -34.3'	93	13	" -33.8	2, 3, 6
				80	14	" -35.3	19, 17, 23
-36.0	21.7			73	15	"	15
-36.8	22.5		Bed of sand size shell, little silt, gray from -36.0' to -36.8'		16	-36.8	10, 11
-37.3	23.0			66	17	"	3
			CLAY, plastic, gray, trace sand (CH)		18	-38.3	2, 2
-38.7	24.4			100	19	"	3
			SAND, fine to medium, quartz, little silt, isolated seams of clay, gray, shelly (SM)		20	-39.8	7, 12
-40.5	26.2			100	21	"	12
			SILT, slightly plastic, gray, trace sand, trace shell (ML)		22	-41.3	7, 5
				80	23	" -42.8	6, 10, 4
				100	24	" -44.3	1, 1, 2
-45.8	31.5			100	25	" -45.8	1, 1, 2
			NOTE: Soils are field visually classified in accordance with the Unified Soils Classification System.			140# HAMMER WITH 30" DROP USED IN 2.0' SPLIT SPOON (1 3/8" I.D. X 2" O.D.)	

18 20 22 24 26 28 30 32 34 36 38 40

Hole No. CB-CH-M2

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT: Canaveral Harbor Maintenance FY 83
2. LOCATION (Coordinates or Station): X=636406 Y=1481917 STA:127+09 RGE: 18 Cut 2
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-CH-M2
5. NAME OF DRILLER: C. Mason
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN
8. DEPTH DRILLED INTO ROCK
9. TOTAL DEPTH OF HOLE: 9.0'
10. SIZE AND TYPE OF BIT: See remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
12. MANUFACTURER'S DESIGNATION OF DRILL: Failing 1500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: ; UNDISTURBED:
14. TOTAL NUMBER CORE BOXES: 1
15. ELEVATION GROUND WATER: Tidal
16. DATE HOLE: STARTED 23 Nov 82; COMPLETED 23 Nov 82
17. ELEVATION TOP OF HOLE: -43.0
18. TOTAL CORE RECOVERY FOR BORING: 56 %
19. ~~SIGNATURE OF REGISTERED~~ GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-43.0	0.0					BIT OR BARREL -43.0
-49.0	6.0		CLAY, soft, soupy, slightly plastic, dark gray (CL)	56	1	Settled 2-inch Sampler
-52.0	9.0		-49.0 to -52.0 slightly compacted, green, silty, plastic (CL)		2	Pushed -52.0
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Canaveral Harbor Maintenance FY 83 HOLE NO. CB-CH-M2

Hole No. CB-CH-M3

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance FY 83	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) Cut 2 X=635374 Y=1481572 STA: 137+42 RGE: 358	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-M3	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN — DISTURBED: — UNDISTURBED:
5. NAME OF DRILLER C. Mason	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE — STARTED 22 Nov 82 — COMPLETED 22 Nov 82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -44.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 56 %
9. TOTAL DEPTH OF HOLE 9.0'	19. ~~NAME OF ASSISTANT GEOLOGIST~~ GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-44.0	0.0					BIT OR BARREL -44.0
-53.0	9.0		CLAY, soft, slightly plastic, dark gray, slightly silty (CL)	56	1	Settled 2-inch Sampler -53.0
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance FY 83 — HOLE NO. CB-CH-M3

HOLE NO. CB-CH-M4

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT: Canaveral Harbor Maintenance FY 83
2. LOCATION (Coordinates or Station): X=634774 Y=1481527 STA: 143+43 RGE: 400 Cut 2
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-CH-M4
5. NAME OF DRILLER: J. Detloff
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN
8. DEPTH DRILLED INTO ROCK
9. TOTAL DEPTH OF HOLE: 8.0'
10. SIZE AND TYPE OF BIT: See remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
12. MANUFACTURER'S DESIGNATION OF DRILL: Failing 1500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: ; UNDISTURBED:
14. TOTAL NUMBER CORE BOXES: 1
15. ELEVATION GROUND WATER: Tidal
16. DATE HOLE: STARTED 20 Nov 82; COMPLETED 20 Nov 82
17. ELEVATION TOP OF HOLE: -43.0
18. TOTAL CORE RECOVERY FOR BORING: 62 %
19. ~~TOTAL CORE RECOVERY FOR BORING~~ GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-43.0	0.0					BIT OR BARREL -43.0
-48.0	5.0		CLAY, soft, soupy, dark gray to black, silty (CL)	62	1	Settled 2-inch Sampler
-51.0	8.0		~48.0 to ~51.0 plastic, slightly sandy, dark gray		2	Pushed -51.0
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: Canaveral Harbor Maintenance FY 83 HOLE NO. CB-CH-M4

DRILLING LOG	South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance FY 83	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) X=633960 Y=1481500 STA: 151+57 RGE: 422 Cut 2	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-M5	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN — DISTURBED: — UNDISTURBED:
5. NAME OF DRILLER C. Mason	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE — STARTED 22 Nov 82 — COMPLETED 22 Nov 82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -38.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 90 %
9. TOTAL DEPTH OF HOLE 11.0'	19. ~~SIGNATURE OF INSPECTOR~~ GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-38.0	0.0					BIT OR BARREL -38.0
			CLAY, very plastic, fat, gray (CH)	80	1	Pushed 2-inch Sample -43.0
				100	2	" " Pushed 2 2 4
-49.0	11.0					-49.0
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance FY 83 — HOLE NO. CB-CH-M5

DRILLING LOG	South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance FY 83	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) Cut 2 X=633260 Y=1481866 STA: 258+55 RGE: 53	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-M9	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED ; UNDISTURBED
5. NAME OF DRILLER J. Detloff	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 20 Nov 82; COMPLETED 20 Nov 82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -41.5
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 50 %
9. TOTAL DEPTH OF HOLE 10.0'	19. ~~TOTAL CORE RECOVERY~~ GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						BIT OR BARREL
-41.5	0.0					-41.5
-42.5	1.0		SAND, dark gray, very silty (SM)		1	Settled 2-inch Sample
-43.5	2.0		Bed of sand (SP) -42.5 to -43.5		2	4
				50	3	Settled
					4	
-48.0	6.5					
			SAND, fine to medium quartz, silty, dark gray (SM)			9
						8
						3
-51.5	10.0					-51.5 2
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance FY 83 | HOLE NO. CB-CH-M9

Hole No. CB-CH-M10

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance FY 83	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) Cut 2 X=632891 Y=1481711 STA: 162+25 RGE: 205	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-M10	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER J. Detloff	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 20 Nov 82 / COMPLETED 20 Nov 82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -41.5
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 45 %
9. TOTAL DEPTH OF HOLE 10.0'	19. ~~SIGNATURE OF ASSISTANT~~ GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						BIT OR BARREL
-41.5	0.0					-41.5
-42.5	1.0		SAND, dark gray, loose, very silty (SM)		1	Settled 2-inch Sampler Pushed
			SAND, fine quartz, gray (SP)	30		
					2	2
						-46.5 9
				60	3	" " 2
						4
-49.5	8.0					7
			SAND, fine quartz, silty, clayey, seams (CL) clay, dark gray (SM)		4	4
-51.5	10.0					-51.5 11
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance FY 83 | HOLE NO. CB-CH-M10

Hole No. CB-CH-M11

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance FY 83	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) X=632638 Y=1481521 STA: 164+79 RGE: 394 Cut 2	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-M11	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER J. Detloff	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 20 Nov 82 / COMPLETED 20 Nov 82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -29.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 48 %
9. TOTAL DEPTH OF HOLE 20.0'	19. SIGNATURE OF INSPECTOR GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-29.0	0.0					BIT OR BARREL -29.0
			SAND, fine quartz, slightly silty, gray (SP)	30	1	Settled 2-inch Sampler; 2; 5; 9; 8 -34.0
			-37.0 to -41.0 fine to medium quartz, slightly shelly, slightly silty	40	2	10; " "; 8; 9; 28; 39 -39.0
-41.0	12.0			60	3	" "; 19; 45
			SAND, fine to medium quartz, slightly silty to silty, gray (SM)		4	62; 65; 68 -44.0
-47.0	18.0			60	5	" "; 20; 36; 45
			SILT, sandy, dark gray seams, silty sand (ML)		6	33; 32 -49.0
-49.0	20.0					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Mainenance FY 83 | HOLE NO. CB-CH-M11

Hole No. CB-CH-M12

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance FY 83	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) X=632603 Y=1481906 STA: 165+12 RGE: 9 Cut 2	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-M12	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER J. Detloff	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 20 Nov 82 / COMPLETED 20 Nov 82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -35.5
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 73 %
9. TOTAL DEPTH OF HOLE 18.0'	19. ~~MANUFACTURER'S DESIGNATION OF ROCK CORE BIT~~ GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-35.5	0.0					BIT OR BARREL -35.5
-37.5	2.0		SAND, very silty, dark gray, loose (SM)	80	1	Settled 2-inch Sampler
-41.5	6.0		SAND, fine quartz, silty, slightly clayey, dark gray (SM)		2	-40.5 2
				80	3	" " 5 1 10 4 7 -45.5
-49.0	13.5		SAND, fine quartz, clayey, slightly silty. seams (CL) clay, gray (SP-SC)			
				60	4	Pushed " "
-53.5	18.0		CLAY, plastic, gray, silty (CL)		5	7 7 6 -53.5
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance FY 83 | HOLE NO. CB-CH-M12

Hole No. CB-CH-M13

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance FY 83	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) Access Channel X=632008 Y=1481955 STA: 3+91 RGE: 398	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-M13	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED ; UNDISTURBED
5. NAME OF DRILLER J. Detloff	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 21 Nov 82; COMPLETED 21 Nov 82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -30.5
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 67 %
9. TOTAL DEPTH OF HOLE 20.0'	19. SIGNATURE OF INSPECTOR GEOLOGIST: Joe Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-30.5	0.0					BIT OR BARREL -30.5
-33.5	3.0		SAND, fine to medium quartz, slightly silty to silty, gray (SP-SM)	68	1	2-inch Sampler
			SAND, fine to medium quartz, clean, dense, light gray (SP)			5
						-35.5 4
				48	2	" " 10
						7
						14
						30
						-40.5 52
				80	3	" " 10
						12
						24
-44.5	14.0					26
			SAND, fine to medium quartz, clayey, slightly silty, slightly shelly, gray (SC)			-45.5 18
					4	" " 9
-47.5	17.0			70		5
			CLAY, very plastic, fat, gray (CH)			6
					5	6
-50.5	20.0					-50.5 8

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance FY 83 | HOLE NO. CB-CH-M13

Hole No. CB-CH-M14

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance FY 83	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) Access Channel X=631527 Y=1482131 STA: 8+06 RGE: 699	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-M14	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED ; UNDISTURBED
5. NAME OF DRILLER J. Detloff	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE [X] VERTICAL [ ] INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 21 Nov 82; COMPLETED 21 Nov 82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -40.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 53 %
9. TOTAL DEPTH OF HOLE 11.0'	19. GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-40.0	0.0					BIT OR BARREL -40.0
			SAND, fine to medium quartz, slightly silty to silty, gray (SP) to (SM)	30	1	Settled 2-inch Sampler -45.0
-48.0	8.0			75	2	Pushed " "
			CLAY, very plastic, fat gray (CH)		3	4
-51.0	11.0					-51.0 4
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT Canaveral Harbor Maintenance FY 83 | HOLE NO. CB-CH-M14

Hole No. CB-CH-Fy83-M6

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DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Hbr Maintenance	10. SIZE AND TYPE OF BIT see remarks
2. LOCATION (Coordinates or Station) STA 144+41 X=634,673 Y=1,481,909 RGE 17	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-Fy83-M6	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN — DISTURBED: — UNDISTURBED:
5. NAME OF DRILLER J. Detloff	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE — STARTED 11/19/82 — COMPLETED 11/19/82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -43.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 49 %
9. TOTAL DEPTH OF HOLE 11.0'	19. GEOLOGIST J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-43.0	0.0					-43.0
-49.0	6.0		CLAY, dark gray, slightly plastic, silty (CL), soft		1	2" x 5' Sampler Settled
-54.0	11.0		SAND, clayey, silty, soft, dark gray, fine to medium quartz (SC)	49	2	Pushed -54.0
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT CANAVERAL HBR MAINTENANCE | HOLE NO. CB-CH-Fy83-M6

Hole No. CB-CH-FY83-M7

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 1 SHEETS
1. PROJECT	Canaveral Hbr Maintenance FY 83
2. LOCATION (Coordinates or Station)	STA 148+98 X=634,217 Y=1481,934 RGE(-10) Cut 2
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-CH-FY83-M7
5. NAME OF DRILLER	J. Detloff
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	
8. DEPTH DRILLED INTO ROCK	
9. TOTAL DEPTH OF HOLE	12.0'
10. SIZE AND TYPE OF BIT	See remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW
12. MANUFACTURER'S DESIGNATION OF DRILL	Failing 1500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED: ; UNDISTURBED:
14. TOTAL NUMBER CORE BOXES	1
15. ELEVATION GROUND WATER	Tidal
16. DATE HOLE	STARTED 11/19/82 ; COMPLETED 11/19/82
17. ELEVATION TOP OF HOLE	-40.5
18. TOTAL CORE RECOVERY FOR BORING	40 %
19. ~~SIGNATURE OF INSPECTOR~~	GEOLOGIST J. Gentile

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ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-40.5	0.0					-40.5
			CLAY, dark gray to black, soupy, silty (CL)	40	1	Settled 2" x 5' Sampler
			Slightly plastic, from -50.5 to -52.5			
-52.5	12.0					-52.5
						300 Lb. Hammer with 18" drop used on 2" Sampler

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: CANAVERAL HBR MAINTENANCE FY 83 HOLE NO. CB-CH-M7

Hole No. CB-CH-FY83-M8

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: Canaveral Hbr Maintenance, FY 83
2. LOCATION (Coordinates or Station): STA 153+04 X=633,810 Y=1,481,910 RGE 12 Cut 2
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-CH-FY83-M8
5. NAME OF DRILLER: J. Detloff
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN
8. DEPTH DRILLED INTO ROCK
9. TOTAL DEPTH OF HOLE: 25.0'
10. SIZE AND TYPE OF BIT: See remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
12. MANUFACTURER'S DESIGNATION OF DRILL: Failing 1500
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED: ; UNDISTURBED:
14. TOTAL NUMBER CORE BOXES: 1
15. ELEVATION GROUND WATER: Tidal
16. DATE HOLE: STARTED 11/19/82; COMPLETED 11/19/82
17. ELEVATION TOP OF HOLE: -23.5
18. TOTAL CORE RECOVERY FOR BORING: 70 %
19. SIGNATURE OF INSPECTOR: GEOLOGIST J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
						Bit or Barrel	
-23.5	0.0					-23.5	
			SAND, fine to medium, quartz, gray, slightly silty (SP)	90	1	Settled 2" x 5' Sampler	
						-28.5	5
				50	2	" "	9
							13
							26
			Bed plastic silt (MH) Dark gray from -34.5 to -35.5 Bed silty sand (SM) from -35.5 to -36.5				44
						-33.5	55
-34.5	11.0			60	3 4 5	" "	7
-35.5	12.0						9
-36.5	13.0						10
							25
						-38.5	35
				60	6	" "	10
							15
							37
							45
						-43.5	60

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE. (TRANSLUCENT)

PROJECT: CANAVERAL HBR MAINTENANCE | HOLE NO. CB-CH-FY83-M8

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE -23.5 | Hole No. CB-CH-FY83-M8

PROJECT: Canaveral Hbr Maintenance, FY 83 | INSTALLATION: Jacksonville District | SHEET 2 OF 2 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
						Bit or Barrel
						-43.5
						2" x 5' Sampler 12
-45.5	22.0			100	7	18
			CLAY, very plastic, gray (CH)		8	35
						55
-48.5	25.0					-48.5 52

300 Lb. Hammer with 18" drop used on 2" Sampler

Hole No. CB-CH-M1

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT Canaveral Harbor Maintenance FY 83	10. SIZE AND TYPE OF BIT See remarks
2. LOCATION (Coordinates or Station) Cut 1 X=636696 Y=1481834 STA: 124+20 RGE: 103	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500
4. HOLE NO. (As shown on drawing title and file number) CB-CH-M1	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED
5. NAME OF DRILLER C. Mason	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER Tidal
	16. DATE HOLE: STARTED 23 Nov 82 / COMPLETED 23 Nov 82
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -44.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 63 %
9. TOTAL DEPTH OF HOLE 8.0'	19. ~~MANUFACTURER'S DESIGNATION OF DRILL HOLE~~ GEOLOGIST: J. Gentile

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-44.0	0.0					BIT OR BARREL -44.0
-48.0	4.0		CLAY, soft, soupy, slightly plastic, dark gray (CL)		1	Settled 2-inch Sampler
-52.0	8.0		-48.0 to -52.0 silty, plastic, green, lenses of soft weathered limestone (CL)	63	2	Pushed -52.0
						300 Lb. Hammer with 18" drop used on 2" Sampler

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PROJECT Canaveral Harbor Maintenance FY 83 | HOLE NO. CB-CH-M1

Hole No.CB-CH01-1

DRILLING LOG

DIVISION: South Atlantic

INSTALLATION: Jacksonville District

SHEET 1 OF 1

(266)

1. PROJECT: Canaveral Harbor
2. LOCATION (Coordinates or Station): X=785,210 Y=1481,885
3. DRILLING AGENCY: USAED Wilmington
4. HOLE NO. (As shown on drawing title and file number): CB-CH01-1
5. NAME OF DRILLER: Snell
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN: 0 Ft.
8. DEPTH DRILLED INTO ROCK: 0 Ft.
9. TOTAL DEPTH OF HOLE: 8.3 Ft.
10. SIZE AND TYPE OF BIT: 4-inch Vibracore Tube
11. DATUM FOR ELEVATION SHOWN (TBM or MSL): NGVD 29; Horizontal Datum: FLE NAD 83
12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 4 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES: 1
15. ELEVATION GROUND WATER: 0.6
16. DATE HOLE: STARTED 7/4/01 COMPLETED 7/4/01
17. ELEVATION TOP OF HOLE: -44.4 Ft.
18. TOTAL CORE RECOVERY FOR BORING: 91 %
19. SIGNATURE OF Civil Engineer: Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-44.4	.0					-44.4
-45.2	.8		SILT, little fine quartz sand, gray (MH)		1	
-48.7	4.3		CLAY, little fine quartz sand, gray (CH)	91	2	
-51.9	7.5		SAND, fine quartz, some clay, gray to blue-gray (SC)		3	
-52.7	8.3		SAND, fine quartz, some clay, gray (SC)		4	-52.7

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 0.8	MH
3	4.3 - 7.5	CH
4	7.5 - 8.3	CH

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT: Canaveral Harbor

HOLE NUMBER: CB-CH01-1

(367)

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District — SHEET 1 OF 1
1. PROJECT: Canaveral Harbor	10. SIZE AND TYPE OF BIT: 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station): X=786,203 Y=1482,061	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY: USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. (As shown on drawing title and file number): CB-CH01-2	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 3 undisturbed: 0
5. NAME OF DRILLER: Snell	14. TOTAL NUMBER OF CORE BOXES: 1
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER: 1.7
7. THICKNESS OF BURDEN: 0 Ft.	16. DATE HOLE: STARTED 7/4/01 COMPLETED 7/4/01
8. DEPTH DRILLED INTO ROCK: 0 Ft.	17. ELEVATION TOP OF HOLE: -38.3 Ft.
9. TOTAL DEPTH OF HOLE: 3.8 Ft.	18. TOTAL CORE RECOVERY FOR BORING: 37 %
	19. SIGNATURE OF Civil Engineer: Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-38.3	.0					-38.3
-40.0	1.7		SAND, fine quartz, little silt, gray (SM)	37	1	
-40.7	2.4		SAND, fine quartz, some sand size shell fragments, gray (SP)		2	
-42.1	3.8		CLAY, some fine quartz sand, gray (CH)		3	-42.1

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 1.7	SM
2	1.7 - 2.4	SP

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

Hole No.CB-CH01-3B

368

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District
SHEET 1 OF 1	
1. PROJECT: Canaveral Harbor	10. SIZE AND TYPE OF BIT: 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station): X=786,207 Y=1481,887	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY: USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. (As shown on drawing title and file number): CB-CH01-3B	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 3 undisturbed: 0
5. NAME OF DRILLER: Snell	14. TOTAL NUMBER OF CORE BOXES: 1
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER: 0.4
	16. DATE HOLE STARTED: 7/4/01 COMPLETED: 7/4/01
7. THICKNESS OF BURDEN: 0 Ft.	17. ELEVATION TOP OF HOLE: -42.6 Ft.
8. DEPTH DRILLED INTO ROCK: 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING: 75 %
9. TOTAL DEPTH OF HOLE: 9.9 Ft.	19. SIGNATURE OF Civil Engineer: Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-42.6	.0					-42.6
-44.9	2.3		SILT, little fine quartz sand, gray (MH)		1	
-50.0	7.4		CLAY, little fine quartz, gray (CH)	75	2	
-52.5	9.9		SAND, fine quartz, some clay, gray (SC)		3	-52.5

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 2.3	MH
3	7.4 - 9.9	CH

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-3B

Hole No.CB-CH01-4

(369)

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
	SHEET 1 OF 1
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=786,219 Y=1481,675	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-4	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 1.8
	16. DATE HOLE STARTED 7/4/01 COMPLETED 7/4/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -43.3 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 54 %
9. TOTAL DEPTH OF HOLE 5.4 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-43.3	.0					-43.3
-46.3	3.0		SILT, little fine quartz sand, gray, (MH)	54	1	
-48.7	5.4		CLAY, some fine quartz sand, gray (CH)		2	-48.7

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 3.0	MH
2	3.0 - 5.4	SC

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-4

Hole No.CB-CH01-5

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=787,223 Y=1482,086	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-5	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 2.6
	16. DATE HOLE STARTED 7/4/01 COMPLETED 7/4/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -42.4 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 41 %
9. TOTAL DEPTH OF HOLE 4.3 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-42.4	0					-42.4
-45.2	2.8		SILT, some fine quartz sand, gray (MH)	41	1	
-46.7	4.3		SAND, fine quartz, some silt, gray (SM)		2	-46.7

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 2.8	MH
2	2.8 - 4.3	MH

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-5

Hole No.CB-CH01-6

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=787,209 Y=1481,879	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-6	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 4 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 2.7
	16. DATE HOLE STARTED 7/4/01 COMPLETED 7/4/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -47.0 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 60 %
9. TOTAL DEPTH OF HOLE 4.1 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-47.0	.0					-47.0
-48.0	1.0		SILT, trace fine quartz sand, dark gray (MH)	60	1	
-49.7	2.7		SAND, fine quartz, trace silt, gray (SP)		2	
-50.5	3.5		SAND, fine quartz, little silt, gray (SP-SM)		3	
-51.1	4.1		SAND, fine quartz, little clay, blue-gray (SC)		4	-51.1

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
2	1.0 - 2.7	SP-SM
3	2.7 - 3.5	MH
4	3.5 - 4.1	CH

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20

Hole No.CB-CH01-7

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District — SHEET 1 OF 1
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=787,223 Y=1481,673	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-7	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 1.9
	16. DATE HOLE STARTED 7/4/01 COMPLETED 7/4/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -45.8 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 45 %
9. TOTAL DEPTH OF HOLE 4.2 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-45.8	.0					-45.8
-48.1	2.3		SILT, little fine quartz sand, dark gray (MH)	45	1	
-50.0	4.2		SAND, fine quartz, some clay, blue-gray (SC)		2	-50.0
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM. NOTE: Elevation is based on furnished tide and water depth information. SAMPLE NO. / SAMPLE DEPTH / LAB CLASSIF.* 2 / 2.3 - 4.2 / CH *Lab classification based on gradation curve with no Atterberg Limits.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-7

Hole No.CB-CH01-8

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=788,211 Y=1482,094	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-8	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 3.2
	16. DATE HOLE STARTED 7/4/01 COMPLETED 7/4/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -46.6 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 83 %
9. TOTAL DEPTH OF HOLE 8.5 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-46.6	.0					-46.6
-47.9	1.3		SAND, fine quartz, some silt, gray (SM)		1	
-55.1	8.5		CLAY, trace fine gravel sized shell fragments, gray (CH)	83	2	-55.1
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM. NOTE: Elevation is based on furnished tide and water depth information. SAMPLE NO. / SAMPLE DEPTH / LAB CLASSIF.* 1 / 0.0 - 1.3 / SM *Lab classification based on gradation curve with no Atterberg Limits.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT Canaveral Harbor | HOLE NUMBER CB-CH01-8

Hole No.CB-CH01-9

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=788,213 Y=1481,879	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-9	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 6 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 3.2
	16. DATE HOLE STARTED 7/4/01 COMPLETED 7/4/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -46.8 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 55 %
9. TOTAL DEPTH OF HOLE 6.0 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-46.8	.0					-46.8
-47.8	1.0		SILT, some fine quartz sand, dark gray (MH)		1	
-48.7	1.9		SILT, little fine quartz sand, gray (MH)		2	
-49.3	2.5		SAND, fine quartz, little silt, gray (SM)		3	
-50.2	3.4		SILT, some fine quartz sand, gray (MH)	55	4	
-51.2	4.4		SAND, fine quartz, some silt, gray (SM)		5	
-52.8	6.0		CLAY, little fine quartz sand, gray (CH)		6	-52.8

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 1.0	SM
3	1.9 - 2.5	SM
5	3.4 - 4.4	SM

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-9

Hole No.CB-CH01-10

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
	SHEET 1 OF 1
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=788,207 Y=1481,680	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-10	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 3.1
	16. DATE HOLE STARTED 7/4/01 COMPLETED 7/4/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -45.1 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 51 %
9. TOTAL DEPTH OF HOLE 5.7 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-45.1	.0					-45.1
-49.3	4.2		SILT, some fine quartz sand, dark gray to gray (MH)	51	1	
-50.8	5.7		SAND, fine quartz, trace silt, gray (SP)		2	-50.8

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
2	4.2 - 5.7	SM

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0, 2.5, 5, 7.5, 10, 12.5, 15, 17.5, 20, 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-10

Hole No.CB-CH01-11

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District — SHEET 1 OF 1
1. PROJECT: Canaveral Harbor	10. SIZE AND TYPE OF BIT: 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station): X=789,214 Y=1482,079	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY: USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. (As shown on drawing title and file number): CB-CH01-11	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 2 undisturbed: 0
5. NAME OF DRILLER: Snell	14. TOTAL NUMBER OF CORE BOXES: 1
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER: 2.4
7. THICKNESS OF BURDEN: 0 Ft.	16. DATE HOLE STARTED: 7/3/01 COMPLETED: 7/3/01
8. DEPTH DRILLED INTO ROCK: 0 Ft.	17. ELEVATION TOP OF HOLE: -49.0 Ft.
9. TOTAL DEPTH OF HOLE: 6.1 Ft.	18. TOTAL CORE RECOVERY FOR BORING: 55 %
	19. SIGNATURE OF Civil Engineer: Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-49.0	.0					-49.0
			SILT, some fine quartz sand, dark gray (MH)		1	
-52.0	3.0			55		
			CLAY, little fine quartz sand, gray (CH)		2	
-55.1	6.1					-55.1
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 3.0	MH

*Lab classification based on gradation curve with no Atterberg Limits.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT: Canaveral Harbor | HOLE NUMBER: CB-CH01-11

Hole No.CB-CH01-12

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District
	SHEET 1 OF 1
1. PROJECT: Canaveral Harbor	10. SIZE AND TYPE OF BIT: 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station): X=789,212 Y=1481,865	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY: USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. (As shown on drawing title and file number): CB-CH01-12	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 3 undisturbed: 0
5. NAME OF DRILLER: Snell	14. TOTAL NUMBER OF CORE BOXES: 1
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER: 3.3
	16. DATE HOLE: STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN: 0 Ft.	17. ELEVATION TOP OF HOLE: -49.5 Ft.
8. DEPTH DRILLED INTO ROCK: 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING: 70 %
9. TOTAL DEPTH OF HOLE: 7.1 Ft.	19. SIGNATURE OF Civil Engineer: Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-49.5	.0					-49.5
-51.2	1.7		SILT, some fine quartz sand, dark gray (MH)	70	1	
-53.5	4.0		SAND, fine quartz, gray (SP)		2	
-56.6	7.1		CLAY, little fine quartz sand, gray (CH)		3	-56.6

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 1.7	MH
2	1.7 - 4.0	SM

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

Hole No.CB-CH01-13

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=789,229 Y=1481,683	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-13	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 3 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 1.8
	16. DATE HOLE STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -48.7 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 75 %
9. TOTAL DEPTH OF HOLE 7.9 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

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ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-48.7	.0					-48.7
-49.5	.8		SILT, little fine quartz sand, dark gray (MH)	75	1	
-53.2	4.5		SAND, fine quartz, little silt, gray (SP-SM)		2	
-56.6	7.9		CLAY, some fine quartz sand, gray (CH)		3	-56.6

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 0.8	SM
2	0.8 - 4.5	SP-SM

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT Canaveral Harbor | HOLE NUMBER CB-CH01-13

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=790,206 Y=1482,071	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-14	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 1.4
	16. DATE HOLE STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -46.3 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 45 %
9. TOTAL DEPTH OF HOLE 5.5 Ft.	19. SIGNATURE OF CIVIL Engineer Trey Broughton (LAW)

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ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-46.3	.0					-46.3
-50.3	4.0		SAND, fine quartz, gray (SP)	45	1	
-51.8	5.5		CLAY, little fine quartz sand, gray (CH)		2	-51.8
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM. NOTE: Elevation is based on furnished tide and water depth information. SAMPLE NO. / SAMPLE DEPTH / LAB CLASSIF.* 1 / 0.0 - 4.0 / SP-SM *Lab classification based on gradation curve with no Atterberg Limits.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0, 2.5, 5, 7.5, 10, 12.5, 15, 17.5, 20, 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-14

Hole No.CB-CH01-15

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District
	SHEET 1 OF 1
1. PROJECT: Canaveral Harbor	10. SIZE AND TYPE OF BIT: 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station): X=790,214 Y=1481,878	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY: USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. (As shown on drawing title and file number): CB-CH01-15	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 1 undisturbed: 0
5. NAME OF DRILLER: Snell	14. TOTAL NUMBER OF CORE BOXES: 1
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER: 1.1
	16. DATE HOLE STARTED: 7/3/01 COMPLETED: 7/3/01
7. THICKNESS OF BURDEN: 0 Ft.	17. ELEVATION TOP OF HOLE: -46.7 Ft.
8. DEPTH DRILLED INTO ROCK: 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING: 59 %
9. TOTAL DEPTH OF HOLE: 6.3 Ft.	19. SIGNATURE OF Civil Engineer: Trey Broughton (LAW)

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ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-46.7	.0					-46.7
			SAND, fine quartz, trace silt, gray (SP)	59	1	
-53.0	6.3					-53.0
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM. NOTE: Elevation is based on furnished tide and water depth information. SAMPLE NO. / SAMPLE DEPTH / LAB CLASSIF.* 1 / 0.0 - 6.3 / SM *Lab classification based on gradation curve with no Atterberg Limits.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT: Canaveral Harbor

HOLE NUMBER: CB-CH01-15

Hole No.CB-CH01-16

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
	SHEET 1 OF 1
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=790,280 Y=1481,614	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-16	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 3 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 0.9
	16. DATE HOLE STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -41.1 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 67 %
9. TOTAL DEPTH OF HOLE 7.1 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-41.1	.0					-41.1
-44.4	3.3		CLAY, little fine quartz sand, gray (CH)		1	
-46.1	5.0		SAND, fine quartz, little silt, dark gray (SP-SM)	67	2	
-48.2	7.1		SILT, trace fine quartz sand, dark gray (MH)		3	-48.2

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 3.3	CH
2	3.3 - 5.0	SM

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT Canaveral Harbor

HOLE NUMBER CB-CH01-16

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
	SHEET 1 OF 1
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=791,271 Y=1482,060	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-17	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 1 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 0.6
	16. DATE HOLE STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -44.6 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 27 %
9. TOTAL DEPTH OF HOLE 5.3 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

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ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-44.6	.0					-44.6
			SILT, little fine quartz sand, dark gray to gray (MH)	27	1	
-49.9	5.3					-49.9
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM. NOTE: Elevation is based on furnished tide and water depth information. SAMPLE NO. / SAMPLE DEPTH / LAB CLASSIF.* 1 / 0.0 - 5.3 / MH *Lab classification based on gradation curve with no Atterberg Limits.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0, 2.5, 5, 7.5, 10, 12.5, 15, 17.5, 20, 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-17

Hole No.CB-CH01-18

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District
	SHEET 1 OF 1
1. PROJECT: Canaveral Harbor	10. SIZE AND TYPE OF BIT: 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station): X=791,212 Y=1481,880	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY: USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. (As shown on drawing title and file number): CB-CH01-18	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 3 undisturbed: 0
5. NAME OF DRILLER: Snell	14. TOTAL NUMBER OF CORE BOXES: 2
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER: 0.4
	16. DATE HOLE STARTED: 7/3/01 COMPLETED: 7/3/01
7. THICKNESS OF BURDEN: 0 Ft.	17. ELEVATION TOP OF HOLE: -41.1 Ft.
8. DEPTH DRILLED INTO ROCK: 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING: 60 %
9. TOTAL DEPTH OF HOLE: 11.8 Ft.	19. SIGNATURE OF Civil Engineer: Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-41.1	.0					-41.1
-44.1	3.0		SILT, little fine quartz sand, dark gray to gray (MH)	60	1	
-48.6	7.5		CLAY, little fine quartz sand, gray (CH)		2	
-52.9	11.8		SAND, fine quartz, some clay, some fine gravel sized shell fragments, gray (SC)		3	-52.9
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM. NOTE: Elevation is based on furnished tide and water depth information.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 3.0	MH
3	7.5 - 11.8	CH

*Lab classification based on gradation curve with no Atterberg Limits.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-18

Hole No.CB-CH01-19

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DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1

1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=791,242 Y=1481,601	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-19	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 0.2
	16. DATE HOLE STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -41.8 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 93 %
9. TOTAL DEPTH OF HOLE 9.8 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-41.8	.0					-41.8
-43.6	1.8		SILT, dark gray (MH)		1	
-51.6	9.8		CLAY, little fine quartz sand, gray (CH)	93	2	-51.6

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 1.8	MH
2	1.8 - 9.8	CH

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-19

Hole No.CB-CH01-20

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=792,947 Y=1482,063	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-20	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 3 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 2
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER
	16. DATE HOLE STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -43.8 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 61 %
9. TOTAL DEPTH OF HOLE 12.3 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-43.8	0					-43.8
-47.3	3.5		SILT, little fine quartz sand, dark gray (MH)		1	
-47.9	4.1		SAND, fine quartz, gray (SP)		2	
-56.1	12.3		SAND, fine quartz, little clay, little fine gravel sized shell fragments, gray (SP-SC)	61	3	-56.1

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
2	3.5 - 4.1	MH
3	4.1 - 12.3	CH

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-20

Hole No.CB-CH01-21

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=792,792 Y=1481,769	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-21	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 2
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 0.1
	16. DATE HOLE STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -44.9 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 55 %
9. TOTAL DEPTH OF HOLE 11.0 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-44.9	.0					-44.9
			SILT, dark gray (MH)		1	
-47.6	2.7		SAND, fine quartz, some silt, some fine gravel sized shell fragments, gray (SM)	55	2	
-55.9	11.0					-55.9
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM. NOTE: Elevation is based on furnished tide and water depth information. SAMPLE NO. / SAMPLE DEPTH / LAB CLASSIF.* 1 / 0.0 - 2.7 / MH 2 / 2.7 - 11.0 / SM *Lab classification based on gradation curve with no Atterberg Limits.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT Canaveral Harbor | HOLE NUMBER CB-CH01-21

Hole No.CB-CH01-22

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District
	SHEET 1 OF 1
1. PROJECT: Canaveral Harbor	10. SIZE AND TYPE OF BIT: 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station): X=792,706 Y=1481,537	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY: USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL: Vibracore
4. HOLE NO. (As shown on drawing title and file number): CB-CH01-22	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 2 undisturbed: 0
5. NAME OF DRILLER: Snell	14. TOTAL NUMBER OF CORE BOXES: 2
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER: 0.0
	16. DATE HOLE STARTED: 7/3/01 COMPLETED: 7/3/01
7. THICKNESS OF BURDEN: 0 Ft.	17. ELEVATION TOP OF HOLE: -43.5 Ft.
8. DEPTH DRILLED INTO ROCK: 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING: 63 %
9. TOTAL DEPTH OF HOLE: 12.7 Ft.	19. SIGNATURE OF Civil Engineer: Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-43.5	.0					-43.5
-45.9	2.4		SILT, some fine quartz sand, dark gray (MH)		1	
-56.2	12.7		SAND, fine quartz, little clay, little fine gravel sized shell fragments, gray (SC)	63	2	-56.2
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM. NOTE: Elevation is based on furnished tide and water depth information. SAMPLE NO. / SAMPLE DEPTH / LAB CLASSIF.* 1 / 0.0 - 2.4 / MH 2 / 2.4 - 12.7 / CH *Lab classification based on gradation curve with no Atterberg Limits.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE. MAR 71

PROJECT: Canaveral Harbor | HOLE NUMBER: CB-CH01-22

Hole No.CB-CH01-23

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=793,895 Y=1481,245	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-23	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 0.1
	16. DATE HOLE STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -43.9 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 45 %
9. TOTAL DEPTH OF HOLE 9.0 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

(388)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-43.9	.0					-43.9
-46.6	2.7		SILT, little fine quartz sand, dark gray to gray (MH)		1	
-52.9	9.0		SAND, fine quartz, little clay, little fine gravel sized shell fragments, gray (SP-SC)	45	2	-52.9
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM. NOTE: Elevation is based on furnished tide and water depth information. SAMPLE NO. / SAMPLE DEPTH / LAB CLASSIF.* 1 / 0.0 - 2.7 / MH 2 / 2.7 - 9.0 / CH *Lab classification based on gradation curve with no Atterberg Limits.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-23

Hole No.CB-CH01-24A

389

DRILLING LOG	DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1

1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=793,783 Y=1481,146	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-24A	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 4 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 0.1
	16. DATE HOLE STARTED 7/3/01 COMPLETED 7/3/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -44.9 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 46 %
9. TOTAL DEPTH OF HOLE 9.3 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-44.9	.0					-44.9
-48.7	3.8		SILT, little fine quartz sand, dark gray to gray (MH)		1	
-52.4	7.5		SAND, fine quartz, some clay, little coarse sand sized shell fragments, gray (SC)	46	2	
-53.2	8.3		SAND, fine quartz, little clay, some sand sized shell, gray (SC)		3	
-54.2	9.3		SAND, fine quartz, some calcareous silt, weakly cemented, gray (SM)		4	-54.2
			SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.			Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
2	3.8 - 7.5	CH
3	7.5 - 8.3	SC
4	8.3 - 9.3	ML

*Lab classification based on gradation curve with no Atterberg Limits.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

Hole No.CB-CH01-25B

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=793,649 Y=1481,015	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAED Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-25B	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 3 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 3.2
	16. DATE HOLE STARTED 7/5/01 COMPLETED 7/5/01
	17. ELEVATION TOP OF HOLE -43.8 Ft.
7. THICKNESS OF BURDEN 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 55 %
8. DEPTH DRILLED INTO ROCK 0 Ft.	19. SIGNATURE OF Civil Engineer Trey Broughton (LAW)
9. TOTAL DEPTH OF HOLE 10.4 Ft.	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-43.8	.0					-43.8
-47.7	3.9		SILT, little fine quartz sand, dark gray to gray (MH)		1	
-50.2	6.4		SAND, fine quartz, some silt, little coarse sand sized shell fragments, blue-gray (SM)	55	2	
-54.2	10.4		SAND, fine quartz, little silt, little coarse sand sized shell fragments, blue-gray (SP-SM)		3	-54.2

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
2	3.9 - 6.4	MH
3	6.4 - 10.4	MH

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5

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PROJECT	HOLE NUMBER
Canaveral Harbor	CB-CH01-25B

Hole No.CB-CH01-26C

DRILLING LOG

DIVISION South Atlantic	INSTALLATION Jacksonville District
SHEET 1 OF 1	
1. PROJECT Canaveral Harbor	10. SIZE AND TYPE OF BIT 4-inch Vibracore Tube
2. LOCATION (Coordinates or Station) X=794,643 Y=1480,453	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) NGVD 29; Horizontal Datum: FLE NAD 83
3. DRILLING AGENCY USAEO Wilmington	12. MANUFACTURER'S DESIGNATION OF DRILL Vibracore
4. HOLE NO. (As shown on drawing title and file number) CB-CH01-26C	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 2 undisturbed: 0
5. NAME OF DRILLER Snell	14. TOTAL NUMBER OF CORE BOXES 1
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED	15. ELEVATION GROUND WATER 3.1
	16. DATE HOLE STARTED 7/5/01 COMPLETED 7/5/01
7. THICKNESS OF BURDEN 0 Ft.	17. ELEVATION TOP OF HOLE -44.1 Ft.
8. DEPTH DRILLED INTO ROCK 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING 22 %
9. TOTAL DEPTH OF HOLE 4.4 Ft.	19. SIGNATURE OF Civil Engineer Steve Kiser (LAW)

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS Vibracore
-44.1	.0					-44.1
-47.9	3.8		SILT, some fine quartz sand, gray (MH)	22	1	
-48.5	4.4		SAND, fine quartz, some silt, little sand to gravel sized shell fragments, gray (SM)		2	-48.5

SOILS ARE FIELD VISUALLY CLASSIFIED IN ACCORDANCE WITH THE UNIFIED SOILS CLASSIFICATION SYSTEM.

NOTE: Elevation is based on furnished tide and water depth information.

SAMPLE NO.	SAMPLE DEPTH	LAB CLASSIF.*
1	0.0 - 3.8	ML
2	3.8 - 4.4	SM

*Lab classification based on gradation curve with no Atterberg Limits.

Vibracore tubes split and logged by Law Engineering and Environmental Services, Inc., Jacksonville, Florida.

0, 2.5, 5, 7.5, 10, 12.5, 15, 17.5, 20, 22.5

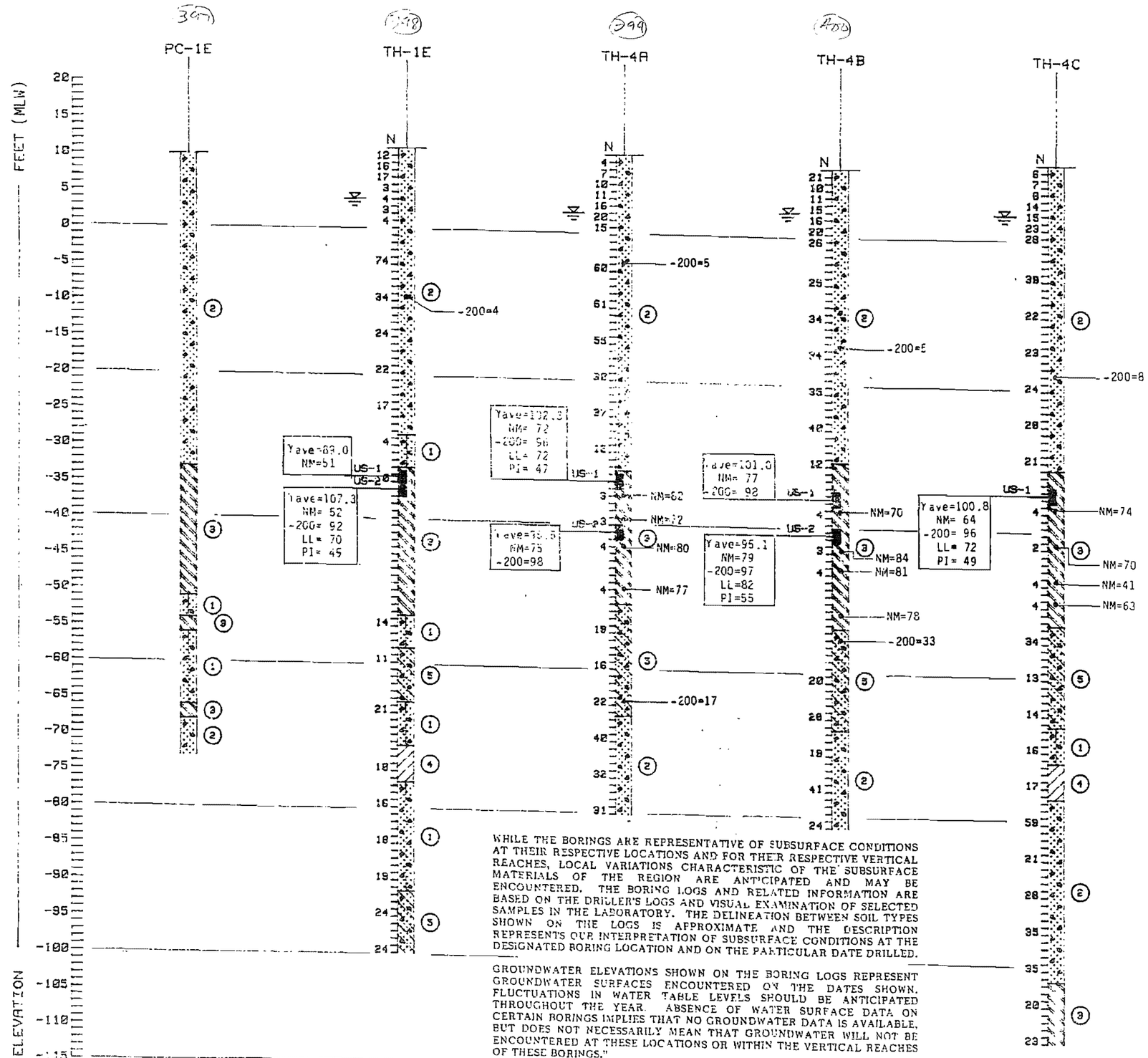
ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

PROJECT Canaveral Harbor

HOLE NUMBER CB-CH01-26C

Appendix 4

Historic Test Boring Logs - Ardaman



WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATION AND ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR. ABSENCE OF WATER SURFACE DATA ON CERTAIN BORINGS IMPLIES THAT NO GROUNDWATER DATA IS AVAILABLE, BUT DOES NOT NECESSARILY MEAN THAT GROUNDWATER WILL NOT BE ENCOUNTERED AT THESE LOCATIONS OR WITHIN THE VERTICAL REACHES OF THESE BORINGS."

LEGEND

1. GRAY TO DARK GRAY OR DARK BROWN SLIGHTLY SILTY TO SILTY FINE SAND WITH SHELLS
2. GRAY TO DARK GREENISH GRAY OR BROWN FINE SAND WITH SHELLS, OCCASIONALLY CEMENTED
3. GRAY TO DARK GREENISH GRAY SANDY CLAY TO CLAY WITH OCCASIONAL SEAMS OF FINE SAND, SILT AND SHELLS
4. GRAY TO DARK GREENISH GRAY VERY CLAYEY FINE SAND TO VERY SANDY CLAY WITH SHELLS
5. GRAY TO DARK GREENISH GRAY SLIGHTLY CLAYEY TO CLAYEY FINE SAND WITH SHELL FRAGMENTS AND OCCASIONAL TRACES OF CEMENTED SAND

GROUND WATER LEVEL

N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT

3" DIAMETER UNDISTURBED TUBE SAMPLE

Yave= WET UNIT WEIGHT (pcf)

NM= NATURAL MOISTURE CONTENT (%)

-200= PERCENT FINES PASSING THE US NO.200 SIEVE

LL= LIQUID LIMIT (%)

PI= PLASTICITY INDEX (%)

ENGINEERING CLASSIFICATION

COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT 'N'
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	ABOVE 50

COHESIVE SOILS

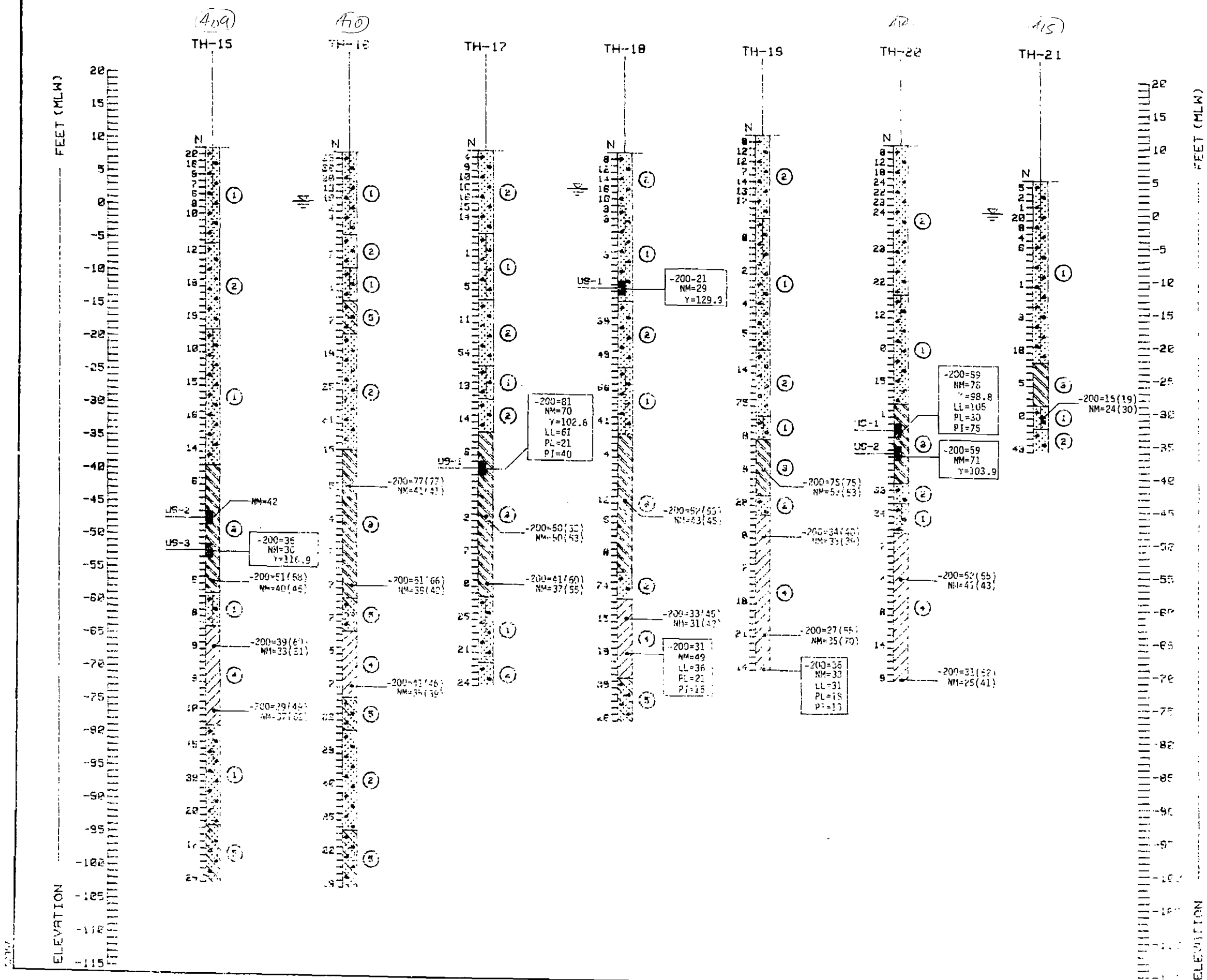
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, TSF	BLOW COUNT 'N'
VERY SOFT	BELOW .25	0 TO 2
SOFT	.25 TO .50	2 TO 4
MEDIUM STIFF	.50 TO 1.0	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	ABOVE 4	ABOVE 30

Ardaman & Associates, Inc.
Consulting Engineers in Soil Mechanics, Foundations, and Material Testing

CRUISE TERMINAL NO. 4
CANAVERAL PORT AUTHORITY
PORT CANAVERAL, FLORIDA

DRAWN BY D.G.O. | CHECKED BY: | DATE 1/12/84
FILE NO 83-094 F | APPROVED BY: James W. Babcock

FIGURE 2.2



LEGEND

1. GRAY TO DARK GRAY OR DARK BROWN SLIGHTLY SILTY TO SILTY FINE SAND W/SHELLS
2. GRAY TO DARK GREENISH GRAY OR BROWN FINE SAND W/SHELLS, OCCASIONALLY CEMENTED
3. GRAY TO DARK GREENISH GRAY SANDY CLAY TO CLAY W/OCCASIONAL SEAMS OF FINE SAND, SILT AND SHELLS
4. GRAY TO DARK GREENISH GRAY SANDY CLAYEY FINE SAND TO VERY SANDY CLAY W/SHELLS
5. GRAY TO DARK GREENISH GRAY SLIGHTLY CLAYEY TO CLAYEY FINE SAND W/SHELL FRAGMENTS AND OCCASIONAL TRACES OF CEMENTED SAND
6. GRAY TO DARK GREENISH GRAY SANDY TO CLAYEY SILT W/SHELLS AND OCCASIONAL TRACES OF FINE SAND
7. HIGHLY CONSOLIDATED CLAY AND/OR WEATHERED LIMESTONE & SAND AND SHELLS

GROUNDWATER LEVEL ON DATES DRILLED

N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT

3-INCH DIAMETER UNDISTURBED TUBE SAMPLE

BORINGS CASING

-200 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE

NM NATURAL MOISTURE IN PERCENT

VALUES CALCULATED WITH WATER REMAINING ON NO. 40 SIEVE

AVERAGE WET UNIT WEIGHT IN PCF FROM TUBE SAMPLE

LL LIQUID LIMIT IN PERCENT

PL PLASTIC LIMIT IN PERCENT

PI PLASTICITY INDEX IN PERCENT

ENGINEERING CLASSIFICATION

CONSISTENCY OF SAND

DESCRIPTION	BLOWS PER FOOT
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	ABOVE 50

CONSISTENCY OF UNCONFINED COMPRESSIVE STRENGTH OF COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH (TSF)	BLOWS PER FOOT
VERY SOFT	BELOW .25	0 TO 2
SOFT	.25 TO .5	2 TO 4
MEDIUM STIFF	.50 TO 1.0	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	ABOVE 4	ABOVE 30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE TERMINAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLERS LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE ELEVATION BETWEEN THE TWO BORINGS ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATION AS OF THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACE ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR. ABSENCE OF WATER SURFACE DATA ON CERTAIN BORINGS INDICATES THAT NO GROUNDWATER DATA IS AVAILABLE, BUT DOES NOT NECESSARILY MEAN THAT GROUNDWATER WILL NOT BE ENCOUNTERED AT THESE LOCATIONS OR WITHIN THE VERTICAL REACHES OF THESE BORINGS.

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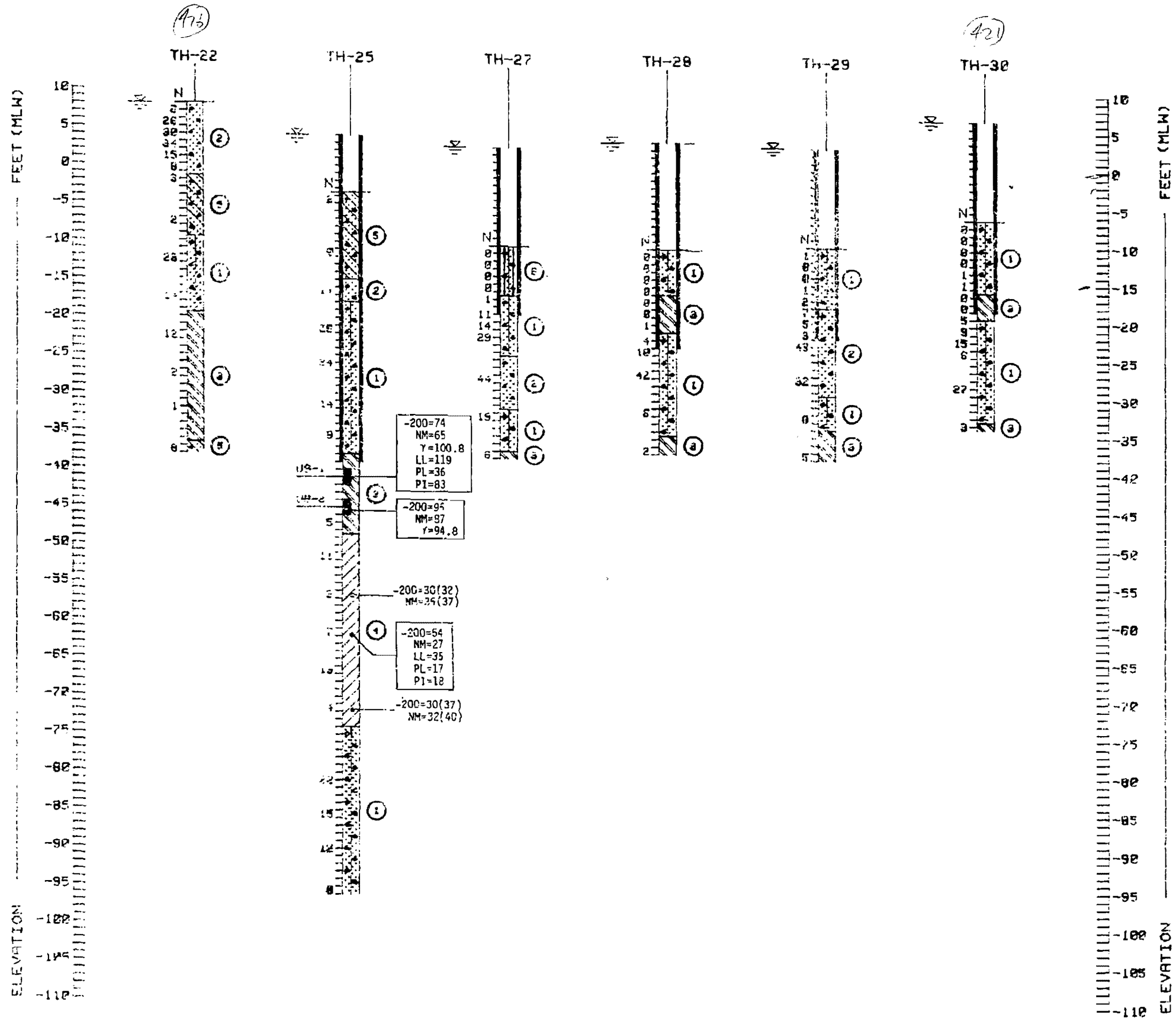
CANAVERAL PORT AUTHORITY
PORT CANAVERAL, FLORIDA

DRAWN BY: D.G. CHECKED BY: A.S. DATE: 1/12/84

FILE NO. 83-094

APPROVED BY: Thomas W. Bahrenburg

FIGURE 2.4



LEGEND

(1) GRAY TO DARK GRAY OR DARK BROWN SLIGHTLY TO SLIGHTLY FINE SAND MIXTURES

(2) GRAY TO DARK GREENISH GRAY OR BROWN FINE SAND MIXTURES OCCASIONALLY CONTAINING

(3) GRAY TO DARK GREENISH GRAY SANDY CLAY TO CLAY WITH OCCASIONAL SEAMS OF FINE SAND, SILT AND MICAS

(4) GRAY TO DARK GREENISH GRAY VERY CLAYEY FINE SAND TO VERY SANDY CLAY MIXTURES

(5) GRAY TO DARK GREENISH GRAY SILTY CLAYEY FINE SAND AND SILT MIXTURES WITH OCCASIONAL TRACES OF COMPACTED SAND

(6) GRAY TO DARK GREENISH GRAY SANDY TO CLAYEY SILT MIXTURES WITH OCCASIONAL TRACES OF FINE SAND

(7) VERY CONSOLIDATED CLAY MIXTURES WEATHERED LIMESTONE MIXTURE AND SHELL

GROUNDWATER LEVEL ON DATE DRILLED

N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT

UNDISTURBED TUBE SAMPLE

PREMATURE CASING

PERCENT OF MOISTURE PASSING THE NO. 200 SIEVE

NATURAL MOISTURE IN PERCENT

VALUES CALCULATED BETWEEN SAMPLES SHELL PENETRATION OBTAINED ON NO. 40 SIEVE

AVERAGE WET UNIT WEIGHT IN PCF FROM ROW SAMPLE

LL LIQUID LIMIT IN PERCENT

PL PLASTIC LIMIT IN PERCENT

PI PLASTICITY INDEX IN PERCENT

ENGINEERING CLASSIFICATION

CONSTITUENT SOILS

DESCRIPTION	[illegible]
VERY LOOSE	[illegible]
LOOSE	[illegible]
MEDIUM DENSE	[illegible]
DENSE	[illegible]
VERY DENSE	[illegible]

COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, TSF	[illegible]
VERY SOFT	[illegible]	[illegible]
SOFT	[illegible]	[illegible]
MEDIUM STIFF	[illegible]	[illegible]
STIFF	[illegible]	[illegible]
VERY STIFF	[illegible]	[illegible]
HARD	ABOVE 4	ABOVE 30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THE SPECIFIC TIME PERIOD, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOG AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REFLECTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATION AND ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. ELEVATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR. ABSENCE OF WATER SURFACE DATA ON CERTAIN BORINGS IMPLIES THAT NO GROUNDWATER DATA IS AVAILABLE. IT DOES NOT NECESSARILY MEAN THAT GROUNDWATER WILL NOT BE ENCOUNTERED AT THESE LOCATIONS OR WITHIN THE VERTICAL REACHES OF THESE BORINGS.

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WEST TURNING BASIN
CANAVERAL PORT AUTHORITY
PORT CANAVERAL, FLORIDA

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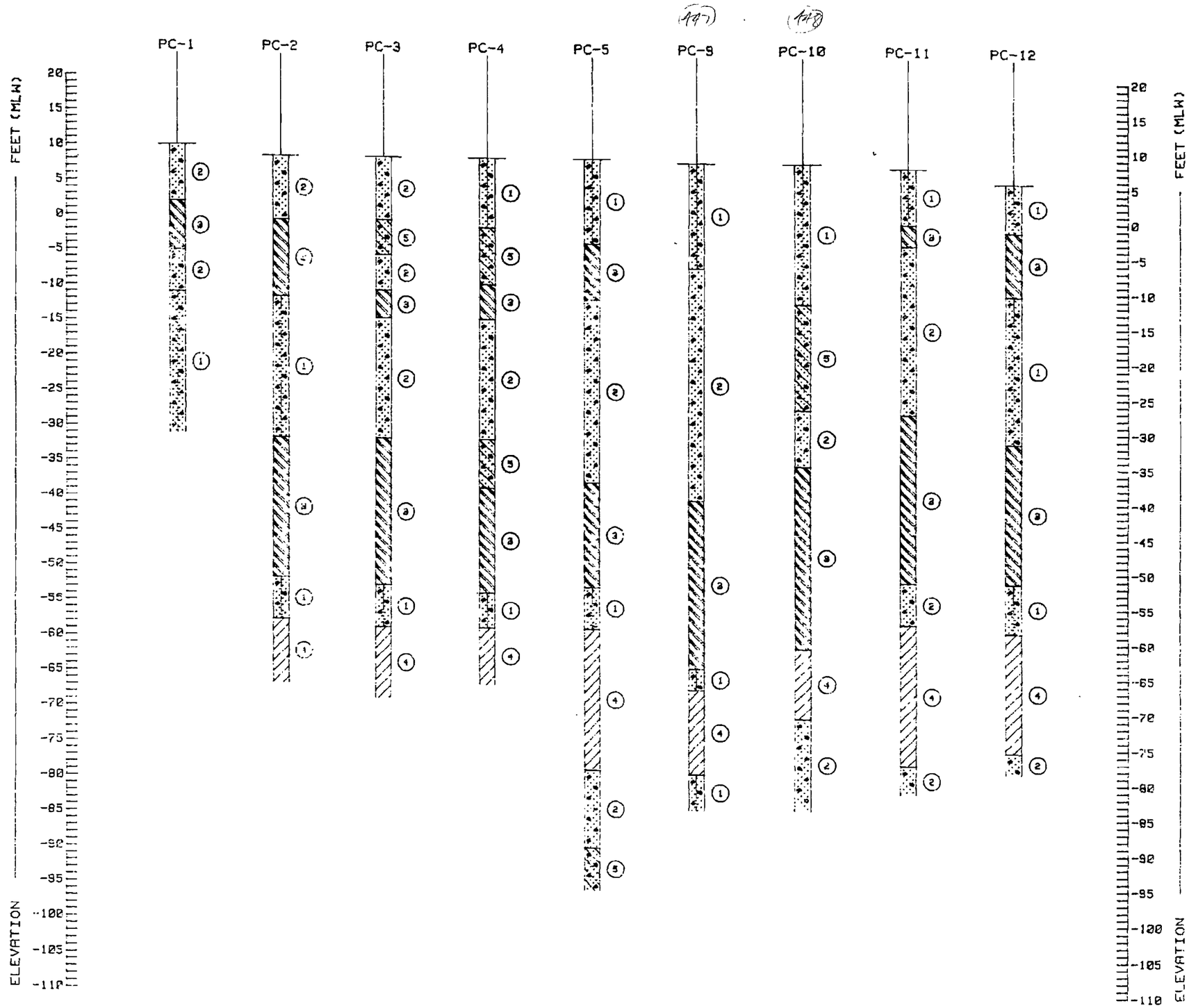
FILE NO. 83-098	APPROVED BY James W. Babcock	

FIGURE 2.5



LEGEND

1. GRAY TO DARK GRAY OR DARK BROWN SLIGHTLY SILTY TO SILTY FINE SAND W/SHELLS
2. GRAY TO DARK GREENISH GRAY OR BROWN FINE SAND W/SHELLS, OCCASIONALLY CEMENTED
3. GRAY TO DARK GREENISH GRAY SANDY CLAY TO CLAY W/OCCASIONAL SEAMS OF FINE SAND, SILT AND SHELLS
4. GRAY TO DARK GREENISH GRAY VERY CLAYEY FINE SAND TO VERY SANDY CLAY W/SHELLS
5. GRAY TO DARK GREENISH GRAY SLIGHTLY CLAYEY TO CLAYEY FINE SAND W/SHELL FRAGMENTS AND OCCASIONAL TRACES OF CEMENTED SAND
6. GRAY TO DARK GREENISH GRAY SANDY TO CLAYEY SILT W/SHELLS AND OCCASIONAL TRACES OF FINE SAND
7. HIGHLY CONSOLIDATED CLAY AND/OR WEATHERED LIMESTONE W/SAND AND SHELLS

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Consulting Engineers in Soil Mechanics, Foundations, and Material Testing

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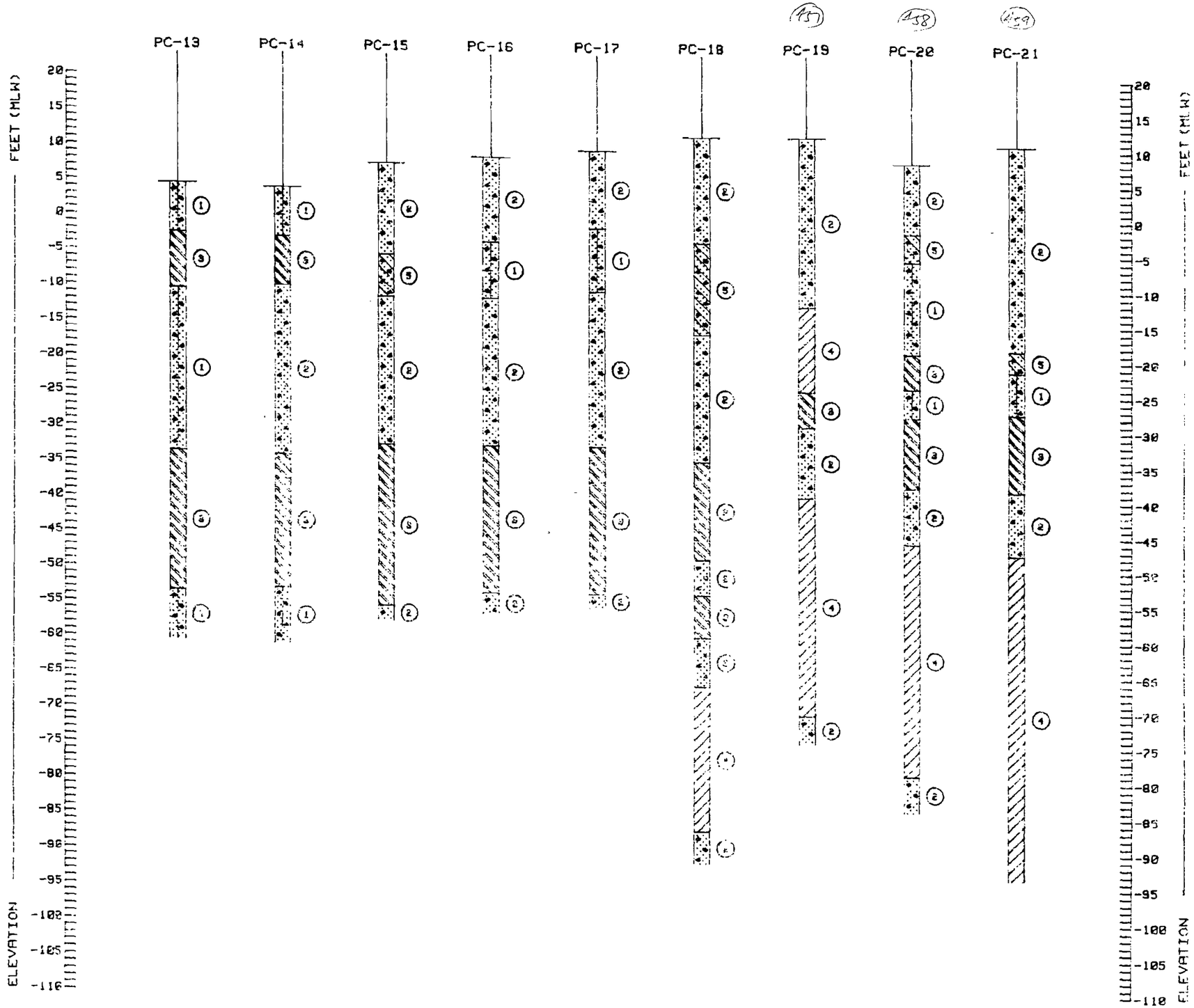
PORT CANAVERAL, FLORIDA

DRAWN BY: D.G.O. | CHECKED BY: R.E.S. | DATE: 1/12/84
FILE NO. 83-094 | APPROVED BY: [signature]

52957

FIGURE 2.6



LEGEND

1. GRAY TO DARK GRAY OR DARK BROWN SLIGHTLY SILTY TO SILTY FINE SAND W/SHELLS
2. GRAY TO DARK GREENISH GRAY OR BROWN FINE SAND W/SHELLS, OCCASIONALLY CEMENTED
3. GRAY TO DARK GREENISH GRAY SANDY CLAY TO CLAY W/OCCASIONAL SEAMS OF FINE SAND, SILT AND SHELLS
4. GRAY TO DARK GREENISH GRAY VERY CLAYEY FINE SAND TO VERY SANDY CLAY W/SHELLS
5. GRAY TO DARK GREENISH GRAY SLIGHTLY CLAYEY TO CLAYEY FINE SAND W/SHELL FRAGMENTS AND OCCASIONAL TRACES OF CEMENTED SAND
6. GRAY TO DARK GREENISH GRAY SANDY TO CLAYEY SILT W/SHELLS AND OCCASIONAL TRACES OF FINE SAND
7. HIGHLY CONSOLIDATED CLAY AND/OR WEATHERED LIMESTONE W/SAND AND SHELLS

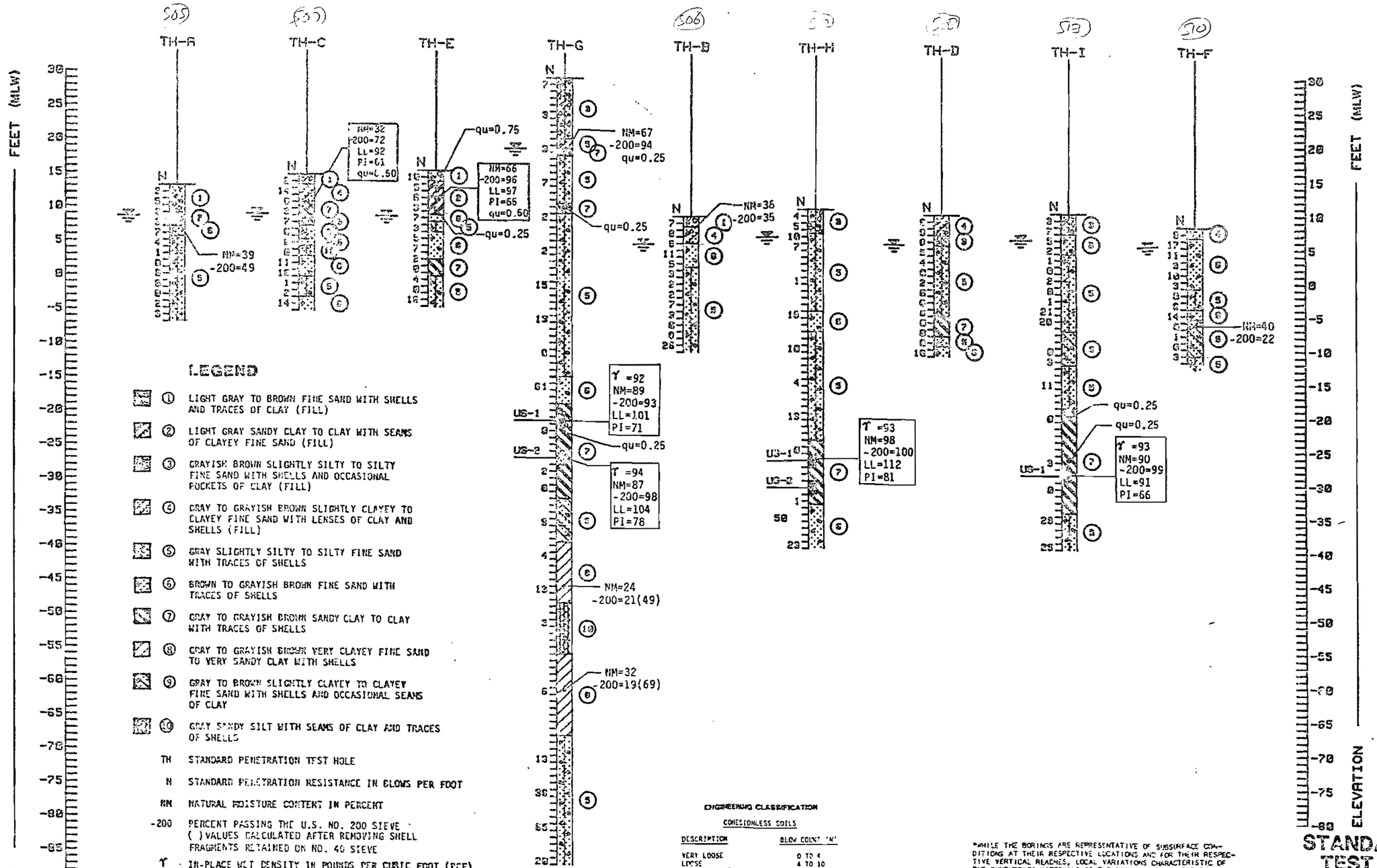
Ardaman & Associates, Inc.
Consulting Engineers in Soil Mechanics, Foundations, and Material Testing

WEST TURNING BASIN
CANAVERAL PORT AUTHORITY
PORT CANAVERAL, FLORIDA

DRAWN BY: D.G.O. CHECKED BY: [illegible] DATE: 1/12/84
FILE NO. 83-098 APPROVED BY: [illegible]

FIGURE 2.7

52957



LEGEND

- ① LIGHT GRAY TO BROWN FINE SAND WITH SHELLS AND TRACES OF CLAY (FILL)
- ② LIGHT GRAY SANDY CLAY TO CLAY WITH SEAMS OF CLAYEY FINE SAND (FILL)
- ③ GRAYISH BROWN SLIGHTLY SILTY TO SILTY FINE SAND WITH SHELLS AND OCCASIONAL POCKETS OF CLAY (FILL)
- ④ GRAY TO GRAYISH BROWN SLIGHTLY CLAYEY TO CLAYEY FINE SAND WITH LENSES OF CLAY AND SHELLS (FILL)
- ⑤ GRAY SLIGHTLY SILTY TO SILTY FINE SAND WITH TRACES OF SHELLS
- ⑥ BROWN TO GRAYISH BROWN FINE SAND WITH TRACES OF SHELLS
- ⑦ GRAY TO GRAYISH BROWN SANDY CLAY TO CLAY WITH TRACES OF SHELLS
- ⑧ GRAY TO GRAYISH BROWN VERY CLAYEY FINE SAND TO VERY SANDY CLAY WITH SHELLS
- ⑨ GRAY TO BROWN SLIGHTLY CLAYEY TO CLAYEY FINE SAND WITH SHELLS AND OCCASIONAL SEAMS OF CLAY
- ⑩ GRAY SANDY SILT WITH SEAMS OF CLAY AND TRACES OF SHELLS

TH	STANDARD PENETRATION TEST HOLE
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
NM	NATURAL MOISTURE CONTENT IN PERCENT
-200	PERCENT PASSING THE U.S. NO. 200 SIEVE ( )VALUES CALCULATED AFTER REMOVING SHELL FRAGMENTS RETAINED ON NO. 40 SIEVE
γ	IN-PLACE WET DENSITY IN POUNDS PER CUBIC FOOT (PCF)
LL	LIQUID LIMIT IN PERCENT
PI	PLASTICITY INDEX
▽	GROUNDWATER LEVEL ON DATES INDICATED: 3/1/85-3/15/85
qu	UNCONFINED COMPRESSIVE STRENGTH (TSF) (HAND PENETROMETER)
US-1	UNDISTURBED SAMPLE FOR LABORATORY ANALYSIS, 2.5 O.D. 16 GAGE SEAMLESS BRASS SHELBY TUBE SAMPLER

ENGINEERING CLASSIFICATION

COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT 'N'
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	ABOVE 50

COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, TSF	BLOW COUNT 'N'
VERY SOFT	BELOW .25	0 TO 2
SOFT	.25 TO .50	2 TO 4
MEDIUM STIFF	.50 TO 1.0	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	ABOVE 4	ABOVE 30

"WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATION AND ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR. ABSENCE OF WATER SURFACE DATA ON CERTAIN BORINGS IMPLIES THAT NO GROUNDWATER DATA IS AVAILABLE, BUT DOES NOT NECESSARILY MEAN THAT GROUNDWATER WILL NOT BE ENCOUNTERED AT THESE LOCATIONS OR WITHIN THE VERTICAL REACHES OF THESE BORINGS."

STANDARD PENETRATION TEST BORING PROFILES

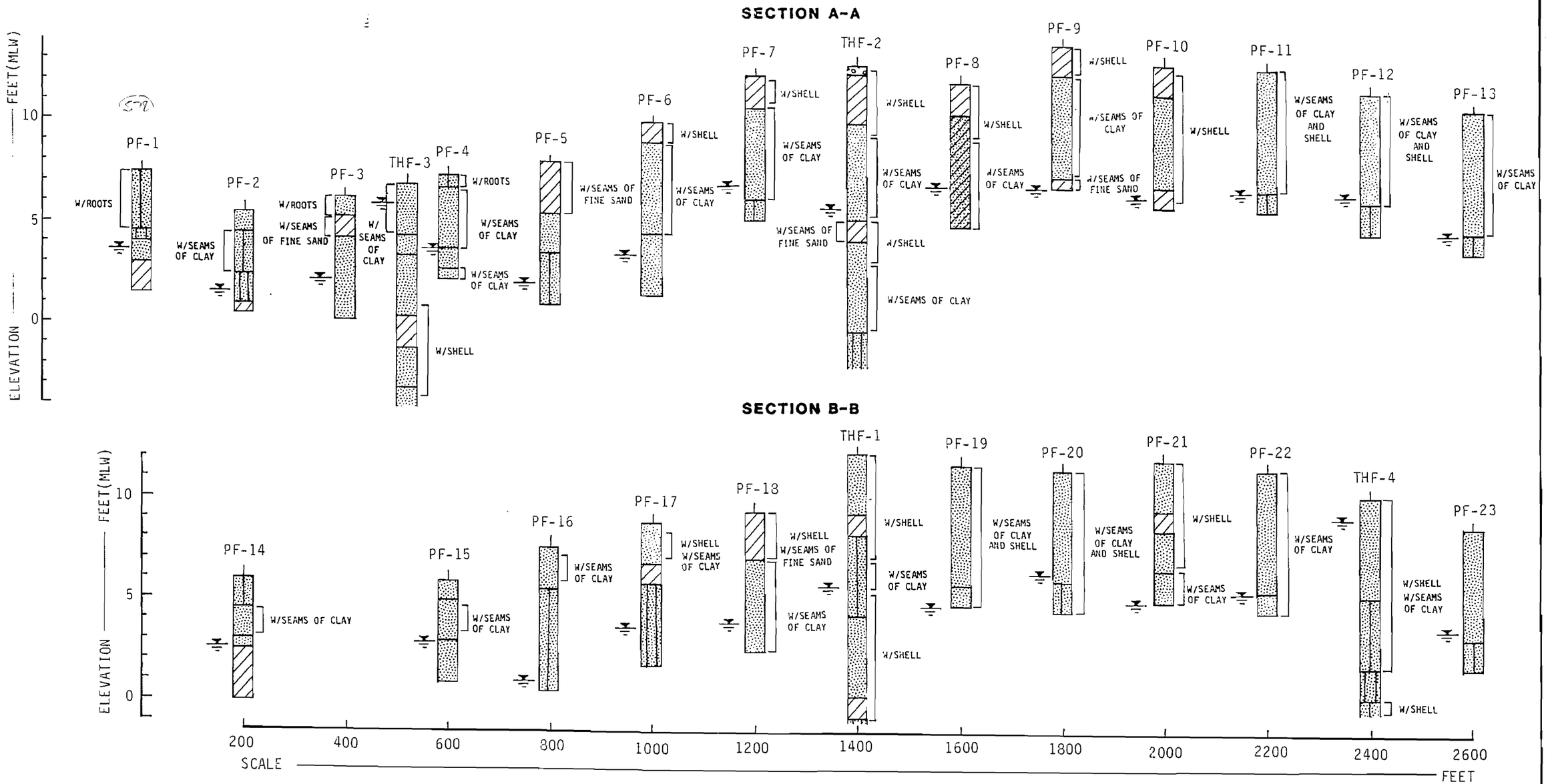
Ardaman & Associates, Inc.
Consulting Engineers in Soil Mechanics, Foundations, and Material Testing

SUBSURFACE EXPLORATION
STUDY AREAS 4 AND 5
CANAVERAL PORT AUTHORITY
PORT CANAVERAL, FLORIDA

DRAWN BY: LC	CHECKED BY: RKS	DATE: 4/12/85
FILE NO. 83-094	APPROVED BY: James V. Bodcock	

FIGURE 3

K&E 19-1353



LEGEND

- GRAY OR BROWN FINE SAND
- GRAY OR BROWN SLIGHTLY SILTY FINE SAND
- GRAY OR BROWN SILTY FINE SAND
- GRAY OR BROWN CLAY (CH)
- WATER TABLE

SECTIONS A-A AND B-B

Ardaman & Associates, Inc.
Consulting Engineers in Soil Mechanics, Foundations, and Material Testing

FOREIGN TRADE ZONE
CANAVERAL PORT AUTHORITY
PORT CANAVERAL, FLORIDA

DRAWN BY: S.E.F	CHECKED BY:	DATE: 12/13/85
FILE NO. 83-094L	APPROVED BY: James W. Babcock	

K&E 19-1353

FIGURE 2

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(634)

BORING NO. TH-37
TOTAL DEPTH 22.0 ft
SHEET 1 OF 1

PROJECT West Turning Basin — FILE NO. 83-094J
CLIENT Canaveral Port Authority, Cape Canaveral, Florida
BORING LOCATION Station: 280+25 Range: -450 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION -14.9 feet (MLW)
DATE STARTED 8-2-85 — DATE COMPLETED 8-2-85 — BORING TYPE SPT - 140 lb hammer, 30" drop, 2" OD
DRILLER/RIG Parker/CME-45 — LENGTH/TYPE CASING 30.0 feet/3" diameter
WATER TABLE DEPTH: 1st Tidal — DATE 8-2-85 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Elevation Feet(MLW)
										-14.9
		0-0 2-4	2	1					Dark gray silty fine sand with shell (SM)	
1		3-0 0-0	0	2					Gray fine sand with shell (SP)	-17.4
	5	0-1 1-0	2	3 4					Dark gray silty fine sand with shell (SM)	-18.9
2		0-0 0-0	0	5					Dark gray sandy clay (CH)	-20.9
3	10	1-1 1-2	2	6 7					Dark brown silty fine sand with shell (SM)	-23.9
		3-6 8-13	14	8						
4		8-10 12-15	22	9						
	15	1-2 4-4	6	10						
5		6-13 13-15	26	11						
6	20	3-2 2-1	4	12					Dark gray silty clay with seams of fine sand and shell (CH)	-32.9
		1-1 1-2	2	13						
7									Boring terminated at Elevation -36.9 feet (MLW)	-36.9
	25									
8										
9	30									
10										
	35									
11										
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(640)

BORING NO. TH-38
TOTAL DEPTH 14.0 ft
SHEET 1 OF 1

PROJECT West Turning Basin
CLIENT Canaveral Port Authority, Cape Canaveral, Florida
FILE NO. 83-094J
BORING LOCATION Station: 278+90 Range: -230 Port Canaveral Grid System
COUNTY Brevard
STATE Florida
ELEVATION -16.8 feet (MLW)
DATE STARTED 8-3-85
DATE COMPLETED 8-3-85
BORING TYPE SPT - 140 lb hammer, 30" drop, 2" OD
DRILLER/RIG Parker/CME-45
LENGTH/TYPE CASING 30.0 feet/3" diameter
WATER TABLE DEPTH: 1st Tidal DATE 8-3-85 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Elevation Feet(MLW)
										-16.8
		0-0 0-0	0	1					Dark gray silty fine sand (SM)	
1		0-0 0-0	0	2					Dark gray silty clay (CH)	-18.8
	5	0-0 0-0	0	3 4						-21.8
2		0-1 0-0	1	5					Dark gray slightly silty fine sand with shell fragments (SP-SM)	
3	10	0-1 1-2	2	6						
		2-2 5-6	7	7						
4		5-2 4-4	6	8						
	15									-30.8
5									Boring terminated at Elevation -30.8 feet (MLW)	
6	20									
7										
	25									
8										
9	30									
10										
	35									
11										
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(54)

BORING NO. TH-39
TOTAL DEPTH 20.0 ft
SHEET 1 OF 1

PROJECT West Turning Basin — FILE NO. 83-094J
CLIENT Canaveral Port Authority, Cape Canaveral, Florida
BORING LOCATION Station: 280+60 Range: -75 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION -18.0 feet (MLW)
DATE STARTED 8-3-85 — DATE COMPLETED 8-3-85 — BORING TYPE SPT - 140 lb hammer, 30" drop, 2" OD
DRILLER/RIG Jones/CME-45 — LENGTH/TYPE CASING 30.0 feet/3" diameter
WATER TABLE DEPTH: 1st Tidal — DATE 8-3-85 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Elevation Feet(MLW)
										-18.0
		3-4 4-6	8	1					Gray slightly silty fine sand (SP-SM)	
1		4-5 7-6	12	2						
	5	5-5 5-4	10	3						
2		4-4 3-2	7	4		29	37	22		-25.0
									Gray clayey fine sand to sandy clay (SC) (CH)	
3	10	1-1 1-2	2	5						-27.0
		2-2 5-13	7	6					Brown silty fine sand (SM)	
4		23-22 17-15	39	7					Gray silty fine sand with shell (SM)	-30.0
	15	6-11 12-6	23	8						
5		12-12 11-12	23	9						
6	20	6-5 4-5	9	10						
									Boring terminated at -38.0 feet (MLW)	-38.0
7										
	25									
8										
9	30									
10										
	35									
11										
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(642)

BORING NO. TH-40
TOTAL DEPTH 22.0 ft
SHEET 1 OF 1

PROJECT West Turning Basin FILE NO. 83-094J
CLIENT Canaveral Port Authority, Cape Canaveral, Florida
BORING LOCATION Station: 280+25 Range: +260 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION -13.6 feet (MLW)
DATE STARTED 8-6-85 DATE COMPLETED 8-6-85 BORING TYPE SPT - 140 lb hammer, 30" drop, 2" OD
DRILLER/RIG Jones/CME-45 LENGTH/TYPE CASING 25.0 feet/3" diameter
WATER TABLE DEPTH: 1st Tidal DATE 8-6-85 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Elevation Feet(MLW)
										-13.6
		2-4 4-5	8	1					Gray fine sand with traces of shell (SP)	
1		1-0 0-0	0	2					Gray silty clay (CH)	-15.6
	5	0-0 0-0	0	3					Gray clayey fine sand with shell (SC)	-17.6
2		0-0 0-0	0							
3	10	1-0 0-0	0	4						
		0-0 0-0	0	5					Gray clay with occasional sand seams (CH)	-23.6
4		1-1 1-1	2	6						-27.1
	15	1-4 4-3	8	7					Gray fine sand (SP)	
5		2-4 6-7	10	8						
6	20	2-4 4-8	8	9						-33.1
		4-5 9-10	14	10					Light gray slightly silty fine sand with shell(SP-SM)	-35.6
7									Boring terminated at Elevation -35.6 feet (MLW)	
	25									
8										
9	30									
10										
	35									
11										
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(54)

BORING NO. TH-41
TOTAL DEPTH 16.0 ft
SHEET 1 OF 1

PROJECT West Turning Basin
FILE NO. 83-094J
CLIENT Canaveral Port Authority, Cape Canaveral, Florida
BORING LOCATION Station: 285+30 Range: -60 Port Canaveral Grid System
COUNTY Brevard
STATE Florida
ELEVATION -24.7 feet (MLW)
DATE STARTED 8-5-85
DATE COMPLETED 8-5-85
BORING TYPE SPT - 140 lb hammer, 30" drop, 2" OD
DRILLER/RIG Jones/CME-45
LENGTH/TYPE CASING 35.0 feet/3" diameter
WATER TABLE DEPTH: 1st Tidal DATE 8-5-85 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Elevation Feet(MLW)
										-24.7
		0-0 3-4	3	1					Gray fine sand (SP)	-26.7
1		0-0 0-0	0	2					Gray silty fine sand (SM)	-28.7
	5	0-0 0-0	0	3					Gray clayey fine sand to sandy silt (SC-ML)	-30.7
2		0-1 0-1	1	4					Gray slightly silty fine sand with shell (SP-SM)	
3	10	7-2 4-7	6	5						
		8-9 10-11	19	6						-36.7
4		5-4 4-4	8	7					Gray sandy clay (CH)	
	15	4-0 1-3	1	8						-40.7
5									Boring terminated at Elevation 40.7 feet (MLW)	
6	20									
7										
8	25									
9	30									
10										
11	35									
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-42
TOTAL DEPTH 26.0 ft
SHEET 1 OF 1

PROJECT West Turning Basin — FILE NO. 83-094J
CLIENT Canaveral Port Authority, Cape Canaveral, Florida
BORING LOCATION Station: 286+60 Range: +260 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION -12.8 feet (MLW)
DATE STARTED 8-3-85 — DATE COMPLETED 8-3-85 — BORING TYPE SPT - 140 lb hammer, 30" drop, 2" OD
DRILLER/RIG Parker/CME-45 — LENGTH/TYPE CASING 25.0 feet/3" diameter
WATER TABLE DEPTH: 1st Tidal — DATE 8-3-85 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Elevation Feet(MLW) -12.8
		0-0 2-4	2	1					Dark gray slightly silty fine sand (SM)	
1		3-0 3-0	3	2						-17.3
	5	0-0 0-0	0	3 4					Dark gray sandy clay (CH)	
2		0-0 0-0	0	5						-20.3
3	10	2-3 4-5	7	6					Brown fine to medium sand (SP)	
		2-3 4-3	7	7						
4		5-8 8-12	16	8						-25.3
	15	10-10 13-17	23	9					Dark gray slightly silty fine sand with shell (SP-SM)	
5		1-2 2-2	4	10						
6	20	5-10 7-11	17	11						
		5-7 8-8	15	12						
7		6-6 6-2	12	13						-36.3
8	25	2-2 1-1	3	14					Dark gray slightly sandy clay (CH)	-38.8
9	30								Boring terminated at Elevation -38.8 feet (MLW)	
10	35									
11										
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(352)

BORING NO. TH-50
TOTAL DEPTH 9.0 ft
SHEET 1 OF 1

PROJECT West Turning Basin — FILE NO. 83-094J
CLIENT Canaveral Port Authority, Cape Canaveral, Florida
BORING LOCATION Station: 278+50 Range: -950 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION -23.5 feet (MLW)
DATE STARTED 8-15-85 — DATE COMPLETED 8-15-85 — BORING TYPE SPT - 140 lb hammer, 30" drop, 2" OD
DRILLER/RIG Parker/CME-45 — LENGTH/TYPE CASING 41.0 feet/3" diameter
WATER TABLE DEPTH: 1st Tidal — DATE 8-15-85 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Elevation Feet(MLW)
										-23.5
		0-0-0	0	1					Dark greenish gray silty clay (CH)	
1		0-0-0	0	2						
		0-0-1	1	3						
	5	1-0-2	2	4						
2		1-2-2	4	5						-30.5
		3-3-4	7	6					Dark greenish gray silty sand with shell fragments (SM)	-32.5
3	10								Boring terminated at Elevation -32.5 feet (MLW)	
4										
	15									
5										
6	20									
7										
	25									
8										
9	30									
10										
	35									
11										
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-70
TOTAL DEPTH 91.0 ft
SHEET 1 OF 3

PROJECT Proposed Dry Dock Area - East Wall of West Turning Basin FILE NO. 86-160A
CLIENT Canaveral Port Authority
BORING LOCATION Station 276+30, Range -580 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION +8.6 feet (MLW)
DATE STARTED 12/16/86 DATE COMPLETED 12/16/86 BORING TYPE Rotary/SPT
DRILLER/RIG Smith/CME-55 LENGTH/TYPE CASING Used drilling mud
WATER TABLE DEPTH: 1st 7' 2" DATE 12/16/86 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		5-10-13	23	1					Gray fine sand with shells (SP)	
1		15-13-10	23	2					Gray clayey fine sand with shells (SC)	
		16-10-13	23	3						
	5	10-10-10	20	4						
2		7-5-5	10	5						
		2-2-3	5	6						
3	10	2-1-1	2	7						
4									Gray fine sand with shells (SP)	
	15	3-1-3	4	8						
5										
6									Gray clayey fine sand with shells (SC)	
	20	3-1-0	1	9						
7										
	25	1-0-1	1	10						
8										
9									Gray sandy clay with traces of shell (CL)	
	30	0-0-0	0	11						
10									Gray clay (CH)	
	35	0-0-1	1	12						
11									Gray silty fine sand (SM)	
12									Gray fine sand with shells (SP)	
	40									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-70
TOTAL DEPTH 91.0 ft
SHEET 2 OF 3

PROJECT Proposed Dry Dock Area - East Wall of West Turning Basin
CLIENT Canaveral Port Authority

FILE NO. 86-160A

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		50-28-17	45	13					Gray fine sand with shells (SP)	
13										
	45								Gray sandy clay (CL)	
14		5-1-6	7	14						
15									Gray clay (CH)	
	50	0-0-2	2	15						
16										
	55									
17		0-0-0	0	16						
					30.9				Gray silty clay with shell fragments (CH)	US-1 γ_d=84.5 psf qu=1.25 tsf
18										
	60	3-2-3	5	17					Gray clayey fine sand with shells (SC)	
19										
	65									
20		6-5-5	10	18						
21										
	70	1-3-4	7	19						
22										
	75									
23		3-6-4	10	20						
24										
	80	3-6-9	15	21						
25										
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-70
TOTAL DEPTH 91.0 ft
SHEET 3 OF 3

PROJECT Proposed Dry Dock Area - East Wall of West Turning Basin
CLIENT Canaveral Port Authority
FILE NO. 86-160A

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		6-9-5	14	22					Gray clayey fine sand with shells (SC)	
27									Gray sandy clay (CL)	
	90	5-6-3	9	23						
28									Boring terminated at 91.0 feet	
29	95									
30										
	100									
31										
32	105									
33										
	110									
34										
35	115									
36										
	120									
37										
38	125									
39										
	130									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

678

BORING NO. TH-71
TOTAL DEPTH 91.0 ft
SHEET 1 OF 3

PROJECT Proposed Dry Dock Area - East Wall of West Turning Basin FILE NO. 86-160A
CLIENT Canaveral Port Authority
BORING LOCATION Station 276+30, Range -980 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION +7.9 feet (MLW)
DATE STARTED 12/4/86 DATE COMPLETED 12/4/86 BORING TYPE Rotary/SPT
DRILLER/RIG Smith/CME-55 LENGTH/TYPE CASING Used drilling mud
WATER TABLE DEPTH: 1st 5' 6" DATE 11/5/86 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		12-12-16	28	1					Brown fine sand with shells (SP)	
1		16-23-12	35	2					Gray clay fine sand (SC)	
		8-14-13	27	3						
	5	12-28-18	46	4						
2		15-10-8	18	5						
		2-4-3	7	6					Gray slightly clayey fine sand with shells (SM-SC)	
3	10	3-1-2	3	7						
4									Gray fine sand with shells (SP)	
	15	5-3-2	5	8						
5										
6									Gray silty fine sand (SM)	
	20	0-2-4	6	9						
7									Gray clayey fine sand (SC)	
	25	1-0-2	2	10						
8										
9									Gray silty fine sand (SM)	
	30	1-2-6	8	11						
10										
11	35	5-7-9	16	12					Grayish brown fine sand (SP)	
12										
	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-71
TOTAL DEPTH 91.0 ft
SHEET 2 OF 3

PROJECT Proposed Dry Dock Area - East Wall of West Turning Basin
CLIENT Canaveral Port Authority
FILE NO. 86-160A

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		29-36-31	67	13					Gray fine sand with shells (SP)	
13										
									Gray clay with traces of shell (CH)	
	45	3-3-5	8	14						
14										
15										
	50	0-1-0	1	15						
16										
	55	0-0-0	0	16						
17										
18										
	60	3-2-2	4	17						
									Gray sandy clay with shells (CL)	
19										
	65	6-5-9	14	18						
20										
21										
	70	1-4-4	8	19						
22										
	75	3-4-4	8	20						
23										
24										
	80	3-3-4	7	21					Gray clayey fine sand with shells (SC)	
25										
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-71
TOTAL DEPTH 91.0 ft
SHEET 3 OF 3

PROJECT Proposed Dry Dock Area - East Wall of West Turning Basin
CLIENT Canaveral Port Authority

FILE NO. 86-160A

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		3-2-3	5	22					Gray sandy clay (CL)	
27										
	90	3-3-2	5	23						
28									Boring terminated at 91.0 feet	
29	95									
30										
	100									
31										
32	105									
33										
	110									
34										
35	115									
36										
	120									
37										
38	125									
39										
	130									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THR-1
TOTAL DEPTH 34.0 ft
SHEET 1 OF 1

PROJECT Port Canaveral Entrance Channel — FILE NO. 83-094R
CLIENT Canaveral Port Authority
BORING LOCATION Station: 184+28.8 Range: 492 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION -2.9 feet (MLW)
DATE STARTED 4-2-86 — DATE COMPLETED 4-2-86 — BORING TYPE SPT
DRILLER/RIG May/CME-45, Barge Mounted — LENGTH/TYPE CASING 20 feet/4" diameter
WATER TABLE DEPTH: 1st Tidal — DATE 4-2-86 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Elevation Feet (MLW) -2.9
		2-3 2-4	5	1					Grayish brown to dark gray fine sand to slightly silty fine sand with shell (SP-SM)	
1		3-4-3	7							
	5	2-3-3	6	2		4				
2		4-3-3	6	3						
		3-2-3	5	4						
		2-3-4	7							
3	10	3-2-3	5	5						
		2-1-2	3	6					Dark gray silty fine sand (SM)	-13.9'
4		1-3 3-6	6	7						
	15	6-5 6-3	11	8						
5		5-6 6-4	12	9					Dark gray slightly silty fine sand with shell (SP-SM)	-19.9'
6	20	4-4 6-2	10	10						
		4-3 5-5	8	11					Gray to dark gray silty fine sand with shell (SM)	-23.9'
7		6-7 6-5	13	12						
	25	5-5 5-5	10	13						
8		6-4 7-5	11							
9	30	5-6 6-1	12	14						
		2-1 2-1	3	15					Dark gray clay with shell (CH) q_u = 0.5 tsf	-32.9'
10		1-2-1	3	16						
	35								Boring terminated @ Elevation -36.9 feet (MLW)	-36.9'
11										
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THR-2
TOTAL DEPTH 36.2 ft
SHEET 1 OF 1

PROJECT Port Canaveral Entrance Channel
FILE NO. 83-094R
CLIENT Canaveral Port Authority
BORING LOCATION Station: 180+54.1 Range: 547 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION +1.4 feet (MLW)
DATE STARTED 4-15-86 DATE COMPLETED 4-15-86 BORING TYPE SPT
DRILLER/RIG May/CME-45, Barge Mounted LENGTH/TYPE CASING 10 feet/4" diamter
WATER TABLE DEPTH: 1st Tidal DATE 4-15-86 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Elevation Feet (MLW) +1.4
		2-3 2-4	5	1					Grayish brown slightly silty fine sand with shell (SP-SM)	
1		3-2 2-4	4	2						
	5	4-3 5-6	8	3						
2		3-4 4-6	8	4						
3	10	4-5 5-6	10	5					Dark gray silty fine sand with shell (SM)	-6.6'
4		5-5 6-7	11	6						
	15									
5		4-4 4-6	8	7						
6	20	5-6 8-11	14	8						
7		6-8 11-16	19	9						
	25									
8		4-5 3-5	8	10					Dark gray silty fine sand with traces of greenish gray clay (SM-CH)	-25.1'
9	30	8-16 25-25	41	11					Dark gray silty fine sand (SM)	-27.1'
10		6-5 2-2	7	12 13					Dark gray silty fine sand with lenses of dark gray clay (SM-CH)	-29.6'
	35								Dark gray clay with shell (CH)	-32.6'
11		0-0 0-1	0	14					q_u = 0.25 tsf	
12	40								Boring terminated @ Elevation -35.1 feet (MLW)	-35.1'

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-1
TOTAL DEPTH 96.0 ft
SHEET 1 OF 3

PROJECT Port Canaveral Peninsula Bulkhead — FILE NO. 83-094W
CLIENT Canaveral Port Authority
BORING LOCATION Station: 275+46.5 Range: -370.7 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION +8.9 feet (MLW)
DATE STARTED 4-22-86 — DATE COMPLETED 4-22-86 — BORING TYPE SPT
DRILLER/RIG Smith/CME-55 — LENGTH/TYPE CASING Drilling Mud was used
WATER TABLE DEPTH: 1st 3'6" — DATE 4-22-86 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Blows/6"	N Value	Sample No.	NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		4-9-10	19	1					Brown slightly silty fine sand with shell (SP-SM)	
		9-11-8	19	2					Gray clayey fine sand with shell (SC)	
1		12-11-9	20	3					Gray silty fine sand with shell (SM)	
	5	5-6-7	13	4					Gray silty to clayey fine sand (SM-SC)	
2		5-5-4	9	5					Gray silty fine sand with shell (SM)	
		1-1-0	1	6						
3	10	4-4-6	10	7					Gray slightly silty fine sand with shell (SP-SM)	
4										
	15	9-8-1	9	8						
5										
6									Gray clayey fine sand (SC)	
	20	1-1-1	2	9						
7									Gray sandy clay (CL)	
	25	0-1-0	1	10						
8										
9									Gray silty fine sand (SM)	
	30	1-1-1	2	11						
10										
									Gray clay (CH) q_u = 0.5 tsf	
	35	0-0-1	1	12						
11										
						24.1			Dark gray slightly silty fine sand with shell (SP-SM) γ_d = 97.4 pcf	US-1
12										
	40									

Ardaman & Associates, Inc.
Consulting Engineers in Soil Mechanics, Foundations, and Materials Testing

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-1
TOTAL DEPTH 96.0 ft
SHEET 2 OF 3

PROJECT Port Canaveral Peninsula Bulkhead
CLIENT Canaveral Port Authority
FILE NO. 83-094W

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		8-12-11	23	13					Dark gray slightly silty fine sand with shell (SP-SM)	
13										
	45								Gray clay and clayey fine sand with shell (CH, SC)	
14		1-0-0	0	14						
					62 26	80			Gray sandy clay (CH) with seams of clayey fine sand and shell q_u = 1.25 tsf Q_u = 0.73 tsf	US-2
15										
	50	6-5-9	14	15						
16										
									Gray clayey fine sand with shell (SC)	
	55	1-0-1	1	16						
17										
18										
	60	1-2-1	3	17	39.6	41				
19										
	65	3-2-2	4	18	42.1	32				
20										
21										
	70	3-3-2	5	19	32.6	38				
22										
	75	2-3-2	5	20	33.6	38				
23										
24										
	80	4-2-3	5	21						
25										
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-1
TOTAL DEPTH 96.0 ft
SHEET 3 OF 3

PROJECT Port Canaveral Peninsula Bulkhead
CLIENT Canaveral Port Authority
FILE NO. 83-094W

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		6-5-8	13	22					Gray clayey fine sand with shell (SC)	
27										
	90	10-21-32	53	23						
28										
29	95	6-9-13	22	24						
30									Terminated at 96.0 feet	
	100									
31										
32	105									
33										
	110									
34										
35	115									
36										
	120									
37										
38	125									
39										
	130									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(752)

BORING NO. THW-2
TOTAL DEPTH 76.0 ft
SHEET 1 OF 2

PROJECT Port Canaveral Peninsula Bulkhead — FILE NO. 83-094W
CLIENT Canaveral Port Authority
BORING LOCATION Station: 273+06.6 Range: -351.6 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION +9.0 feet (MLW)
DATE STARTED 4-16-86 — DATE COMPLETED 4-16-86 — BORING TYPE SPT
DRILLER/RIG Smith/CME-55 — LENGTH/TYPE CASING Drilling Mud was used
WATER TABLE DEPTH: 1st 3'8" — DATE 4-16-86 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Blows/6"	N Value	Sample No.	NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		1-2-3	5	1					Grayish brown fine sand with shell and roots (SP)	
1		2-3-3	6	2						
		4-2-3	5	3					Gray fine sand with traces of clayey fine sand and gray clay (SP)	
	5	3-3-3	6	4						
2		4-1-1	2	5					Gray slightly silty fine sand with shell (SP-SM)	
		1-0-1	1	6					Gray silty fine sand with shell (SM)	
3	10	8-10-10	20	7					Gray fine sand (SP)	
4										
	15	6-8-6	14	8						
5										
6									Gray silty fine sand (SM)	
	20	0-0-1	1	9						
7									Gray silty to clayey fine sand (SM-SC)	
	25	10-5-4	9	10						
8										
9									Gray fine sand with traces of gray clay (SP)	
	30	5-7-8	15	11						
10										
									Gray clay (CH) q_u = 0.75 tsf	
	35	1-0-0	0	12						
11										
12									Dark grayish brown clayey fine sand (SC)	
	40									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-2
TOTAL DEPTH 76.0 ft
SHEET 2 OF 2

PROJECT Port Canaveral Peninsula Bulkhead
CLIENT Canaveral Port Authority
FILE NO. 83-094W

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		0-1-3	4	13					Dark grayish brown clayey fine sand (SC)	
13										
									Gray fine sand with shell (SP)	
	45									
14		12-14-25	39	14						
15									Gray sandy clay with shell (CL) q_u = 0.75 tsf	
	50	2-1-1	2	15						
16										
									Gray clayey fine sand to sandy clay (SC-CL)	
	55									
17		2-2-2	4	16						
18									Gray clayey fine sand with shell (SC)	
	60	2-1-1	2	17						
19										
	65									
20		4-3-4	7	18						
21										
	70									
		2-2-4	6	19						
22										
	75									
23		3-5-4	9	20						
24									Terminated at 76.0 feet	
	80									
25										
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(153)

BORING NO. THW-3
TOTAL DEPTH 96.0 ft
SHEET 1 OF 3

PROJECT Port Canaveral Peninsula Bulkhead FILE NO. 83-094W
CLIENT Canaveral Port Authority
BORING LOCATION Station: 270+35.1 Range: -348.7 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION +14.1 feet (MLW)
DATE STARTED 4-18-86 DATE COMPLETED 4-18-86 BORING TYPE SPT
DRILLER/RIG Smith/CME-55 LENGTH/TYPE CASING Drilling Mud was used
WATER TABLE DEPTH: 1st 7'9" DATE 4-18-86 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		3-6-6	12	1					Brown fine sand with shell and roots (SP)	
1		6-7-6	13	2						
		3-3-3	6	3						
	5	6-8-16	24	4						
2		6-8-6	14	5					Gray fine sand with shell (SP)	
		3-3-4	7	6						
3	10	4-6-10	16	7						
4									Gray slightly silty fine sand with shell (SP-SM)	
	15	8-8-7	15	8						
5										
6	20	2-7-10	17	9						
7										
	25	2-3-5	8	10						
8										
9									Gray silty fine sand with traces of gray clay (SM)	
	30	3-5-7	12	11						
10										
	35	11-9-9	18	12						
11										
12										
	40								Gray clay with shell (CH) q_u = 0.25 tsf	

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-3
TOTAL DEPTH 96.0 ft
SHEET 2 OF 3

PROJECT Port Canaveral Peninsula Bulkhead
CLIENT Canaveral Port Authority
FILE NO. 83-094W

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		2-3-3	6	13					Gray clay with shell (CH) q_u = 0.25 tsf	
13					83.3	99			q_u = 1.25 tsf Q_u = 0.85 tsf γ_d = 54.5 pcf	US-1
	45	2-4-4	8	14						
14										
15										
	50	21-23-20	43	15					Dark brown slightly silty fine sand (SP-SM)	
16										
	55	5-3-2	5	16					Gray clayey fine sand to sandy clay with shell (SC-CL) q_u = 1.25 tsf	
17										
18										
	60	0-1-2	3	17						
19										
	65	1-1-1	2	18					Gray clayey fine sand with shell (SC)	
20										
21										
	70	5-5-2	7	19						
22										
	75	3-2-3	5	20						
23										
24										
	80			21						
25										
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-3
TOTAL DEPTH 96.0 ft
SHEET 3 OF 3

PROJECT Port Canaveral Peninsula Bulkhead
CLIENT Canaveral Port Authority

FILE NO. 83-094W

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
				22					Gray clayey fine sand with shell (SC)	
27										
	90			23					Gray silty fine sand with cemented sand and shell (SM)	
28										
29	95			24						
30									Terminated at 96.0 feet	
	100									
31										
32	105									
33										
	110									
34										
35	115									
36										
	120									
37										
38	125									
39										
	130									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(154)

BORING NO. THW-4
TOTAL DEPTH 76.0 ft
SHEET 1 OF 2

PROJECT Port Canaveral Peninsula Bulkhead — FILE NO. 83-094W
CLIENT Canaveral Port Authority
BORING LOCATION Station: 267+87.5 Range: -400.9 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION +9.6 feet (MLW)
DATE STARTED 4-22-86 — DATE COMPLETED 4-22-86 — BORING TYPE SPT
DRILLER/RIG Smith/CME-55 — LENGTH/TYPE CASING Drilling Mud was used
WATER TABLE DEPTH: 1st 6'0" — DATE 4-22-86 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		3-4-6	10	1					Brown fine sand and shell with limestone (SP)	
1		26-24-16	40	2					Light brown limestone	
		32-28-36	64	3						
	5	31-36-32	68	4					Brown fine sand with shell (SP)	
2		24-25-19	44	5					Brown slightly silty fine sand with shell (SP-SM)	
		12-13-15	28	6					Gray slightly silty fine sand with shell (SP-SM)	
3	10	8-8-7	15	7						
4									Gray clayey fine sand with shell (SC)	
	15	7-3-2	5	8						
5										
6									Gray fine sand with shell (SP)	
	20	19-18-19	37	9						
7										
	25	14-17-17	34	10						
8										
9									Gray slightly silty fine sand (SP-SM)	
	30	5-4-5	9	11						
10										
									Gray clay with traces of clayey fine sand and shell (CH)	
	35	0-0-0	0	12						
11					77.4	99			q_u = 0.5 tsf Q_u = 0.65 tsf γ_d = 54.3 pcf	US-1
12										
	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-4
TOTAL DEPTH 76.0 ft
SHEET 2 OF 2

PROJECT Port Canaveral Peninsula Bulkhead
CLIENT Canaveral Port Authority
FILE NO. 83-094W

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		0-0-0	0	13					Gray clay with traces of clayey fine sand and shell (CH) q_u = 0.5 tsf	
13										
	45								Gray fine sand with shell (SP)	
14		20-30-24	54	14						
15									Light gray slightly silty fine sand with shell (SP-SM)	
	50	16-19-18	37	15						
16										
									Gray sandy clay with shell (CL) q_u = 0.5 tsf	
	55									
17		2-1-2	3	16						
					50.8				q_u = 0.5 tsf γ_d = 70.9 pcf	US-2
18										
	60	3-2-3	5	17					Gray clayey fine sand with shell (SC)	
19										
									Gray sandy clay with shell (CL) q_u = 0.25 tsf	
	65									
20		6-4-4	8	18						
21									Gray clayey fine sand with shell (SC)	
	70									
		4-3-2	5	19						
22										
	75									
23		3-4-4	8	20						
									Terminated at 76.0 feet	
24										
	80									
25										
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-5
TOTAL DEPTH 96.0 ft
SHEET 1 OF 3

PROJECT Port Canaveral Peninsula Bulkhead FILE NO. 83-094W
CLIENT Canaveral Port Authority
BORING LOCATION Station: 264+82.1 Range: 365.2 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION +9.9 feet (MLW)
DATE STARTED 4-24-86 DATE COMPLETED 4-24-86 BORING TYPE SPT
DRILLER/RIG Smith/CME-55 LENGTH/TYPE CASING Drilling Mud was used
WATER TABLE DEPTH: 1st 6'2" DATE 4-24-86 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		5-8-9	17	1					Brown fine sand and shell with traces of clayey fine sand (SP)	
1		5-10-10	20	2						
		7-7-5	12	3						
	5	8-7-5	12	4					Gray fine sand and shell (SP)	
2		6-9-7	16	5						
		1-2-1	3	6					Gray silty fine sand and shell (SM)	
3	10	1-1-1	2	7					Gray clayey fine sand with shell (SC)	
4										
	15	1-1-1	2	8						
5										
6									Gray fine sand (SP)	
	20	7-7-10	17	9						
7										
									Gray clay and shell (CH) q_u = 0.25 tsf	
	25	0-1-1	2	10						
8										
9									Gray sandy clay (CL)	
	30	5-2-2	4	11						
10										
									Gray clay (CH) q_u = 0.5 tsf	
	35	0-0-0	0	12						
11										
					93.0	99			q_u = 0.75 tsf Q_u = 0.45 tsf γ_d = 48.6 pcf	US-1
12										
	40								40	

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-5
TOTAL DEPTH 96.0 ft
SHEET 2 OF 3

PROJECT Port Canaveral Peninsula Bulkhead
CLIENT Canaveral Port Authority
FILE NO. 83-094W

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		0-0-1	1	13					Gray clay (CH) q_u = 0.5 tsf	
13										
	45								Gray silty fine sand and shell (SM)	
14		18-18-22	40	14						
15										
	50	8-8-9	17	15						
16										
									Gray clayey fine sand and shell (SC) with seams of gray clay	
	55									
17		0-0-0	0	16						
					40.4	44			γ_d = 81.38 pcf	US-2
18										
	60	2-1-1	2	17					Gray clayey fine sand and shell (SC)	
19										
	65									
20		3-3-4	7	18						
21										
	70	14-7-3	10	19						
22										
	75									
23		4-5-8	13	20						
24										
	80	2-2-2	4	21						
25										
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-5
TOTAL DEPTH 96.0 ft
SHEET 3 OF 3

PROJECT Port Canaveral Peninsula Bulkhead
CLIENT Canaveral Port Authority
FILE NO. 83-094W

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		7-5-5	10	22					Gray clayey fine sand and shell (SC)	
27									Gray silty fine sand with cemented fine sand and shell (SM)	
	90	20-25-15	40	23						
28										
29	95	15-9-14	23	24						
30									Terminated at 96.0 feet	
	100									
31										
32	105									
33										
	110									
34										
35	115									
36										
	120									
37										
38	125									
39										
	130									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THW-6
TOTAL DEPTH 21.0 ft
SHEET 1 OF 1

PROJECT Port Canaveral Peninsula Bulkhead FILE NO. 83-094W
CLIENT Canaveral Port Authority
BORING LOCATION Station: 274+24.4 Range: -428.1 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION +9.8 feet (MLW)
DATE STARTED 4-17-86 DATE COMPLETED 4-17-86 BORING TYPE SPT
DRILLER/RIG Smith/CME-55 LENGTH/TYPE CASING Drilling Mud was used
WATER TABLE DEPTH: 1st 3'0" DATE 4-17-86 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		3-5-4	9	1					Brown fine sand with shell and traces of clay (SP)	
1		3-4-4	8	2						
		7-7-9	16	3					Gray clayey fine sand (SC)	
	5	11-13-12	25	4					Gray fine sand with shell (SP)	
2		3-3-5	8	5					Grayish brown slightly clayey fine sand (SM-SC)	
		5-2-2	4	6					Gray slightly silty fine sand (SP-SM)	
3	10	5-6-9	15	7					Gray silty to slightly clayey fine sand (SM-SC)	
4									Gray slightly silty fine sand with shell (SP-SM)	
	15	7-8-7	15	8						
5										
6									Gray clayey fine sand (SC)	
	20	3-2-1	3	9						
7									Terminated at 21.0 feet	
	25									
8										
9	30									
10										
	35									
11										
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(757)

BORING NO. THW-7
TOTAL DEPTH 21.0 ft
SHEET 1 OF 1

PROJECT Port Canaveral Peninsula Bulkhead — FILE NO. 83-094W
CLIENT Canaveral Port Authority
BORING LOCATION Station: 272+07.3 Range: -405.7 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION +10.0 feet (MLW)
DATE STARTED 4-18-86 — DATE COMPLETED 4-18-86 — BORING TYPE SPT
DRILLER/RIG Smith/CME-55 — LENGTH/TYPE CASING Drilling Mud was used
WATER TABLE DEPTH: 1st 2'8" — DATE 4-18-86 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		3-2-3	5	1					Brown fine sand with clay and roots (SP)	
1		7-7-6	13	2					Brown fine sand with roots (SP)	
	5	5-7-14	21	3					Gray fine sand with shell (SP)	
2		7-7-16	23	4						
		6-4-2	6	5						
		0-0-1	1	6					Grayish brown silty fine sand with shell (SM)	
3	10	0-0-1	1	7						
4									Gray clayey fine sand with shell (SC)	
	15	0-2-4	6	8						
5										
6									Gray slightly silty with shell (SP-SM)	
	20	2-3-4	7	9						
7									Terminated at 21.0 feet	
	25									
8										
9	30									
10										
	35									
11										
12	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. THC-5
TOTAL DEPTH 91.0 ft
SHEET 1 OF 3

PROJECT Canaveral Cove — FILE NO. 83-0940
CLIENT Canaveral Port Authority, Cape Canaveral, Florida
BORING LOCATION Station: 576+1 Range: 265+22.6 Port Canaveral Grid System
COUNTY Brevard — STATE Florida — ELEVATION 8.1 feet (MLW)
DATE STARTED 4-28-86 — DATE COMPLETED 4-28-86 — BORING TYPE SPT
DRILLER/RIG Smith/CME-55 — LENGTH/TYPE CASING Drilling Mud was used
WATER TABLE DEPTH: 1st 3.2 feet — DATE 4-28-86 — TIME
2nd — DATE — TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		23-26-18	44	1					Very light brown limestone (road base material)	
1		18-17-14	31	2	16	10			Grayish brown silty fine sand with shell (SP-SM)	
		7-5-4	9	3						
	5	3-5-4	9	4	19	7			Gray slightly silty fine sand with shell (SP-SM)	
2		4-2-1	3	5						
		1-1-0	1	6					Gray clayey fine sand with seams of clay (SC-CH)	
3	10	4-4-5	9	7					Gray fine sand with shell (SP)	
		5-7-8	15	8						
4		3-3-6	9	9						
	15	4-2-6	8	10						
5		2-2-4	6	11					Gray silty fine sand with shell (SM)	
		6-8-10	18	12	17	3			Gray fine sand with shell (SP)	
6	20	8-10-11	21	13						
		8-8-5	13	14						
7										
	25	6-6-3	9	15						
8									Gray clay with shell (CH) q_u = 0.75 tsf	
9									Gray silty fine sand with seams of gray clay (SM-CH)	
	30	1-1-2	3	16						
10										
	35	0-0-1	1	17					Gray clay q_u = 0.5 tsf	
11										
12										
	40									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. THC-5
TOTAL DEPTH 91.0 ft
SHEET 2 OF 3

PROJECT Canaveral Cove
CLIENT Canaveral Port Authority

FILE NO. 83-0940

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		0-0-0	0	18					Gray clay	
13									q_u = 0.5 tsf	
	45									
14		0-1-0	1	19						
15									Gray silty fine sand with shell (SM)	
	50									
		8-10-11	21	20						
16										
									Gray clayey fine sand with traces of clay (SC-CH)	
	55									
17		2-3-3	6	21						
18										
	60									
		1-2-1	3	22						
19										
									Gray slightly silty fine sand with shell (SP-SM)	
	65									
20		17-13-15	28	23						
21									Gray clayey fine sand with shell (SC)	
	70									
		1-1-1	2	24						
22										
	75									
23		18-14-13	27	25						
24										
	80									
		1-1-4	5	26						
25										
26	85									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. THC-5
TOTAL DEPTH 91.0 ft
SHEET 3 OF 3

PROJECT Canaveral Cove
CLIENT Canaveral Port Authority
FILE NO. 83-0940

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		16-11-12	23	27					Gray clayey fine sand with shell (SC)	
27									Gray silty fine sand with shell (SM)	
	90	19-32-17	49	28						
28									Terminated at 91.0 feet	
29	95									
30										
	100									
31										
32	105									
33										
	110									
34										
35	115									
36										
	120									
37										
38	125									
39										
	130									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

769

BORING NO. THY-1
TOTAL DEPTH 12.0 ft
SHEET 1 OF 1

PROJECT Scrap Road on North Side of Port Canaveral FILE NO. 83-094Y
CLIENT Canaveral Port Authority
BORING LOCATION Station: 269+30 Range: -1297 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION +12.8 feet (MLW)
DATE STARTED 9-17-86 DATE COMPLETED 9-17-86 BORING TYPE SPT
DRILLER/RIG Smith/CME-55 LENGTH/TYPE CASING Drilling mud was used
WATER TABLE DEPTH: 1st 5.5 feet DATE 9-17-86 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		15-17-16	33	1					Brown fine sand and scallop shell (SP)	
		15-18-14	32	2					Gray slightly clayey fine sand and scallop shell (SM-SC) / Brown fine sand with trace of shell (SP)	
1		14-18-19	37	3					Brown slightly silty fine sand with trace of shell and clayey fine sand (SP-SM)	
	5	15-14-17	31	4					Grayish brown fine sand with trace of shell (SP)	
2		7-8-10	18	5						
		13-17-16	33	6					Gray fine sand and shell (SP)	
3	10	9-8-9	17	7						
		8-9-11	20	8					Gray slightly silty fine sand with shell (SP-SM)	
4									Boring terminated at 12.0 feet	

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(789)

BORING NO. TH-68
TOTAL DEPTH 66.0 ft
SHEET 1 OF 2

PROJECT Bulkhead West of Pier No. 2 FILE NO. 86-160A
CLIENT Canaveral Port Authority
BORING LOCATION Station 261+25, Range -370 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION +8.3 feet (MLW)
DATE STARTED 11/6/86 DATE COMPLETED 11/6/86 BORING TYPE Rotary/SPT
DRILLER/RIG Smith/CME-55 LENGTH/TYPE CASING Used drilling mud
WATER TABLE DEPTH: 1st 5' 8" DATE 11/6/86 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		4-5-6	11	1					Grayish brown slightly silty fine sand with shells (SP-SM)	
1		5-5-5	10	2						
		8-11-15	26	3					Gray slightly silty fine sand with clayey fine sand (SP-SM)	
	5	11-10-8	18	4						
2		4-3-3	6	5					Gray find sand with shells (SP)	
		1-2-2	4	6					Gray silty fine sand with shells (SM)	
3	10	2-3-4	7	7						
4										
	15	0-0-0	0	8					Gray clayey fine sand with shells (SC)	
5										
6									Gray slightly silty fine sand with shells (SP-SM)	
	20	10-10-13	23	9						
7									Gray slightly clayey fine sand (SM-SC)	
	25	1-1-0	1	10						
8									Gray clay (CH)	
9										
	30	1-0-1	1	11						
10					70.2	98	82	57	S_u = 508 psf T_v = 260-460 psf	US-1 γ_d=58.0 pcf
	35	0-1-1	2	12					Gray clayey fine sand with shells (SC)	
11										
12										
	40									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-68
TOTAL DEPTH 66.0 ft
SHEET 2 OF 2

PROJECT Bulkhead West of Pier No. 2
CLIENT Canaveral Port Authority

FILE NO. 86-160A

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		0-1-0	1	13					Gray clayey fine sand with shells (SC)	
13										
									Gray clay (CH)	
	45	0-0-0	0	14						
14										
					94.5	100			S_u = 593 psf T_v = 300-400 psf	US-2 γ_d=45.0 pcf
15										
	50	7-5-7	12	15					Light gray slightly silty fine sand with shells (SP-SM)	
16										
									Gray sandy clay with shells (CL)	
	55	0-0-0	0	16						
17										
18									Gray clayey fine sand with shells (SC)	
	60	1-2-1	3	17						
19										
	65	5-6-6	12	18						
20										
									Boring terminated at 66.0 feet	
21										
	70									
22										
23	75									
24										
	80									
25										
26	85									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

(785)

BORING NO. TH-69
TOTAL DEPTH 91.0 ft
SHEET 1 OF 3

PROJECT Bulkhead West of Pier No. 2 FILE NO. 86-160A
CLIENT Canaveral Port Authority
BORING LOCATION Station 263+25, Range -370 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION +8.4 feet (MLW)
DATE STARTED 11/13/86 DATE COMPLETED 11/13/86 BORING TYPE Rotary/SPT
DRILLER/RIG Smith/CME-55 LENGTH/TYPE CASING Used drilling mud
WATER TABLE DEPTH: 1st 6' 3" DATE 11/13/86 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		4-3-5	8	1					Light brown fine sand with shells (SP)	
1		6-12-13	25	2						
	5	25-25-24	49	3					Grayish brown fine sand with clay and shells (SP)	
		9-12-8	20	4						
2		1-2-2	4	5					Gray silty fine sand with shells (SM)	
		2-2-2	4	6						
3	10	1-2-1	3	7						
4									Gray clayey fine sand with shells (SC)	
	15	1-2-1	3	8						
5										
6									Gray fine sand (SP)	
	20	13-15-20	35	9						
7									Gray clayey fine sand with shells (SC)	
	25	1-2-1	3	10						
8										
9									Gray clay (CH)	
	30	0-0-0	0	11						
10					97.4	99			S_u = 847 psf T_v = 220-340 psf	US-1 γ_d=49.4 pcf
	35	0-0-1	1	12						
11										
12					91.9	98			S_u = 413 psf T_v = 400-660 psf	US-2 γ_d=47.9 pcf
	40									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-69
TOTAL DEPTH 91.0 ft
SHEET 2 OF 3

PROJECT Bulkhead West of Pier No. 2
CLIENT Canaveral Port Authority
FILE NO. 86-160A

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		0-1-1	2	13					Gray clay (CH)	
13										
	45								Light gray slightly silty fine sand with traces of shells (SP-SM)	
14		12-12-14	26	14						
15										
	50	4-7-10	17	15						
16										
									Gray sandy clay with shells (CL)	
	55	0-0-3	3	16						
17										
18									Gray clayey fine sand with shells (SC)	
	60	1-1-1	2	17						
19										
	65	4-7-6	13	18						
20										
21										
	70	2-4-3	7	19						
22										
23	75	3-4-4	8	20						
24										
	80	1-1-1	2	21						
25										
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-69
TOTAL DEPTH 91.0 ft
SHEET 3 OF 3

PROJECT Bulkhead West of Pier No. 2
CLIENT Canaveral Port Authority

FILE NO. 86-160A

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		2-1-2	3	22					Gray clayey fine sand with shells (SC)	
27										
	90	4-4-7	11	23						
28									Boring terminated at 91.0 feet	
29	95									
30										
	100									
31										
32	105									
33										
	110									
34										
35	115									
36										
	120									
37										
38	125									
39										
	130									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-1H
TOTAL DEPTH 115.0 ft
SHEET 1 OF 3

PROJECT Port Canaveral Navy Pier
FILE NO. 86-160H
CLIENT Canaveral Port Authority, Port Canaveral, Florida
BORING LOCATION Station: 277+50; Range: -730; Port Canaveral Grid System
COUNTY Brevard
STATE Florida
ELEVATION Ground surface approx. El. -18.0 ft (MLW)
DATE STARTED 7-19-88
DATE COMPLETED 7-19-88
BORING TYPE SPT-140 lb hammer, 30" drop, 2" OD
DRILLER/RIG Jones/CME 45 Barge Rig
LENGTH/TYPE CASING 44 ft/3" diameter
WATER TABLE DEPTH: 1st DATE TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
									Water	EL
1										
	5									
2										
3	10									
4										
	15									
5										
6	20								GROUND SURFACE -18	-18
7									Gray fine sand (SP)	
	25									
8										
9	30	8-10-16	26	1						
10									Gray silty fine sand with shell (SM)	-29.5
	35	8-9-9	18	2						
11										
12									Gray sandy clay with shell (CL)	-34.5
	40									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-1H
TOTAL DEPTH 115.0 ft
SHEET 2 OF 3

PROJECT Port Canaveral Navy Pier
CLIENT Canaveral Port Authority, Port Canaveral, Florida

FILE NO. 86-160H

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		7-5-7	12	3					Gray sandy clay with shell (CL)	
13										
	45								Gray clayey fine sand (SC)	
14		1-1-1	2	4						
15									Gray sandy clay with shell (CL)	
	50	1-1-1	2	5						
16										
	55									
17		1-1-1	2	6						
18									Shell layer	-54
	60	3-3-3	6	7					Gray clayey fine sand with shell (SC)	
19										
	65									
20		3-3-3	6	8	40.3	25				
21										
	70	6-7-7	14	9						
22										
23	75	2-7-3	10	10	38.3	24				
24										75
	80	8-6-13	19	11					Light gray silty fine sand and shell, cemented (SM)	
25										
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-1H
TOTAL DEPTH 115.0 ft
SHEET 3 OF 3

PROJECT Port Canaveral Navy Pier
CLIENT Canaveral Port Authority, Port Canaveral, Florida
FILE NO. 86-160H

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		14-10-12	22	12					Light gray silty fine sand and shell, cemented (SM)	
27										
	90	13-9-10	19	13						
28										89
									Light green clayey fine sand with trace of shell (SC)	
29	95	4-5-16	21	14						
30										
	100	12-14-18	32	15						
31										
									Bluish gray clayey fine sand, cemented (SC)	
32	105	9-17-22	39	16						
33										
	110	(VERY DENSE)								
34										
35	115									
									Boring terminated at 115.0 feet	
36										
	120									
37										
38	125									
39										
	130									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(849)

BORING NO. TH-2H
TOTAL DEPTH 116.0 ft
SHEET 1 OF 3

PROJECT Port Canaveral Navy Pier FILE NO. 86-160H
CLIENT Canaveral Port Authority, Port Canaveral, Florida
BORING LOCATION Station: 277+50; Range: -1230; Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION Ground surface approx. El. -19.8 ft (MLW)
DATE STARTED 7-13-88 DATE COMPLETED 7-13-88 BORING TYPE SPT-140 lb hammer, 30" drop, 2" OD
DRILLER/RIG Jones/CME 45 Barge Rig LENGTH/TYPE CASING 55 ft/3" diameter
WATER TABLE DEPTH: 1st DATE TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
1									Water	
	5									
2										
3	10									
4										
	15									
5										
6	20									
7									GROUND SURFACE	
	25	0-0-0	0						Gray silt (ML)	-20
8		0-0-0	0	1						
		0-0-0	0							
9		1-2-2	4	2					Gray silty fine sand (SM)	
	30									
10									Gray silty fine sand with seams of gray clay (SM)	
	35									
11		1-3-1	4	3						
12									Gray clay fine sand with shell (SC)	-55
	40									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-2H
TOTAL DEPTH 115.0 ft
SHEET 2 OF 3

PROJECT Port Canaveral Navy Pier
CLIENT Canaveral Port Authority, Port Canaveral, Florida
FILE NO. 86-160H

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		3-2-1	3	4					Gray clayey fine sand with shell (SC)	
13										
									Gray clay with trace of shell (CH)	
	45	1-1-2	3	5						
14										
										-45
15									Light gray to gray clayey fine sand with shell (SC)	
	50	3-2-3	5	6						
16										
	55	4-6-7	13	7						
17										
18										
	60	4-4-3	7	8	42.6	39				
19										-60
	65	2-3-3	6	9						
20										
21										
	70	5-2-5	7	10	37.6	39				
22										
	75	2-3-2	5	11						
23										
24										
	80	4-6-9	15	12						
25										
									Light gray silty fine sand with shell (SM)	
26	85									

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO. TH-2H
TOTAL DEPTH 115.0 ft
SHEET 3 OF 3

PROJECT Port Canaveral Navy Pier
CLIENT Canaveral Port Authority, Port Canaveral, Florida

FILE NO. 86-160H

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI. (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		15-12-10	22	13					Light gray silty fine sand with shell (SM)	82
27										
	90	14-10-12	22	14						
28										
29	95	15-20-42	62	15					Light green clayey fine sand (SC)	
30										95
	100	7-10-14	24	16						
31										
32	105	7-12-17	29	17						
33									Gray clayey fine sand (SC)	
	110	50/4"	50/4"	18						
34									Dark green clayey fine sand with small pebbles (SC)	
35	115	12-14-17	31	19						
36									Boring terminated at 116.0 feet	
	120									
37										
38	125									
39										
	130									

BORING LOG
ARDAMAN & ASSOCIATES, INC.

BORING NO. B-1
TOTAL DEPTH 24.5 ft.
SHEET 1 OF

PROJECT Central Park
FILE NO. 89-131
CLIENT Canaveral Port Authority
BORING LOCATION Approximate: Sta. 250+20, Range-500 Port Canaveral Grid System
COUNTY Brevard STATE Florida ELEVATION -12.0 feet (MLW)
DATE STARTED 9-27-89 DATE COMPLETED 9-27-89 BORING TYPE Rotary/SPT
DRILLER/RIG AMDRILL/CME-55, Barge Mounted LENGTH/TYPE CASING 24'/4" diameter
WATER TABLE DEPTH: 1st Tidal DATE 9-27-89 TIME
2nd DATE TIME
REMARKS

Depth Meters	Depth Feet	Standard Penetration Test ASTM D-1586 Blows/6"	N Value	Sample No.	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Soil Description and Remarks (Unified Classification)	Undisturbed Samples
		0-0-0-0	0	1					Gray fine to medium slightly silty sand with shell fragments (SP-SM)	
1		11-6-12	18	2						
	5	6-5-4	9	3						
2		7-7-8	15	4					Brownish-gray silty fine sand with shell fragments (SM)	
		9-5-4	9	5						
3		1-1-2	3	6						
	10	1-1-1	2	7						
		0-0-0	0	8						
4		0-0-0	0	9	42.4				Dark gray clay with traces of fine sand and shell fragments (CH)	
	15	0-0-0	0	10	37.3				Dark gray sandy clay with traces of fine sand and shell fragments (CL)	
5		0-0-0	0	11	99.5				Dark gray clay with traces of fine sand and shell fragments (CH)	
		0-0-0	0	12	69.4					
6	20	0-0-0	0	13	105.8					
		0-0-0	0	14	104.3					
7		0-0-0	0	15	93.9					
		0-0-0	0	16	87.5					
	25									
8									Terminated @ 24.5 feet (Elevation - 36.5' (MLW))	
9	30									
10										
	35									
11										
12	40									

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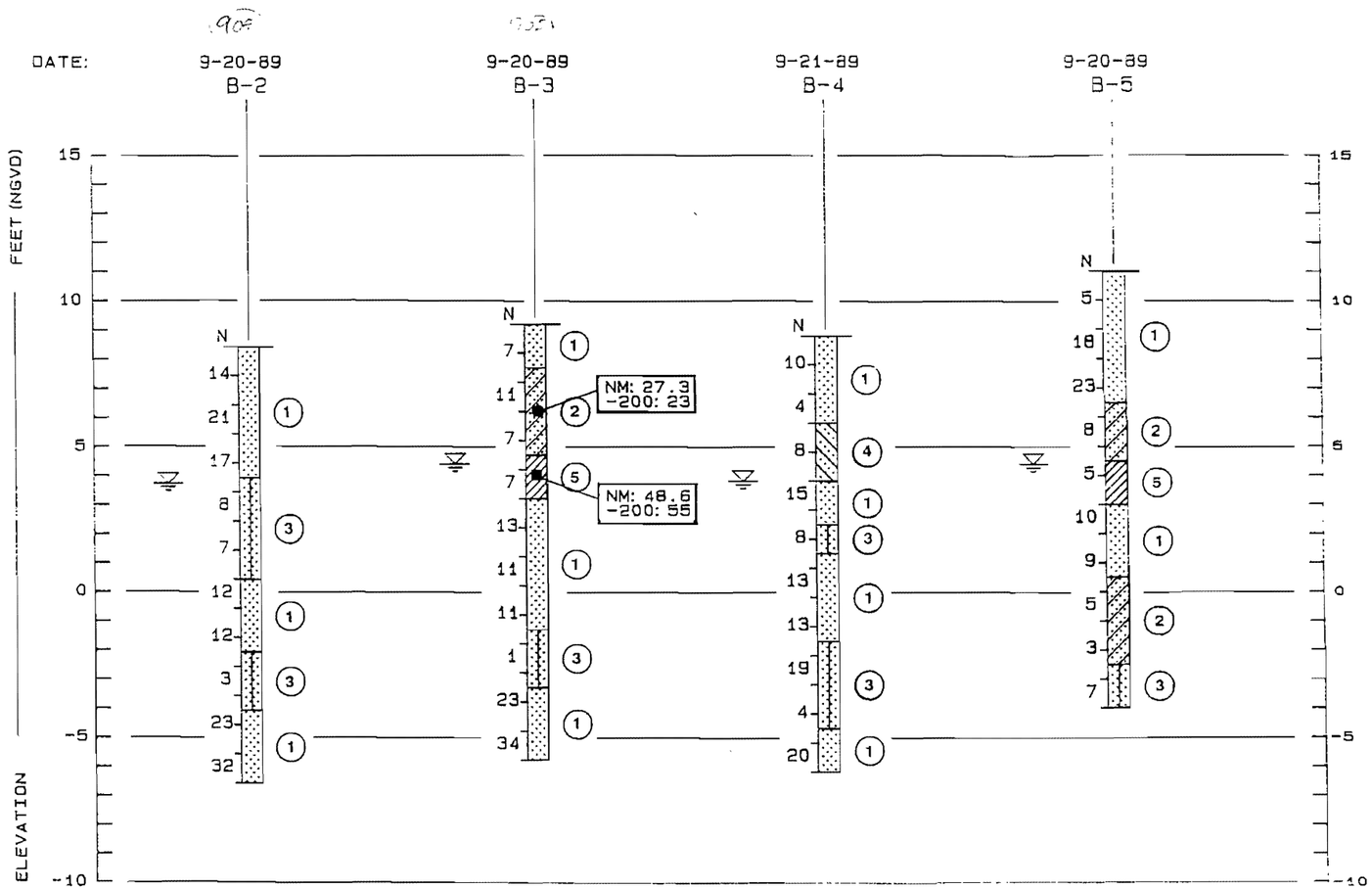
FIGURE 5



LEGEND

①	GRAY TO BROWN FINE SAND WITH TRACES OF SHELL (SP)
②	GRAY TO BROWN FINE SAND WITH SEAMS OF GRAY CLAY (SP-CH)
③	GRAY TO GRAYISH-BROWN SILTY FINE SAND WITH OCCASIONAL SHELL (SM)
④	GRAY TO BROWN CLAYEY FINE SAND WITH OCCASIONAL SHELL (SC)
⑤	GRAY CLAY AND SLIGHTLY SANDY CLAY (CH)
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
B-2	STANDARD PENETRATION TEST (SPT) BORING
NM	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D-2216)
-200	PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(ASTM D-1140)
▽	GROUNDWATER LEVEL MEASURED ON DATE DRILLED
SP,SP-SM SM,SC,CH	UNIFIED SOIL CLASSIFICATION SYSTEM

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR. ABSENCE OF WATER SURFACE DATA ON CERTAIN BORINGS IMPLIES THAT NO GROUNDWATER DATA IS AVAILABLE, BUT DOES NOT NECESSARILY MEAN THAT GROUNDWATER WILL NOT BE ENCOUNTERED AT THESE LOCATIONS OR WITHIN THE VERTICAL REACHES OF THESE BORINGS IN THE FUTURE.

Ardaman & Associates, Inc.
Consulting Engineers in Soil Mechanics, Foundations, and Materials Testing

"CENTRAL PARK"
CANAVERAL PORT AUTHORITY
PORT CANAVERAL, FLORIDA

DRAWN BY	CHECKED BY	DATE
JBG		10-3-89

FILE NO	APPROVED BY
89-131	

N24568

FIGURE 3

BORING LOG

ARDAMAN AND ASSOCIATES, INC.

BORING NO: TH-1
TOTAL DEPTH: 61.5ft.
SHEET 1 OF 2

PROJECT PORT CANAVERAL CARGO PIER
CLIENT CANAVERAL PORT AUTHORITY
BORING LOCATION STATION 241+41.0 RANGE 500, PORT CANAVERAL GRID SYSTEM
COUNTY BREVARD STATE FLORIDA
DATE STARTED 9-25-89 COMPLETED 9-25-89
WATER TABLE: 1st depth TIDAL' DATE
WATER TABLE: 2nd depth -- DATE --
REMARKS

FILE NO. 89-130
ELEVATION -42.5' (MLW)
BORING TYPE SPT
CASING TYPE 4" CASING TO 52'
DRILLER/RIG AMDRILL / CME55, BARGE MOUNTED
TIME
TIME --

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		0-0-0	0	1								
-47.5	5	0-0-0	0	2						Dark gray silty clay (CH)		
-52.5	10	1-3-2	5	3								
-57.5	15	2-1-2	3	4								
-62.5	20	5-5-8	13	5						Gray to greenish gray clayey fine sand with shells (SC)		
-67.5	25	8-5-6	11	6								
-72.5	30	7-3-4	7	7								
-77.5	35	2-2-2	4	8								
-82.5	40	7-10-19	29	9						Light gray to gray slightly silty fine sand with cemented sand and shells (SP-SM)		

BORING LOG

ARDAMAN AND ASSOCIATES, INC.

BORING NO: TH-1
TOTAL DEPTH: 61.5ft.
SHEET 2 OF 2

PROJECT PORT CANAVERAL CARGO PIER
CLIENT CANAVERAL PORT AUTHORITY
BORING LOCATION STATION 241+41.0 RANGE 500, PORT CANAVERAL GRID SYSTEM

FILE NO. 89-130
ELEVATION -42.5' (MLW)
BORING TYPE SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586: Blows/6 in	N Value	Sample Number	Lab Data: NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		11-7-9	16	10						Light gray to gray slightly silty fine sand with cemented sand and shells (SP-SM)		
-87.5	45											
		0-0-12	12	11								
-92.5	50											
		10-11-17	28	12						Light green very clayey fine sand to sandy clay with cemented sand and shells (SC/CL)		
-97.5	55											
		5-7-9	16	13	47.7	53						
102.5	60											
		31-28-18	46	14						Light gray to gray clayey fine sand with cemented sand and shells (SC)		
										Boring terminated at 61.5 feet.		
107.5	65											
112.5	70											
117.5	75											
122.5	80											

BORING LOG

ARDAMAN AND ASSOCIATES, INC.

BORING NO: TH-2
TOTAL DEPTH: 88.5ft.
SHEET 1 OF 3

PROJECT PORT CANAVERAL CARGO PIER
CLIENT CANAVERAL PORT AUTHORITY
BORING LOCATION STATION 236+45.0 RANGE 500, PORT CANAVERAL GRID SYSTEM
COUNTY BREVARD STATE FLORIDA
DATE STARTED 9-26-89 COMPLETED 9-26-89
WATER TABLE: 1st depth TIDAL' DATE TIME
WATER TABLE: 2nd depth -- DATE -- TIME --
REMARKS

FILE NO. 89-130
ELEVATION -27.5' (MLW)
BORING TYPE Rotary/SPT
CASING TYPE 4" CASING TO 50'
DRILLER/RIG AMDRILL / CME55, BARGE MOUNTED

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		0-0-0	0	1								
				US-1	79.4	98			52.4	Qu=0.45 tsf		
-32.5	5	2-3-2	5	2								
				US-2	108.2	80			42.9	Qu=0.32 tsf		
										Dark gray silty clay with traces of shells (CH)		
-37.5	10	0-0-0	0	3								
-42.5	15	0-0-0	0	4								
-47.5	20	0-0-0	0									
-52.5	25	0-0-0	0	5								
										Gray silty to clayey fine sand with shells (SM-SC)		
-57.5	30	0-0-0	0	6								
-62.5	35	0-4-4	8	7								
-67.5	40	2-3-2	5	8								

BORING LOG

ARDAMAN AND ASSOCIATES, INC.

BORING NO: TH-2
TOTAL DEPTH: 88.5ft.
SHEET 2 OF 3

PROJECT PORT CANAVERAL CARGO PIER
CLIENT CANAVERAL PORT AUTHORITY
BORING LOCATION STATION 236+45.0 RANGE 500, PORT CANAVERAL GRID SYSTEM

FILE NO. 89-130
ELEVATION -27.5' (MLW)
BORING TYPE Rotary/SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
-72.5	45	0-0-0	0	9						Gray silty to clayey fine sand with shells (SM-SC)		
-77.5	50	2-1-5	6	10								
-82.5	55	18-29-17	46	11								
-87.5	60	12-15-13	28	12						Light gray to gray silty fine sand with cemented sand and shells (SM)		
-92.5	65	7-10-11	21	13								
-97.5	70	5-9-10	19	14								
102.5	75	8-9-13	22	15						Light green clayey fine sand with cemented sand and shells (SC)		
107.5	80	18-27 50/3"	50/3"	16, 17								

BORING LOG

ARDAMAN AND ASSOCIATES, INC.

BORING NO: TH-2
TOTAL DEPTH: 88.5ft.
SHEET 3 OF 3

PROJECT PORT CANAVERAL CARGO PIER
CLIENT CANAVERAL PORT AUTHORITY
BORING LOCATION STATION 236+45.0 RANGE 500, PORT CANAVERAL GRID SYSTEM

FILE NO. 89-130
ELEVATION -27.5' (MLW)
BORING TYPE Rotary/SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		50/6"	50/6"	18						Light gray silty to clayey fine sand with cemented sand and rock fragments (SM-SC)		
112.5	85											
										Light green very clayey sand to sandy clay with traces of shell gragments (SC-CL)		
		12-15-13	28	19	44.7	80						
117.5	90									Boring terminated at 88.5 feet.		
122.5	95											
127.5	100											
132.5	105											
137.5	110											
142.5	115											
147.5	120											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(178)

BORING NO: TH-13
TOTAL DEPTH: 76ft.
SHEET 1 OF 3

PROJECT BULKHEAD DESIGN AT TANKER BERTH No.1
FILE NO. 90-082
CLIENT Canaveral Port Authority
ELEVATION 8.7' (MLW)
BORING LOCATION Station 233+99 ; Range 572 - Port Canaveral Grid System
BORING TYPE Rotary / SPT
COUNTY Brevard
STATE Florida
CASING TYPE None
DATE STARTED 5-30-90
COMPLETED 5-30-90
DRILLER/RIG B.S., C.S. / CME-55
WATER TABLE: 1st depth 6.4'
DATE 5-30-90
TIME --
WATER TABLE: 2nd depth --
DATE --
TIME --
REMARKS

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		5-5-6	11	1						Light brown fine sand with rock fragments (SP)		
		4-5-4	9	2								
		3-2-2	4	3						Light brown fine sand with traces of shell (SP)		
3.7	5	3-5-5	10	4								
		4-2-2	4	5							▽	
		1-2-1	3	6						Gray fine sand with shell (SP)		
-1.3	10	1-5-1	6	7								
		1-3-4	7	8						Gray fine sand and shell (SP)		
		1-1-2	3	9						Gray silty fine sand with shell (SM)		
-6.3	15	1-1-2	3	10						Gray clayey fine sand with shell (SC)		
-11.3	20	10-11-12	23	11						Gray fine sand (SP)		
-16.3	25	12-18-19	37	12						Gray fine sand and shell (SP)		
-21.3	30									Gray clayey fine sand with traces of shell (SC)		

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: TH-13
TOTAL DEPTH: 76ft.
SHEET 2 OF 3

PROJECT BULKHEAD DESIGN AT TANKER BERTH No.1
CLIENT Canaveral Port Authority
BORING LOCATION Station 233+99 ; Range 572 - Port Canaveral Grid System

FILE NO. 90-082
ELEVATION 8.7' (MLW)
BORING TYPE Rotary / SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		1-1-2	3	13						Gray clayey fine sand with traces of shell (SC)		
-26.3	35	0-0-0	0	14						Gray clayey fine sand (SC)		
				US#1	78.5	99			54.9	S_u (TORVANE) = 650-700 psf S_u (Pocket Penetrometer) = 410-765 psf S_u (Unconfined Compression) = 512-609 psf		
-31.3	40	0-1-1	2	15								
-36.3	45	0-1-0	1	16						Gray clay (CH)		
				US#2	73.2	89			56.7	S_u (TORVANE) = 350-920 psf S_u (Pocket Penetrometer) = 205-1540 psf S_u (Unconfined Compression) = 164-266 psf		
-41.3	50	1-2-1	3	17								
-46.3	55	0-0-3	3	18								
-51.3	60									Light gray slightly clayey fine sand with shell (SC)		

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: TH-13
TOTAL DEPTH: 76ft.
SHEET 3 OF 3

PROJECT BULKHEAD DESIGN AT TANKER BERTH No.1
CLIENT Canaveral Port Authority
BORING LOCATION Station 233+99 ; Range 572 - Port Canaveral Grid System

FILE NO. 90-082
ELEVATION 8.7' (MLW)
BORING TYPE Rotary / SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/ 6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		1-1-1	2	19						Light gray slightly clayey fine sand with shell (SC)		
-56.3	65	1-1-1	2	20								
-61.3	70	3-3-3	6	21						Gray clayey fine sand with traces of shell (SC)		
-66.3	75	3-4-9	13	22								
										Boring terminated at 76 ft.		
-71.3	80											
-76.3	85											
-81.3	90											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: TH-3
TOTAL DEPTH: 79.9ft.
SHEET 1 OF 3

PROJECT PILE AND BULKHEAD DESIGN, PROPOSED CRUISE TERMINAL NO. 1
FILE NO. 90-082
CLIENT CANAVERAL PORT AUTHORITY
ELEVATION -18.0' (MLW)
BORING LOCATION Station 214+35 ; Range 480 - Port Canaveral Grid System
BORING TYPE Rotary / SPT
COUNTY Brevard
STATE Florida
CASING TYPE 35' / 6" diameter
DATE STARTED 7/11/90
COMPLETED 7/11/90
DRILLER/RIG AMDRILL Jeffers / CME-55 (on barge)
WATER TABLE: 1st depth --
DATE --
TIME --
WATER TABLE: 2nd depth --
DATE --
TIME --
REMARKS

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		4-4-5	9	1						Shell and fine gravel		
		6-5-7	12	2						Gray fine sand with shell (SP)		
-23	5											
		4-3-4	7	3						Gray slightly clayey fine sand with shell (SM-SC)		
-28	10											
		2-1-2	3	4	68.6	99						
-33	15											
		0-0-0	0	5								
-38	20									Gray clay with shell (CH)		
		0-0-0	0	6	72.0	95						
-43	25											
		0-2-2	4	7								
-48	30											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: TH-3
TOTAL DEPTH: 79.9ft.
SHEET 2 OF 3

PROJECT PILE AND BULKHEAD DESIGN, PROPOSED CRUISE TERMINAL NO. 1
CLIENT CANAVERAL PORT AUTHORITY
BORING LOCATION Station 214+35 ; Range 480 - Port Canaveral Grid System

FILE NO. 90-082
ELEVATION -18.0' (MLW)
BORING TYPE Rotary / SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
										Gray clay with shell (CH)		
-53	35	5-7-8	15	8	38.3	50				Light gray clayey fine sand with shell (SC)		
-58	40	0-0-0	0	9						Gray clayey fine sand with shell (SC)		
-63	45	8-8-15	23	10						Gray silty fine sand with shell (SM)		
-68	50	8-12-15	27	--								
-73	55	3-5-7	12	11						Gray clayey fine sand with shell (SC)		
-78	60	6-4-9	13	12								

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: TH-3
TOTAL DEPTH: 79.9ft.
SHEET 3 OF 3

PROJECT PILE AND BULKHEAD DESIGN, PROPOSED CRUISE TERMINAL NO. 1
CLIENT CANAVERAL PORT AUTHORITY
BORING LOCATION Station 214+35 ; Range 480 - Port Canaveral Grid System

FILE NO. 90-082
ELEVATION -18.0' (MLW)
BORING TYPE Rotary / SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
										Gray clayey fine sand with shell (SC)		
-83	65	9-12-15	27	13								
										Gray silty fine sand with shell (SM)		
-88	70	8-18-18	36	14								
										Gray cemented fine sand with silty fine sand and shell (SM)		
-93	75	17-18-18	36	15								
										Grayish brown silty fine sand with shell (SM)		
-98	80	10-12-18	30	16								
										Boring terminated at 79.9'		
-103	85											
-108	90											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(987)

BORING NO: TH-4
TOTAL DEPTH: 75.3ft.
SHEET 1 OF 3

PROJECT PILE AND BULKHEAD DESIGN, PROPOSED CRUISE TERMINAL NO. 1.
FILE NO. 90-082
CLIENT CANAVERAL PORT AUTHORITY
ELEVATION -20.7' (MLW)
BORING LOCATION Station 212+42 ; Range 480 - Port Canaveral Grid System
BORING TYPE Rotary / SPT
COUNTY Brevard
STATE Florida
CASING TYPE 40' / 6" diameter
DATE STARTED 7/11/90
COMPLETED 7/11/90
DRILLER/RIG AMDRILL Jeffers / CME-55 (on barge)
WATER TABLE: 1st depth --
DATE --
TIME --
WATER TABLE: 2nd depth --
DATE --
TIME --
REMARKS

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		0-0-0	0	1						Shell fragments with gray clay (CH)		
		7-1-3	4	2						Gray fine sand with shell (SP)		
-25.7	5									Gray clayey fine sand (SC)		
		3-1-3	4	3						Gray silty fine sand (SM)		
-30.7	10											
		0-0-0	0	4	68.0	95				Gray clay with shell (CH)		
-35.7	15											
		0-0-0	0	5	90.3	98						
-40.7	20											
		0-0-0	0	6						Gray clay (CH)		
-45.7	25											
		0-0-0	0	7								
-50.7	30											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: TH-4
TOTAL DEPTH: 75.3ft.
SHEET 2 OF 3

PROJECT PILE AND BULKHEAD DESIGN, PROPOSED CRUISE TERMINAL NO. 1.
CLIENT CANAVERAL PORT AUTHORITY
BORING LOCATION Station 212+42 ; Range 480 - Port Canaveral Grid System

FILE NO. 90-082
ELEVATION -20.7' (MLW)
BORING TYPE Rotary / SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
										Gray clay (CH)		
		2-3-3	6	8						Gray silty fine sand with shell (SM)		
-55.7	35											
		2-2-5	7	9	55.9	63				Gray sandy clay with shell (CL)		
-60.7	40											
		5-8-9	17	10						Gray silty fine sand with shell (SM)		
-65.7	45											
		6-4-9	13	11						Gray clayey fine sand with shell (SC)		
-70.7	50											
		2-3-3	6	12								
-75.7	55											
		4-9-17	26	13						Gray silty fine sand with shell (SM)		
-80.7	60											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: TH-4
TOTAL DEPTH: 75.3ft.
SHEET 3 OF 3

PROJECT PILE AND BULKHEAD DESIGN, PROPOSED CRUISE TERMINAL NO. 1.
CLIENT CANAVERAL PORT AUTHORITY
BORING LOCATION Station 212+42 ; Range 480 - Port Canaveral Grid System

FILE NO. 90-082
ELEVATION -20.7' (MLW)
BORING TYPE Rotary / SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
-85.7	65	14-27-15	42	14						Gray silty fine sand with shell (SM)		
-90.7	70	6-12-15	27	15						Gray slightly silty fine sand with shell and cemented sand (SM)		
-95.7	75	14-15-16	31	16						Green silty fine sand with trace shell (SM)		
100.7	80									Boring terminated at 75.3'		
105.7	85											
110.7	90											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: THD-1
TOTAL DEPTH: 71.5ft.
SHEET 1 OF 2

PROJECT BULKHEAD DESIGN
FILE NO. 90-082
CLIENT Canaveral Port Authority
ELEVATION 7.8' (MLW)
BORING LOCATION Station 260+66; Range 483 - Port Canaveral Grid System
BORING TYPE Rotary / SPT
COUNTY Brevard
STATE Florida
CASING TYPE None
DATE STARTED 2-7-91
COMPLETED 2-7-91
DRILLER/RIG B.S., D.G. / CME-55
WATER TABLE: 1st depth 5.1'
DATE 2-7-91
TIME
WATER TABLE: 2nd depth --
DATE --
TIME --
REMARKS

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		2-5-5	10	1						Brown fine sand and shell (SP)		
		4-3-3	6	2								
		2-2-1	3	3								
2.8	5											
		2-0-1	1	4						Brown slightly silty fine sand with traces of shell (SP-SM)		
		2-1-1	2	5						Grayish brown silty fine sand with traces of shell (SM)		
		1-1-4	5	6						Gray fine sand with traces of shell (SP)		
-2.2	10	4-3-2	5	7						Gray clayey fine sand with traces of shell (SC)		
		5-5-6	11	8								
		6-8-8	16	9								
-7.2	15	6-5-6	11	10								
-12.2	20									Gray fine sand with traces of shell (SP)		
		9-13-13	26	11								
-17.2	25											
		16-17-13	30	12								
-22.2	30											
		1-1-1	2	13						Gray clay with traces of shell (CH)		
-27.2	35											
		0-0-1	1	14								
				US#1	90	100			48.5	Su (TORVANE) = 590 psf Su (Pocket Penetrometer) = 615-770 psf Su (Unconfined Compression) = 1050 psf		
-32.2	40											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: THD-1
TOTAL DEPTH: 71.5ft.
SHEET 2 OF 2

PROJECT BULKHEAD DESIGN
CLIENT Canaveral Port Authority
BORING LOCATION Station 260+66; Range 483 - Port Canaveral Grid System

FILE NO. 90-082
ELEVATION 7.8' (MLW)
BORING TYPE Rotary / SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		0-0-1	1	15								
-37.2	45									Gray clay (CH)		
		0-0-0	0	16								
				US#2	35				79.7			
-42.2	50											
		2-5-5	10	17						Gray fine sand and shell with traces of gray clay (SP)		
-47.2	55											
		3-4-4	8	18								
-52.2	60											
		3-3-4	7	19						Gray clayey fine sand with shell (SC)		
-57.2	65											
		6-5-4	9	20								
-62.2	70											
		6-6-5	11	21								
										Boring terminated at 71.5 feet		
-67.2	75											
-72.2	80											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

985

BORING NO: THD-2
TOTAL DEPTH: 76.5ft.
SHEET 1 OF 2

PROJECT BULKHEAD DESIGN
FILE NO. 90-082
CLIENT Canaveral Port Authority
ELEVATION 7.5' (MLW)
BORING LOCATION Station 279+90; Range 594 - Port Canaveral Grid System
BORING TYPE Rotary / SPT
COUNTY Brevard
STATE Florida
CASING TYPE None
DATE STARTED 2-8-91
COMPLETED 2-8-91
DRILLER/RIG B.S., D.G. / CME-55
WATER TABLE: 1st depth 2.8'
DATE 2-8-91
TIME
WATER TABLE: 2nd depth --
DATE --
TIME --
REMARKS

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		3-7-9	16	1						Gray silty fine sand and shell (SM)		
		8-9-9	18	2								
		8-10-12	22	3								
2.5	5	10-11-9	20	4						Gray fine sand and shell (SP)		
		2-1-1	2	5								
		1-2-2	4	6								
-2.5	10	2-1-1	2	7								
		0-4-5	9	8						Gray silty fine sand (SM)		
		5-2-1	3	9						Gray fine sand with traces of shell (SP)		
-7.5	15	1-2-5	7	10								
-12.5	20									Gray clayey fine sand with traces of shell (SC)		
		2-2-0	2	11								
-17.5	25											
		1-0-1	1	12								
-22.5	30									Gray organic clay (CH)		
		0-0-0	0	13								
-27.5	35			US#1	92				49.4	Su (TORVANE) = 450-550 psf Su (Pocket Penetrometer) = 510-710 psf Su (Unconfined Compression) = 1029 psf		
		2-7-7	14	14								
-32.5	40									Gray fine sand with organic fine sand (SP)		

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: THD-2
TOTAL DEPTH: 76.5ft.
SHEET 2 OF 2

PROJECT BULKHEAD DESIGN
CLIENT Canaveral Port Authority
BORING LOCATION Station 279+90; Range 594 - Port Canaveral Grid System

FILE NO. 90-082
ELEVATION 7.5' (MLW)
BORING TYPE Rotary / SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		5-4-5	9	15						Gray fine sand and shell (SP)		
-37.5	45											
		1-1-2	3	16						Gray clayey fine sand (SC)		
-42.5	50											
		0-0-1	1	17								
-47.5	55									Gray slightly sandy clay with shell (CL) Su (Pocket Penetrometer) = 770 psf		
		0-1-0	1	18								
-52.5	60									Gray clayey fine sand with shell (SC)		
		1-0-1	1	19								
-57.5	65									Gray sandy clay with traces of shell (CL)		
		1-1-1	2	20								
-62.5	70											
		1-2-4	6	21						Gray clayey fine sand with shell (SC)		
-67.5	75											
		4-3-4	7	22								
										Boring terminated at 76.5 feet		
-72.5	80											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

(980)

BORING NO: THD-3
TOTAL DEPTH: 71.5ft.
SHEET 1 OF 2

PROJECT BULKHEAD DESIGN — FILE NO. 90-082
CLIENT Canaveral Port Authority — ELEVATION 8.0' (MLW)
BORING LOCATION Station 287+45; Range 590 - Port Canaveral Grid System — BORING TYPE Rotary / SPT
COUNTY Brevard — STATE Florida — CASING TYPE None
DATE STARTED 2-13-91 — COMPLETED 2-13-91 — DRILLER/RIG B.S., D.G. / CME-55
WATER TABLE: 1st depth 4.1' — DATE 2-13-91 — TIME
WATER TABLE: 2nd depth -- — DATE -- — TIME --
REMARKS

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
				1						Concrete Light brown fine sand and shell (SP)		
3	5	6-7-9	16	2						Gray fine sand with traces of shell (SP)	▽	
		12-12-7	19	3								
		7-7-10	17	4						Gray fine sand and shell with traces of clay (SP)		
		10-5-5	10	5						Gray fine sand with traces of shell (SP)		
-2	10	6-4-5	9	6								
		1-0-0	0	7						Gray clayey fine sand with traces of shell (SC)		
		4-9-10	19	8						Gray fine sand with traces of shell (SP)		
-7	15	8-7-3	10	9								
-12	20											
		1-2-1	3	10						Gray silty fine sand with traces of shell (SM)		
-17	25											
		0-0-0	0	11						Gray clay (CH)		
-22	30											
		4-6-6	12	12						Grayish brown fine sand (SP)		
-27	35											
		7-9-15	24	13								
-32	40											

BORING LOG

ARDAMAN & ASSOCIATES, INC.

BORING NO: THD-3
TOTAL DEPTH: 71.5ft.
SHEET 2 OF 2

PROJECT BULKHEAD DESIGN
CLIENT Canaveral Port Authority
BORING LOCATION Station 287+45; Range 590 - Port Canaveral Grid System

FILE NO. 90-082
ELEVATION 8.0' (MLW)
BORING TYPE Rotary / SPT

Elevation	Depth (ft)	Standard Pen. Test ASTM D-1586 Blows/6 in	N Value	Sample Number	Lab Data NM (%)	-200 (%)	LL (%)	PI (%)	Dry Den (pcf)	Soils Description and Remarks	Depth (ft)	Graphic Log
		19-21-30	41	14						Gray fine sand and shell (SP)		
-37	45									Gray fine sand and shell with traces of clay (SP)		
		7-5-6	11	15								
-42	50									Gray sandy clay and shell (CL)		
		1-1-1	2	16								
-47	55									Gray sandy clay with traces of shell (CL)		
		1-1-1	2	17								
-52	60											
		1-1-1	2	18								
-57	65									Gray sandy clay and shell (CL)		
		3-2-2	4	19								
-62	70									Gray clayey fine sand and shell (SC)		
		3-2-3	5	20								
-67	75									Boring terminated at 71.5 feet		
-72	80											