DRILLING LOG

Hole No. CB-SLI94-7

SHEET 1 OF 1

DIVISION: South Atlantic	INSTALLATION: Jacksonville District
1. PROJECT: ST. LUCIE INLET MAINTENANCE DREDGING	10. SIZE AND TYPE OF BIT: See Remarks
2. LOCATION (Coordinates or Station): X=774,960 Y=1030,590	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MLW
3. DRILLING AGENCY: Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL: VIBRACORE
4. HOLE NO. (As shown on drawing title and file number): CB-SLI94-7	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: disturbed: 1 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: MLW
	16. DATE HOLE STARTED: 04/27/94 COMPLETED: 04/27/94
7. THICKNESS OF BURDEN: 0 Ft.	17. ELEVATION TOP OF HOLE: -5.5 Ft.
8. DEPTH DRILLED INTO ROCK: 0 Ft.	18. TOTAL CORE RECOVERY FOR BORING: 27 %
9. TOTAL DEPTH OF HOLE: 4.5 Ft.	19. SIGNATURE OF GEOLOGIST: G. Holem

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-5.5	.0					-5.5
			SHELL, whole and broken, sand to gravel size, some quartz sand	27	1	VIBRACORE
-10.0	4.5					-10.0
			Soils are field visually classified in accordance with the Unified Soils Classification System.			
			LABORATORY RESULTS			
			Elevation Classification			
			-5.5/-6.7 (SP)			

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: ST. LUCIE INLET MAINTENANCE DREDGING

HOLE NUMBER: CB-SLI94-7

Hole No.CB-SLI94-9

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 1
1. PROJECT	ST. LUCIE INLET MAINTENANCE DREDGING
2. LOCATION (Coordinates or Station)	X=775,460 Y=1030,685
3. DRILLING AGENCY	Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number)	CB-SLI94-9
5. NAME OF DRILLER	L.C. Gregory
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED
7. THICKNESS OF BURDEN	0 Ft.
8. DEPTH DRILLED INTO ROCK	0 Ft.
9. TOTAL DEPTH OF HOLE	4.7 Ft.
10. SIZE AND TYPE OF BIT	See Remarks
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MLW
12. MANUFACTURER'S DESIGNATION OF DRILL	VIBRACORE
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	disturbed: 1 undisturbed: 0
14. TOTAL NUMBER OF CORE BOXES	1
15. ELEVATION GROUND WATER	MLW
16. DATE HOLE STARTED COMPLETED	04/22/94 04/22/94
17. ELEVATION TOP OF HOLE	-4.7 Ft.
18. TOTAL CORE RECOVERY FOR BORING	49 %
19. SIGNATURE OF GEOLOGIST	G. Holem

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-4.7	.0					-4.7
			SAND, medium grained quartz, some sand size shell fragments, tan (SP).	49	1	VIBRACORE
-9.4	4.7					-9.4
			Soils are field visually classified in accordance with the Unified Soils Classification System.			Boring terminated at -9.4 due to refusal.
			LABORATORY RESULTS Elevation Classification -5.7/-6.7 (SP)			

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: ST. LUCIE INLET MAINTENANCE DREDGING | HOLE NUMBER: CB-SLI94-9

CB-SLI-M91-7

DRILLING LOG | DIVISION: South Atlantic | INSTALLATION: Jacksonville District | Hole No. CB-SLI-M91-7 | SHEET 1 OF 1 SHEETS

1. PROJECT: St. Lucie Inlet Maintenance
2. LOCATION (Coordinates or Station): x=775,260 y=1,030,831
3. DRILLING AGENCY: Corps of Engineers
4. HOLE NO. (As shown on drawing title and file number): CB-SLI-M91-7
5. NAME OF DRILLER: R. Gordon
6. DIRECTION OF HOLE: [X] VERTICAL [ ] INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN
8. DEPTH DRILLED INTO ROCK
9. TOTAL DEPTH OF HOLE: 13.3'
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 5/29/91 | COMPLETED 5/29/91
17. ELEVATION TOP OF HOLE: -3.1
18. TOTAL CORE RECOVERY FOR BORING: 53 %
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
-3.1	0.0					Bit or Barrel
			SAND, fine to medium, quartz and sand size shell fragments, some shell, clean, tan (SP)	56	1	-3.1 Blows per 1 ft: settled, 3, 5, 12, 20 — 2" Sampler
			fine to coarse, quartz and shell fragments, gray-tan, clean, trace gravel size shell fragments from -8.1 to -13.1	40	2	-8.1 Blows per 1 ft: 6, 8, 10, 16, 20 — 2" Sampler
-14.1	11.0		trace silt, gray from -13.1 to -14.1			-13.1
-16.1	13.0		SANDSTONE, moderately hard, cemented sand and shell fragments, porous, poorly cemented	70	3	-16.1 Blows per 1 ft: 6, 16, 28, 100 — 2" Sampler
-16.4	13.3		LIMESTONE, hard		4	-16.4

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

SAMPLE ELEVATION	LABORATORY CLASSIFICATION
-3.1/-8.1	(SP-SM)
-8.1/-13.1	(SP)

300# hammer with 18" drop used on 2" ID sampler.

blows per foot refers to the number of hammer blows required to advance a 2" sampler (2" ID x 2½" OD) one foot. Sampler is 5' long and driven continuously where possible.

Hole No. CB-34

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

1. PROJECT St. Lucie Inlet	10. SIZE AND TYPE OF BIT see remarks
2. LOCATION (Coordinates or Station) X=774,247 Y=1,029,106	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-34	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 16 Jun 78 — COMPLETED 16 Jun 78
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -6.7
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 45 %
9. TOTAL DEPTH OF HOLE 13.5'	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
-6.7	0.0					BIT OR BARREL -6.7 Blows/0.5 Ft.
-11.2	4.5		SAND, fine to coarse, shell fragments, tan, clean, shelly. (SP)	60 26 0	1 2	SPLIT SPOON 1 1 2 -8.2 " " 1 3 4 -9.7 " " 1 1 5 -11.2
-17.2	10.5		SAND, fine, quartz, silty, slightly clayey, slightly shelly, gray. (SM)	0 66 80 53	3 4 5	10 17 8 -12.7 " " 5 7 12 -14.2 " " WASHED 2 3 -15.7 " " 3 5 2 -17.2
-18.7	12.0		ORGANIC SILT, dark brown, slightly sandy. (OL)	66	6	" " 1 1 1 -18.7
-19.2	12.5		Bed silty sand, (SM), from -18.7 to -19.2.			
-20.2	13.5		SAND, fine to medium quartz, gray, slightly silty, organic stain. (SP)	53	7	" " 5 12 13 -20.2
						140# hammer with 30" drop used on 2.0' split spoon. (1-3/8" I.D. X 2" O.D.)

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

PROJECT St. Lucie Inlet HOLE NO. CB-34

Hole No. CB-35

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

1. PROJECT St. Lucie Inlet	10. SIZE AND TYPE OF BIT see remarks
2. LOCATION (Coordinates or Station) X=774,037 Y=1,029,224	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-35	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 15 Jun 78 — COMPLETED 15 Jun 78
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -7.2
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 45 %
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
-7.2	0.0					BIT OR BARREL -7.2 Blows/0.5 Ft.
-11.7	4.5		SAND, fine to medium quartz, and shell fragments, clean, gray. (SP)	53	1	SPLIT SPOON 3 5 6 -8.7
				46	2	" " 3 9 10 -10.2
				26	3	" " 4 11 15 -11.7
-15.7	8.5		SAND, fine,quartz, silty, slightly clayey, dark gray, slightly shelly. (SM)	0		" " 4 9 8 -13.2
				53	4	" " 8 6 8 -14.7
				40	5	" " 5 6 7 -16.2
-17.7	10.5		CLAY, slightly plastic, sandy, green, slightly silty. (CL)	66	6	" " 3 9 12 -17.7
-19.7	12.5		SAND, fine to medium,quartz, clayey, slightly silty, dark green. (SC)	73		" " 6 8 10 13 -19.7
						140# hammer with 30" drop used on 2.0' split spoon. (1-3/8" I.D. X 2" O.D.)

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

PROJECT St. Lucie Inlet HOLE NO. CB-35

Hole No. CB-36

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

1. PROJECT St. Lucie Inlet	10. SIZE AND TYPE OF BIT see remarks
2. LOCATION (Coordinates or Station) X=773,835 Y=1,029,284	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-36	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 15 Jun 78; COMPLETED 15 Jun 78
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE -5.0
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 51 %
9. TOTAL DEPTH OF HOLE 12.0'	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
-5.0	0.0					BIT OR BARREL -5.0 Blows/0.5 Ft.
-9.5	4.5		SAND, fine to medium, quartz and shell fragments, dark gray, clean. (SP)	80	1	SPLIT SPOON 6 6 8 -6.5
				40	2	" " 2 9 13 -8.0
				33	3	" " 24 19 20 -9.5
-11.0	6.0		SHELL, small to medium size fragments, clean, tan.	12	4	" " 9 14 18 -11.0
-14.5	9.5		SAND, fine, quartz, clayey, stiff, gray. (SC)	18	5	" " 12 14 17 -12.5
				60	6	" " 6 5 3 -14.0
-16.5	11.5		CLAY, slightly plastic, stiff, very sandy, silty, dark green (CL)	88	7	" " 4 6 6 -15.5
-17.0	12.0		Clayey sand (SC), from -16.5 to -17.0.	80	8	" " 4 8 12 -17.0
						140# hammer with 30" drop used on 2.0' split spoon. (1-3/8" I.D. X 2" O.D.)

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

PROJECT St. Lucie Inlet HOLE NO. CB-36

Hole No. CB-46

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

1. PROJECT St. Lucie Inlet	10. SIZE AND TYPE OF BIT see remarks
2. LOCATION (Coordinates or Station) STA 44+20 RGE -525	11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW
3. DRILLING AGENCY Corps of Engineers	12. MANUFACTURER'S DESIGNATION OF DRILL Failing 314
4. HOLE NO. (As shown on drawing title and file number) CB-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 12 July 78 / COMPLETED 12 July 78
7. THICKNESS OF OVERBURDEN	17. ELEVATION TOP OF HOLE +1.8
8. DEPTH DRILLED INTO ROCK	18. TOTAL CORE RECOVERY FOR BORING 51 %
9. TOTAL DEPTH OF HOLE 21.8'	19. ~~SIGNATURE OF INSPECTOR~~ Geologist: R. Stross

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
+1.8	0.0					+1.8 Blows/0.5 Ft.
			SAND, light tan, medium, shelly. (SP)	20	1	PUSHED SPLIT SPOON +0.3 1 3 4
				40	2	" " -1.2 11 22
-2.7	4.5			40	3	" " -2.7 7 19 20
			Slightly shelly below -2.7.	33	4	" " -4.2 2 5 7
				40	5	" " -5.7 5 23 28
				40	6	" " -7.2 14 30 24
				33	7	" " -8.7 16 21 22
-10.7	12.5			33	8	" " -10.2 18 25 18
-11.7	13.5		SAND, silty, gray, fine quartz (SM), shelly below -11.7.	33	9	" " -11.7 9 36 39
				67	10	" " -13.2 22 40 62
-14.2	16.0			100	11	" " -14.2 50 68
-15.8	17.6		LIMESTONE, medium hard, shelly, gray, porous, massive, coquina.	53		DIAMOND NX DT 8 MIN HP 0 PSI
			GRAVEL, shelly, 1" to 2" (GW)			-17.2

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

PROJECT St. Lucie Inlet | HOLE NO. CB-46

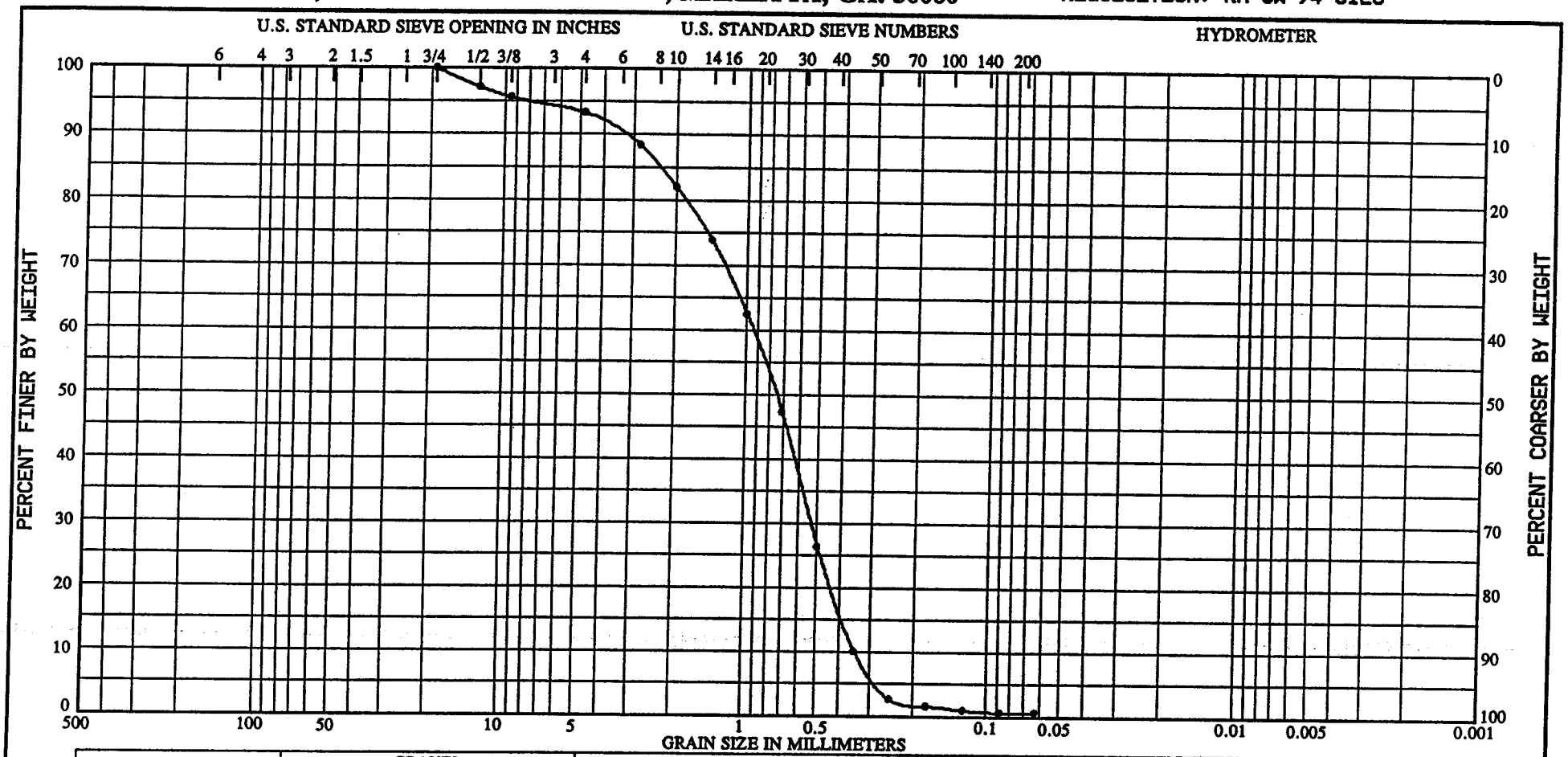
DRILLING LOG (Cont Sheet) ELEVATION TOP OF HOLE +1.8 **Hole No.** CB-46

PROJECT St. Lucie Inlet 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
						BIT OR BARREL
-17.7	19.5					-17.2
			LIMESTONE, medium hard with hard layers, shelly, white, massive, coquina.	100		DIAMOND NX DT 24 MIN HP 0 PSI
-20.0	21.8					-20.0
						140# hammer with 30" drop used on 2.0' split spoon. (1-3/8" I.D. X 2" O.D.)

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE , MARIETTA, GA. 30060

WORK ORDER: 7330
REQUISITION: RM-CW-94-0125



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

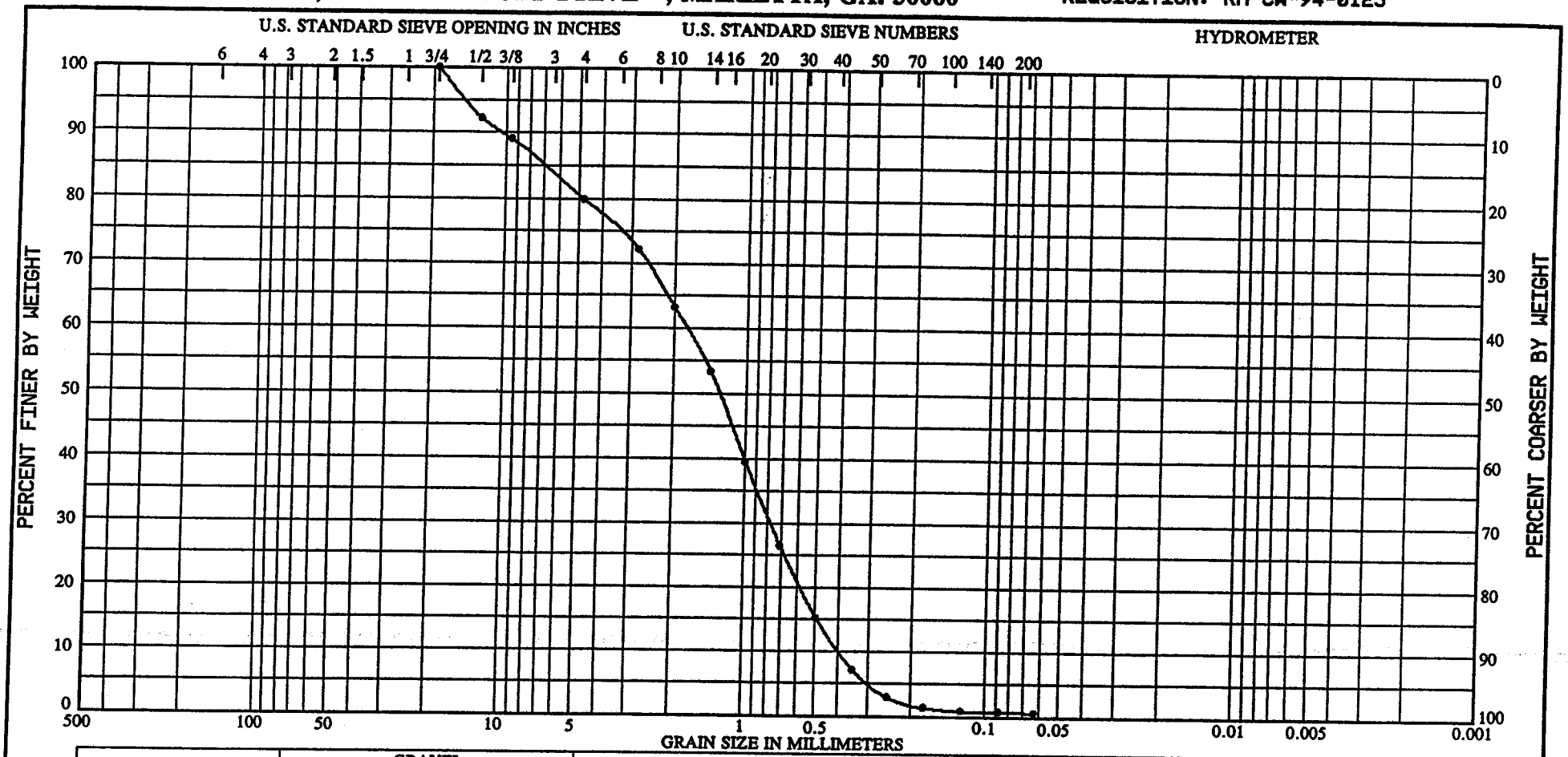
Sample No.	Elev.	Classification	Nat w%	LL	PL	PI
1	-5.4 / -6.5	(VISUAL) TAN, POORLY GRADED SHELL AND SHELL FRAGMENTS (SP), WITH A TRACE OF GRAVEL SIZE SHELL. VISUAL PERCENT SHELL IS APPROXIMATELY 68%.				

Project JACKSONVILLE DISTRICT
ST. LUCIE INLET
Lab No. 73/6399
Boring No. SLI94-1
Date 07/07/94

GRADATION CURVES

DEPARTMENT OF THE ARMY, SOUTH ATLANTIC DIVISION LABORATORY
CORPS OF ENGINEERS, 611 SOUTH COBB DRIVE , MARIETTA, GA. 30060

WORK ORDER: 7330
REQUISITION: RM-CW-94-0125



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Sample No.	Elev.	Classification	Nat w%	LL	PL	PI
1	-6.0 / -7.4	(VISUAL) TAN, POORLY GRADED SHELL AND SHELL FRAGMENTS (SP), WITH SOME GRAVEL SIZE SHELL. VISUAL PERCENT SHELL IS APPROXIMATELY 84%.	12.2			

Project JACKSONVILLE DISTRICT
ST. LUCIE INLET
Lab No. 73/6400
Boring No. SLI94-2
Date 07/07/94

GRADATION CURVES