

CENTRAL AND SOUTHERN FLORIDA PROJECT
FOR FLOOD CONTROL AND OTHER PURPOSES

PART V--SUPPLEMENT 55

APPENDIX A

CORE BORING LOGS FOR LEVEE 29 AND
STRUCTURES 194 MOD., 332, 333, 334, 335 AND 336

REV. JAN 75

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>		1- PROJECT <u>Central & Southern Florida - Levee 67A</u>		SHEET <u>1</u> OF <u>1</u>		
DRILLING LOG		2- LOCATION (Coordinate or Station) Sta: <u>578+00 (L-29)</u> x = Rgs: <u>515</u> y =		3- DRILLING AGENCY <u>Corps of Engineers</u>		
4- HOLE NO. (As shown on drawing title and file no.) <u>CB-L-67A-1</u>		5- NAME OF DRILLER <u>Mr. Fell</u>				
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL		7- THICKNESS OF OVER-BURDEN		8- DEPTH DRILLED INTO ROCK		
10- SIZE AND TYPE OF BIT <u>2" I. D. Spoon - See Remarks</u>		11- DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MSL</u>		12- MANUFACTURER'S DESIGNATION OF DRILL <u>Acker 21</u>		
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED		14- TOTAL NO. CORE BOXES <u>1 1/2</u>		15- ELEV. GROUND WATER <u>+7.2</u>		
				16- DATE HOLE STARTED <u>7/21/60</u> COMPLETED <u>7/22/60</u>		
17- ELEV. TOP OF HOLE <u>+8.4</u>		18- TOTAL CORE RECOVERY FOR BORING (%) <u>72.0%</u>		19- SIGNATURE OF INSPECTOR <u>K. R. Hess</u> Geologist		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
						Bit & Barrel Bls/Ft
+8.4	0.0					+8.4
+6.4	2.0		PEAT, limestone fragments 30 to 40%, dark brown		1	2" I. D. Spoon 5
			LIMESTONE, medium hard, very silty, very light buff	40	2	3
					3	+3.4 " " 45
+1.0	7.4				60	+1.0 " " 25
			LIMESTONE, hard, dense, solution holes and small cavities from +1.0 to +0.7	69		-1.9 Dia NX
-4.5	12.9				65	-4.5 Dia NX
-6.5	14.9		LIMESTONE, medium hard, very silty, cream		4	2" I. D. Spoon 25
			SAND, quartz, medium, very light gray	90	5	11
					5	-9.5 " " 10
					80	6 " " 9
-14.5	22.9					-14.5 " " 9
						15
						300# Hammer W/18" Drop Used on 2" I. D. Spoon

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1	
		South Atlantic		Jacksonville District		OF 1 SHEETS	
1. PROJECT C&SF Levee 29				10. SIZE AND TYPE OF BIT See Remarks			
2. LOCATION (Coordinates or Station) Sta. 550+00, Rge. 520				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
4. HOLE NO. (As shown on drawing title and file number) CB-L29-47				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER C. Mason				14. TOTAL NUMBER CORE BOXES 2		15. ELEVATION GROUND WATER +6.2	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE		STARTED 8-14-73 COMPLETED 8-15-73	
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF HOLE +2.7			
8. DEPTH DRILLED INTO ROCK				18. TOTAL CORE RECOVERY FOR BORING 68.1 %			
9. TOTAL DEPTH OF HOLE 20'				19. XXXXXXXXXXXXXXXXXXXX GEOLOGIST: T. Novak			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
							BIT OR BARREL
+2.7	0.0					+2.7	Bls/0.5 ft
			LIMESTONE, hard with medium hard zones, porous, fossiliferous; solution holes, some sand filled; buff.	60		+2.2	SPLIT SPOON 50
				90		+0.7	DIAMOND 4 x 5-1/2 D.T. 15 min. H.P. 75 psi.
				100		+0.2	DIAMOND 4 x 5-1/2
-1.5	4.2		solid, well cemented, conglomeritic from -1.5 to -4.1				DIAMOND 4 x 5-1/2 D.T. 45 min. H.P. 75 psi.
				85		-4.8	
-4.1	6.8						DIAMOND 4 x 5-1/2 D.T. 35 min. H.P. 75 psi.
				95		-8.3	
-8.1	10.8		SAND, fine to medium, quartz, and calcareous, clean, buff (SP)	60	1		SPLIT SPOON
						-9.8	
			some limestone lenses from -11.3 to -17.3	45	2	-11.3	
				50	3	-12.8	
				60	4	-14.3	
				45	5	-15.8	
				60	6	-17.3	
-17.3	20.0						
			NOTES: 1. Set 6" casing to +2.2 Set NX casing to -14.3 2. No measurable water loss 3. Grouted hole upon completion with 5 bags of Sakrete.				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		SHEET 1 OF 1 SHEETS	
1. PROJECT C&S Levee 29				10. SIZE AND TYPE OF BIT See Remarks			
2. LOCATION (Coordinates or Station) Sta. 550+00, Rge. 465				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
4. HOLE NO. (As shown on drawing title and file number) CB-L29-46				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER C. Mason				14. TOTAL NUMBER CORE BOXES 2			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER +6.1		16. DATE HOLE	
7. THICKNESS OF OVERBURDEN				STARTED 8-15-73		COMPLETED 8-17-73	
8. DEPTH DRILLED INTO ROCK				17. ELEVATION TOP OF HOLE +7.5			
9. TOTAL DEPTH OF HOLE 22.5'				18. TOTAL CORE RECOVERY FOR BORING 61.4 %			
				19. SCOPE OF WORK RECORD GEOLOGIST: T. Novak			
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	
+7.5	0.0					BIT OR BARREL +7.5 Bls/0.5 ft	
			PEAT, soft, fibrous, sandy, silty, black (PT)	15	1	SPLIT SPOON Pushed 1	
						+6.0 " " 1	
			clayey limestone fragments, tan to brown from +4.5 to +3.0	30	2	+4.5 " " 5	
						+3.0 " " Pushed 2	
+3.0	4.5			50	3	+3.0 " " Pushed 15	
			LIMESTONE, hard with medium hard zones, porous, solution holes, fossiliferous, light gray to buff	100		DIAMOND 4 x 5-1/2 D.T. 20 min. H.P. 75 psi. +1.5	
						DIAMOND 4 x 5-1/2 D.T. 55 min. H.P. 75 psi.	
-1.3	8.8			100			
			solid, conglomeritic, well cemented from -1.3 to -3.2				
-3.2	10.7					-3.5	
			very fossiliferous, sandy in texture from -3.2 to -9.0				
				95		DIAMOND 4 x 5-1/2 D.T. 35 min. H.P. 75 psi. -7.0	
-8.9	16.4			90		DIAMOND 4 x 5-1/2 H.P. 75 psi. -9.0	
			SAND, fine to medium, quartz, limestone lenses, light gray (SP) partly calcareous	60	4	SPLIT SPOON 7	
						-10.5 " " 33	
				60	5	-12.0 " " 10	
						-13.5 " " 6	
			NOTES: 1. No casing was set. 2. 100% water loss at -6.5. 3. Grouted hole upon completion with 6 bags of Sakrete.	35	6	-13.5 " " 7	
				30	7	-15.0 " " 2	
-15.0	22.5					-15.0 " " 3	
						-15.0 " " 7	
						140# hammer with 30" drop used on 2.0" split spoon (1-3/8" x 2" O.D.)	

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>		1- PROJECT <u>Central and Southern Florida - Levee 29, Sec. 3</u> SHEET 1 OF 1 2- LOCATION (Coordinates or Station) Stat: <u>532+00</u> X = Rge: <u>515</u> Y =						
DRILLING LOG 4- MOLE NO. (As shown on drawing title and file No.) <u>CB-L-29-3-2</u>		3- DRILLING AGENCY <u>Corps of Engineers</u> 5- NAME OF DRILLER <u>J. D. King</u>						
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL		7- THICKNESS OF OVERBURDEN	8- DEPTH DRILLED INTO ROCK	9- TOTAL DEPTH OF HOLE <u>29.8'</u>				
10- SIZE AND TYPE OF BIT <u>2" I.D. Spoon - See Remarks</u>		11- DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MSL</u>		12- MANUFACTURER'S DESIGNATION OF DRILL <u>Sprague & Herwood 30c</u>				
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED		14- TOTAL NO. CORE BOXES <u>1</u>	15- ELEV. GROUND WATER <u>+8.7</u>	16- DATE MOLE STARTED <u>9/13/60</u> COMPLETED <u>9/13/60</u>				
17- ELEV. TOP OF MOLE <u>+6.4</u>		18- TOTAL CORE RECOVERY FOR BORING (%) <u>79.0%</u>		19- XXXXXXXXXXXXXXXXXXXX <u>Geologist</u> <u>R. B. McMullen</u>				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)		
+6.4	0.0					Bit & Barrel Bls/Ft +6.4		
+3.7	2.7		PEAT, dark brown to black (PT)	50	1	2" I. D. Spoon Pushed +4.1		
+2.1	4.3		CLAY, very silty, calcareous, sandy w/25% limestone frags, Gray		2	" " 9 39		
-0.9	7.3		LIMESTONE, medium hard, fossiliferous, sandy, stilty, clayey, fragmental	96		24 13 33		
-7.4	13.8		LIMESTONE, hard, light buffish gray, small cavities with silt and sand, slightly weathered, dense	100		-3.4 Dia NX		
			from -5.4 to -7.4 badly weathered	100		-5.9 Dia NX		
			SAND, fine to very fine, quartz shelly, very silty, slightly clayey with 20% limestone fragments, grayish white, (SM)	32		-8.4 Dia NX		
-23.4	29.8				83	3	2" I. D. Spoon 18 10 7 12 11	
						80	4	5 5 13
						70	5	9 12 7 5 7
								11 11
								13 11
						300# Hammer W/18" Drop Used on 2" I. D. Spoon		

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District		SHEET 1 OF 1 SHEETS	
1. PROJECT C&SF Levee 29				10. SIZE AND TYPE OF BIT See Remarks			
2. LOCATION (Coordinates or Station) Sta. 515+00, Rge. 525				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
4. HOLE NO. (As shown on drawing title and file number) CB-L29-45				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED	UNDISTURBED
5. NAME OF DRILLER C. Mason				14. TOTAL NUMBER CORE BOXES 2		15. ELEVATION GROUND WATER +6.2	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED 8-9-73		COMPLETED 8-10-73	
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF HOLE -3.2			
8. DEPTH DRILLED INTO ROCK				18. TOTAL CORE RECOVERY FOR BORING 75.7 %			
9. TOTAL DEPTH OF HOLE 12.0'				19. SKETCH OF CORE GEOLOGIST: T. Novak			
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	
-3.2	0.0					BIT OR BARREL	
-3.6	0.4					-3.2 Bls/0.5 ft	
						-3.4 SPLIT SPOON 50	
			LIMESTONE, hard, solid, solution holes, fossiliferous, with well cemented pockets, Sandy, Buff to light gray, conglomerate from -3.2 to -3.6	98		DIAMOND 4 x 5-1/2 D.T. 40 min. H.P. 75 psi.	
			numerous filled solution holes from -9.2 to -13.2	95		-6.2 DIAMOND 4 x 5-1/2 D.T. 15 min. H.P. 75 psi.	
				100		-8.2 DIAMOND 4 x 5-1/2 D.T. 40 min. H.P. 75 psi.	
			medium hard from -13.2 to -15.2			-13.2	
-15.2	12.0			0		DIAMOND 4 x 5-1/2 D.T. 7 min. H.P. 75 psi.	
			NOTES: 1. 6" casing set to -3.4 2. No measurable water loss 3. Grouted hole upon completion with 2 bags of Sakrete.			-15.2 140# hammer with 30" drop used on 2.0' split spoon (1-3/8" I.D. x 2" O.D.)	

DEPARTMENT OF THE ARMY		1. PROJECT		SHEET		
DIVISION		Central and Southern Florida		OF		
INSTALLATION Jacksonville District		Flood Control				
DRILLING LOG				2. LOCATION (Coordinates or Station)		
				Sta 490+50 Rce 515		
3. HOLE NUMBER (As shown on drawing title and file No.)			4. DRILLING AGENCY			
L - 29 Hole G			U.S. Engineers			
5. ANGLE AND DIRECTION OF HOLE			6. THICKNESS OF OVERBURDEN		8. TOTAL DEPTH OF HOLE	
<input checked="" type="checkbox"/> VERTICAL	ANGLE WITH VERTICAL	BEARING	4.5'		36.0	
<input type="checkbox"/> INCLINED			7. DEPTH DRILLED INTO ROCK			
			31.5'			
9. SIZE AND TYPE OF BIT		10. MFR. DESIGNATION OF DRILL		11. ELEVATION TOP OF HOLE		
See Remarks		Longyear		6.3		
13. DEPTH AND ELEVATION GROUND WATER		14. TOTAL CORE RECOVERY		15. DATE HOLE		
40.5 = 46.8 !SL		85.3 %		STARTED 15 Feb 51		
				COMPLETED 19 Feb 51		
				16. INSPECTOR(S)		
				Drilled by: T.W. Ritter		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	RECHARGE TEST	BOX OR SAMPLE NO.	REMARKS (Water loss, drilling time, etc.)
46.8	0.0		Water			
46.3			PEAT, marly toward bottom, drk brn.			
43.4	2.9		MPL, peaty, drk brn/gry;		100	Spoon "Saved 1.0 only"
41.8	4.5		w/pieces of LIMESTONE, buff.		100	Spoon
40.8	5.5		LIMESTONE, slgt oolc, marly, white/buff, hd.	0gpm 5'hd	90	Carboloy bit, Sgl bbl
			LIMESTONE, slgt oolc, buff, white, mott, ptly porous, sol holes, hd.	30gpm 3'hd	70	Diamond bit, Dbl bbl
44.3	10.6		LIMESTONE, slgt sdy, wh/buff, sol holes, fairly dense, hd.			
-6.0	12.3		LIMESTONE, slgt sdy/sdy, buff, dense, porous material filling sol holes, hard.	55gpm 2'hd	96	" " " "
-9.7	16.0		LIMESTONE, vy sdy (coarse sand) buff, porous, hard.	23gpm 5'hd	96	" " " "
-11.8	18.1		SAND, marly, tan, fn/crs.			
-12.3	18.5		SAND, greenish-white, fn.		100	Spoon
				0gpm 5'hd	100	"
-17.2	23.5		SAND, greenish-white, tan strks, fn.			
-19.2	25.5		SAND, greenish-gry, fn, some coarse above -21.0	0gpm 5'hd	100	"
-24.2	30.5		SAND, fn/med and shell, gry.		100	"
						"Washed hole to this depth. No rock encountered. Wash sample in box."
-38.2	44.5					

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 1 SHEETS
1. PROJECT C&SF Levee 29		10. SIZE AND TYPE OF BIT See Remarks		
2. LOCATION (Coordinates or Station) Sta. 470+00, Rge. 515		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C		
4. HOLE NO. (As shown on drawing title and file number) CB-L29-44		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 <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED ° FROM VERT.		15. ELEVATION GROUND WATER +6.2		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED 8-8-73 COMPLETED 8-8-73		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE -5.6		
9. TOTAL DEPTH OF HOLE 10'		18. TOTAL CORE RECOVERY FOR BORING 83.9 %		
		19. XXXXXXXXXXXX GEOLOGIST: T. Novak		

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
-5.6	0.0					BIT OR BARREL
				80		-5.6 Bls/0.5 ft
			LIMESTONE, hard, solid, fossiliferous, solution holes, medium hard zones, porous, sandy, some poorly cemented zones, buff	100		-6.1 Split Spoon 86
				60		DIAMOND 4 x 5-1/2 D.T. 80 min. H.P. 75 psi.
			very sandy, well-cemented, oolitic from -13.6 to -14.0	75		-11.1
						DIAMOND 4 x 5-1/2 D.T. 20 min. H.P. 75 psi.
						DIAMOND 4 x 5-1/2 D.T. 10 min. H.P. 75 psi.
						-14.1
			SAND, fine to medium, quartz and calcareous buff to light gray (SP)	100	1	Split Spoon 1/5
						-15.6 16
			NOTES: 1. Set 6" casing to -6.0 2. No measurable water loss 3. Grouted hole upon completion, with 3 sacks of Sakrete.			140# hammer with 30" drop used on 2.0' split spoon (1-3/8" x 2" O.D.)

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>		1. PROJECT Central & Southern Florida - Levee 29 SHEET 1 of 1			
DRILLING LOG		2. LOCATION (coordinates or Station) Sta: <u>487+20</u> X = Rge: <u>515</u> Y =			
4. HOLE NO. (As shown on drawing title and file No.) CB-L-29-3-5		3. DRILLING AGENCY Corps of Engineers			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL		5. NAME OF DRILLER J. D. King			
10. SIZE AND TYPE OF BIT <u>2" I.D.</u> Spoon - See Remarks		7. THICKNESS OF OVERBURDEN 8. DEPTH DRILLED INTO ROCK 9. TOTAL DEPTH OF HOLE <u>26.2'</u>			
11. DATUM FOR ELEVATION SHOWN (TPM or MSL) MSL		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 30c			
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED		14. TOTAL NO. CORE BOXES <u>1</u> 15. ELEV. GROUND WATER <u>+8.7</u> 16. DATE HOLE STARTED <u>9/14/60</u> COMPLETED <u>9/14/60</u>			
17. ELEV. TOP OF HOLE <u>+7.1</u>		18. TOTAL CORE RECOVERY FOR BORING (%) <u>70.0%</u> 19. XXXXXXXXXXXXXXXXXXXX Geologist R. B. McMullen			
ELEVATION	DEPTH	LEGEND	% CORE RECOVERY	SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
					Bit & Barrel Bls/Ft
+7.1	0.0				+7.1
		PEAT, dark brown, (PT)		1	2" I. D. Spoon Pushed
+2.9	4.2	SILT, clayey, few limestone fragments, grayish brown, (ML)	80		
+2.1	5.0			2	+2.1
+0.9	6.2	LIMESTONE, medium hard, silty, sandy, fossiliferous, fragmental	50		+0.9 54
			84		-1.6 Dia NX
		LIMESTONE, hard, light buffish gray, sandy, silty, pitted, porous, badly weathered, small cavities, fossiliferous, molds and casts	68		-4.1 Dia NX
			56		-6.6 Dia NX
			84		-9.1 Dia NX
			60		-11.6 Dia NX
			36		-14.1 Dia NX
-14.1	21.2				-14.1 Dia NX
		SAND, fine to very fine, quartz, shelly, very silty, with 35% limestone fragments, grayish white, (SM)	83	3	2" I. D. Spoon 8
-19.1	26.2				-19.1 11
					300# Hammer W/18" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY				1. PROJECT		SHEET	
DIVISION		INSTALLATION		Central and Southern Florida		Flood Control	
Jacksonville District		DRILLING LOG		2. LOCATION (Coordinates or Station)		Sta 440+00 Rge 515	
3. HOLE NUMBER (As shown on drawing title and file No.)				4. DRILLING AGENCY			
L-29 Hole F				U.S. Engineers			
5. ANGLE AND DIRECTION OF HOLE				6. THICKNESS OF OVERBURDEN		7. DEPTH DRILLED INTO ROCK	8. TOTAL DEPTH OF HOLE
<input type="checkbox"/> VERTICAL		ANGLE WITH VERTICAL	BEARING	3.2'		33.2'	36.4'
<input type="checkbox"/> INCLINED		0°					
9. SIZE AND TYPE OF BIT		10. MFR. DESIGNATION OF DRILL		11. ELEVATION TOP OF HOLE		12. TOTAL CORE RECOVERY	
See Remarks		Loughran		46.1		25.7	
13. DEPTH AND ELEVATION GROUND WATER		14. TOTAL CORE RECOVERY		15. DATE HOLE		16. INSPECTOR(S)	
40.6 = 46.9 MSL		71 %		STARTED 9 Feb 1951 COMPLETED 13 Feb 1951		Drilled by: Ritter	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	SP. GRAV. (g/cm ³)	BOX CUTTING SAMPLE NO.	REMARKS (Water loss, drilling time, etc.)	
46.5	0					Recharge Test	
45.2	1.1		MARL, lt. gry, org, FW			Core Recovery	
44.1	2.2		PEAT, marly & gry-br in upper part, dk brn below			100	Spoon
43.1	3.2		MARL, dk gry.			100	
			LIMESTONE, slgt oolc, lt buff, porous, sol holes, hard.	21gpm		77	Carboloy bit, Sgl bbl
-0.5	6.8		LIMESTONE, buff, br mott, cong top, dense, hd.			75	Diamond bit, Dbl bbl
-2.1	8.4		LIMESTONE, ptly sdy, lt buff, generally porous, hd.	84gpm		62	" " " "
						100	" " " "
				60gpm		82	" " " "
-11.7	18.0		SAND, wh, slgt marly, fn. About 40' consolid to SANDSTONE in upper 0.3'	76gpm		100	Carboloy bit, Sgl bbl
-14.8	21.1		SAND, shelly, lt gry, f/crs, few qtz pebbles; some SANDSTONE concretions.	0gpm 5'hd		100	Spoon
-20.3	26.8		SAND, white, fn.			44	"
-22.1	28.4		SAND, shelly, gry-green, fn.	0gpm 5'hd		40	"
				0gpm 5'hd			
-30.1	36.4						

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>			1- PROJECT <u>Central & Southern Florida - Levee 29</u>		SHEET 1 OF 1
DRILLING LOG			2- LOCATION (coordinates or Station) Sta: <u>+06+00</u> x - Rce: <u>515</u> y -		
8- HOLE NO. (As shown on drawing title and file no.) CB-L-29-3-7			5- NAME OF DRILLER J. D. King		
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL			7- THICKNESS OF OVER-BURDEN		9- TOTAL DEPTH OF HOLE 27.0'
10- SIZE AND TYPE OF BIT <u>2" I.D. Spoon - See Remarks</u>			11- DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MSL</u>		12- MANUFACTURER'S DESIGNATION OF DRILL <u>Sprague & Henwood 30</u>
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED		14- TOTAL NO. CORE BOXES <u>1</u>		15- ELEV. GROUND WATER <u>+8.7</u>	16- DATE HOLE STARTED <u>9/15/60</u> COMPLETED <u>9/15/60</u>
17- ELEV. TOP OF HOLE <u>+7.4</u>		18- TOTAL CORE RECOVERY FOR BORING (%) <u>72.0%</u>		19- SUPERVISOR R. B. McMullen Geologist	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE BOX OR RECOVERY SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
+7.4	0.0				Bit & Barrel Bls/Ft
			PEAT, dark brown to black (PT)	87 1	+7.4 2" I. D. Spoon Pushed
+3.4	4.0		SILT, few limestone fragments, slightly sandy, gray (ML)	2	+2.4
+2.9	4.5		LIMESTONE, medium hard, sandy, silty, fossiliferous, fragmental, pitted	80	" " 38
-0.1	7.5		LIMESTONE, hard, fossiliferous, light buffish gray, pitted, porous, small cavities, from -1.8 to -4.6 unconsolidated shell, silt, sand and oolitic material, very pitted	100	-0.1 44
				100	-2.6 Dia NX
				72	-4.1 Dia NX
				44	-6.6 Dia NX
				92	-7.1 Dia NX
				44	-9.6 2" I. D. Spoon 119
				55	-12.1 Dia NX
			SAND, fine to very fine, quartz, very silty, with 35% limestone fragments, grayish white, (SM)	3	-14.6 Dia NX
-13.6	21.0				2" I. D. Spoon 10
					12
					12
					16
-19.6	27.0				11
					300# Hammer w/18" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY				1. PROJECT		SHEET	
DIVISION Jacksonville District				Central and Southern Florida Flood Control		OF	
INSTALLATION Jacksonville District				2. LOCATION (Coordinates or Station)			
DRILLING LOG				X = 626348 Sta 386+00			
				Y = 519419 Res 515			
3. HOLE NUMBER (As shown on drawing title and file No.)				4. DRILLING AGENCY			
L - 29 Hole D				U.S. Engineers			
5. ANGLE AND DIRECTION OF HOLE				6. THICKNESS OF OVERBURDEN		7. DEPTH DRILLED INTO ROCK	8. TOTAL DEPTH OF HOLE
<input type="checkbox"/> VERTICAL ANGLE WITH VERTICAL BEARING <input type="checkbox"/> INCLINED				3.1'			41.4'
9. SIZE AND TYPE OF BIT		10. MFR. DESIGNATION OF DRILL		11. ELEVATION TOP OF HOLE		12. TOTAL CORE RECOVERY	
See Remarks		Longear		46.2		37.0'	
13. DEPTH AND ELEVATION GROUND WATER		14. TOTAL CORE RECOVERY		15. DATE HOLE		16. INSPECTOR(S)	
-0.2 = +6.0 MSL		89.5 %		STARTED 1 May 1950 COMPLETED 1 May 1950		Drilled by: F.W. Mason	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	SP. GR. (gpm)	REMARKS (Water loss, drilling time, etc.)		
46.2	0				Recharge Test		
45.0	1.2		PEAT, mucky, blk (sample from 45.5 to 44.9)		78 Carboloy bit, Sgl bbl		
43.7	2.5		CLAY, org. stains				
42.9	3.1		PEAT, black				
			LIMESTONE, calc, wh/cream, yell at top, porous, hard.	17 gpm 4.9 hd	97 " " " "		
-1.0	7.2		LIMESTONE, yell, wh, pink mott, dense, bkn, hd, congl.				
-2.5	8.7		LIMESTONE, sdy, wh/lt gry, gry, mott in upper half, bkn, porous, hd.	40+ gpm	75 " " " "		
-5.2	11.4		LIMESTONE, sdy, vy sdy below -15.8, wh/lt gry, gry & yell mott from -8.5 to -8.8, -8.8 to -9.1, 14.9 to -15.5, bkn above -11.5 & ptly below, vy porous, dense -11.5 to -14.9, hd. large cavity in -5.2 to -8.8 zone.	0	33		
-8.8				40+ gpm	89 " " " "		
-13.8				40+ gpm 0'hd	" " " "		
-17.8	24.0		LIMESTONE, vy sdy, wh & yell mott, bkn, vy porous, hd.	40+ gpm 0'hd	93 " " " "		
-20.8	27.0		SANDSTONE, calc, lt gry, yell mott, med-hd. About 50% SAND, wh, fr.	0'hd	100		
-21.3	27.5						
-22.8			SAND, wh, vy fr, few shells & SANDSTONE concretions.	0 gpm			
-23.7	29.0		SAND, as above, shelly, SANDSTONE strata, lt gry, yell mott, 0.2' at top, 0.1' at base.	5.0' hd			
-24.5	30.7		SAND, as above, v/few shells, & concretions. Thin SANDSTONE strata, 0.2', from -25.9' to -23.1	0 gpm	100		
-25.8				5.0' hd	" " " "		
-30.8	37.1		SAND, wh, lt gry, v. fr, few shells & concretions.				
-32.2	38.4						
-35.2	41.4						

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District		SHEET 1 OF 1 SHEETS			
1. PROJECT C&SF Levee 29		10. SIZE AND TYPE OF BIT See Remarks		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
2. LOCATION (Coordinates or Station) Sta. 370+00, Rge. 475		3. DRILLING AGENCY Corps of Engineers		4. HOLE NO. (As shown on drawing title and file number) CB-L29-43		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED: UNDISTURBED:			
5. NAME OF DRILLER C. Mason		14. TOTAL NUMBER CORE BOXES 2		15. ELEVATION GROUND WATER +6.3		16. DATE HOLE STARTED: 8-3-73 COMPLETED: 8-6-73			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEPT. FROM VERT.		7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE +7.5			
9. TOTAL DEPTH OF HOLE 23.0'		18. TOTAL CORE RECOVERY FOR BORING 75.6 %		19. SIGNATURE OF DRILLER GEOLOGIST: T. Novak					
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			
+7.5	0.0					BIT OR BARREL +7.5 Bls/0.5 ft			
			PEAT, soft, spongy, clayey, fibrous, sandy, black (PT)	30	1	SPLIT SPOON Pushed			
				45	2	" " Pushed			
				80	3	" " Pushed			
+3.2	4.3							" " 1 1 40	
			LIMESTONE, hard with medium hard zones, oolitic, porous, solution holes, fossiliferous, buff	100		DIAMOND 4 x 5-1/2 D.T. 10 min. H.P. 75 psi.			
-2.0	9.5					100		DIAMOND 4 x 5-1/2 D.T. 2 Hrs. H.P. 75 psi.	
								solid from -1.0 to -4.2	
			conglomerate from -2.0 to -4.2			-2.5			
-4.2	11.7					100		DIAMOND 4 x 5-1/2 D.T. 1 Hr. H.P. 75 psi.	
			sandy texture with poorly cemented zones, buff, from -7.2 to -12.5			-7.5			
								DIAMOND 4 x 5-1/2 D.T. 33 min. H.P. 75 psi.	
								-12.5	
			NOTES: 1. No casing was set. 2. No measurable water loss. 3. Grouted hole upon completion. 140# hammer with 30" drop used on 2.0' split spoon (1-3/8" I.D. x 2" O.D.)	100					
-15.5	23.0			50		DIAMOND 4 x 5-1/2 D.T. 25 min. H.P. 75 psi.			

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>		1- PROJECT <u>Central & Southern Florida - Levee 29</u>		SHEET 1 OF 1	
DRILLING LOG		2- LOCATION (Coordinates or Station) Sta: <u>355+75</u> X = Rge: <u>515</u> Y =		3- DRILLING AGENCY <u>Corps of Engineers</u>	
4- HOLE NO. (As shown on drawing title and file no.) <u>CB-L-29-3-9</u>		5- NAME OF DRILLER <u>J. D. King</u>			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL		7- THICKNESS OF OVER-BURDEN		8- DEPTH DRILLED INTO ROCK	
9- TOTAL DEPTH OF HOLE <u>26.1'</u>		10- SIZE AND TYPE OF BIT <u>2" I.D. Spoon - see remarks</u>		11- DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MOL</u>	
12- MANUFACTURER'S DESIGNATION OF DRILL <u>Spurge & Greenwood 30</u>		13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED _____ UNDISTURBED _____		14- TOTAL NO. CORE BOXES <u>1</u>	
15- ELEV. GROUND WATER <u>+8.7</u>		16- DATE HOLE STARTED <u>9/16/60</u> COMPLETED <u>9/16/60</u>		17- ELEV. TOP OF HOLE <u>+6.3</u>	
18- TOTAL CORE RECOVERY FOR BORING (%) <u>73.0%</u>		19- STATE <u>Geologist</u> <u>R. B. McMullen</u>			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE RECOVERY	BOX OR SAMPLE NO.
					REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
					Bit & Barrel Bls/Ft
+6.3	0.0				+6.3
			PEAT, dark brown to black (PT)	55	1
+2.4	3.9				2" I. D. Spoon Pushed
			LIMESTONE, medium hard, light gray, fragmental, sandy, silty, porous, fossiliferous	85	
					+1.3 " " 11
					18
					17
-1.7	8.0				-1.7 37
			LIMESTONE, hard, light buffish gray, slightly sandy, slightly silty, pitted, fossiliferous, small cavities	90	
					-2.7 Dia NX
					88
					-5.2 Dia NX
					68
-7.2	13.5				-7.7 Dia NX
			LIMESTONE, medium hard, grayish white, fossiliferous, shelly, oolitic, sandy, silty, fragmental	82	
					2" I. D. Spoon 12
					19
					31
					8
					-12.7 11
					100 " " 13
					-14.6 147
			LIMESTONE, hard, light buffish gray, fossiliferous, cavities filled with consolidated sand and silt	28	
					-17.1 Dia NX
					-17.6 2" I.D. Spoon 121
					100
-20.1	24.4				-20.1 Dia NX
					300# Hammer W/18" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>		1- PROJECT <u>Central & Southern Florida - Levee 29</u>		SHEET <u>1</u> OF <u>1</u>	
DRILLING LOG		2- LOCATION (Coordinates or Station) Sta: <u>331+00</u> X = Rge: <u>515</u> Y =		3- DRILLING AGENCY <u>Corps of Engineers</u>	
4- HOLE NO. (As shown on drawing title and file No.) <u>CB-L-29-3-10</u>		5- NAME OF DRILLER <u>J. D. King</u>			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL		7- THICKNESS OF OVERBURDEN		8- DEPTH DRILLED INTO ROCK	
10- SIZE AND TYPE OF BIT <u>2" I.D. Spoon - See Remarks</u>		11- DATUM FOR ELEVATION SHOWN (TFM or MSL) <u>MSL</u>		12- MANUFACTURER'S DESIGNATION OF DRILL <u>Cartridge & Herwood 30</u>	
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED		14- TOTAL NO. CORE BOXES <u>1</u>		15- ELEV. GROUND WATER <u>+8.8</u>	
17- ELEV. TOP OF HOLE <u>+7.0</u>		18- TOTAL CORE RECOVERY FOR BORING (%) <u>62.0%</u>		19- SUPERVISOR'S NAME AND TITLE <u>R. B. McMullen</u> Geologist	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (description)	CORE RECOVERY	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
					Bit & Barrel Bls/Ft
+7.0	0.0				+7.0
+4.5	3.5		PEAT, dark brown to black (PT)	1	2" I. D. Spoon Pushed
			LIMESTONE, medium hard, grayish white, very sandy (almost sandstone), silty, limey, fragmental, texture, dense to fine, oolitic, fossiliferous, slightly weathered	60	32
					+2.0 46
					75
					59
					14
-2.1	9.1				-2.1 13
			LIMESTONE, hard, light buff, gray, slightly sandy, dense, badly weathered, pitted, porous, cavities	56	-4.6 Dia N
-5.1	12.1				
			NO RECOVERY	8	-7.1 Dia N
			LIMESTONE, medium hard, light gray, sandy, silty, oolitic, fossiliferous, dense to coarse, fragmental, badly weathered, cavities	60	2" I. D. Spoon 56
					37
					26
					19
					-12.1 7
					" " 5
					4
					7
					7
-16.1	23.1				-16.8 118
			LIMESTONE, hard, light buff, gray, fossiliferous, molds and casts, cavities with consolidated sand and silt, badly weathered, pitted	68	-19.3 Dia N
-20.3	27.3				-20.3 Dia N
			(bit plugged at -20.3)		
					300# Hammer w/18" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>		1- PROJECT <u>Central & Southern Florida - Levee 29</u>		SHEET 1 OF 1		
DRILLING LOG		2- LOCATION (Coordinates or Station) Sta: <u>306+00</u> X = Rge: <u>115</u> Y =		3- DRILLING AGENCY <u>Corps of Engineers</u>		
4- HOLE NO. (As shown on drawing title and file no.) <u>CB-L-29-3-11</u>		5- NAME OF DRILLER <u>J. D. King</u>		6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL		
10- SIZE AND TYPE OF BIT <u>2" I.D. Spoon - See Remarks</u>		11- DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MSL</u>		12- MANUFACTURER'S DESIGNATION OF DRILL <u>Sprogs & Denwood 30</u>		
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED _____ UNDISTURBED _____		14- TOTAL NO. CORE BOXES <u>1</u>		15- ELEV. GROUND WATER <u>+8.8</u>		
17- ELEV. TOP OF HOLE <u>+7.7</u>		18- TOTAL CORE RECOVERY FOR BORING (%) <u>69.0%</u>		16- DATE HOLE STARTED <u>9/19/60</u> COMPLETED <u>9/19/60</u>		
19- Geologist <u>R. B. McMullen</u>		REMARKS (drilling time, water loss, depth of weathering, etc., if significant)				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS
						Bit & Barrel Bls/Ft
+7.7	0.0		PEAT, dark gray to black (PT)			+7.7
+4.2	3.5		LIMESTONE, medium hard, grayish white, very sandy, silty, limey, texture dense to fine, oolitic, fossiliferous, slightly weathered, pitted, porous	90	1	2" I. D. Spoon Pushed
-1.2	8.9		LIMESTONE, hard, light buffish gray, slightly sandy, dense, badly weathered, pitted, porous, cavities, fossiliferous, thin bedded	73		2 5 12 16 81
-5.2	12.9		NO RECOVERY	60		+2.7 " " 12 16 81
-6.2	13.9		LIMESTONE, medium hard, light gray, sandy, silty, slightly oolitic, fossiliferous, dense to coarse, badly weathered, cavities	24		-1.2 Dia NX
						-3.7 Dia NX
						-6.2 Dia NX
						" " 20 27 22 11 15
						-11.2 " " 7 9 5 17 11
-18.6	26.3		LIMESTONE, hard, light buff, gray, fossiliferous, very slightly sandy, dense to fine, pitted, slightly weathered	53		-16.2 " " 20 38
						-18.6 Dia NX
-21.2	28.9			100		-21.2 Dia NX
						300# Hammer W/18" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>			1- PROJECT <u>Central & Southern Florida - Levee 29</u> 2- LOCATION (coordinates or Station) Sta: <u>281+00</u> X = Age: <u>515</u> Y =		SHEET 1 OF 1	
DRILLING LOG			3- DRILLING AGENCY Corps of Engineers			
4- HOLE NO. (As shown on drawing title and file No.) CB-L-29-3-12			5- NAME OF DRILLER J. D. King			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL			7- THICKNESS OF OVER-BURDEN		8- DEPTH DRILLED INTO ROCK	
10- SIZE AND TYPE OF BIT 2" I.D. Spoon - See Remarks			11- DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		12- MANUFACTURER'S DESIGNATION OF DRILL Sprague & Denwood 30	
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED		14- TOTAL NO. CORE BOXES 1		15- ELEV. GROUND WATER +8.8		
17- ELEV. TOP OF HOLE +6.3		18- TOTAL CORE RECOVERY FOR BORING (%) 75.0%		16- DATE HOLE STARTED 9/20/60 COMPLETED 9/20/60		
19- SIGNATURE OF INSPECTOR R. B. McMullen			REMARKS (drilling time, water loss, depth of weathering, etc., if significant)			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS
+6.3	0.0					Bit & Barrel Bls/F
+2.5	3.8		PEAT, dark brown to black (PT)	70	1	+6.3 2" I. D. Spoon Pushed
-0.6	6.9		LIMESTONE, medium hard, gray to grayish white, very sandy, silty, fossiliferous, oolitic, pitted, porous	85		+1.3 " " 33 -0.6 " " 50 49
-5.6	11.9		LIMESTONE, hard, light buffish gray to grayish white, pitted, porous, fossiliferous	100		-3.1 Dia NX
-7.6	13.9		LIMESTONE, medium hard, with thin layers of hard limestone, sandy	85		-5.6 Dia NX 2" I. D. Spoon 49 -7.7 109
-12.7	19.0		LIMESTONE, hard, light buffish gray, pitted, porous, fossiliferous, cavities, sandy	88		-10.2 Dia NX
-14.7	21.0		LIMESTONE, medium hard, light gray, sandy, silty, fossiliferous	100		-12.7 Dia NX 2" I. D. Spoon 30 -14.7 94
-19.7	26.0		LIMESTONE, hard, buffish gray to grayish white, sandy, pitted, porous, fossiliferous, cavities	32		-17.2 Dia NX
				40		-19.7 Dia NX
						300# Hammer W/18" Drop Used on 2" I. D. Spoon

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET OF 1 SHEETS
1. PROJECT C&SF Levee 29		10. SIZE AND TYPE OF BIT See Remarks		
2. LOCATION (Coordinates or Station) Sta. 265+00, Rge. 485		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C		
4. HOLE NO. (As shown on drawing title and file number) CB-L29-42		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED _____ UNDISTURBED _____		
5. NAME OF DRILLER C. Mason		14. TOTAL NUMBER CORE BOXES 2		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEVI. FROM VERT.		15. ELEVATION GROUND WATER +6.2		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED 7-31-73 COMPLETED 8-1-73		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE +7.0		
9. TOTAL DEPTH OF HOLE 19.0'		18. TOTAL CORE RECOVERY FOR BORING 66.2 %		
GEOLOGIST: T. Novak				

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
+7.0	0.0					BIT OR BARREL +7.0 Bls/0.5 ft
+2.3	4.7		PEAT, soft, fibrous, sandy (fine), black (PT)	30	1	SPLIT SPOON 1/2
			clayey layers	30	2	" " Pushed 1/1
				50	3	" " 1/1
						+2.5 1/1
-1.2	8.2		LIMESTONE, hard with medium hard zones, oolitic, sandy pockets, solution holes, fossiliferous, buff	90	4	+2.0 " " 50
				95		DIAMOND 4 x 5-1/2 D.T. 20 min. H.P. 75 psi. +0.0
			conglomerate from -1.2 to -2.0			DIAMOND 4 x 5-1/2 D.T. 50 min. H.P. 75 psi.
				90		-4.5
				50		DIAMOND 4 x 5-1/2 D.T. 15 min. H.P. 75 psi. -7.5
-12.0	19.0		massive from -8.0 to -11.1		95	DIAMOND 4 x 5-1/2 D.T. 30 min. H.P. 75 psi. -12.0

NOTES:
 1. No casing was set
 2. 100% water loss below -3.5
 3. Grouted hole upon completion with 5 sacks of Sakrete.

140# hammer with 30" drop used on 2.0' split spoon (1-3/8" I.D. x 2" O.D.)

DEPARTMENT OF THE ARMY DIVISION Corps of Engineers INSTALLATION Jacksonville, Florida				1- PROJECT Central & Southern Florida - Levee 29		SHEET 1 of 1	
DRILLING LOG				2- LOCATION (coordinates or Station) Sta: 256+00 X = Rge: 815 Y =		3- DRILLING AGENCY Corps of Engineers	
4- HOLE NO. (As shown on drawing title and file no.) CB-L-29-3-13				5- NAME OF DRILLER J. D. King			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL				7- THICKNESS OF OVER-BURDEN		8- DEPTH DRILLED INTO ROCK	
10- SIZE AND TYPE OF BIT 2" I.D. Spoon - See Remarks				11- DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		12- MANUFACTURER'S DESIGNATION OF DRILL Sprague & Denwood 30	
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED				14- TOTAL NO. CORE BOXES 1		15- ELEV. GROUND WATER +8.8	
17- ELEV. TOP OF HOLE +7.4				18- TOTAL CORE RECOVERY FOR BORING (%) 83.0%		16- DATE HOLE STARTED 9/20/60 COMPLETED 9/21/60	
19- SOLEWORKER OF HOLE R. B. McMullen				19- SOLEWORKER OF HOLE Geologist			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
+7.4	0.0					Bit & Barrel Bls/Ft	
			PEAT, dark brown to black (PT)	70	1	+7.4 2" I. D. Spoon Pushed	
+2.2	5.2		LIMESTONE, medium hard, grayish white, very sandy, silty, pitted, porous	85		+2.4 " " 58	
-0.8	8.2		LIMESTONE, hard, light buffish gray to grayish white, slightly sandy, pitted, porous, fossiliferous, from -4.5 to -5.3 very sandy, oolitic	100		-0.8 " " 29	
-5.3	12.7		LIMESTONE, medium hard, grayish white, very sandy, oolitic, silty, fossiliferous, few thin layers of hard limestone	80		-3.3 " " 26	
				85		-5.8 " " 49	
-14.8	22.2		LIMESTONE, hard, grayish white, pitted, porous, fossiliferous, small cavities, slightly sandy, oolitic	95		-10.8 " " 23	
				92		-14.8 " " 26	
-19.8	27.2			64		-17.3 " " 83	
						-19.8 " " 37	
						300# Hammer W/18" Drop Used on 2" I. D. Spoon	

DEPARTMENT OF THE ARMY DIVISION Corps of Engineers INSTALLATION Jacksonville, Florida DRILLING LOG				1- PROJECT Central & Southern Florida - Levee 29 2- LOCATION (Coordinates or Station) Sta: 232+00 X - Rge: 515 Y - 3- DRILLING AGENCY Corps of Engineers		SHEET 1 OF 1	
4- HOLE NO. (As shown on drawing title and file No.) CB-L-29-3-14				5- NAME OF DRILLER J. D. King			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL				7- THICKNESS OF OVERBURDEN		8- DEPTH DRILLED INTO ROCK	
10- SIZE AND TYPE OF BIT 2" I.D. Spoon - See Remarks				11- DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		12- MANUFACTURER'S DESIGNATION OF DRILL Corrugate & Menwood 30	
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED				14- TOTAL NO. CORE BOXES 1		15- ELEV. GROUND WATER +8.8	
17- ELEV. TOP OF HOLE +8.0				18- TOTAL CORE RECOVERY FOR BORING (%) 50.0%		16- DATE HOLE STARTED 9/21/60 COMPLETED 9/22/60 19- SURVEYOR OR CHECKER Geologist R. B. McMullen	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
+8.0	0.0					Bit & Barrel Bls/Ft	
+2.8	5.2		PEAT, dark brown to black (PT)	65	1	+8.0 2" I. D. Spoon Pushed	
-1.2	9.2		LIMESTONE, medium hard, light gray, very sandy, silty, fossiliferous, pitted, porous	60		+3.0 " " 18 6 21 45	
-6.2	14.2		LIMESTONE, hard, light buffish gray, sandy, pitted, porous, fossiliferous, cavities	56		-1.2 Dia NX	
-8.2	16.2		SAND, medium fine to fine, gray, (calcareous), silty, shelly, (SM)	20		-6.2 Dia NX	
-10.8	18.8		LIMESTONE, medium hard, gray, silty, sandy, porous, pitted	57	2	-8.2 2" I. D. Spoon 9 9 27 15 100	
-18.3	26.3		LIMESTONE, hard, light buffish gray to grayish white, sandy, silty, pitted, porous, cavities, fossiliferous, thin to medium bedded	52		-10.8 Dia NX	
-20.1	28.1		LIMESTONE, medium hard, grayish white, silty, sandy, fossiliferous, oolitic, porous, fragments	16		-13.3 Dia NX	
				28		-15.8 Dia NX	
				80		-18.3 Dia NX 2" I. D. Spoon 25 -20.1 62	
300# Hammer W/18" Drop Used on 2" I. D. Spoon							

DEPARTMENT OF THE ARMY			1. PROJECT		SHEET OF 2	
DIVISION INSTALLATION Jacksonville District		Central and Southern Florida Flood Control				
DRILLING LOG			2. LOCATION (Coordinates or Station)			
3. HOLE NUMBER (As shown on drawing title and file No.)			X = 643734 Sta 213+00 Y = 519481 Rce 315			
L - 29 Hole E			4. DRILLING AGENCY			
5. ANGLE AND DIRECTION OF HOLE			U.S. Engineers			
<input checked="" type="checkbox"/> VERTICAL	ANGLE WITH VERTICAL	BEARING	6. THICKNESS OF OVERBURDEN	7. DEPTH DRILLED INTO ROCK	8. TOTAL DEPTH OF HOLE	
<input type="checkbox"/> INCLINED	0°		4.3'		55.0	
9. SIZE AND TYPE OF BIT		10. MFR. DESIGNATION OF DRILL	11. ELEVATION TOP OF HOLE	12. TOTAL CORE RECOVERY		
See Remarks		Longyear	45.9	52.5'		
13. DEPTH AND ELEVATION GROUND WATER		14. TOTAL CORE RECOVERY	15. DATE HOLE		16. INSPECTOR(S)	
-0.1 = +5.8MSL		95.4%	STARTED 5 June 1950 COMPLETED 6 June 1950		Drilled by: F.W. Mason	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	RECHARGE TEST	CORE RECOVERY	REMARKS (Water loss, drilling time, etc.)
+5.9	0					
+4.2	1.7	www	PEAT, dark brn (sample from +5.1 to +4.5)		67	Carboloy bit, Sgl bbl
+2.7	3.2	M-	MARL, drk gry, org, stains			
+1.6	4.3	www	PEAT, mucky, blk	8gpm		
+1.4			LIMESTONE, oolc, white/lt gry, yell mott below -1.2, porous, upper 1.4' soil holes filled with peat & MARL, hd, med-hd	5.0' hd	100	" " " "
-2.7	8.6		LIMESTONE, ptly sdy, white, slgt yell mott, slgt porous/porous, bkn, hd. Lower 1.3' med-hd.	15gpm 5.0' hd	97	" " " "
-9.1				19gpm		
-11.5	17.4	I I	LIMESTONE, lt gry, FW gastro-nods below -13.2, hd	5.0' hd		" " " "
-14.1		FW		40gpm		
-15.5	21.4		LIMESTONE, sdy, white, slgtly porous, hd.	0'hd	95	" " " "
-19.1	25.3			40gpm		
-19.4		I I	LIMESTONE, wh, porous, med-hd, ptly sdy.	0'hd		" " " "
-21.3	27.2		LIMESTONE, wh, dense; LIMESTONE, gry grading to SANDSTONE, lt gry to buff, porous in lower 2' hard.	17gpm		
-24.1				5.0' hd		" " " "
-24.8	50.7		LIMESTONE, sdy, wh, grading to SANDSTONE in lower half, med-hard.			
-27.1	53.0		SAND, white, vy fine	0gpm	100	Spoon
-29.1				5.0' hd		
-33.9	53.8					
-34.1			SAND, vy fn, drk gry to gry.	5.0' hd	87	"

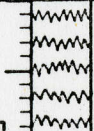

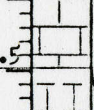

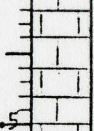


DEPARTMENT OF THE ARMY		1. PROJECT	SHEET 2
DIVISION		Central and Southern Florida	OF 2
INSTALLATION Jacksonville District		Flood Control	
DRILLING LOG (Continued)		2. LOCATION (Coordinates or Station)	
		L - 29 Hole E	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	RECHARGE TEST	CORE SAMPLE NO.	REMARKS (Water loss, drilling time, etc.)
-39.1				Recharge Test	5 Core 1000 ery	
-44.1				Ogpm 5.0 hd.		Spoon
-47.7	53.6			Ogpm 5.0 hd.		"
-49.1	55.0		SAND, blk, org		100	

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District		SHEET 1 OF 1 SHEETS	
1. PROJECT C&SF Levee 29				10. SIZE AND TYPE OF BIT See Remarks			
2. LOCATION (Coordinates or Station) Sta. 200+00, Rge. 480				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
4. HOLE NO. (As shown on drawing title and file number) CB-L29-41				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER C. Mason				14. TOTAL NUMBER CORE BOXES 2			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEPT. FROM VERT.				15. ELEVATION GROUND WATER +6.8		16. DATE HOLE STARTED 7-27-73 COMPLETED 7-30-73	
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF HOLE +7.5			
8. DEPTH DRILLED INTO ROCK				18. TOTAL CORE RECOVERY FOR BORING 76.8 %			
9. TOTAL DEPTH OF HOLE 19.5'				19. DESIGNER OF INSPECTOR GEOLOGIST: T. Novak			
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	
+7.5	0.0					BIT OR BARREL Blis/ per 0.5 ft +7.5	
+6.2	1.3		PEAT, sandy, fibrous, slightly clayey, black (PT)	30	1	SPLIT SPOON Pushed 1 1	
+4.4	3.1		SAND, fine to medium, calcareous and quartz, limestone fragments, tan to buff, organic clay from +4.4 to +3.8	50	2	" " Pushed 1 1	
+3.8	3.7					" " Pushed	
+2.8	4.7		PEAT, spongy, soft, fibrous, black and brown (PT)	75	3	+3.0 Pushed 1	
			LIMESTONE, hard with medium hard zones, solution holes, sandy pockets, fossiliferous, buff medium hard, sandy from -1.0 to -1.5	80		" " 15 50	
-1.5	9.0				100		DIAMOND 4 x 5-1/2 +1.0 D.T. 15 min. H.P. 75 psi.
-2.1	9.6		conglomeritic from -1.5 to -2.1	100		DIAMOND 4 x 5-1/2 D.T. 35 min. H.P. 75 psi.	
			very porous from -5.5 to -7.2		80	-3.0 DIAMOND 4 x 5-1/2 D.T. 40 min. H.P. 75 psi.	
			very fossiliferous, small gastropods from -7.2 to -9.7		100	-7.0 DIAMOND 4 x 5-1/2 D.T. 50 min. H.P. 75 psi.	
-12.0	19.5					-12.0	
NOTES: 1. No casing was set 2. 100% water loss below -4.0' 3. Grouted hole upon completion, with 5 sacks of Sakrete.				140# Hammer with 30" drop used on 2.0' split spoon (1-3/8" ID x 2" OD)			

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>		1- PROJECT <u>Central & Southern Florida - Levee 29</u>		SHEET <u>1</u> OF <u>1</u>		
		2- LOCATION (coordinates or Station) Sta: <u>18+00</u> X = Rge: <u>515</u> Y =				
DRILLING LOG						
4- HOLE NO. (As shown on drawing title and file No.) <u>CB-L-29-3-16</u>			5- NAME OF DRILLER <u>J. D. King</u>			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL			7- THICKNESS OF OVERBURDEN		9- TOTAL DEPTH OF HOLE <u>26.9'</u>	
10- SIZE AND TYPE OF BIT <u>2" I.D. Spoon - See Remarks</u>		11- DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MSL</u>		12- MANUFACTURER'S DESIGNATION OF DRILL <u>Copaus & Henwood 30</u>		
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED		14- TOTAL NO. CORE BOXES <u>1</u>	15- ELEV. GROUND WATER <u>+9.3</u>	16- DATE HOLE STARTED <u>9/22/60</u> COMPLETED <u>9/21/60</u>		
17- ELEV. TOP OF HOLE <u>+7.3</u>		18- TOTAL CORE RECOVERY FOR BORING (%) <u>60.0%</u>		19- SPECIAL REQUIREMENTS <u>Geologist R. B. McMullen</u>		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)
						Bit & Barrel Bls/Ft
+7.3	0.0					+7.3
			PEAT, dark brown to black (PT)	55	1	2" I. D. Spoon Pushed
+1.0	6.3					+2.3 Pushed
			LIMESTONE, medium hard, light gray, very sandy, silty, fossiliferous, dense to fine, porous	85		9 25 20
-2.1	9.4		LIMESTONE, hard, light buffish gray, slightly sandy, dense to fine, silty, fossiliferous, badly weathered, pitted, porous, cavities, thin to medium bedded	44		-2.1 47
				40		-4.6 Dia NX
-7.1	14.4					-7.1 Dia NX
			LIMESTONE, medium hard, light gray, sandy, silty, dense to fine, fossiliferous, badly weathered, pitted, porous, cavities	50		2" I. D. Spoon 13 6 2 3
-12.1	19.4			90		-12.1 16 -13.1 " " 180
			LIMESTONE, hard, light gray, buff, slightly weathered, dense to fine, slightly sandy, silty, pitted, fossiliferous, cavities	81		-15.6 Dia NX
-15.6	22.9		No Recovery			-16.62" I. D. Spoon 64
-16.6	23.9					
			LIMESTONE, hard	68		
-18.6	25.9					
-19.6	26.9		No Recovery			-19.6 Dia NX
						300# Hammer W/18" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>			1- PROJECT <u>Central & Southern Florida - Levee 29</u>		SHEET 1 of 1	
DRILLING LOG			2- LOCATION (coordinates or Station) Sta: <u>157400</u> x = Rce: <u>515</u> y =		3- DRILLING AGENCY Corps of Engineers	
4- HOLE NO. (As shown on drawing title and file no.) CB-L-29-3-17			5- NAME OF DRILLER J. D. King			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL			7- THICKNESS OF OVERBURDEN		8- DEPTH DRILLED INTO ROCK	9- TOTAL DEPTH OF HOLE <u>29.7'</u>
10- SIZE AND TYPE OF BIT <u>2" I.D. Spoon - See Remarks</u>			11- DATUM FOR ELEVATION SHOWN (TEM or MSL) <u>M.S.L.</u>		12- MANUFACTURER'S DESIGNATION OF DRILL <u>Sprague & Renwood 30</u>	
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED _____ UNDISTURBED _____			14- TOTAL NO. CORE BOXES <u>1</u>	15- ELEV. GROUND WATER <u>+9.3</u>	16- DATE HOLE STARTED <u>9/24/60</u> COMPLETED <u>9/26/60</u>	
17- ELEV. TOP OF HOLE <u>+7.1</u>			18- TOTAL CORE RECOVERY FOR BORING (%) <u>54.0%</u>		19- 300# Hammer <u>Geologist</u> R. B. McMullen	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (description)	NO. CORE RECOVERY	NO. SAMPLES	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)
+7.1	0.0					Bit & Barrel Bls/Ft
+1.8	5.3		PEAT, dark brown to black (PT)	60	1	2" I. D. Spoon Pushed
-2.3	9.4		LIMESTONE, medium hard, light gray, fine to dense, silty, fossiliferous, pitted, porous	100		" " 8
-4.8	11.9		LIMESTONE, hard, buffish gray, dense to fine, sandy, silty, badly weathered, fossiliferous, cavities, pitted	40		-2.3 12 -4.8 42 Dia NX
-13.6	20.7		LIMESTONE, medium hard, light gray, very sandy, fine to dense, fossiliferous, badly weathered, porous, pitted, cavities	35		2" I.D. Spoon 13 19 34 12 -9.8 6
-16.1	23.2		LIMESTONE, hard, light buffish gray, badly weathered, sandy, porous, pitted, foss., cavities	56		" " 6 4 10 75 -13.6
-17.6	24.7	No REC.	No Recovery			-16.1 Dia NX -17.6 Dia NX
-22.6	29.7		LIMESTONE, medium hard, grayish white, sandy, silty, fossiliferous, texture - fine to dense, porous, badly weathered, cavities	63		2" I. D. Spoon 15 35 33 29 -22.6 17
						300# Hammer w/16" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY DIVISION Corps of Engineers INSTALLATION Jacksonville, Florida		1- PROJECT Central & Southern Florida - Levee 29		SHEET 1 of 1
DRILLING LOG		2- LOCATION (coordinates or Station) Sta: 132+00 x = Peg: 515 y =		
4- HOLE NO. (As shown on drawing title and file No.) CB-L-29-3-18		3- DRILLING AGENCY Corps of Engineers		
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL		7- THICKNESS OF OVER-BURDEN	8- DEPTH DRILLED INTO ROCK	9- TOTAL DEPTH OF HOLE 27.5'
10- SIZE AND TYPE OF BIT 2" I.D. Spoon - See Remarks		11- DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		12- MANUFACTURER'S DESIGNATION OF DRILL Spreague & Herwood 30
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED		14- TOTAL NO. CORE BOXES 1	15- ELEV. GROUND WATER +9.3	16- DATE HOLE STARTED 9/26/60 COMPLETED 9/26/60
17- ELEV. TOP OF HOLE +7.6		18- TOTAL CORE RECOVERY FOR BORING (%) 64.0%		19- SIGNATURE OF INSPECTOR R. B. McMullen
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
+7.6	0.0			Bit & Barrel Bls/Ft +7.6
+2.5	5.1		PEAT, dark brown to black (PT)	2" I. D. Spoon Pushed 70 1 +2.6
-2.4	10.0		LIMESTONE, medium hard, light gray, sandy, fossiliferous, pitted, porous, badly weathered	" " 5 28 28 20 31 60
-4.9	12.5		LIMESTONE, light buffish gray, hard, dense to fine, sandy, soft seams, thin bedded, badly weathered, fossiliferous, pitted, porous, cavities	36 -4.9 Dia NX 2" I. D. Spoon 39 58
-12.7	20.3		LIMESTONE, medium hard, grayish white, sandy, fine to dense, slightly weathered, fossiliferous, porous, with thin layers of hard limestone	88 18 29 35 -9.9 " " 36 26 39 100 209
-17.9	25.5		LIMESTONE, hard, light gray, dense to fine, sandy, pitted, porous, cavities, fossiliferous, soft seams	60 -13.9 -15.4 Dia NX 40 -17.9 Dia NX
-19.9	27.5		No Recovery	2" I. D. Spoon -19.9 108
			(Stopped on hard rock) 	300# Hammer w/18" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u> DRILLING LOG			1- PROJECT <u>Central & Southern Florida - Levee 29</u>		SHEET 1 OF 1	
4- HOLE NO. (As shown on drawing title and file no.) CB-L-29-3-19			2- LOCATION (Coordinates or Station) Sta: <u>107+00</u> X = Age: <u>515</u> Y = 3- DRILLING AGENCY Corps of Engineers			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL			7- THICKNESS OF OVER-BURDEN		8- DEPTH DRILLED INTO ROCK	
10- SIZE AND TYPE OF BIT <u>2" I.D. Spoon - See Remarks</u>			11- DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MSL</u>		9- TOTAL DEPTH OF HOLE <u>27.2'</u>	
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED			14- TOTAL NO. CORE BOXES <u>1</u>		15- ELEV. GROUND WATER <u>+9.3</u>	
17- ELEV. TOP OF HOLE <u>+7.3</u>			18- TOTAL CORE RECOVERY FOR BORING (%) <u>79.0%</u>		16- DATE HOLE STARTED <u>9/27/60</u> COMPLETED <u>9/27/60</u>	
19- SUPERVISOR R. B. McMullen			20- MANUFACTURER'S DESIGNATION OF DRILL <u>Sprague & Herwood 30</u>			
21- DRILLING AGENCY Corps of Engineers			22- DRILLING OPERATOR Geologist			
23- DRILLING AGENCY Corps of Engineers			24- DRILLING OPERATOR R. B. McMullen			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORRECTION RECOVERY	SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
						Bit & Barrel Bls/Ft
+7.3	0.0					+7.3
			PEAT, dark brown to black (PT)	93	1	2" I. D. Spoon Pushed
+3.9	3.4					18
			LIMESTONE, medium hard, light gray, sandy, fossiliferous, pitted, porous, slightly weathered	100		+2.3 " "
+0.7	6.6					34
			LIMESTONE, hard, light buffish gray to grayish white, thin bedded, sandy, plastic seams, badly weathered, porous, cavities, fossiliferous	52		+0.7 " "
				44		-1.8 Dia NX
-4.3	11.6					-4.3 Dia NX
			LIMESTONE, medium hard with thin layers of hard limestone, grayish white, sandy	85		2" I. D. Spoon
-7.3	14.6					22
			LIMESTONE, hard, buffish white, sandy, fossiliferous, cavities	28		-7.4 " "
-9.9	17.2					81
			SAND, fine, calcareous, buffish white, silty (SM)	2		-9.9 Dia NX
-11.9	19.2					13
			LIMESTONE, medium hard, light gray to grayish white, sandy, fine to coarse, fossiliferous	95		2" I. D. Spoon
						7
						20
						-14.9 " "
						35
						8
						6
						15
						59
-19.9	27.2					12
						14
						300# Hammer W/18" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>		1- PROJECT <u>Central and Southern Florida - Levee 29</u>		SHEET 1 OF 1		
DRILLING LOG		2- LOCATION (Coordinates or Station) Sta: <u>82+00</u> x = Elev: <u>515</u> y =		3- DRILLING AGENCY Corps of Engineers		
4- HOLE NO. (As shown on drawing title and file No.) CB-L-29-3-20		5- NAME OF DRILLER J. D. King				
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED <input type="checkbox"/> DEGREES WITH VERTICAL		7- THICKNESS OF OVER-BURDEN	8- DEPTH DRILLED INTO ROCK	9- TOTAL DEPTH OF HOLE <u>27.0'</u>		
10- SIZE AND TYPE OF BIT " <u>I.D.</u> Spoon - See Remarks		11- DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MSL</u>	12- MANUFACTURER'S DESIGNATION OF DRILL <u>Sprague & Henwood 30</u>			
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED	14- TOTAL NO. CORE BOXES <u>1</u>	15- ELEV. GROUND WATER <u>+9.3</u>	16- DATE HOLE STARTED <u>9/27/60</u>	COMPLETED <u>9/28/60</u>		
17- ELEV. TOP OF HOLE <u>+6.6</u>	18- TOTAL CORE RECOVERY FOR BORING (%) <u>83.0%</u>	19- NAME OF GEOLOGIST <u>R. B. McMullen</u>				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
						Bit & Barrel Bls/Ft
+6.6	0.0					+6.6
			PEAT, dark brown to black (PT)			2" I. D. Spoon Pushed
+3.3	3.3		LIMESTONE, medium hard, light gray, dense to coarse, with thin layers of hard limestone, badly weathered	100	1	10 25 44 48 27 38 76
				87		+1.6 " " 44 48 27 38
-3.8	10.4		LIMESTONE, hard, light gray, fossiliferous, dense to fine, sandy, silty, slightly weathered, pitted, porous, layers of medium hard limestone	70		-3.4 -3.8 " " 39
-6.3	12.9		LIMESTONE, medium hard, grayish white, sandy, silty, fine to dense with thin layers of hard limestone, oolitic, fossiliferous, badly weathered	100		-6.3 Dia NX 2" I. D. Spoon 42 28
				63		37 55
				70		-11.3 " " 13 17 10 15
-15.7	22.3		LIMESTONE, hard, light gray, dense to fine, sandy, silty, fossiliferous, badly weathered, thin layers of medium hard limestone	80		-15.7 38 33
-18.2	24.5		LIMESTONE, medium hard, light gray, fine to dense, sandy, silty, fossiliferous, badly weathered, thin layers hard limestone	60		-18.2 Dia NX 2" I. D. Spoon 27 46
-20.4	27.0					-20.4 300# Hammer w/18" Drop Used on 2" I. D. Spoon

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Florida</u>			1- PROJECT <u>Central & Southern Florida - Levee 29</u>		SHEET 1 OF 1	
DRILLING LOG			2- LOCATION (Coordinates or Station) Sta: <u>97+00</u> X = Peg: <u>515</u> Y =		3- DRILLING AGENCY <u>Corps of Engineers</u>	
4- MOLE NO. (As shown on drawing title and file no.) <u>CB-L-29-3-21</u>			5- NAME OF DRILLER <u>J. D. King</u>			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL			7- THICKNESS OF OVER-BURDEN	8- DEPTH DRILLED INTO ROCK	9- TOTAL DEPTH OF HOLE <u>27.8'</u>	
10- SIZE AND TYPE OF BIT <u>2" I. D. Spoon - See Remarks</u>		11- DATUM FOR ELEVATION SHOWN (TBM or MSL) <u>MSL</u>		12- MANUFACTURER'S DESIGNATION OF DRILL <u>Sprague & Herwood 30</u>		
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED _____ UNDISTURBED _____		14- TOTAL NO. CORE BOXES <u>1</u>	15- ELEV. GROUND WATER <u>+9.4</u>	16- DATE MOLE STARTED <u>9/28/60</u> COMPLETED <u>9/28/60</u>		
17- ELEV. TOP OF MOLE <u>+7.1</u>		18- TOTAL CORE RECOVERY FOR BORING (%) <u>58.0%</u>		19- SIGNATURE OF CHECKER <u>R. B. McMullen</u> Geologist		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (description)	CORE BOX OR RECOVERY	SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
+7.1	0.0					Bit & Barrel Bls/Ft
			PEAT, dark brown to black (PT)			+7.1
+3.2	3.9			100	1	2" I. D. Spoon Pushed
			LIMESTONE, medium hard, light gray to grayish white, sandy, silty, dense to coarse, fossiliferous, pitted, badly weathered	83		+2.1 25 " " 36 " " 37 " " 34 " " 23
-3.2	10.3			50		-3.2 " " 36
-5.7	12.8		LIMESTONE, hard, light buffish gray, thin bedded, sandy, silty, badly weathered, fossiliferous, pitted, cavities	44		-5.7 Dia NX
			LIMESTONE, medium hard, light gray, sandy, silty, coarse to dense, badly weathered, pitted, porous, cavity from -7.7 to -9.0, oolitic	15		2" I. D. Spoon 14 Fell 6 13 -10.7 46 " " 2 27 20 33
-15.7	22.8			61		-15.7 59
			LIMESTONE, hard, light buffish gray, thin bedded, dense to fine, sandy, silty, badly weathered, pitted, fossiliferous, cavities	32		-18.2 Dia NX
-20.7	27.8			40		-20.7 Dia NX
						300# Hammer w/18" Drop Used on 2" I. D. Spoon

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS		
1. PROJECT C&SF Levee 29		South Atlantic	Jacksonville District	10. SIZE AND TYPE OF BIT See Remarks		
2. LOCATION (Coordinates or Station) Sta. 40+00, Rge. 473				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C		
4. HOLE NO. (As shown on drawing title and file number) CB-L-29-39				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER C. Mason				14. TOTAL NUMBER CORE BOXES 2		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ D.T. FROM VERT.				15. ELEVATION GROUND WATER +6.6		
7. THICKNESS OF OVERBURDEN				16. DATE HOLE STARTED 7-23-73 COMPLETED 7-24-73		
8. DEPTH DRILLED INTO ROCK				17. ELEVATION TOP OF HOLE +7.4		
9. TOTAL DEPTH OF HOLE 20.0'				18. TOTAL CORE RECOVERY FOR BORING 81.6 %		
				19. XXXXXXXXXXXXXXXXXXXX GEOLOGIST: T. Novak		
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
+7.4	0.0					BIT OR BARREL +7.4 Bls/0.5 ft
+6.9	0.5		PEAT, sandy, clayey, fibrous organic, black (PT)	30	1	SPLIT SPOON 1/3 1/3 +5.9 1/3
+4.4	3.0		SAND, fine to coarse, calcareous, shelly, very clayey, tan, silty (SP - SC)	30	2	" " Pushed +4.4 1 1
+3.6	3.8		PEAT, spongy fibrous, slightly sandy brown	90	3	" " 8 +3.4 40
-1.8	9.2		LIMESTONE, hard with medium hard zones, sandy pockets, solution holes, fossiliferous, buff, oolitic	100		DIAMOND 4 x 5-1/2 D.T. 30 min. H.P. 75 psi. +1.9
-3.0	10.4		hard, solid, conglomeritic (Reworked limestone) from -1.8 to -3.0	95		DIAMOND 4 x 5-1/2 D.T. 30 min. H.P. 75 psi. -3.6
			medium hard from -4.6 to -6.6	100		DIAMOND 4 x 5-1/2 D.T. 35 min. H.P. 75 psi. -8.6
			medium hard, very porous, very fossiliferous, light gray to white from -8.6 to -12.6	100		DIAMOND 4 x 5-1/2 D.T. 30 min. H.P. 75 psi.
-12.6	20.0		NOTES: 1. No casing was set 2. No measurable water loss 3. Hole grouted upon completion.			-12.6
						140# hammer with 30" drop used on 2.0' split spoon (1-3/8" I.D. x 2')

DRILLING LOG			DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS	
1. PROJECT C&SF Levee 29			South Atlantic	Jacksonville District		
2. LOCATION (Coordinates or Station) Sta. 40+00, Rge. 525				10. SIZE AND TYPE OF BIT See Remarks		
3. DRILLING AGENCY Corps of Engineers				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
4. HOLE NO. (As shown on drawing title and file number) CB-L-29-40				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C		
5. NAME OF DRILLER C. Mason				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED UNDISTURBED	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEPT. FROM VERT.				14. TOTAL NUMBER CORE BOXES 1		
7. THICKNESS OF OVERBURDEN				15. ELEVATION GROUND WATER +6.2		
8. DEPTH DRILLED INTO ROCK				16. DATE HOLE	STARTED 7-17-73 COMPLETED 7-19-73	
9. TOTAL DEPTH OF HOLE 12.5'				17. ELEVATION TOP OF HOLE -0.8		
				18. TOTAL CORE RECOVERY FOR BORING 48.1 %		
				19. CONTRACTOR'S NAME		
				GEOLOGIST: T. Novak		
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
-0.8	0.0					BIT OR BARREL
-1.2	0.4		SAND, fine to coarse, calcareous, 70% limestone fragments, silty, dark brown, (SP)	45	1	SPLIT SPOON Pushed
			LIMESTONE, medium hard with hard layers, fossiliferous, porous, gray and light brown, chalky	60		" "
				75		" "
				0		DIAMOND 4 x 5-1/2 D.T. 30 min. H.P. 75 psi.
			contains layers of soft sandy limestone	90		SPLIT SPOON
			clayey from -8.8 to -9.8	80		" "
			hard from -10.3 to -13.3	30		" "
				85		" "
-13.3	12.5					-13.3
			NOTES: 1. Set 6" casing to -4.8 Set NX casing to -8.8 2. No measurable water loss 3. Hole grouted upon completion.			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		SHEET 1 OF 1 SHEETS	
1. PROJECT C&SF Levee 29				10. SIZE AND TYPE OF BIT See Remarks			
2. LOCATION (Coordinates or Station) Sta. 40+05, Rge. 525				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
4. HOLE NO. (As shown on drawing title and file number) CB-L29=40A				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER C. Mason				14. TOTAL NUMBER CORE BOXES 1		15. ELEVATION GROUND WATER +6.2	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				16. DATE HOLE STARTED 7-19-73 COMPLETED 7-19-73			
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF HOLE -1.3			
8. DEPTH DRILLED INTO ROCK				18. TOTAL CORE RECOVERY FOR BORING 82.5 %			
9. TOTAL DEPTH OF HOLE 6.0'				19. SKETCH OF CORE RECOVERY GEOLOGIST: T. Novak			
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	
-1.3	0.0					BIT OR BARREL -1.3 Bls/0.5 ft.	
-4.3	3.0	II	LIMESTONE, medium hard	No Recovery Attempted		NX CASING -4.3 Bls/0.5 ft.	
-7.3	6.0	[Brick pattern]	LIMESTONE, hard, fossiliferous, porous, chalky, sandy, slight gray, buff, with medium hard layers, clayey	75		Split Spoon 60	
						70	
						62	
				90		" " 24	
						15	
						18	
NOTES:							
1. Set 6" casing to -2.0							
2. No measurable water loss							
3. No recovery attempted from -1.3 to -4.3							
4. Grouted hole upon completion with 3 sacks of Sakrete							
5. Redrilled from -4.3 to -7.3 to get core that was lost in CB-L29-40.							
				140# hammer with 30" drop used on 2.0' split spoon (1-3/8" I.D. x 2" O.D.)			

DEPARTMENT OF THE ARMY DIVISION Corps of Engineers INSTALLATION Jacksonville, Florida				1- PROJECT Central & Southern Florida - Levee 29		SHEET 1 OF 1	
DRILLING LOG				2- LOCATION (Coordinates or Station) Sta: 31+50 X = Rze: 515 Y =		3- DRILLING AGENCY Corps of Engineers	
4- HOLE NO. (As shown on drawing title and file No.) CB-L-29-3-22				5- NAME OF DRILLER J. D. King			
6- DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEGREES WITH VERTICAL				7- THICKNESS OF OVER-BURDEN		8- DEPTH DRILLED INTO ROCK	
10- SIZE AND TYPE OF BIT 2" I.D. Spoon - See Remarks				11- DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		9- TOTAL DEPTH OF HOLE 29.1'	
13- TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED UNDISTURBED				14- TOTAL NO. CORE BOXES 1		15- ELEV. GROUND WATER +9.4	
17- ELEV. TOP OF HOLE +7.9				18- TOTAL CORE RECOVERY FOR BORING (%) 78.0%		12- MANUFACTURER'S DESIGNATION OF DRILL Sprague & Kenwood 30 16- DATE HOLE STARTED 9/29/60 COMPLETED 9/29/60	
19- NAME OF GEOLOGIST R. B. McMullen				20- NAME OF SUPERVISOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (description)	5- CORE RECOVERY	6- SAMPLE NO.	REMARKS (drilling time, water loss, depth of weathering, etc., if significant)	
+7.9	0.0		PEAT, dark gray, (PT)	70	1	Bit & Barrel	Bls/Ft
+2.3	5.6		LIMESTONE, medium hard, light gray, sandy, fossiliferous, pitted, badly weathered, small cavities	63		2" I. D. Spoon	Pushed
-2.4	10.3		LIMESTONE, hard, light buffish gray, dense to fine, sandy, pitted, porous, badly weathered	100			
-4.9	12.8		LIMESTONE, medium hard, grayish white, sandy, badly weathered, pitted, cavities	95			
-15.7	23.6		LIMESTONE, hard, light buffish gray, sandy, dense to fine, badly weathered, pitted, fossiliferous, cavities	66			
-18.2	26.1		LIMESTONE, medium hard, grayish white, sandy, fossiliferous, pitted, porous, fine to dense, badly weathered	100			
-21.2	29.1		(stopped on hard rock)			300# Hammer W/18" Drop Used on 2" I. D. Spoon	

DEPARTMENT OF THE ARMY DIVISION <u>Corps of Engineers</u> INSTALLATION <u>Jacksonville, Fla. Dist.</u>			1. PROJECT Central and Southern Florida Flood Control			SHEET OF
DRILLING LOG			2. LOCATION (Coordinates or Station) STA. 0+00 (L-29) X = <u>669,986</u> AGE. 515 Y = <u>519,444</u>			
3. HOLE NUMBER (As shown on drawing title and file No.) L-30R R-1			4. DRILLING AGENCY U.S. Engineers			
5. ANGLE AND DIRECTION OF HOLE <input type="checkbox"/> VERTICAL ANGLE WITH VERTICAL BEARING <input checked="" type="checkbox"/> INCLINED			6. THICKNESS OF OVERBURDEN 4.0	7. DEPTH DRILLED INTO ROCK 17.1	8. TOTAL DEPTH OF HOLE 21.1	
9. SIZE AND TYPE OF BIT See Remarks		10. MFR. DESIGNATION OF DRILL Longyear Pioneer		11. ELEVATION TOP OF HOLE 45.8	12. TOTAL CORE RECOVERY 82.9	
13. DEPTH AND ELEVATION GROUND WATER 45.9		14. TOTAL CORE RECOVERY 82.9 %		15. DATE HOLE STARTED <u>7/31/51</u> COMPLETED <u>8/1/51</u>		
16. INSPECTOR(S) Drilled by: J.M. Andrews						
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	REMARKS (Water loss, drilling time, etc.)	XX XX XX XX CORE SAMPLE RECOVER XXXXXX % Core Recov ery	
45.8						
		www	PEAT, black fibrous		100	Auger
42.4		www				
41.8		ww	MARL, peaty			
		c	LIMESTONE, hard, porous, oolitic		81	Carboloy bit, Sgl bbl
-1.6			LIMESTONE, cong, vy hard		100	" " " "
					100	Carboloy bit & Diamond bit
-4.7			LIMESTONE, hd, porous, oolitic		68	Diamond bit, Dbl bbl
					44	" " " "
-8.8		I-I	LIMESTONE, med-hd w/interbedded MARL		85	Carboloy bit, Sgl bbl
		I-I			81	" " " "
-15.3						

DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District		SHEET 1 OF 2 SHEETS	
1. PROJECT C&SF Structure 194				10. SIZE AND TYPE OF BIT See Remarks			
2. LOCATION (Coordinates or Station) X=671811.97, Y=454403.5				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
4. HOLE NO. (As shown on drawing title and file number) CB-S194-1				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 <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED D.T. FROM VERT.				15. ELEVATION GROUND WATER +0.9		16. DATE HOLE	
7. THICKNESS OF OVERBURDEN				STARTED 6-4-73		COMPLETED 6-5-73	
8. DEPTH DRILLED INTO ROCK				17. ELEVATION TOP OF HOLE +8.5			
9. TOTAL DEPTH OF HOLE 33.5'				18. TOTAL CORE RECOVERY FOR BORING 61.7 %			
				19. SIGNATURE OF INSPECTOR			
				GEOLOGIST: T. Novak			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	LOG NO. SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
+8.5	0.0					BIT OR BARREL	
			LIMESTONE, soft, weathered, sandy with pockets of sand and silt, light brown to brown	50	1	+8.5	Bls/0.5 ft.
			Iron stains, yellow, medium hard at +6.5, oolitic			+7.0	SPLIT SPOON 7
							9
							23
							41
				95			37
						+5.5	56
							17
				60			27
						+4.0	13
							25
				75			30
						+2.5	41
							24
				75			17
						+1.0	13
							27
				70			27
						-0.5	29
							29
				80			16
						-2.0	70
							37
				75			34
						-3.5	24
							10
			soft, poorly cemented, sandy, oolitic with sand-filled and open solution holes, light brown to buff from -3.5 to -8.5	20			7
						-5.0	8
				20			10
						-6.5	6
							5
				30			5
						-8.0	7
							18
-8.5	17.0			50		-8.7	100
			LIMESTONE, hard, solid, conglomerate; porous with solid zones, fossiliferous	100			DIAMOND NX D.T. 15 min H.P. 50 psi
						-11.0	

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. CB-S194-1		
PROJECT			INSTALLATION		SHEET	
C&SF Structure 194			Jacksonville District		2	
					OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
						BIT OR BARREL
						-11.0 Bls/0.5 ft.
			solid with numerous small solution holes, white to light gray from -11.2 to -13.3	84		DIAMOND NX D.T. 17 min. H.P. 50 psi. -13.5
			porous with poorly cemented pockets, yellow from -13.3 to -17.5	95		DIAMOND NX D.T. 15 min. H.P. 50 psi. -16.0
			clayey -17.5 to -18.5	15		SPLIT SPOON 114 106
						-17.5 110
					10	
			many open solution holes with heavy iron stains, porous, fossiliferous from -18.5	80		DIAMOND NX D.T. 15 min. H.P. 50 psi. -21.0
-21.0	29.5					
			very fossiliferous, fresh water gastropods, gray from -21.0 to -21.7			DIAMOND NX D.T. 25 min. H.P. 50 psi.
-21.7	30.2					
		CAVITY	cavity from -21.7 to -22.5	80		
			solid, white at -22.5			
-25.0	33.5					-25.0
			NOTES: 1. NX Casing set to -17.5 2. 100% water loss -8.7 to -18.5 100% water loss -20.0 to -25.0 3. Hole grouted upon completion			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	SHEET 1 OF 2 SHEETS
1. PROJECT C&SF Structure 194		10. SIZE AND TYPE OF BIT See Remarks		
2. LOCATION (Coordinates or Station) X-671881.96 Y-454404.76		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C		
4. HOLE NO. (As shown on drawing title and file number) CB-S194-2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED: _____ UNDISTURBED: _____		
5. NAME OF DRILLER C. Mason		14. TOTAL NUMBER CORE BOXES 2		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ FROM VERT.		15. ELEVATION GROUND WATER +0.9		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED: 6-6-73 COMPLETED: 6-7-73		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE +8.4		
9. TOTAL DEPTH OF HOLE 33.4'		18. TOTAL CORE RECOVERY FOR BORING 63.5 %		
		19. SIGNATURE OF INSPECTOR GEOLOGIST: T. Novak		

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
+8.4	0.0					BIT OR BARREL
+7.9	0.5	III	SAND, with 50% limestone layers (SP)	60	1	+8.4 Bls/0.5 ft. SPLIT SPOON 22
			LIMESTONE, medium hard, weathered, porous, with solution holes, oolitic, light brown to yellow, chalky	80		+6.9 " " 44
						" " 48
				100		+5.4 " " 50
						" " 26
				90		+3.9 " " 29
						" " 40
				60		+2.4 " " 41
			slightly weathered below +2.4			" " 29
				50		+0.9 " " 27
						" " 66
				50		-0.6 " " 27
						" " 25
				50		-2.1 " " 19
						" " 67
				40		-3.6 " " 34
						" " 21
				75		-5.1 " " 10
			very sandy			" " 16
				50		-6.6 " " 14
						" " 22
				0		-8.1 " " 15
			cavity from -7.1 to -8.6			" " 21
			soft from -8.6 to -10.7			" " 4
				0		Dropped
				0		Dropped
						" " 5
				30		-9.6 " " 8
-10.7	19.1					" " 2
						" " 2

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
C&SF Structure 194		Jacksonville District		2		
				OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
-10.7	19.1					BIT OR BARREL
			LIMESTONE, hard, oolitic, porous, solution holes, fossiliferous, light gray	100		DIAMOND 4 x 5-1/2 D.T. 7 min. H.P. 50 psi. -11.6
			solid with large open solution holes from -11.6 to -15.0	95		DIAMOND 4 x 5-1/2 D.T. 35 min. H.P. 50 psi. -16.6
			porous, fossiliferous, solution holes with iron stains			
			solid, solution holes, iron stains, light gray from -17.6 to -25.0	100		DIAMOND 4 x 5-1/2 D.T. 30 min. H.P. 50 psi. -20.6
			fresh water gastropods, gray from -21.6 to -22.6	90		DIAMOND 4 x 5-1/2 D.T. 35 min. H.P. 50 psi. -25.0
-25.0	33.4					
			NOTES: 1. 6" Casing to -11.0 2. 100% water loss from -11.6 to -25.0 3. Hole grouted upon completion			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	SHEET 1 OF 2 SHEETS
1. PROJECT C&SF Structure 333		10. SIZE AND TYPE OF BIT See Remarks	
2. LOCATION (Coordinates or Station) X = 607,173 Y = 519,174		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL	
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C	
4. HOLE NO. (As shown on drawing title and file number) CB-S333-1		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 <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ D. FROM VERT.		15. ELEVATION GROUND WATER +8.3	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED 2-28-73 COMPLETED 3-1-73	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE +5.3	
9. TOTAL DEPTH OF HOLE 30'		18. TOTAL CORE RECOVERY FOR BORING 44.5 %	
		19. DATE OF LOGGING GEOLOGIST: T. NOVAK	

ELEVATION c	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
+5.3	0.0		Recharge Tests GPM/Ft. Head		BIT OR BARREL +5.3 Bls/0.5 ft.
+2.3	3.0	I	SAND, fine to coarse, calcareous and quartz, very silty, buff to tan, limestone layers (SM)	20	SPLIT SPOON 12
					4
				30	+3.8 " " 1
					6
-6.7	12.0	I	LIMESTONE, hard, solid, reworked (conglomerate) fossiliferous, oolitic, light gray to buff; soft, porous, sandy layer can be broken by hand from +0.3 to -3.2; solution holes partly filled with secondary limestone from -3.2 to -6.7	100	+2.3 " " 4
					11
				99	+1.5 " " 42
					100
				0	* -0.7
				5	-0.8 SPLIT SPOON 90
-10.2	15.5	I	SAND, fine to medium, calcareous and quartz, limestone layers, light gray to white, silty (SM)	0	DIAMOND NX D.T. 25 min. H.P. 50 psi.
					-2.7 H.P. 50 psi
				0	-3.2 SPLIT SPOON 137
				95	* -5.7
-12.7			SAND, fine to medium quartz, light gray (SP-SM)	10	DIAMOND NX D.T. 20 min. H.P. 50 psi.
					-6.7 H.P. 50 psi.
				90	SPLIT SPOON 75
					32
				50	-8.2 " " 50
					9
				30	-9.7 " " 11
					12
				60	" " 5
					6
				30	-11.2 " " 7
					6
				60	-12.7 " " 7
					16

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE +5.3		Hole No. CB-S333-1	
PROJECT C&SF Structure 333			INSTALLATION Jacksonville District		SHEET 2 OF 2 SHEETS
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) f
					BIT OR BARREL
					-12.7 Bls/0.5 ft.
					SPLIT SPOON 4
				30	-14.2 6
					8
				40	" " 3
					-15.7 10
					13
				35	" " 3
					-17.2 9
					16
				30	" " 10
					-18.7 11
					17
				20	" " 9
					-20.2 11
					13
				20	" " 6
					-21.7 8
					15
				95	" " 6
					-23.2 23
					26
				60	" " 21
					-24.7 42
					54
-24.7	30.0				
			NOTES:		
			1. Set NX casing to -21.7.		140" Hammer with 30"
			2. Less than 50% water loss below +0.3.		drop used on 2' split
			3. Hole grouted upon completion.		spoon (1-3/8" I.D.
			*No head could be maintained with pump operating at full capacity of 29 gpm.		X 2" O.D.)
			CONFORMS TO SAD LABORATORY CLASSIFICATION 3/27/73		

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 2 SHEETS
1. PROJECT C&SF Structure 333		10. SIZE AND TYPE OF BIT See Remarks		
2. LOCATION (Coordinates or Station) X=607,213 Y=519,154		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C		
4. HOLE NO. (As shown on drawing title and file number) CB-S333-2		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER C. MASON		14. TOTAL NUMBER CORE BOXES 2		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER +6.8		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	STARTED 2-21-73	COMPLETED 2-23-73
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE +15.6		
9. TOTAL DEPTH OF HOLE 40.3'		18. TOTAL CORE RECOVERY FOR BORING 42.5 %		
		19. XXXXXXXXXXXXXXXXXXXX GEOLOGIST: T. NOVAK		

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
+15.6	0.0					BIT OR BARREL +15.6 Bls/0.5 ft.
			LEVEE FILL MATERIAL, sand and limestone fragments		1	LOGGED FROM EMBANKMENT +10.8
				30	2	SPLIT SPOON 9 21 17
				35	3	" " 29 25 35
				30	4	" " 31 36 38
+6.3	9.3		limestone, hard, solid, gray from +6.3 to +5.3	0	-	+6.3 " " 115
+5.3	10.3			100		+5.3 DIAMOND 4"X5-1/2"
			PEAT, soft, spongy, fibrous, dark brown (PT)	30	5	SPLIT SPOON PUSHED +3.8
+3.3	12.3			0	-	+3.3 " " 101
			LIMESTONE, hard, solution holes, oolitic, light gray	100	-	DIAMOND 4"X5-1/2" D.T. 120 min. H.P. 100 p.s.i.
			reworked (conglomerate) solid, from +0.8 to -1.4			-0.7
				90	-	DIAMOND 4"X5-1/2" D.T. 30 min. H.P. 100 p.s.i.
-3.7	19.3					-3.7

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE +15.6		Hole No. CB-S333-2			
PROJECT C&SF Structure 333			INSTALLATION Jacksonville District			SHEET 2 OF 2 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
-3.7	19.3					BIT OR BARREL -3.7 Bts/0.5 ft.	
-6.2	21.8		Soft, poorly-cemented sandstone from -3.7 to -6.2	80	-	SPLIT SPOON -5.2	
-9.2	24.8		SAND, fine to coarse, quartz and calcareous, limestone layers, gray, silty (SM)	80	-	" "	
				60	-	" "	
				60	6	" "	
				60	7	-9.7	
			SAND, fine to medium, quartz, light gray (SP, SM)	50	8	" "	
			limestone layers from -9.2 to -12.7	45	9	-11.2	
				30	10	-12.7	
				0	-	-14.2	
				30	11	-15.7	
				0	-	" "	
				30	12	-17.2	
				0	-	" "	
				35	13	-18.7	
				0	-	" "	
				0	-	-20.2	
				0	-	" "	
				20	14	-21.7	
				30	13	-23.2	
				30	14	" "	
-24.7	40.3					-24.7	
			NOTES: 1. 6" casing set at +6.3 NX casing set at -20.2 2. No water loss 3. Hole offset 10 feet west of original location 4. Hole grouted upon completion CONFORMS TO SAD LABORATORY CLASSIFICATION 3/27/73			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		SHEET 1 OF 2 SHEETS	
1. PROJECT C&SF Structure 333				10. SIZE AND TYPE OF BIT See remarks			
2. LOCATION (Coordinates or Station) X=607,251 Y=519,143				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague and Henwood 40C			
4. HOLE NO. (As shown on drawing title and file number) CB-S333-3				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER C. Mason				14. TOTAL NUMBER CORE BOXES 2			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER +6.7			
7. THICKNESS OF OVERBURDEN				16. DATE HOLE		STARTED 2-12-73 COMPLETED 2-14-73	
8. DEPTH DRILLED INTO ROCK				17. ELEVATION TOP OF HOLE +18.8			
9. TOTAL DEPTH OF HOLE 44.0'				18. TOTAL CORE RECOVERY FOR BORING 38 %			
				19. SUPERVISOR GEOLOGIST: T. Novak			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
+18.8	0.0					BIT OR BARREL	
						+18.8	Bls/0.5 Ft.
			SAND, fine to coarse, carbonate, high percentage of fines, limestone lenses, slightly silty, brown, (SP) fill.	30	1	+17.3	SPLIT SPOON 12 16 24
				35	2	+15.8	" " 18 14 22
				30	3	+14.3	" " 24 43
				20	4	+12.8	" " 29 10 9
				20	5	+11.3	" " 26 52 22
				35	6	+9.8	" " 16 81
			Cobbles of medium hard oolitic limestone from +10.8 to +9.3				60
				30	7	+8.3	" " 39 20 23
				30	8	+6.8	" " 21 22 20
				5	9	+5.3	" " 18 15 13
+4.8	14.0			20	10	+3.8	" " 4 5 8
			PEAT, soft, fibrous, spongy, slightly silty, dark brown to black (PT) Sandy with limestone lenses From +3.3 to +2.3				
+2.3	16.5			30	11	+2.3	" " 22 49 37
					12		
			LIMESTONE, medium hard, open solution holes, oolitic	10	13	+1.3	" " 21 120

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		+18.8		Hole No. CB-S333-3	
PROJECT			INSTALLATION			SHEET 2	
C&SF Structure 333			Jacksonville District			OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
						BIT OR BARREL	
						+1.3 Bls/0.5 Ft.	
			buff, reworked limestone conglomerate From +1.3 to -1.2	100		DIAMOND 4" x 5-1/2" -0.3 D.T. 15 min; HP 50 psi	
-1.2	20.0					DIAMOND 4" x 5-1/2" D.T. 45 min. H.P. 50 psi	
			LIMESTONE, medium hard, solution holes filled with soft, porous sandstone	100			
-3.2	22.0					-3.7	
			SANDSTONE, soft, very calcareous, carbonate and quartz.			DIAMOND 4" x 5-1/2" D.T. 30 min. H.P. 50 psi	
-5.7	24.5						
			LIMESTONE, hard, massive, fossiliferous, numerous small solution cavities	90			
-7.7	26.5						
			SANDSTONE, soft, very calcareous, very porous, weakly cemented, light brown to buff			-8.7	
-10.2	29.0			70		SPLIT SPOON -10.2	
			SAND, fine to medium, quartz, numerous fines, some carbonate sand, light gray (SP-SM)	50	14	" "	
						13	
						25	
						18	
				0		" "	
						12	
			Limestone lenses From -10.2 to -13.2			-13.2	
						15	
						18	
				90	15	" "	
						3	
						-14.7	
						14	
						20	
				50	16	" "	
						17	
						-16.2	
						30	
						41	
				0		" "	
						7	
						-17.7	
						18	
						23	
				30	17	" "	
						8	
						-19.2	
						21	
						28	
						9	
				45	18	" "	
						16	
						-20.7	
						18	
						15	
				20	19	" "	
						27	
						-22.2	
						27	
						18	
				30	20	" "	
						24	
						-23.7	
			CONFORMS TO SAD LABORATORY CLASSIFICATION 3/27/73			29	
				30	21	" "	
						14	
-25.2	44.0					-25.2	
						36	
						52	
			NOTES. 1. Set 6" casing to +1.3 2. Set NX casing to -19.7 3. 70% water loss at +1.3 4. Grouted hole upon completion			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	SHEET 1 OF 2 SHEETS	
1. PROJECT C&SF Structure 333			10. SIZE AND TYPE OF BIT See remarks			
2. LOCATION (Coordinates or Station) X=607,312 Y=519,518			11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY Corps of Engineers			12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
4. HOLE NO. (As shown on drawing title and file number) CB-S333-4			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED: _____ UNDISTURBED: _____			
5. NAME OF DRILLER C. Mason			14. TOTAL NUMBER CORE BOXES 2			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER +6.7			
7. THICKNESS OF OVERBURDEN			16. DATE HOLE STARTED: 2-7-73 COMPLETED: 2-9-73			
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE +10.5			
9. TOTAL DEPTH OF HOLE 35.0'			18. TOTAL CORE RECOVERY FOR BORING 45 %			
			19. MANUFACTURER'S DESIGNATION OF DRILL GEOLOGIST: T. Novak			
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
+10.5	0.0					BIT OR BARREL
						+10.5 Bls/0.5 ft.
			SAND, fine to coarse carbonate, with limestone fragments, roots, organic material from +10.5 to +10.2, dark brown to buff, (SP) fill material Silty, moist, gray to brown from +9.0 to +4.5	60	1	SPLIT SPOON 13
					2	+9.0 15
				40	3	" " 16
						+7.5 23
				30	4	" " 31
					+6.0 49	
			30	5	+5.0 " " 15	
					+6.0 14	
			30	5	+5.0 " " 16	
					+5.0 " " 27	
+4.5	6.0				+5.0 " " 120	
					+5.0 " " 22	
+3.5	7.0		PEAT, soft, spongy, fibrous, black (PT)	20	6	" " 3
					+3.5 " " 13	
+3.0	7.5		LIMESTONE, medium hard			60
			SAND, fine to coarse carbonate, with limestone lenses, silty, few plastic fines, gray (SP)	60	7	" " 31
+2.0	8.5				+2.0 " " 47	
				90	8	" " 100
			LIMESTONE, hard, oolitic solution holes, reworked limestone conglomerate from +1.0 to -1.5	80		DIAMOND 4" x 5-1/2" D.T. 32 min. 0.0 H.P. 50 psi
-1.5	12.0			100		DIAMOND 4" x 5-1/2" D.T. 35 min H.P. 100 psi
			LIMESTONE, hard, bedded, slightly fossiliferous, many small solution holes, buff			-2.5
				100		DIAMOND 4" x 5-1/2" D.T. 20 min. H.P. 100 psi
						-5.0
-5.5	16.0		SANDSTONE, soft, very porous, weakly cemented, very calcareous, buff to white	35		DIAMOND 4" x 5-1/2" D.T. 15 min. H.P. 50 psi
						-7.5

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE +10.5		Hole No. CB-S333-4		
PROJECT C&SF Structure 333			INSTALLATION Jacksonville District		SHEET 2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
						BIT OR BARREL
						-7.5 Bls/0.5 Ft.
-10.0	20.5			40		DIAMOND 4" x 5-1/2" D.T. 15 min H.P. 50 psi
-12.5	23.0	NO RECOVERY	NO RECOVERY, probably sand as below	0		DIAMOND 4" x 5-1/2" D.T. 15 min. H.P. 0 psi
			SAND, fine to medium, quartz, with some calcareous sand, clean, light gray to white (SP-SM)	0	*9	SPLIT SPOON
						2
						5
						-14.0
				60	10	" "
						7
						9
						-15.5
						9
			Fine quartz, clean, white, From -14.5 to -24.5	35	11	" "
						7
						9
						-17.0
						11
				0	*12	" "
						5
						9
						-18.5
						9
				15	13	" "
						7
						9
						-20.0
						11
				30	14	" "
						5
						6
						-21.5
						9
				10	15	" "
						9
						-23.0
						16
				15	16	" "
						13
						-24.5
						24
			Notes: 1. 6" casing set to +2.0. 2. NX casing set to -18.5 3. * indicates no sample was recovered using the 2.0' split spoon but a sample was recovered using a 5.0' spoon. 4. Grouted hole upon completion. CONFORMS TO SAD LABORATORY CLASSIFICATION 3/27/73			140# hammer with 30" drop used on a 2.0' split spoon (1-3/8" ID X 2" OD)
-24.5	35.0					

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 2 SHEETS
1. PROJECT C&SF Structure 334		10. SIZE AND TYPE OF BIT See Remarks		
2. LOCATION (Coordinates or Station) Sta. 14+35, Rte. Centerline L29, Borrow Canal Enlargement		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
3. DRILLING AGENCY Corps of Engineers X=663,716 Y=519,086		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C		
4. HOLE NO. (As shown on drawing title and file number) CB-S334-3		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED: _____ UNDISTURBED: _____		
5. NAME OF DRILLER F. Crawford		14. TOTAL NUMBER CORE BOXES 3		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER +6.2		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED 7-24-74 COMPLETED 7-29-74		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE -0.6		
9. TOTAL DEPTH OF HOLE 36.0'		18. TOTAL CORE RECOVERY FOR BORING 62.4 %		
		19. XXXXXXXXXXXXXXXXXXXX GEOLOGIST: T. NOVAK		

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
-0.6	0.0					BIT OR BARREL -0.6 Bls/0.5 ft
-2.6	2.0		MUCK, sandy, silty, with organic material, black, -2.1 to -2.6, limestone lenses	30	1	SPLIT SPOON Settled Settled Settled
-5.1	4.5		LIMESTONE, hard, solid but broken, some small solution holes, conglomerate, light gray	84		DIAMOND 4 x 5-1/2 D.T. 44 min. H.P. 75 psi.
-7.9	7.3		SAND, clayey, fine to medium quartz, with limestone fragments, low to medium plastic chalky, light gray (SC)	45	3	SPLIT SPOON 1 1 7
				30	4	" " 8 22
			LIMESTONE, hard, solid but broken, fossiliferous, light gray	91		-8.1 84
			porous zones, chalky	91		DIAMOND 4 x 5-1/2 D.T. 35 min. H.P. 75 psi.
				93		DIAMOND 4 x 5-1/2 D.T. 1 Hr. H.P. 75 psi.
						-14.6

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		-0.6		CB-S334-3		
C&SF Structure 334		INSTALLATION		SHEET 2		
		Jacksonville District		OF 2 SHEETS		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
						BIT OR BARREL
						-14.6 Bls/0.5 ft
			contains medium hard zones of sandy texture			
			-16.1 to -17.1, open solution holes	92		DIAMOND 4 x 5-1/2 D.T. 55 min. H.P. 75 psi.
						-19.6
			-19.6 to -23.6, solid, very fossiliferous	95		DIAMOND 4 x 5-1/2 D.T. 47 min. H.P. 100 psi.
						-23.6
			-27.1 to -36.6, hard, solid	20		DIAMOND 4 x 5-1/2 D.T. 32 min. H.P. 75 psi.
						-25.6
				35		SPLIT SPOON 14
						62
						-27.1 64
			some broken zones due to drill action	91		DIAMOND 4 x 5-1/2 D.T. 55 min. H.P. 75 psi.
						-31.6
				71		DIAMOND 4 x 5-1/2 D.T. 1 Hr. 13 Min. H.P. 100 psi.
						-36.6
-36.6	36.0					
			NOTES: 1. Set 6" casing to -8.1 2. 100% water loss (-2.7 to -8.1) 100% water loss starting -12.7 3. Grouted hole upon completion with 10 bags of Sakrete.			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		SHEET 1 OF 2 SHEETS	
1. PROJECT C&SF Structure 334				10. SIZE AND TYPE OF BIT See Remarks			
2. LOCATION (Coordinates of Station) X=663,686, Y=519,086				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
4. HOLE NO. (As shown on drawing title and file number) CB-S334-4				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER F. Crawford				14. TOTAL NUMBER CORE BOXES 1			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER +6.2		16. DATE HOLE	
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF HOLE -2.0		STARTED 7-30-74 COMPLETED 8-2-74	
8. DEPTH DRILLED INTO ROCK				18. TOTAL CORE RECOVERY FOR BORING 34 %			
9. TOTAL DEPTH OF HOLE 32.0'				19. SIGNATURE OF PINNACLES GEOLOGIST: W. T. NOVAK			
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	
-2.0	0.0		Recharge Test, GPM/Ft. Head			BIT OR BARREL	
-3.2	1.2		MUCK, sandy, silty, with limestone fragments, organic black	15		-2.0 Bls/0.5 ft SPLIT SPOON Pushed -3.5 1 46	
			LIMESTONE, hard	4	No Test	DIAMOND NX D.T. 35 min. H.P. 75 psi.	
-8.7	6.7		-8.7 to -10.0, sand, quartz and calcareous with limestone fragments, chalky, clayey (SP)	40		-8.5 SPLIT SPOON 14 -10.0 8 18 27	
-10.0	8.0		LIMESTONE, medium hard, soft pockets, clayey sandy zones, chalky, buff	50	**	-11.5 17 " " 41 -13.0 21 " " 25 " " 24 -14.5 19 " " 24 " " 33 -16.0 38 " " 52 " " 53	
-17.5	15.5		Clay, medium to high plasticity, with limestone fragments, light gray	35		-17.5 40 " " 29 " " 21	
-18.5	16.5			10		-18.7 50	

DRILLING LOG (Cont Sheet)			ELEVATION TOP OF HOLE -2.0		Hole No. CB-S334-4	
PROJECT C&SF Structure 334			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
						-18.7
			Limestone, hard, fossiliferous porous, buff	66	7.0	DIAMOND NX D.T. 35 min. H.P. 75 psi.
						-23.5
				25	6.0	DIAMOND NX D.T. 45 min. H.P. 75 psi.
						-28.5
				0		-29.0 SPLIT SPOON 52
				66	5.4	DIAMOND NX
-34.0	32.0					-34.0
			NOTES: 1. Set NX casing to -28.5' 2. 100% water loss starting at -26.5. 3. Grouted hole upon completion. 4. Recharge test - **indicates head could not be maintained with pump operating at maximum rate of 35 gpm.			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	SHEET 1 OF 1 SHEETS
1. PROJECT C&SF Structure 335		10. SIZE AND TYPE OF PIT See remarks		
2. LOCATION (Coordinates or Station) X = 670,050 Y = 524,439		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C		
4. HOLE NO. (As shown on drawing title and file number) CB-S335-1		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 <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER +5.2		
7. THICKNESS OF OVERBURDEN _____		16. DATE HOLE STARTED 3/14/73 COMPLETED 3/15/73		
8. DEPTH DRILLED INTO ROCK _____		17. ELEVATION TOP OF HOLE -14.0		
9. TOTAL DEPTH OF HOLE 17.0'		18. TOTAL CORE RECOVERY FOR BORING 43.1 %		
		19. SOLOID RECOVERY PERCENTAGE GEOLOGIST: T. Novak		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
-14.0	0.0		Recharge Tests: G.P.M./Ft. Head		BIT OR BARREL
-14.3	0.3		PEAT, very soft, fibrous, silty, sandy, dark brown to black (PT)	90	-14.0 Bls/0.5 Ft. -14.5 Split Spoon 1
-16.5	2.5		LIMESTONE, hard, massive, fresh water gastropods, light gray to light brown	30	DIAMOND NX D.T. 12 min. H.P. 50 psi
			LIMESTONE, soft, sandy chalky, white	90	-17.0 SPLIT SPOON 42 32
				15	-18.5 " " 15 13
-20.5	6.5			95	-20.0 38 -20.5 " " 107
-22.5	8.5		LIMESTONE, hard, massive, fossiliferous, solution holes, sandy, light gray to white	65	DIAMOND NX D.T. 20 min. H.P. 50 psi. -22.5 *
			LIMESTONE, soft	10	SPLIT SPOON 14 9
-24.2	10.2			0	-24.0 5 -24.2 " " 100
			LIMESTONE, hard	45	DIAMOND NX D.T. 25 min. H.P. 50 psi. -26.5
-26.5	12.5			15	SPLIT SPOON 9 19
			LIMESTONE, very soft	10	* -28.0 4 2
				10	-29.5 4 5
-31.0	17.0			10	" " 4 4
					-31.0 7

NOTES:
 1. 100% water loss at -23.0.
 2. Set NX casing to -24.3.
 3. Hole grouted upon completion.

* Could not raise head with pump operating at full capacity (22 gpm).

140# hammer with 30" drop used on 2' split spoon (1-3/8" I.D. X 2" O.D.)

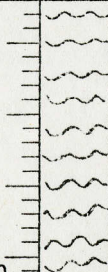

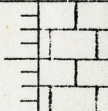
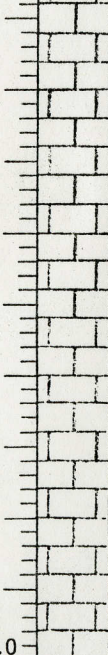
DRILLING LOG		DIVISION South Atlantic		INSTALLATION Jacksonville District		SHEET 1 Of 1 SHEETS	
1. PROJECT C&S ² Structure 335				10. SIZE AND TYPE OF BIT See remarks			
2. LOCATION (Coordinates or Station) X = 670,048 Y = 524,409				11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLW			
3. DRILLING AGENCY Corps of Engineers				12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C			
4. HOLE NO. (As shown on drawing title and file number) CB-S335-2				13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER C. Mason				14. TOTAL NUMBER CORE BOXES 1			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER +5.2			
7. THICKNESS OF OVERBURDEN				16. DATE HOLE		STARTED 3/12/72 COMPLETED 3/13/72	
8. DEPTH DRILLED INTO ROCK				17. ELEVATION TOP OF HOLE -14.3			
9. TOTAL DEPTH OF HOLE 15.5'				18. TOTAL CORE RECOVERY FOR BORING 62.7 %			
				19. APPROXIMATE ROCK LOG GEOLOGIST: T. Novak			
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	
-14.3	0.0					-14.3 Bls/0.5 Ft.	
-14.6	0.3		PEAT, very soft, fibrous, silty, sandy, dark brown to black.	100	1	-14.8 SPLIT SPOON 1	
-17.3	3.0		LIMESTONE, hard, massive, very fossiliferous, fresh water gastropods, light gray	20	-	DIAMOND 4 X 5-1/2 D.T. 20 min. H.P. 50 psi -17.3	
-21.3	7.0		LIMESTONE, soft, chalky, fossiliferous, light gray to white	50	-	SPLIT SPOON 20 -18.8 17 25 19 13 10	
				50	-	" " 30	
				50	-	-21.3 " " 100	
-23.3	9.0		LIMESTONE, hard, slightly sandy, solution holes, fossiliferous, gray to white	80	-	DIAMOND 4 X 5-1/2 D.T. 30 min. H.P. 50 psi. -23.8	
-25.3	11.0		LIMESTONE, ;medium hard sandy	30	-	SPLIT SPOON 22 -25.3 19 71	
-29.8	15.5		LIMESTONE, hard, light gray to white	95	-	DIAMOND 4 X 5-1/2 D.T. 35 min. H.P. 50 psi. -27.3	
				90	-	DIAMOND 4 X 5-1/2 D.T. 40 min. H.P. 50 psi. -29.8	
			NOTES: 1. Set NX casing to -20.0 Set 6" casing to -21.3. 2. 70% water loss -21.3 to -25.3 100% water loss below -25.3 3. Hole grouted upon completion			140# hammer with 30" drop used on 2' split spoon (1-3/8" I.D. X 2" O.D.)	

DRILLING LOG		DIVISION South Atlantic	INSTALLATION Jacksonville District	SHEET 1 OF 2 SHEETS
1. PROJECT C&SF Structure 336		10. SIZE AND TYPE OF BIT See Remarks		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL Sprague & Henwood 40-C		
4. HOLE NO. (As shown on drawing title and file number) CB-S336-3		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 <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER +3.8		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED 4-5-74 COMPLETED 4-10-74		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE -1.3		
9. TOTAL DEPTH OF HOLE 23.7'		18. TOTAL CORE RECOVERY FOR BORING 63 %		
		19. XXXXXXXXXXXXXXXXXXXX GEOLOGIST: R. KRETCHMAN		

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
-1.3	0.0		Recharge Tests; GPM/Ft. Head			BIT OR BARREL -1.3 B1s/0.5 ft
			PEAT, black (PT)	100		SPLIT SPOON Pushed
				100	N	" " Pushed
				100	O	" " Pushed
				100	T	" " Pushed
				100	E	" " Pushed
				100	S	" " Pushed
				100	T	" " Pushed
-7.8	6.5					1
			LIMESTONE, medium hard with many thin hard layers, gray fossiliferous, porous, permeable, oolitic from -7.8 to approximately -11.0	60	-	5
				60	-	32
				60	-	30
				60	-	16
				60	*	50
				60	*	40
				60	*	35
				60	*	38
				60	*	54
				30	-	20
				30	-	34
				30	-	15
				30	-	20
				30	-	25
				30	-	25
				80	*	14
				80	*	16
				80	*	79
-16.8	15.5					
			LIMESTONE, hard, gray, fossiliferous, porous, permeable, solution holes, many medium hard layers	20		DIAMOND NX D.T. 15 min. H.P. 50 psi.
				20	*	-19.3
				80	*	DIAMOND NX D.T. 20 min. H.P. 50 psi.
				80	*	-21.8

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		-1.3		Hole No. CB-S336-3	
PROJECT			INSTALLATION			SHEET	
C&SF Structure 336			Jacksonville District			2	
ELEVATION		DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	
a	b	c	d	e	f	g	
				Recharge Tests, GPM/Ft. Head		BIT OR BARREL	
						-21.8	B1s/0.5 ft
					10	*	DIAMOND NX D.T. 20 min. H.P. 50 psi.
-25.0	23.7						-25.0
				NOTES:			
				1. NX casing set to elevation -21.8			
				* 2. In Recharge Tests, no head could be maintained with pump operating at full capacity of 20 GPM			
				3. Hole grouted upon completion with 3 bags of Sakrete.			
					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	SHEET OF 1 SHEETS
1. PROJECT C&SF Structure 336		10. SIZE AND TYPE OF BIT See Remarks		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) Sprague & Henwood 40-C		
3. DRILLING AGENCY Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) CB-S336-4		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 <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER +3.8		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED 4-11-74 COMPLETED 4-12-74		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE -3.0		
9. TOTAL DEPTH OF HOLE 22.0'		18. TOTAL CORE RECOVERY FOR BORING 78 %		
19. XXXXXXXXXXXXXXXXXXXX GEOLOGIST: R. KRETCHMAN				

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
-3.0	0.0					-3.0 Bls/0.5 ft
			PEAT, black (PT)	100	1	SPLIT SPOON Pushed
						-4.5 " " Pushed
				100	2	-6.0 " " Pushed
				100	3	-7.5 " " Pushed
-8.0	5.0					-8.0 " " Pushed
			CLAY, fat, gray, firm (CH) (this material is cavity filling in medium hard limestone)	100	4	-9.0 " " 6
						10
				100	5	-10.5 " " 7
						6
				100	6	-11.5 " " 7
						9
						25
						55
			LIMESTONE, hard, gray, fossiliferous, porous, permeable, solution holes, many medium hard layers	60	-	-12.0 DIAMOND 4 x 5-1/2 D.T. 15 min. H.P. 50 psi.
						-15.0
				50	-	-18.0 DIAMOND 4 x 5-1/2 D.T. 20 min. H.P. 50 psi.
						-19.5
				65	-	-19.5 DIAMOND 4 x 5-1/2 D.T. 10 min. H.P. 50 psi.
						-22.0
				80	-	-22.0 DIAMOND 4 x 5-1/2 D.T. 15 min. H.P. 50 psi.
						-25.0
				65	-	-25.0 DIAMOND 4 x 5-1/2 D.T. 25 min. H.P. 50 psi.
-25.0	22.0					-25.0
			NOTES: 1. 6" casing set to elev. -19.5. 2. Hole grouted upon completion with 3 bags of Sakrete.			140# hammer with 30" drop used on 2.0' split spoon (1-3/8" I.D. X 2" O.D.)