Sheet1

Recharge Test Data Record						XX4				
Core Boring Number						XX4				
Date Of Test						10/17/99				
Test Performed by						R. Bering				
Ground Water Level						41.7"				
Casing Size						3"				
Casing Depth						125'				
Hole Diameter at point of test						3"				
				A	B		C	D	E	F
From Depth ~~Elevation~~	To Depth ~~Elevation~~	Time Start	Time Stop	Total Time	Depth to Ground Water before test	Depth to Ground Water after test	Stickup above Ground	Total Head	Total Water Injected	Gallons Per Minute
Feet	Feet	Min	Min	Min	Feet	Feet	Feet	Feet B+C	Gal	GPM E/A
125	130	0	10	10	1.6	1.6	5	6.6	116	11.6

NOTES:
1. Record water take with the water maintained at the top of casing.
2. Water depth must be measured immediately before the recharge test.
3. Water depth shall be recorded after test, and noted if changed.
4. Typical test time is 5 minutes.

Enc - 11

DRILLING LOG	DIVISION SAD	INSTALLATION Jacksonville District	SHEET 1 OF 5 SHEETS

1. PROJECT: CSF
2. LOCATION (Coordinates or Station): Site XX
3. DRILLING AGENCY: Law Engineering
4. HOLE NO. (As shown on drawing title and file number): CBXX-4
5. NAME OF DRILLER: Wilson Candelaria
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED ____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: Sediments = 3'4"
8. DEPTH DRILLED INTO ROCK: 126'2"
9. TOTAL DEPTH OF HOLE: 130'
10. SIZE AND TYPE OF BIT:
11. DATUM FOR ELEVATION SHOWN (TBM or MSL):
12. MANUFACTURER'S DESIGNATION OF DRILL: CME-55
13. TOTAL NO. OF OVER-BURDEN SAMPLES: DISTURBED 38 UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: 6
15. ELEVATION GROUND WATER: Depth = 1.5'
16. DATE HOLE: STARTED 10/11/99 COMPLETED 10/17/99
17. ELEVATION TOP OF HOLE:
18. TOTAL CORE RECOVERY FOR BORING: 87.25' / 67%
19. SIGNATURE OF INSPECTOR: Erik S. Urch [signature]

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)	BLOWS / CRUMB
WT ▼	1.5		SAND, med to coarse calcareous, gravelly (up to 1") limestone fragments, shelly, brown to tan, some clay (brown)	18"/100%	1	split-spoon	12, 12, 8, 3
	3.0			6"/35%	2		1, 1
	4.5		PEAT - organic dk. brown	18"/100%	3		6, 7, 8
	6.0		LIMESTONE fragments, angular, sandy, shelly, tan to light brown to white; frags. up to 1.5, silty.	18"/100%	4		5, 5, 12
				18"/100%	5		17, 14
	7.5		SILT, sandy, some shell fragments, gray	10"/46%	6		7, 2, 3
	9.0		LIMESTONE fragments, angular, sandy, shelly, tan to gray, silty.	7"/39%	7		18, 2, 4
	10.5			6"/33%	8		3, 2, 2
	12.0			16"/89%	9		21, 34
	13.5		LIMESTONE, porous, shelly, sand-filled solution cavities, tan to white; some subangular to subrounded fragments grey to white.	—	—	Timed drilling (SA) 13 0:00; 14 1:05; 15 1:40	50 2" refusal at 13'2"
	15.0		REC:	42"/90%	—	16 1:55	
	16.5		RQD:	9"/15%	—	17 2:15; 18 0:52 (SA)	
	18.0			—	—	19 3:15	
	19.5		Same Very hard, dense gray limestone	54"/90%	—	20 2:40	
	21.0		REC:	24"/48%	—	21 11:10	
	22.5		RQD:			22 2:10	
	23					23 3:05	

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT: CSF HOLE NO.: CB-XX-4

DRILLING LOG (Cont Sheet) Hole No. CB-XX-4

Project CSF | Jacksonville District | Sheet 2 of 2

Elevation	Depth	Visual	Description of material (Description)	% Core Recovery	Type of Sample No.	Remarks (Drilling time, water loss, drop in tools, cavities, etc. if significant)	Blows	Below Cavity
	23		LIMESTONE, porous, shelly, sand-filled solution cavities, tan to white; some subangular to subrounded fragments gray to white.	—	—	23		22.5
	24.0			—	—	24 (SH) 2:20		24.0
	25.5			—	—	25 1:30		25.5
	27.0			24" / 40% REC	—	26 2:05		27.0
	28.5			11" / 18% RED	—	27 2:30		28.5
	30.0			—	—	28 1:35		30.0
	31.5			42" / 70% REC	—	29 1:05		31.5
	33.0			15" / 25% RED	—	30 1:15		33.0
	34.5			—	—	31 3:05		34.5
	36.0			38" / 63% REC	—	32 6:05		36.0
	37.5			17" / 28% RED	—	33 3:50		37.5
	39.0		LIMESTONE fragments, subangular to angular sandy, shelly; tan to white silty	10" / 56%	10	34 1:00		39.0
	40.5			6" / 50%	11	35 0:50		40.5
	42.0		LIMESTONE, porous shelly, sand-filled solution cavities, tan to white; some subangular fragments grey to white.	—	—	36 0:45		42.0
	43.5			8" / 13%	—	37 0:30		43.5
	45.0			0" / 0% RED	—	38 0:40		45.0
	46.5		LIMESTONE, fragments, subangular, shelly, sandy; tan to white silty	7" / 58%	12	Split spoon 48	8, 36, 12, 7, 8	46.5
	48.0			18" / 100%	13	49	50, 75, 100	48.0
	49.5		LIMESTONE, porous, shelly, sand-filled solution cavities; tan to white, some subrounded to subangular fragments, grey to white.	—	—	49 1:45		49.5
	50.0			—	—	50 1:50		50.0

(cont. next page)

*dropped 8" suddenly → cavity expected

Split spoon 48.5 – 50: 1' sample; refusal at 40.5'

Split spoon 46.5 – 48: 1' sample; refusal at 48'

ENG FORM 1836-A | CSF | CB-XX-4

DRILLING LOG (Cont Sheet) Hole No. CB-XX-4

Project: CSX | Jacksonville District | Sheet 2 of 3

Elevation a	Depth b	Legend c	Classification of materials (Description) d	% Core Recovery e	RQD or Sample No. f	Remarks (Drilling time, water loss, depth of weathering, etc., if significant) g	Blows per 6 in.	Elevation
	50							50
	51		KEC:	49" / 80%	—	51 Timed drilling 1:35		51.5
	52		RQD:	29" / 58%	—	52 1:10		
	53					53 0:58		53
	53.5		LIMESTONE frags, subangular, shelly, sandy, trace silt; tan to white	12" / 100%	14	split spoon	9, 12, 14	54" refusal at 54'
	54		LIMESTONE, porous, shelly, sand-filled solution cavities; tan to white; some subangular frags grey to white.	—	—	54 Timed 0:00	—	54.5
	55					55 0:30		55
	56					56 0:30		56
	56.5		KEC:	40" / 67%	—	57 0:35		57.5
	57		RQD:	5" / 8%	—	58 0:45		
	57					59 0:32		59
	60.5		REC:	3" / 5%	—	60 0:15		60.5
	61		RQD:	0" / 0%	—	61 0:05		
	62					62 0:10	Rig stopped at 3' due to auth. mechanic; core dropped quickly.	62
	63.5		SAND, fine grained, silty, shelly, some sub-angular limestone frags; tan to white	12" / 67%	15	split spoon	1, 1, 3, 50	63.5
	64		LIMESTONE frags, sub-angular, shelly, sandy; tan to white	6" / 100%	16	64 Timed 0:00	—	64" refusal at 64'
	65		LIMESTONE, porous, shelly, sand-filled solution cavities; tan to white; some subangular frags grey to white; trace cavities w/ calcite crystals.	42" / 70%	—	65 0:50	—	65
	66.5		KEC:			66 1:32		66.5
	67		RQD:	0" / 0%	—	67 3:15		
	67					68 12:50		68
	68.5			—	—	69 3:25		69
	70			—	—	70 0:20		69.5
	71					71 0:10		71
	72.5		KEC:	34" / 57%	—	72 0:20		72.5
	74		RQD:	0" / 0%	—	73 1:10		
	74					74 2:45		74
	75.5		LIMESTONE frags, many shells + shell frags, sandy (coarse homes); tan to white; trace silt	12" / 89%	17	split spoon	4, 10, 20, 10	75.5
	77		SAND, silty, med to fine, silty, subrounded shell & shell frags; tan to white; some limestone frags (up to 3")	13" / 72%	18	32	14, 18, 14	77
	78.5			12" / 67%	19	41	13, 2, 3	78.5
	80		SAND, med to fine, clayey, some silt, some subangular gravel (up to 1") limestone	8" / 44%	20	50	6, 5, 5	80

ENG FORM 1836-A "Forms" tan "to white" | CSX | CB-XX-4

DRILLING LOG (Cont Sheet)

Hole No. CB-XX-4

PROJECT CSF | Jacksonville District | Sheet 4 of 5 Sheets

Elevation	Depth	Graphic	Description of Materials	% Core Recovery	Blows on Sampler	Remarks	Blows/6"	N
	21.5		SILT, med to fine sandy, some coarse to fine sub-sized shell frags, trace clay; tan to white; little black med sand-sized shell frags.	18"/100%	21	Split Spoon	2 1 11	21.5
	23			18"/100%	22		1 1 1	23
	24.5			3"/24%	23		1 1 3	24.5
	26			18"/100%	24		4 5 8	26
	27.5		No Recovery	—	—		WOH 2 3	27.5
	29		SILT, clayey, some med to fine sand, some coarse to med sand-sized sub-angular shell frags; dark green to grey	18"/100%	25		1 1 2	29
	30.5			18"/100%	26		WOR WOH 3	30.5
	32		No Recovery	—	—		WOR 1 3	32
	33.5		less shell frags	18"/100%	27		WOR 2 3	33.5
	35			18"/100%	28		WOH 2 4	35
	36.5			18"/100%	29		WOR 1 3	36.5
	38			18"/100%	30		1 1 2	38
	39.5			18"/100%	31		1 1 4	39.5
	41		No Recovery	—	—		5 3 4	41
	42.5			18"/100%	32		1 1 3	42.5
	44		SILT, sandy-med to fine, little clay, trace coarse formed sand-sized subangular shell frags, trace gravel-sized shell frags-up to 0.5"; dk. green	18"/100%	33		1 2 2	44
	45.5			18"/100%	34		1 2 4	45.5
	47			18"/100%	35		1 1 1	47
	48.5			18"/100%	36		WOH 2 6	48.5
	50			18"/100%	37		7 8 12	50

ENG FORM 1836-A FOR USE OF THIS FORM - SEE ER 1110-1-1804

PROJECT CSF | HOLE NO. CB-XX-4

DRILLING LOG (Cont Sheet) Hole No. CB-xx-4

Project: C&SF | Location: Jacksonville District | Sheet 3 of 5 sheets

Depth	Elevation	Depth	Legend	Classification of Materials (Description)	% Core Recovery	Box or Sample No.	Remarks (Drilling time, water loss, depth of weathering, etc., if significant)
110'				SAND, fine quartz, trace of silt, trace of shells up to 1/4-in size, greenish gray (SP)	18"	38	Split spoon 2-ft x 1-3/8"
111.5'					10"	39	Soft drilling from 110' to 130'
113'					18"	40	
114.5'					13"	41	
116'					10"	42	
117.5'					9"	43	
119'					10"	44	
120.5'					10"	45	
122'					9"	46	
123.5'					10"	47	
125'				LIMESTONE, soft, some shells up to 1/4-in size, some sand filled solution holes, greenish gray. (LS)	10"	48	
126.5'					10"	49	
128'					6"	50	
130'				Note: 3" NW casing [illegible] to bottom of hole			Boring terminated @ 130'

Blow Count: 5, 6, 6, 2, 6, 7, 2, 6, 6, 2, 5, 7, 3, 7, 10, 3, 5, 7, 4, 5, 6, 5, 5, 6, 4, 8, 10, 7, 8, 12, 20, 26, 25, 23, 26, 44, 10, 30, 32, 18

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ENG FORM 1836-A