Boring by Gulf coast Co. 4

AVILES ENGINEERING CORP.
GEOTECHNICAL ENGINEERS

SUMMARY OF LABORATORY TEST DATA

PROJECT: ~~Brazos River Floodgates and~~ Colorado River Locks

BORING NUMBER	DEPTH IN FEET	MOISTURE, %	DRY DENSITY, PCF	COMPRESSION, TSF	STRAIN, %	TYPE FAILURE	LAT. PRESSURE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SIEVE (NO. 200)	CONSOLIDATION	TORVANE
87-212	X-sec Gnd El. + 15.3												
1C	0'-2'	14.0	115.1					23	15	8	70.2		
2J	2'-4'	20.7											
3J	7.5'-9'	18.1											
4J	12.5' - 14'	28.6											
5J	17.5' - 19'	15.6											
6J	22.5' - 24'	13.1											
7C	27'-29'	17.1	110.6					25	17	8	94.8		
8C	29'-31'	29.6											
9C	31'-33'	47.7	83.7	1.75	5.00	Bulge		56	28	28	97.7		0.80
10C	33'-35'	22.3											
11C	35'-37'	23.7											
12C	37'-39'	20.2											
13C	39'-41'	32.3											
14C	41'-43'	21.2	101.4					47	26	21	57.0		
15J	43'-45'	24.6											
16J	48.5' - 50'	19.6									28.5		
17C	51'-53'	21.7											
18C	53'-55'	26.6	101.3	1.79	4.67	45° S		53	26	27	85.3		
19C	55'-57'	39.9											
20C	57'-59'	34.4											
21C	59'-61'	29.9											
22C	61'-63'	27.8	95.6	2.46	2.67	45° S		72	35	37	94.5		

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SUMMARY OF LABORATORY TEST DATA

PROJECT: Brazos River Floodgates and Colorado River Locks

BORING NUMBER	DEPTH IN FEET	MOISTURE, %	DRY DENSITY, PCF	COMPRES-SION, TSF	STRAIN, %	TYPE FAILURE	LAT. PRESSURE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	SIEVE (NO. 200)	CONSOLI-DATION	TORVANE
87-212													
23C	63'-65'	29.1											
24C	65'-67'	23.7											
25C	67'-69'	28.5											
26C	69'-70'	19.1									93.8		

AVILES ENGINEERING CORP. GEOTECHNICAL ENGINEERS

PROJECT Brazos River Floodgates and Colorado River Locks, Gulf Intracoastal Waterway

BORING 87-212

DATE 01-09-88 TYPE 3" Core LOCATION See Plan

X-Sec. El. 15.3

GND. El. +16.0 M.L.T

SHEAR STRENGTH, TSF: O – POCKET PENETROMETER; X – LABORATORY CONFINED; ● – LABORATORY UNCONFINED; △ – TORVANE (0.5, 1.0, 1.5, 2.0, 2.5)

DEPTH IN FEET	DESCRIPTION	BLOWS / FOOT	M.C., %	U.D.W., PCF	LIQUID LIMIT	PLASTIC LIMIT
0	Reddish Brown Sandy Clay w/6" Top Soil - Very Stiff (CL)		14	115	23	15
	Crushed Shell	19	21			
5						
		34	18			
10						
		29	29			
15						
		15	16			
20						
		26	13			
25	- w/Rubble at 24'					
	Reddish Brown Silty Clay - Very Stiff (CL)		17	111	25	17
30	Reddish Brown Clay - Very Stiff (CH)		30			
	- w/Silt Pockets & Calcareous Nodules 31'-33'		48	84	56	28
	Greenish Gray Silty Clay - Very Stiff (CL)		22			
35	w/8" Sand Layer at 34'		24			
	- w/8" Sand Layer at 38'		20			
	- Reddish Brown w/Sand Pockets Below 39'		32			
40			21	101	47	26
	Reddish Brown Sand - Very Dense (SC)	68	25			
45						
	- w/Silt and Clay Pockets 48'-50'	92	20			
50						

AVILES ENGINEERING CORP.
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PROJECT Brazos River Floodgates and Colorado River Locks, Gulf Intracoastal Waterway

BORING 87-212

DATE 01-09-88 TYPE 3" Core LOCATION See Plan

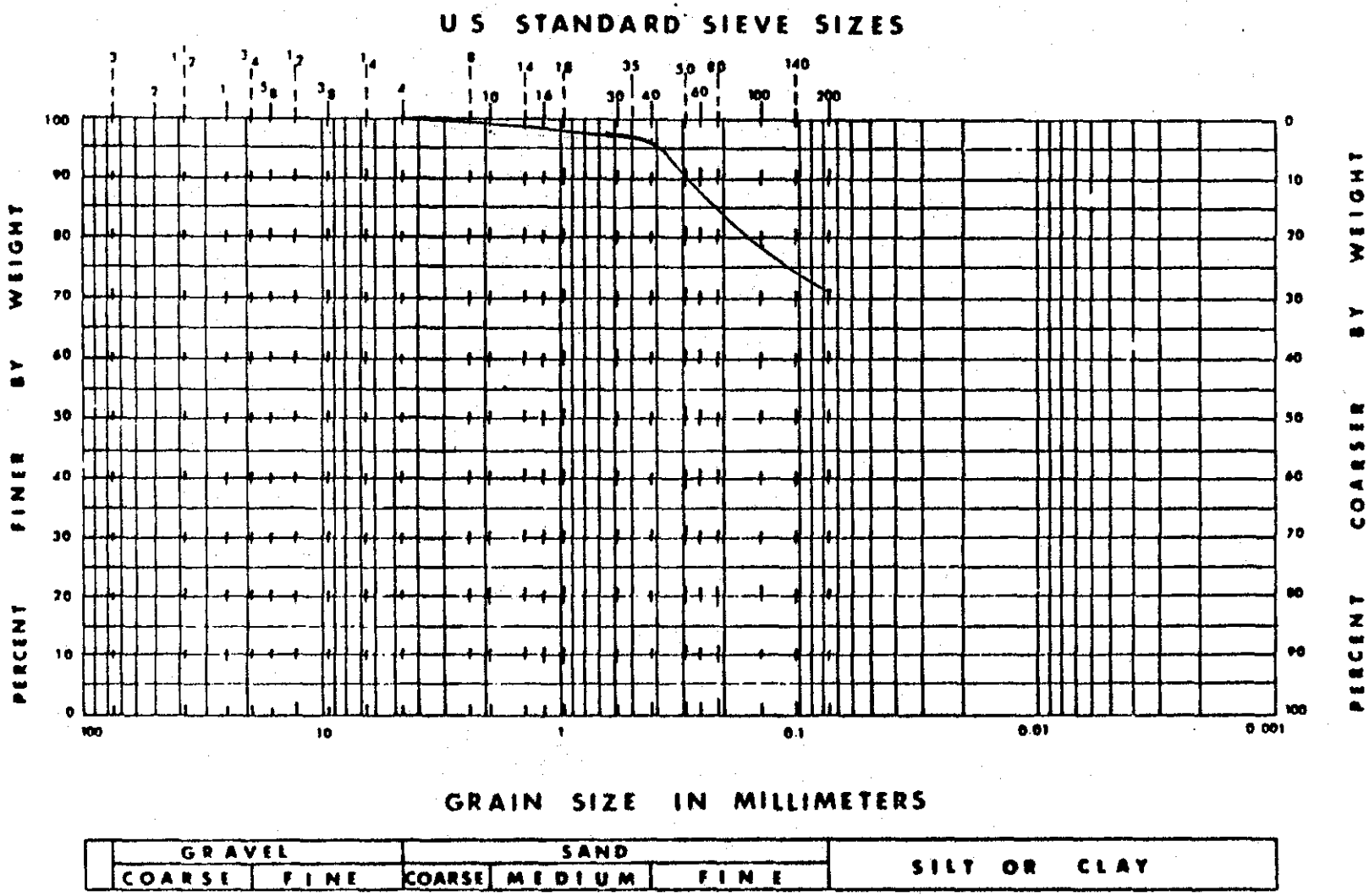
DEPTH IN FEET	SYMBOL	CORES	DESCRIPTION	BLOWS / FOOT	M.C., %	U.D.W., PCF	SHEAR STRENGTH, TSF (O – POCKET PENETROMETER; X – LABORATORY CONFINED; ● – LABORATORY UNCONFINED; 0.5 1.0 1.5 2.0 2.5)	LIQUID LIMIT	PLASTIC LIMIT
50			Reddish Brown Sand - Very Dense (SC)		22				
			Reddish Brown Clay - Very Stiff (CH)		27	101		53	26
55			- w/Sand Pockets 53'-55'		40				
			Greenish Gray 55'-65'		34				
			- w/Shell Fragments 57'-63'						
60					30				
					28	96		72	35
					29				
65					24				
					29				
70			Brown Silty Clay - Stiff w/ Sand at Bottom (CL)		19				

Bottom @ 70'

Lower water level reading at 15' after 24 hours

Brazos River Floodgates & Colorado River Locks

Boring No. 87-212 Sample 1C
Depth 0'-2'



GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

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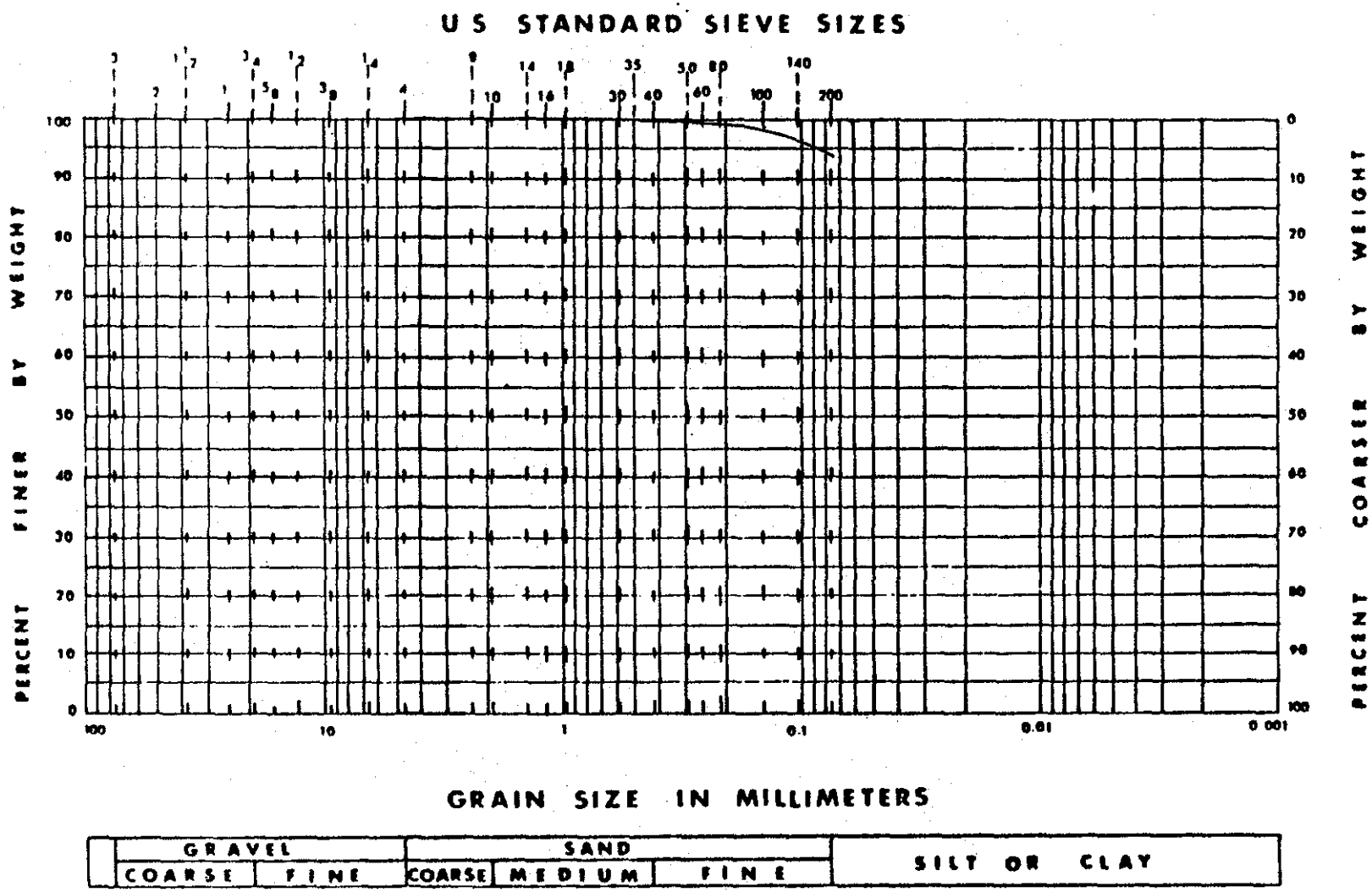
Brazos River Floodgates & Colorado River Locks

Boring No. 87-212 Sample 7C
Depth 27'-29'



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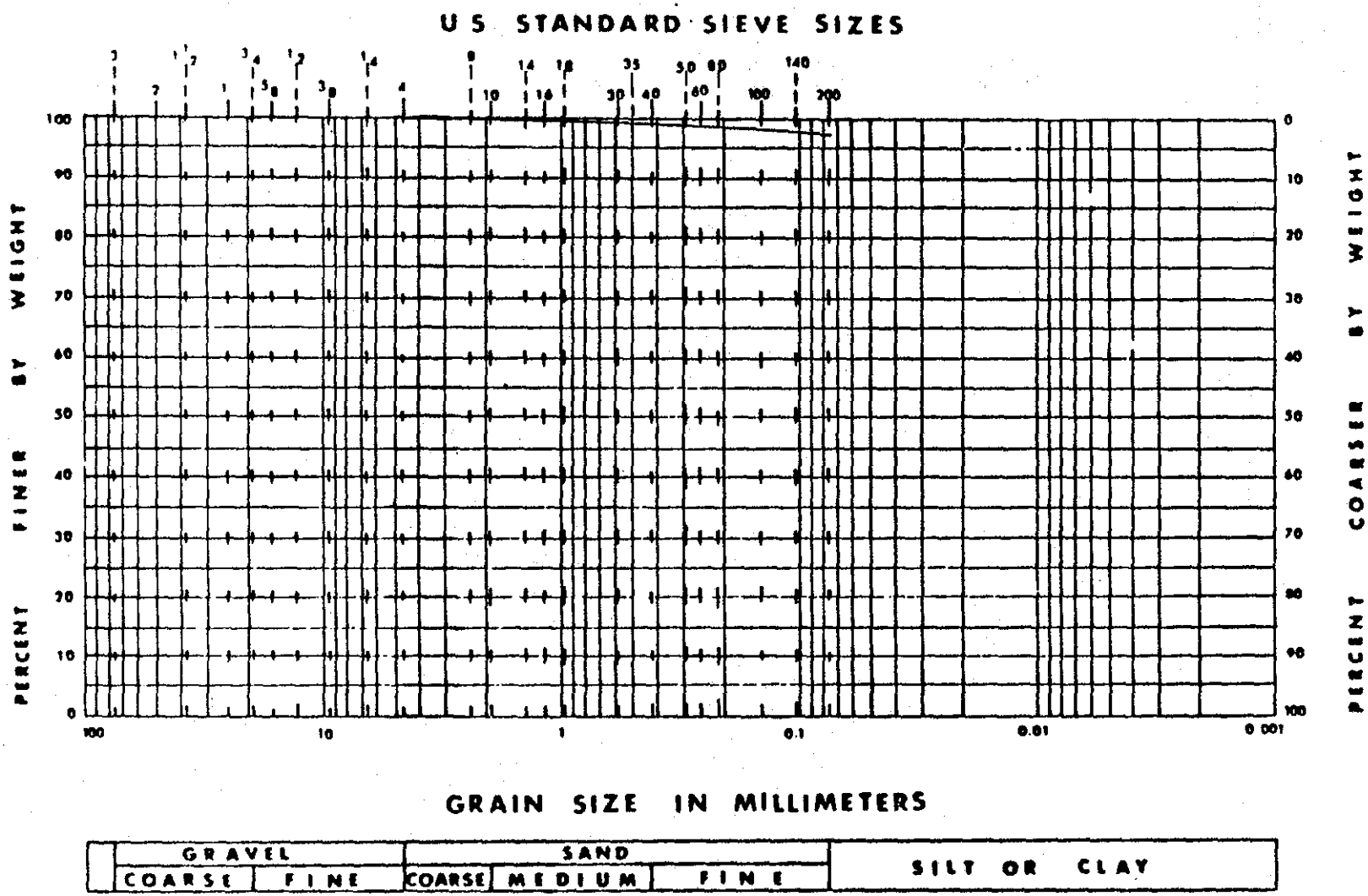
Brazos River Floodgates & Colorado River Locks

Boring No. 87-212 Sample 9C
Depth 31'-33'



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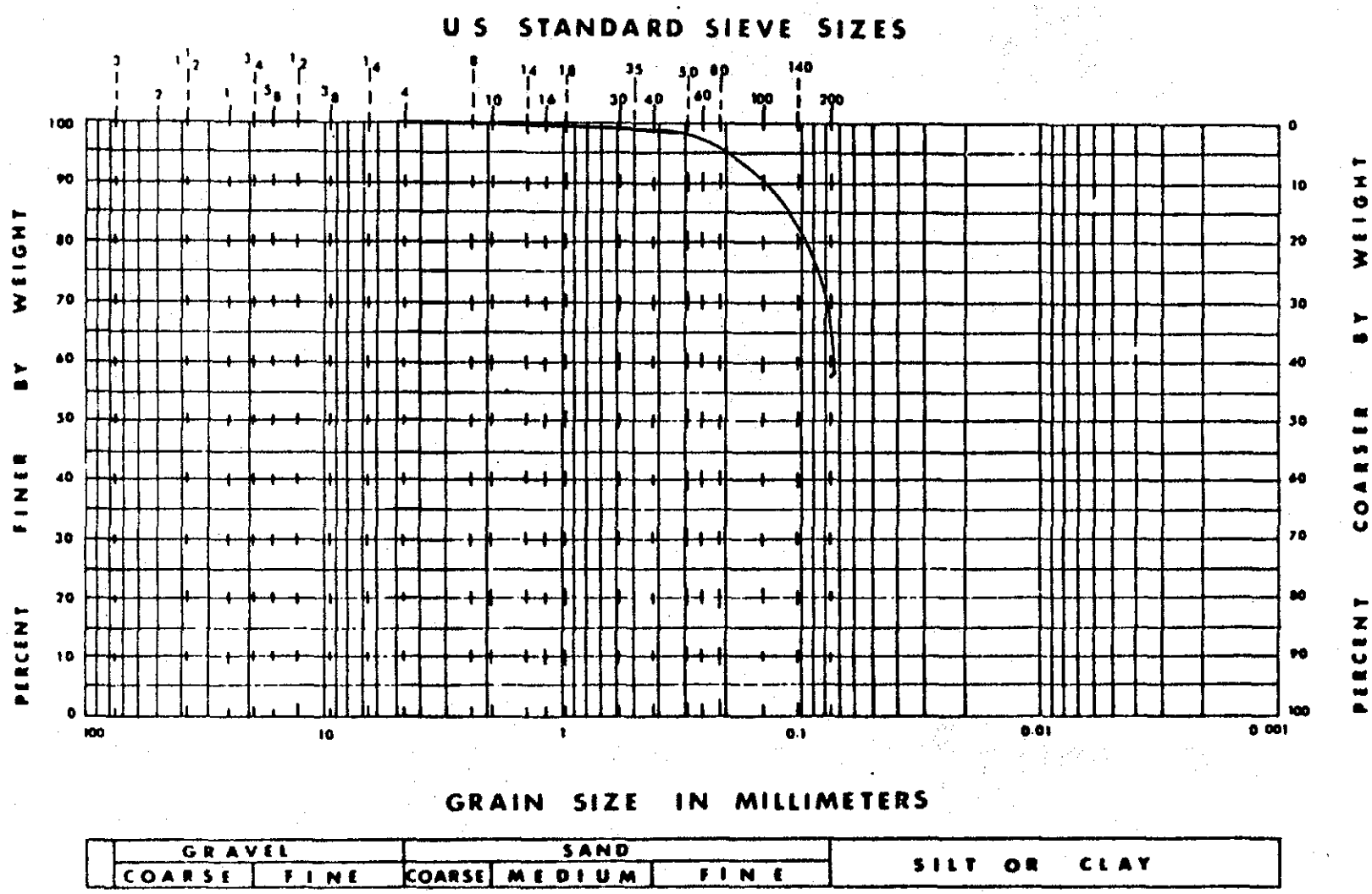
GEOTECHNICAL ENGINEERS

Brazos River Floodgates & Colorado River Locks

Boring No. 87-212 Sample 14C
Depth 41'-43'



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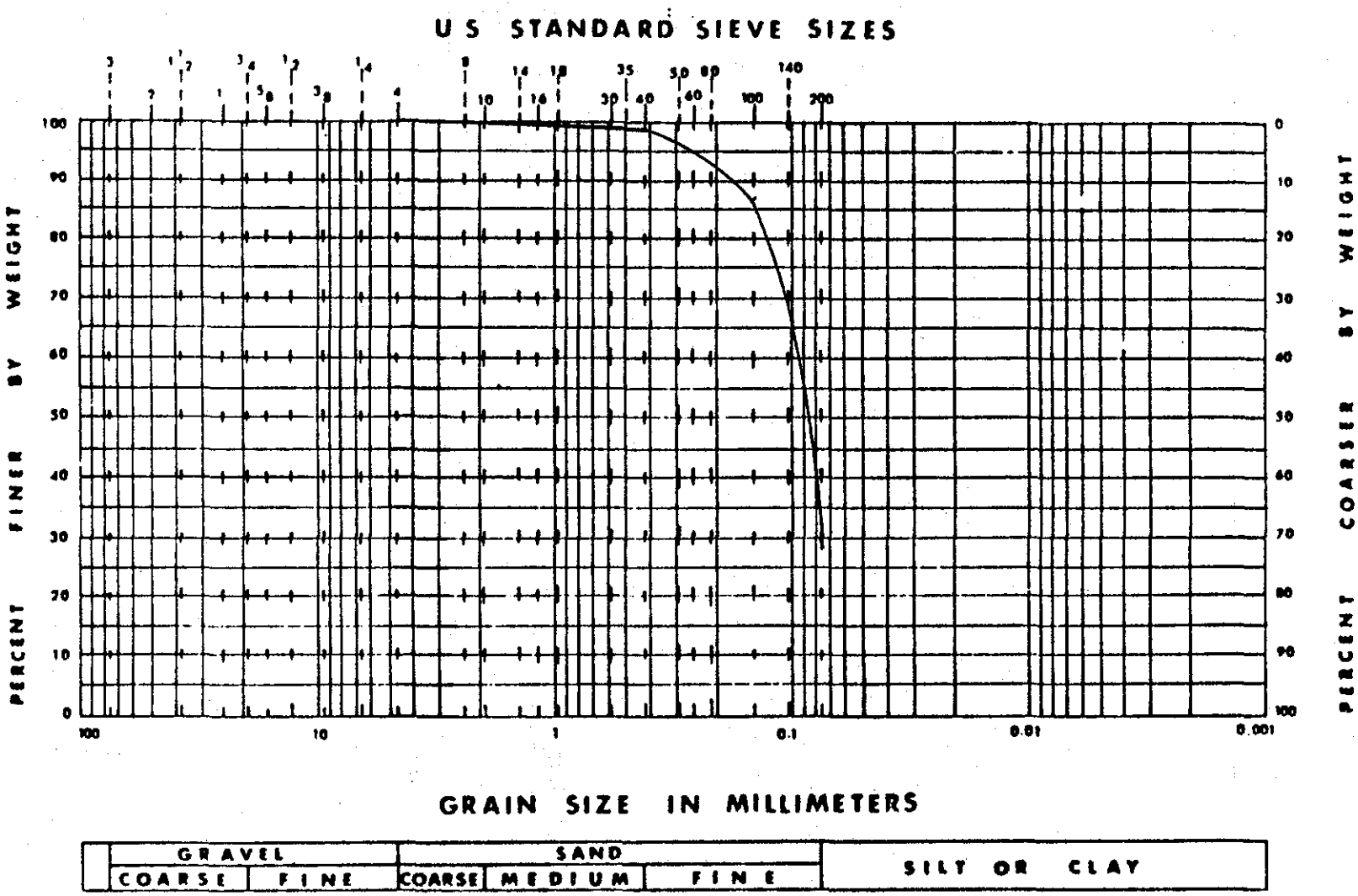
GEOTECHNICAL ENGINEERS

Brazos River Floodgates & Colorado River Locks

Boring No. 87-212 Sample 16J
Depth 48'-50'



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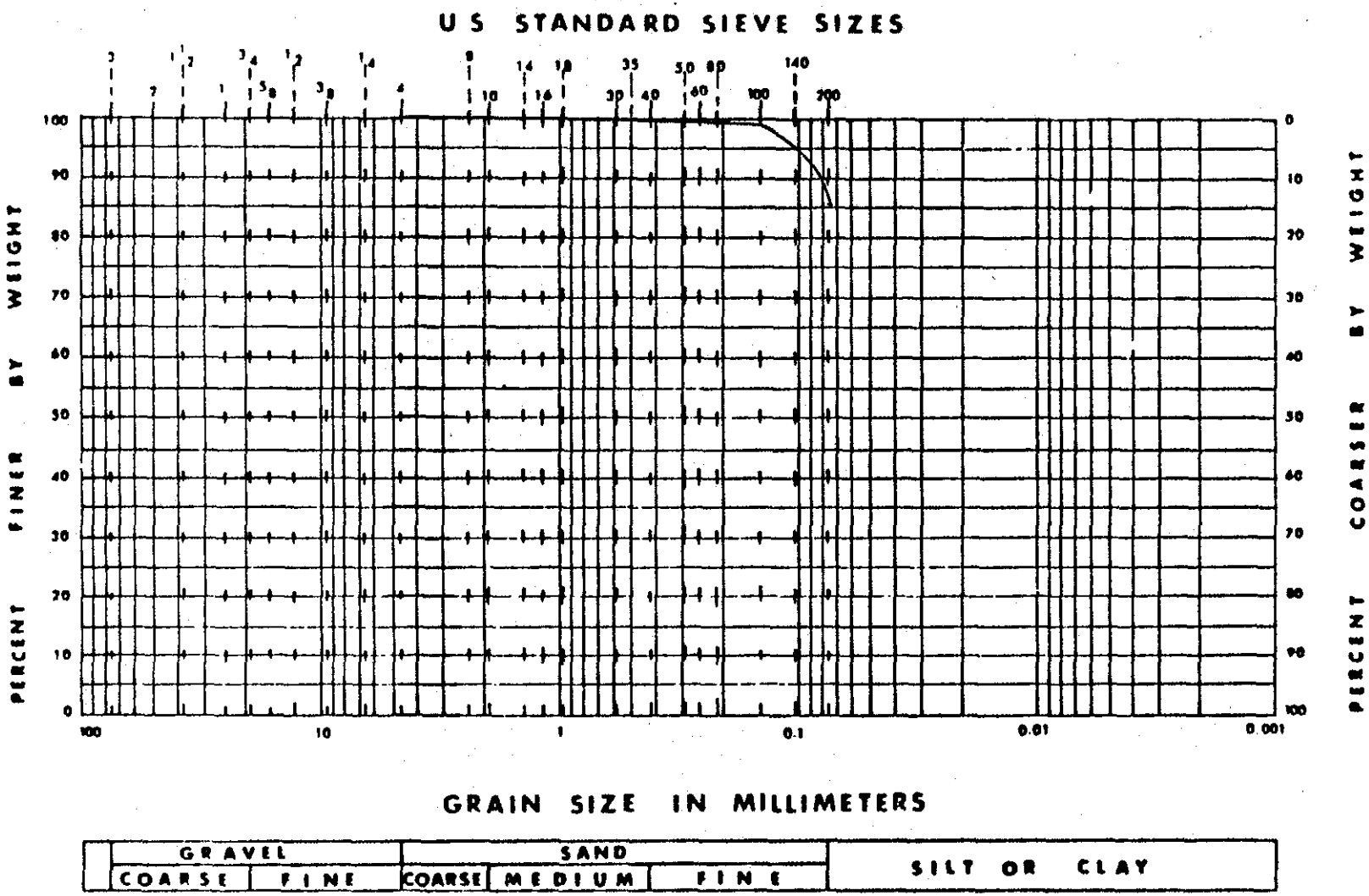
Brazos River Floodgates & Colorado River Locks

Boring No. 87-212 Sample 18C
Depth 53'-55'



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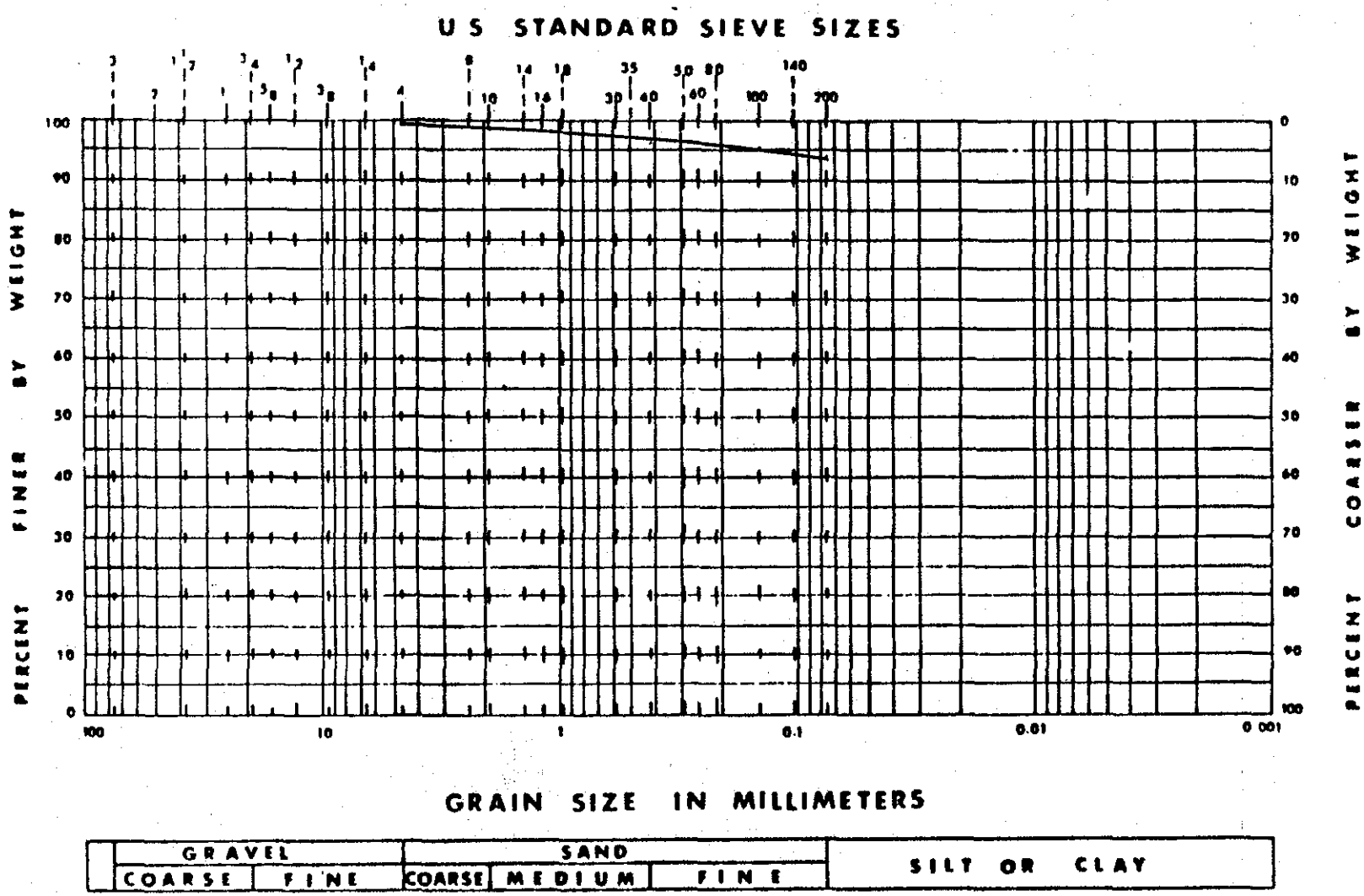
Brazos River Floodgates & Colorado River Locks

Boring No. 87-212 Sample 22C
Depth 61'-63'



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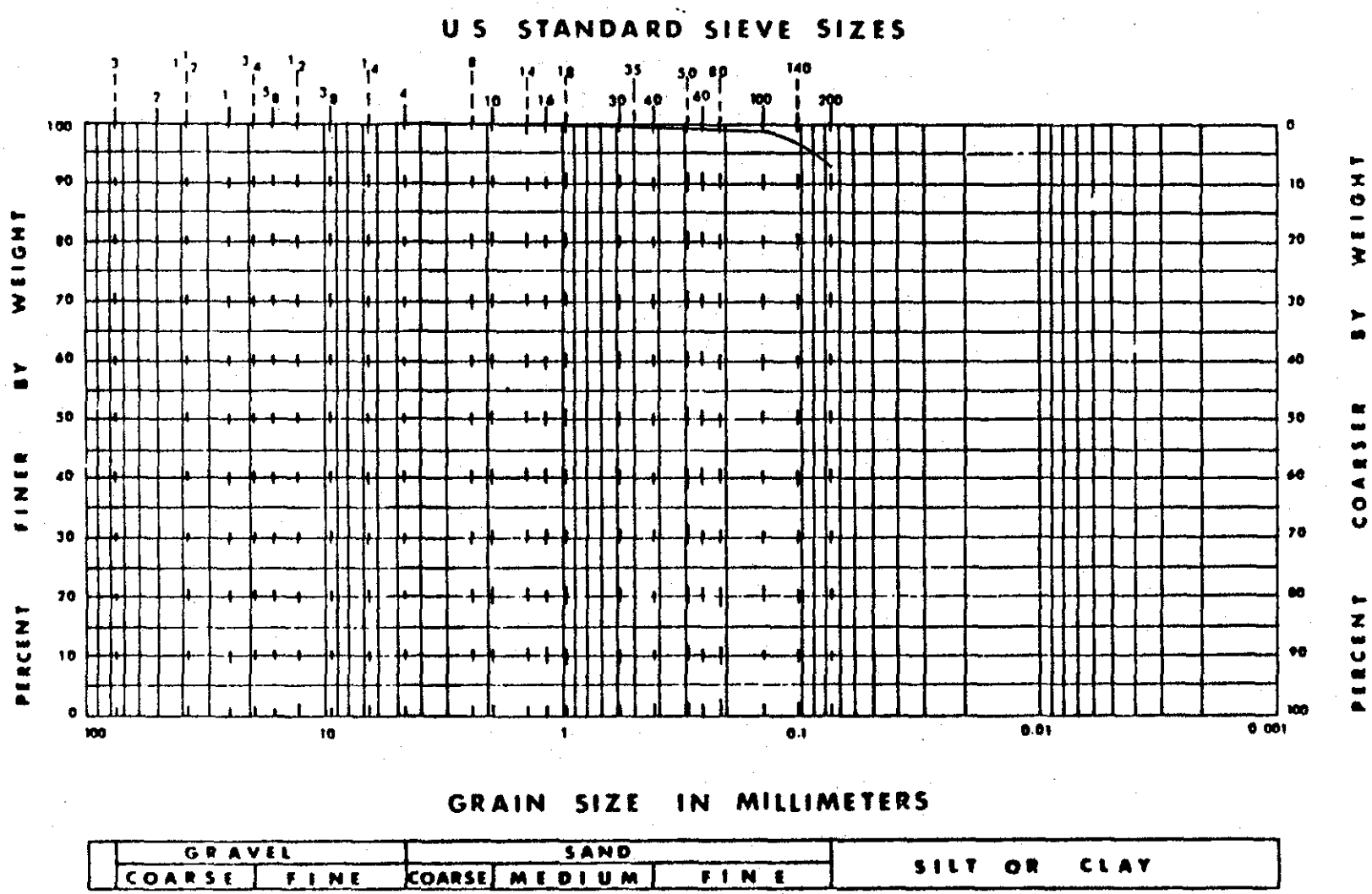
Brazos River Floodgates & Colorado River Locks

Boring No. 87-212 Sample 26C
Depth 69'-70'



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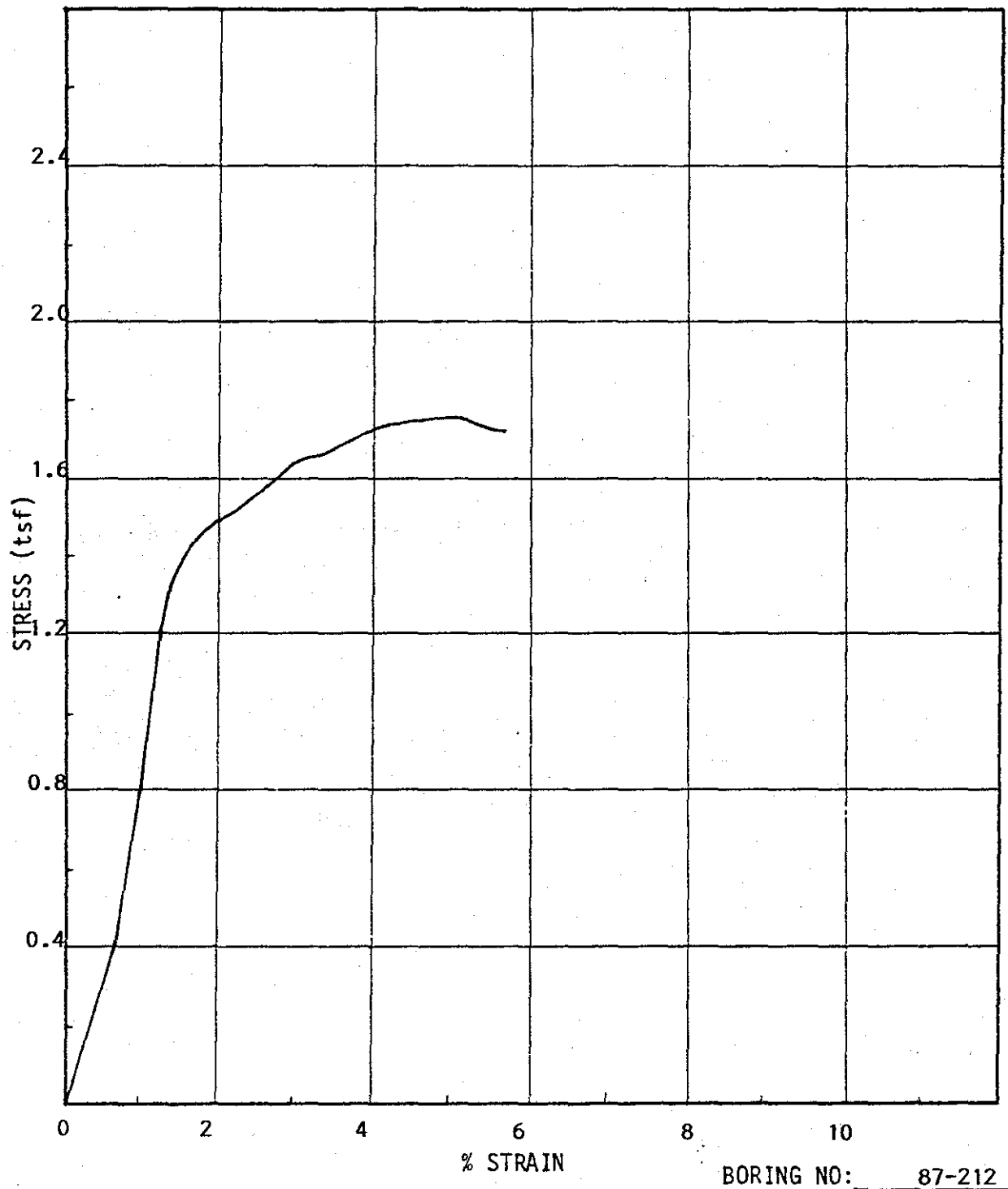
UNCONFINED COMPRESSION TEST



BORING NO: 87-212

SAMPLE DEPTH: 31'-33'

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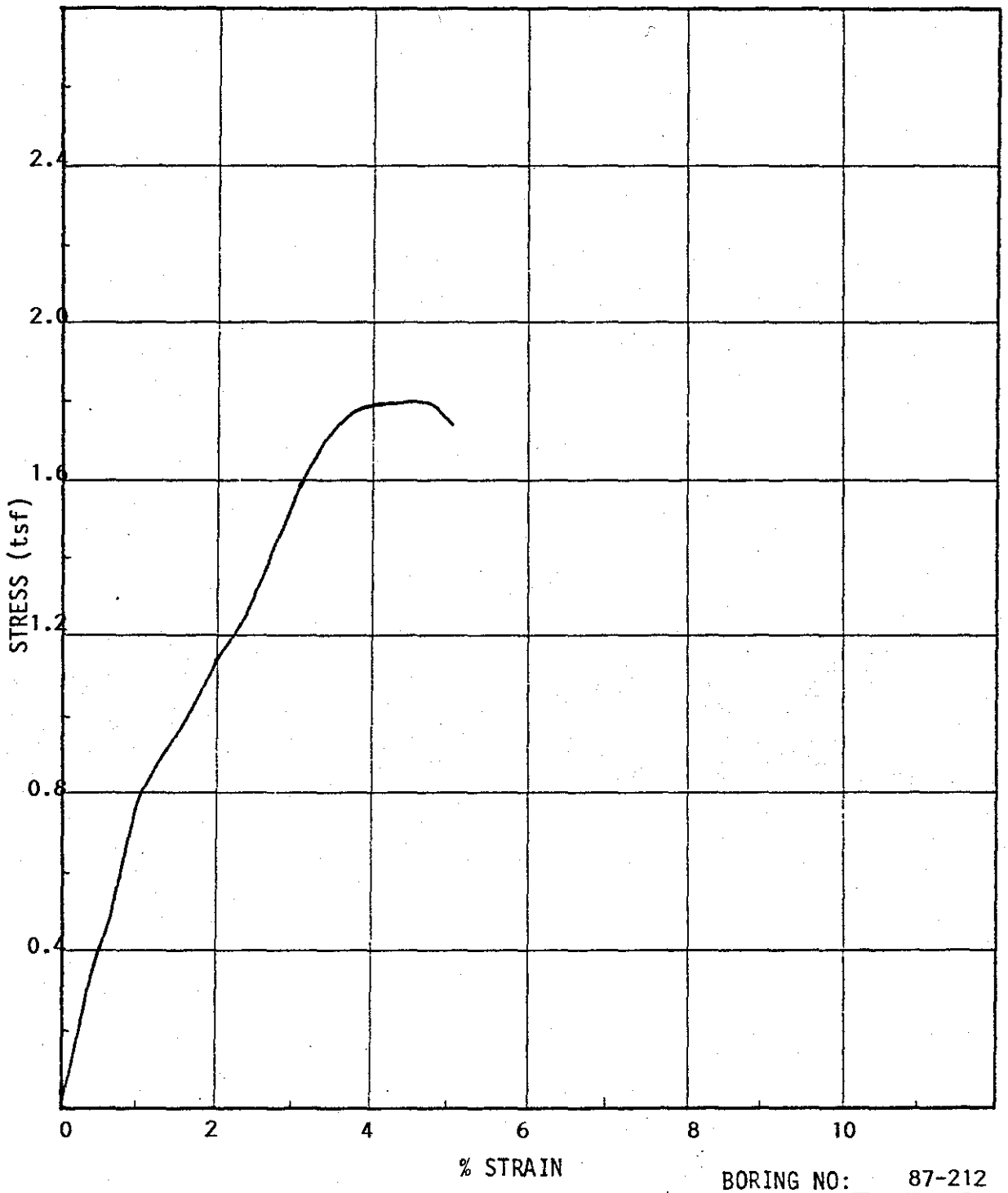
UNCONFINED COMPRESSION TEST



BORING NO: 87-212

SAMPLE DEPTH: 53'-55'

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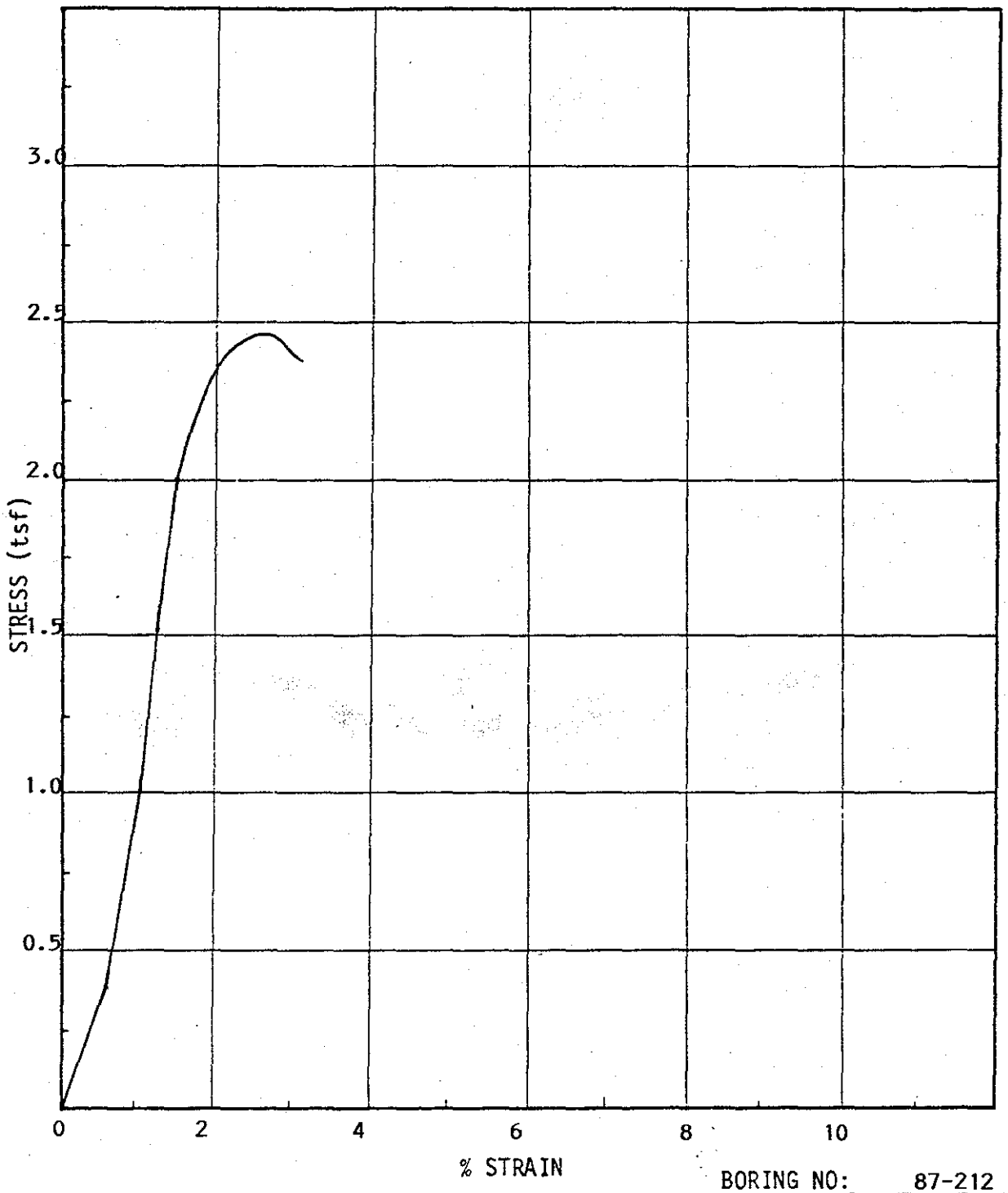
UNCONFINED COMPRESSION TEST



BORING NO: 87-212

SAMPLE DEPTH: 61'-63'

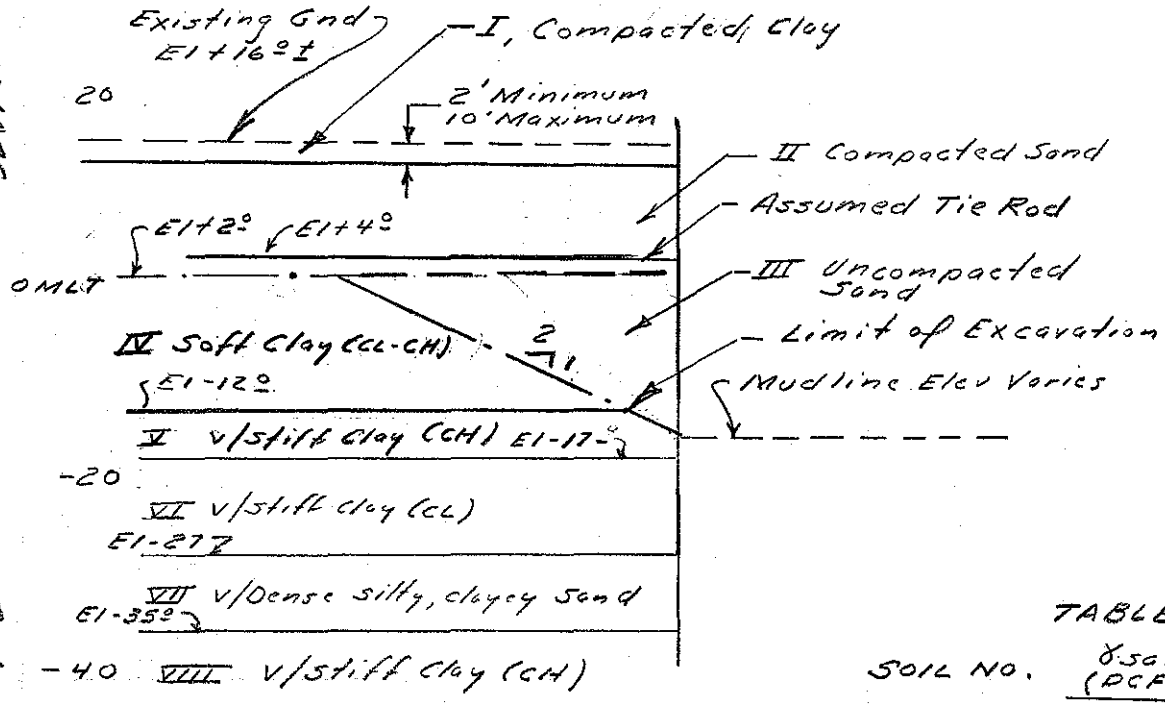


TABLE OF SOIL PARAMETERS

SOIL NO.	γ_{sat} (PCF)	"Q" Strength ϕ	"Q" Strength C-PSF	"S" Strength ϕ	"S" Strength C-PSF
I	118	0	400	20°	0
II	115	30	0	30°	0
III	110	25	0	25°	0
IV	113	0	300	25°	0
V	116	0	1300	24°	0
VI	122	0	1300	26°	0
VII	128	30	0	30°	0
VIII	125	0	200°	24°	0

BY VMC DATE Sept 89
CHKD. BY ____ DATE ____
SUBJECT Colorado River Locks
Guide Wall Rehabilitation
Probable Worst Case
@ Boring 87-212
SHEET NO. ____ OF ____
JOB NO. ____