

12 July 1971

GDLR NO. 1650

PROJECT: NECHES RIVER SALT WATER BARRIERBORING NO. 79-91

LOCATION: _____

TEST DATA SUMMARY

DATE DRILLED: 31 August 1979

FIELD NO.	Sample Depth, Feet		CLASSIFICATION	Length of sample rec'd	SYMBOL	CONSISTENCY	POCKET (1) PENETROMETER	STAN. PENET. BLOWS/FT (2)	MOISTURE CONTENT %	DRY DENSITY P. c. f.	L.L.	P.L.	Lab Sample No.	BAR L.S.	SIEVE ANALYSIS							
	GRVL	SAND													FINES	INIT. WT.	ACC. WT. RTND. SIEVE NO. (3)					
																	NO. 4	NO. 10	NO. 40	NO. 200		

1C	0.0	2.5	Gray & brown clay 0.0-5.0	0.85	CH	S	0.25		33	88	63	23	1084		0	14	86	50	0	0	0	7
2C	2.5	5.0	Gray & brown clay	0.7		M	0.50		32	86			1085									
3C	5.0	7.5	Gray clayey sand with random organic seams 5.0-15.2	1.0	SC	VS	0.0		31	*			1086	5	0	62	38	50	0	0	0	31
4C	7.5	10.0	Gray clayey sand with random clay layers	1.0		M	0.50		32	92			1087									
5C	10.0	12.5	Gray clayey sand with random organic layers	0.8		VS	0.0		43	*			1088									
6C	12.5	15.0	Gray clayey sand with random clay layers	0.95		S	0.25		20	*			1089									
7J	15.0	17.5	Gray silty sand with random clay seams & organic material 15.2-19.0		SP SM				27				1090		0	88	12	25	0	0	8	22
	17.5	19.0	#washed																			
8J	19.0	21.0	Gray silty sand with random clay seams & organic material 19.0-24.0		SM	M		7	33				1091		0	82	18	50	0	0	9	41
	21.0	24.0	#washed																			
9J	24.0	26.0	Gray silty sand with random clay seams & organic material 24.0-34.5		SP SM				27				1092		0	90	10	50	0	0	11	45
	26.0	29.0	#washed																			
0J	29.0	31.0	Gray silty sand			VD		66	23				1093		0	94	6	50	0	0	7	47
	31.0	34.0	#washed																			
	34.0	36.0	#no recovery			VD		38														
1C	36.0	37.5	Gray clay 34.5-42.4	1.0	CL	ST	1.25		18	113			1094									
2C	37.5	40.0	Gray-green clay with random sand seams	1.05		ST	1.25		21	105	40	14	1095		0	10	90	50	0	0	0	5
3C	40.0	42.5	Gray-green clay with random sand seams	1.05		VST	3.25		18	113			1096									

(1) Tons/Sq. Ft. Unconfined Compressive Strength
 (2) Split Barrel Sampler
 (3) Acc. Wt. Rnd: Init. Wt. x 100 = % Sand.

Bottomed at _____ Water at _____ Tide Reading _____

BORING NO. 79-91Sheet 1 of sheets 3

TEST DATA SUMMARY

LOCATION: _____

DATE DRILLED: _____

FIELD NO.	Sample Depth, Feet		CLASSIFICATION ELEVATION TOP BORING _____	Length of sample rec'd	SYMBOL	CONSISTENCY	POCKET (1) PENETROMETER	STAN. PENET. BLOWS/FT (2)	MOISTURE CONTENT %	DRY DENSITY p. c. f.	L.L.	P.L.	Lab Sample No.	BAR L.S.	SIEVE ANALYSIS							
	GRVL	SAND													FINES	INIT. WT.	ACC. WT. RTND. SIEVE NO. (3)					
																	NO. 4	NO. 10	NO. 40	NO. 200		
4C	42.5	45.0	Gray & yellow clay 42.4-60.8	1.1	CH	VST	2.75		27	94	60	20	1097		0	2	98	50	0	0	0	1
5C	45.0	47.5	Gray & yellow clay with random sand seams	1.05		VST	2.00		34	*			1098									
6C	47.5	50.0	Gray & yellow clay with random calcareous nodules	1.0		VST	2.50		22	106			1099									
7C	50.0	52.5	Gray & yellow clay with random calcareous nodules	1.1		VST	2.00		21	107			1100									
8C	52.5	55.0	Gray & yellow clay with random calcareous nodules	1.1		VST	3.00		20	112			1101									
9C	55.0	57.5	Gray & yellow clay with random calcareous nodules	1.1		VST	2.75		20	109	54	16	1102		0	4	96	50	0	0	0	2
0C	57.5	60.0	Gray & yellow clay with random calcareous nodules	1.1		VST	2.75		21	108			1103									
C	60.0	62.5	Gray & yellow sandy clay (#washed)	0.9	CL	ST	1.25		19	109	40	15	1104		0	28	72	50	0	0	0	14
	62.5	64.0	#washed																			
2J	64.0	66.0	Tan & gray silty sand 62.5-74.0		SP SM	D		40	26				1105		0	92	8	50	0	0	0	46
	66.0	69.0	#washed																			
3J	69.0	71.0	Tan & gray silty sand			VD		108	22				1106		0	92	8	50	0	0	1	46
	71.0	74.0	#washed																			
4J	74.0	76.0	Gray sand 74.0-150.0		SP	VD		99	21				1107		0	96	4	25	0	0	5	24
	76.0	79.0	#washed																			
5J	79.0	81.0	Gray sand			VD		172+	21				1108		0	100	0	25	0	0	3	25
6J	81.0	85.0	#wash sample - gray sand						29				1109		0	96	4	50	0	0	8	48
7J	85.0	90.0	Gray sand						30				1110		0	96	4	50	0	0	5	48
8J	90.0	95.0	Gray sand						31				1111		0	96	4	50	0	0	2	48
9J	95.0	100.0	Gray sand						30				1112		0	96	4	50	0	0	2	48
	100.0	120.0	#fishtailed to 150.0'																			
0J	120.0	130.0	#wash sample - gray sand						23				1113		0	98	2	50	0	0	7	47

CONSISTENCY - COHESIVE SOILS						CONSISTENCY - NONCOHESIVE SOILS						(1) Tens./Sq. Ft. Unconfined Compressive Strength
10	5	H	ST	ST	A	VL	L	H	D	VD	(2) Spill Barrel Sampler	
Very Soft	Soft	Medium	Stiff	Very Stiff	Hard	Very Loose	Loose	Medium	Dense	Very Dense	(3) Acc. Mo. Btnd. x Trlt. Wt. x 100 = % Btnd.	

Bottomed at _____ Water at _____ Tide Reading _____

BORING NO. 79-91

Sheet 2 of sheets 3

August 1973

SUMMARY UNCONFINED COMPRESSION TEST DATA

TABLE 1

GALVESTON DISTRICT LABORATORY REPORT NO. 1650

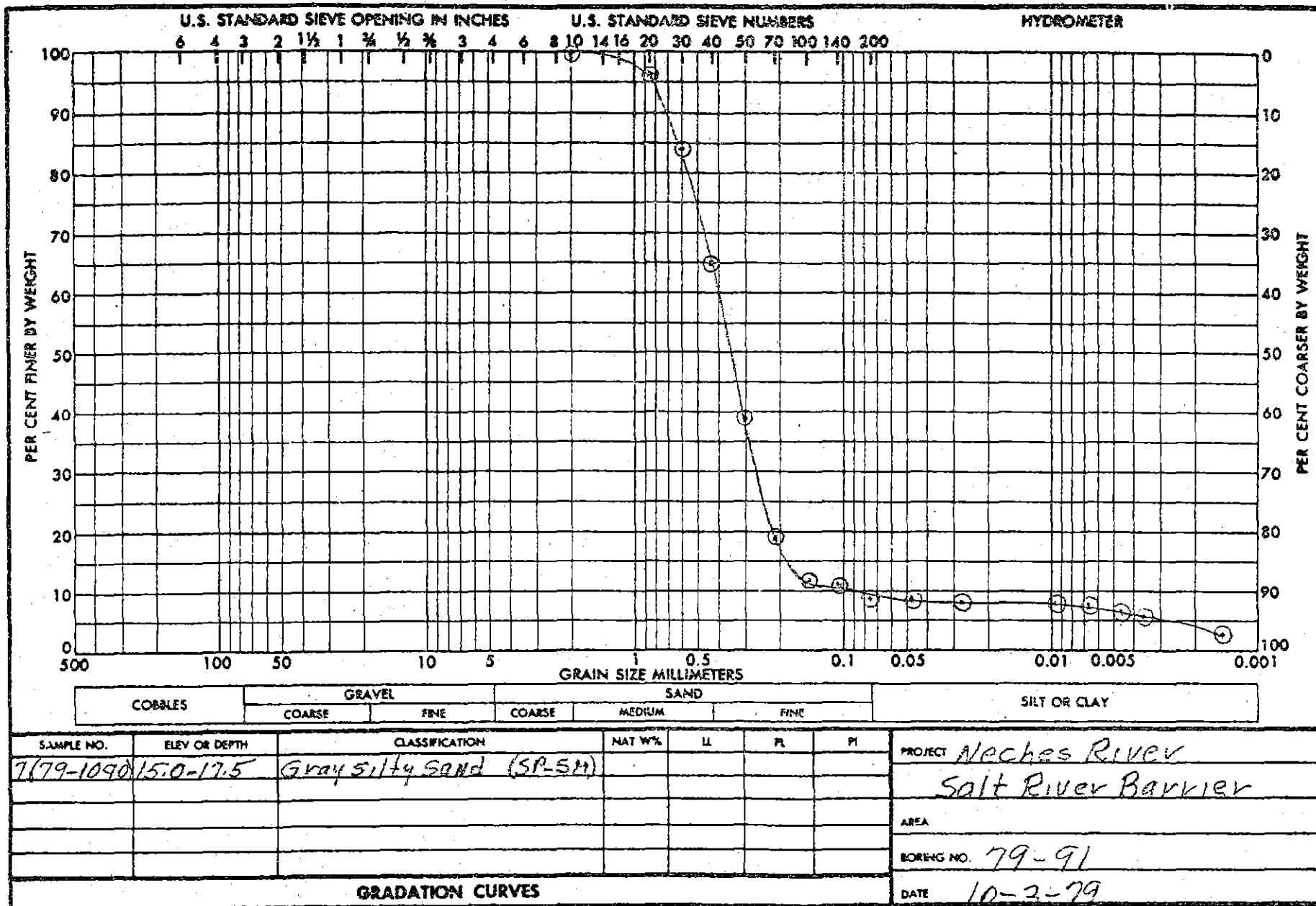
PROJECT Neches River Salt Water Barrier[illegible]

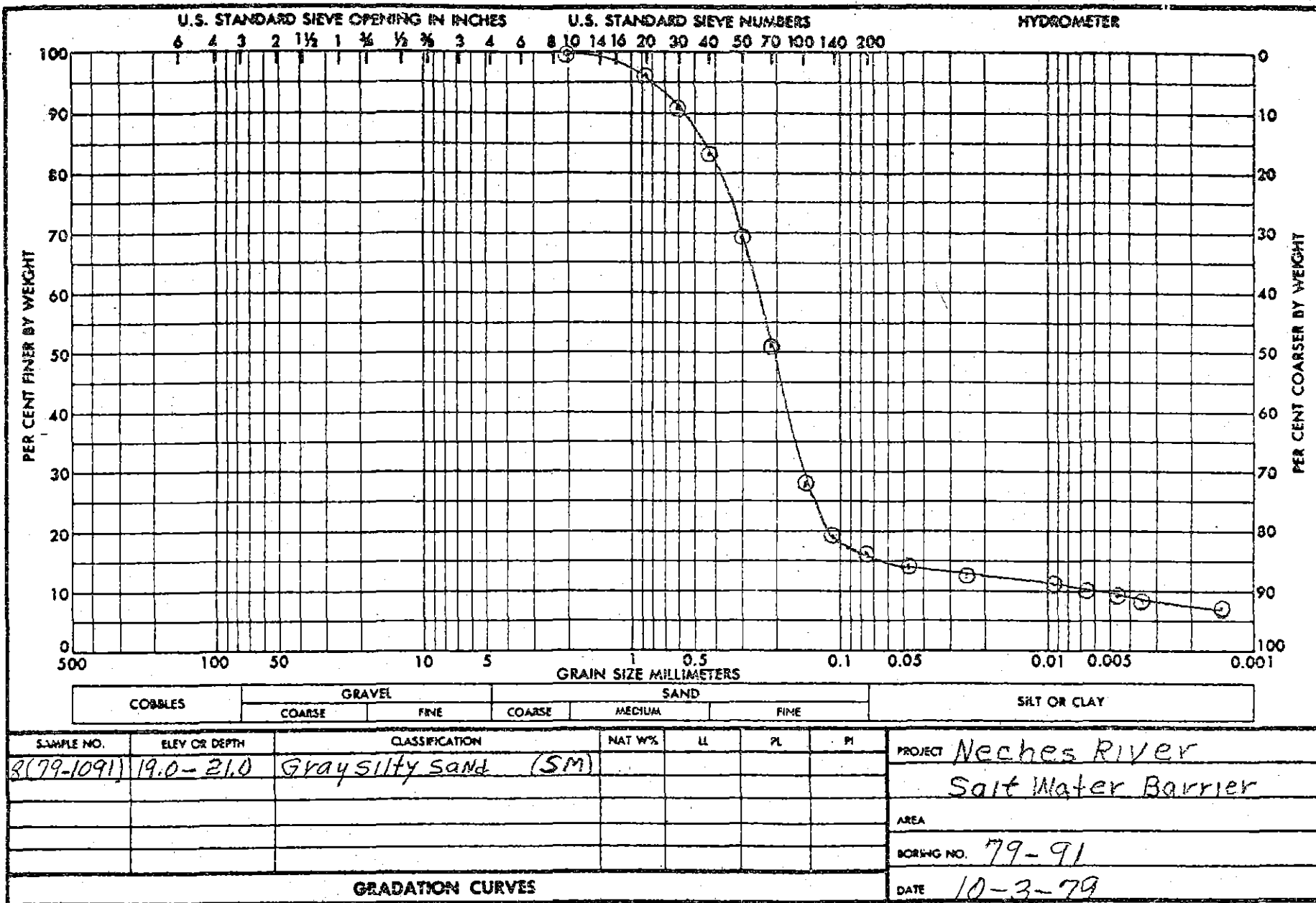
TABLE 2
GRAIN SIZE & SEDIMENTOMETER ANALYSIS

NECHES VER SALT WATER BARRIER

GALVESTON DISTRICT LABORATORY ... 1650

[illegible]





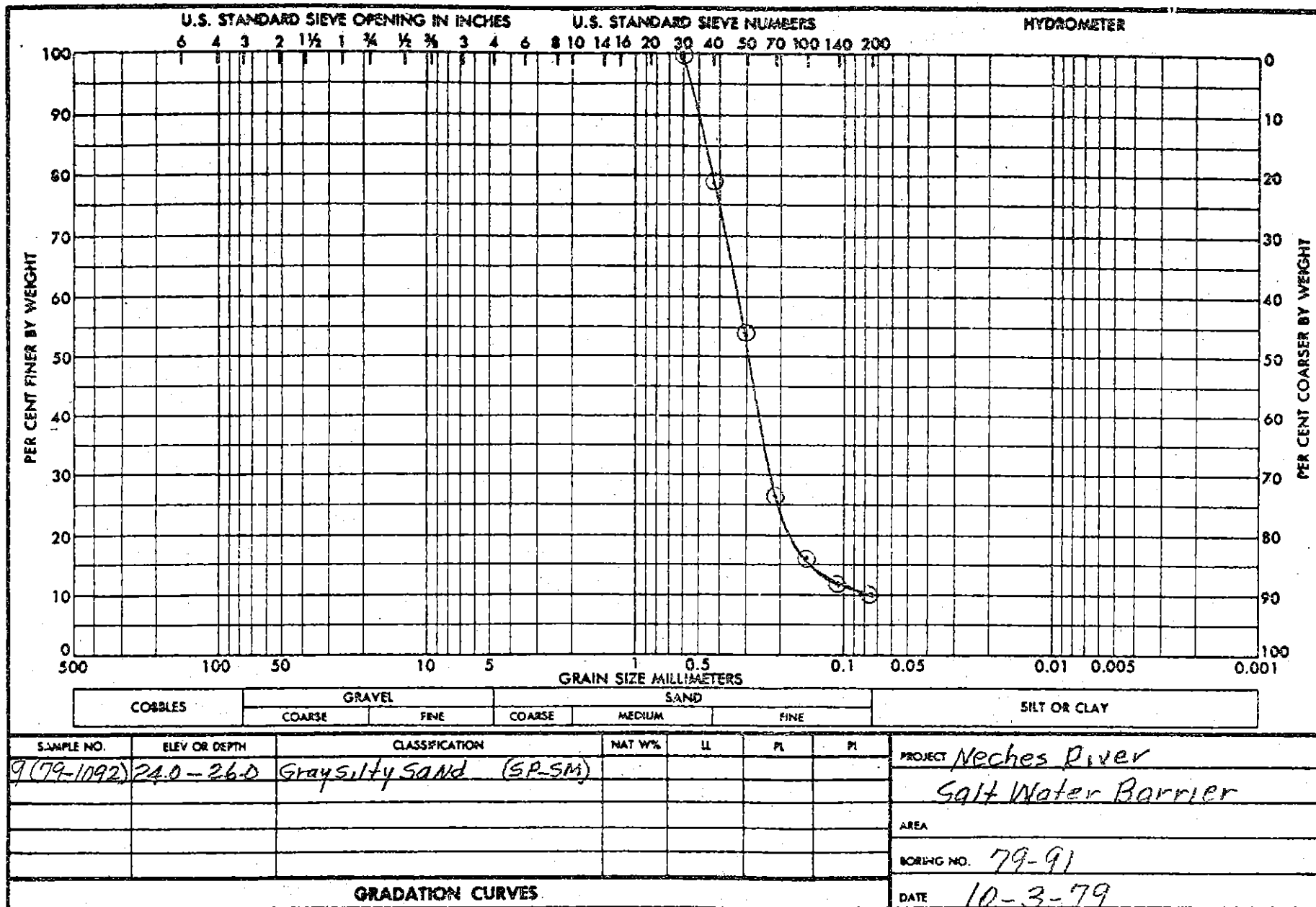
ENG FORM
1 MAY 63

2087

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF-703-126

PLATE NO. 25

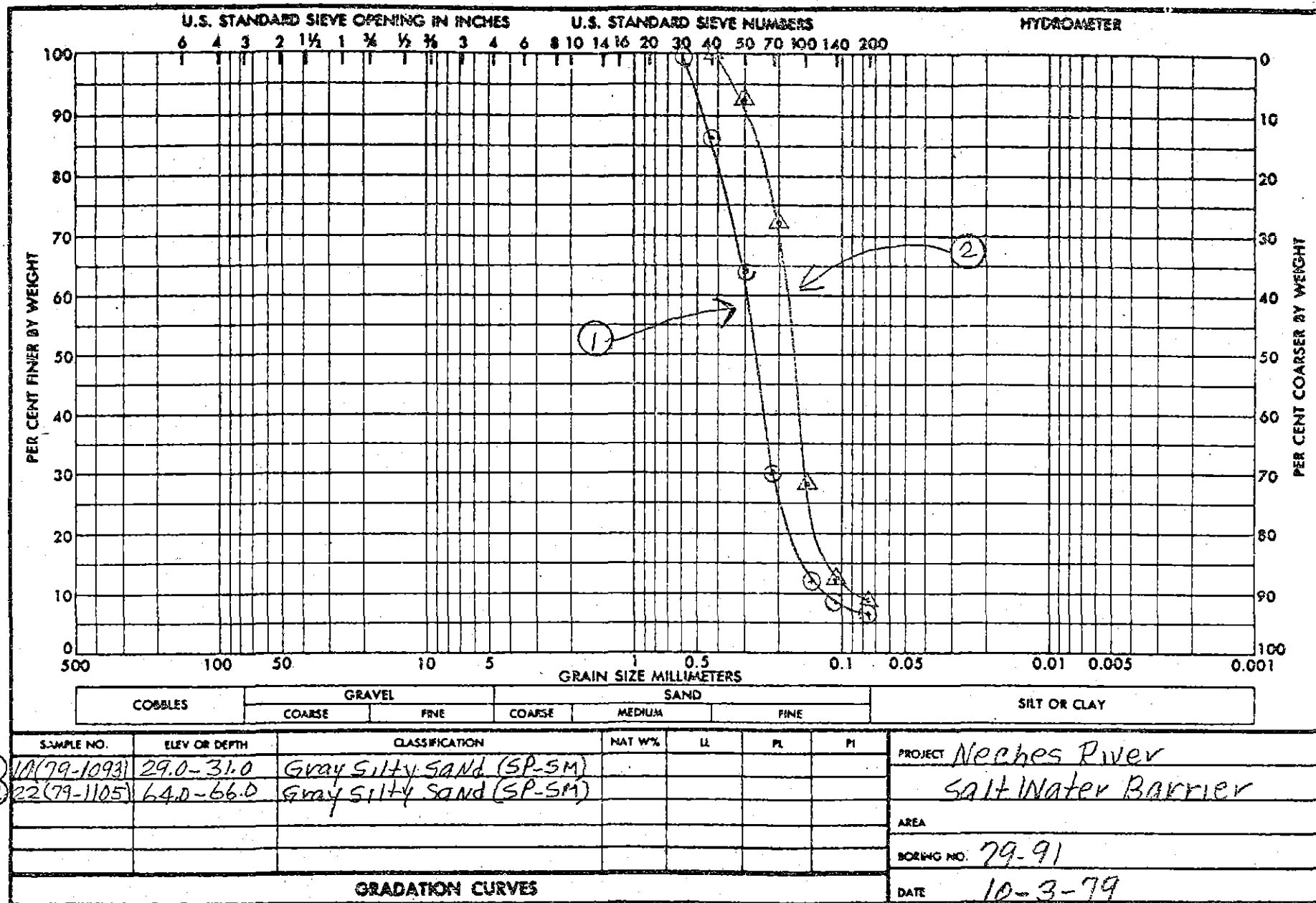


END FORM 2087
1 MAY 63

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

U.S. GOVERNMENT PRINTING OFFICE: 1963 OF-700-126

PLATE NO. 26

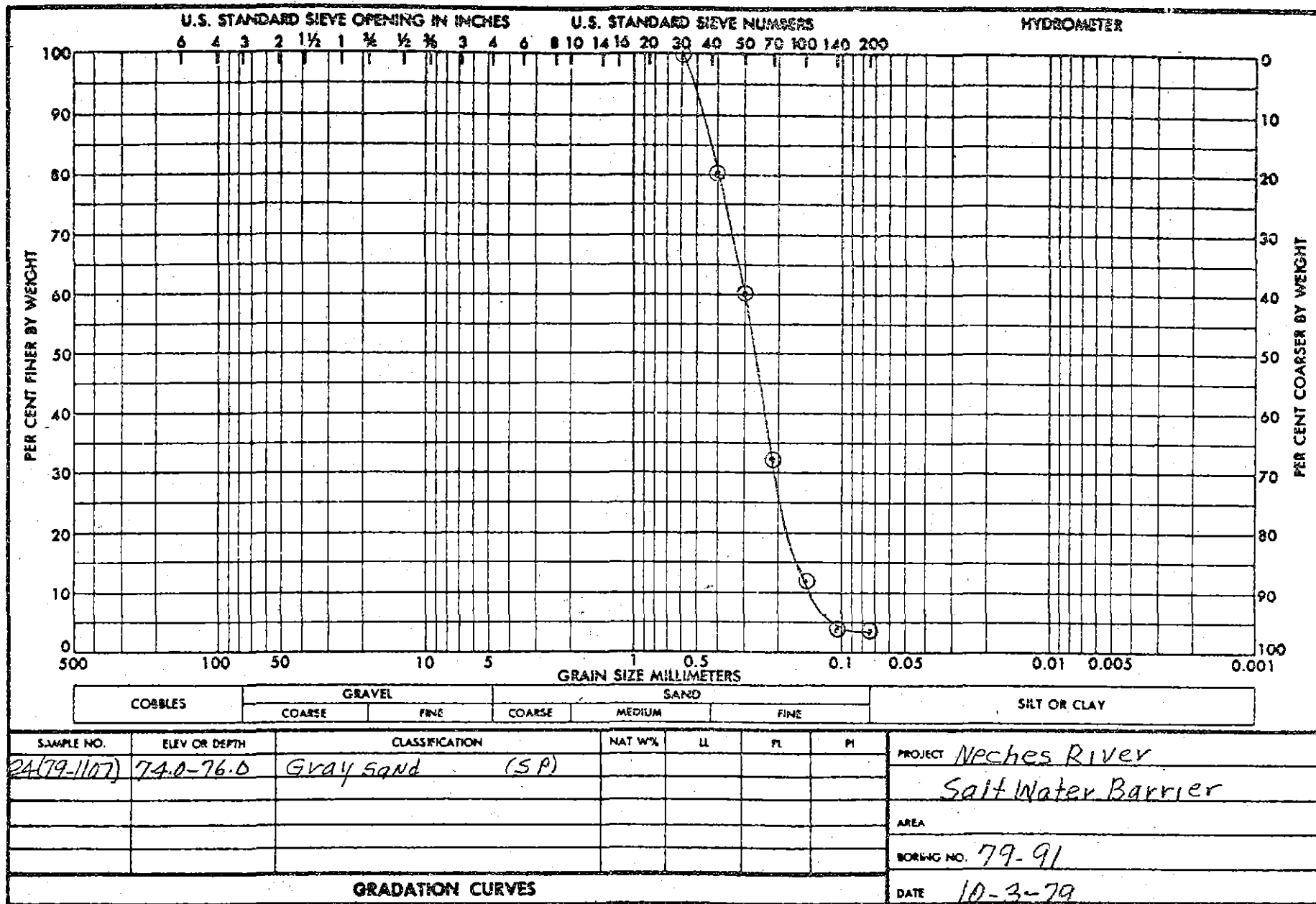




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U.S. GOVERNMENT PRINTING OFFICE : 1945 O4-709-124

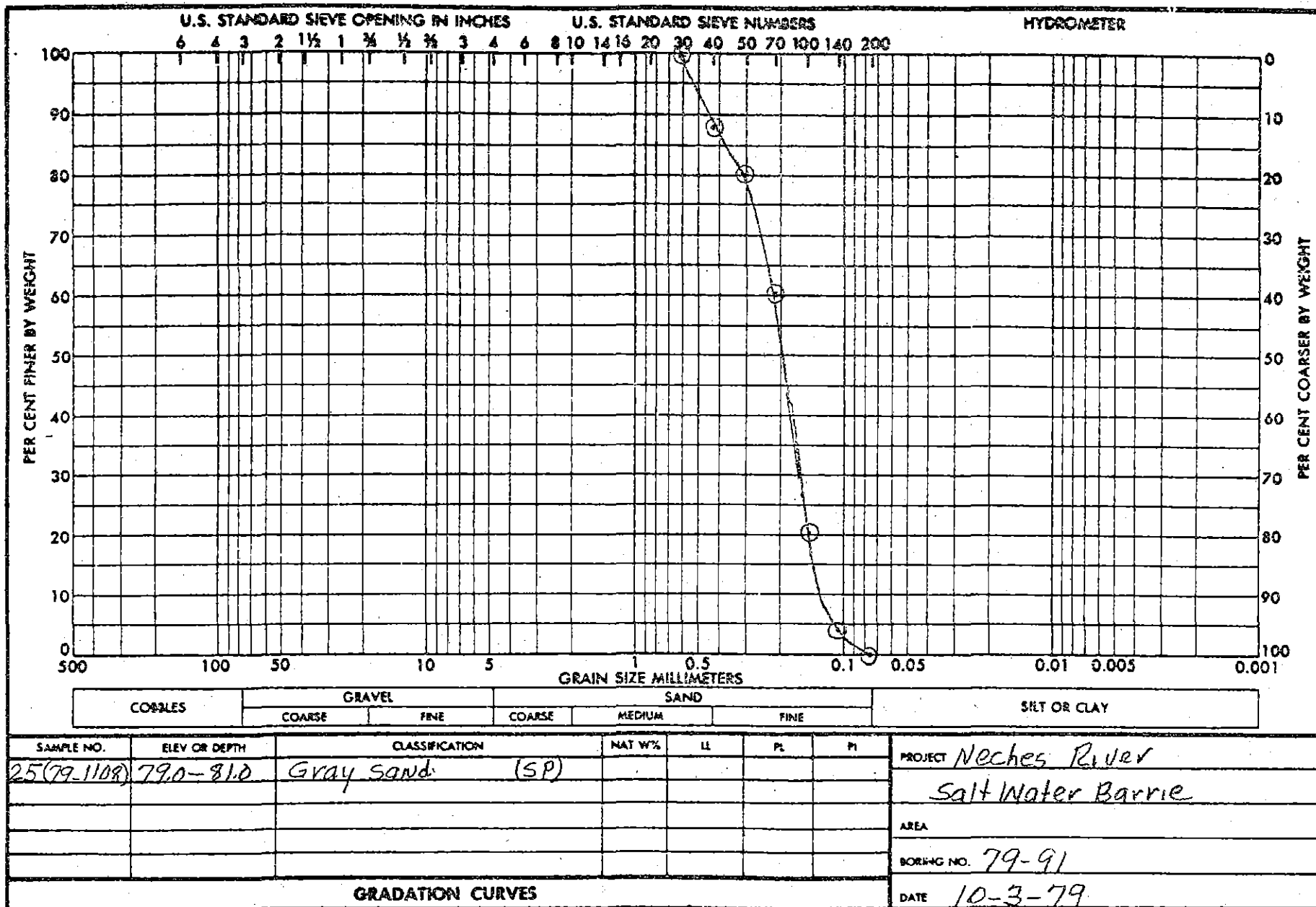
PLATE NO. 28.



ENG FORM 2087
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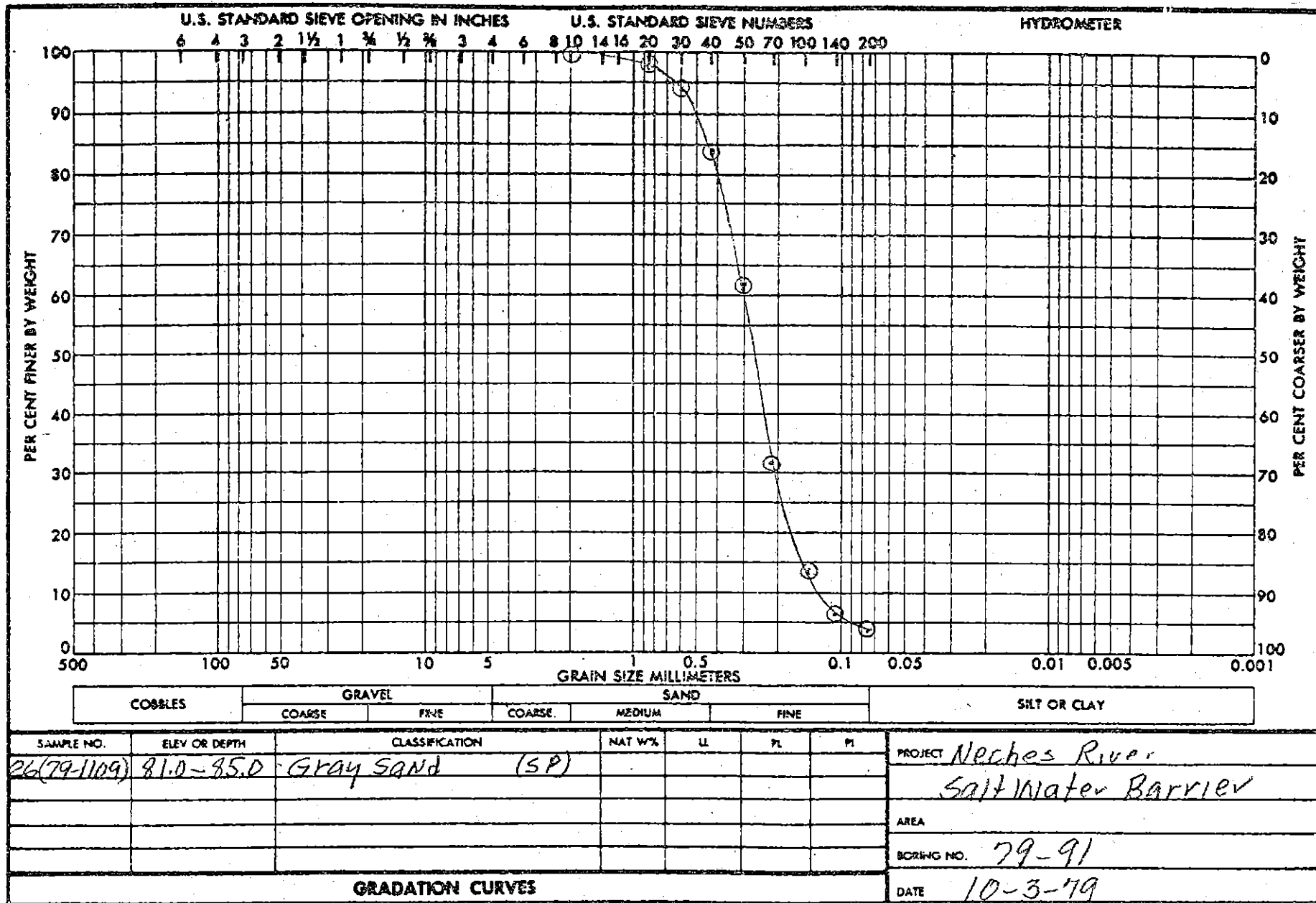


ENG FORM 2087
1 MAY 63

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U.S. GOVERNMENT PRINTING OFFICE: 1963 O-7-708-128

PLATE NO. 30

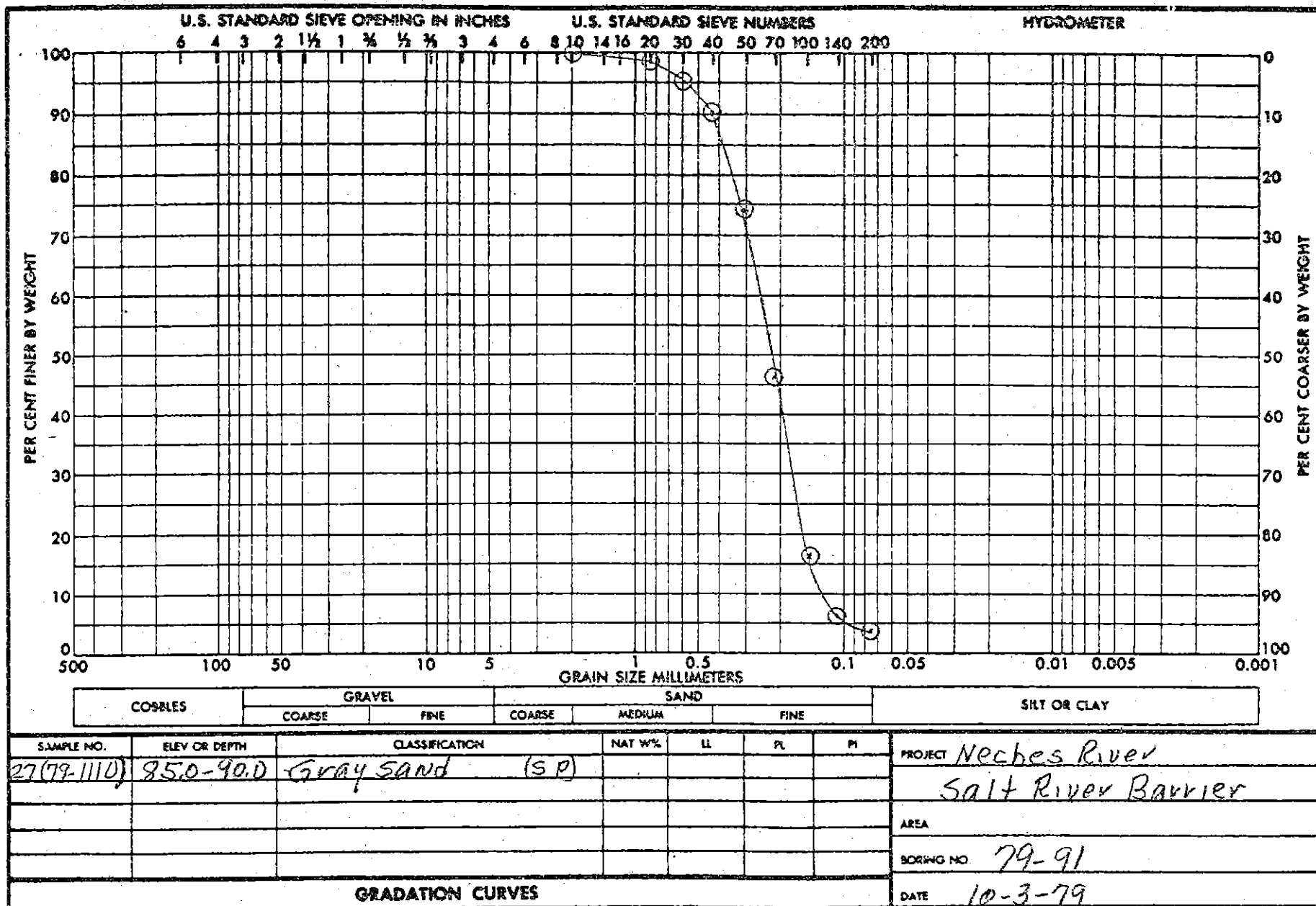


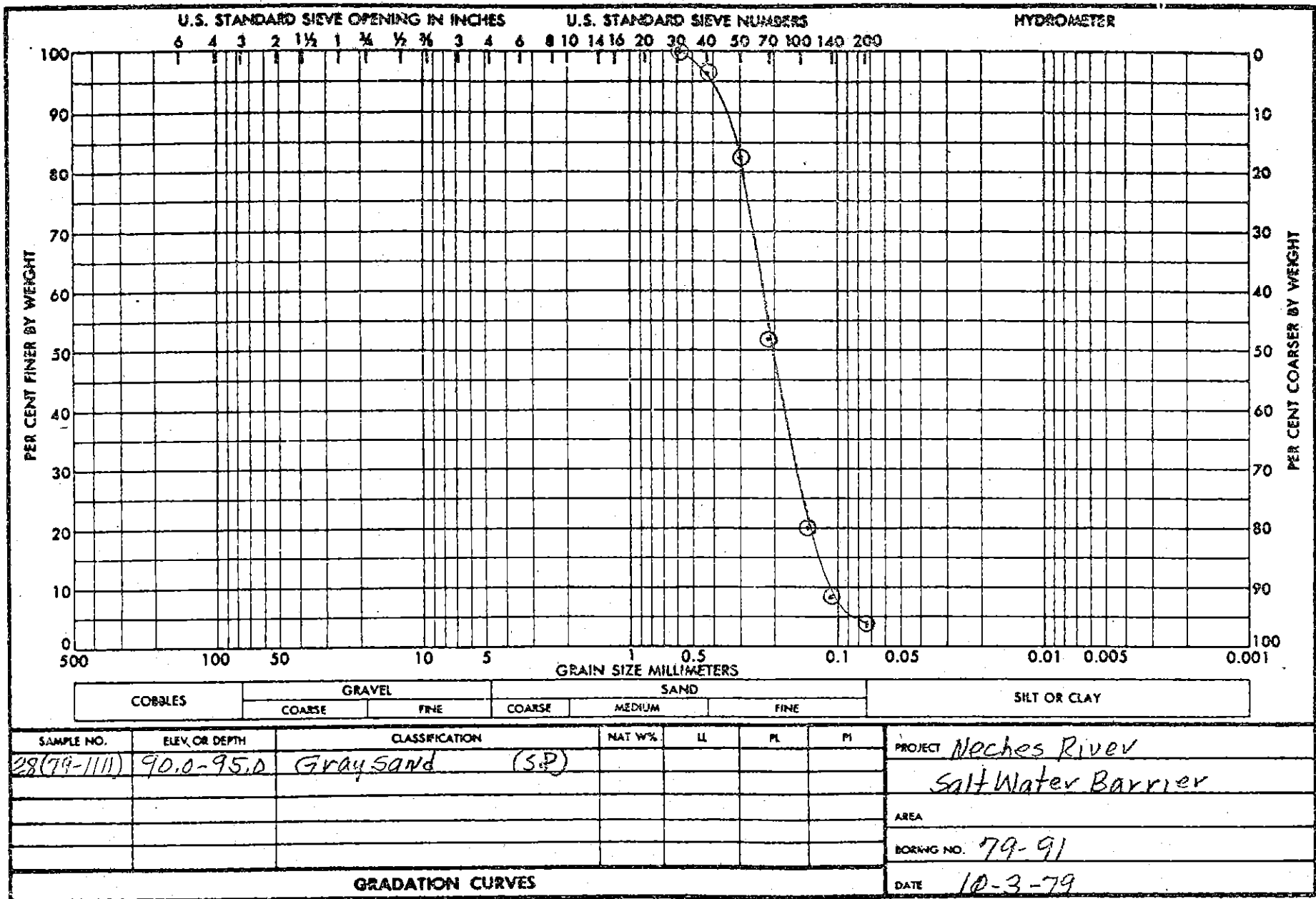
ENG FORM 2087
1 MAY 63

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

U.S. GOVERNMENT PRINTING OFFICE: 1963 OY-789-126

PLATE NO. 31





ENG FORM 2087
1 MAY 63

REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF - 709-126

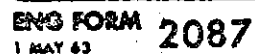
PLATE NO. 33



REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF-733-126

PLATE NO. 34



REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF-708-128

PLATE NO. 35



U.S. GOVERNMENT PRINTING OFFICE : 1963 OF-700-124

PLATE NO. 36

Results of Tests of Foundation Material

Boring No.	Field No.	SWD No.	Depth Ft.	Mechanical Analysis			Permeability cm/sec	Void Ratio	Dry Density lb/cu ft	Test		Description	
				Gr	Sa	Fi				Type	Plate		
79-89	S-7 & S-8	A-3628	15.0-20.0	0	81	19	8.4×10^{-4}	1.111	78	Perm	12	SC	Light brown clayey SAND.
							3.8×10^{-4}	.888	88				
							0.8×10^{-4}	.658	100				
	S-9 & S-10	A-3629	20.0-26.0	0	93	7	8.6×10^{-3}	.819	91	Perm	13	SP-SM	White SAND
							5.2×10^{-3}	.759	94				
							3.0×10^{-3}	.654	100				
	S-27	A-3630	82.0-84.0	0	95	5	18.3×10^{-3}	.678	99	Perm	14	SP	White SAND
							10.5×10^{-3}	.558	106				
							4.3×10^{-3}	.439	115				
	S-29 & S-30	A-3631	89.0-96.0	0	90	10	2.7×10^{-3}	.806	92	Perm	15	SP-SM	White SAND
							1.4×10^{-3}	.690	98				
							0.6×10^{-3}	.603	103				
79-90	S-7 & S-8	A-3632	15.0-22.0	0	92	8	12.2×10^{-3}	.897	87	Perm	16	SP-SM	White SAND
							4.5×10^{-3}	.764	94				
							1.9×10^{-3}	.586	104				
	S-12 & S-23	A-3633	65.0-72.0	0	91	9	18.5×10^{-4}	.889	88	Perm	17	SP-SM	White SAND
							5.3×10^{-4}	.777	93				
							0.9×10^{-4}	.616	102				
79-91	S-7	A-3634	15.0-17.5	0	91	9	11.4×10^{-3}	.697	97	Perm	18	SP-SM	White SAND
							4.4×10^{-3}	.570	105				
							1.0×10^{-3}	.445	114				
	S-9 & S-10	A-3635	24.0-31.0	0	94	6	9.7×10^{-3}	.810	91	Perm	19	SP-SM	White SAND
							4.4×10^{-3}	.751	94				
							1.8×10^{-3}	.553	107				

Results of Tests of Foundation Material

Boring No.	Field No.	SWD No.	Depth Ft.	Mechanical Analysis			Permeability cm/sec	Void Ratio	Dry Density Lb/cu ft	Test		Description
				Gr	Sa	Fi				Type	Plate	
79-91 (Cont'd)	S-22 & S-23	A-3636	64.0-71.0	0	92	8	23.1 x 10 ⁻⁴	.762	94	Perm	20	SP-SM White SAND
							8.0 x 10 ⁻⁴	.716	96			
							2.1 x 10 ⁻⁴	.551	107			
	S-25 & S-26	A-3637	79.0-85.0	0	84	.6	5.0 x 10 ⁻³	.696	98	Perm	21	SP-SM White SAND
							2.9 x 10 ⁻³	.623	102			
							1.6 x 10 ⁻³	.564	106			
79-92	S-21 & S-22	A-3638	64.0-71.0	0	90	10	10.2 x 10 ⁻⁴	.802	92	Perm	22	SP-SM White SAND
							4.9 x 10 ⁻⁴	.678	99			
							0.5 x 10 ⁻⁴	.538	108			

Plate 7

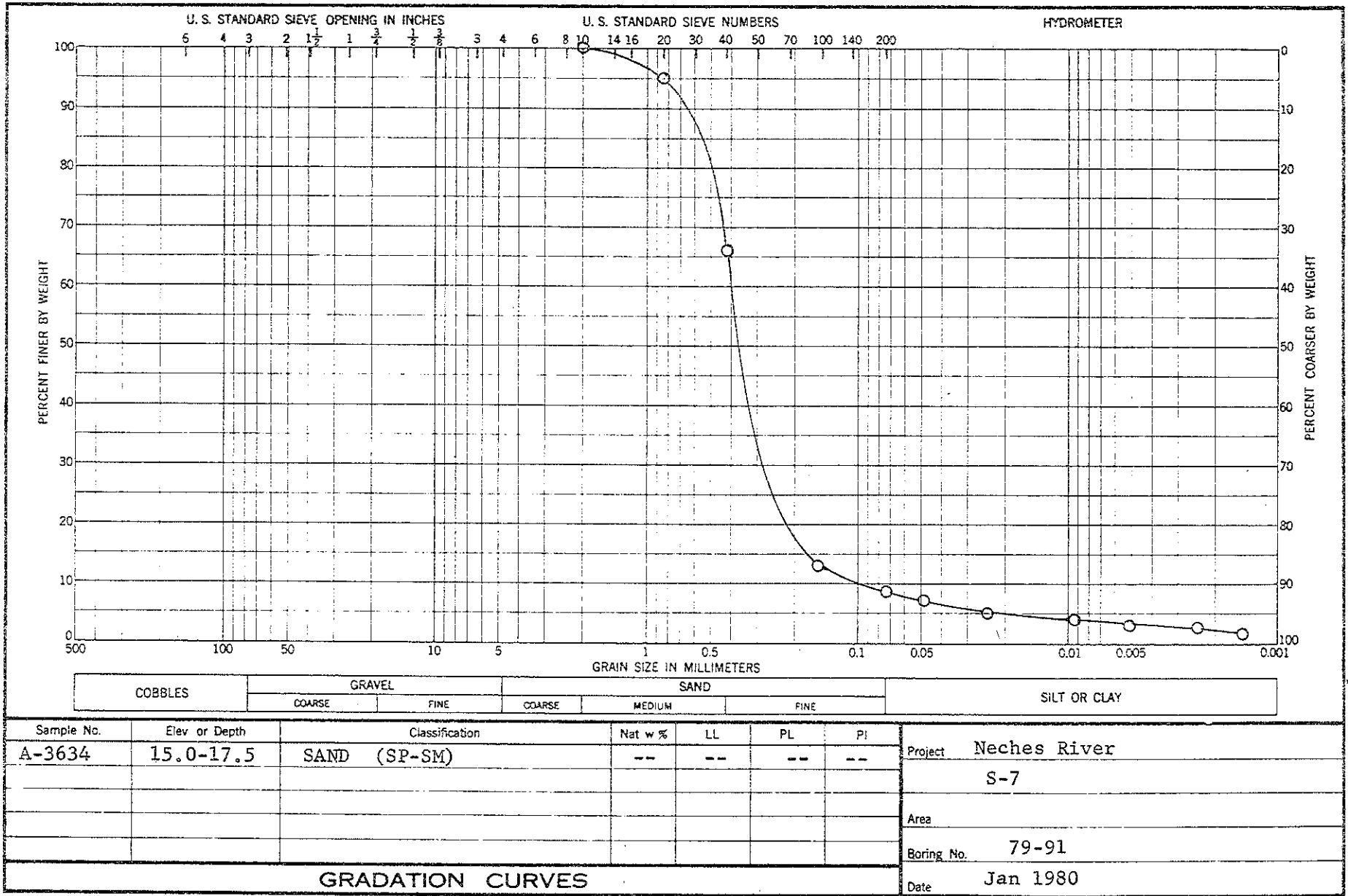
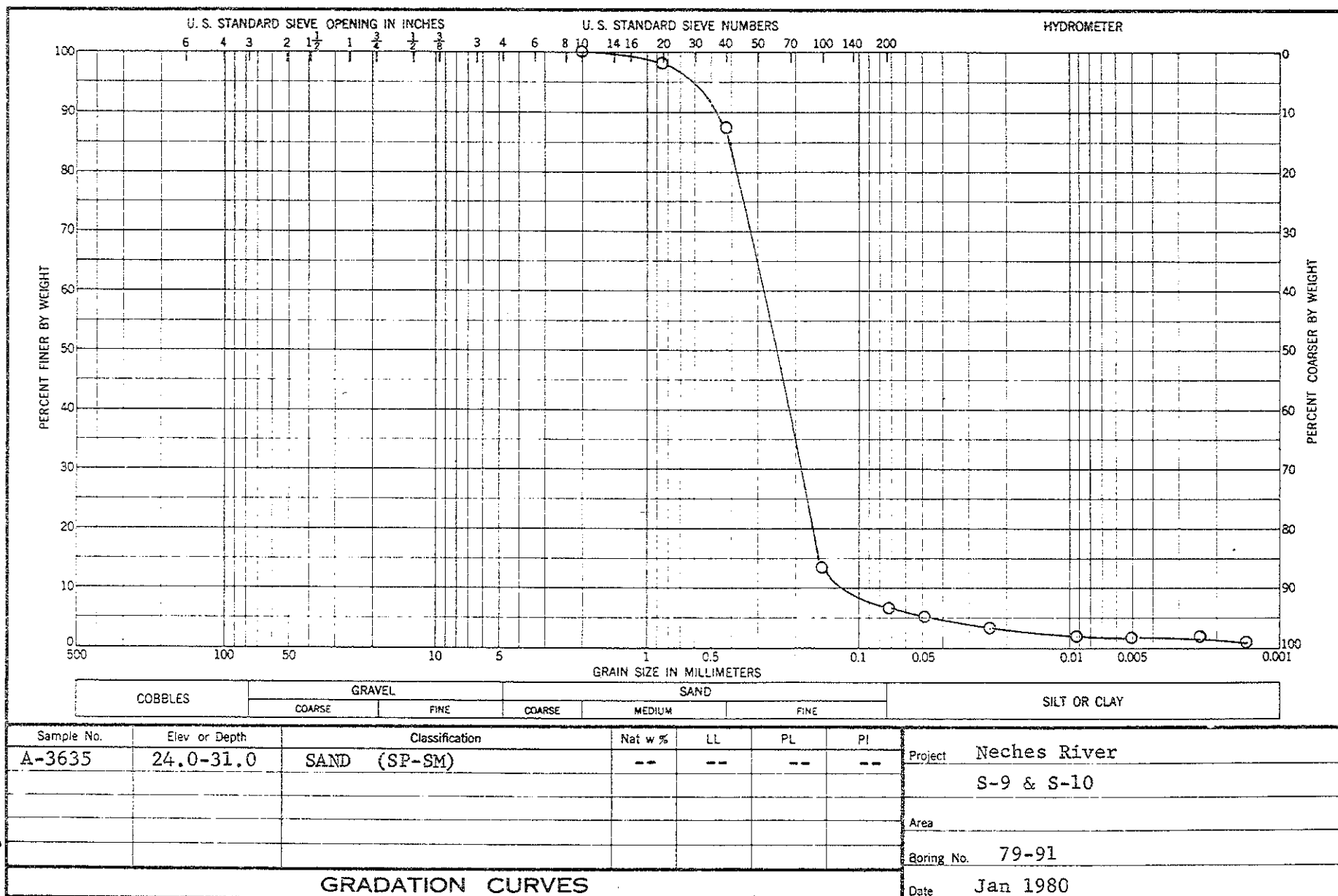
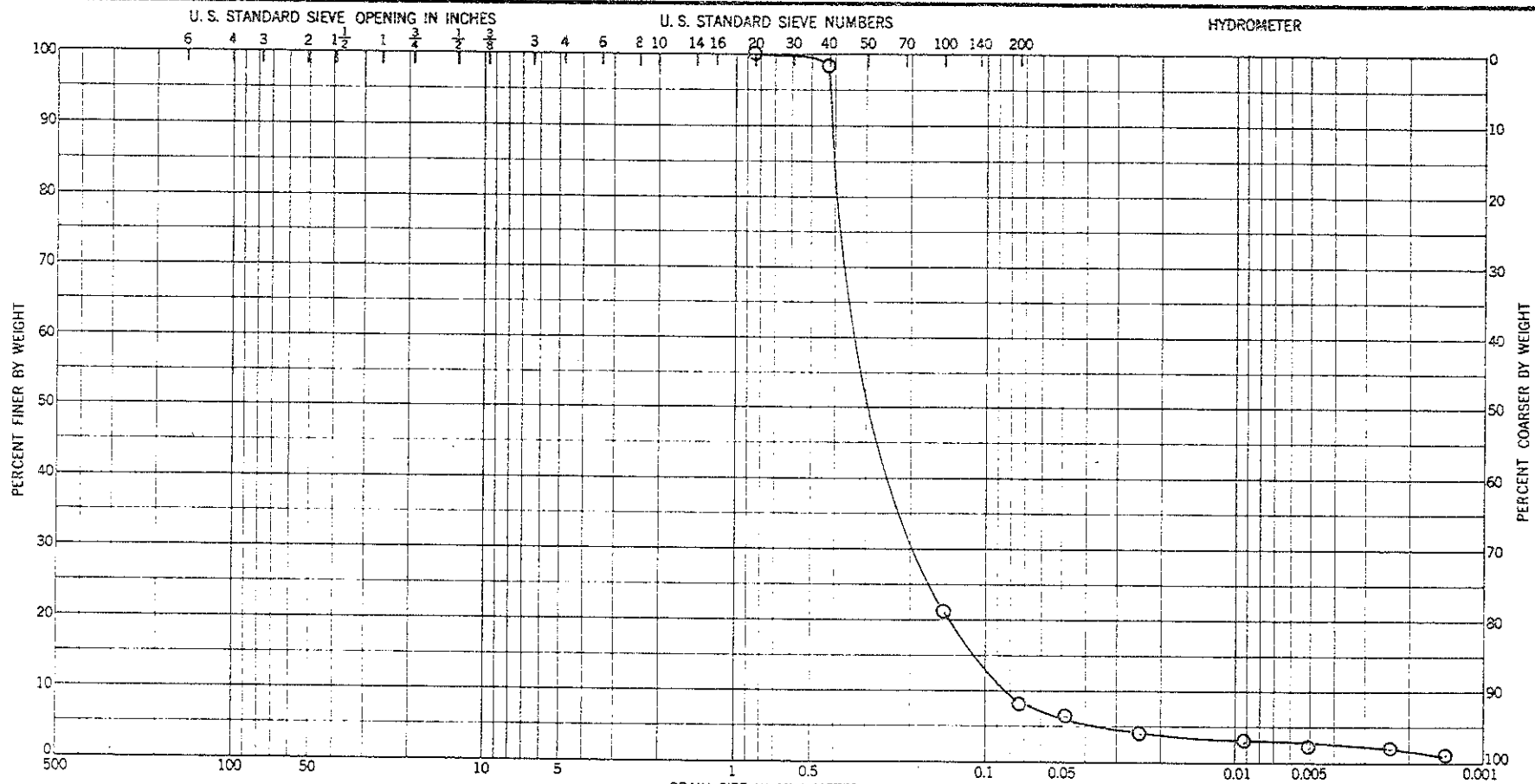


Plate 8

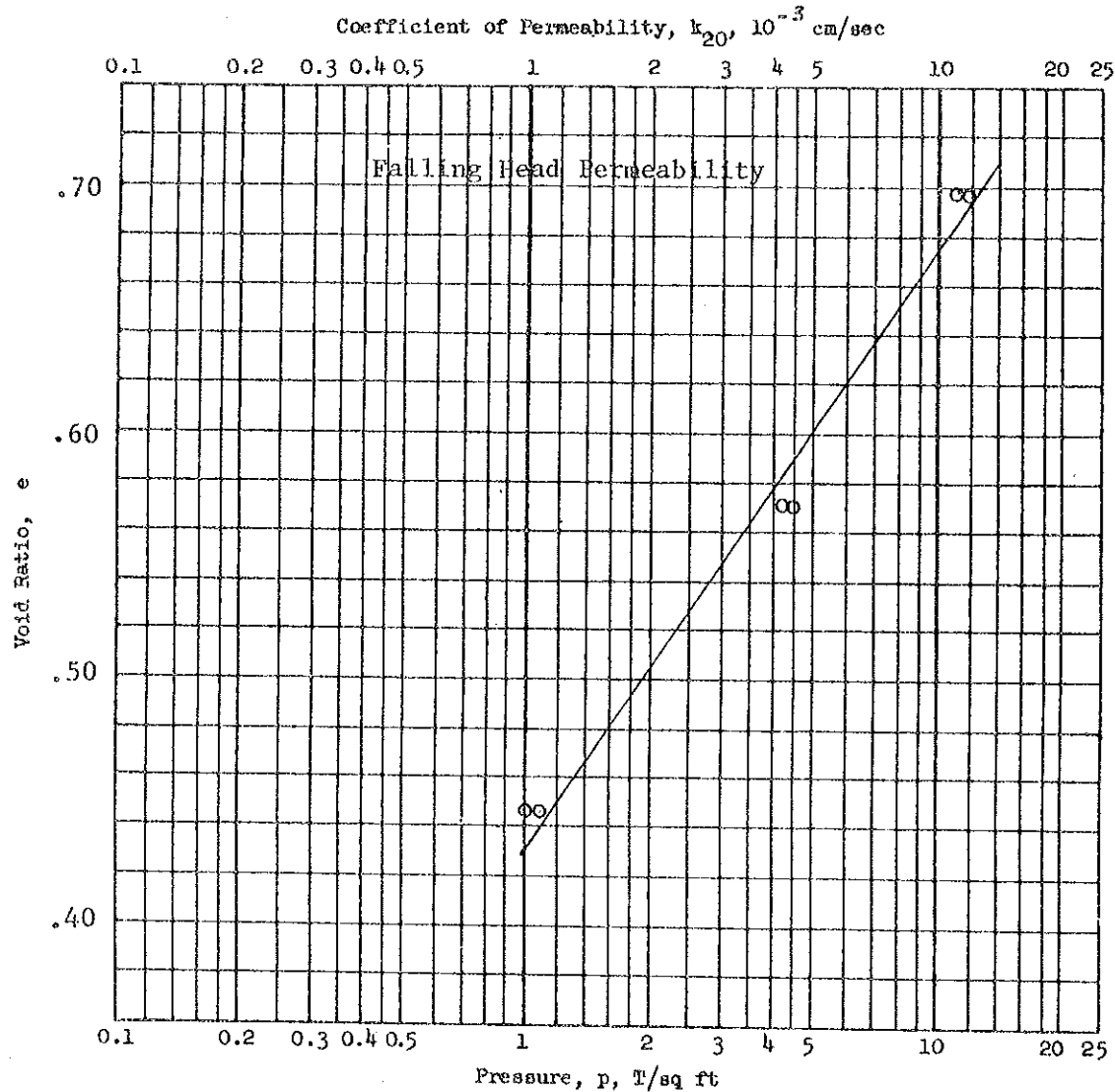




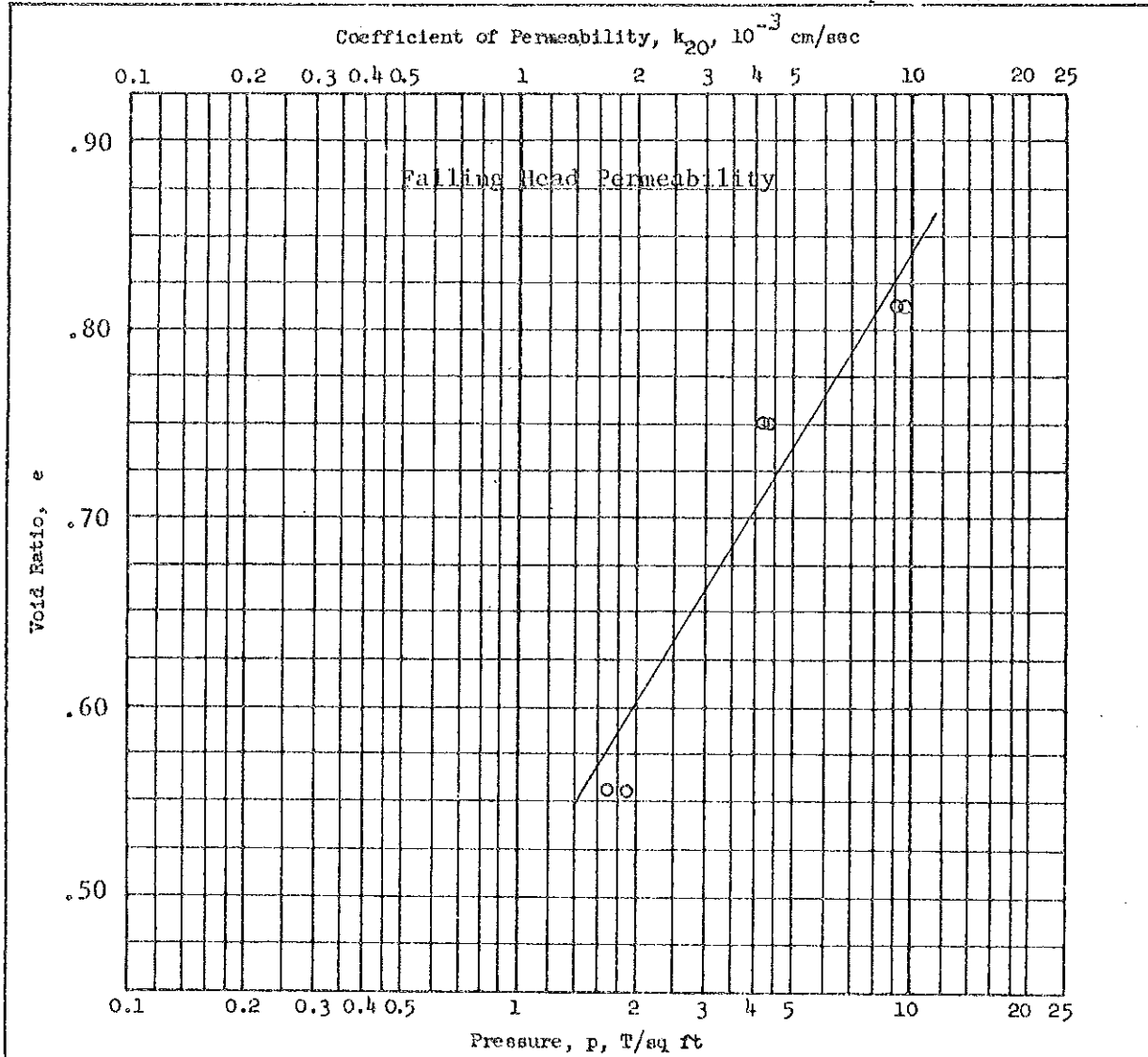
COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Sample No.	Elev or Depth	Classification	Nat w %	LL	PL	PI	Project
A-3636	64.0-71.0	SAND (SP-SM)	--	--	--	--	Neches River
							S-22 & S-23
							Area
							Boring No. 79-91
							Date Jan 1980

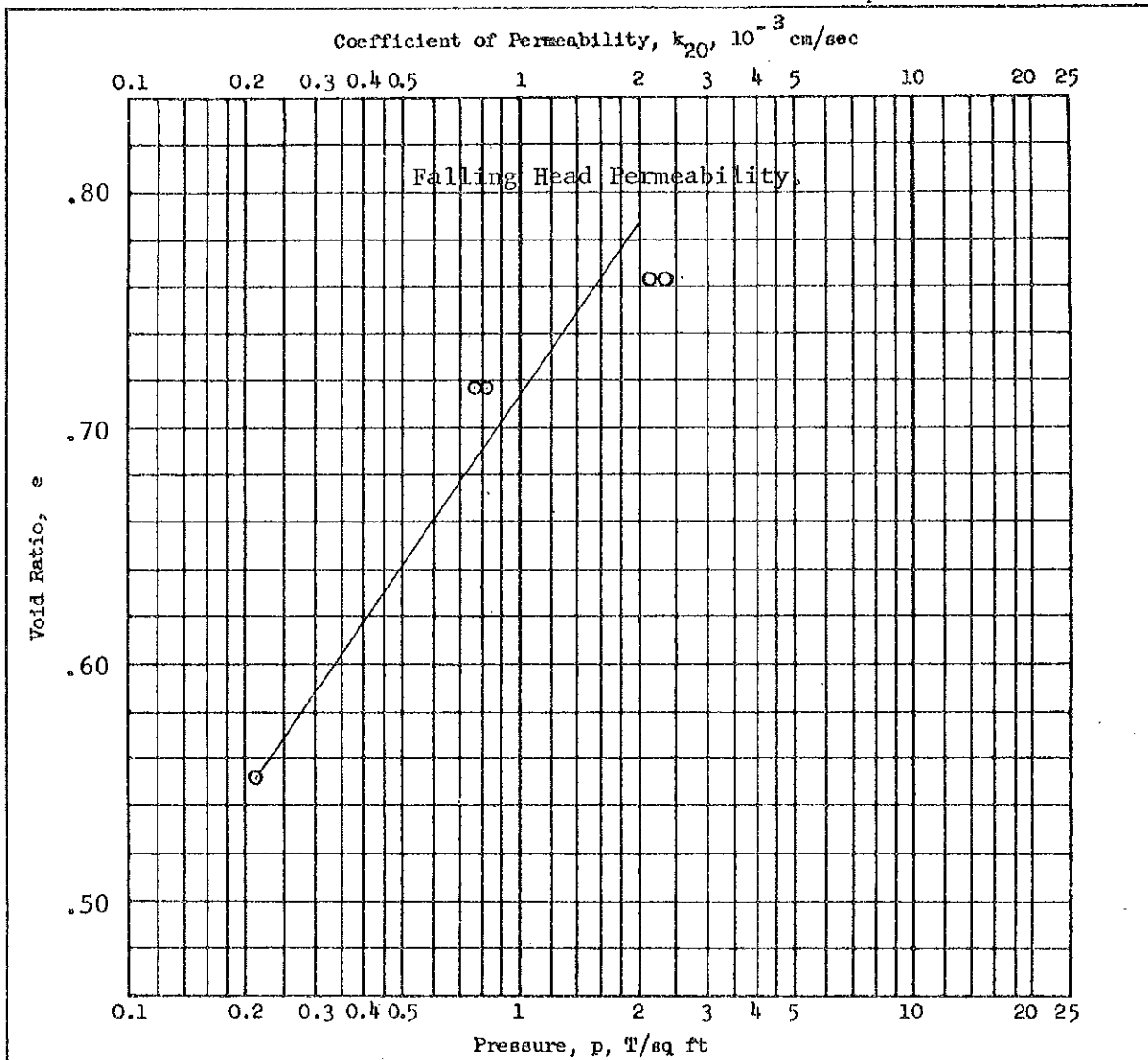
GRADATION CURVES



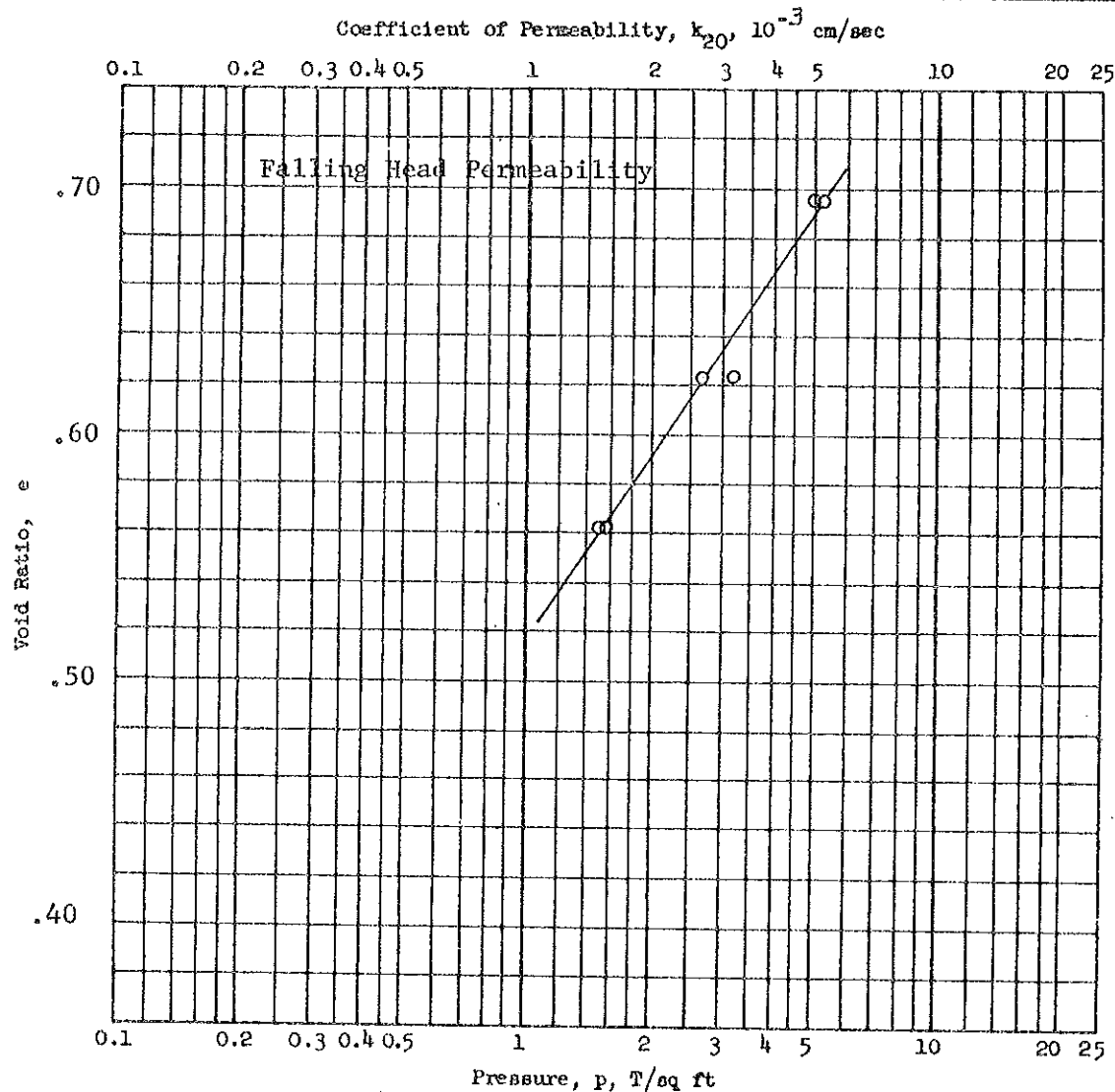
Type of Specimen		Before Test		After Test	
Diam in.	Ht in.	Water Content, w_o	%	w_f	%
Overburden Pressure, p_o T/sq ft		Void Ratio, e_o		e_f	
Preconsol. Pressure, p_c T/sq ft		Saturation, S_o	%	S_f	%
Compression Index, C_o		Dry Density, γ_d	lb/ft ³		
Classification		k_{20} at e_o $\times 10^{-3}$ cm/sec			
LL	G_B	Project Naches River			
PL	D_{10}				
Remarks		S-7			
		Area			
		Boring No. 79-91		Sample No. A-3634	
		Depth El 15.0-17.5		Date Jan 1980	
		CONSOLIDATION TEST REPORT			



Type of Specimen		Before Test		After Test	
Diam in.	Ht in.	Water Content, w_o	%	w_f	%
Overburden Pressure, p_o T/sq ft		Void Ratio, e_o		e_f	
Preconsol. Pressure, p_c T/sq ft		Saturation, S_o	%	S_f	%
Compression Index, C_c		Dry Density, γ_d	lb/ft ³		
Classification		k_{20} at $e_o =$ $\times 10^{-3}$ cm/sec			
LL	G_s	Project Neches River			
PL	D_{10}				
Remarks		S-9 & S-10			
		Area			
		Boring No. 79-91	Sample No. A-3635		
		Depth El 24.0-31.0	Date Jan 1980		
		CONSOLIDATION TEST REPORT			



Type of Specimen		Before Test		After Test	
Diam in.	Ht in.	Water Content, w_o	%	w_f	%
Overburden Pressure, p_o T/sq ft		Void Ratio, e_o		e_f	
Preconsol. Pressure, p_c T/sq ft		Saturation, S_o	%	S_f	%
Compression Index, C_c		Dry Density, γ_d	lb/ft ³		
Classification		k_{20} at $e_o =$ $\times 10^{-3}$ cm/sec			
LL	G_s	Project Neches River			
PL	D_{10}				
Remarks		S-22 & S-23			
		Area			
		Boring No. 79-91	Sample No. A-3636		
		Depth El 64.0-71.0	Date Jan 1980		
		CONSOLIDATION TEST REPORT			



Type of Specimen		Before Test		After Test	
Diam	in.	Ht	in.	Water Content, w_o	%
Overburden Pressure, P_o	T/sq ft	Void Ratio, e_o		w_f	%
Preconsol. Pressure, P_c	T/sq ft	Saturation, S_o	%	e_f	
Compression Index, C_c		Dry Density, γ_d	lb/ft ³	S_f	%
Classification		k_{20} at $e_o =$ $\times 10^{-3}$ cm/sec			
LL	G_s	Project Neches River			
PL	D_{10}				
Remarks		S-25 & S-26			
		Area			
		Boring No. 79-91		Sample No. A-3637	
		Depth 79.0-85.0		Date Jan 1980	
		CONSOLIDATION TEST REPORT			