

12 July 1971

PROJECT: NECHES RIVER SALT WATER BARRIERBORING NO. 79-90

TEST DATA SUMMARY

LOCATION: BEAUMONT, TEXASDATE COMPLETED 15 August 1979

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		
1C	0.0	2.5	Yellow & gray sandy clay with organic seams	1.1	CL	ST	1.25		36	86			925		0	28	72	50	0	0	0	14
2C	2.5	5.0	Gray & yellow sandy clay	1.15		ST	1.00		23	104	41	15	926									
3C	5.0	7.5	Light gray clayey sand with organic material	1.1	SC	VS	0.0		24	*			927	5	0	64	36	50	0	0	0	32
4C	7.5	10.0	Gray sandy clay with organic sand layers	1.1	CH	VS	0.0		55	68	72	22	928		0	32	68	50	0	0	0	16
5C	10.0	12.5	Gray silty sand with random sand layers & organic material	1.05	SM	VS	0.0		26	*			929	0	0	84	16	50	0	0	11	42
6C	12.5	15.0	Gray silty sand phasing to silty sand	0.9		VS	0.0		27	*			930	0	0	74	26	50	0	0	10	37
7J	15.0	17.0	Gray sand		SP	M		7	25				931		0	96	4	50	0	0	18	48
	17.0	20.0	# washed																			
8J	20.0	22.0	Gray silty sand with few random clay lumps		SP SM	M		8	23				932		0	92	8	50	0	0	11	46
	22.0	25.0	# washed																			
9J	25.0	27.0	Gray clayey sand		SC	D		17	32				933		0	84	16	50	0	2	9	42
	27.0	30.0	# washed																			
10J	30.0	32.0	Gray sand with trace organic material		SP	D		24	25				934		0	96	4	50	0	0	8	48
	32.0	35.0	# washed																			
11J	35.0	37.0	Yellow & gray clay		CL	M		13	19		37	11	935		0	12	88	50	0	0	0	6
	37.0	37.5	# washed																			
12C	37.5	40.0	Gray & yellow clay	1.0	CH	VST	2.00		20	108	57	16	936		0	8	92	50	0	0	0	4
13C	40.0	42.5	Gray & yellow clay with random thin sand seams	0.95		H	4.00		18	110			937									
14C	42.5	45.0	Gray & yellow clay with random thin sand seams	1.1		VST	2.25		33	91			938									

KEY: CONSISTENCY - COHESIVE SOILSCONSISTENCY - COHESIONLESS SOILSVS S M ST VST R VL L M D VD
Very Soft Soft Medium Stiff Very Stiff Hard Very Loose Loose Medium Dense Very Dense

(1) Tons/Sq. Ft. Unconfined Compressive Strength

(2) Split Barrel Sampler

(3) Acc. Wt. Rtn'd + Init. Wt. x 100 = % Rtn'd.

Bottomed at _____ Water at _____ Tide Reading _____

BORING NO. 79-90Sheet 1 of sheets 2

Sheet 2 of sheets 2

SUMMARY UNCONFINED COMPRESSION TEST DATA
TABLE /

GALVESTON DISTRICT LABORATORY REPORT NO. 1650

PROJECT Neches River, Salt Water Barrier

[illegible]

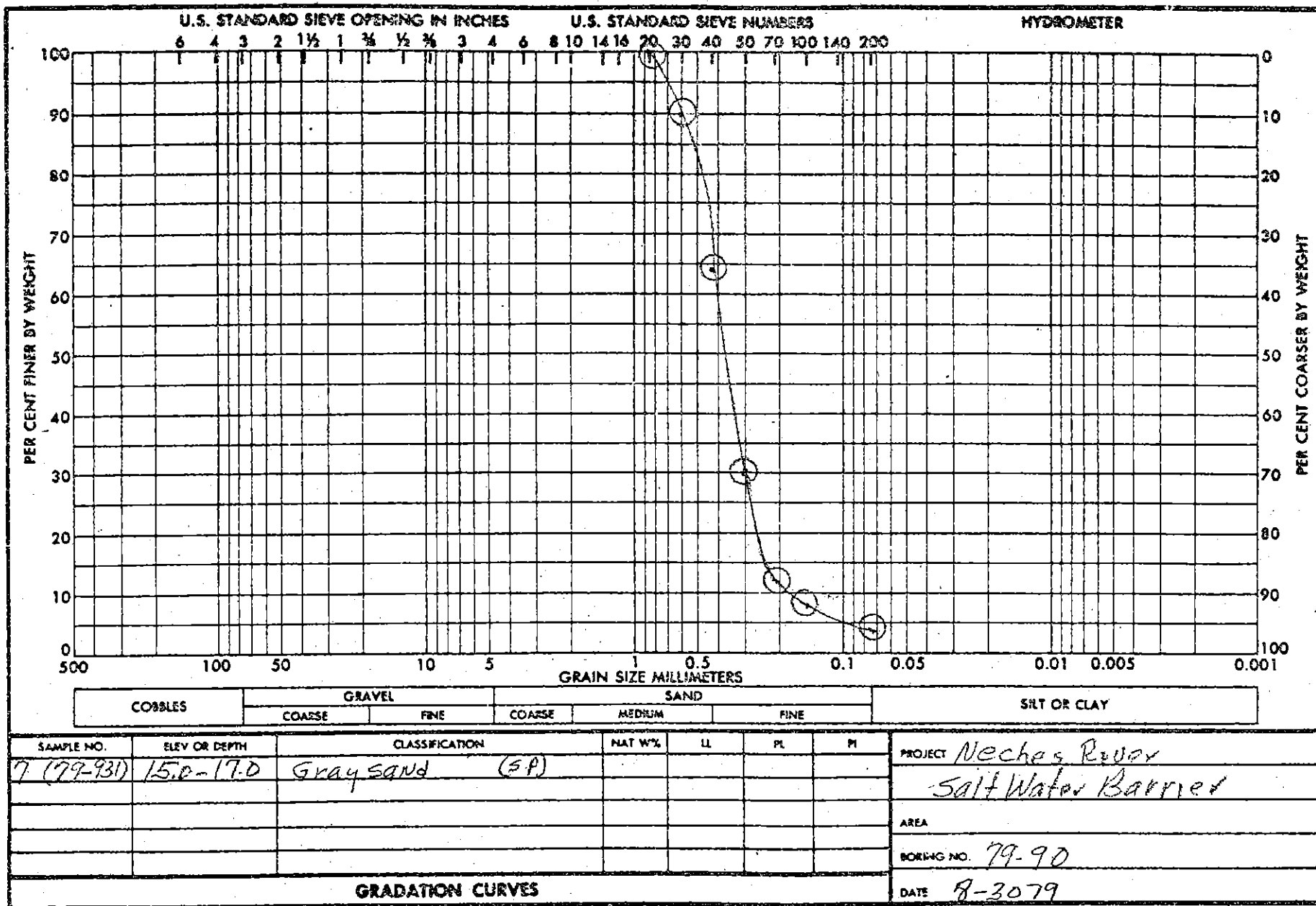
TABLE 2

NECHES

GALVESTON DISTRICT LABORATORY

1650

[illegible]



ENG FORM
1 MAY 63

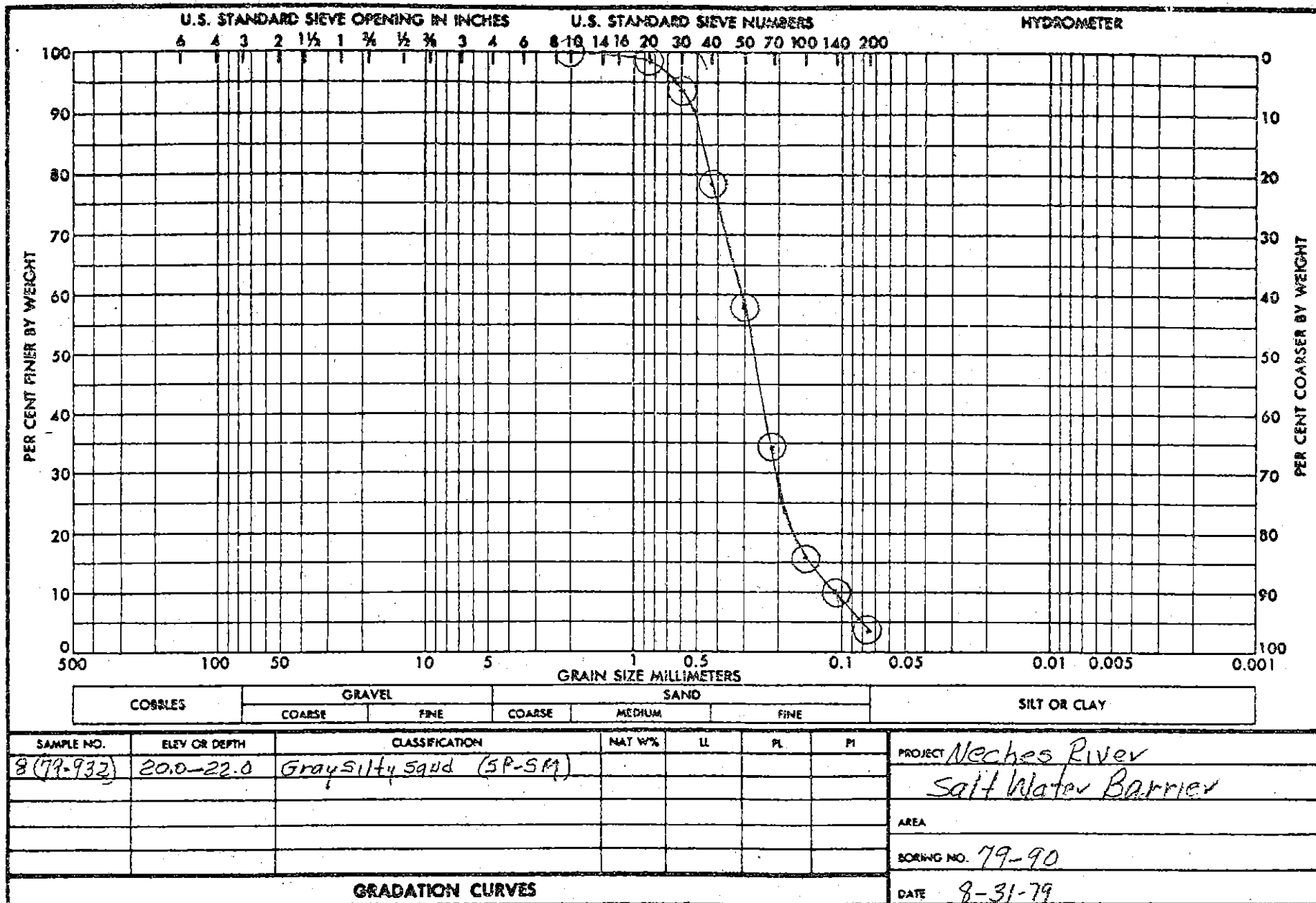
2087

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

D 10 = .180

U.S. GOVERNMENT PRINTING OFFICE : 1963 O7-709-126

PLATE NO. 17



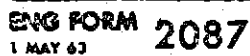
ENG FORM 2087
1 MAY 63

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PLATE NO. 18

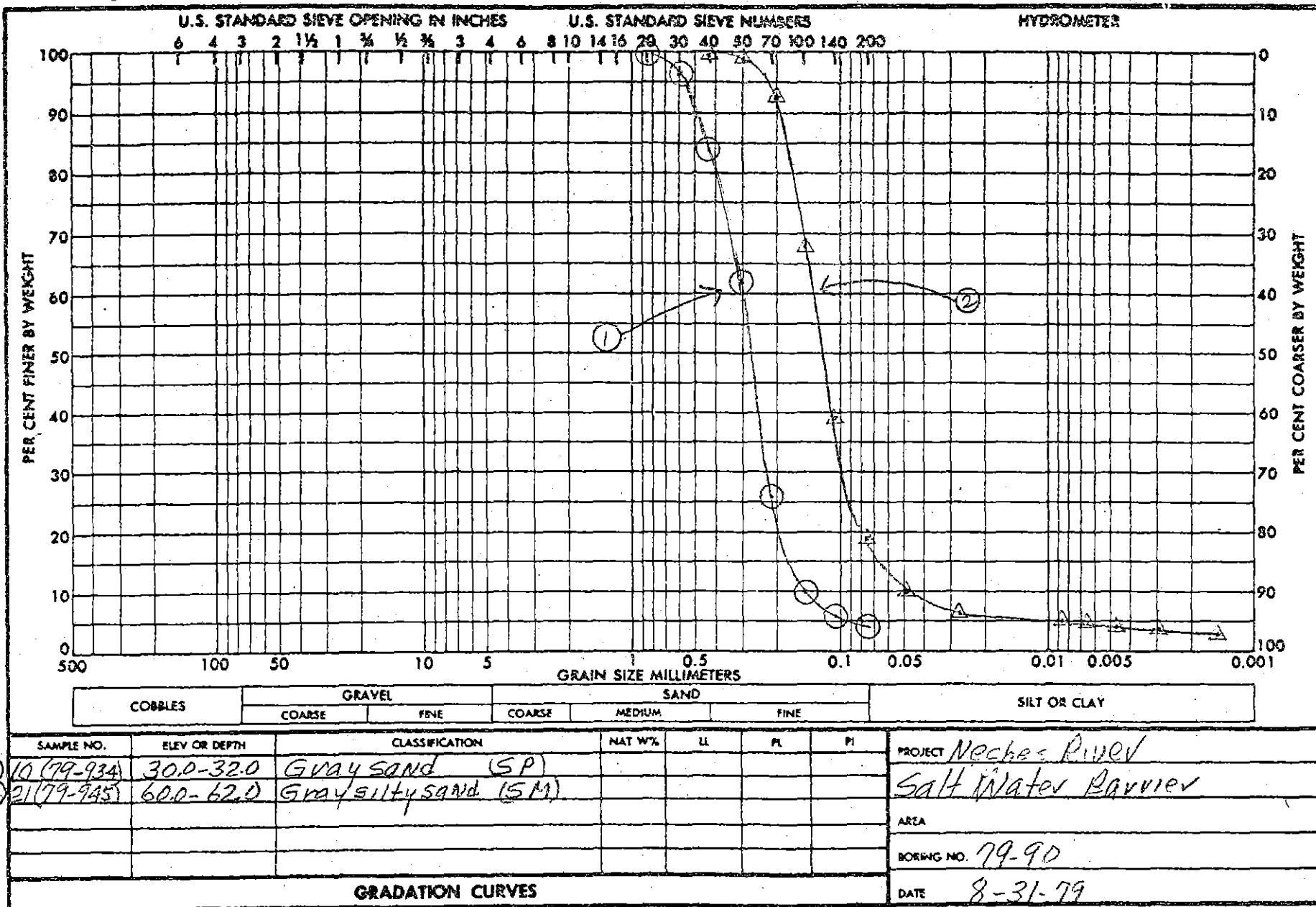
$D_{10} = 0.105$



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

U.S. GOVERNMENT PRINTING OFFICE : 1961 O7-700-126

PLATE NO. 19

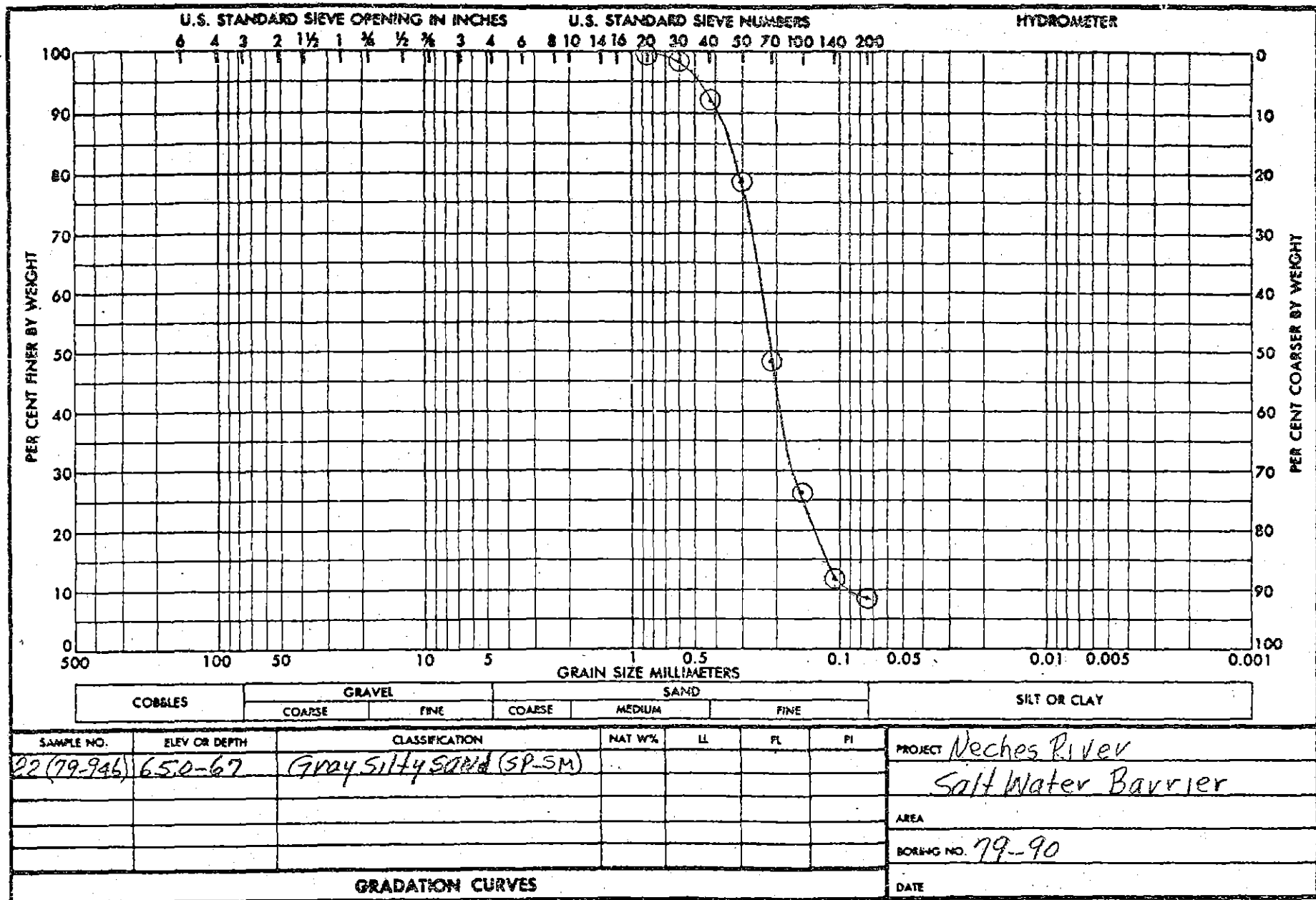


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REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

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PLATE NO. 20

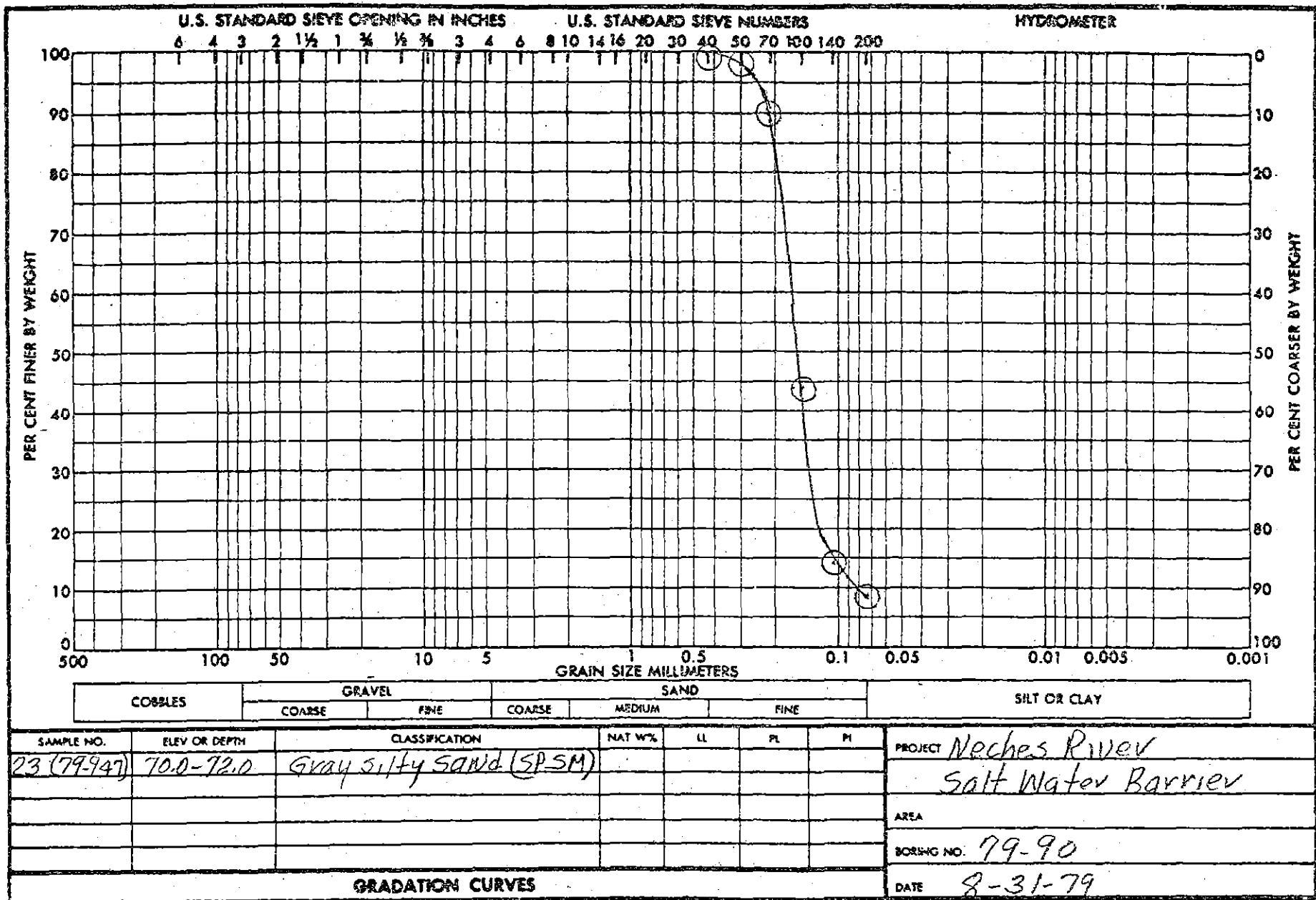


ENG FORM 2087
1 MAY 63

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

U.S. GOVERNMENT PRINTING OFFICE : 1933 OF-700-126

PLATE NO. 21

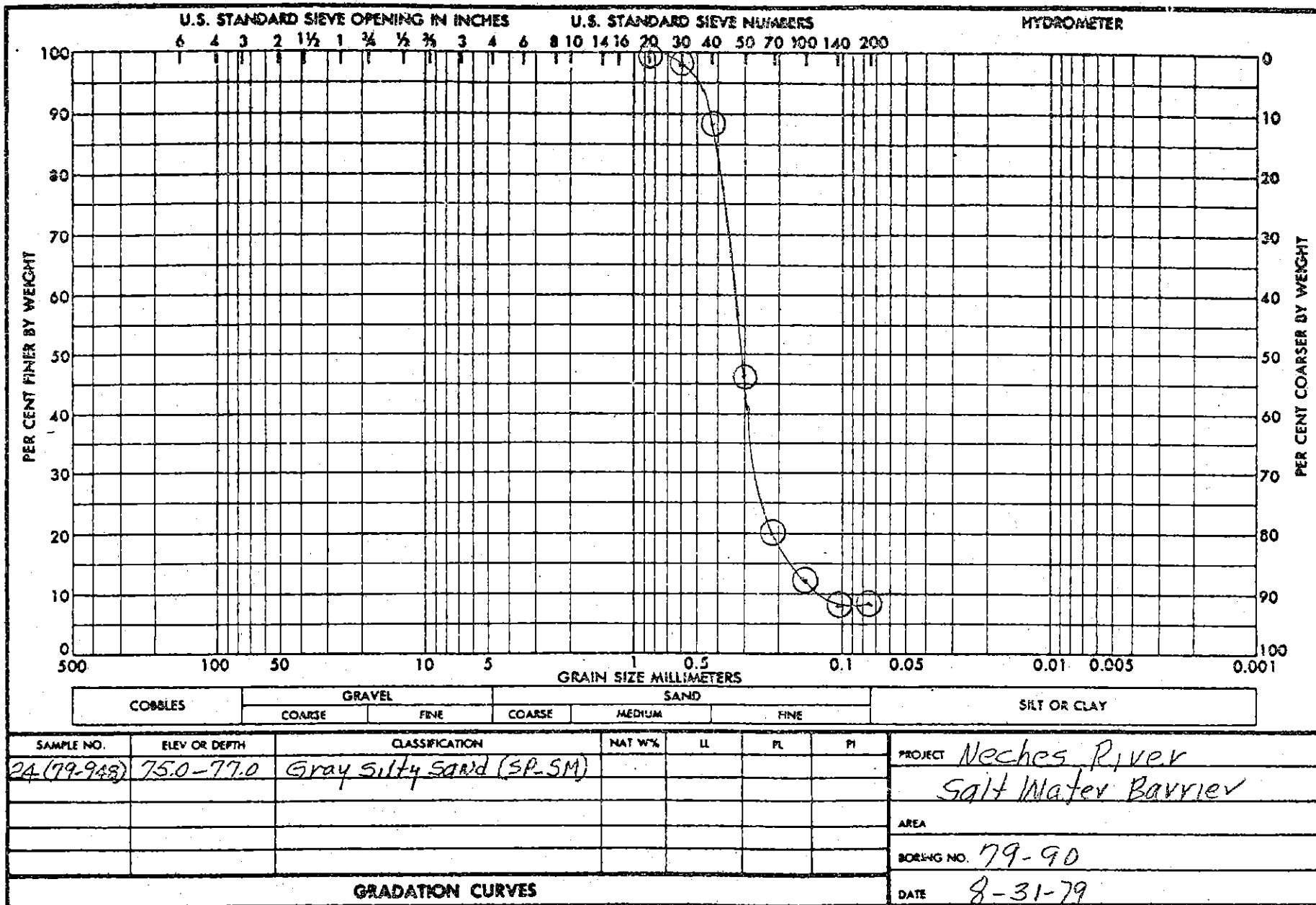


ENG FORM 2087
1 MAY 63

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

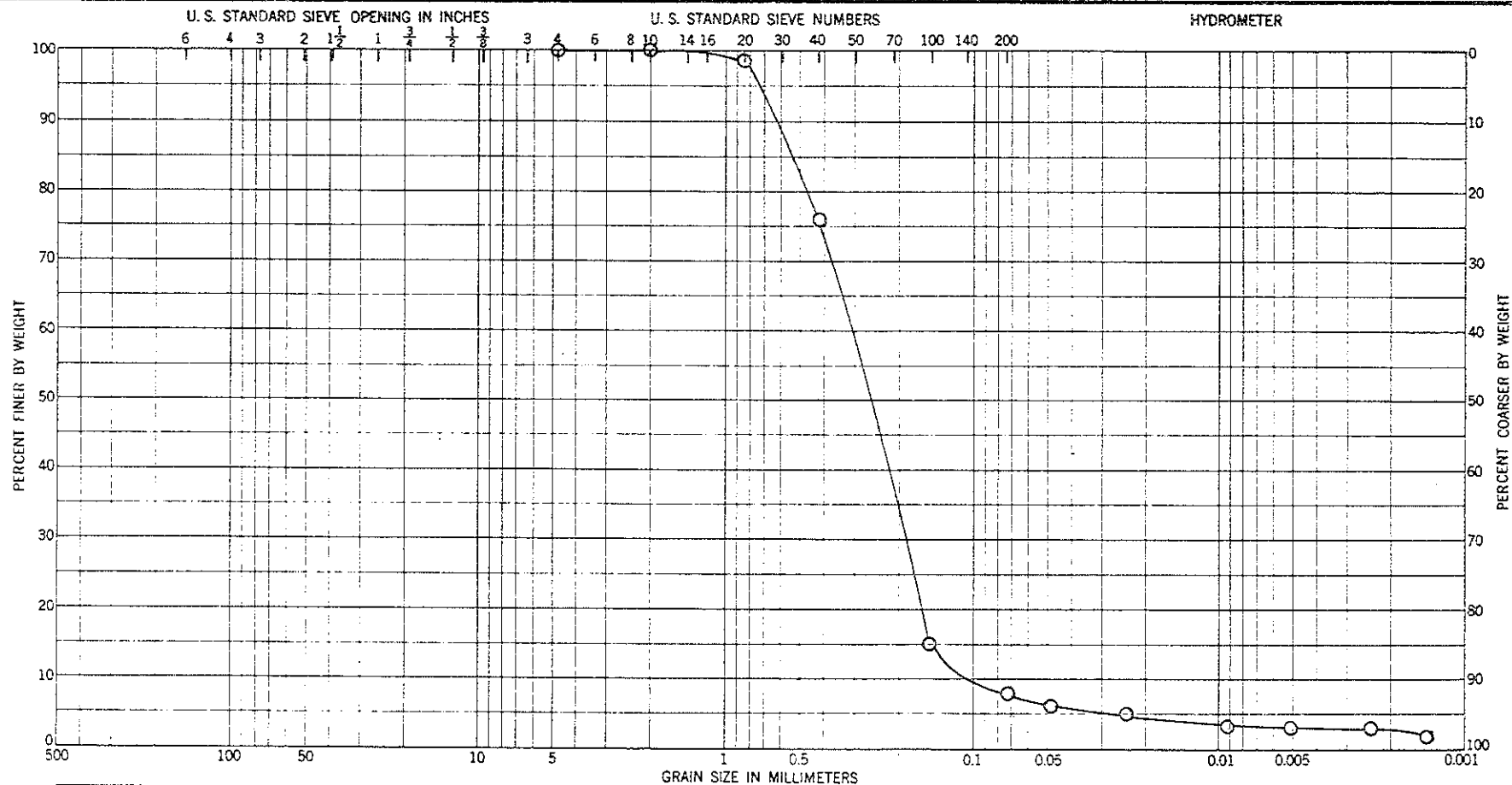
U.S. GOVERNMENT PRINTING OFFICE: 1963 OF-700-124

PLATE NO. 22



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			



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Sample No.	Elev or Depth	Classification	Nat w %	LL	PL	PI	Project
A-3632	15.0-22.0	SAND (SP-SM)	--	--	--	--	Neches River
							S-7 & S-8
							Area
							Boring No. 79-90
							Date Jan 1980

GRADATION CURVES

12 July 1971

PROJECT: NECHES RIVER SALT WATER BARRIERBORING NO. 79-90

TEST DATA SUMMARY

LOCATION: BEAUMONT, TEXASDATE COMPLETED 15 August 1979

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							
	From	To													PERCENT			INIT. WT.	ACC. WT. RTND. SIEVE NO. (3)			
															GRVL	SAND	FINES		NO. 4	NO. 10	NO. 40	NO. 200
1C	0.0	2.5	Yellow & gray sandy clay with organic seams	1.1	CL	ST	1.25		36	86			925		0	28	72	50	0	0	0	14
2C	2.5	5.0	Gray & yellow sandy clay	1.15		ST	1.00		23	104	41	15	926									
3C	5.0	7.5	Light gray clayey sand with organic material	1.1	SC	VS	0.0		24	*			927	5	0	64	36	50	0	0	0	32
4C	7.5	10.0	Gray sandy clay with organic sand layers	1.1	CH	VS	0.0		55	68	72	22	928		0	32	68	50	0	0	0	16
5C	10.0	12.5	Gray silty sand with random sand layers & organic material	1.05	SM	VS	0.0		26	*			929	0	0	84	16	50	0	0	11	42
6C	12.5	15.0	Gray silty sand phasing to silty sand	0.9		VS	0.0		27	*			930	0	0	74	26	50	0	0	10	37
7J	15.0	17.0	Gray sand		SP	M		7	25				931		0	96	4	50	0	0	18	48
	17.0	20.0	# washed																			
8J	20.0	22.0	Gray silty sand with few random clay lumps		SP SM	M		8	23				932		0	92	8	50	0	0	11	46
	22.0	25.0	# washed																			
9J	25.0	27.0	Gray clayey sand		SC	D		17	32				933		0	84	16	50	0	2	9	42
	27.0	30.0	# washed																			
10J	30.0	32.0	Gray sand with trace organic material		SP	D		24	25				934		0	96	4	50	0	0	8	48
	32.0	35.0	# washed																			
11J	35.0	37.0	Yellow & gray clay		CL	M		13	19		37	11	935		0	12	88	50	0	0	0	6
	37.0	37.5	# washed																			
12C	37.5	40.0	Gray & yellow clay	1.0	CH	VST	2.00		20	108	57	16	936		0	8	92	50	0	0	0	4
13C	40.0	42.5	Gray & yellow clay with random thin sand seams	0.95		H	4.00		18	110			937									
14C	42.5	45.0	Gray & yellow clay with random thin sand seams	1.1		VST	2.25		33	91			938									

KEY: CONSISTENCY - COARSE SOILSCONSISTENCY - COARSE SOILSVS S M ST VST R VL L M D VD
Very Soft Soft Medium Stiff Very Stiff Hard Very Loose Loose Medium Dense Very Dense

(1) Tons/Sq. Ft. Unconfined Compressive Strength

(2) Split Barrel Sampler

(3) Acc. Wt. Rtn'd + Init. Wt. x 100 = % Rtn'd.

Bottomed at _____ Water at _____ Tide Reading _____

BORING NO. 79-90Sheet 1 of sheets 2

Sheet 2 of sheets 2

TABLE 1

GALVESTON DISTRICT LABORATORY REPORT NO. 1650

PROJECT Neches River Salt Water Barrier

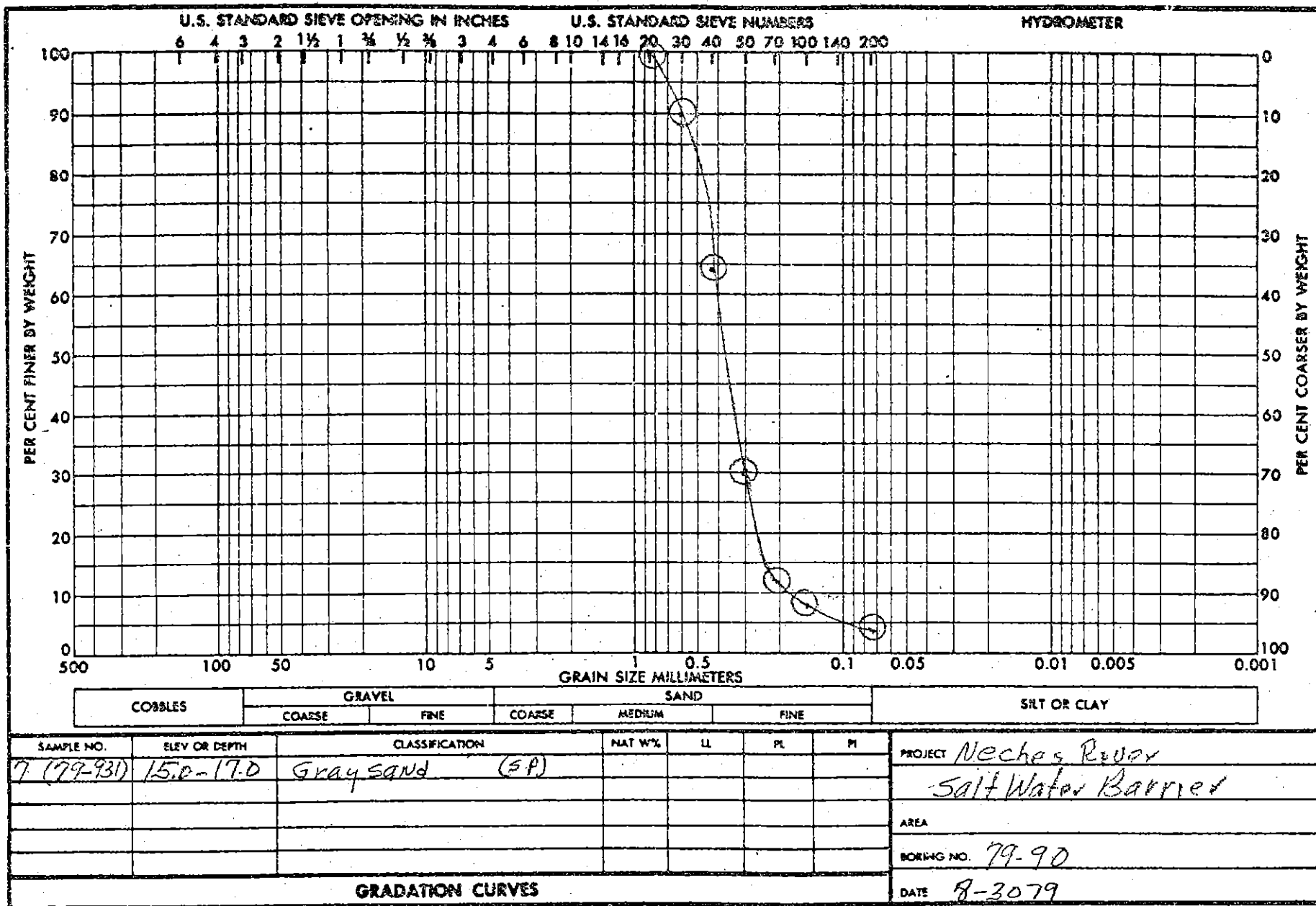
[illegible]

GRAIN SIZE & HYDROMETER ANALYSIS

NECHES ER SALT WATER BARRIER

GALVESTON DISTRICT LABORATORY . 1650

[illegible]



ENG FORM
1 MAY 63

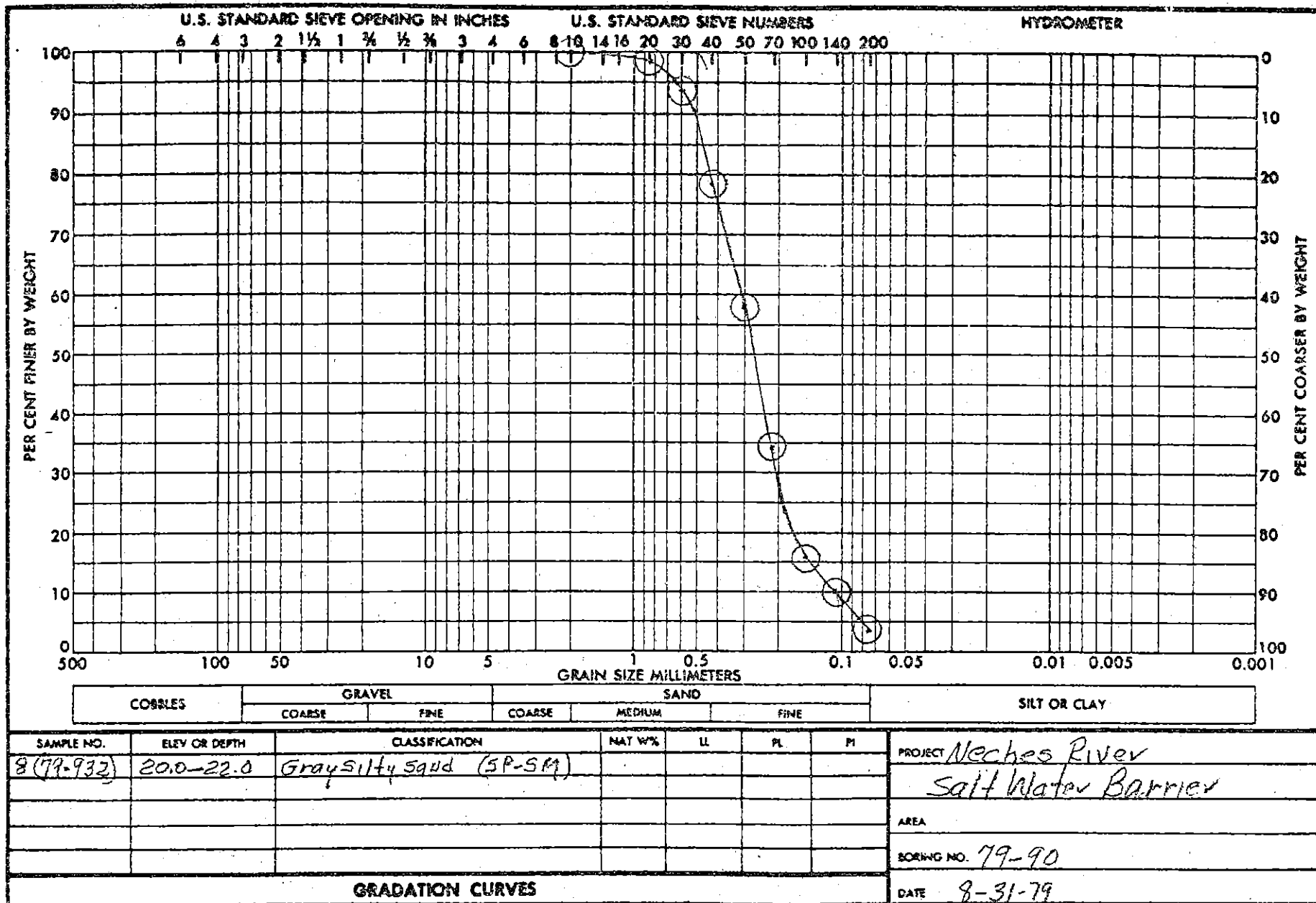
2087

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D 10 = .180

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PLATE NO. 17



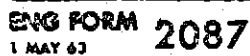
ENG FORM 2087
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PLATE NO. 18

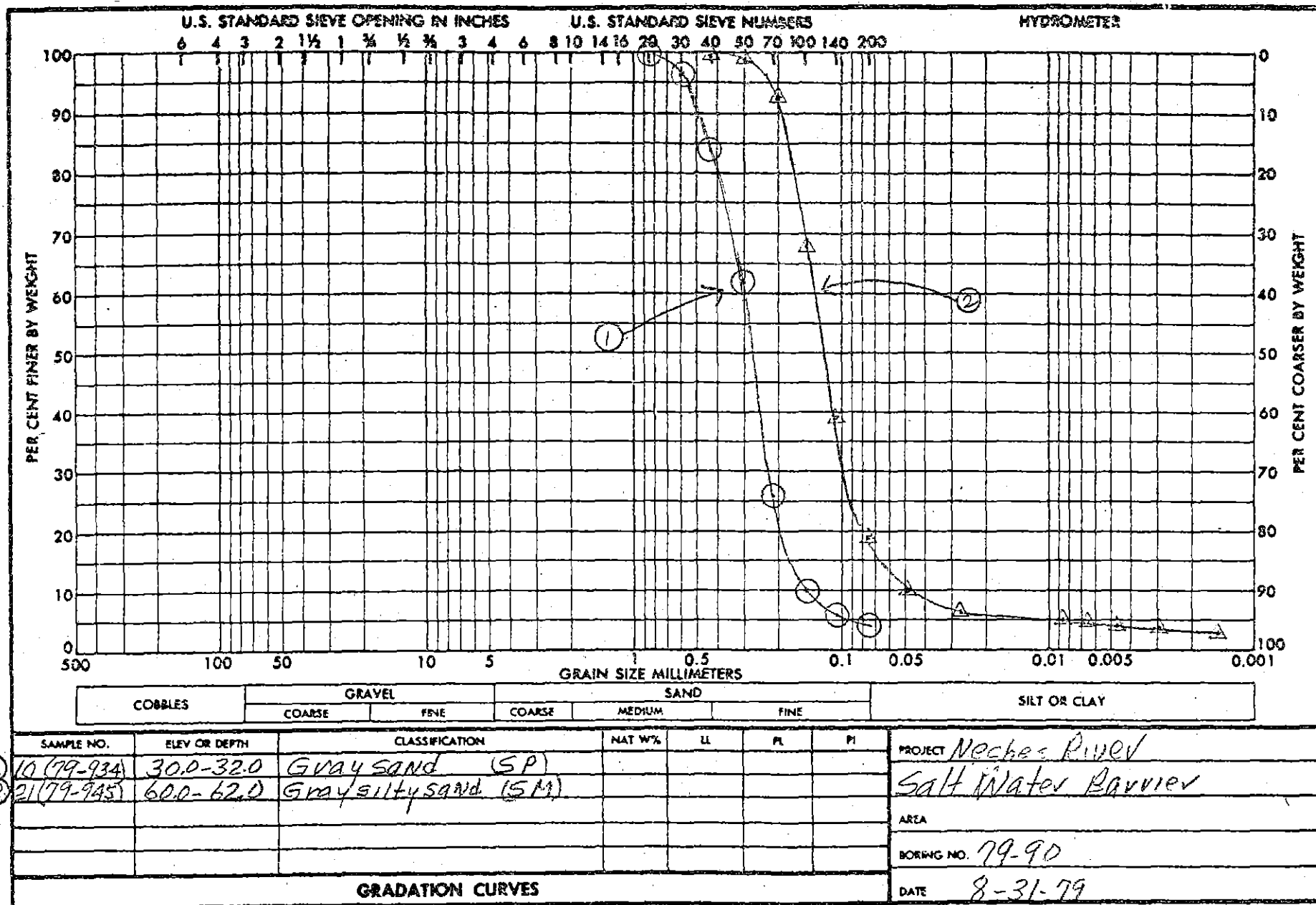
$D_{10} = 0.105$



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

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PLATE NO. 19

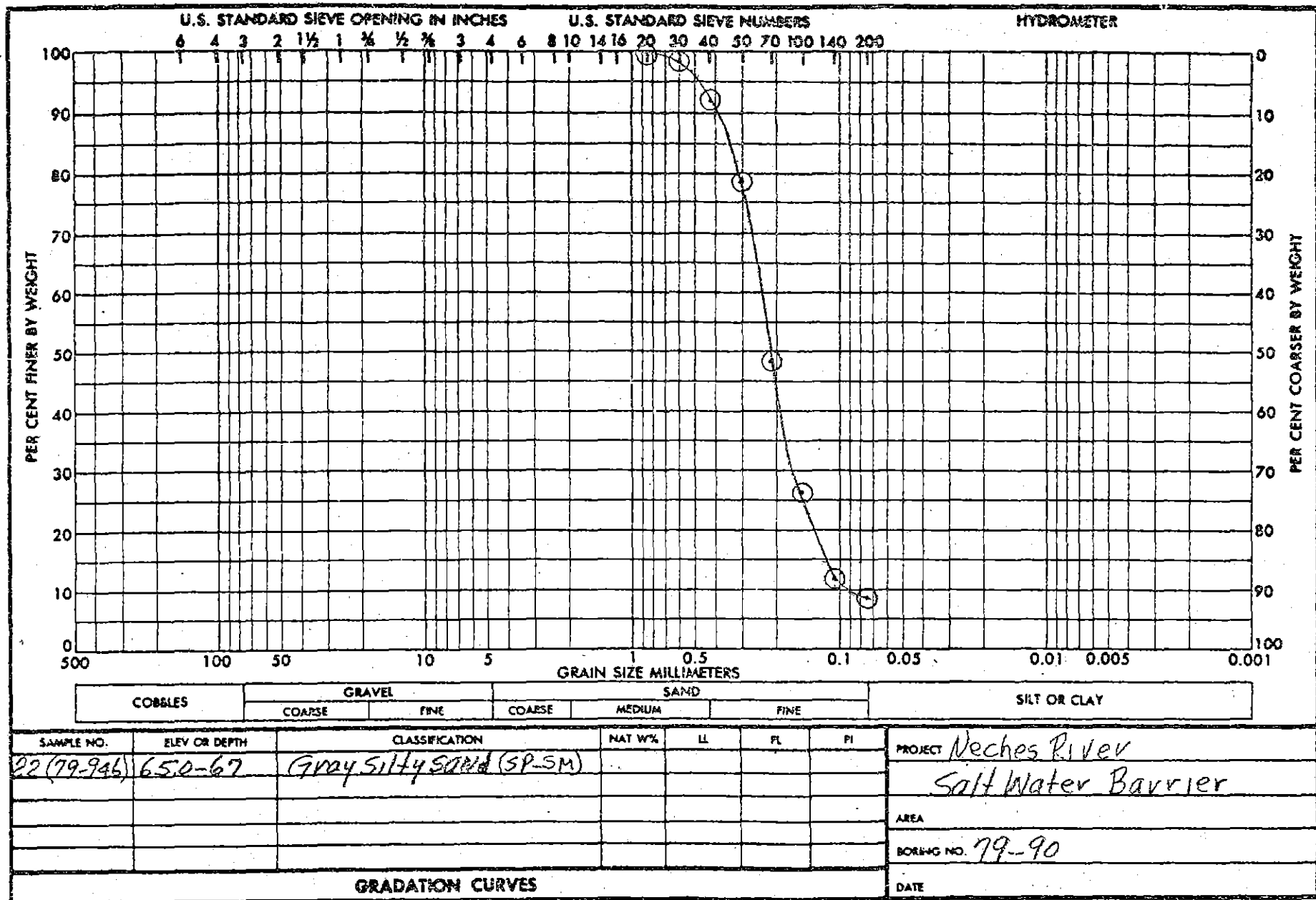


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PLATE NO. 20

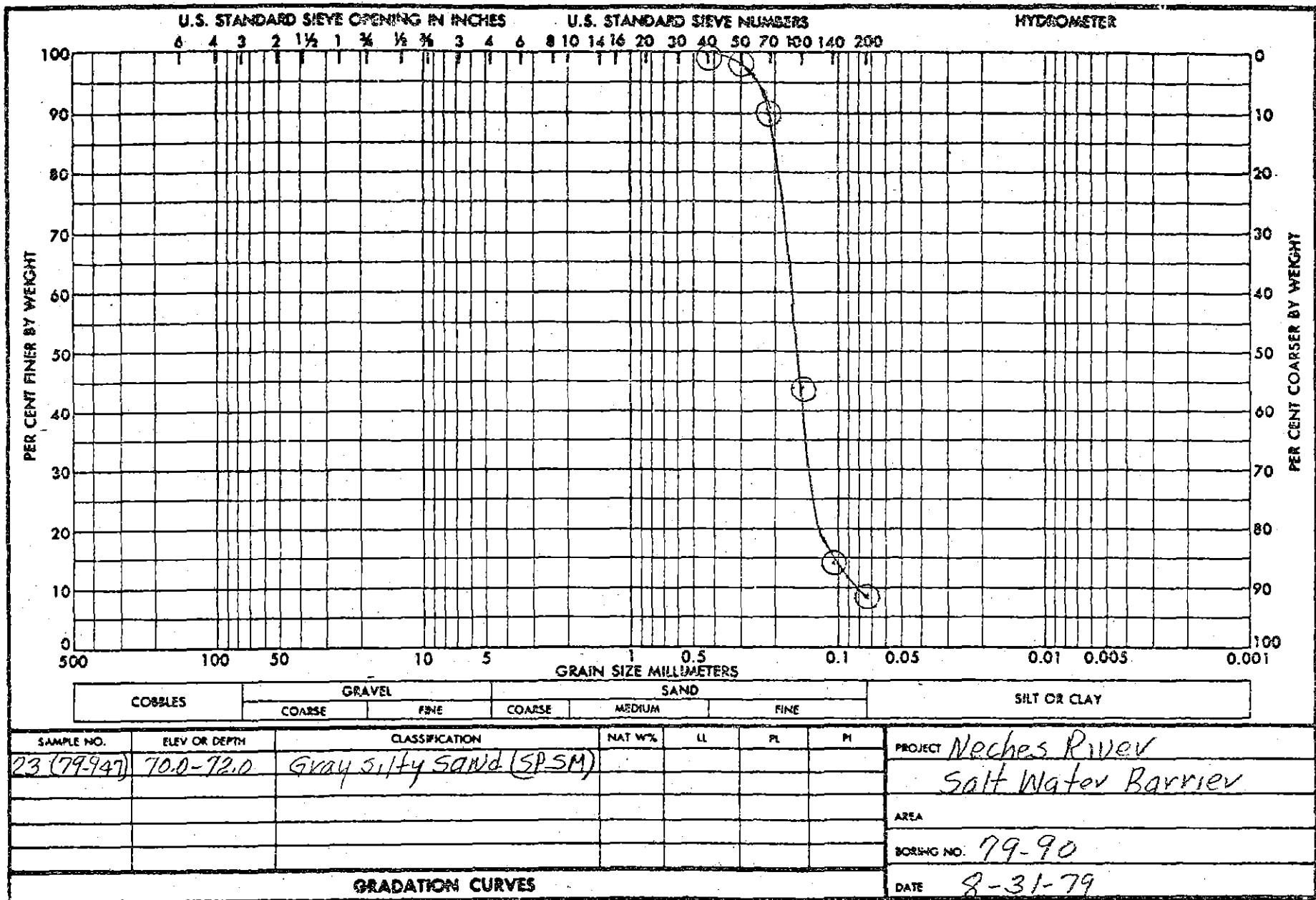


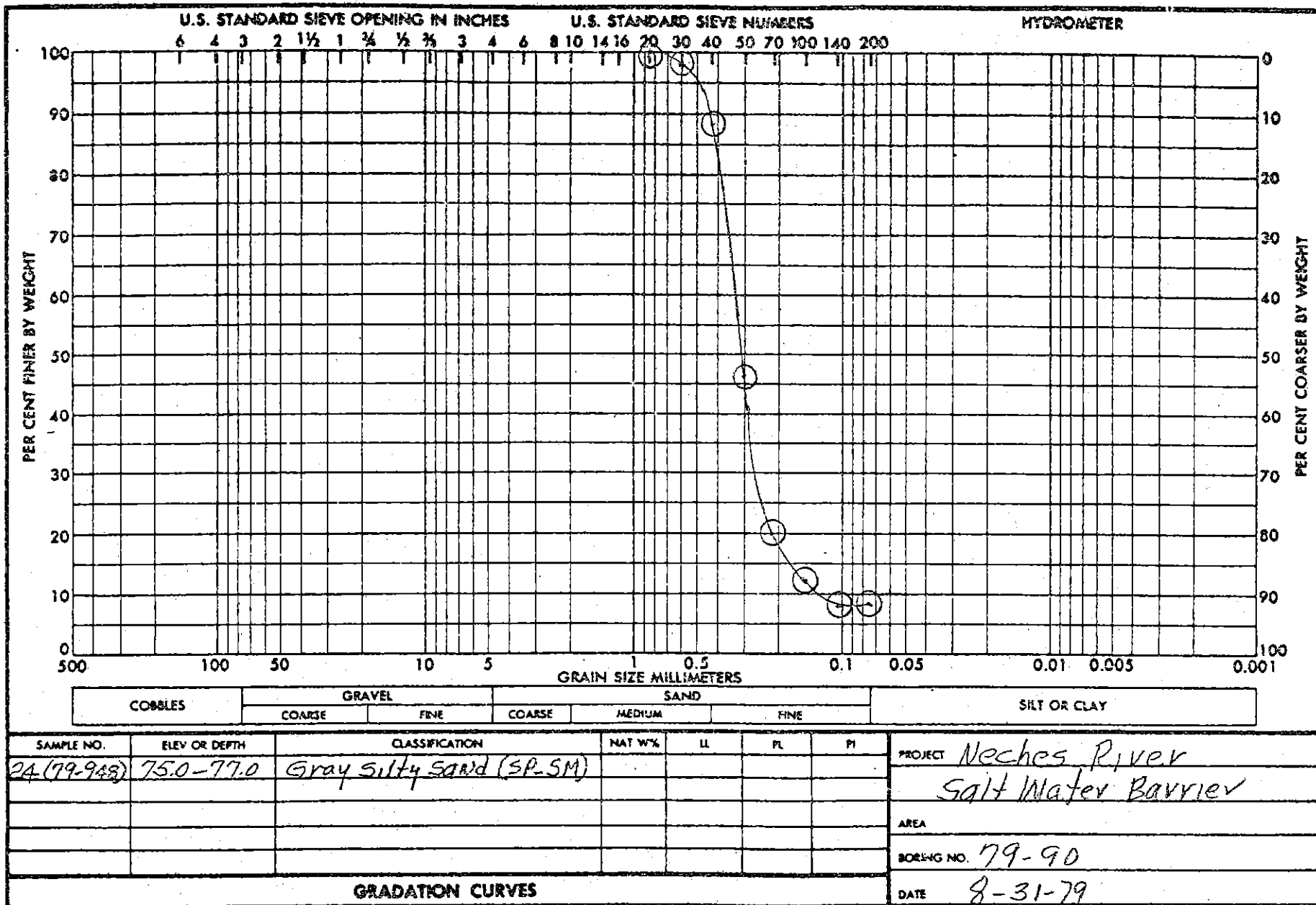
ENG FORM 2087
1 MAY 63

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

U.S. GOVERNMENT PRINTING OFFICE : 1933 OF-700-126

PLATE NO. 21





ENG FORM 2087
1 MAY 63

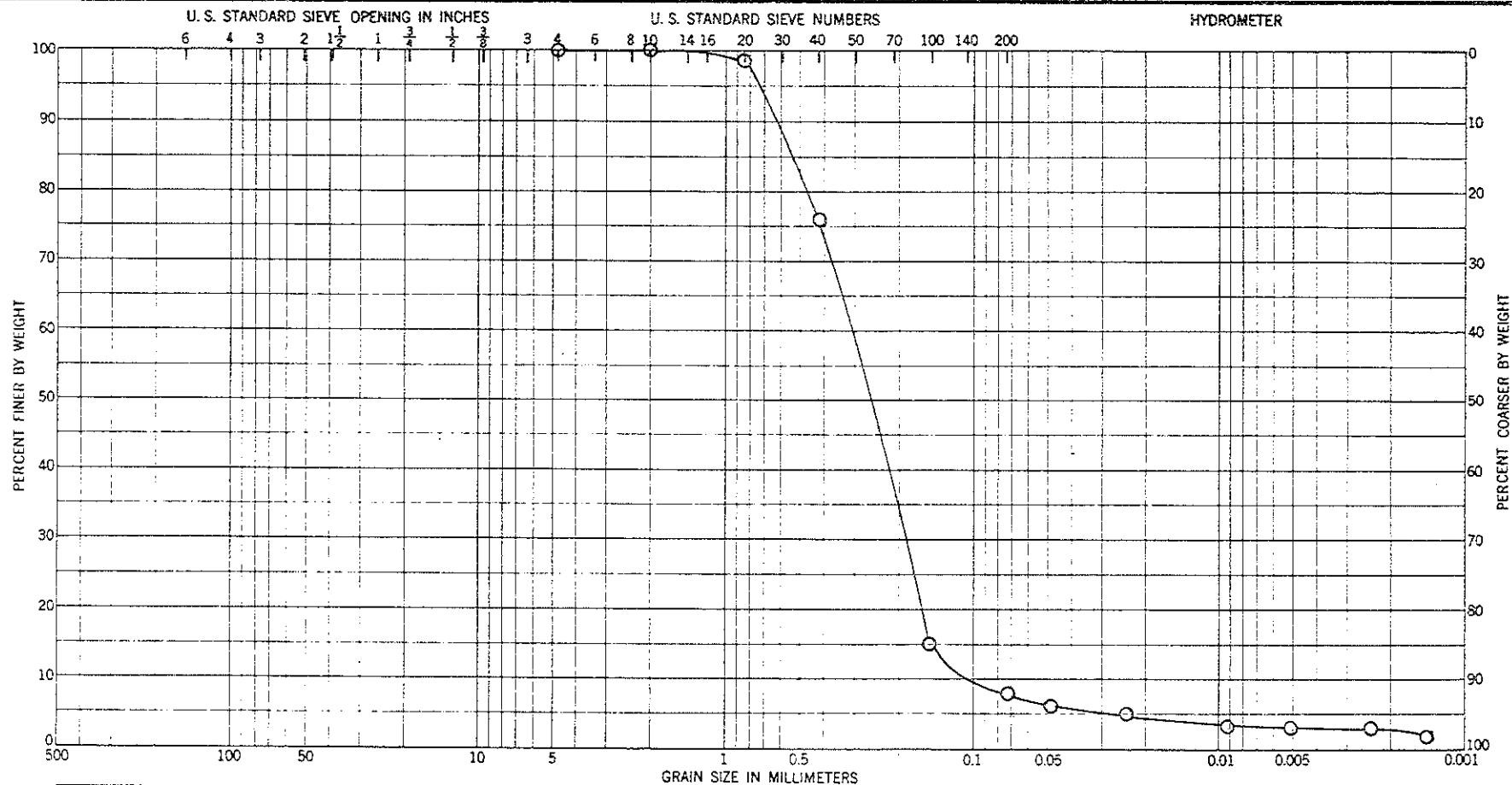
REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

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

PLATE NO. 23

Results of Tests of Foundation Material

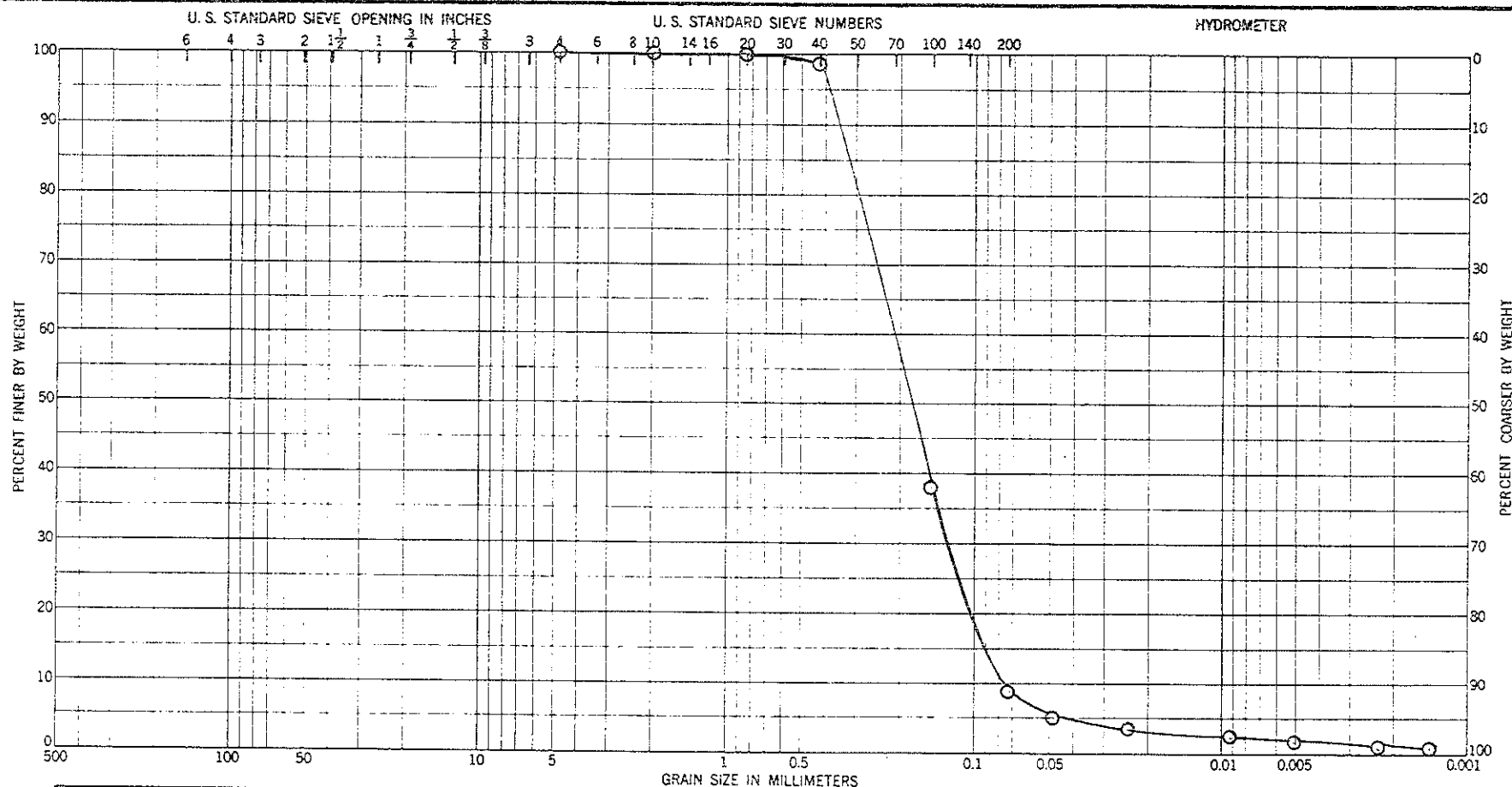
Boring No.	Field No.	SWD No.	Depth Ft.	Mechanical Analysis			Permeability cm/sec	Void Ratio	Dry Density lb/cu ft	Test		Description
				Gr	Sa	Fi				Type	Plate	
79-89	S-7 & S-8	A-3628	15.0-20.0	0	81	19	8.4×10^{-4}	1.111	78	Perm	12	SC Light brown clayey SAND.
							3.8×10^{-4}	.888	88			
							0.8×10^{-4}	.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
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							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			



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Sample No.	Elev or Depth	Classification	Nat w %	LL	PL	PI	Project
A-3632	15.0-22.0	SAND (SP-SM)	--	--	--	--	Neches River
							S-7 & S-8
							Area
							Boring No. 79-90
							Date Jan 1980

GRADATION CURVES

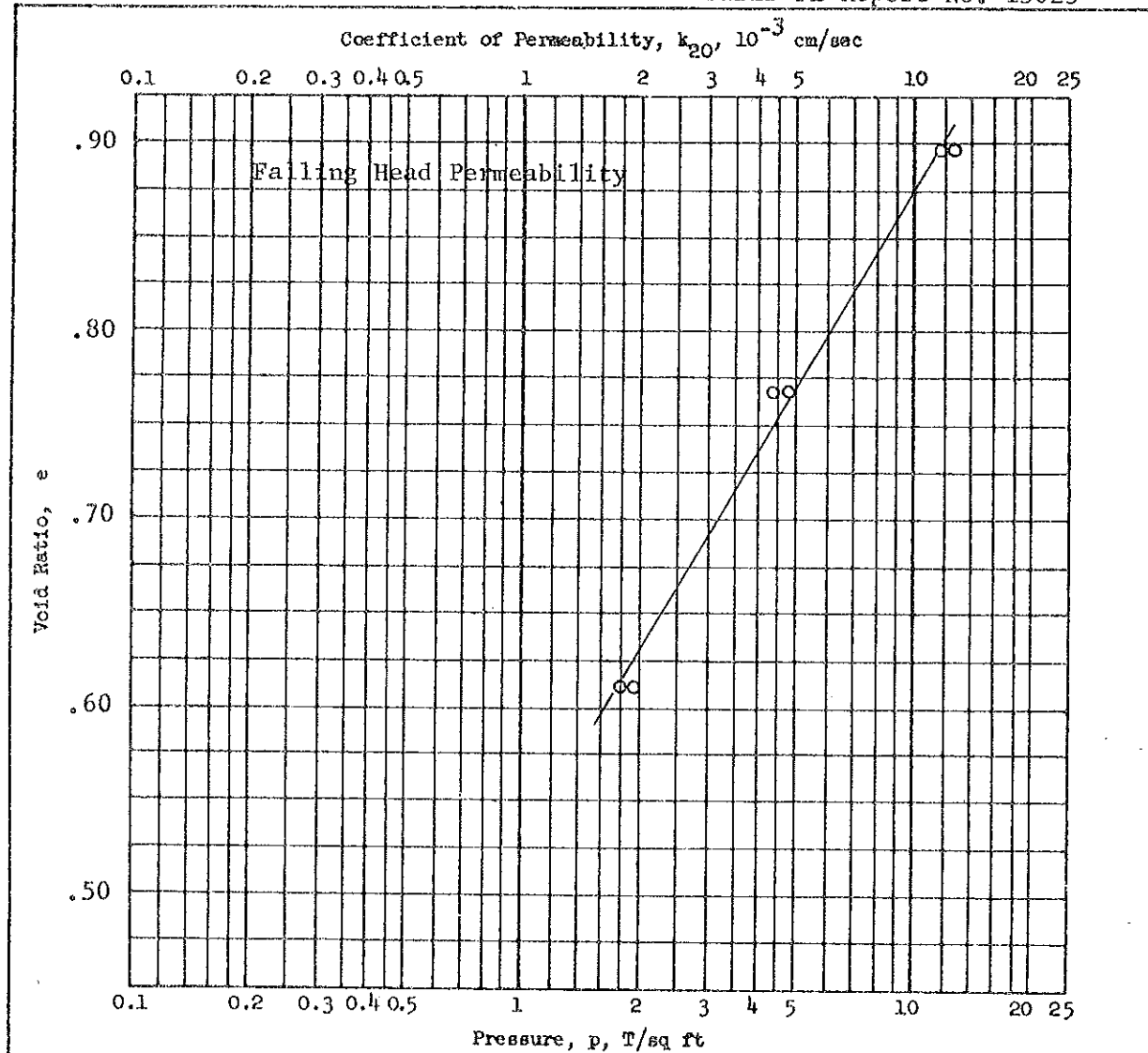


GRAIN SIZE IN MILLIMETERS						
COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

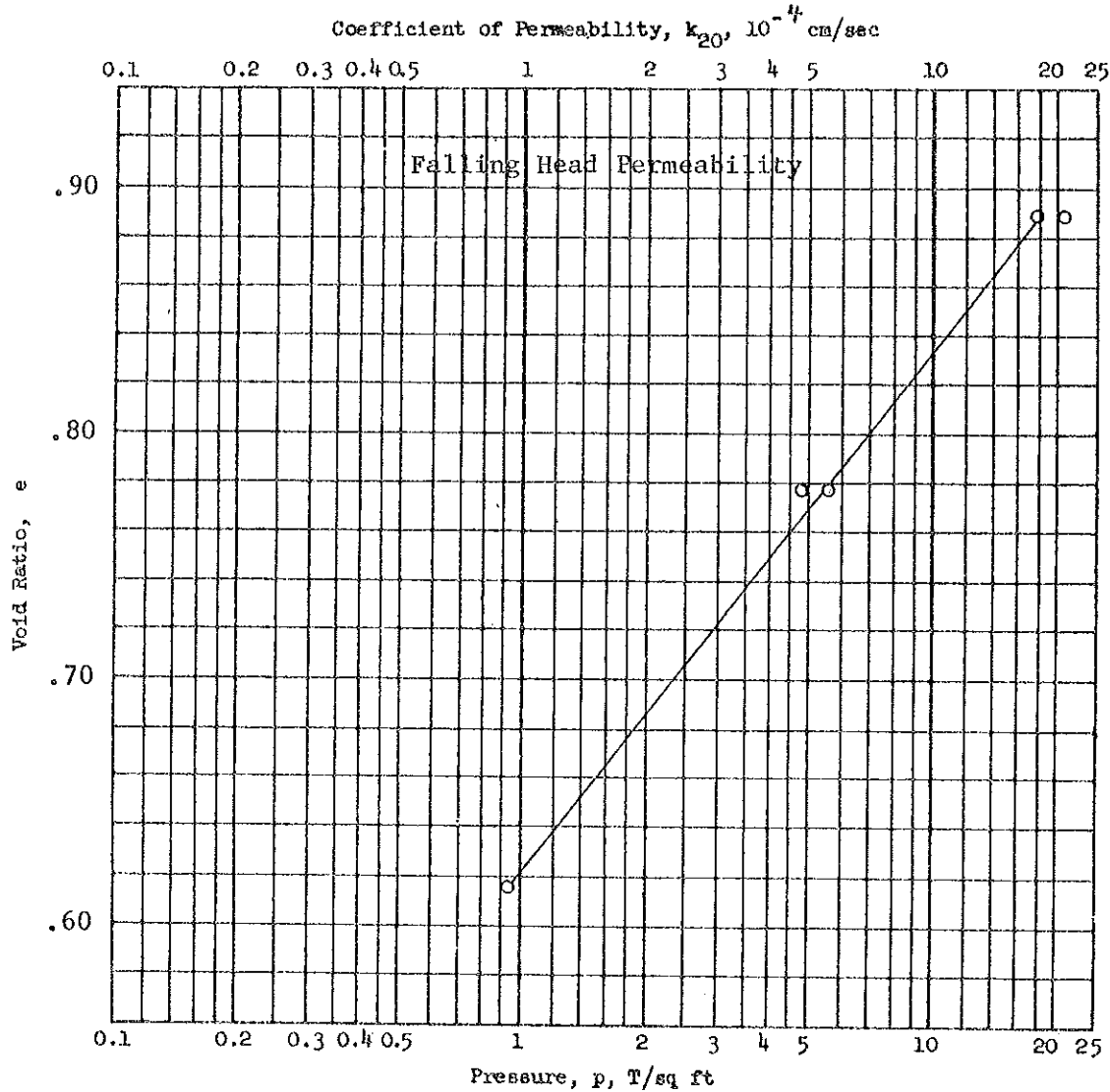
Sample No.	Elev or Depth	Classification	Nat w %	LL	PL	PI	
A-3633	65.0-72.0	SAND (SP-SM)	--	--	--	--	Project Neches River
							S-22 & S-23
							Area
							Boring No. 79-90
GRADATION CURVES							Date Jan 1980

SWDED-FL Report No. 13023

ENG FORM 2087
1 MAY 63



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	
				%	
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			
PI	D_{10}				
Remarks		S-7 & S-8			
		Area			
		Boring No. 79-90		Sample No. A-3632	
		Depth El 15.0-22.0		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 $e_o =$ $\times 10^{-4}$ cm/sec			
LL	G_s	Project Neches River			
PL	D_{10}				
Remarks		S-22 & S-23			
		Area			
		Boring No. 79-90		Sample No. A-3633	
		Depth 65.0-72.0		Date Jan 1980	
		CONSOLIDATION TEST REPORT			