12 July 1971

GDLR NO 1650

PROJECT: ECHES RIVER SALT WATER BARRIER

BORING NO. 79-87

TEST DATA SUMMARY

LOCATION: BEAUMONT, TEXAS

DATE DRILLED: 16 August 1979

FIELD NO.	Sample Depth, Feet From	Sample Depth, Feet To	CLASSIFICATION ELEVATION TOP BORING _____	Length of sample recv'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. 79	BAR L.S.	SIEVE ANALYSIS PERCENT GRVL	SAND	FINES	INIT. WT.	ACC. WT. RTND. SIEVE NO. (3) NO. 4	NO. 10	NO. 40	NO. 200
			#Water at 10.0' 0.0-10.0																			
1C	0.0	2.5	Brown & gray sandy clay with random calcareous nodules	0.65	CL	VS	2.25		18	110			950									
2C	2.5	5.0	Brown & yellow sandy clay with random calcareous nodules & sand seams	1.05		M	0.50		22	101	49	15	951		12	22	66	50	6	7	10	17
3C	5.0	7.5	Yellow & gray sandy clay	1.2		M	0.75		21	103			952									
4C	7.5	10.0	Gray clay	1.15		S	0.25		29	91	48	19	953		0	4	96	50	0	0	0	2
5J	10.0	12.5	Wood (old log?) 10.0-12.5		OL								954									
6C	12.5	15.0	Gray clay with decayed wood and organic material 12.5-29.7	0.8	CH	VS	0.0		54	66			955									
7C	15.0	17.5	Gray clay with decayed wood;organic material	0.6		VS	0.0		63	59			956									
8C	17.5	20.0	Gray sandy clay with decayed wood and organic material	1.1		VS	0.0		40	74	50	19	957		0	16	84	50	0	0	0	8
9C	20.0	22.5	Gray sandy clay with decayed wood and organic material	1.15		VS	0.0		179	28			958									
10C	22.5	25.0	Gray sandy clay with decayed wood and organic material	1.2		M	0.50		43	77			959									
11C	25.0	27.5	Gray sandy clay with decayed wood and organic material	1.1		M	0.50		34	86	57	19	960		0	26	74	50	0	0	0	13
12C	27.5	30.0	Gray sandy clay	1.0		M	0.75		30	94	56	20	961		0	34	66	50	0	0	0	17
13J	30.0	32.5	Gray silty sand with grass roots 29.7-32.5		SP SM				29				962		0	92	8	50	0	0	0	46
14J	32.5	35.0	Gray silty sand with grass roots 32.5-37.5		SM				29				963		0	84	16	50	0	0	0	42
15J	35.0	37.0	Gray silty sand with clay lumps		SM	M		10	27				964		0	82	18	50	0	0	4	41
	37.0	37.5	#washed away																			

KEY: CONSISTENCY — COHESIVE SOILS: VS Very Soft, S Soft, M Medium, ST Stiff, VST Very Stiff, H Hard. CONSISTENCY — COHESIONLESS SOILS: VL Very Loose, L Loose, M Medium, D Dense, VD Very Dense.

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

BORING NO. 79-87

Bottomed at _____ Water at _____ Tide Reading _____

Sheet 1 of sheets 2

12 July 1971

GDLR NO. 1650

PROJECT: CHES RIVER SALT WATER BARRIER

BORING NO. 79-87

TEST DATA SUMMARY

LOCATION:

DATE DRILLED:

FIELD NO.	Sample Depth, Feet From	To	CLASSIFICATION ELEVATION TOP BORING _____	Length of sample recv'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. 79	BAR L.S.	SIEVE ANALYSIS PERCENT GRVL	SAND	FINES	INIT. WT.	ACC. WT. RTND. SIEVE NO. (3) NO. 4	NO. 10	NO. 40	NO. 200
6C	37.5	40.0	Yellow & gray clay 37.5-55.0	1.2	CH	VST	2.00		21	108			965									
7C	40.0	42.5	Yellow & gray clay	1.05		VST	3.25		20	110	52	18	966		0	8	92	50	0	0	0	4
8C	42.5	45.0	Yellow & gray clay	1.1		H	4.25		21	107			967									
9C	45.0	47.5	Brown & gray clay	1.05		VST	2.50		24	100			968									
0C	47.5	50.0	Light gray clay	1.1		VST	2.00		36	85			969									
1C	50.0	52.5	Brown & gray clay	1.0		VST	2.00		34	88	88	27	970		0	0	100	50	0	0	0	0
2C	52.5	55.0	Reddish brown & gray clay with random calcareous nodules	1.15		VST	2.50		32	89			971									
3C	55.0	57.5	Light gray sandy clay 55.0-57.5	1.15	CL	VST	3.00		19	111	42	15	972		0	24	76	50	0	0	0	12
	57.5	58.0	#washed																			
4J	58.0	60.0	Light gray silty sand 57.5-60.0		SM	VD		62	24				973		0	63	37	40	0	0	0	25

#information obtained from driller's log

KEY: COHESIVE SOILS — VS Very Soft, S Soft, K Medium, ST Stiff, VST Very Stiff, H Hard; COHESIONLESS SOILS — VL Very Loose, L Loose, M Medium, D Dense, VD Very Dense

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

BORING NO. 79-87

Bottomed at _____ Water at _____ Tide Reading _____

Sheet 2 of sheets 2

GAMMA LOG SURVEY

DISTRICT BORING NO. 79-87

PROJECT: NECHES RIVER SALT WATER BARRIER
FEATURE:
STATION:
ELEVATION:

DRILLED BY: BLACK | BIT SIZE: 4" | DATE: 8-17-79 | DEPTH: 60.0

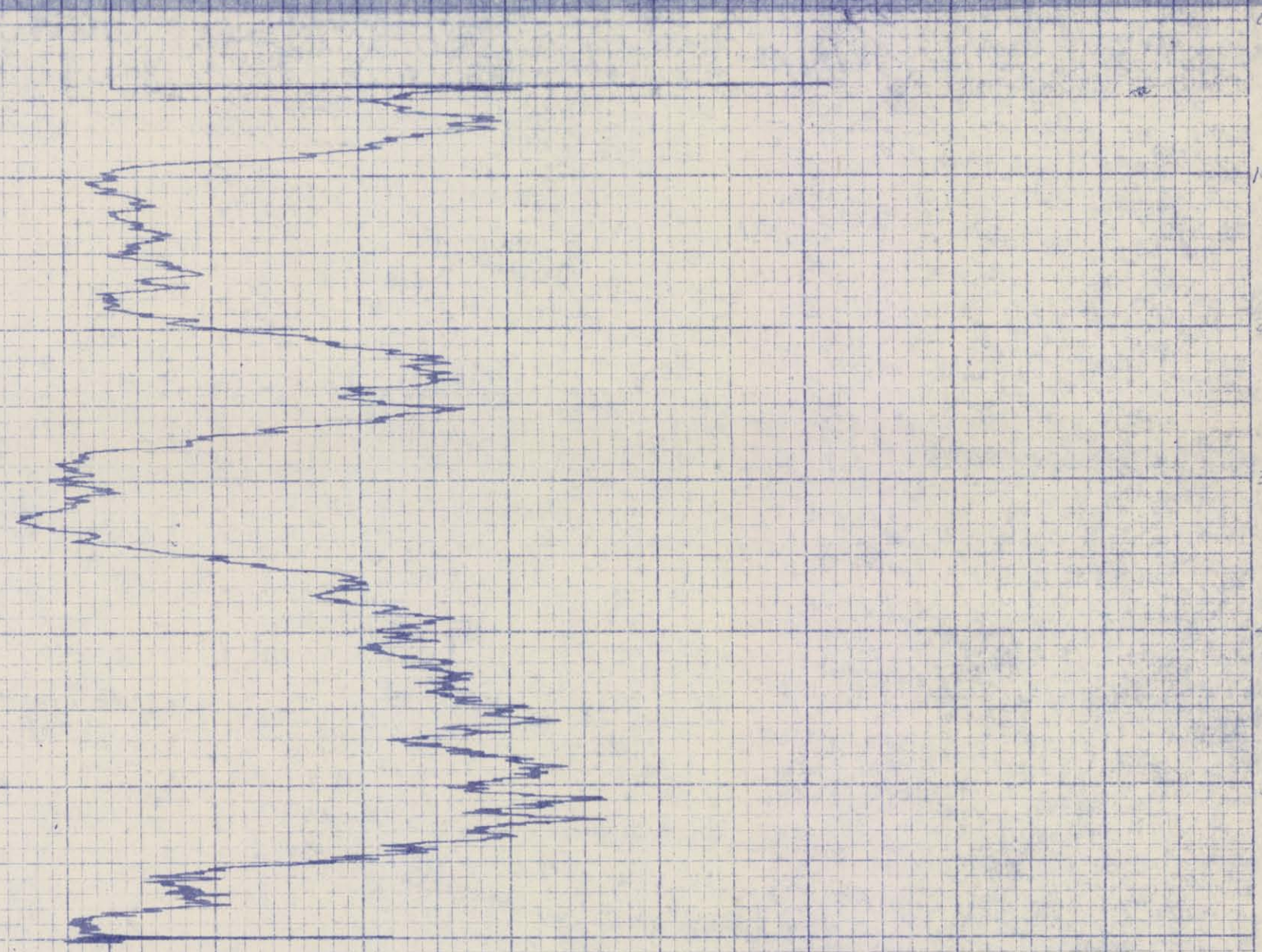
RUN NO.: 1 | DATE: 8-17-79 | BY: GREENOUGH | DEPTH: 60.0
MUD WEIGHT: | LOGGING SPP: 15 | FT/MIN:
MUD TEMP: 79° | TIME CONST: 2 | SEC:
MUD RESISTIVITY: | VARIABLE SPAN: 10 | COUNT RANGE: 150 | COUNTS/SEC:

REMARKS:
MUD CONDUCTIVITY 1.9 MHOS - 1216 PPM

GAMMA RAY | DEPTH

SCALE 1" = 10'

RADIATION INTENSITY INCREASES



ELECTRIC LOG SURVEY

DISTRICT BORING NO. 79-87

PROJECT: NECHES RIVER SALT WATER BARRIER
FEATURE:
STATION:
ELEVATION:

DRILLED BY: BLACK BIT SIZE: 4" DATE: 8-17-79 DEPTH: 60.0'

RUN NO.: 1 DATE: 8-17-79 BY: GREENOUGH DEPTH: 60.0'
MUD WEIGHT: VARIABLE SPAN (RESIS.) 20 OHMS - V. S. 8.0
MUD TEMP: 79° F
MUD RESISTIVITY: VARIABLE SPAN (SP) 25 MV - V. S. 4.0

REMARKS: 0.5' LOW IN HOLE
MUD CONDUCTIVITY 1.9 MHOS - 1216 PPM

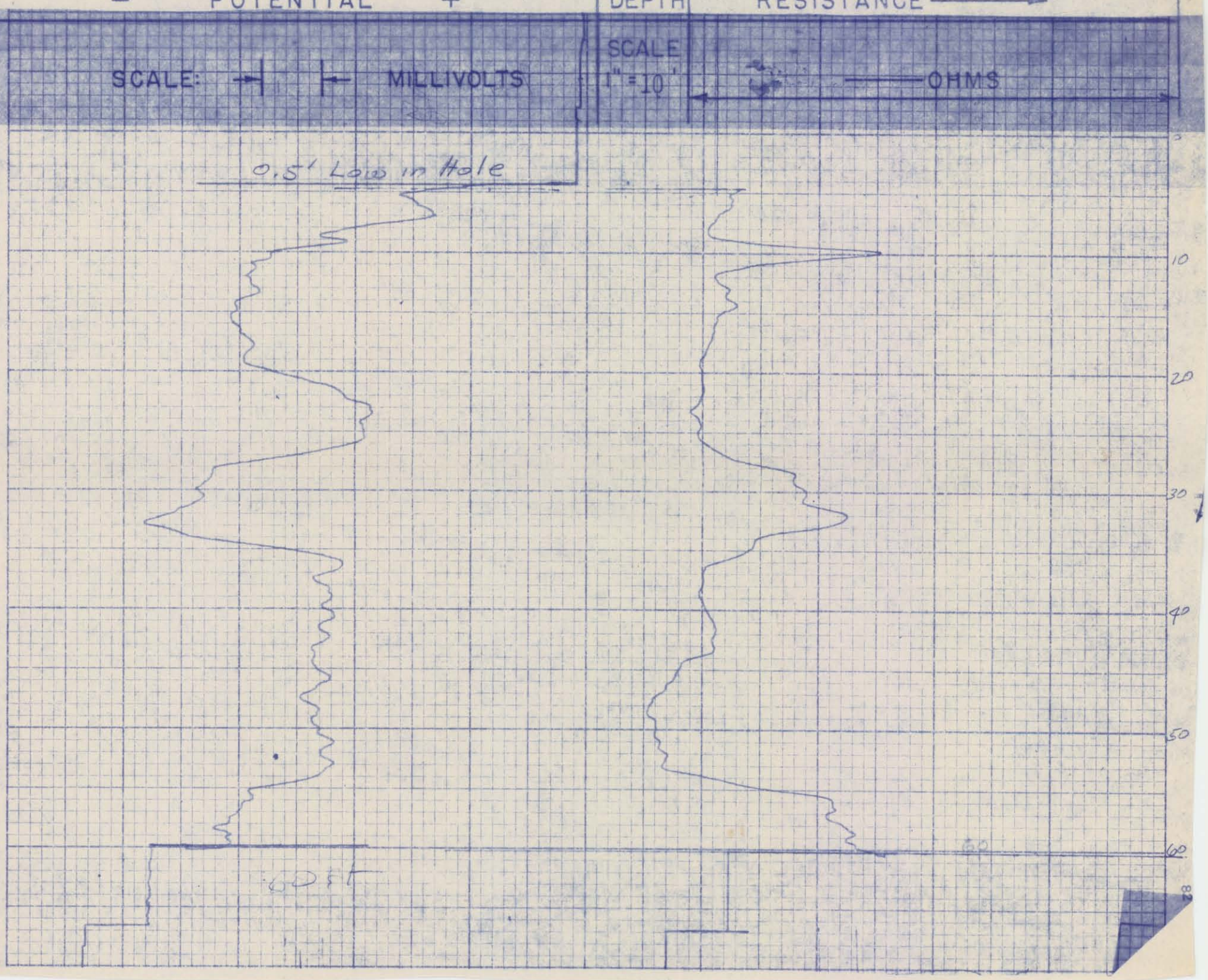


CHART NO. ... INCORPORATED, HOUSTON, TEXAS, U.S.A.

TABLE 2

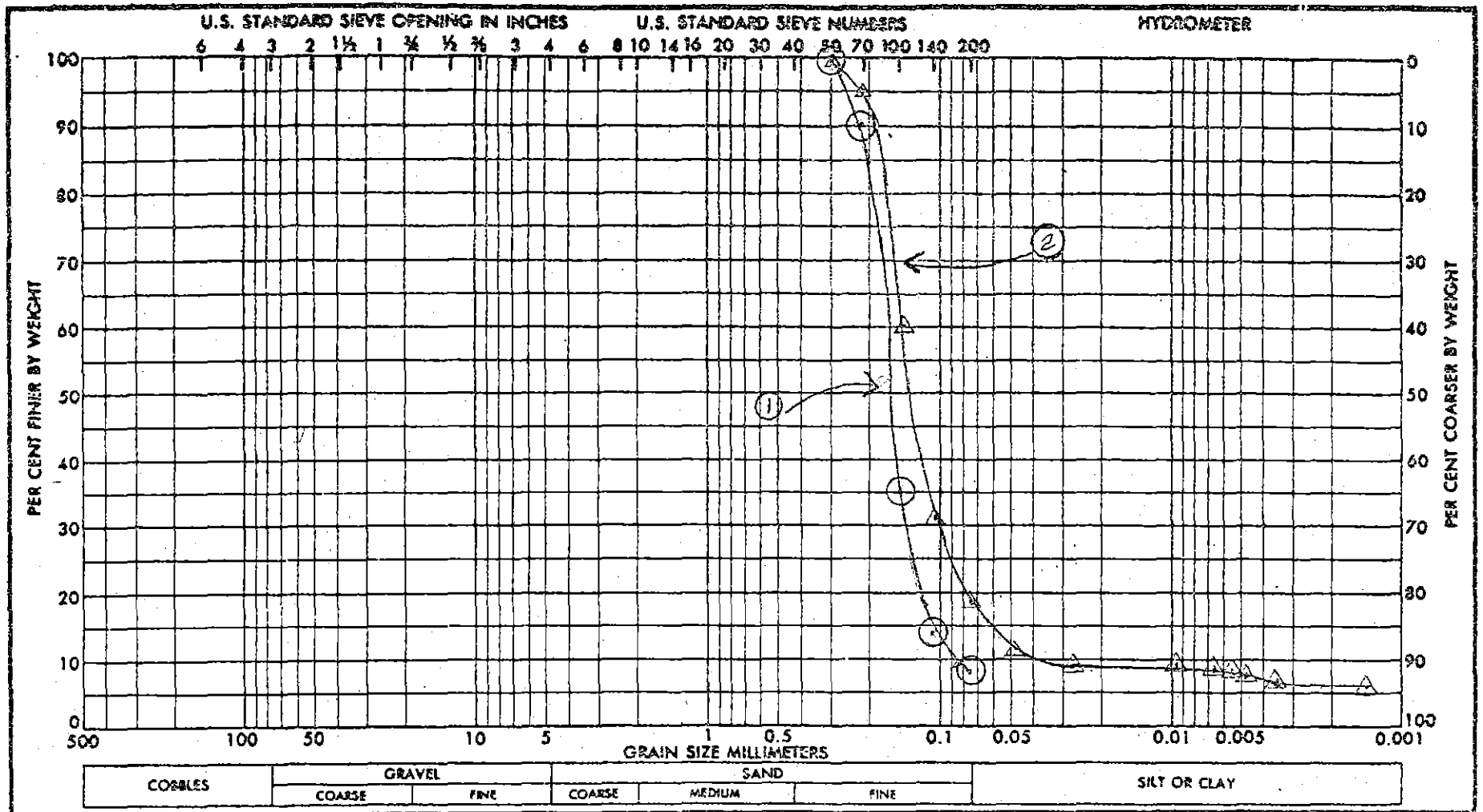
GRAIN SIZE & HYDROMETER ANALYSIS

NECHES RIVER SALT WATER BARRIER — GALVESTON DISTRICT LABORATORY NO. 1650

Diameter in Millimeters/Percent Finer by Weight

BORING NO.	SAMPLE NO.	DEPTH (FT.)	GDLR NO.	4.76	2.00	0.84	0.59	0.42	0.297	0.210	0.149	0.105	0.074	0.050	0.045	0.025	0.023	0.0094	0.0090	0.0064	0.0060	0.0047	0.0044	0.0034	0.0014	D_{10} MM
79-87	13	30.0'-32.5'	79-962						100	90	40	14	8													0.084
	14	32.5'-35.0'	79-963						100	95	59	31	19	11		9		9		8		8		7	6	0.035
	15	35.0'-37.0'	79-964			100	99	92	81	57	35	27	24	19		18			18	16		15		15	13	*
	24	58.0'-60.0'	79-973					100	99	95	80	57	37		22	13		10		9		8		8	7	0.009
79-88	1	31.0'-33.0'	79-1003		100	96	78	36	8	2	2	2	2													0.306
	11	55.0'-57.0'	79-1013						100	90	60	22	10													0.074
	12	60.0'-62.0'	79-1014						100	97	75	32	18	5		4		4		4		3		3	3	0.060
	14	65.0'-67.0'	79-1016						100	80	32	12	4													0.097
79-89	5	10.0'-12.5'	79-1031						100	92	62	36	24	20		18			15	14		13		13	11	*
	6	12.5'-15.0'	79-1032						100	96	77	60	51		42		37		31		29		27	26	22	*
	7	15.0'-17.5'	79-1033					100	99	89	40	18	13	13		13		10		10		10		9	8	0.008
	8	17.5'-20.0'	79-1034					100	99	90	49	21	15	14		13		11		11		10		9	8	0.005
	9	20.0'-22.5'	79-1035					100	98	84	36	14	8													0.084
	10	24.0'-26.0'	79-1036		100	96	90	78	60	28	16	12	10													0.074
	11	29.0'-31.0'	79-1037		100	98	96	82	52	22	12	8	6													0.127
	21	55.0'-56.0'	79-1047		100	96	96	96	96	96	95	83	63		40		28		19	18		15		15	12	*
	23	64.0'-66.0'	79-1049			100	98	96	74	44	22	10	8													0.105
	24	69.0'-71.0'	79-1050		100	94	84	70	58	42	22	8	6													0.111

*D_{10} - not determined (paragraph 5a)



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

	SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
1	13 (79-962)	30.0-32.5	Gray silty sand (S.P-SM)				
2	14 (79-963)	32.5-35.0	Gray silty sand (SM)				

PROJECT Neches River Salt Water Barrier

AREA

BORING NO. 79-87

DATE 8-31-79

GRADATION CURVES

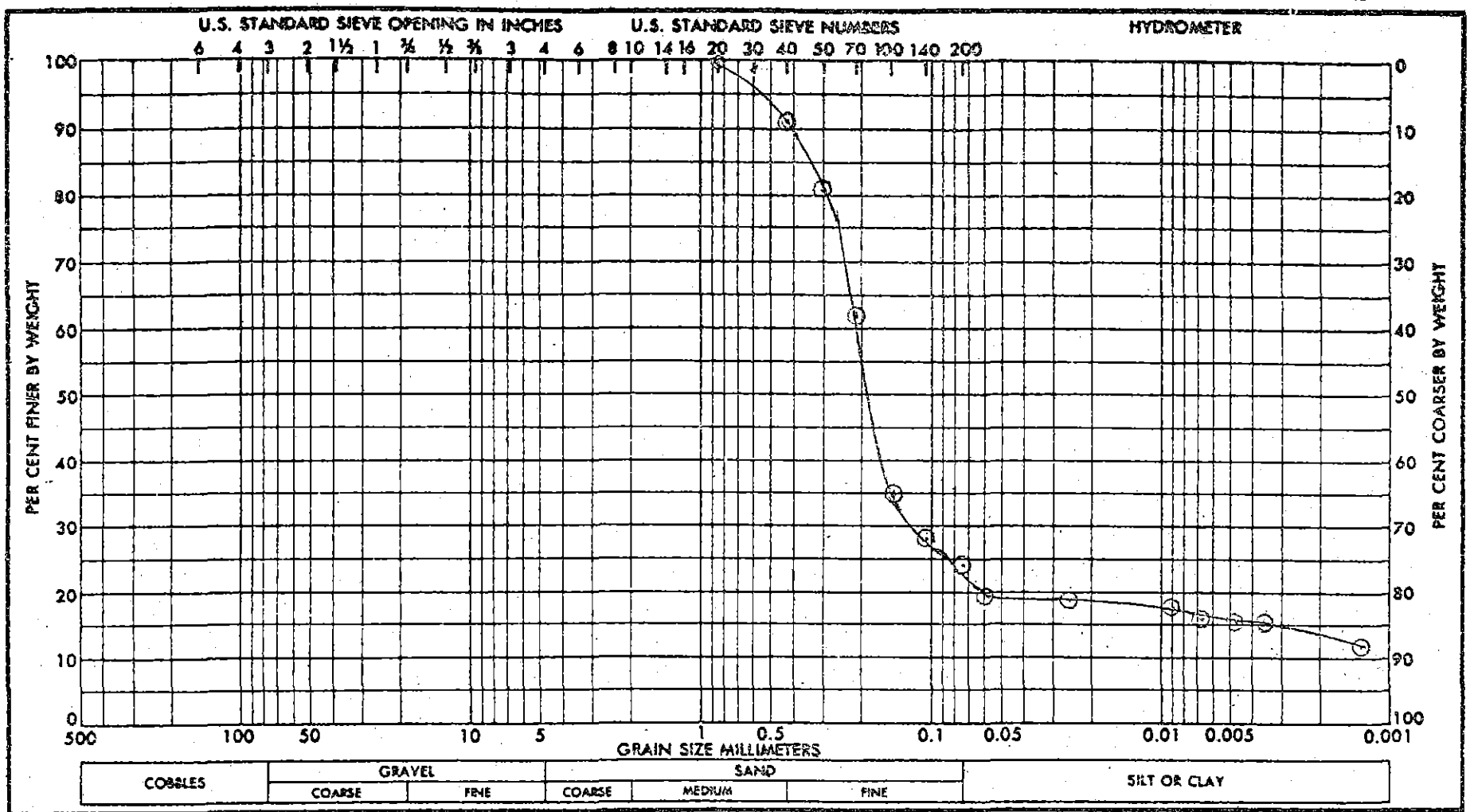
ENG FORM 2087
1 MAY 63

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

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

$D_{10} = .0843$

PLATE NO. 1



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
15(79-964)	35.0-37.0	Gray silty Sand (SM)				

PROJECT Neches River Salt River Barrier

AREA

BORING NO. 79-87

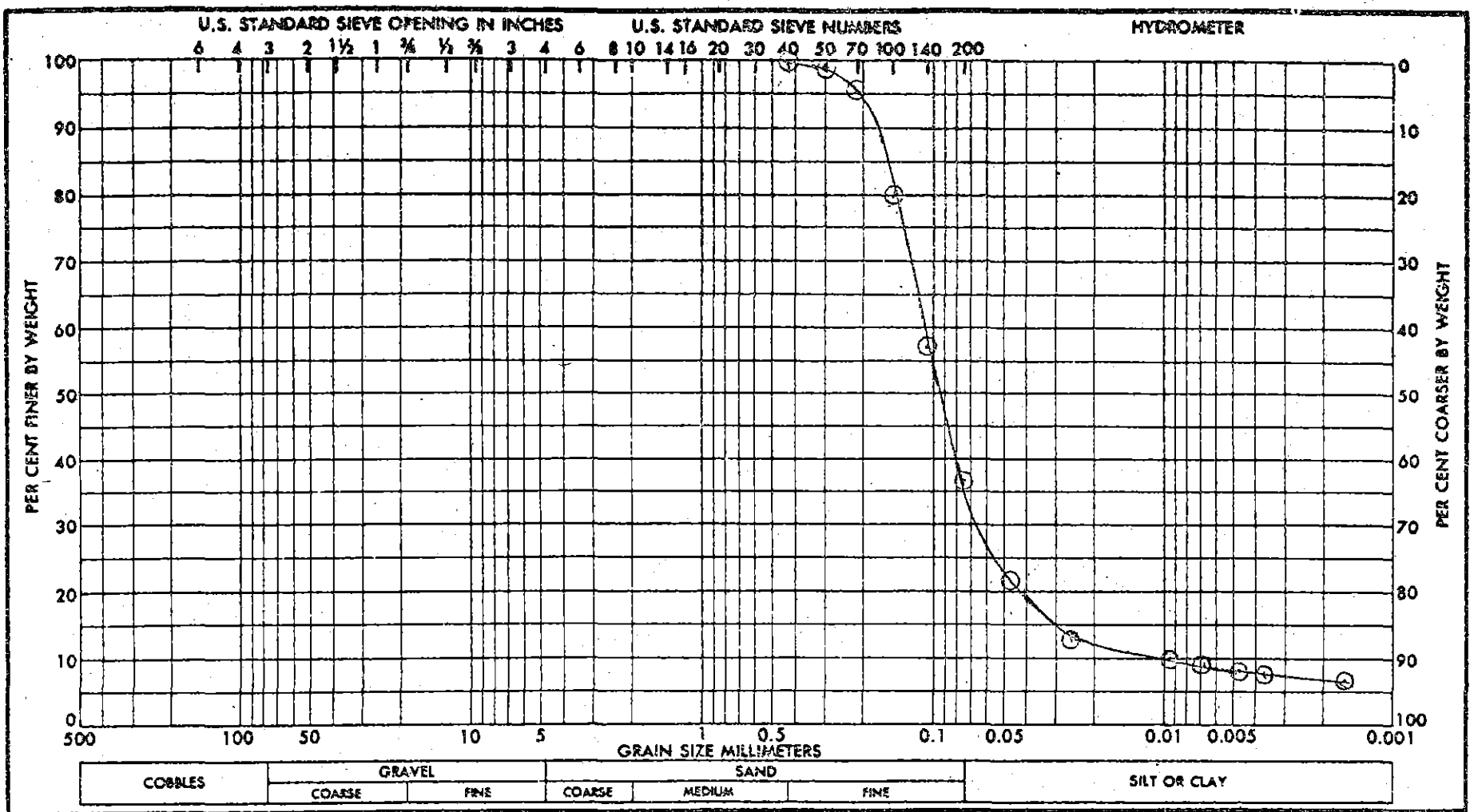
DATE 9-28-79

GRADATION CURVES

ENG FORM 1 MAY 63 **2087** REPLACES WES FORM NO. 1241, SEP 1962, WHICH IS OBSOLETE.

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

PLATE NO. 2



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
24(79-973	58.0-60.0	Light Gray silty sand (SM)				

PROJECT Neches River Salt Water Barrier

AREA

BORING NO. 79-87

DATE 9-28-79

GRADATION CURVES

ENG FORM 2087
1 MAY 63

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

U.S. GOVERNMENT PRINTING OFFICE : 1963 OF—798-126

PLATE NO. 3