FLORIDA POWER & LIGHT COMPANY

ST. LUCIE PLANT - UNIT 2

APPENDIX 2.5A

BORING LOGS & DATA SUMMARIES

APPENDIX 2.5A

SECTION 1

BORING LOGS

THIS IS A COMPLETE LIST OF ALL BORINGS AT ST. LUCIE SITE.
A BORING LOG FOR EACH BORING MUST BE PROVIDED IN APPENDIX 2.5-A
OF THE FSAR (TOTAL OF 183 BORINGS).

S 2.5-1A

BORING	DEPTH	DATE	BORING	DEPTH	DATE	BORING	DEPTH	DATE	BORING	DEPTH	DATE
B-1	100	3/12/68	B-107	300	12/17/68	B-130	55	12/16/68	B-156	54	6/17/6
B-2	[illegible]	[illegible]	B-107A	100	12/10/68	B-131	53	12/13/68	B-157	55	6/20/6
B-3	200	3/19/68	B-108	200	12/9/68	B-132	53	12/12/68	B-158	55	6/12/6
B-4	100	3/15/68	B-108A	100	12/11/68	B-133	53	12/10/68	B-159	52	6/16/6
B-5	300	3/19/68	B-109	200	12/6/68	B-134	32	12/9/68	B-160	55	6/13/
B-6	100	3/10/68	B-110	300	11/26/68	B-135	55	12/6/68	B-161	55	6/12/
B-6A	300	1/2/69	B-111	300	11/26/68	B-136	32	12/5/68	B-162	54	6/12/
B-7	110	3/10/68	B-[illegible]A	100	1/22/69	B-137	53	12/4/68	B-163	51	6/10/
B-8	[illegible]	3/18/68	B-112	200	1/16/69	B-138	53	11/27/68	B-164	55	6/11/
B-9	110	3/15/68	B-113	200	1/11/69	B-139	36	12/3/68	B-165	55	6/7/6
B-10	110	3/1/68	B-114	200	11/27/68	B-143	50	1/23/69	B-166	54	6/9/6
B-11	[illegible]	[illegible]	B-114A	400	12/2/68	B-143A	50	1/17/69	B-167	54	6/5/6
B-12	[illegible]	[illegible]	B-115	200	1/7/69	B-144A	39	3/2/69	B-168	55	6/6/6
B-13	[illegible]	[illegible]/68	B-116	200	12/17/68	B-144B	50	2/24/69	B-169	55	6/5/
B-14	[illegible]	[illegible]/68	B-117	200	1/8/69	B-145	50	1/23/69	B-170	50	6/4/
B-15	[illegible]	[illegible]/68	B-118	150	1/15/69	B-145A	50	11/18/68	B-154H	100	1/24/
B-16	[illegible]	[illegible]/68	B-119	150	1/18/69	B-146	50	2/21/69	B-155H	100	1/11/
B-17	200	[illegible]/68	B-120	150	1/18/69	B-146A	50	1/15/69	B-156H	100	1/12/
B-18	200	[illegible]	B-121	[illegible]	[illegible]	B-147	55	6/23/69	B-157H	100	1/19/
B-19	200	[illegible]	B-122	[illegible]	1/15/69	B-148	56	6/22/69	B-158H	100	1/10/
B-20	200	[illegible]	B-123	55	[illegible]	B-149	70	6/20/69	B-159H	100	1/21/
B-101	200	11/21/68	B-124	50	[illegible]	B-150	55	6/18/69	B-160H	50	1/7/
B-102	[illegible]	12/4/68	B-125	55	1/9/69	B-151	55	6/18/69	B-161P	50	1/27/
B-103	200	[illegible]/69	B-126	50	1/14/69	B-152	55	6/19/69	B-162P	50	1/28/
B-104	200	1/11/69	B-127	55	[illegible]	B-153	55	6/17/69	B-163P	50	1/29/
B-105	[illegible]	[illegible]	B-128	55	[illegible]	B-154	55	6/19/69	B-165P	61	2/7/
B-106	[illegible]	[illegible]	B-129	55	[illegible]	B-155	55	6/16/69	B-166P	63	2/1/

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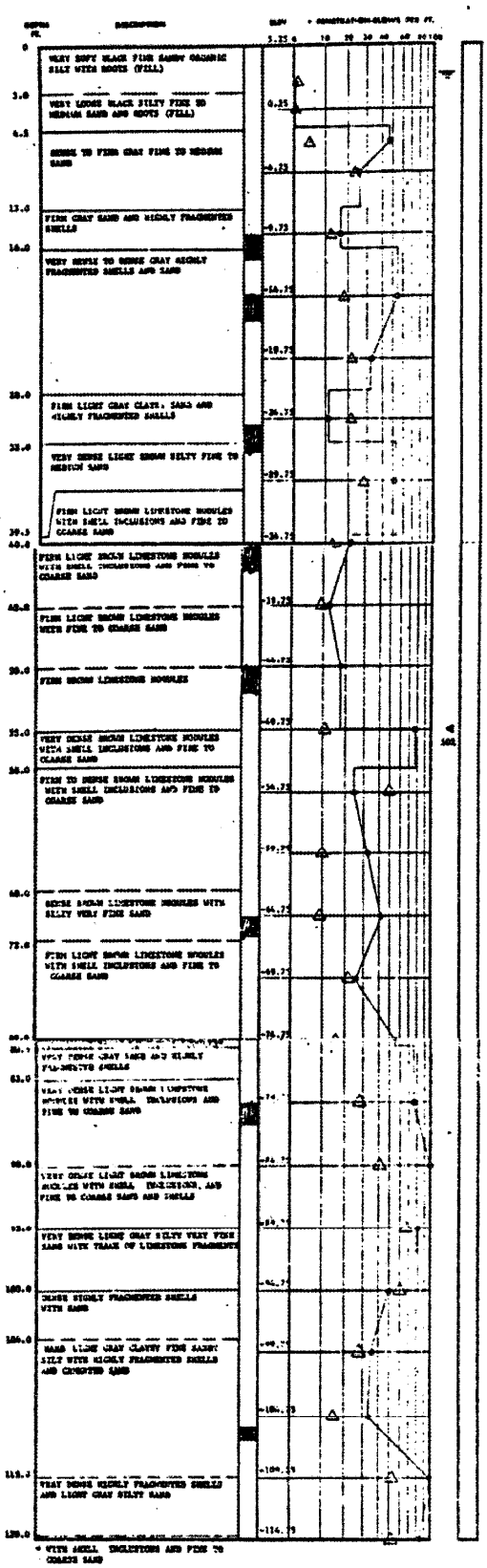
BORING	DEPTH	DATE	BORING	DEPTH	DATE	BORING	DEPTH	DATE	BORING	DEPTH	DATE
B-169H	100	1/13/72	AE 2	73.5	11/2/74	AE-17A	27.0	11/21/74			
B-170H	100	1/21/72	AE 2A	42.0	11/14/74	AE-17B	26.0	11/22/74			
B-171H	100	1/15/72	AE 2B	15.5	11/15/74	AE-17C	22.5	11/22/74			
B-172H	100	1/18/72	AE 2C	36.8	11/18/74	AE-17D	25.0	11/25/74			
B-173H	100	1/22/72	AE 3	73.5	11/11/74	AE-18	77.5	11/15/74			
B-174H	100	1/18/72	AE 3A	42.0	11/12/74	AE-18A	55.0	12/4/74			
SB-1	51	1/5/72	AE 4	77.5	10/26/74	AE-19	68.0	11/19/74			
SB-2	52	1/4/72	AE 4A	74.0	11/8/74	AE-21	77.5	11/12/74			
SB-3	51	1/6/72	AE 5	81.5	11/5/74	AE-22	63.5	11/22/74			
SB-4	51	1/6/72	AE 5A	37.4	11/6/74	AE-22A	46.0	11/26/74			
SB-5	59	1/7/72	AE 5B	36.0	11/26/74	AE-23	73.5	11/22/74			
115-1	171	1973	AE 5C	20.0	12/2/74	AE-24	67.5	11/20/74			
AG-100	240	1967-69	AE 6	81.5	11/8/74	AE 25	75.5	11/19/74			
AG-101	250	1967-68	AE 7	65.5	12/2/74	AE-26	77.5	11/14/74			
AG-102	250	1967-68	AE 8	79.5	11/26/74	AE-27	77.5	11/14/74			
AG-103	210	1967-68	AE 10	49.5	11/26/74	AE-27A	27.5	11/22/74			
AG-104	720	1967-68	AE 10A	63.5	12/2/74	AE-27B	25.0	11/22/74			
AG-105	720	1967-68	AE 11	63.5	11/25/74	AE-27C	44.0	11/15/74			
AG-106	711	[illegible]	[illegible]	63.5	11/20/74	AE-27D	27.5	12/2/74			
A-1	67	8/[illegible]	AE 13	71.5	11/22/74	AE-27E	27.0	12/3/74			
A-1A	30	5/65	AE 14	67.5	11/19/74	AE-28	77.5	11/18/74			
A-2	67	5/[illegible]	AE 15	65.5	11/11/74						
A-3	67	5/65	AE 16	63.5	11/21/74						
A-4	67	5/65	AE 16A	29.2	12/2/74						
AE-1	73.5	10/23/74	AE 16B	27.3	12/2/74						
AE-1A	36.0	10/26/74	AE 16C	30.5	12/2/74						
AE-1B	46.0	12/6/74	AE 17	75.5	11/19/74						



△ PENETRATION BLOWS PER FOOT USING "A" ROD

BORING AND SAMPLING ASTM D-1586
CORE DRILLING ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

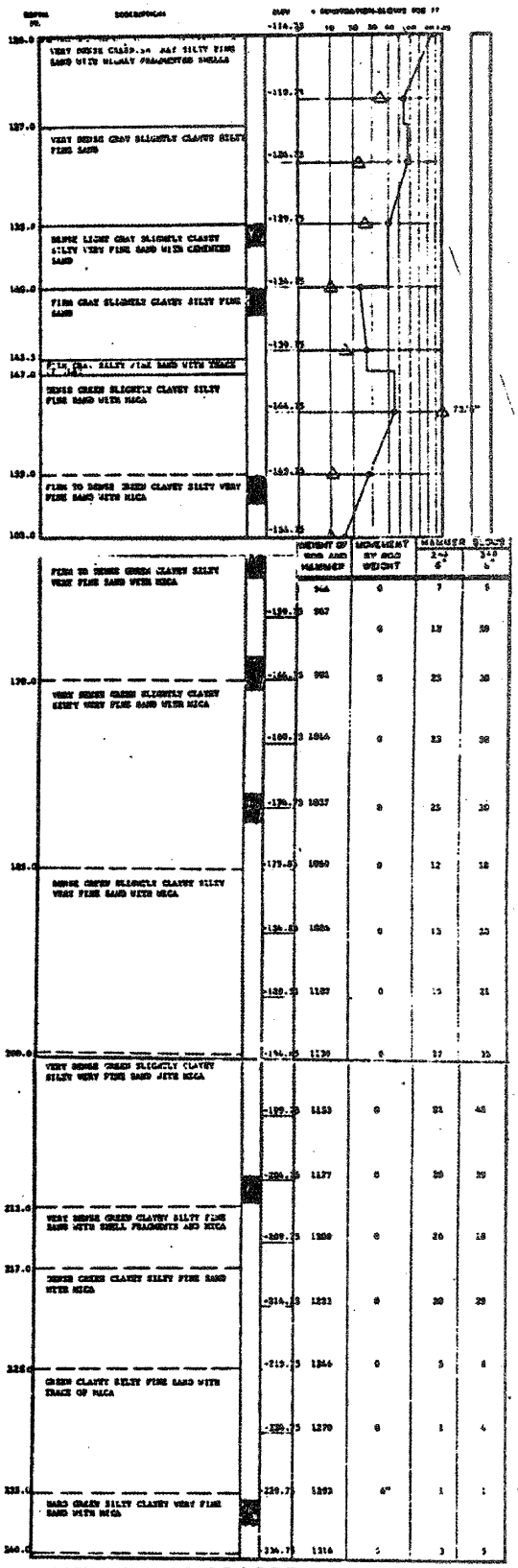
WATER TABLE 24 HR.

WATER TABLE 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

"N" ROD USED IN PENETRATION TEST



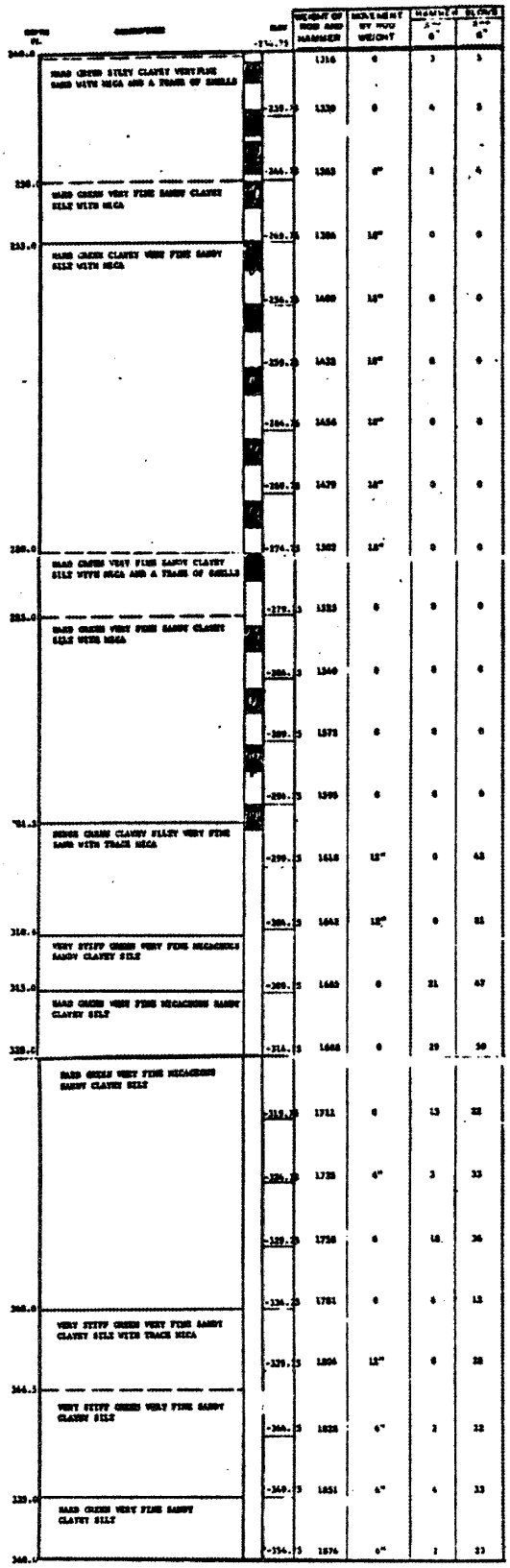
TEST BORING RECORD

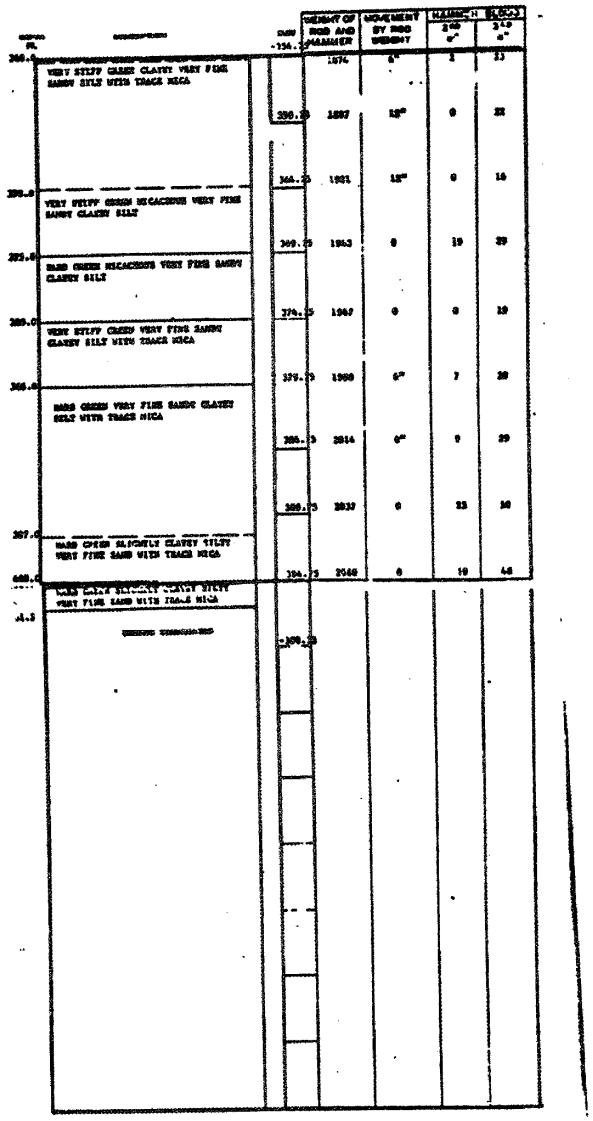
BORING NO 5-1

DATE DRILLED 3/12/65

JOB NO EC-153

LAW ENGINEERING TESTING CO





△ Penetration blows per foot using "A" rod.

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.0 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

"B" ROD USED IN PENETRATION TEST

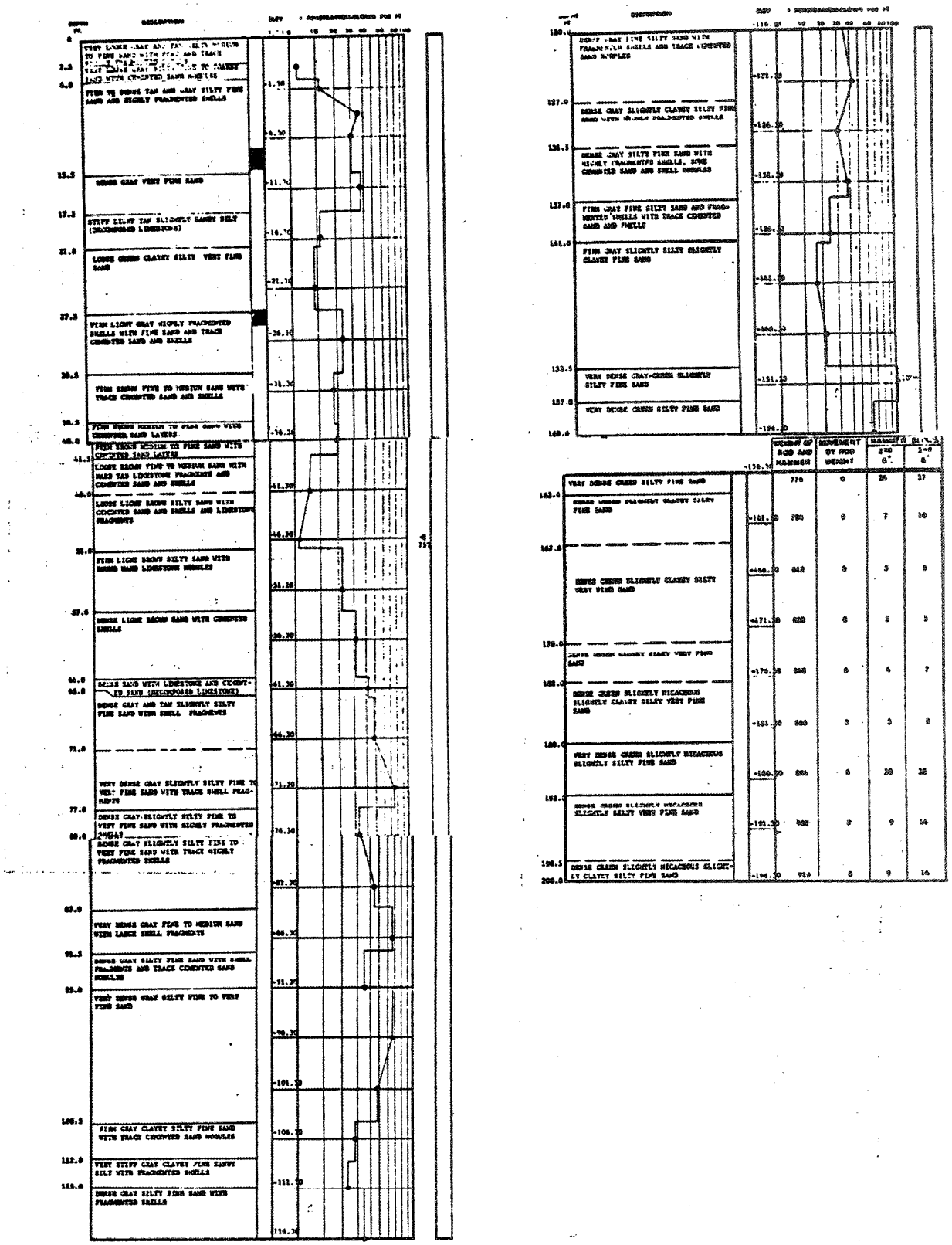
TEST BORING RECORD

BORING NO. B-1

DATE DRILLED 3/12/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

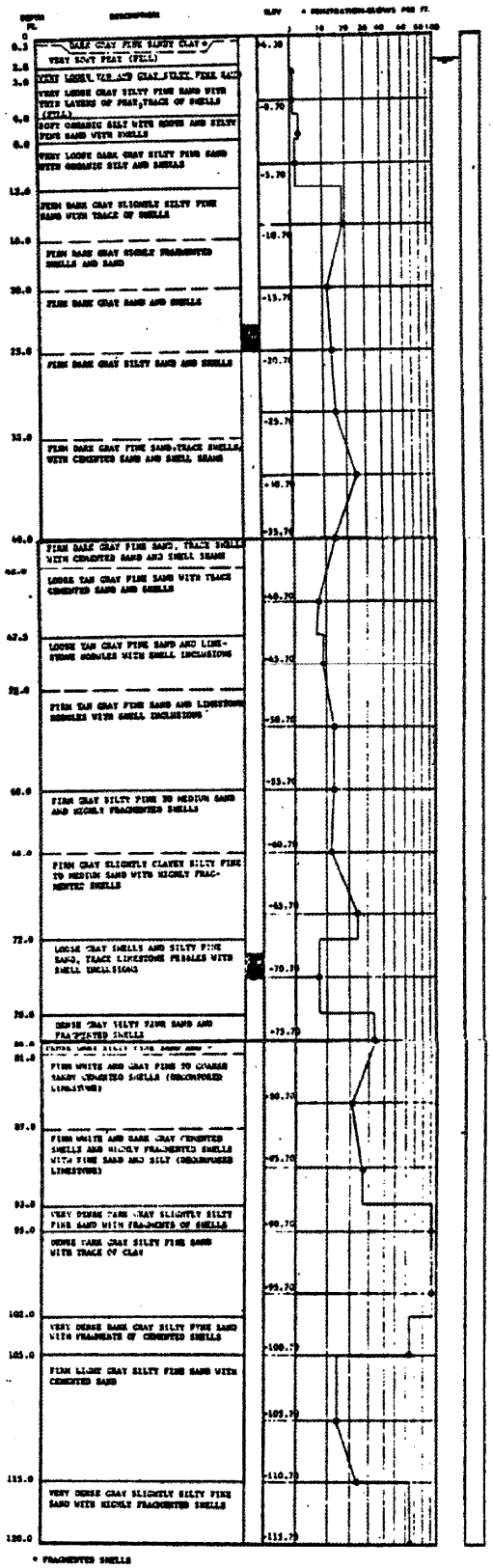
BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

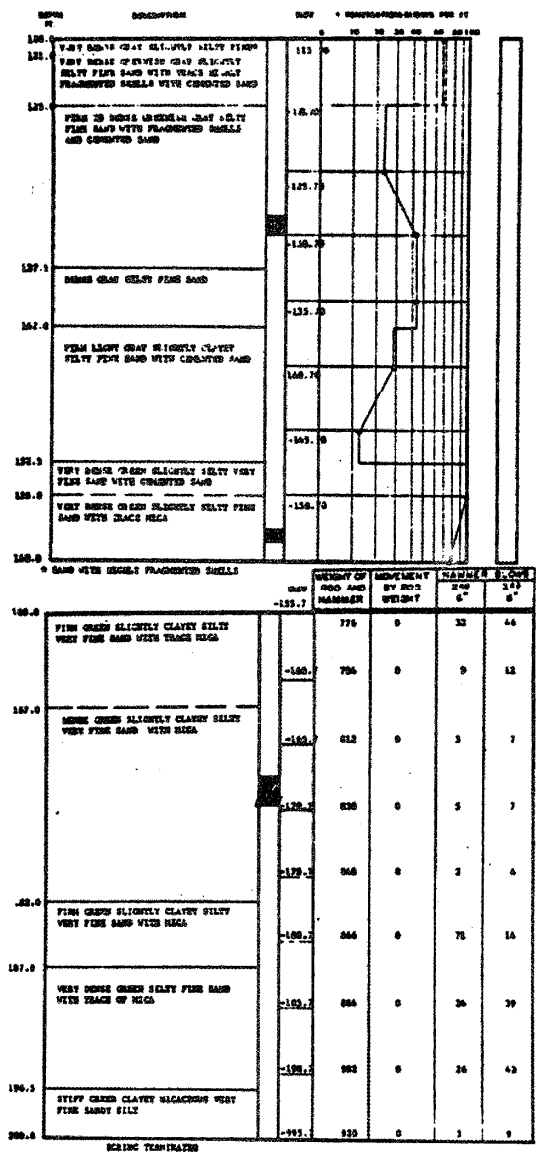
WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% CORE RECOVERY
LOSS OF DRILLING WATER

"A" ROD USED IN PENETRATION TEST

BORING NO. B-2
DATE DRILLED 3/18/68
JOB NO. EC-163

LAW ENGINEERING TESTING CO.





ELEV	WEIGHT OF ROD AND HAMMER	MOVEMENT BY ROD WEIGHT	HAMMER 2nd 6"	HAMMER 3rd 6"
-135.7				
	776	0	32	46
-140.7	704	0	9	12
-145.7	812	0	3	7
-150.7	836	0	5	7
-155.7	860	0	2	4
-160.7	866	0	75	14
-165.7	866	0	36	39
-170.7	882	0	26	42
-175.7	930	0	3	9

BORING TERMINATED

* FRAGMENTED SHELLS

* SAND WITH HIGHLY FRAGMENTED SHELLS

DRILLING AND SAMPLING METH ASTM D-1586
CORE DRILLING METH ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.

% CORE RECOVERY — WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

"A" ROD USED IN PENETRATION TEST

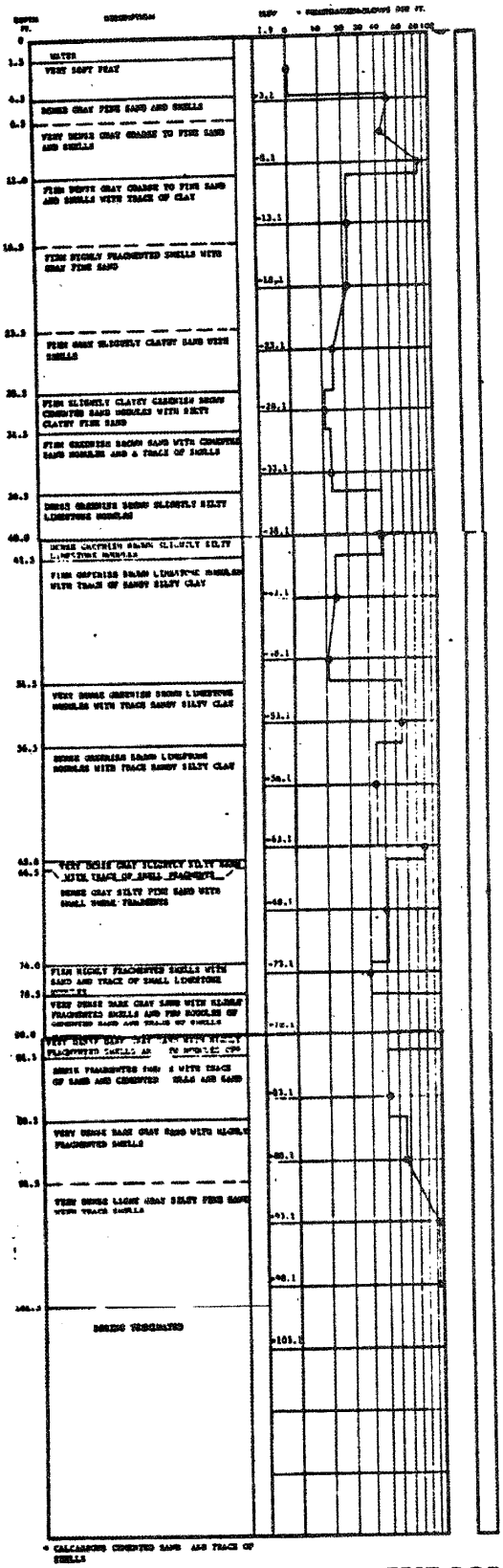
TEST BORING RECORD

BORING NO. B-3

DATE DRILLED 3/14/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.



* CALCAREOUS CEMENTED SAND AND TRACE OF SHELLS

TEST BORING RECORD

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

"N" ROD USED IN PENETRATION TEST

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

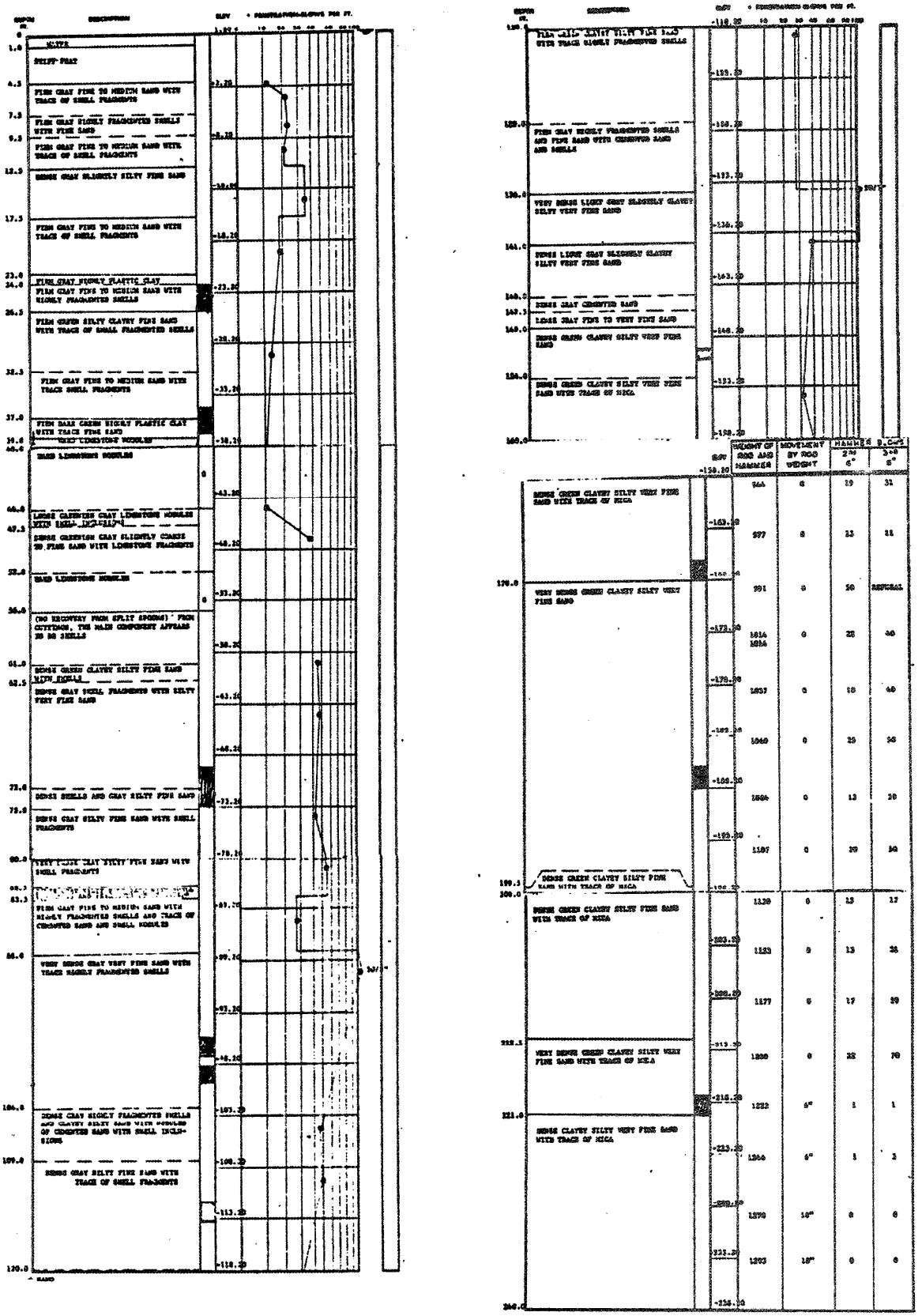
LOSS OF DRILLING WATER

BORING NO. B-4

DATE DRILLED 3/15/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.



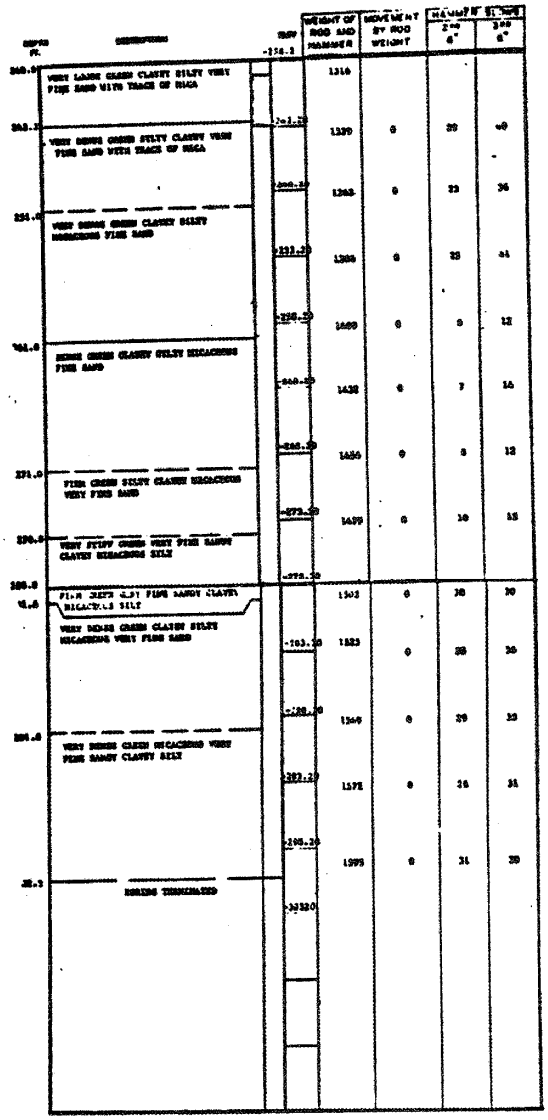
TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
% ROCK CORE RECOVERY — WATER TABLE, 1 HR.
"N", ROD USED IN PENETRATION TEST — LOSS OF DRILLING WATER

BORING NO. B-5
DATE DRILLED 3/19/68
JOB NO. EC-163

LAW ENGINEERING TESTING CO.



DEPTH FT.	DESCRIPTION	ELEV -156.3	WEIGHT OF ROD AND HAMMER	MOVEMENT BY ROD WEIGHT	HAMMER BLOWS 2nd 6"	HAMMER BLOWS 3rd 6"
240.0	VERY LOOSE GREEN CLAYEY SILTY VERY FINE SAND WITH TRACE OF MICA		1316			
243.2	VERY DENSE GREEN SILTY CLAYEY VERY FINE SAND WITH TRACE OF MICA	-161.2	1370	0	39	40
		-166.2	1363	0	33	36
251.0	VERY DENSE GREEN CLAYEY SILTY MICACEOUS FINE SAND	-171.2	1386	0	33	41
		-176.2	1400	0	0	12
261.0	DENSE GREEN CLAYEY SILTY MICACEOUS FINE SAND	-181.2	1438	0	7	14
		-186.2	1456	0	8	12
271.0	FIRM GREEN SILTY CLAYEY MICACEOUS VERY FINE SAND	-191.2	1479	0	10	15
276.5	VERY STIFF GREEN VERY FINE SANDY CLAYEY MICACEOUS SILT	-196.2				
280.0	FIRM GREEN SILT FINE SANDY CLAYEY MICACEOUS SILT		1502	0	30	30
283.0	VERY DENSE GREEN CLAYEY SILTY MICACEOUS VERY FINE SAND	-203.2	1523	0	38	35
		-208.2	1549	0	39	33
291.0	VERY DENSE GREEN MICACEOUS VERY FINE SANDY CLAYEY SILT	-213.2	1572	0	36	31
		-218.2	1595	0	31	30
298.3	BORING TERMINATED	-223.2				

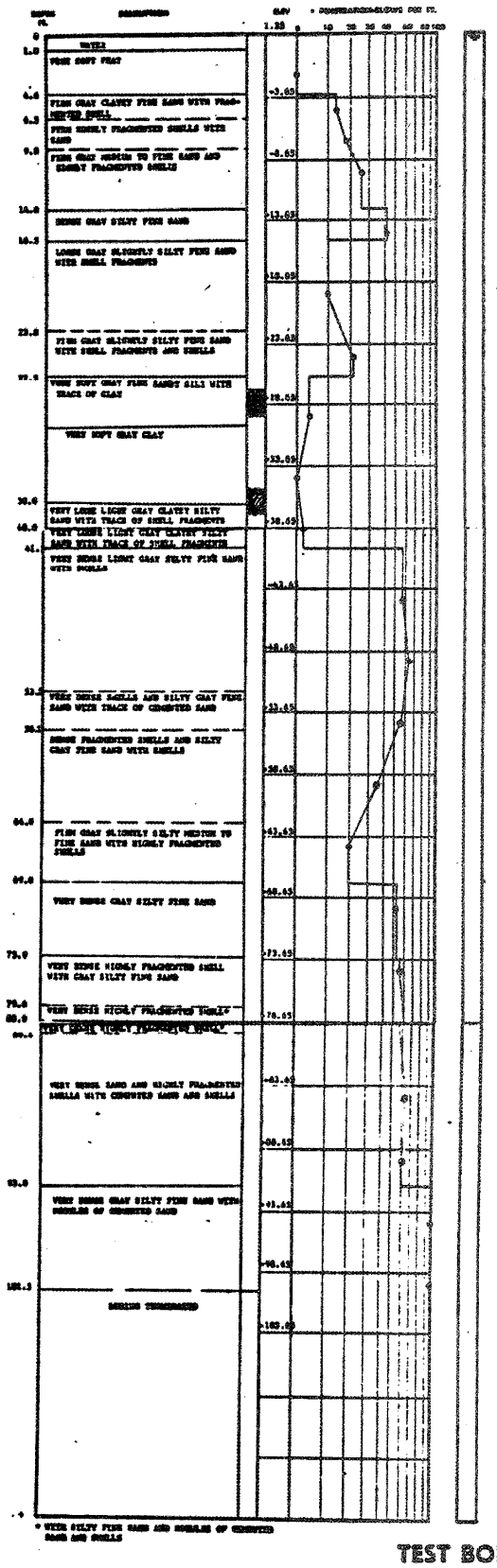
TEST BORING RECORD

BORING AND SAMPLING METHOD ASTM D-1586
CORE DRILLING METHOD ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
IN JOINT CORE RECOVERY
LOSS OF DRILLING WATER
"N" ROD USED IN PENETRATION TEST

BORING NO. B-5
DATE DRILLED 3/19/68
JOB NO. EC-163

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

"N" ROD USED IN PENETRATION TEST

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

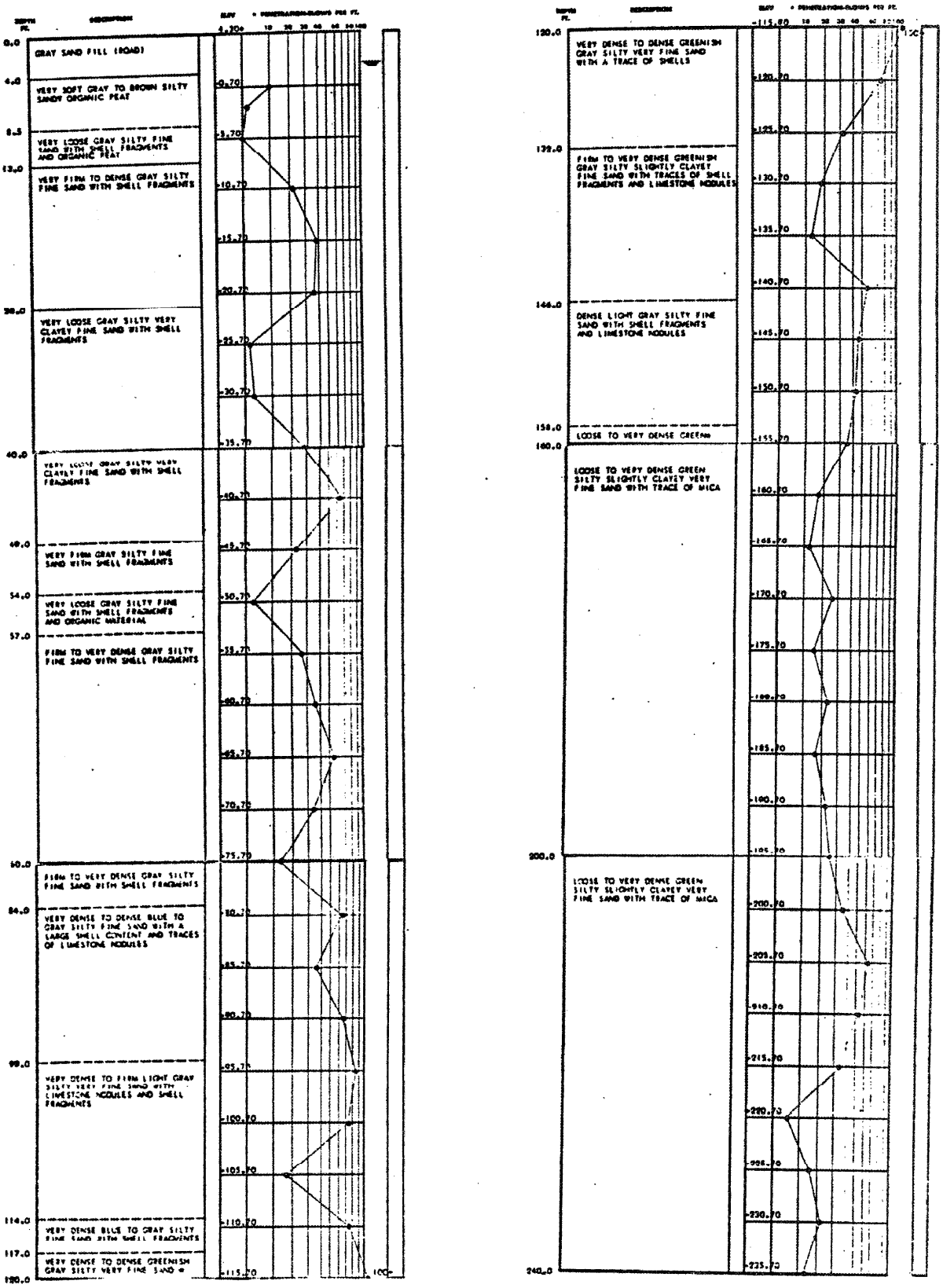
LINE OF DRILLING WATER

BORING NO. B-6

DATE DRILLED 3/10/68

JOB NO. RC-163

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-6A

DATE DRILLED 1/3/69

JOB NO. 1-1127

BORING AND SAMPLING DATA AFTER D-1586
CORE DRILLING DATA AFTER D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

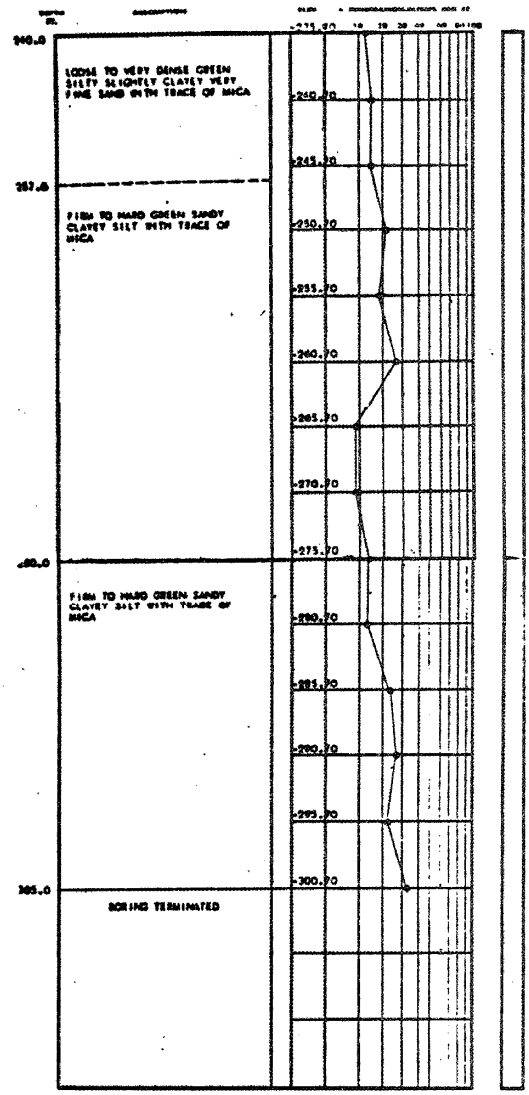
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



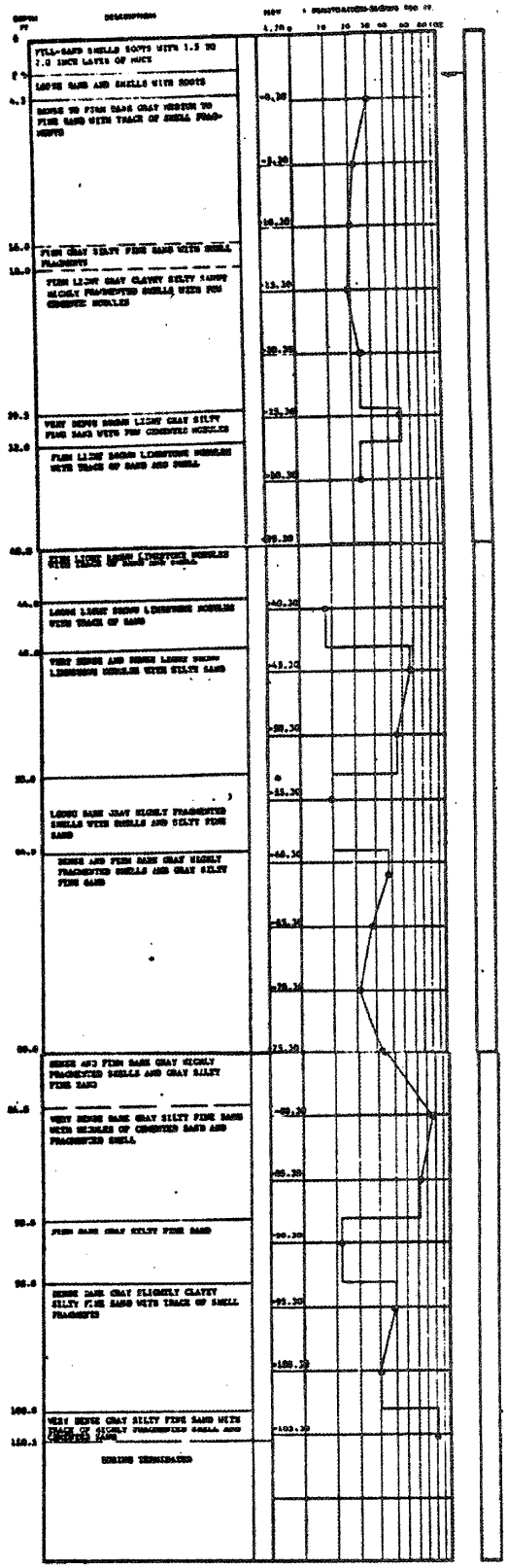
TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% CORE GEN RECOVERY
LOSS OF DRILLING WATER

BORING NO. B-6A
DATE DRILLED 1/3/69
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



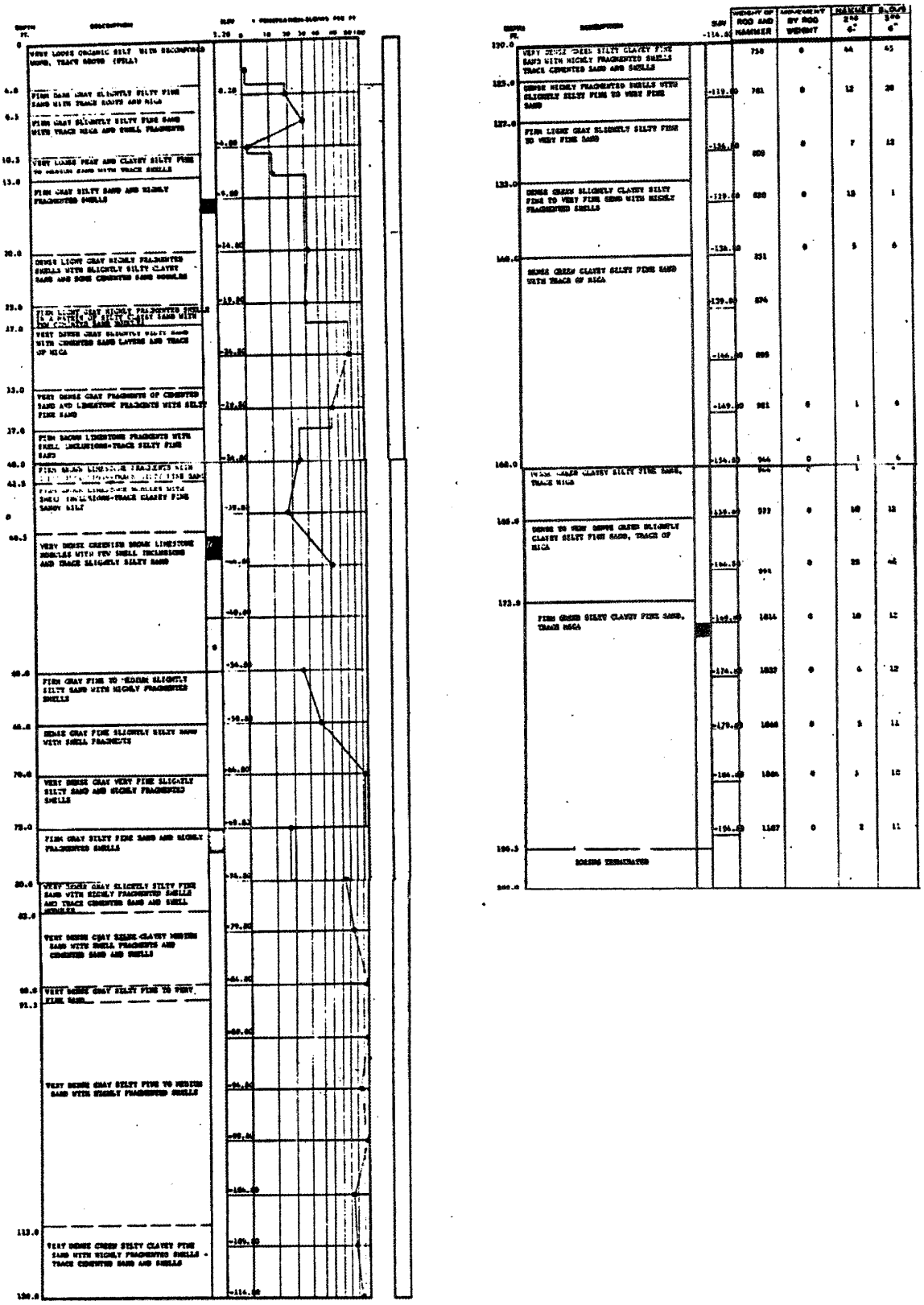
TEST BORING RECORD

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% INCH CORE RECOVERY
LOSS OF DRILLING WATER
"N" ROD USED IN PENETRATION TEST

BORING NO. B-7
DATE DRILLED 3/12/68
JOB NO. RC-163

LAW ENGINEERING TESTING CO.



BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% CORE RECOVERY

LOSS OF DRILLING WATER

"N" ROD USED IN PENETRATION TEST

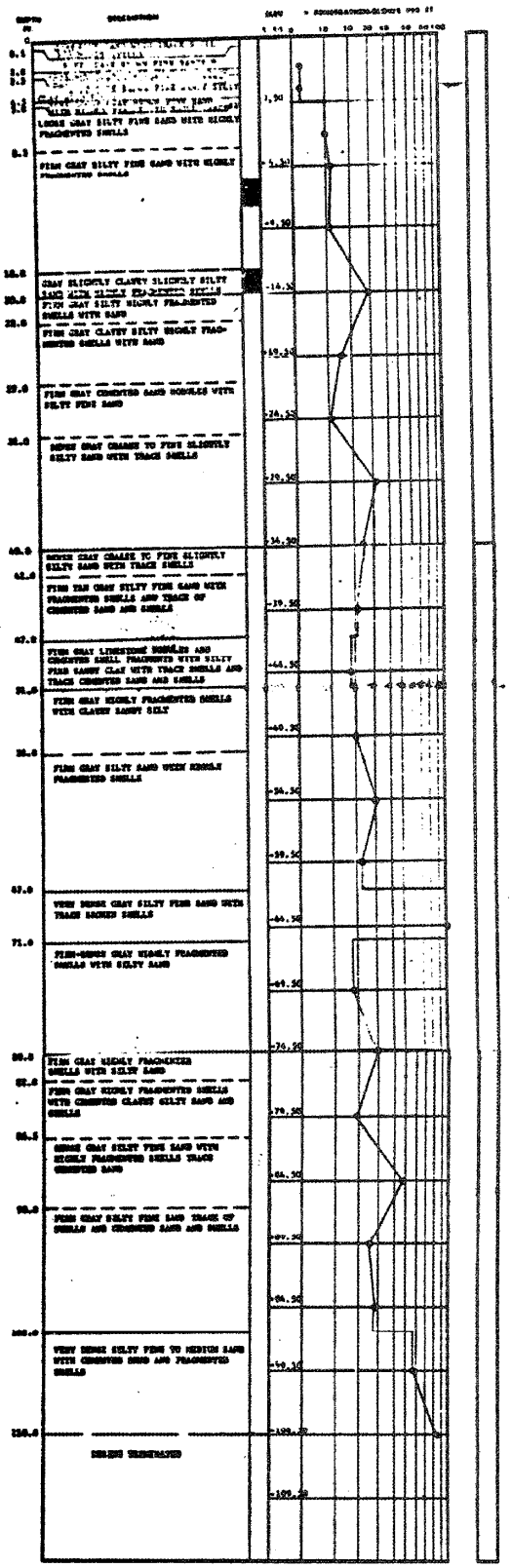
TEST BORING RECORD

BORING NO. B-8

DATE DRILLED 3/18/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.

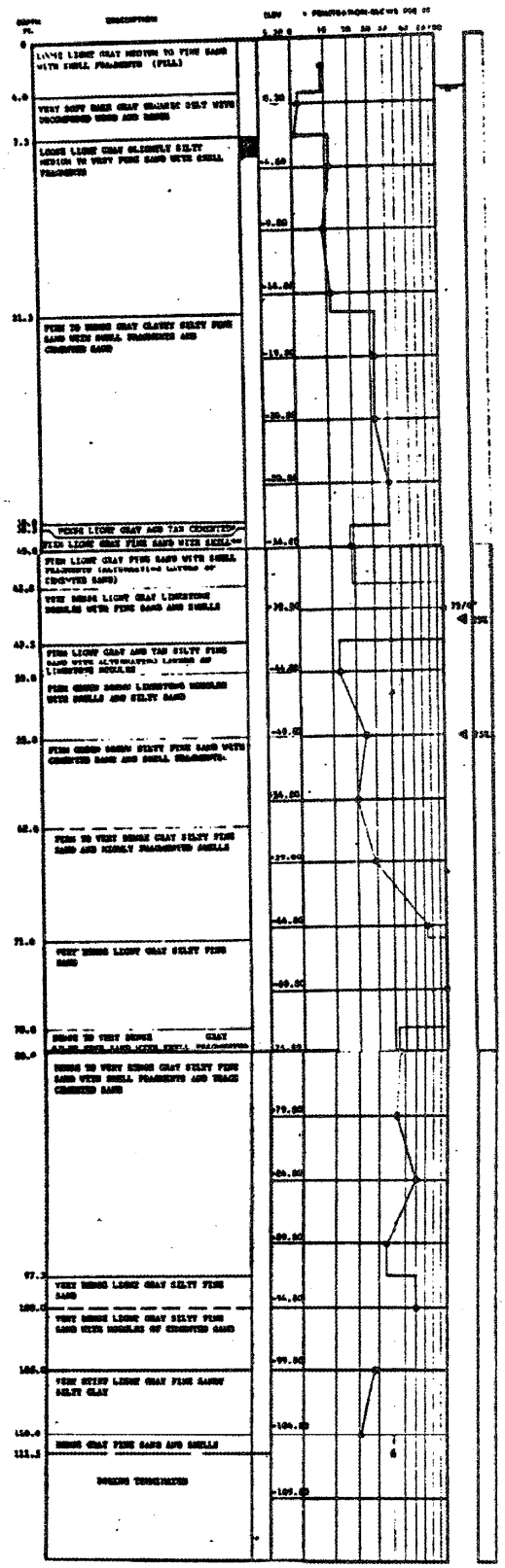


* CLAY WITH ROOTS AND ORGANIC MATERIAL (FILL)
** OF DECOMPOSED WOOD
*** FILL

TEST BORING RECORD

BORING NO. B-9
DATE DRILLED 3/16/68
JOB NO. EC-161

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING SHEETS ASTM D-1586
CORE BORING SHEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% BLOW COUNT REQUIRED

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LEVEL OF DRILLING WATER

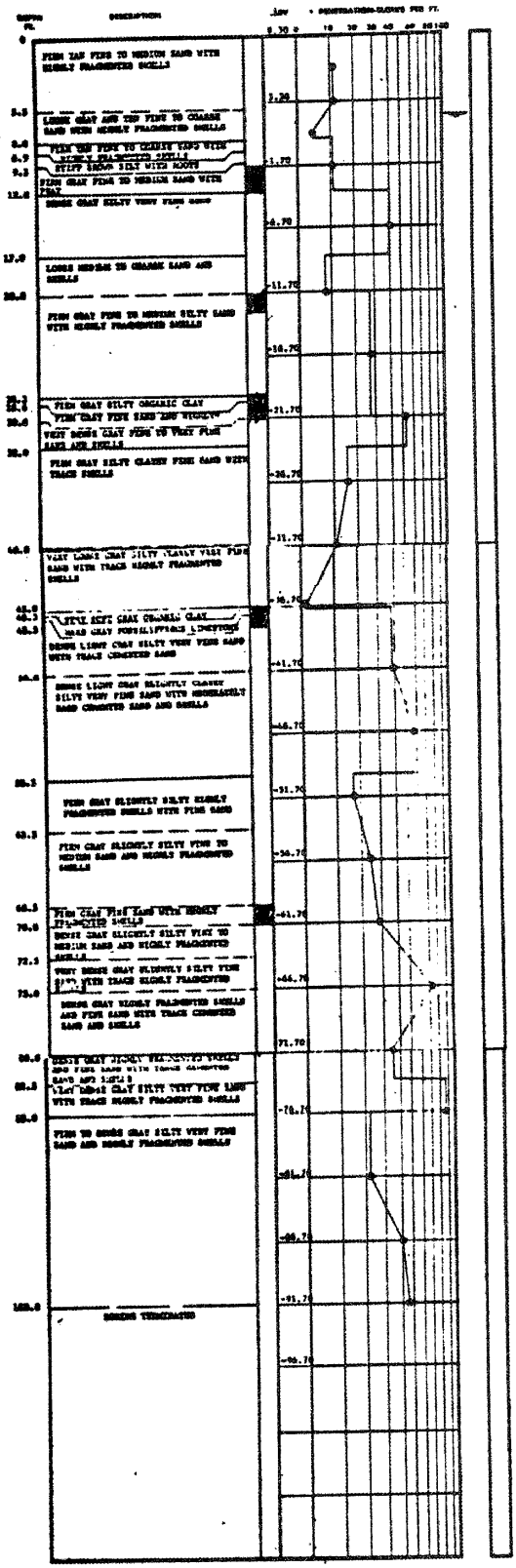
"A" ROD USED IN PENETRATION TEST

BORING NO. B-10

DATE DRILLED 3/11/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

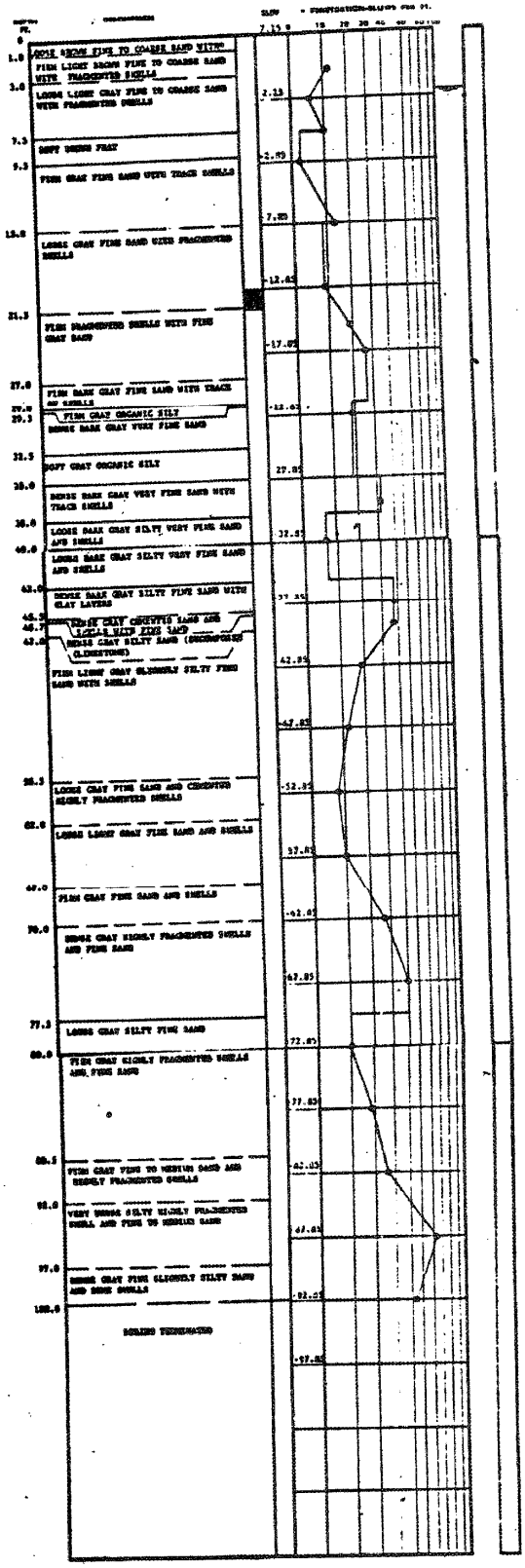
DRILLING AND SAMPLING METH. ASTM D-1586
CORE DRILLING METH. ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% CORE CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
MODE OF DRAINED WATER

SORING NO. B-11
DATE DRILLED 3/15-16/68
JOB NO. EC-163

LAW ENGINEERING TESTING CO.

"A" ROD USED IN PENETRATION TEST



TEST BORING RECORD

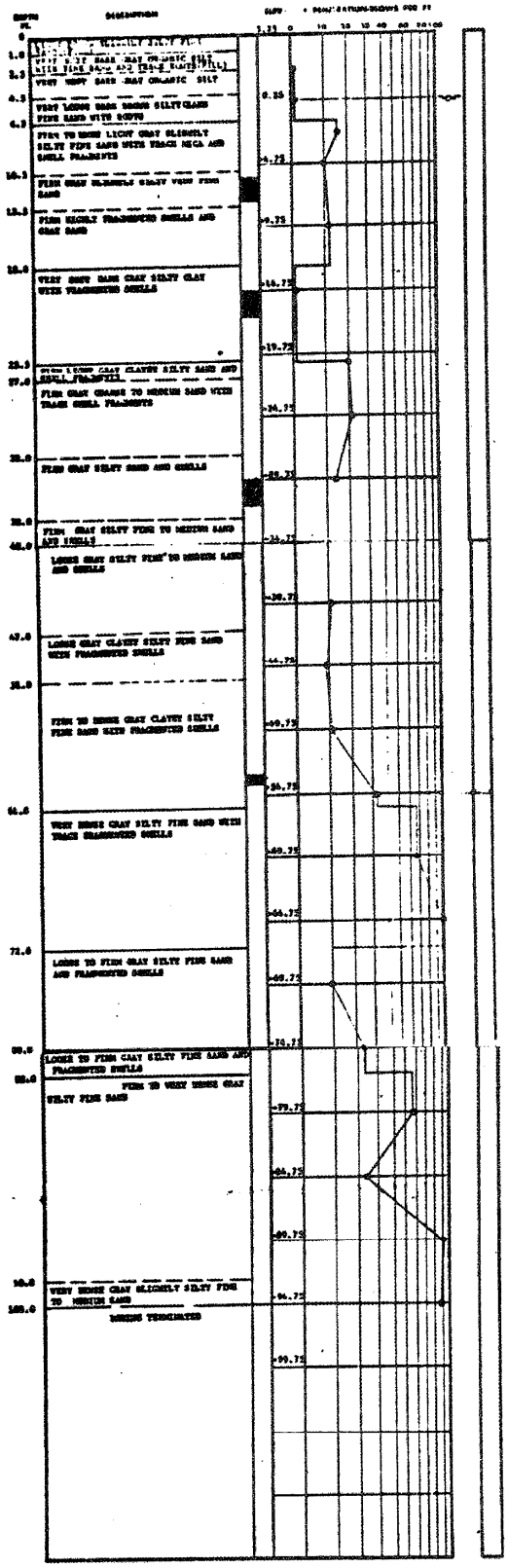
BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 30 MIN.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% CORE CORE RECOVERY
LOSS OF DRILLING WATER

BORING NO. B-12
DATE DRILLED 3/14/68
JOB NO. EC-163

LAW ENGINEERING TESTING CO.

"A" ROD USED IN PENETRATION TEST



TEST BORING RECORD

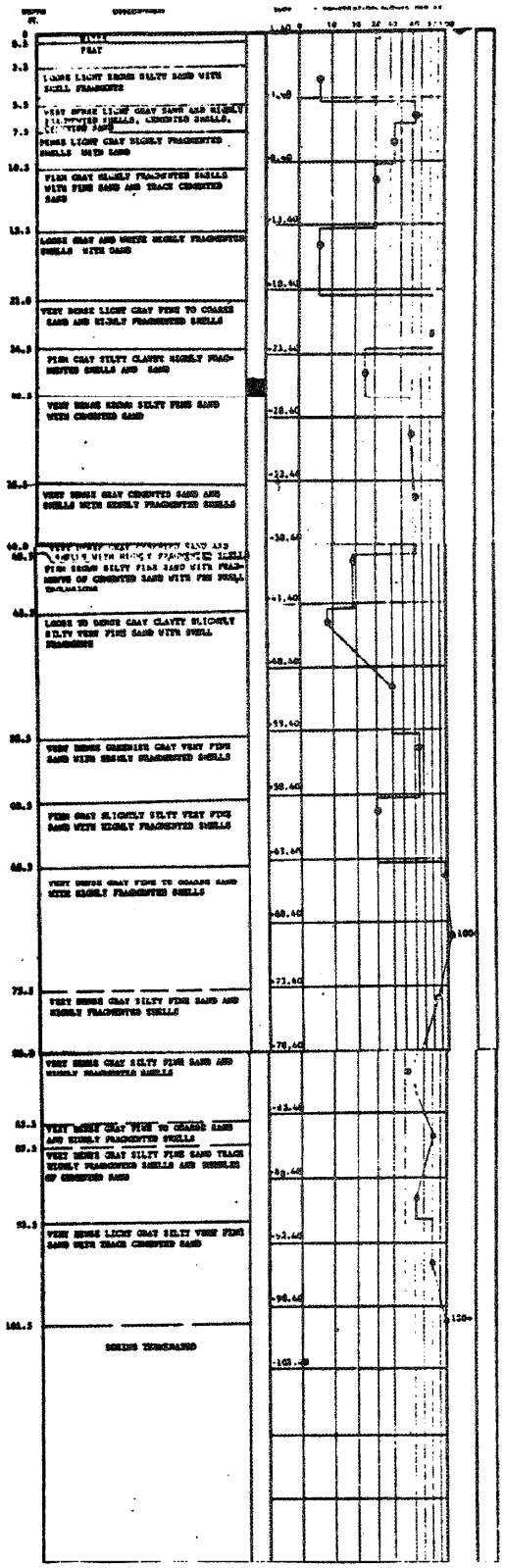
BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

"A" ROD USED IN PENETRATION TEST

BORING NO. B-13
DATE DRILLED 3/18/68
JOB NO. EC-163

LAW ENGINEERING TESTING CO.



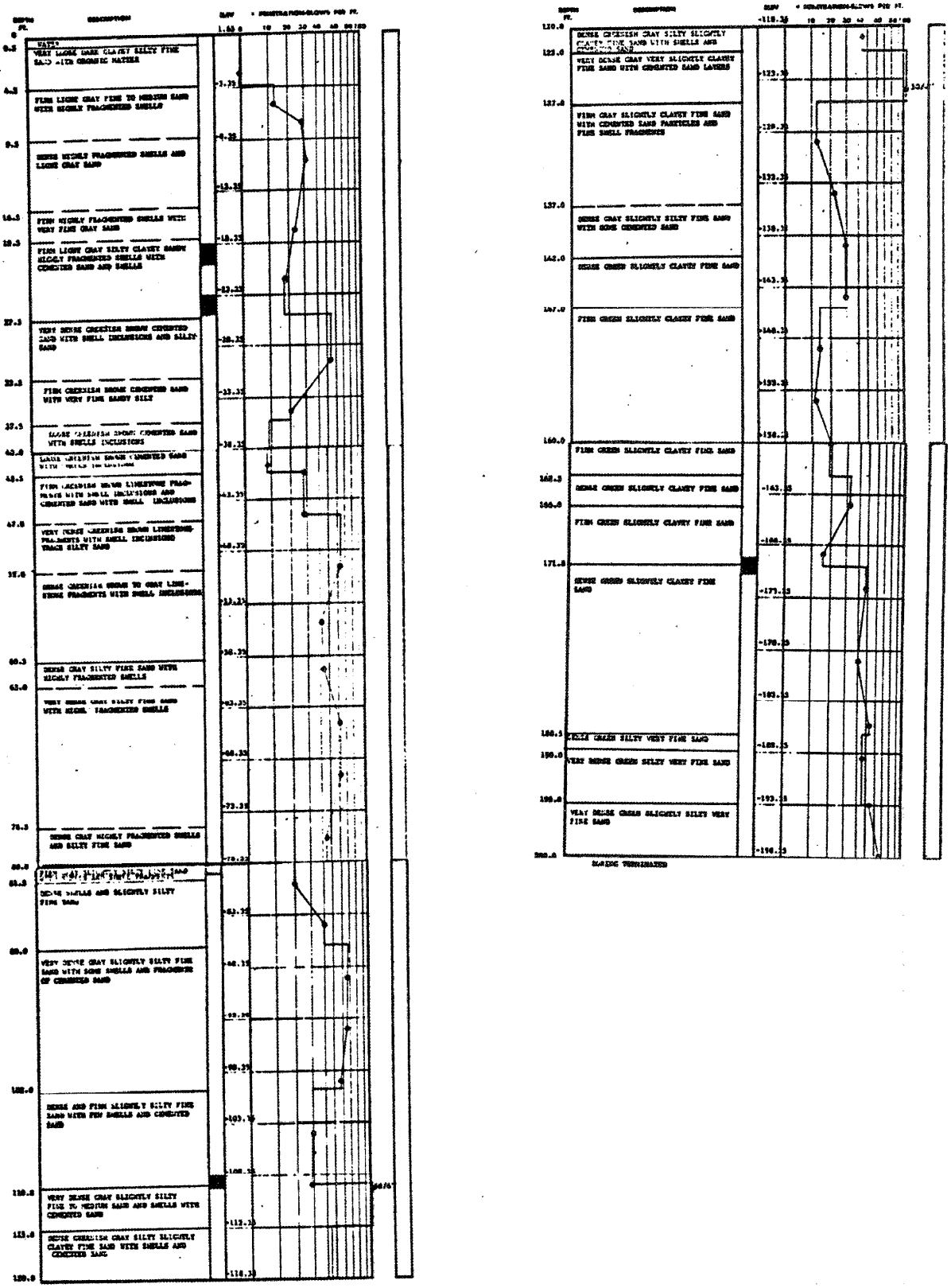
TEST BORING RECORD

BORING AND SAMPLING METH. ASTM D-1586
CORE SAMPLING METH. ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER
UNDISTURBED SAMPLE
% CORE SAMPLE RECOVERY
"N" ROD USED IN PENETRATION TEST

BORING NO. B-14
DATE DRILLED 3/26/68
JOB NO. EC-163

LAW ENGINEERING TESTING CO.



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

"N" ROD USED IN PENETRATION TEST

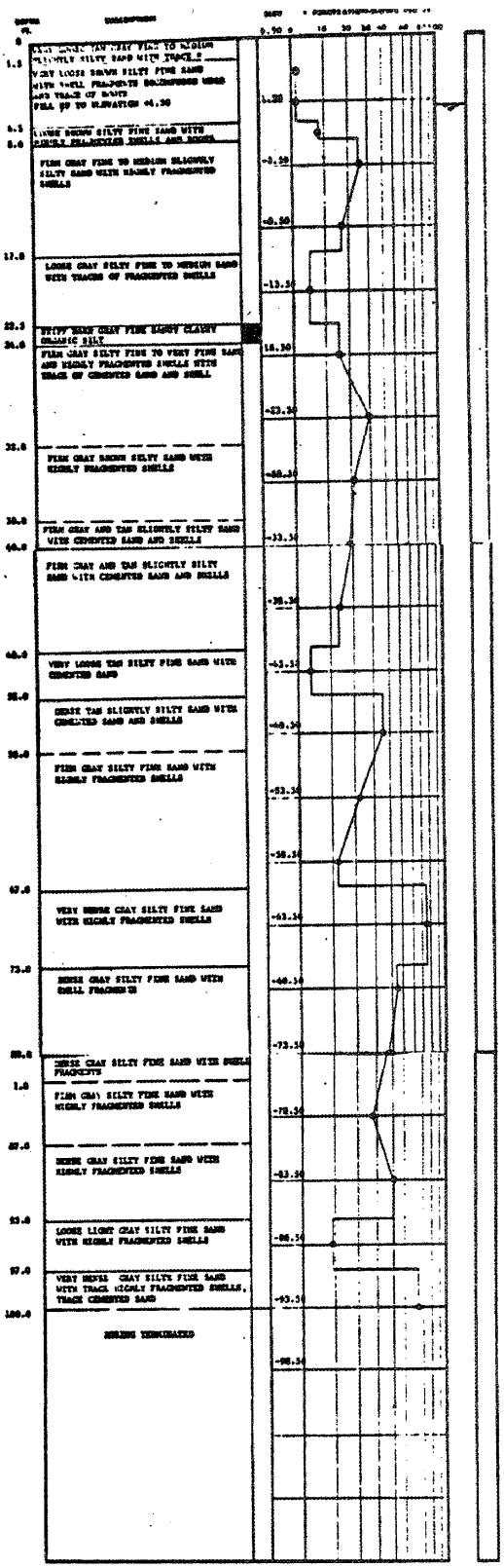
TEST BORING RECORD

BORING NO. B-15

DATE DRILLED 3/21/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

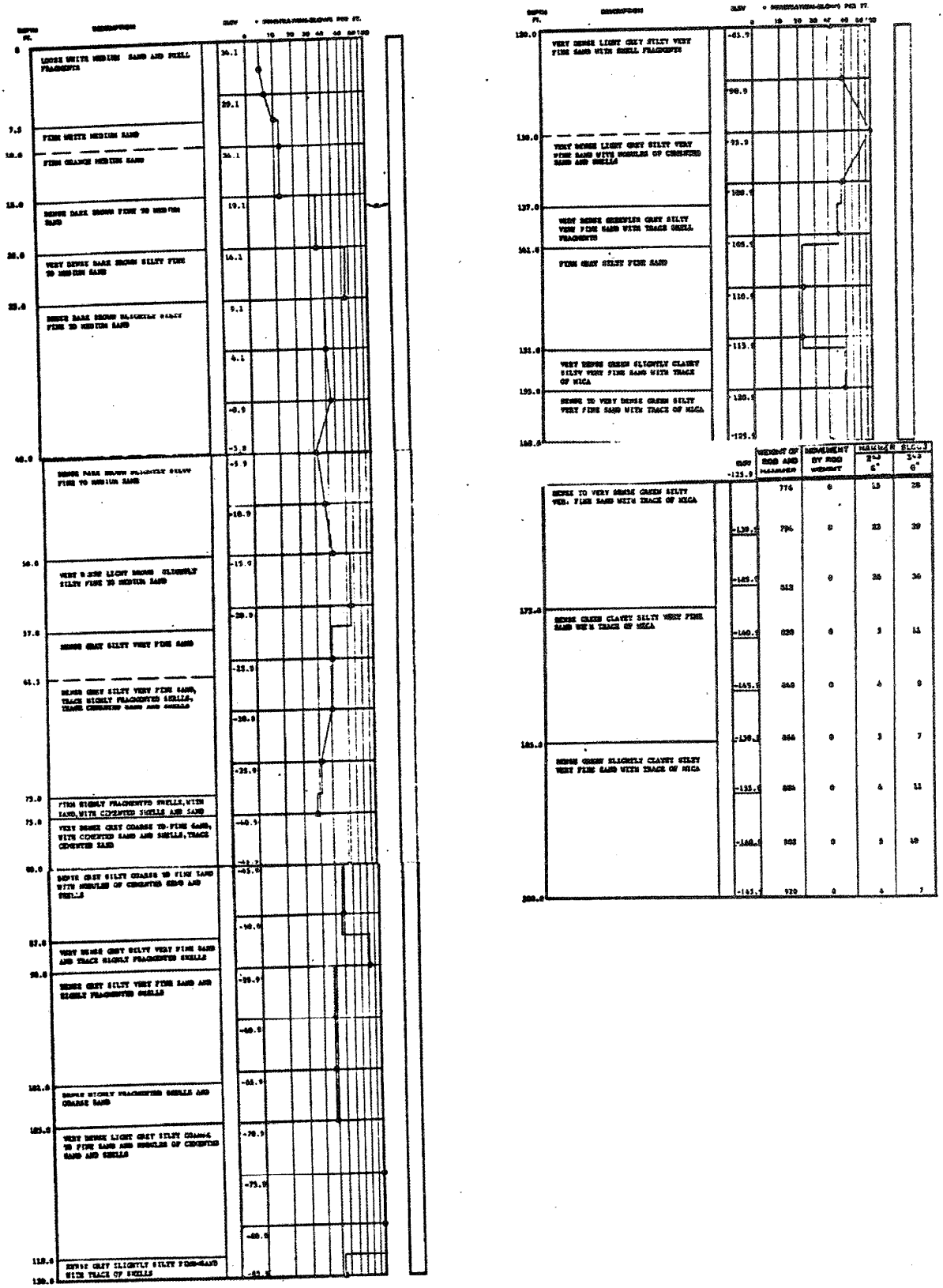
BORING NO. B-16

DATE DRILLED 3/20/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.

"A" ROD USED IN PENETRATION TEST



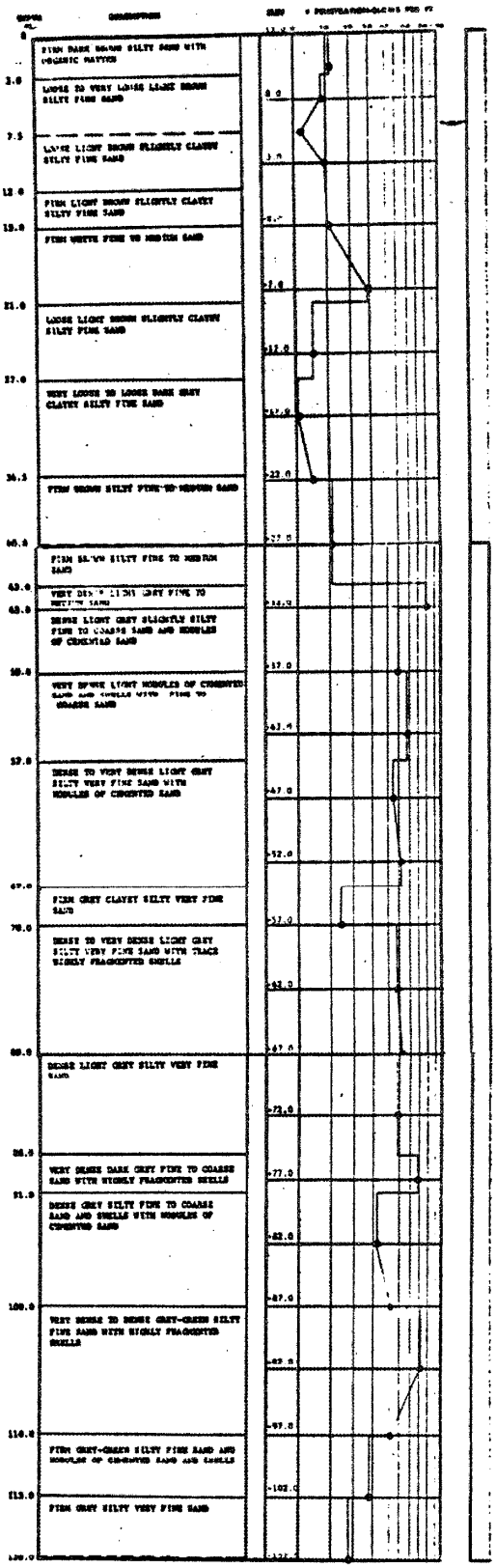
TEST BORING RECORD

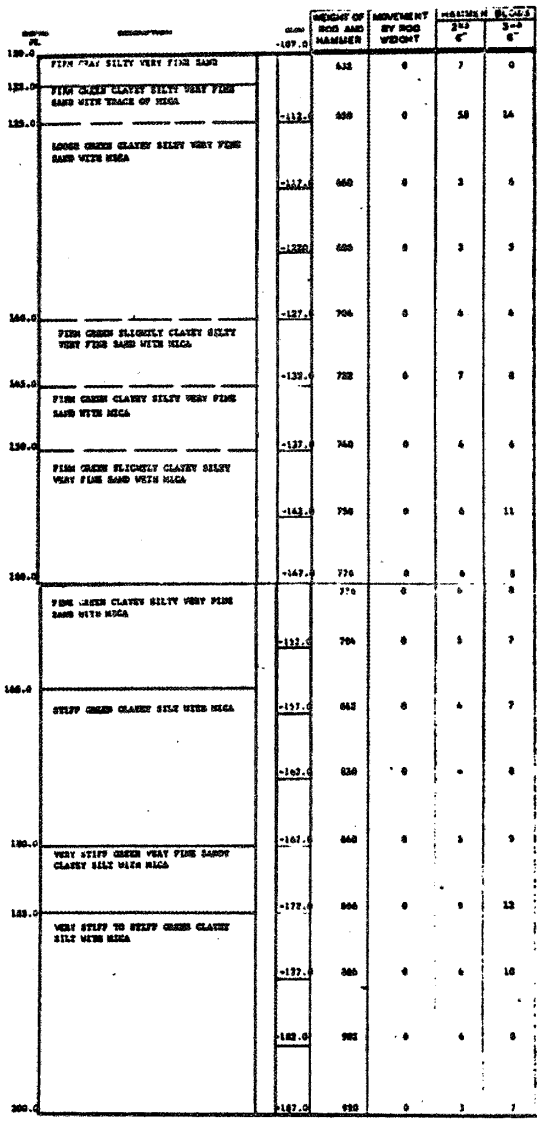
BORING AND SAMPLING DRILL ASTM D-1586
CORE DRILLING DRILL ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 OD. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER
"A" ROD USED IN PENETRATION TEST

BORING NO. B-17
DATE DRILLED 5/23-27/68
JOB NO. BC-163

LAW ENGINEERING TESTING CO.





WEIGHT OF ROD AND HAMMER	MOVEMENT BY ROD WEIGHT	HAMMER BLOWS 3"-6"	HAMMER BLOWS 3"-6"
632	0	7	0
650	0	50	14
660	0	3	6
680	0	3	5
704	0	4	4
722	0	7	8
740	0	4	4
750	0	4	11
770	0	6	8
770	0	6	8
794	0	5	7
842	0	4	7
850	0	-	8
860	0	5	9
866	0	9	12
885	0	4	10
902	0	4	8
920	0	3	7

TEST BORING RECORD

BORING NO. B-18

DATE DRILLED 5/29-30/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.

DRILLING AND SAMPLING SHOWN ACCORD B-1604
CORE DRILLING SHOWN ACCORD B-2112

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

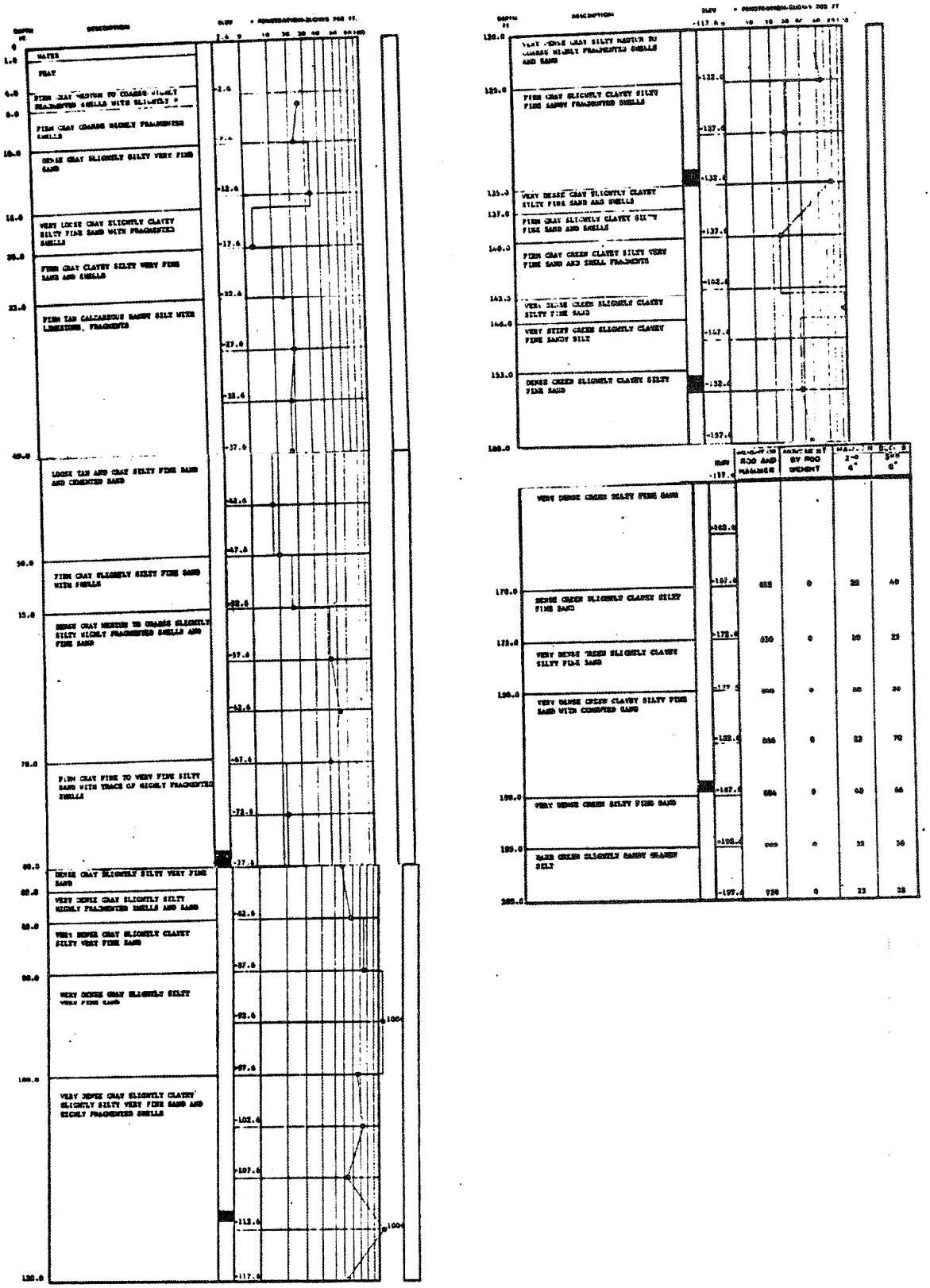
% CORE CORE RECOVERY

WA 30 TABLE, 24 HR.

WATER TABLE, 1 HR.

LEVEL OF DRILLING WATER

"A" ROD USED IN PENETRATION TEST



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

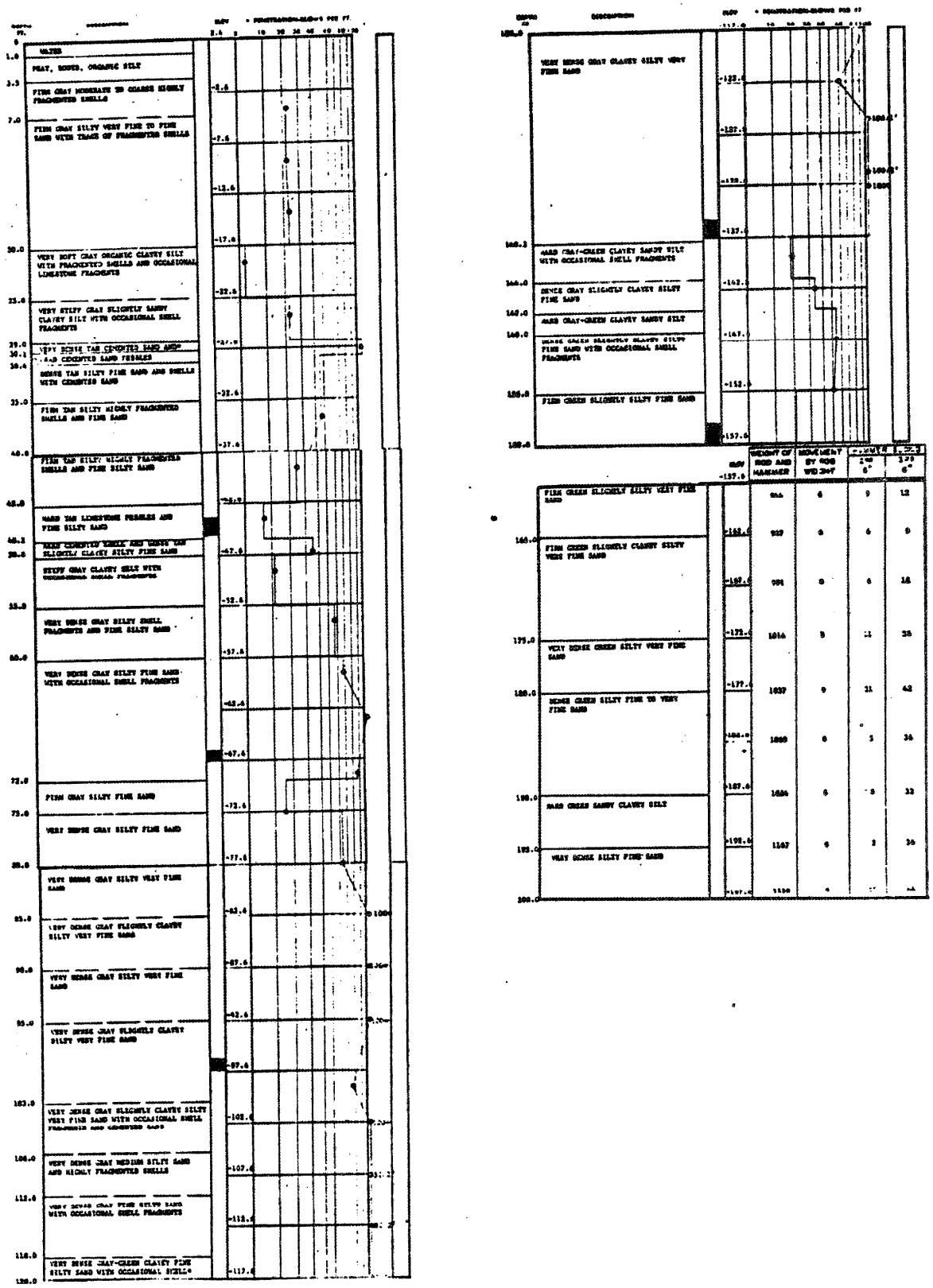
TEST BORING RECORD

BORING NO. B-19

DATE DRILLED 8/13-19/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-20

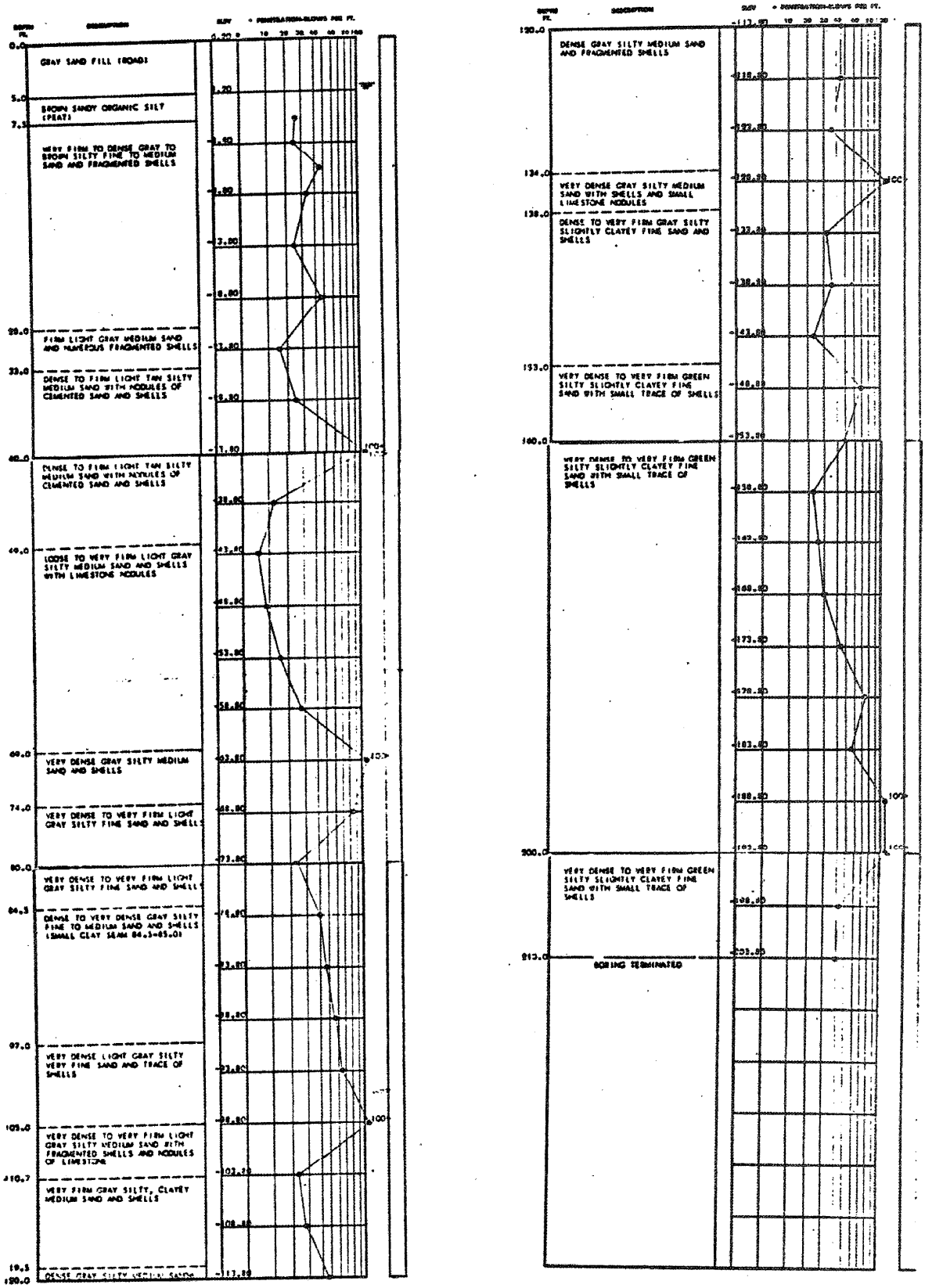
DATE DRILLED 8/13-20/68

JOB NO. EC-163

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING METHOD ASTM D-1586
CORE DRILLING METHOD ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 30 MIN.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER



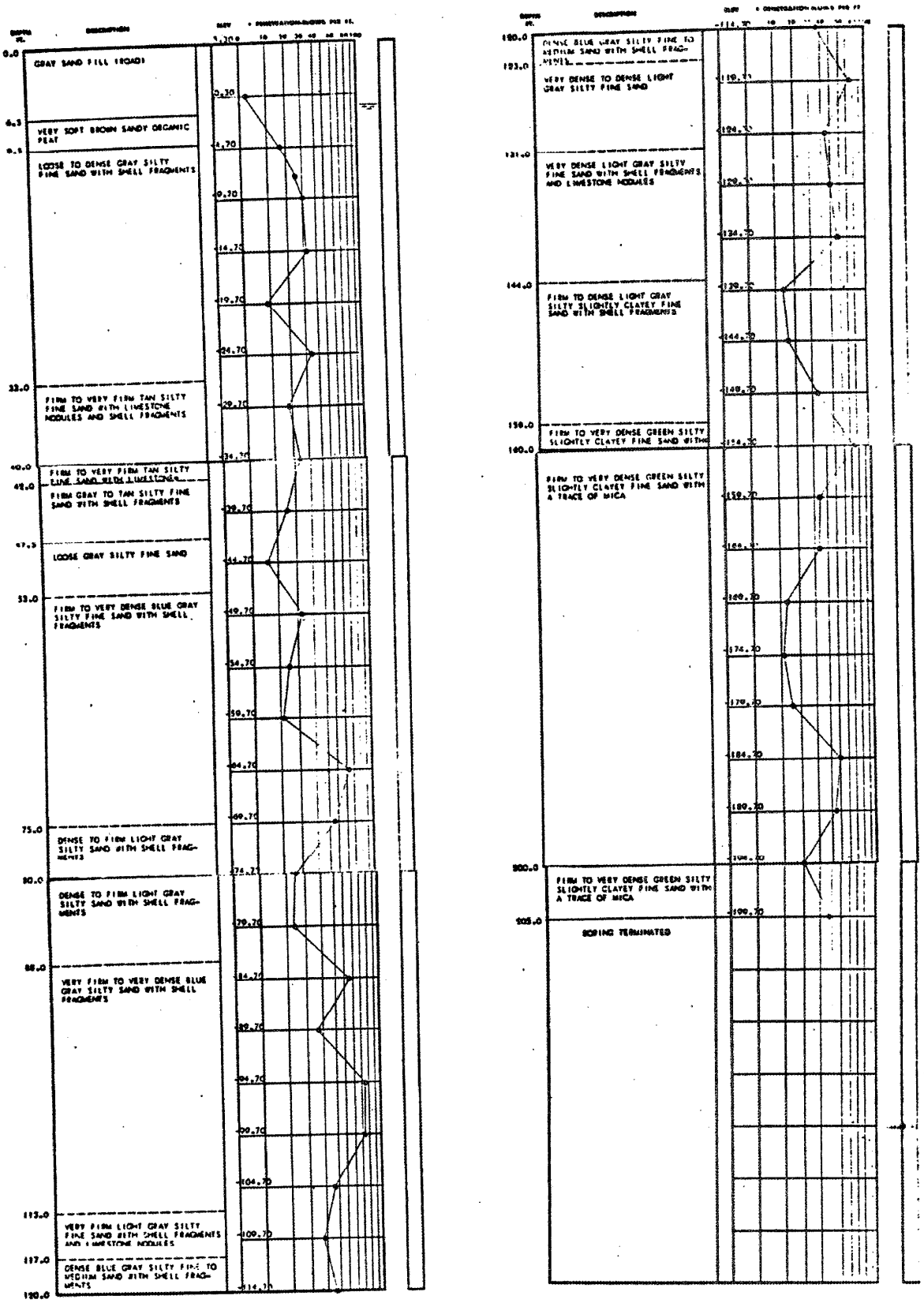
TEST BORING RECORD

BORING NO. B-101

DATE DRILLED 11/21/68

JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



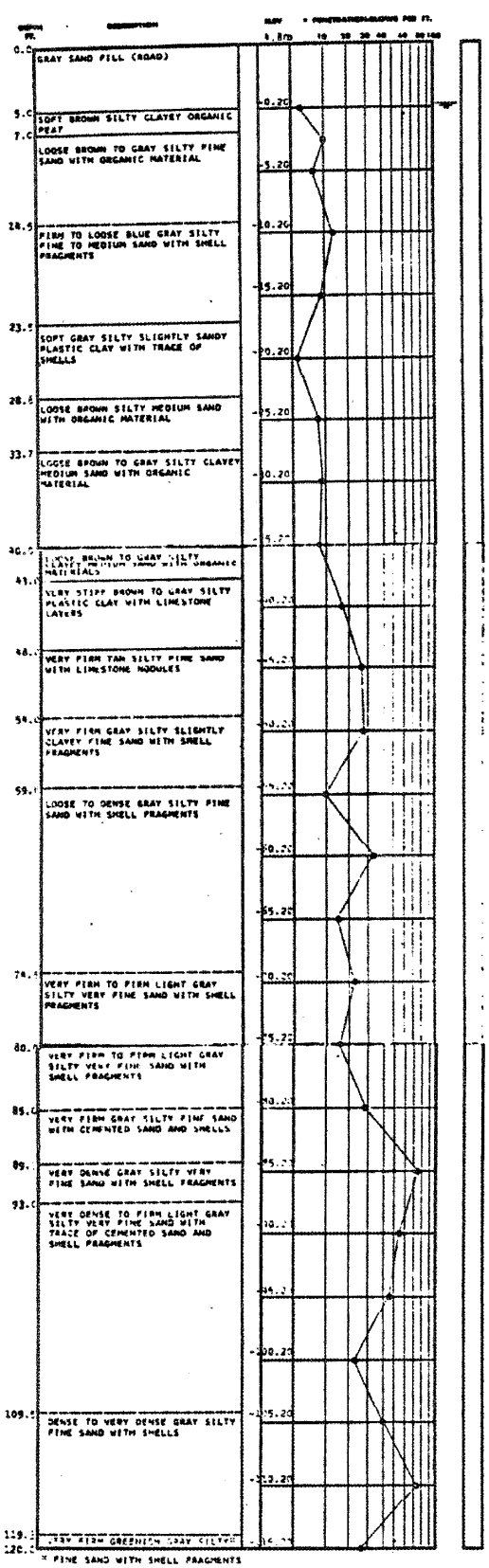
TEST BORING RECORD

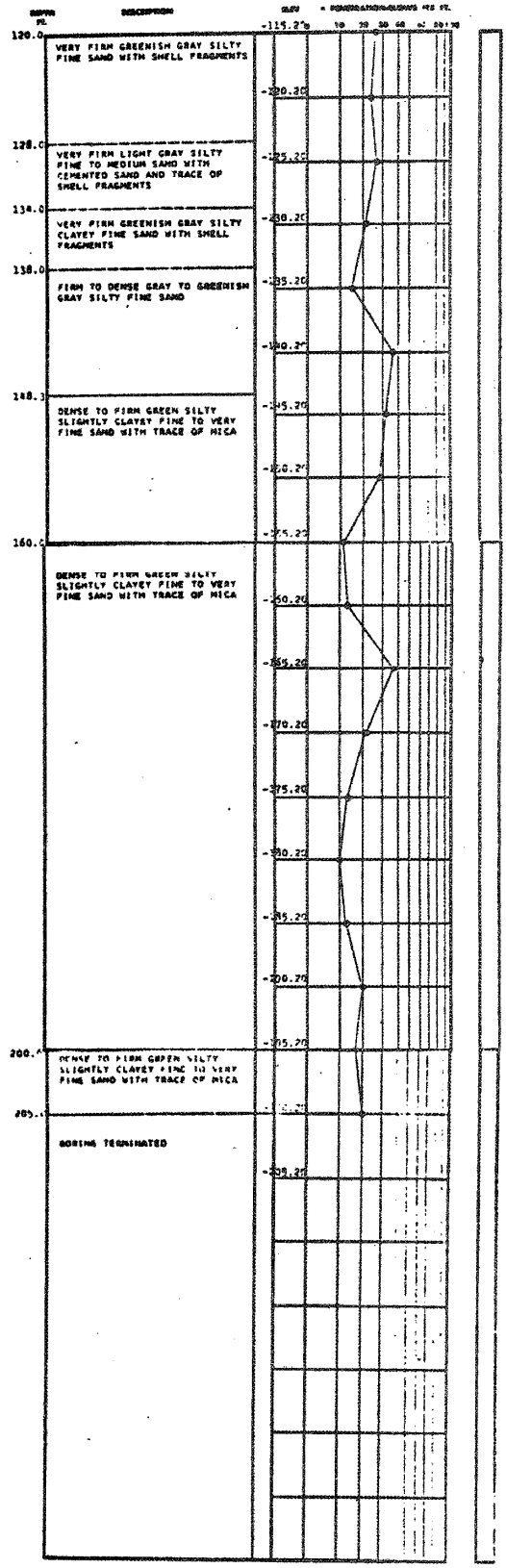
BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY
LEVEL OF DRILLING WATER

BORING NO. B-100
DATE DRILLED 12/4/68
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.





TEST BORING RECORD

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

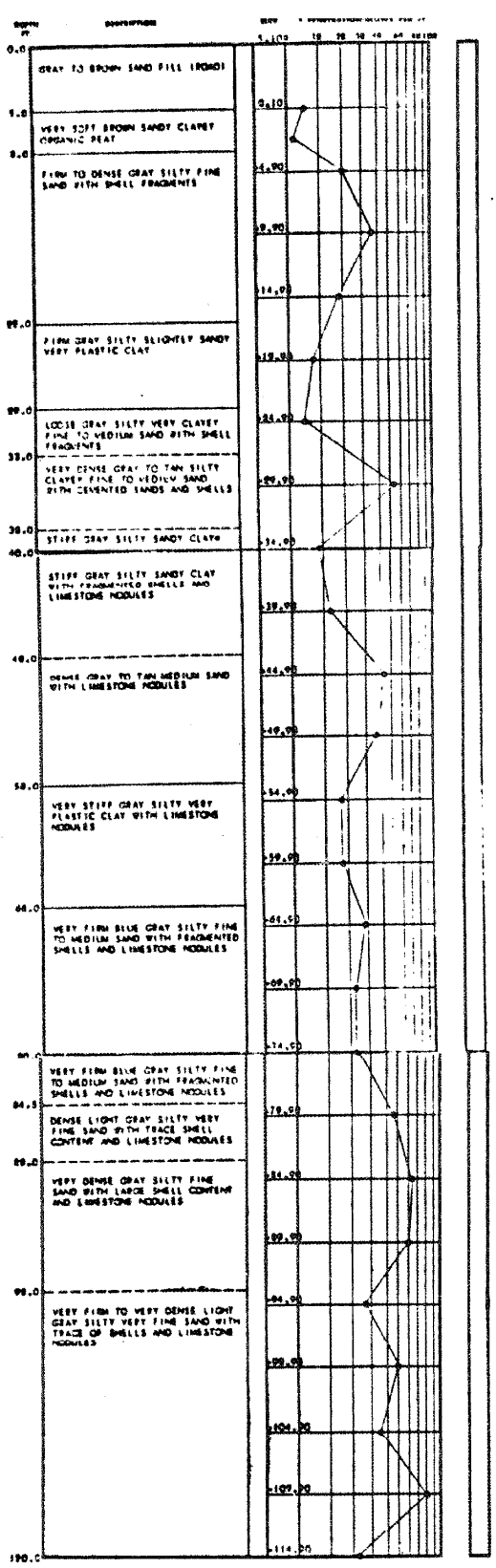
LOSS OF DRILLING WATER

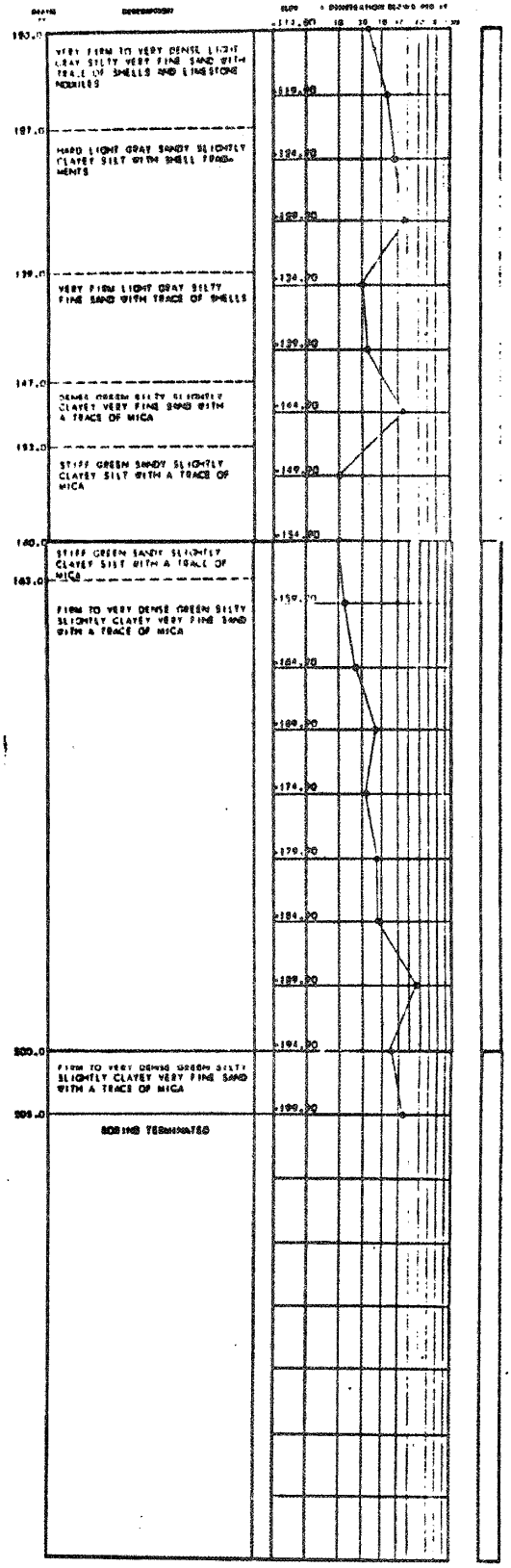
BORING NO. B-103

DATE DRILLED 1/13/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.





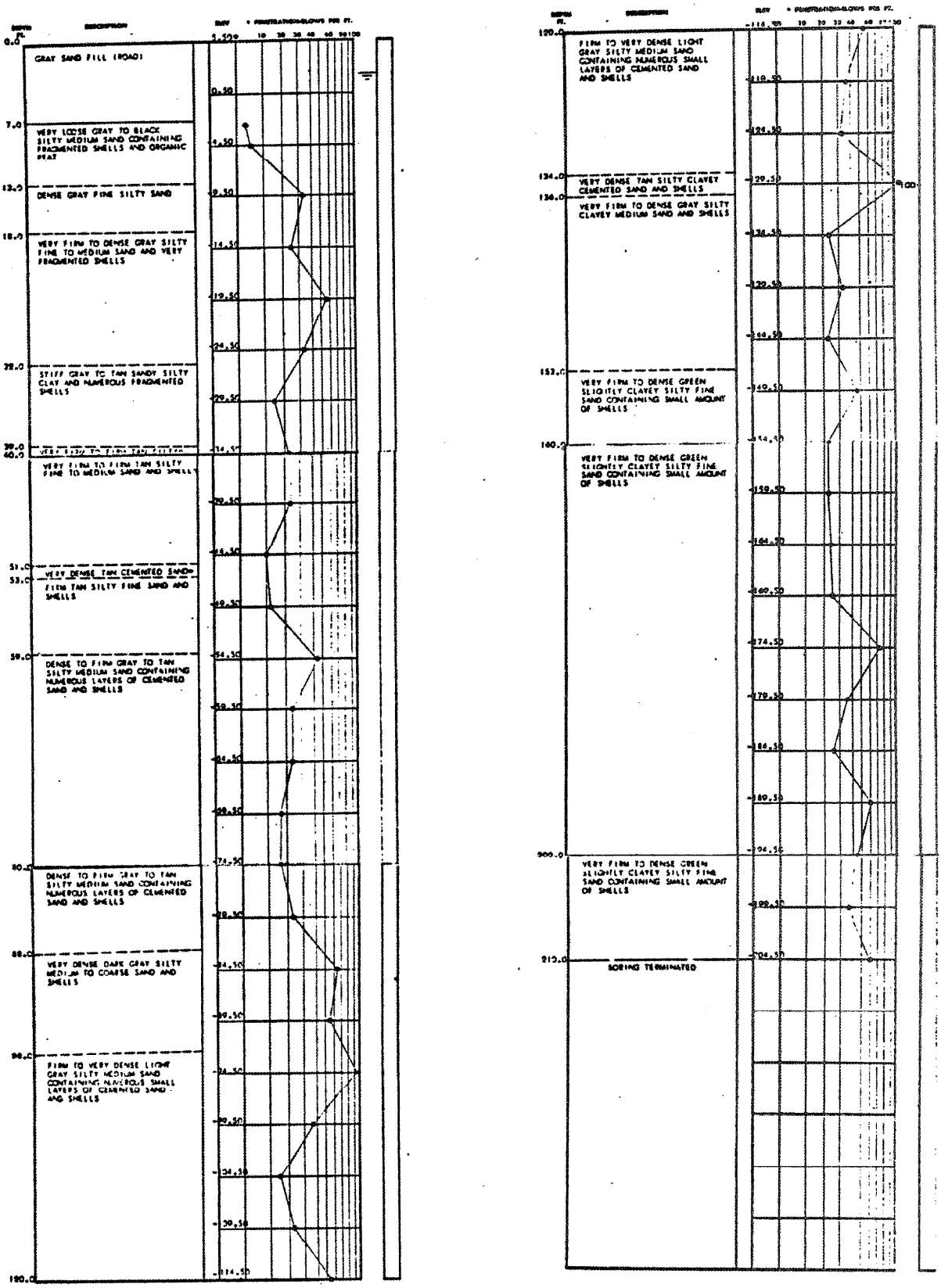
TEST BORING RECORD

BORING NO. B-104

DATE DRILLED 1/11/69

JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-105

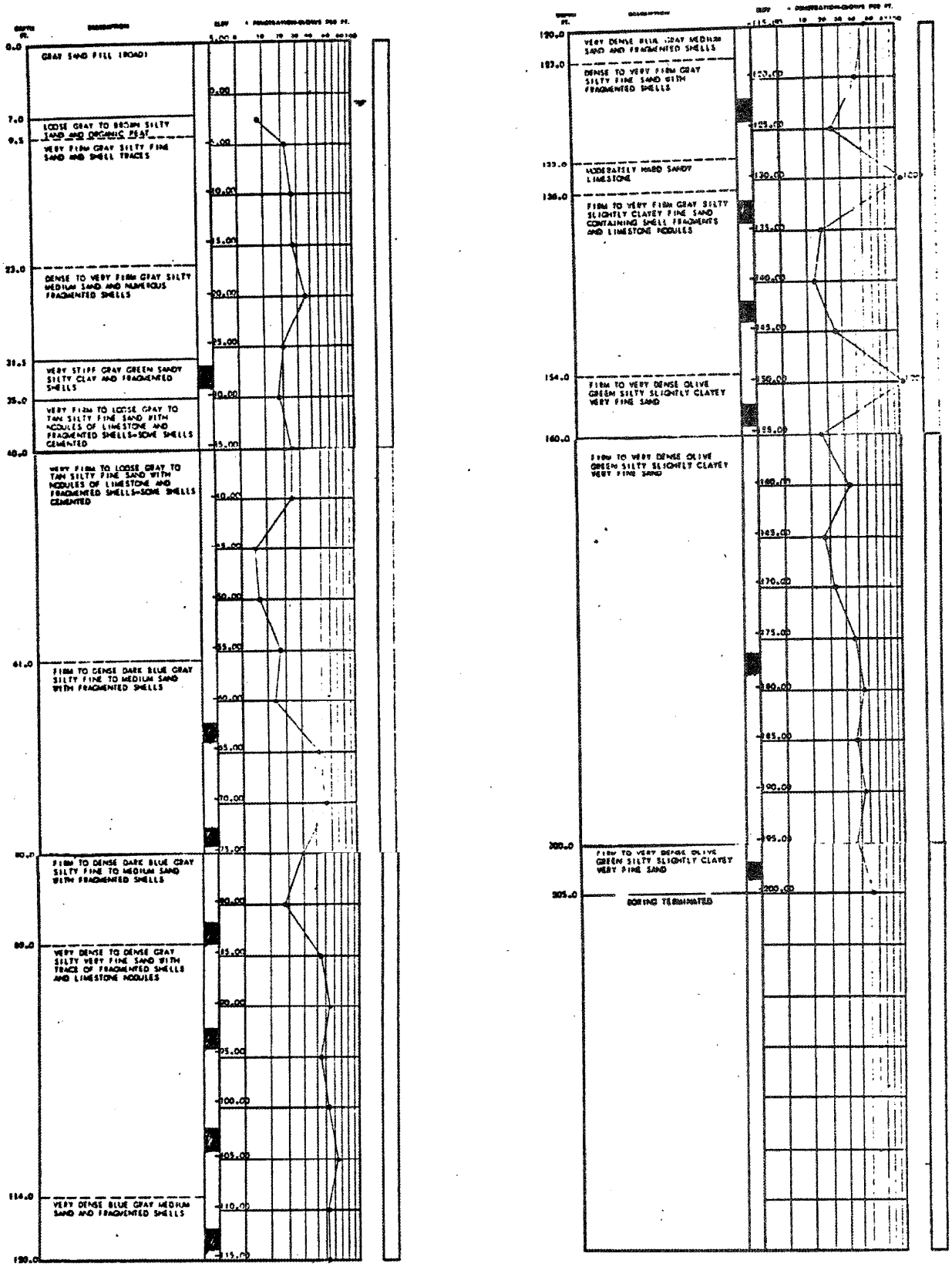
DATE DRILLED 11/18/68

JOB NO. J-1127

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING UNITS ASTM D-1586
CORE DRILLING UNITS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% BLOCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER



TEST BORING RECORD

BORING NO. B-1C6

DATE DRILLED 11/21/68

JOB NO. J-1127

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING METHOD ASTM D-1586
CORE DRILLING METHOD ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

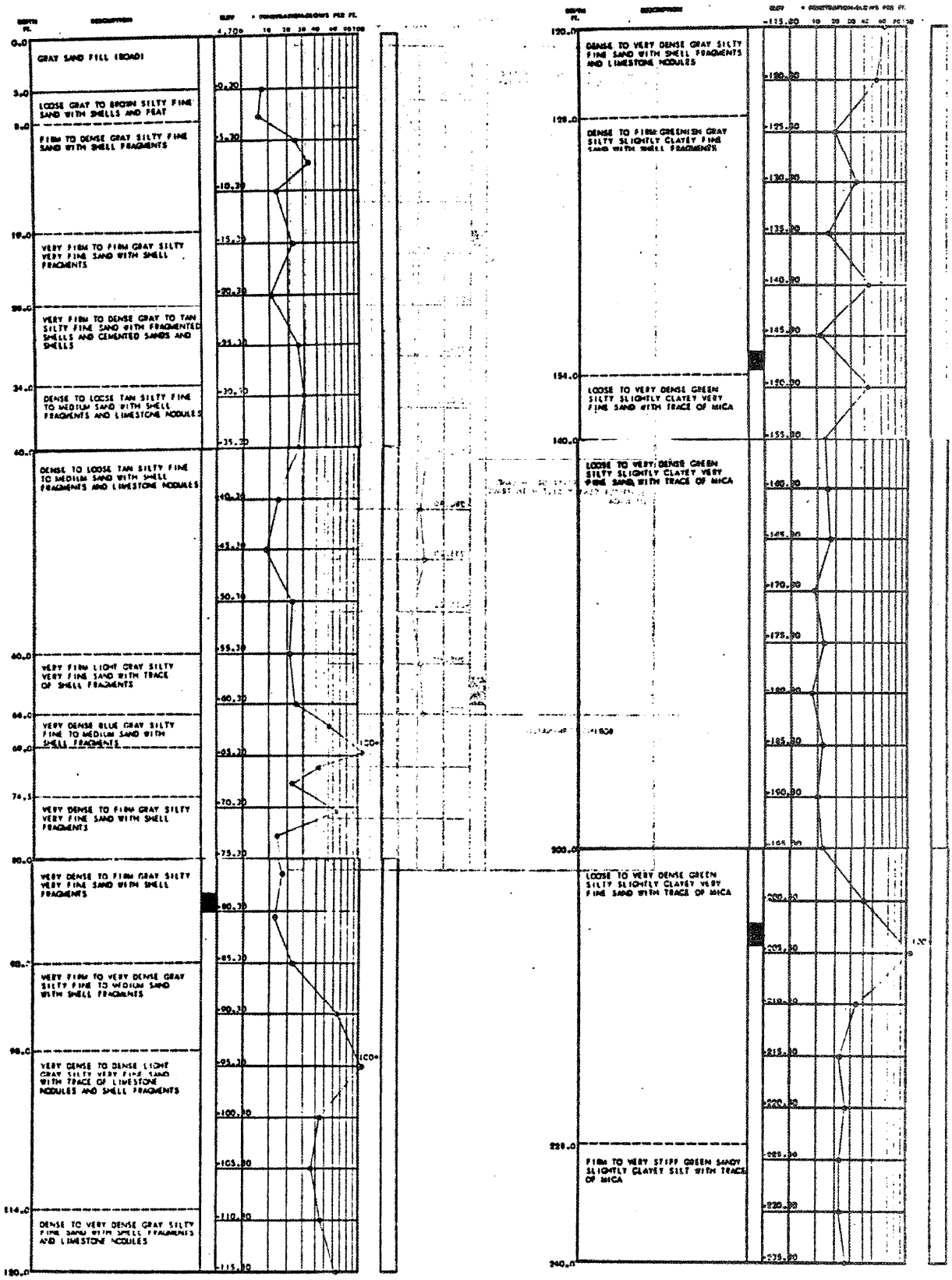
UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER



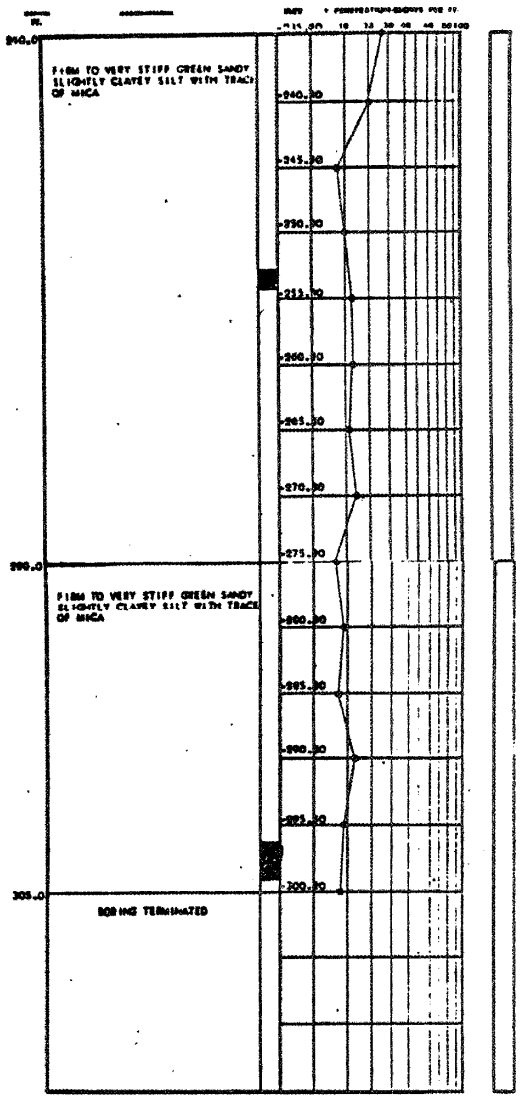
TEST BORING RECORD

BORING NO. B-107

DATE DRILLED 12/17/68

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



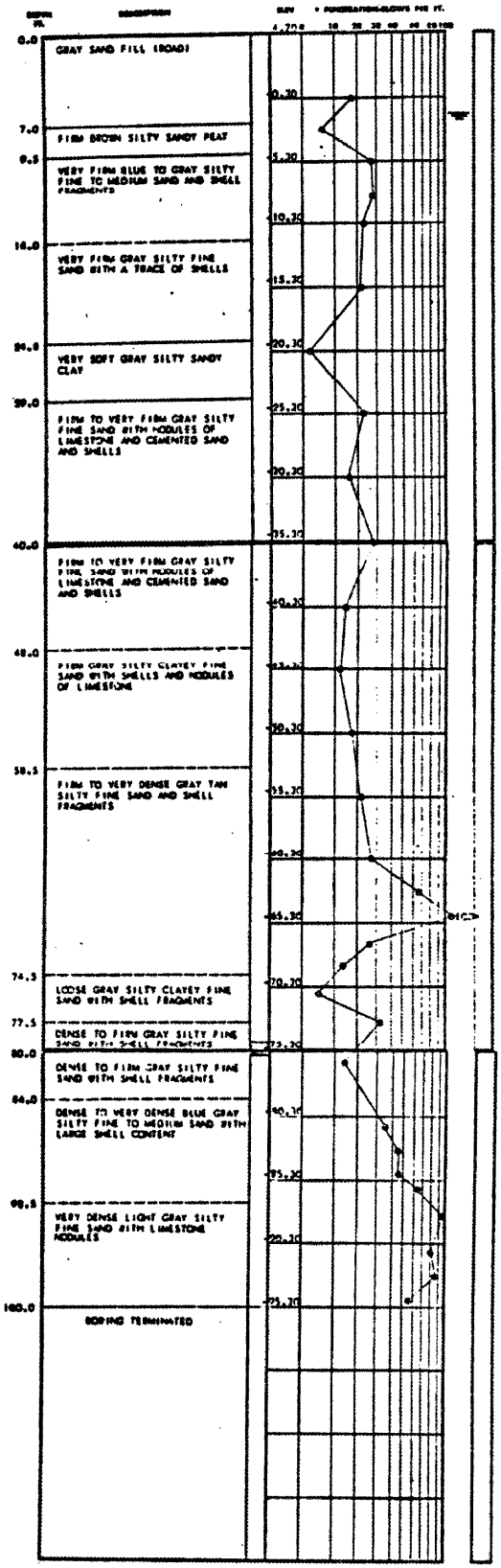
TEST BORING RECORD

BORING AND SAMPLING NOTES ASTM D-1586
CORE DRILLING NOTES ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE 30 MIN.
UNDISTURBED SAMPLE
WATER TABLE 1 HR.
% ROCK CORE RECOVERY
LEVEL OF DRILLING WATER

BORING NO. B-107
DATE DRILLED 12/17/68
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



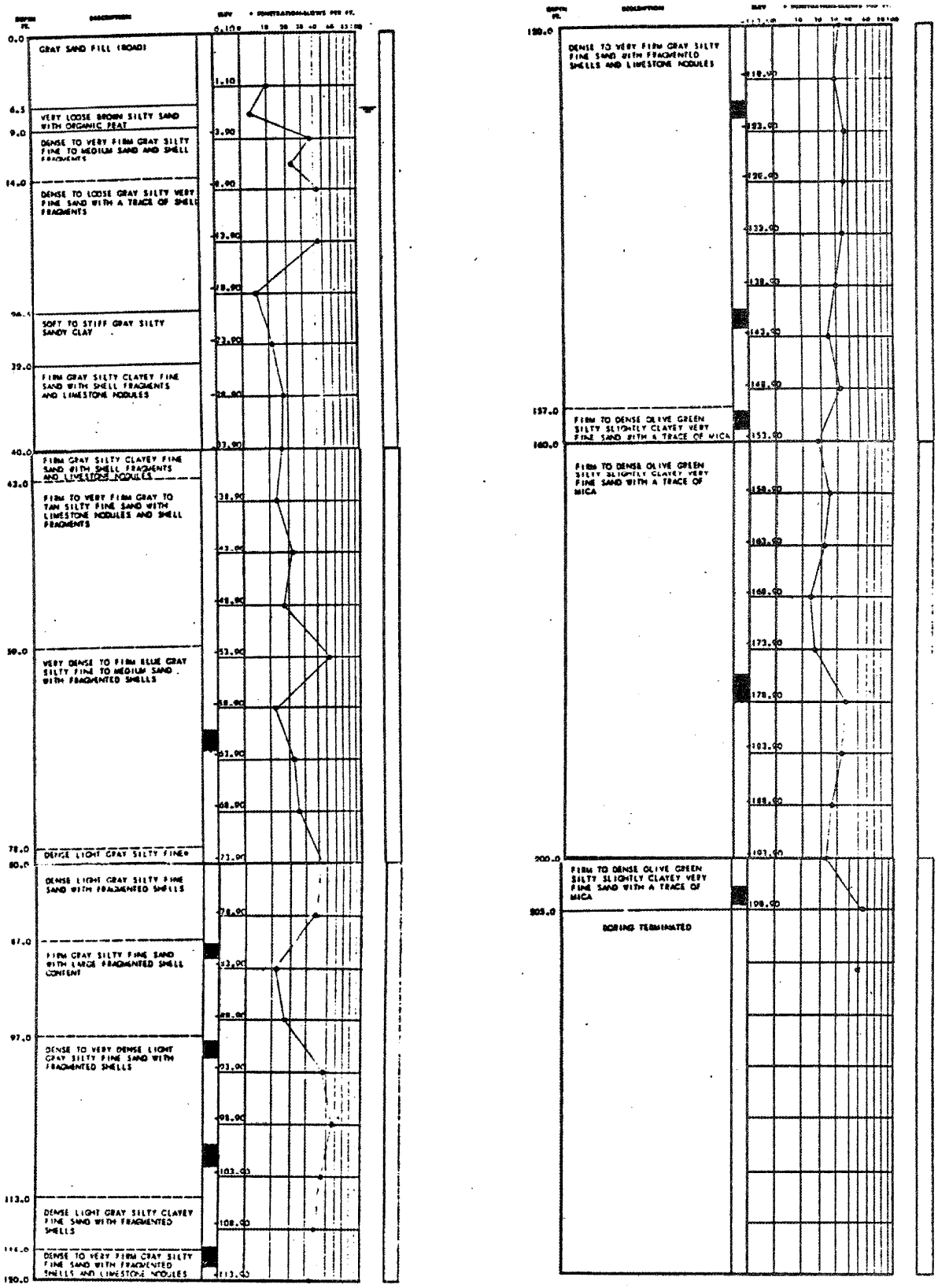
TEST BORING RECORD

BORING NO. B-107A

DATE DRILLED 12/10/68

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-108

DATE DRILLED 12/4/68

JOB NO. J-1127

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING ASTM D-1586
CORE DRILLING ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

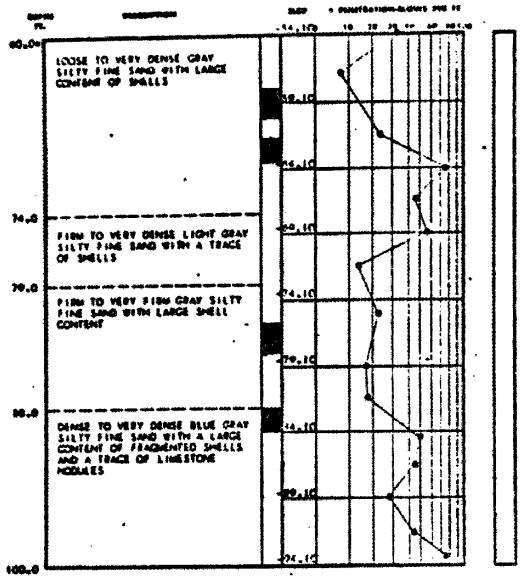
UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE 24 HR.

WATER TABLE 1 HR.

LOSS OF DRILLING WATER



BORING TERMINATED
* BORING ADVANCED USING FISHTAIL DRILLING TOOLS FROM 0 TO 60 FEET

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

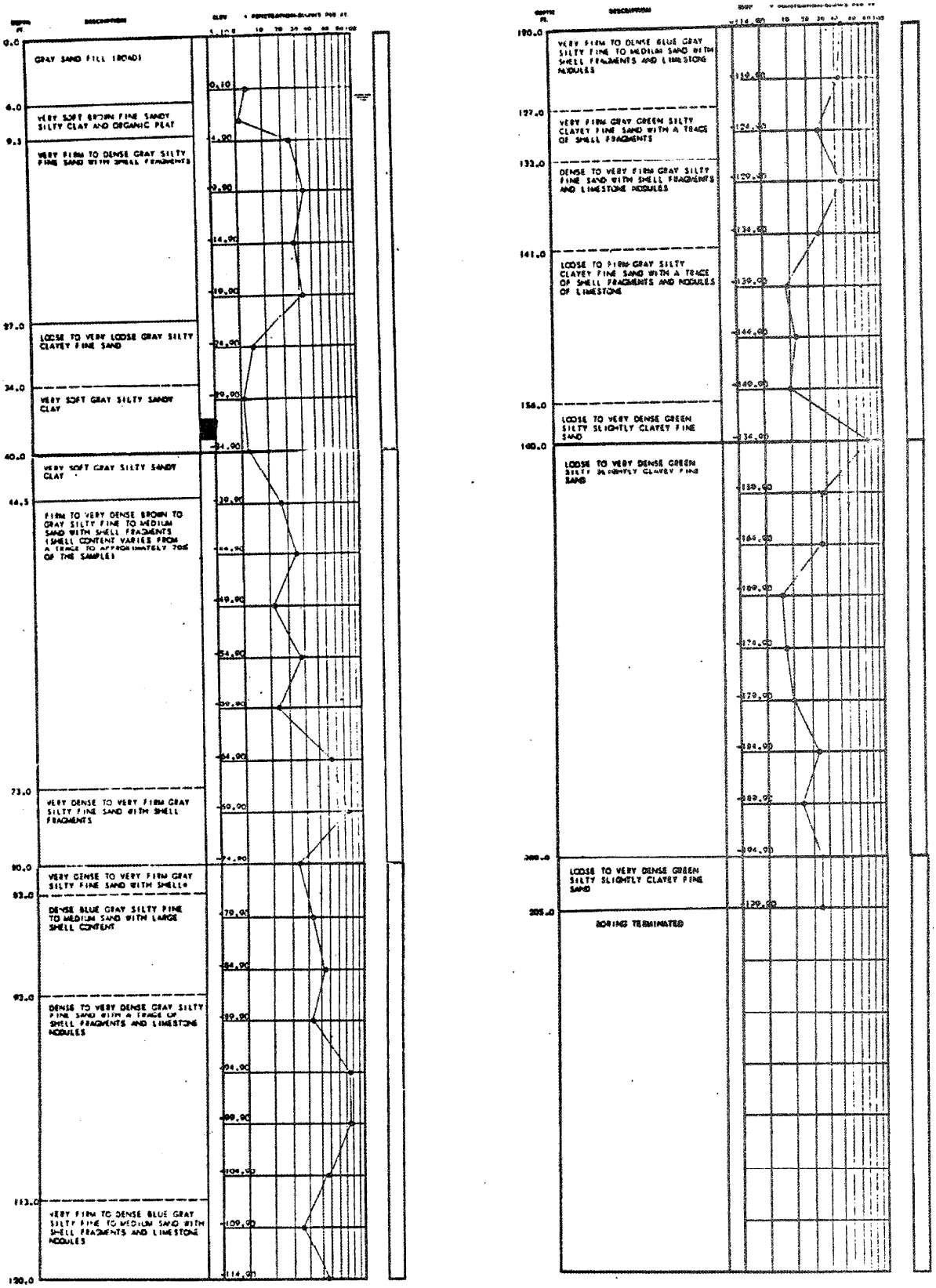
TEST BORING RECORD

BORING NO. B-109A

DATE DRILLED 12/11/68

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



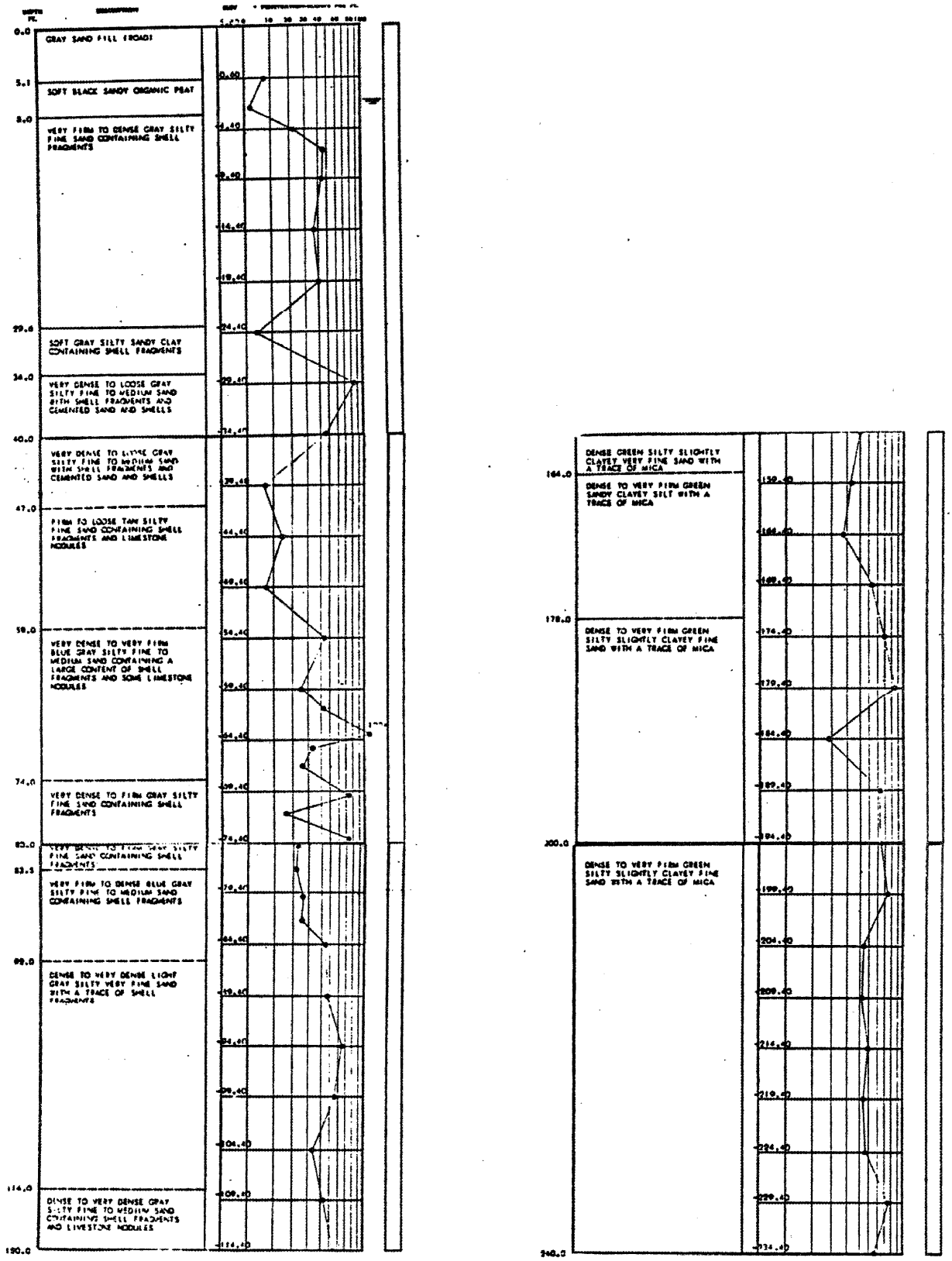
TEST BORING RECORD

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-109
DATE DRILLED 12/6/68
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



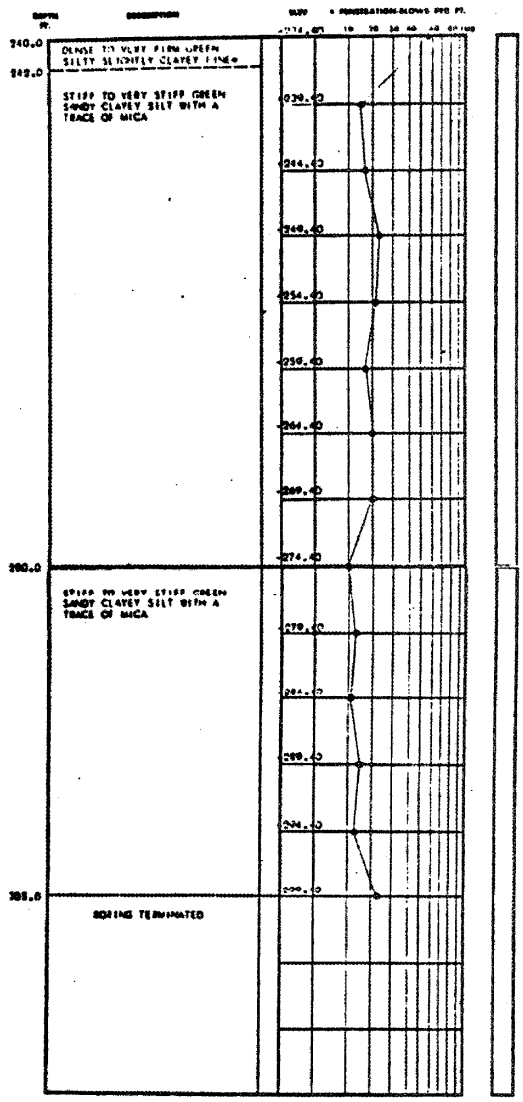
TEST BORING RECORD

BORING NO. B-110

DATE DRILLED 11/26/68

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



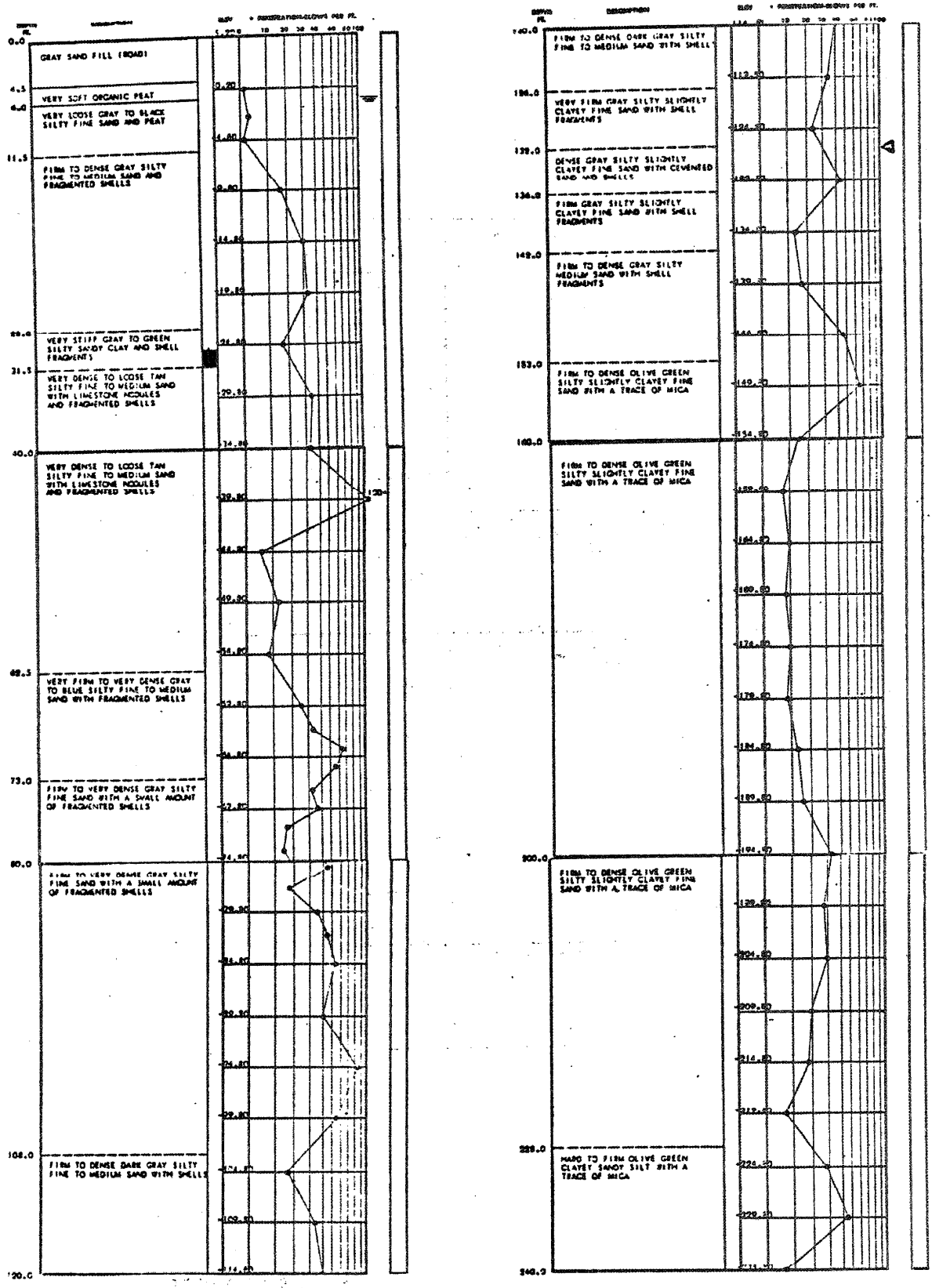
TEST BORING RECORD

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-110
DATE DRILLED 11/26/68
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



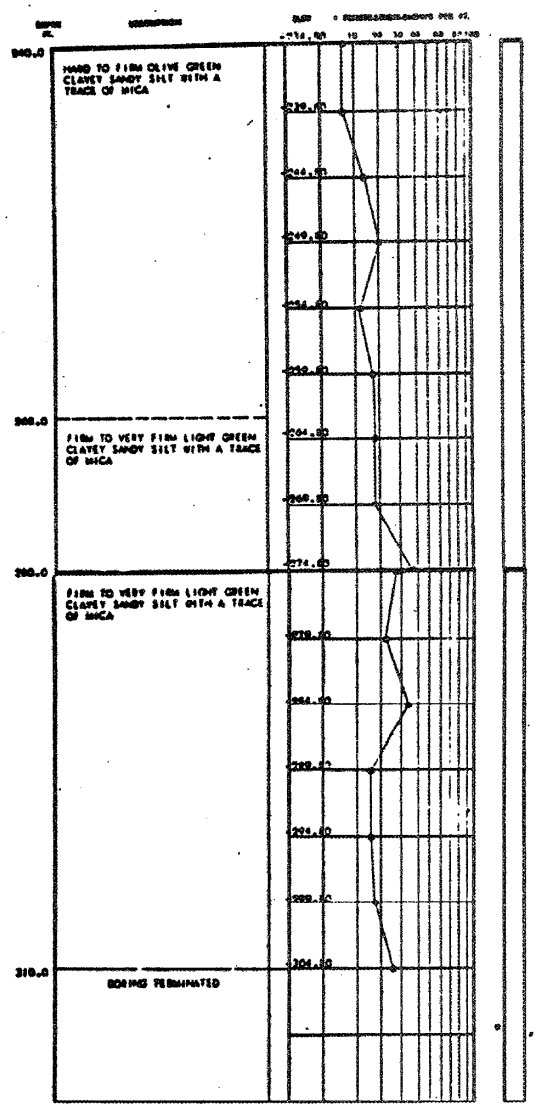
TEST BORING RECORD

BORING AND SAMPLING TESTS ASTM D-1586
CORE DRILLING TESTS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-111
DATE DRILLED 11/26/68
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



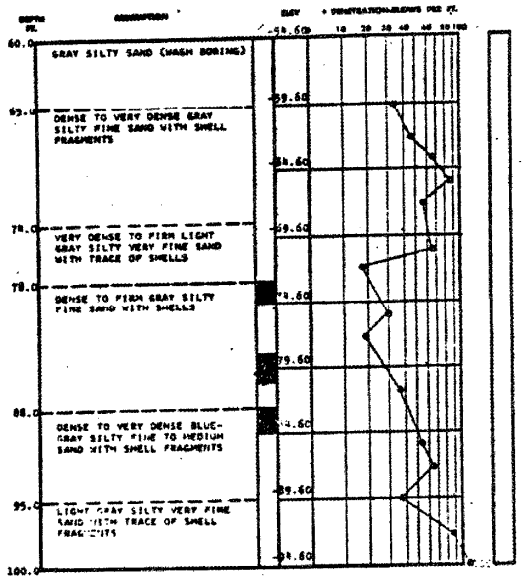
TEST BORING RECORD

BORING AND SAMPLING SHEET ASTM D-1586
CORE DRILLING SHEET ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
UNDISTURBED SAMPLE
% CORE CORE RECOVERY
LOSS OF DRILLING WATER

BORING NO. B-111
DATE DRILLED 11/26/68
JOB NO. L-1127

LAW ENGINEERING TESTING CO.



BORING ADVANCED USING FISHTAIL DRILLING TOOLS FROM 0 TO 60 FEET.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

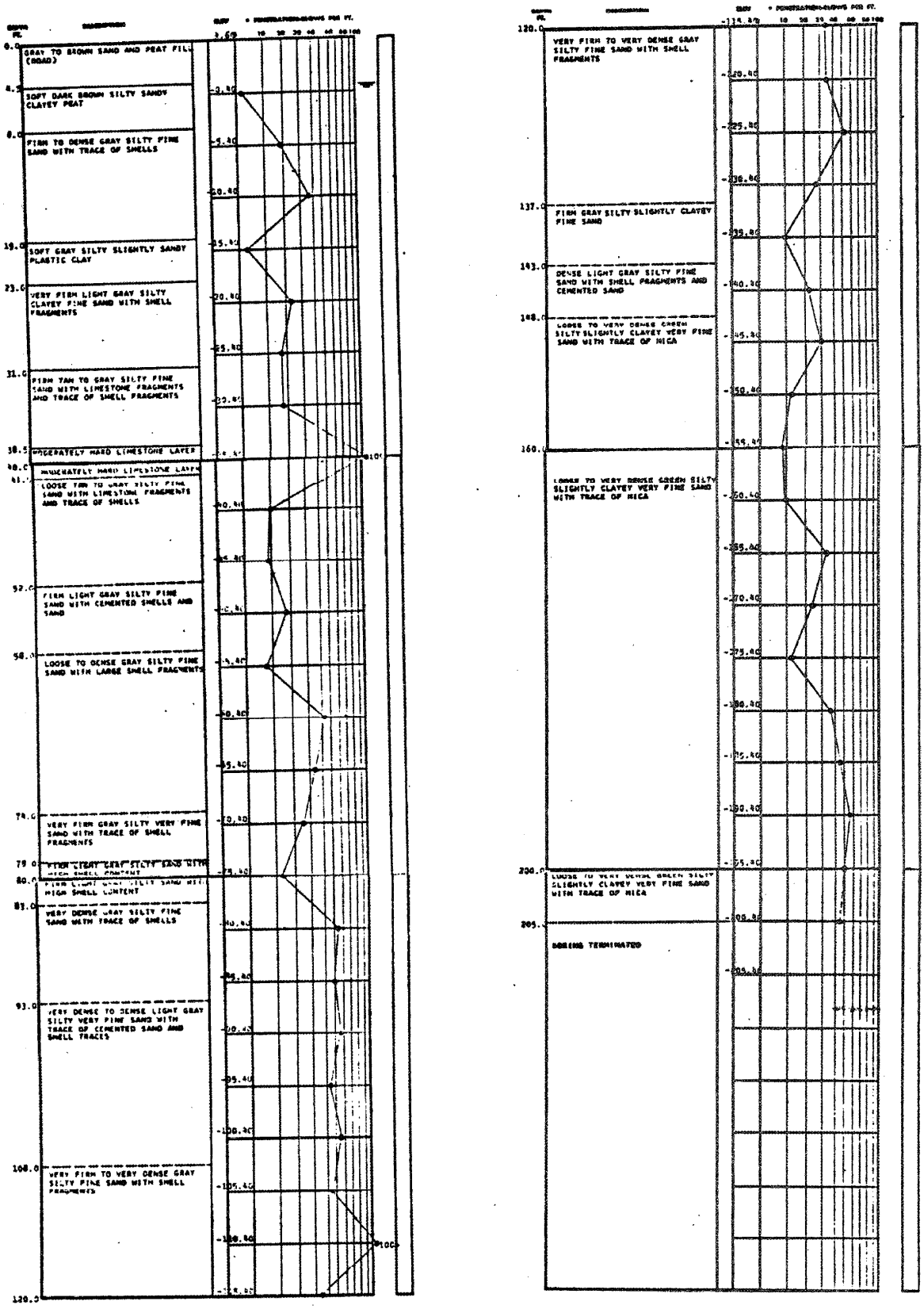
TEST BORING RECORD

BORING NO. B-111A

DATE DRILLED 1/22/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



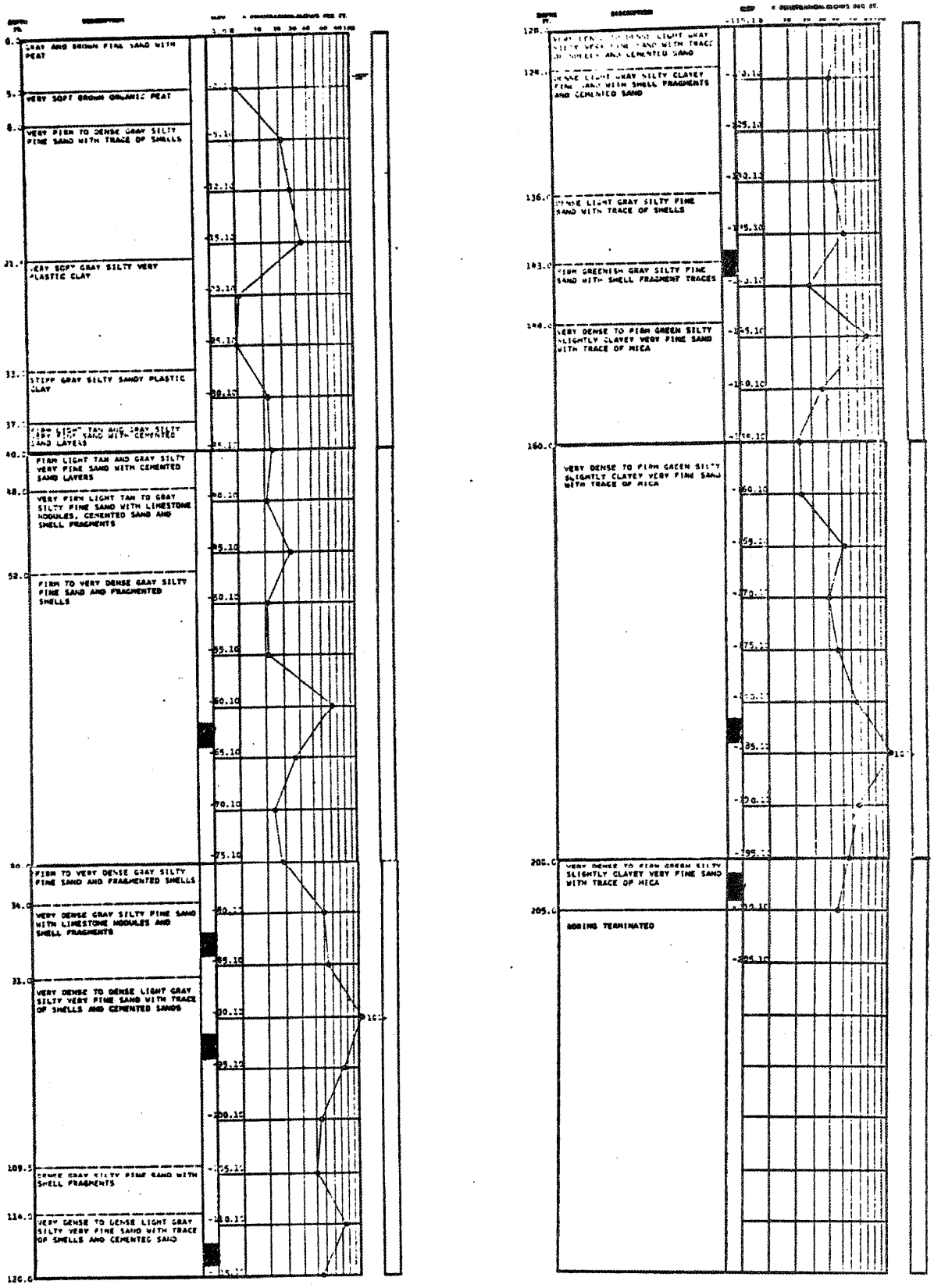
TEST BORING RECORD

BORING AND SAMPLING METH. ASTM D-1586
CORE DRILLING METH. ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
UNDISTURBED SAMPLE
% SOIL CORE RECOVERY
LOSS OF DRILLING WATER

BORING NO. B-112
DATE DRILLED 1/16/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

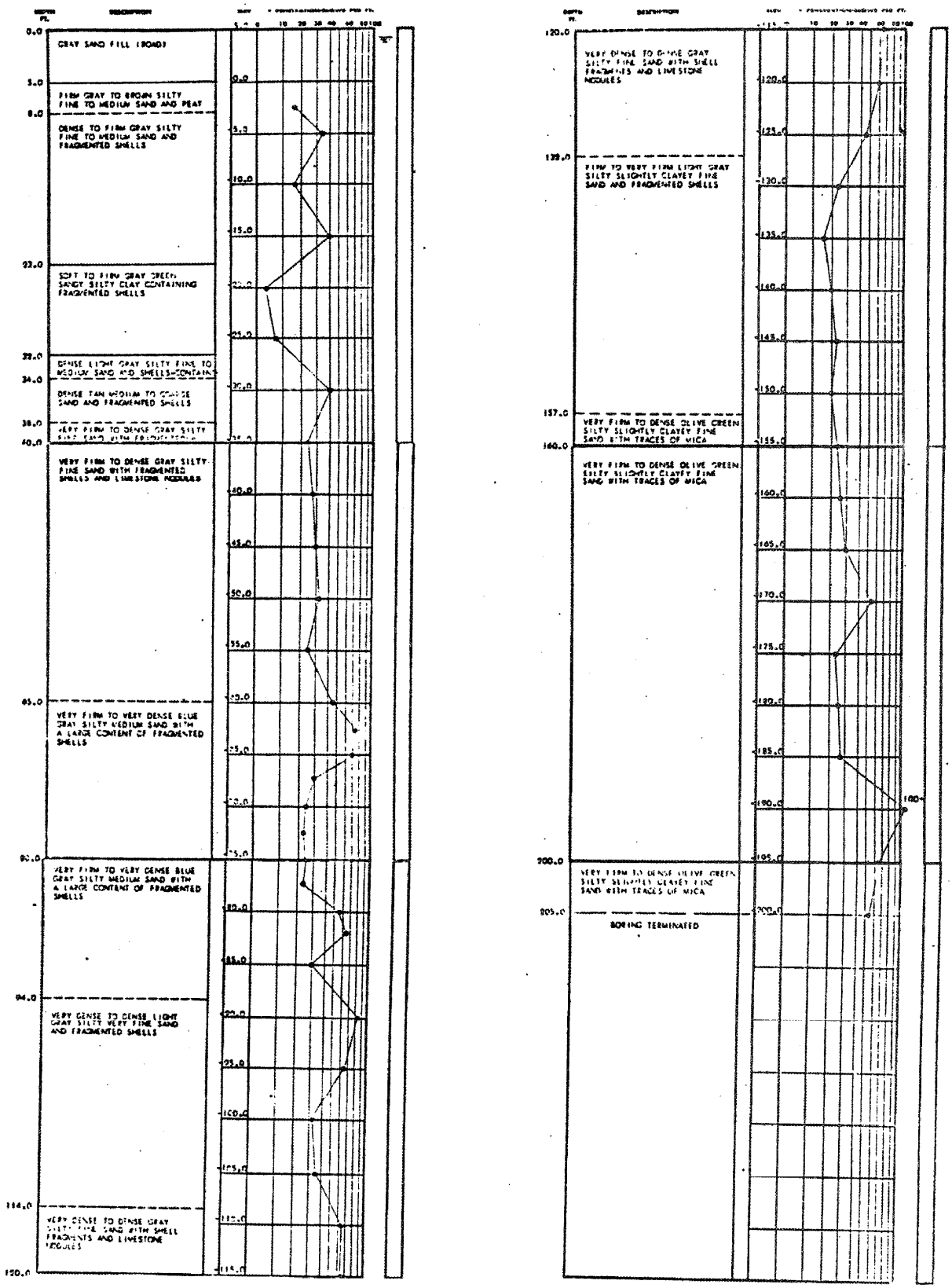
BORING AND SAMPLING ASTM D-1586
CORE DRILLING ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
UNDISTURBED SAMPLE
% INDEX CORE RECOVERY
LOSS OF DRILLING WATER

BORING NO. B-113
DATE DRILLED 1/11/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



*NODULES OF CEMENTED SAND AND SHELLS
**SHELLS AND LIMESTONE NODULES

BORING AND SAMPLING PER ASTM D-1586
CORE DRILLING PER ASTM D-2113

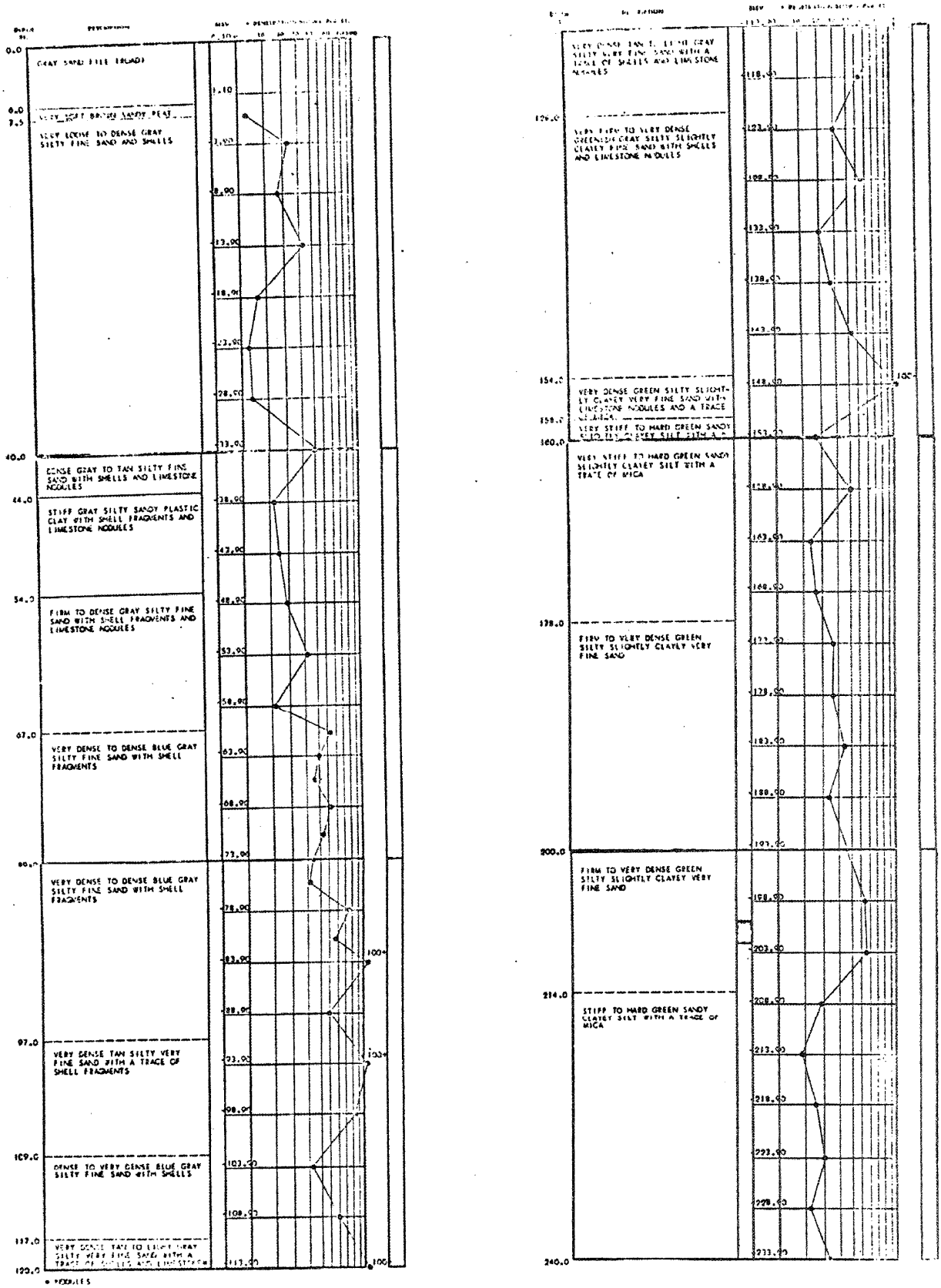
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. B-114
DATE DRILLED 11/27/68
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-114A

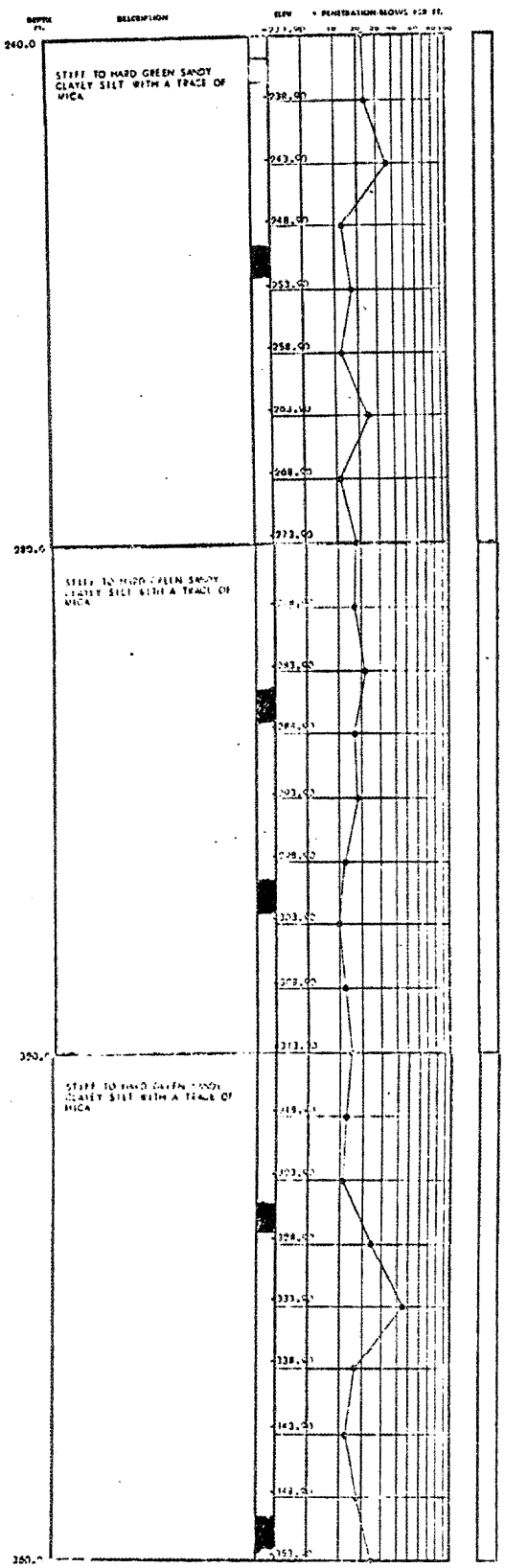
DATE DRILLED 12/2/68

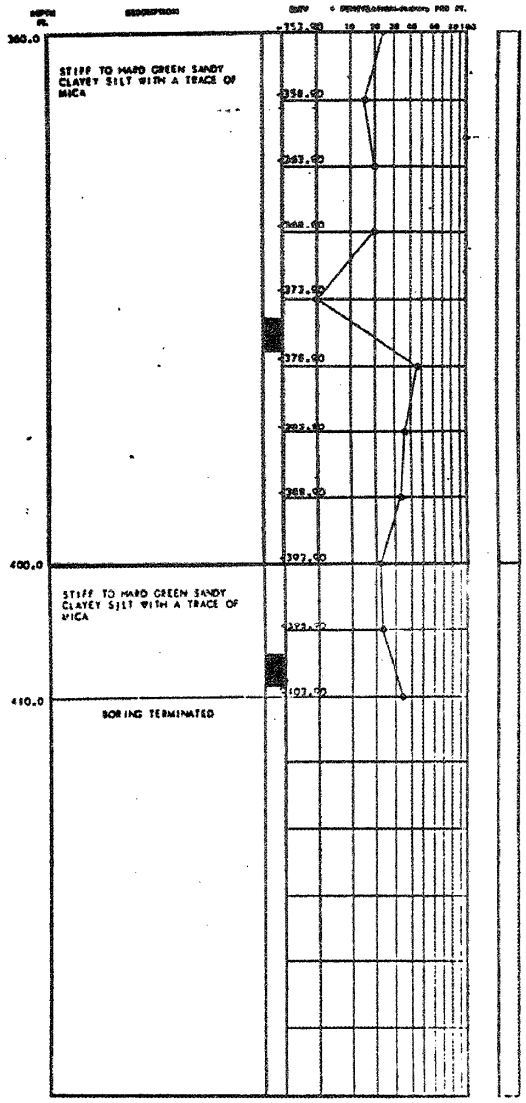
JOB NO. J-1127

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.





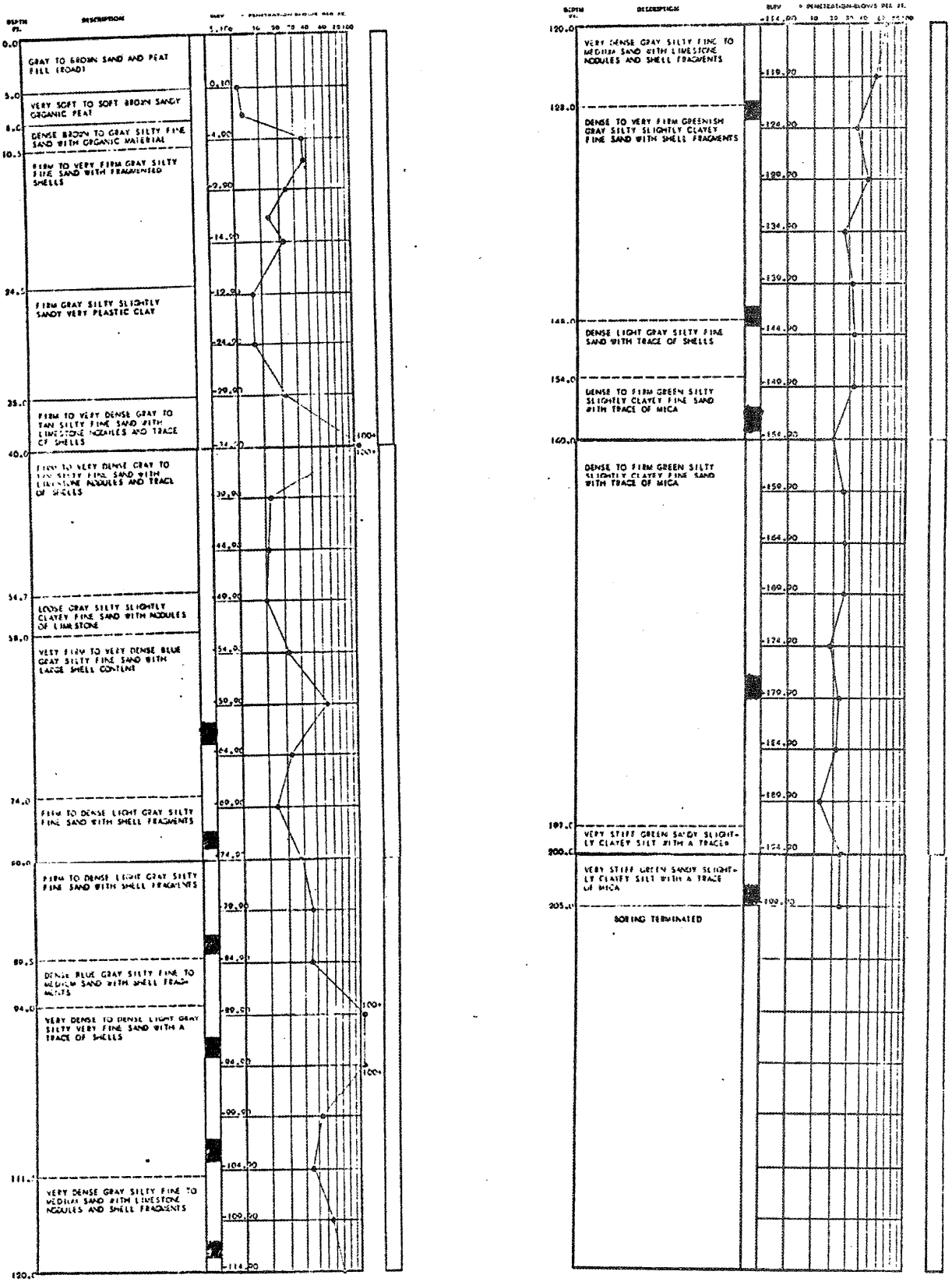
TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-114A
DATE DRILLED 12/2/68
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



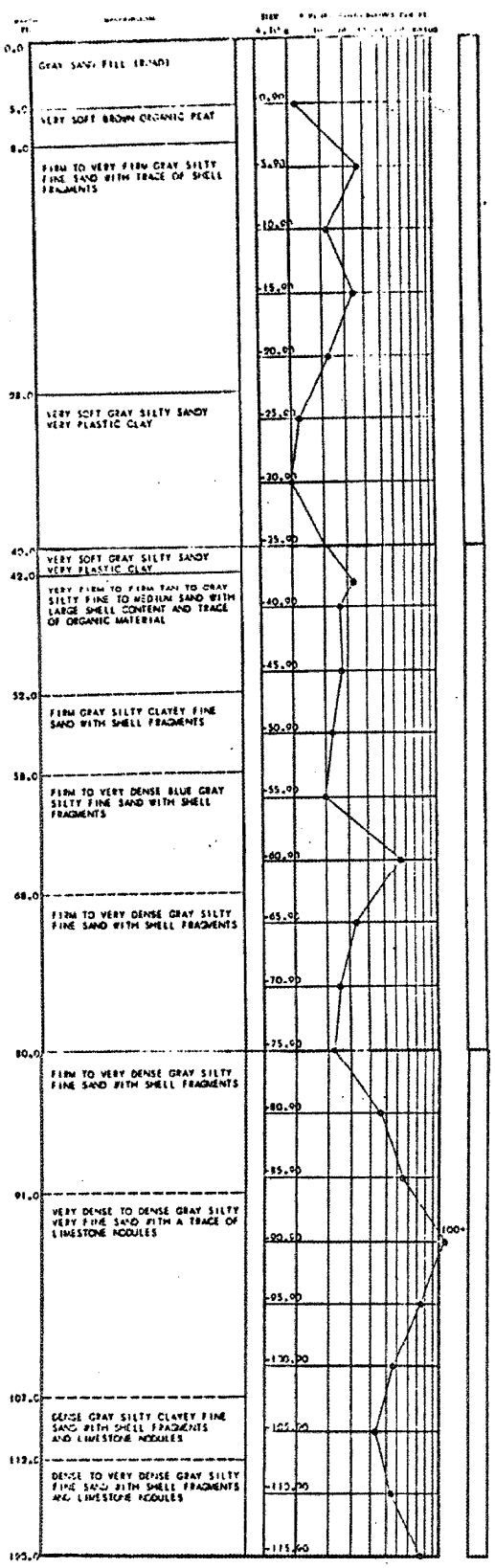
TEST BORING RECORD

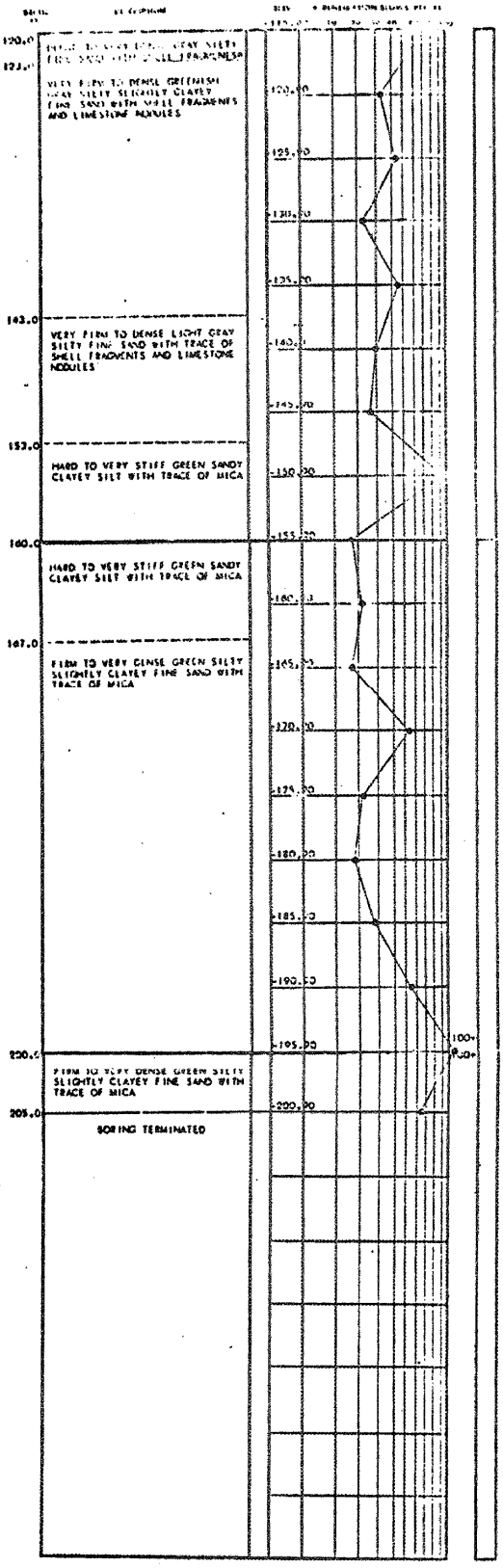
BORING NO. B-115

DATE DRILLED 1/7/69

JOB NO. 1-1127

LAW ENGINEERING TESTING CO.





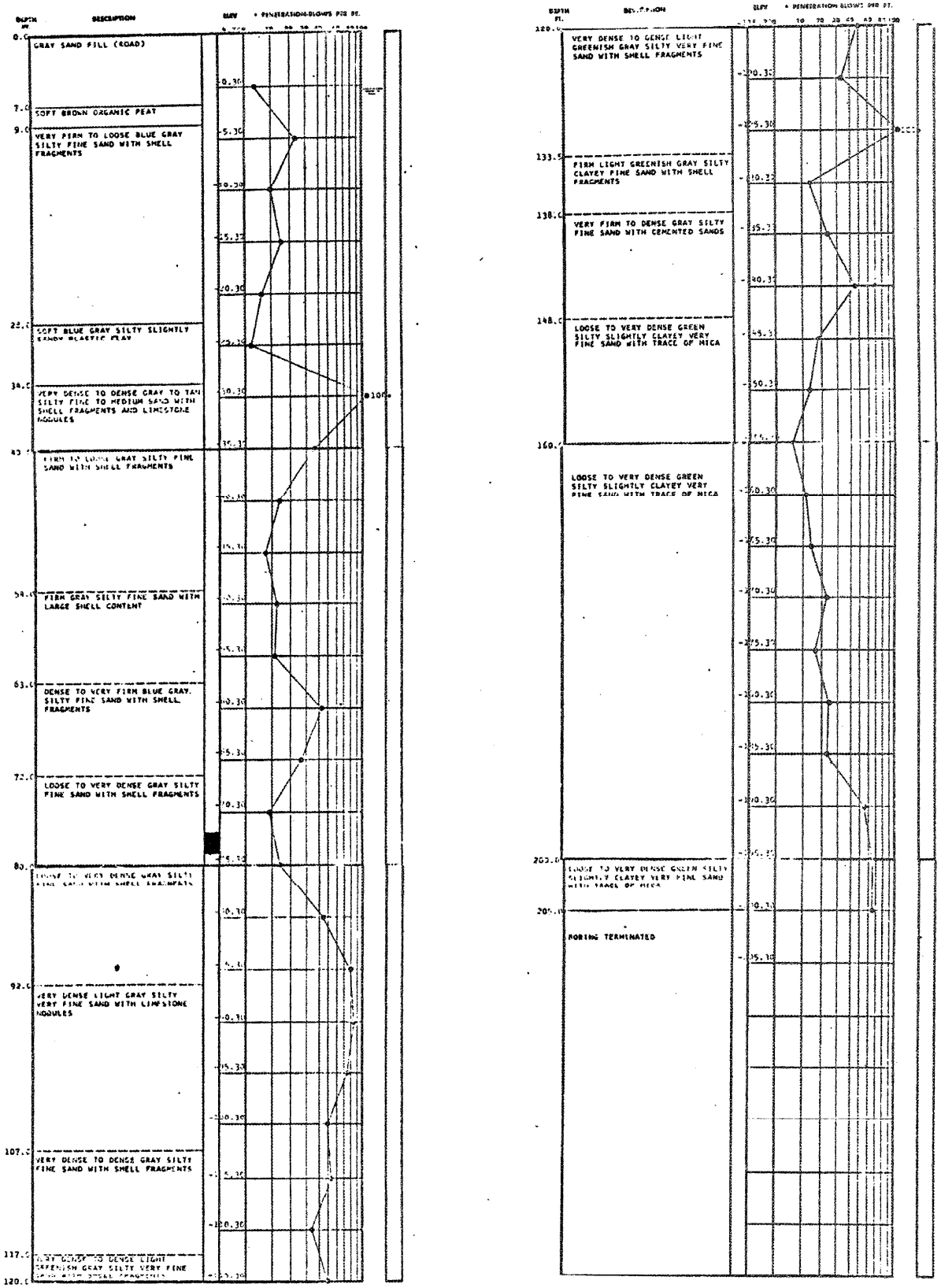
TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LEVEL OF DRILLING WATER

BORING NO. B-116
DATE DRILLED 12/18/68
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING ASTM ASTM D-1586
CORE DRILLING ASTM ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

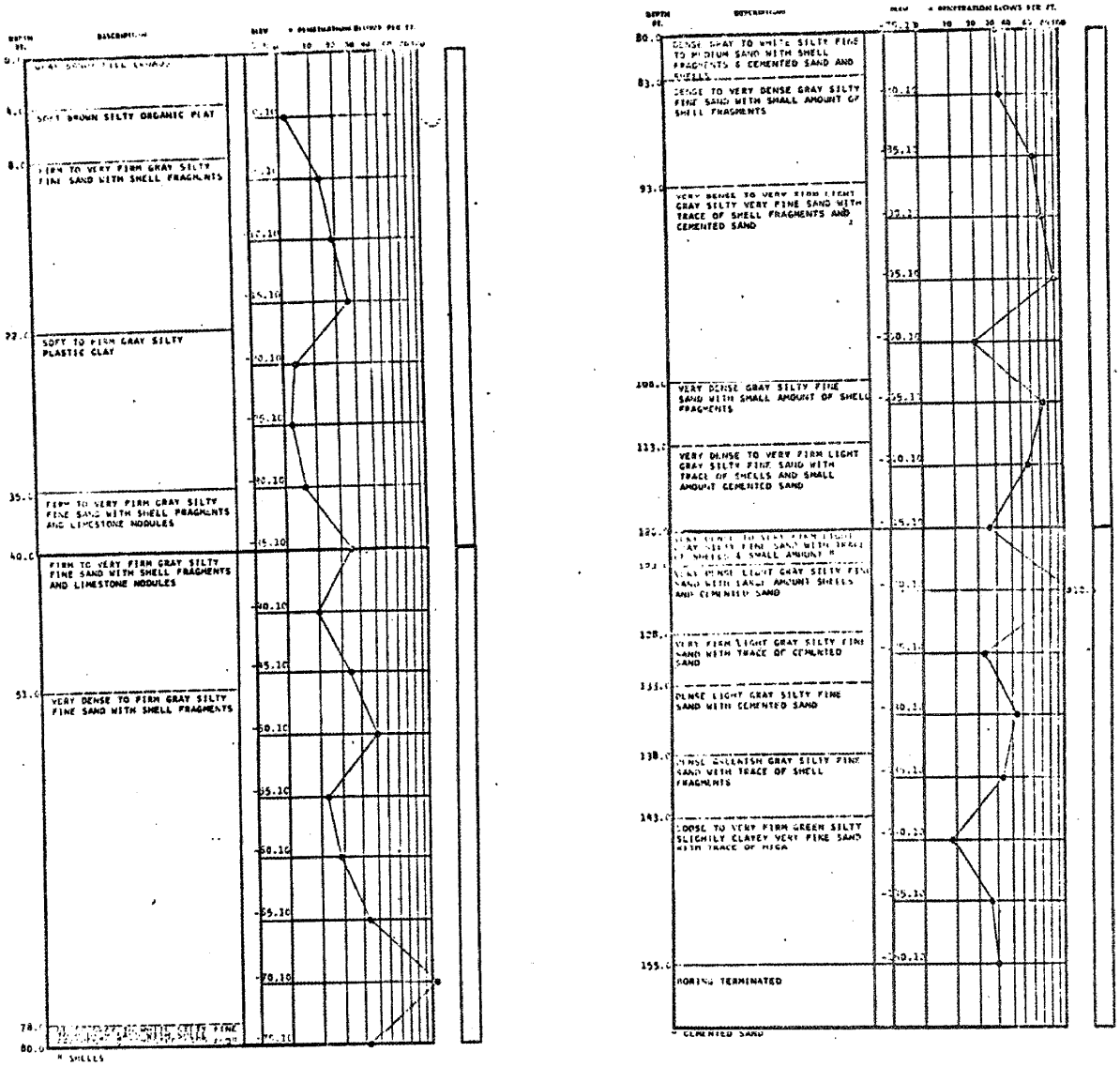
LOSS OF DRILLING WATER

BORING NO. B-117

DATE DRILLED 1/08/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



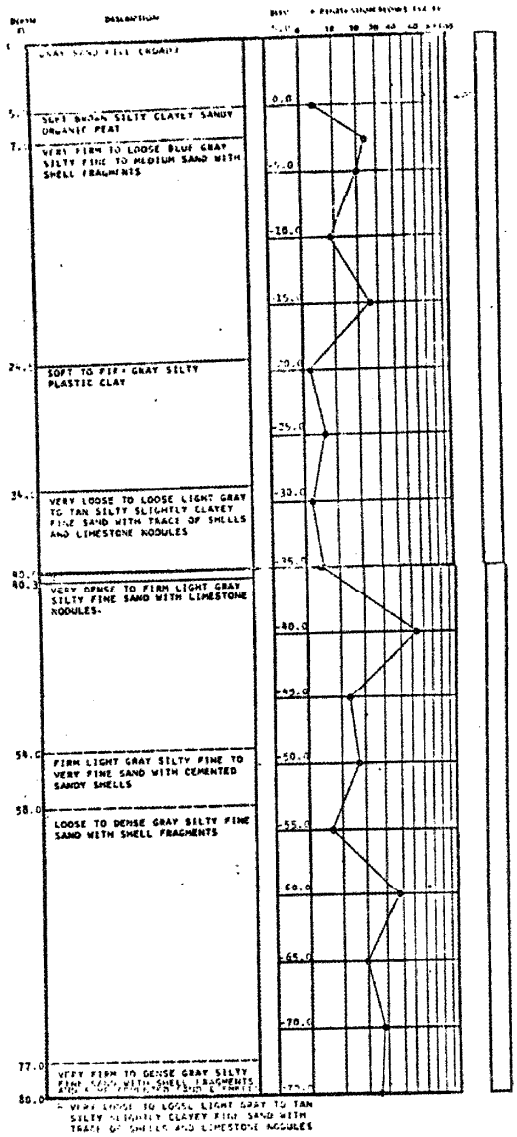
TEST BORING RECORD

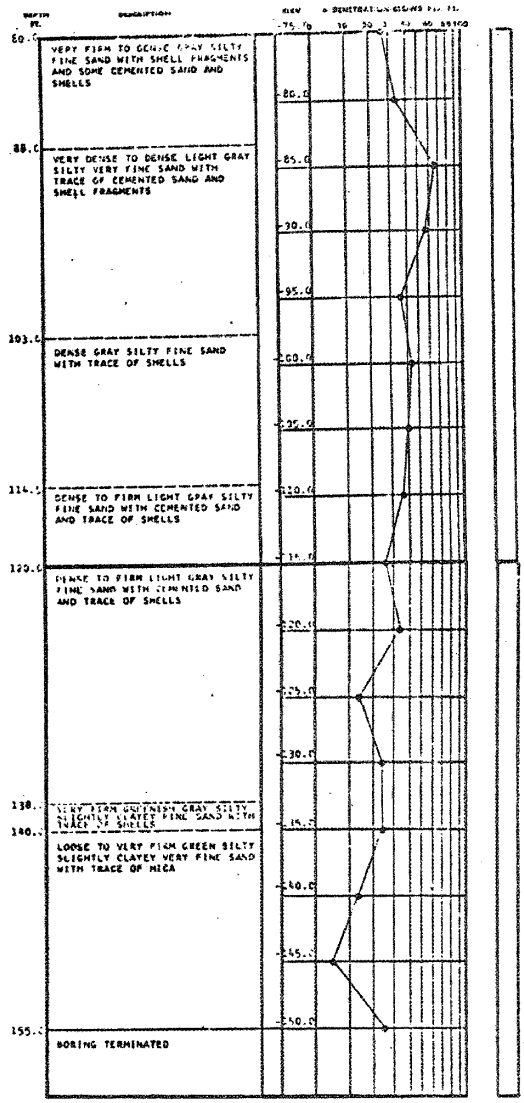
BORING NO. B-118

DATE DRILLED 1/18/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.





TEST BORING RECORD

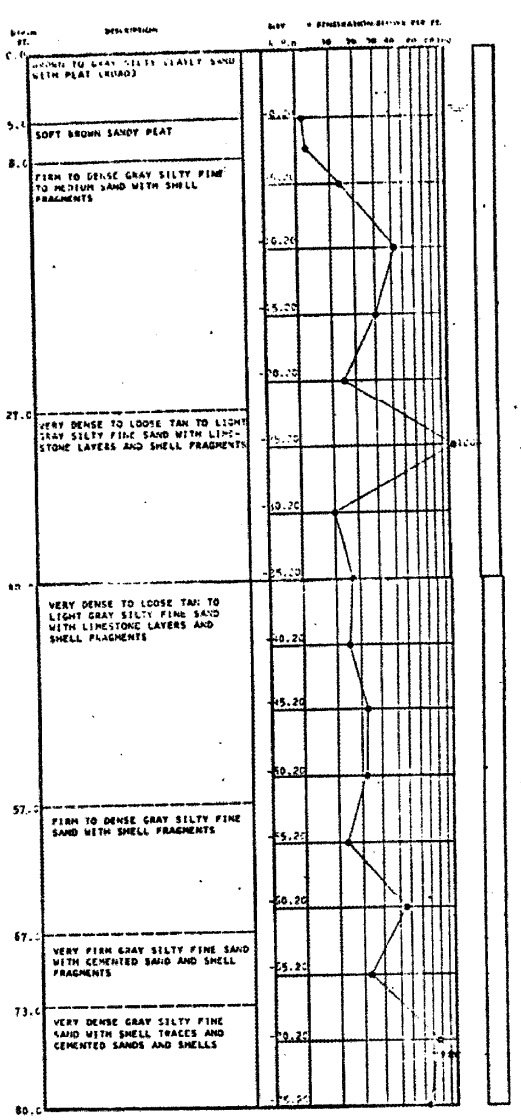
BORING AND SAMPLING METTS ASTM D-1586
CORE DRILLING METTS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

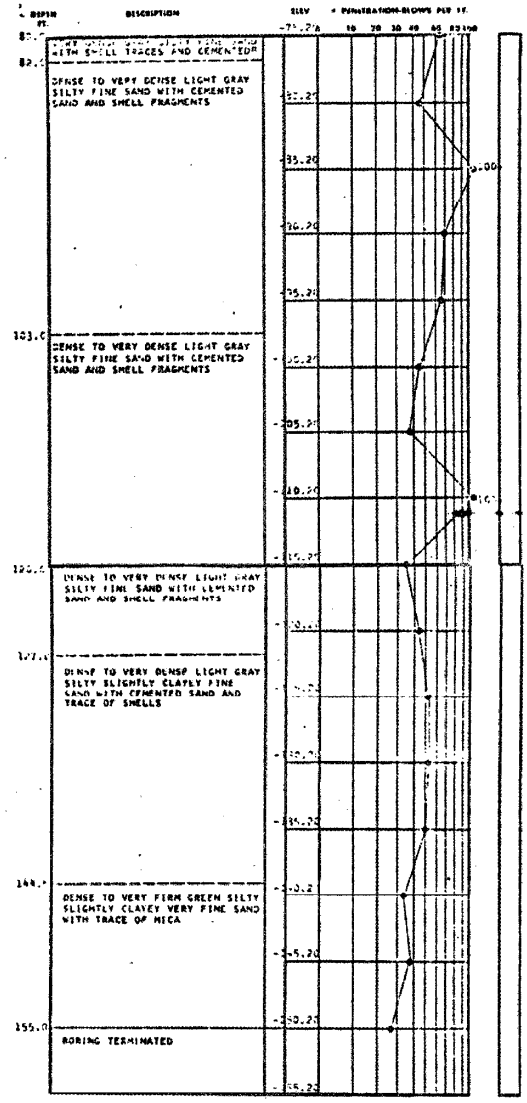
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-119
DATE DRILLED 1/18/69
JOB NO. J-1127

2.5A-55

LAW ENGINEERING TESTING CO.





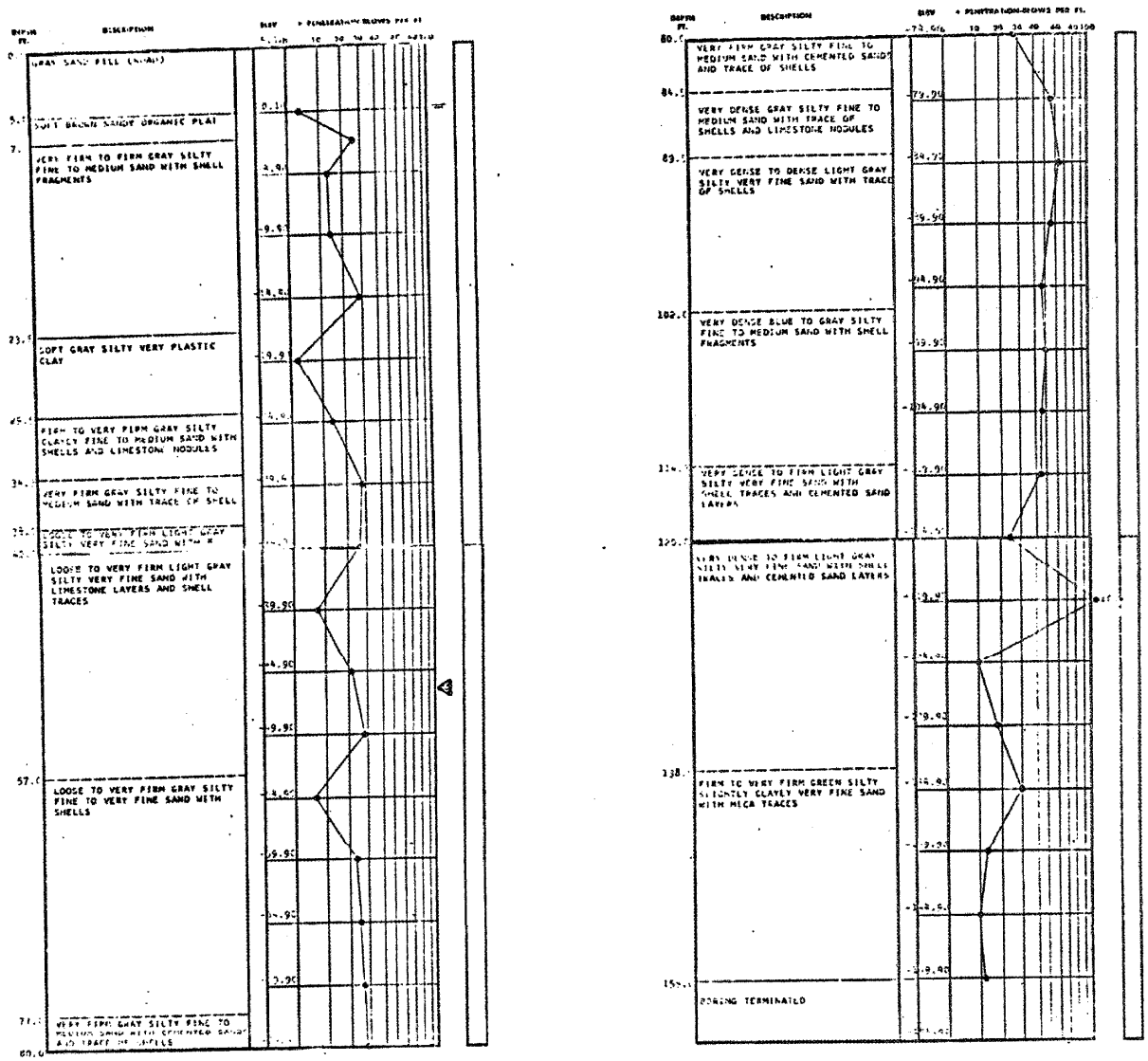
TEST BORING RECORD

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% INDEX CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-120
DATE DRILLED 1/18/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



LIMESTONE LAYERS AND SHELL TRACES

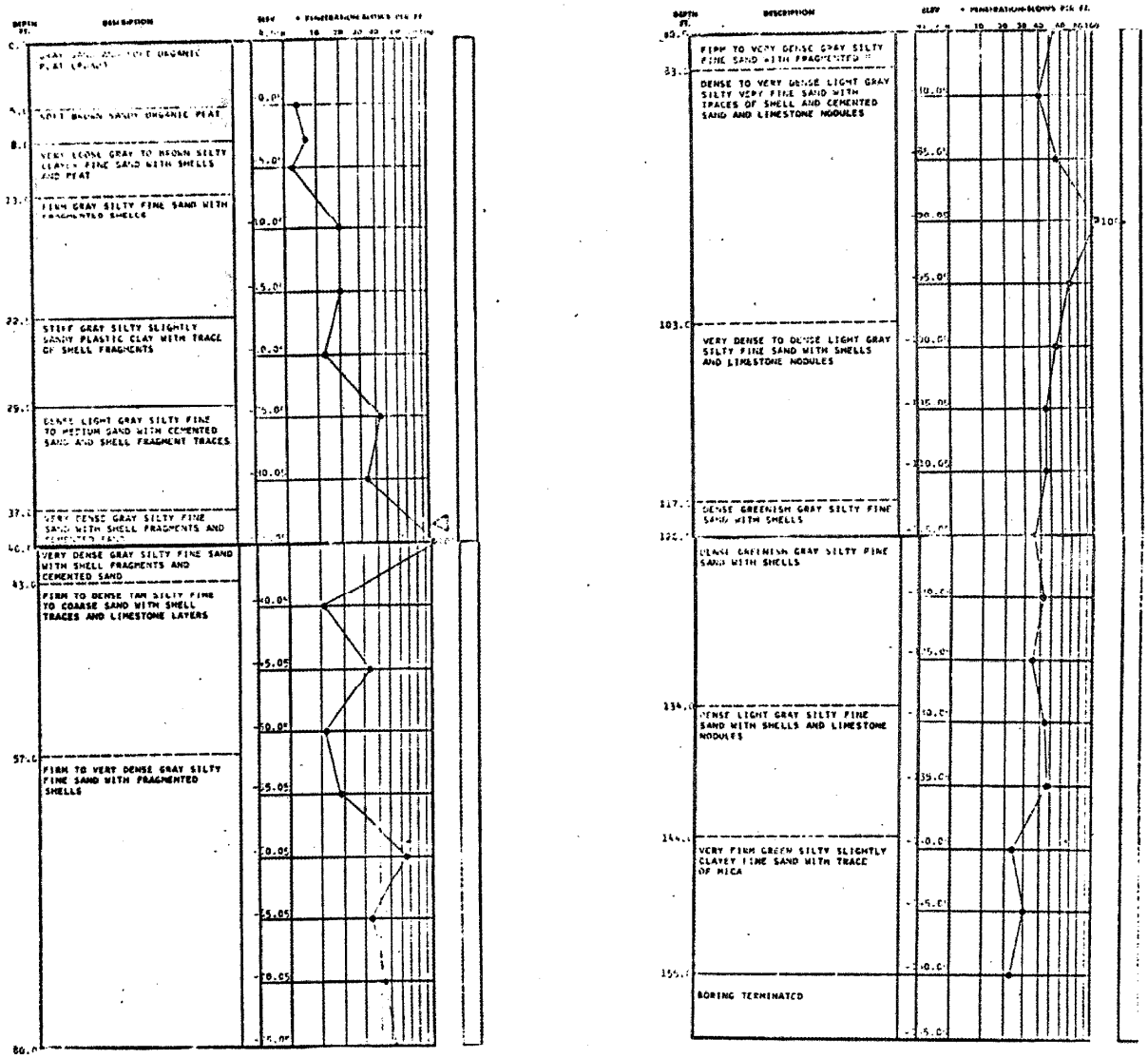
TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-121
DATE DRILLED 1/16/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

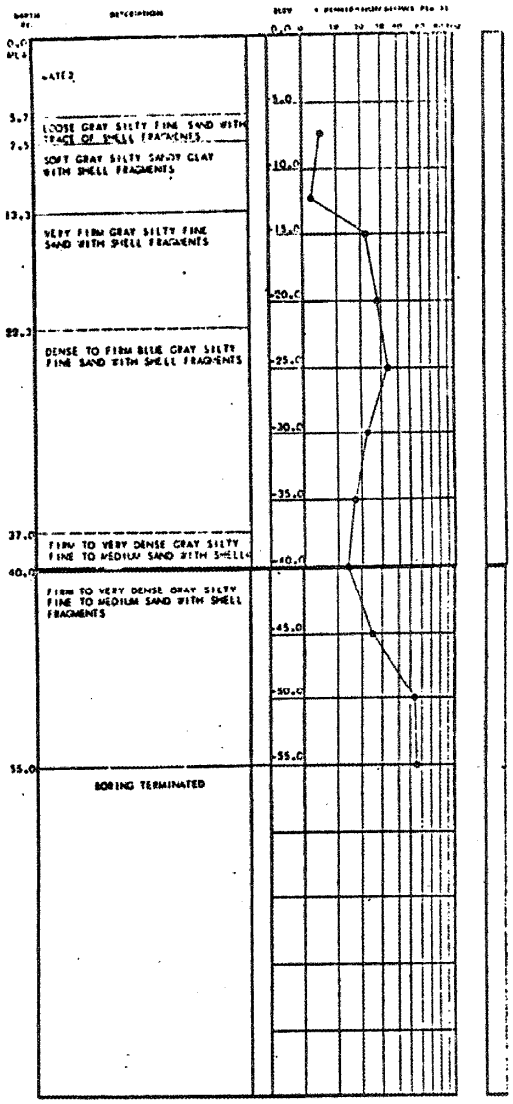
BORING AND SAMPLING NOTES ASTM D-1586
CORE DRILLING NOTES ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-122
DATE DRILLED 1/15/69
JOB NO. J-1127

2.5A-58

LAW ENGINEERING TESTING CO.



* FRAGMENTS

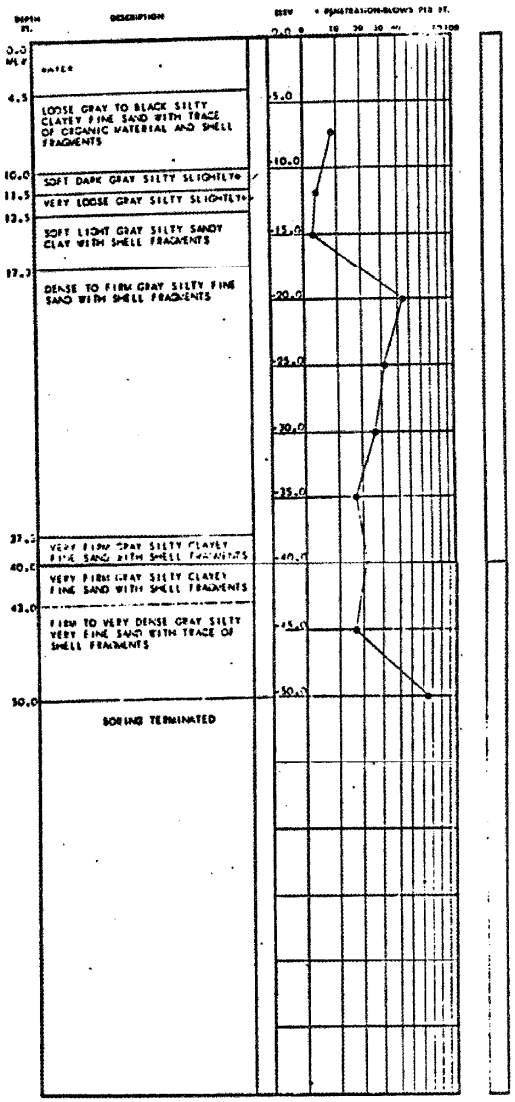
BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. B-123
DATE DRILLED 1/11/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



* SANDY PLASTIC CLAY WITH TRACE OF SHELL FRAGMENTS
** CLAYEY FINE SAND WITH SHELLS

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

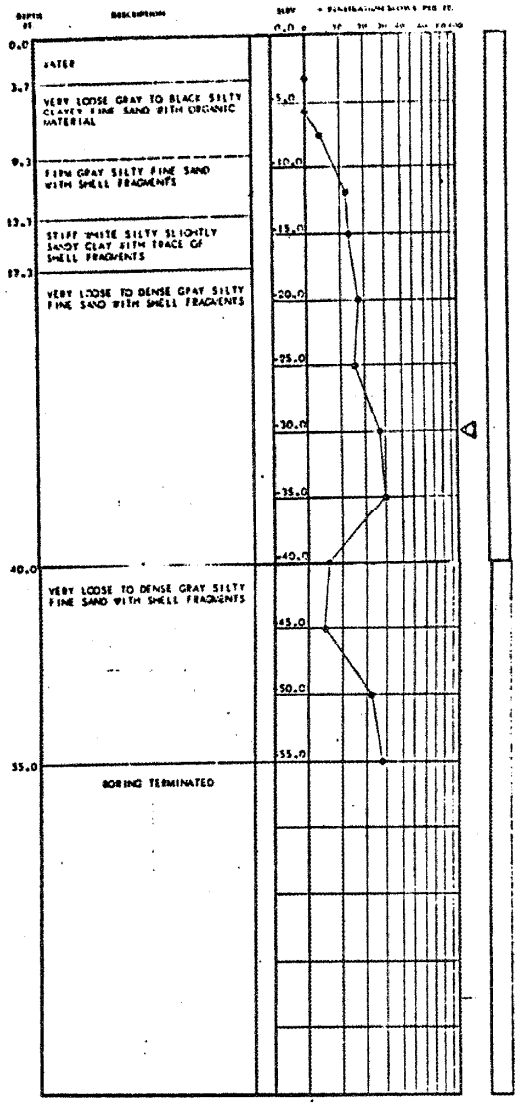
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE — WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY — LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. B-124
DATE DRILLED 1/10/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



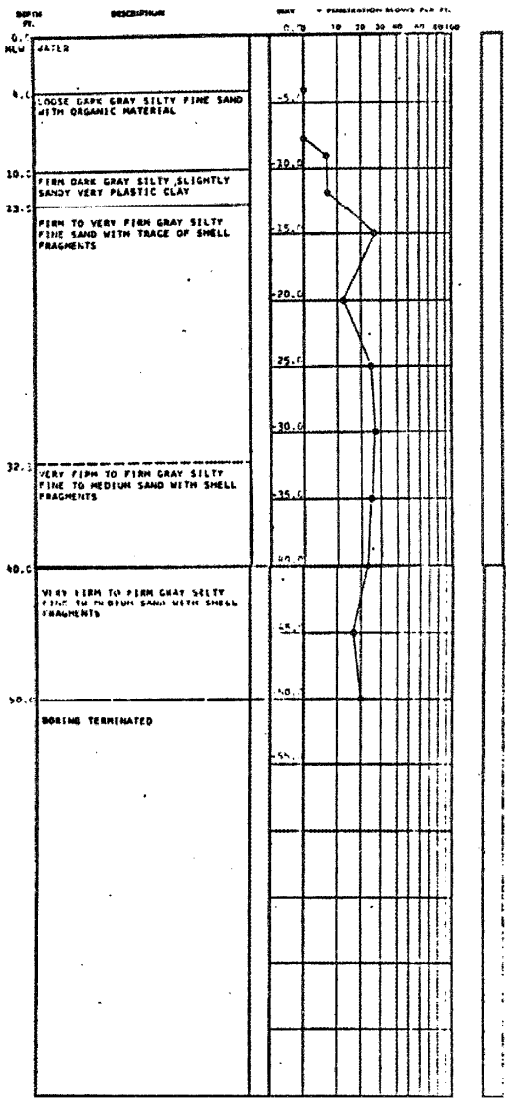
TEST BORING RECORD

BORING AND SAMPLING ASTM D-1586
CORE DRILLING ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

BORING NO. B-125
DATE DRILLED 1/9/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



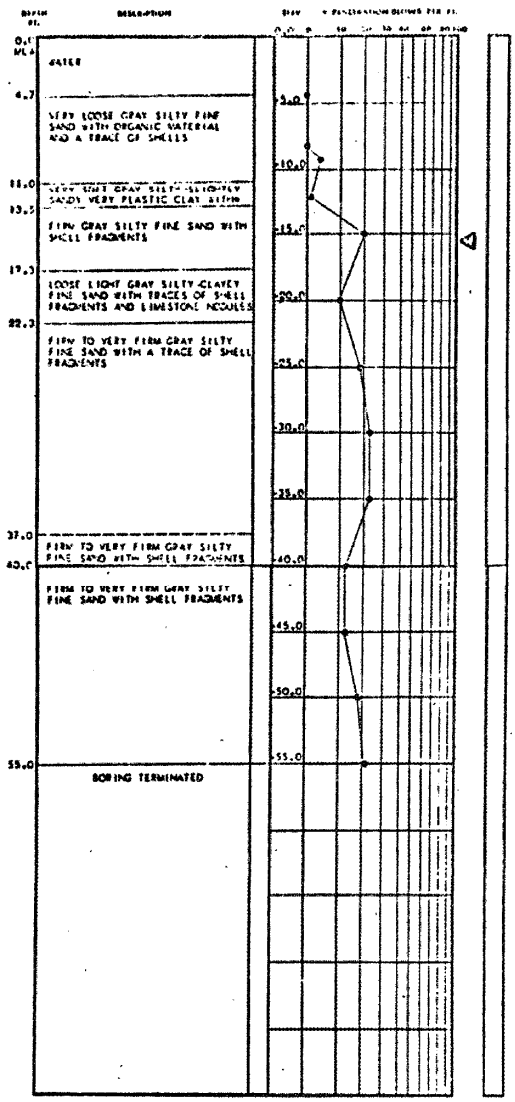
TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-126
DATE DRILLED 1/14/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



* A TRACE OF SHELLS

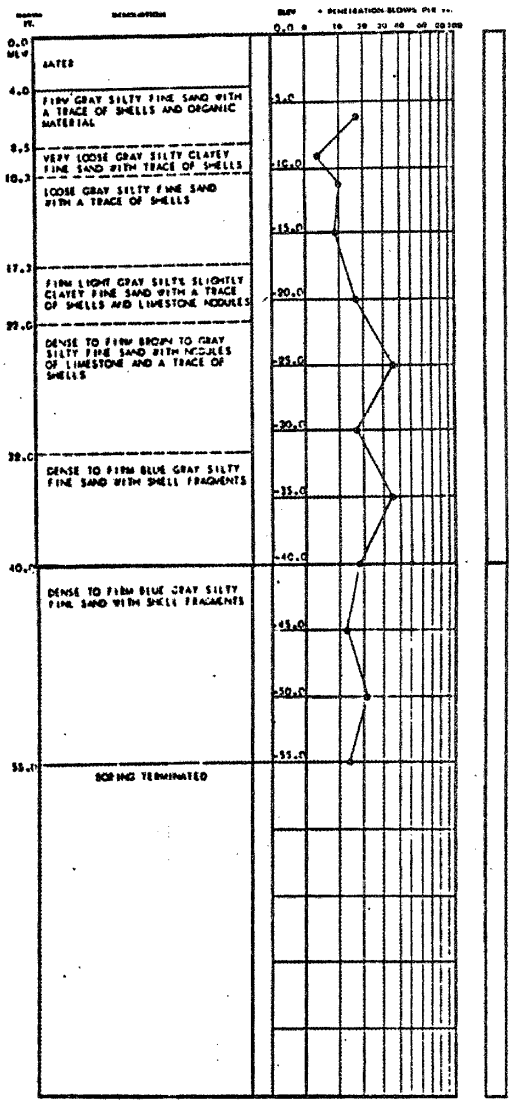
TEST BORING RECORD

BORING AND SAMPLING NOTES ASTM D-1586
CORE DRILLING NOTES ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. R-127
DATE DRILLED 1/7/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



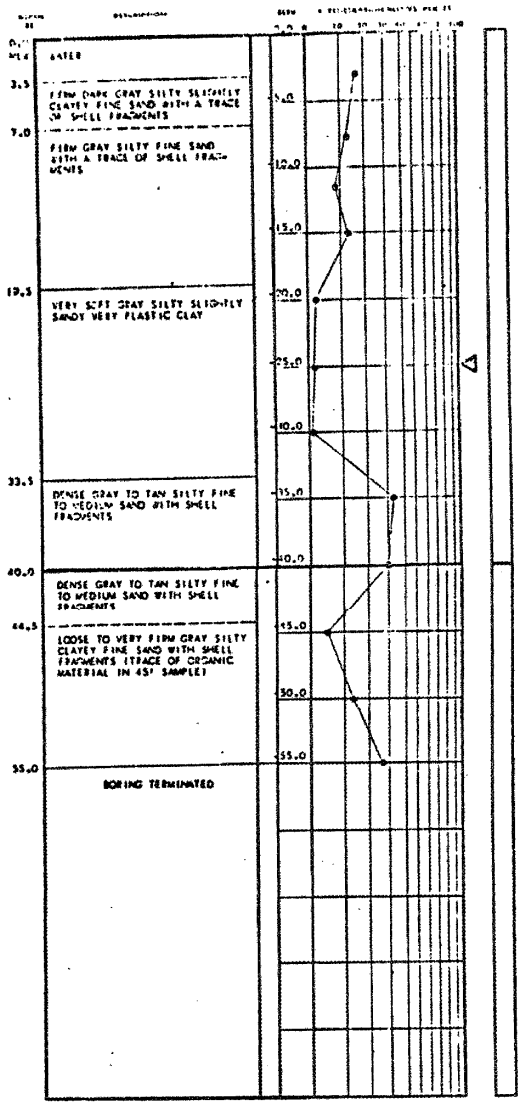
TEST BORING RECORD

BORING AND SAMPLING ASTM D-1586
CORE DRILLING ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-128
DATE DRILLED 1/3/69
JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

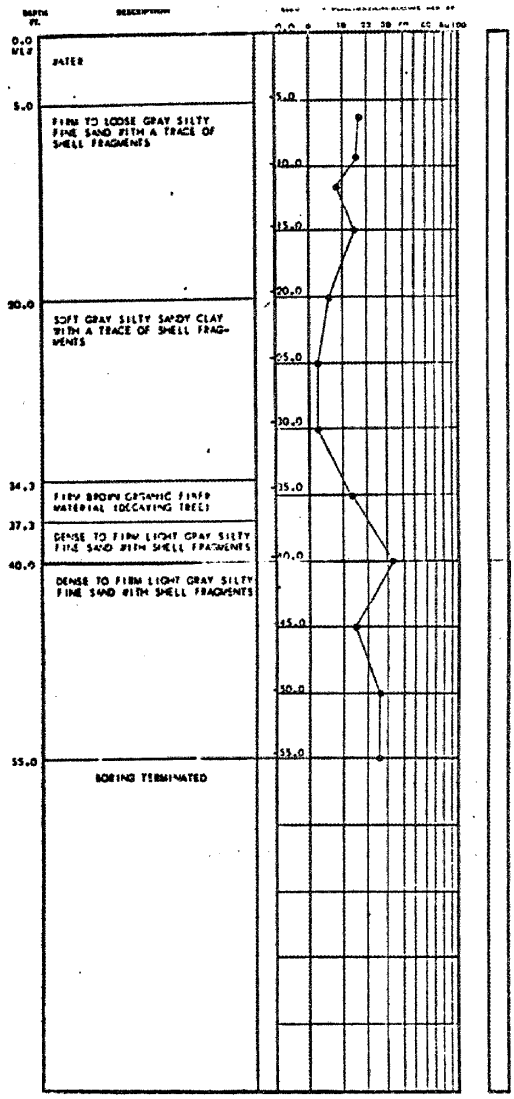
BORING NO. B-129

DATE DRILLED 12/18/68

JOB NO. 1-1127

LAW ENGINEERING TESTING CO.

2.5A-65



TEST BORING RECORD

BORING NO. B-130

DATE DRILLED 12/16/68

JOB NO. 1-1127

WATER TABLE, 24 HR.

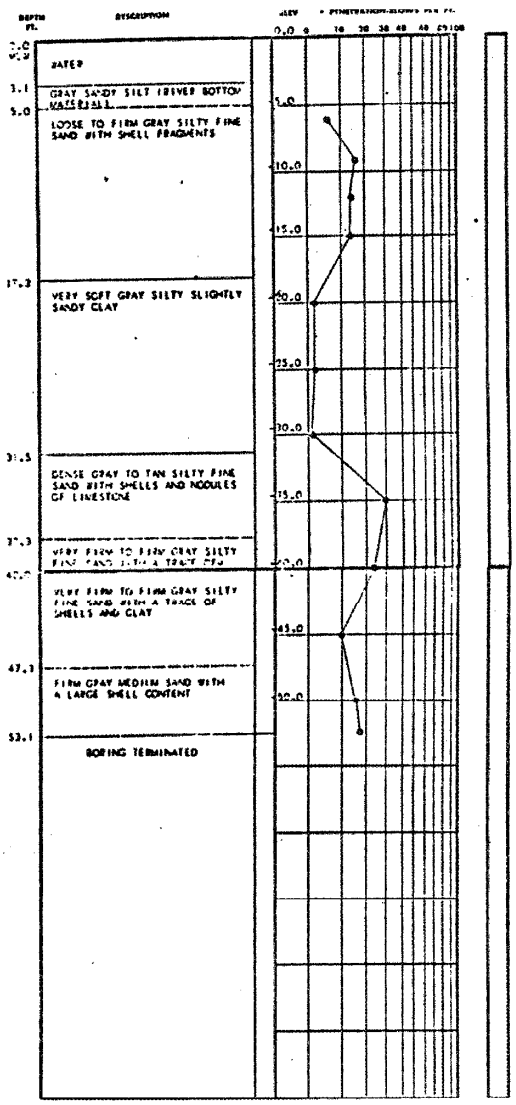
WATER TABLE, 1 HR.

UNDISTURBED SAMPLE

LOSS OF DRILLING WATER

2.5A-66

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-131

DATE DRILLED 12/13/68

JOB NO. 1-1127

LAW ENGINEERING TESTING CO.

*SHELLS AND CLAY

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

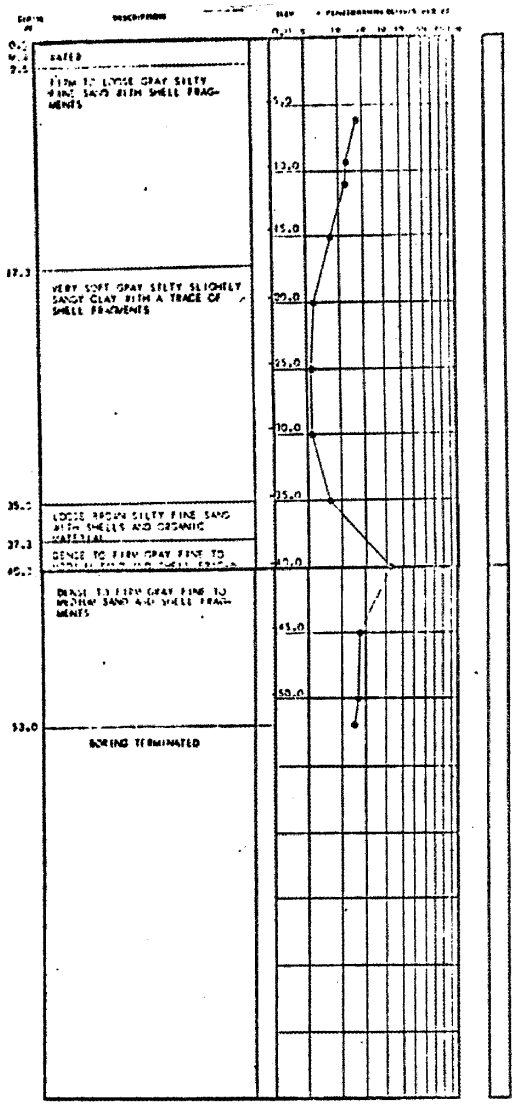
% BOXES CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

2.5A-67



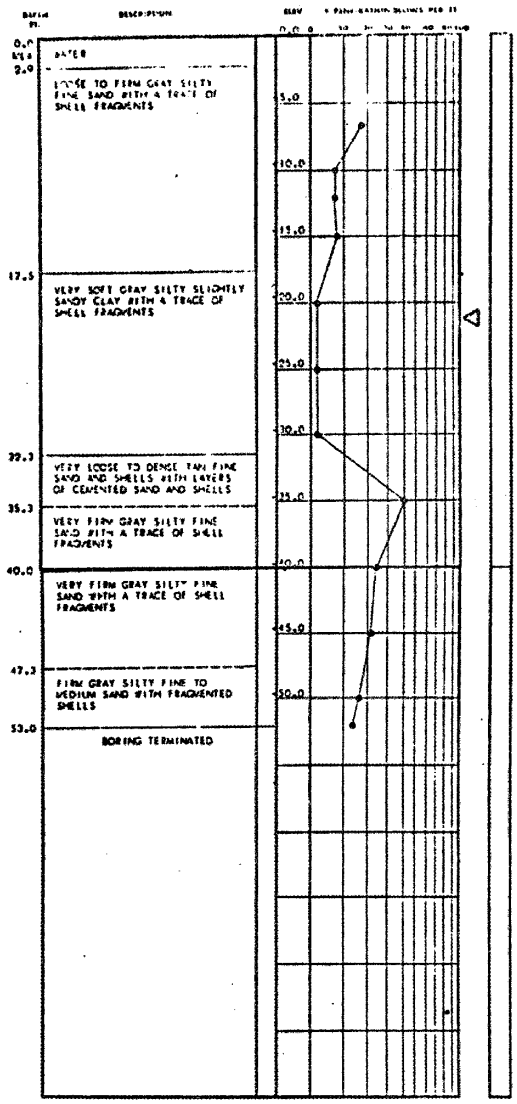
TEST BORING RECORD

BORING AND SAMPLING ASTM D-1586
CORE DRILLING ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

BORING NO. B-132
DATE DRILLED 12/12/68
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. A-133

DATE DRILLED 12/10/68

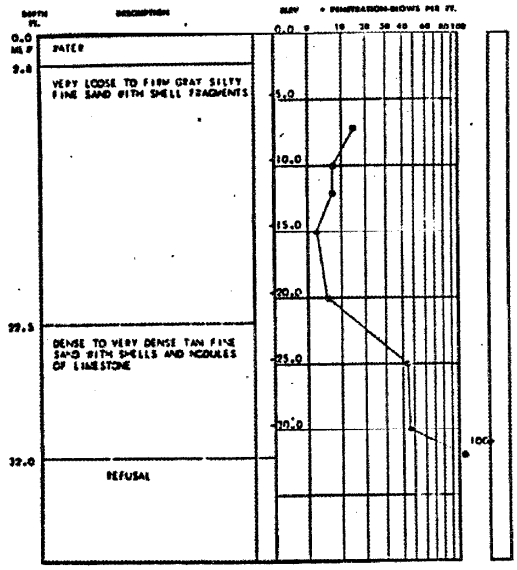
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER



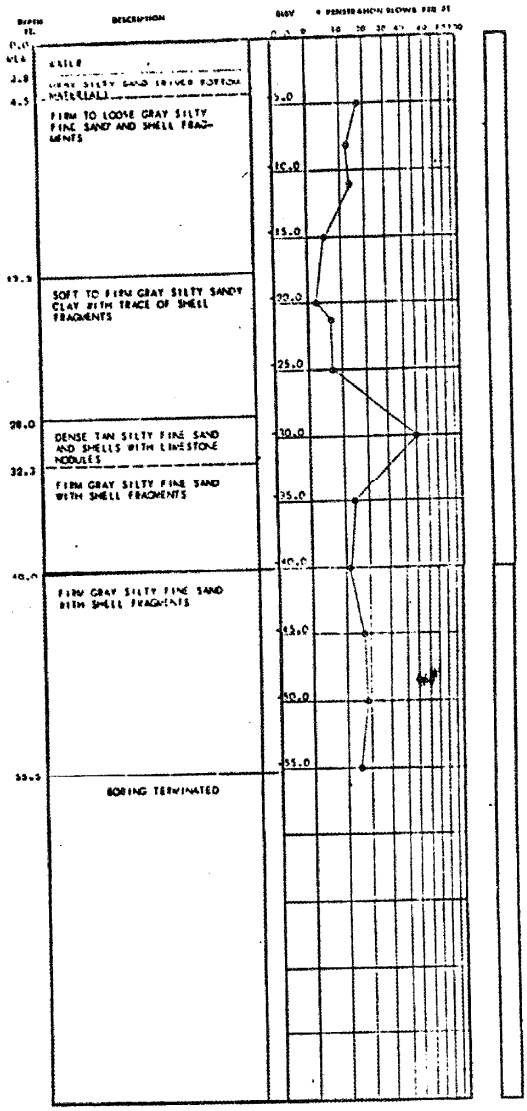
TEST BORING RECORD

BORING AND SAMPLING SHEETS ASTM D-1586
CORE DRILLING SHEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

BORING NO. B-174
DATE DRILLED 12/9/68
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-135

DATE DRILLED 12/6/68

JOB NO. 1-1127

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

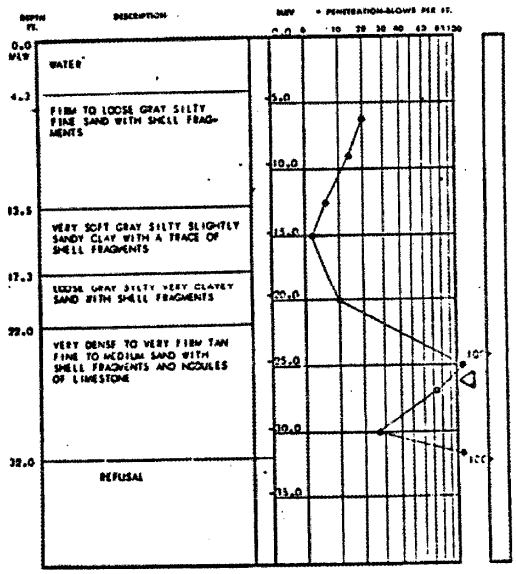
WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% CORE RECOVERY

LOSS OF DRILLING WATER



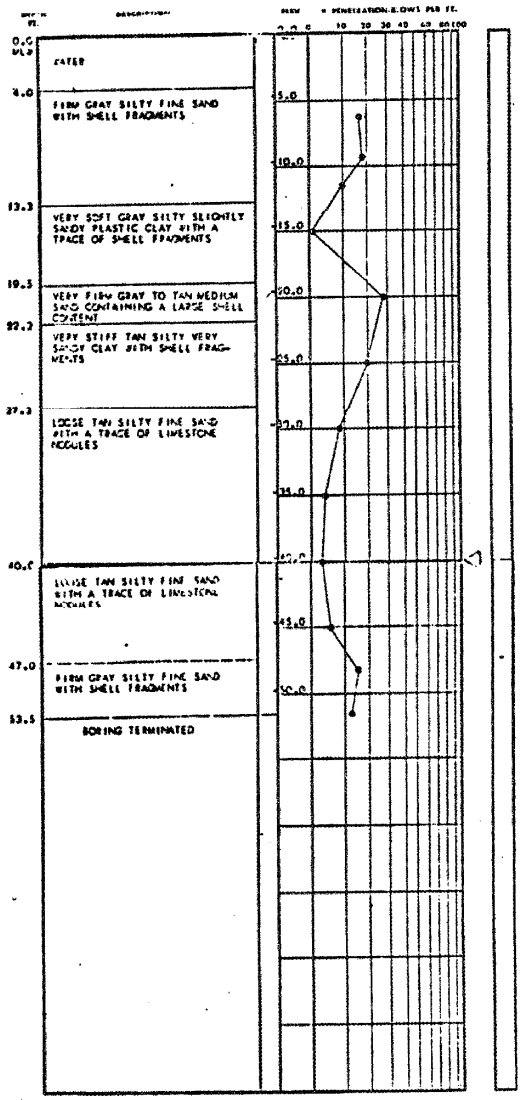
TEST BORING RECORD

BORING AND SAMPLING PRACTICE ASTM D-1586
CORE DRILLING PRACTICE ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. R-136
DATE DRILLED 12/5/68
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-137

DATE DRILLED 12/4/68

JOB NO. 1-1127

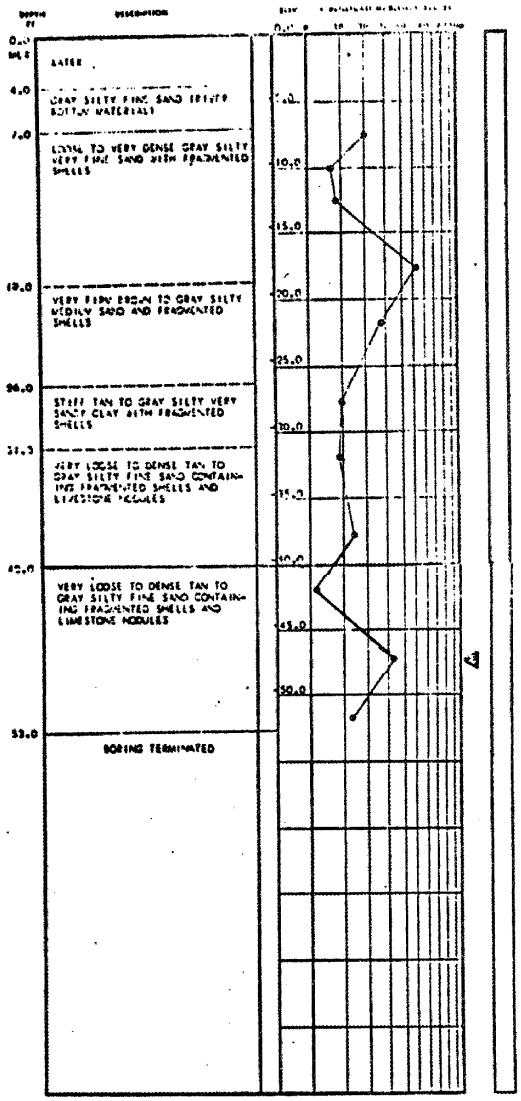
LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

WATER TABLE 24 HR.

WATER TABLE 1 HR.



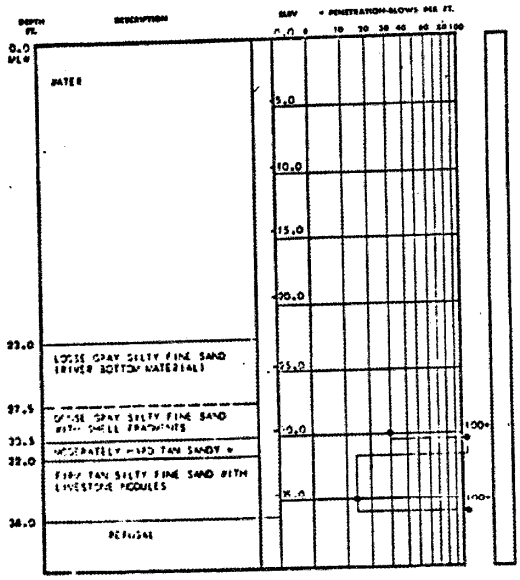
TEST BORING RECORD

BORING NO. B-138

DATE DRILLED 11/27/68

JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



LIMESTONE LAYER

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 OR 1.5 LB. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

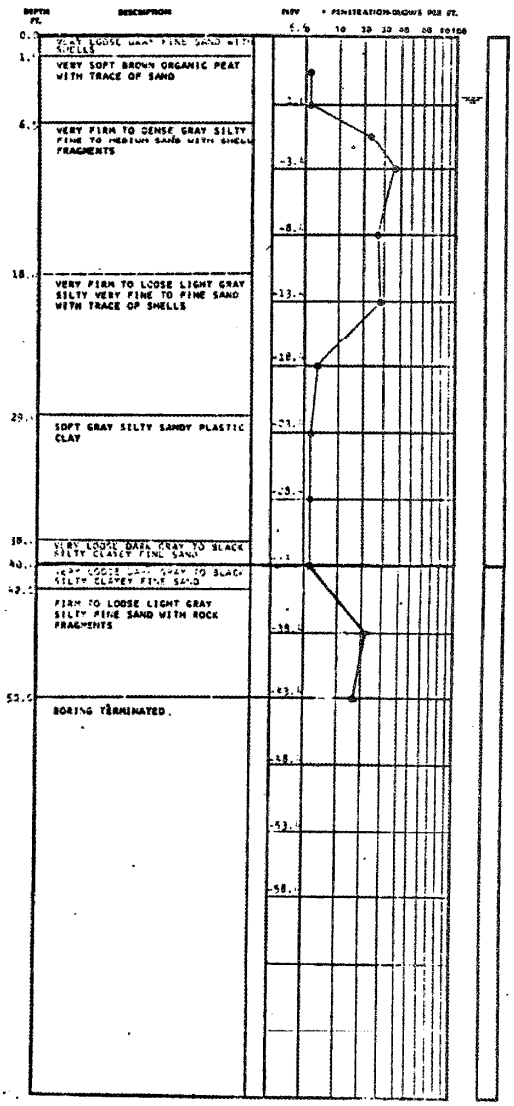
TEST BORING RECORD

BORING NO. B-139

DATE DRILLED 12/3/68

JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

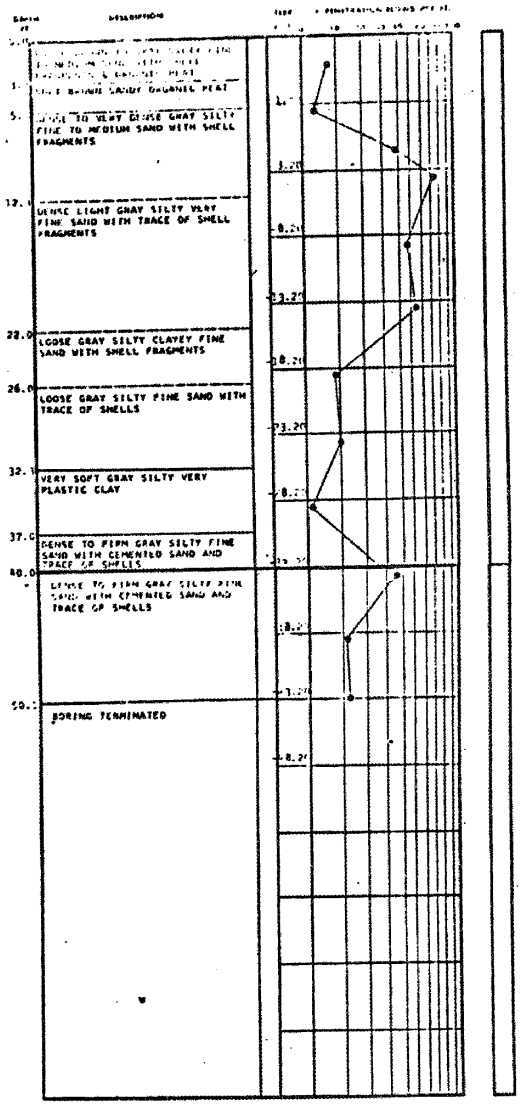
LOSS OF DRILLING WATER

BORING NO. B-143

DATE DRILLED 1/23/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-143A

DATE DRILLED 1/27/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

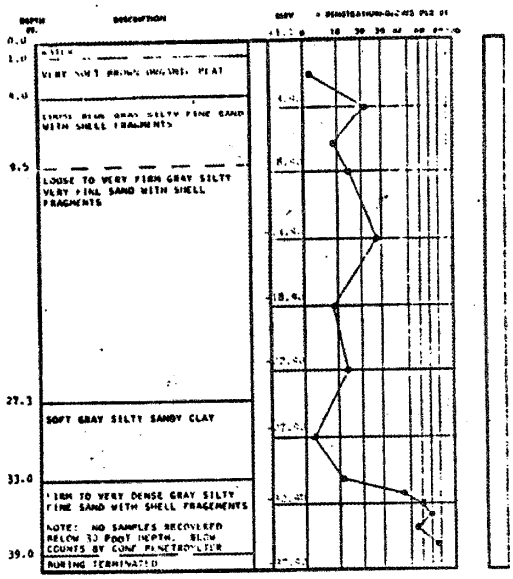
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER



NO GROUND WATER ENCOUNTERED

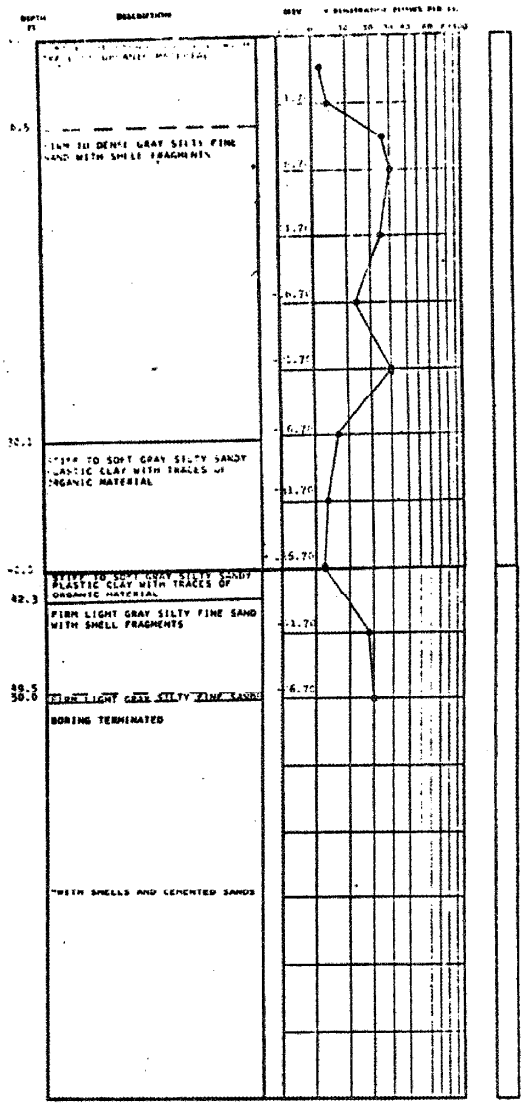
SOIL BORING AND SAMPLING PER ASTM D-1586
CORE DRILLING PER ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

TEST BORING RECORD

BORING NO. B-144A
DATE DRILLED 3-2-69
JOB NO. J-1227

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. B-144B

DATE DRILLED 2-24-69

JOB NO. J1127

LAW ENGINEERING TESTING CO.

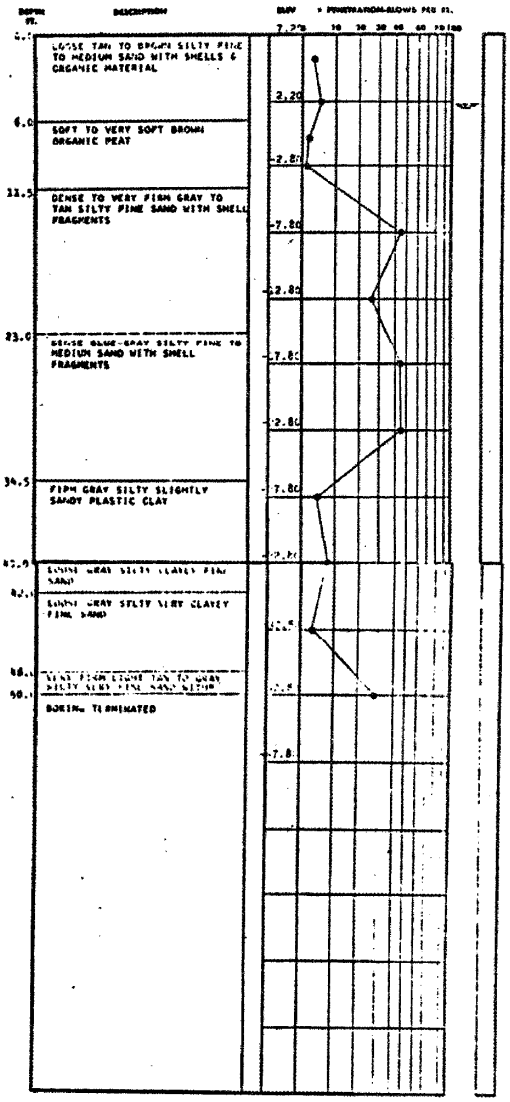
LOGGING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

% ROCK CORE RECOVERY



TEST BORING RECORD

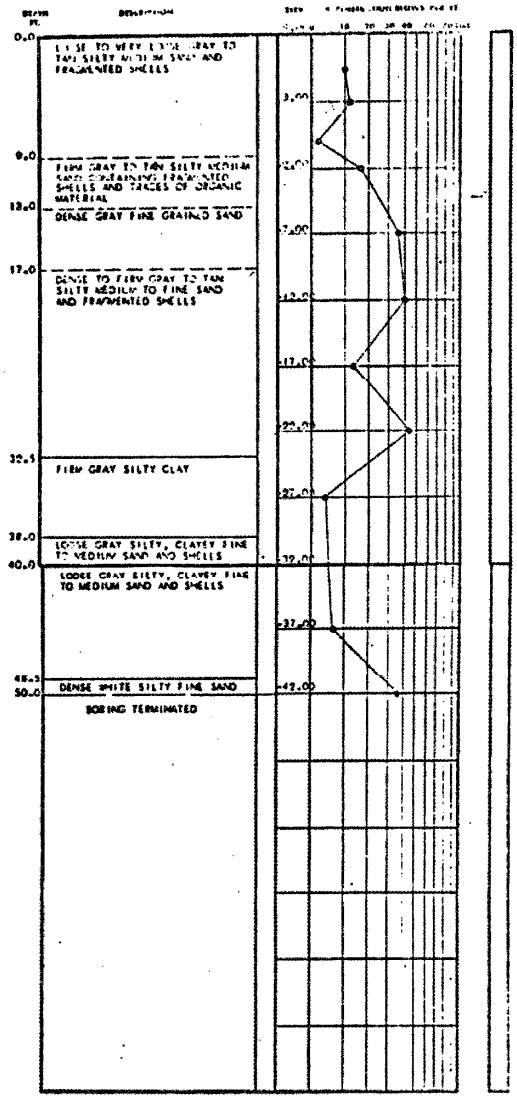
METHOD AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% CORE CORE RECOVERY
WATER TABLE, 20 HR.
WATER TABLE, 1 HR.
LEVEL OF DRILLING WATER

BORING NO. B-145
DATE DRILLED 1/23/69
JOB NO. J-1127

2.5A-80

LAW ENGINEERING TESTING CO.



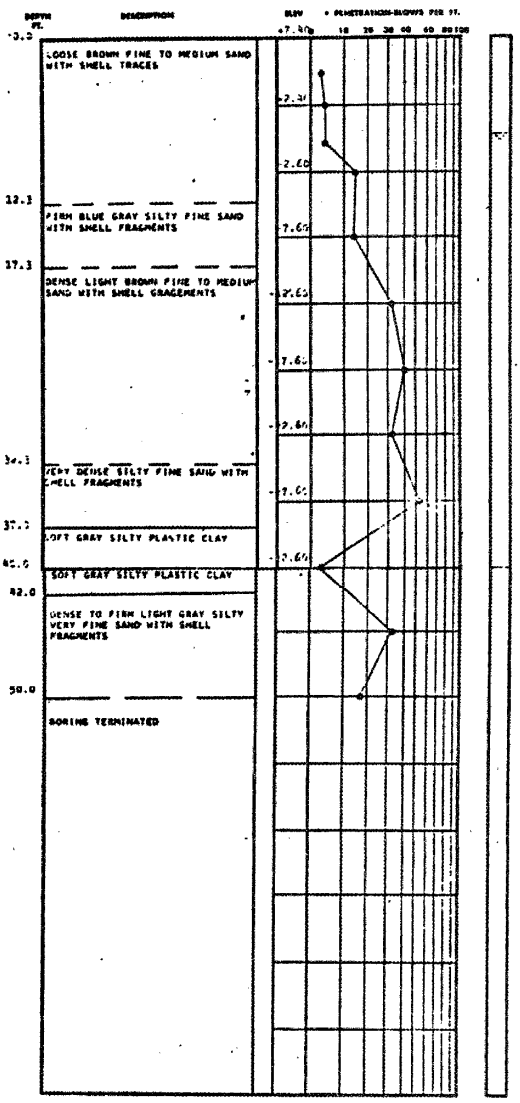
TEST BORING RECORD

BORING AND SAMPLING METH ASTM D-1586
CORE DRILLING METH ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. DRIVING 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 30 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-145A
DATE DRILLED 11/13/68
JOB NO. 1-1127

LAW ENGINEERING TESTING CO.



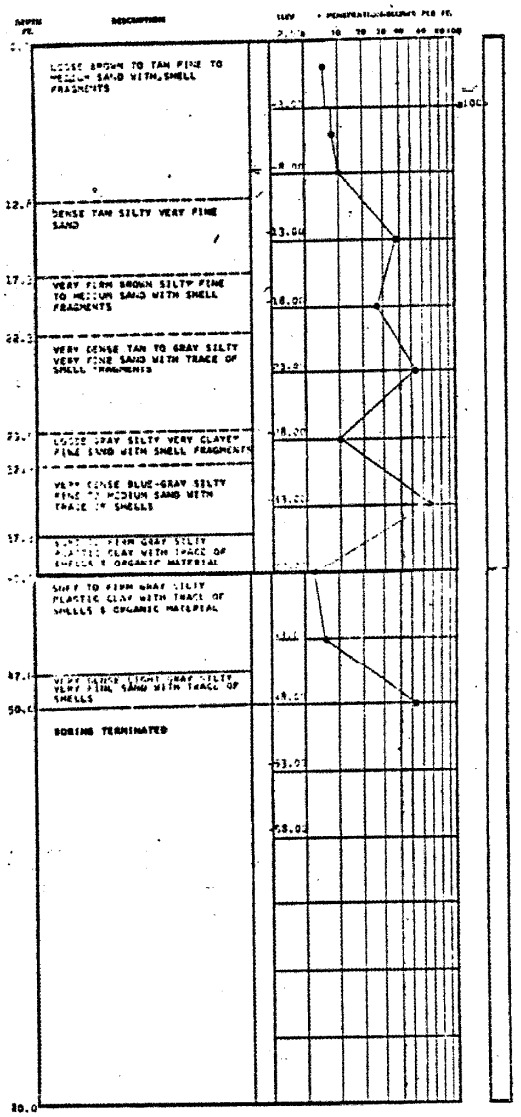
TEST BORING RECORD

BORING AND SAMPLING METH ASTM D-1586
CORE DRILLING METH ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, TIME OF BORING
LOSS OF DRILLING WATER

BORING NO. B146
DATE DRILLED 2-21-69
JOB NO. J1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING NO. 8-146A

DATE DRILLED 1/15/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.

2.5A-83

SOIL DATA REPORT
HUTCHINSON ISLAND
JOB NO. J-1127

BORING NUMBER	SAMPLE NUMBER	DEPTH (FT.)	WATER CONTENT PERCENT	PCF (WET)	SPECIFIC GRAVITY	VISUAL CLASSIFICATION
B-106	UD	87.5	25.9		2.72	GRAY FINE TO MEDIUM SAND
B-106	UD	137.5	24.1	130.02	2.69	GRAY FINE TO MEDIUM CLAYEY SAND
B-106	UD	147.5	30.8	118.55	2.68	GRAY FINE TO MEDIUM CLAYEY SAND
B-106	UD	157.5	28.5	118.2	2.67	GRAY FINE TO MEDIUM SILTY SAND
B-107A	UD	79.5	26.1	131.25	2.74	GRAY SHELLY SILTY FINE SAND
B-108	UD	67.5	16.2	132.3	2.75	GRAY FINE TO MEDIUM SAND WITH SHELL
B-108	UD	87.5	23.6	132.6	2.70	GRAY FINE TO MEDIUM SAND
B-108	UD	97.5	18.6	137.9	2.70	GRAY FINE TO MEDIUM SAND WITH SHELL
B-108A	UD	64.0	19.6	142.8	2.73	GRAY FINE TO MEDIUM SAND WITH SHELL
B-108A	UD	68.0	20.6	112.0	2.71	GRAY FINE TO MEDIUM SAND WITH SHELL
B-108A	UD	82.0	24.1	111.0	2.77	GRAY SHELL WITH SAND
B-108A	UD	88.0	30.3	120.3	2.73	GRAY FINE TO MEDIUM SAND WITH SHELL
B-114A	UD	207.5	26.1	117.7	2.67	DARK GRAY CLAYEY FINE SANDY SILT
B-114A	UD	257.5	41.0	110.7	2.64	GRAY CLAYEY FINE SILTY SAND
B-114A	UD	282.5	23.8	105.9	2.63	GRAY FINE TO MEDIUM SANDY CLAYEY SILT
B-114A	UD	307.5	35.4	112.2	2.62	GRAY FINE SANDY SILTY CLAY

LAW ENGINEERING TESTING COMPANY
BIRMINGHAM, ALABAMA

SOIL DATA REPORT
HUTCHINSON ISLAND
JOB NO. J-1127

BORING NUMBER	SAMPLE NUMBER	DEPTH (FT.)	WATER CONTENT PERCENT	PCF (WET)	SPECIFIC GRAVITY	VISUAL CLASSIFICATION
B-107	UD	83.5	20.4	132.5	2.79	GRAY FINE TO MEDIUM SANDY SHELL
B-107	UD	152.5	18.8	133.0	2.76	GRAY AND GREEN FINE TO MEDIUM SILTY CLAYEY SAND
B-111A	UD	78.0	19.9	104.2	2.74	GRAY FINE TO MEDIUM SANDY SHELL
B-111A	UD	84.0	20.7	102.6	2.75	GRAY FINE TO MEDIUM SANDY SHELL
B-111A	UD	88.0	21.2	103.0	2.74	GRAY FINE TO MEDIUM SILTY SAND
B-113	UD	67.0	17.8	132.6	2.75	GRAY FINE TO MEDIUM SAND WITH SHELL
B-114A	UD	357.5	35.7	116.2	2.62	DARK GREEN FINE SANDY SILTY CLAY
B-114A	UD	407.5	43.7	109.9	2.60	DARK GREEN FINE SANDY SLIGHTLY MICACEOUS CLAYEY SILT
B-115	UD	67.5	18.0	132.0	2.76	GRAY FINE TO MEDIUM SANDY SHELL
B-115	UD	77.5	20.6	133.1	2.74	GRAY FINE TO MEDIUM SANDY SHELL
B-115	UD	87.5	16.1	105.7	2.76	GRAY FINE TO MEDIUM SAND WITH SHELL
B-115	UD	107.5	24.7	127.9	2.72	GRAY FINE SILTY SAND WITH SHELL
B-115	UD	107.5			2.69	GRAY FINE SILTY SAND
B-115	UD	137.5	27.2	125.2	2.69	GRAY FINE TO MEDIUM SILTY SAND
B-115	UD	147.5	26.0	127.2	2.67	GRAY FINE TO MEDIUM SAND
B-117	UD	77.0	19.9	103.4	2.74	GRAY FINE TO MEDIUM SANDY SHELL

LAW ENGINEERING TESTING COMPANY
BIRMINGHAM, ALABAMA

HUTCHINSON ISLAND
J-1127 (UD SAMPLES)
REPORT OF RELATIVE DENSITY

BORING NUMBER	DEPTH (FT.)	MIN. DENSITY (#cf) (γmin)	MAX. DENSITY (#cf) (γ max)	IN PLACE DENSITY (#cf) (γ)	RELATIVE DENSITY (%) DRY METHOD	WET METHOD
B-106	137.5	69.70	95.47	104.77	122.94	
B-106	147.5	73.70	101.50	90.63	68.20	75.81
B-106	157.5	68.70	91.29	91.98	102.28	
B-107	152.5	72.31	113.25	111.95	97.95	
B-107	83.5	72.91	112.83	110.05	95.39	
B-107A	79.5	73.86	95.60	104.08	127.68	
B-108	67.5	72.00	113.87	113.86	99.98	
B-108	87.5	83.62	105.76	107.28	105.35	101.44
B-108	97.5	85.80	117.65	116.27	96.80	
B-108A	64.0	84.28	111.66	119.40	119.95	
B-108A	68.0	85.24	117.00	92.87	30.27	
B-108A	82.0	83.87	117.16	85.19	54.54	53.33
B-108A	88.0	75.82	97.01	96.97	99.63	
B-111A	78.0	79.80	111.53	86.91	28.76	
B-111A	84.0	72.90	107.78	85.00	43.99	
B-111A	88.0	84.00	107.78	84.98	5.23	
B-113	67.0	80.64	113.66	112.56	97.61	
B-114A	207.5	75.60	98.08	93.34	82.92	
B-114A	257.5	71.40	92.44	78.51	39.79	38.77
B-114A	282.5	73.25	91.22	85.54	72.95	
B-114A	307.5	68.89	89.01	82.87	74.63	68.59
B-115	67.5	85.20	113.85	111.86	94.71	
B-115	77.5	76.21	107.86	110.36	105.45*	
B-115	87.5	86.40	114.54	91.04	20.75	
B-115	147.5	76.65	109.92	100.95	79.53	
B-117	77.0	72.18	111.89	86.24	45.94	

*CEMENTED SAND AND SHELL

LAW ENGINEERING TESTING COMPANY
BIRMINGHAM, ALABAMA

SUMMARY OF LABORATORY TEST DATA

Boring Number	Sample Number	Feet	Soil Type	Natural Water Content, w - %	Specific Gravity G	Grain Size			Compaction Test AASHO,T-180-57			ASTMD 2049-64T Max., Min. Den.	
						Gravel %	Sand %	Fines %	Type of Test	Optimum Moisture	Max. Dry Density	Max. Density	Min. Density
A-1	S-1	12'-27'	Gy med to fi sa	24.9	2.68	0.6	96.9	2.5	D	14.5	97.6	102.3	76.5
A-1	S-2	27'-47'	Gy & tan si med to fi sa w/shell	22.1	2.69	15.7	85.8	8.5	C	14.1	118.3	106.5	80.3
A-1	S-3	47'-67'	Gy & tan si fi sa w/shell & LS	24.2	2.75	3.5	87.5	9.0	D	14.2	118.0	115.1	83.8
A-3	S-4	12'-27'	Gy fi sa w/ shell	28.0	2.65	1.0	96.4	2.6	D	14.6	100.3	102.1	77.1
A-3	S-5	27'-47'	Tan cl si fi sa w/shell & LS	16.9	2.65	50.8	37.0	12.2	D	9.6	126.3	114.3	80.6
A-3	S-6	47'-67'	Tan cl si fi sa w/shell & LS	9.6	2.65	20.0	60.3	19.7	D	11.0	123.3	113.4	72.4
A-4	S-7	12'-27'	Gy fi sa w/shell	12.9	2.68	1.8	95.0	3.2	D	15.9	103.4	103.2	76.0
A-4	S-8	27'-47'	Gy & tan si fi sa w/shell & LS	16.3	2.69	12.0	75.0	13.0	D	10.0	121.0	113.3	78.8
A-4	S-9	47'-67'	Gy & tan si fi sa w/shell & LS	13.6	2.72	18.0	68.7	13.3	D	8.2	129.7	122.1	78.5
A-2	S-10	12'-27'	Dk gy med to co sa	20.2	2.65	2.9	94.4	2.7	D	13.7	106.0	107.4	79.7
A-2	S-11	27'-47'	Br & tan sl clsi sa w/shell & LS	25.4	2.70	5.9	68.3	25.8	A	13.4	120.1	107.8	78.8
A-2	S-12	47'-67'	Gy & tan si cl fi sa w/LS & shell	20.9	2.65	17.0	78.3	4.7	D	9.0	125.4	117.8	76.9

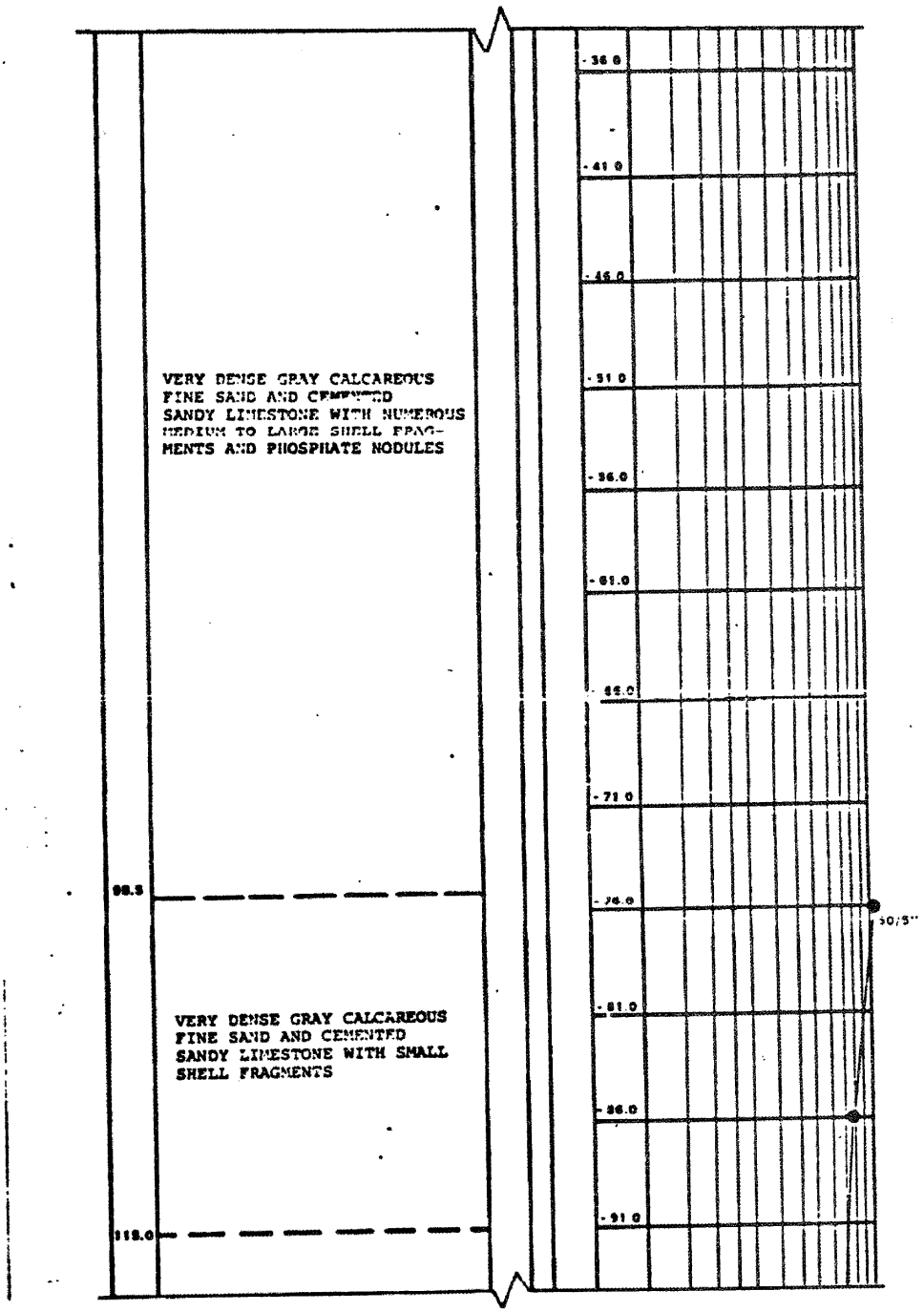
LAW ENGINEERING TESTING COMPANY Jacksonville, Florida	HUTCHINSON ISLAND	J-1127	File No. Table No.

TEST BORING RECORD

DEPTH FEET	DESCRIPTION	ELEV.	PENETRATION-BLOWS PER 1 FOOT
0.0	WASH BORING FROM 0 - 98.5 FEET, NO SAMPLES TAKEN	24.0	
		19.0	
		14.0	
		9.0	
		4.0	
		-1.0	
		-6.0	
		-11.0	
		-16.0	
		-21.0	
		-26.0	
		-31.0	

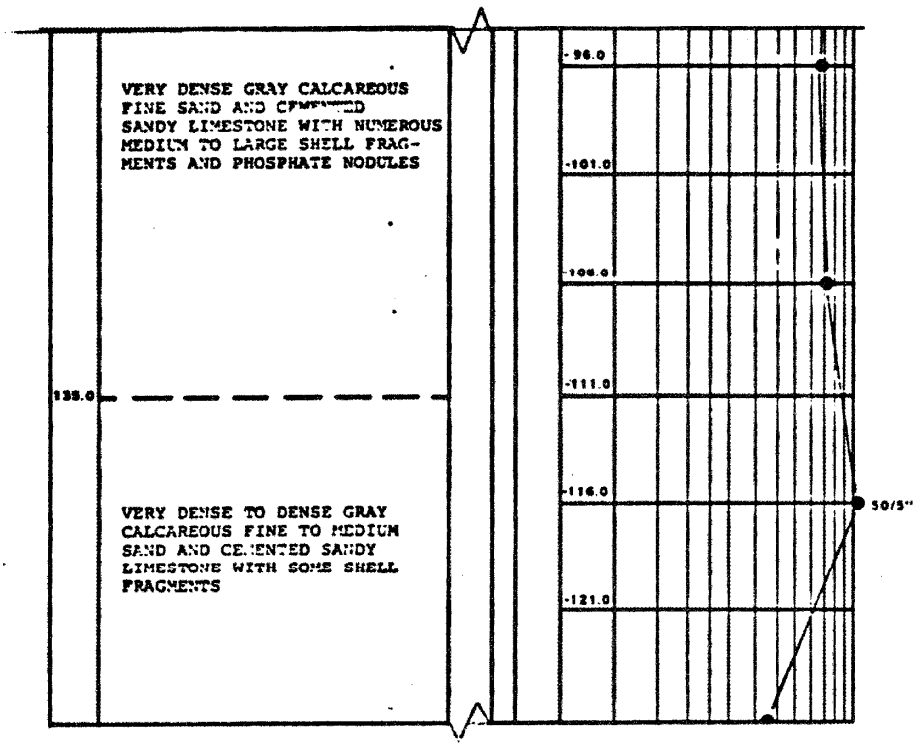
BORING NUMBER AG 100
ST. LUCIE PLANT
JOB NUMBER SA-737

PAGE 1 OF 4



BORING NUMBER AG 100
ST. LUCIE PLANT
JOE NUMBER SA-737

PAGE 2 OF 4



	WEIGHT OF ROD AND HAMMER	MOVEMENT BY ROD WEIGHT	HAMMER BLOWS 2ND 6"	HAMMER BLOWS 3RD 6"
VERY DENSE TO DENSE GRAY CALCAREOUS FINE TO MEDIUM SAND AND CEMENTED SANDY LIMESTONE WITH SOME SHELL FRAGMENTS (CASE OF UNDIFFERENTIATED SANDS)	770	0	16	17
TOP OF HAWTHORNE FORMATION				
VERY DENSE LIGHT GREEN TO GREEN FINE SAND WITH SOME SMALL PHOSPHATE NODULES	812	0	50/5"	-
VERY FIRM GREEN SLIGHTLY SILTY FINE SAND	854	0	16	17

-126.0
-131.0
-136.0
-141.0
-146.0
-151.0

BORING NUMBER AG 100
ST. LUCIE PLANT
JOB NUMBER SA-737

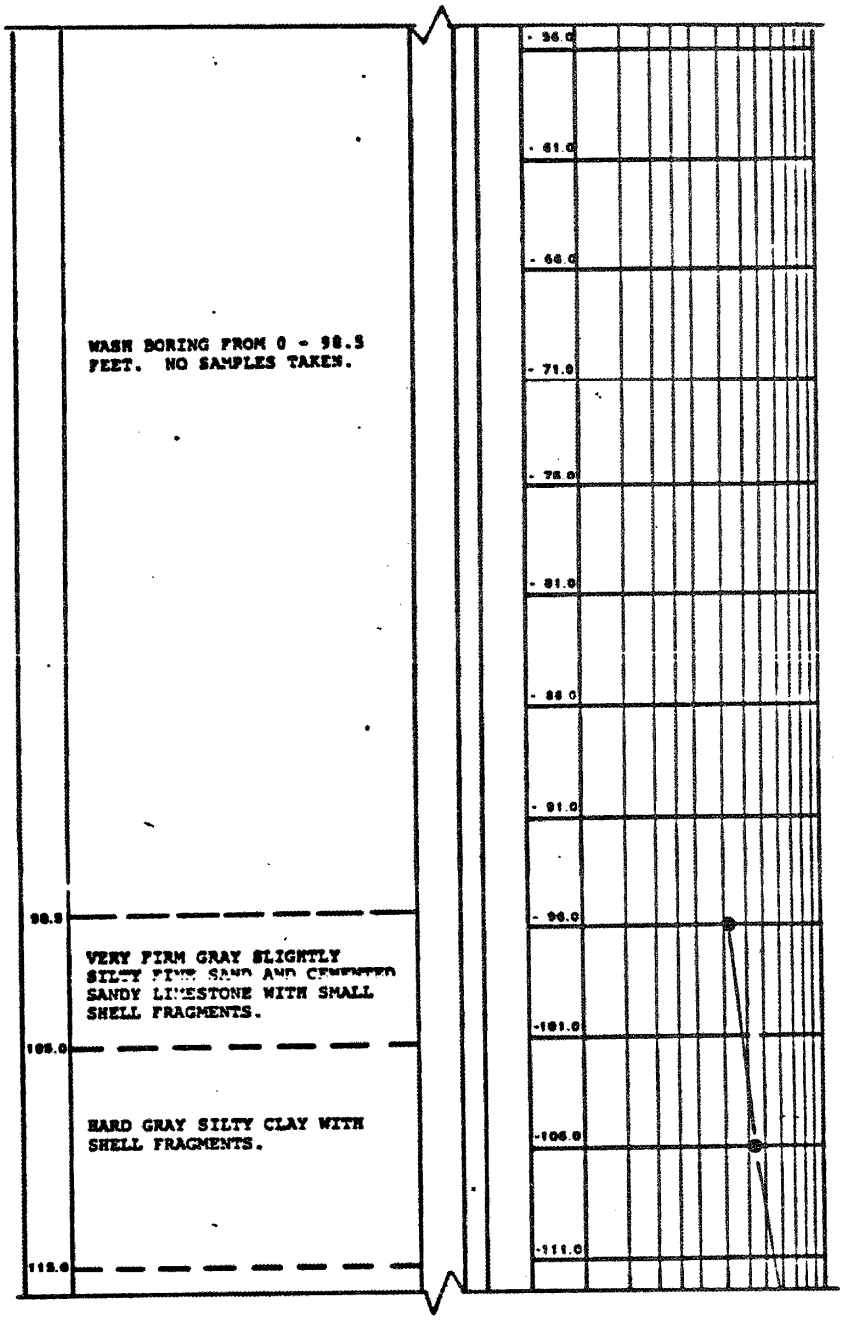
	FIRM TO DENSE GREEN SLIGHTLY CLAYEY SILTY FINE SAND	-156.0	896	0	3	9
		-161.0				
		-166.0	938	0	9	34
195.0		-171.0				
		-176.0	986	0	3	18
	STIFF TO VERY STIFF GREEN SLIGHTLY SANDY, SILTY CLAY AND SILTY CLAY	-181.0				
		-186.0	1022	0	3	8
215.0		-191.0				
		-196.0	1064	0	4	10
	STIFF TO VERY STIFF GREEN CALCAREOUS SLIGHTLY SANDY SILTY CLAY WITH SOME SMALL SHELL FRAGMENTS	-201.0				
		-206.0	1106	0	8	11
		-211.0				
240.0	BORING TERMINATED	-216.0	1148	0	8	13

BORING NUMBER AG 100
ST. LUCIE PLANT
JOB NUMBER SA-737

TEST BORING RECORD

DEPTH FEET	DESCRIPTION				SAMP. PENETRATION-BLOWS PER FOOT 0 5 10 15 20 30 40 60 80 100
0.0	WASH BORING FROM 0 - 98.5 FEET. NO SAMPLES TAKEN.				4.0
					1.0
					6.0
					11.0
					16.0
					21.0
					26.0
					31.0
					36.0
					41.0
					46.0
					51.0

BORING NUMBER AG 101
ST. LUCIE PLANT
JOB NUMBER SA-737

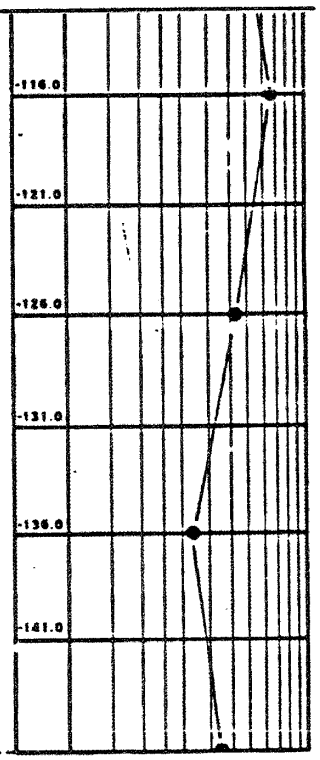


BORING NUMBER AG 101
ST. LUCIE PLANT
JOB NUMBER SA-737

VERY DENSE TO DENSE GRAY. FINE SAND AND SANDY LIMESTONE WITH SHELL FRAGMENTS.

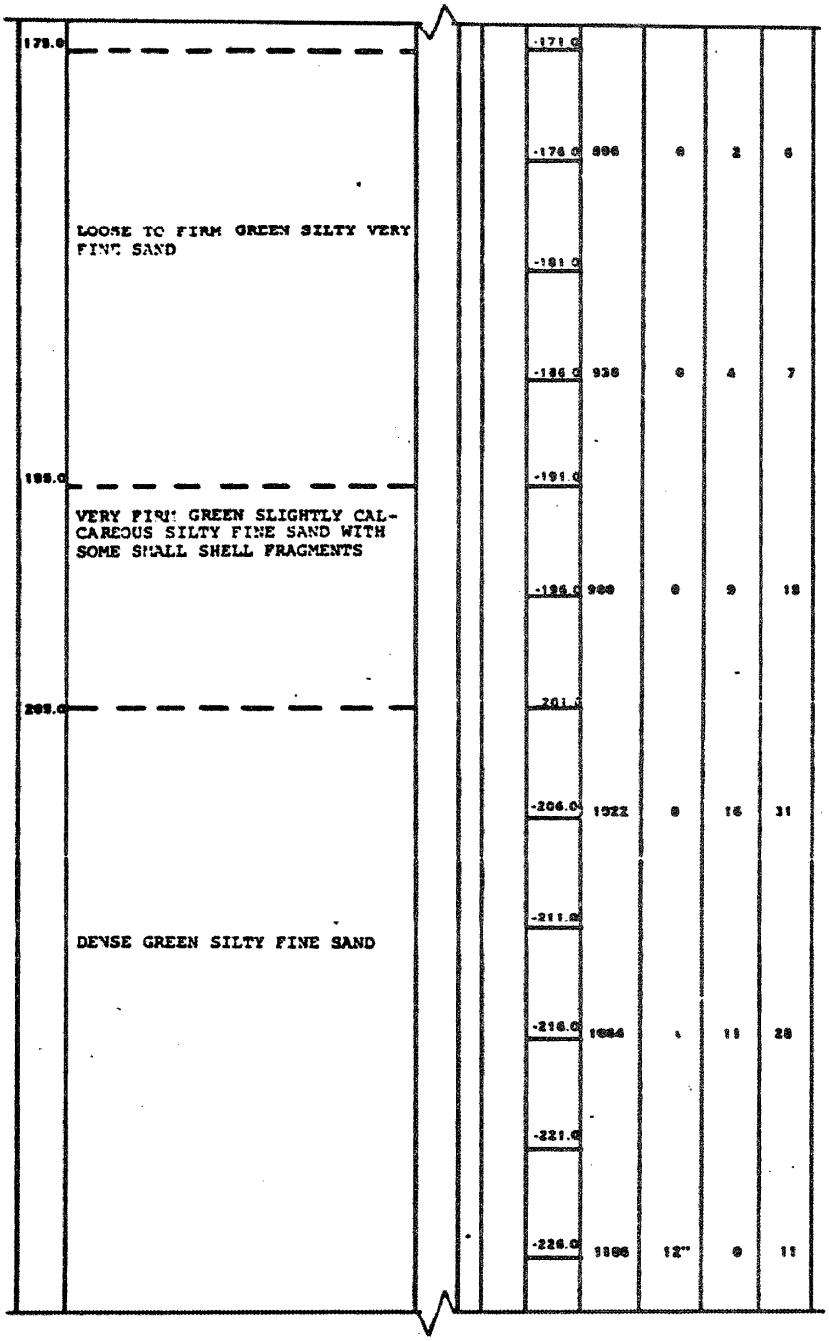
135.0

VERY FIRM TO DENSE GRAY AND BLACK SPECKLED CALCAREOUS FINE SAND AND SLIGHTLY SILTY FINE SAND AND CEMENTED SANDY LIMESTONE WITH SMALL SHELL FRAGMENTS.

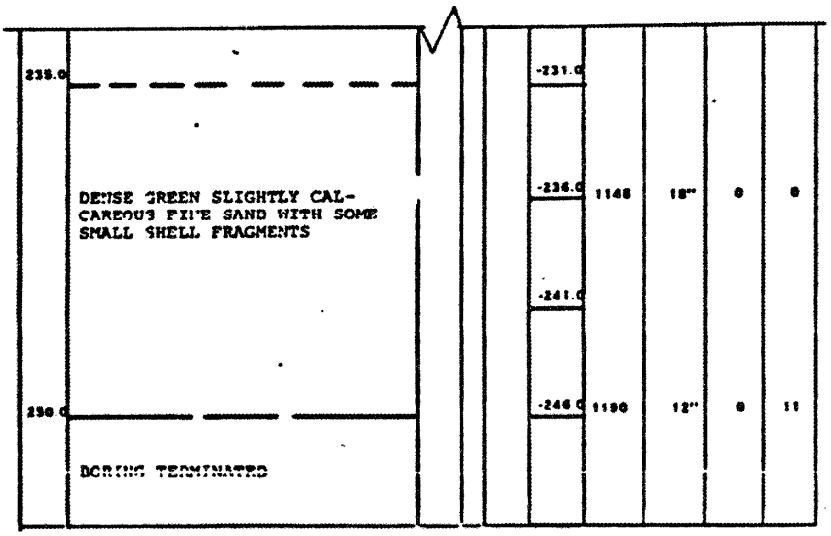


150.0	VERY FIRM TO DENSE GRAY AND BLACK SPECKLED CALCAREOUS FINE SAND AND SLIGHTLY SILTY FINE SAND AND CEMENTED SANDY LIMESTONE WITH SMALL SHELL FRAGMENTS	-146.0					
155.0	BASE OF UNDIFFERENTIATED	-151.0					
	TOP OF HAWTHORNE FORMATION						
	VERY FIRM GREEN SLIGHTLY SILTY FINE SAND.	-156.0	612	0	14	16	
165.0		-161.0					
	LOOSE TO FIRM GREEN SILTY FINE SAND	-166.0	654	0	3	3	

BORING NUMBER AG 101
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 101
ST. LUCIE PLANT
JOB NUMBER SA-737

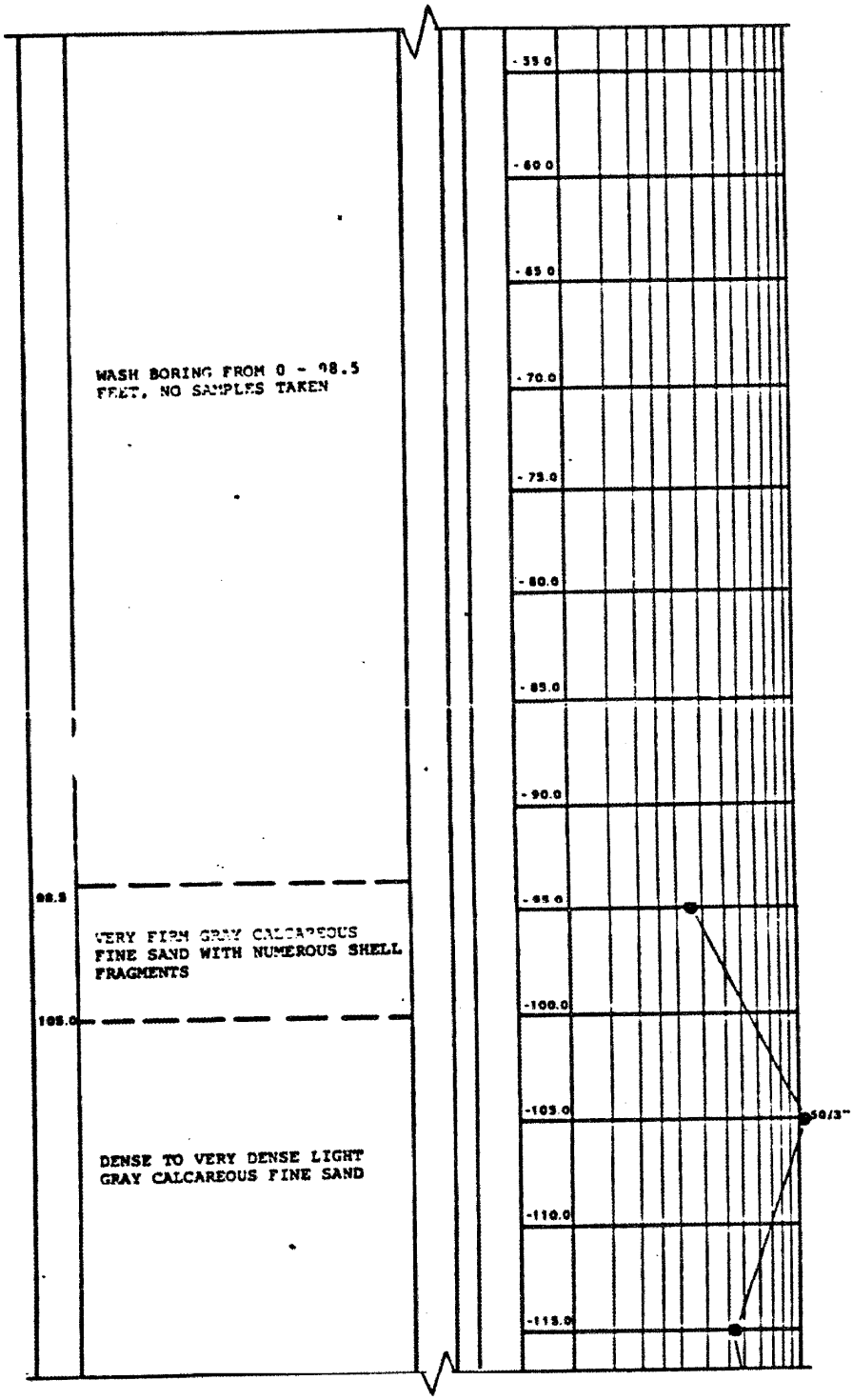


BORING NUMBER AG 101
ST. LUCIE PLANT
JOB NUMBER SA-737

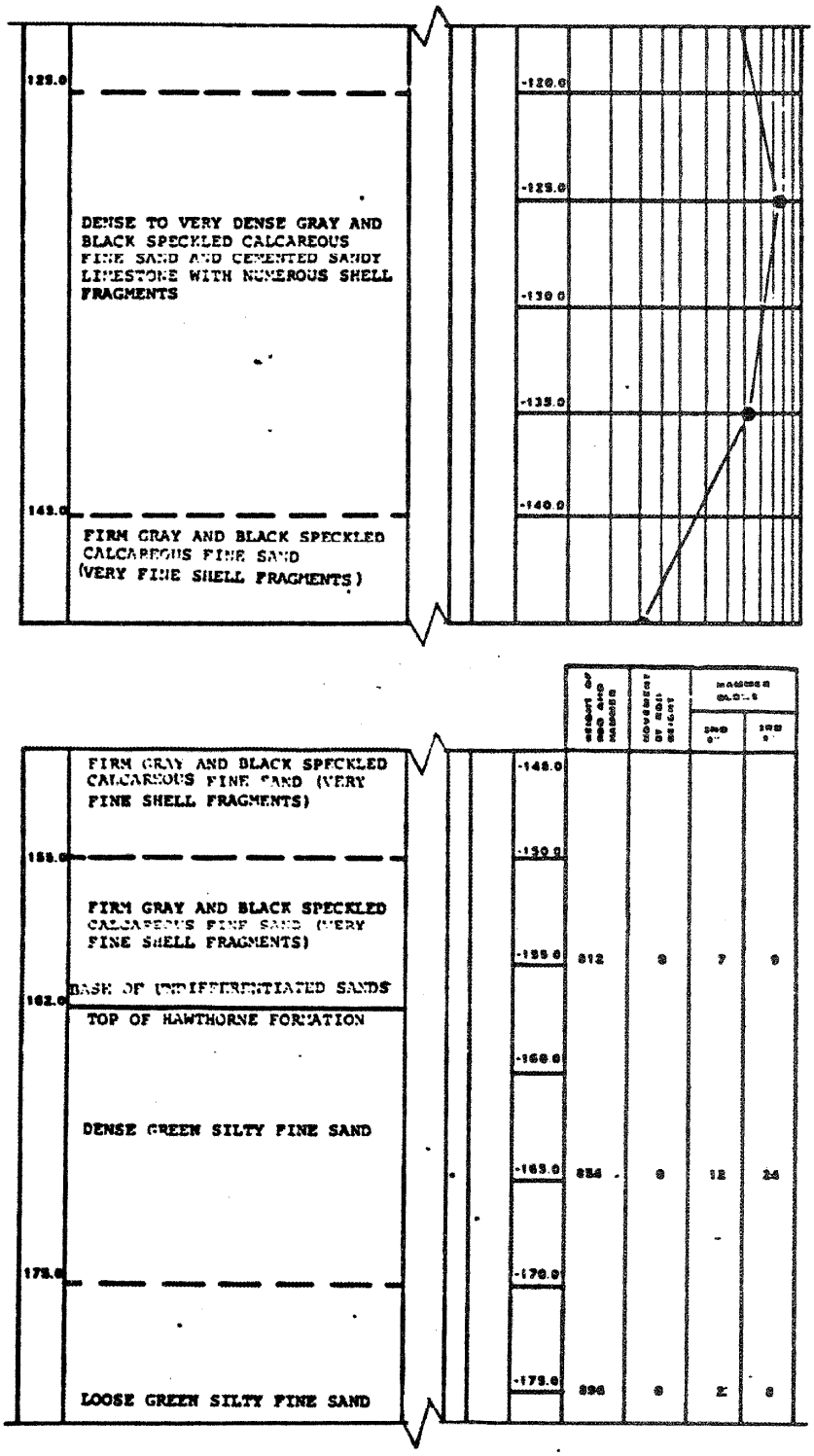
TEST BORING RECORD

DEPTH FEET	DESCRIPTION	ELEV.	PENETRATION-BLOWS PER 1 FOOT 0 5 10 15 20 30 40 60 80 100
0.0	WASH BORING FROM 0 - 98.5 FEET, NO SAMPLES TAKEN	5.0	
		0.0	
		- 5.0	
		- 10.0	
		- 15.0	
		- 20.0	
		- 25.0	
		- 30.0	
		- 35.0	
		- 40.0	
		- 45.0	
		- 50.0	

BORING NUMBER AG 102
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 102
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 102
ST. LUCIE PLANT
JOB NUMBER SA-737

185.0		-180.0				
	LOOSE GREEN SLIGHTLY CALCAREOUS SLIGHTLY CLAYEY SILTY FINE SAND	-185.0	938	0	3	7
195.0		-190.0				
	VERY DENSE GREEN SLIGHTLY SILTY FINE SAND	-195.0	980	0	18	38
		-200.0				
205.0	DENSE GREEN SLIGHTLY CALCAREOUS SLIGHTLY CLAYEY SILTY FINE SAND WITH SOME SHELL FRAGMENTS AND BROWN NODULES	-205.0	1022	0	0	26
		-210.0				
215.0		-215.0	1064	0	24	50/4"
		-220.0				
	DENSE TO VERY DENSE GREEN SLIGHTLY TO NON-CALCAREOUS FINE SAND AND SLIGHTLY SILTY FINE SAND WITH A FEW SMALL SHELL FRAGMENTS	-225.0	1106	0	13	26
		-230.0				
		-235.0	1148	6"	1	2
		-240.0				
250.0		-245.0	1196	12"	0	7
	BORING TERMINATED					

BORING NUMBER AG 102
ST. LUCIE PLANT
JOB NUMBER SA-737

TEST BORING RECORD

DEPTH FEET	DESCRIPTION	ELEV.	PENETRATION-BLOWS PER FOOT 0 5 10 15 20 30 40 50 60 80 100
0.0	WASH BORING FROM 0 - 98.5 FEET, NO SAMPLES TAKEN	32.0	
		27.0	
		22.0	
		17.0	
		12.0	
		7.0	
		2.0	
		- 3.0	
		- 8.0	
		- 13.0	
		- 18.0	
		- 23.0	

BORING NUMBER AG 103
ST. LUCIE PLANT
JOB NUMBER SA-737

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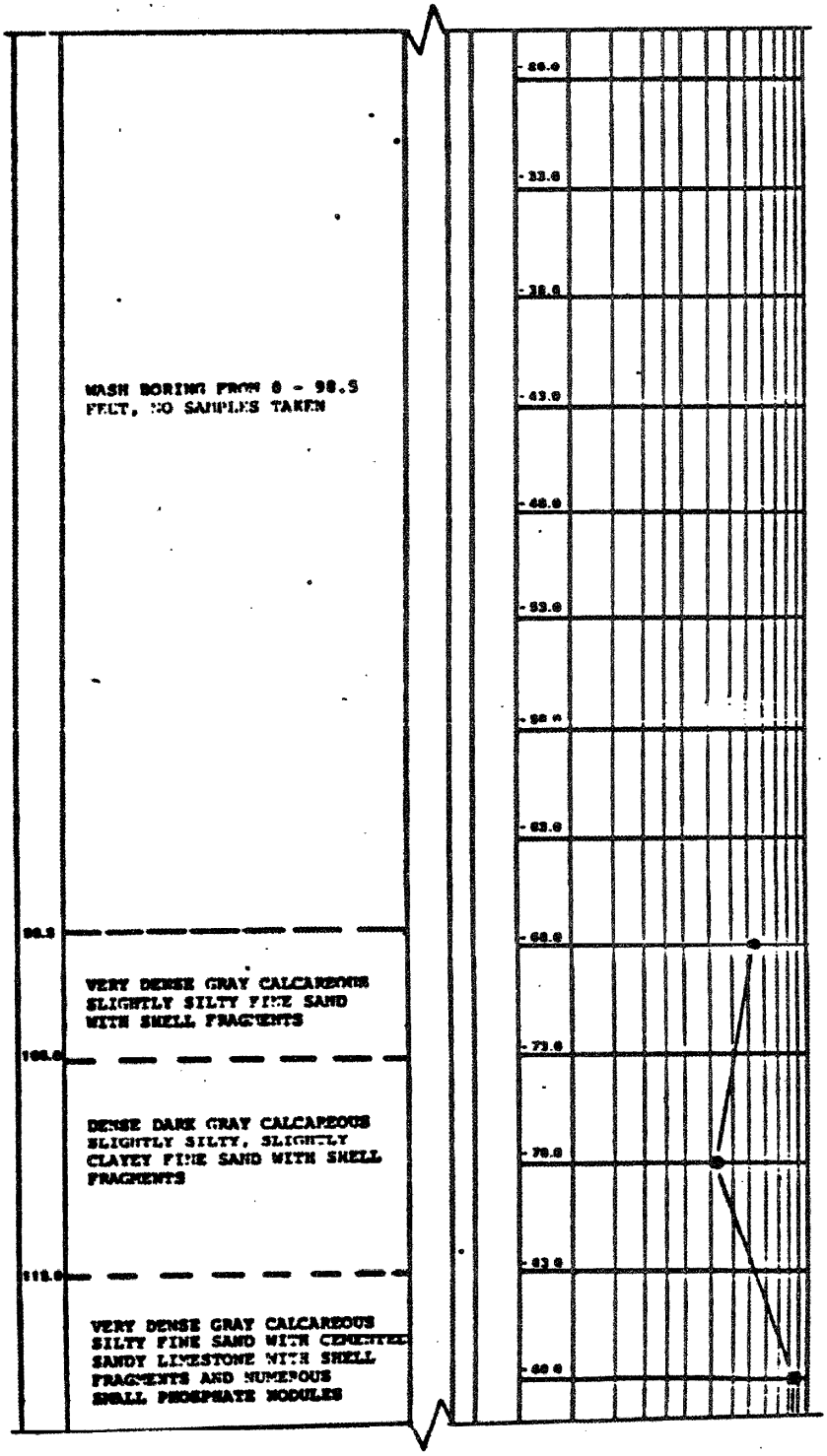
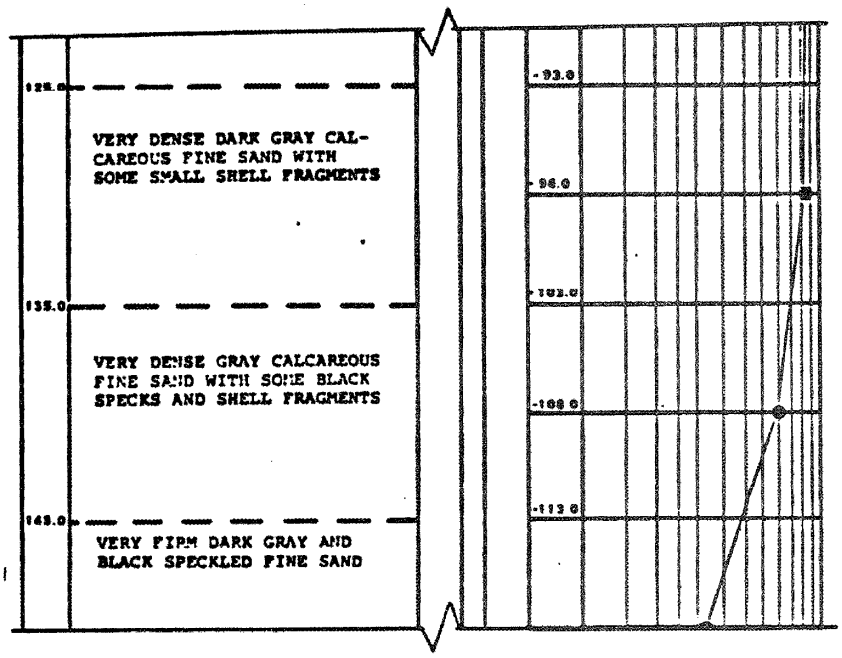
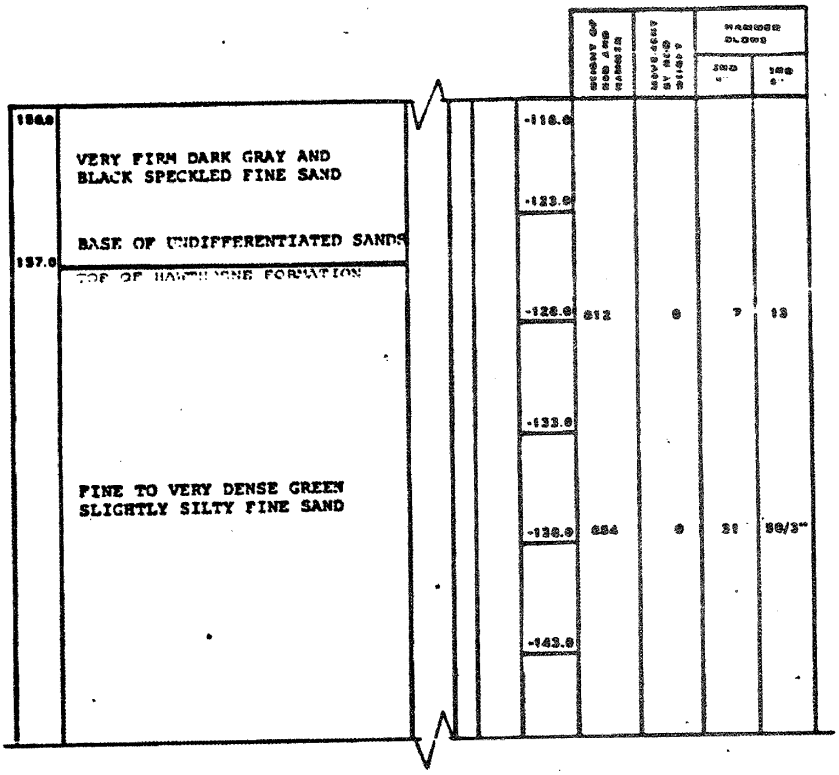


BORING NUMBER AG 103
ST. LUCIE PLANT
JOB NUMBER SA-737





BORING NUMBER AG 103
ST. LUCIE PLANT
JOB NUMBER SA-737

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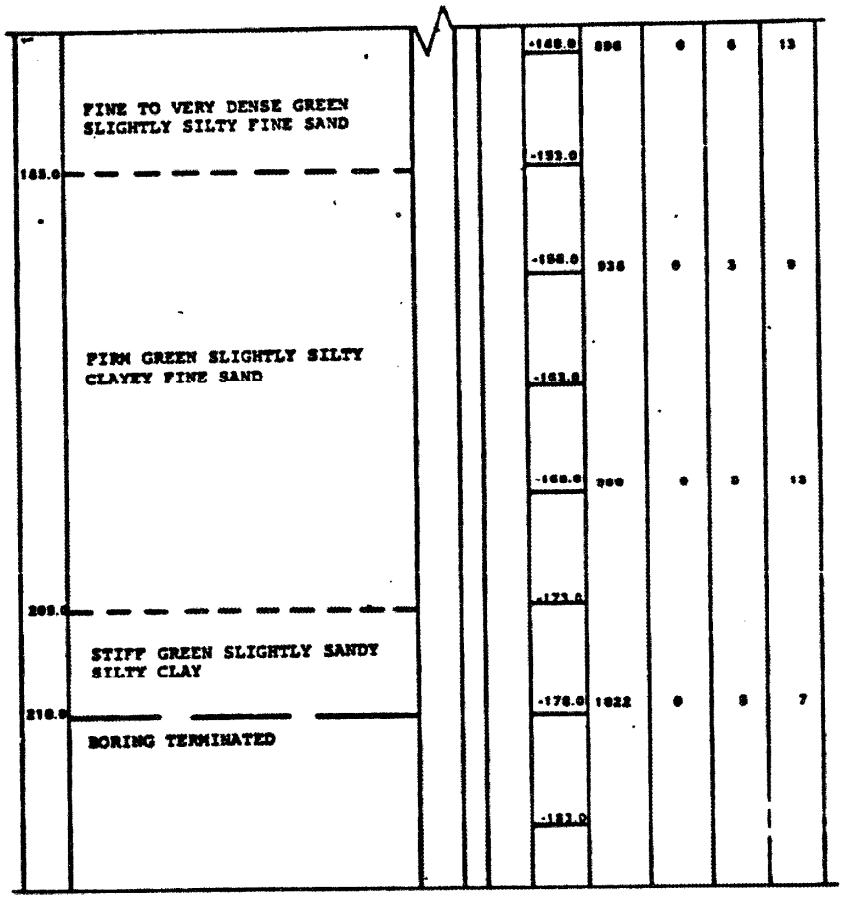

BORING NUMBER AG 103
ST. LUCIE PLANT
JOB NUMBER SA-737

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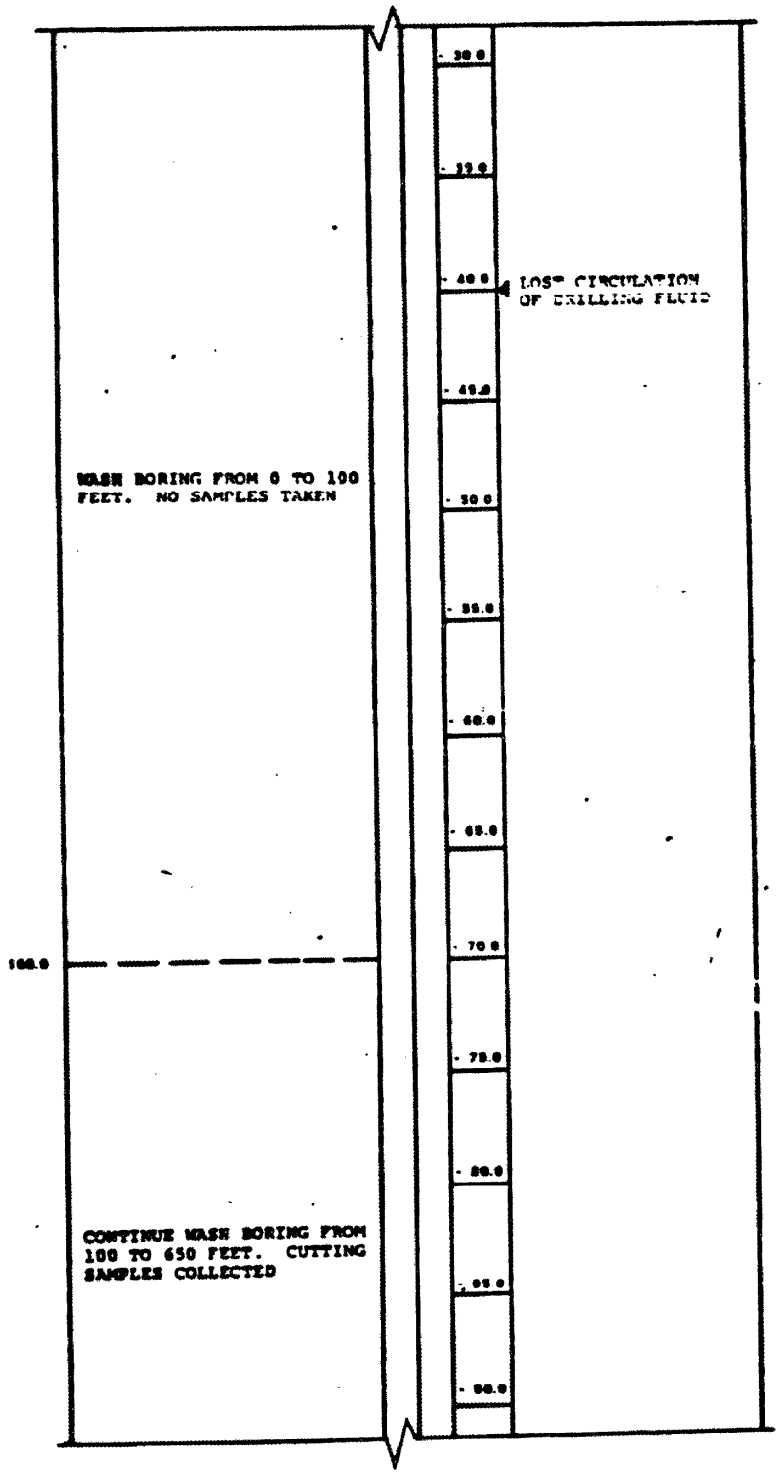
DEPTH FT.	DESCRIPTION	CORE RT %	CORE RT SIZE	ELEV.	REMARKS
0.0	WASH BORING FROM 0 TO 100 FEET. NO SAMPLES TAKEN			30.0	
				25.0	
				20.0	
				15.0	
				10.0	
				5.0	
				0.0	
				- 5.0	
				- 10.0	
				- 15.0	
				- 20.0	
				- 25.0	

BORING NUMBER AG 104
ST. LUCIE PLANT
JOB NUMBER SA-737



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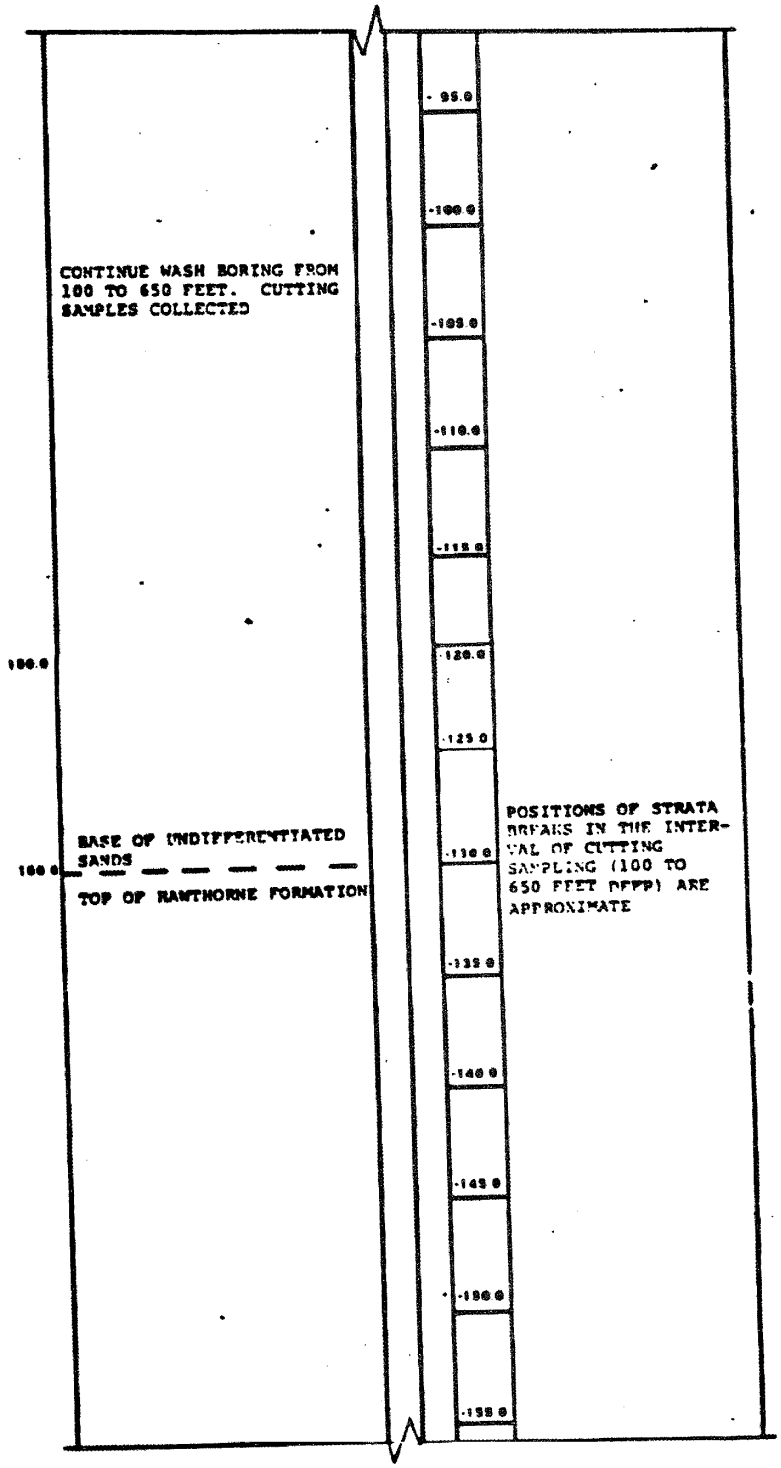
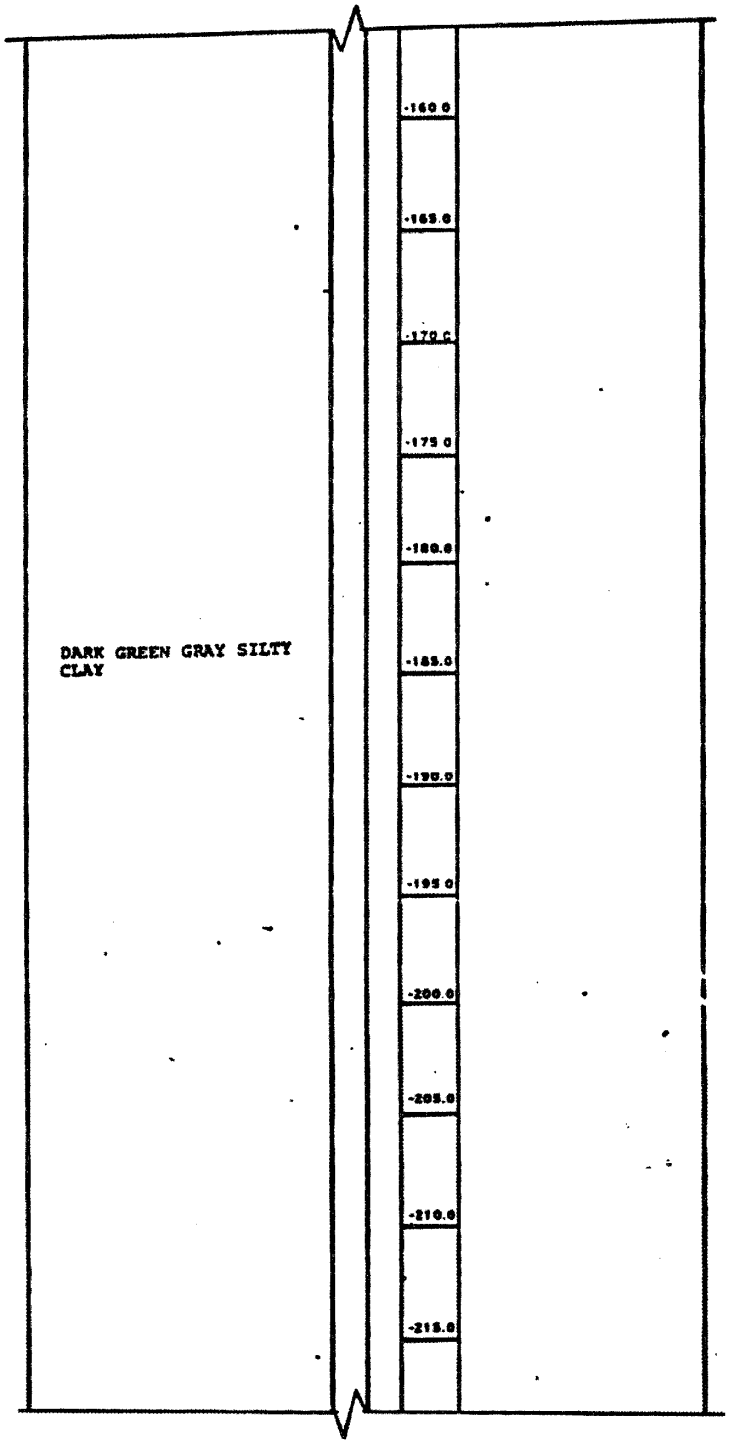
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 104
ST. LUCIE PLANT
JOB NUMBER SA-737



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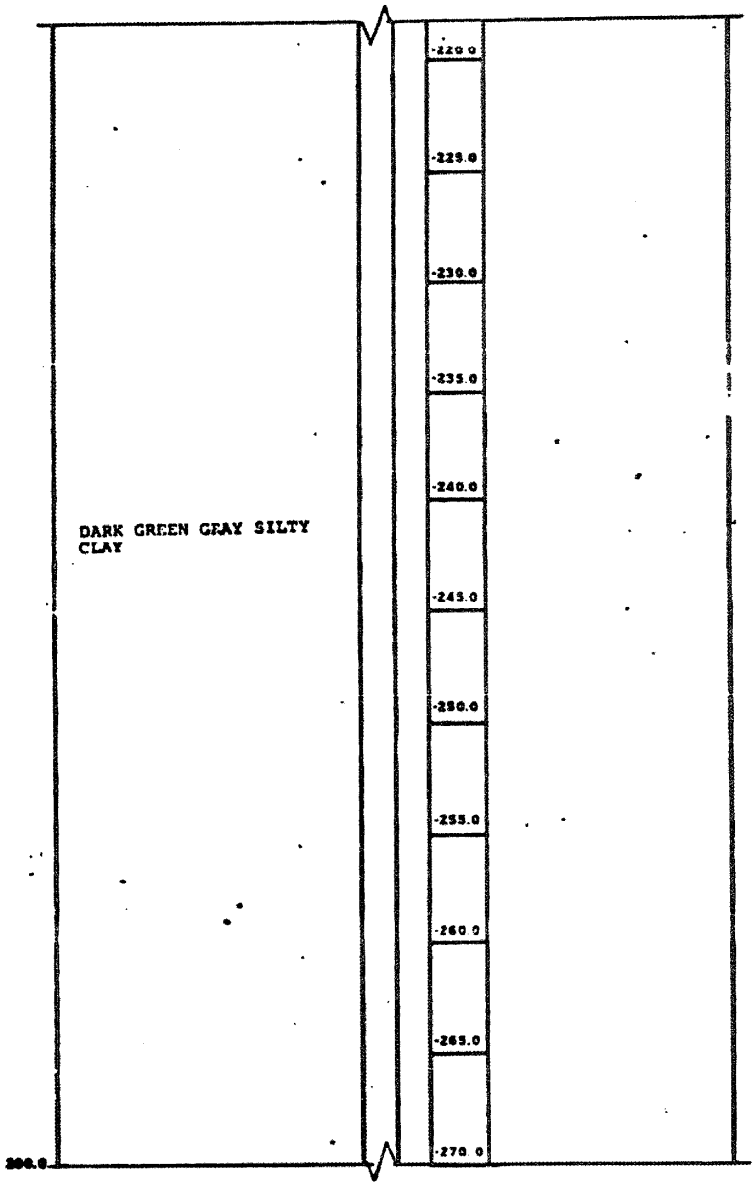
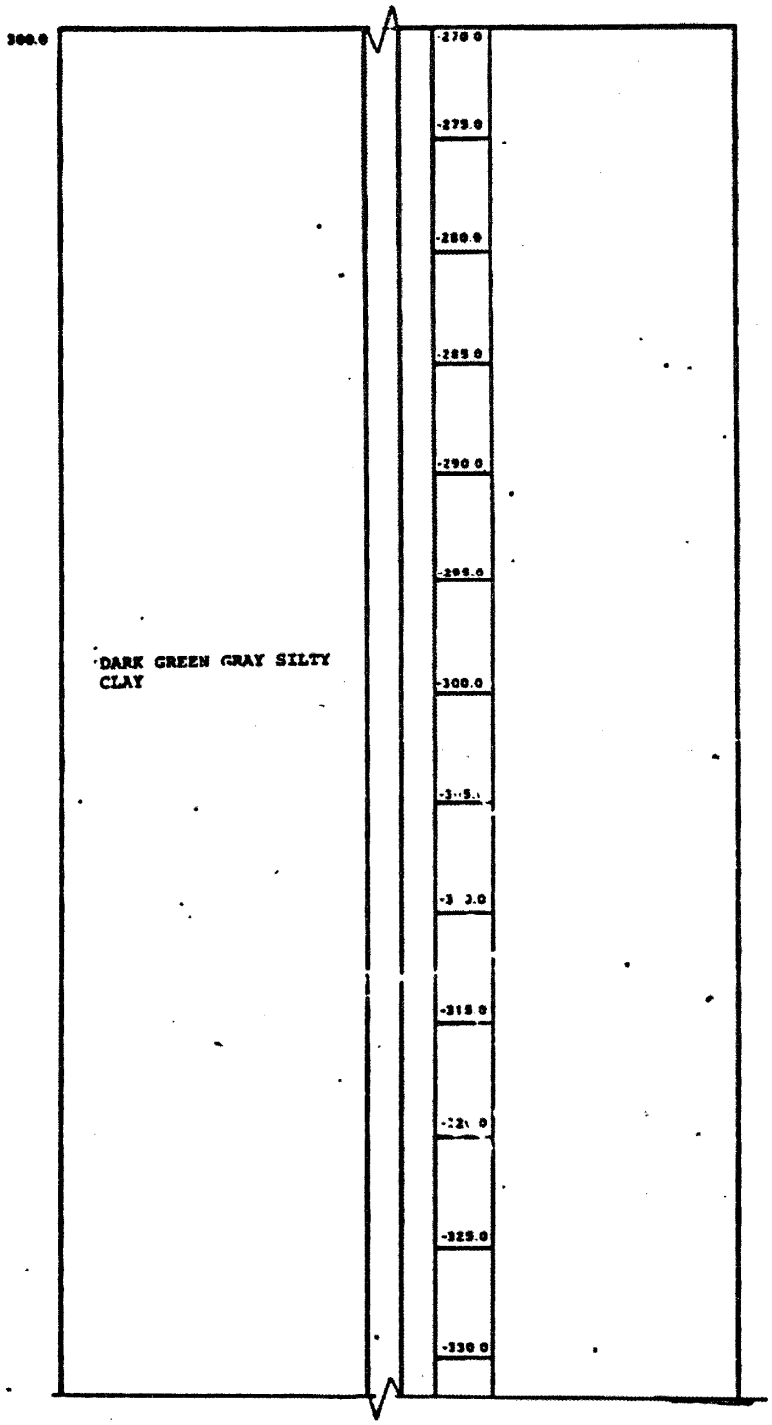
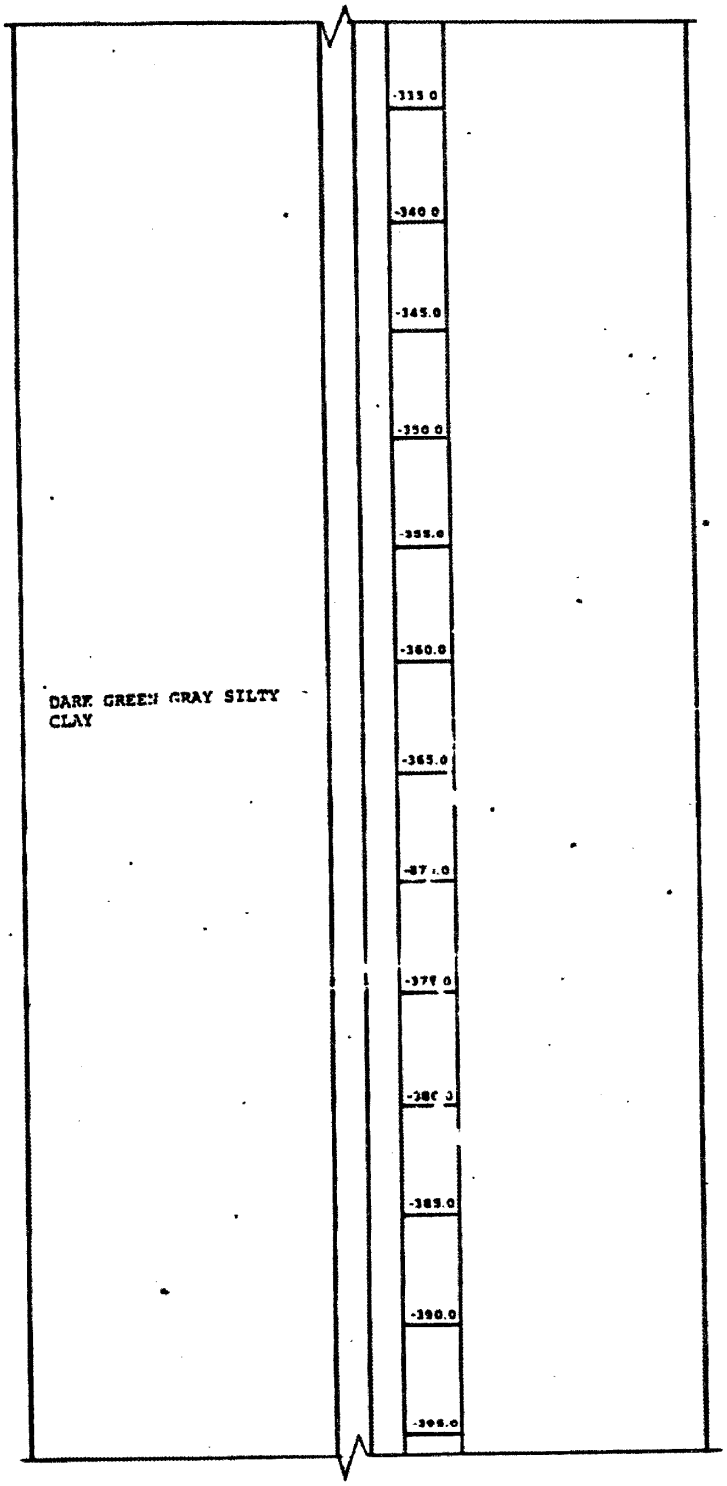
ST. LUCIE PLANT
JOB NUMBER SA-737



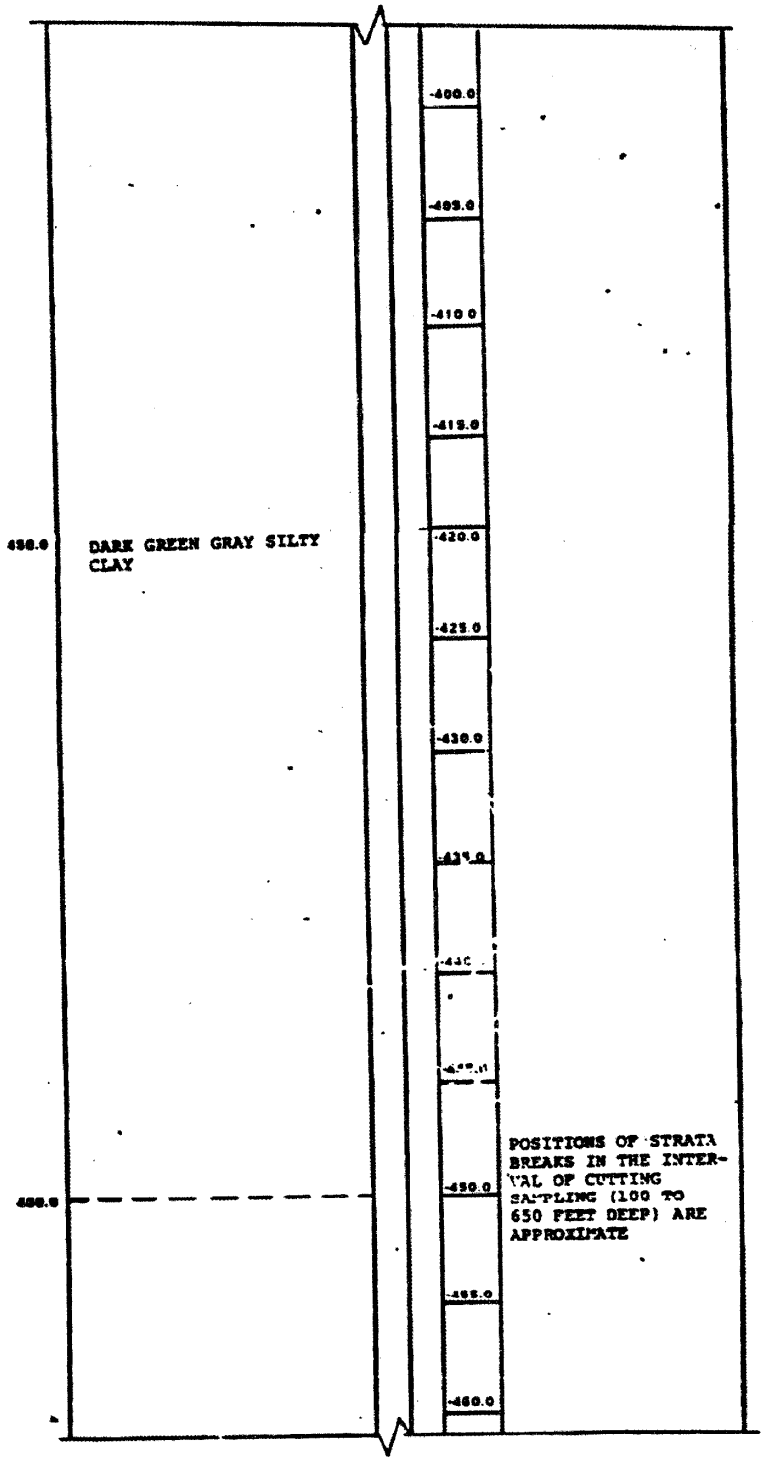
BORING NUMBER AG 104
ST. LUCIE PLANT
JOB NUMBER SA-737



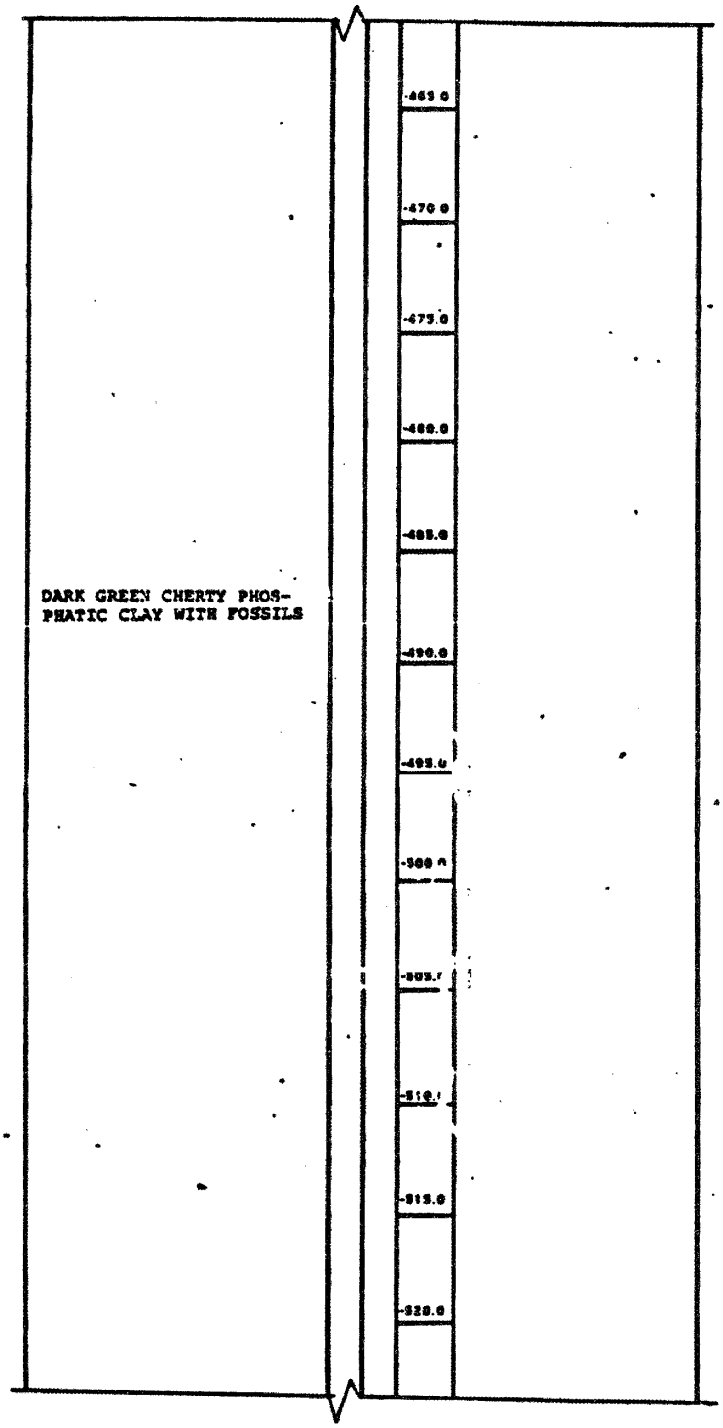
BORING NUMBER AG 104
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 104
ST. LUCIE PLANT
JOB NUMBER 5A-737



BORING NUMBER AG 104
ST. LUCIE PLANT
JOB NUMBER SA-737



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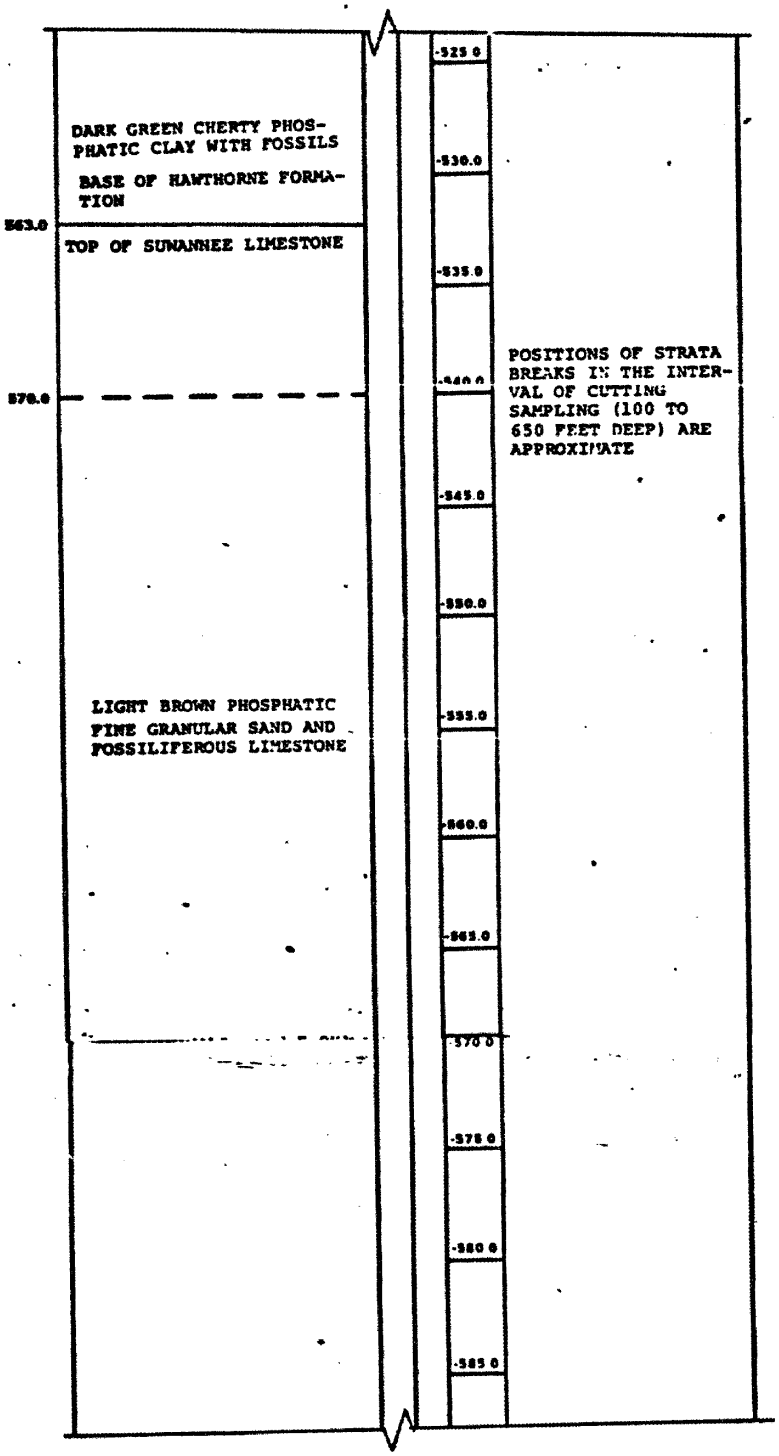
JOB NUMBER SA-737



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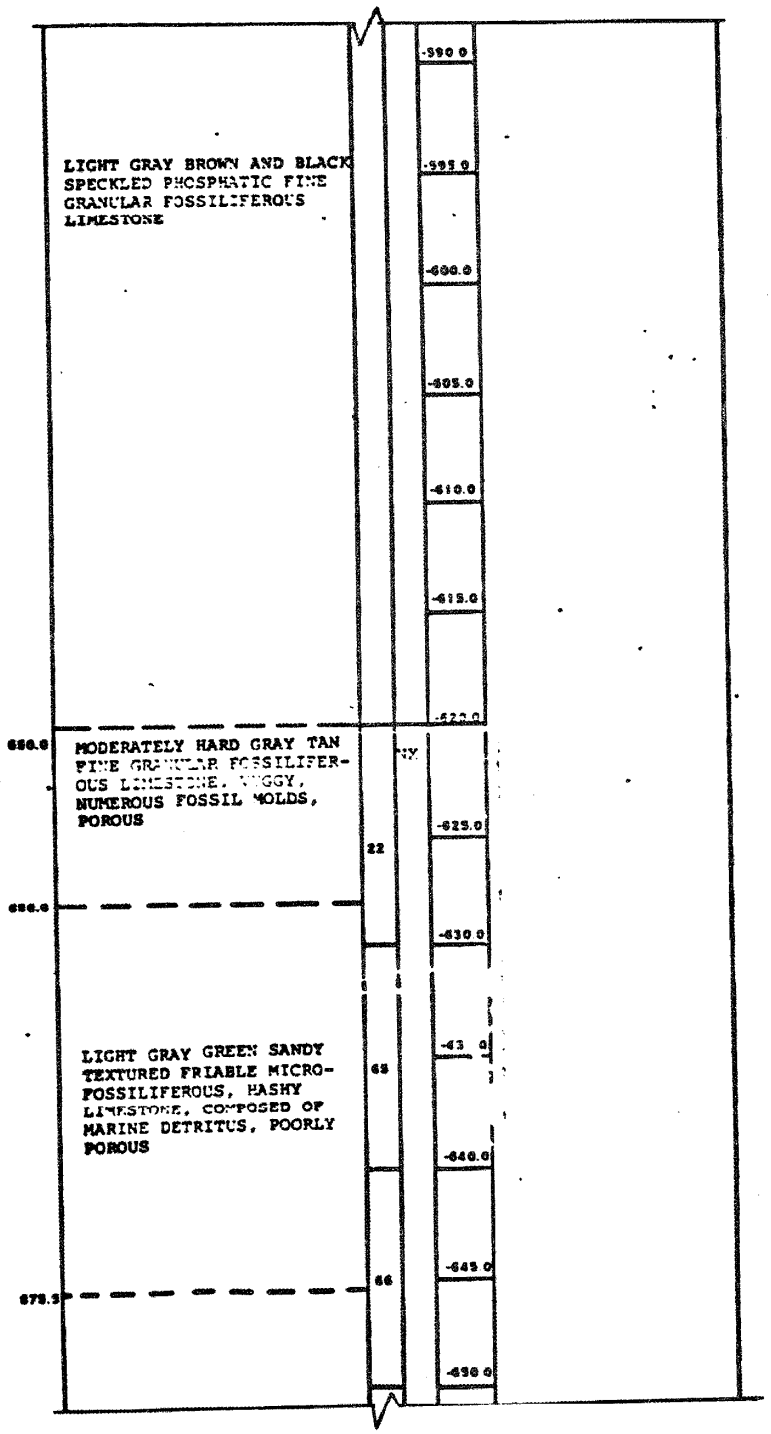
JOB NUMBER SA-737



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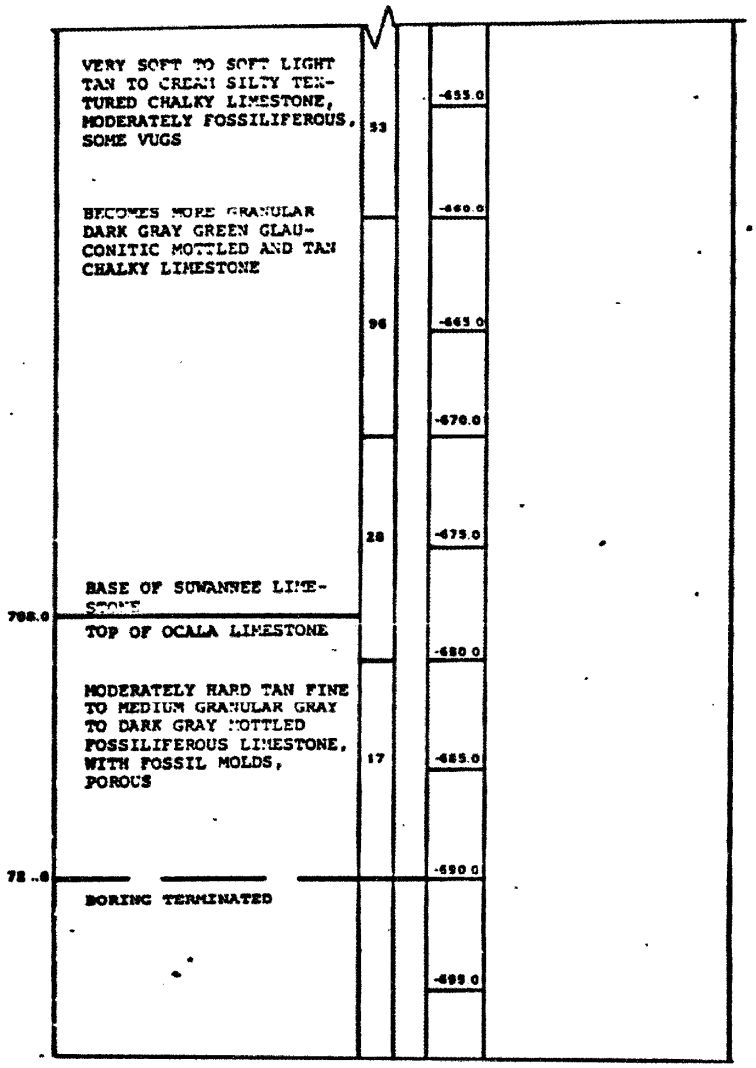
ST. LUCIE PLANT
JOB NUMBER SA-737

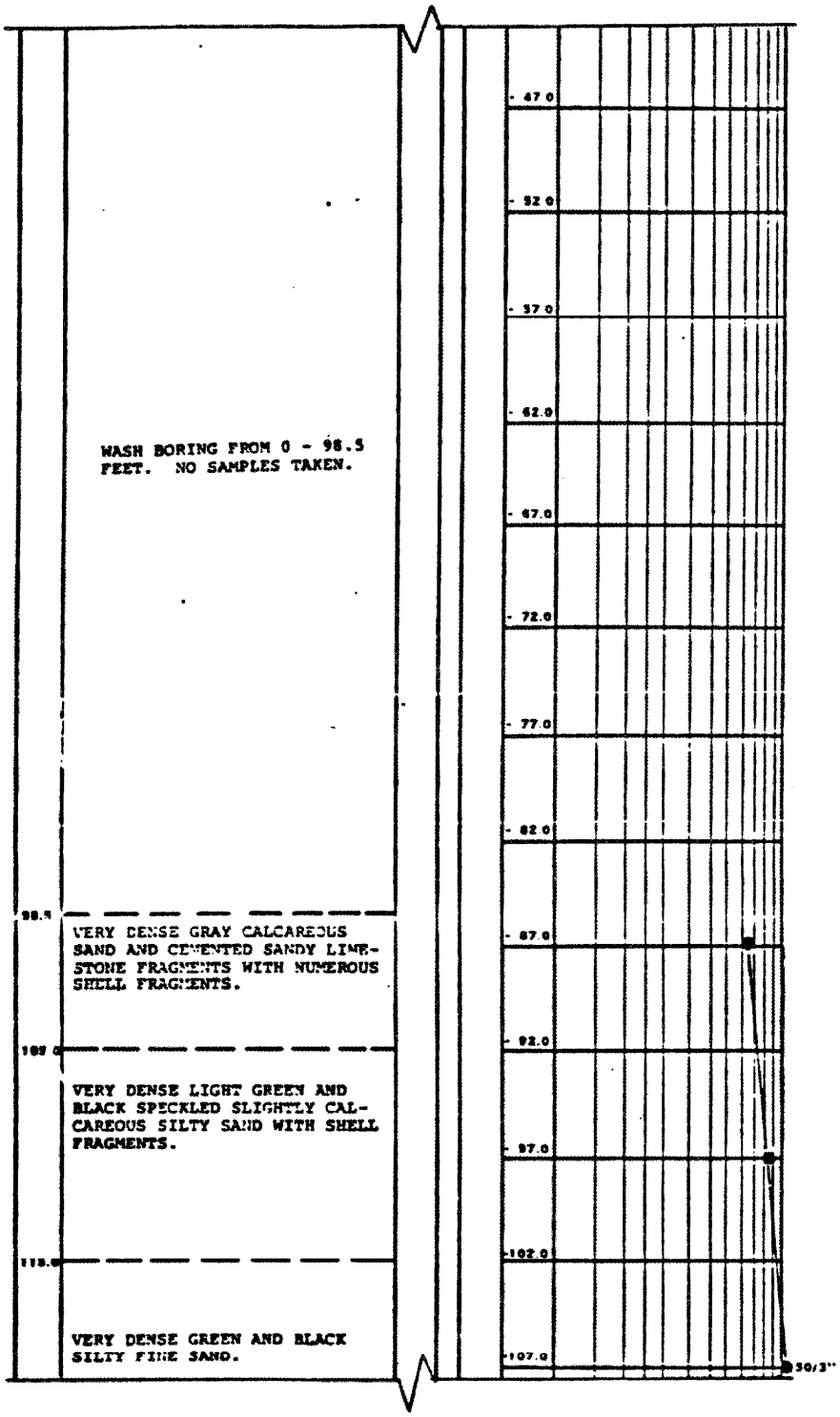


BORING NUMBER AG 104
ST. LUCIE PLANT
JOB NUMBER SA-737

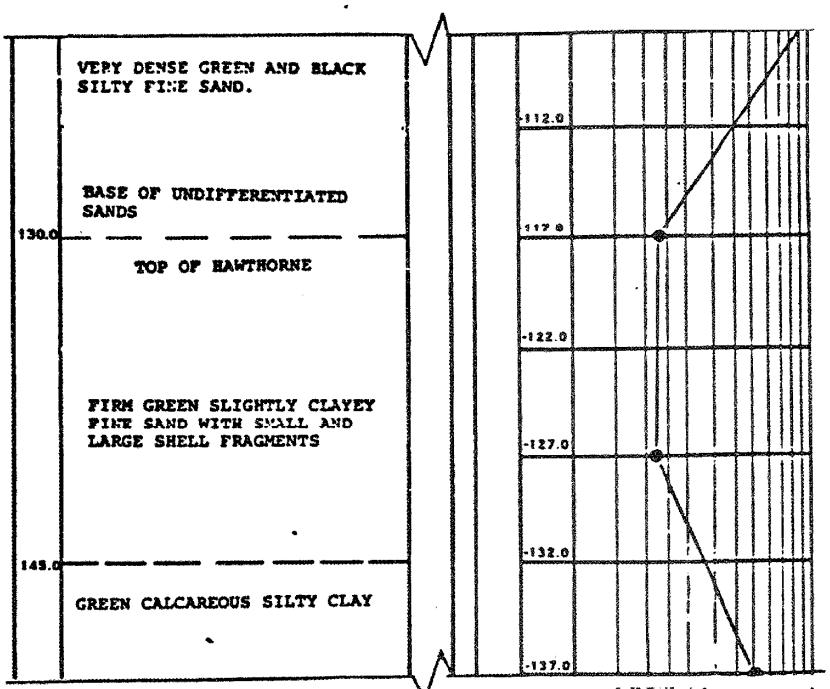
TEST BORING RECORD

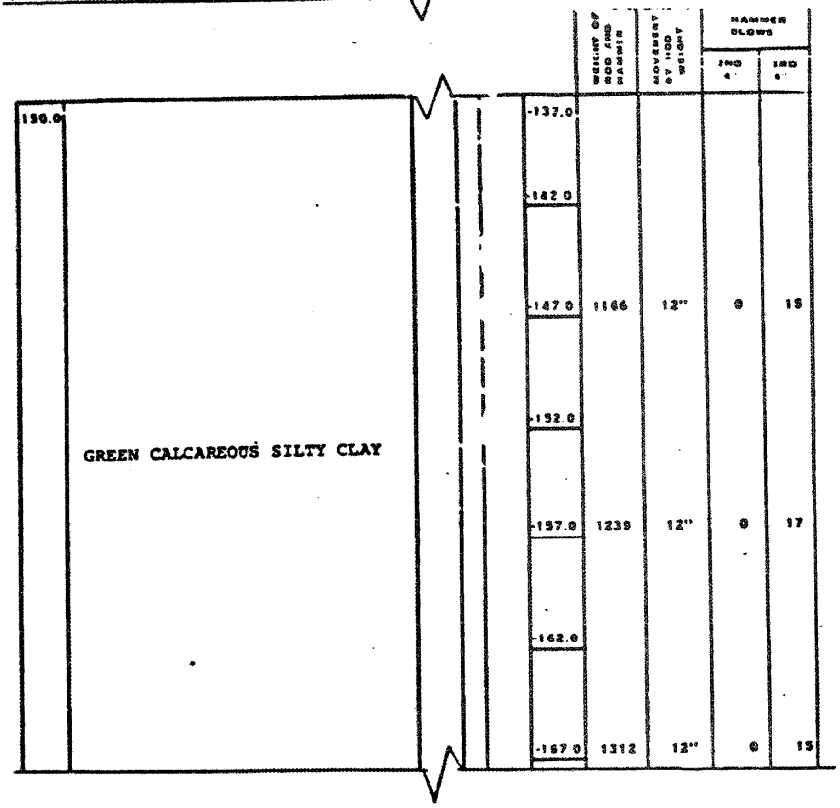
DEPTH FEET	DESCRIPTION	ELEV.
0.0	WASH BORING FROM 0 - 98.5 FEET. NO SAMPLES TAKEN.	13.0
		8.0
		3.0
		-2.0
		-7.0
		-12.0
		-17.0
		-22.0
		-27.0
		-32.0
		-37.0
		-42.0

BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737





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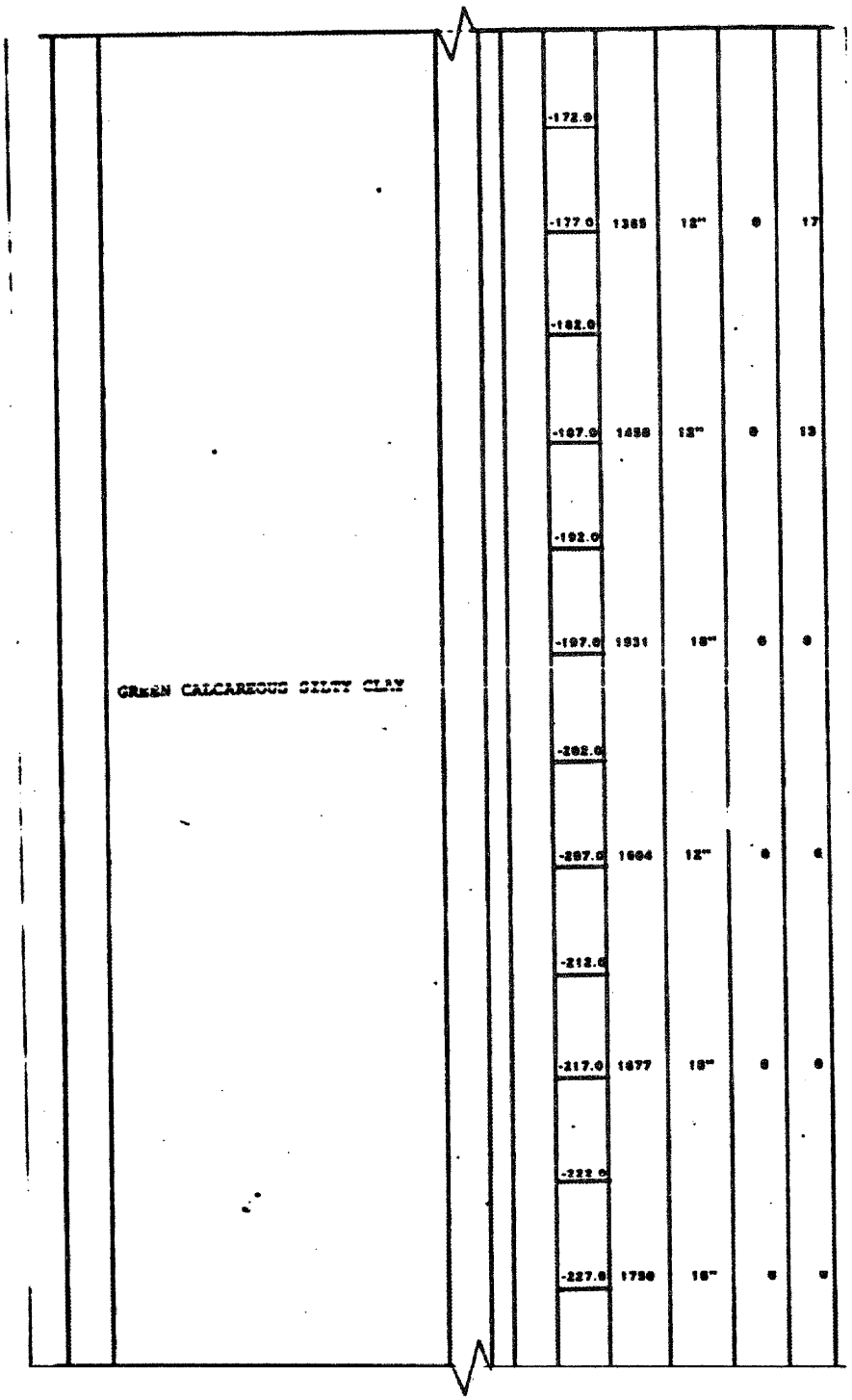
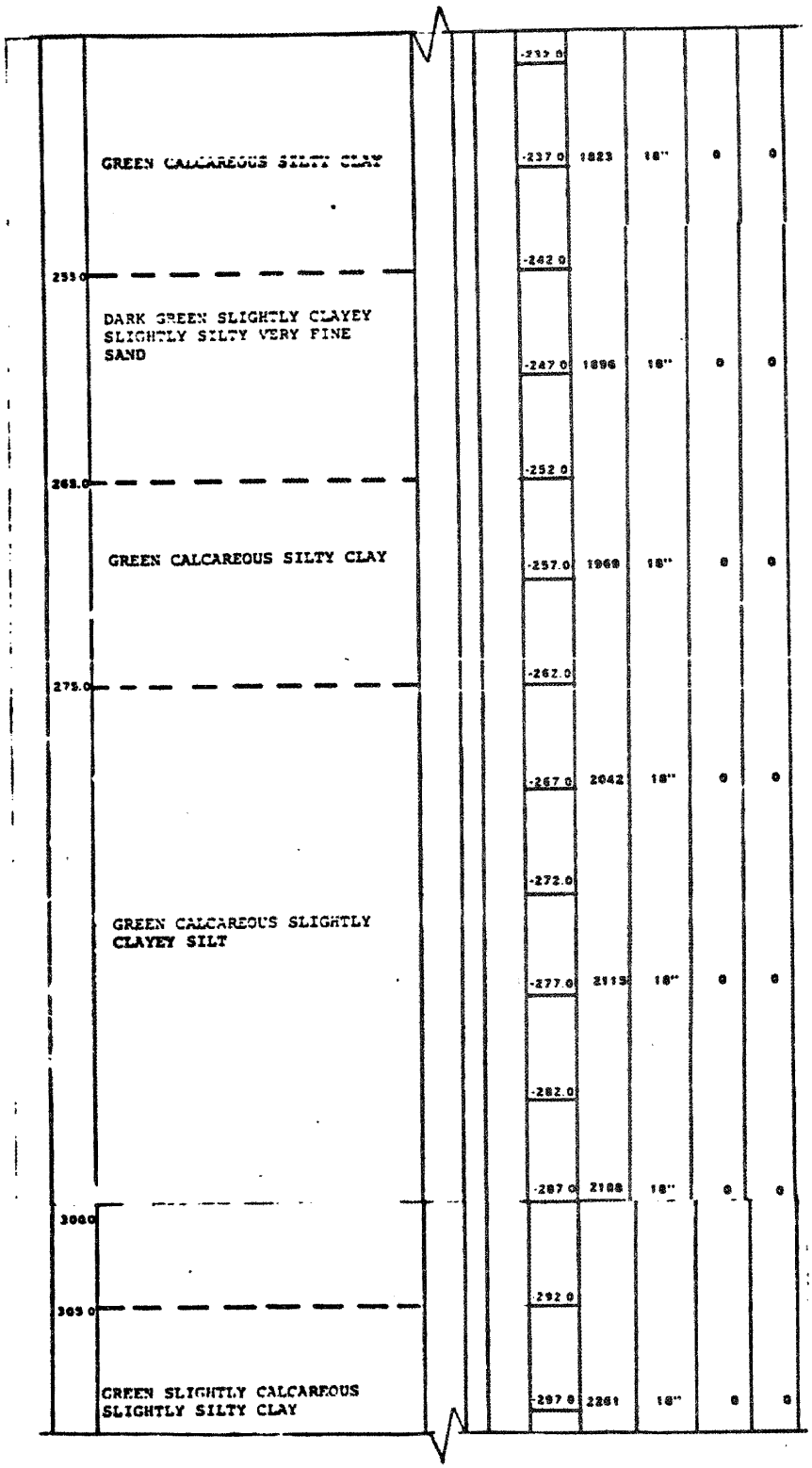
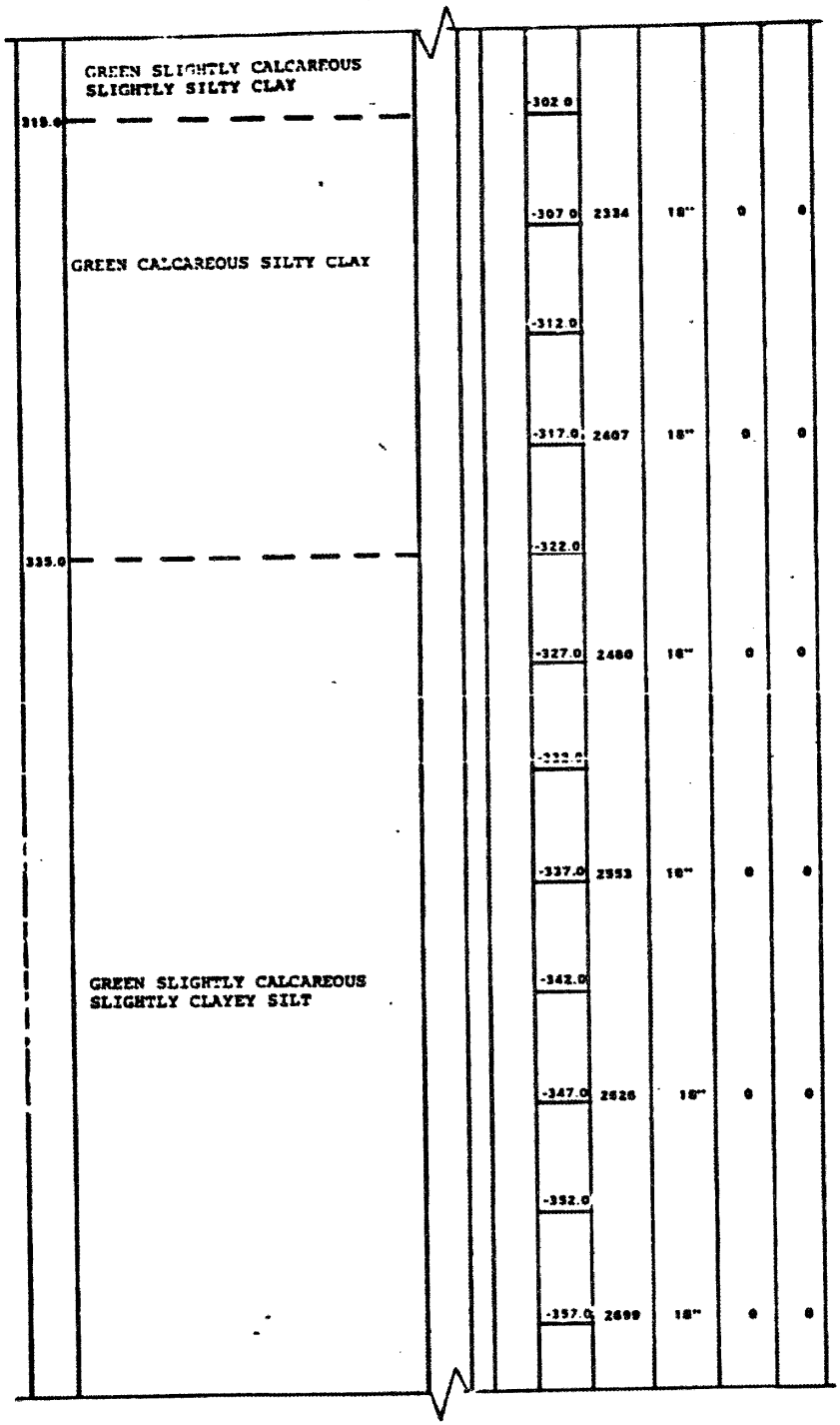
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737

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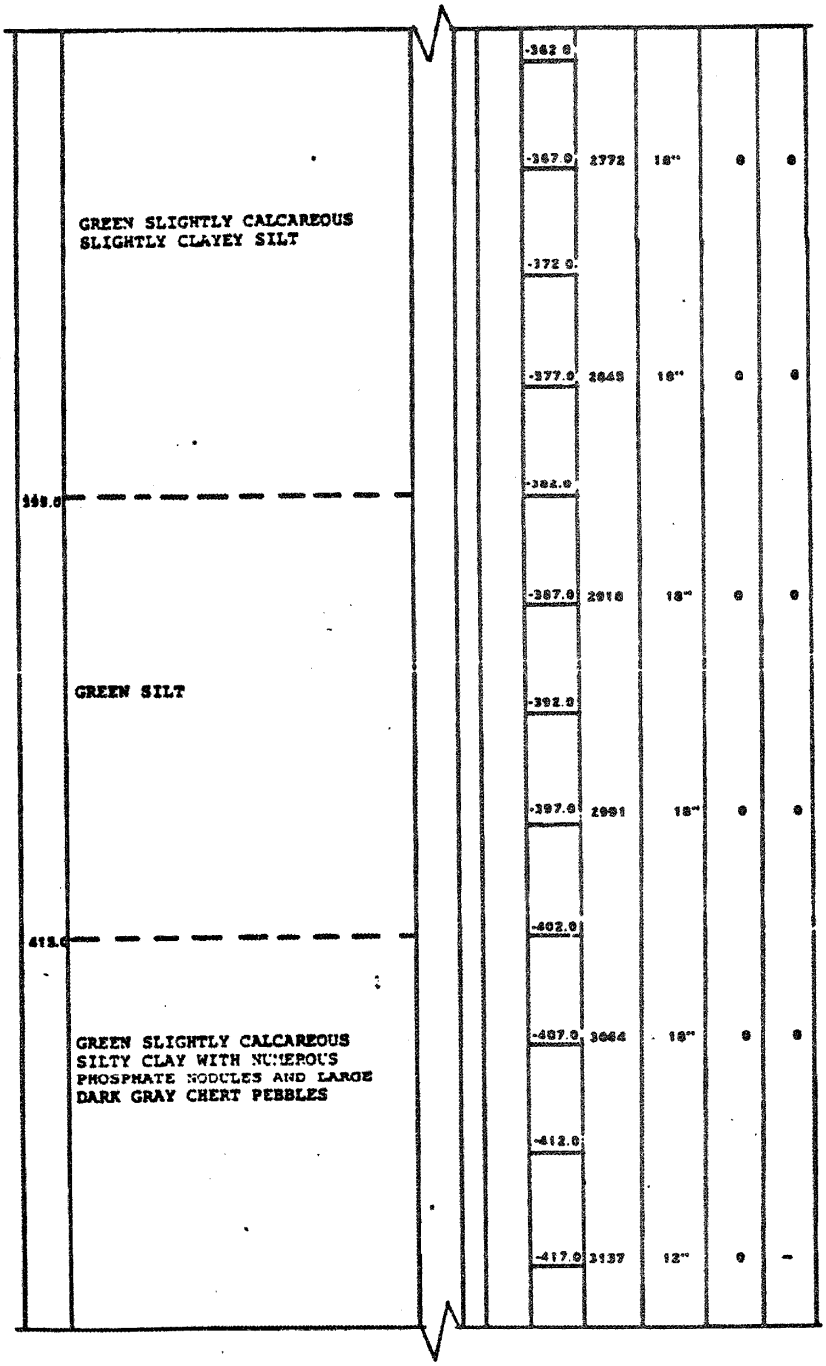

BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737

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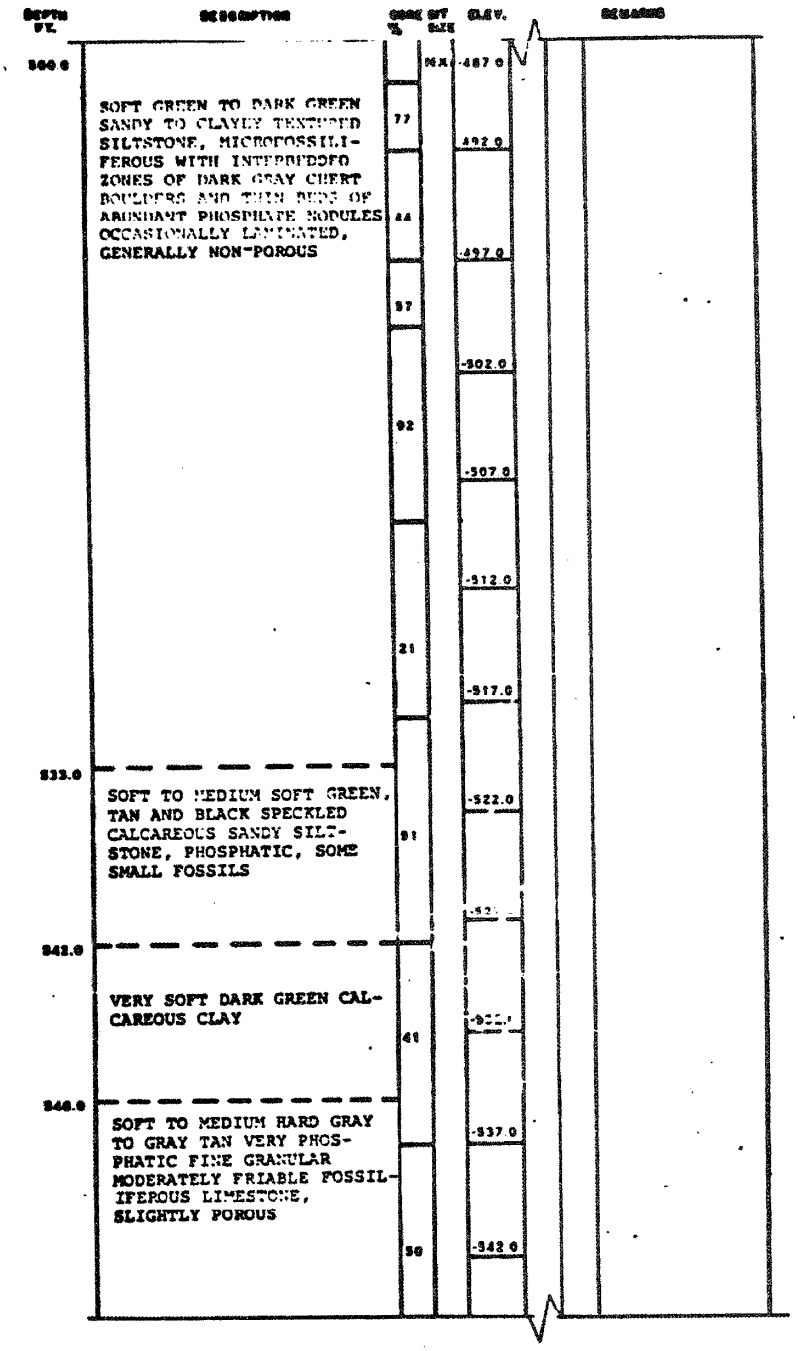
435.0	LIGHT GREEN AND TAN SPECKLED VERY CALCAREOUS SLIGHTLY CLAYEY SILT AND FINE SAND WITH SOME SHELL FRAGMENTS	-422.0				
		-427.0	3210	18"	0	0
		-432.0				
		-437.0	3823	18"	0	0
440.0	LIGHT GREEN AND TAN SPECKLED VERY CALCAREOUS SLIGHTLY CLAYEY SILT AND FINE SAND WITH SOME SHELL FRAGMENTS	-442.0				
		-447.0	3356	18"	0	0
		-452.0				
445.0	LIGHT GREEN SLIGHTLY CALCAREOUS SLIGHTLY SILTY CLAY WITH SOME SMALL SHELL FRAGMENTS	-457.0	3429	18"	0	0
		-462.0				
		-467.0	3502	18"	0	0
		-472.0				
450.0	LIGHT GREEN CALCAREOUS SILTY CLAYEY FINE SAND WITH SOME PHOSPHATE GRANULES	-477.0	3575	18"	0	0
		-482.0				
		-487.0	3648	18"	0	0

BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737

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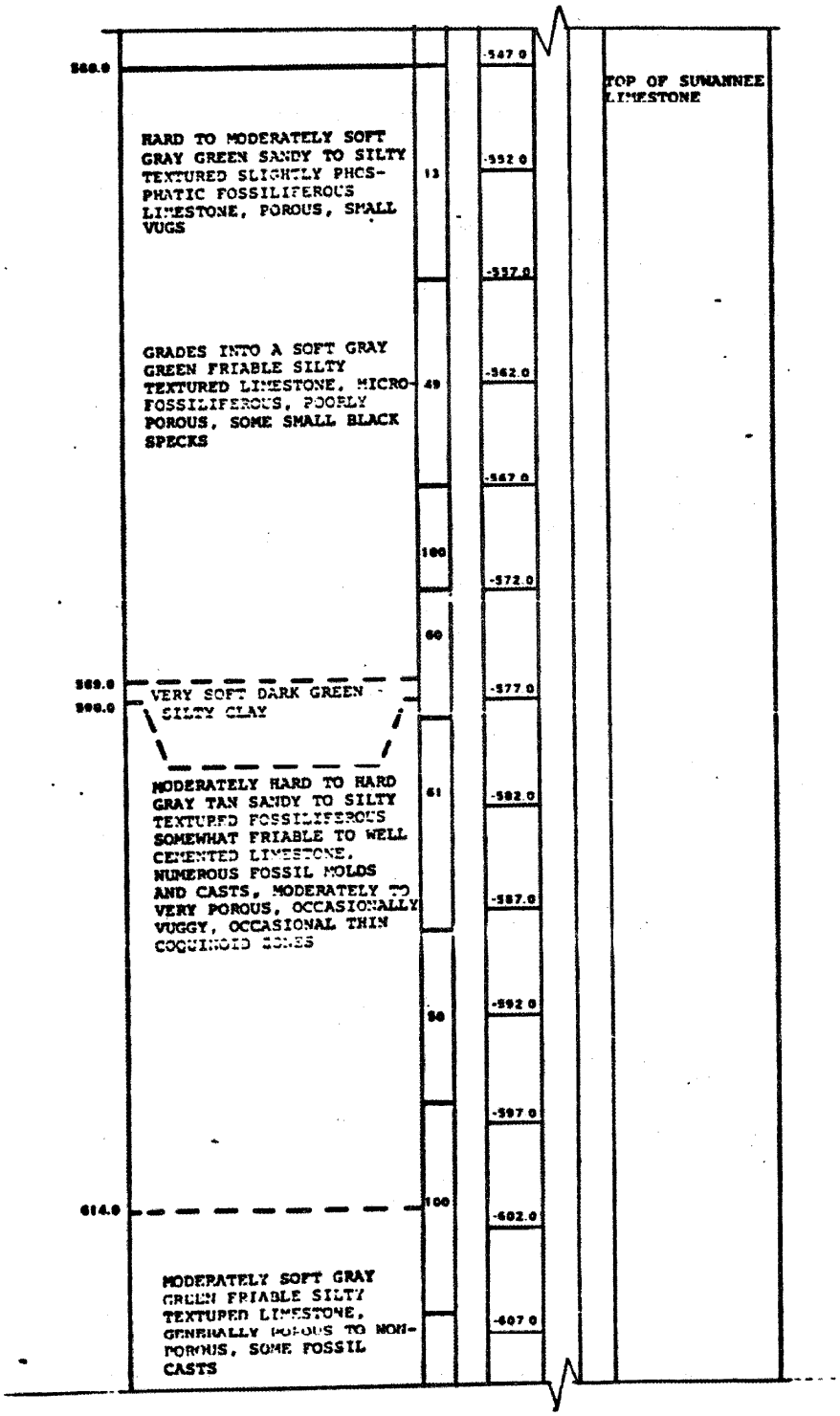
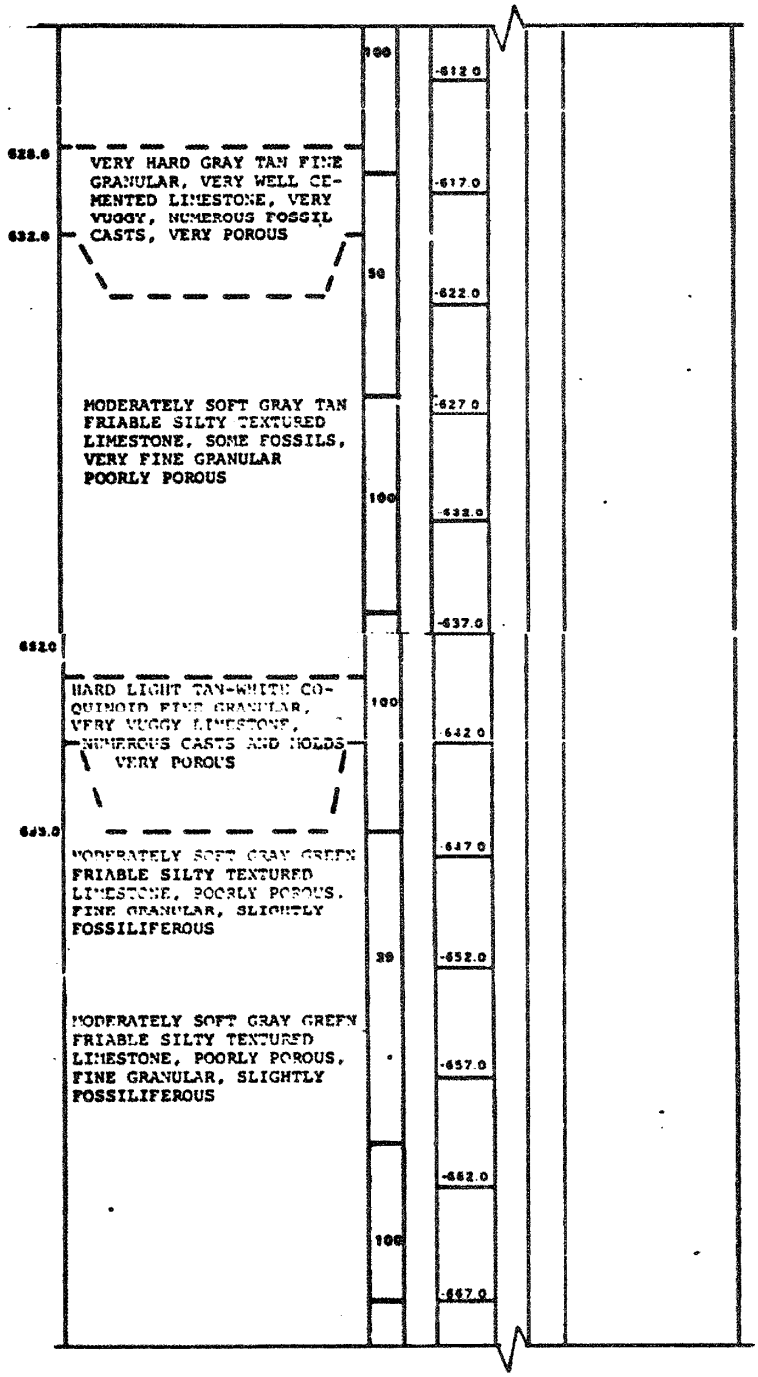


BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737

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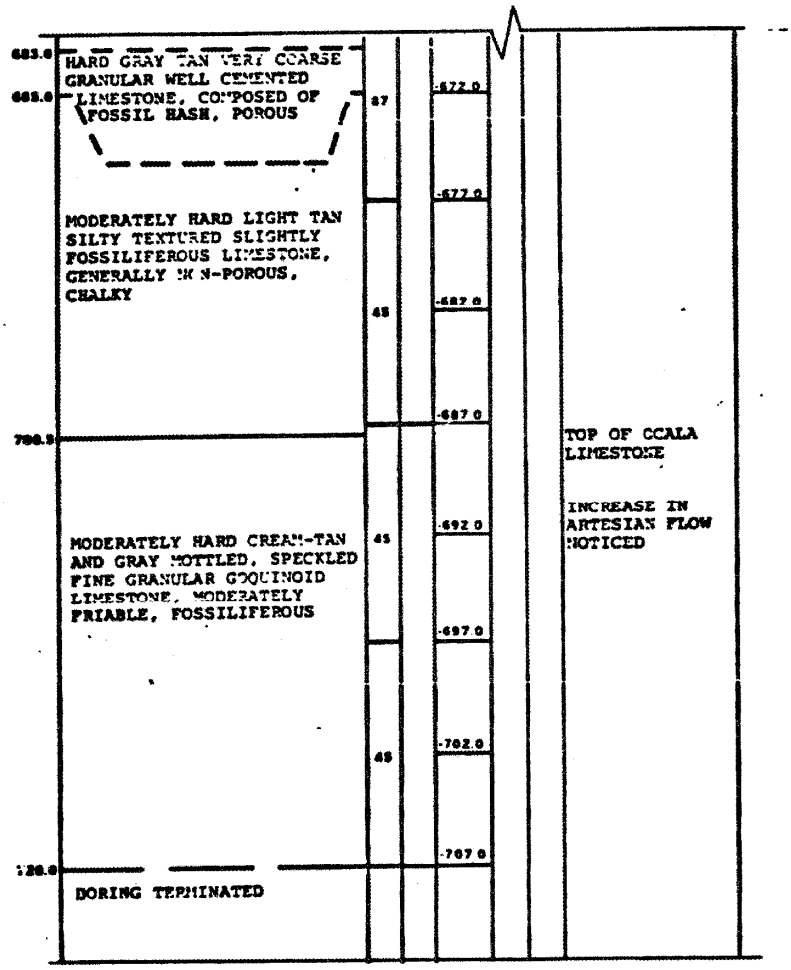


BORING NUMBER AG 105
ST. LUCIE PLANT
JOB NUMBER SA-737

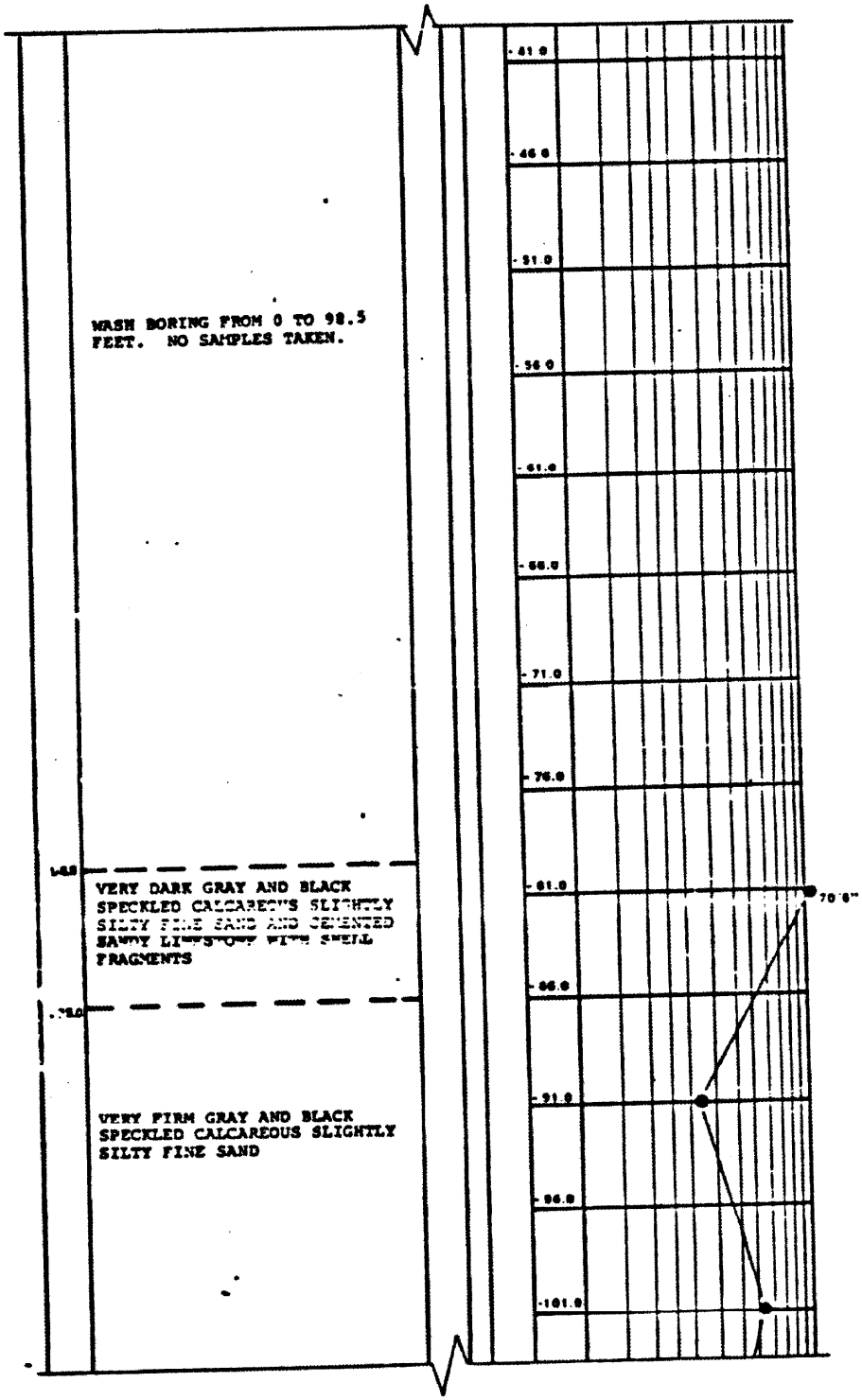
PAGE 12 OF 12

TEST BORING RECORD

DEPTH FEET	DESCRIPTION	ELEV.
0.0	WASH BORING FROM 0 TO 98.5 FEET. NO SAMPLES TAKEN.	19.0
		14.0
		9.0
		4.0
		-1.0
		-6.0
		-11.0
		-16.0
		-21.0
		-26.0
		-31.0
		-36.0

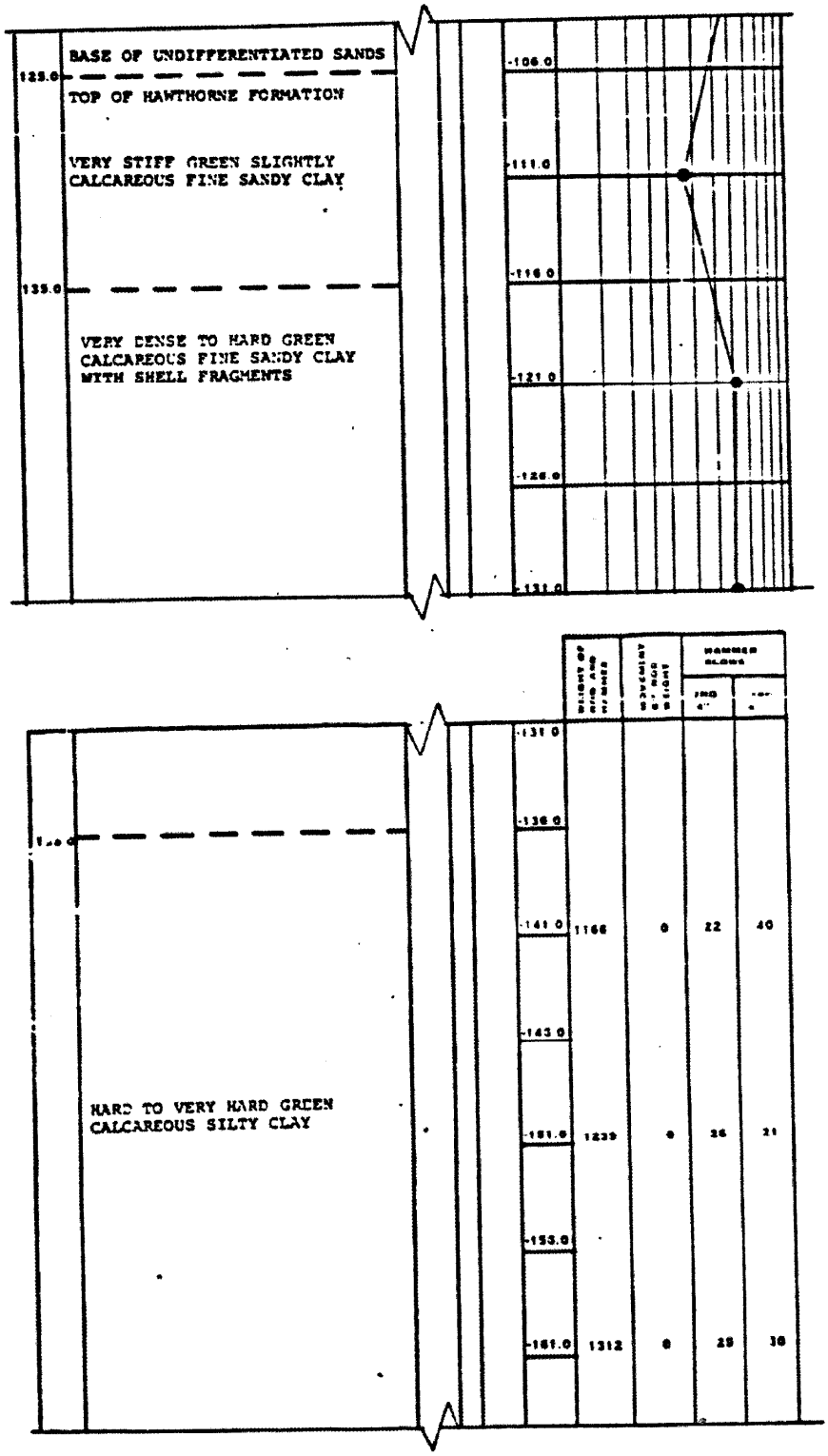
BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737

PAGE 1 OF 12

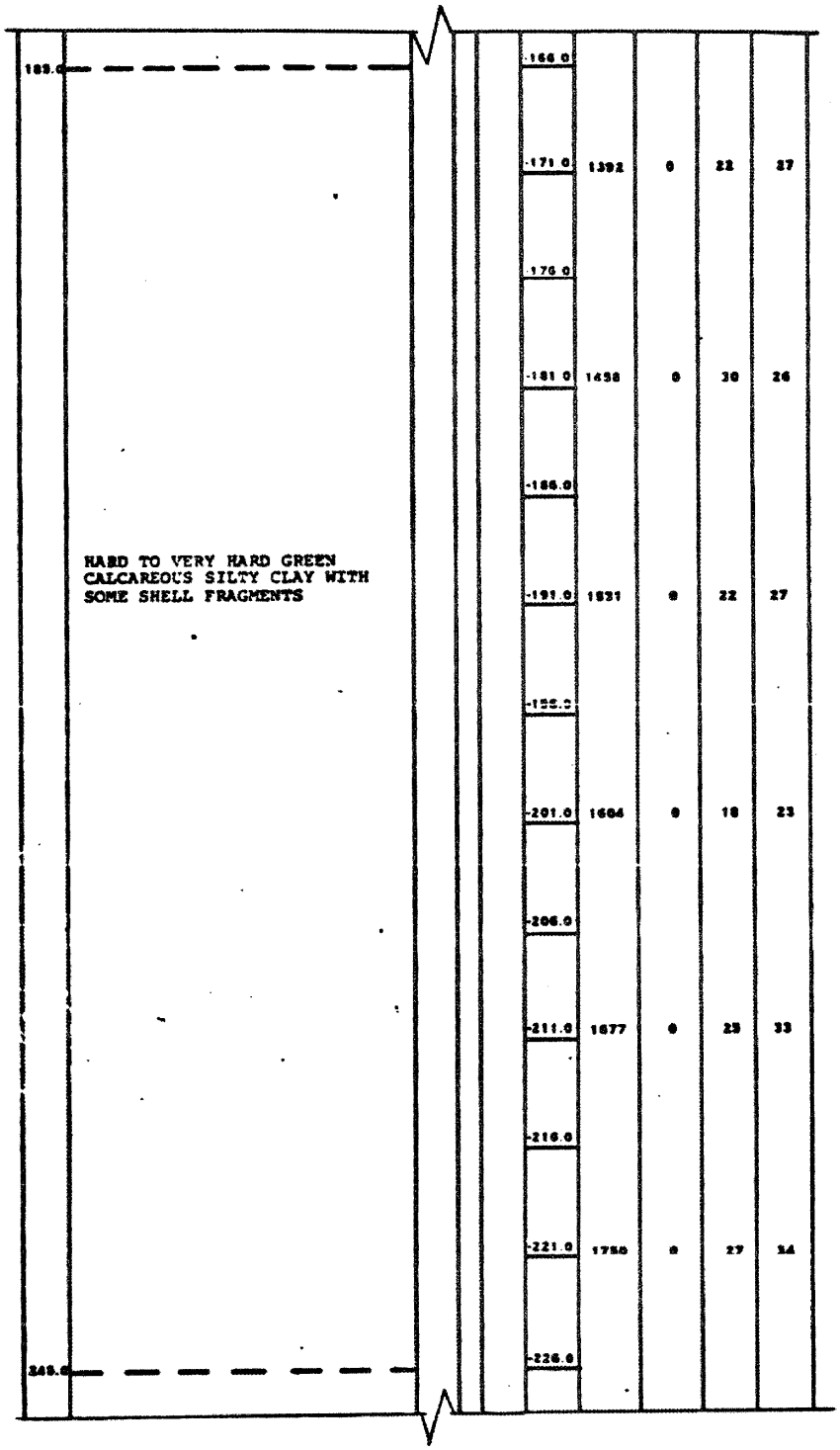


BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737

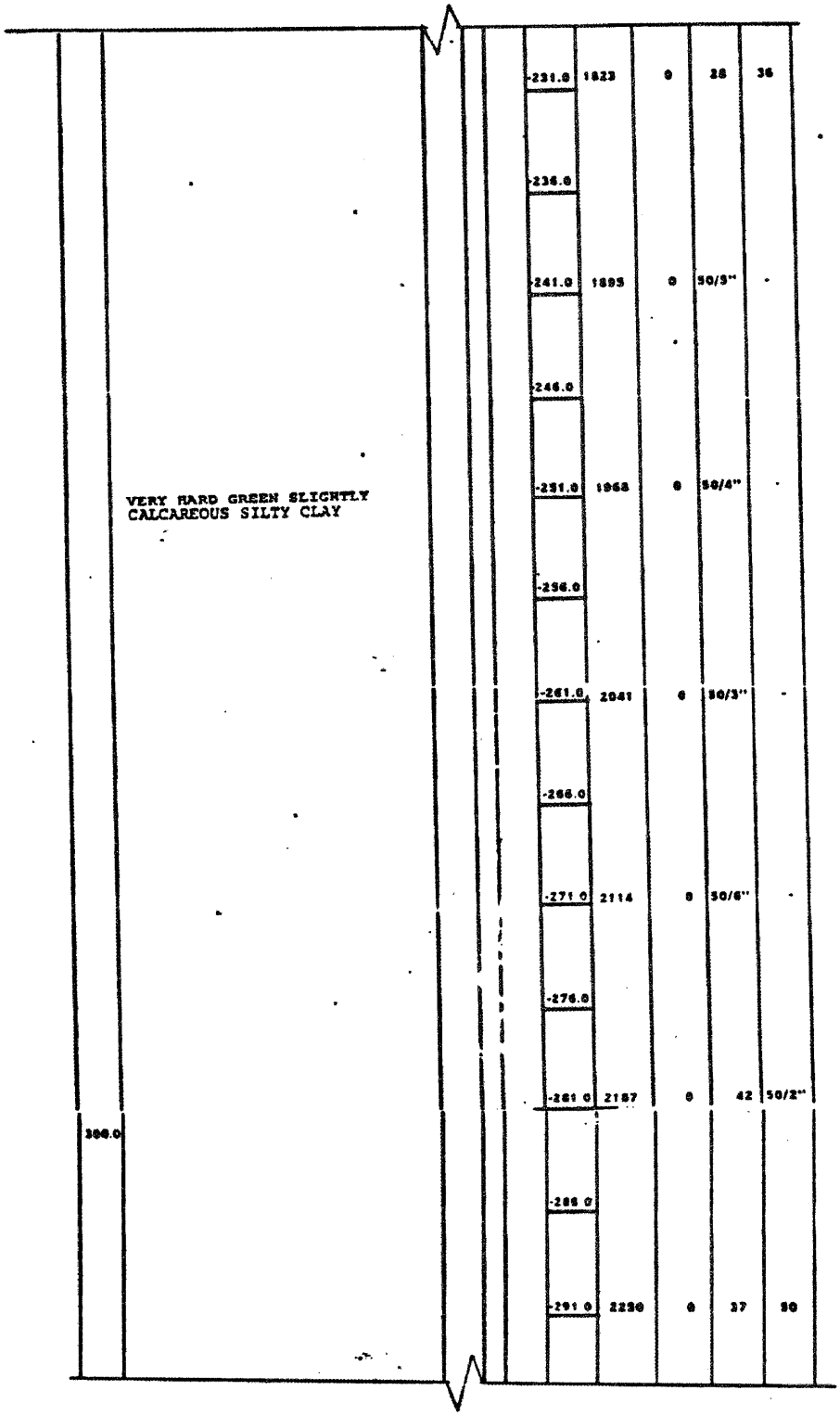
PAGE 2 OF 12



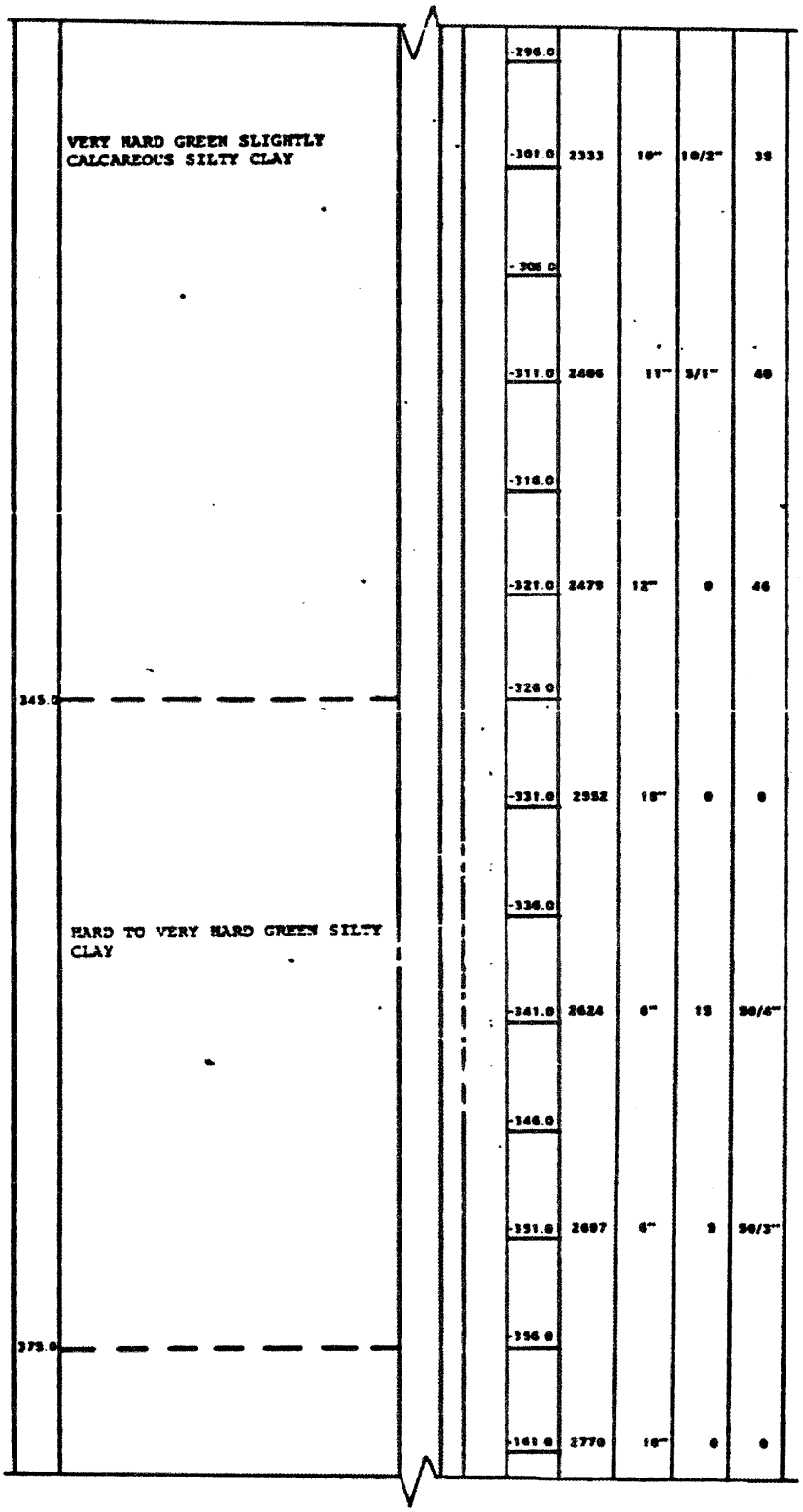
BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737

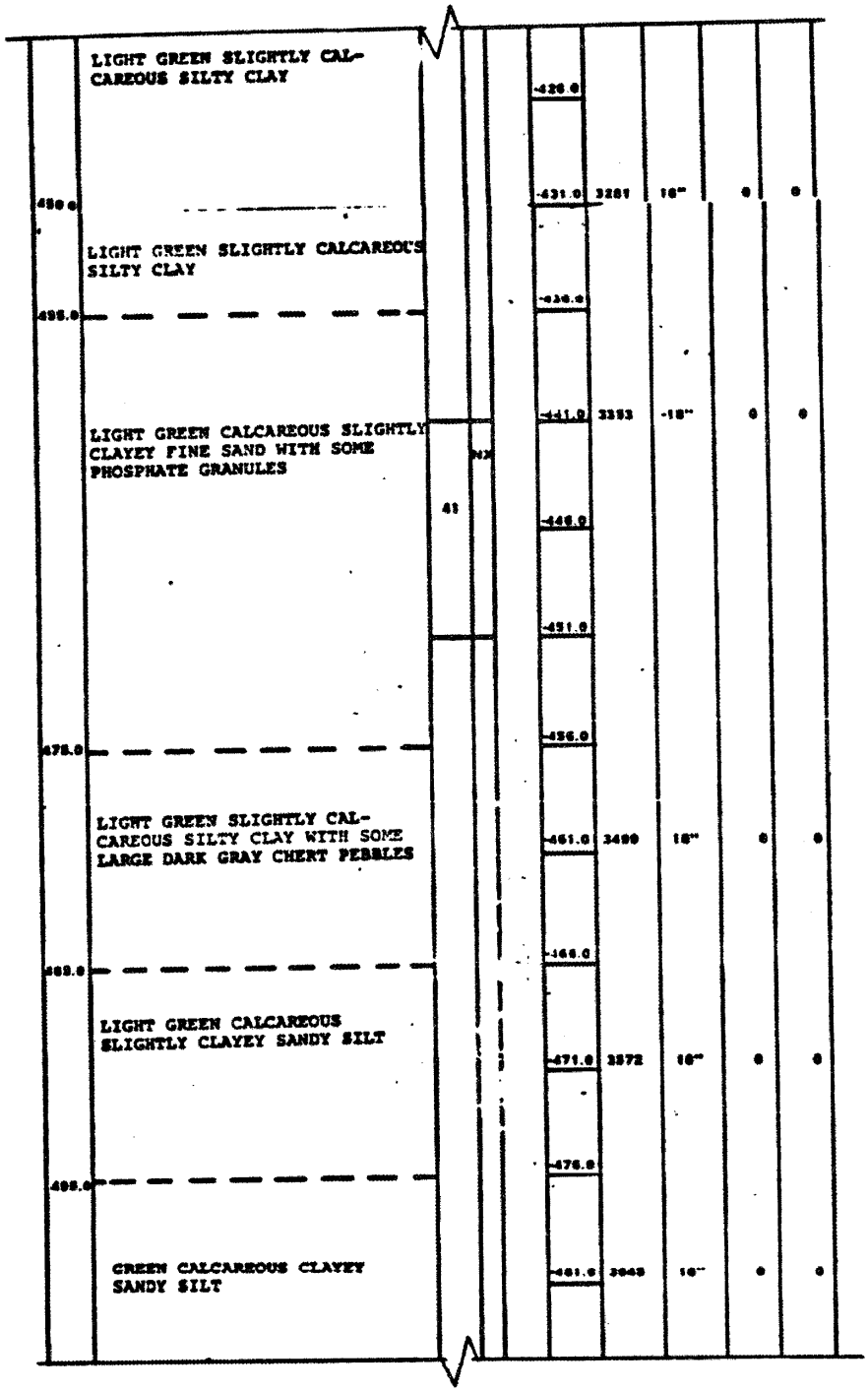


BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737

PAGE 6 OF 12

	GREEN SLIGHTLY CALCAREOUS SILTY CLAY WITH SOME LARGE SHELL FRAGMENTS	-366.0				
		-371.0	2863	18"	0	0
395.0		-376.0				
	GREEN SLIGHTLY CALCAREOUS SILTY CLAY WITH FINE TO MEDIUM SAND SEAMS AND PHOSPHATE NODULES	-381.0	2916	18"	0	0
405.0		-386.0				
	LIGHT GREEN CALCAREOUS SILTY CLAY WITH FINE SAND SEAMS	-391.0	2989	18"	0	0
415.0		-396.0				
	LIGHT GREEN SANDY SILTY CLAY WITH SOME LARGE GRAY CHERT PEBBLES	-401.0	3062	18"	0	0
425.0		-406.0				
	LIGHT GREEN CALCAREOUS CLAYEY SILTY SAND WITH SHELL FRAGMENTS AND SOME SMALL PHOSPHATE GRANULES	-411.0	3134	18"	0	0
435.0		-416.0				
		-421.0	3206	18"	0	0

BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737

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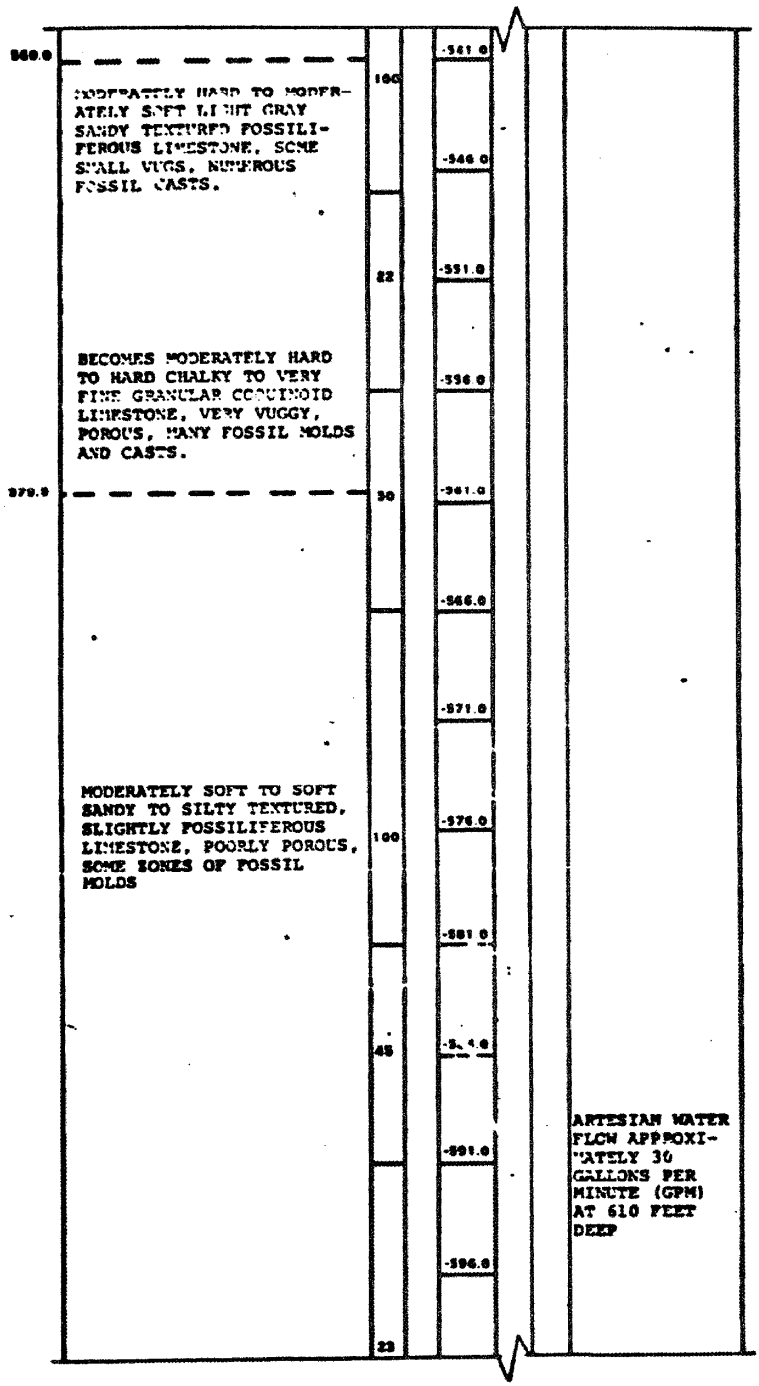
505.0	LIGHT GREEN CALCAREOUS SILTY CLAY			-496.0					
510.0				-491.0	3718	18"	0	0	

DEPTH FT.	DESCRIPTION	CORE DIT %	SIZE	ELEV.	REMARKS
510.0			NX	-491.0	
	SOFT GRAY GREEN SILTY TO FINE SANDY TEXTURED MODERATELY PHOSPHATIC LIMESTONE	83		-496.0	
				-501.0	
520.5	MODERATELY HARD GRAY GREEN SILTY TEXTURED LIMESTONE NUMEROUS MOLDS AND CASTS VUGGY, POROUS, SLIGHTLY PHOSPHATIC	100			
523.0				-506.0	
526.0	MODERATELY SOFT GRAY GREEN SILTY TEXTURED SLIGHTLY PHOSPHATIC LIMESTONE				
	MODERATELY SOFT LIGHT GRAY SILTY TO SANDY TEXTURED SLIGHTLY FOSSILIFEROUS LIMESTONE, VERY PHOSPHATIC SMALL AND LARGE PHOSPHATE PEBBLES, GENERALLY NON-POROUS	100		-511.0	
				-516.0	
538.0				-521.0	TOP OF SUWANNEE LIMESTONE
	HARD LIGHT GRAY COQUINOID LIMESTONE, VUGGY, POROUS, ALTERNATING WITH MODERATELY HARD SANDY TO SILTY TEXTURED LIMESTONE, MODERATELY TO SLIGHTLY POROUS, SOME PHOSPHATE NODULES.	90		-526.0	
		100		-531.0	
	GRADUALLY BECOMES SOFT GRAY GREEN PHOSPHATIC SANDY TEXTURED LIMESTONE, POORLY POROUS, SLIGHTLY FOSSILIFEROUS.			-536.0	

BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737



BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737

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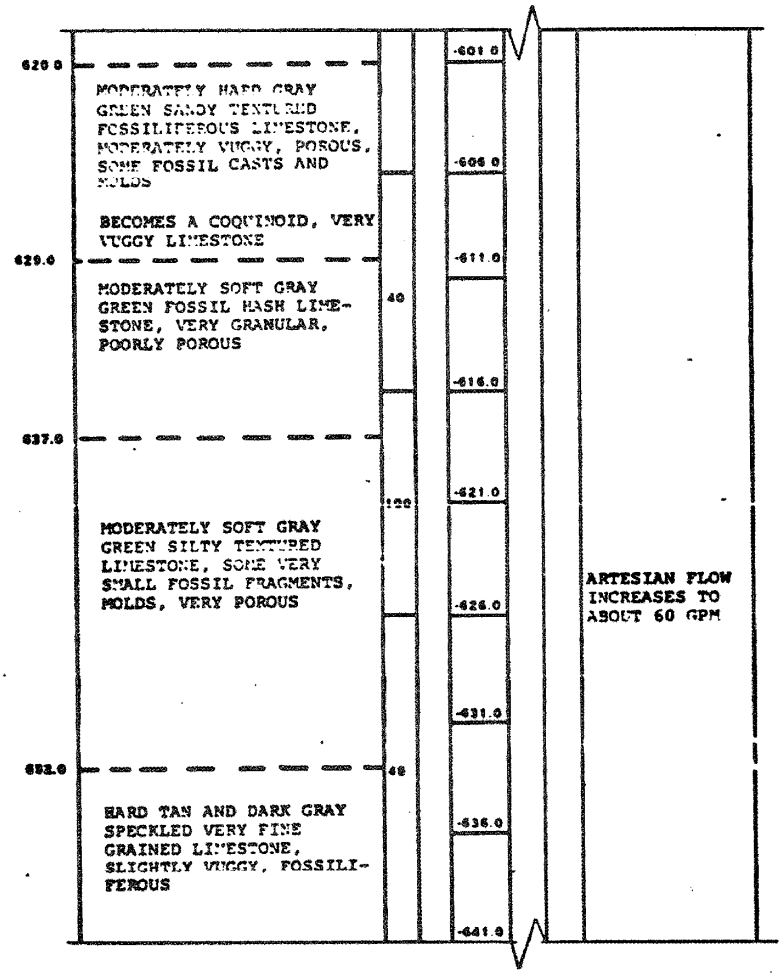

BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737

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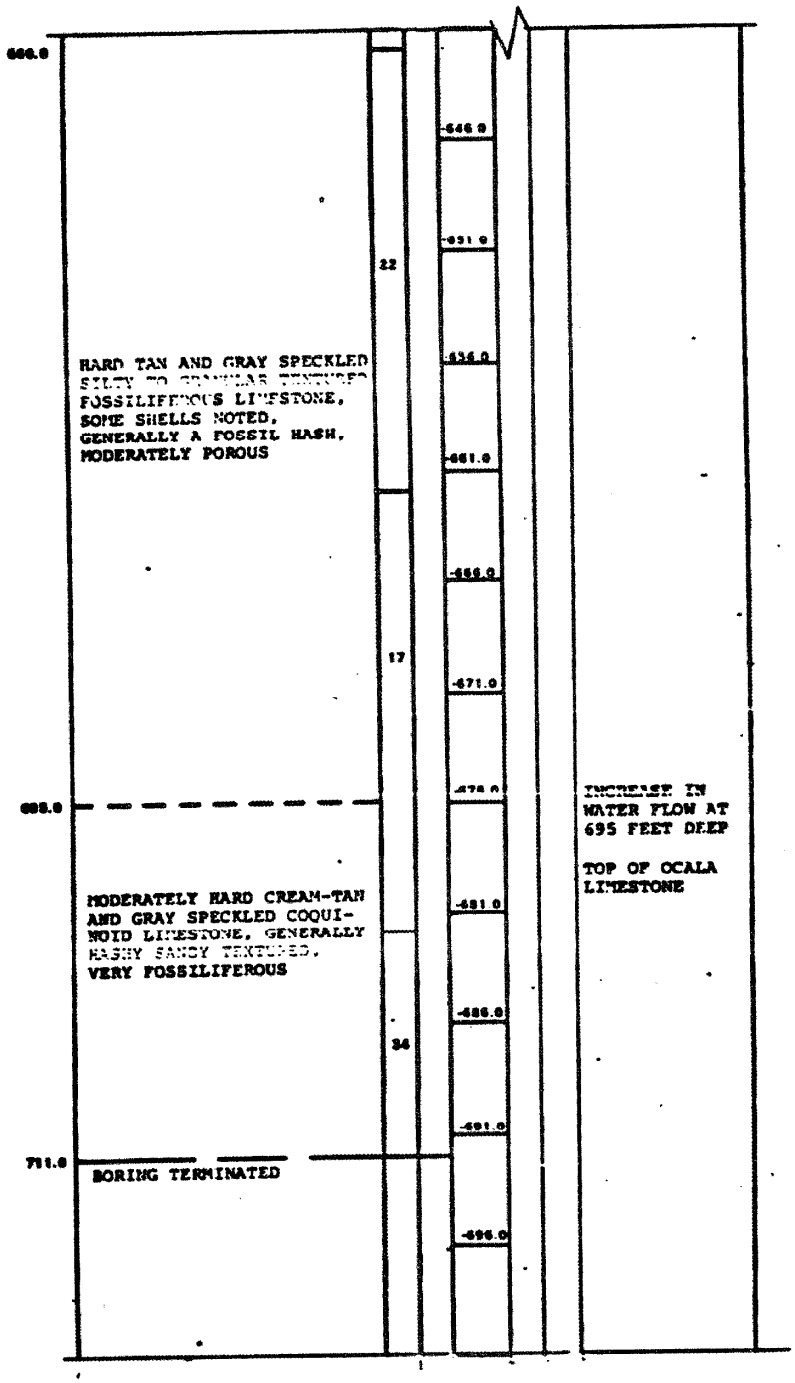
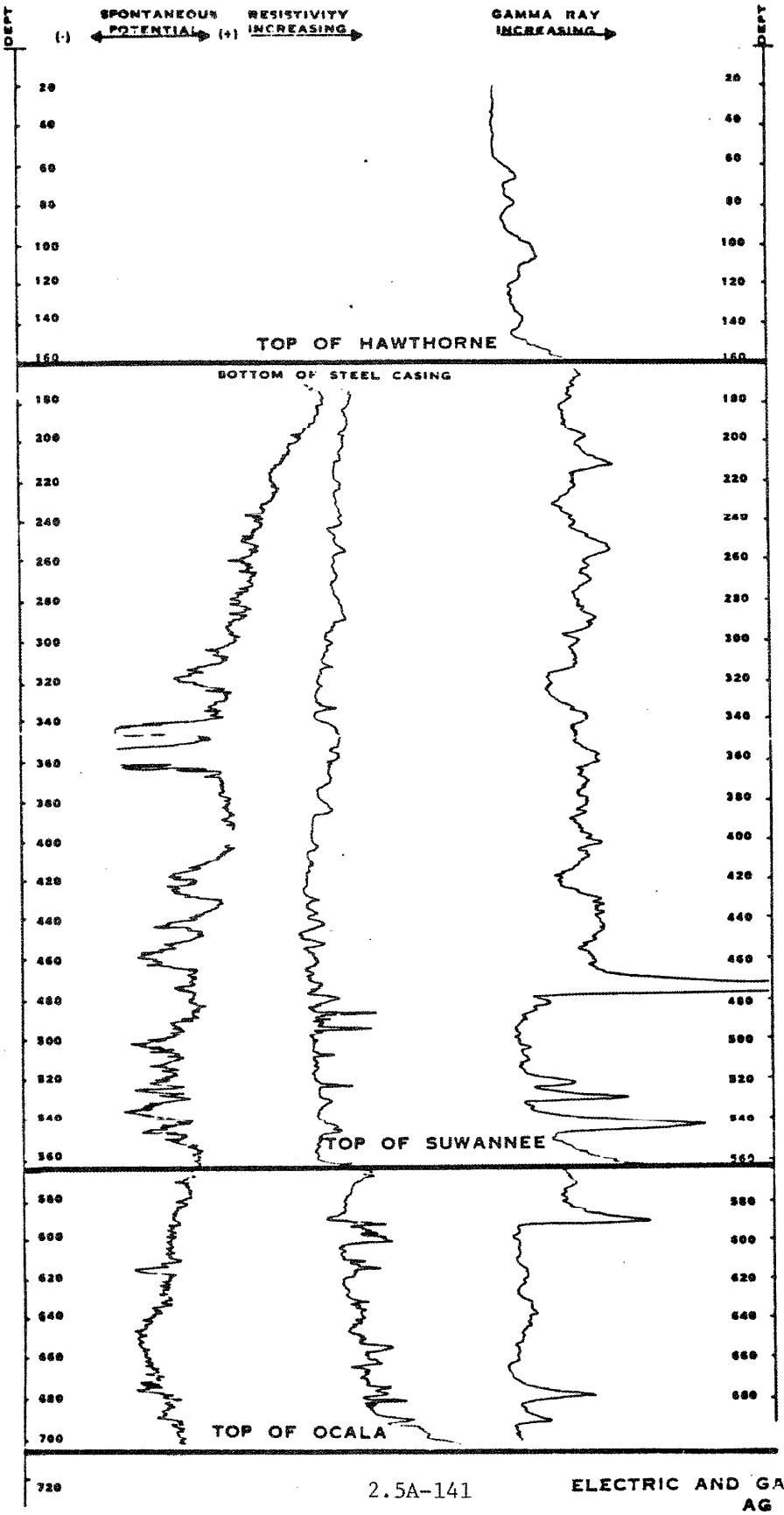
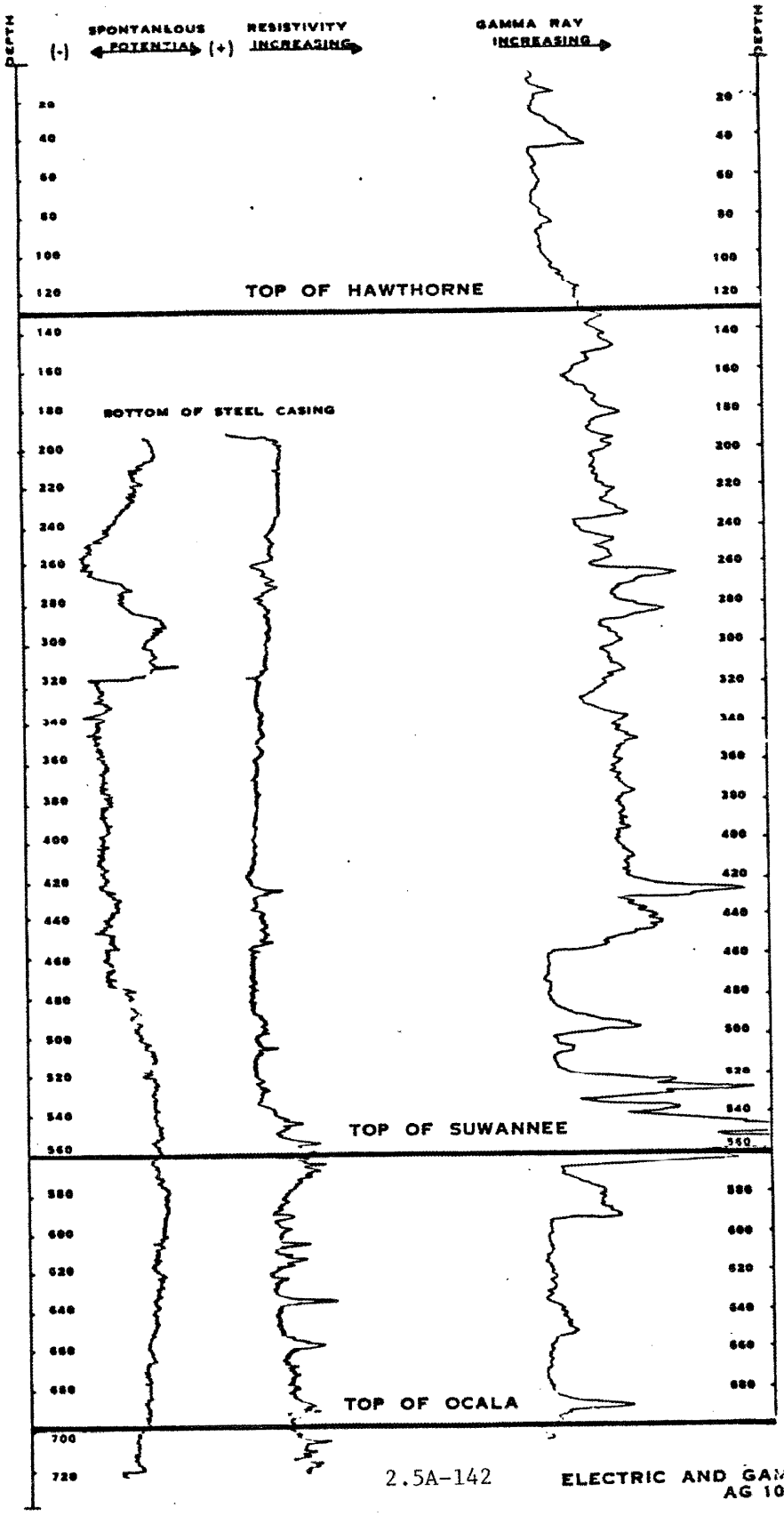


BORING NUMBER AG 106
ST. LUCIE PLANT
JOB NUMBER SA-737

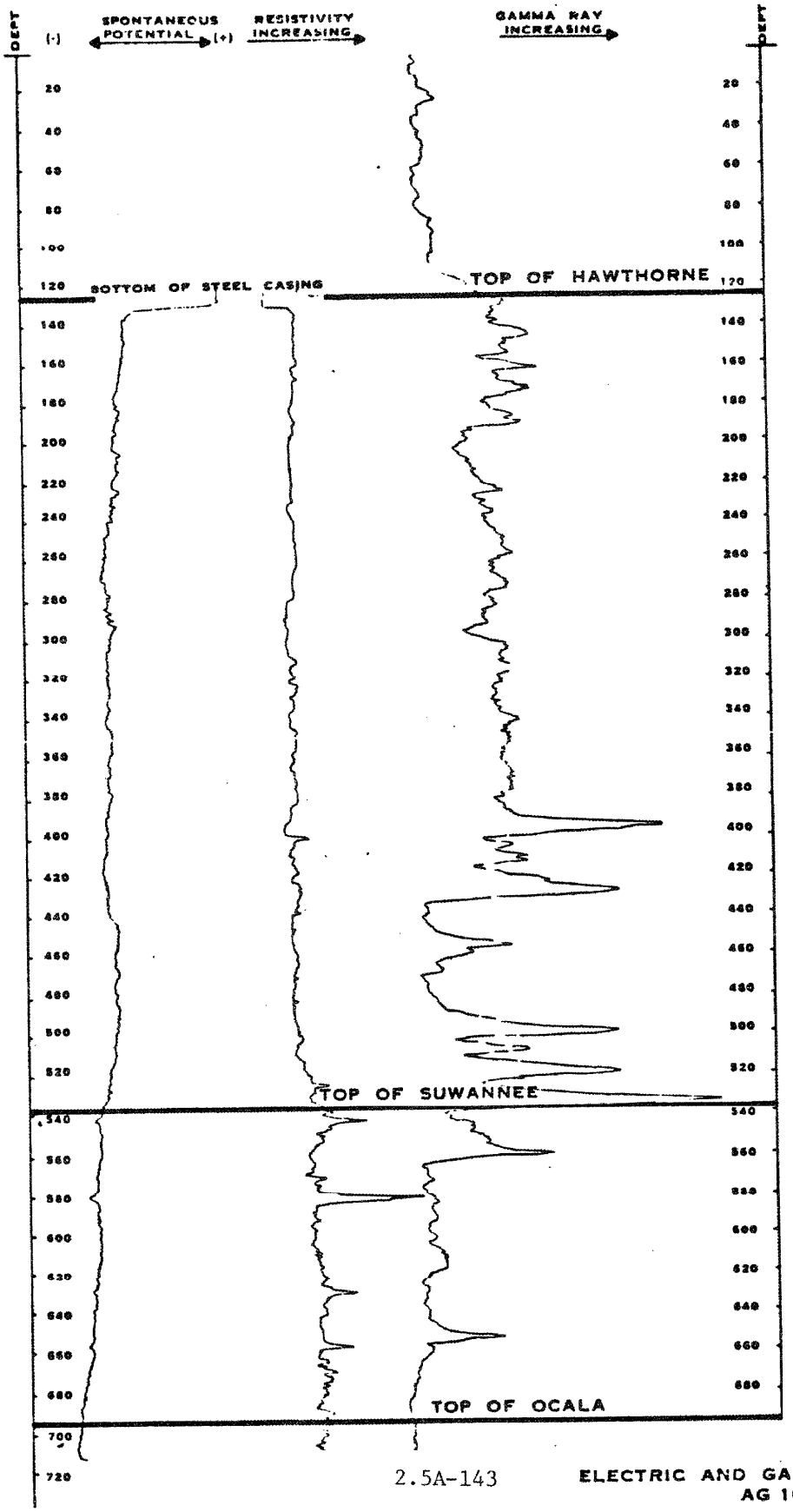
PAGE 12 OF 12



ELECTRIC AND GAMMA RAY LOG
AG 104

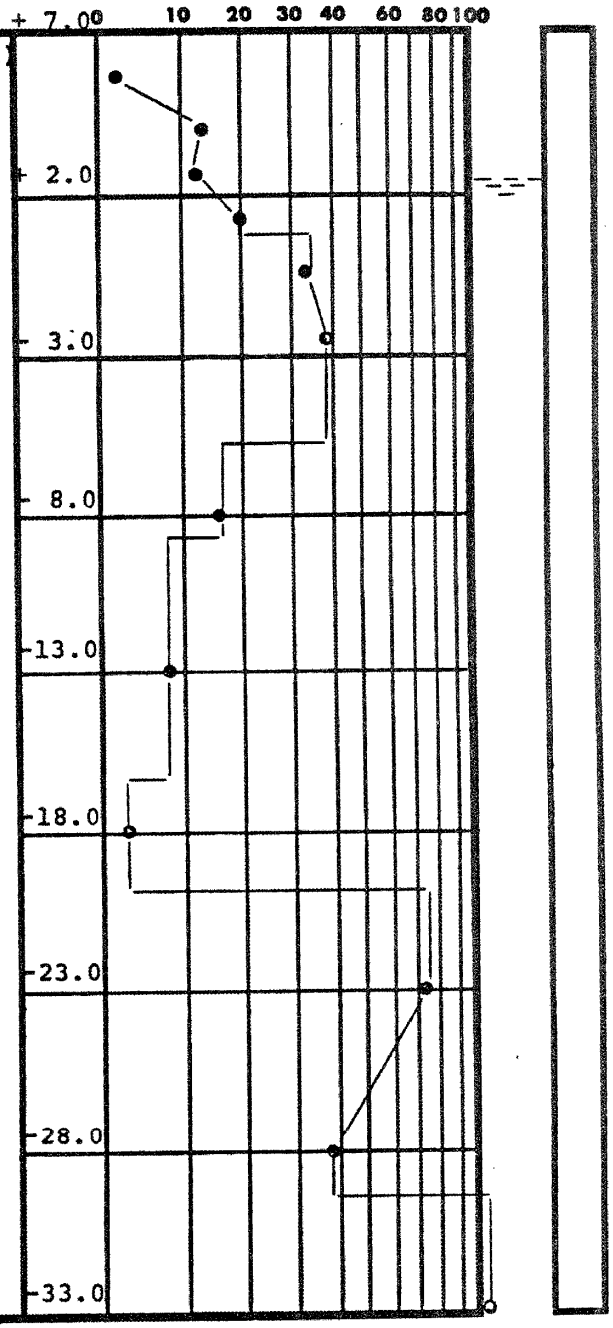


ELECTRIC AND GAMMA RAY LOG
AG 105



ELECTRIC AND GAMMA RAY LOG
AG 106

DEPTH FT.	DESCRIPTION
0	
1.0	VERY LOOSE light grey fine
	VERY LOOSE to FIRM grey silty to slightly silty slightly clayey fine SAND
5.0	FIRM grey fine SAND
6.5	DENSE blue-grey silty slightly clayey fine SAND with shell fragments and some small silty clay seams
13.0	FIRM blue-grey fine SAND and clayey silt SEAMS
16.0	LOOSE to FIRM blue-grey slightly silty fine SAND with trace of silty clay lenses
23.5	SOFT blue-grey silty fine slightly sandy CLAY with shell fragments
27.0	DENSE to VERY DENSE grey slightly silty fine SAND with cemented fine sand seams
33.5	DENSE grey slightly silty fine SAND
36.5	FIRM to VERY FIRM tan fine SAND with some shell fragments and VERY DENSE grey cemented fine sand SEAMS
40.0	



TEST BORING RECORD

(Page 1 of 2 Pages)

BORING NO. SB-1

DATE DRILLED 1/5/72

JOB NO. J-1540

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

2.5A-144

% ROCK CORE RECOVERY

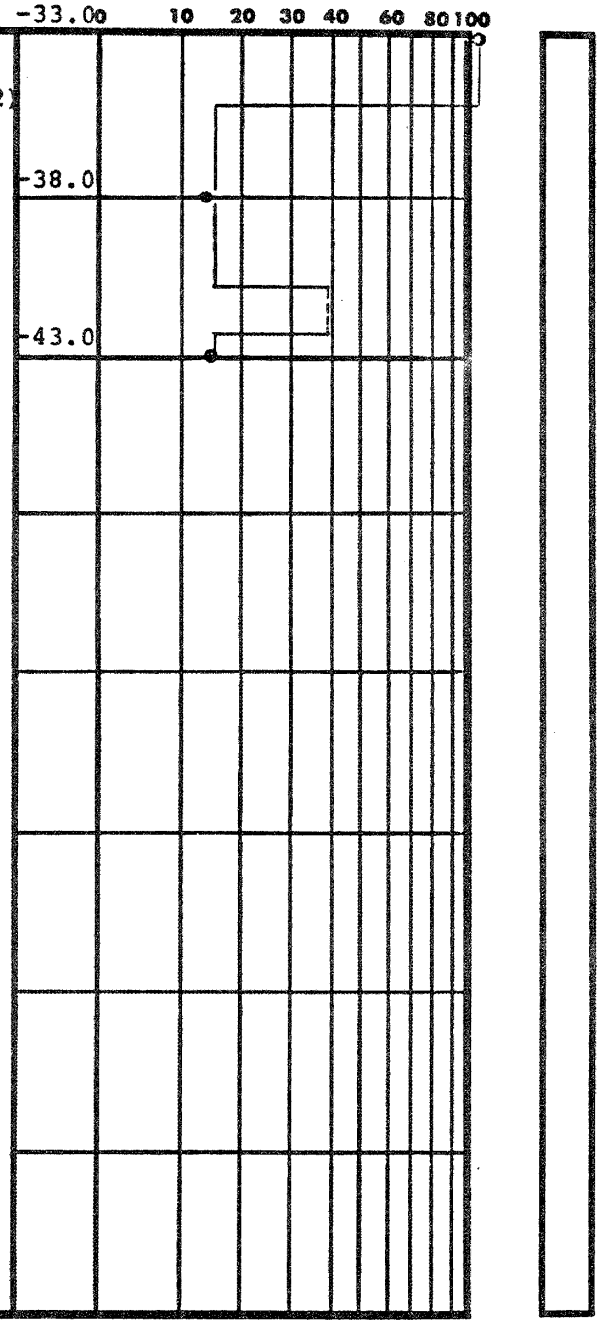
LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV
40.0			-33.00
	FIRM to VERY FIRM tan fine SAND with some shell fragments and VERY DENSE grey	(2)	
42.5	VERY FIRM to FIRM grey slightly silty fine SAND with small cemented fine sand seams		-38.0
48.0	DENSE grey cemented fine SAND		
49.5	FIRM grey slightly silty (3)		-43.0
50.5	BORING TERMINATED		

(1) SAND
(2) cemented fine sand SEAMS
(3) fine SAND

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 2 of 2 Pages)

BORING NO. SB-1

DATE DRILLED 1/5/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

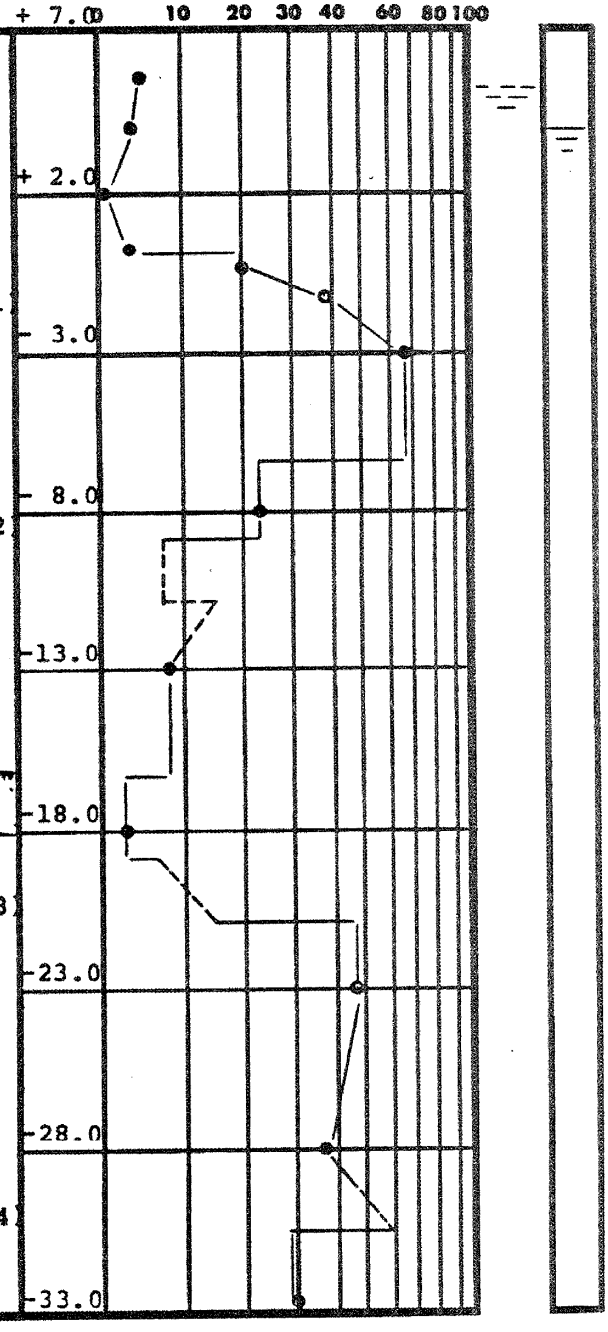
|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION		ELEV
0			+ 7.0
2.0	VERY LOOSE to LOOSE grey fine SAND		
3.5	VERY LOOSE grey slightly silty fine SAND		
	VERY LOOSE grey slightly silty slightly clayey fine SAND		+ 2.0
7.0			
9.0	FIRM to DENSE grey slightly silty slightly clayey	(1	- 3.0
	VERY DENSE grey slightly silty fine SAND with shell fragments		
13.5			
16.0	VERY FIRM grey slightly silty fine SAND with small fine sandy clayey silt	(2	- 8.0
18.0	LOOSE grey silty clayey fine SAND		
	FIRM to LOOSE grey slightly silty fine SAND with some shell fragments and decayed organic matter		-13.0
23.5			
26.0	SOFT blue-grey silty CLAY with some shell fragments and trace of fine sand lenses		-18.0
28.0	LOOSE to FIRM grey slightly silty slightly clayey	(3	
	DENSE blue-grey to grey fine SAND		-23.0
			-28.0
36.5			
37.5	DENSE to VERY DENSE grey	(4	
40.0	VERY FIRM grey fine SAND with some shell fragments & cemented fine sand fragments		-33.0



TEST BORING RECORD

(Page 1 of 2 Pages)

BORING NO. SB-2

DATE DRILLED 1/4/72

JOB NO. J-1540

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT.
40.0		-33.0	10 20 30 40 60 80 100
40.5	VERY FIRM grey fine SAND	(5)	
	DENSE to VERY DENSE grey cemented fine SAND		
43.5	VERY FIRM grey cemented fine SAND with loose slightly silty fine sand seams	-38.0	
48.5	DENSE grey cemented QUARTZ, LIMESTONE & FINE SAND with	(6) -43.0	
50.5	VERY FIRM grey cemented		
52.0	QUARTZ, LIMESTONE, SHELL &	(7)	
	BORING TERMINATED	-48.0	

(1) fine SAND with shell fragments
(2) lenses
(3) fine SAND
(4) cemented fine SAND
(5) with some shell fragments and cemented fine sand fragments
(6) small slightly silty fine sand seams
(7) FINE SAND with small silty fine sand lenses

TEST BORING RECORD

(Page 2 of 2 Pages)

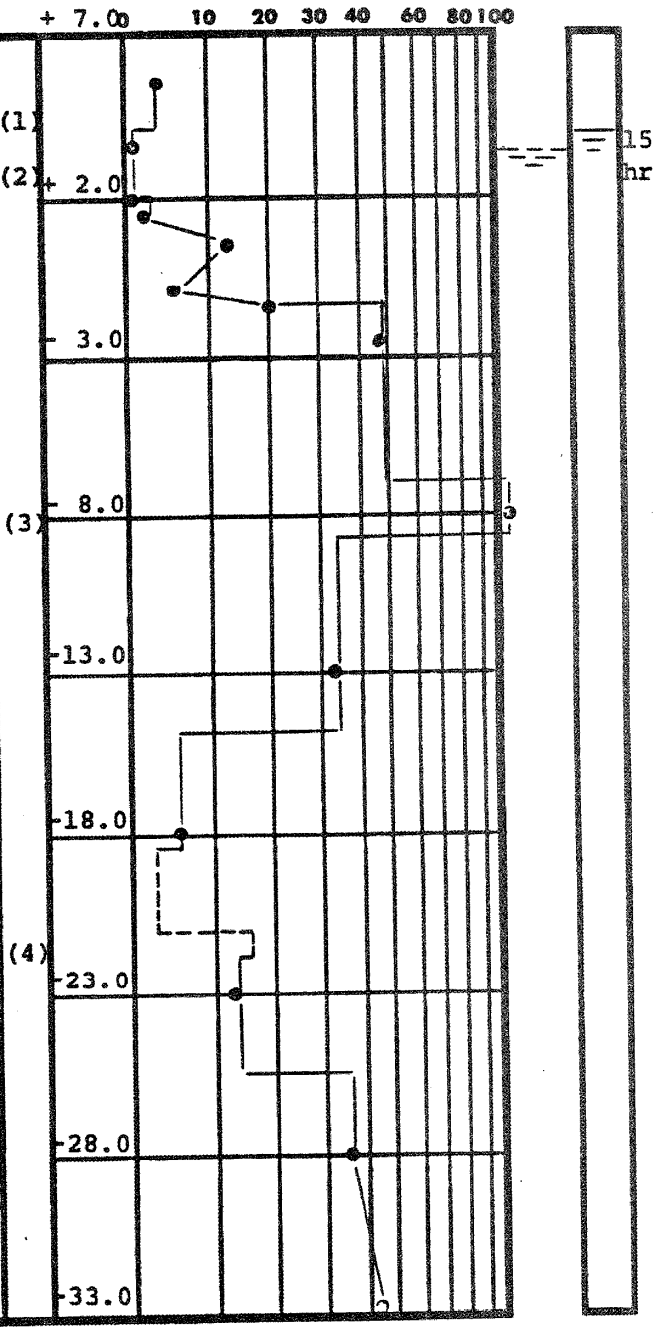
BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

BORING NO. SB-2
DATE DRILLED 1/4/72
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV
0	VERY LOOSE grey fine SAND		+ 7.0
2.5	VERY LOOSE grey slightly	(1)	
3.0	VERY SOFT blue-grey to grey clayey fine sandy to	(2)	+ 2.0
5.0	FIRM grey slightly silty fine SAND and VERY LOOSE to LOOSE grey silty clayey to slightly clayey fine SAND		
8.5	DENCE grey slightly silty fine SAND with small shell & cemented fine sand fragments & small silty clay lenses		- 3.0
14.0	VERY DENSE tan fine SAND with cemented fine sand	(3)	- 8.0
16.0	DENSE grey slightly silty very slightly clayey fine SAND		-13.0
22.0	FIRM blue-grey fine sandy silty CLAY with fine sand lenses		-18.0
25.5	SOFT blue-grey silty CLAY		
28.0	FIRM grey slightly silty	(4)	
29.0	STIFF blue-grey fine slightly sandy CLAY with calcareous silt lenses		-23.0
32.5	DENSE grey fine SAND		-28.0
36.5	DENSE grey tan cemented LIMESTONE & FINE SAND with silty fine sand seams		-33.0
40.0			



TEST BORING RECORD

(Page 1 of 2 Pages)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

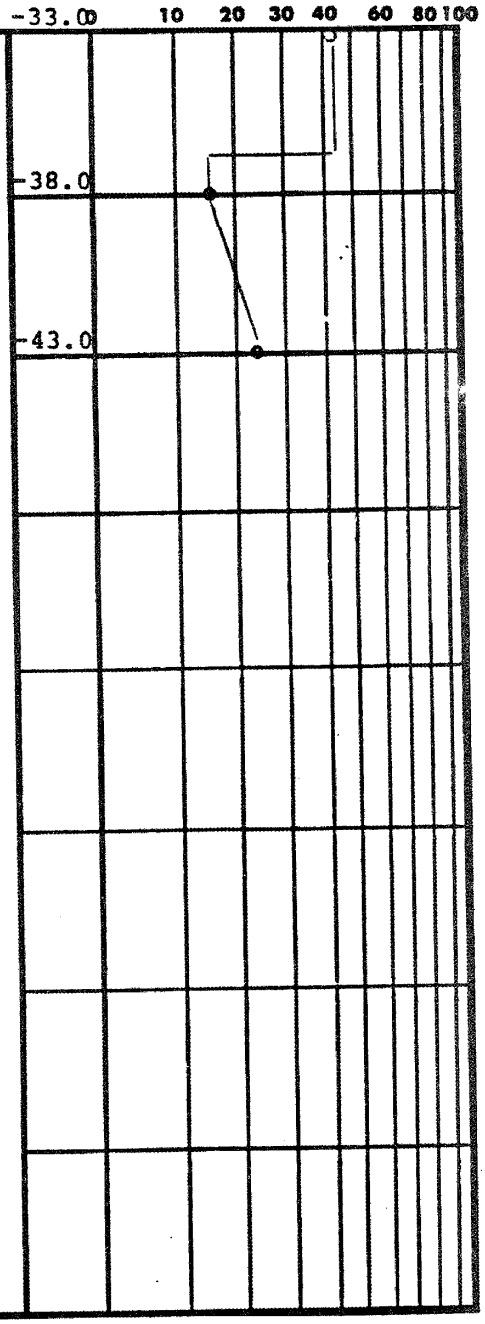
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. SB-3
DATE DRILLED 1/6/72
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV
40.0	DENSE grey tan cemented LIMESTONE & FINE SAND with silty fine sand seams	-33.0
44.0	FIRM grey silty fine SAND & VERY FIRM grey cemented LIMESTONE, SHELL & FINE SAND	-38.0
50.5	BORING TERMINATED	-43.0

(1) silty slightly clayey fine SAND
(2) slightly sandy SILT
(3) fragments
(4) slightly clayey fine SAND



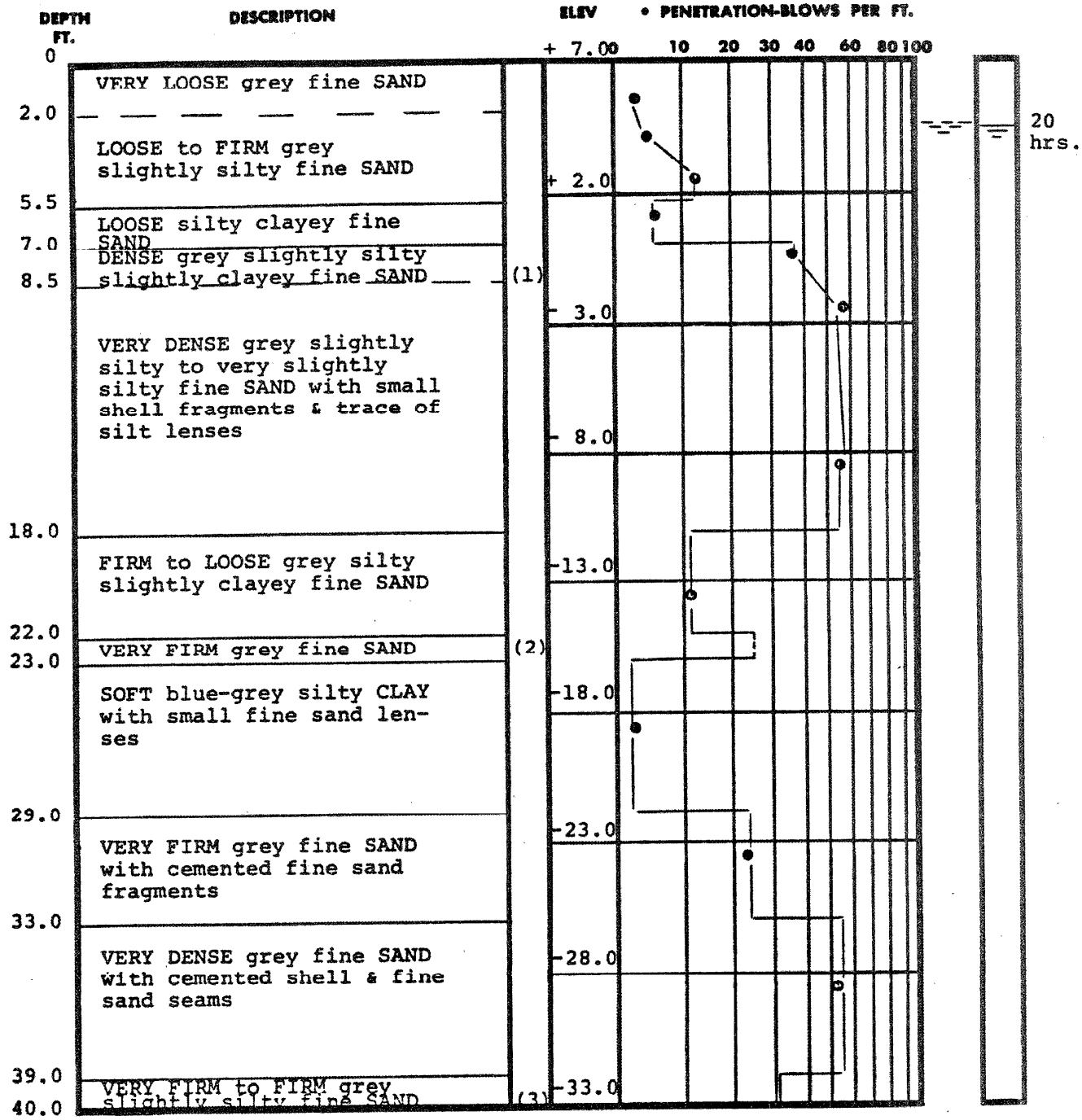
TEST BORING RECORD
(Page 2 of 2 Pages)

BORING NO. SB-3
DATE DRILLED 1/6/72
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER



TEST BORING RECORD

(Page 1 of 2 Pages)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

|50| % ROCK CORE RECOVERY

LOSS OF DRILLING WATER

BORING NO. SB-4

DATE DRILLED 1/6/72

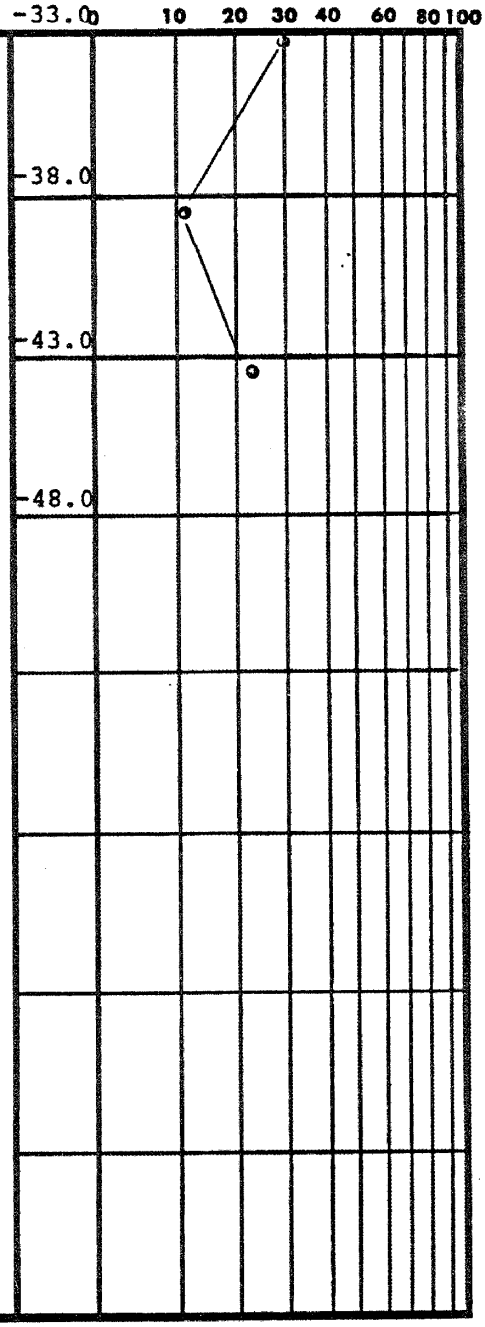
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV
40.0	VERY FIRM to FIRM grey slightly silty fine SAND with cemented shell, limestone & fine sand seams	-33.0
		-38.0
47.0	VERY FIRM grey tan partially cemented QUARTZ, SHELL, LIMESTONE & silty FINE SAND	-43.0
51.0	BORING TERMINATED	-48.0

(1) with some shell fragments
(2) with cemented fine sand fragments
(3) with cemented shell, limestone & fine sand seams

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 2 of 2 Pages)

BORING NO. SB-4

DATE DRILLED 1/6/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

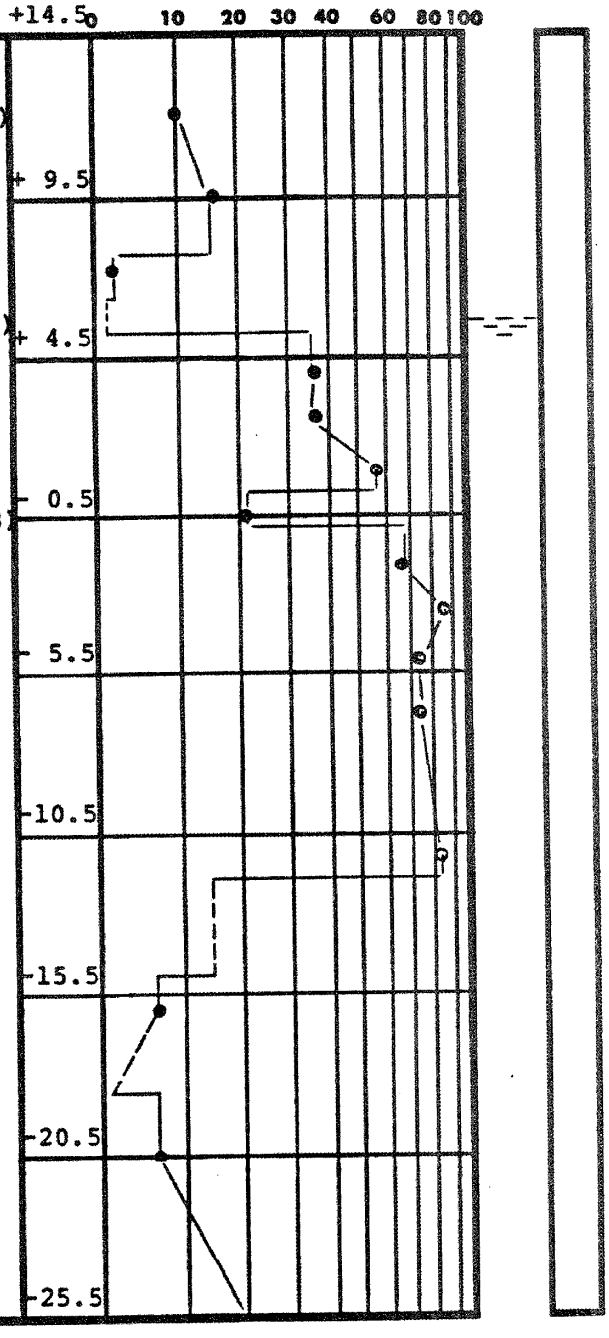
WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
0	LOOSE light tan fine SAND	+14.5
2.0		
3.0	LOOSE grey slightly silty	(1)
	FIRM light tan fine SAND	+ 9.5
7.0	VERY LOOSE grey slightly silty fine SAND	
8.5		
9.5	VERY SOFT blue-grey silty	(2) + 4.5
	DENSE to VERY DENSE grey slightly silty fine SAND	
14.5		- 0.5
15.5	VERY FIRM blue-grey silty	(3)
	VERY DENSE blue-grey to dark grey slightly silty fine SAND with some small shell fragments, silty clay lenses & cemented fine sand fragments	- 5.5
20.5	VERY DENSE grey slightly silty fine SAND	-10.5
26.5	FIRM grey silty clayey fine SAND	
29.5	FIRM to VERY SOFT blue-grey silty CLAY	-15.5
33.0	FIRM to LOOSE dark grey clayey slightly silty fine SAND	-20.5
36.0	LOOSE to FIRM grey slightly silty fine SAND with some cemented fine sand fragments	-25.5
40.0		

• PENETRATION-BLOWS PER FT.

0 10 20 30 40 60 80 100



TEST BORING RECORD

(Page 1 of 2 Pages)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

BORING NO. SB-5

DATE DRILLED 1/7/72

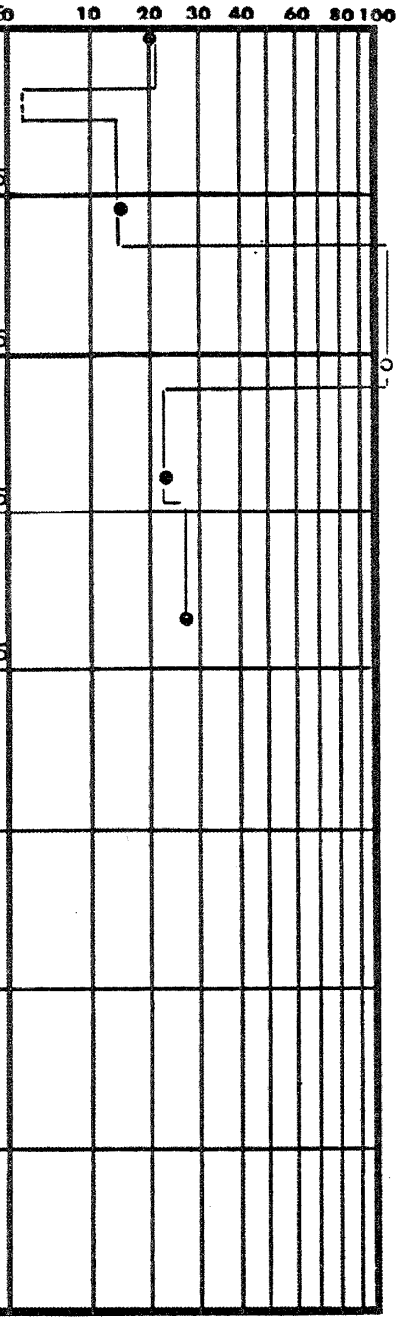
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION		ELEV
40.0	LOOSE to FIRM grey slightly silty fine SAND with	(4)	-25.5
42.0			
43.0	VERY SOFT blue-grey silty	(5)	
	FIRM blue-grey brown very clayey slightly silty fine SAND		-30.5
47.0	VERY DENSE cemented fine SAND with fine sand seams		-35.5
51.5	VERY FIRM grey slightly silty fine SAND with cemented limestone & fine sand seams		
55.0	VERY FIRM grey cemented QUARTZ, LIMESTONE & FINE SAND with silty fine sand lenses	◀	-40.5
59.0	BORING TERMINATED		-45.5

(1) fine SAND
(2) CLAY
(3) clayey fine SAND
(4) some cemented fine sand fragments
(5) CLAY

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD
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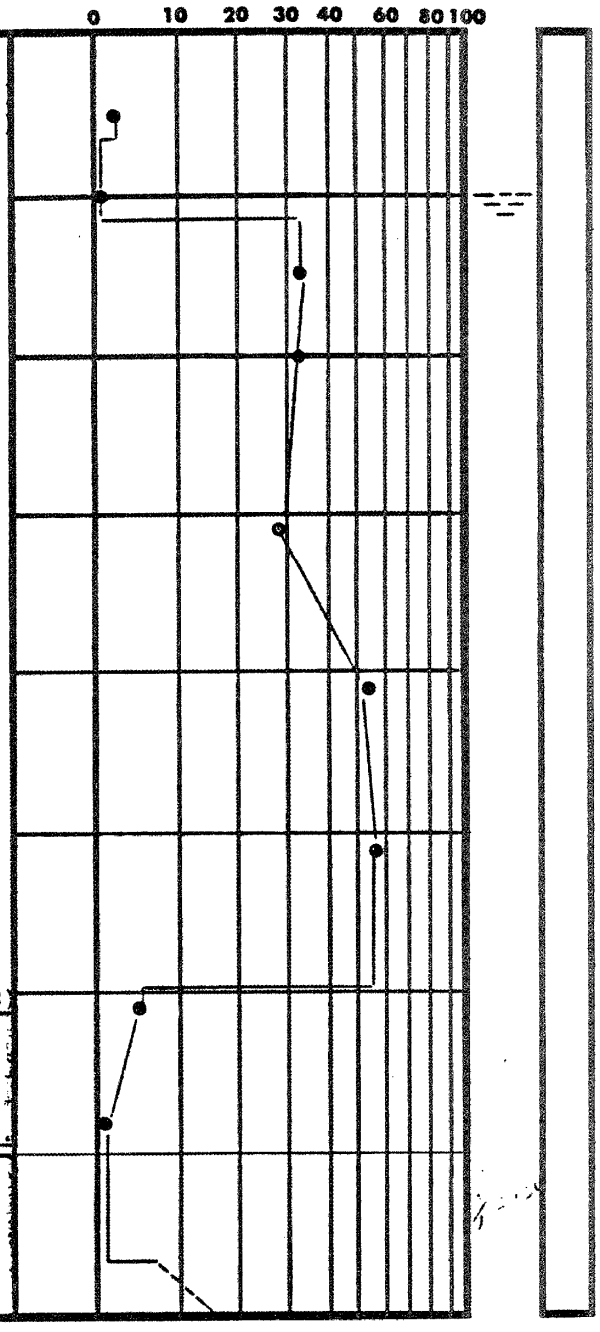
BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. SB-5
DATE DRILLED 1/7/72
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV
0	FIRM light tan fine SAND with shell fragments (Fill)	
1.5		
2.0	LOOSE blue-grey slightly silty	(1
	VERY SOFT dark brown fine	(2
3.5	VERY LOOSE dark grey slightly silty fine SAND with decayed roots	
6.0	DENSE to VERY FIRM blue-grey fine SAND & SHELL FRAGMENTS	
19.0	VERY DENSE blue-grey fine SAND with shell fragments	
30.0	FIRM dark blue-grey slightly	(3
31.0	VERY SOFT dark blue-grey clayey fine very slightly sandy to sandy SILT	
38.5	LOOSE to FIRM grey slightly silty fine SAND	
40.0		



TEST BORING RECORD

(Page 1 of 3 Pages)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

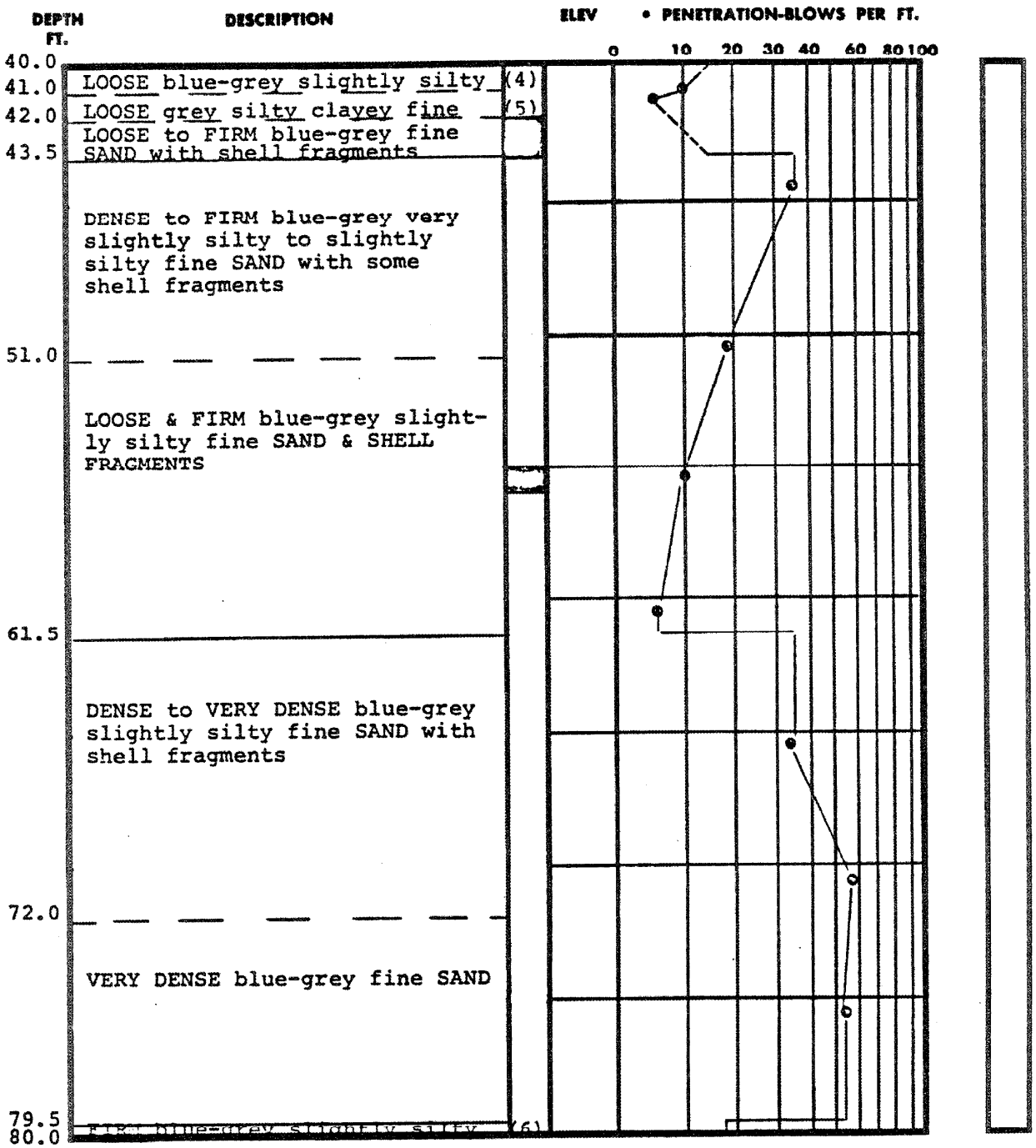
LOSS OF DRILLING WATER

BORING NO. B-154

DATE DRILLED 1/24,25/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-154

DATE DRILLED 1/24,25/72

JOB NO. J-1540

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

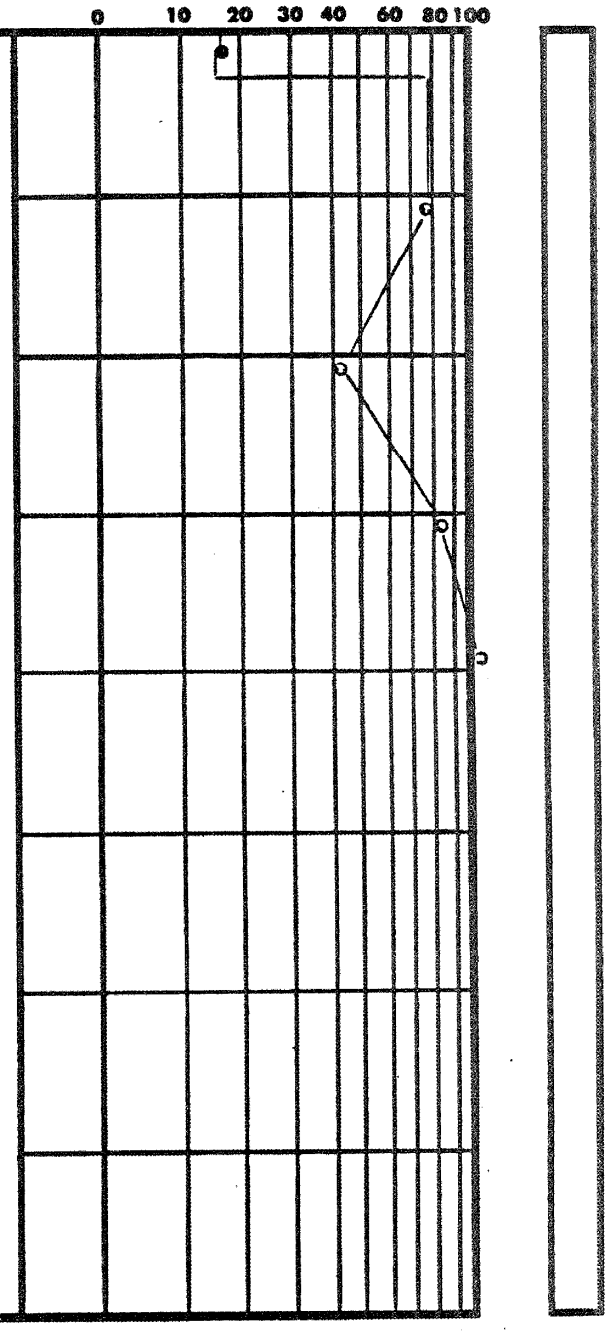
LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION
80.0	FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS
81.5	VERY DENSE blue-grey very slightly silty fine SAND
89.0	DENSE blue-grey slightly silty fine SAND with shell & cemented fine sand & shell fragments
93.5	VERY DENSE grey very slightly silty fine SAND
100.0	BORING TERMINATED

(1) fine SAND with shell fragments
(2) sandy slightly clayey SILT (Peat)
(3) organic SILT
(4) fine SAND with shell & cemented fine sand fragments
(5) SAND with some shell fragments
(6) fine SAND & SHELL FRAGMENTS

ELEV

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

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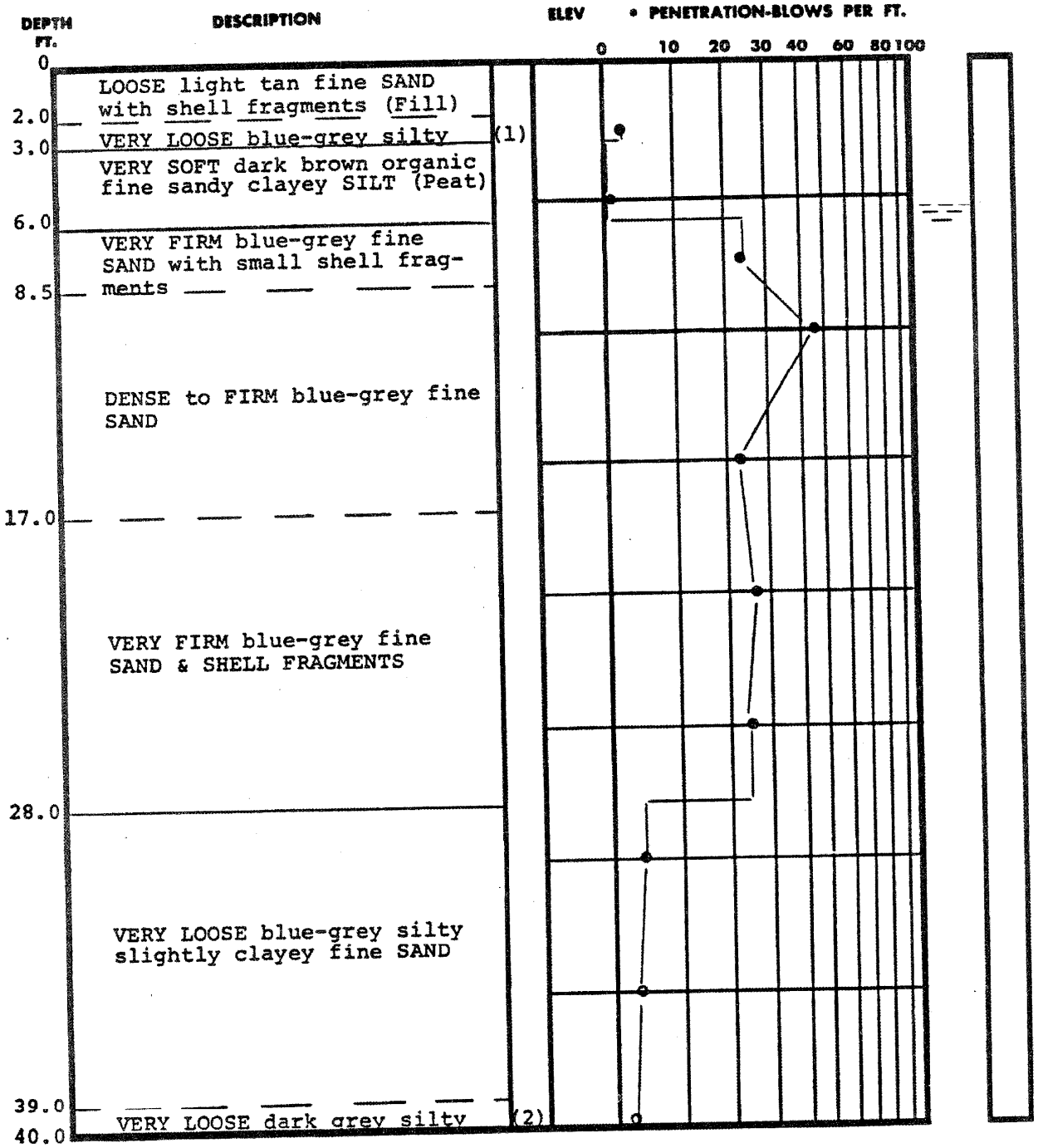
BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

BORING NO. B-154
DATE DRILLED 1/24,25/72
JOB NO. J-1540

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

(Page 1 of 3 Pages)

BORING NO. B-155H

DATE DRILLED 1/11,12/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

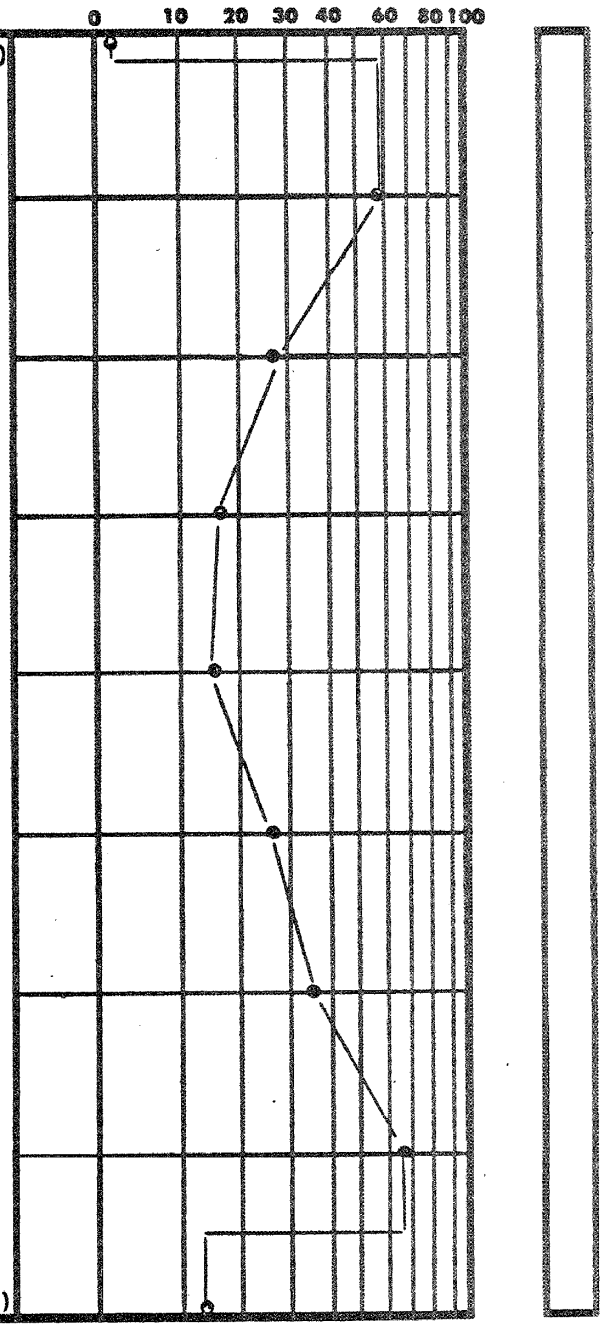
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
40.0		
41.0	VERY LOOSE dark grey silty	(3)
	VERY DENSE to VERY FIRM grey slightly silty fine SAND	
52.5		
	FIRM to DENSE blue-grey slightly silty to very slightly silty fine SAND & SHELL FRAGMENTS	
72.5		
	VERY DENSE blue-grey slightly silty fine SAND with some shell fragments	
77.5		
	FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS with firm blue-grey	(4)
80.0		



TEST BORING RECORD

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BORING NO. B-155

DATE DRILLED 1/11,12/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

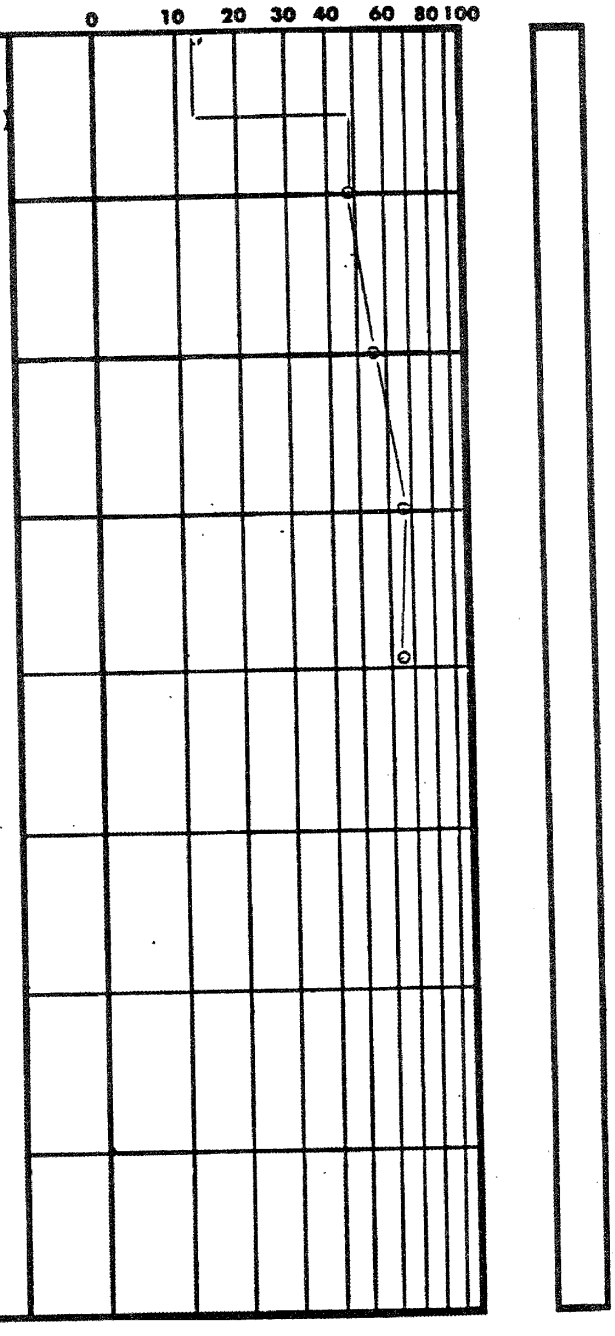
% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	
80.0	FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS with firm blue-grey shell & silty slightly	(5)
83.0	DENSE blue-grey fine SAND & SHELL FRAGMENTS & Cemented fine SAND FRAGMENTS	
89.5	VERY DENSE blue-grey slightly silty fine SAND with shell fragments	
92.0	VERY DENSE grey slightly silty fine SAND with some cemented fine sand fragments	
97.0	VERY DENSE grey slightly silty fine SAND	
100.0	BORING TERMINATED	

(1) fine SAND with shell fragments (Fill)
(2) slightly clayey fine SAND with clayey silt seams
(3) slightly clayey fine SAND with clayey silt seams
(4) shell & silty slightly clayey fine sand layers
(5) clayey fine sand layers

ELEV • PENETRATION-BLOWS PER FT.



TEST BORING RECORD

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BORING NO. B-155 H

DATE DRILLED 1/11,12/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

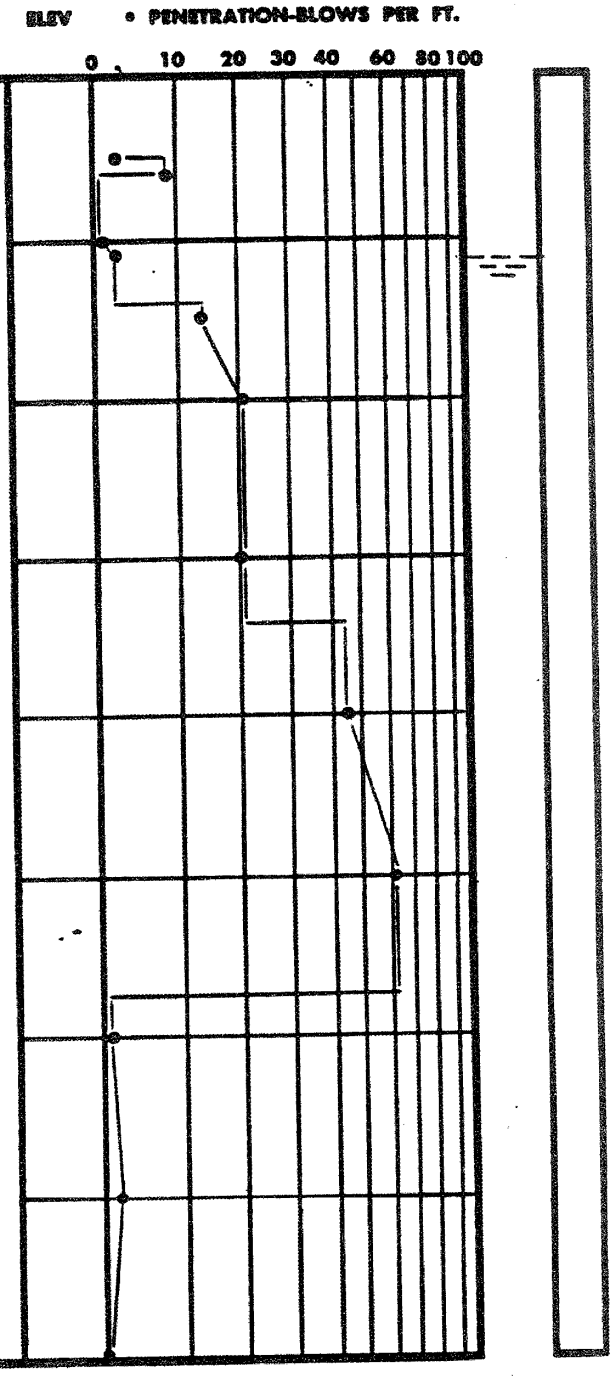
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION
0	LOOSE light tan fine SAND with shell fragments (Fill)
2.0	VERY SOFT blue-grey clayey
2.5	LOOSE blue-grey slightly
3.0	VERY SOFT dark brown organic SILT (Peat)
5.0	VERY SOFT dark brown highly organic fine sandy SILT (Peat)
7.0	FIRM to VERY FIRM grey to blue-grey slightly silty to very slightly silty fine SAND with small shell fragments
11.0	FIRM blue-grey fine SAND & SHELL FRAGMENTS
17.0	DENSE blue-grey fine SAND with shell fragments
23.0	VERY DENSE blue-grey fine SAND & SHELL FRAGMENTS & DENSE blue-grey slightly silty fine sand LAYERS
28.5	VERY LOOSE blue-grey to dark grey silty clayey fine SAND
40.0	



TEST BORING RECORD

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BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

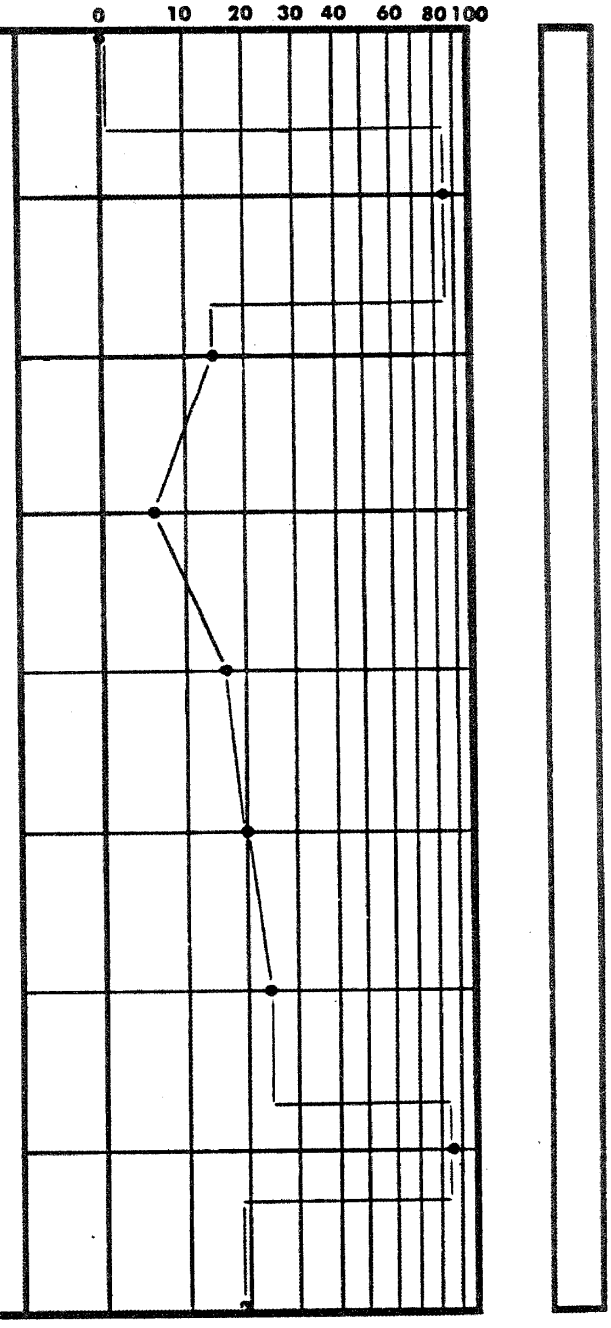
BORING NO. B-156 //
DATE DRILLED 1/12,13/72
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION
40.0	
	VERY LOOSE blue-grey to dark grey silty clayey fine SAND
43.0	
	VERY DENSE blue-grey slightly silty fine SAND
48.5	
	FIRM to LOOSE blue-grey slightly silty slightly clay-ey fine SAND with some shell fragments
58.0	
	FIRM blue-grey slightly silty fine SAND with shell frag-ments
62.0	
	FIRM to VERY FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS
73.5	
	VERY DENSE blue-grey slightly silty fine SAND
76.5	
	FIRM blue-grey silty slightly clayey fine SAND & SHELL FRAGMENTS
80.0	

ELEV

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-156 H

DATE DRILLED 1/12,13/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

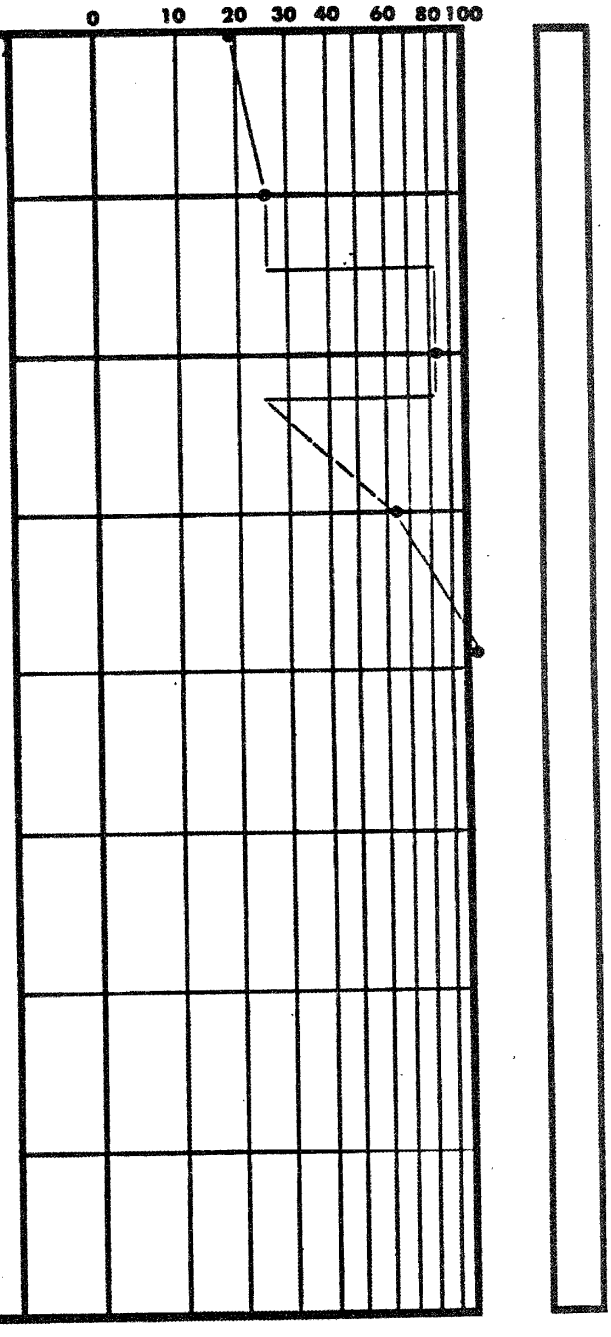
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
80.0		
80.5	FIRM blue-grey silty slightly	(3)
	VERY FIRM blue-grey fine SAND & SHELL FRAGMENTS	
87.5		
	VERY DENSE blue-grey fine SAND	
91.5		
	VERY FIRM to VERY DENSE grey slightly silty fine SAND with dense seam of shell fragments	
100.0		
	BORING TERMINATED	

(1) fine slightly sandy SILT
(2) silty fine SAND with shell fragments
(3) clayey fine SAND & SHELL FRAGMENTS



TEST BORING RECORD

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BORING NO. B-156H

DATE DRILLED 1/12,13/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.5 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

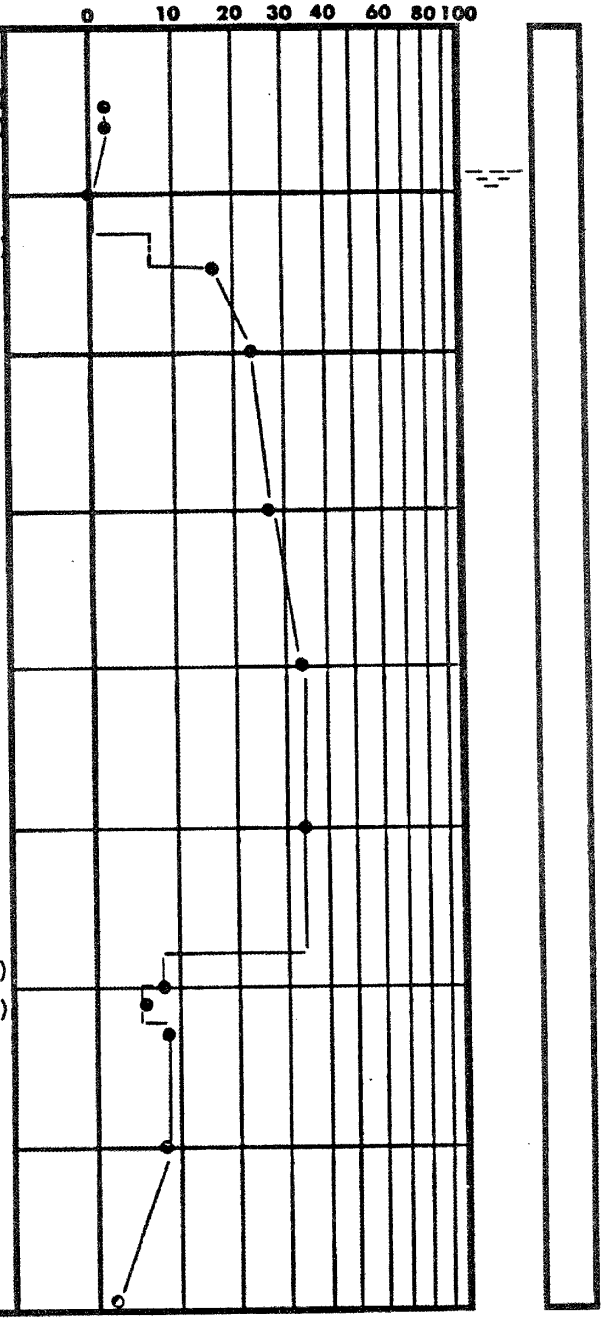
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. (0 10 20 30 40 60 80 100)
0	LOOSE tan fine SAND with shell fragments (Fill)		
2.0			
2.5	VERY LOOSE blue-grey slightly	(1)	
3.5	VERY SOFT dark brown highly	(2)	
	VERY SOFT dark brown organic slightly clayey SILT (Peat)		
6.5			
7.5	LOOSE dark grey slightly	(3)	
	FIRM to DENSE blue-grey fine SAND with shell fragments		
22.0			
	DENSE blue-grey fine SAND & SHELL FRAGMENTS		
29.0			
30.0	LOOSE blue-grey fine SAND &	(4)	
31.0	FIRM blue-grey slightly	(5)	
	LOOSE and VERY LOOSE blue-grey to dark grey silty clayey and slightly clayey fine SAND		
40.0			



TEST BORING RECORD

(Page 1 of 3 Pages)

BORING NO. B-157

DATE DRILLED 1/19,20/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

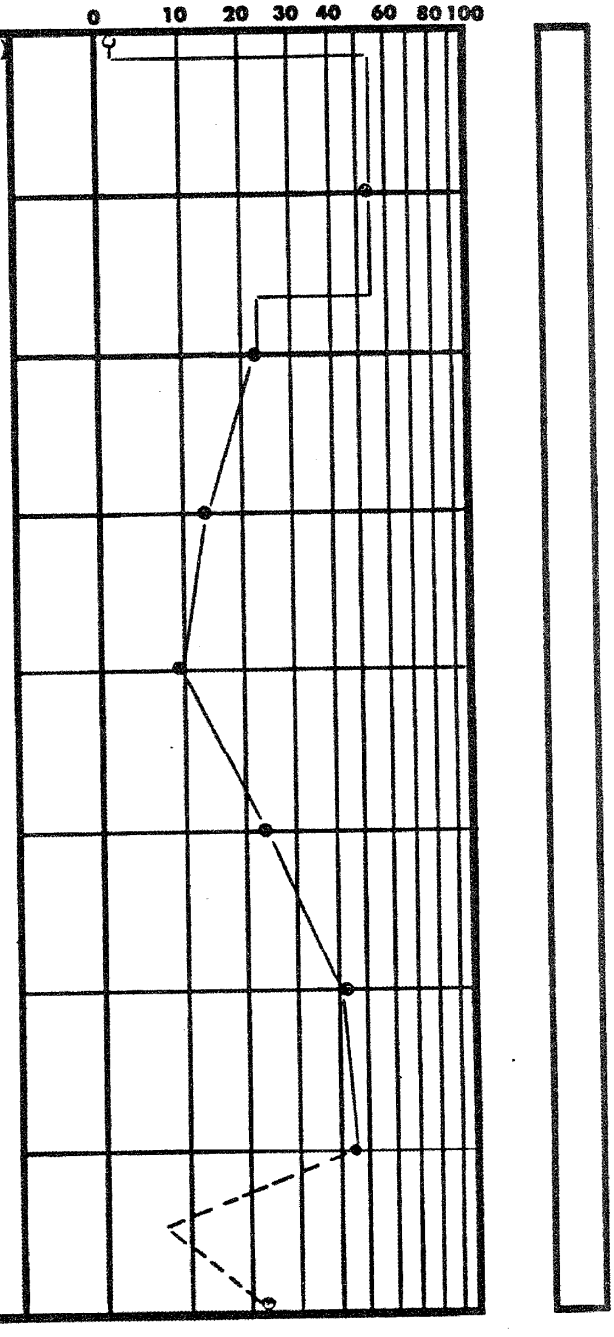
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
40.0		
41.0	LOOSE and VERY LOOSE blue-	(6)
	VERY DENSE blue-grey fine SAND with seams of fine sand & shell fragments	
48.5	VERY FIRM blue-grey slightly silty fine SAND	
51.0	LOOSE and FIRM blue-grey silty to slightly silty fine SAND & SHELL FRAGMENTS	
64.0	LOOSE to DENSE blue-grey slightly silty fine SAND with shell fragments	
80.0		



TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-157H

DATE DRILLED 1/19,20/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. (0 10 20 30 40 60 80 100)
80.0			
81.0	LOOSE to DENSE blue-grey	(7)	
	DENSE blue-grey slightly silty fine SAND & SHELL FRAGMENTS		
94.0			
	VERY DENSE grey slightly silty fine SAND		
100.0	BORING TERMINATED		

(1) silty fine SAND
(2) organic SILT (Peat)
(3) silty fine SAND with some decayed roots
(4) SHELL FRAGMENTS
(5) organic fine sandy clayey SILT
(6) grey to dark grey silty clayey & slightly clayey fine SAND
(7) slightly silty fine SAND with shell fragments

TEST BORING RECORD

(Page 3 of 3 Pages)

BORING NO. B-157 4

DATE DRILLED 1/19,20/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

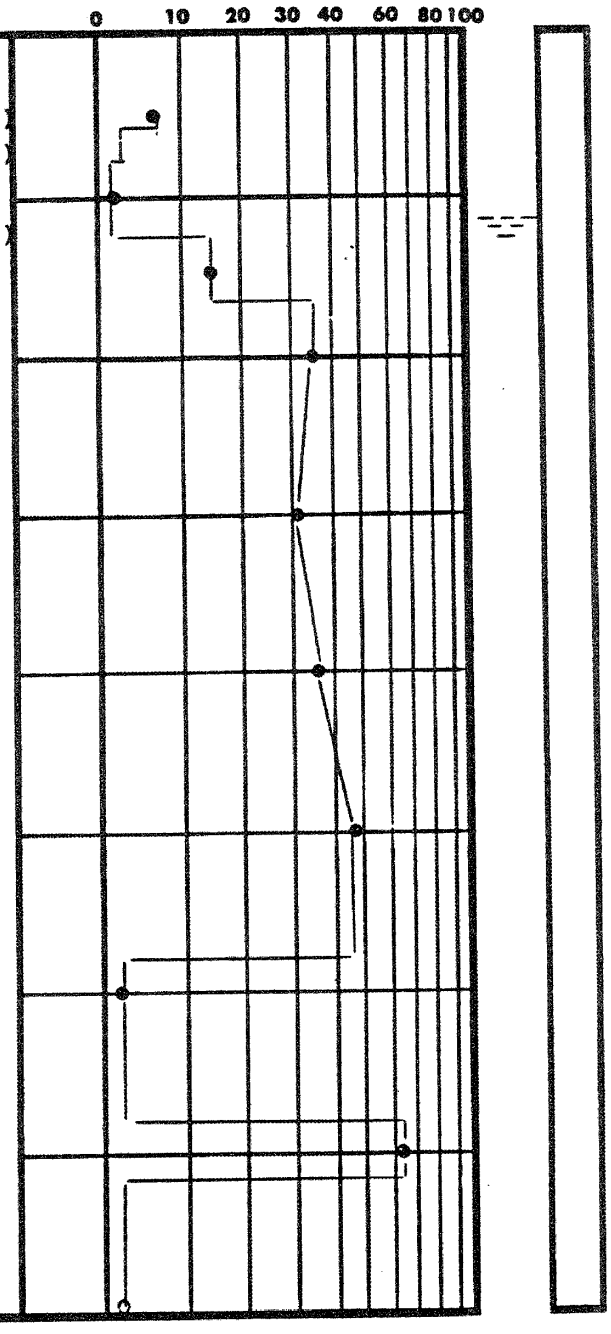
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	
0	LOOSE light tan fine SAND with shell fragments (Fill)	
2.0	LOOSE grey fine SAND & SHELL	(1)
3.0	VERY LOOSE grey silty	(2)
4.0	VERY SOFT dark brown to dark grey organic fine sandy clayey to slightly clayey SILT	(3)
6.5	FIRM grey fine SAND	
8.5	DENSE blue-grey fine SAND & fine SAND & SHELL LAYERS	
11.0	DENSE blue-grey fine SAND	
19.0	DENSE blue-grey fine SAND with small shell fragments	
21.0	DENSE grey fine SAND & SHELL FRAGMENTS	
29.0	VERY SOFT blue-grey fine sandy slightly clayey SILT	
34.0	VERY DENSE blue-grey fine SAND	
36.0	VERY LOOSE dark grey slightly silty slightly clayey fine SAND & VERY SOFT blue-grey slightly organic silty clay LAYERS	
40.0		

ELEV • PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 1 of 3 Pages)

BORING NO. B-158 H

DATE DRILLED 1/10,11/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

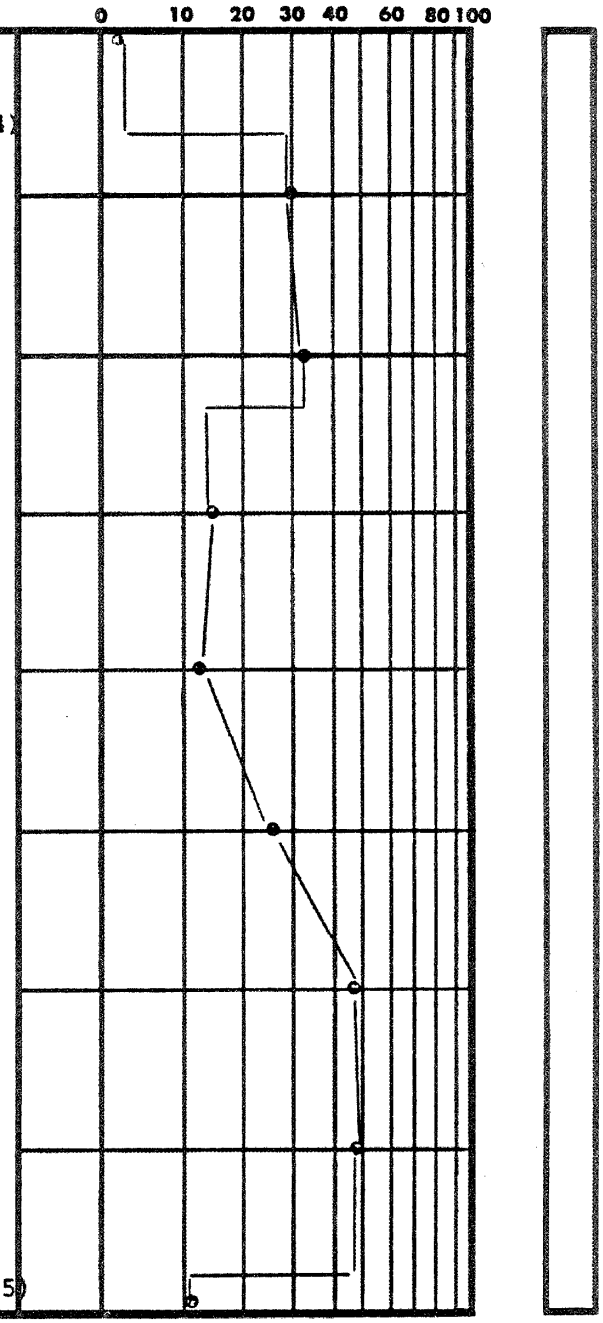
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. (0 10 20 30 40 60 80 100)
40.0	VERY LOOSE dark grey slightly silty slightly clayey fine SAND & VERY SOFT blue-grey slightly organic silty	(4)	
43.5	VERY FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS		
49.0	DENSE blue-grey slightly silty fine SAND with some small cemented fine sand fragments		
52.0	FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS		
63.0	VERY FIRM blue-grey slightly silty fine SAND with shell fragments		
68.0	DENSE blue-grey fine SAND with shell fragments		
73.5	DENSE blue-grey slightly silty fine SAND with some small shell fragments		
79.0	FIRM blue-grey slightly silty	(5)	
80.0			



TEST BORING RECORD

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BORING NO. B-158 H

DATE DRILLED 1/10,11/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

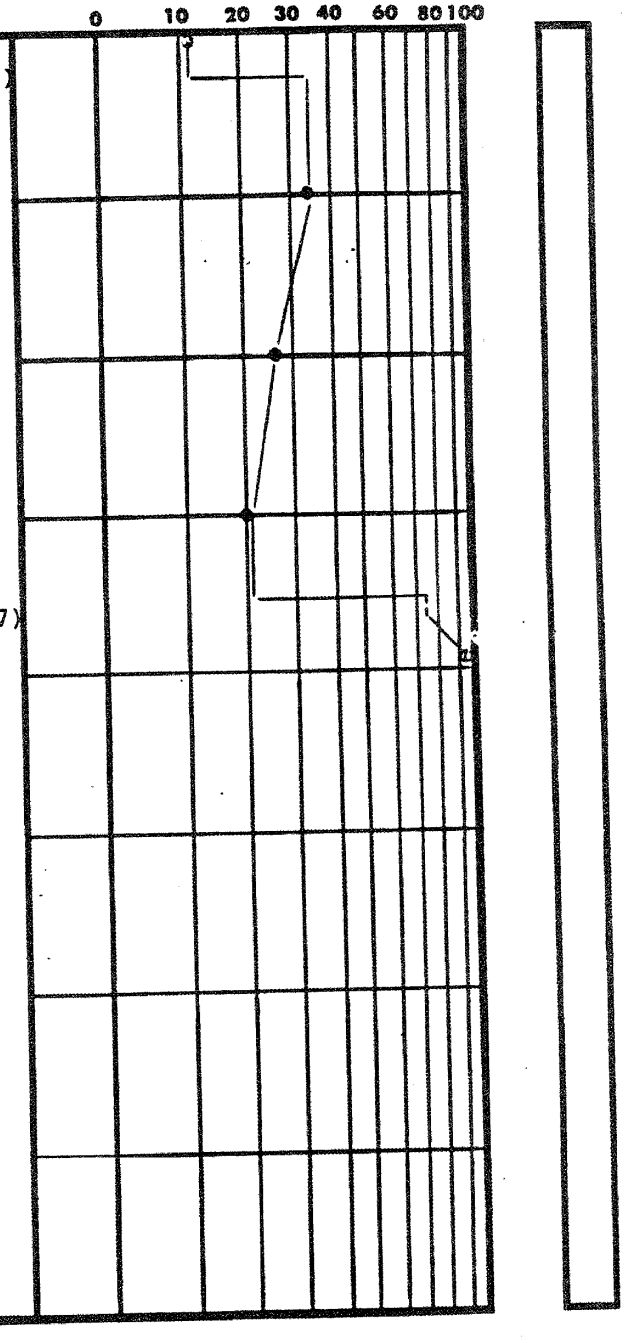
WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
80.0		
81.5	FIRM blue-grey slightly silty slightly clayey fine SAND	(6)
	DENSE grey fine SAND & SHELL FRAGMENTS	
87.5	VERY FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS with FIRM seam of grey fine sandy clayey SILT with small cemented fine sand fragments	
93.5	FIRM grey slightly silty fine SAND with small shell & cemented fine sand fragments	
98.0	VERY DENSE grey cemented	(7)
98.5	VERY DENSE grey slightly silty fine SAND	
100.0	BORING TERMINATED	

(1) FRAGMENTS with small silty clay lenses (Fill)
(2) slightly clayey fine SAND with shell fragments
(3) (Peat)
(4) clay LAYERS
(5) slightly clayey fine SAND with some small shell fragments & silty clay seams
(6) with some small shell fragments & silty clay seams
(7) fine SAND

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 3 of 3 Pages)

BORING NO. B-158 H

DATE DRILLED 1/10,11/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

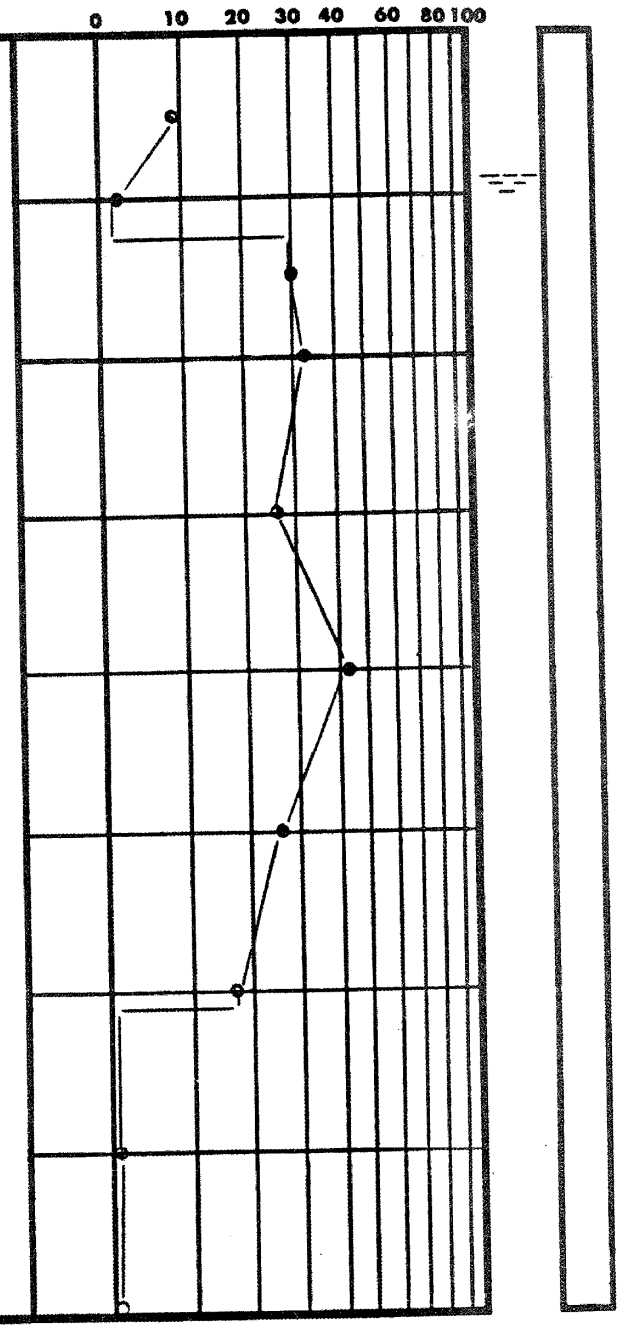
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION
0	LOOSE grey slightly silty fine SAND (Fill)
3.5	VERY LOOSE dark brown silty fine SAND with some small roots
6.5	VERY FIRM to DENSE grey fine SAND with shell fragments
11.0	VERY FIRM blue-grey fine SAND
18.5	DENSE blue-grey fine SAND with small shell fragments
22.0	VERY FIRM blue-grey slightly silty fine SAND
29.0	FIRM blue-grey fine SAND & SHELL FRAGMENTS
30.5	VERY SOFT blue-grey slightly organic clayey fine slightly sandy SILT
38.0	VERY LOOSE blue-grey silty clayey fine SAND
40.0	

ELEV • PENETRATION-BLOWS PER FT.



TEST BORING RECORD

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BORING NO. B-159 U

DATE DRILLED 1/8/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

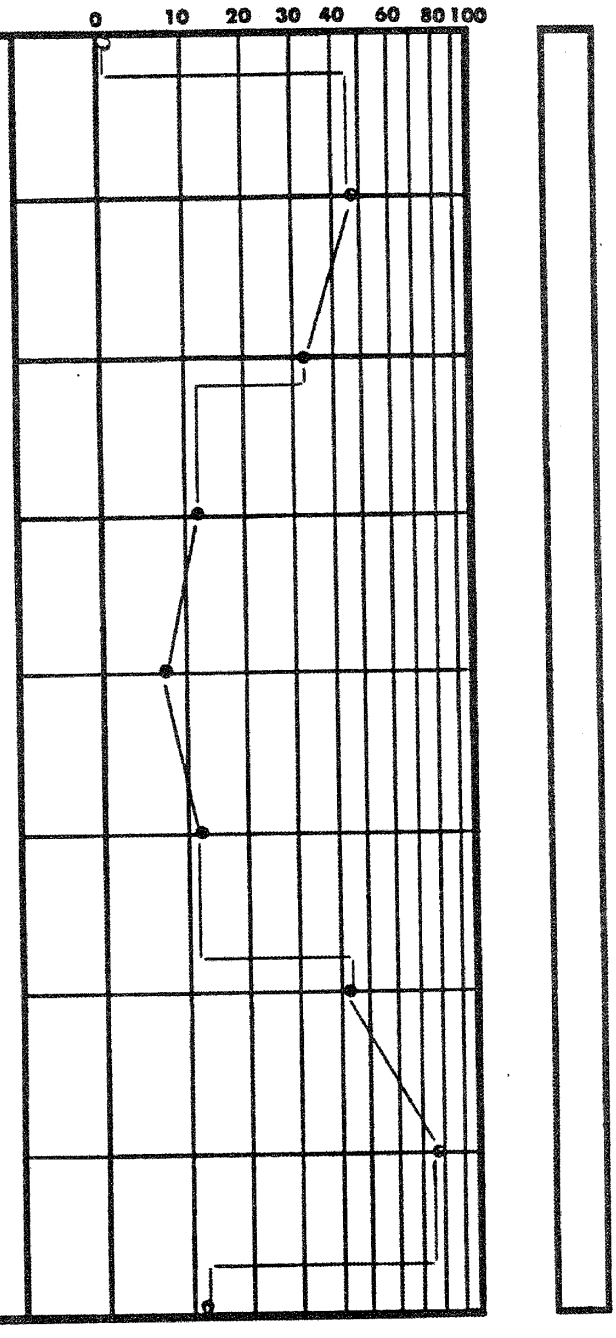
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION
40.0	
41.5	VERY LOOSE blue-grey silty clayey fine SAND
	DENSE blue-grey slightly silty fine SAND with small shell fragments
47.0	
	DENSE blue-grey slightly silty fine SAND
51.0	
	FIRM and LOOSE blue-grey slightly silty fine SAND and SHELL FRAGMENTS
69.0	
	DENSE blue-grey slightly silty fine SAND with shell fragments
73.5	
	VERY DENSE blue-grey slightly silty fine SAND
78.5	
	FIRM grey fine SAND and SHELL FRAGMENTS
80.0	

ELEV • PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-159 W

DATE DRILLED 1/8/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

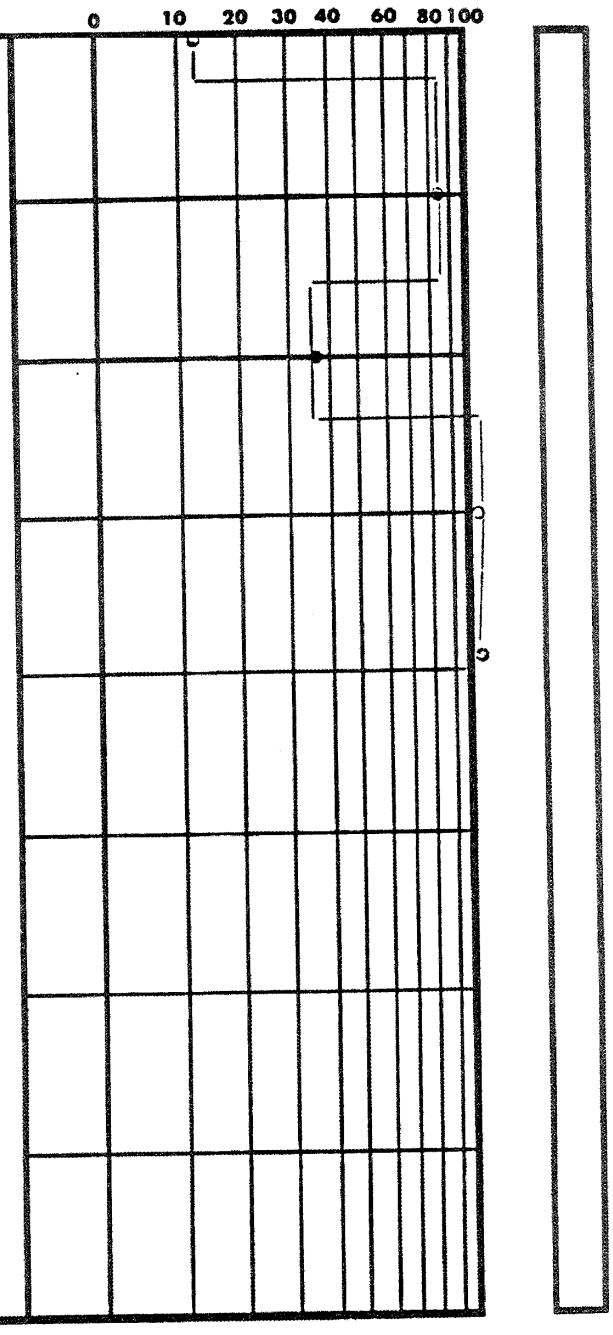
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
80.0	FIRM grey fine SAND and SHELL FRAGMENTS	
81.5	VERY DENSE blue-grey slightly silty fine SAND & VERY DENSE blue-grey fine SAND & SHELL FRAGMENT LAYERS	
88.0	DENSE blue-grey slightly silty fine SAND with some small cemented fine sand fragments	
92.5	VERY DENSE blue-grey slightly silty fine SAND with cemented fine sand seams	
95.0	VERY DENSE grey slightly silty fine SAND with fine sand & shell fragment seams	
100.0	BORING TERMINATED	
	(1) slightly silty fine SAND & VERY DENSE blue-grey fine SAND & SHELL FRAGMENT LAYERS	

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

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BORING NO. B-159 "

DATE DRILLED 1/8/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

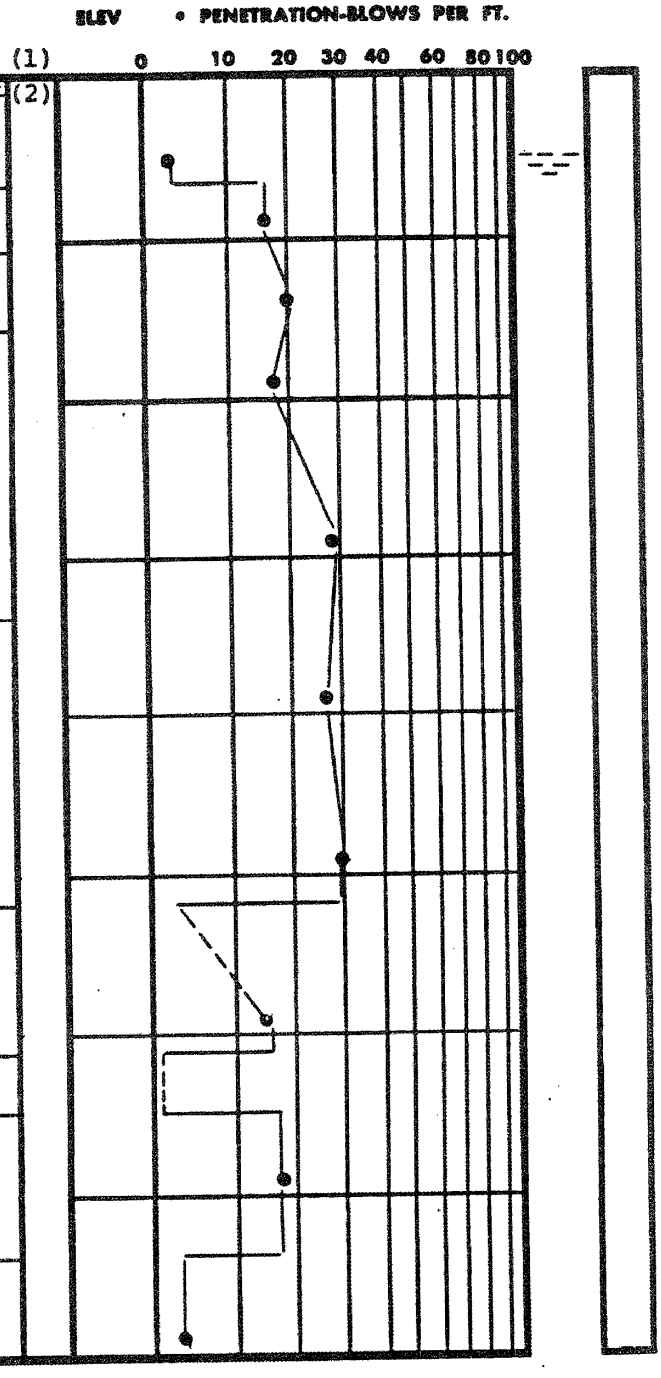
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION
0	
0.2	
0.5	VERY LOOSE grey slightly silty fine SAND with small roots
3.5	FIRM grey fine SAND with small shell fragments
5.5	FIRM blue-grey slightly silty fine SAND with shell fragments
8.0	FIRM to VERY FIRM blue-grey fine SAND with shell fragments
17.0	VERY FIRM blue-grey fine SAND & SHELL FRAGMENTS
26.0	VERY LOOSE to FIRM blue-grey silty clayey to slightly clay-ey fine SAND
30.5	VERY SOFT blue-grey clayey fine slightly sandy SILT
32.5	FIRM blue-grey silty slightly clayey fine SAND
37.0	VERY LOOSE grey calcareous silty clayey fine SAND with small limestone fragments
40.0	



TEST BORING RECORD

(Page 1 of 2 Pages)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

BORING NO. B-160

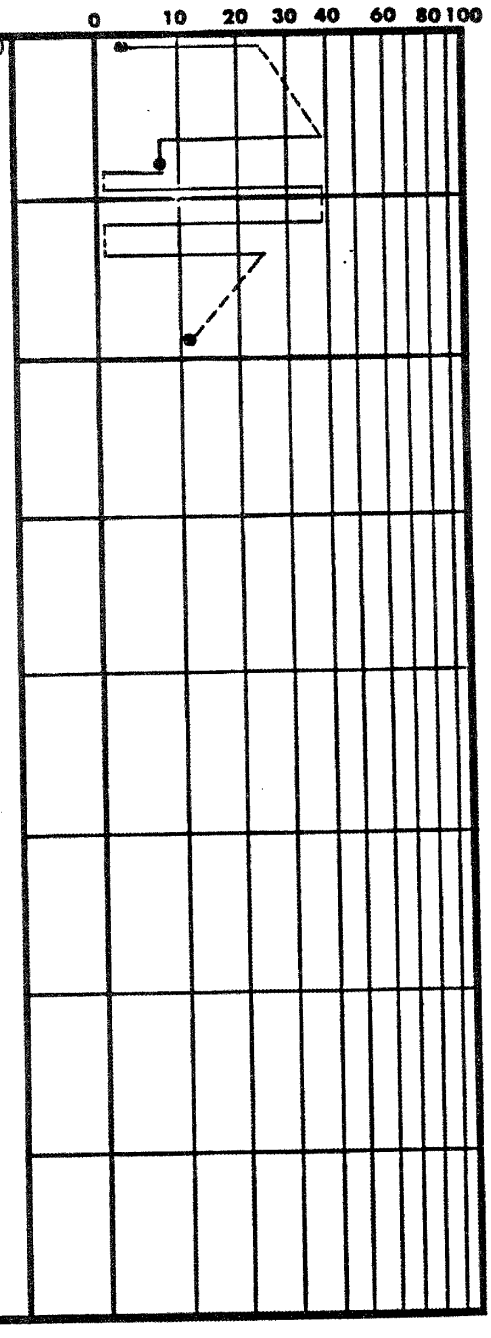
DATE DRILLED 1/7,10/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV
40.0		
40.5	~~VERY LOOSE grey calcareous~~	(3)
	VERY FIRM to DENSE grey fine SAND	
43.5		
44.5	LOOSE brown fine SAND	
45.0	Decaying WOOD	
46.0	DENSE grey fine SAND	
47.0	VERY SOFT grey clayey SILT	
	VERY FIRM to FIRM grey silty slightly clayey fine SAND	
50.0	BORING TERMINATED	

(1) VERY SOFT dark brown organic SILT (Peat)
(2) VERY LOOSE dark grey organic slightly silty slightly clayey fine SAND with small roots
(3) silty clayey fine SAND with small limestone fragments



TEST BORING RECORD

(Page 2 of 2 Pages)

BORING NO. B-160H

DATE DRILLED 1/7,10/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

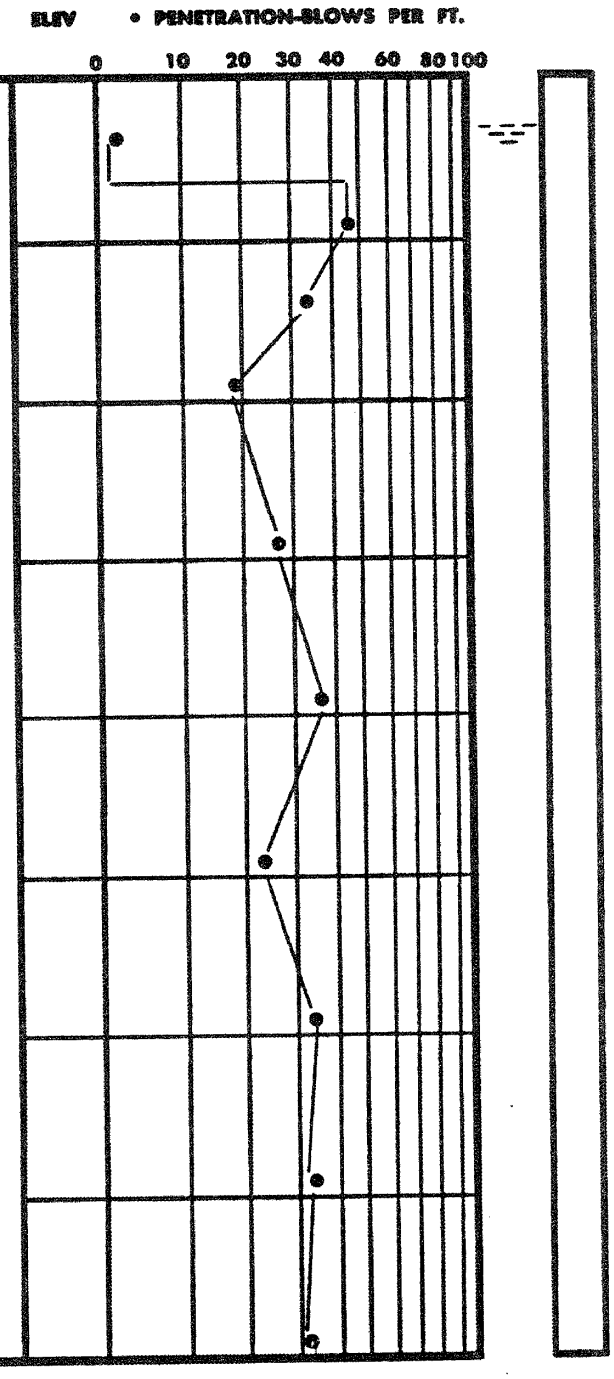
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
0		
1.0	VERY SOFT dark brown highly	(1)
3.5	VERY LOOSE grey slightly silty fine SAND with small shell fragments & decayed roots	
	DENSE grey fine SAND with small shell fragments	
8.0	FIRM blue-grey fine SAND	
12.0	VERY FIRM grey-brown fine SAND & SHELL FRAGMENTS	
17.0	DENSE to VERY FIRM grey-brown fine SAND with shell fragments	
27.0	DENSE blue-grey fine SAND with small shell fragments	
37.0	DENSE blue-grey fine SAND	
40.0		



TEST BORING RECORD

(Page 1 of 2 Pages)

BORING NO. B-161 P

DATE DRILLED 1/27/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
40.0		
	DENSE blue-grey fine SAND	
42.0		
	DENSE light grey slightly silty very fine to fine SAND with cemented fine sand fragments	
47.0		
	DENSE blue-grey slightly silty fine SAND with shell & cemented fine sand fragments	
50.0		
	BORING TERMINATED	
	(1) organic SILT (Peat)	

• PENETRATION-BLOWS PER FT.

0 10 20 30 40 60 80 100

TEST BORING RECORD

(Page 2 of 2 Pages)

BORING NO. B-161 P

DATE DRILLED 1/27/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

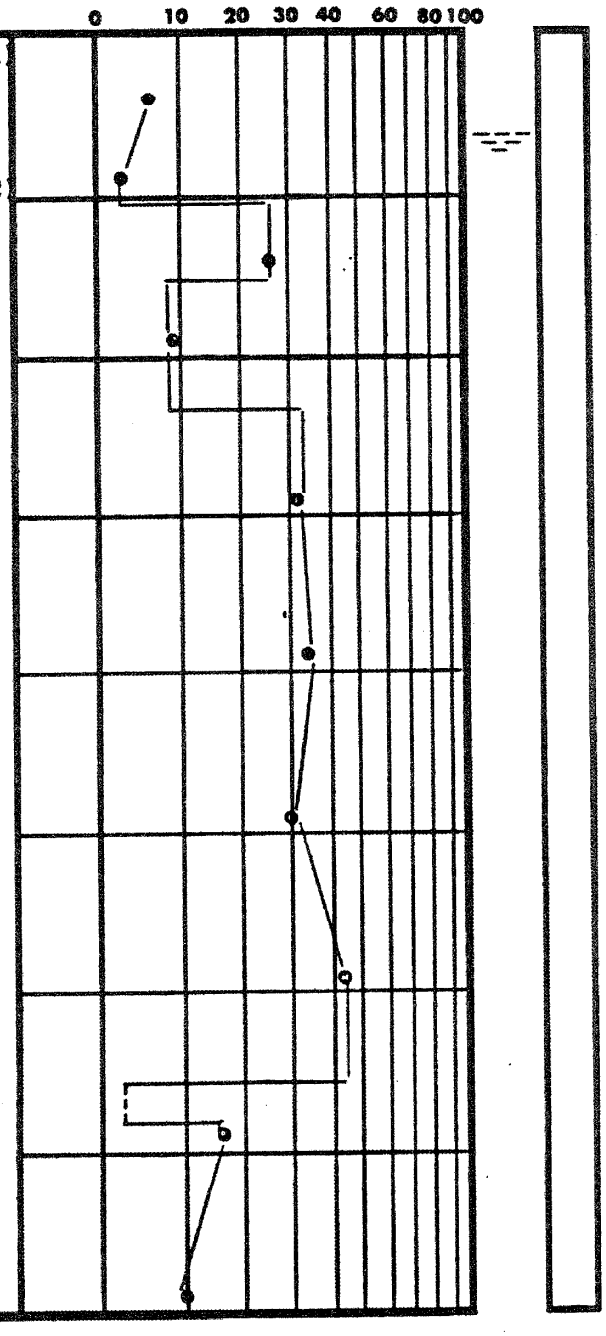
50 % ROCK CORE RECOVERY

WATER - NIL, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
0		
1.0	LOOSE grey slightly silty fine LOOSE brown fine SAND with roots	(1)
3.5	VERY LOOSE grey slightly silty fine SAND with small shell	(2)
5.5	VERY FIRM light grey fine SAND with shell fragments	
8.0	LOOSE brown fine SAND & SHELL FRAGMENTS	
12.0	DENSE & VERY FIRM grey to blue-grey fine SAND with shell fragments	
33.0	VERY LOOSE blue-grey silty clayey fine SAND	
34.0	FIRM blue-grey silty clayey fine SAND with shell fragments	
37.0	LOOSE blue-grey silty clayey fine SAND	
40.0		



TEST BORING RECORD

(Page 1 of 2 Pages)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

BORING NO. B-162 P

DATE DRILLED 1/28/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV	• PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
40.0			
41.0	LOOSE blue-grey silty clayey	(3	
	DENSE light grey slightly silty very fine to fine SAND with cemented fine sand fragments		
47.0	LOOSE light grey slightly silty very fine to fine SAND with cemented fine sand fragments		
50.0	BORING TERMINATED		

(1) SAND with roots (Topsoil)
(2) fragments
(3) fine SAND

TEST BORING RECORD
(Page 2 of 2 Pages)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
50 % ROCK CORE RECOVERY
LOSS OF DRILLING WATER

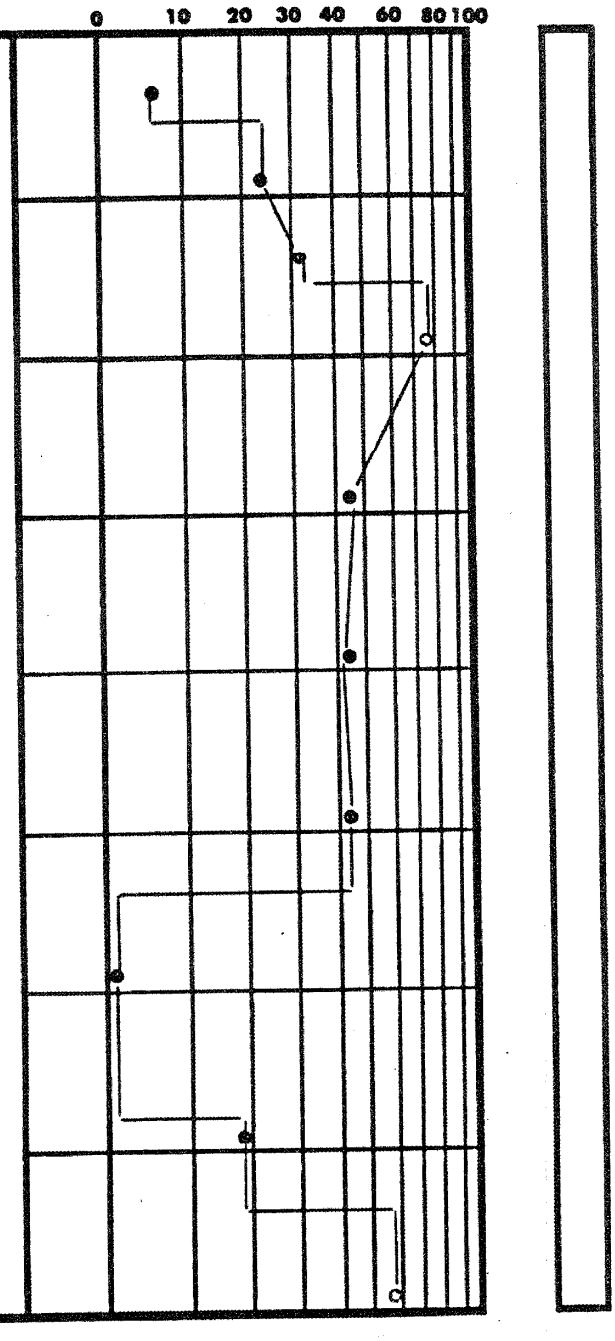
BORING NO. B-162 P
DATE DRILLED 1/28/72
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION
0	
	VERY LOOSE to LOOSE grey-brown fine SAND & SHELL FRAGMENTS
3.0	
	VERY FIRM to DENSE brown fine SAND with shell fragments
8.0	
	VERY DENSE brown fine SAND with shell fragments & cemented fine sand & shell fragments
14.0	
	DENSE brown fine SAND with some shell fragments
27.0	
	VERY SOFT blue-grey clayey SILT with thin fine sand seams
32.0	
	VERY SOFT blue-grey clayey fine sandy SILT
34.0	
	FIRM blue-grey slightly silty fine SAND
37.0	
	VERY DENSE blue-grey very slightly silty fine SAND
40.0	

ELEV

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

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BORING NO. B-163 P

DATE DRILLED 1/29/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

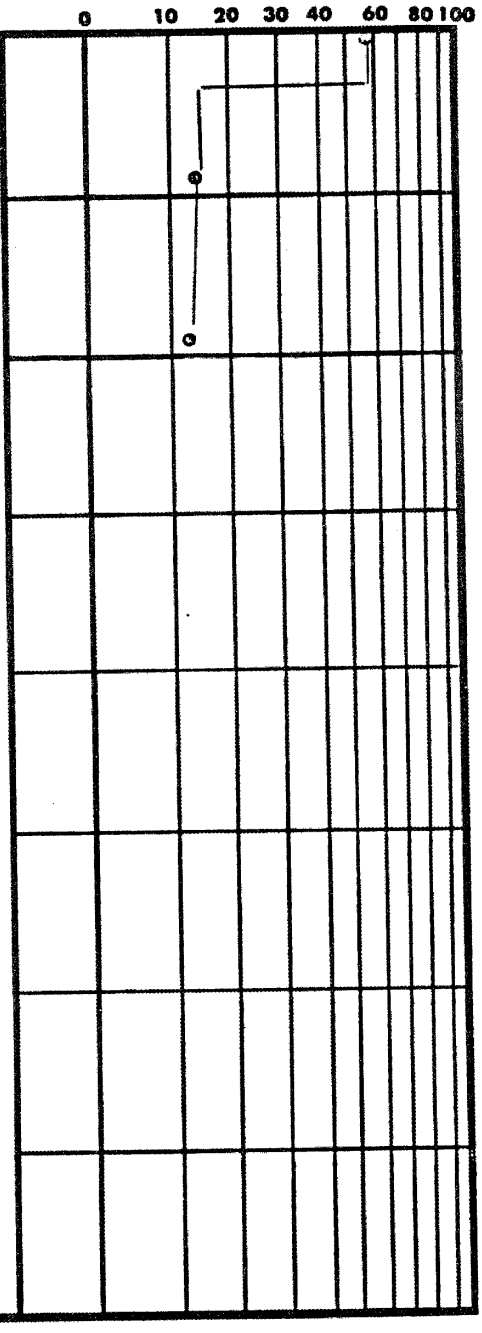
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
40.0	VERY DENSE blue-grey very slightly silty fine SAND	
42.0	FIRM grey-green clayey fine SAND with cemented fine sand fragments	
46.0	FIRM light grey silty very fine to fine SAND with cemented fine sand fragments	
50.0	BORING TERMINATED	

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

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BORING NO. B-163 P

DATE DRILLED 1/29/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

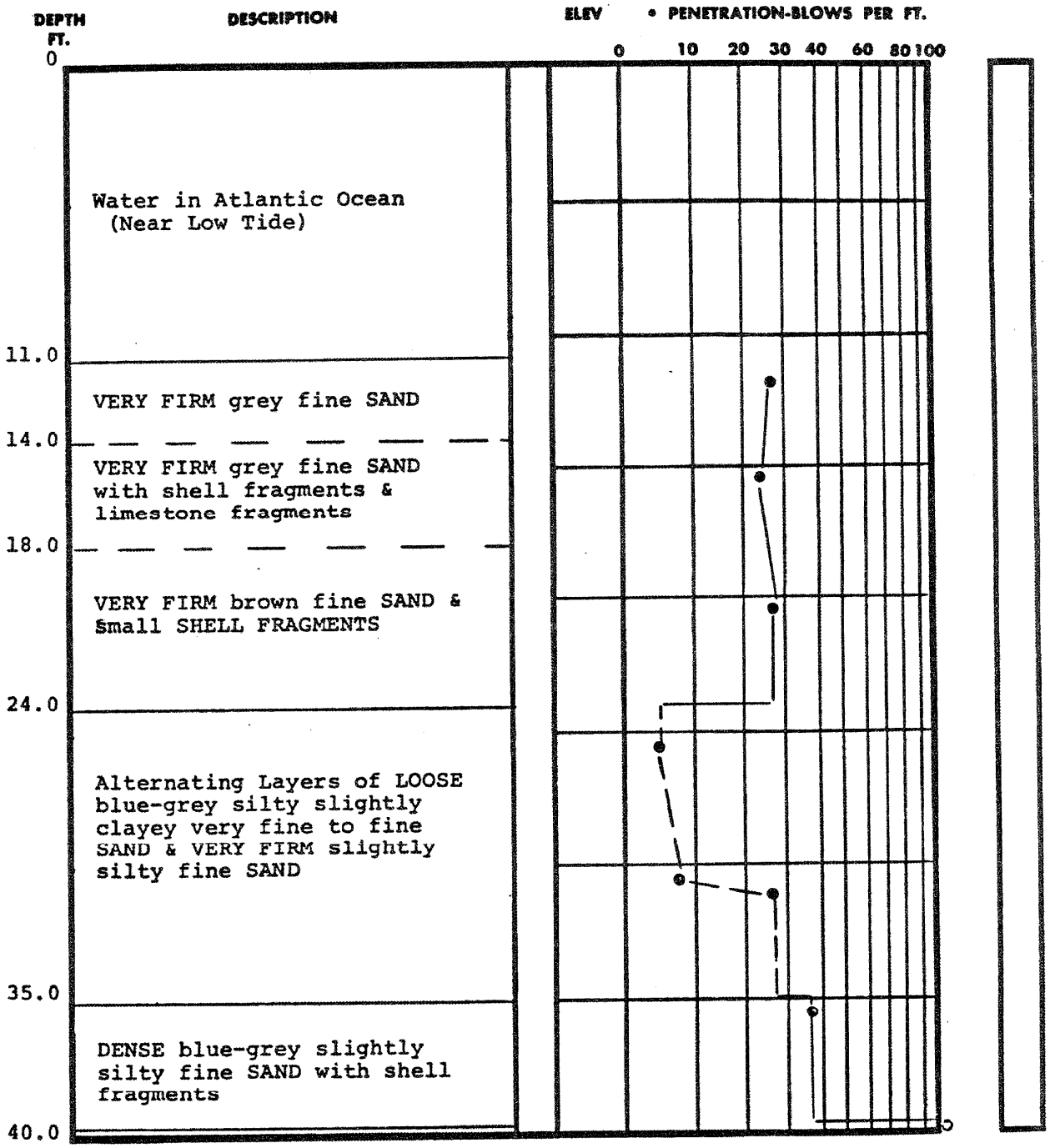
WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER



TEST BORING RECORD

(Page 1 of 2 Pages)

BORING NO. B-165 P

DATE DRILLED 2/7&15/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

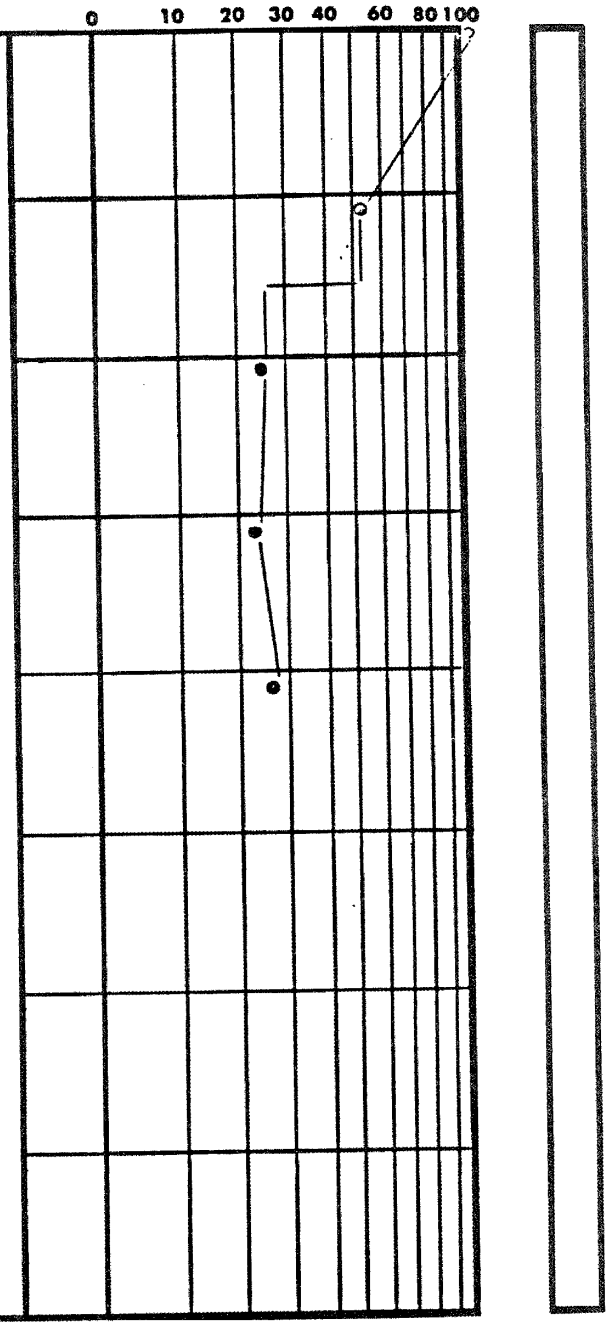
50 % ROCK CORE RECOVERY

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION
40.0	VERY DENSE light blue-grey very fine to fine SAND with small shell fragments & cemented fine sand fragments
43.0	VERY DENSE light blue-grey very fine to fine SAND with shell fragments & cemented fine sand & limestone fragments
48.0	VERY FIRM light blue-grey slightly silty fine SAND & SHELL FRAGMENTS with cemented fine sand & shell fragments
53.0	VERY FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS
58.0	VERY FIRM grey fine SAND & SHELL FRAGMENTS
61.0	BORING TERMINATED

ELEV

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

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BORING NO. B-165P

DATE DRILLED 2/7&15/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

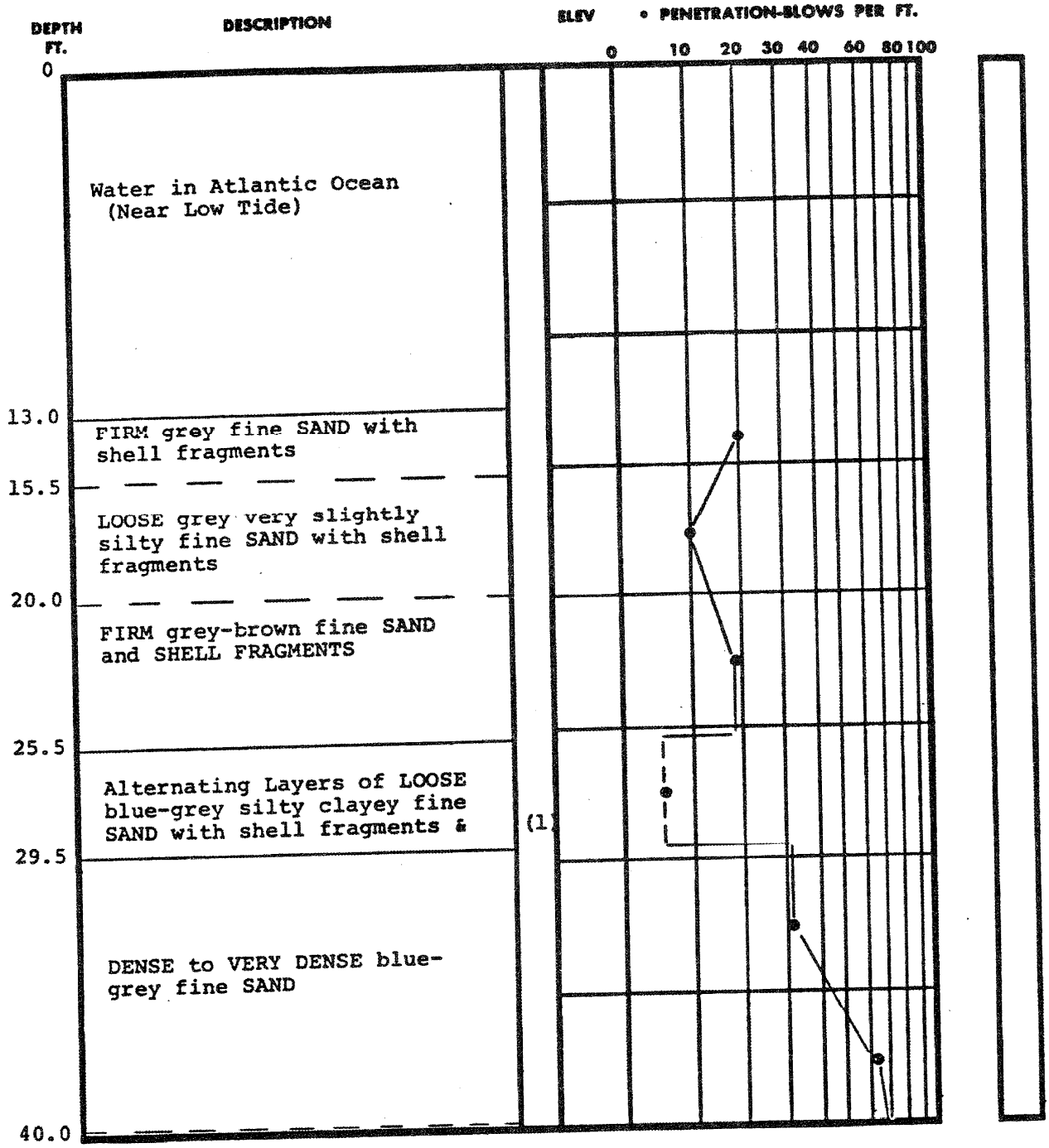
UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER



(1) SOFT clayey SILT

TEST BORING RECORD

(Page 1 of 2 Pages)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

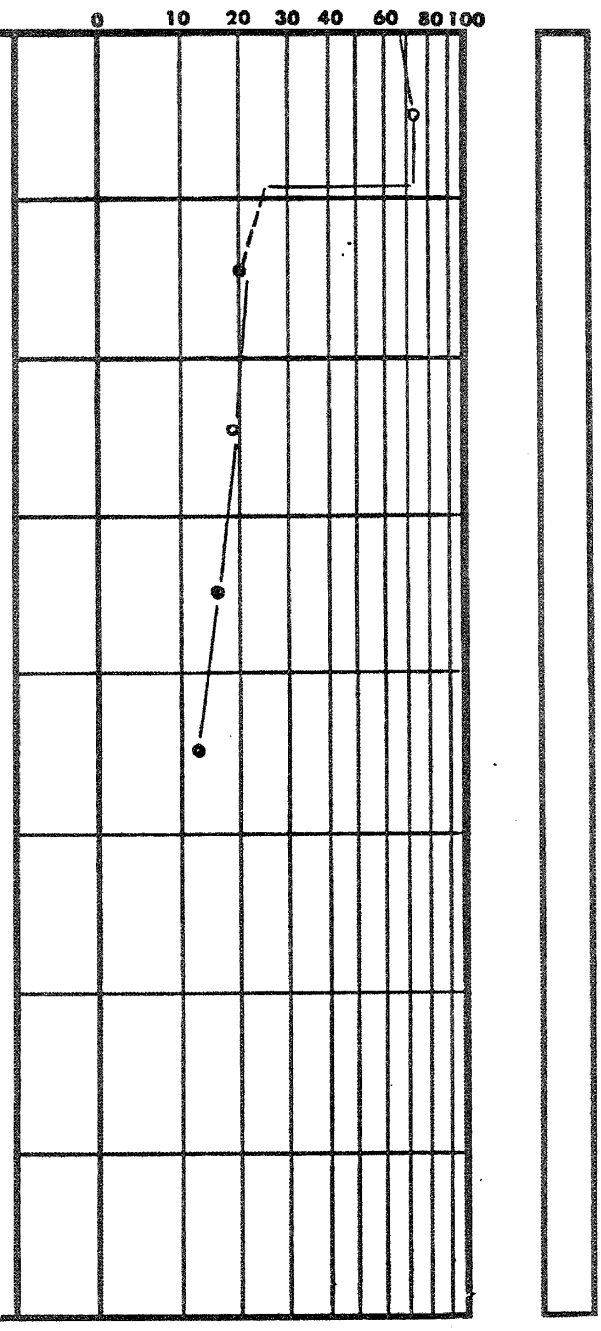
BORING NO. B-166 r
DATE DRILLED 2/1&7/72
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION
40.0	VERY DENSE light blue-grey very fine to fine SAND with small shell fragments & cemented fine sand seams
45.0	VERY FIRM to FIRM light blue-grey slightly silty very fine to fine SAND with cemented fine sand fragments
49.5	FIRM light blue-grey slightly silty fine SAND & SHELL FRAGMENTS with cemented fine sand & shell fragments
55.0	FIRM grey to blue-grey slightly silty to silty slightly clayey to clayey fine SAND & SHELL FRAGMENTS
63.0	BORING TERMINATED

ELEV

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

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BORING NO. B-166 P

DATE DRILLED 2/1&7/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

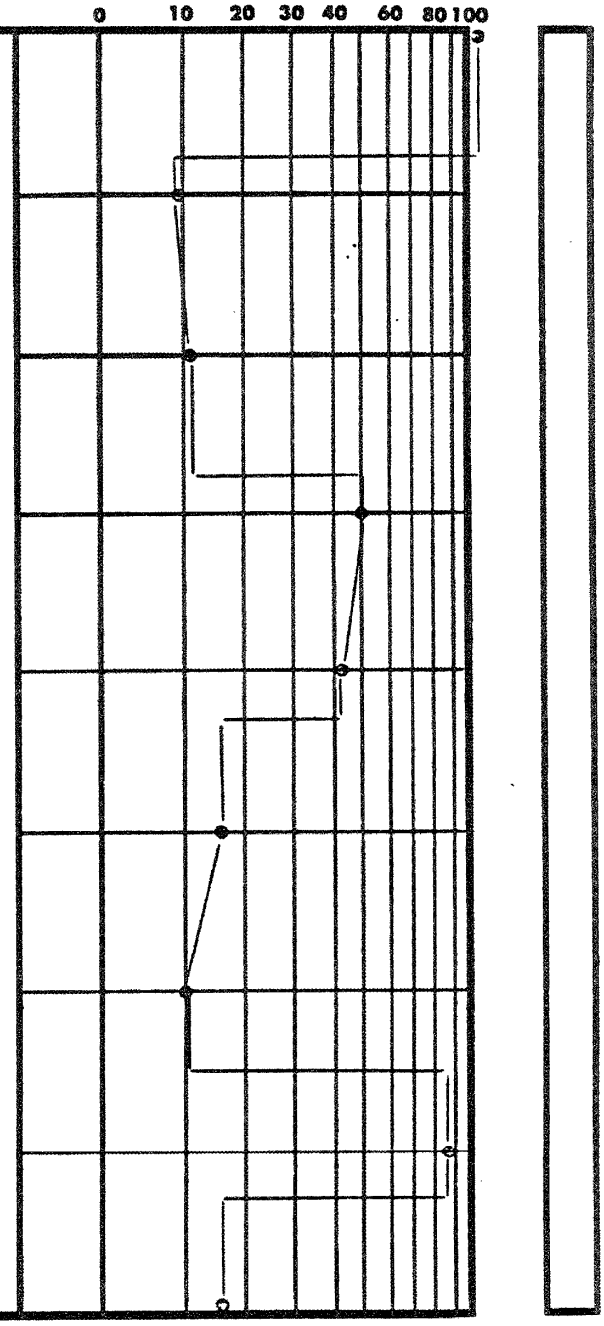
WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION
40.0	
	MODERATELY HARD tan sandy LIMESTONE
44.0	
	LOOSE to FIRM tan slightly silty fine SAND with small limestone seams
54.0	
	DENSE grey cemented fine SAND with slightly silty fine sand seams
61.5	
	FIRM tan cemented fine SAND & slightly silty fine sand LAYERS
66.0	
	LOOSE tan slightly silty fine SAND with seams of cemented fine sand & shell fragments
72.5	
	VERY DENSE blue-grey slightly silty fine SAND
76.5	
	FIRM blue-grey slightly silty fine SAND with shell fragments
80.0	

ELEV

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-169 μ

DATE DRILLED 1/13,14/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

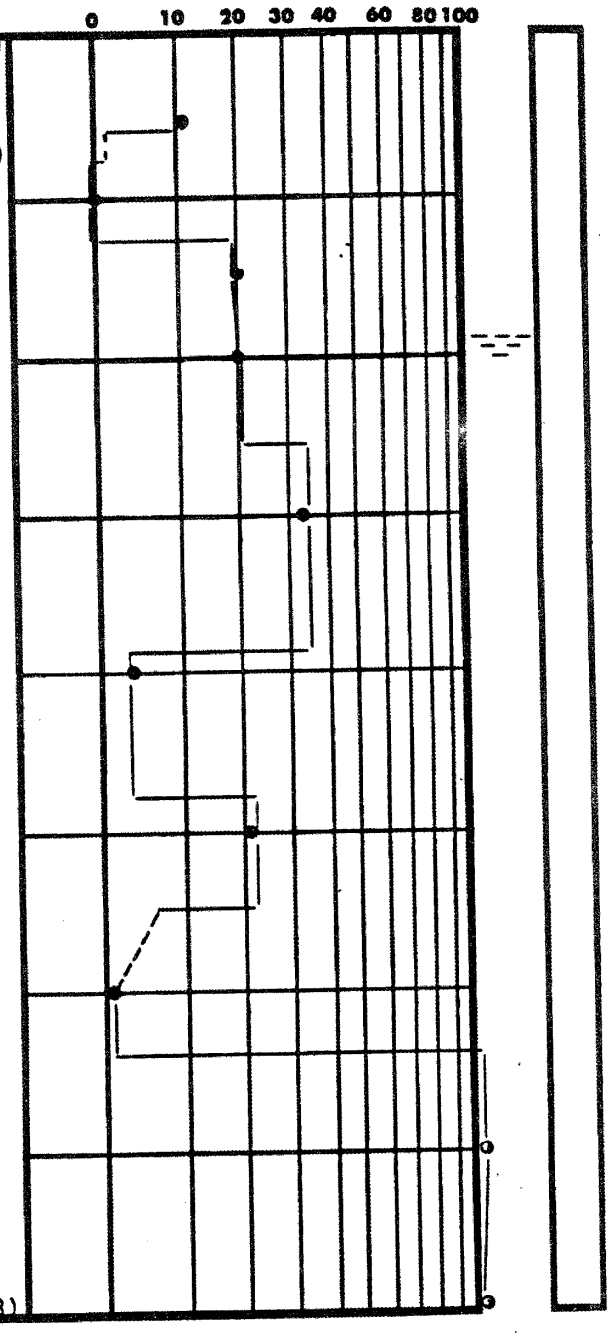
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
0		
0.3	FIRM tan fine SAND with shell fragments & cemented fine sand & shell fragments (Fill)	(1)
3.0		
4.0	VERY LOOSE blue-grey silty	(2)
	VERY SOFT dark brown organic fine slightly sandy SILT (Peat)	
6.5		
	FIRM blue-grey fine SAND with small shell fragments	
8.5		
	FIRM blue-grey fine SAND & SHELL FRAGMENTS	
13.0		
	DENSE blue-grey slightly silty fine SAND with fine sand & shell seams	
19.5		
	SOFT blue-grey clayey fine slightly sandy SILT	
24.0		
	VERY FIRM blue-grey slightly silty slightly clayey fine SAND	
27.5		
	LOOSE to VERY LOOSE blue-grey silty clayey fine SAND & VERY SOFT fine sandy silty clay LAYERS	
32.0		
	VERY DENSE grey cemented fine SAND	
39.5		
40.0	MODERATELY HARD tan sandy	(3)

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 1 of 3 Pages)

BORING NO. B-169 H

DATE DRILLED 1/13,14/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

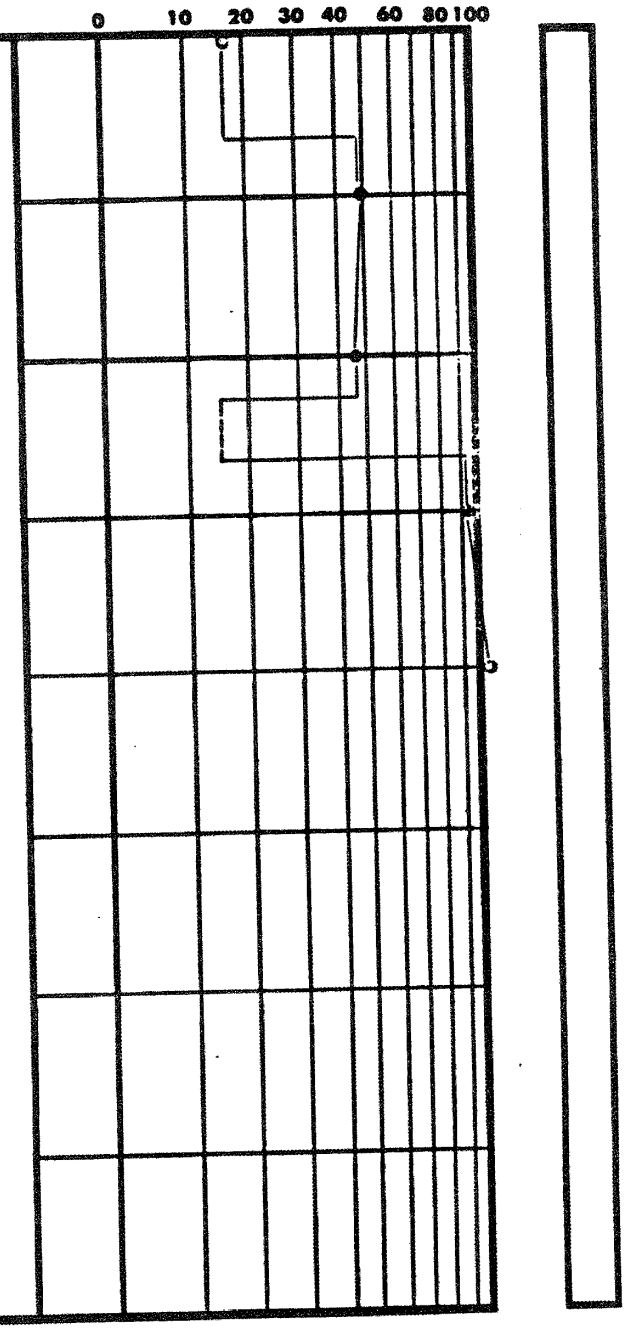
UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
80.0	FIRM blue-grey slightly silty fine SAND with shell fragments	
83.5	DENSE blue-grey slightly silty fine SAND & layers of fine SAND with shell fragments	
91.5	FIRM blue-grey slightly silty fine SAND	
93.5	VERY DENSE grey slightly silty fine SAND with some shell fragments	
100.0	BORING TERMINATED	
	(1) FIRM grey silty CLAY (Fill) (2) slightly clayey fine SAND with shell fragments (3) LIMESTONE	

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 3 of 3 ~~Pages~~)

BORING NO. B-169 H

DATE DRILLED 1/13,14/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

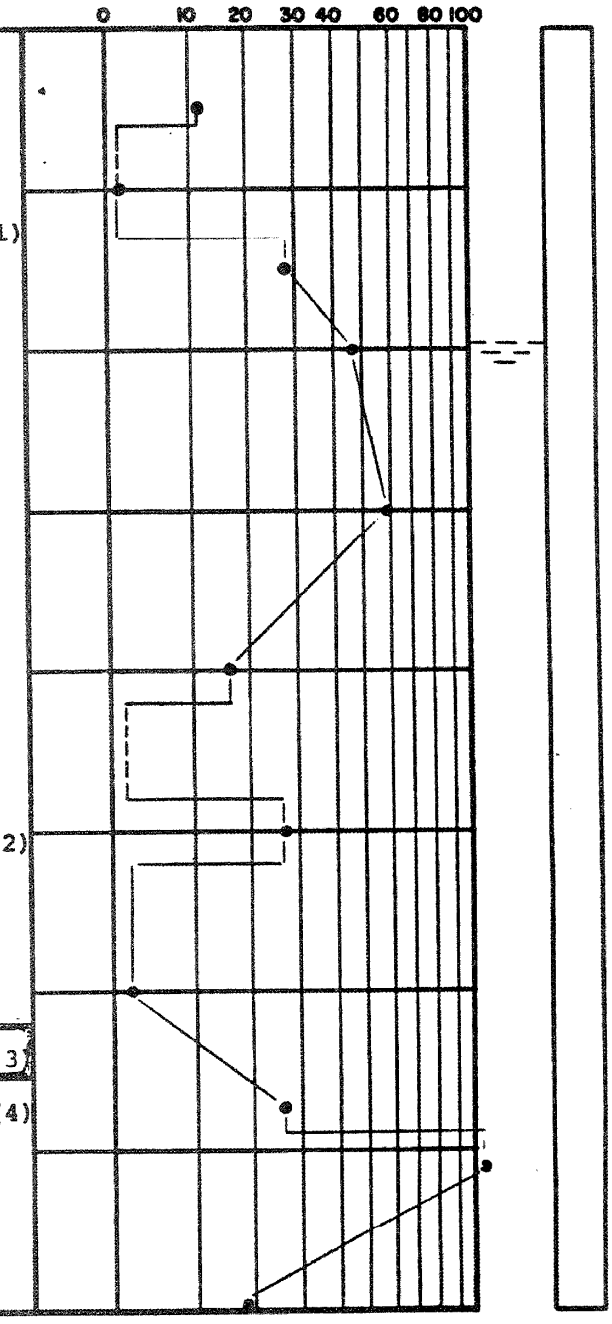
UNDISTURBED SAMPLE

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
.0	FIRM tan fine SAND with shell fragments (Fill)	
3.0	VERY SOFT dark brown highly organic SILT (Peat)	
4.5	VERY LOOSE grey silty slightly clayey fine SAND with shell fragments & decayed	(1)
6.5	VERY FIRM to DENSE blue-grey fine SAND with shell fragments	
14.0	VERY DENSE to FIRM blue-grey fine SAND	
21.0	VERY LOOSE blue-grey silty clayey fine SAND & SOFT silty fine slightly sandy CLAY	
24.0	VERY FIRM blue-grey slightly silty very slightly clayey	(2)
26.0	VERY LOOSE blue-grey silty clayey fine SAND	
31.0	VERY LOOSE to FIRM dark grey slightly silty very slightly	(3)
32.5	VERY FIRM grey slightly silty fine SAND with shell &	(4)
34.5	VERY DENSE to FIRM grey-tan cemented fine SAND with silty fine sand	
40.0		



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

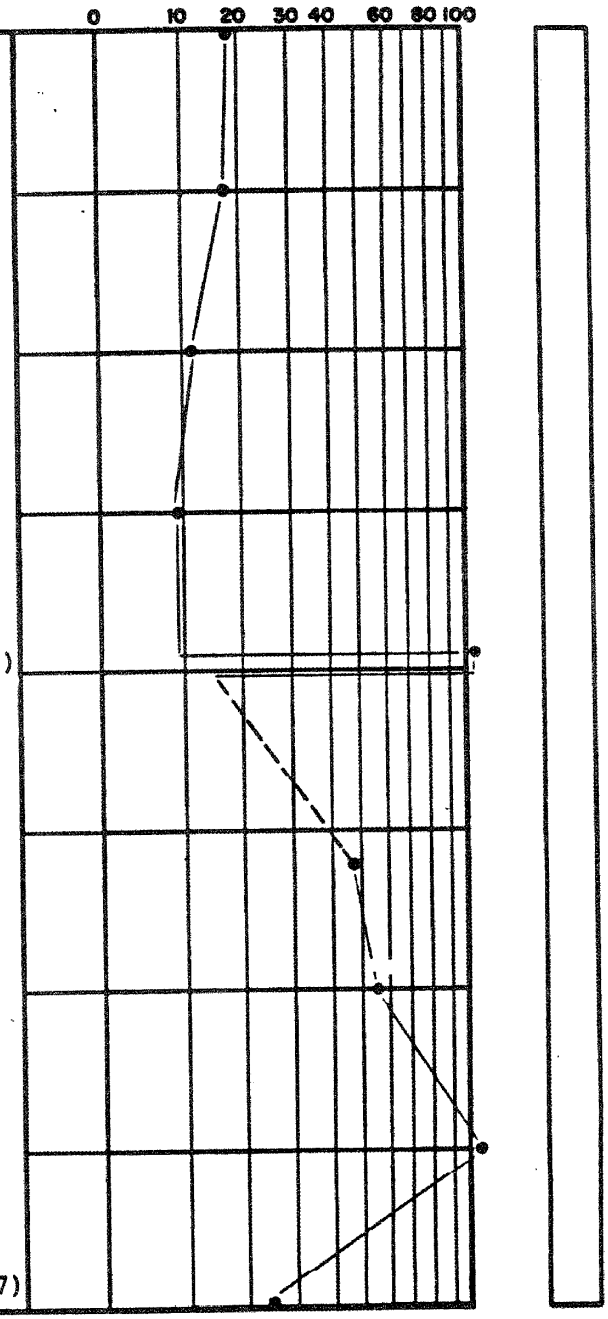
(Page 1 of 3 Pages)

BORING NO. B-170 H

DATE DRILLED 1/21,22/72

JOB NO. J-1540

DEPTH FT.	DESCRIPTION	ELEV
40.0	VERY DENSE to FIRM grey-tan	(5)
41.0	LOOSE and FIRM grey-tan silty to slightly silty fine SAND with cemented fine sand shell, quartz & limestone seams	
51.0	LOOSE and FIRM grey-green cemented fine SAND, SHELL, QUARTZ & LIMESTONE & silty slightly clayey fine sand SEAMS	
59.5	VERY DENSE grey cemented	(6)
60.0	FIRM to VERY DENSE blue-grey very slightly silty to slightly silty fine SAND with shell fragments	
72.0	VERY DENSE grey slightly silty fine SAND	
76.5	DENSE to VERY FIRM blue-grey slightly silty fine SAND with shell fragments & slightly silty fine sand	(7)
80.0		



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-170 H

DATE DRILLED 1/21,22/72

JOB NO. J-1540

DEPTH FT.	DESCRIPTION	ELEV	● PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
80.0	DENSE to VERY FIRM blue-grey slightly silty fine SAND	(8)	
82.0	VERY DENSE blue-grey slightly silty fine SAND & DENSE fine SAND & SHELL FRAGMENTS		
87.0	VERY DENSE blue-grey slightly silty fine SAND with cemented fine sand seams & some shell fragments		
97.0	VERY DENSE grey slightly silty fine SAND		
100.0	BORING TERMINATED		

(1) roots
(2) fine SAND
(3) clayey fine SAND with shell fragments
(4) cemented fine sand fragments
(5) cemented fine SAND with silty fine sand
(6) fine SAND
(7) seams
(8) with shell fragments & slightly silty fine sand seams

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

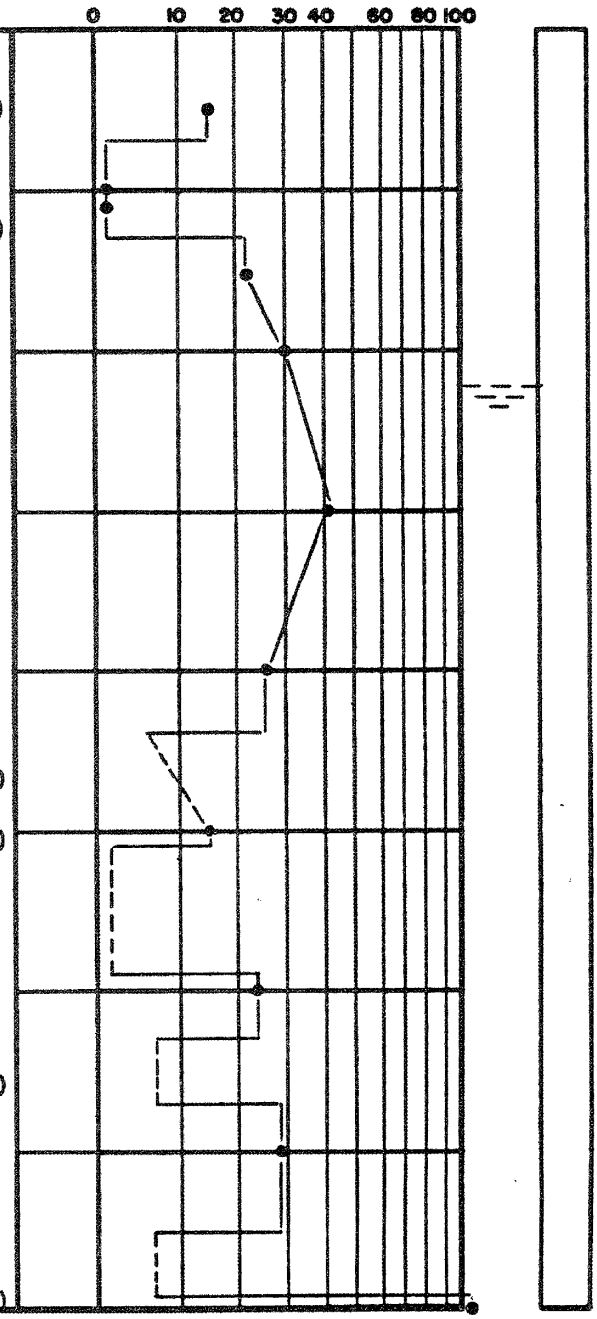
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
| 50 | % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
◀ LOSS OF DRILLING WATER

TEST BORING RECORD
(Page 3 of 3 Pages)

BORING NO. B-170H
DATE DRILLED 1/21,22/72
JOB NO. J-1540

DESCRIPTION		ELEV
DEPTH FT. 0		
FIRM light tan to grey tan fine SAND with shell fragments & cemented fine sand &	(1)	
3.5		
VERY SOFT dark brown highly organic SILT (Peat) 5.0		
VERY SOFT dark grey organic fine sandy slightly clayey 6.5	(2)	
VERY FIRM grey fine SAND 8.0		
VERY FIRM grey fine SAND & SHELL FRAGMENTS		
12.0		
DENSE to VERY FIRM blue-grey fine SAND with some shell fragments		
22.0		
LOOSE blue-grey slightly silty slightly clayey fine 24.0	(3)	
FIRM blue-grey fine SAND with some small shell	(4)	
VERY SOFT blue-grey clayey fine slightly sandy SILT with shell fragments		
29.5		
VERY FIRM dark grey fine SAND 31.5		
LOOSE blue-grey slightly silty slightly clayey fine 33.5	(5)	
VERY FIRM blue-grey partially cemented slightly silty fine SAND		
37.5		
LOOSE blue-grey slightly silty fine SAND 39.5	(6)	
40.0		



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

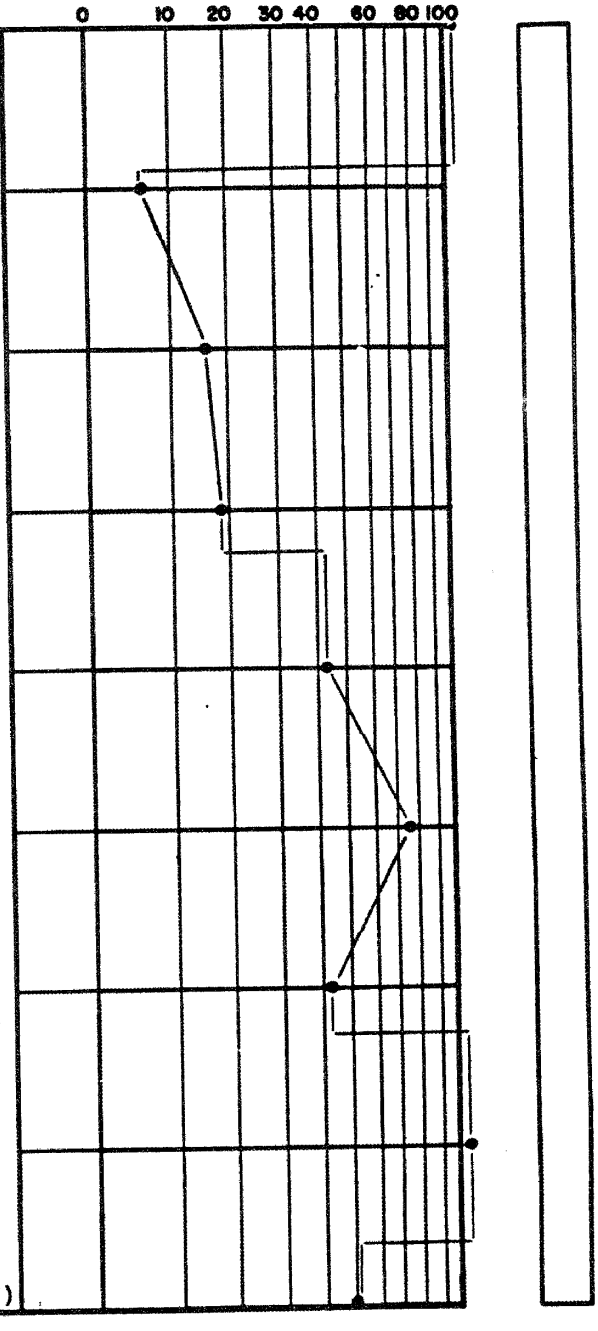
(Page 1 of 3 Pages)

BORING NO. B-171A

DATE DRILLED 1/15,17/72

JOB NO. J-1540

DESCRIPTION	ELEV	● PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
DEPTH FT. 60.0		
VERY DENSE blue-grey cemented fine SAND, SHELL FRAGMENTS & QUARTZ 44.5		
LOOSE to FIRM grey tan slightly silty to silty fine SAND with seams of cemented fine sand & shell fragments 51.0	◀	
FIRM grey tan cemented fine SAND & SHELL FRAGMENTS 56.5		
DENSE grey cemented fine SAND & SHELL FRAGMENTS with quartz fragments & silty fine sand lenses 61.5		
VERY DENSE to DENSE blue-grey fine SAND with shell fragments 71.5		
VERY DENSE blue-grey slightly silty fine SAND 78.0		
DENSE blue-grey slightly silty fine SAND & layers of 80.0	(7)	



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-171H

DATE DRILLED 1/15,17/72

JOB NO. J-1540

DESCRIPTION	ELEV	● PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
DEPTH FT. 60.0		
DENSE blue-grey slightly silty fine SAND & layers of slightly silty fine SAND with shell fragments	83.5	
VERY DENSE blue-grey slightly silty fine SAND with shell fragments	93.5	
VERY DENSE blue-grey to grey slightly silty fine SAND	100.0	
BORING TERMINATED		

(1) shell fragments (Fill)
(2) SILT (Peat)
(3) SAND with shell fragments
(4) fragments
(5) SAND
(6) VERY DENSE blue-grey cemented fine SAND, SHELL FRAGMENTS & QUARTZ
(7) slightly silty fine SAND with shell fragments

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

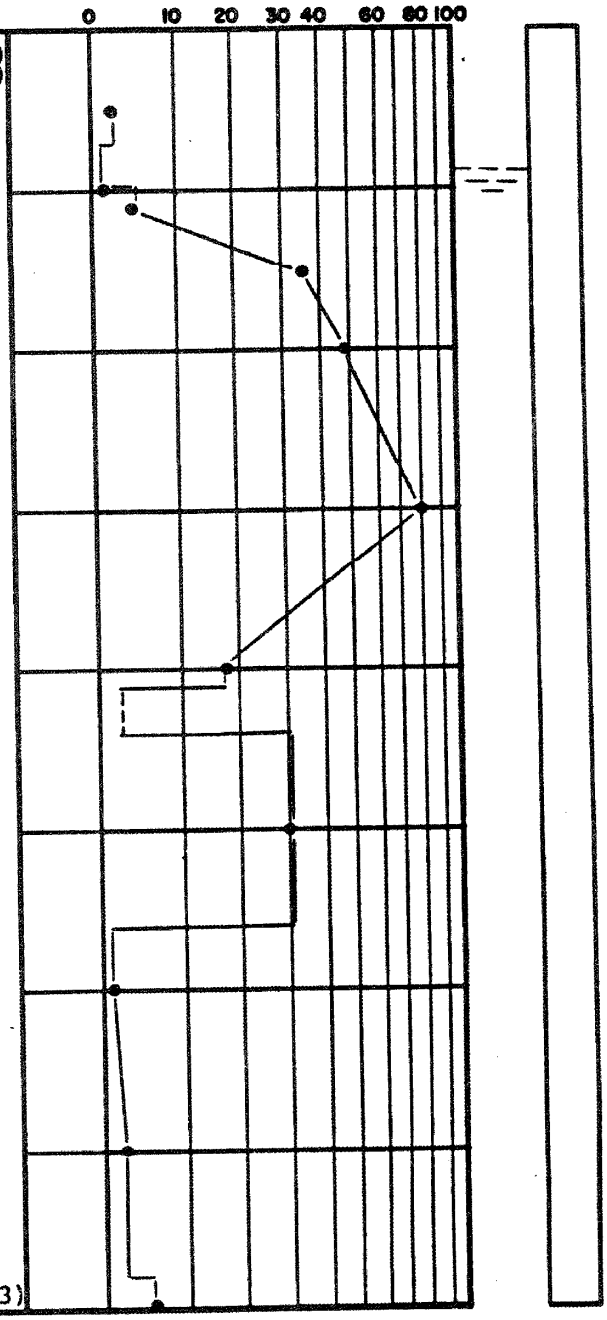
(Page 3 of 3 Pages)

BORING NO. B-171

DATE DRILLED 1/15-17/72

JOB NO. J-1540

DEPTH FT.	DESCRIPTION	ELEV
0		
1.0	LOOSE tan fine SAND with VERY LOOSE blue-grey silty	(1) (2)
3.5	VERY SOFT dark brown highly organic SILT (Peat)	
5.0	VERY LOOSE dark grey organic silty fine SAND	
11.0	VERY LOOSE to DENSE blue-grey fine SAND with some shell fragments	
20.5	VERY DENSE to FIRM blue-grey fine SAND with some small shell fragments	
22.0	VERY LOOSE blue-grey silty clayey fine SAND	
28.0	VERY FIRM blue-grey fine SAND with small shell fragments	
39.0	VERY SOFT blue-grey clayey SILT	
40.0	LOOSE blue-grey silty clayey	(3)



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

(Page 1 of 3 Pages)

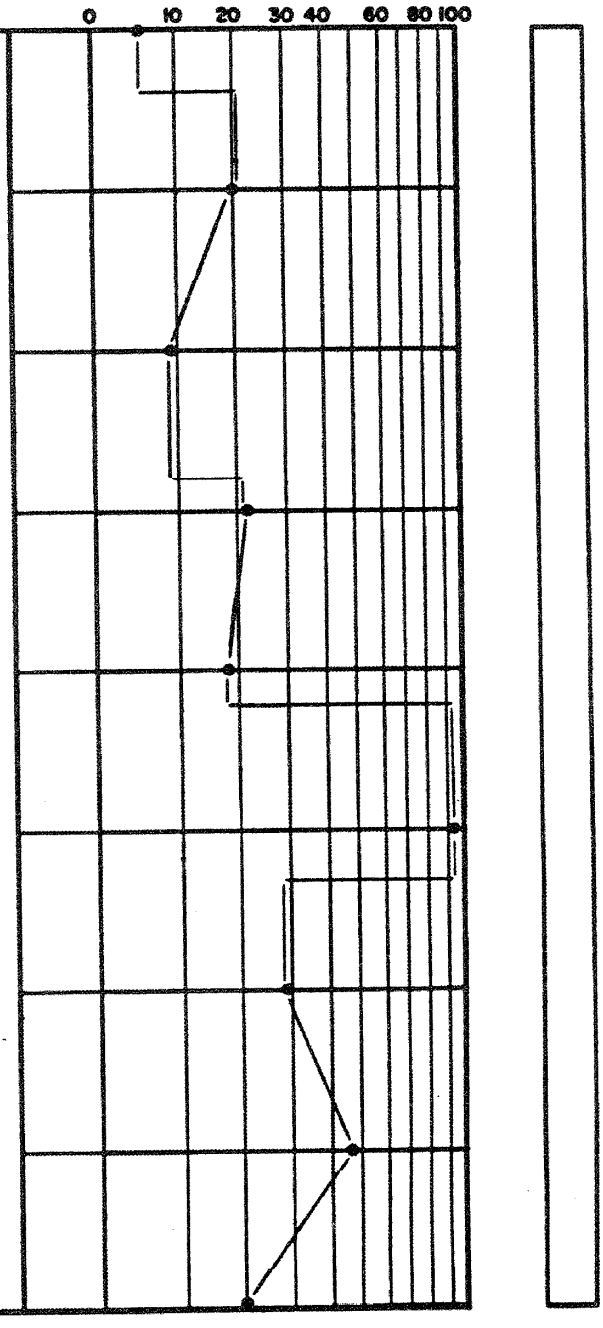
BORING NO. B-172H

DATE DRILLED 1/18/72

JOB NO. J-1540

DEPTH FT.	DESCRIPTION
40.0	LOOSE blue-grey silty clayey fine SAND
42.0	FIRM to LOOSE grey to blue-grey slightly silty to silty fine SAND with cemented fine sand fragments
54.0	VERY FIRM tan cemented fine SAND with quartz fragments & silty fine sand lenses
	FIRM tan slightly silty fine SAND with shell fragments
61.0	VERY DENSE blue-grey fine SAND with small shell fragments
66.5	FIRM to DENSE blue-grey slightly silty fine SAND & SHELL FRAGMENTS & DENSE to VERY DENSE blue-grey slightly silty fine sand LAYERS

ELEV ● PENETRATION-BLOWS PER FT.



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

(Page 2 of 3 Pages)

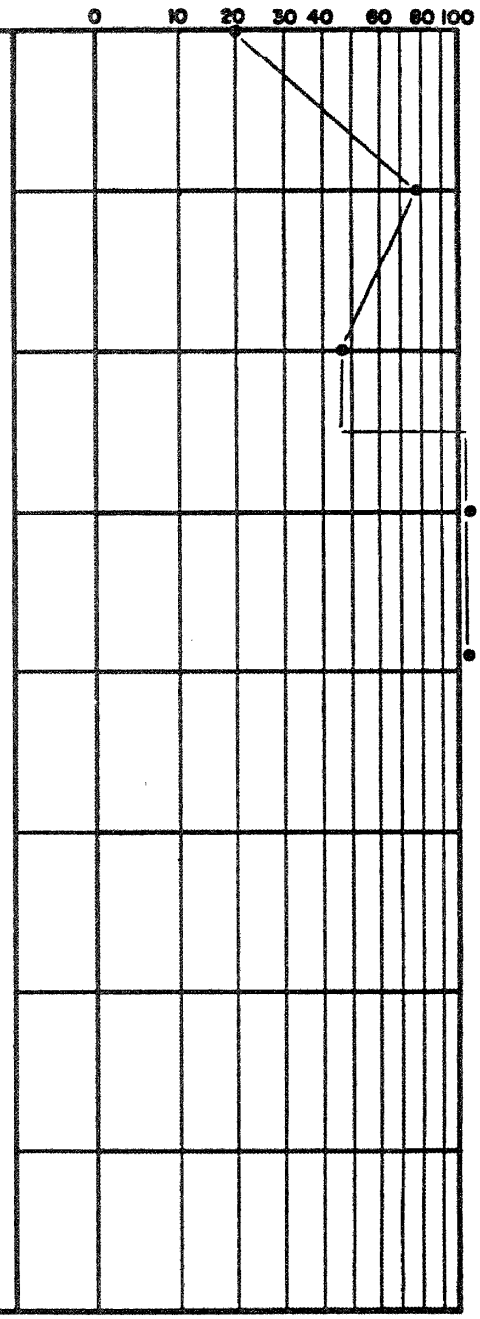
BORING NO. B-172 H

DATE DRILLED 1/18/72

JOB NO. I-1540

DEPTH FT.	DESCRIPTION	ELEV
80.0	FIRM to DENSE blue-grey slightly silty fine SAND & SHELL FRAGMENTS & DENSE to VERY DENSE blue-grey slightly silty fine sand LAYERS	
92.5	VERY DENSE grey slightly silty fine SAND	
100.0	BORING TERMINATED	

(1) shell fragments (Fill)
(2) fine SAND with some shell fragments
(3) fine SAND



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

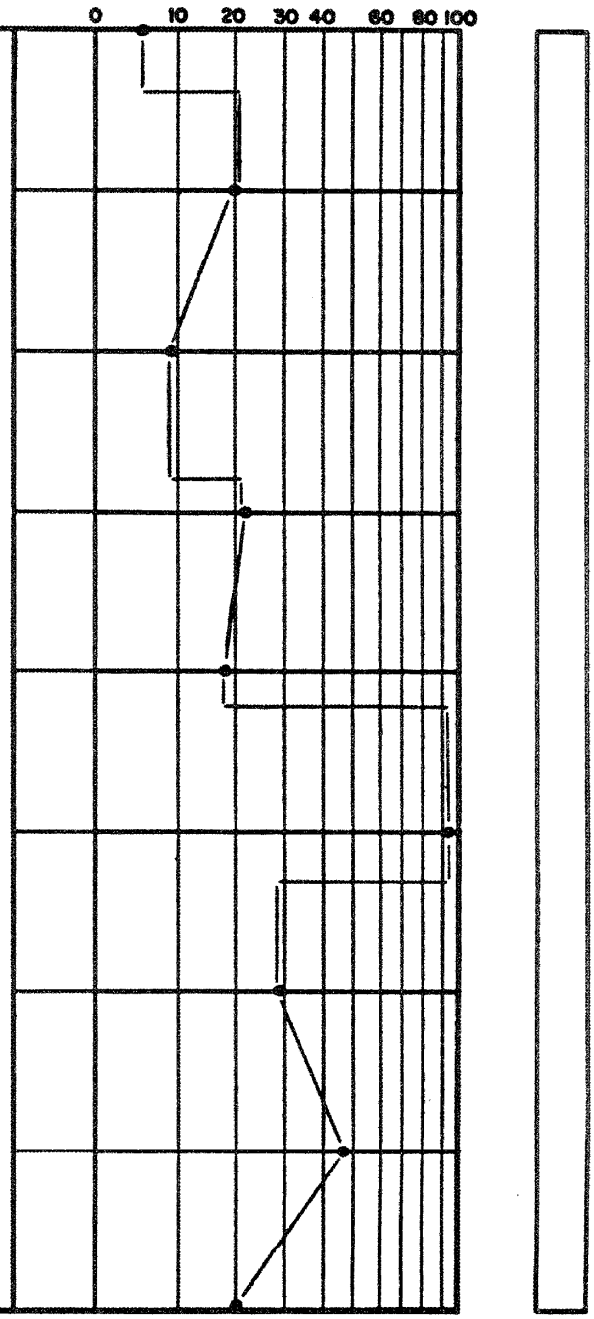
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
| 50 | % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD
(Page 3 of 3 Pages)

BORING NO. B-172H
DATE DRILLED 1/18/72
JOB NO. J-1540

DEPTH FT.	DESCRIPTION	ELEV
40.0	LOOSE blue-grey silty clayey fine SAND	
42.0	FIRM to LOOSE grey to blue-grey slightly silty to silty fine SAND with cemented fine sand fragments	
54.0	VERY FIRM tan cemented fine SAND with quartz fragments & silty fine sand lenses	
	FIRM tan slightly silty fine SAND with shell fragments	
61.0	VERY DENSE blue-grey fine SAND with small shell fragments	
66.5	FIRM to DENSE blue-grey slightly silty fine SAND & SHELL FRAGMENTS & DENSE to VERY DENSE blue-grey slightly silty fine sand LAYERS	



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

(Page 2 of 3 Pages)

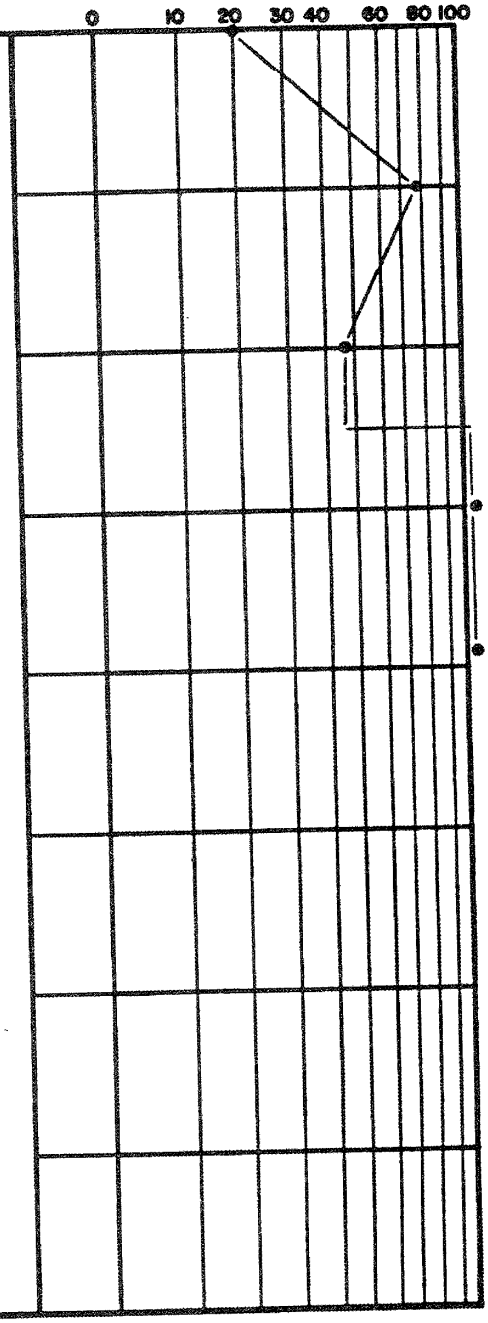
BORING NO. B-172 H

DATE DRILLED 1/18/72

JOB NO. I-1540

DEPTH FT.	DESCRIPTION	ELEV
80.0	FIRM to DENSE blue-grey slightly silty fine SAND & SHELL FRAGMENTS & DENSE to VERY DENSE blue-grey slightly silty fine sand LAYERS	
92.5	VERY DENSE grey slightly silty fine SAND	
100.0	BORING TERMINATED	

(1) shell fragments (Fill)
(2) fine SAND with some shell fragments
(3) fine SAND



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

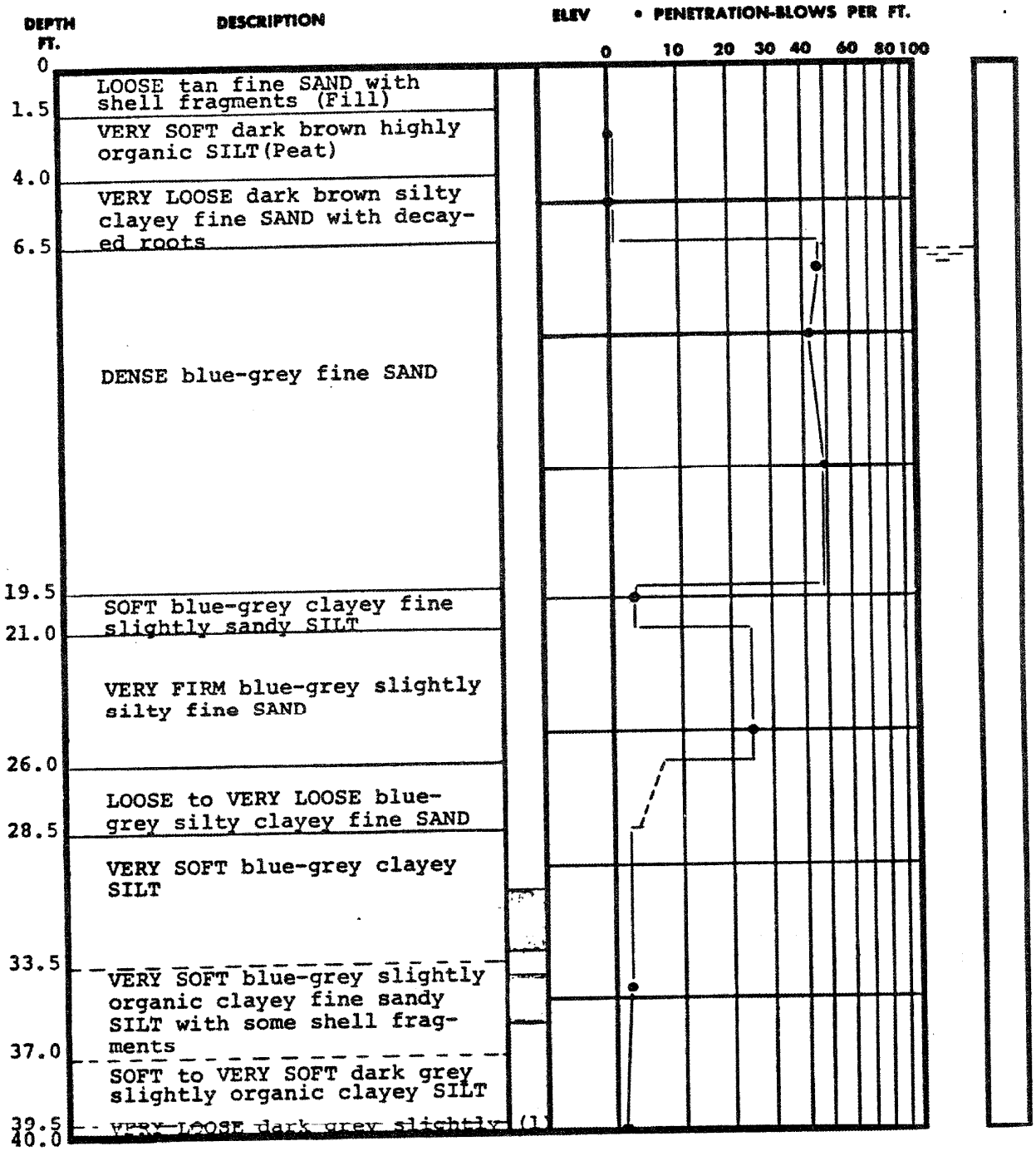
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD
(Page 3 of 3 Pages)

BORING NO. B-172 H
DATE DRILLED 1/18/72
JOB NO. J-1540



TEST BORING RECORD

(Page 1 of 3 Pages)

BORING NO. B-173 H

DATE DRILLED 1/22,24/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

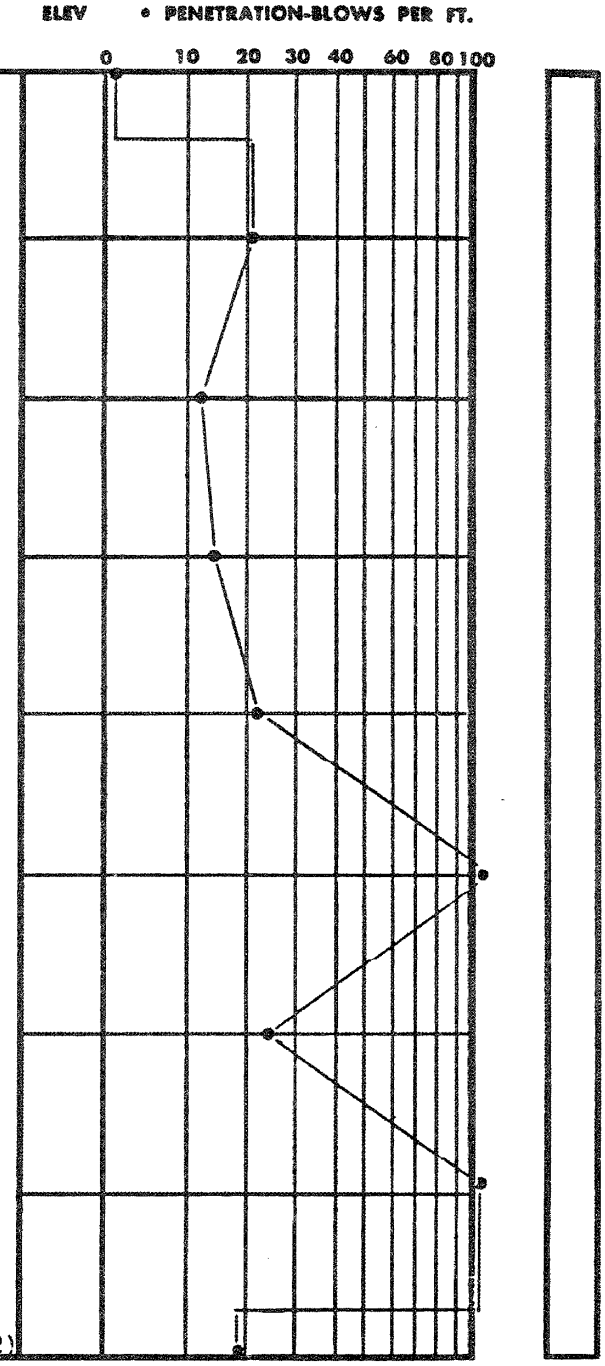
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
40.0		
	VERY LOOSE dark grey slightly organic silty clayey fine SAND	
42.0		
	VERY FIRM grey slightly silty fine SAND with small cemented fine sand fragments	
48.5		
	FIRM blue-grey silty fine SAND & cemented fine sand SEAMS	
58.5		
	FIRM to VERY DENSE blue-grey slightly silty and very slightly silty fine SAND with shell fragments	
71.0		
	DENSE to VERY DENSE blue-grey fine SAND	
78.5		
	FIRM blue-grey slightly silty fine SAND with shell	(2)
80.0		



TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-173 H

DATE DRILLED 1/22,24/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

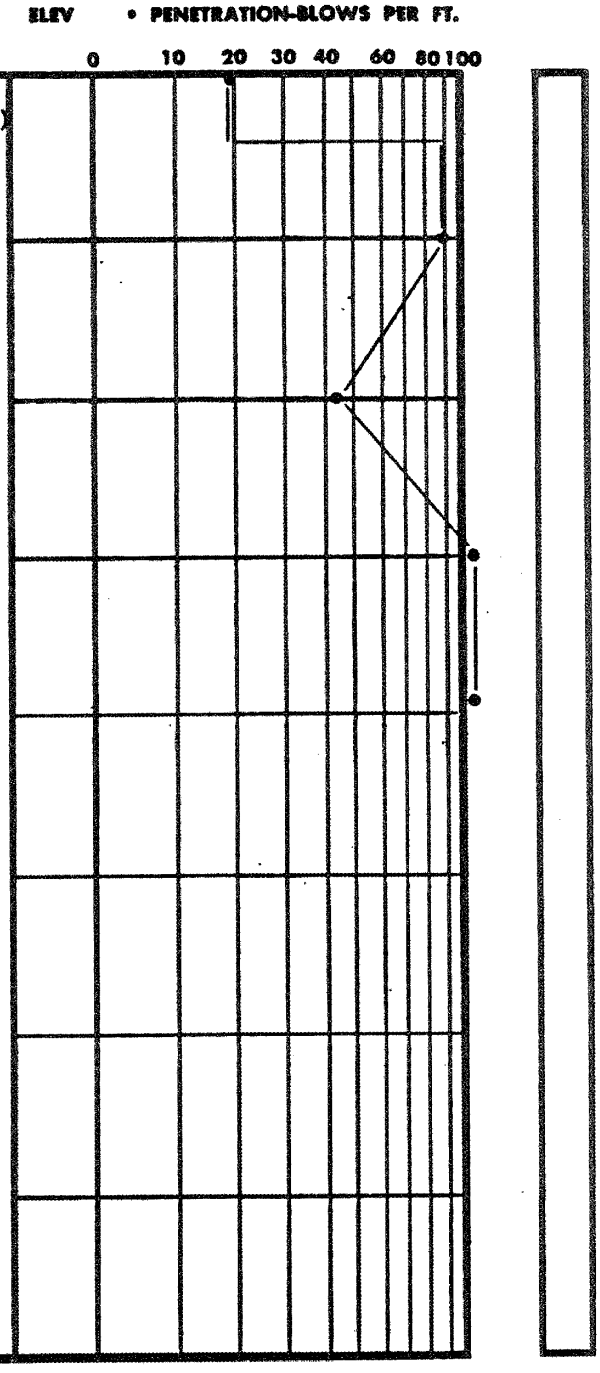
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
80.0	FIRM blue-grey slightly silty fine SAND with shell (3)	
82.0	VERY DENSE blue-grey slightly silty fine SAND	
88.0	DENSE blue-grey slightly silty fine SAND & SHELL FRAGMENTS	
93.0	VERY DENSE grey slightly silty fine SAND	
100.0	BORING TERMINATED	

(1) organic silty clayey fine SAND
(2) fragments & cemented fine sand fragments
(3) fragments & cemented fine sand fragments



TEST BORING RECORD

(Page 3 of 3 Pages)

BORING NO. B-173 H

DATE DRILLED 1/22,24/72

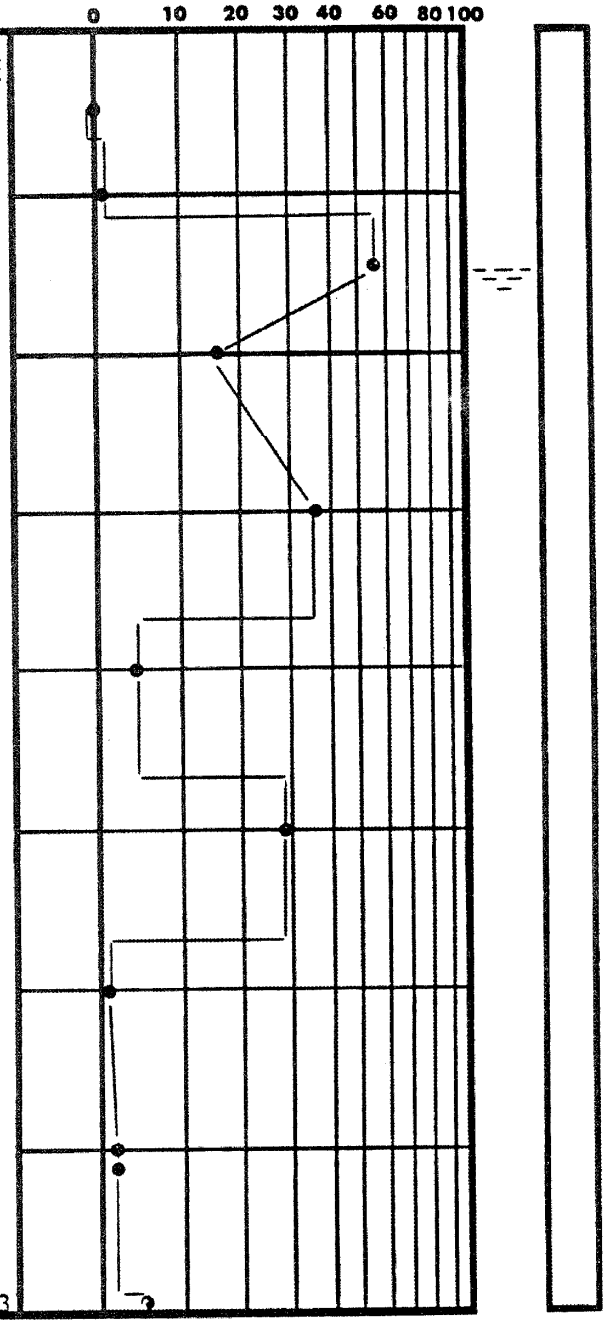
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.
UNDISTURBED SAMPLE
WATER TABLE, 1 HR.
% ROCK CORE RECOVERY
LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
0		
1.0	VERY LOOSE tan fine SAND with	(1
1.5	VERY LOOSE blue-grey silty	(2
	VERY SOFT dark brown highly organic SILT (Peat)	
3.5		
	VERY LOOSE grey slightly organic silty fine SAND with clayey silt seams	
6.0		
	FIRM to VERY DENSE blue-grey fine SAND with shell fragments	
18.5		
	SOFT blue-grey clayey SILT	
23.5		
	VERY FIRM blue-grey slightly silty fine SAND	
28.5		
	VERY SOFT blue-grey clayey fine slightly sandy SILT with some shell fragments	
32.0		
	VERY SOFT blue-grey clayey SILT	
35.0		
	VERY SOFT blue-grey clayey fine sandy SILT	
39.5		
40.0	LOOSE blue-grey silty	(3



TEST BORING RECORD

(Page 1 of 3 Pages)

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

BORING NO. B-174 H

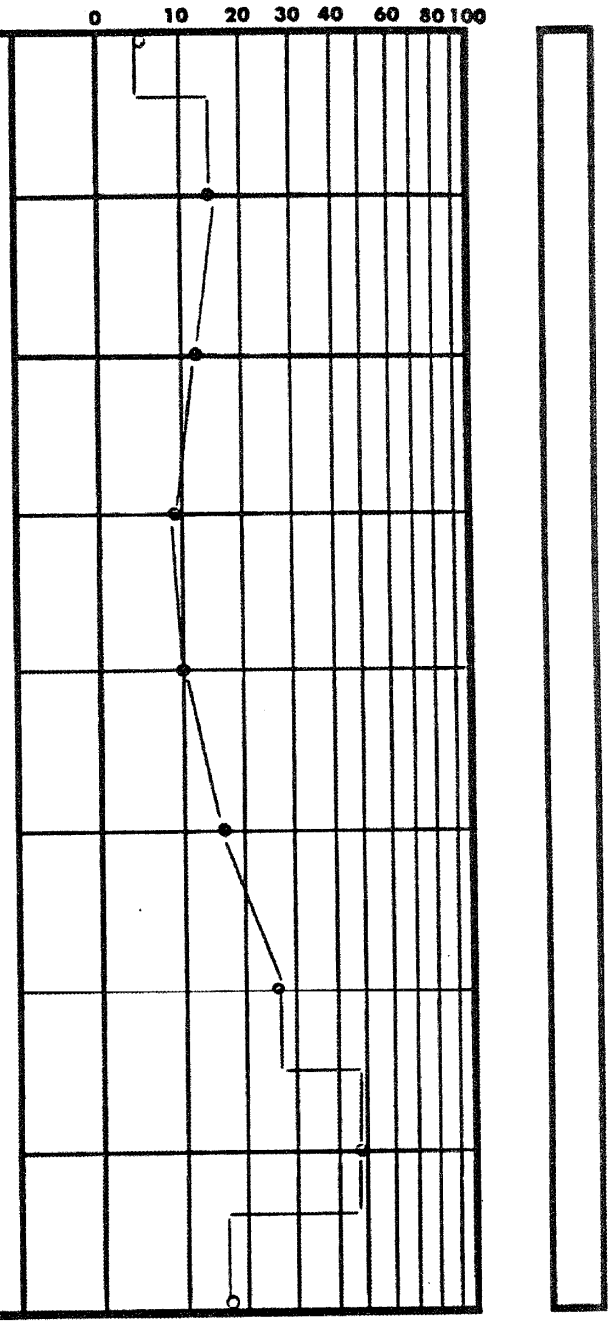
DATE DRILLED 1/18,19/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION
40.0	LOOSE blue-grey silty slightly clayey fine SAND
42.0	FIRM grey slightly silty fine SAND with some cemented fine sand fragments
48.0	FIRM grey cemented fine SAND, SHELL & QUARTZ with silty fine sand lenses
51.0	LOOSE tan cemented fine SAND with fine sandy silt seams
63.5	FIRM to VERY FIRM tan partially cemented silty fine SAND
72.5	DENSE grey slightly silty fine SAND
77.0	FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS
80.0	

ELEV



TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-174 A

DATE DRILLED 1/18,19/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

WATER TABLE, 24 HR.

UNDISTURBED SAMPLE

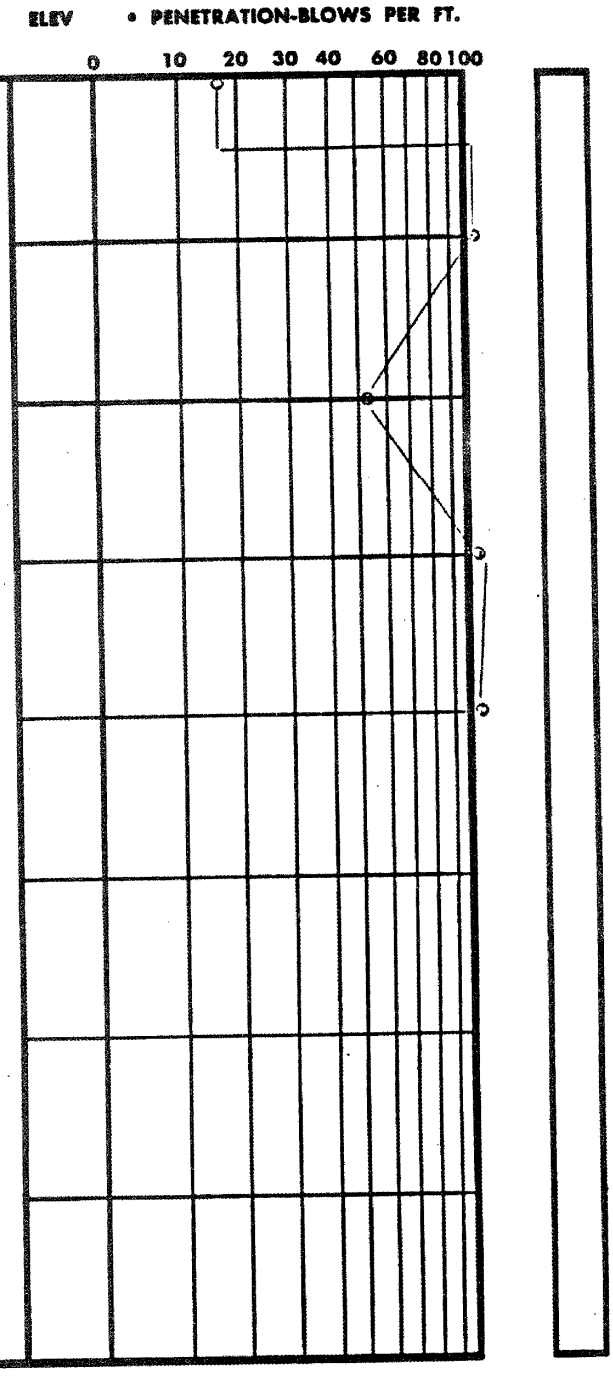
WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
80.0	FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS	
82.5	VERY DENSE blue-grey slightly silty fine SAND	
87.0	VERY DENSE blue-grey slightly silty fine SAND with shell fragments	
91.5	VERY DENSE grey slightly silty fine SAND	
100.0	BORING TERMINATED	

(1) shell fragments (Fill)
(2) clayey fine SAND
(3) slightly clayey fine SAND



TEST BORING RECORD

(Page 3 of 3 Pages)

BORING NO. B-174 H

DATE DRILLED 1/18,19/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DESCRIPTION	ELEV	● PENETRATION-BLOWS PER FT. 0 10 20 30 40 60 80 100
DEPTH FT. 60.0		
DENSE blue-grey slightly silty fine SAND & layers of slightly silty fine SAND with shell fragments 83.5		
VERY DENSE blue-grey slightly silty fine SAND with shell fragments 93.5		
VERY DENSE blue-grey to grey slightly silty fine SAND 100.0		
BORING TERMINATED		
(1) shell fragments (Fill) (2) SILT (Peat) (3) SAND with shell fragments (4) fragments (5) SAND (6) VERY DENSE blue-grey cemented fine SAND, SHELL FRAGMENTS & QUARTZ (7) slightly silty fine SAND with shell fragments		

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

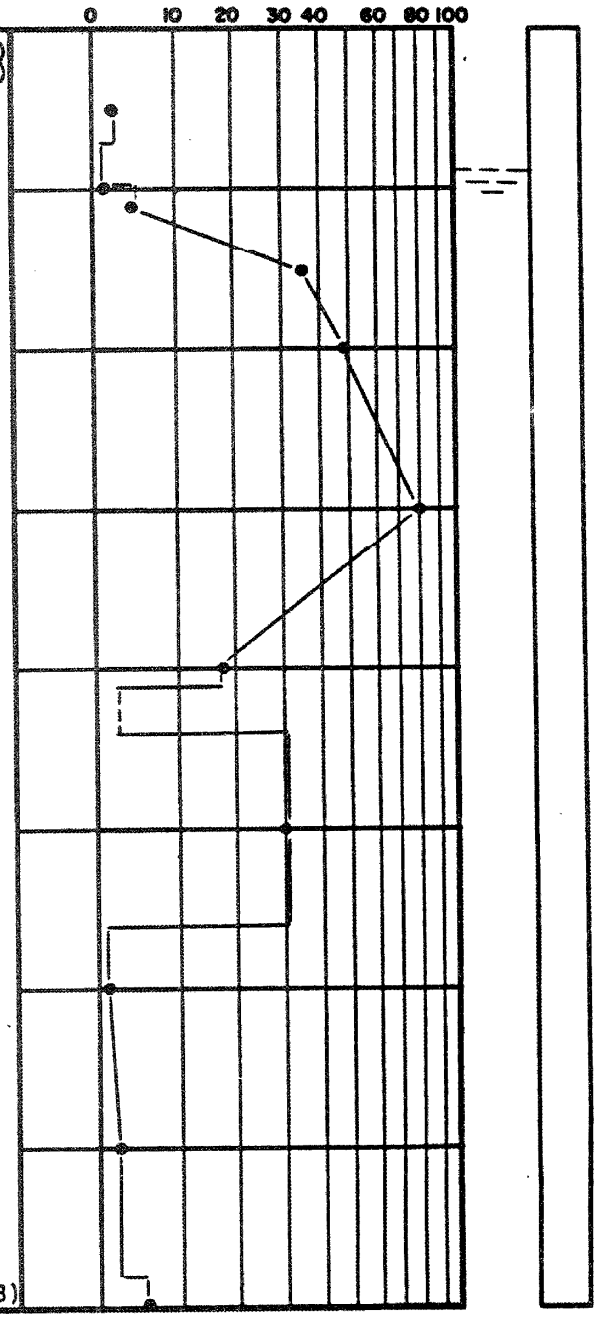
UNDISTURBED SAMPLE
30 % ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

TEST BORING RECORD

(Page 3 of 3 Pages)

BORING NO. B-171
DATE DRILLED 1/15-17/72
JOB NO. J-1540

DEPTH FT.	DESCRIPTION	ELEV
0		
1.0	LOOSE tan fine SAND with	(1)
1.5	VERY LOOSE blue-grey silty	(2)
3.5	VERY SOFT dark brown highly organic SILT (Peat)	
5.0	VERY LOOSE dark grey organic silty fine SAND	
11.0	VERY LOOSE to DENSE blue-grey fine SAND with some shell fragments	
20.5	VERY DENSE to FIRM blue-grey fine SAND with some small shell fragments	
22.0	VERY LOOSE blue-grey silty clayey fine SAND	
28.0	VERY FIRM blue-grey fine SAND with small shell fragments	
39.0	VERY SOFT blue-grey clayey SILT	
40.0	LOOSE blue-grey silty clayey	(3)



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

50 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

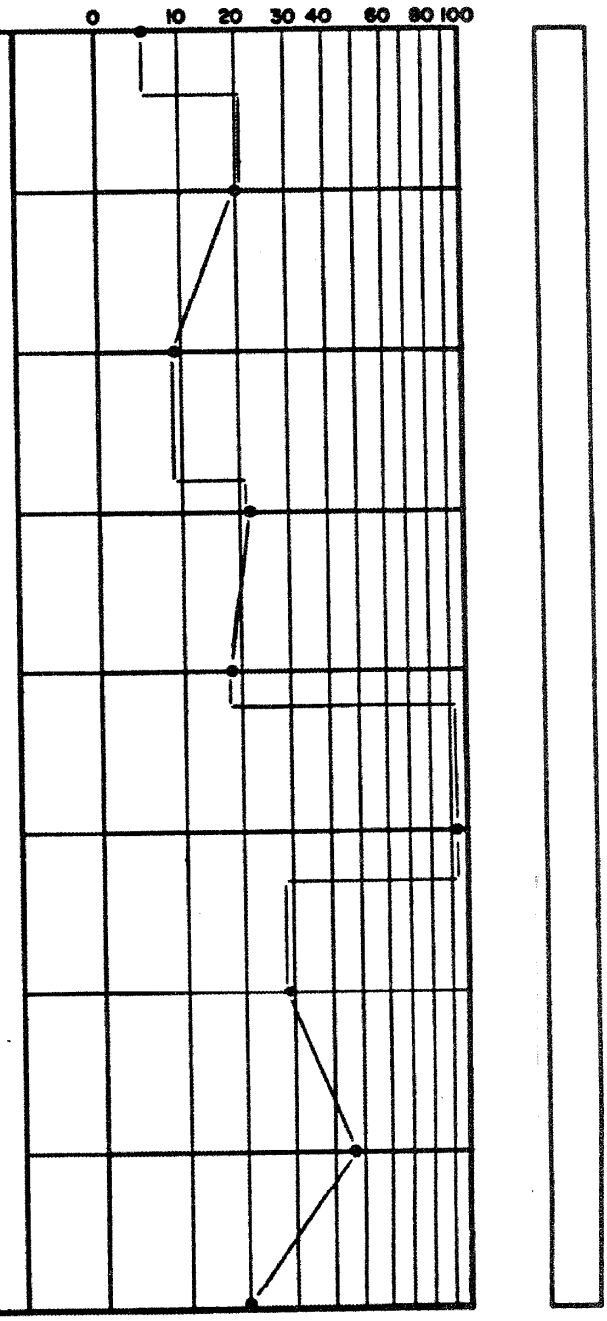
(Page 1 of 3 Pages)

BORING NO. B-172H

DATE DRILLED 1/18/72

JOB NO. J-1540

DEPTH FT.	DESCRIPTION	ELEV
40.0	LOOSE blue-grey silty clayey fine SAND	
42.0	FIRM to LOOSE grey to blue-grey slightly silty to silty fine SAND with cemented fine sand fragments	
54.0	VERY FIRM tan cemented fine SAND with quartz fragments & silty fine sand lenses	
	FIRM tan slightly silty fine SAND with shell fragments	
61.0	VERY DENSE blue-grey fine SAND with small shell fragments	
66.5	FIRM to DENSE blue-grey slightly silty fine SAND & SHELL FRAGMENTS & DENSE to VERY DENSE blue-grey slightly silty fine sand LAYERS	



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

30 % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

TEST BORING RECORD

(Page 2 of 3 Pages)

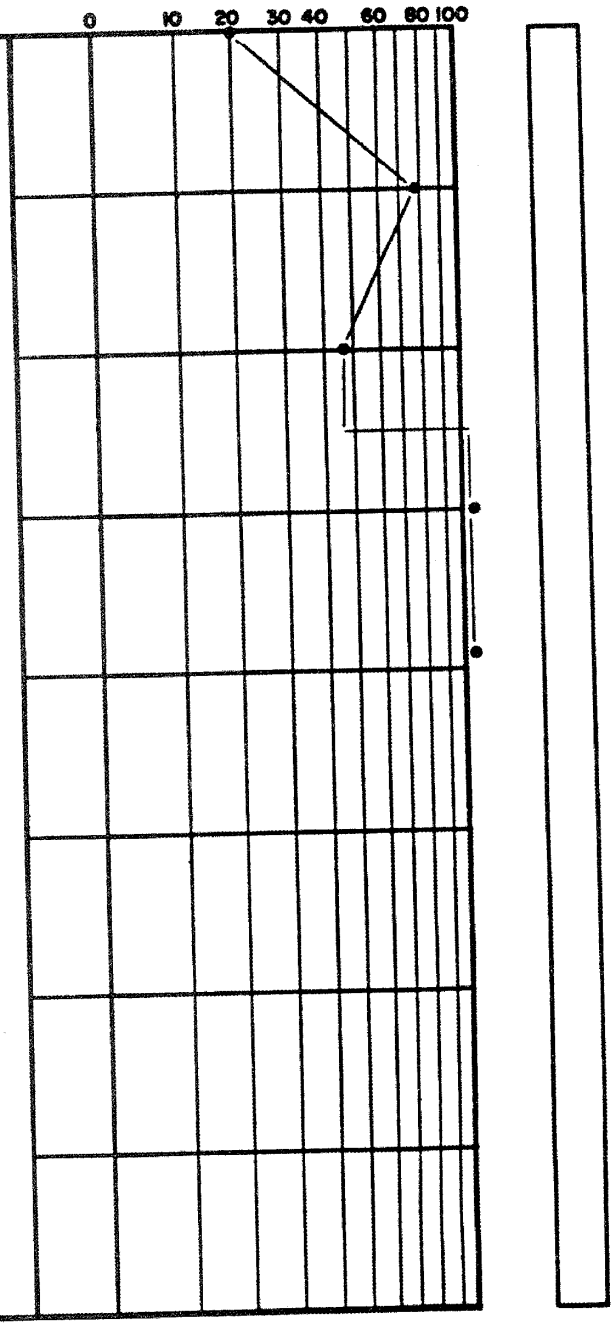
BORING NO. B-172 H

DATE DRILLED 1/18/72

JOB NO. T-1540

DEPTH FT.	DESCRIPTION	ELEV
80.0	FIRM to DENSE blue-grey slightly silty fine SAND & SHELL FRAGMENTS & DENSE to VERY DENSE blue-grey slightly silty fine sand LAYERS	
92.5	VERY DENSE grey slightly silty fine SAND	
100.0	BORING TERMINATED	

(1) shell fragments (Fill)
(2) fine SAND with some shell fragments
(3) fine SAND



BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

| 50 | % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

◀ LOSS OF DRILLING WATER

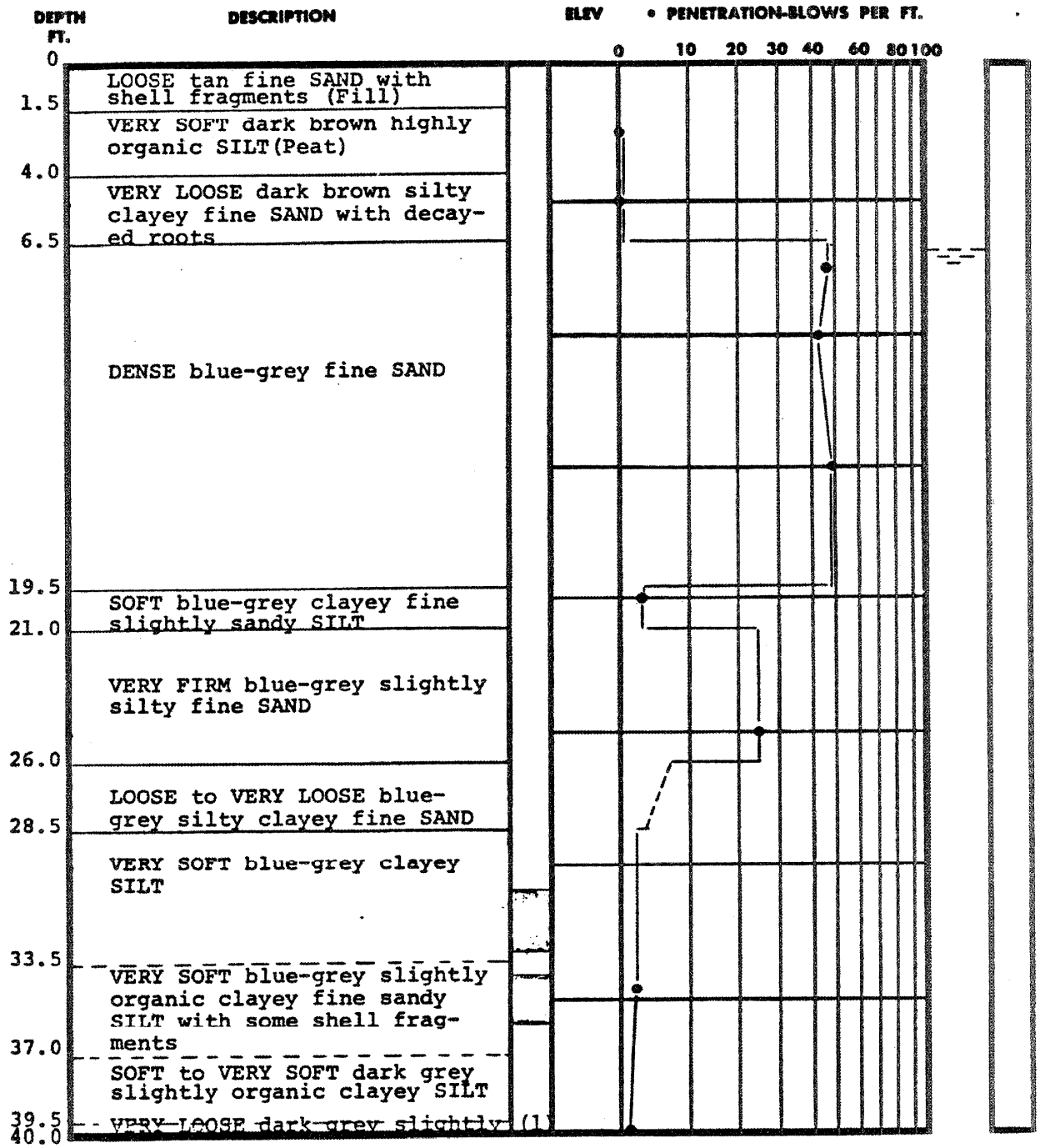
TEST BORING RECORD

(Page 3 of 3 Pages)

BORING NO. B-172 H

DATE DRILLED 1/18/72

JOB NO. J-1540



TEST BORING RECORD

(Page 1 of 3 Pages)

BORING NO. B-173 H

DATE DRILLED 1/22,24/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

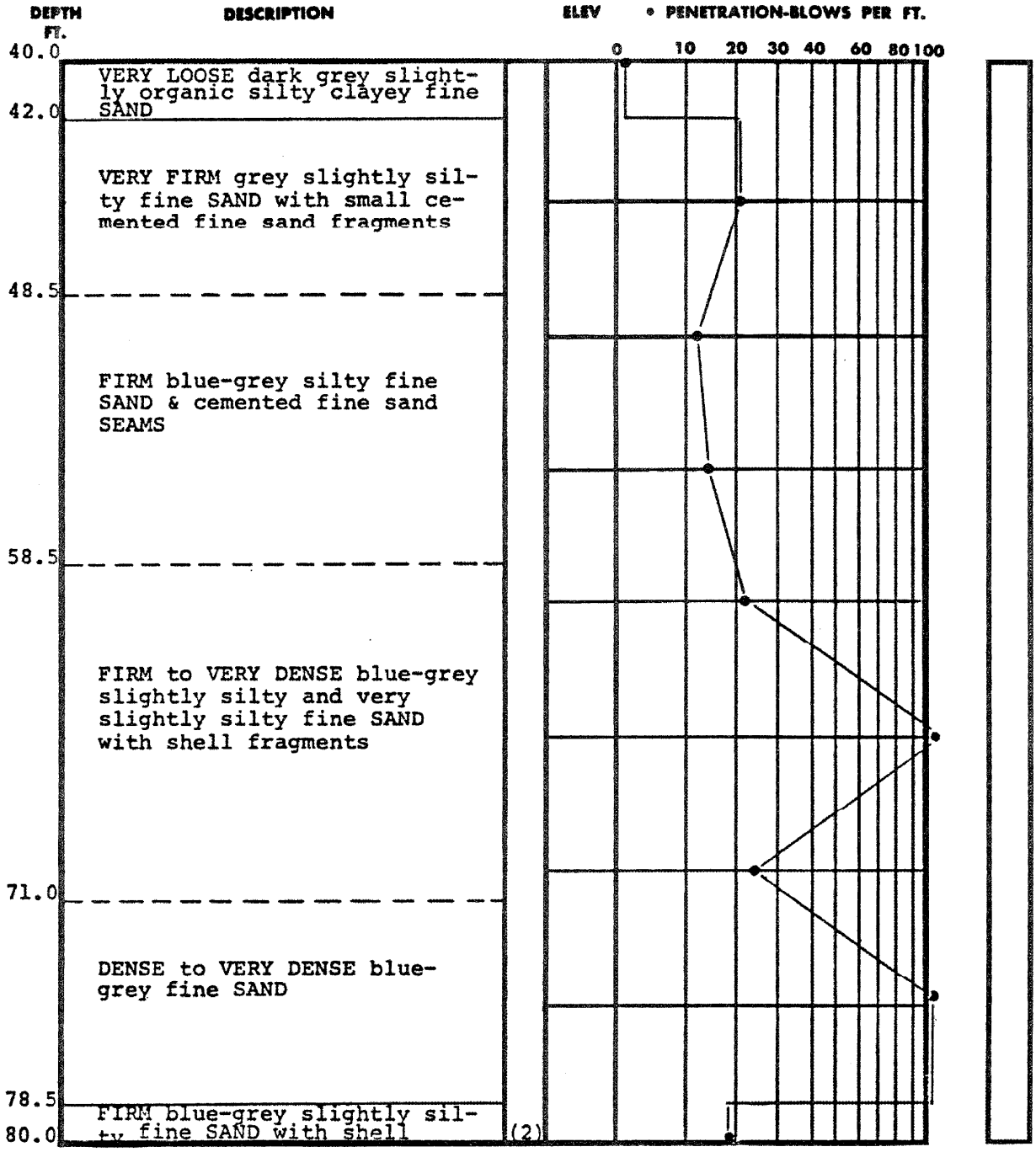
% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
40.0	VERY LOOSE dark grey slightly organic silty clayey fine SAND	
42.0	VERY FIRM grey slightly silty fine SAND with small cemented fine sand fragments	
48.5	FIRM blue-grey silty fine SAND & cemented fine sand SEAMS	
58.5	FIRM to VERY DENSE blue-grey slightly silty and very slightly silty fine SAND with shell fragments	
71.0	DENSE to VERY DENSE blue-grey fine SAND	
78.5	FIRM blue-grey slightly silty fine SAND with shell	
80.0		



TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-173 H

DATE DRILLED 1/22,24/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

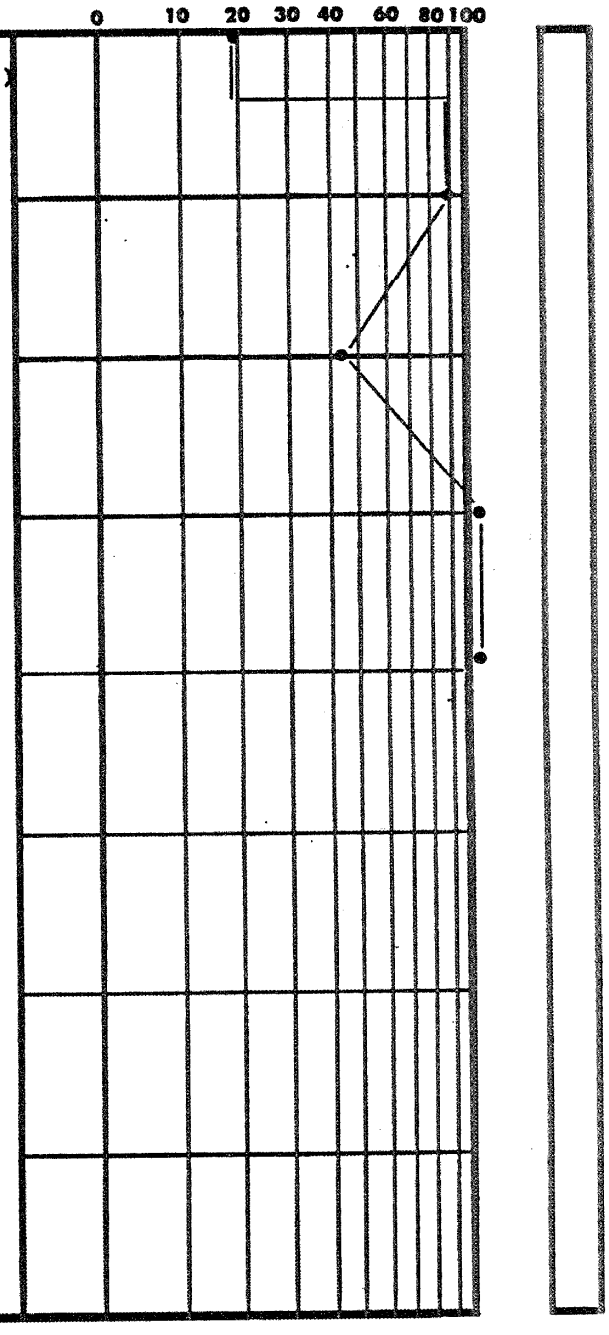
WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
80.0	FIRM blue-grey slightly silty fine SAND with shell	(3)
82.0	VERY DENSE blue-grey slightly silty fine SAND	
88.0	DENSE blue-grey slightly silty fine SAND & SHELL FRAGMENTS	
93.0	VERY DENSE grey slightly silty fine SAND	
100.0	BORING TERMINATED	

(1) organic silty clayey fine SAND
(2) fragments & cemented fine sand fragments
(3) fragments & cemented fine sand fragments

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 3 of 3 Pages)

BORING NO. B-173 H

DATE DRILLED 1/22,24/72

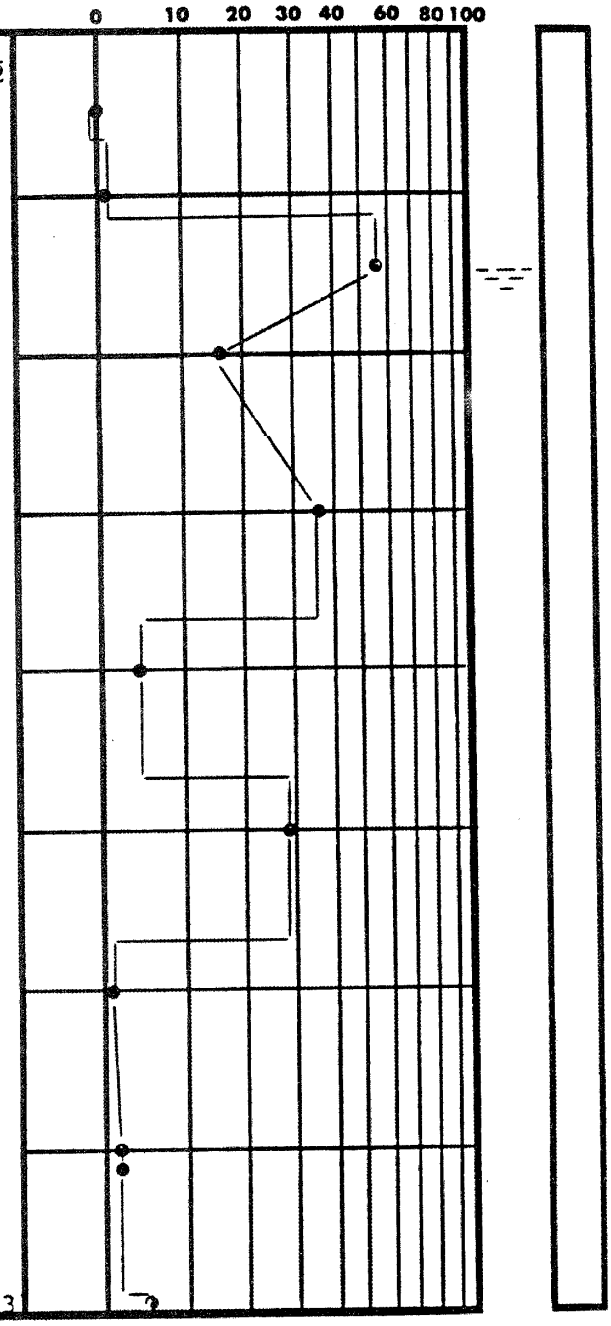
JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE
% ROCK CORE RECOVERY
WATER TABLE, 24 HR.
WATER TABLE, 1 HR.
LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION	ELEV
0		
1.0	VERY LOOSE tan fine SAND with	(1
1.5	VERY LOOSE blue-grey silty	(2
	VERY SOFT dark brown highly organic SILT (Peat)	
3.5	VERY LOOSE grey slightly organic silty fine SAND with clayey silt seams	
6.0	FIRM to VERY DENSE blue-grey fine SAND with shell fragments	
18.5	SOFT blue-grey clayey SILT	
23.5	VERY FIRM blue-grey slightly silty fine SAND	
28.5	VERY SOFT blue-grey clayey fine slightly sandy SILT with some shell fragments	
32.0	VERY SOFT blue-grey clayey SILT	
35.0	VERY SOFT blue-grey clayey fine sandy SILT	
39.5	LOOSE blue-grey silty	(3
40.0		



TEST BORING RECORD

(Page 1 of 3 Pages)

BORING NO. B-174 H

DATE DRILLED 1/18,19/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

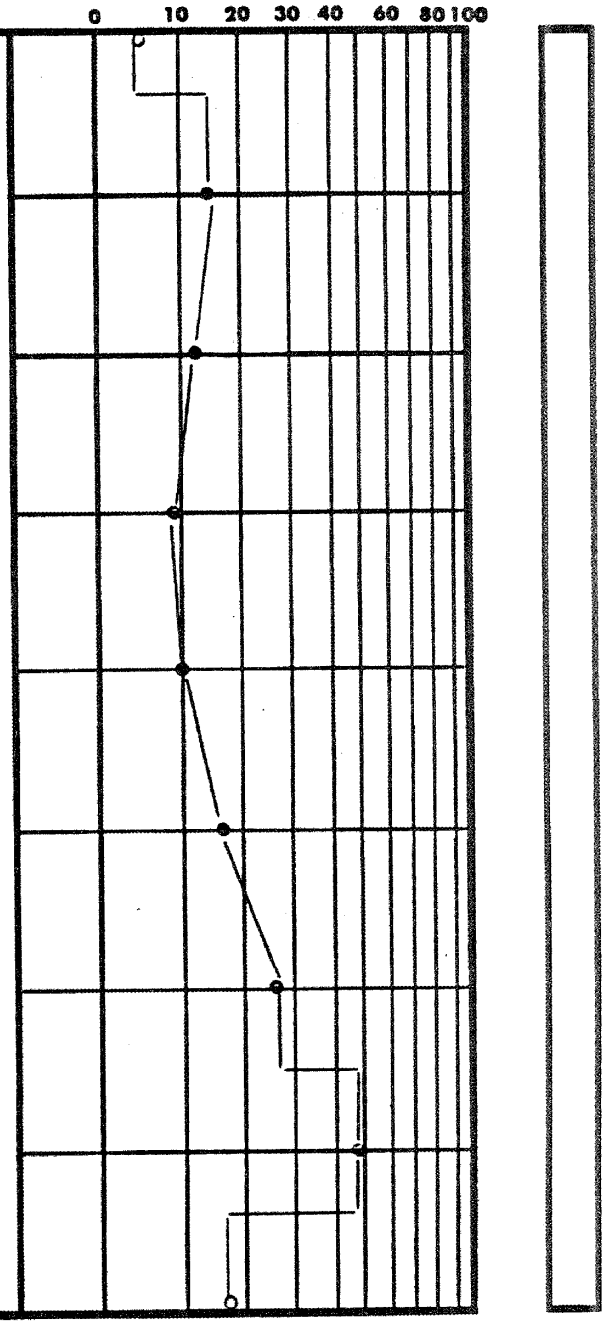
WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

DEPTH FT.	DESCRIPTION
40.0	
42.0	LOOSE blue-grey silty slightly clayey fine SAND
	FIRM grey slightly silty fine SAND with some cemented fine sand fragments
48.0	FIRM grey cemented fine SAND, SHELL & QUARTZ with silty fine sand lenses
51.0	
	LOOSE tan cemented fine SAND with fine sandy silt seams
63.5	
	FIRM to VERY FIRM tan partially cemented silty fine SAND
72.5	
	DENSE grey slightly silty fine SAND
77.0	
	FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS
80.0	

ELEV

• PENETRATION-BLOWS PER FT.



TEST BORING RECORD

(Page 2 of 3 Pages)

BORING NO. B-174 /

DATE DRILLED 1/18,19/72

JOB NO. J-1540

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

% ROCK CORE RECOVERY

WATER TABLE, 24 HR.

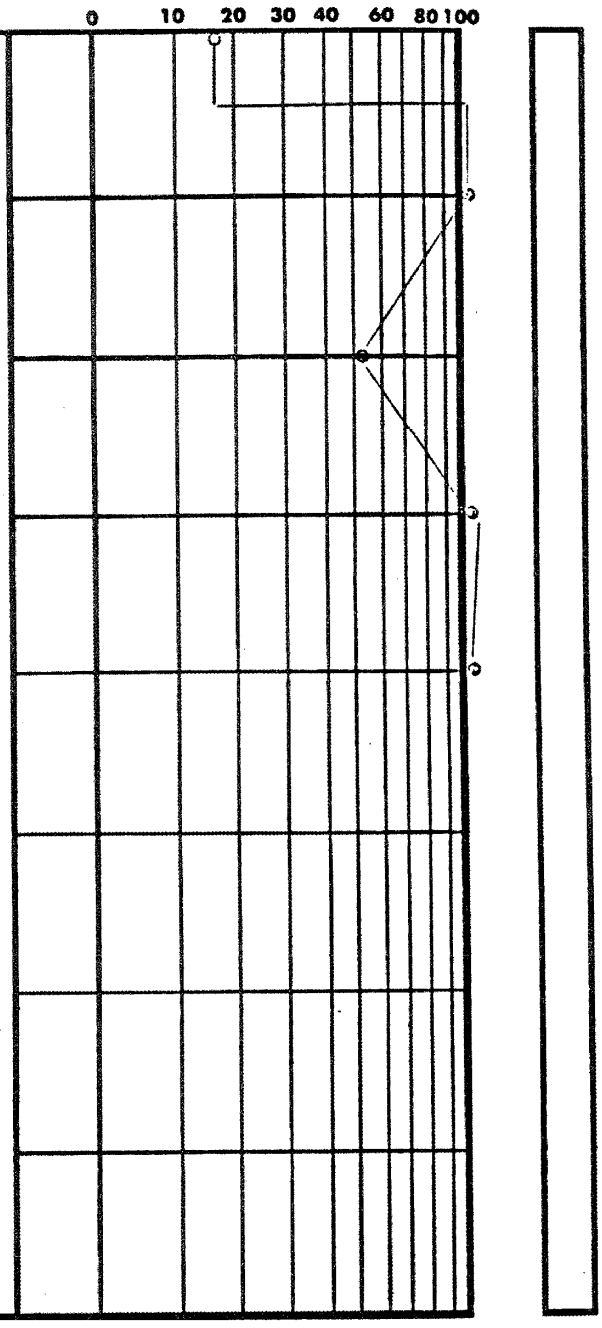
WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV
80.0	FIRM blue-grey slightly silty fine SAND & SHELL FRAGMENTS	
82.5	VERY DENSE blue-grey slightly silty fine SAND	
87.0	VERY DENSE blue-grey slightly silty fine SAND with shell fragments	
91.5	VERY DENSE grey slightly silty fine SAND	
100.0	BORING TERMINATED	

(1) shell fragments (Fill)
(2) clayey fine SAND
(3) slightly clayey fine SAND



TEST BORING RECORD

(Page 3 of 3 Pages)

BORING NO. B-174 H

DATE DRILLED 1/18,19/72

JOB NO. J-1540

LAW ENGINEERING TESTING CO.

BORING AND SAMPLING MEETS ASTM D-1586
CORE DRILLING MEETS ASTM D-2113
PENETRATION IS THE NUMBER OF BLOWS OF 140 LB. HAMMER FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

UNDISTURBED SAMPLE

|50| % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

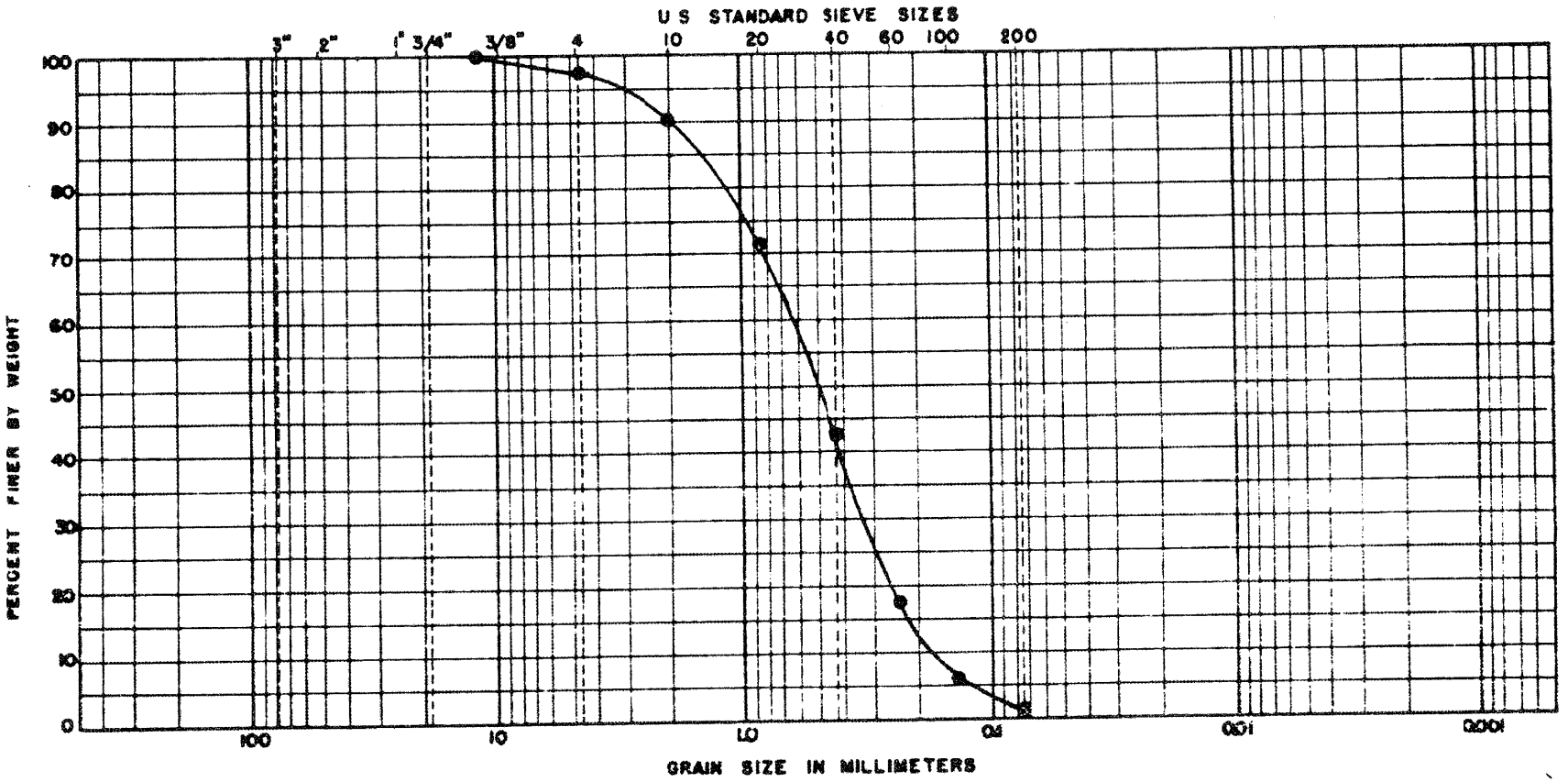
WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

APPENDIX 2.5A

SECTION 2

UPPER ZONE
(0-60 FT)



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

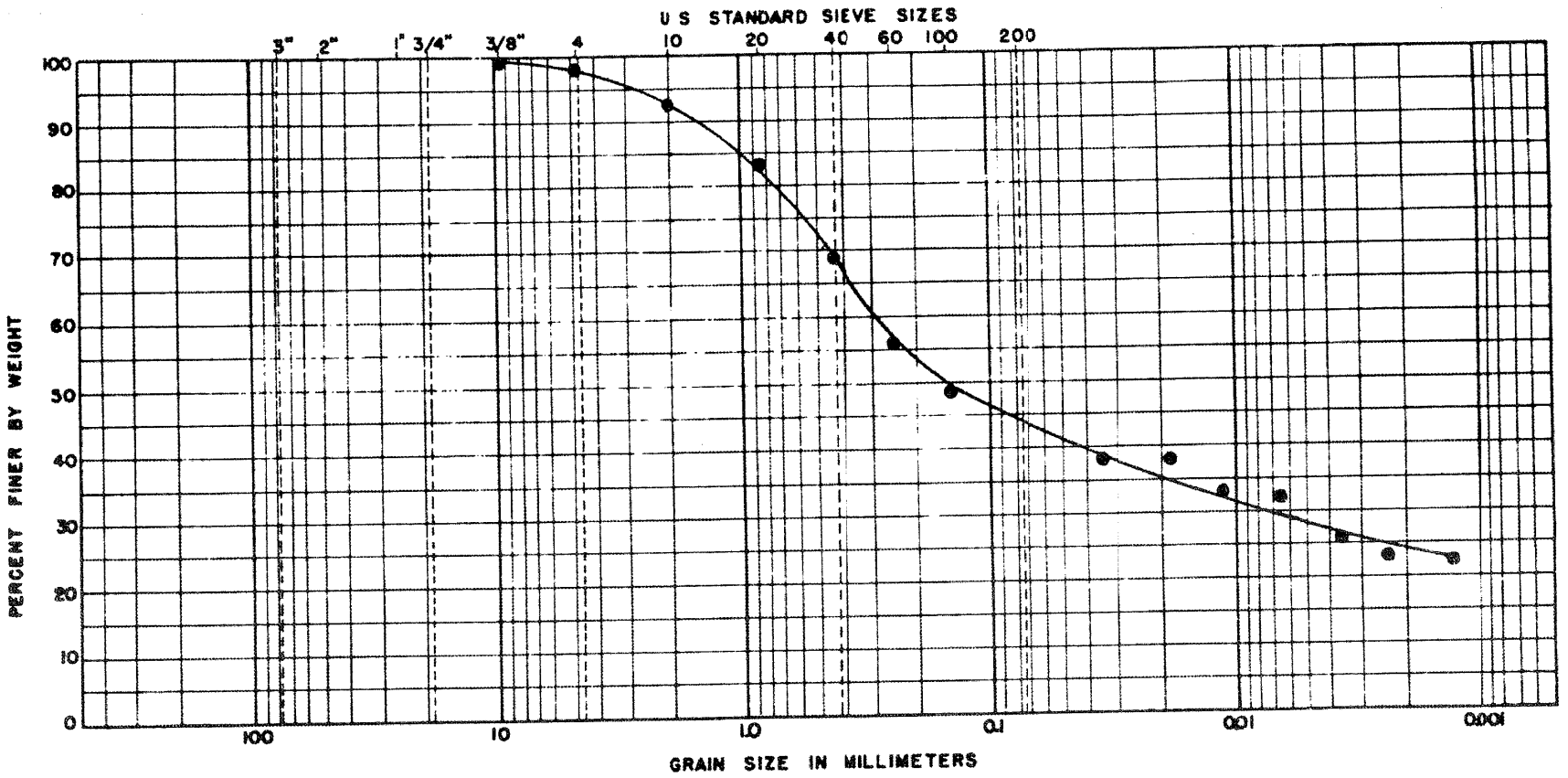
BORING NO	~~ELEV~~ OR DEPTH	NAT WC	L L	PL	P I	DESCRIPTION OR CLASSIFICATION
B-1	15'-17'					GRAY SHELLS (MEDIUM TO COARSE SAND SIZE) AND FINE TO MEDIUM SAND UNIFIED SOIL CLASSIFICATION: SP

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY

3S



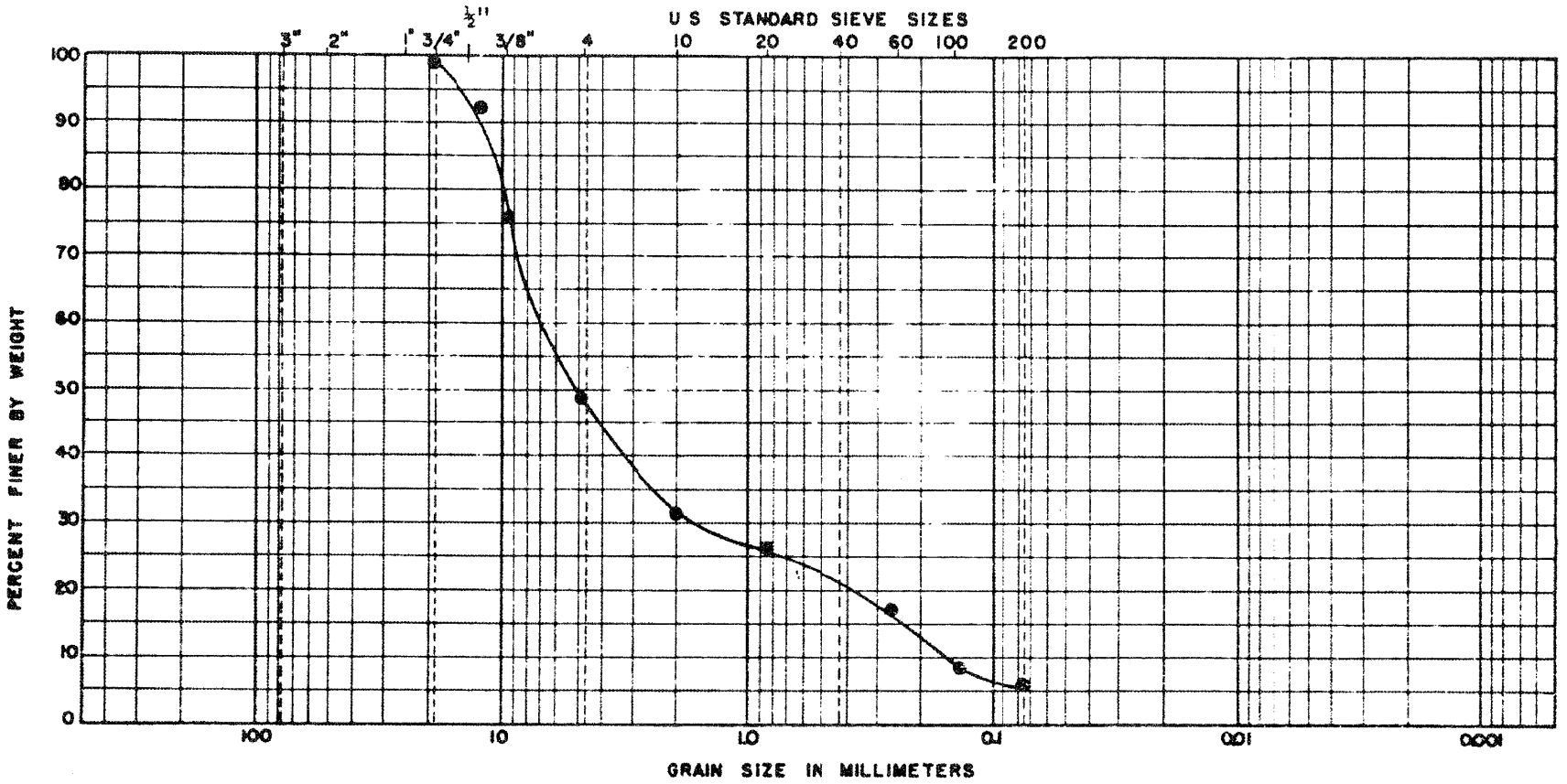
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-1	30' — 31.5'					Light gray silty clayey fine to coarse sand W/highly fragmented shells (sand size)

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



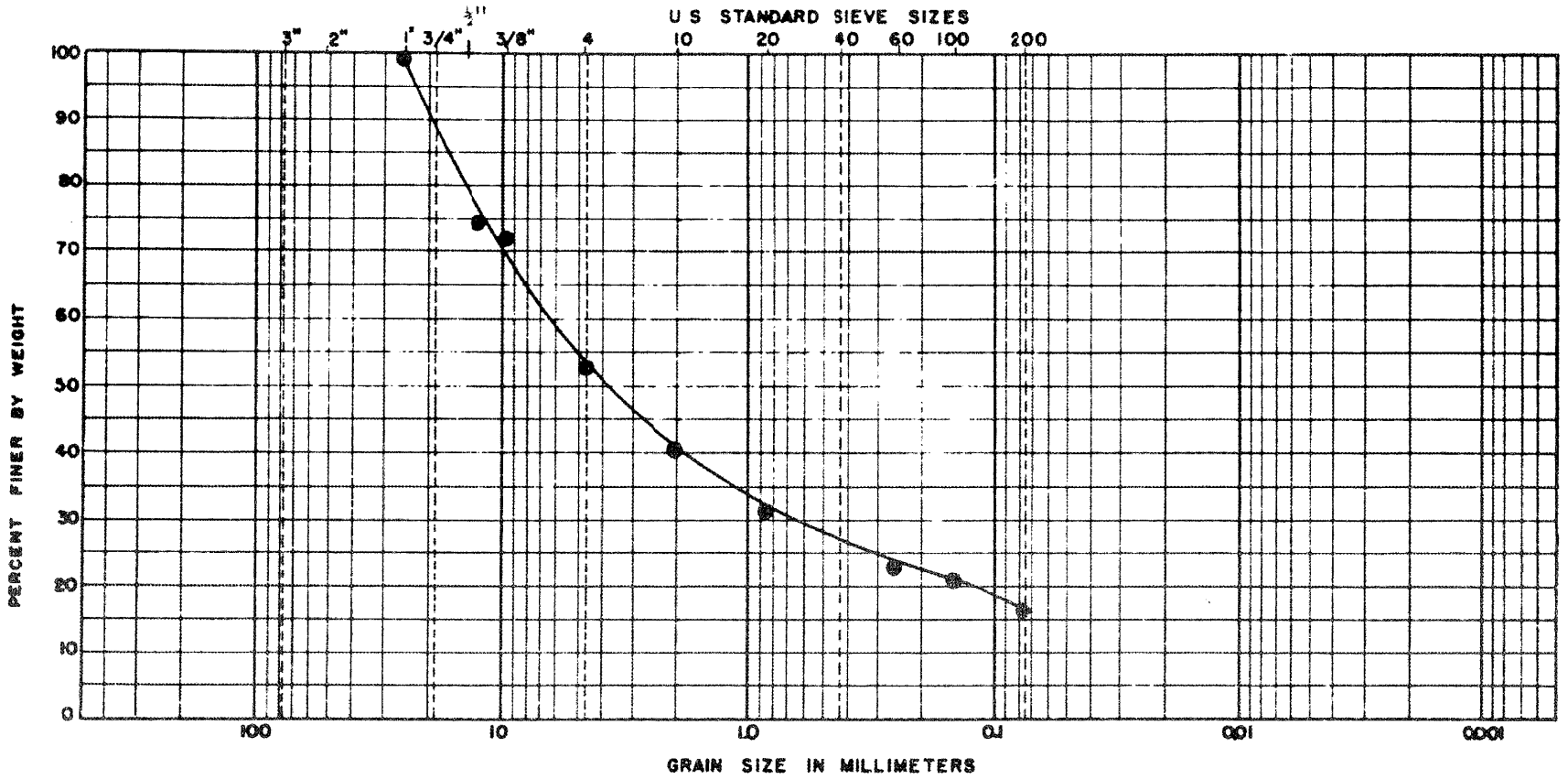
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
B-1	40' — 42'					Light brown coarse to fine sandy fine gravel (limestone nodules W/shell inclusions), trace silt and clay. Unified soil classification: GW - GM

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



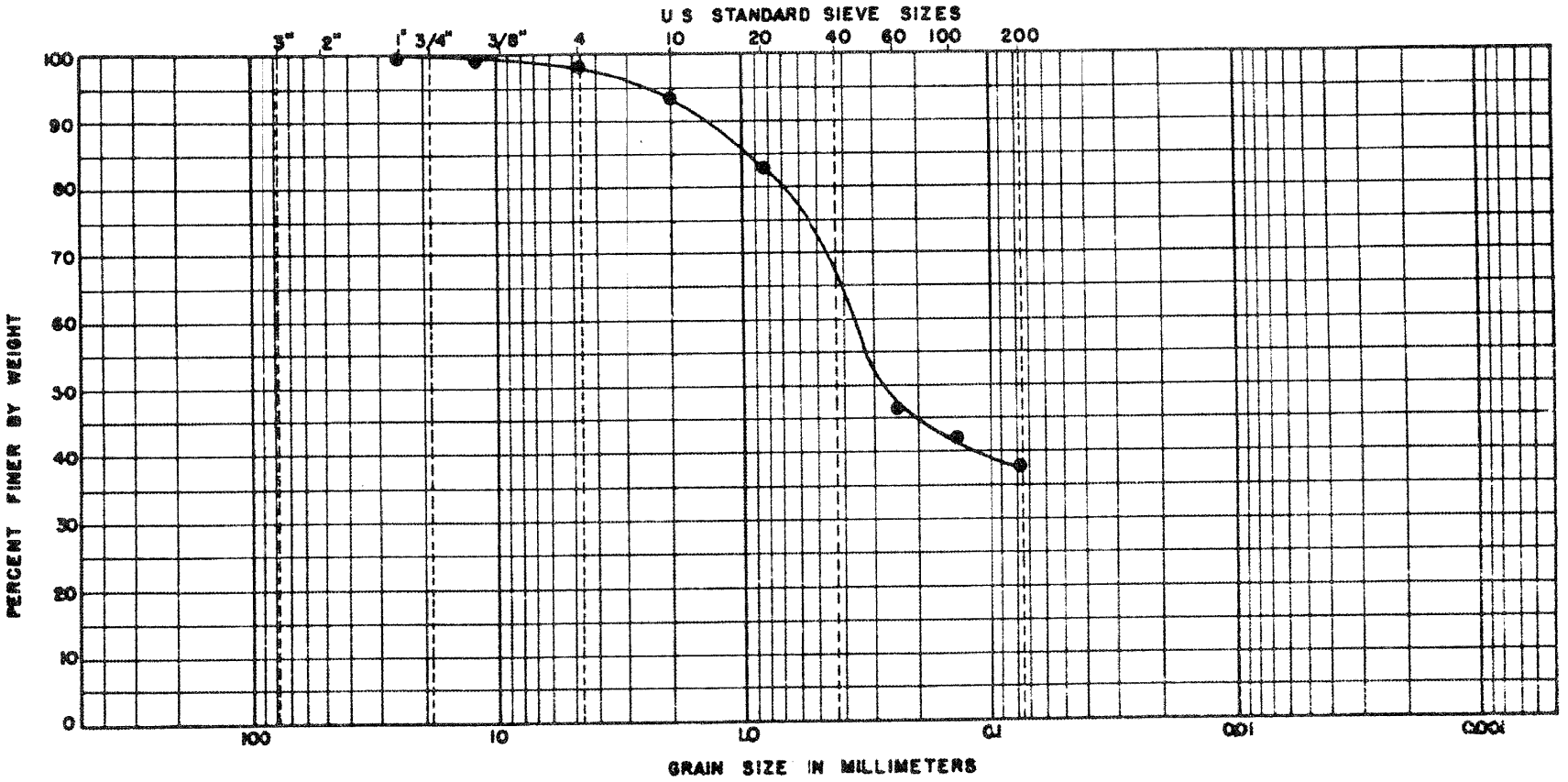
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-1	55' — 56.5'					Brown slightly silty coarse to fine sandy fine gravel (Limestone nodules W/shell inclusions) Unified Soil Classification: GM

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

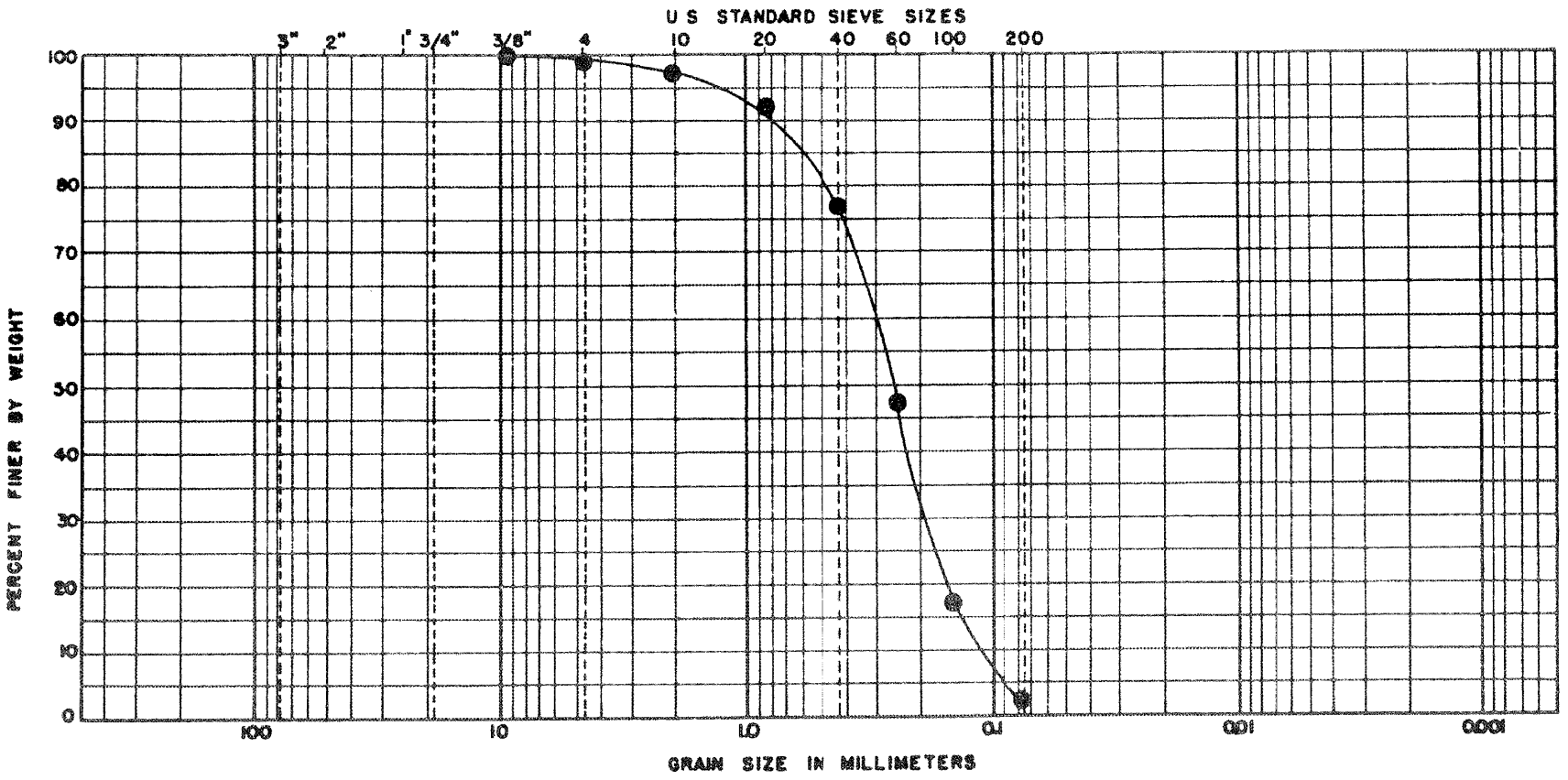
BORING NO	~~ELEV~~ OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-3	18.5'-20.0'					DARK GRAY SILTY COARSE TO FINE SAND (SHELL FRAGMENTS RETAINED IN SIEVE NO. 40)

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY

SS



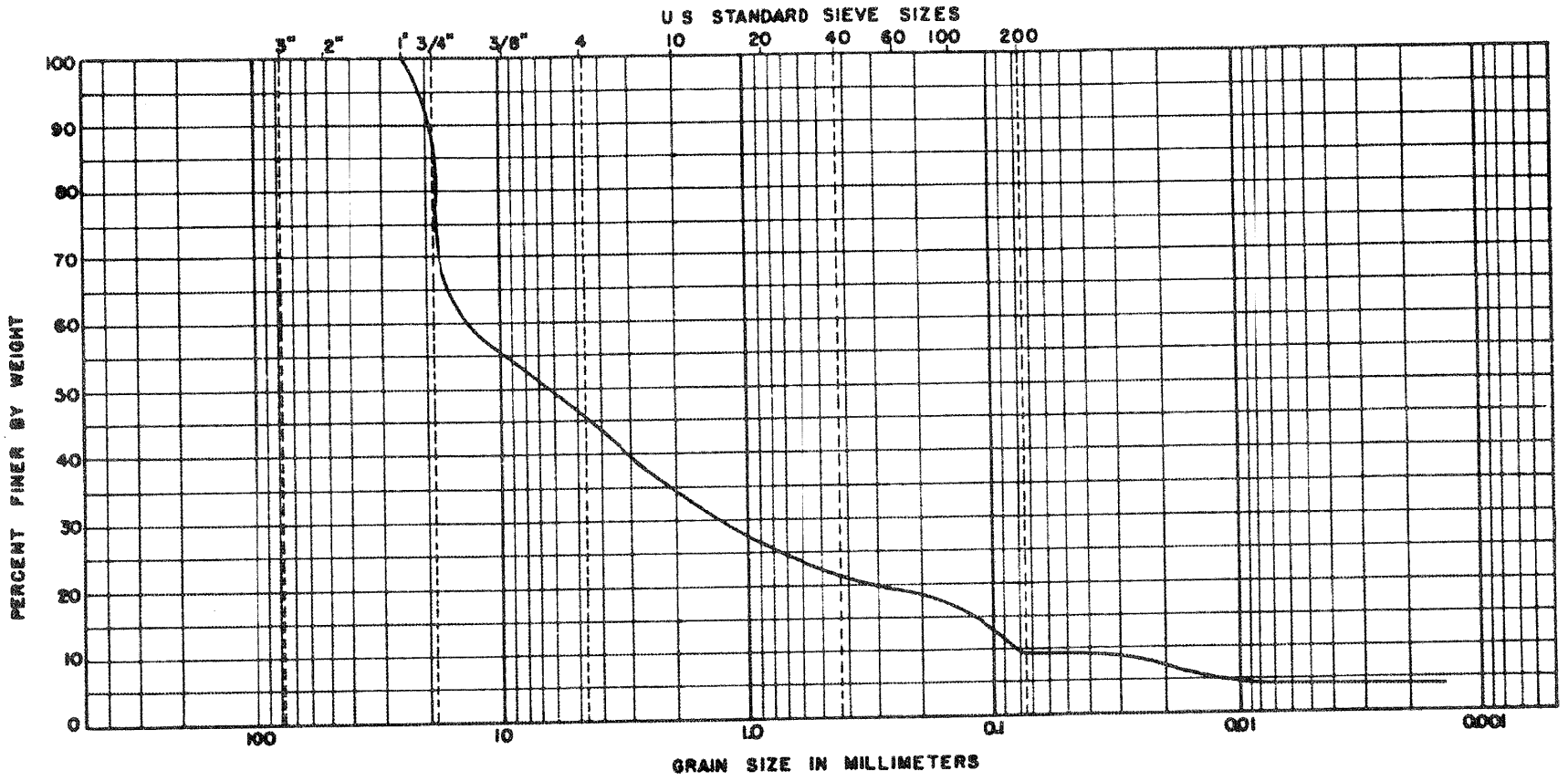
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-9	11' - 13.5'					Dark gray slightly silty fine to medium sand with highly fragmented shell. Unified Soil Classificat on: SP

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



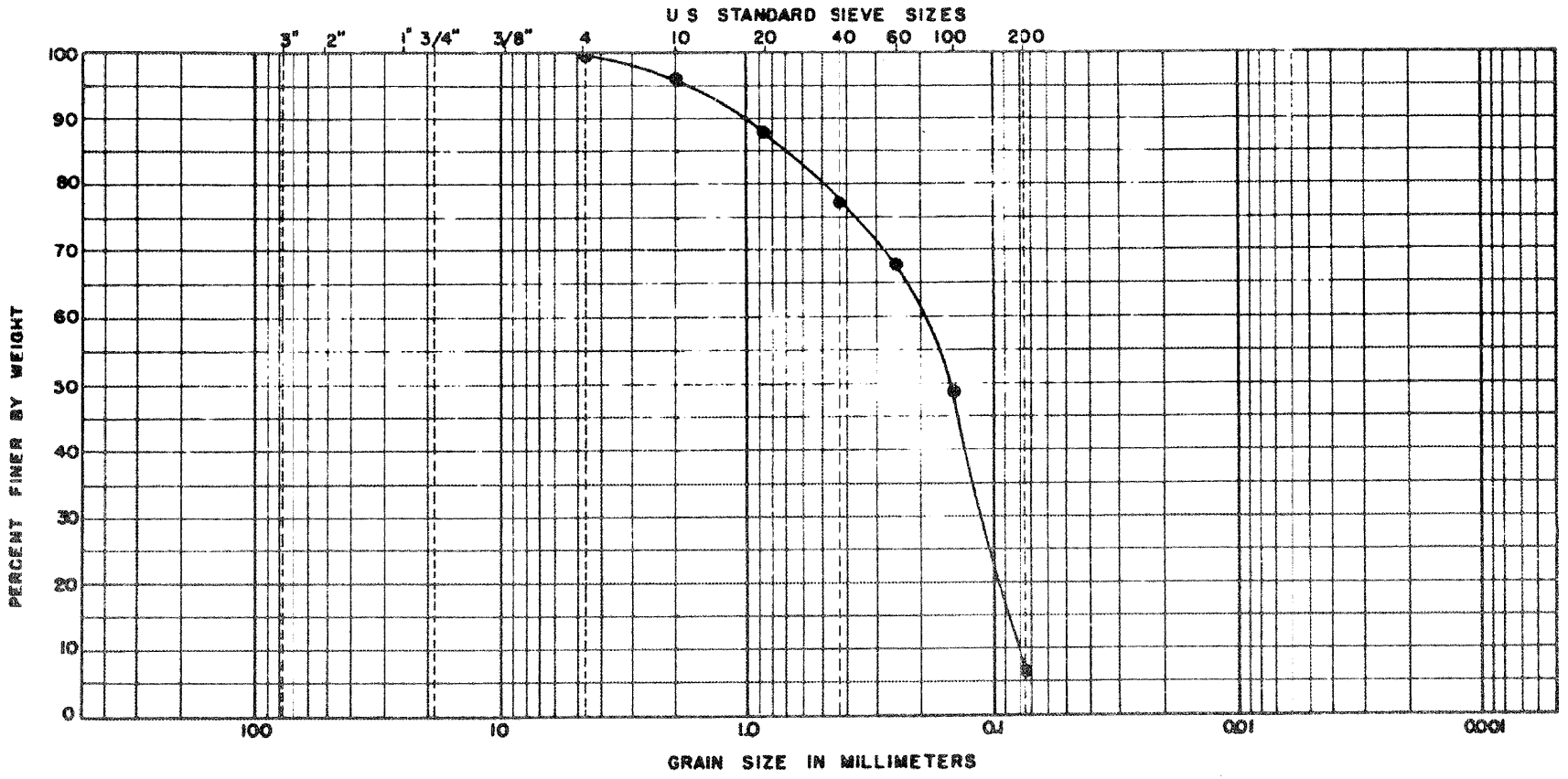
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
B-4	60'		20	NP		Light brown slightly clayey slightly silty coarse to fine sandy coarse to fine gravel. (Sand and Gravel sizes are limestone).

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



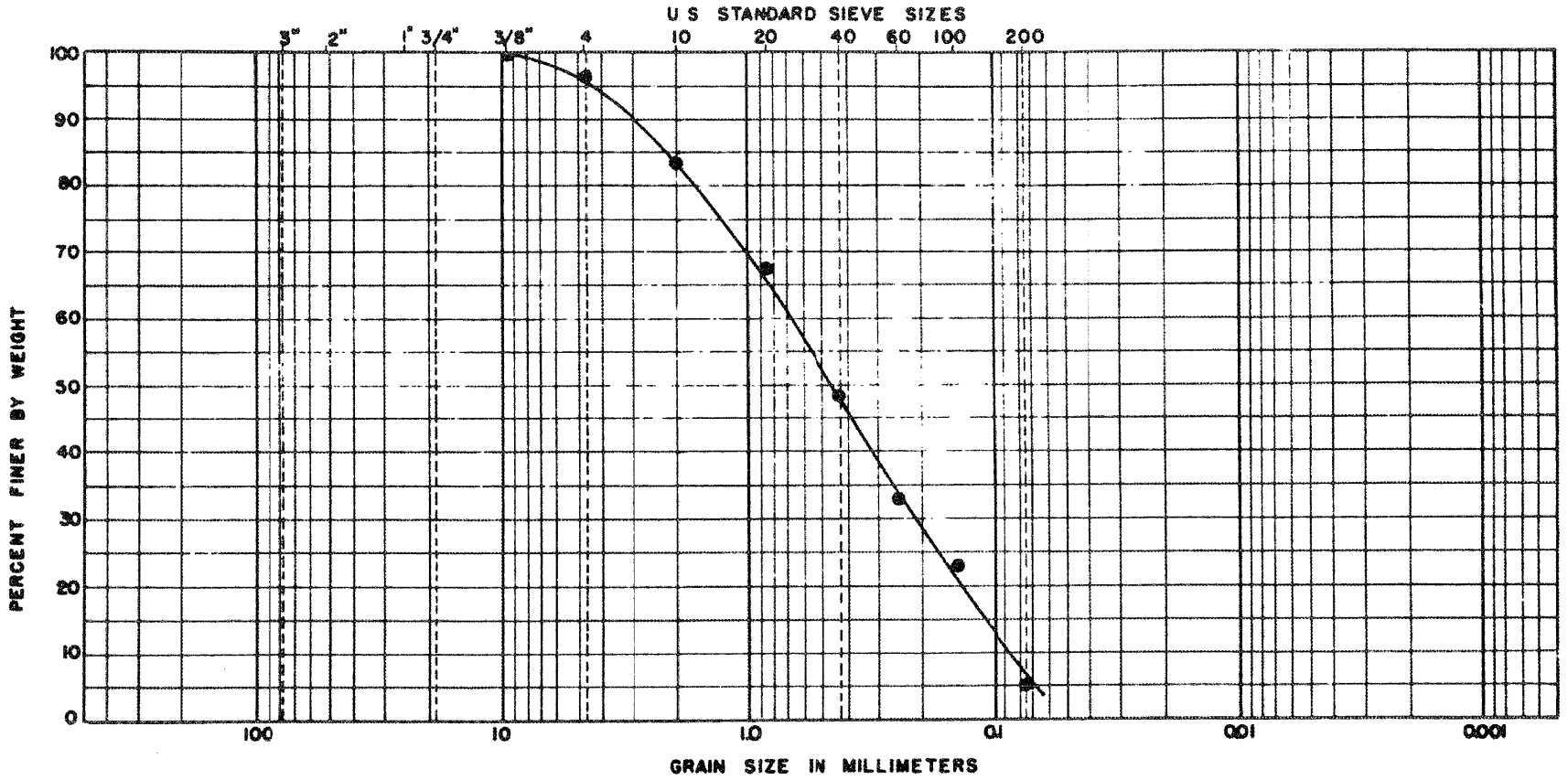
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-5	6.0' - 7.5'					GRAY FINE TO MEDIUM SAND TRACE SHELL FRAGMENTS UNIFIED SOIL CLASSIFICATION: SP

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

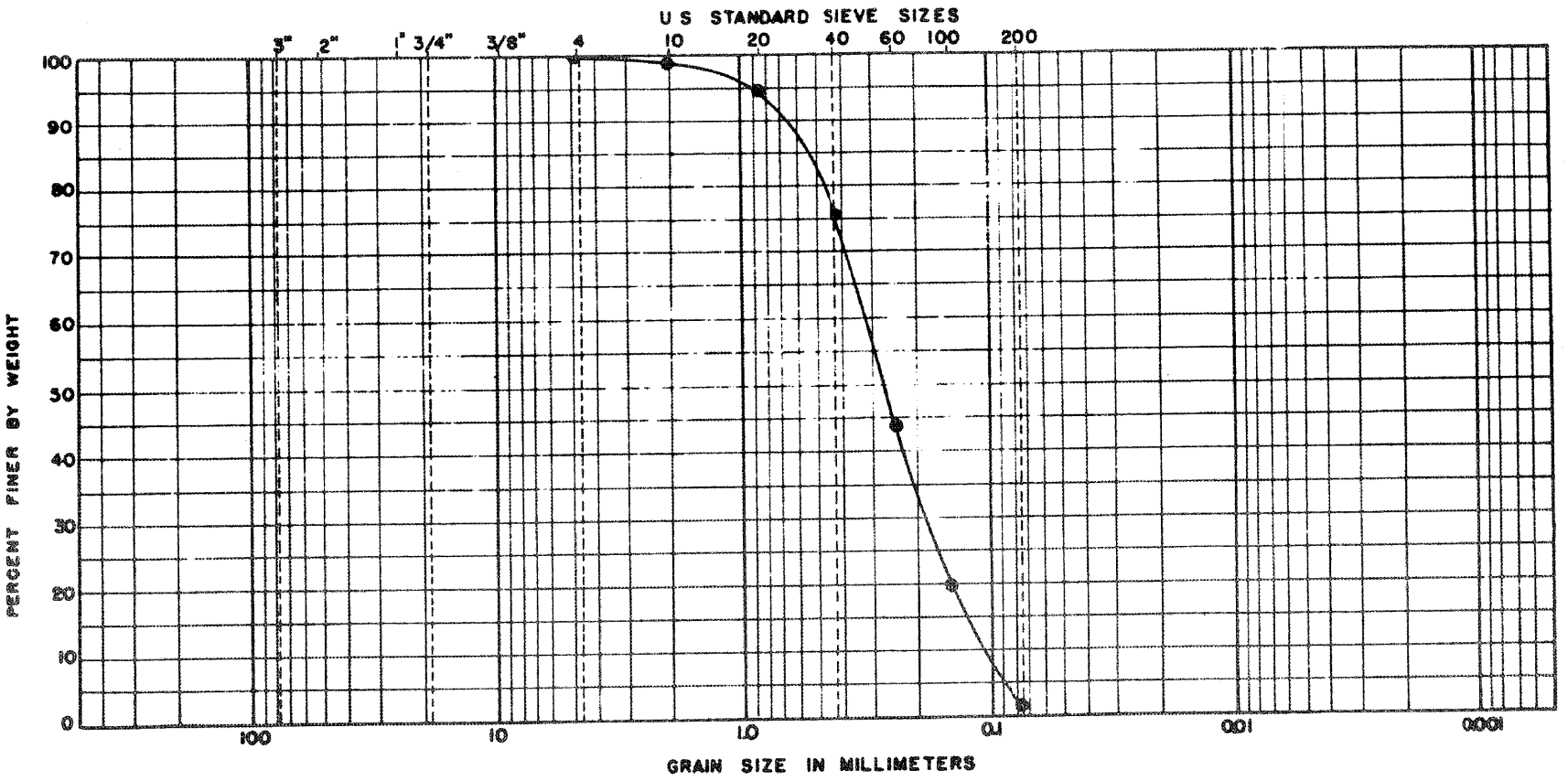
BORING NO	~~ELEV~~ OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-5	8.0' - 9.5'					GRAY HIGHLY FRAGMENTED SHELLS WITH SLIGHTLY FINE SAND UNIFIED SOIL CLASSIFICATION : SW

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY

SB



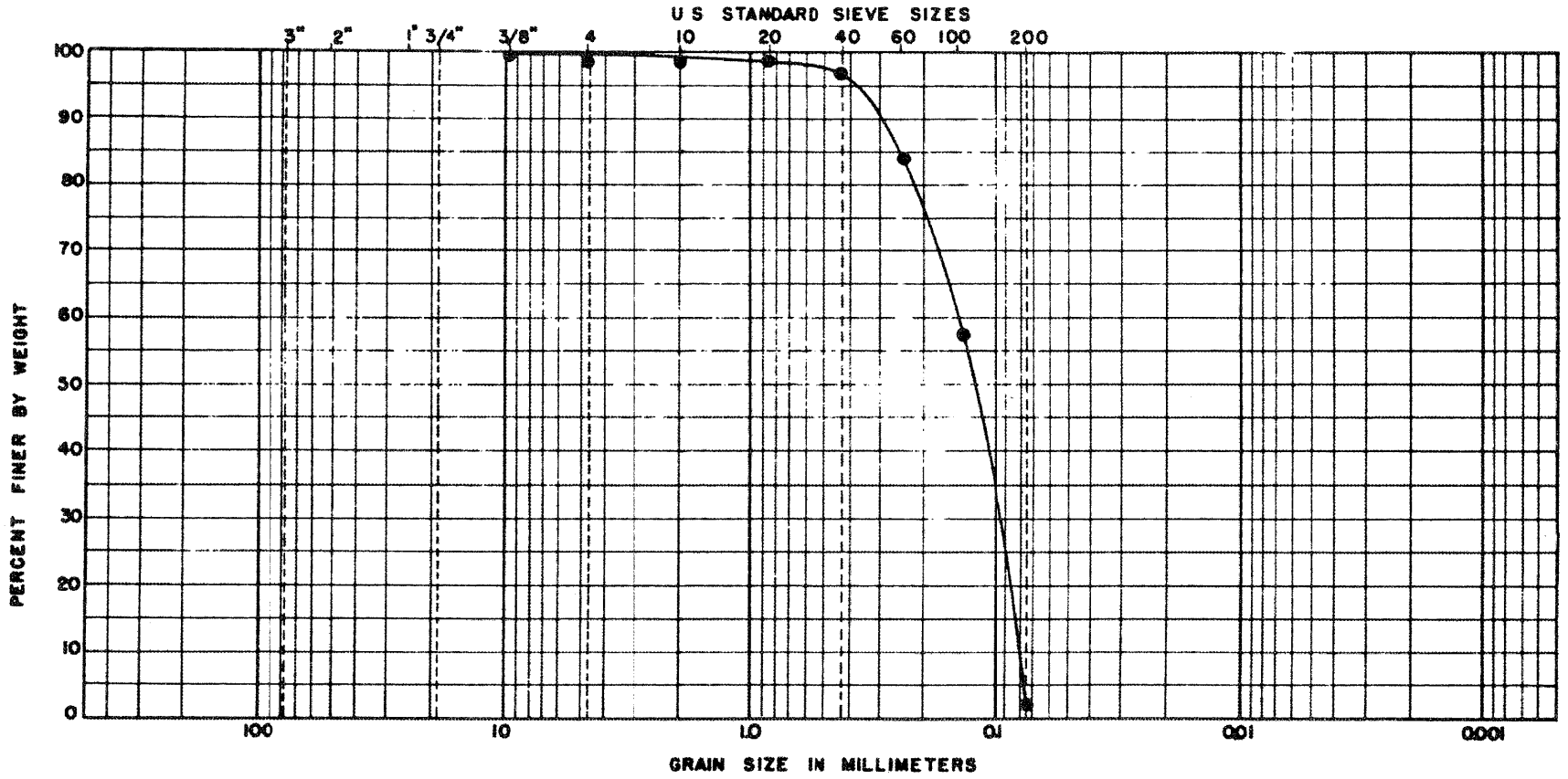
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
B-5	11' - 12.5'					GRAY SLIGHTLY MEDIUM SHELL FRAGMENTS AND FINE SAND UNIFIED SOIL CLASSIFICATION: SW

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



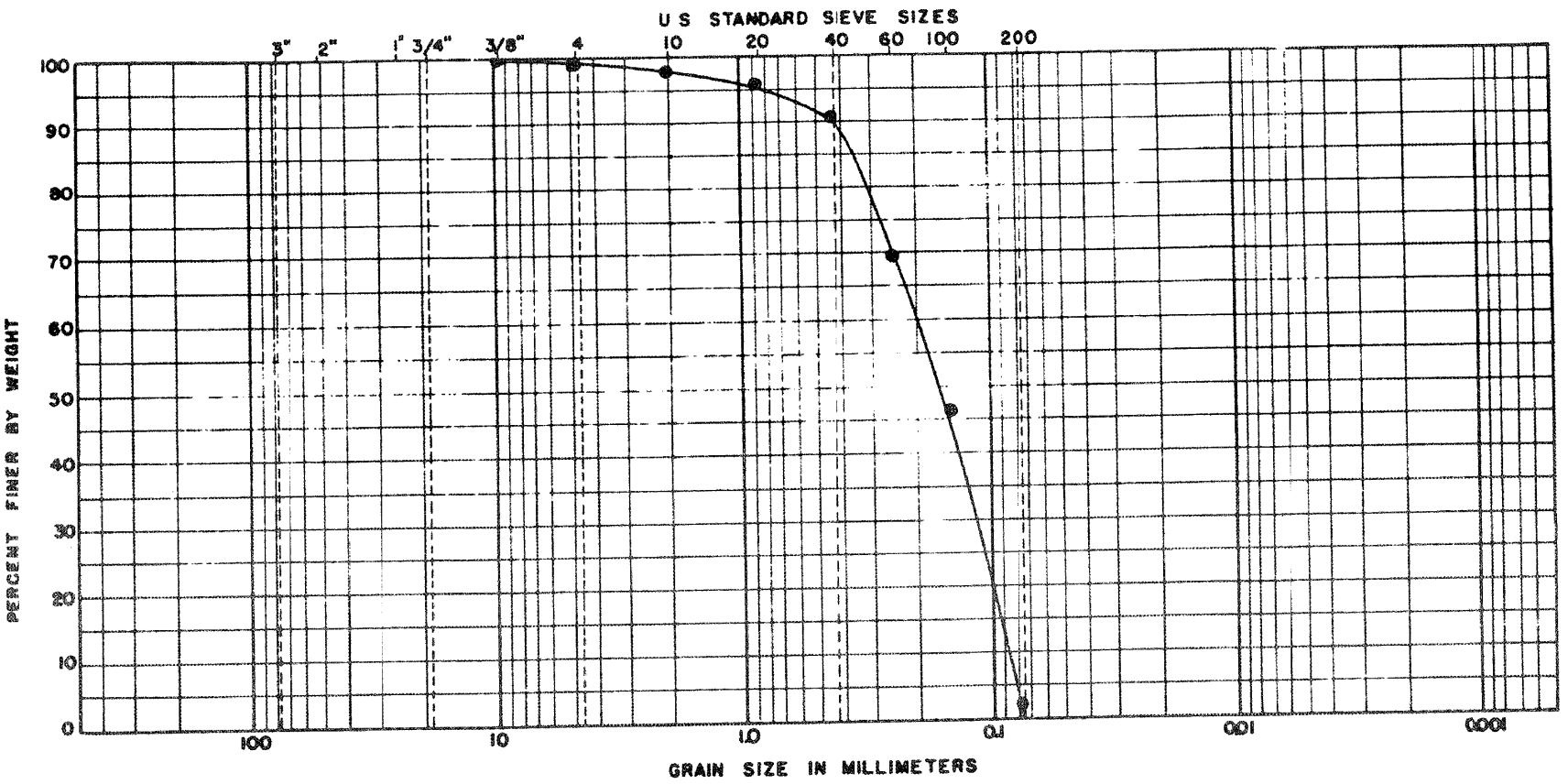
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-5	16' - 17.5'					GRAY FINE SAND TRACE SHELL FRAGMENTS UNIFIED SOIL CLASSIFICATION :SP

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

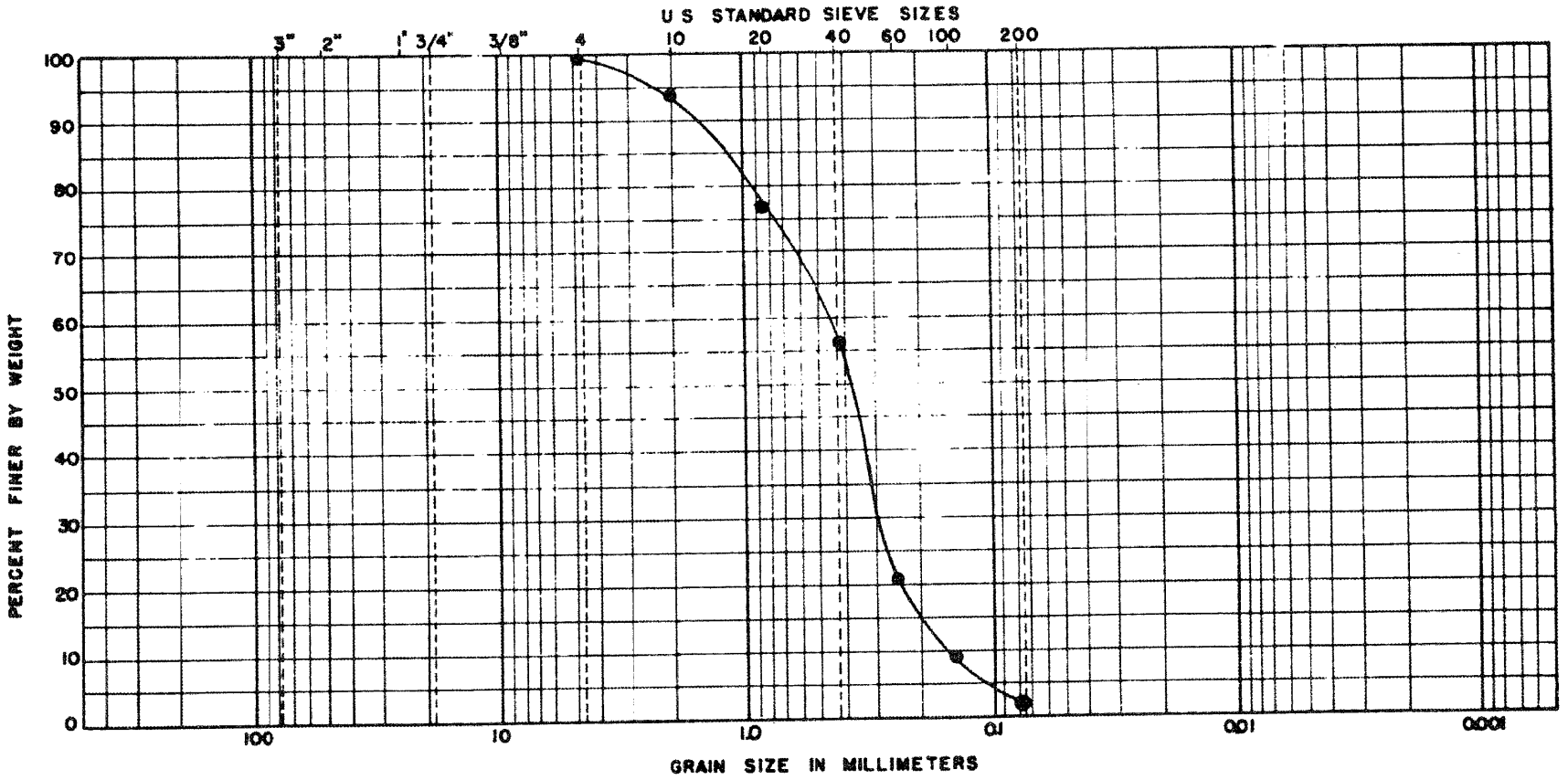
BORING NO	~~ELEV~~ OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-5	21' - 22.5'					GRAY FINE SAND TRACE SHELL FRAGMENTS UNIFIED SOIL CLASSIFICATION : SP

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY

88



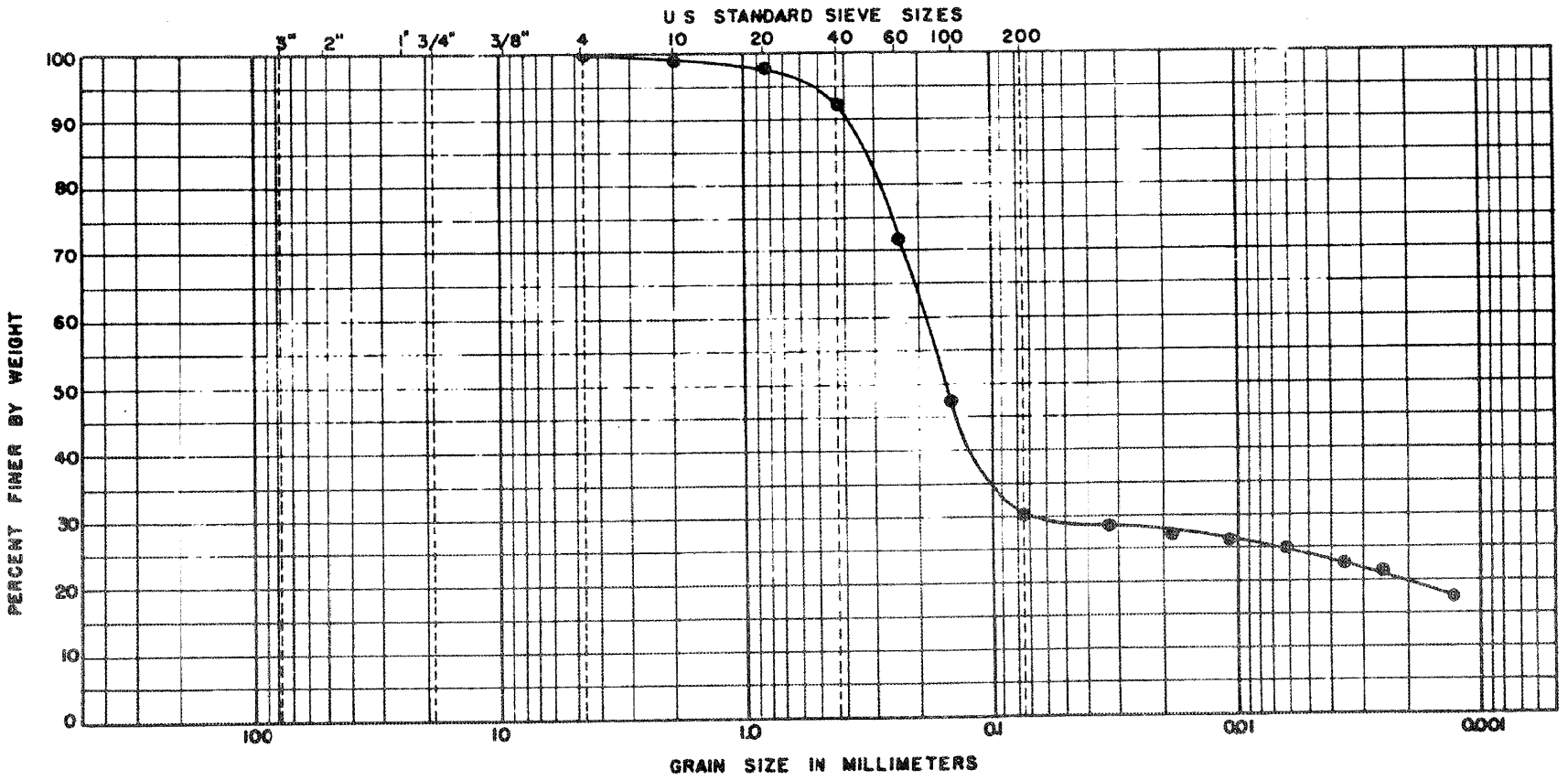
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-5	24 ' - 26.5					GRAY SLIGHTLY FINE SAND MEDIUM TO COARSE SHELL FRAGMENTS UNIFIED SOIL CLASSIFICATION : SW

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



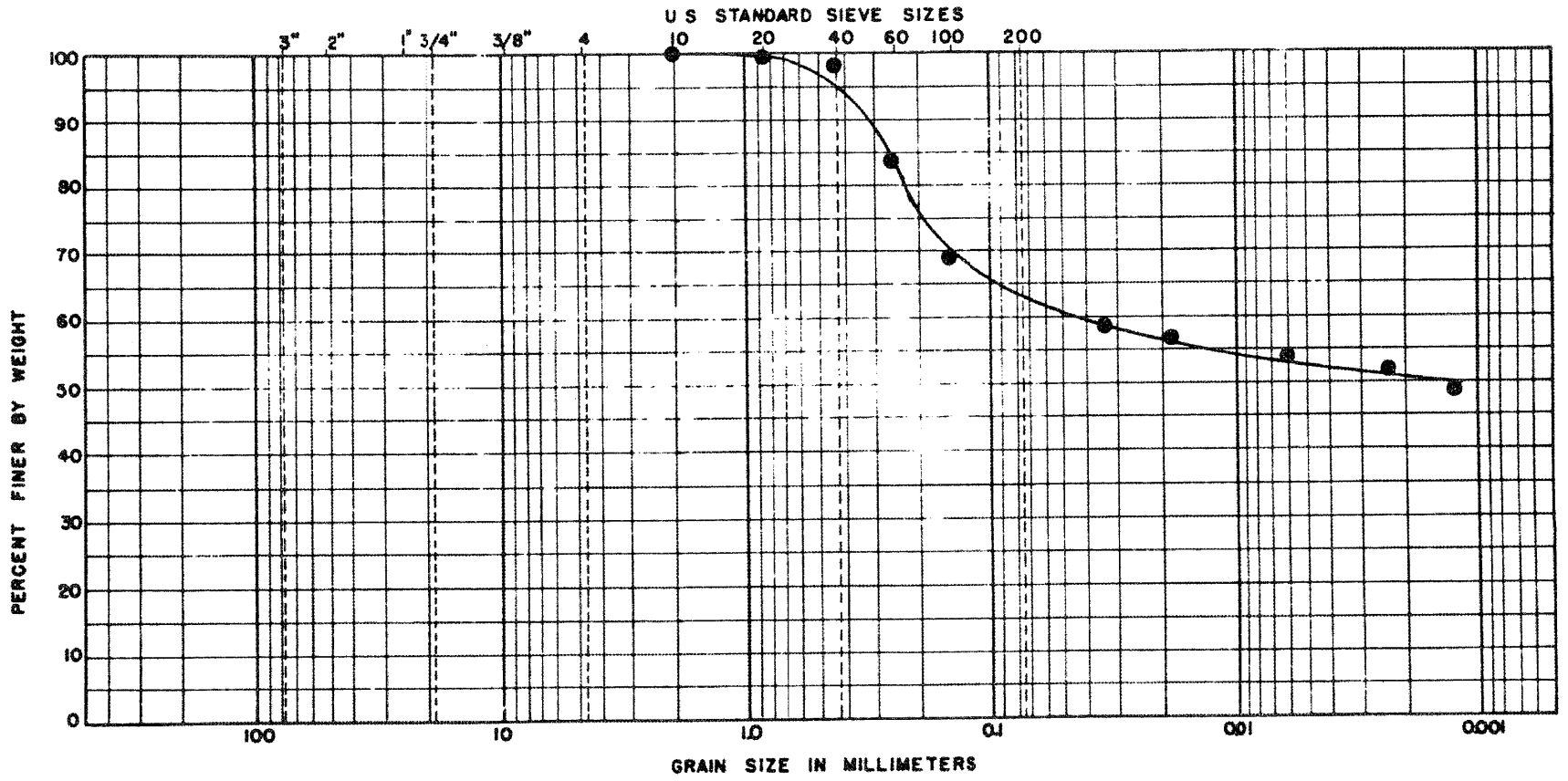
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-5	31' - 32.5 '					GREEN SLIGHTLY SILTY CLAYEY FINE SAND TRACE MEDIUM SAND UNIFIED SOIL CLASSIFICATION: SC

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



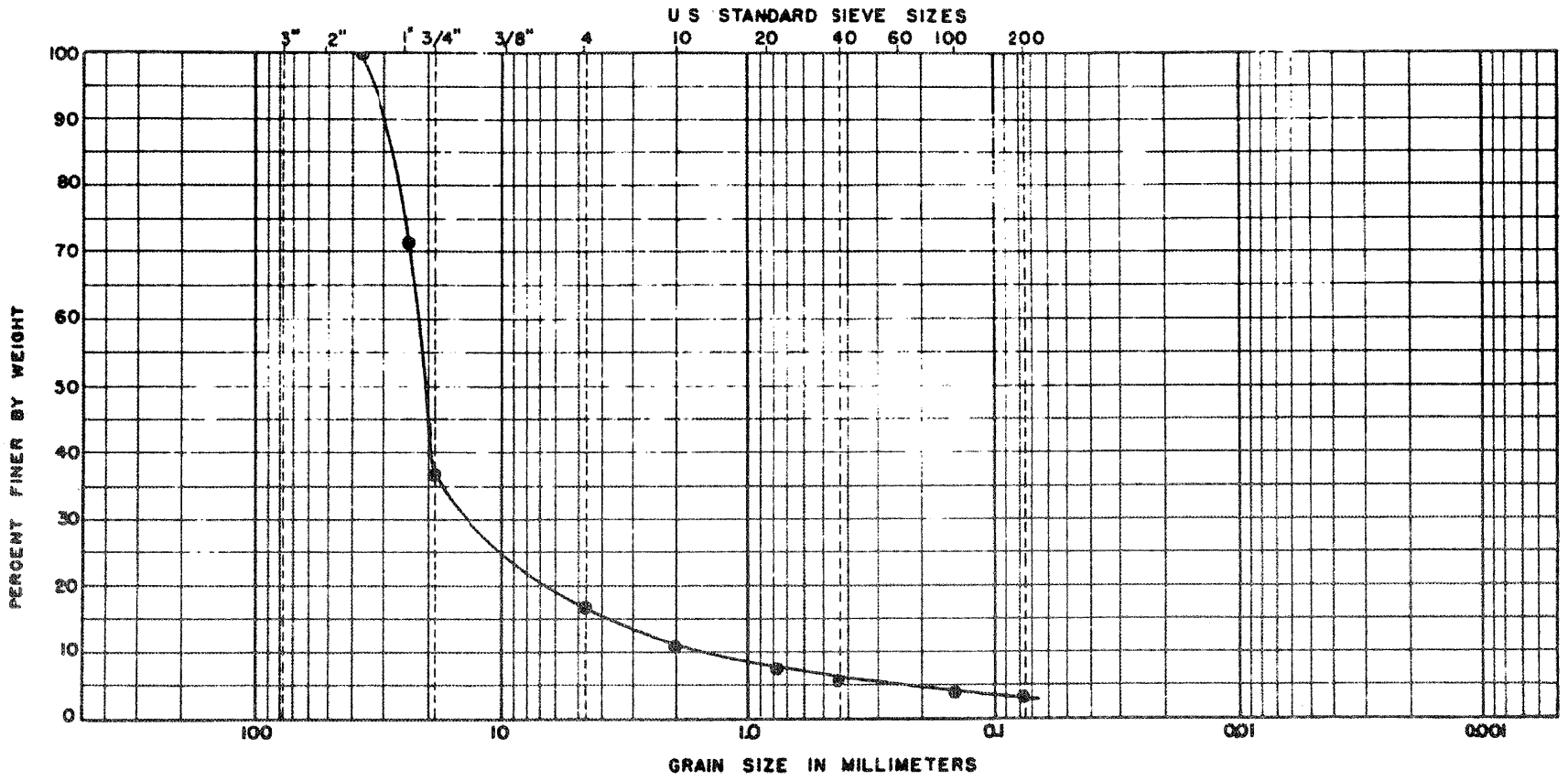
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
B-5	36' — 38.5' (37.1')		91	25	66	Dark green slightly silty fine sandy clay Unified Soil Classification: CH

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



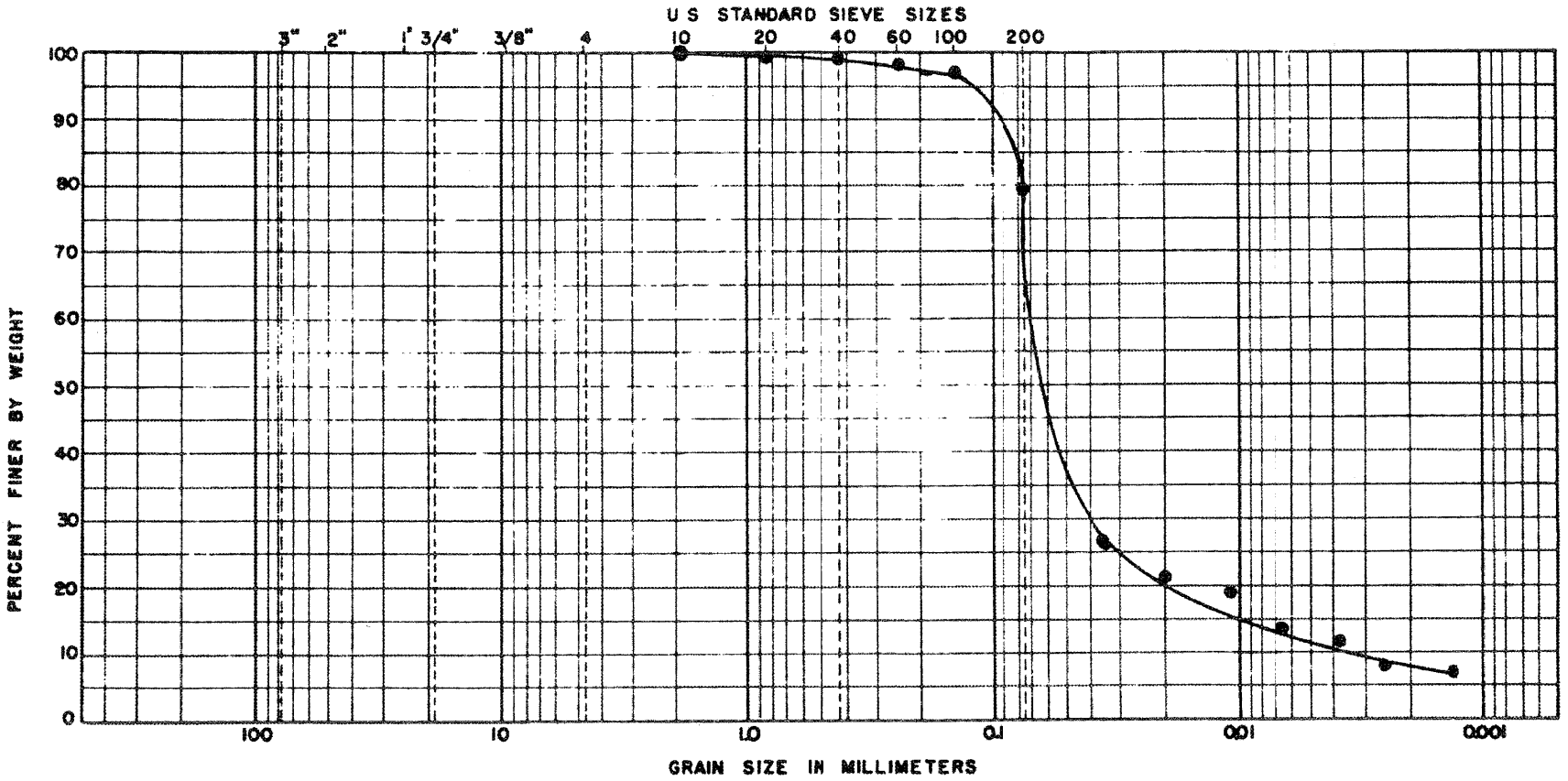
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-5	48' - 49.5'					GREENISH GRAY SLIGHTLY COARSE TO FINE SANDY COARSE TO FINE LOOSE FRAGMENTS UNIFIED SOIL CLASSIFICATION: GW

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



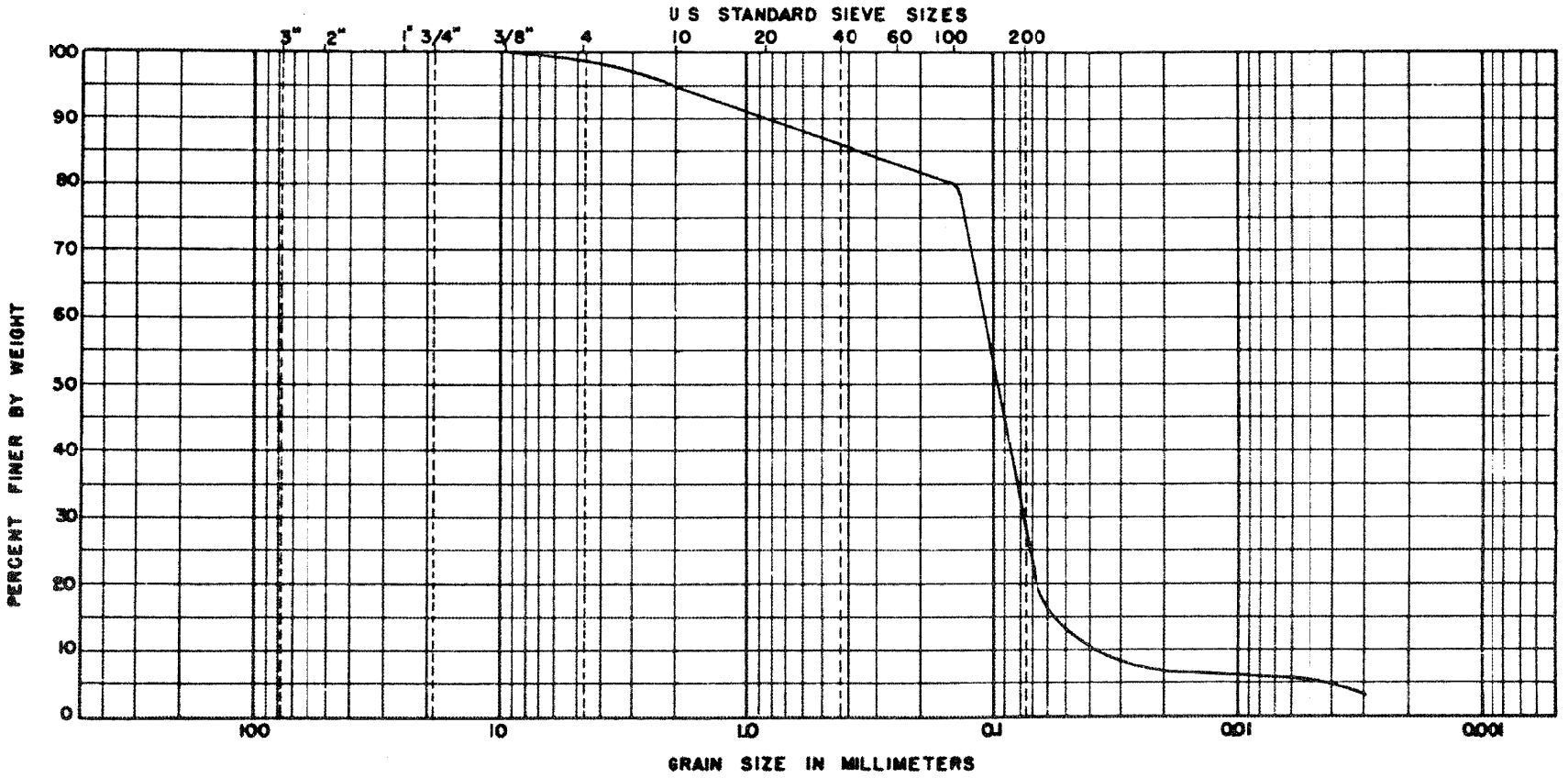
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
B-6	29' — 31' (29.8')					Gray slightly fine sandy silt with trace of clay

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



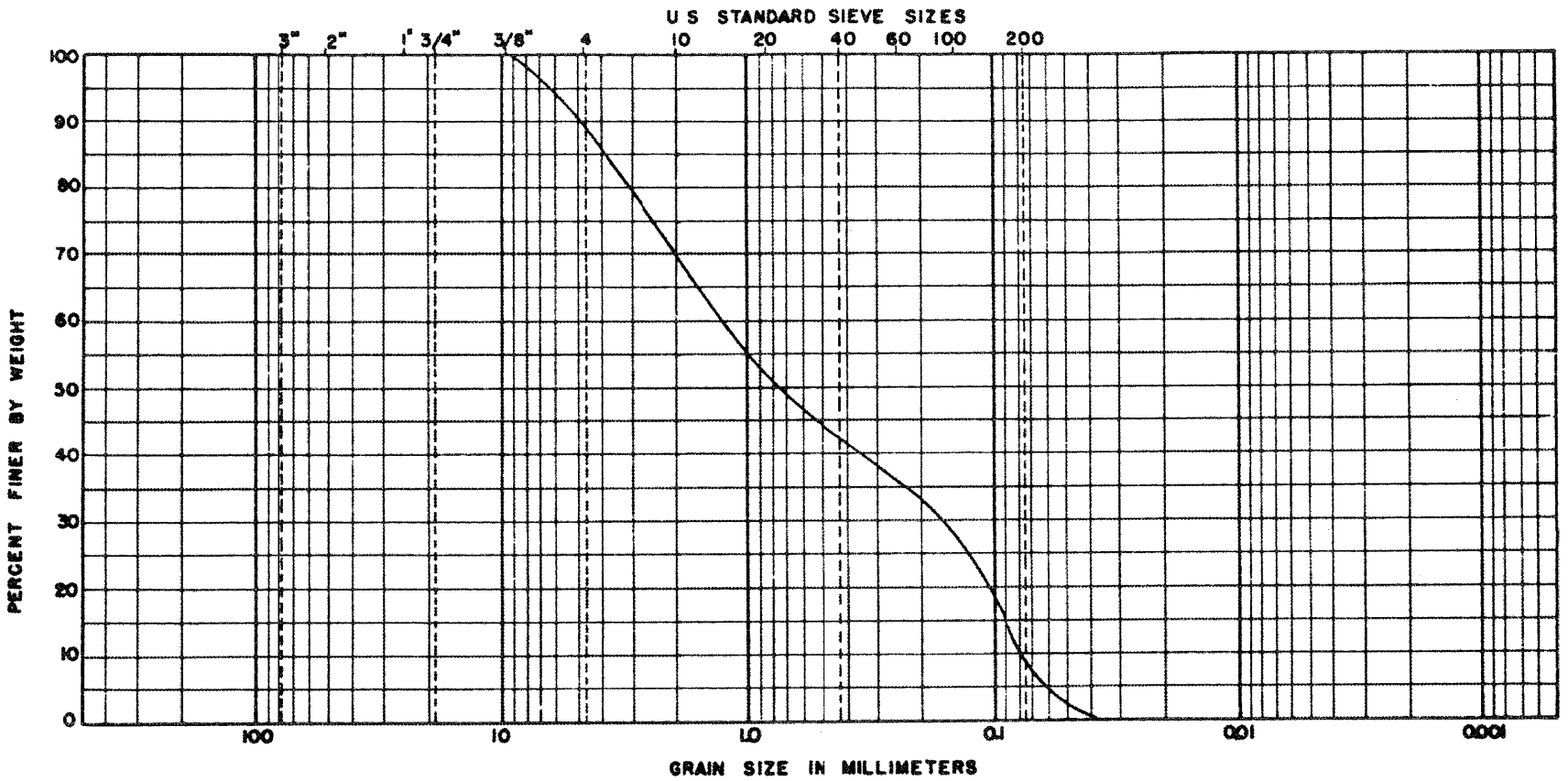
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-6	50'	24.6				Grey slightly clayey silty slightly fine gravelly coarse to fine sand. (Fine gravel and coarse to medium sand sizes are 90% or more shell or shell fragments.)

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	L L	PL	P I	DESCRIPTION OR CLASSIFICATION
B-6	55'	10.4				Brown-grey silty fine gravelly coarse to fine sand. (Fine gravel and coarse sand sizes are 90% or more shells.)

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY

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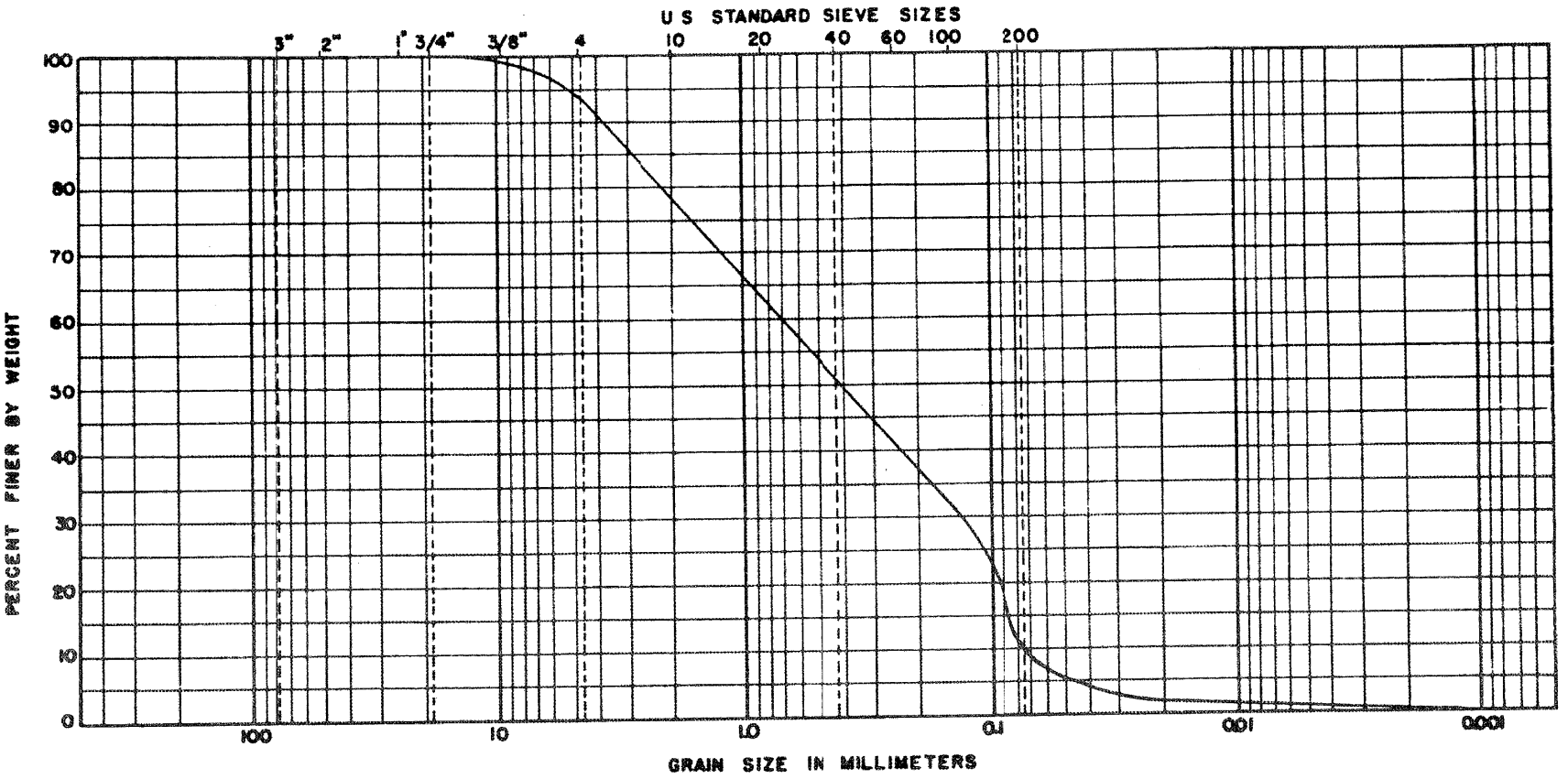

BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-6	60'	17.8				Brown-grey silty fine gravelly coarse to fine sand.(Fine gravel and coarse to medium sand sizes are 90% or more shell or shell fragments.)

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY

as

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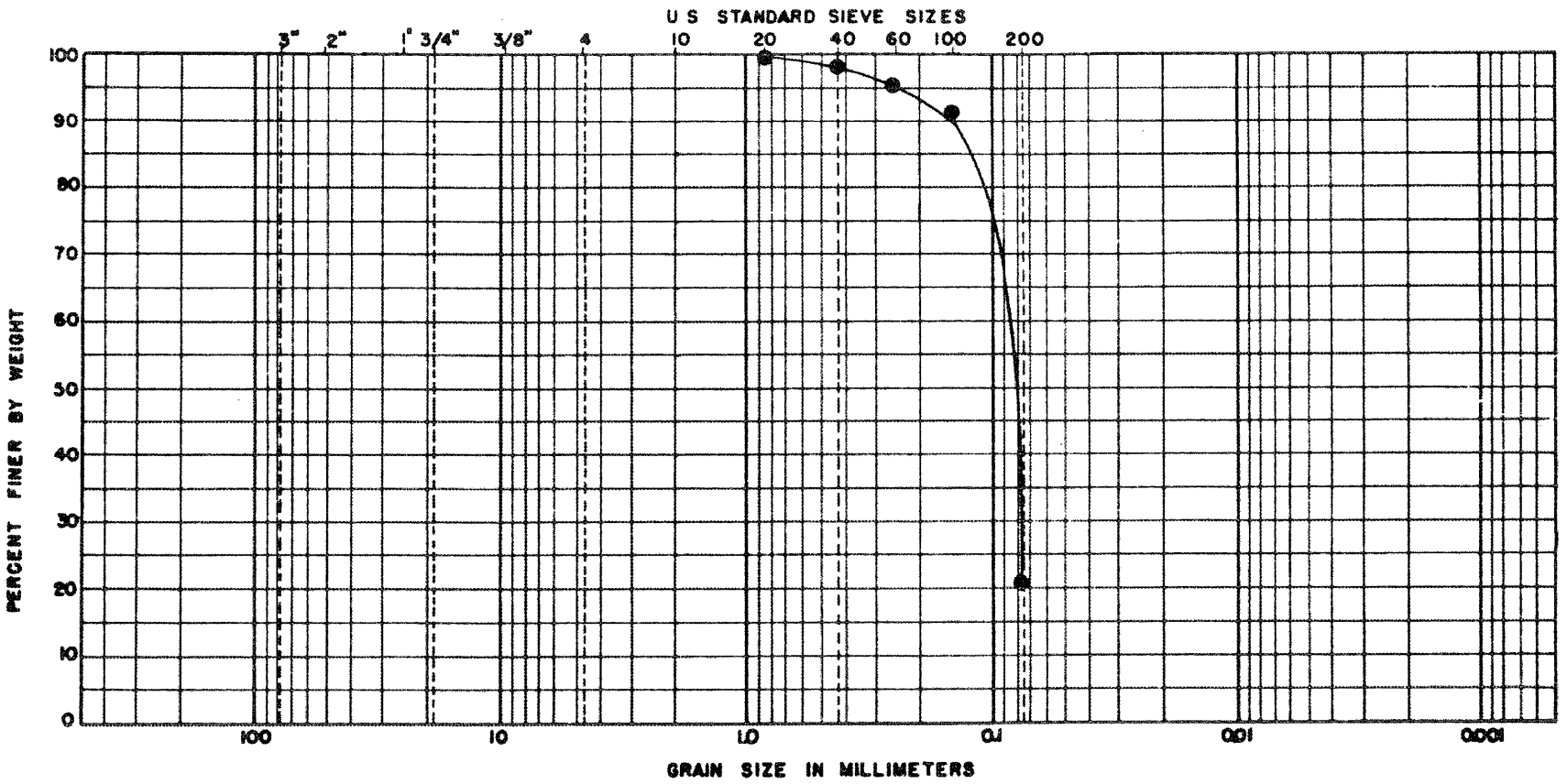


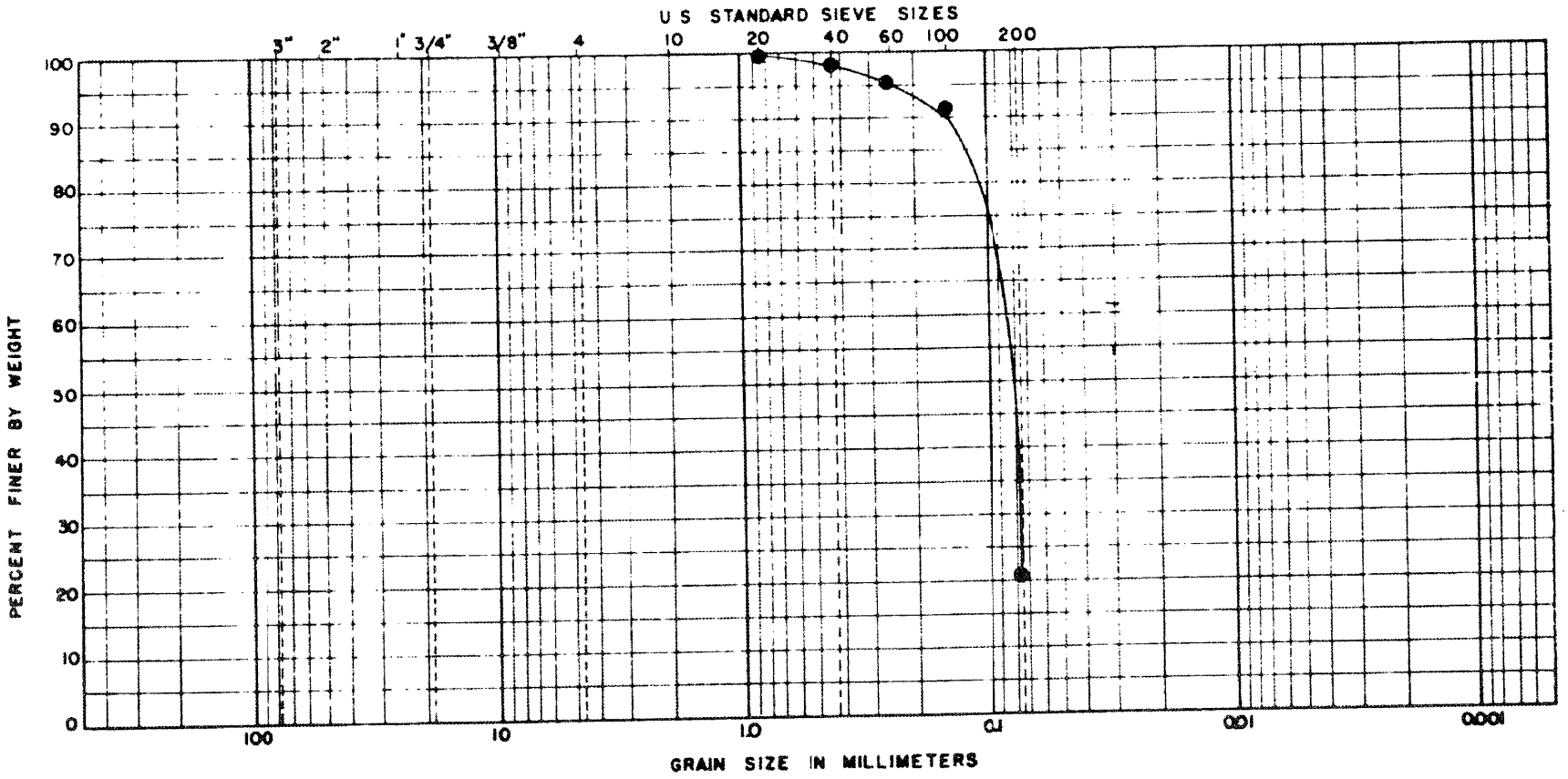
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-13	11' - 13'					Gray silty fine sand Unified Soil Classification: SM

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



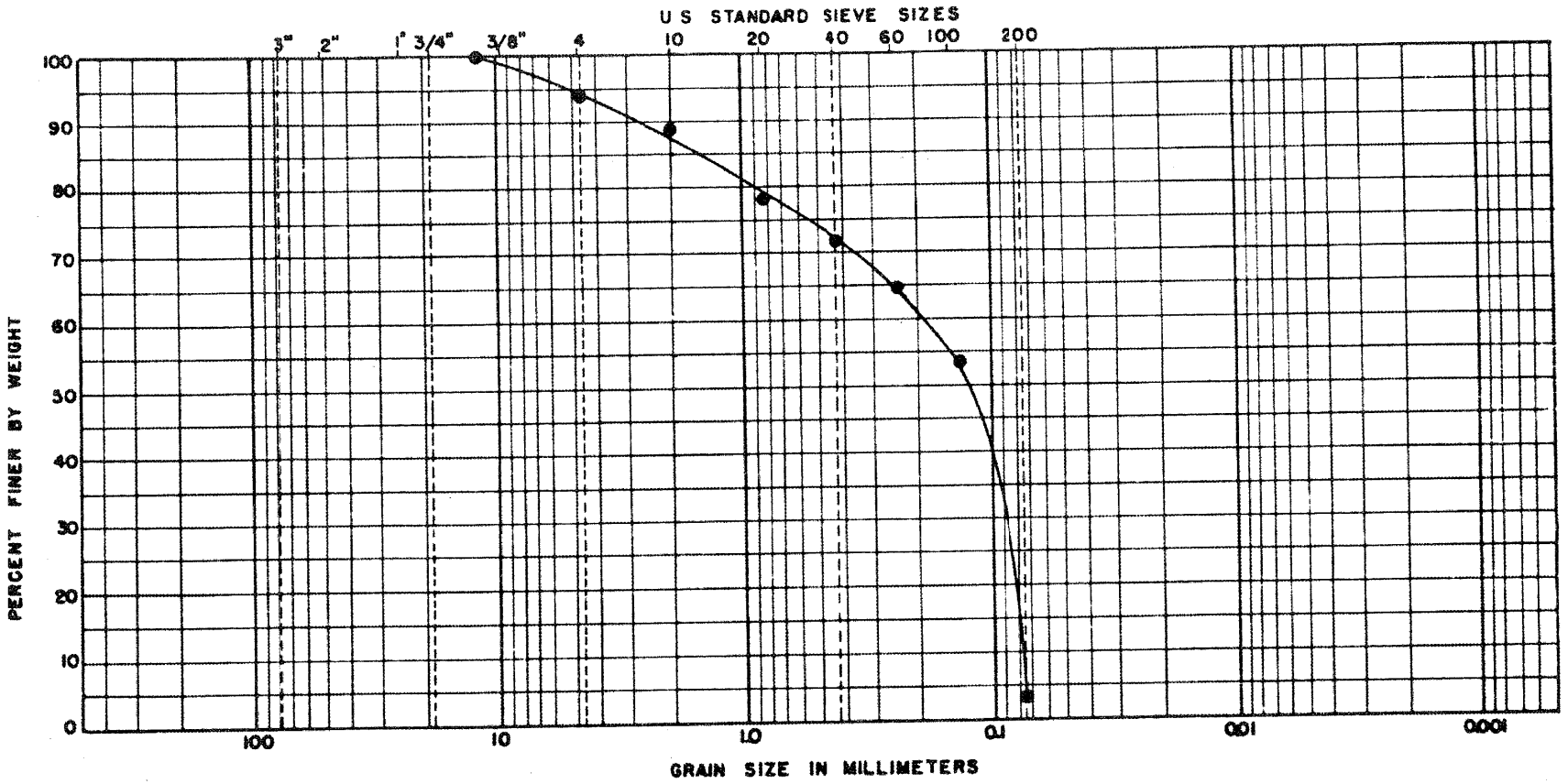
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-13	11' - 13'					Gray silty fine sand Unified Soil Classification: SM

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

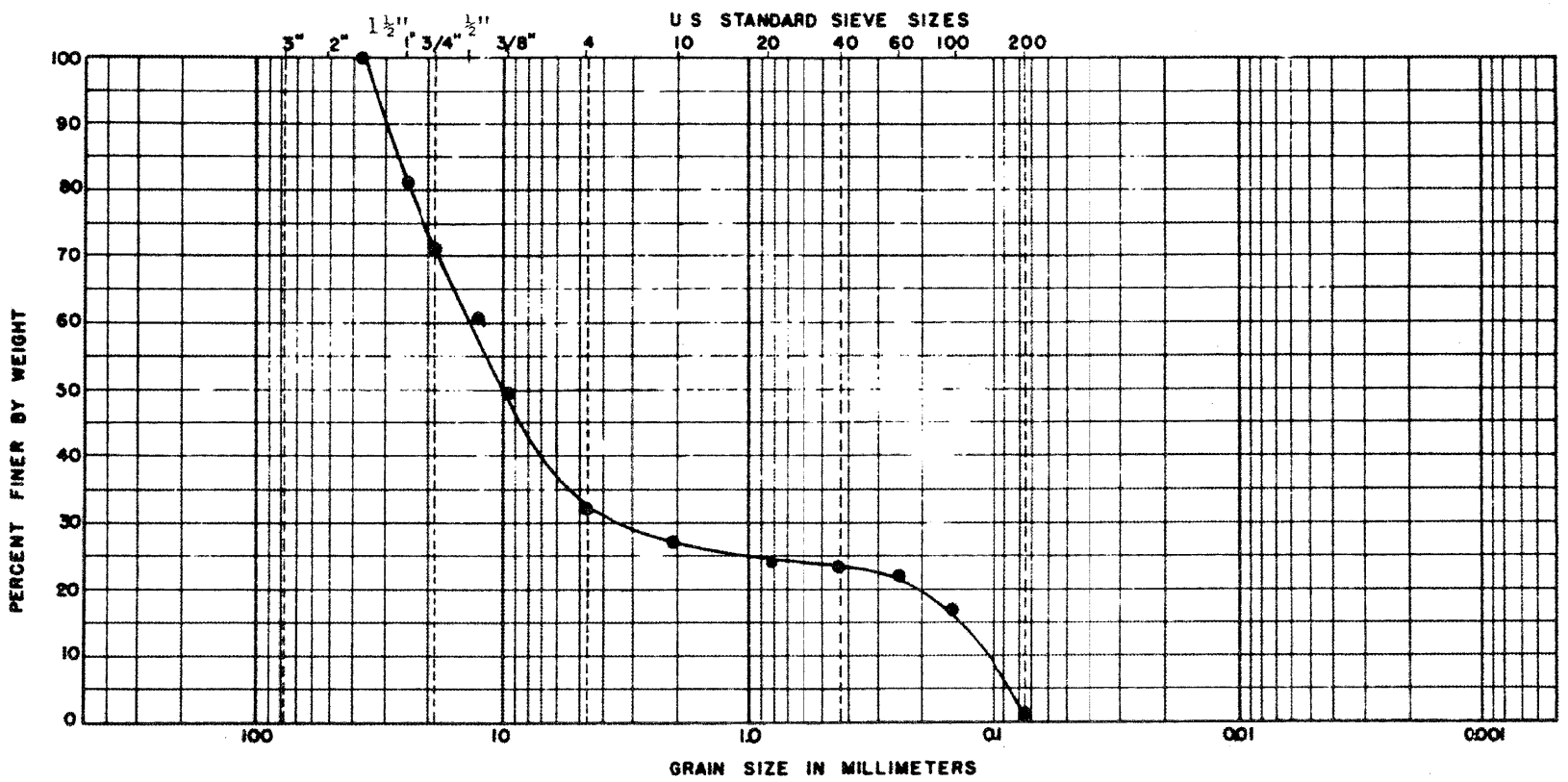
BORING NO	~~ELEV~~ OR DEPTH	NAT WC	L L	PL	P I	DESCRIPTION OR CLASSIFICATION
B-13	38.5'-40.0'					GRAY SLIGHTLY SILTY FINE GRAVELLY COARSE TO FINE SAND (SHELL FRAGMENTS RETAINED IN SIEVE NO. 40) UNIFIED SOIL CLASSIFICATION: SP

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY

SS



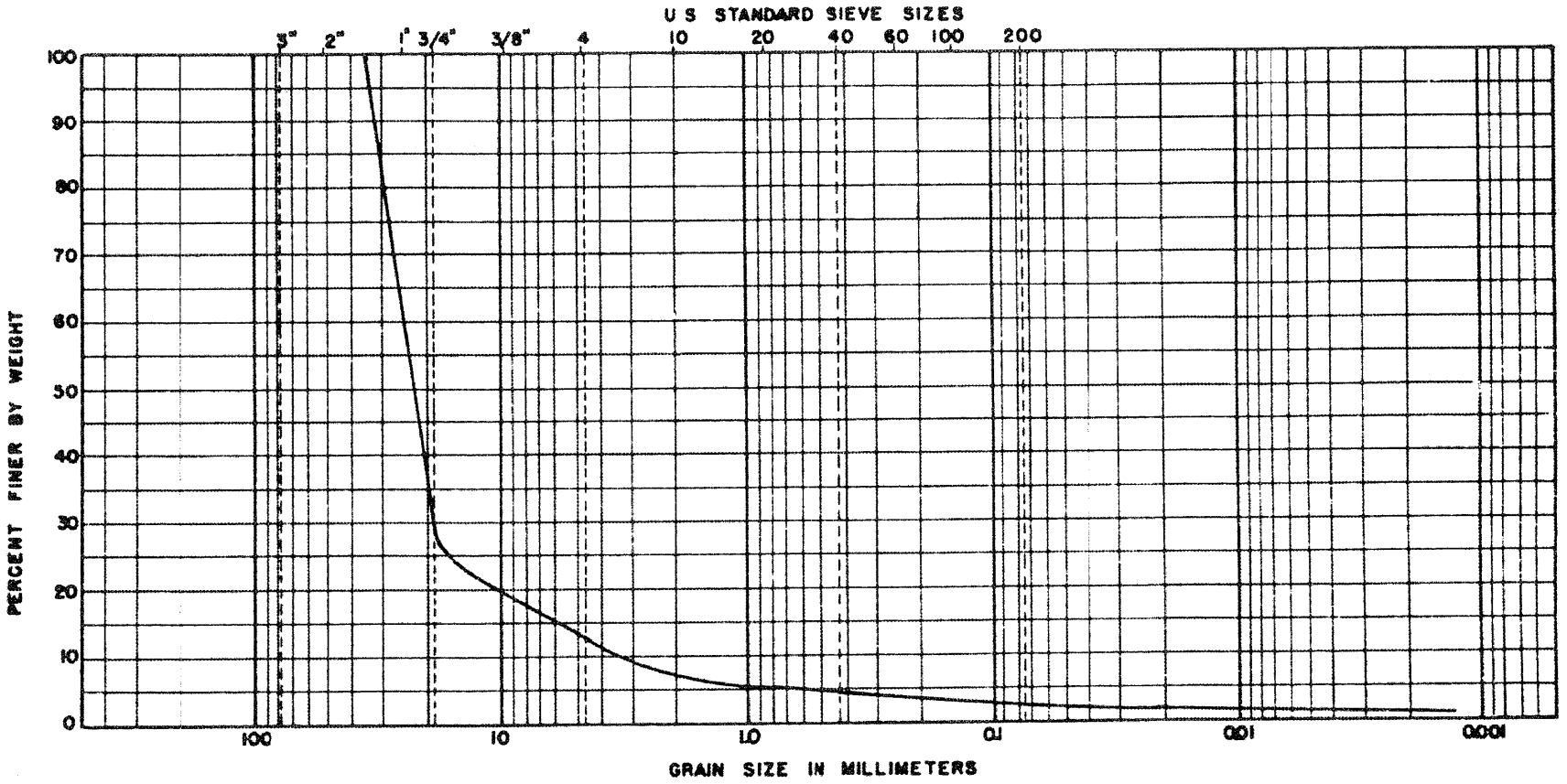
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	~~ELEV~~ OR DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
B-15	35' — 36.5'					Greenish brown fine to coarse sandy fine to coarse cemented sand (gravel size) W/shell inclusions. Unified Soil Classification: GP

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

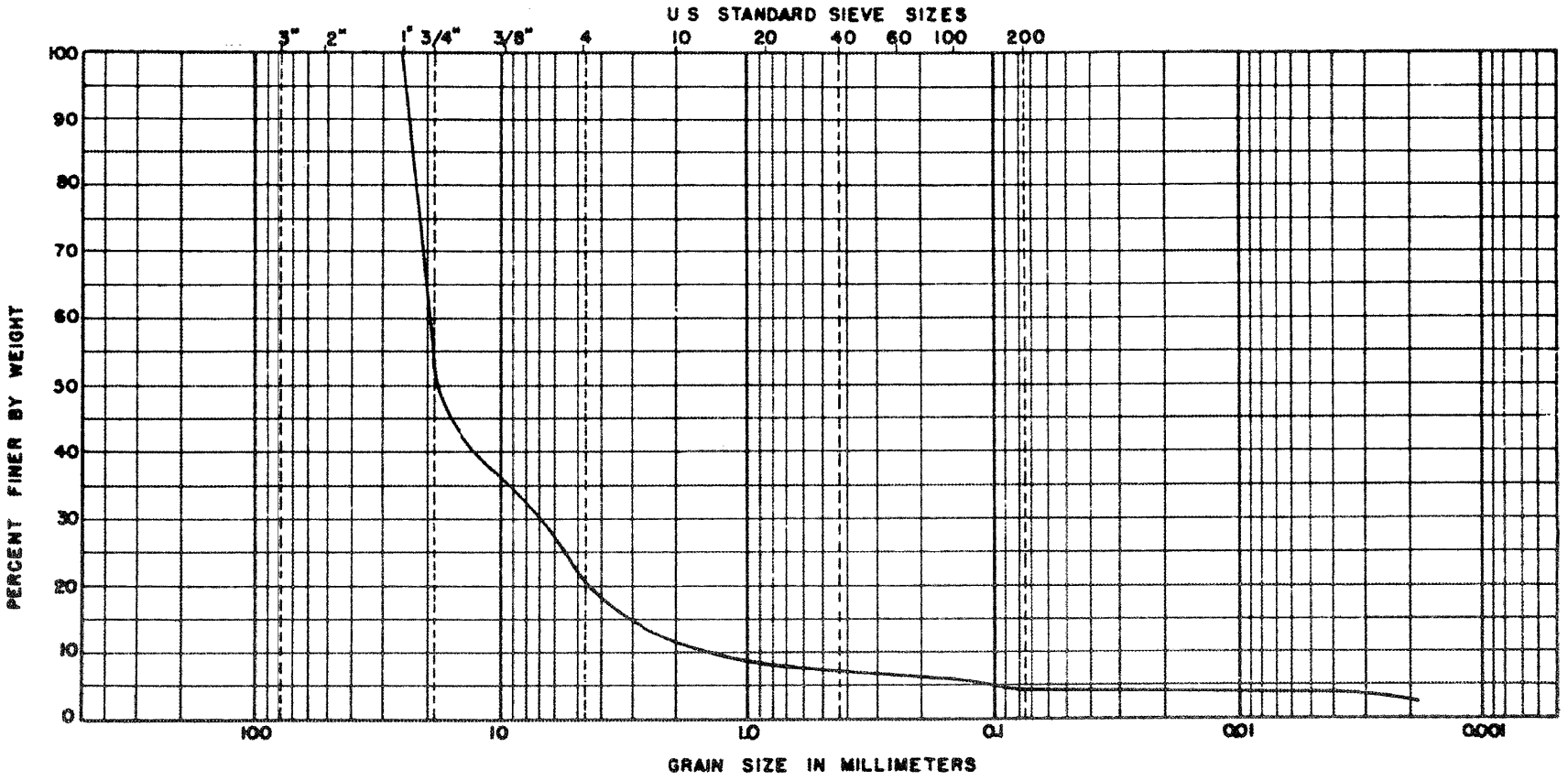
BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-15	50'					Light-brown slightly clayey slightly silty slightly sandy coarse to fine gravel. (Gravel sizes are 95% limestone. Coarse and medium sand sizes are 70% limestone and 20% shell fragments).

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY

ep



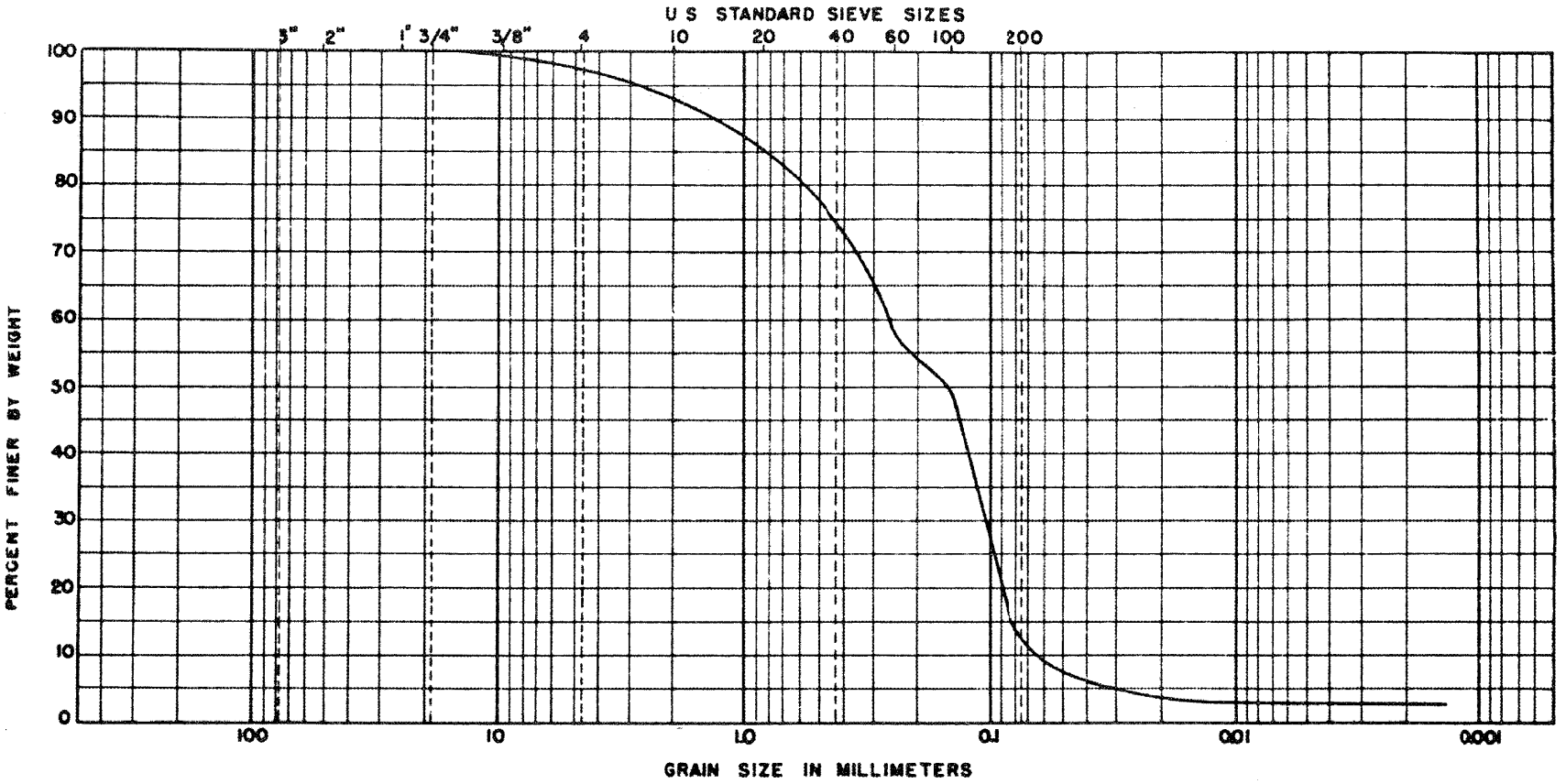
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-15	55'					Grey and Brown slightly clayey slightly silty coarse to fine sandy coarse to fine gravel. (Coarse to fine gravel and coarse sand sizes are limestone. Medium sand size is 50% limestone and 50% shell fragments. Fine sand size is 50% sand, 50% shell fragments).

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-15	60'					Brown and Grey slightly clayey slightly silty slightly fine gravelly coarse to fine sand. (Fine gravel size is shells. Coarse and medium sand sizes, are 60% or more shell fragements).

GRAIN SIZE DISTRIBUTION

JOB NO. EC-163

LAW ENGINEERING TESTING COMPANY

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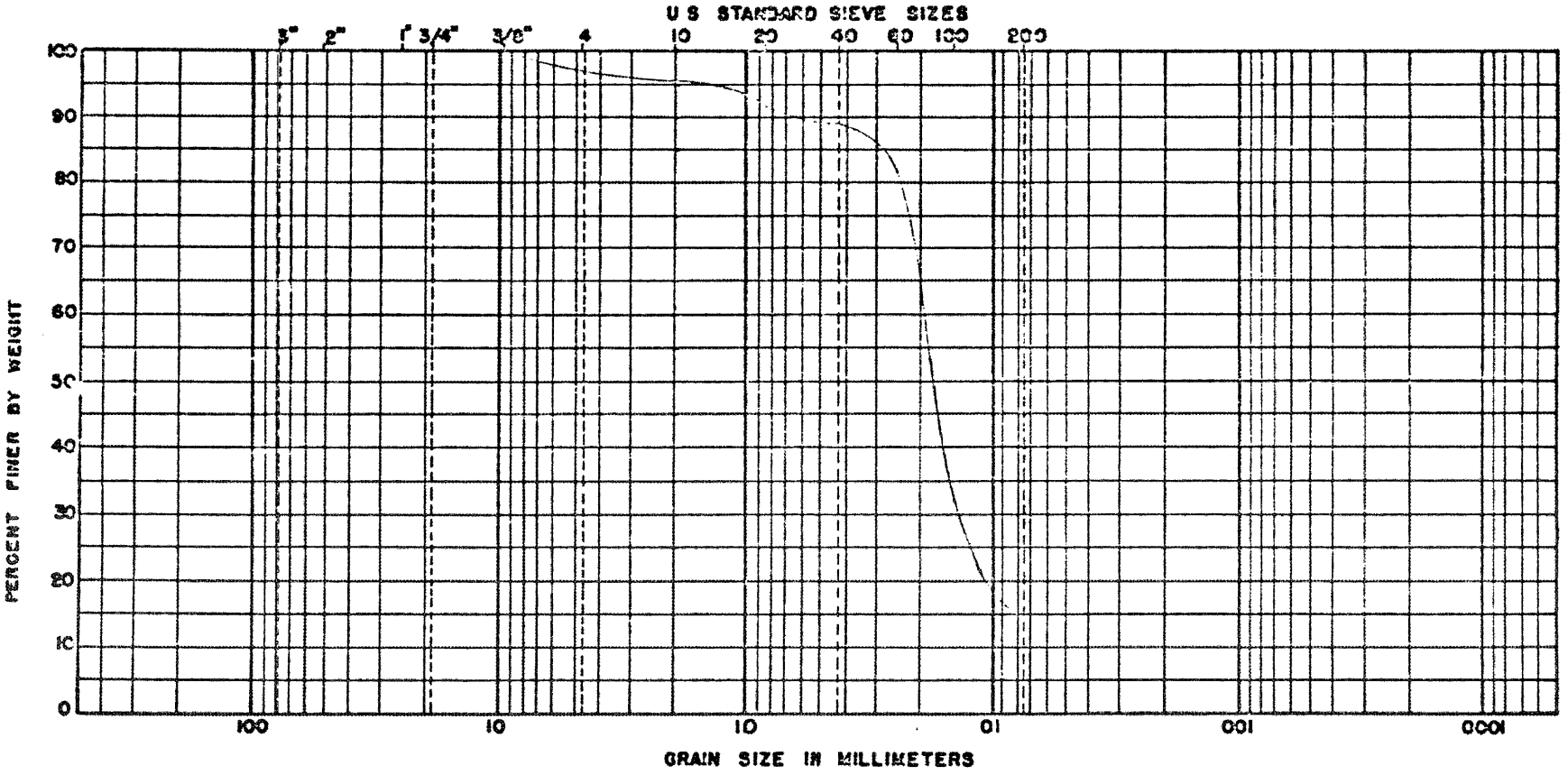


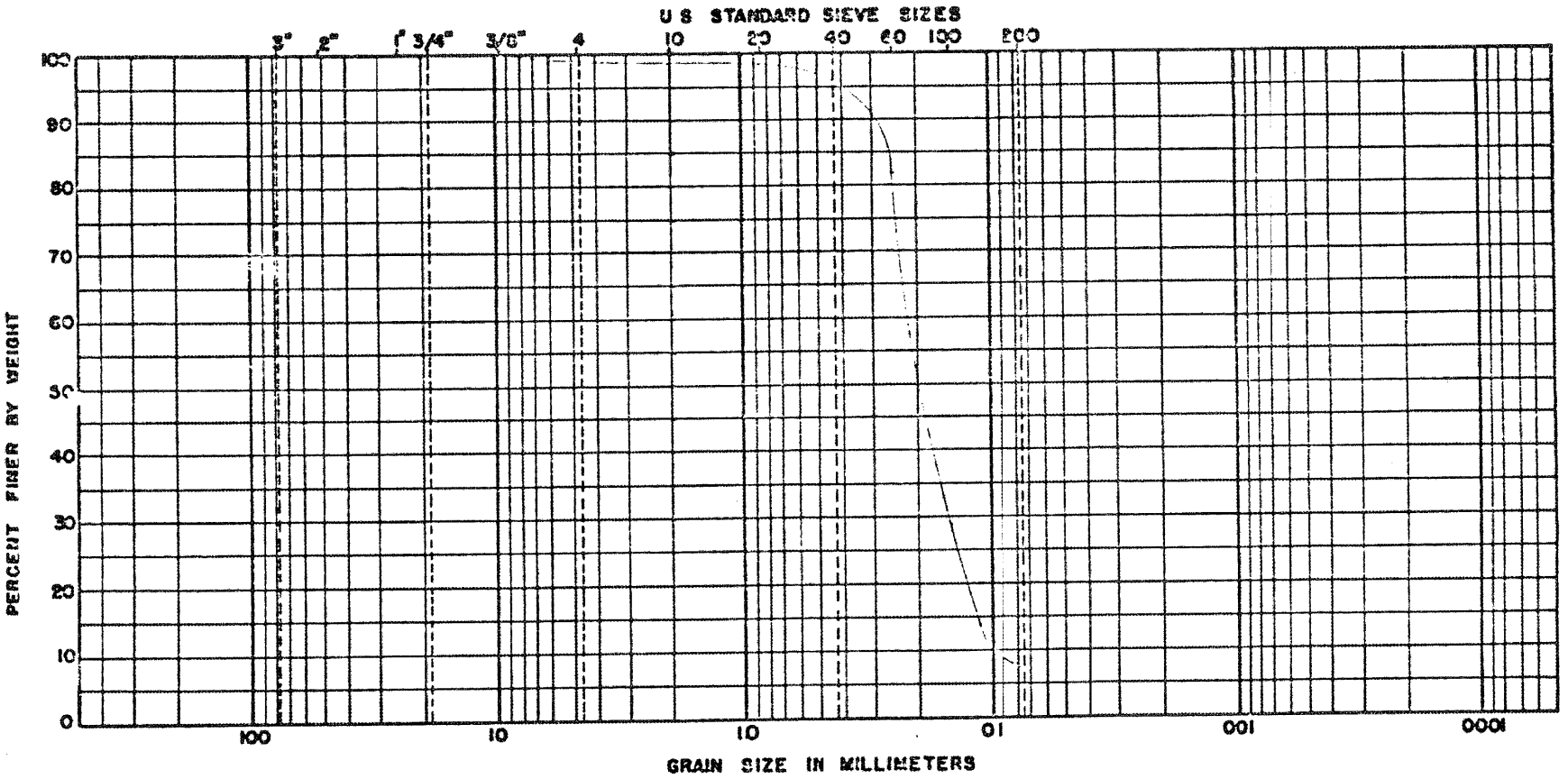
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-123 Sample #3	14.0' - 15.5'	- -	-	-	-	Light grey fine sand with traces of sandstone fragments Moisture Content - 25.7%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



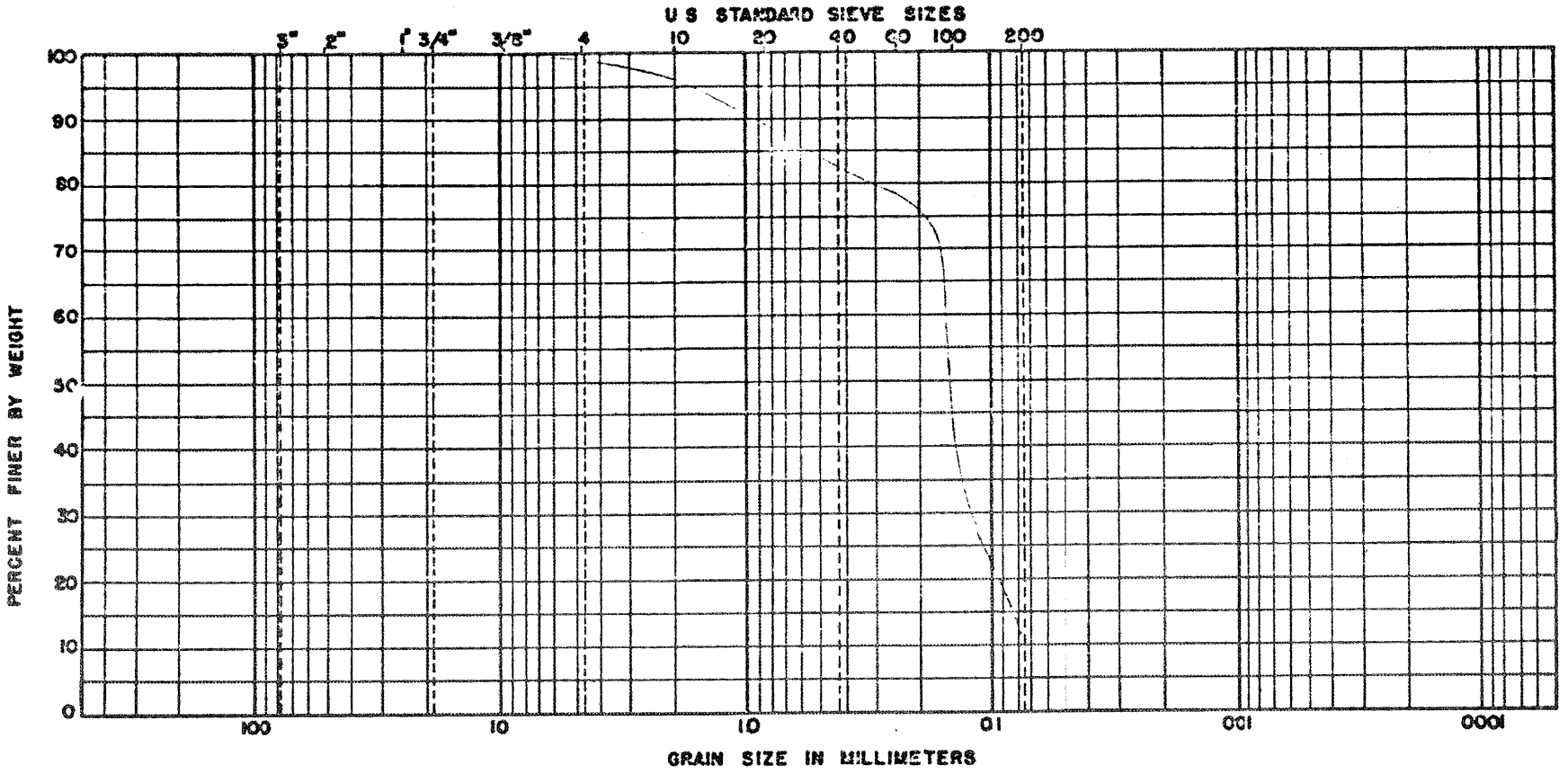
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-123 Sample #4	19.0' - 20.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 27.2%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



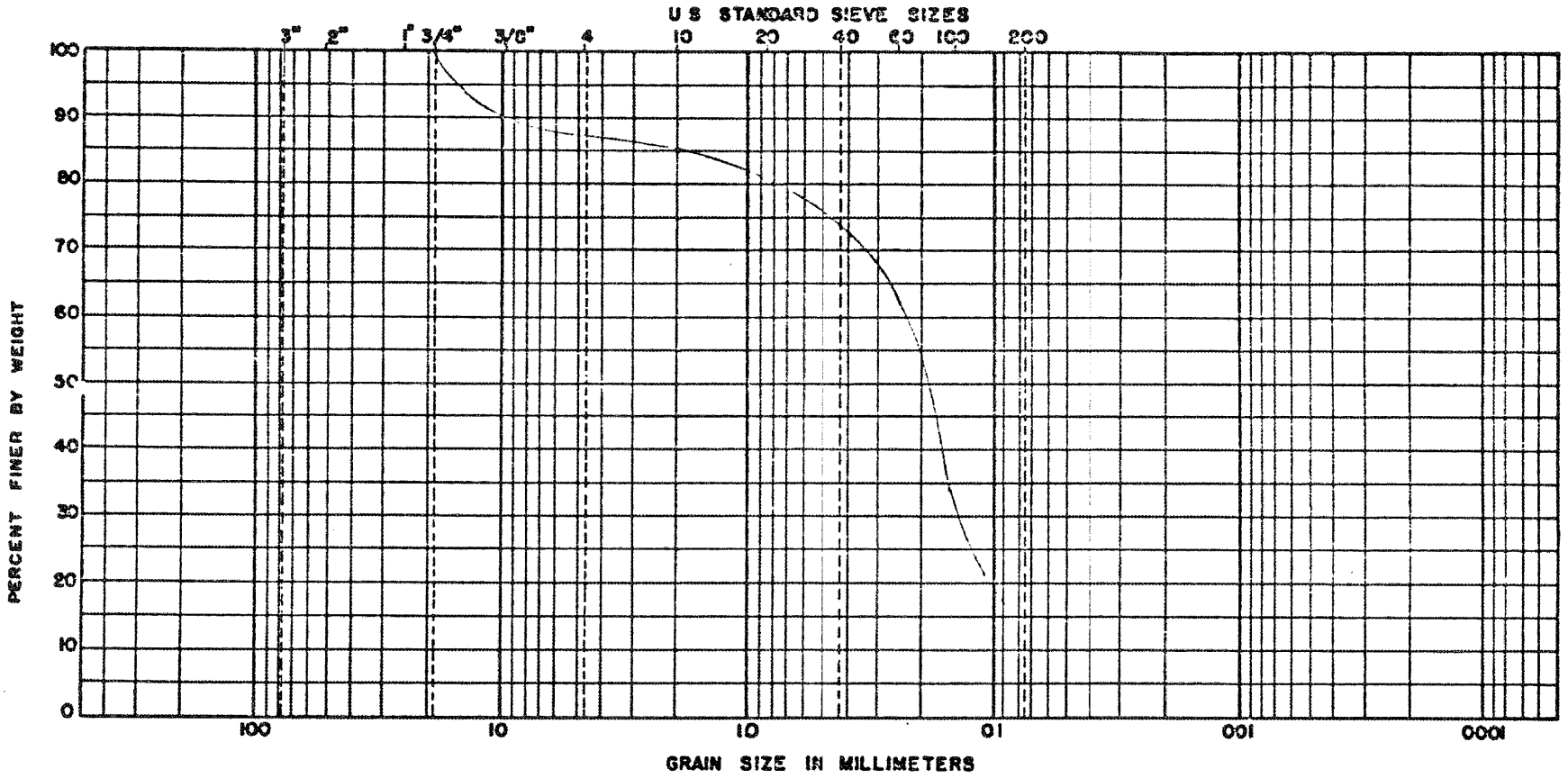
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-123 Sample #5	24.0' - 25.5'	- -	-	-	-	Grey fine sand with shell fragments Moisture Content - 29.1%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



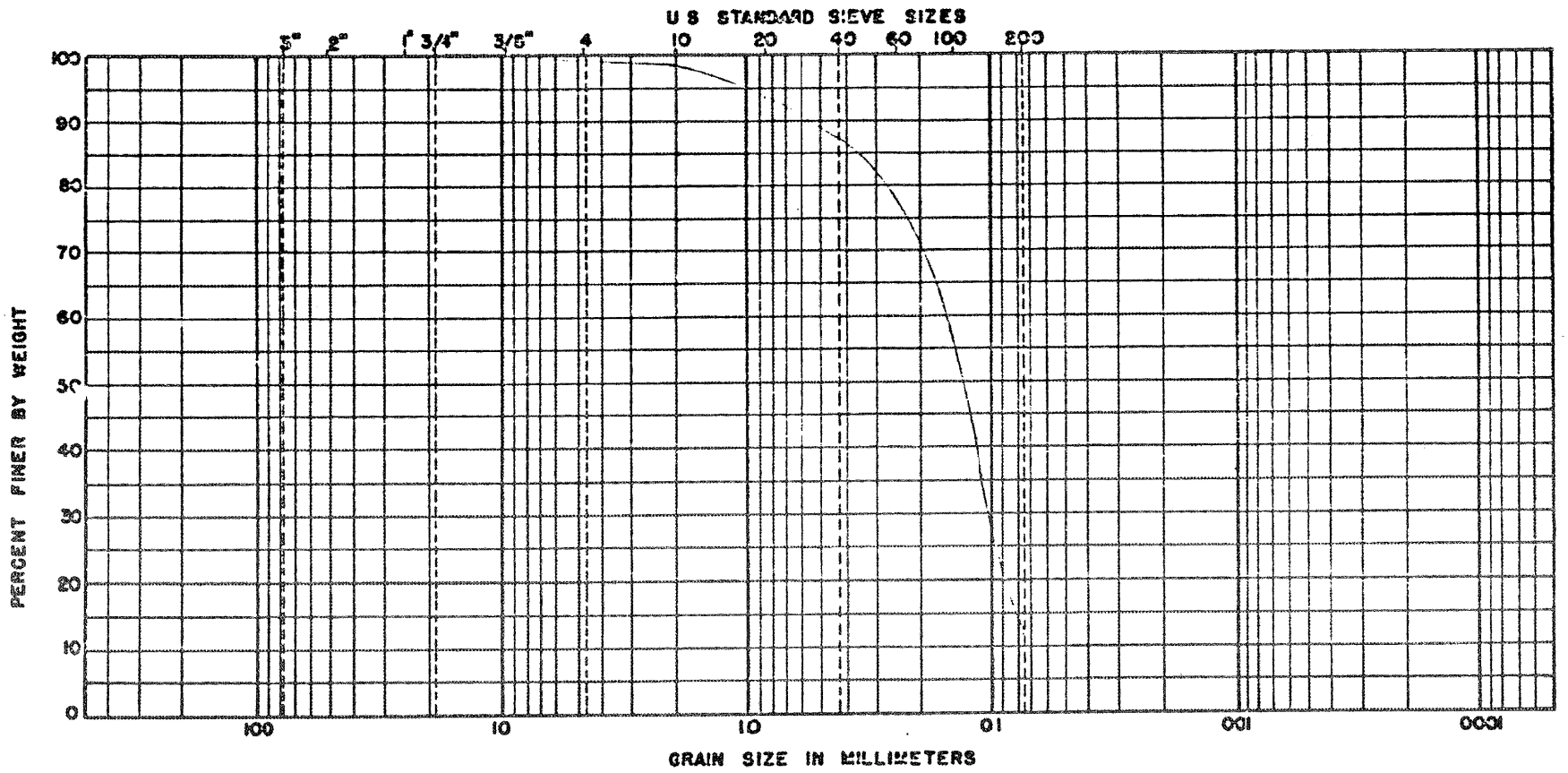
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	MAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-124 Sample #4	19.0' - 20.5'	- -	-	-	-	Brown fine sand with traces of shell fragments and silt fragments Moisture Content - 22.4%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



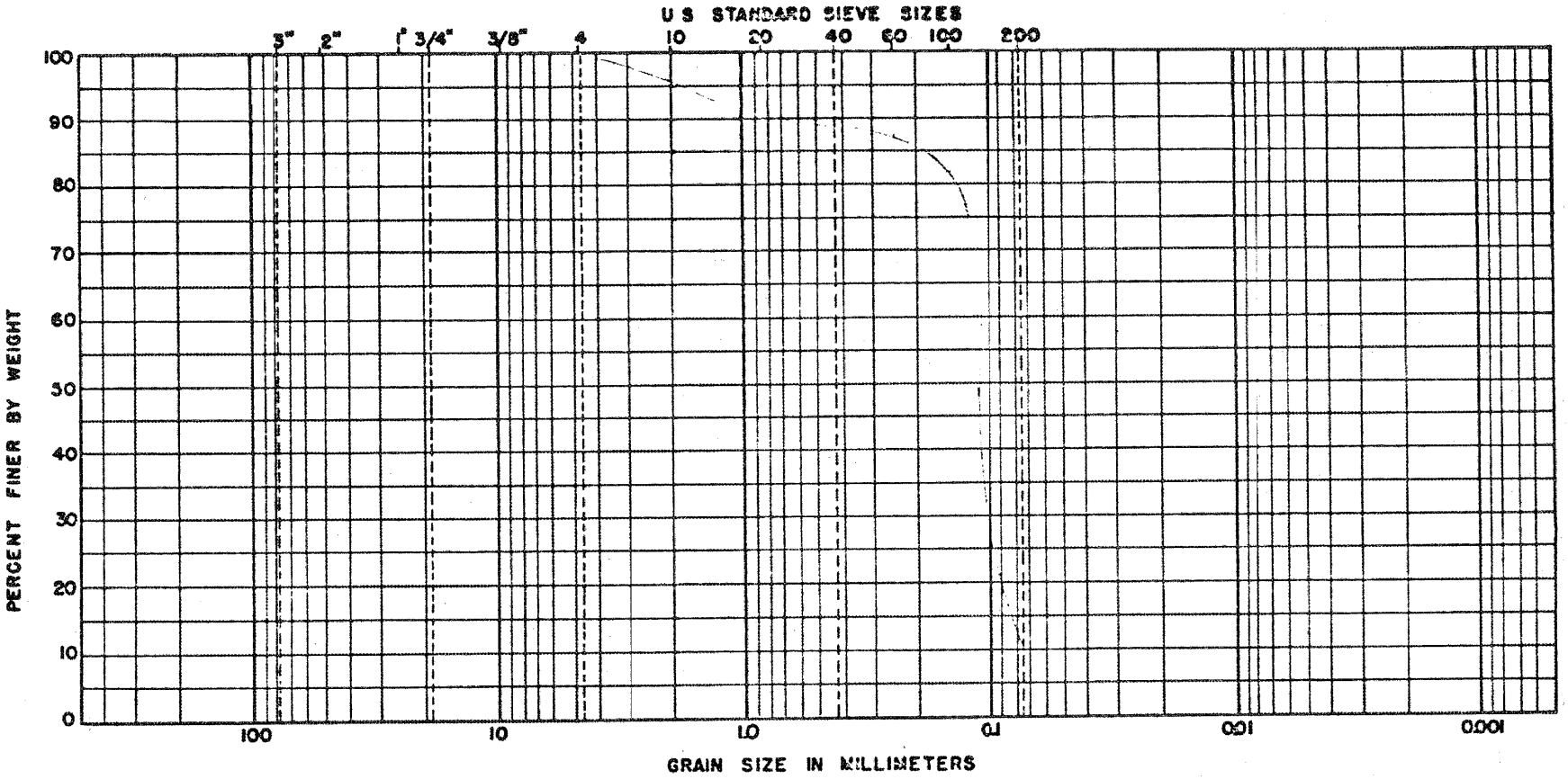
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-124 Sample #5	24.0' - 25.5'	- -	-	-	-	Grey fine sand with some shell fragments Moisture Content - 29.8%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



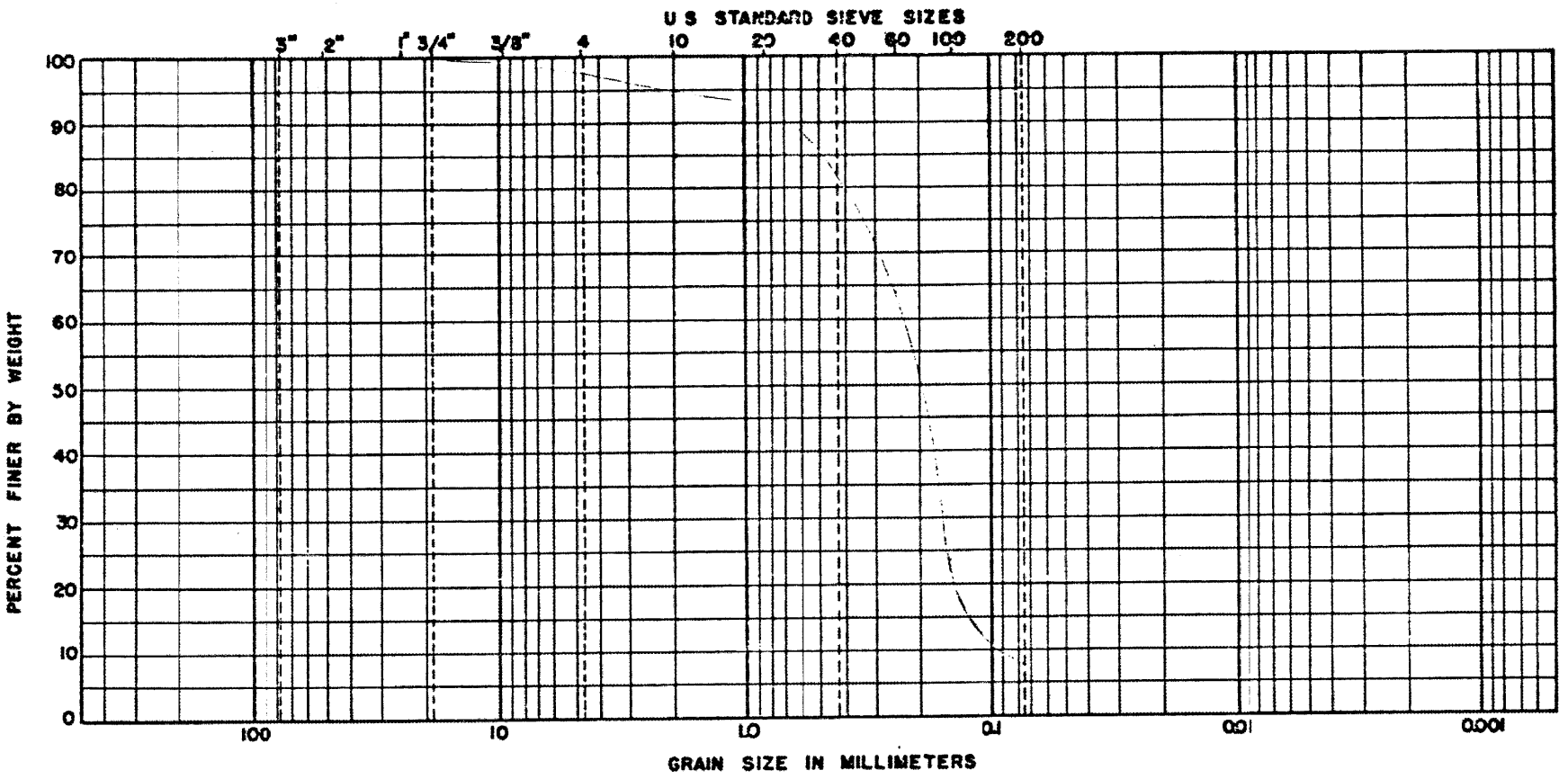
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-124 Sample #6	29.0' - 30.5'	- -	-	-	-	Grey fine sand with some shell fragments Moisture Content - 21.1%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



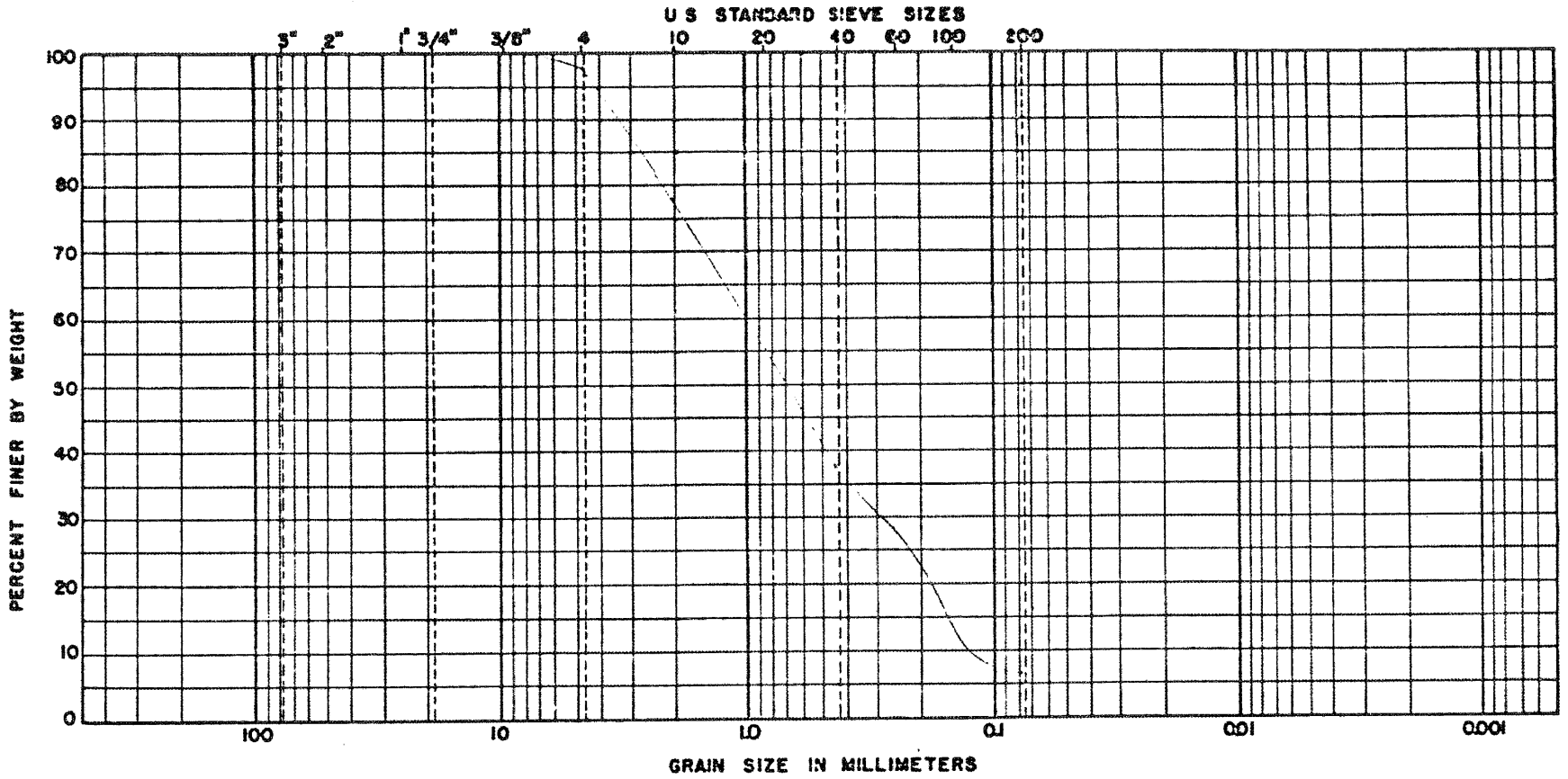
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-125 Sample #4	19.0' - 20.5'	- -	-	-	-	Brown and grey-brown fine sand with shell fragments Moisture Content - 28.0%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



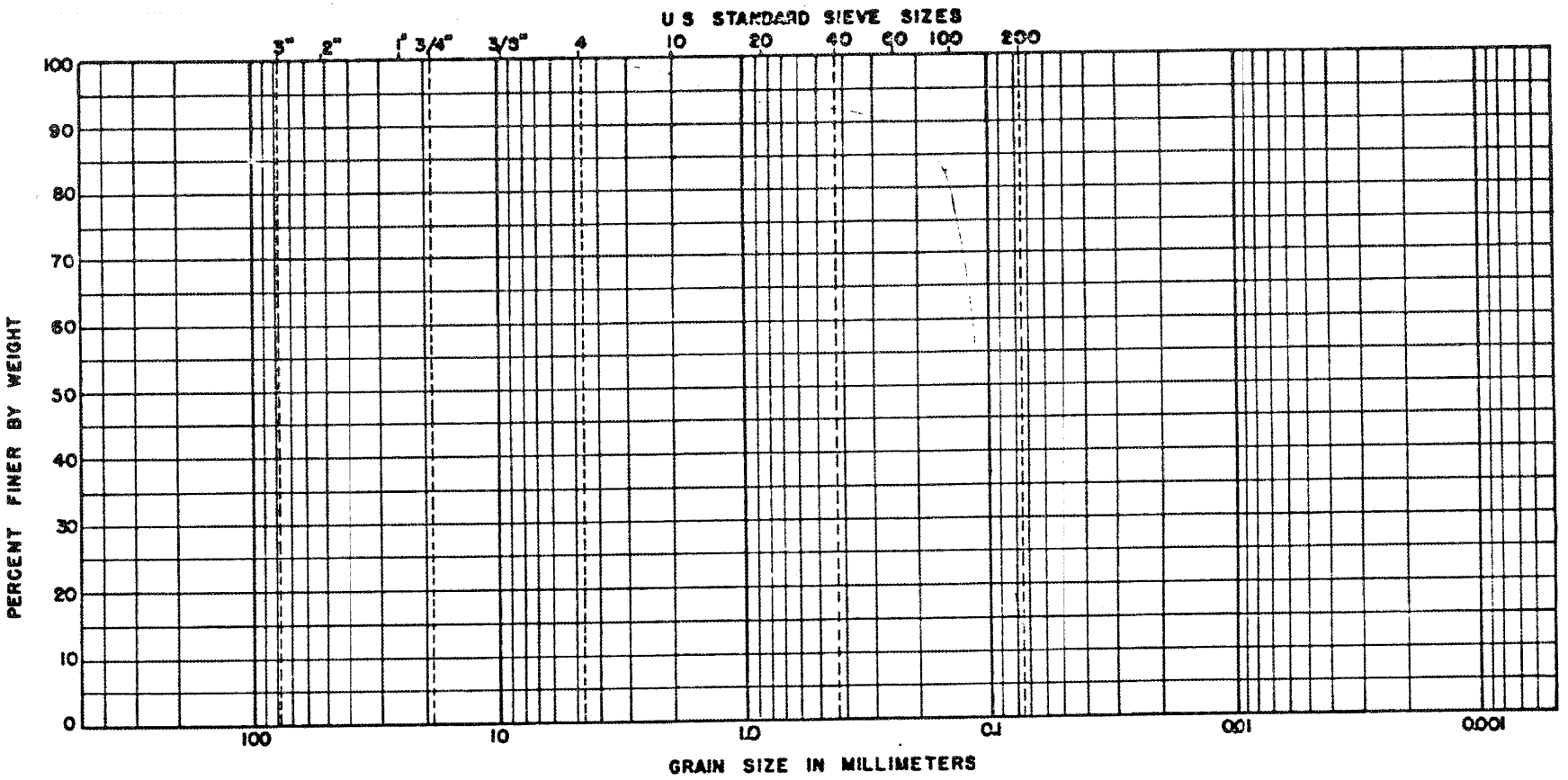
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-125 Sample #5	24.0' - 25.5'	- -	-	-	-	Grey medium sand with shell fragments Moisture Content - 22.2%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



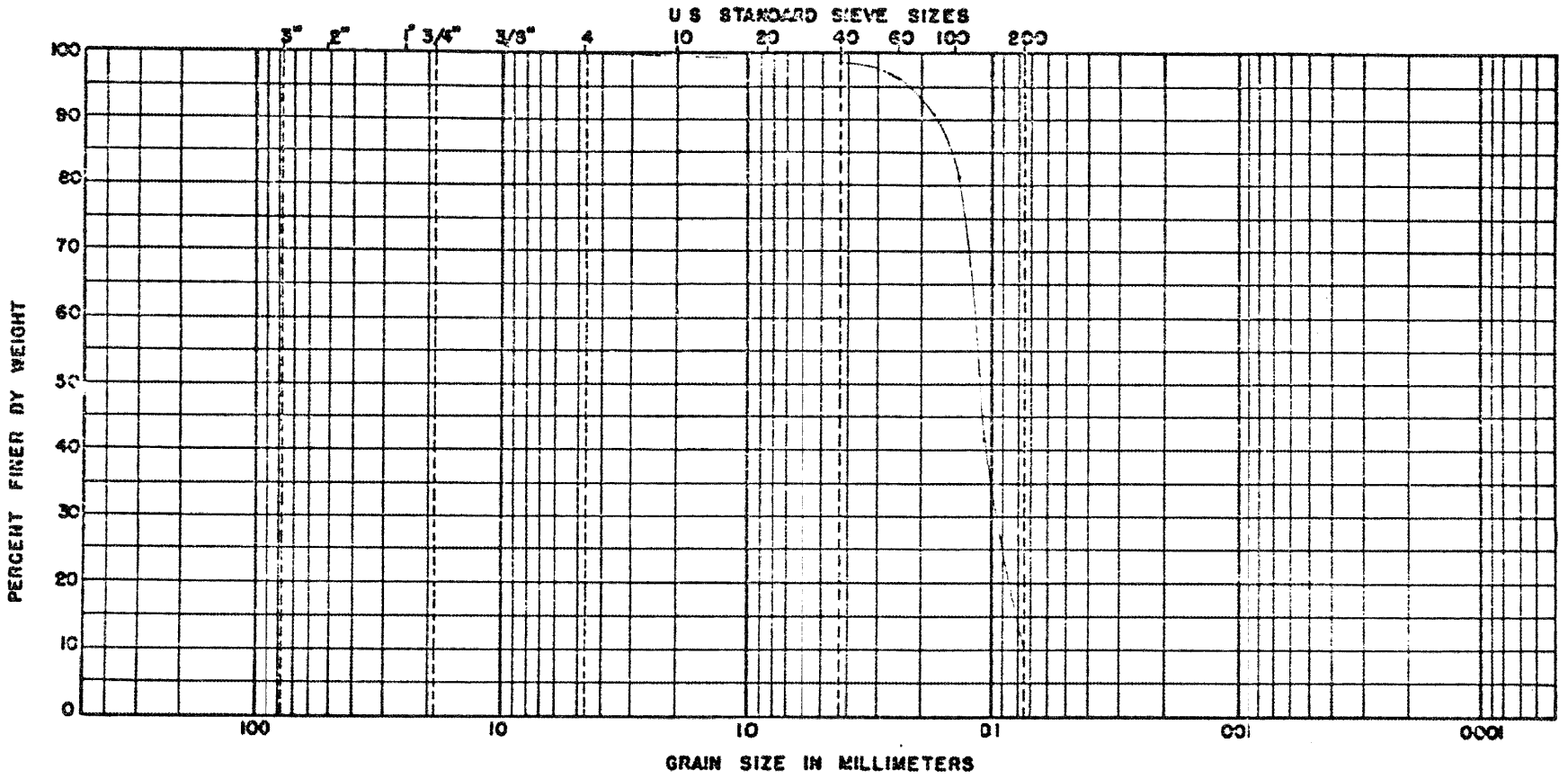
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-125 Sample #6	29.0' - 30.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 31.0%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



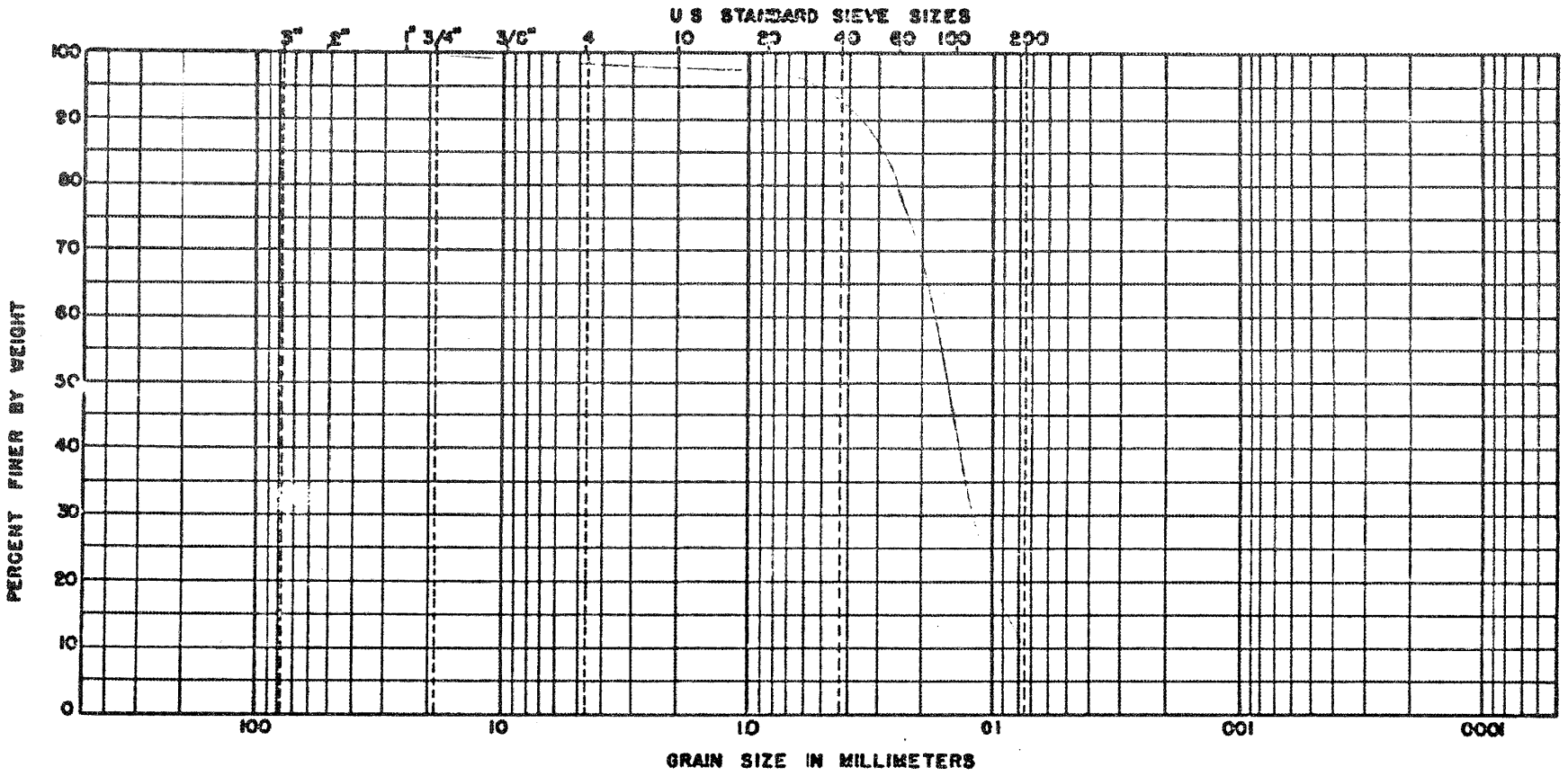
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
B-126 Sample #3	14.0' - 15.5'	- -	-	-	-	Grey fine sand Moisture Content - 24.4%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



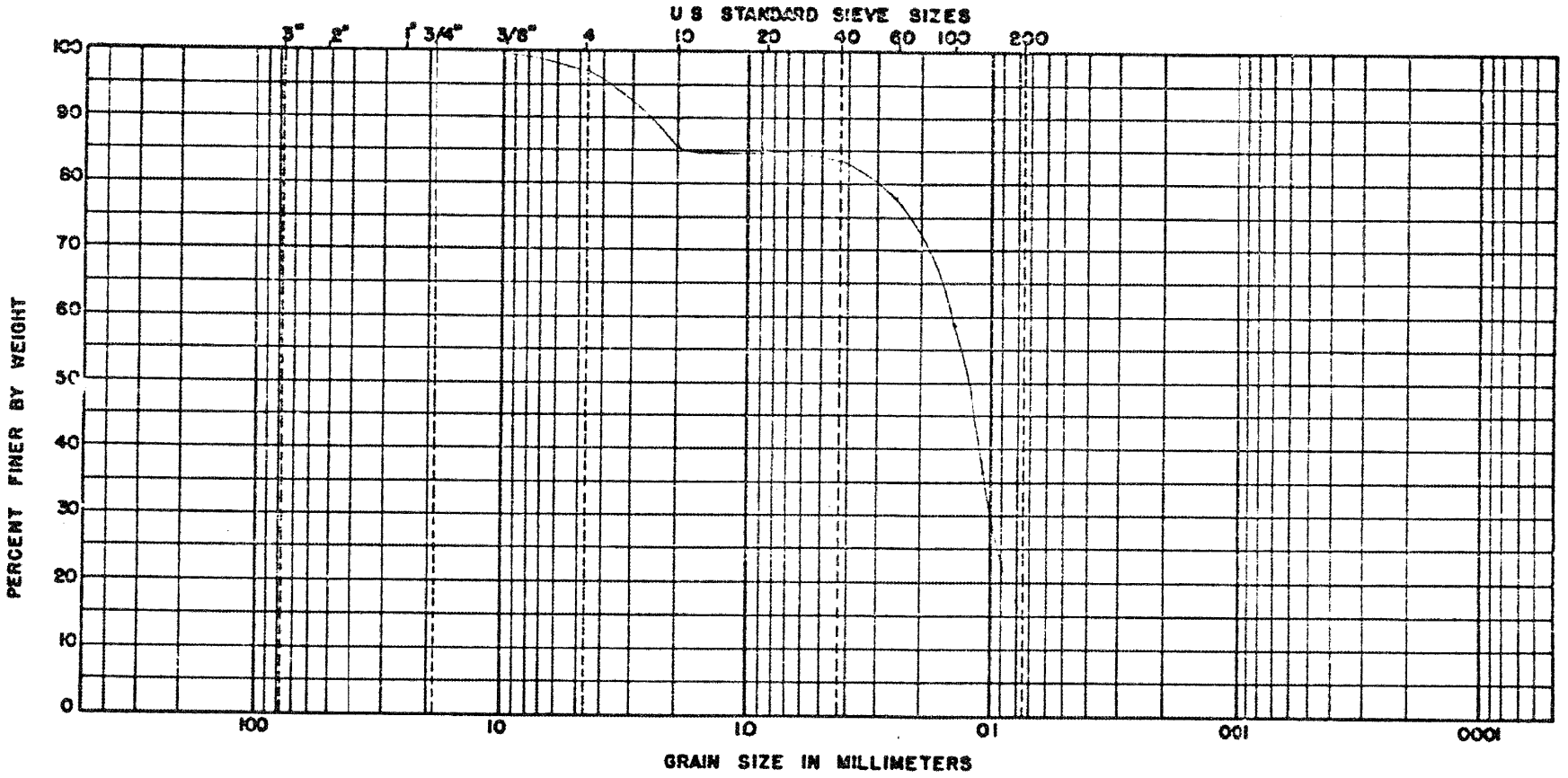
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-126 Sample #4	19.0' - 20.5'	- -	-	-	-	Grey fine sand with traces of grey sandstone fragments Moisture Content - 30.7%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



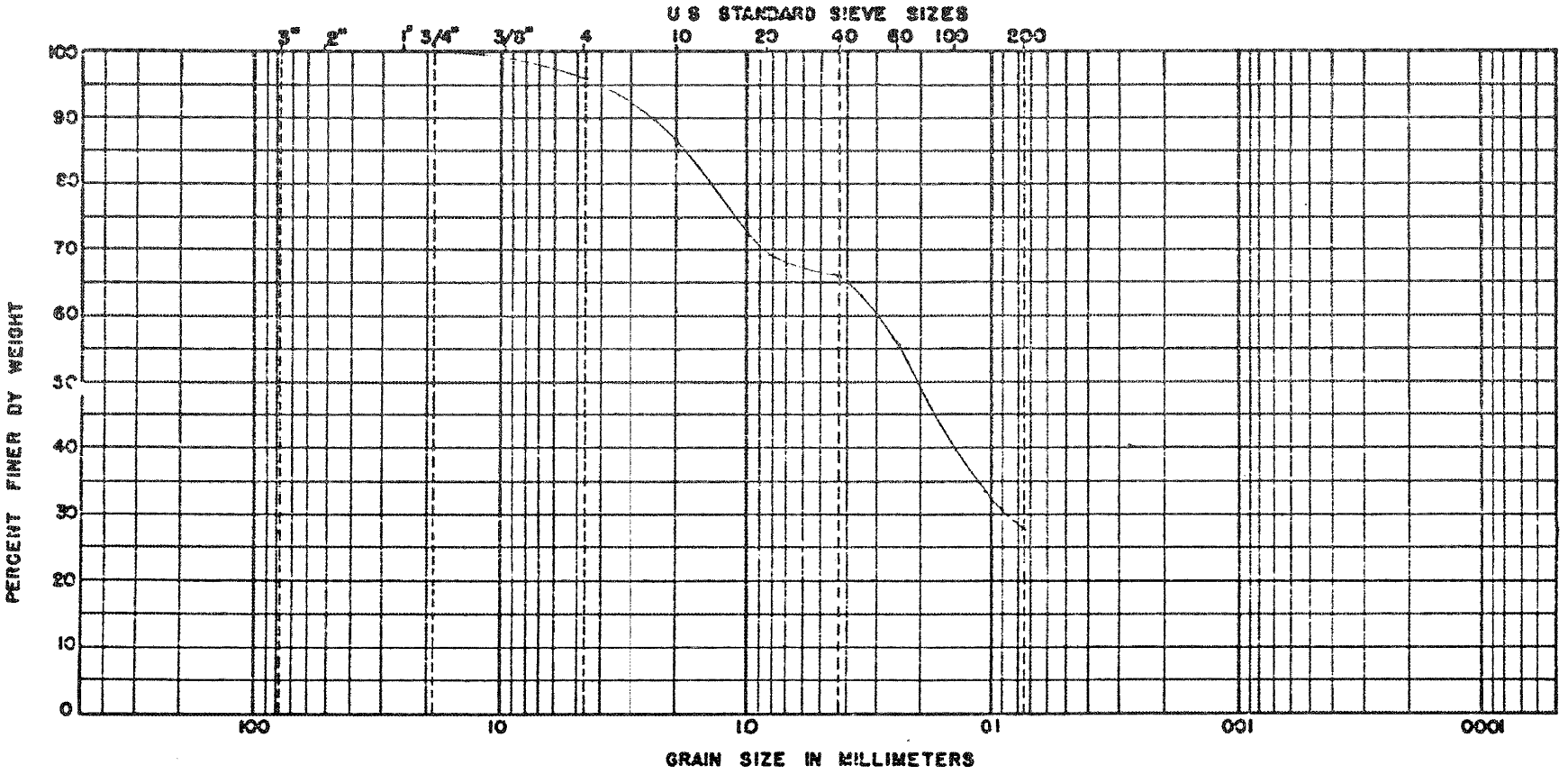
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-126 Sample #5	24.0' - 25.5'	- -	-	--	-	Grey fine sand Moisture Content - 27.0%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



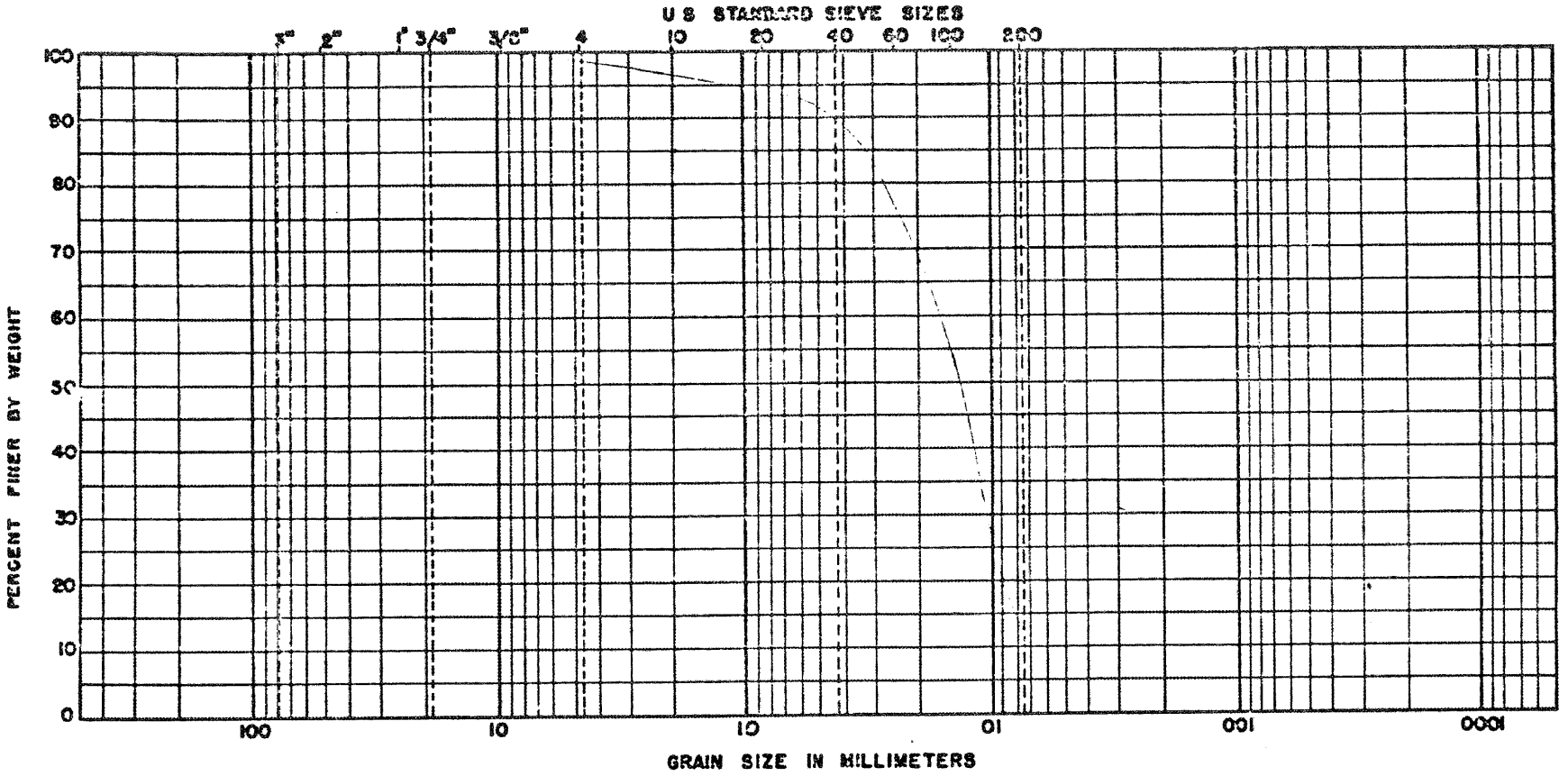
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-127 Sample #4	19.0' - 20.5'	- -	-	-	-	Grey medium sand with some small stone fragments and shell fragments Moisture Content - 31.4%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



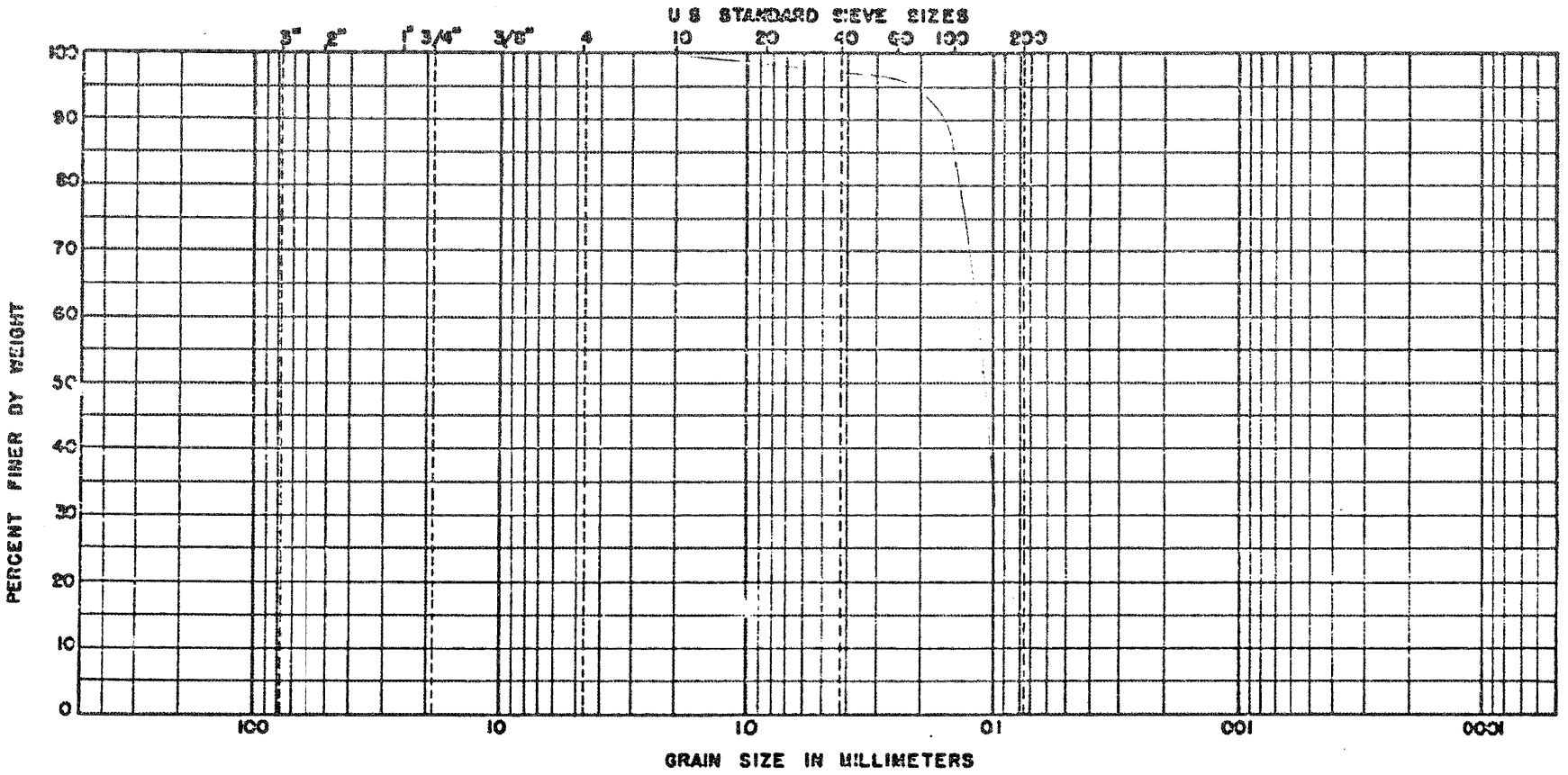
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-127 Sample #5	24.0' - 25.5'	- -	-	-	-	Grey fine sand with seams of brown medium sand with shell fragments Moisture Content - 25.8%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



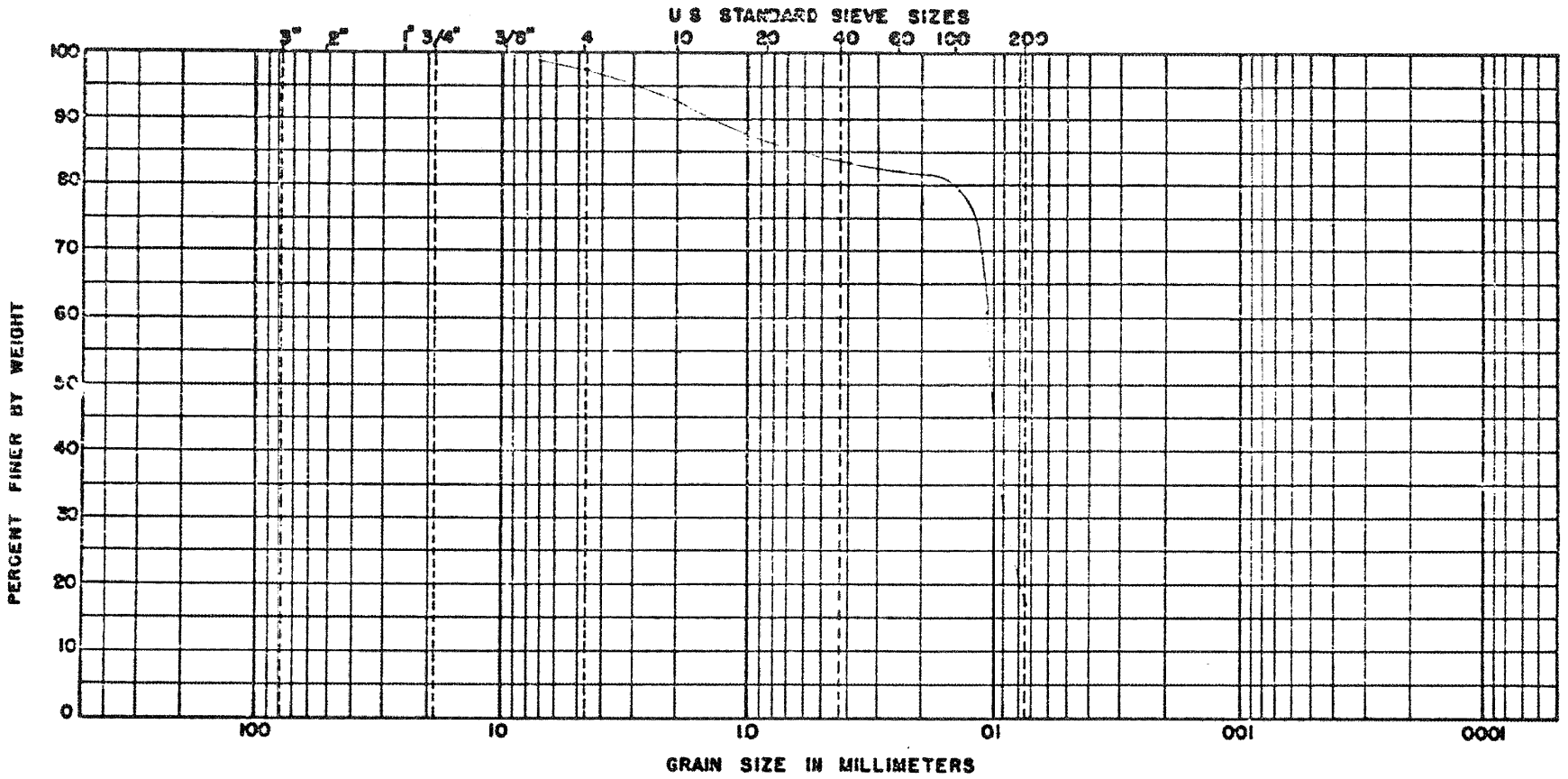
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-127 Sample #6	29.0' - 30.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 33.5%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



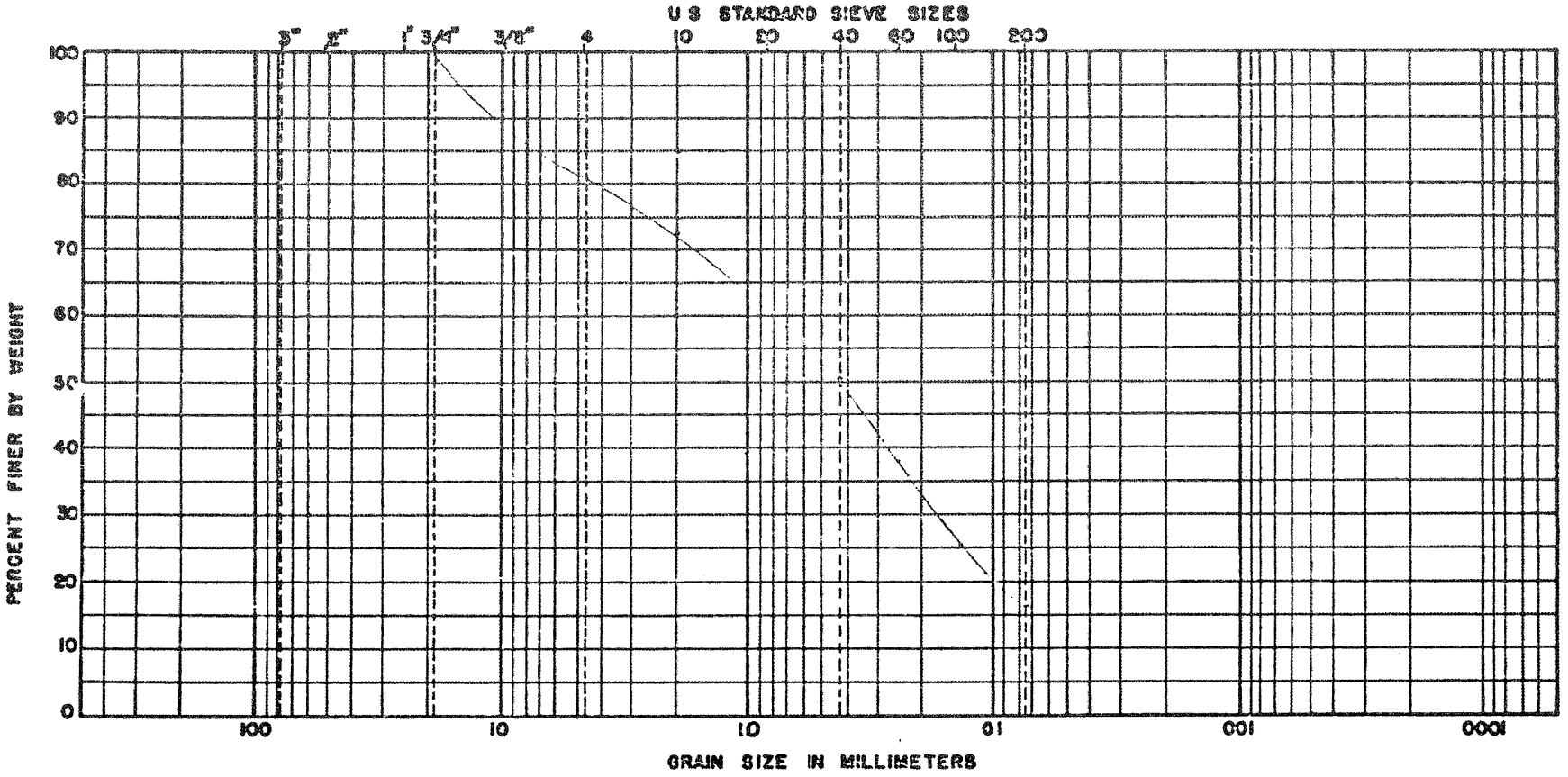
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	L L	PL	P I	DESCRIPTION OR CLASSIFICATION
B-127 Sample #7	34.0' - 35.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 28.2%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



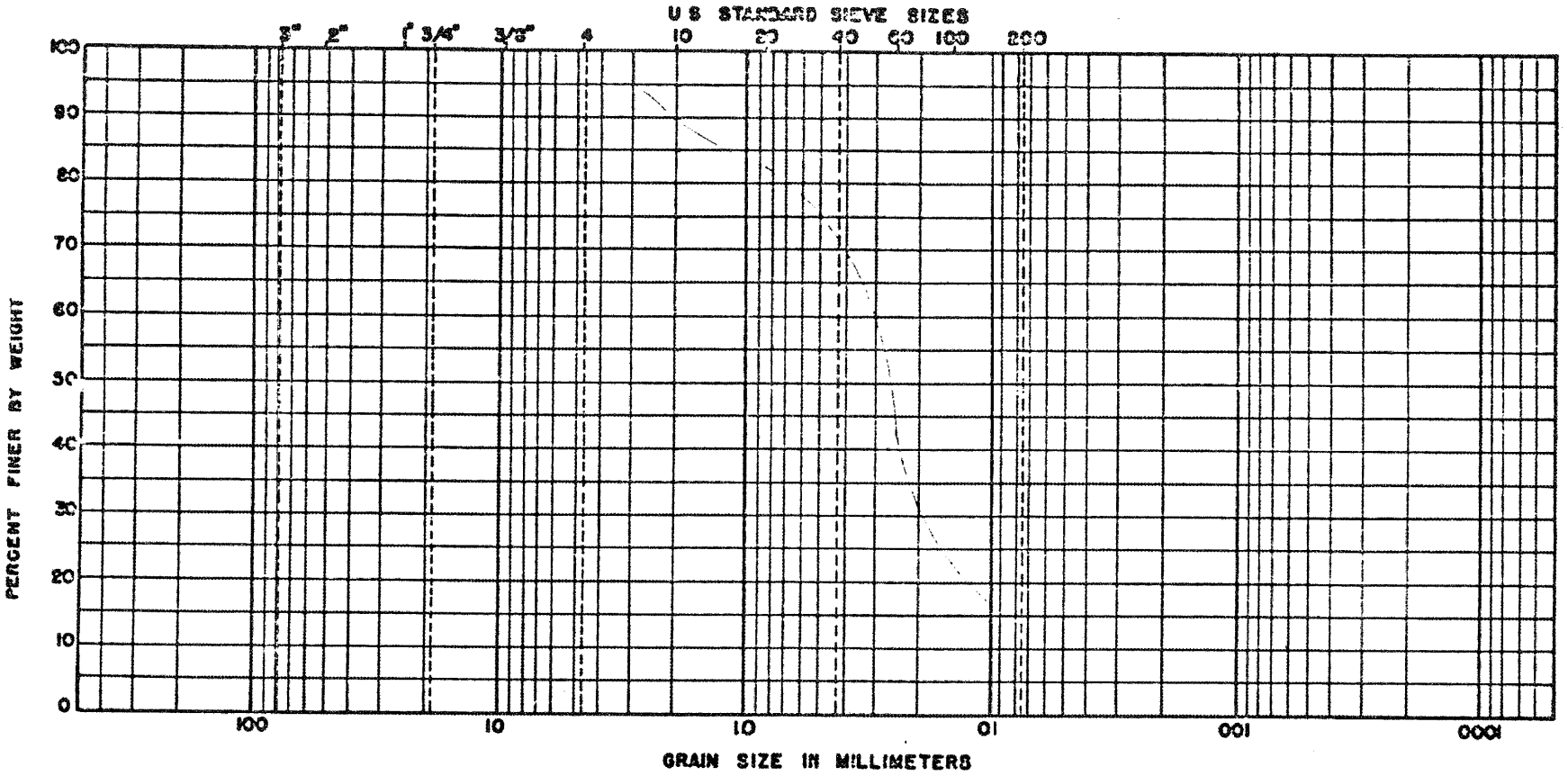
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-128 Sample #5	19.0' - 20.5'	- -	-	-	-	Grey fine sand with shell fragments and clay in spots Moisture Content - 20.7%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



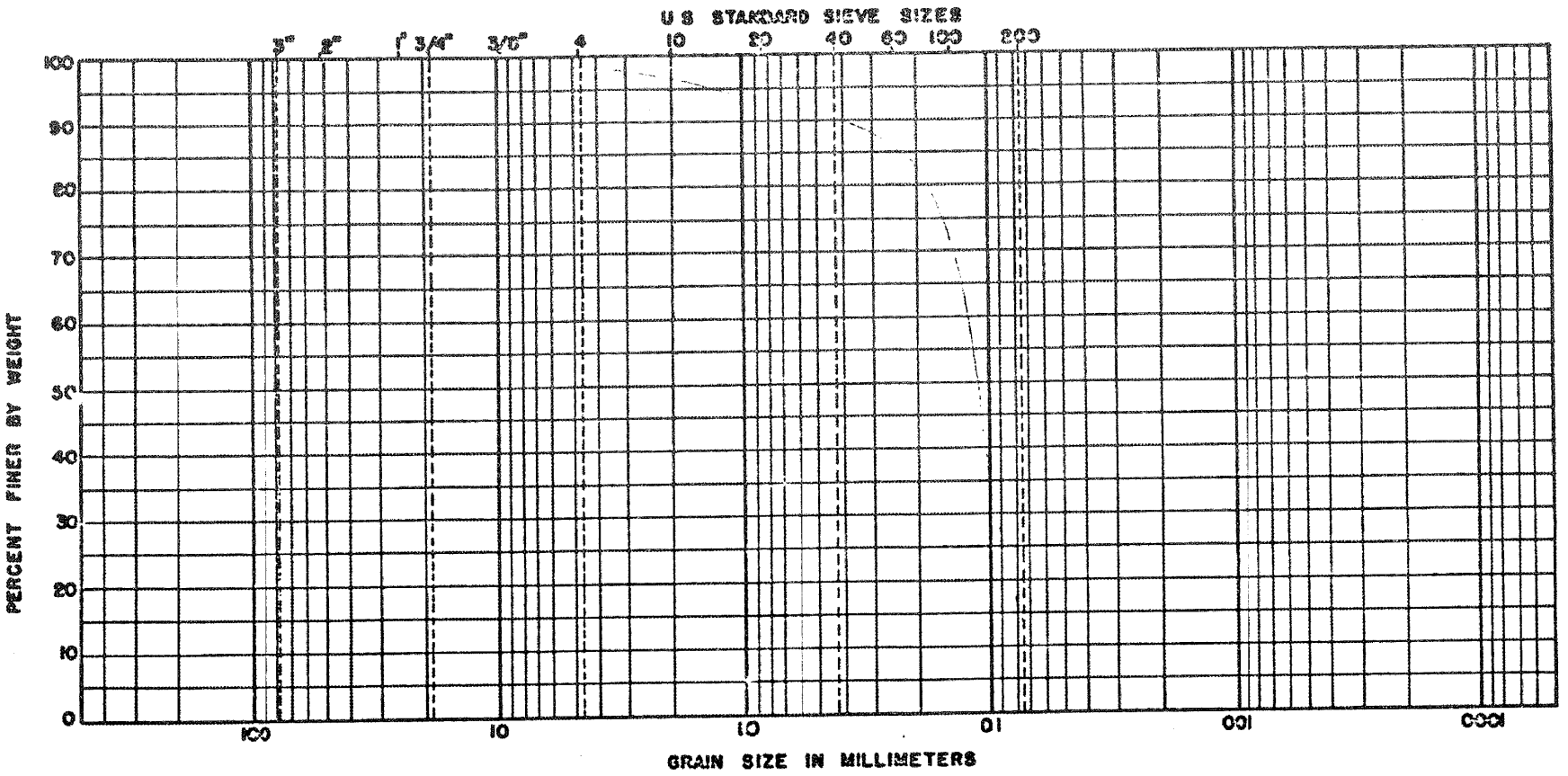
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-128 Sample #6	24.0' - 25.5'	- -	-	-	-	Brown medium sand with some sandstone fragments and some grey seams Moisture Content - 22.1%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



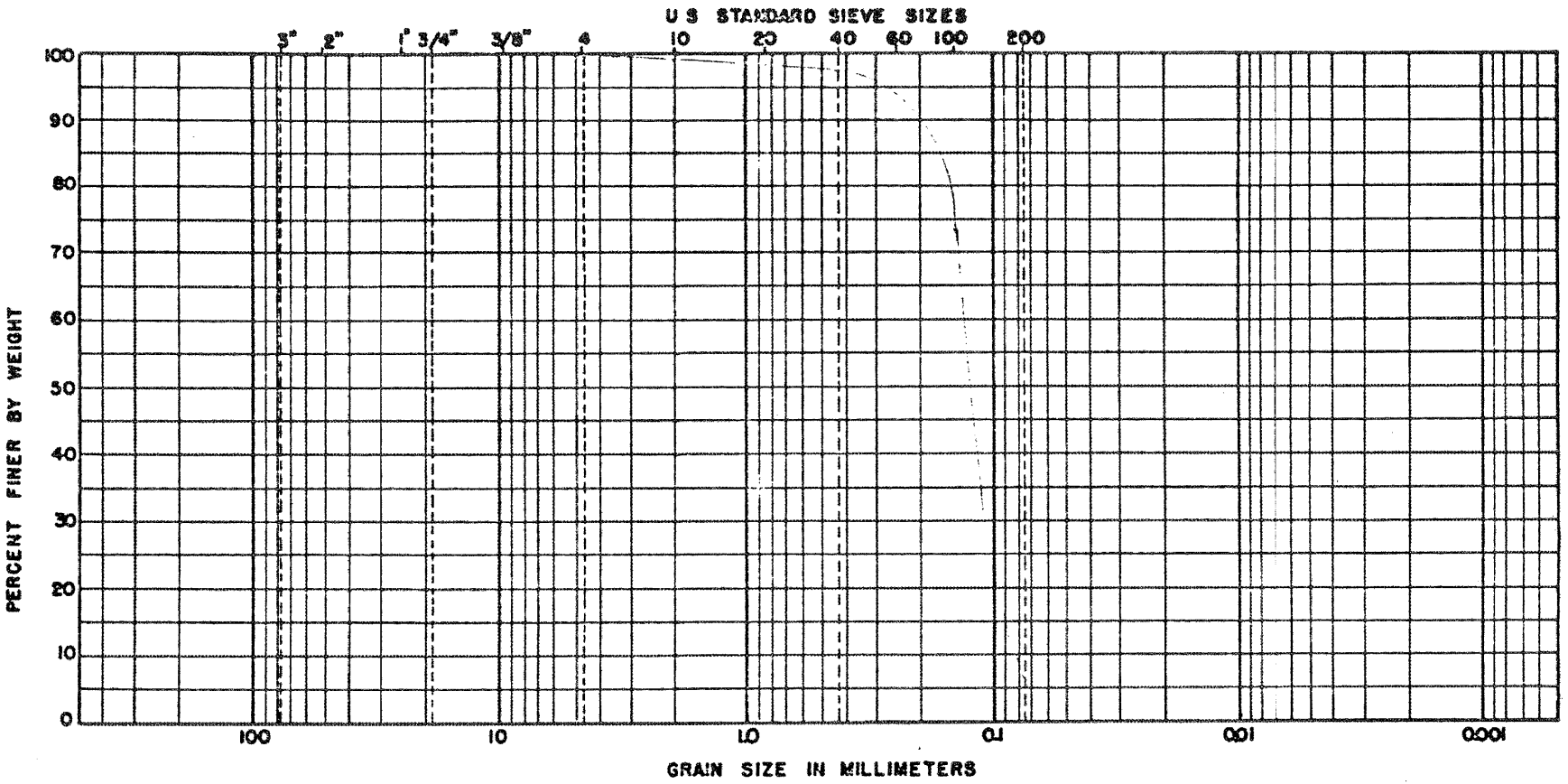
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-128 Sample #7	29.0' - 30.5'	- -	-	-	-	Grey fine sand Moisture Content - 29.8%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



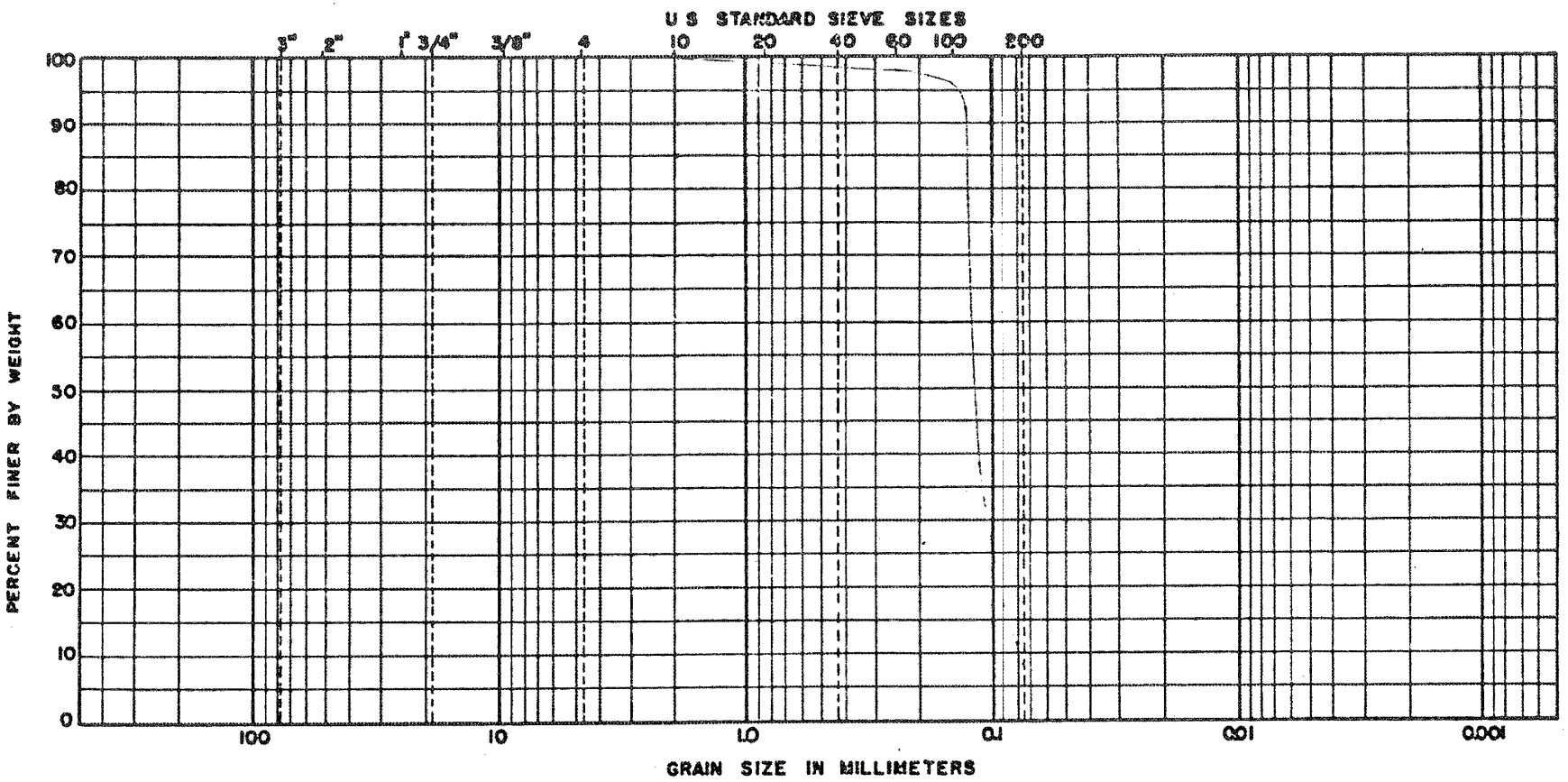
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-129 Sample #2	8.0'	- -	-	-	-	Grey silty fine sand Moisture Content - 27.5%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



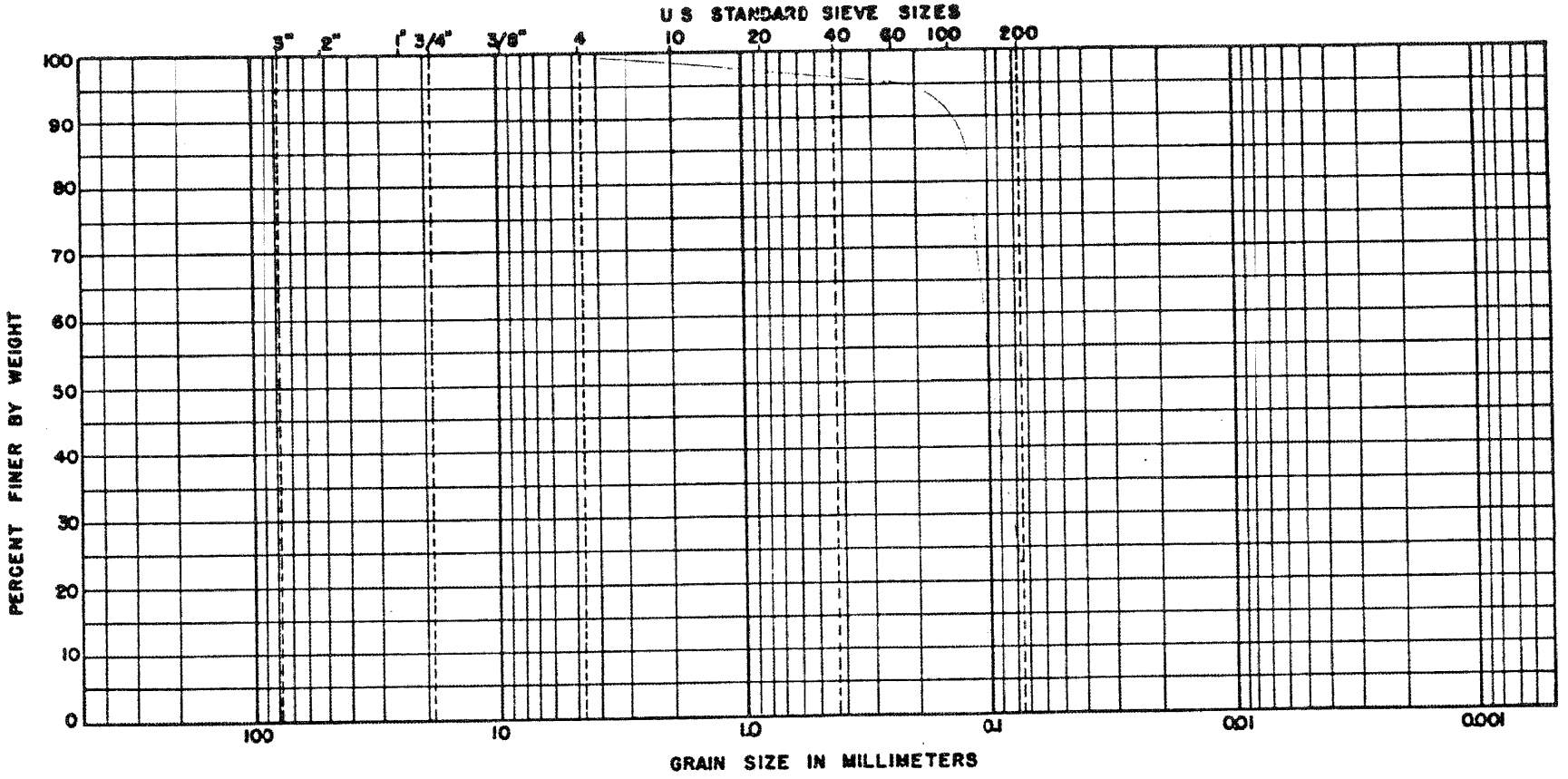
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-129 Sample #3	11.0'	- -	-	-	-	Grey silty sand Moisture Content - 27.9%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



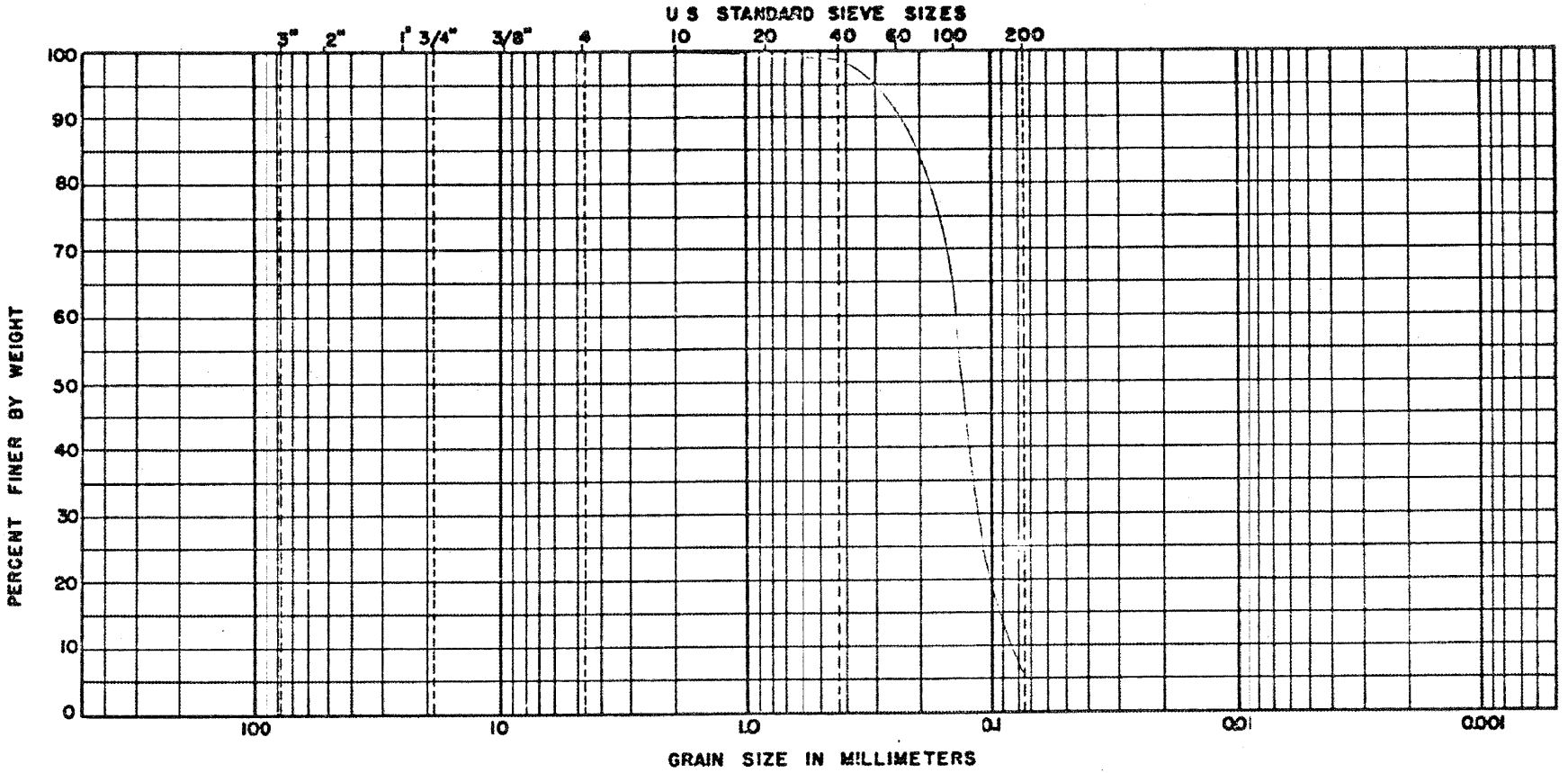
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-129 Sample #4	15.0'	- -	-	-	-	Silty fine sand Moisture Content - 31.8%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



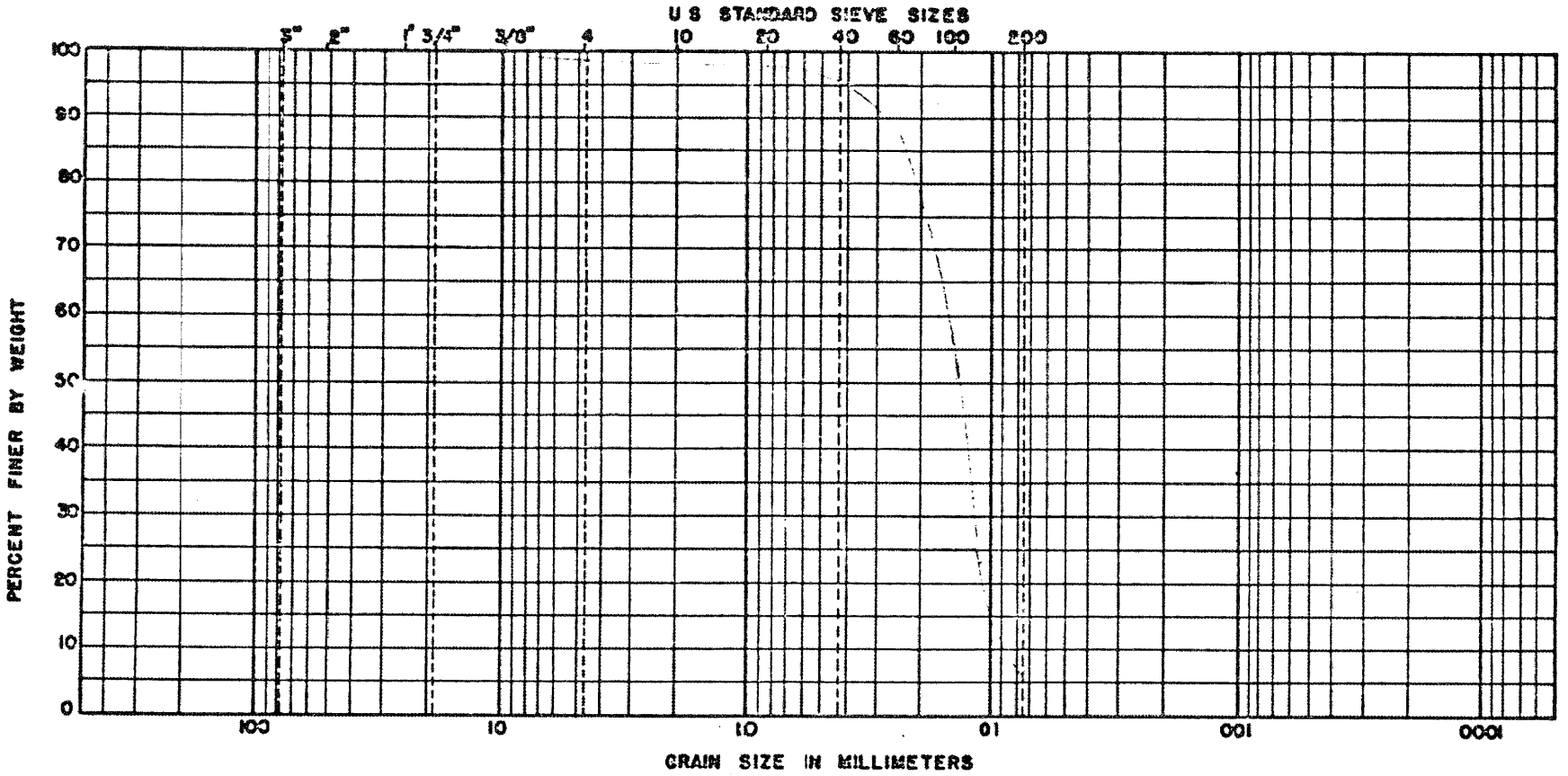
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-130 Sample #1	5.0' - 6.5'	- -	-	-	-	Grey fine sand Moisture Content - 27.7%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



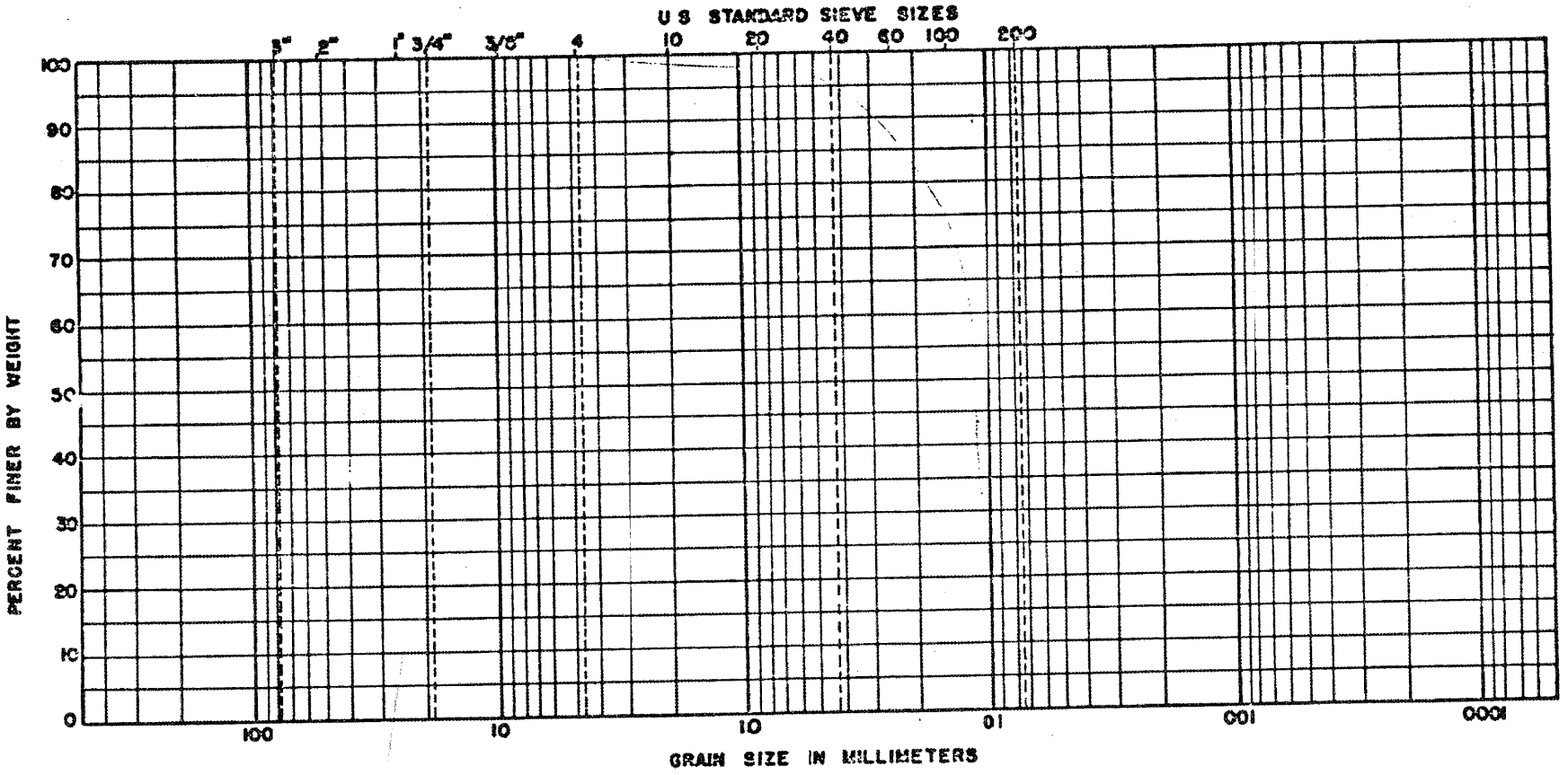
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-130 Sample #2	8.0' - 9.5'	--	-	-	-	Grey fine sand with slight traces of shell fragments Moisture Content - 24.7%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



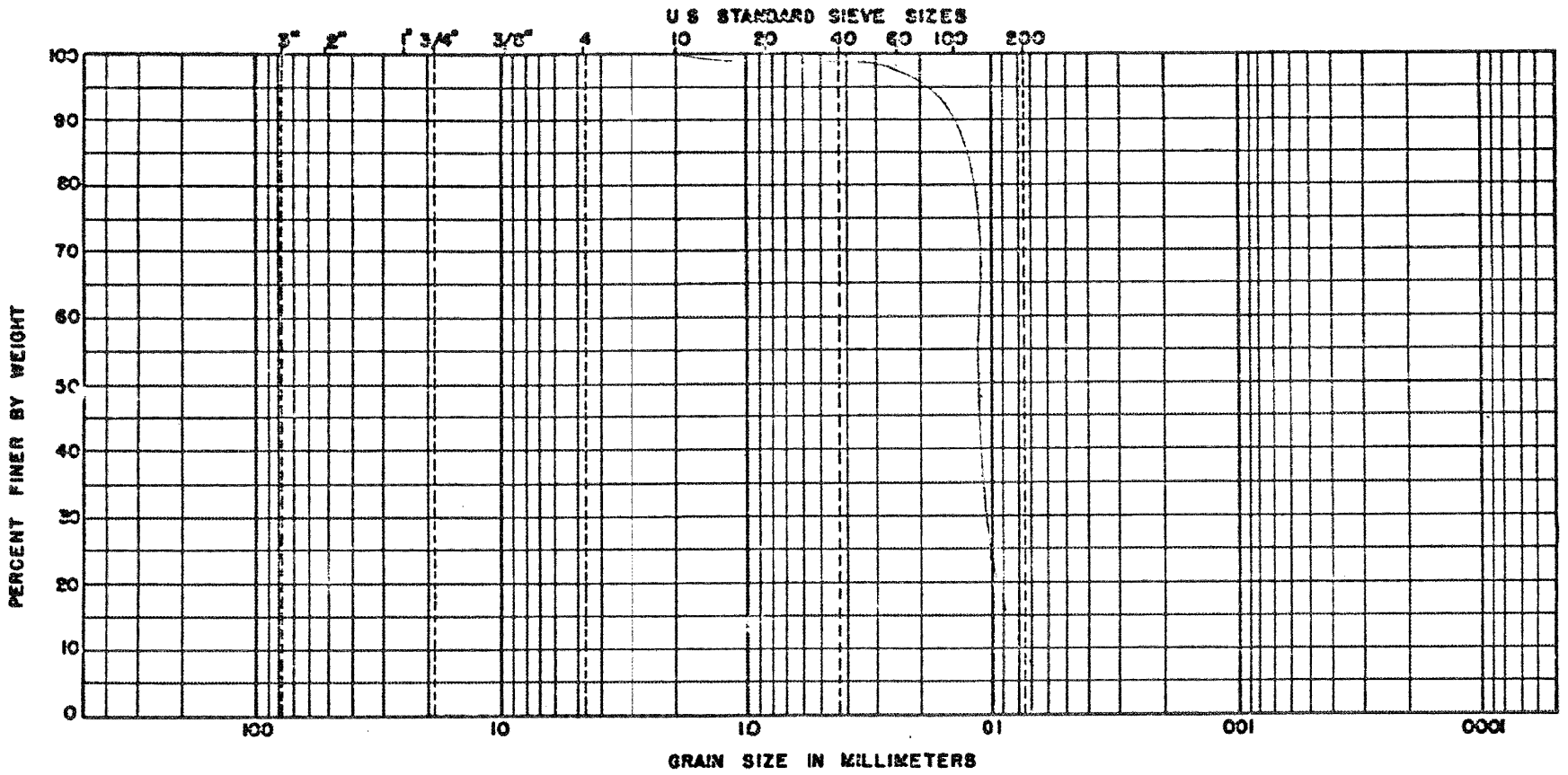
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-130 Sample #3	11.0' - 12.5'	- -	-	-	-	Grey fine sand with slight traces of shell fragments Moisture Content - 27.9%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



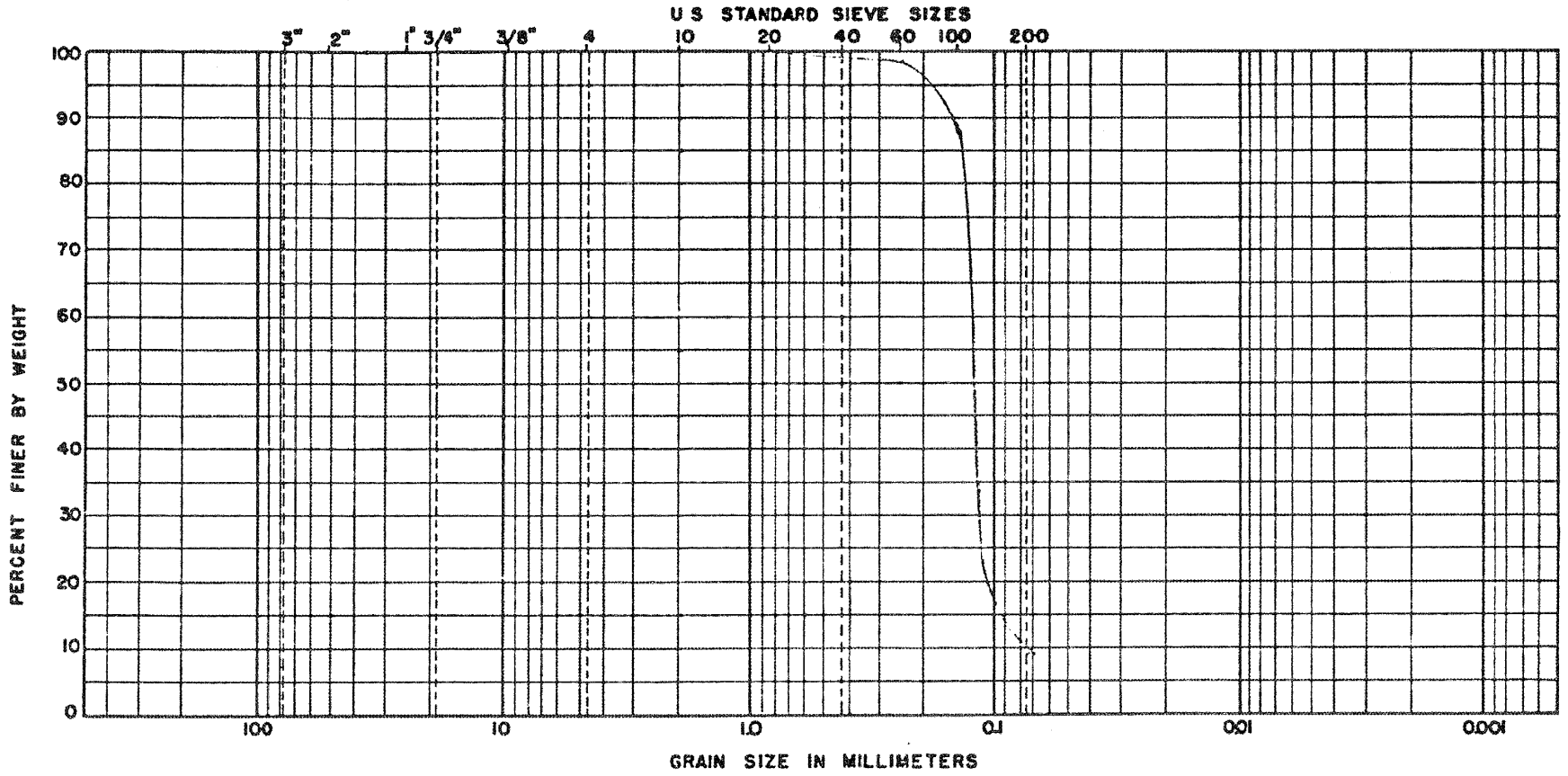
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-130 Sample #4	14.0' - 15.5'	- -	-	-	-	Grey fine sand Moisture Content - 28.1%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



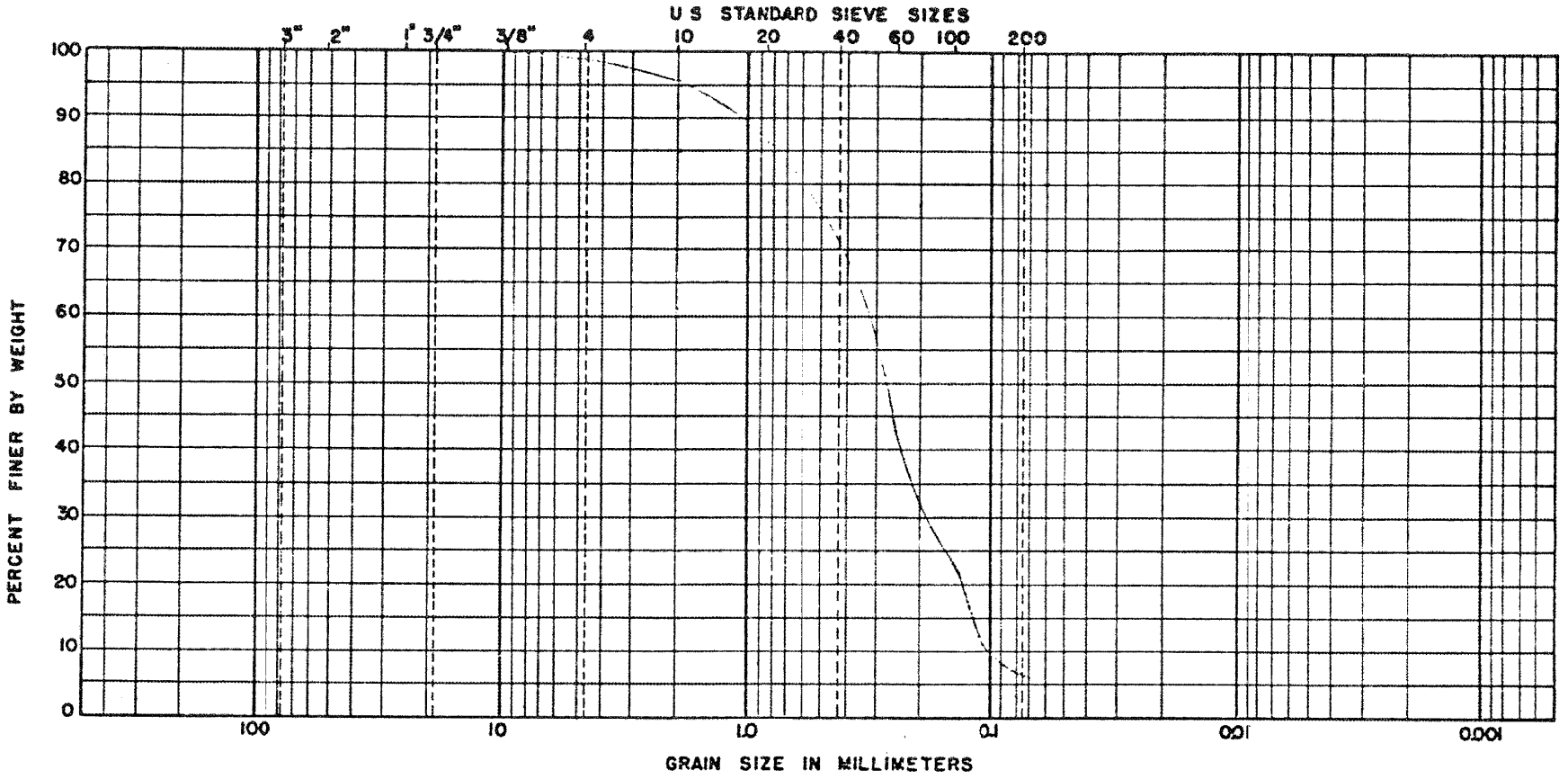
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-131 Sample #1	5.0' - 6.5'	- -	-	-	-	Grey fine sand Moisture Content - 32.4%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



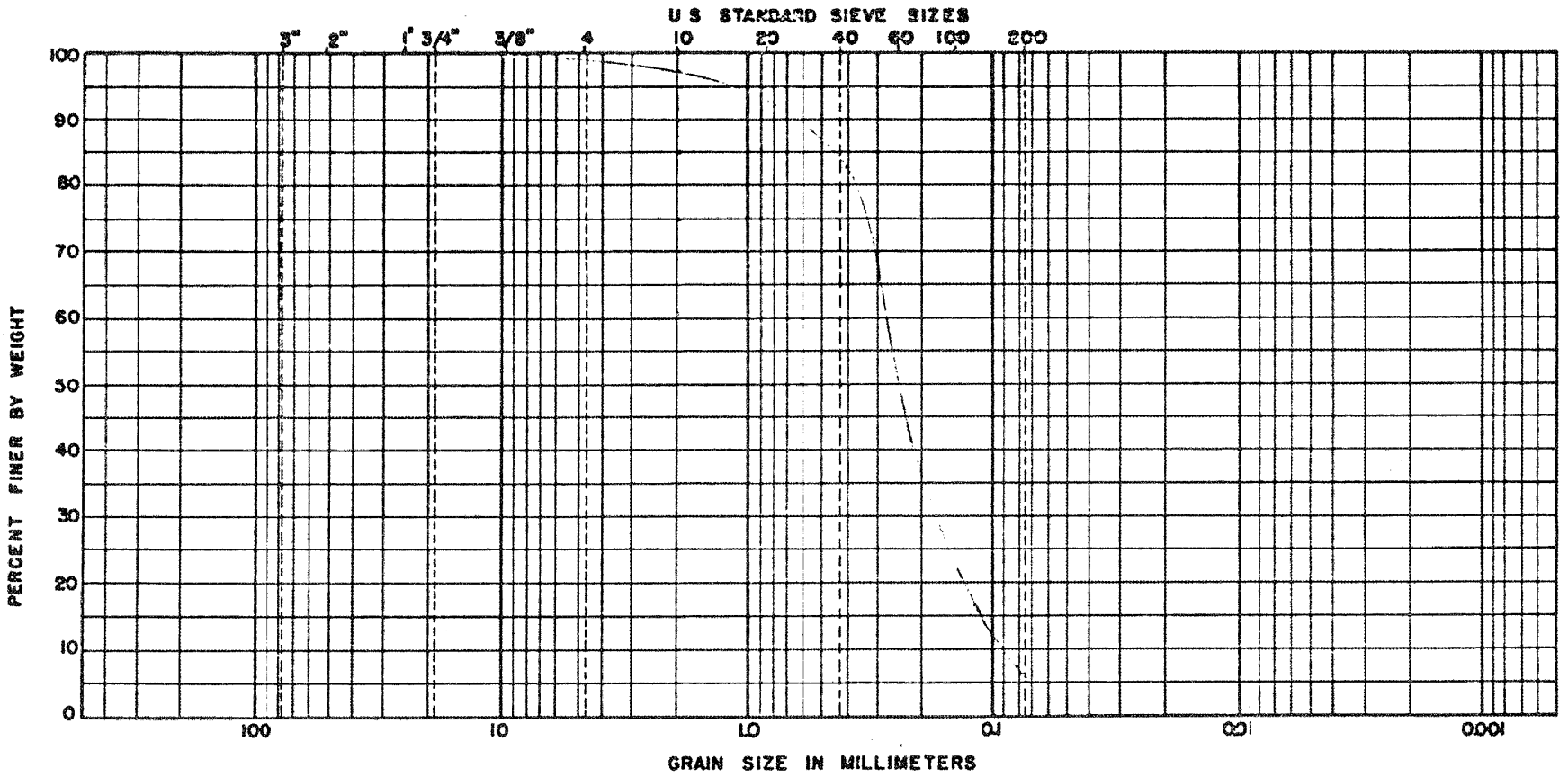
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-131 Sample #2	8.0' - 9.5'	- -	-	-	-	Grey fine sand with some shell fragments Moisture Content - 23.2%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



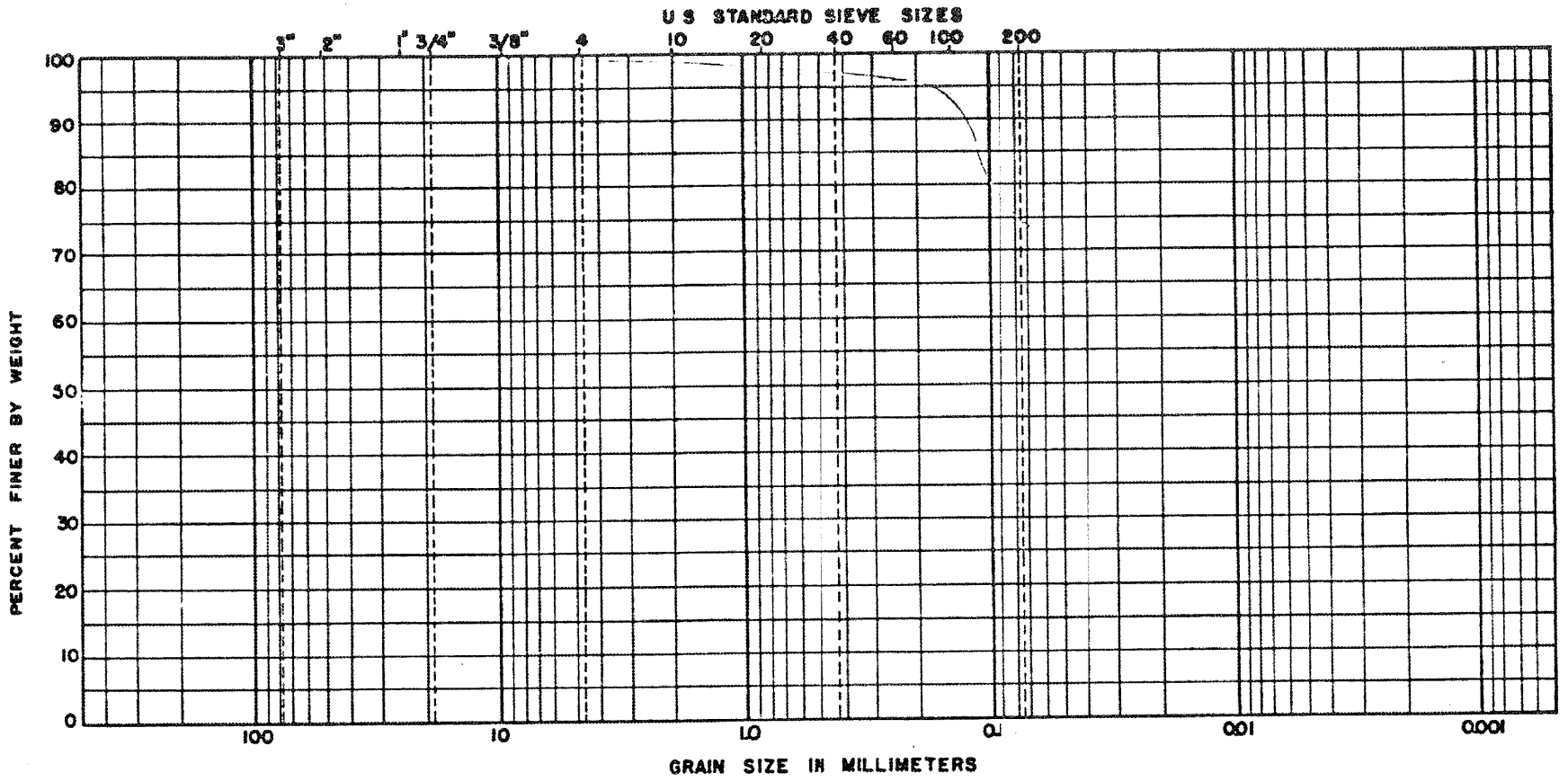
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-131 Sample #3	11.0' - 12.5'	- -	-	-	-	Grey fine sand with some shell fragments Moisture Content - 23.8%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



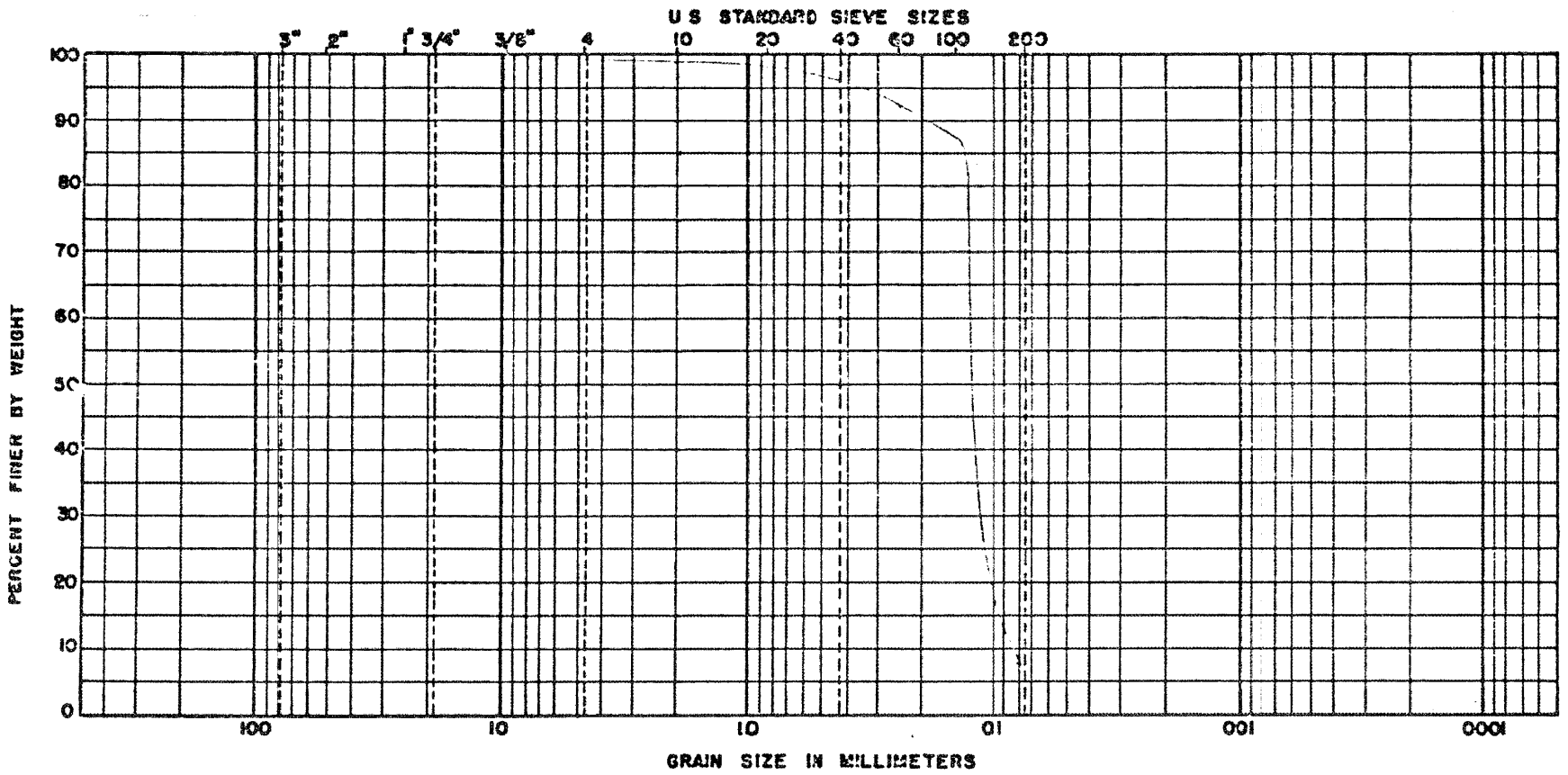
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-131 Sample #4	19.0' - 20.5'	- -	-	-	-	Grey clay with traces of shell fragments with sand in spots Moisture Content - 6.3%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



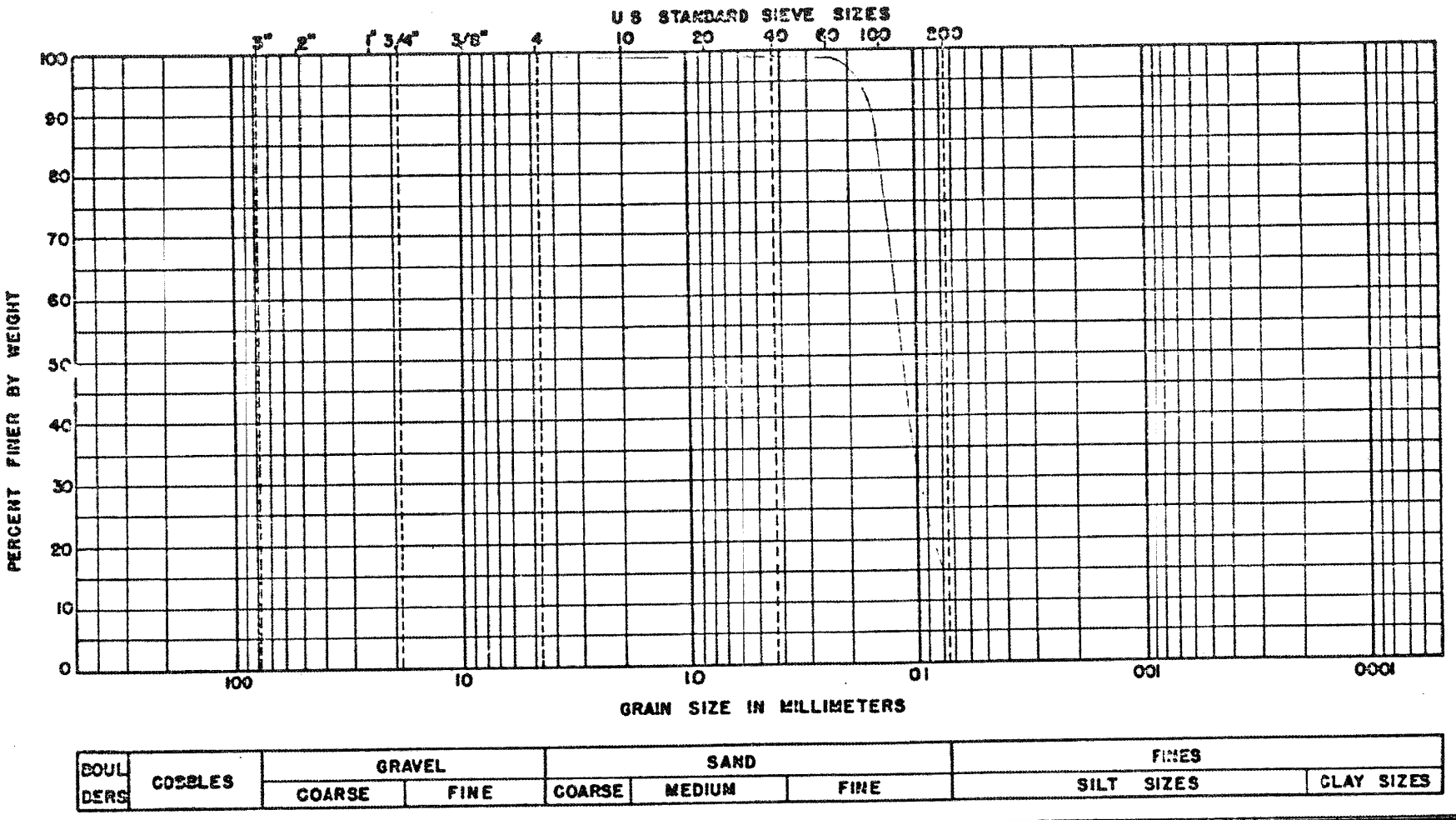
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-132 Sample #1	5.0' - 6.5'	- -	-	-	-	Grey fine sand Moisture Content - 27.9%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY

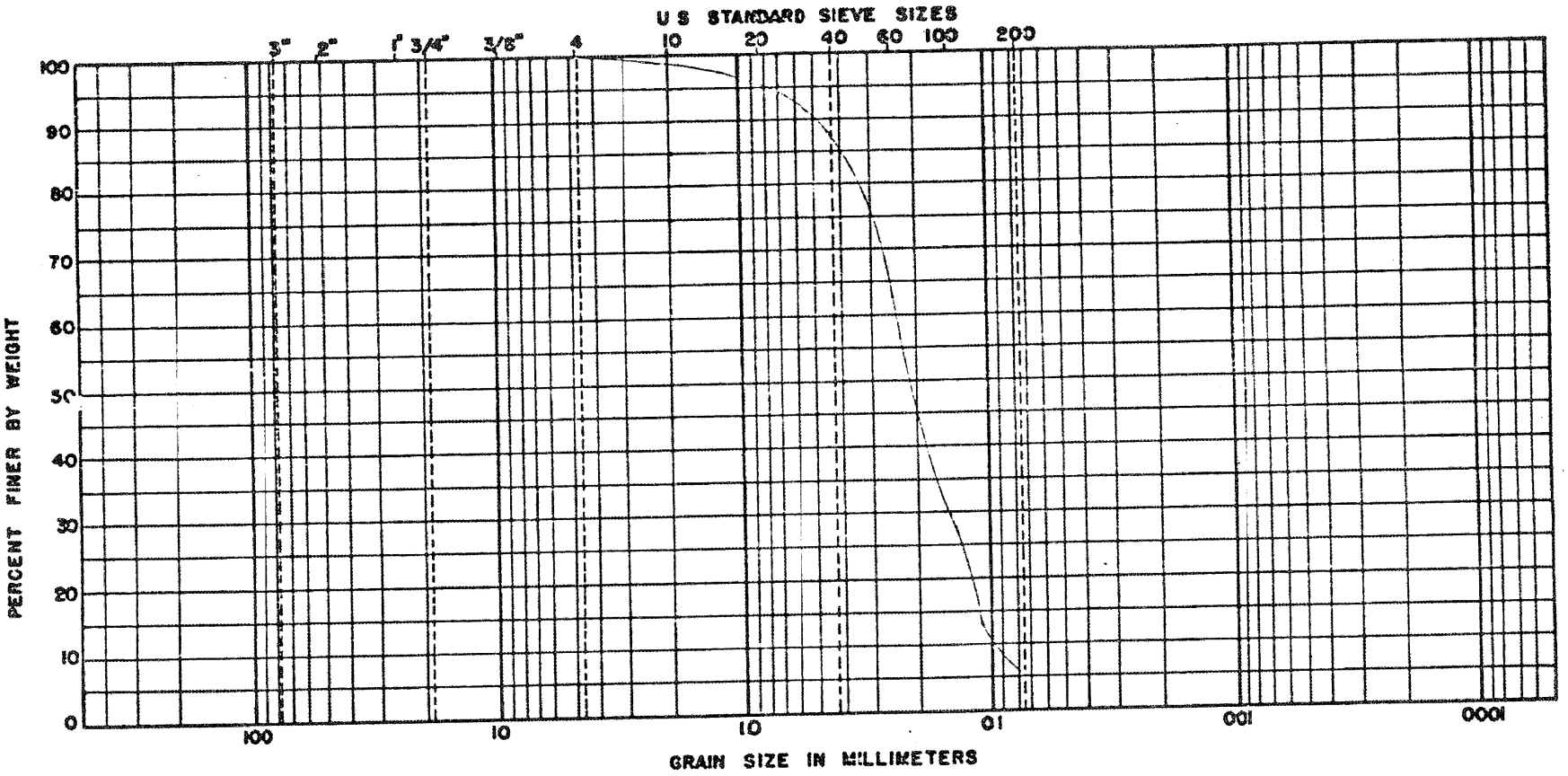


BORING NO	[redacted] DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
B-132 Sample #2	8.0' - 9.5'	- -	-	-	-	Grey fine sand Moisture Content - 26.5%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



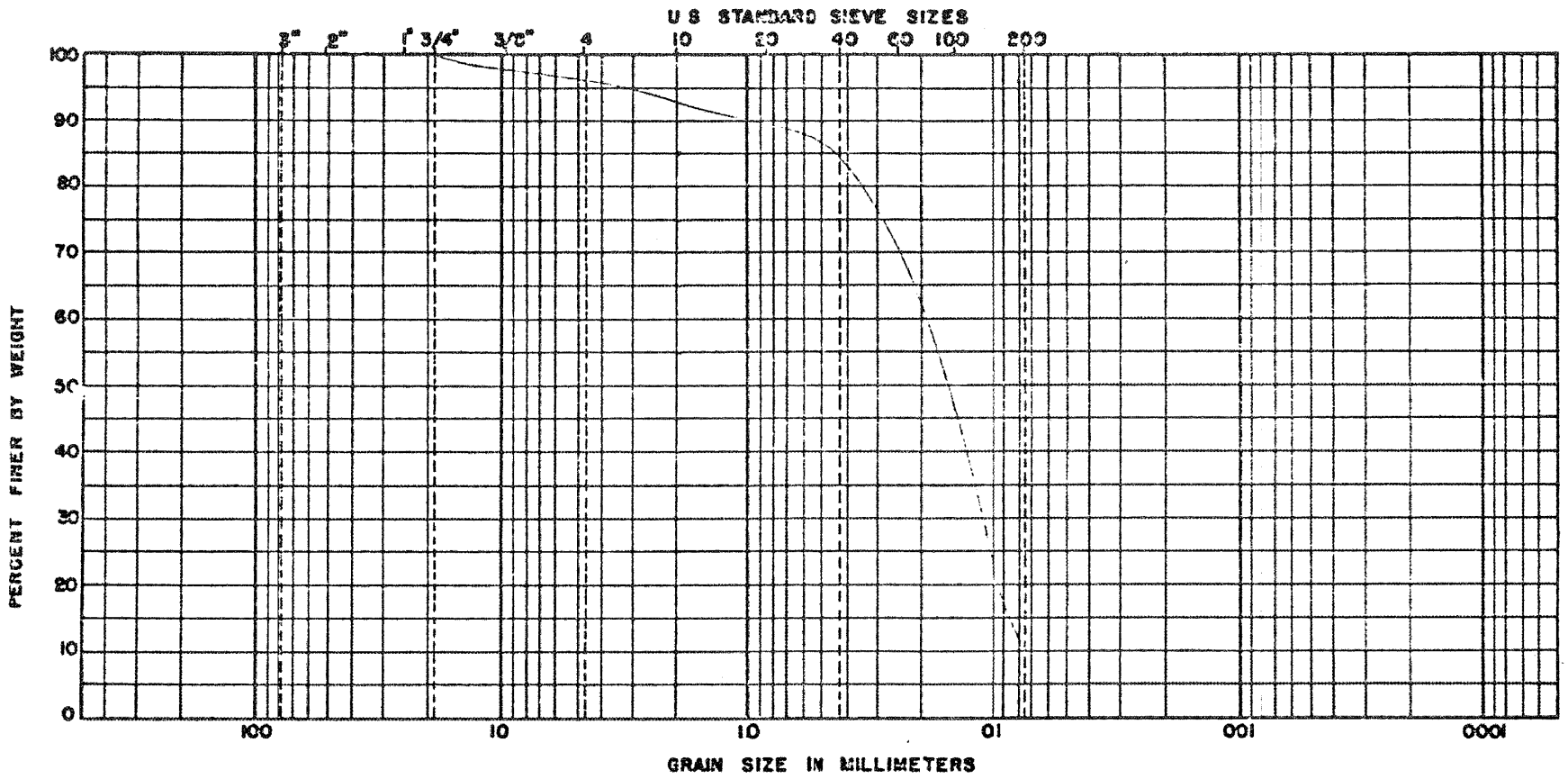
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-132 Sample #3	10.0' - 11.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 24.3%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



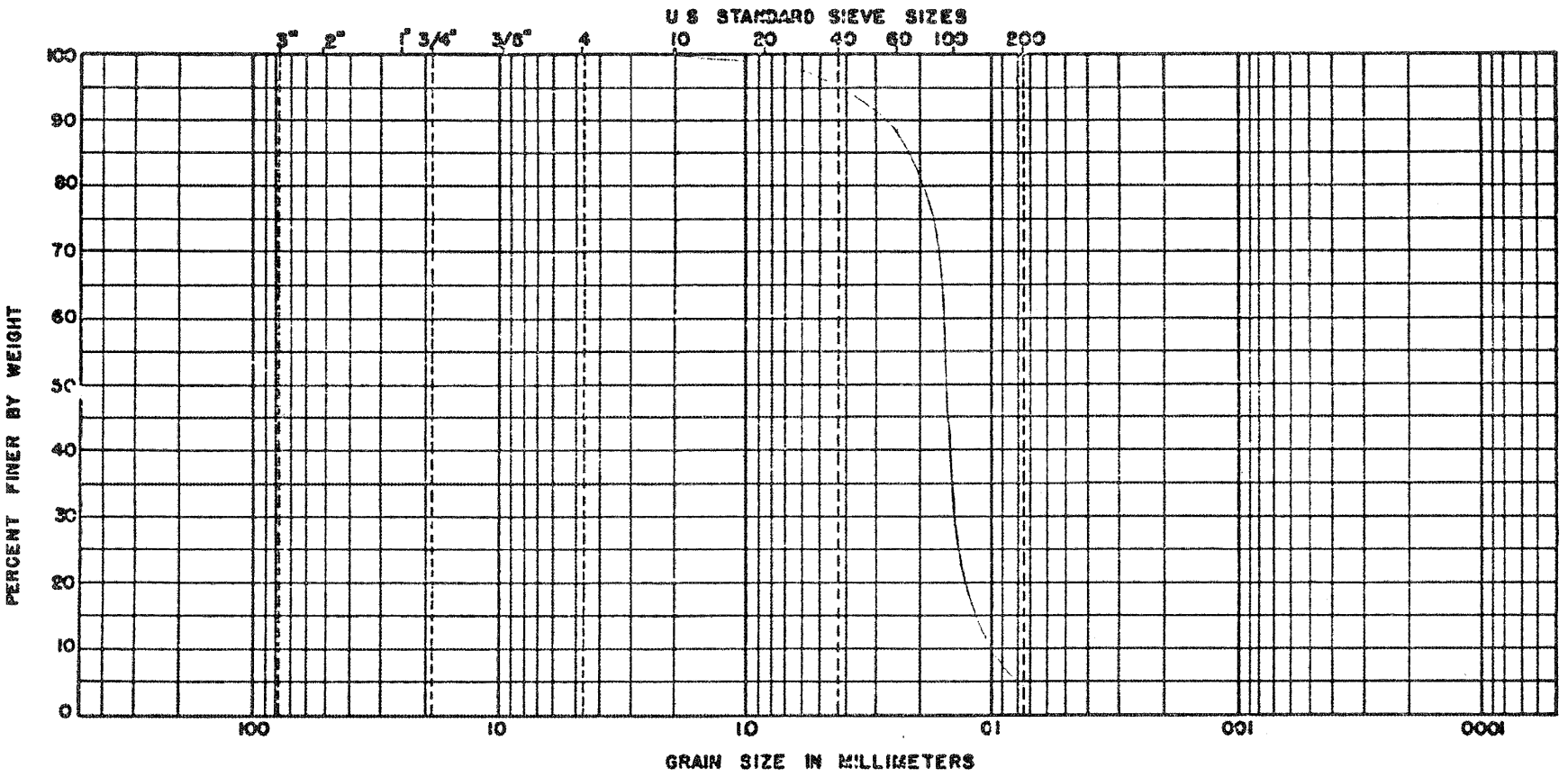
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-132 Sample #4	14.0' - 15.5'	- -	-	-	-	Grey fine sand with some shell fragments Moisture Content - 25.1%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



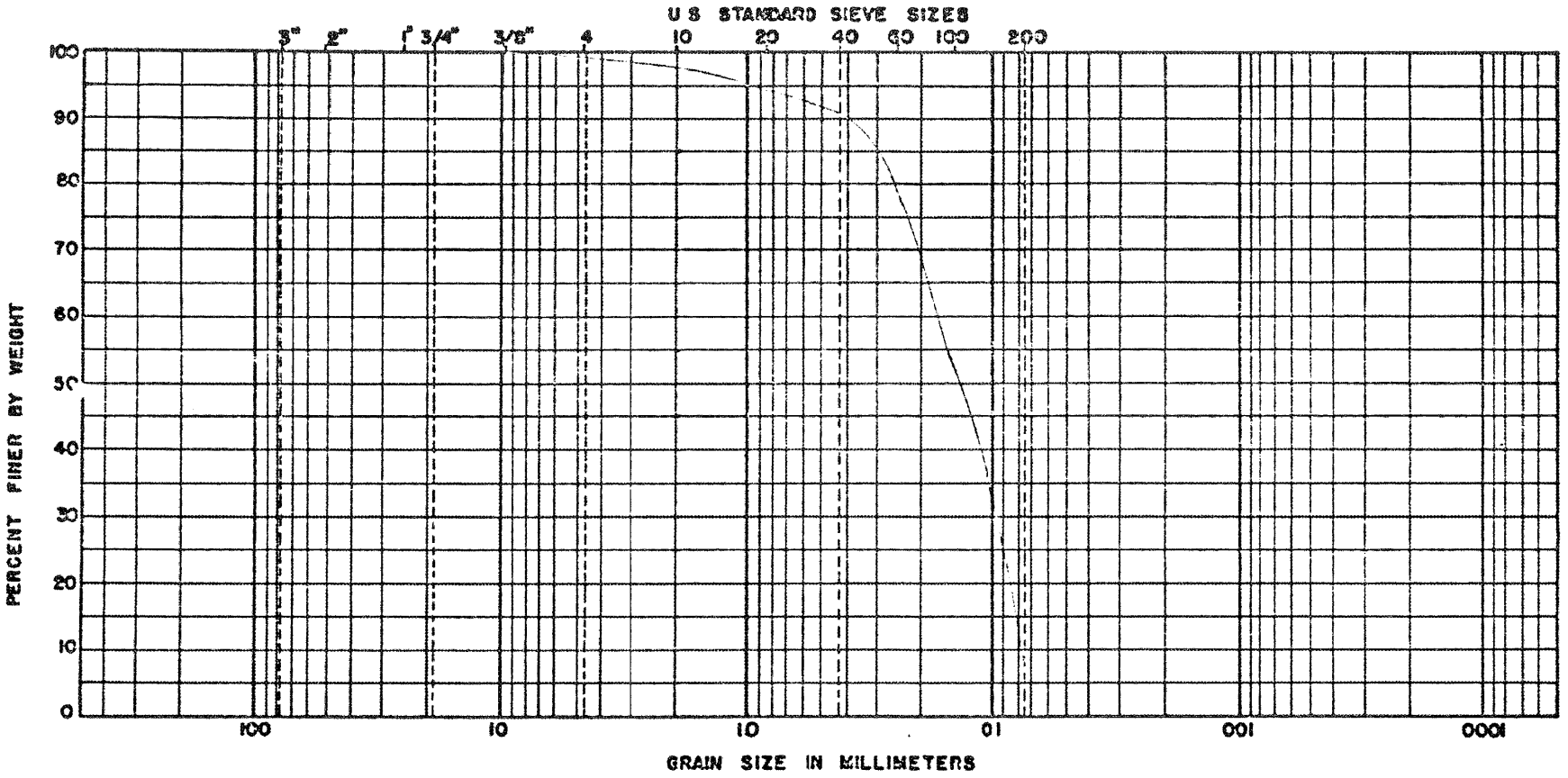
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	L L	P L	P I	DESCRIPTION OR CLASSIFICATION
B-133 Sample #1	6.0' - 7.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 26.5%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



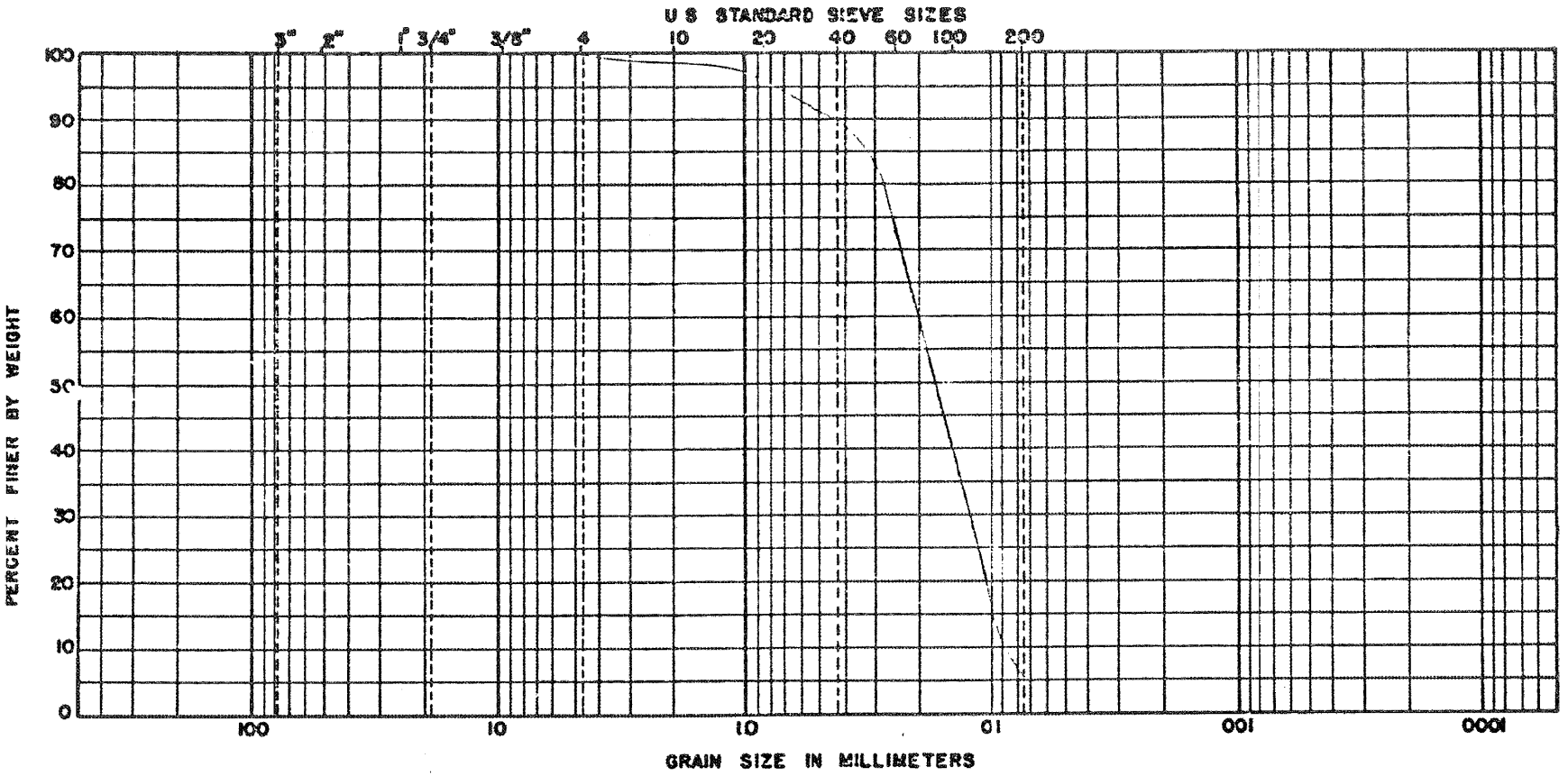
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-133 Sample #2	9.0' - 10.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 28.2%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



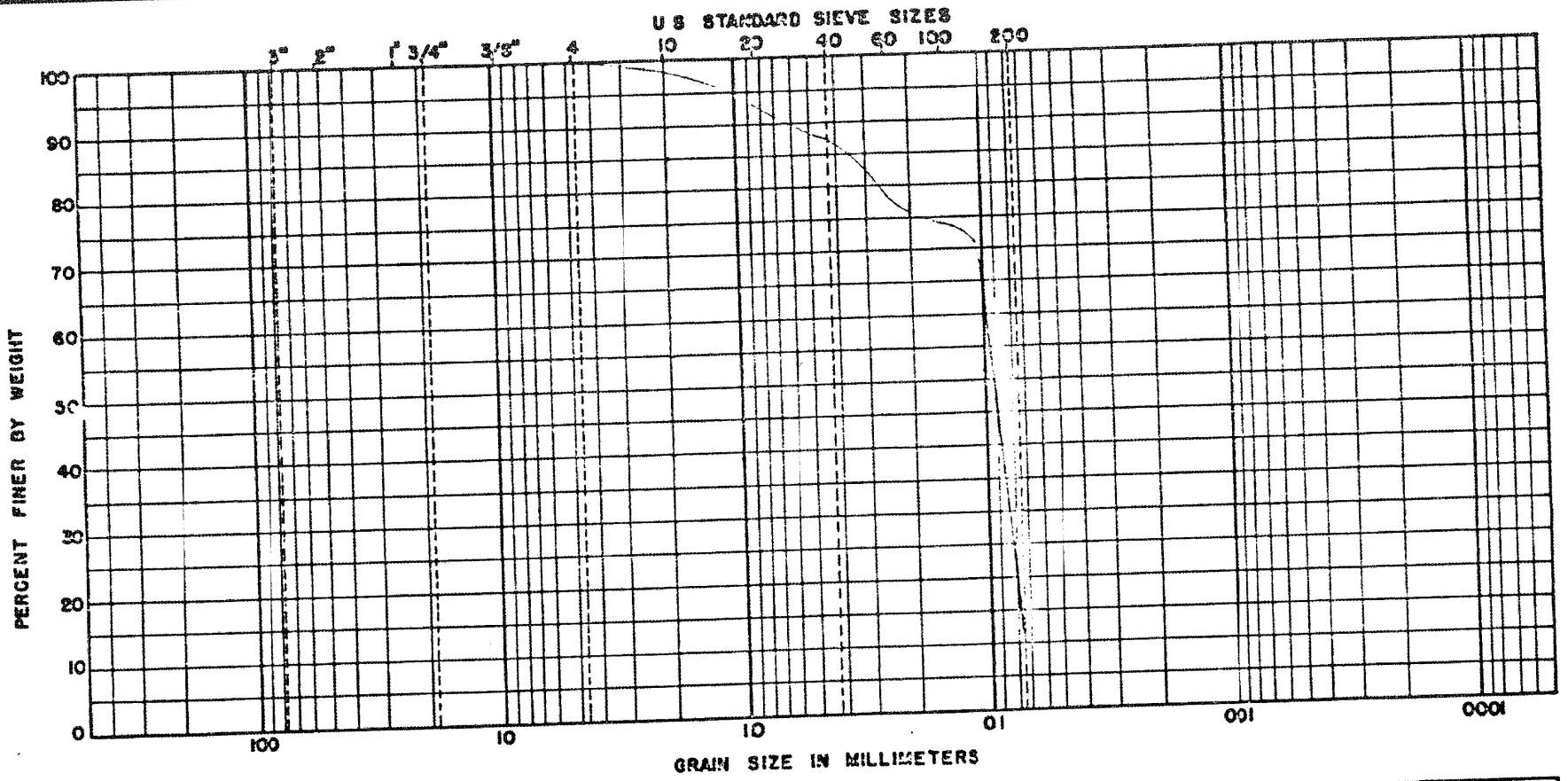
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-133 Sample #3	12.0' - 13.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 25.9%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



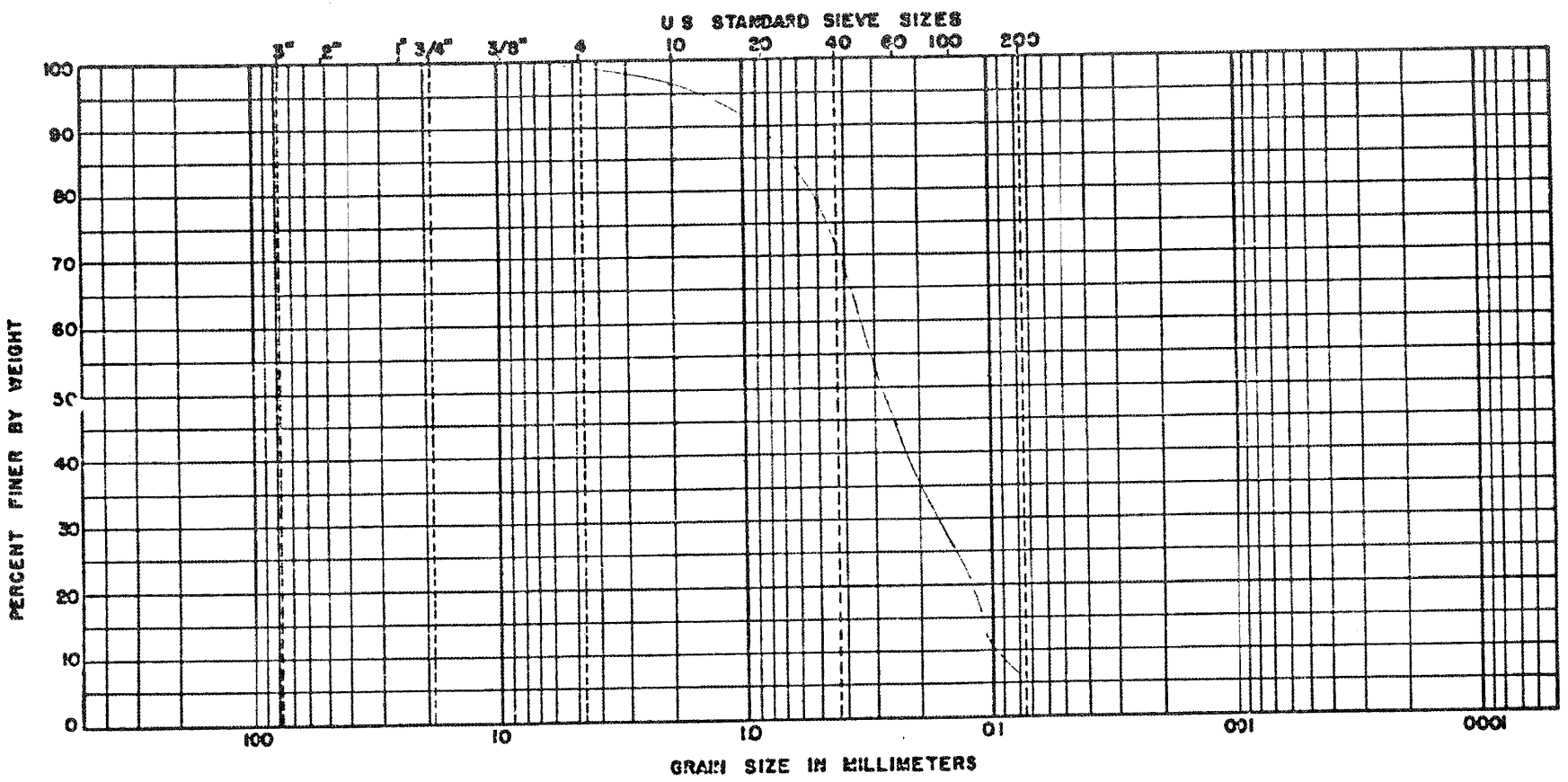
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-133 Sample #4	14.0' - 15.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 39.0%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



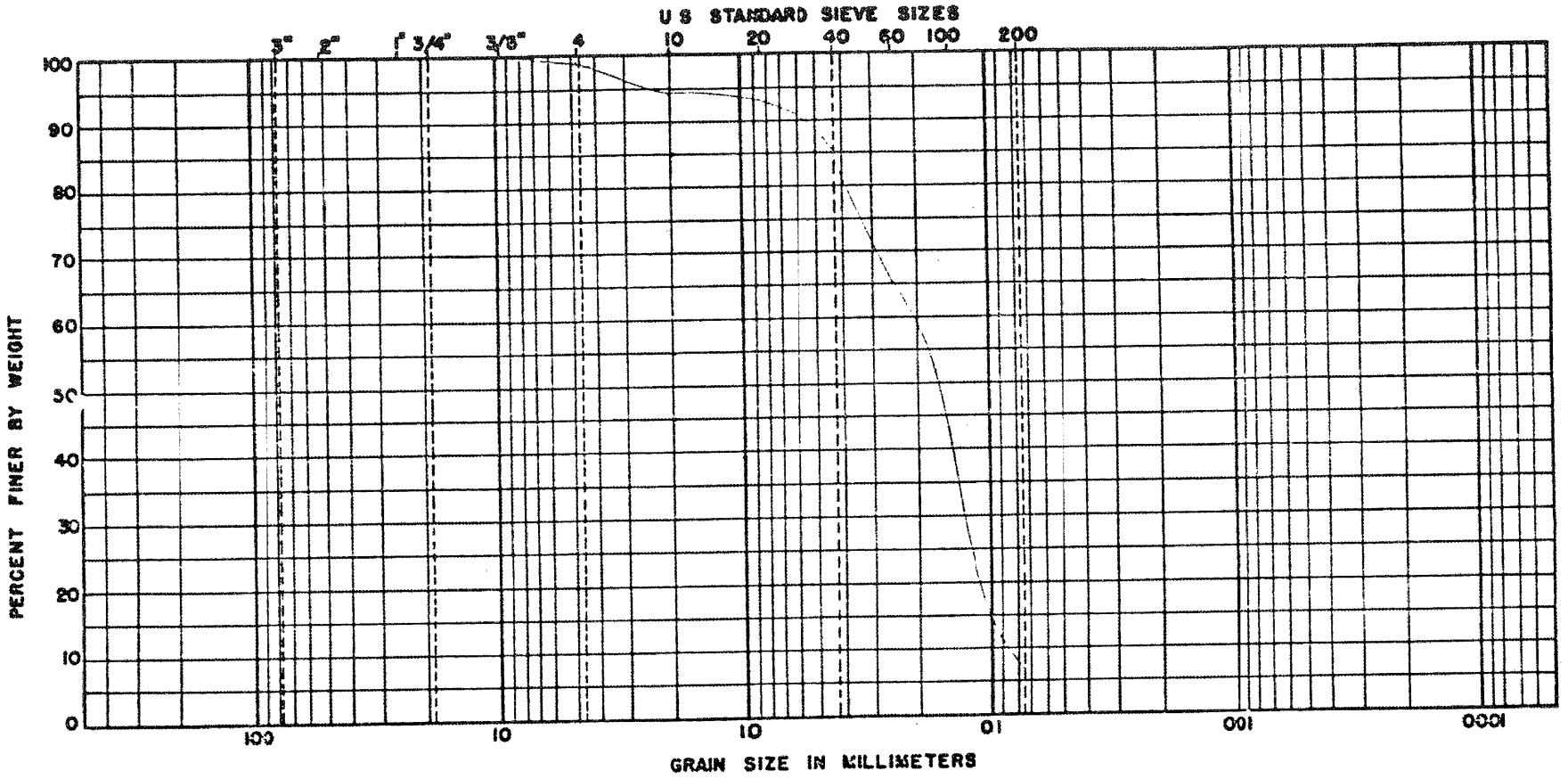
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-134 Sample #1	6.0' - 7.5'	- -	-	-	-	Grey fine sand with some shell fragments Moisture Content - 23.5%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



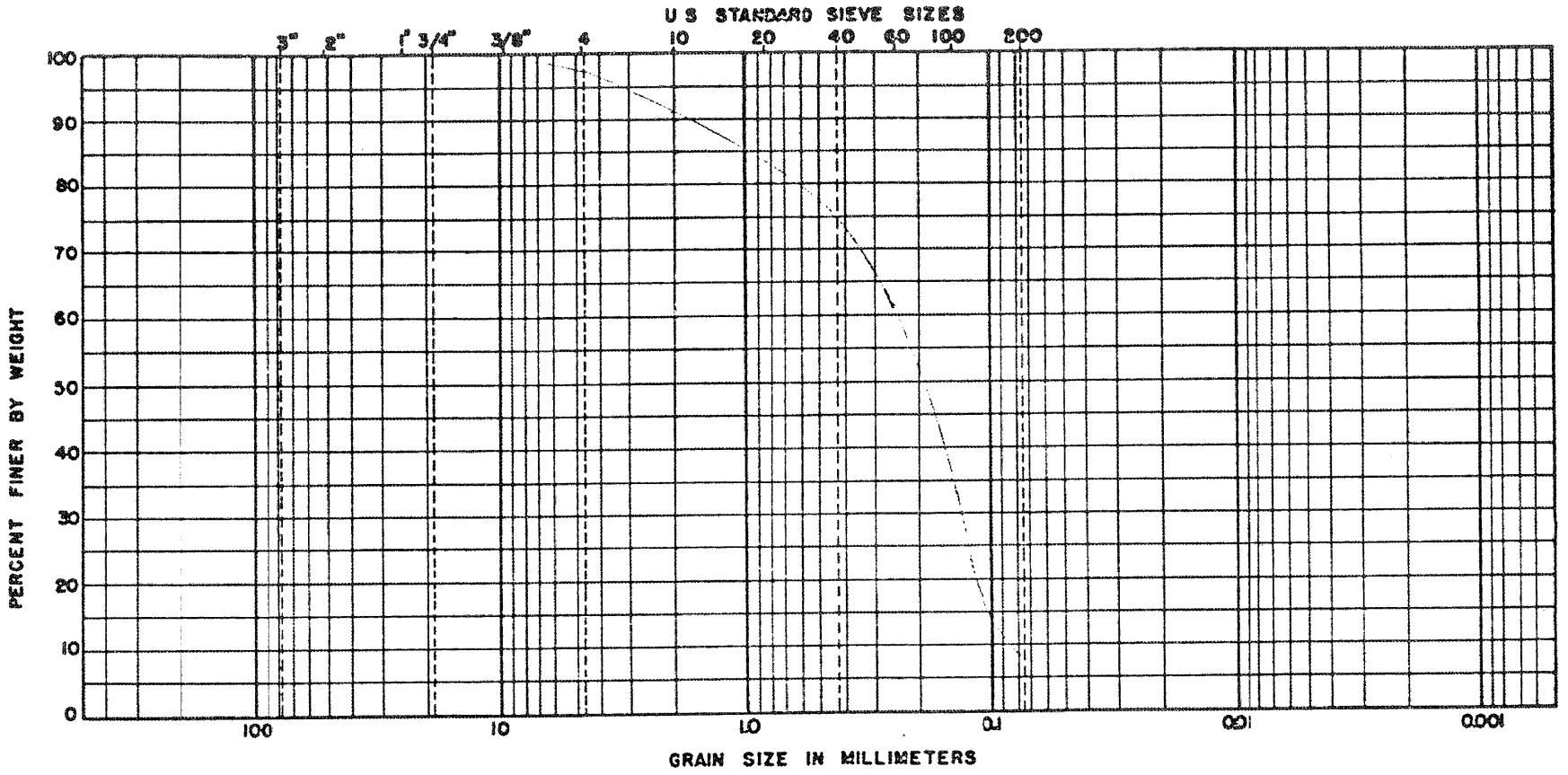
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-134 Sample #2	9.0' - 10.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 23.5%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



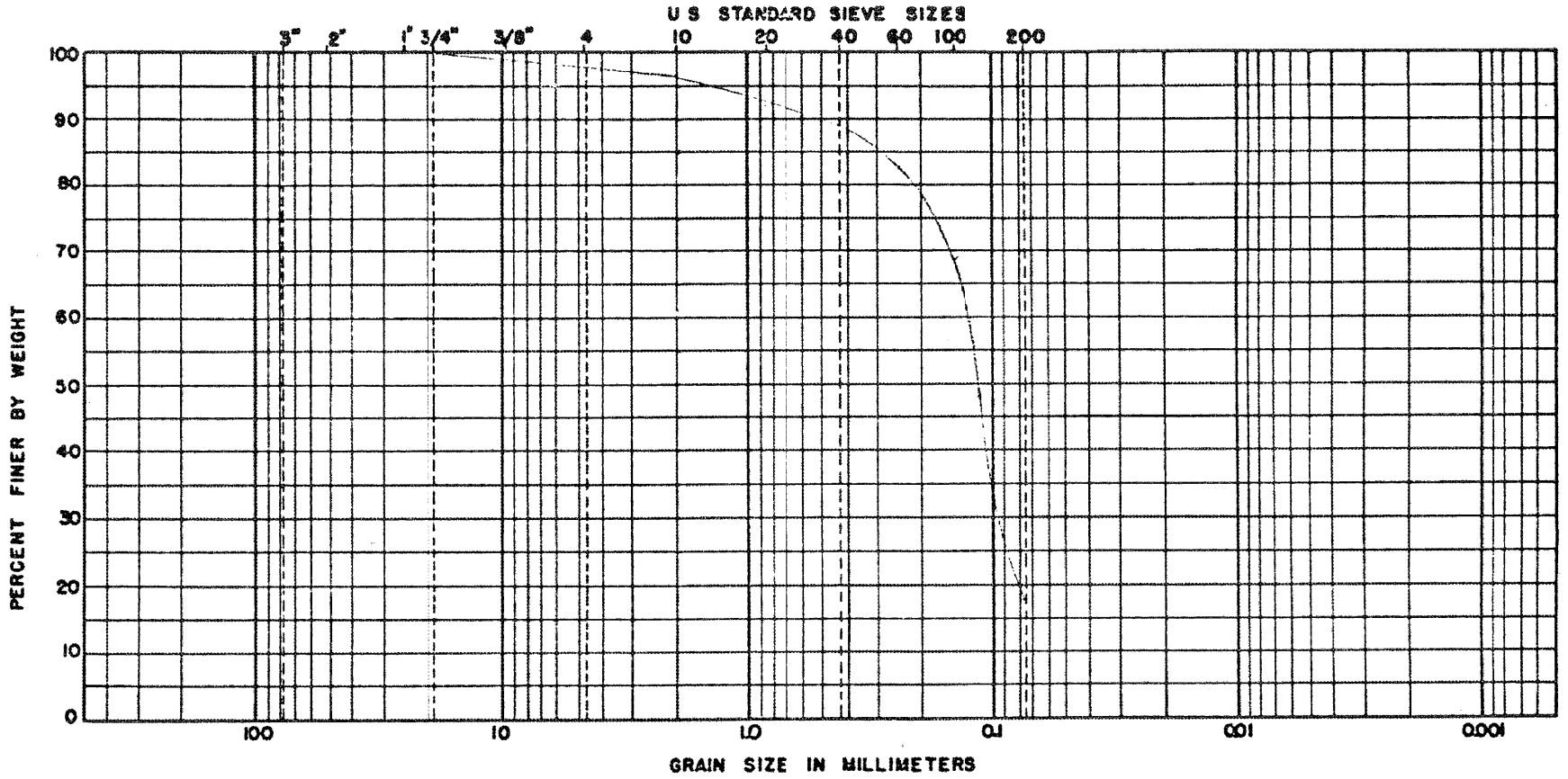
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-134 Sample #3	12.0' - 13.5'	- -	-	-	-	Fine to medium sand with shell fragments Moisture Content - 25.2%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



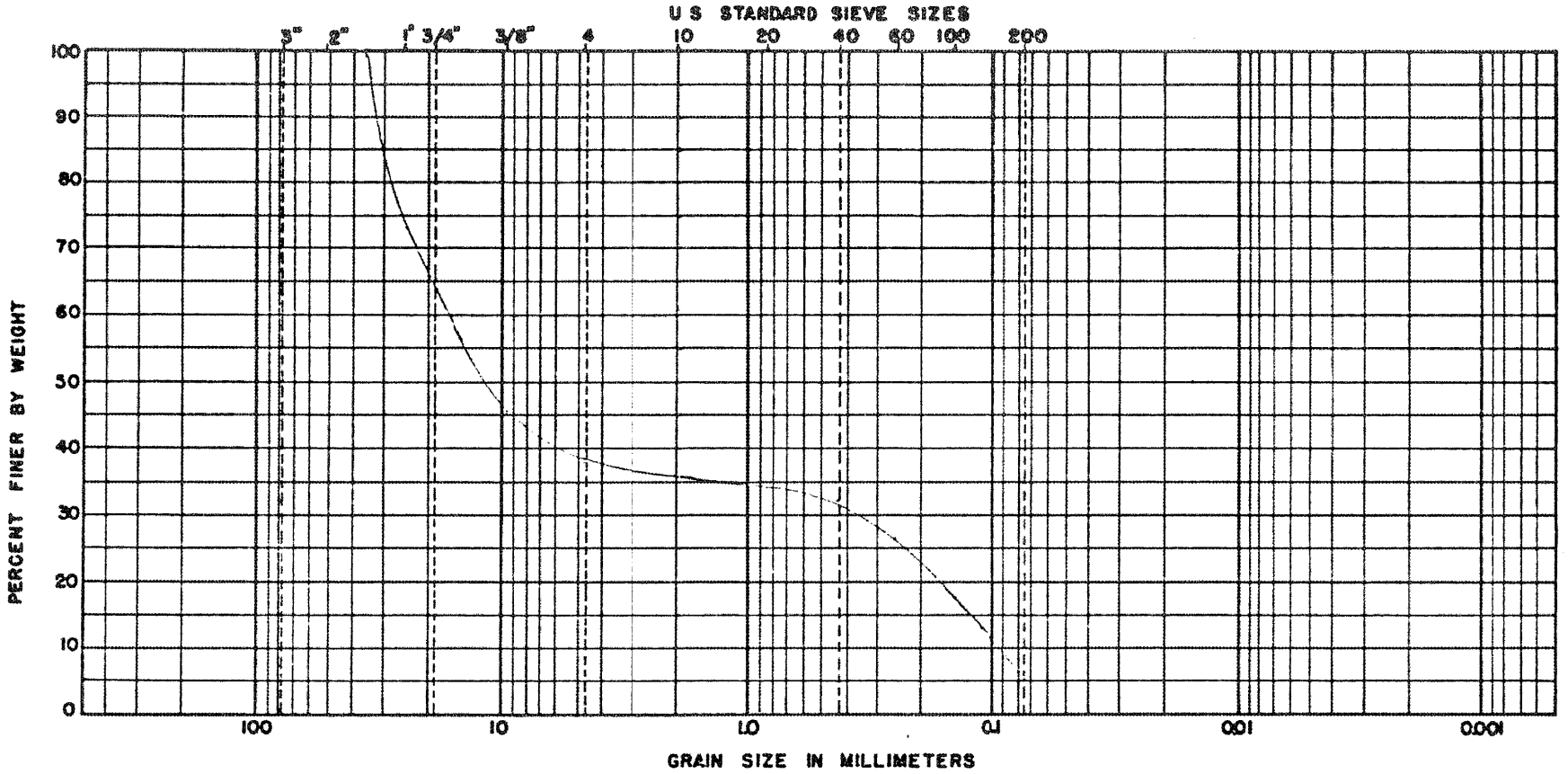
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-134 Sample #4	14.0' - 15.5'	- -	-	-	-	Grey fine sand with traces of shell fragments Moisture Content - 25.8%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



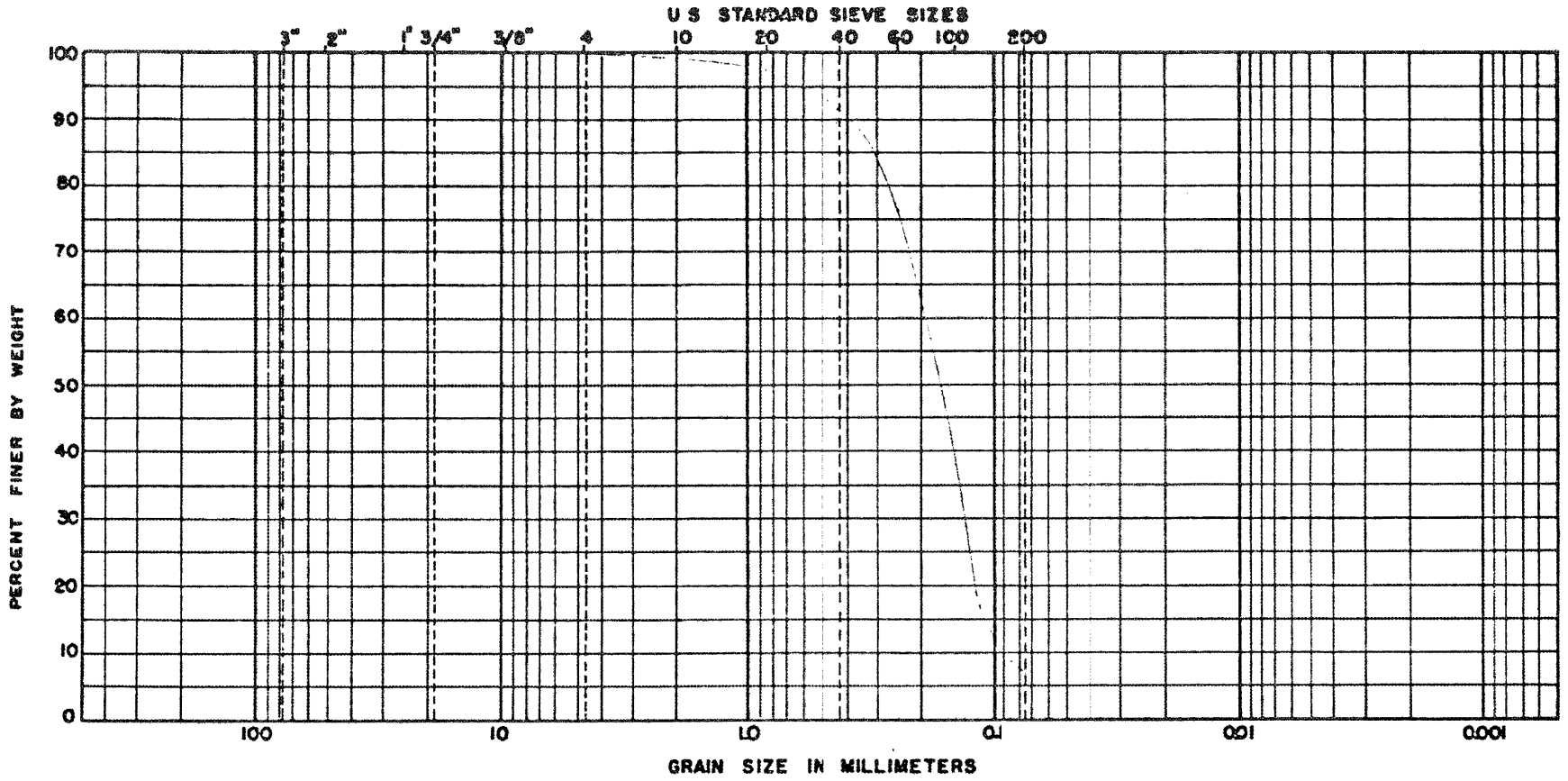
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-134 Sample #5	24.0' - 25.5'	- -	-	-	-	Brown fine sand with limestone fragments and some light grey seams Moisture Content - 14.9%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



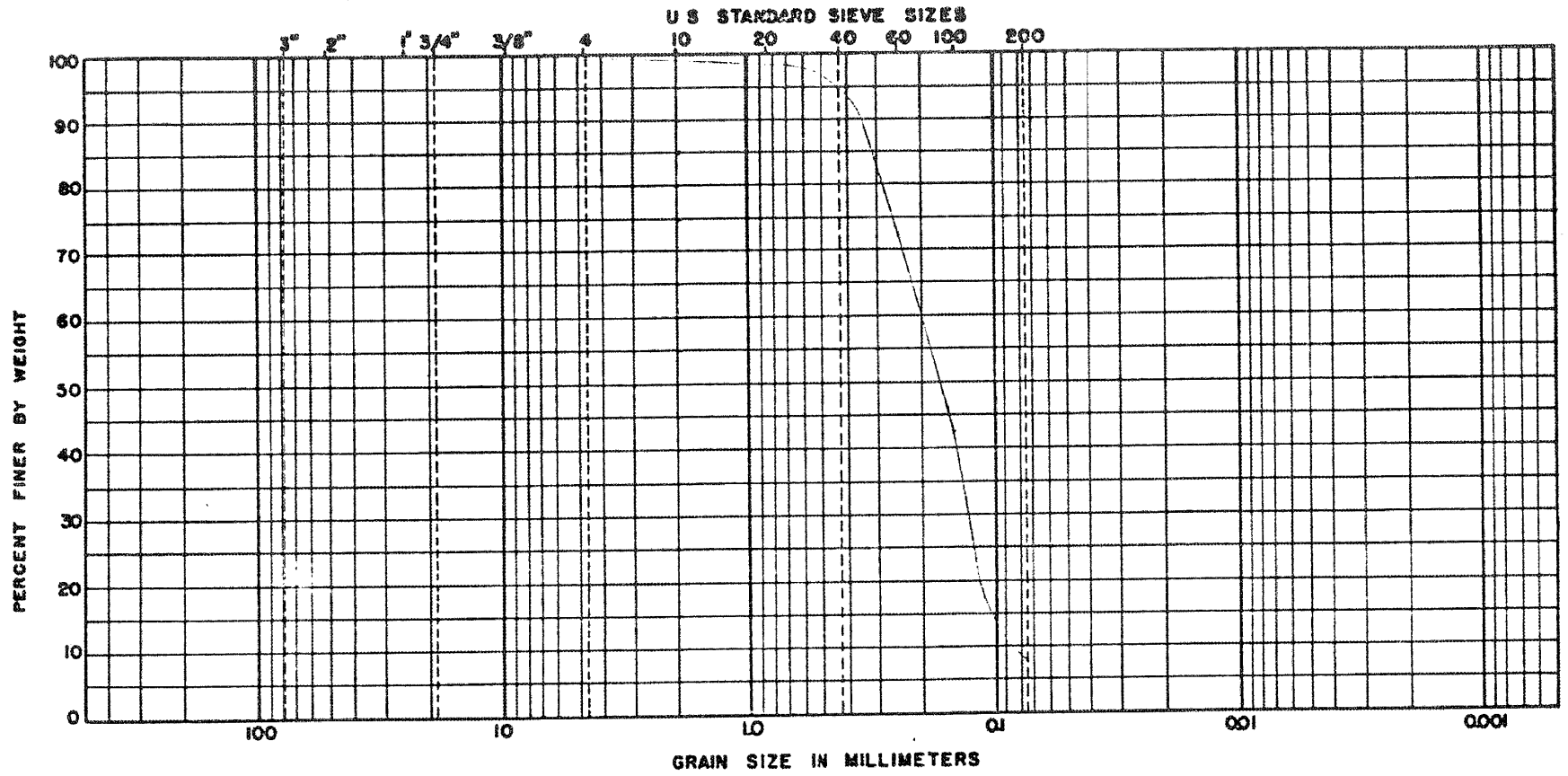
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-135 Sample #1	4.5' - 5.5'	- -	-	-	-	Grey fine sand Moisture Content - 21.1%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



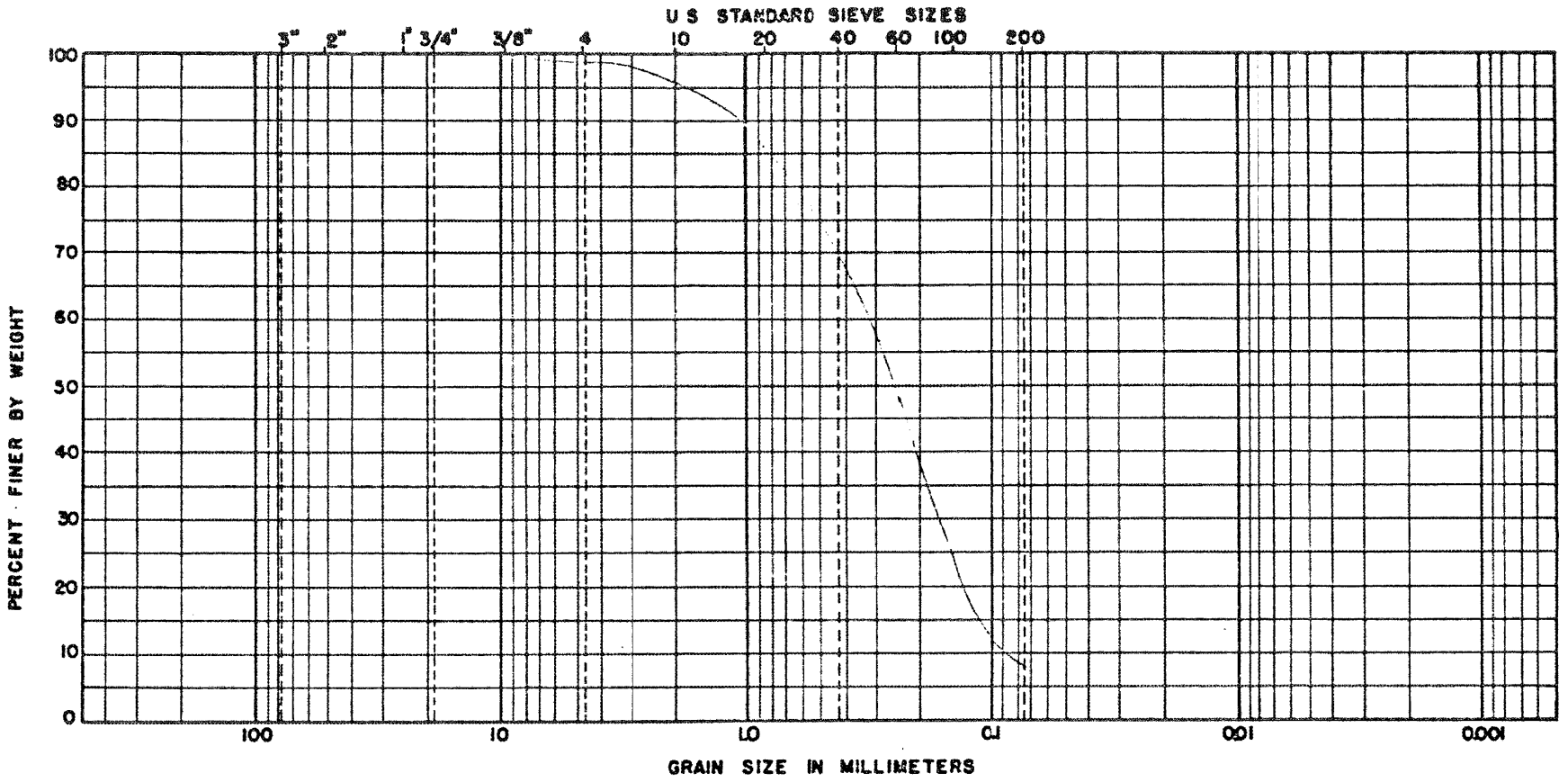
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-135 Sample #2	7.5' - 9.0'	- -	-	-	-	Grey fine sand Moisture Content - 24.7%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



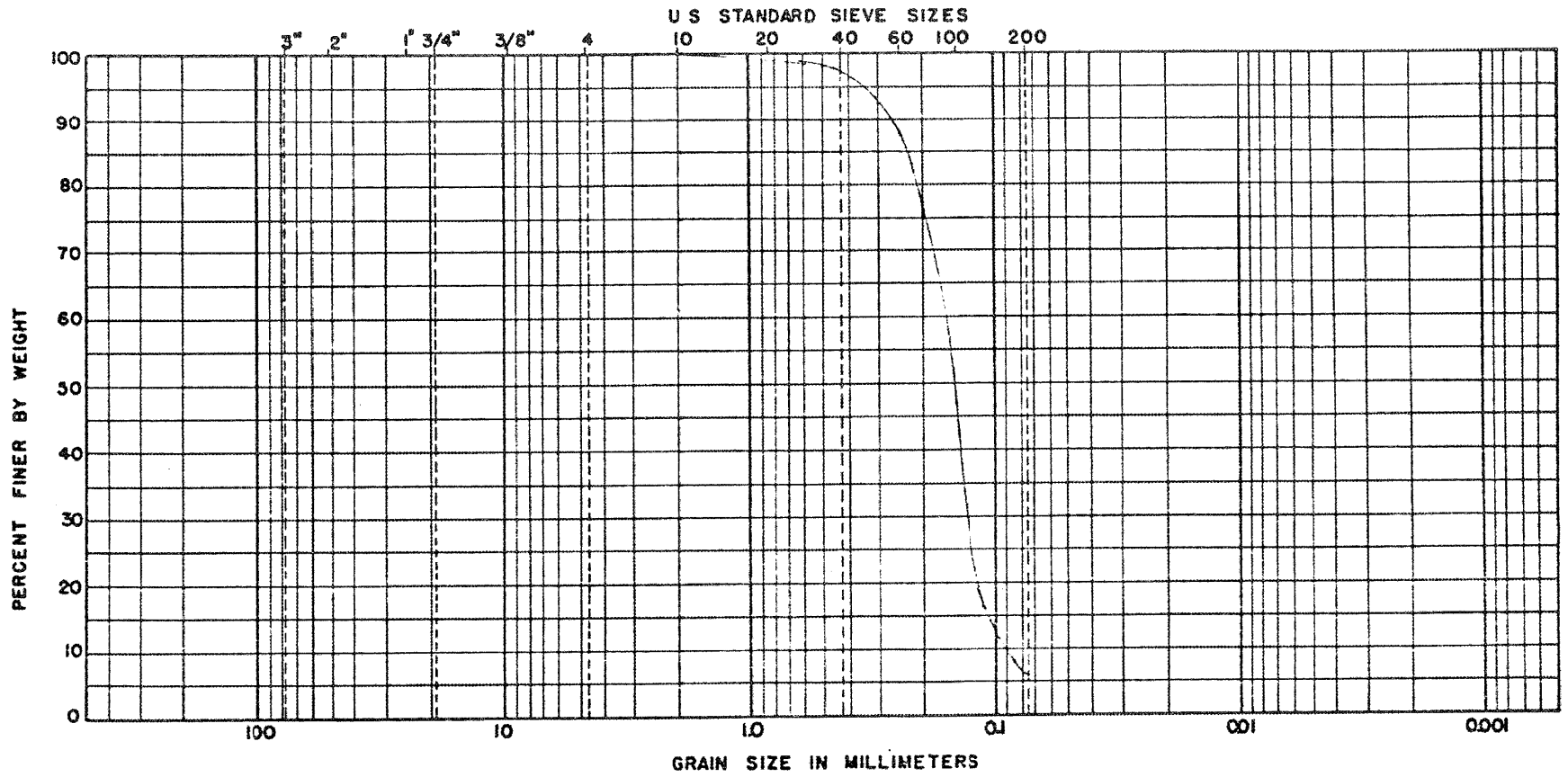
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-135 Sample #3	11.0' - 12.5'	- -	-	-	-	Grey fine sand Moisture Content - 20.9%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



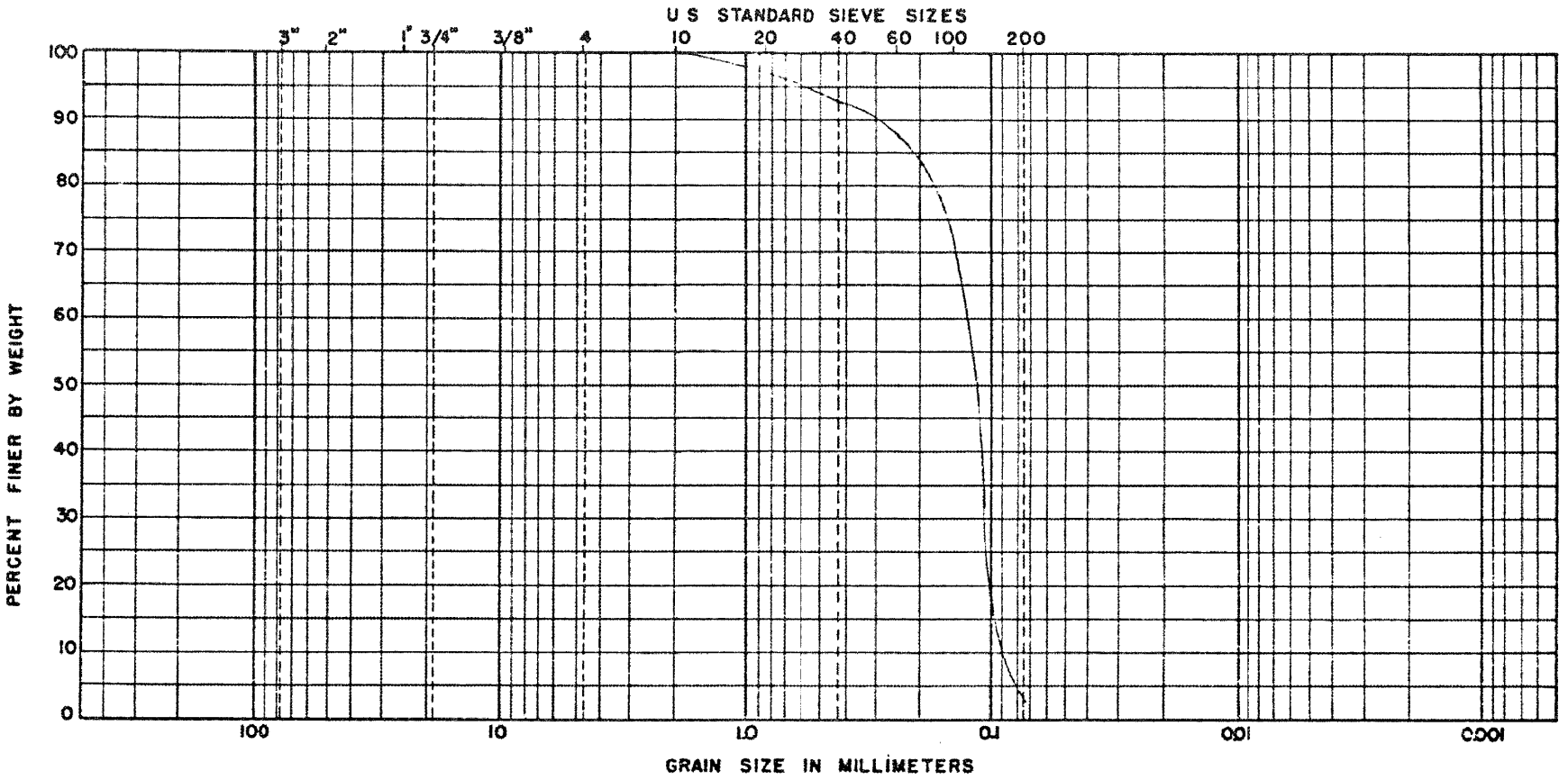
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-136 Sample #1	5.0' - 6.5'	- -	-	-	-	Grey fine sand Moisture Content - 24.4%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



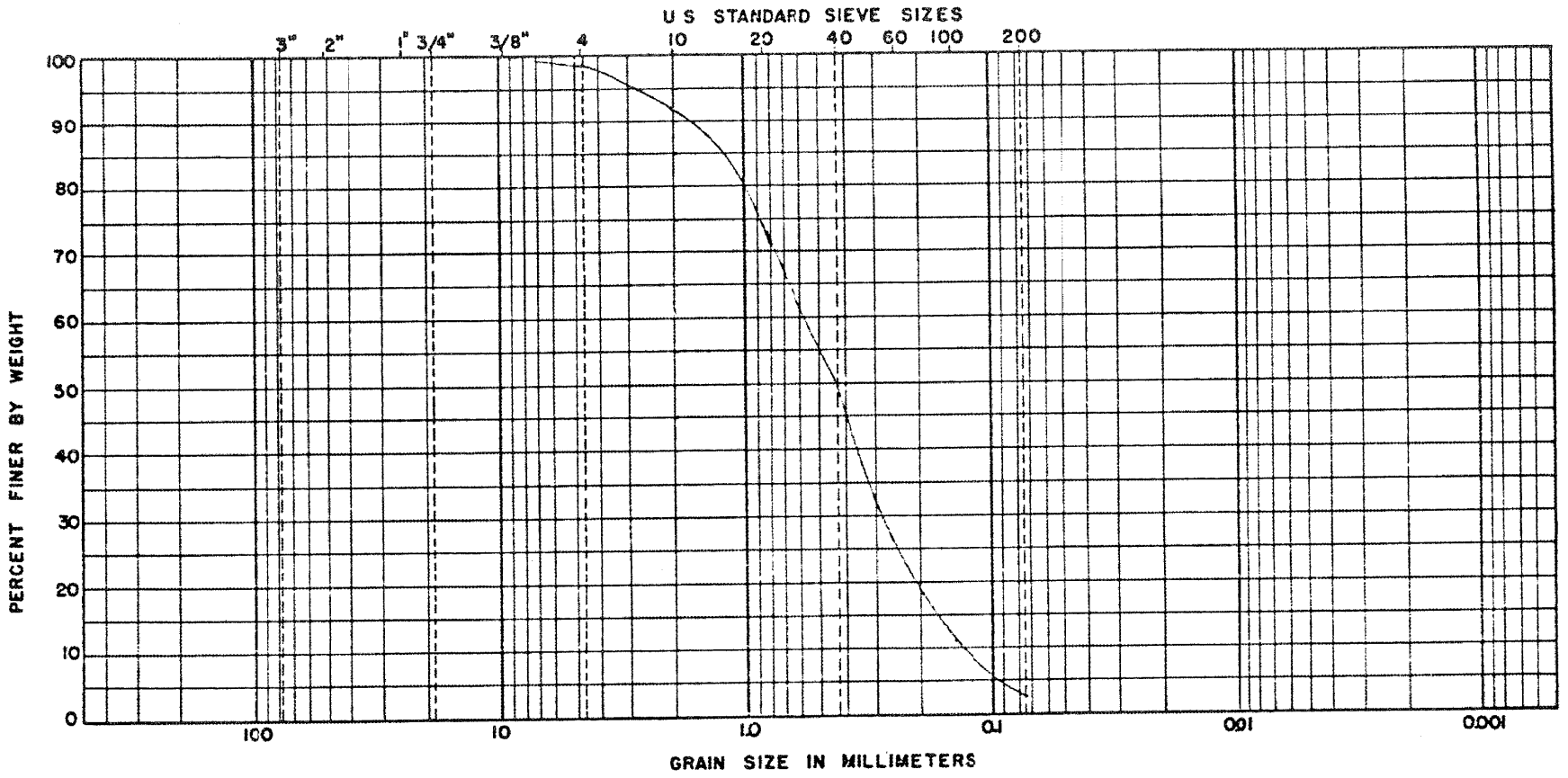
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-136 Sample #2	8.0' - 9.5'	- -	-	-	-	Grey fine sand Moisture Content - 26.6%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



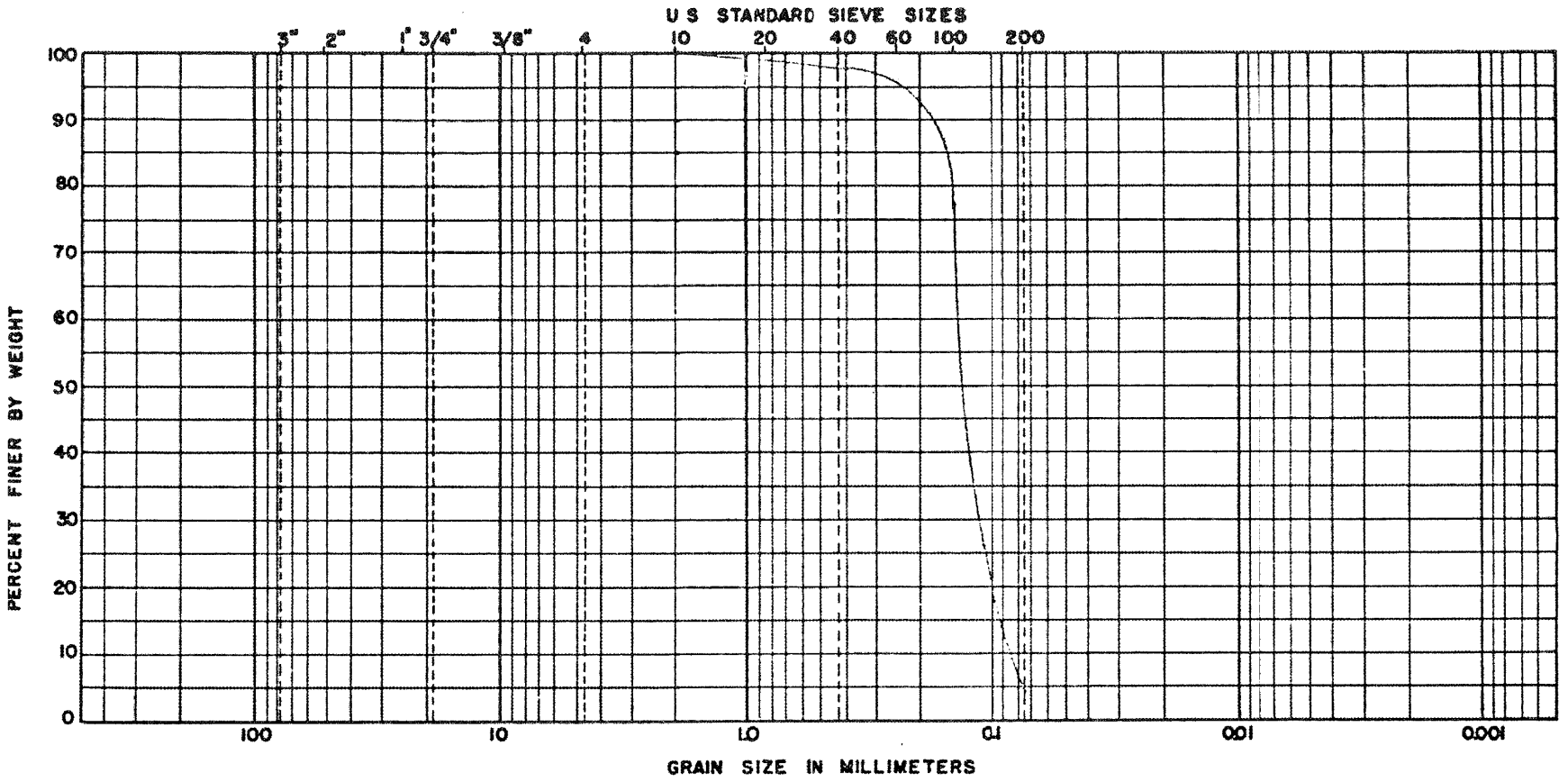
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-136 Sample #3	12.0' - 13.5'	- -	-	-	-	Grey medium sand with shell fragments Moisture Content - 23.1%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



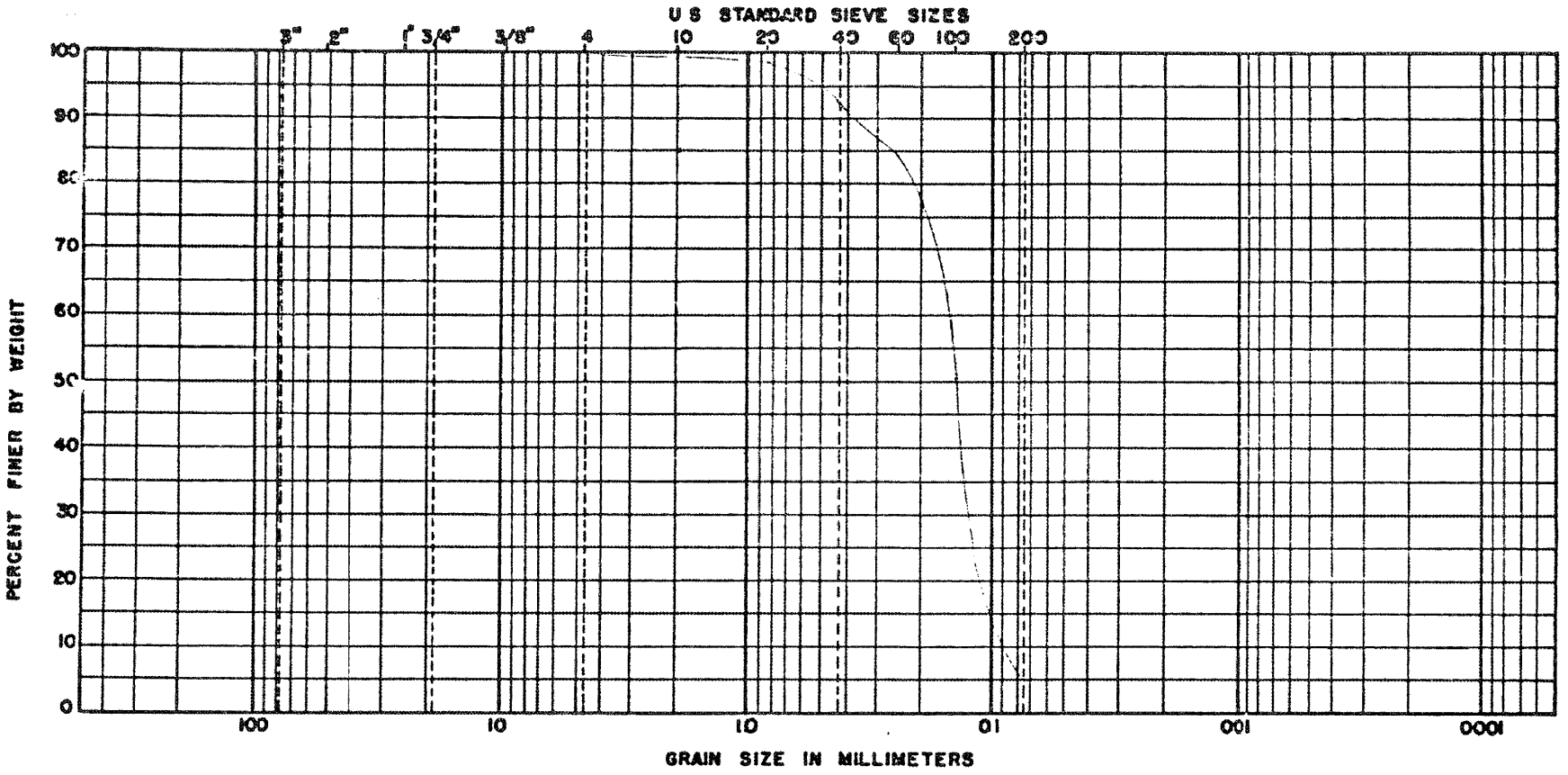
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-137 Sample #1	5.0' - 6.5'	- -	-	-	-	Grey fine sand Moisture Content - 24.9%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



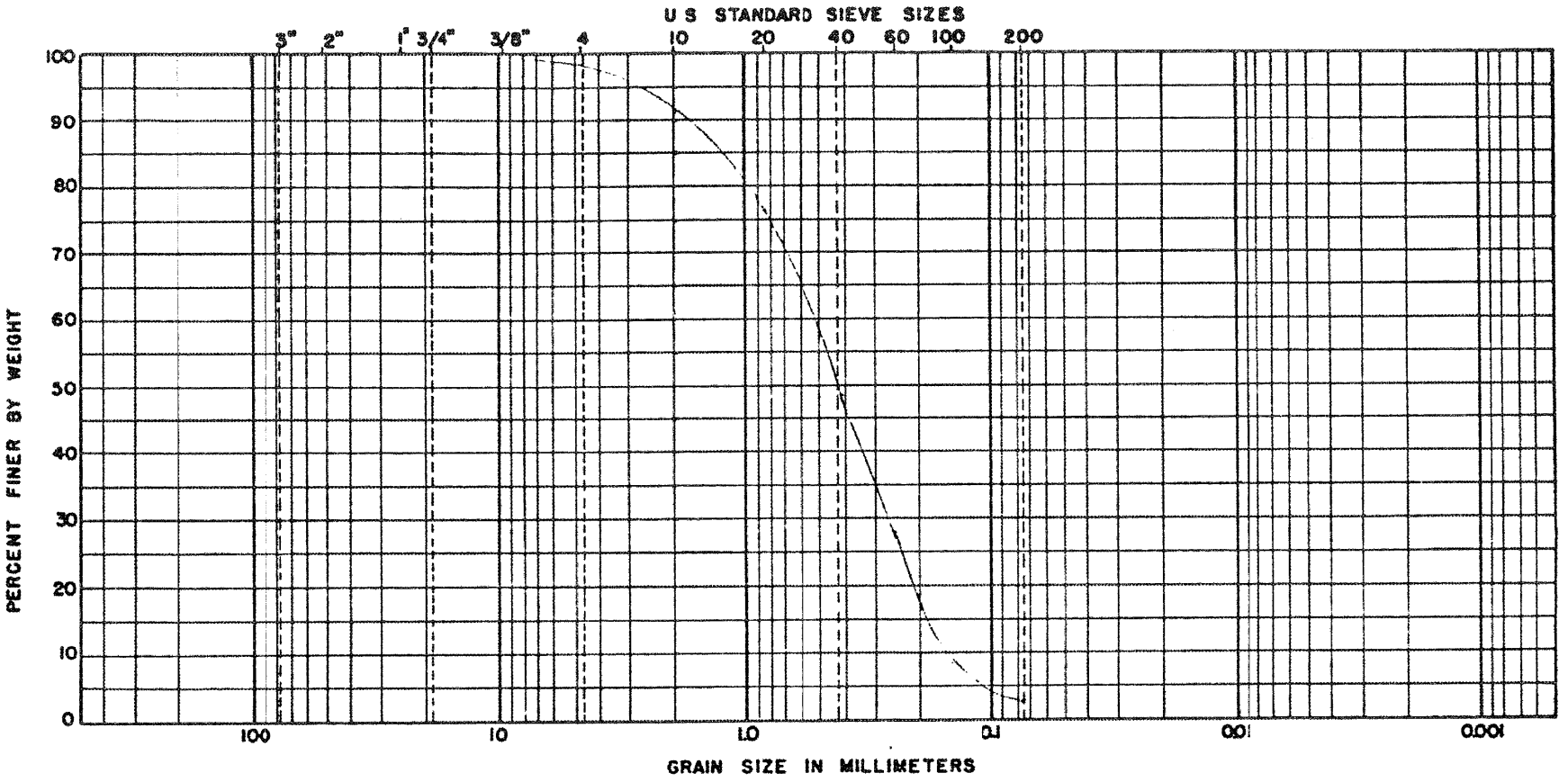
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-137 Sample #2	8.0' - 9.5'	- -	-	-	-	Grey fine sand Moisture Content - 22.7%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



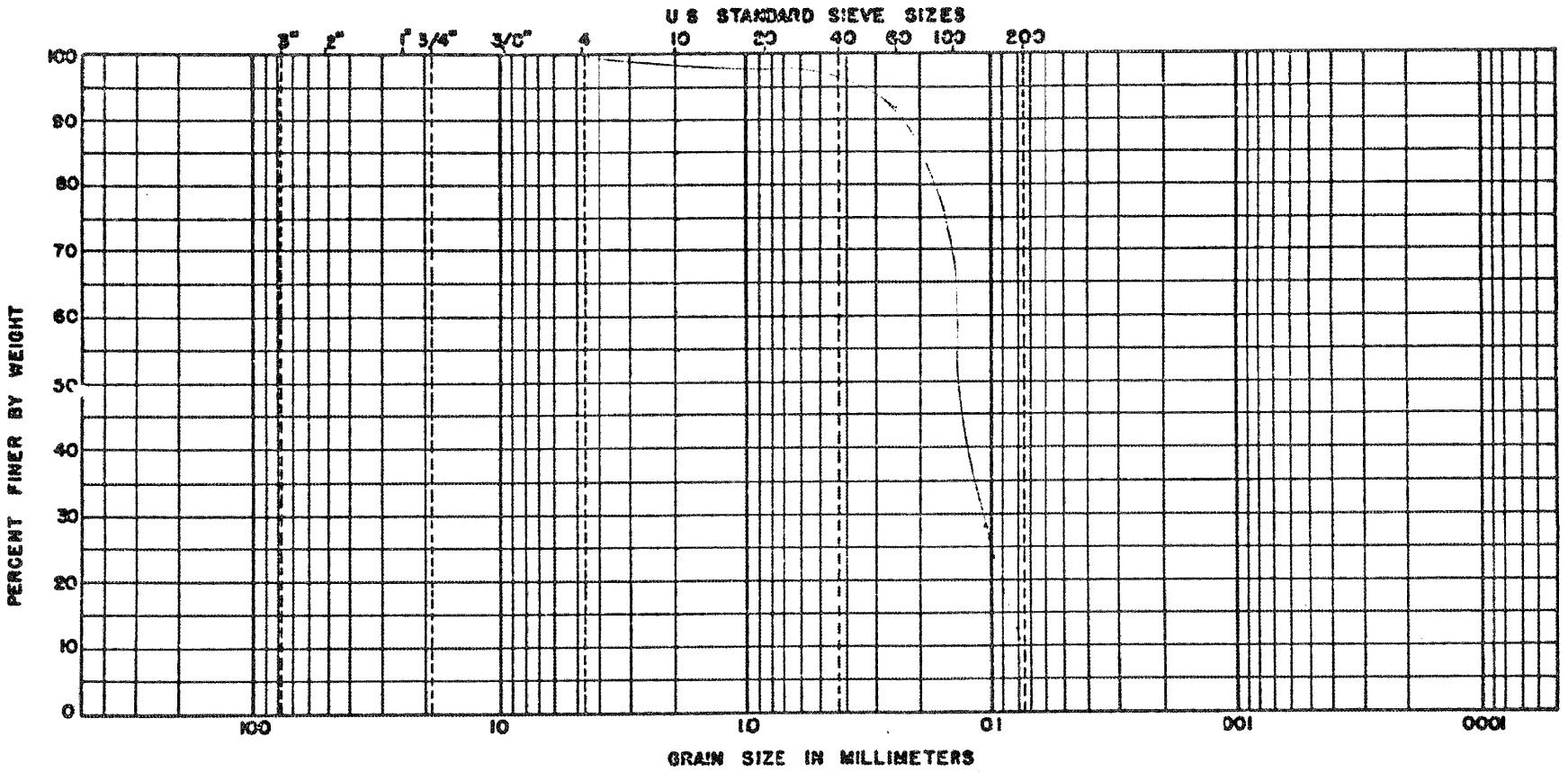
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-137 Sample #3	11.0' - 12.5'	- -	-	-	-	Grey fine to medium sand with some shell fragments Moisture Content - 19.0%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



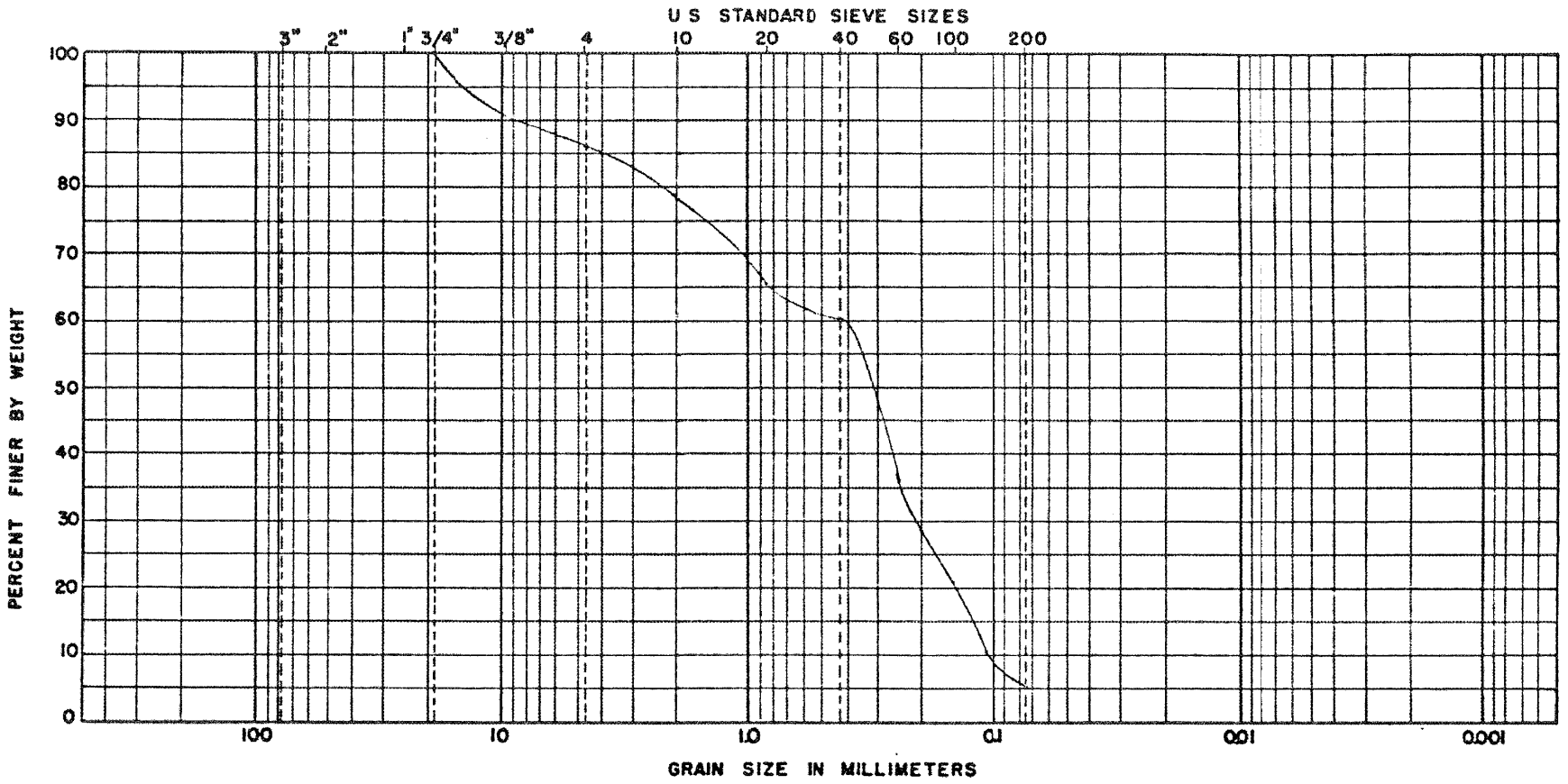
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-138 Sample #1	7.0' - 8.5'	- -	-	-	-	Grey fine sand Moisture Content - 24.4%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



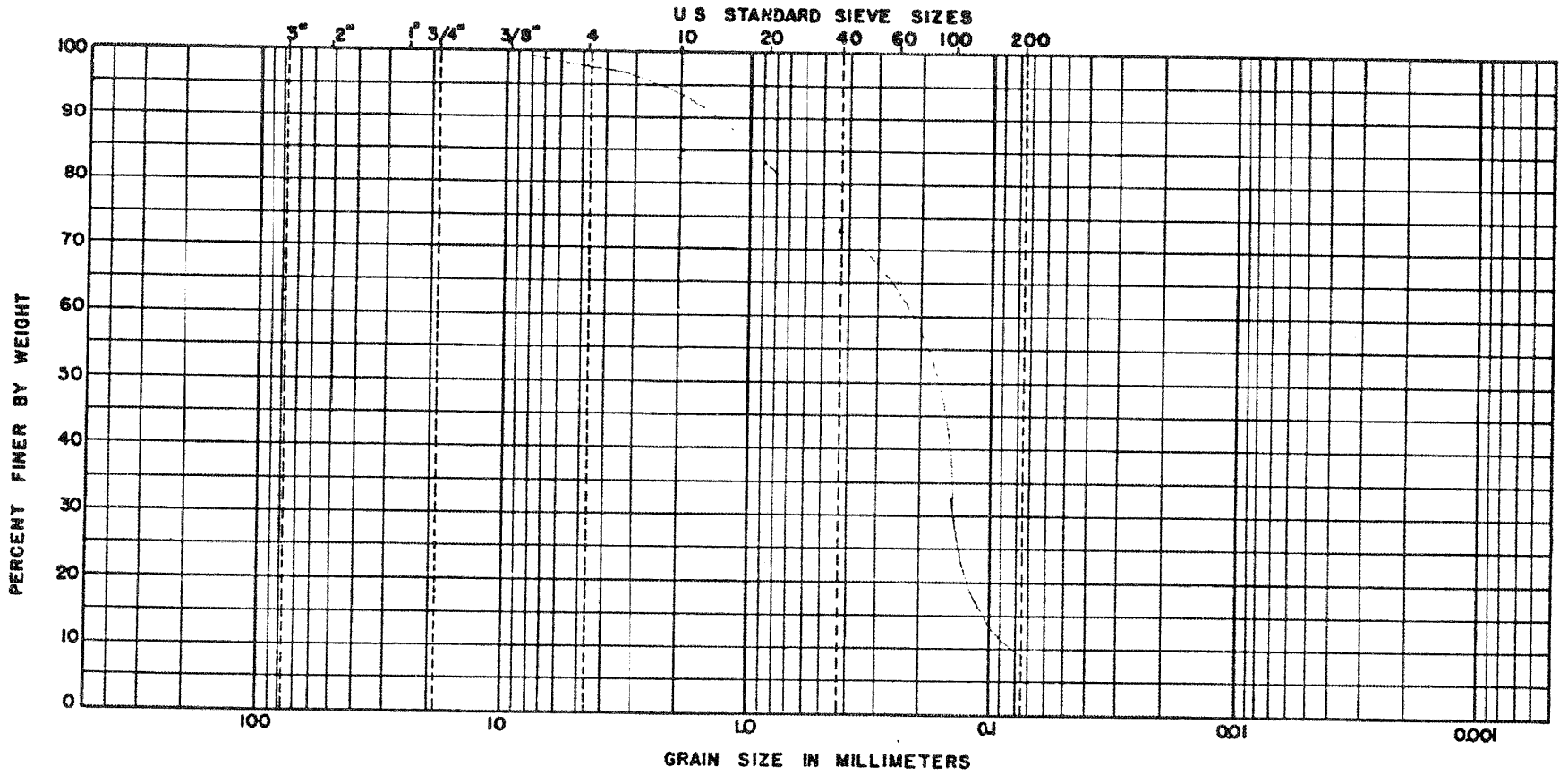
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-138 Sample #2	11.5' - 13.0'	- -	-	-	-	Grey fine sand with shell fragments Moisture Content - 20.2%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



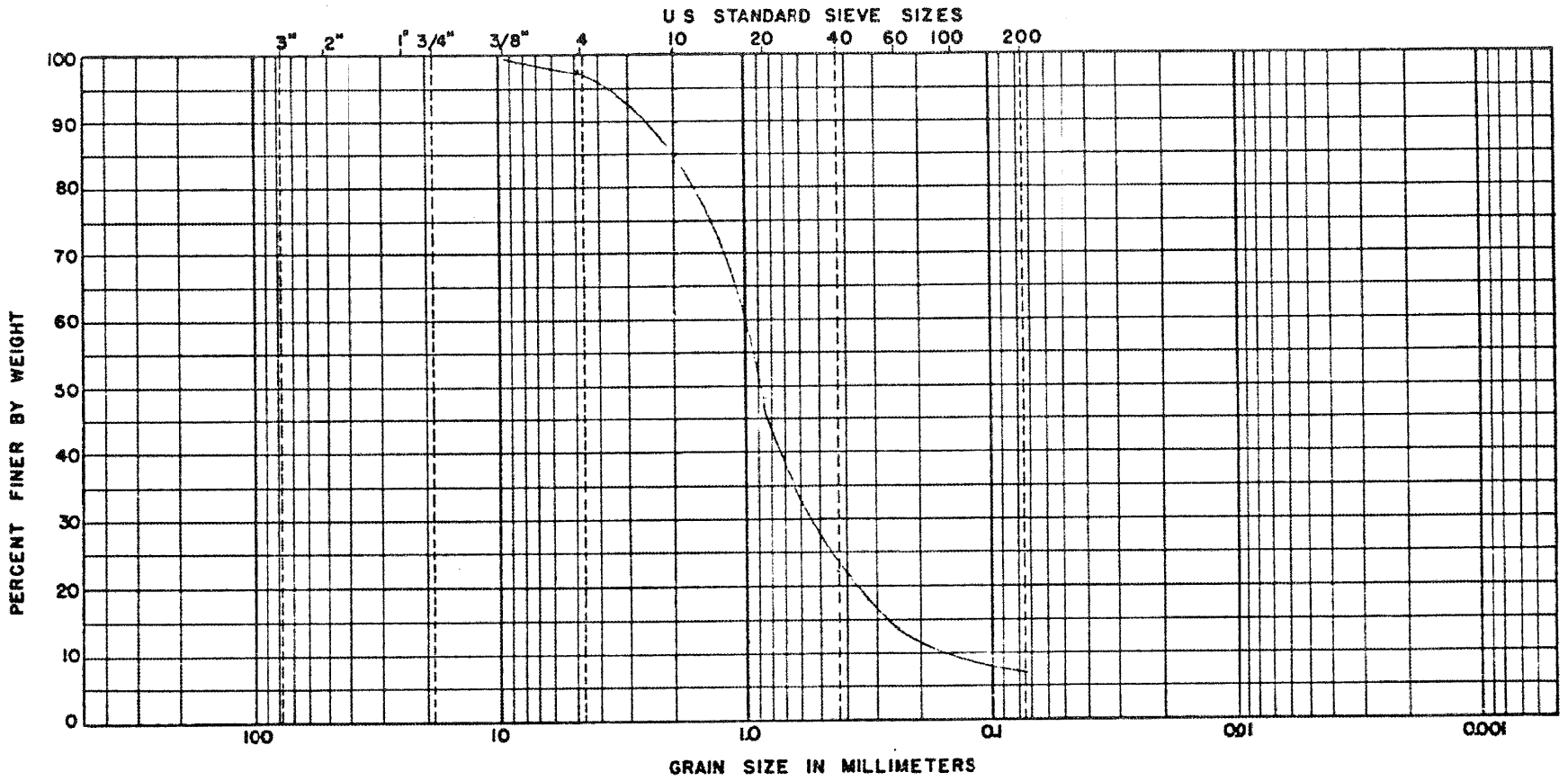
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-138 Sample #3	17.0' - 18.5'	- -	-	-	-	Grey fine sand and layers of shell fragments Moisture Content - 22.4%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



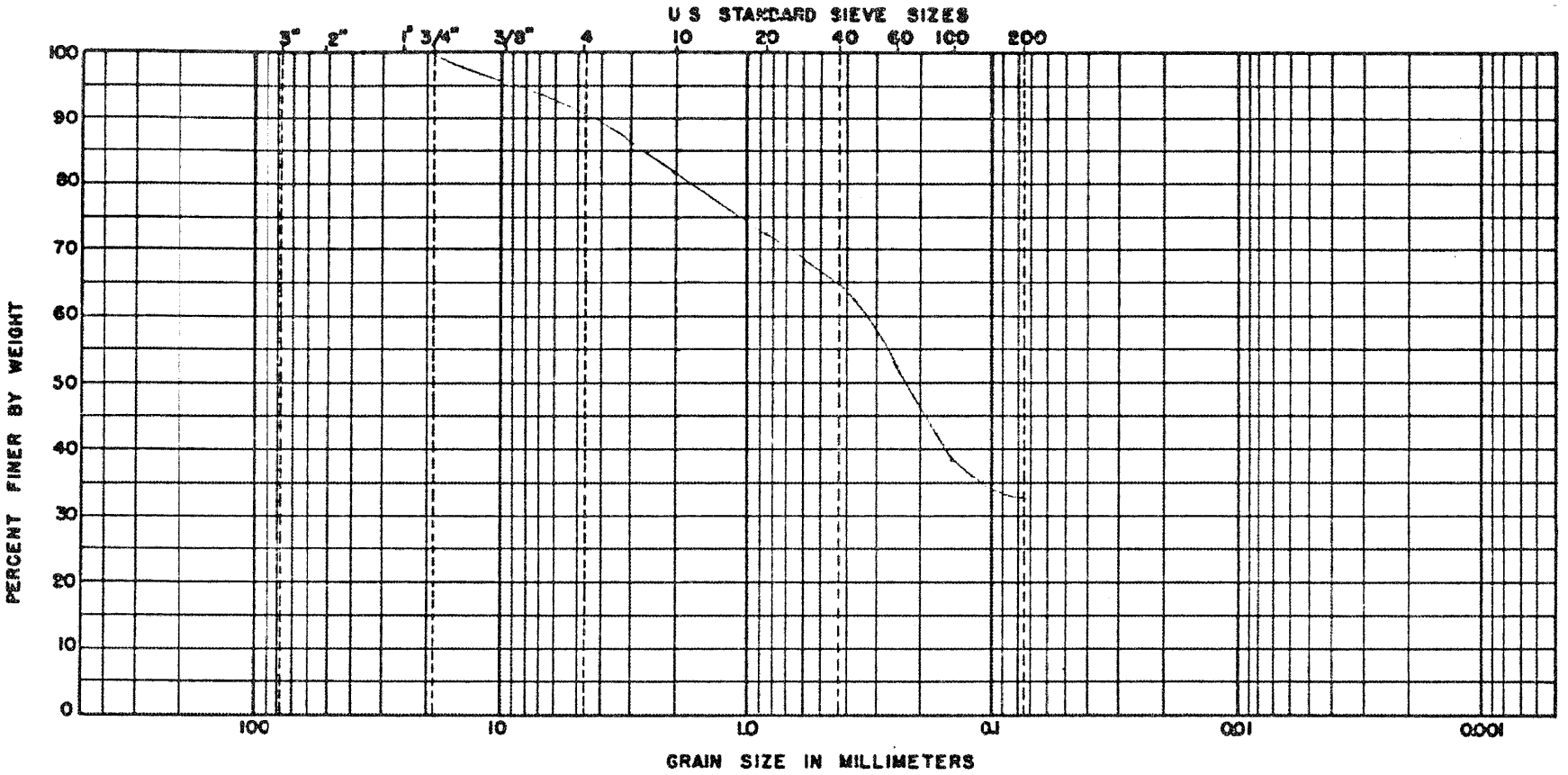
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	[redacted] DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-138 Sample #4	22.5' - 24.0'	- -	-	-	-	Small shell fragments with medium to coarse grey sand Moisture Content - 19.6%

GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



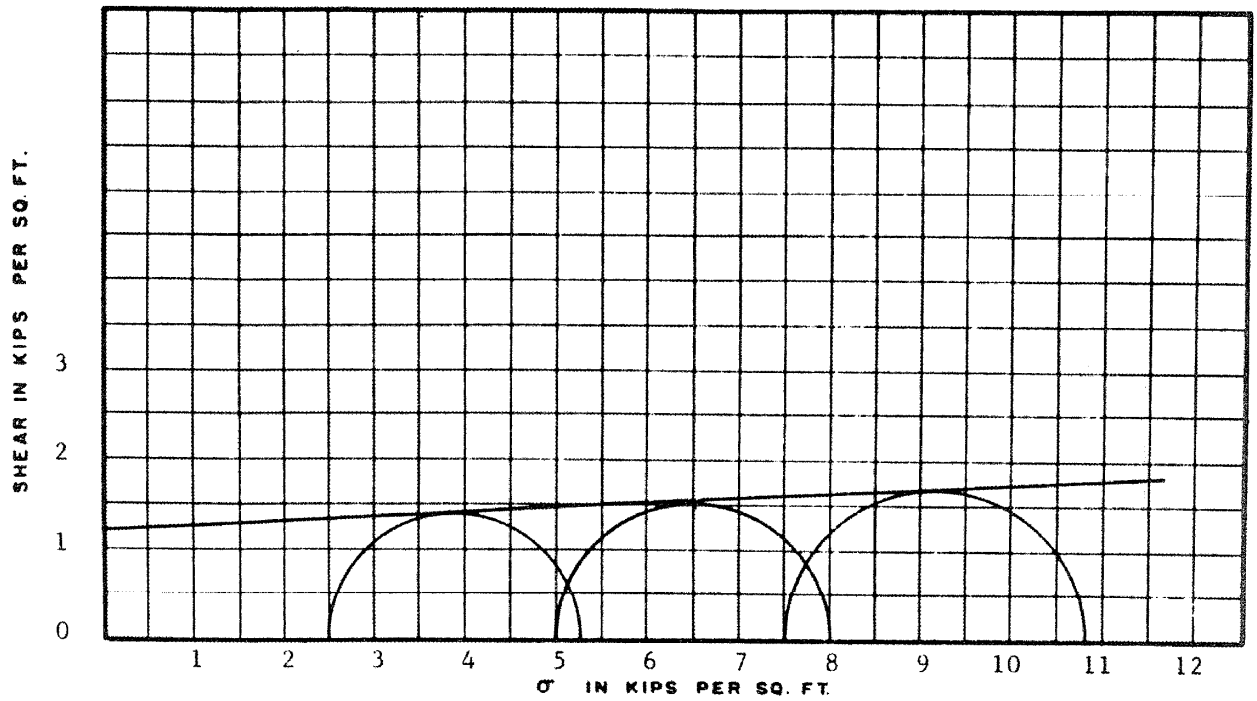
BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
B-138 Sample #5	27.5' - 29.0'	- -	-	-	-	Grey clayey fine sand with shell fragments and brown sand seams Moisture content - 25.6%

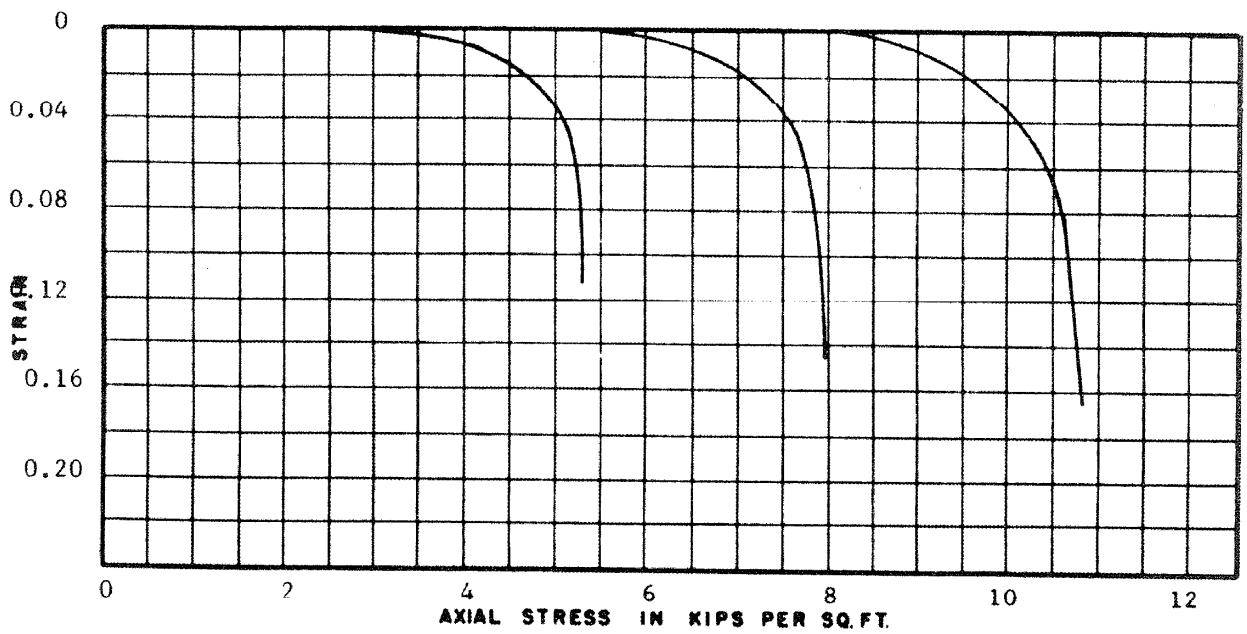
GRAIN SIZE DISTRIBUTION

JOB NO. J-1127

LAW ENGINEERING TESTING COMPANY



MOHR DIAGRAMS — ϕ



STRESS-STRAIN CURVES

FIRM TAN AND DARK GREY BROWN SLIGHTLY FINE SANDY SILTY CLAY

"COHESION", C 1.2 KSF

ANGLE OF SHEAR RESISTANCE, ϕ 3°

UNIT WEIGHT, γ_m 120 PCF

WATER CONTENT, W 30.9%

VOID RATIO, e 0.83

SATURATION, S 100%

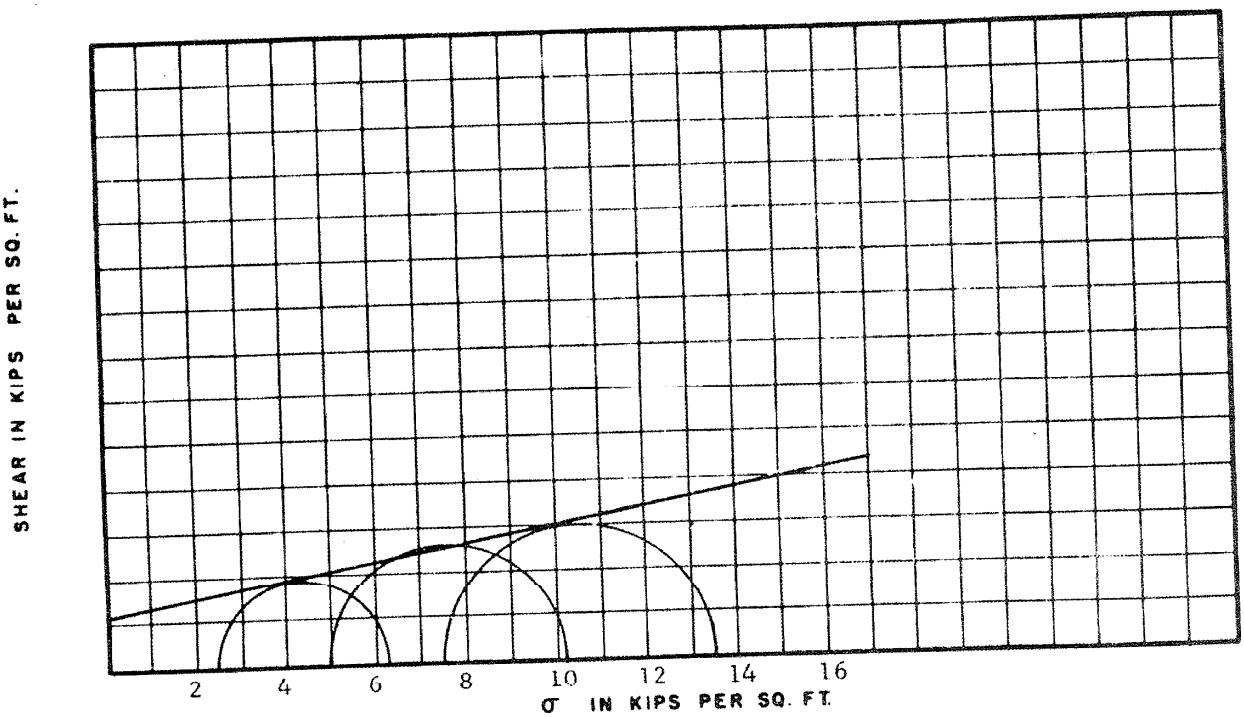
QUICK
TRIAXIAL SHEAR TEST

BORING NO. B-5 SAMPLE NO. UD-2

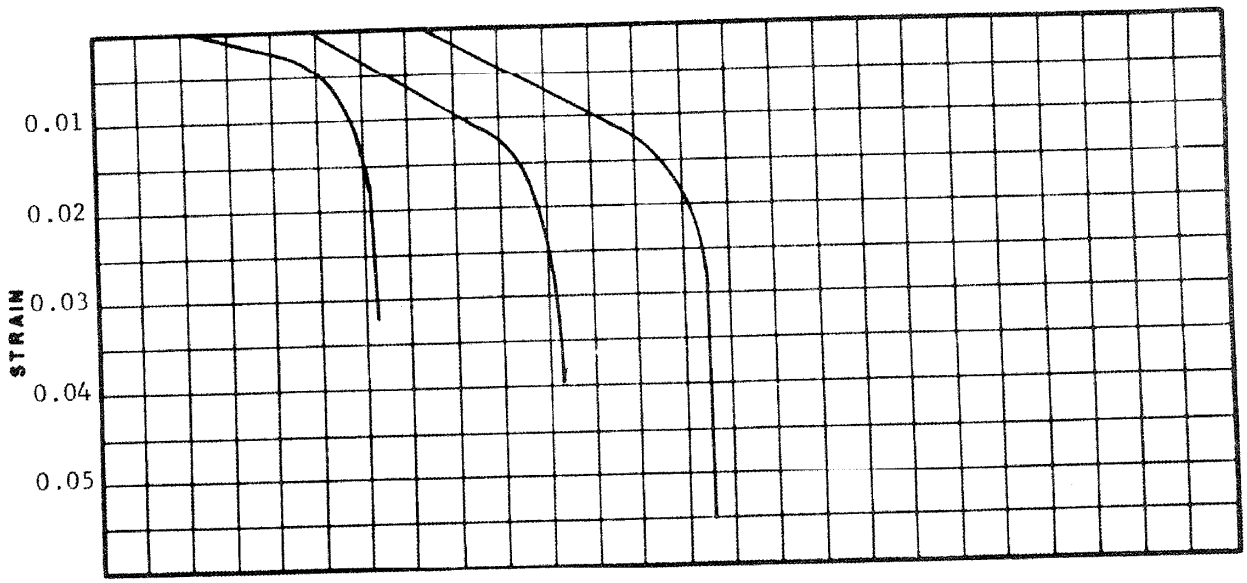
~~ELEV.~~ OR DEPTH 36'-38.5' JOB NO. EC-163

LAW ENGINEERING TESTING CO.

SS



MOHR DIAGRAMS – ϕ



STRESS-STRAIN CURVES

Gray slightly fine sandy silt with trace of clay.

"COHESION", C 1.2 KSF

ANGLE OF SHEAR RESISTANCE, ϕ 10.5°

UNIT WEIGHT, γ_m 112.9

WATER CONTENT, W 44.1%

VOID RATIO, e 1.112

CONSOLIDATED UNDRAINED

TRIAXIAL SHEAR TEST

BORING NO. B-6 SAMPLE NO. UD-1

~~ELEV.~~ OR DEPTH 29'-31' JOB NO. EC-163

LAW ENGINEERING TESTING CO.