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LAW ENGINEERING TESTING COMPANY



LAW

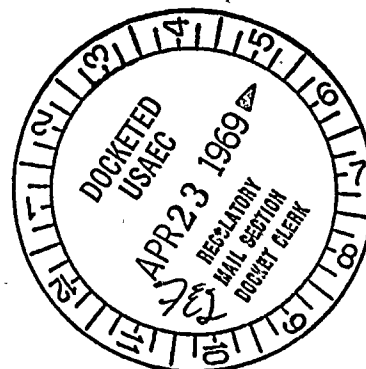
POST OFFICE BOX 1231
3608 SEVENTH COURT SO.
BIRMINGHAM, ALABAMA 35201

February 14, 1969

EBASCO Services, Inc.
Two Rector Street
New York, New York 10006

Attention: Mr. E. E. Van Brunt, Jr.
Project Manager

Subject: Florida Power and Light Company
Hutchinson Island Plant—Unit 1
Contract E10023
Report of Drilling Operations and Laboratory Testing



Gentlemen:

Law Engineering Testing Company is pleased to present this report of drilling operations and laboratory testing for the proposed nuclear power plant on Hutchinson Island near Fort Pierce, Florida.

Our report is presented in two volumes. Volume I presents the data taken from our field operations to exclude boring data along the discharge line. This information will be presented later in a supplementary report. Volume II presents the results of laboratory testing data.

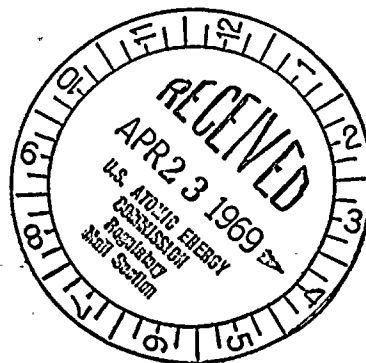
Very truly yours,

LAW ENGINEERING TESTING COMPANY

J. Roger Craddock
Soils Engineer
Project Manager

C. Bernard Martin, P. E.
Florida Division Manager

JRC/CBM/gjh/14



1351

FLORIDA POWER AND LIGHT COMPANY
HUTCHINSON ISLAND NUCLEAR POWER PLANT
UNIT NUMBER I
FOUNDATION INVESTIGATION
FOR EBASCO SERVICES, INC.
CONTRACT NUMBER E10023
VOLUME I



FIELD OPERATIONS

The collection of field data was primarily achieved using test boring operations. Twenty-seven test borings were made on Hutchinson Island at the proposed main plant site. Locations of these borings are shown on Boring Plan—Plate I. Seventeen test borings were made in BigMud Creek along the proposed intake channel. Locations of these borings are shown on Boring Plan—Plate I and Boring Plan—Plate II. As the borings were advanced, split spoon sampling and undisturbed sampling procedures were employed to gather subsurface information.

Auger borings and piezometer borings were also used to secure field data. Location of these borings are shown on the attached Boring Plan—Plate I.

Law Engineering Testing Company drill rigs under the supervision of a staff soil engineer and engineering technician were used to gather this information. The borings were located in the field by survey crews of Stafford and Brock of Stewart, Florida. Elevations were obtained by information supplied by survey crews of this firm.

1. Split Spoon Sampling (Land Borings): Borings were advanced by mechanically extending a fishtail or roller cone bit to the specified boring depths. A heavy bentonite slurry was used in conjunction with these bits to wash out the soil cuttings and to stabilize the wall and bottom of the borings. At specified intervals, drilling tools were removed from the borings and split spoon samples were obtained. This sampling procedure is described by ASTM Specification D-1586-63T. The sampler, which is 1.4 inch I. D. and 2.0 inches O. D., was first seated six inches to penetrate any loose cuttings and then driven an additional foot with blows of a 140 pound hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot was recorded and is designated the penetration resistance.

The soils obtained in the split tube were examined by our field engineer, and representative portions of the sample were placed in glass jars. The field engineer



also stratified materials penetrated during the drilling operations. Soil descriptions and penetration resistances are shown on the attached Test Boring Records.

2. **Split Spoon Sampling (Water Borings):** Test borings were advanced over water by employing a wash and chop operation utilizing a small portable drilling rig mounted on a small barge. A heavy bentonite slurry was used in conjunction with this operation to wash out the soil cuttings and to stabilize the wall and bottom of the borings. At specified intervals, the drilling tools were removed from the boring and split spoon samples were obtained. This sampling procedure is as described in paragraph 1 above.

3. **Undisturbed Sampling:** Typical and critical soil strata were sampled by undisturbed sampling techniques as described by ASTM Specification D-1587. The samples were obtained by forcing sections of 16 gauge steel tubing into the soil at the desired sampling level. Each tube, together with the encased soil, was carefully removed from the ground, made airtight, and stored for later disposition. A list of undisturbed samples obtained was presented to EBASCO Services for possible laboratory testing. Those samples selected for laboratory testing were transported to our laboratories. The remaining undisturbed samples were stored in our Jacksonville office for later disposition.

4. **Auger Borings:** Auger borings were used to secure materials for testing as possible fill material. Each boring was divided into three zones. Composite materials were secured from each of the zones and delivered to our laboratories for testing.

5. **Piezometer Borings:** Information on piezometer borings is included later in this report.



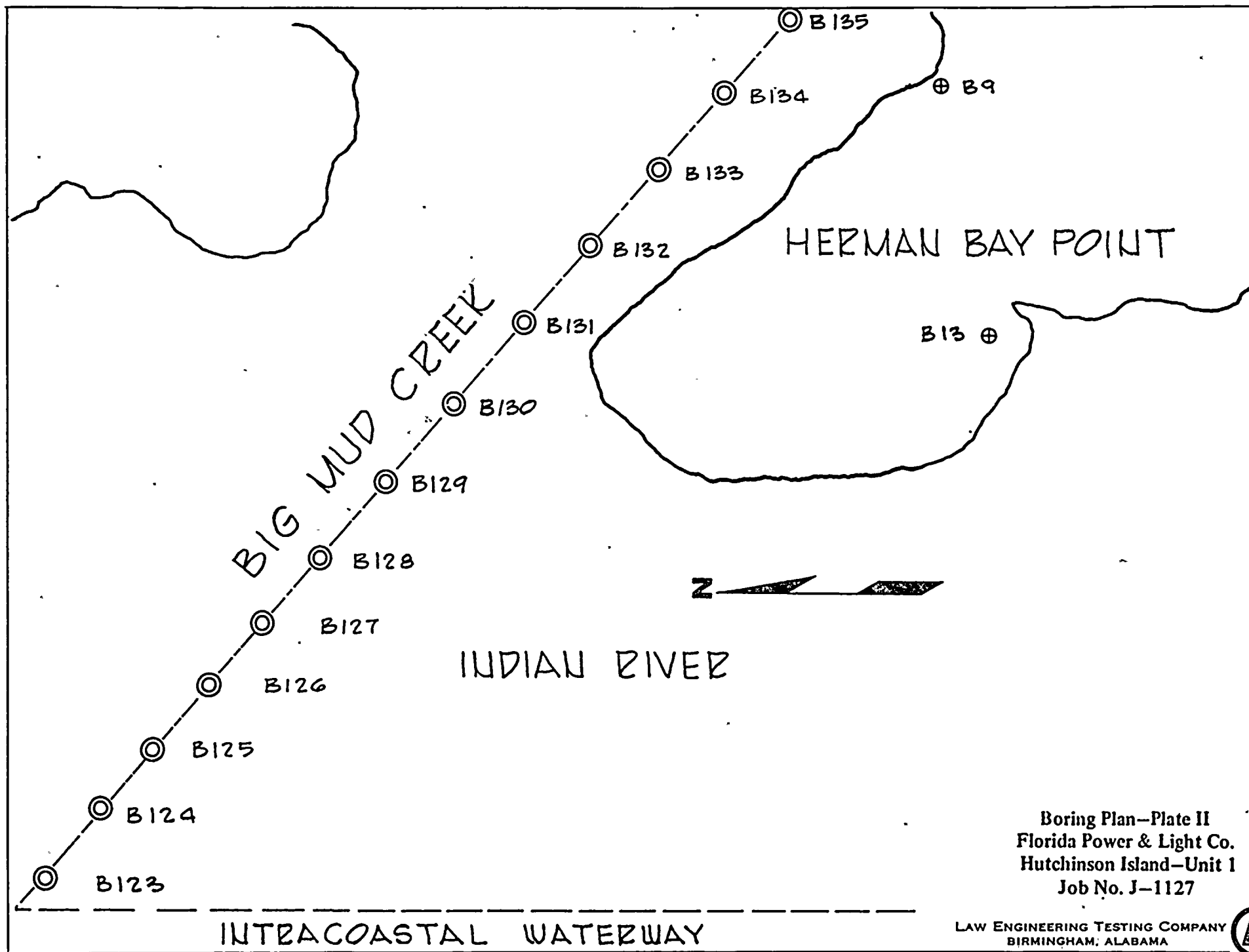
INDEX OF BORINGS REPORTED
Florida Power & Light Co.
Hutchinson Island Plant--Unit 1
Job No. J-1127

BORING NUMBER	DEPTH DRILLED	NUMBER OF TEST BORING RECORDS REPORTED
B6A	300	8
B101	200	6
B102	200	6
B103	200	6
B104	200	6
B105	200	6
B106	200	6
B107	300	8
B107A	100	3
B108	200	6
B108A	100	1
B109	200	6
B110	300	8
B111	300	8
B111A	100	1
B112	200	6
B113	200	6
B114	200	6
B114A	400	11
B115	200	6
B116	200	6
B117	200	6
B118	150	4
B119	150	4
B120	150	4
B121	150	4
B122	150	4
B123	55	2
B124	50	2
B125	55	2
B126	50	2
B127	55	2
B128	55	2
B129	55	2
B130	55	2



BORING NUMBER	DEPTH DRILLED	NUMBER OF TEST BORING RECORDS REPORTED
B131	53	2
B132	53	2
B133	53	2
B134	32	1
B135	55	2
B136	32	1
B137	53	2
B138	53	2
B139	36	1
A-1	67	1
A-1A	30	1
A-2	67	1
A-3	67	1
A-4	67	1
SP-1	60	1
SP-2	60	1
SP-3	55	1
SP-4	58	1
SP-5	60	1
SP-6	55	1
SP-7	60	1
SP-8	50	1
SP-9	60	1

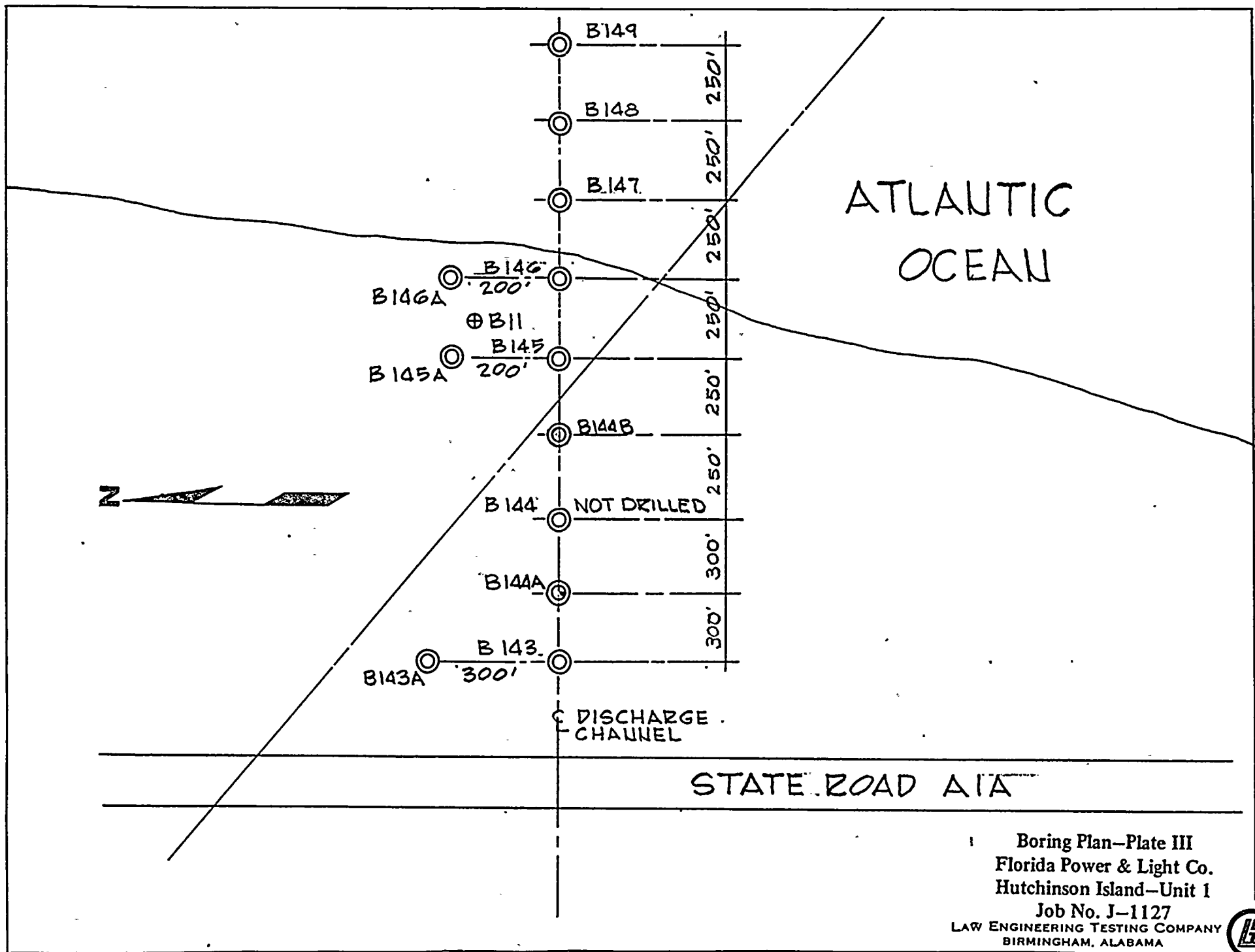


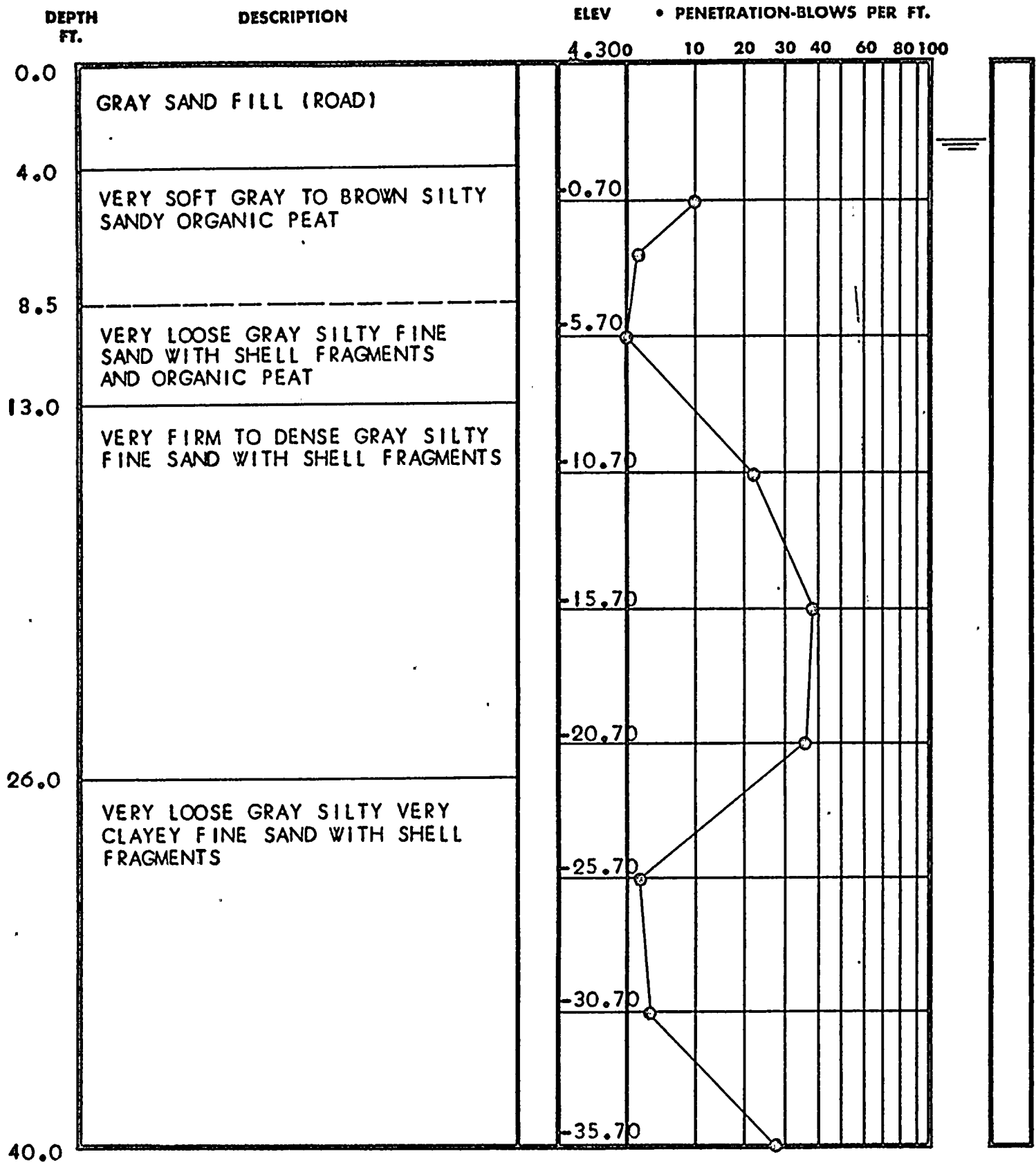


Boring Plan—Plate II
Florida Power & Light Co.
Hutchinson Island—Unit 1
Job No. J-1127

LAW ENGINEERING TESTING COMPANY
BIRMINGHAM, ALABAMA







TEST BORING RECORD

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

Page 1 of 8

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

BORING NO. B-6A

DATE DRILLED 1/3/69

JOB NO. 1-1127

 UNDISTURBED SAMPLE

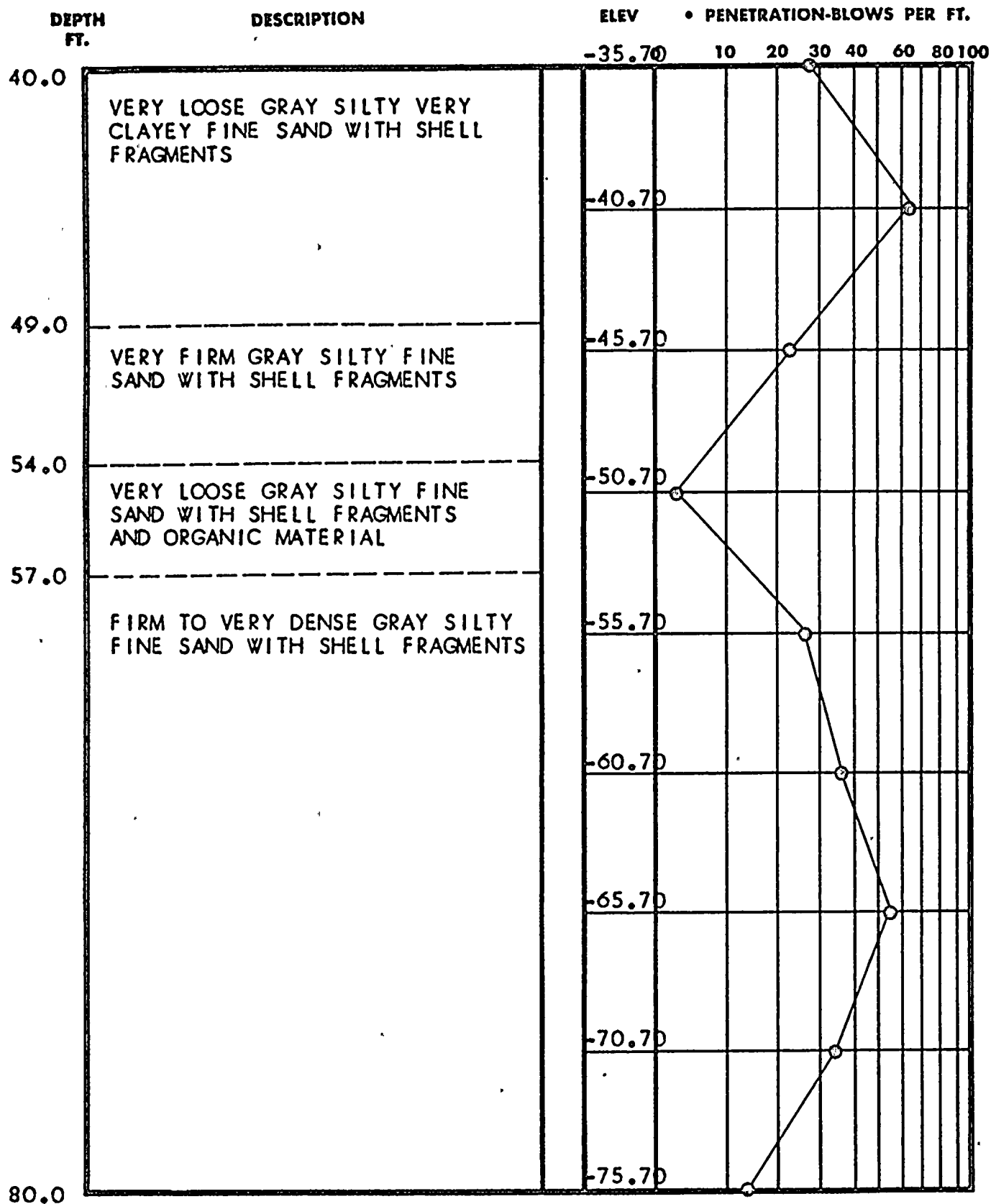
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

[50] % 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.

Page 2 of 8

BORING NO. B-6A

DATE DRILLED 1/3/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

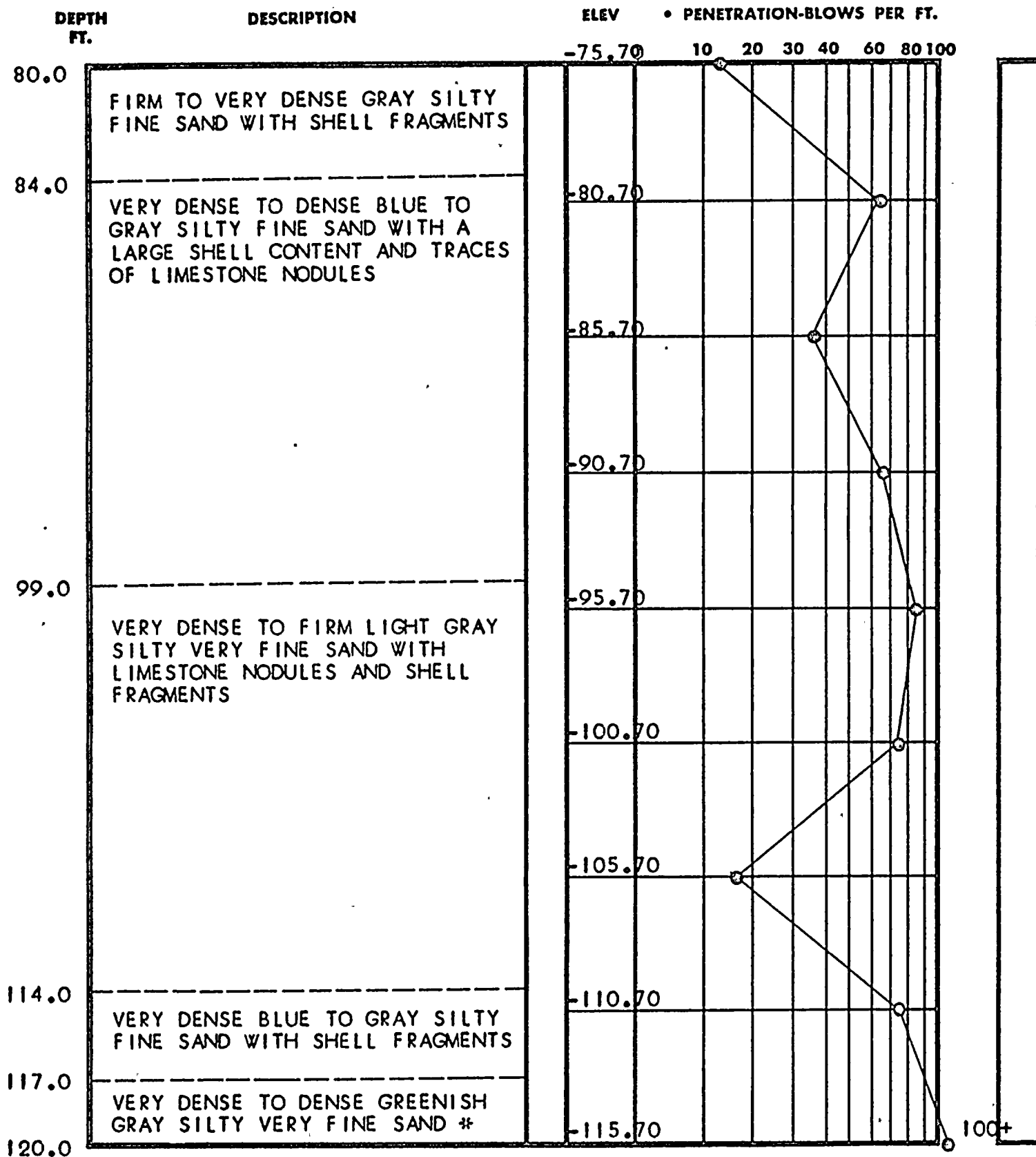
 % ROCK CORE RECOVERY

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



* WITH A TRACE OF SHELLS

TEST BORING RECORD

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

Page 3 of 8

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

BORING NO. B-6A

DATE DRILLED 1/6/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

DEPTH
FT.

DESCRIPTION

ELEV • PENETRATION-BLOWS PER FT.

-115.70 10 20 30 40 60 80 100

120.0

VERY DENSE TO DENSE GREENISH
GRAY SILTY VERY FINE SAND
WITH A TRACE OF SHELLS

-120.70

-125.70

132.0

FIRM TO VERY DENSE GREENISH
GRAY SILTY SLIGHTLY CLAYEY
FINE SAND WITH TRACES OF SHELL
FRAGMENTS AND LIMESTONE NODULES

-130.70

-135.70

146.0

DENSE LIGHT GRAY SILTY FINE
SAND WITH SHELL FRAGMENTS
AND LIMESTONE NODULES

-140.70

-145.70

-150.70

158.0

LOOSE TO VERY DENSE GREEN*

-155.70

160.0

* SILTY SLIGHTLY CLAYEY VERY
FINE SAND WITH TRACE OF MICA

TEST BORING RECORD

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

Page 4 of 8

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

BORING NO. B-6ADATE DRILLED 1/6/69JOB NO. J-1127

UNDISTURBED SAMPLE



WATER TABLE, 24 HR.

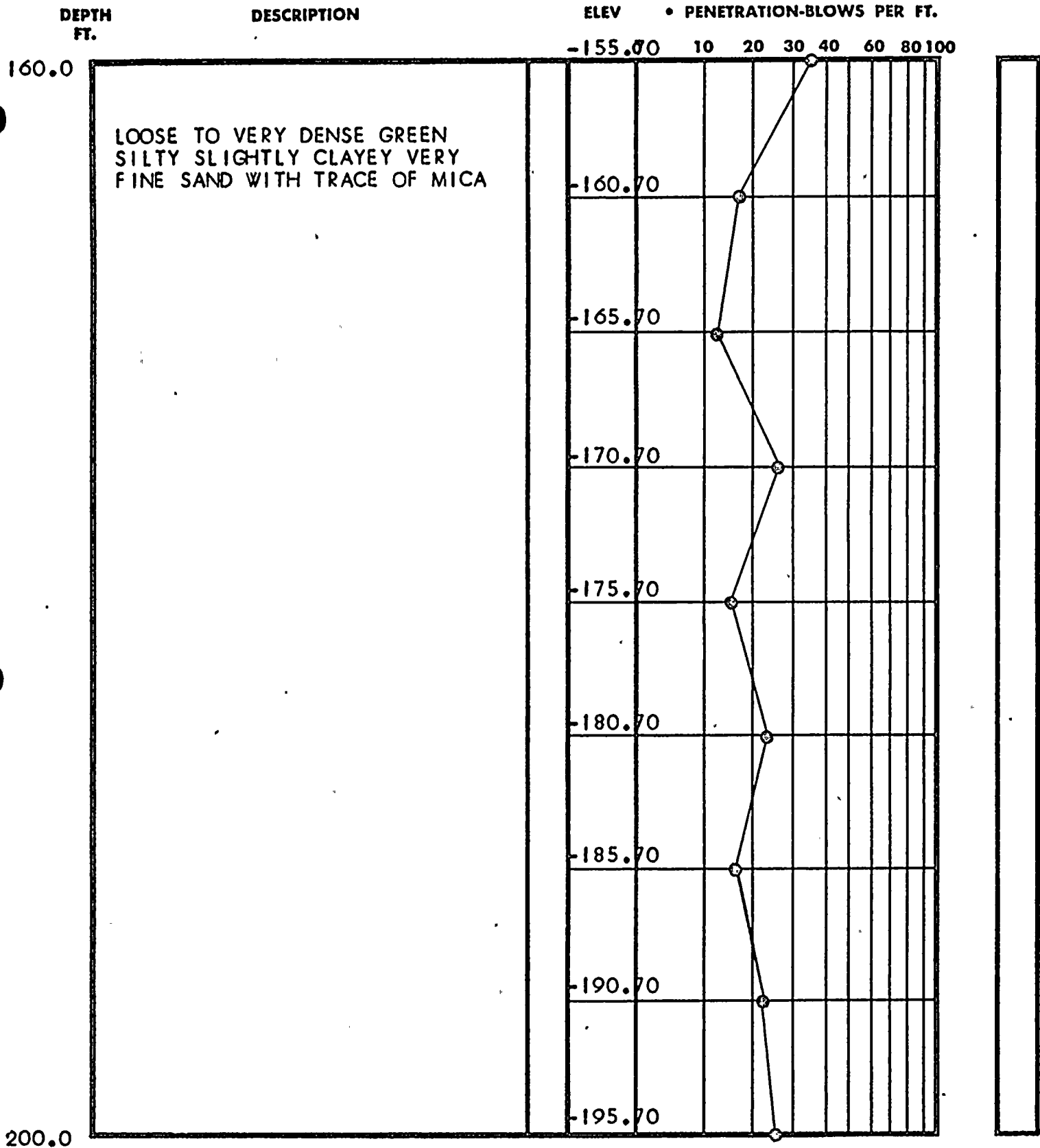


% ROCK CORE RECOVERY



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.

BORING NO. B-6A
 DATE DRILLED 1/8/69
 JOB NO. J-1127

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

LAW ENGINEERING TESTING CO.

DEPTH
FT.

DESCRIPTION

ELEV • PENETRATION-BLOWS PER FT.

-195.80 10 20 30 40 60 80 100

100.0

LOOSE TO VERY DENSE GREEN
SILTY SLIGHTLY CLAYEY VERY
FINE SAND WITH TRACE OF MICA

-200.70

-205.70

-210.70

-215.70

-220.70

-225.70

-230.70

-235.70

240.0

TEST BORING RECORD

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

Page 6 of 8

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

BORING NO. B-6A

DATE DRILLED 1/8/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

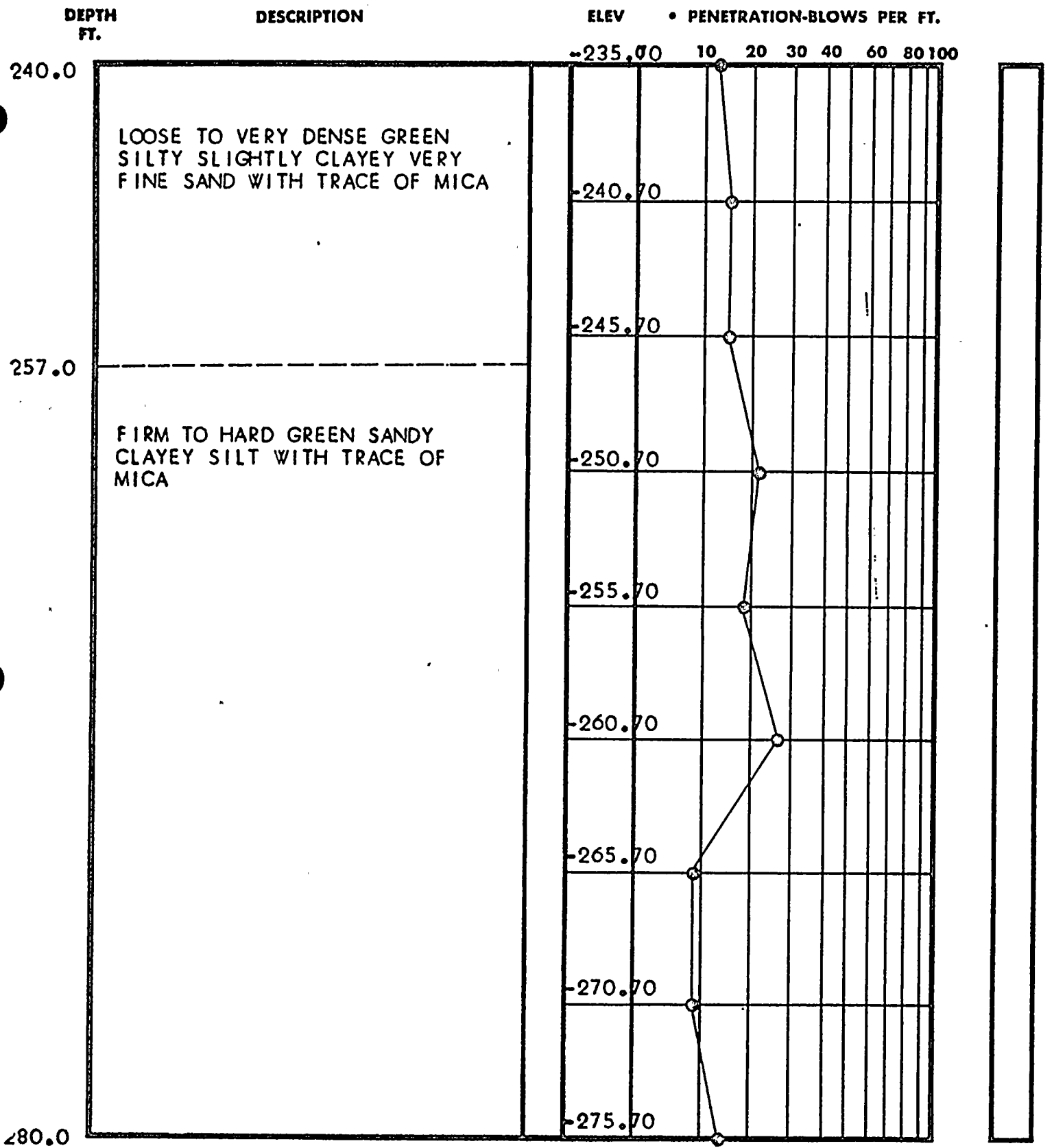
 WATER TABLE, 24 HR.

 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.

Page 7 of 8

BORING NO. B-6A

DATE DRILLED 1/8/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

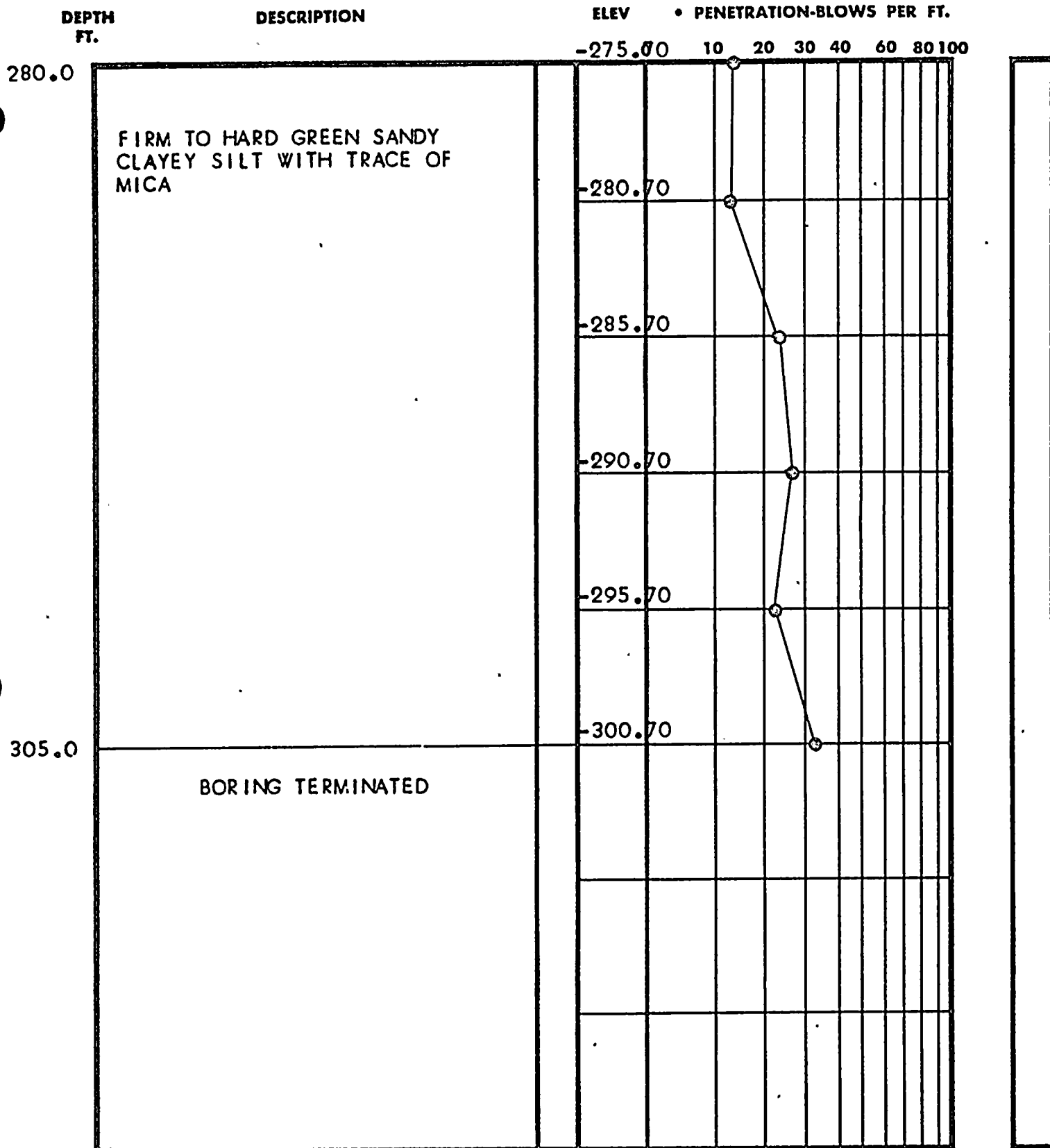
 WATER TABLE, 24 HR.

 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

Page 8 of 8

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

BORING NO. B-6A

DATE DRILLED 1/8/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

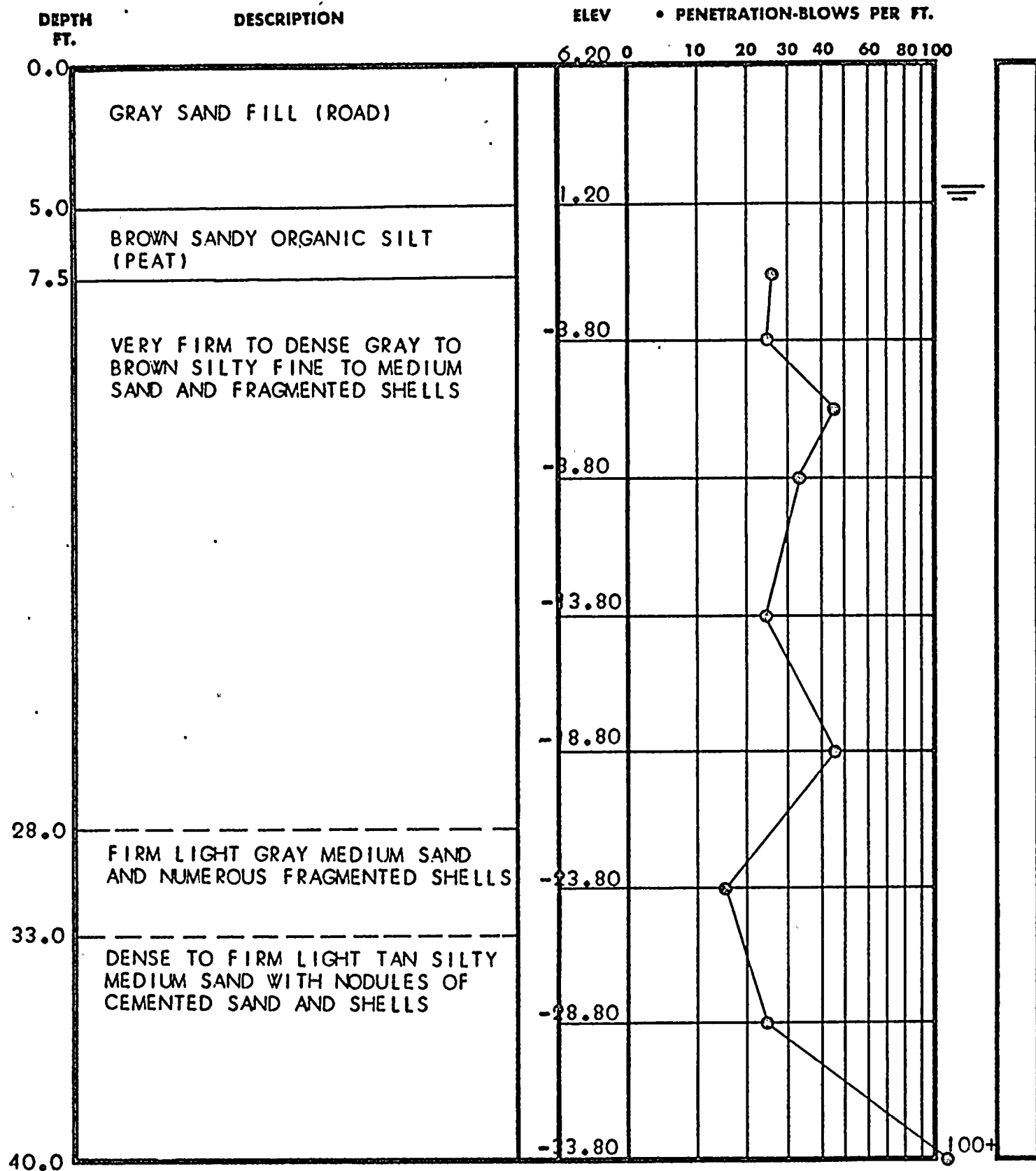
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1506
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.

Page 1 of 6

BORING NO. B-101

DATE DRILLED 11/21/68

JOB NO. 1-1127

UNDISTURBED SAMPLE

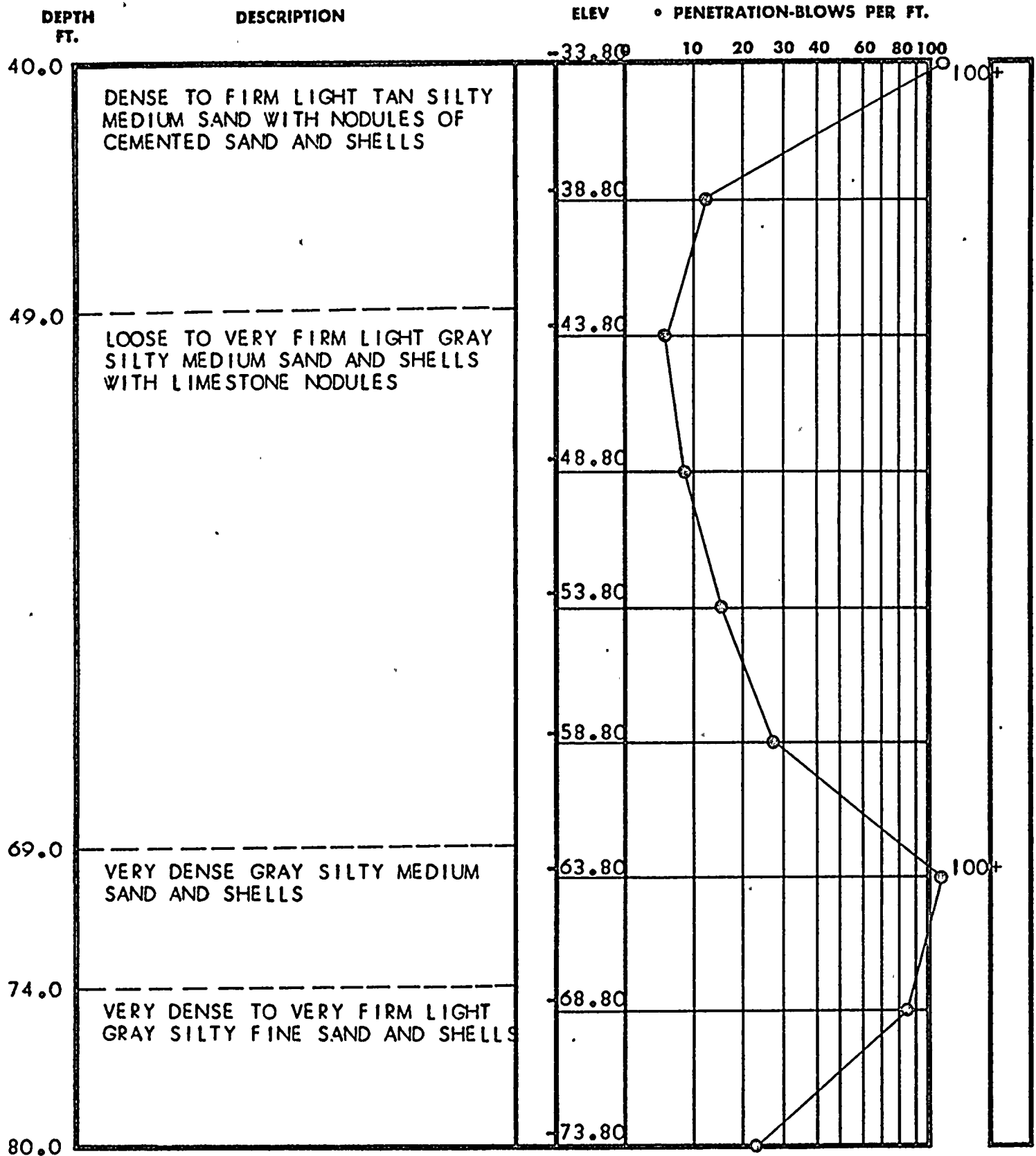
% ROCK CORE RECOVERY

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.

Page 2 of 6

BORING NO. B-101

DATE DRILLED 11/21/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

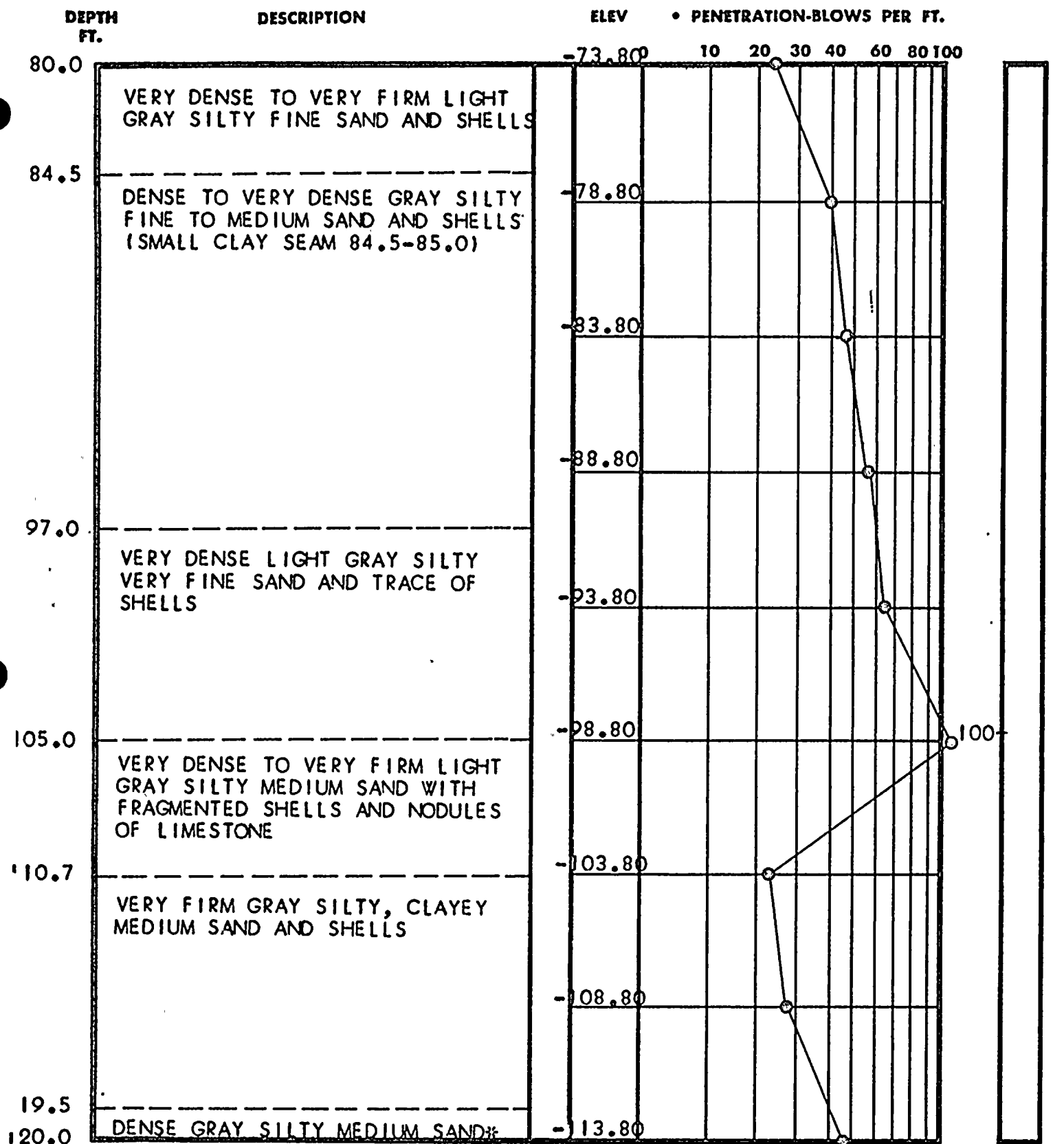
 % ROCK CORE RECOVERY

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



*AND FRAGMENTED SHELLS

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.

Page 3 of 6

BORING NO. B-101

DATE DRILLED 11/21/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

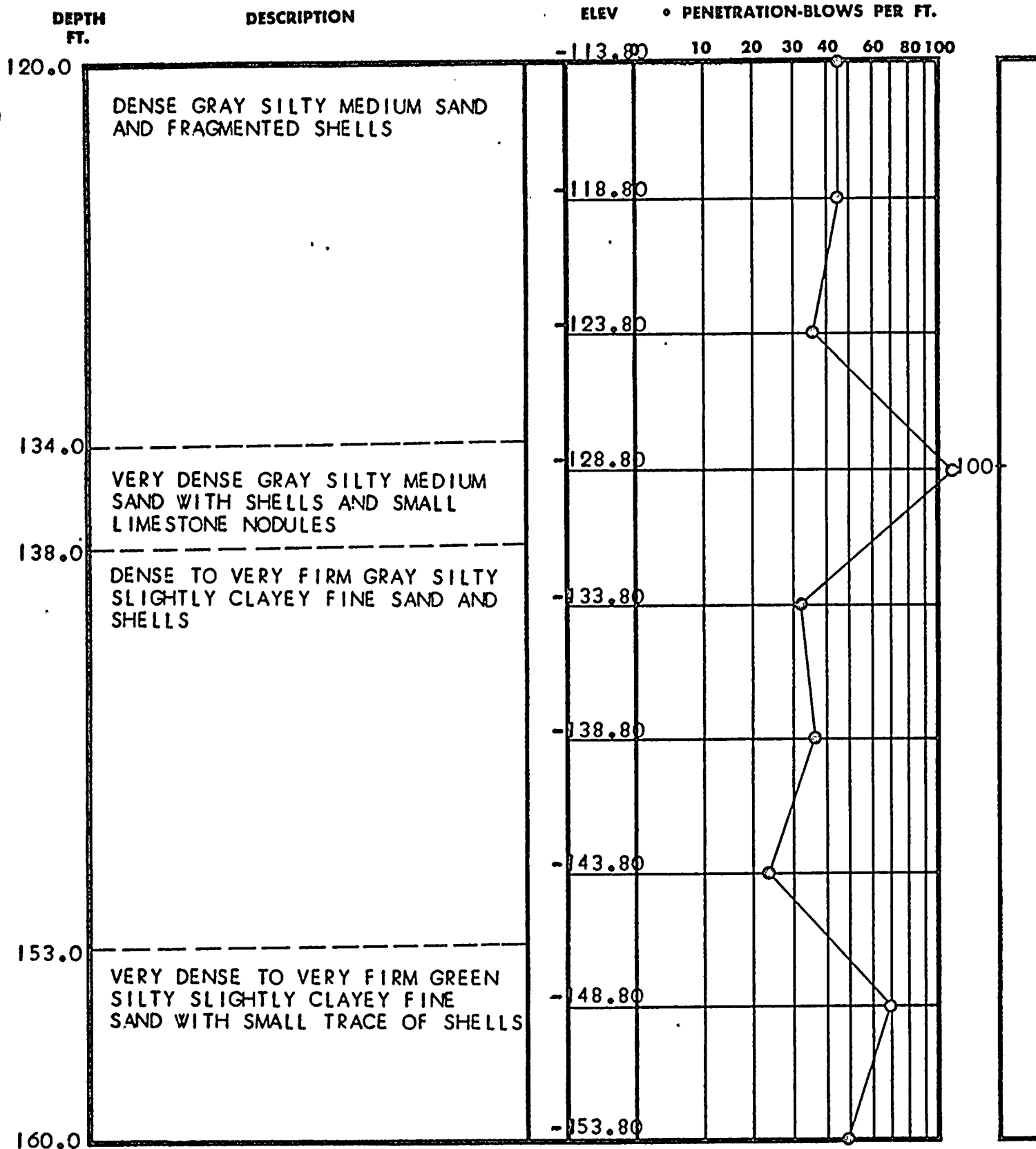
 WATER TABLE, 24 HR.

 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

Page 4 of 6

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

BORING NO. B-101

DATE DRILLED 11/21/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

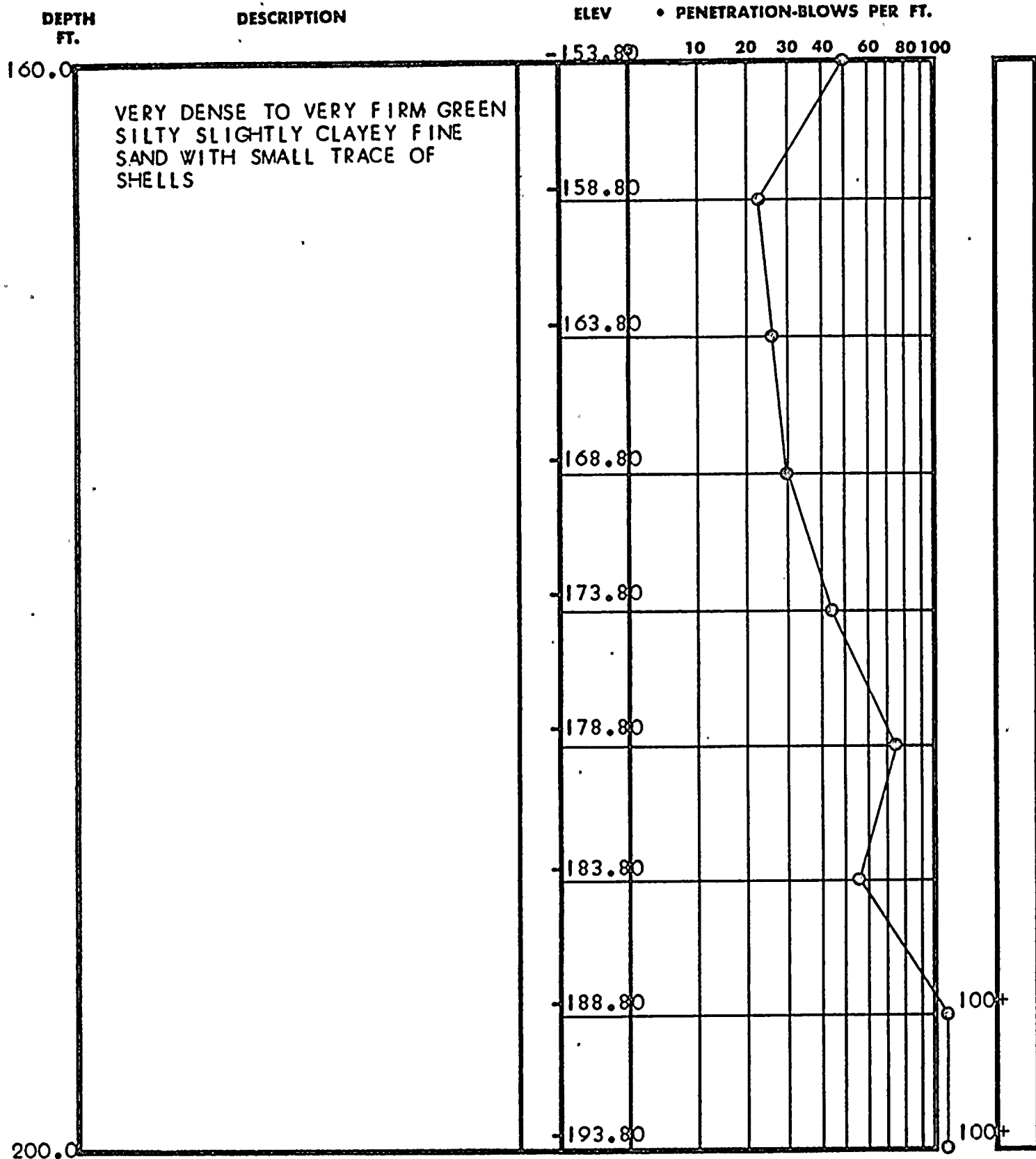
 WATER TABLE, 24 HR.

 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.

Page 5 of 6

BORING NO. B-101
DATE DRILLED 11/21/68
JOB NO. 1-1127

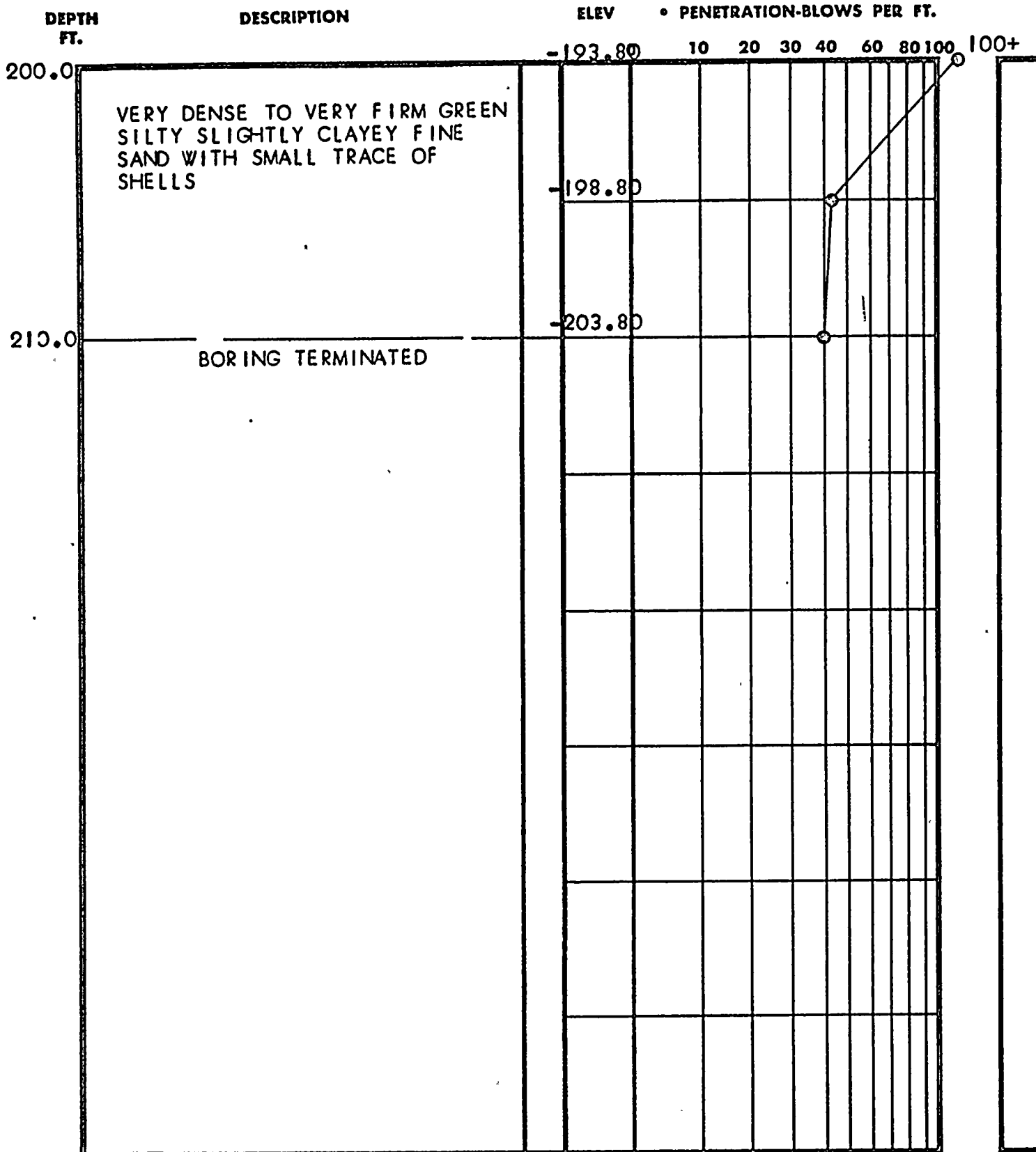
 UNDISTURBED SAMPLE

 % 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

Page 6 of 6

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

BORING NO. B-101

DATE DRILLED 11/21/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

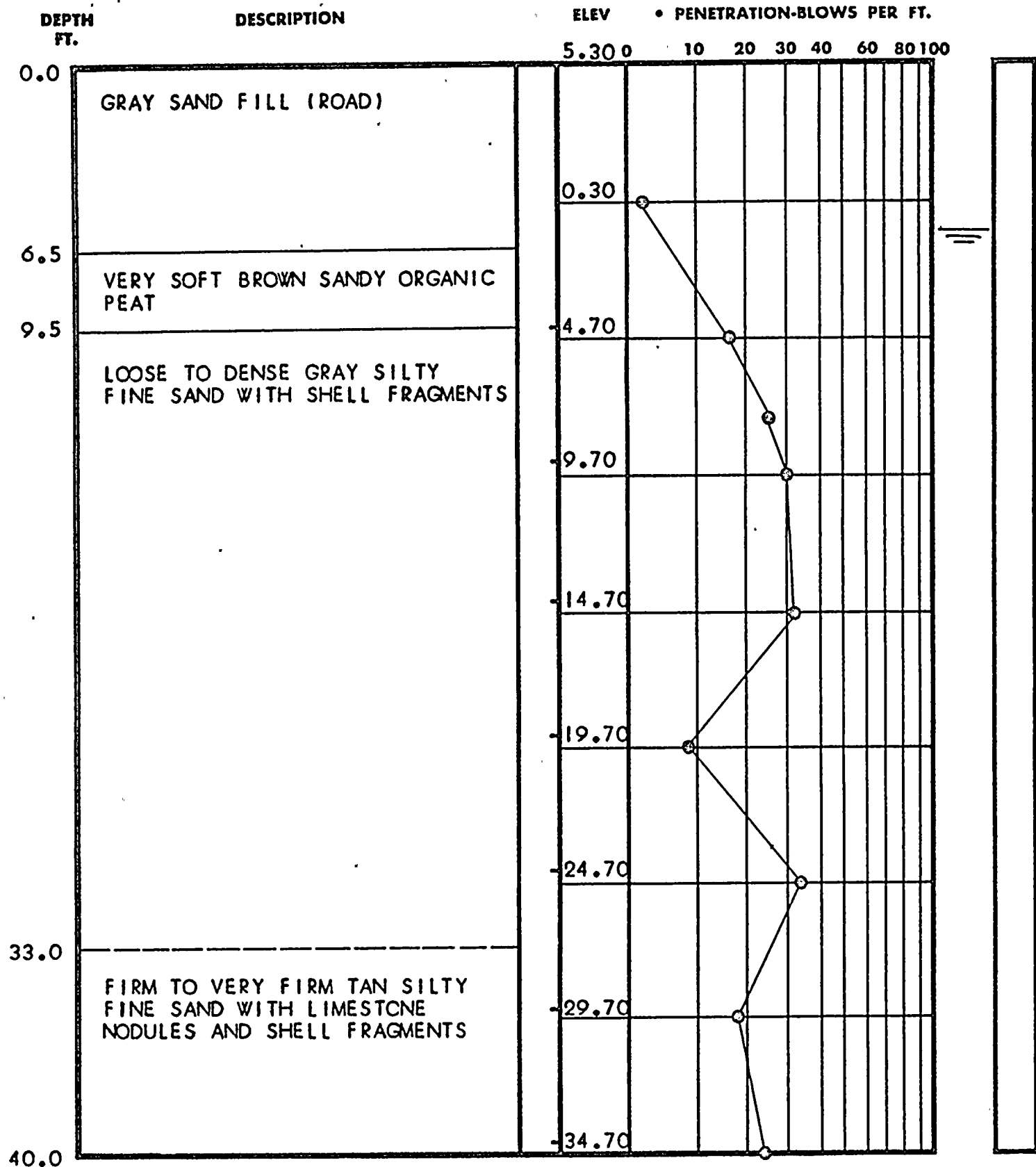
 WATER TABLE, 24 HR.

 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.

Page 1 of 6

BORING NO. B-102

DATE DRILLED 12/4/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

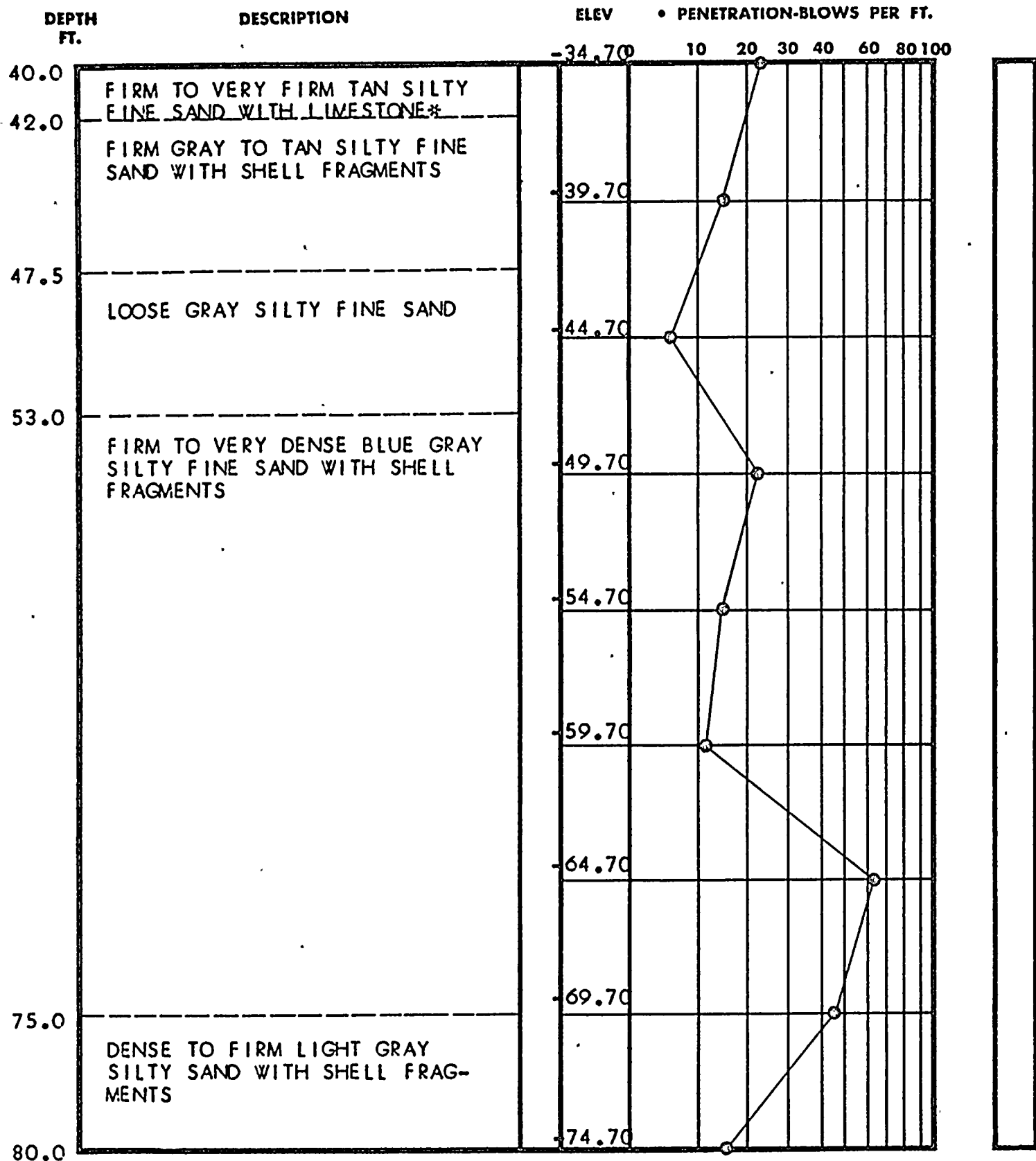
 % ROCK CORE RECOVERY

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



*NODULES AND SHELL FRAGMENTS

TEST BORING RECORD

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

Page 2 of 6

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

BORING NO. B-102

DATE DRILLED 12/4/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

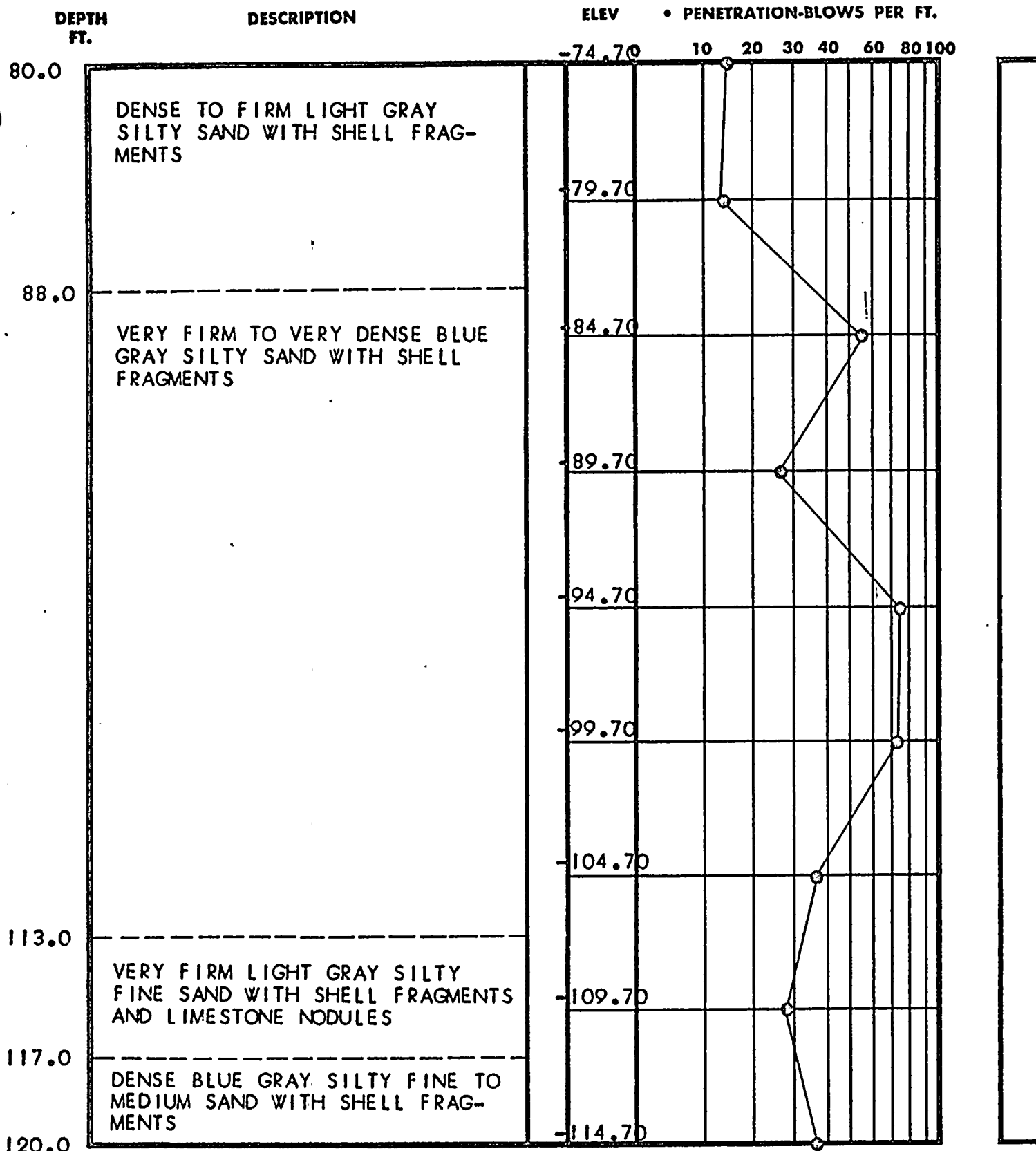
 WATER TABLE, 24 HR.

 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

Page 3 of 6

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

BORING NO. B-102

DATE DRILLED 12/4/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

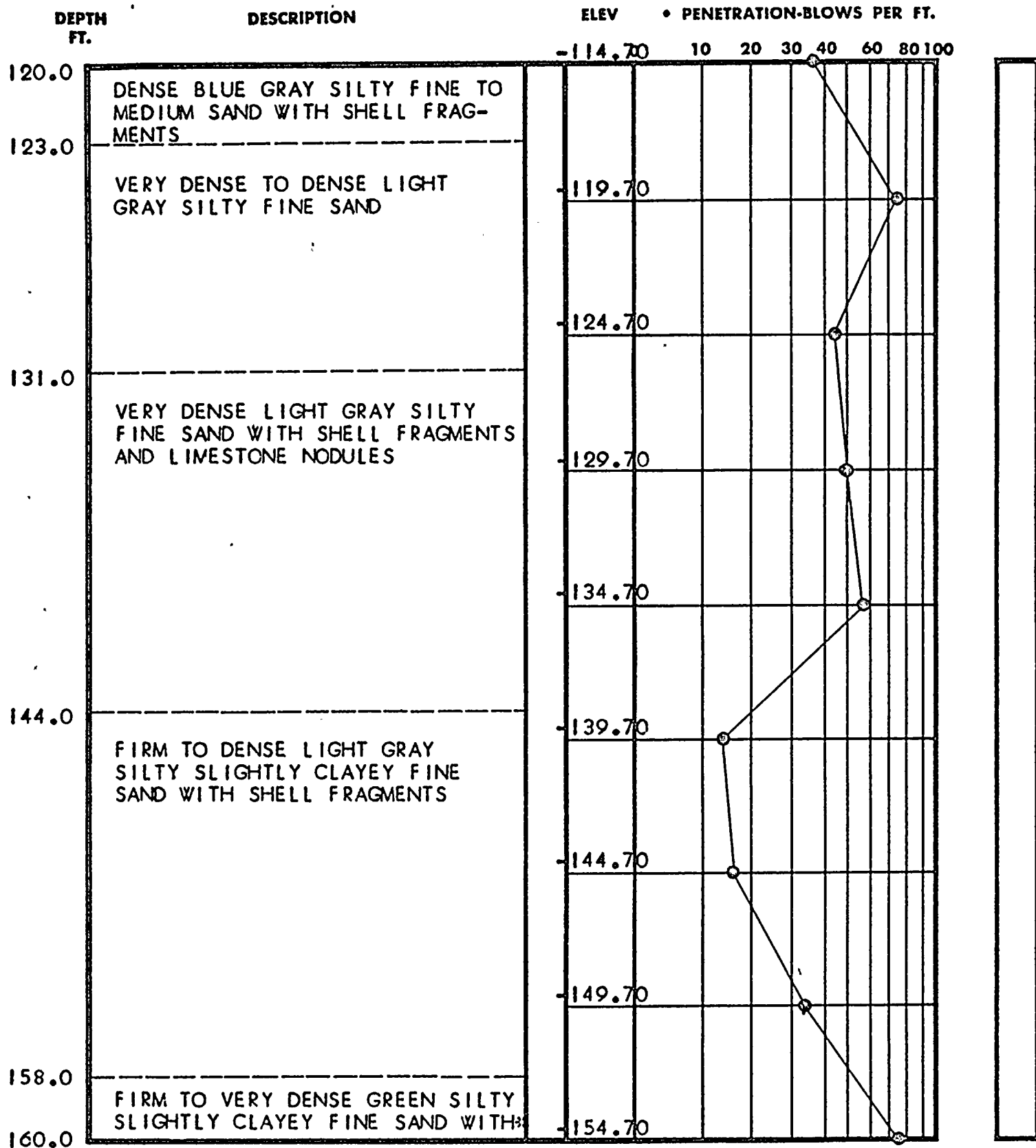
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



#A TRACE OF MICA

TEST BORING RECORD

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

Page 4 of 6

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

BORING NO. B-102

DATE DRILLED 12/4/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

DEPTH
FT.

DESCRIPTION

ELEV • PENETRATION-BLOWS PER FT.

-154.70 10 20 30 40 60 80 100

160.0

FIRM TO VERY DENSE GREEN SILTY
SLIGHTLY CLAYEY FINE SAND WITH
A TRACE OF MICA

-159.70

-164.70

-169.70

-174.70

-179.70

-184.70

-189.70

-194.70

200.0

TEST BORING RECORD

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

Page 5 of 6

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

BORING NO. 8-102

DATE DRILLED 12/4/68

JOB NO. 1-1127



UNDISTURBED SAMPLE



WATER TABLE, 26 HR.



WATER TABLE, 1 HR.

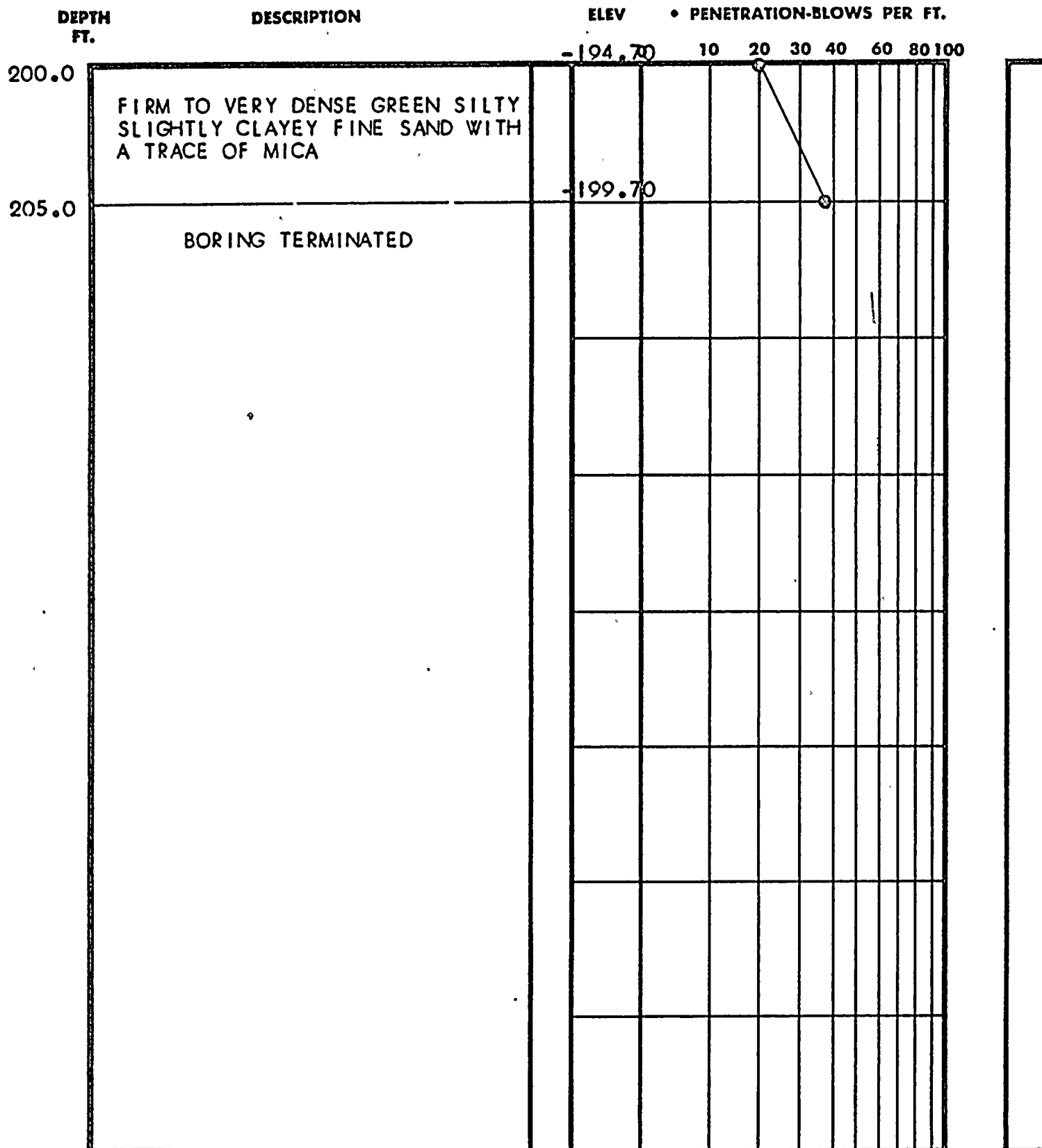


% ROCK CORE RECOVERY



LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

Page 6 of 6

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

BORING NO. B-102

DATE DRILLED 12/4/68

JOB NO. 1-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

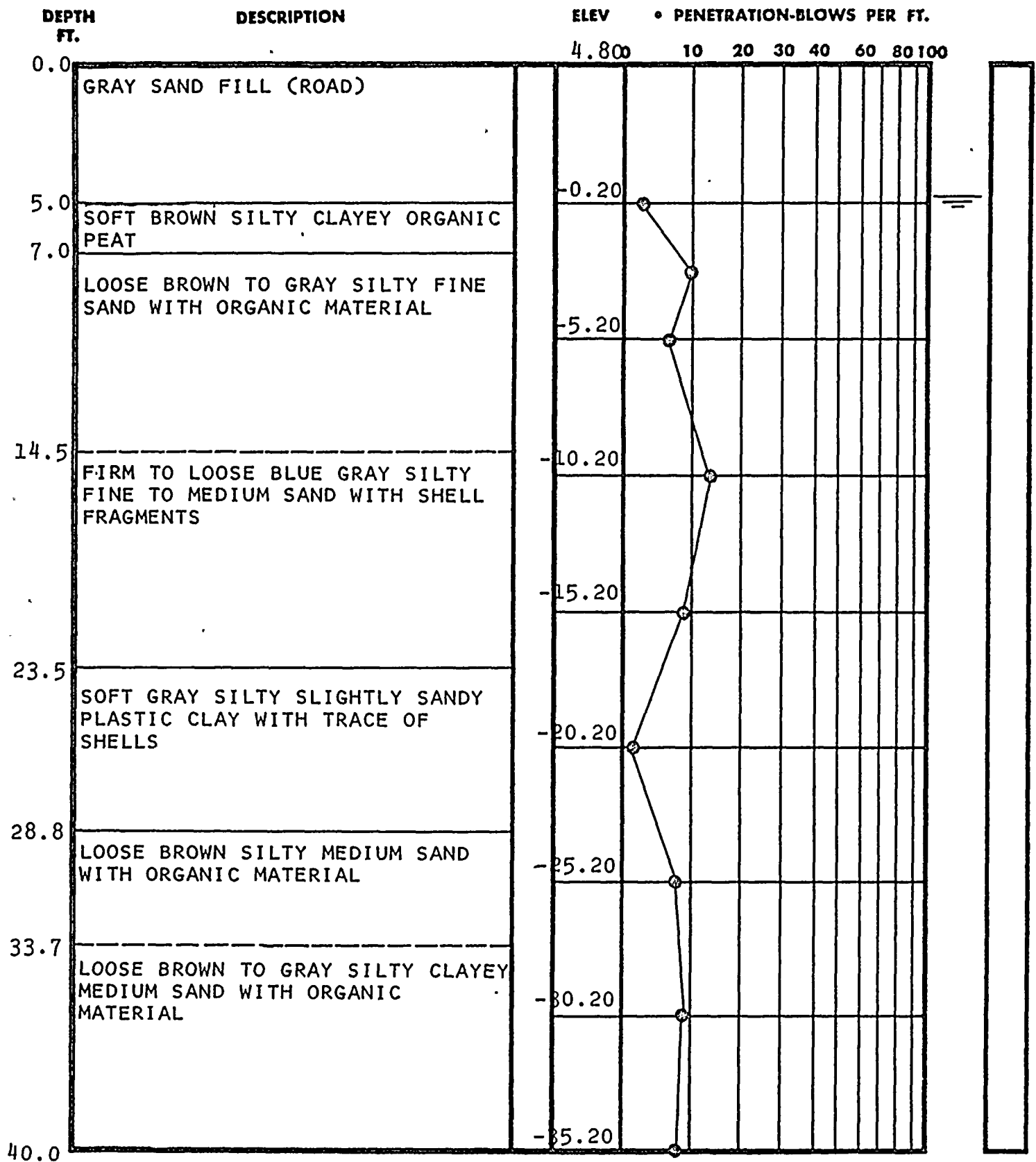


% ROCK CORE RECOVERY



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.

PAGE 1 OF 6

BORING NO. B-103
DATE DRILLED 1/13/69
JOB NO. J-1127

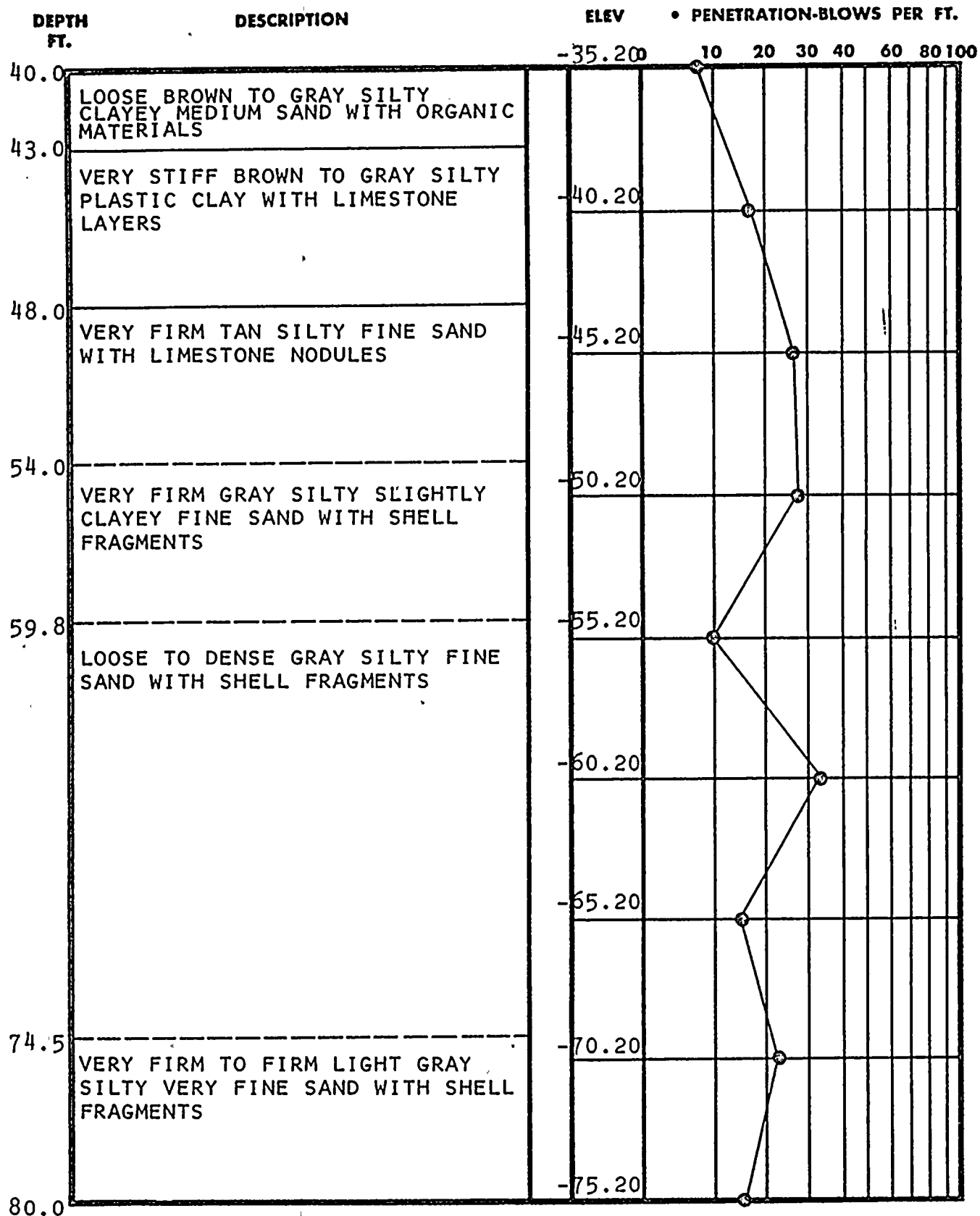
 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.
 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING METHODS ASTM D-1586
CORE DRILLING METHODS 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.

PAGE 2 OF 6

BORING NO. B-103

DATE DRILLED 1/13/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

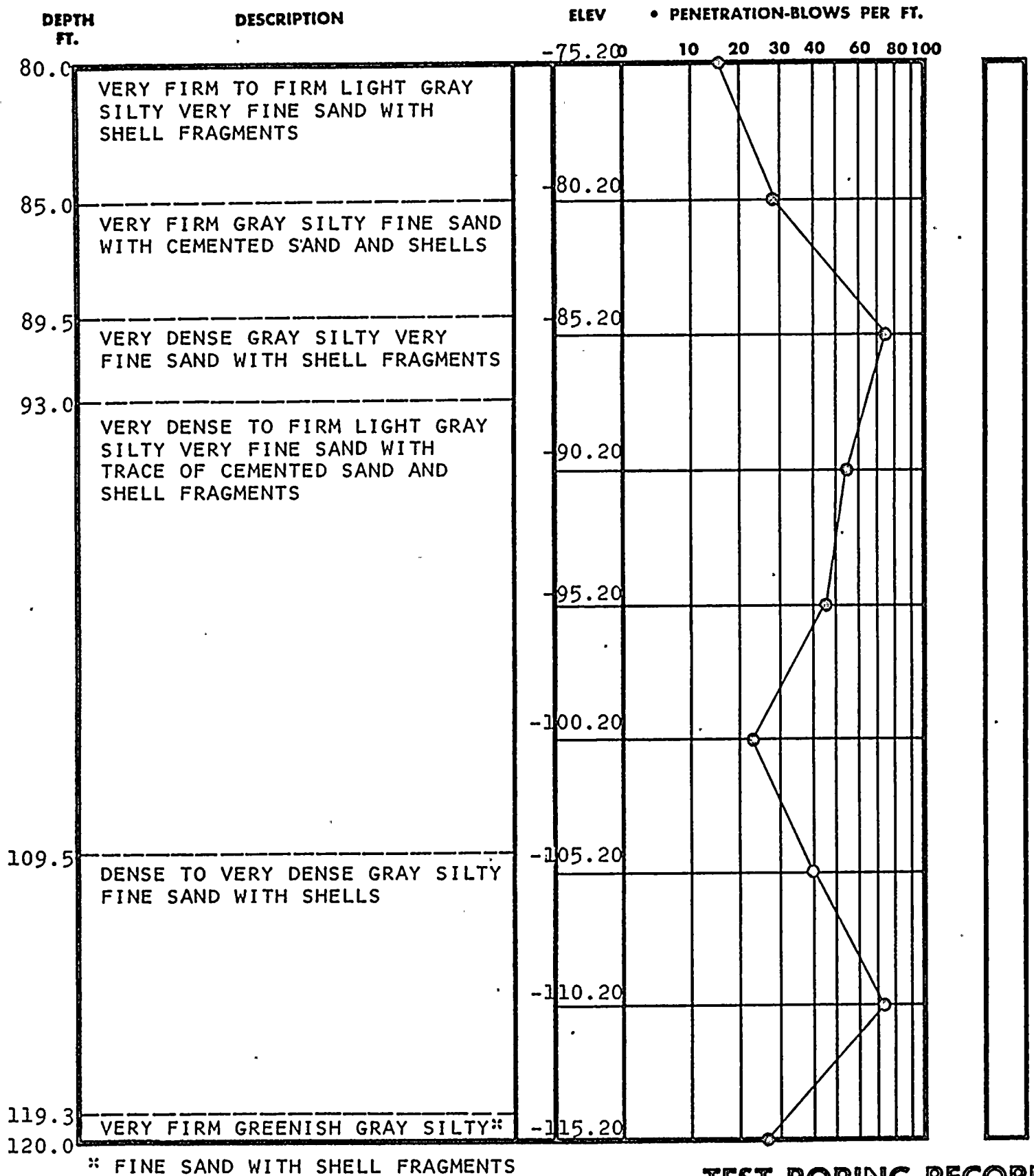
 WATER TABLE, 24 HR.

 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.

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BORING NO. B-103

DATE DRILLED 1/13/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

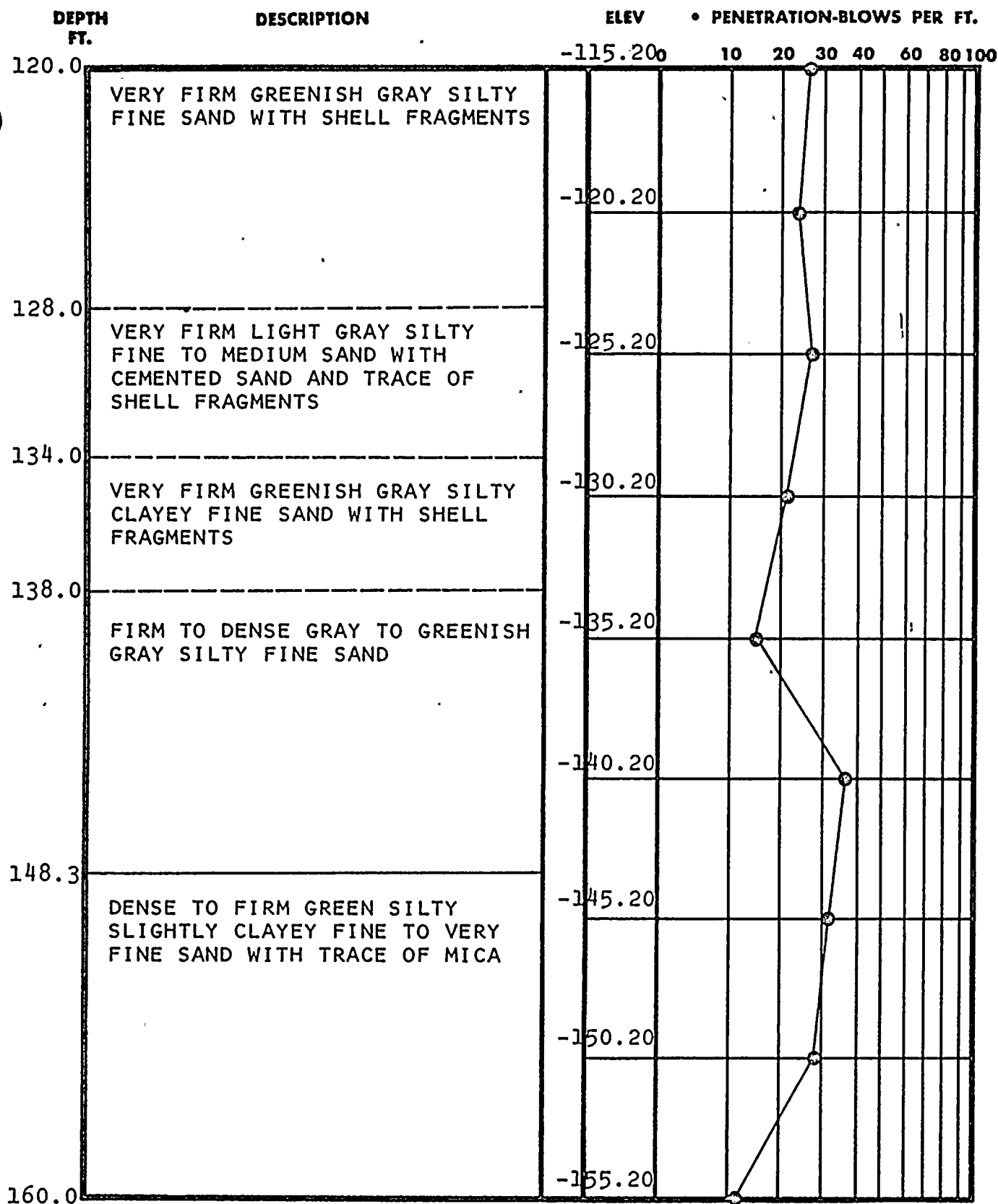
 WATER TABLE, 24 HR.

 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.

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BORING NO. B-103
DATE DRILLED 1/13/69
JOB NO. J-1127

UNDISTURBED SAMPLE

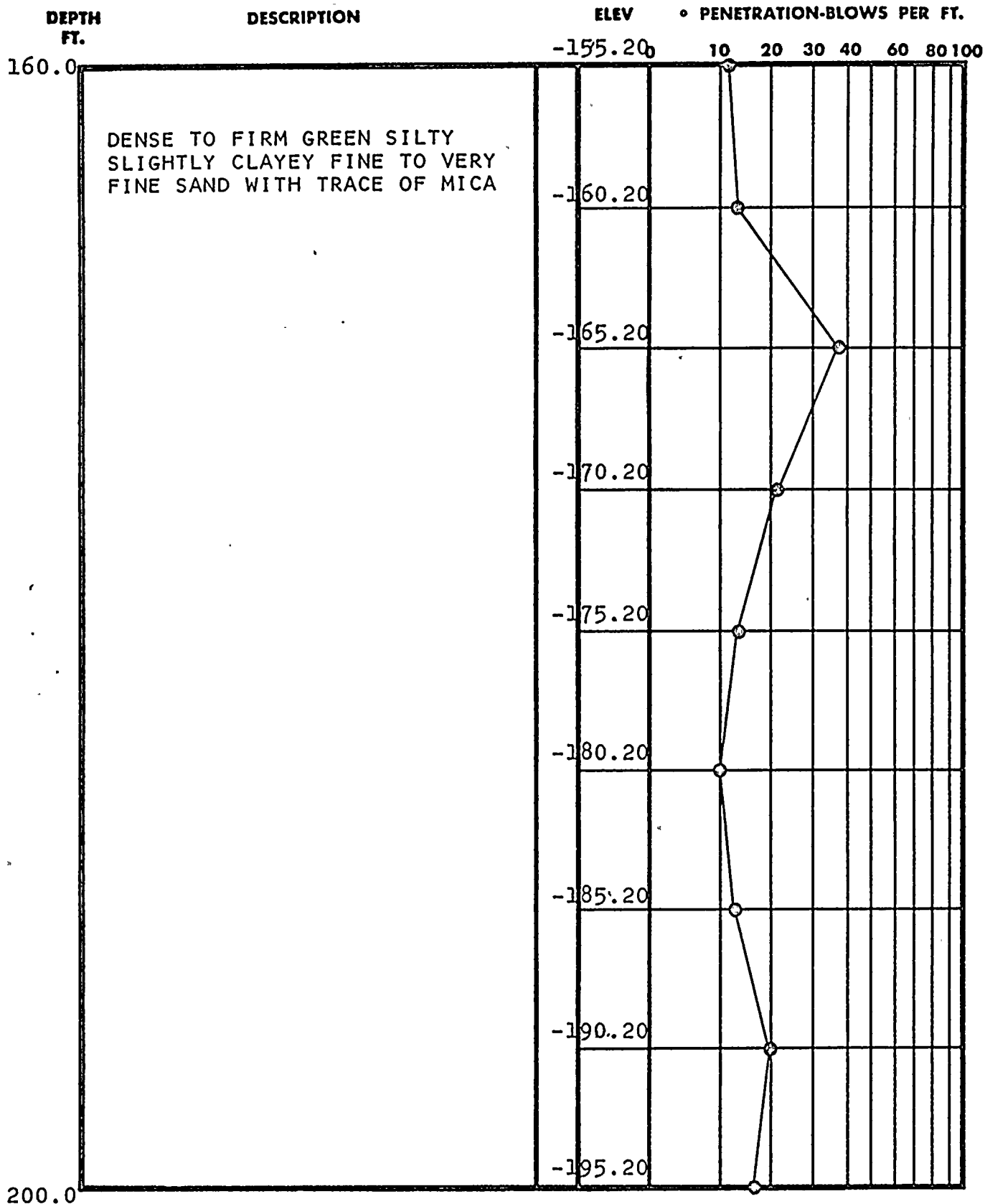
% ROCK CORE RECOVERY

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.

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BORING NO. B-103

DATE DRILLED 1/13/69

JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 HR.



WATER TABLE, 1 HR.

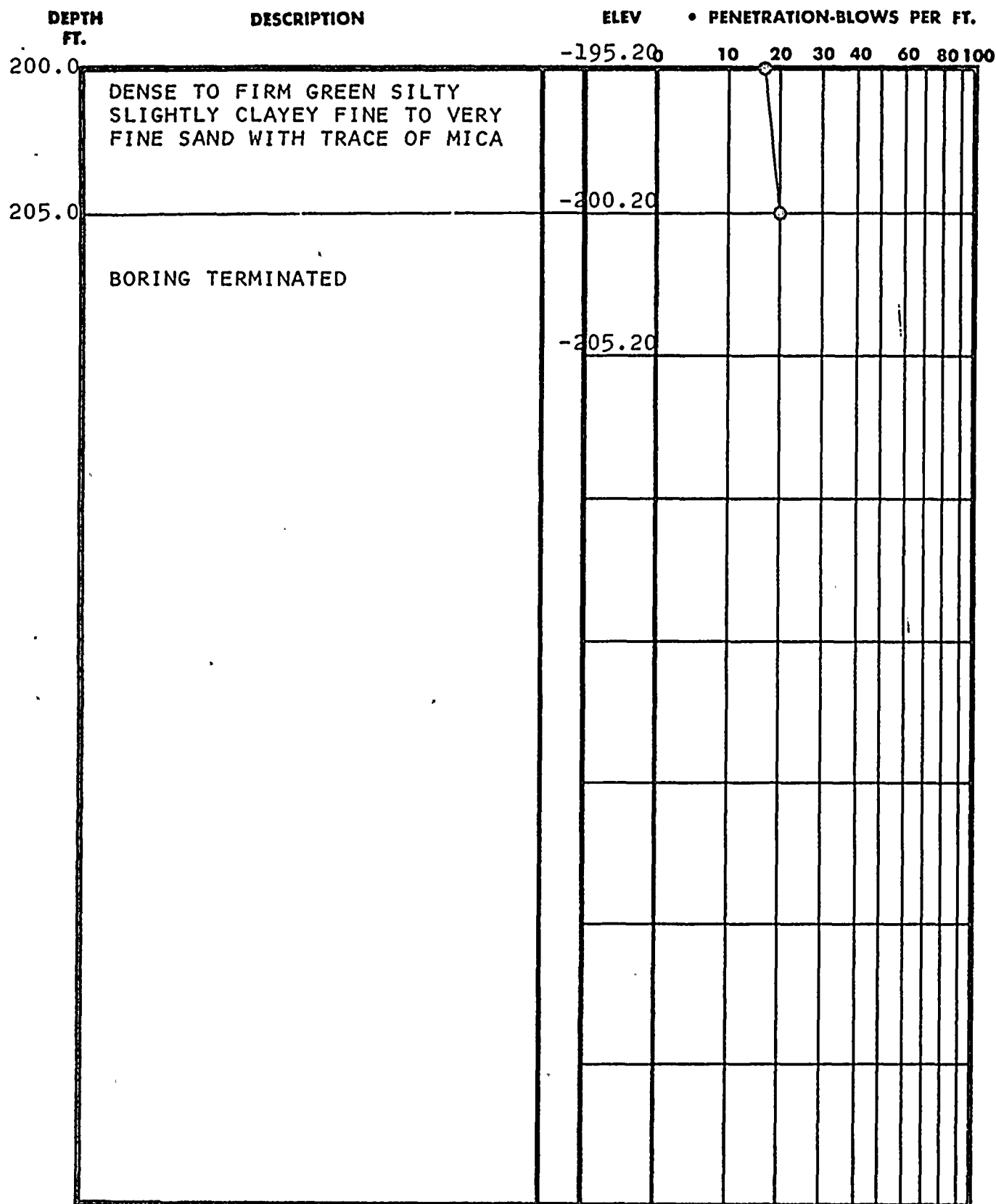


% ROCK CORE RECOVERY



LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING METHODS ASTM D-1586
CORE DRILLING METHODS 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.

PAGE 6 OF 6

BORING NO. B-103

DATE DRILLED 1/13/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

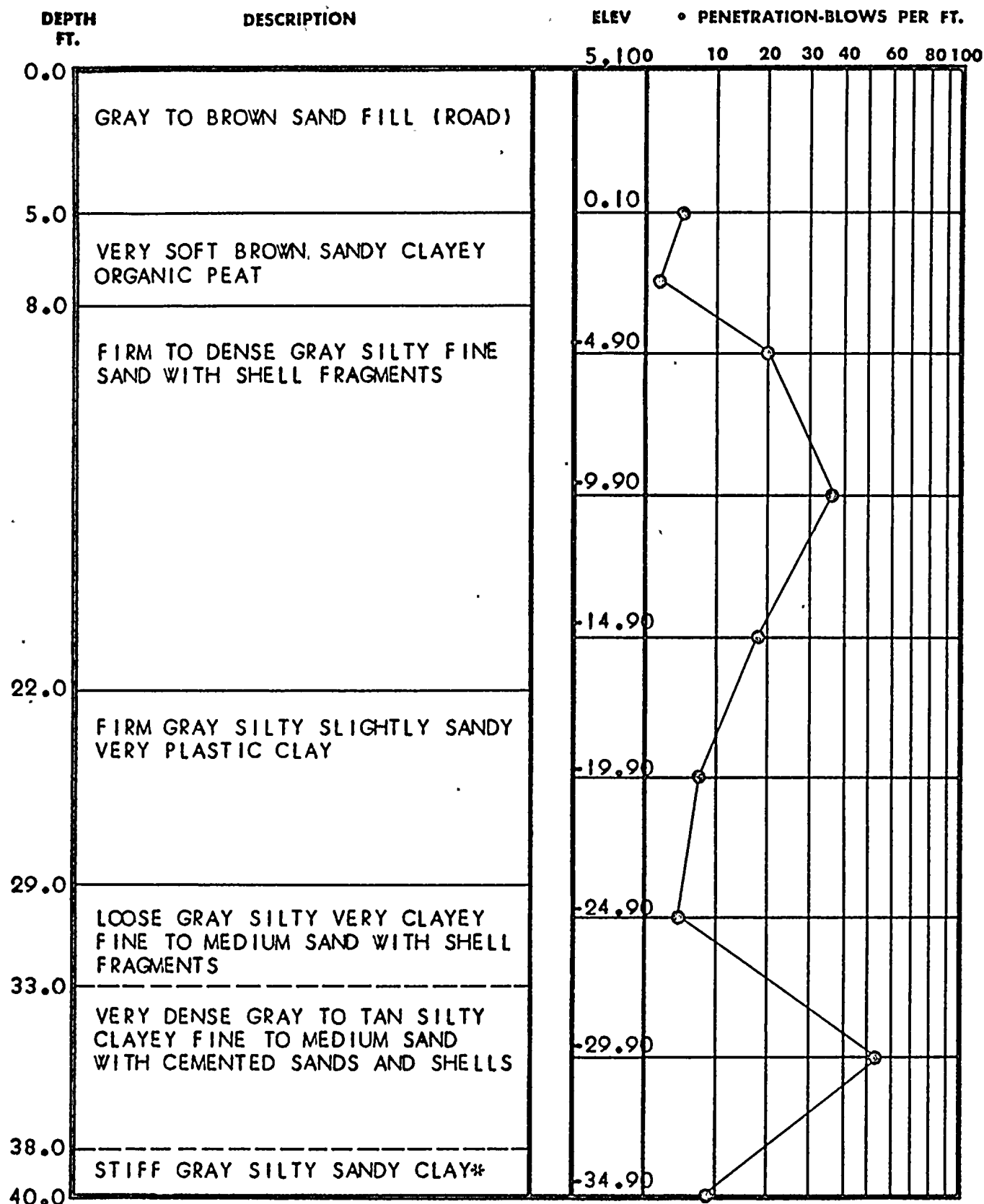
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



* WITH FRAGMENTED SHELLS AND LIMESTONE NODULES

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

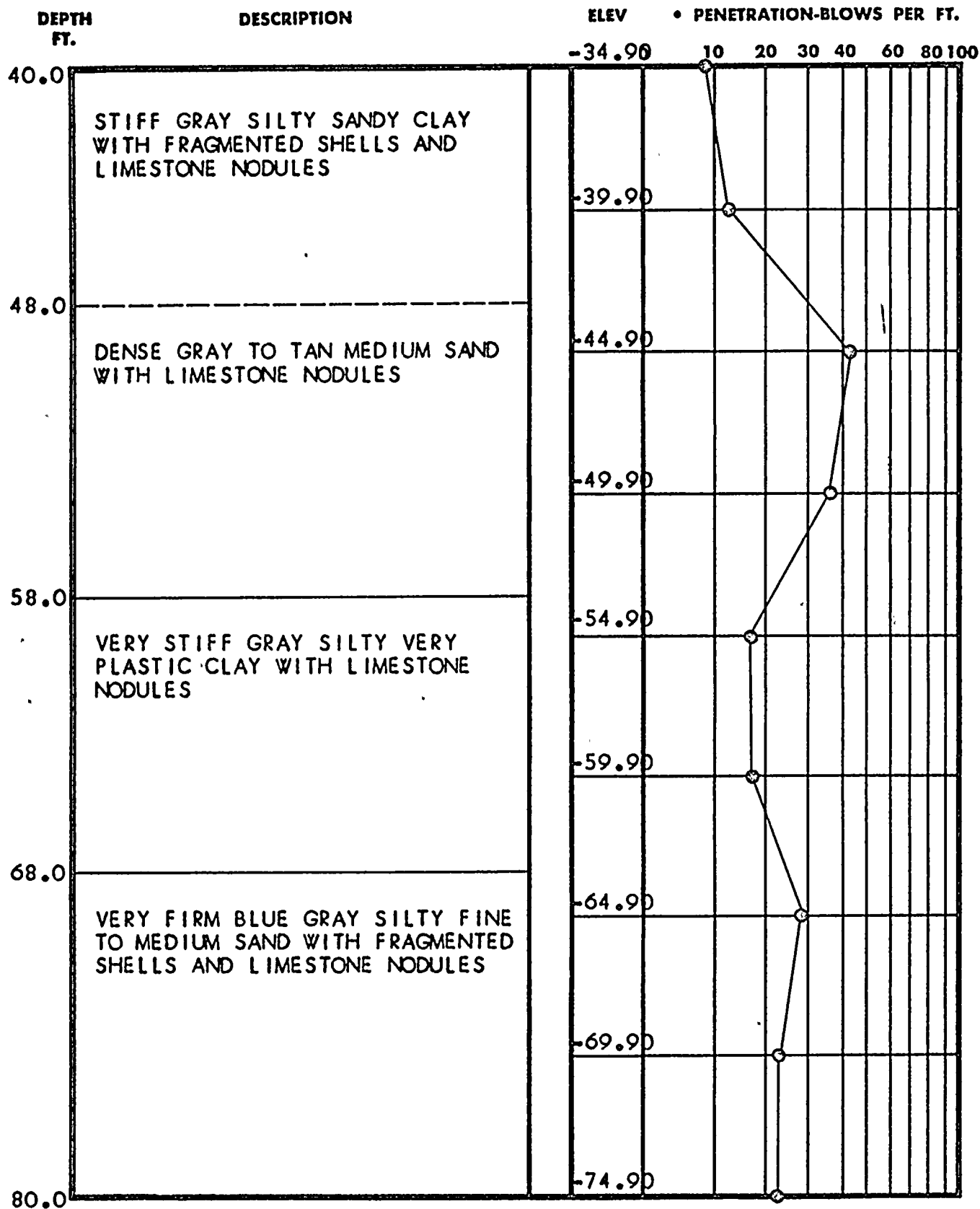
TEST BORING RECORD

BORING NO. B-104

DATE DRILLED 1/11/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

Page 2 of 6

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

BORING NO. B-104

DATE DRILLED 1/11/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

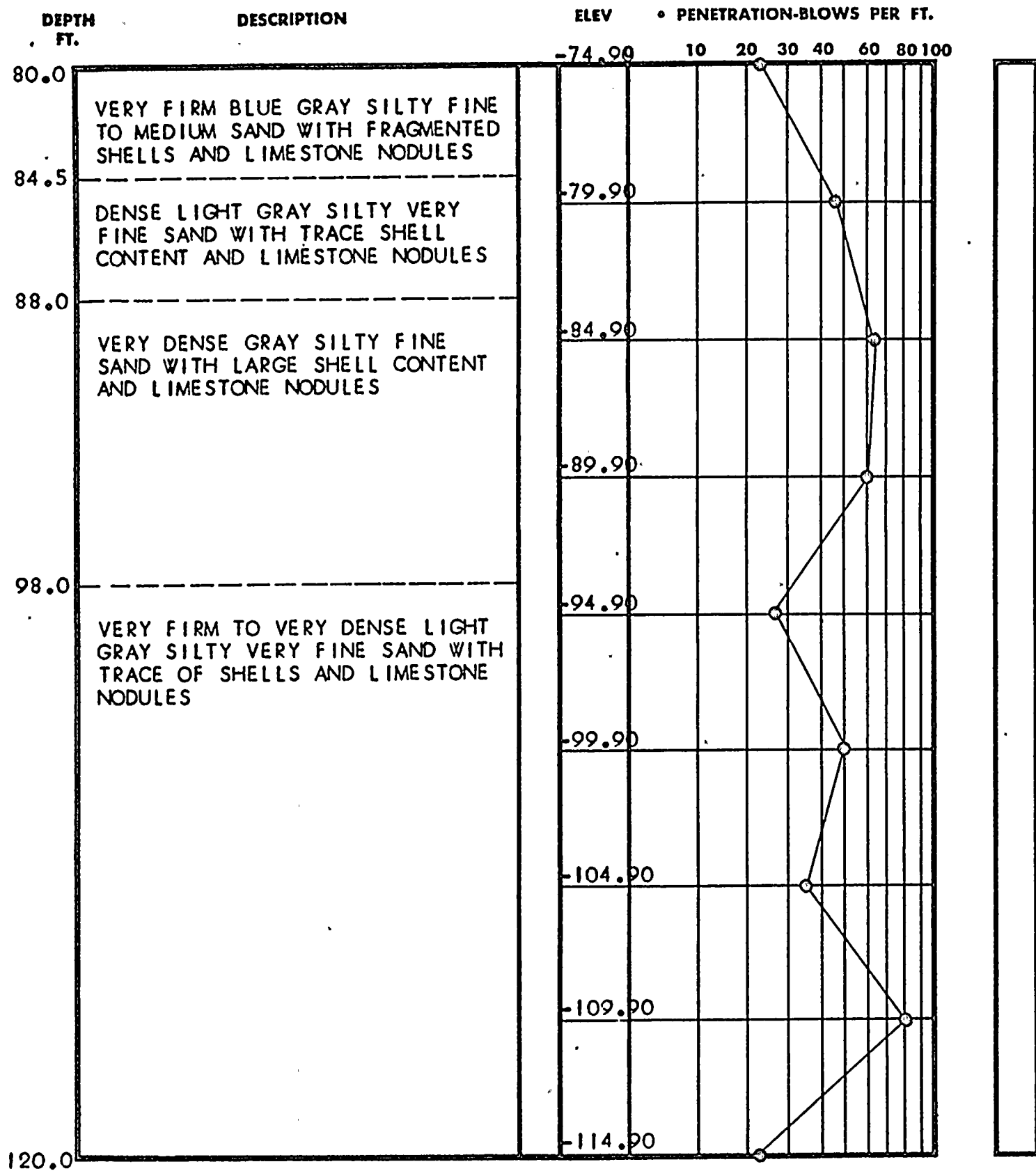
 WATER TABLE, 24 HR.

 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

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

BORING NO. B-104

DATE DRILLED 1/11/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

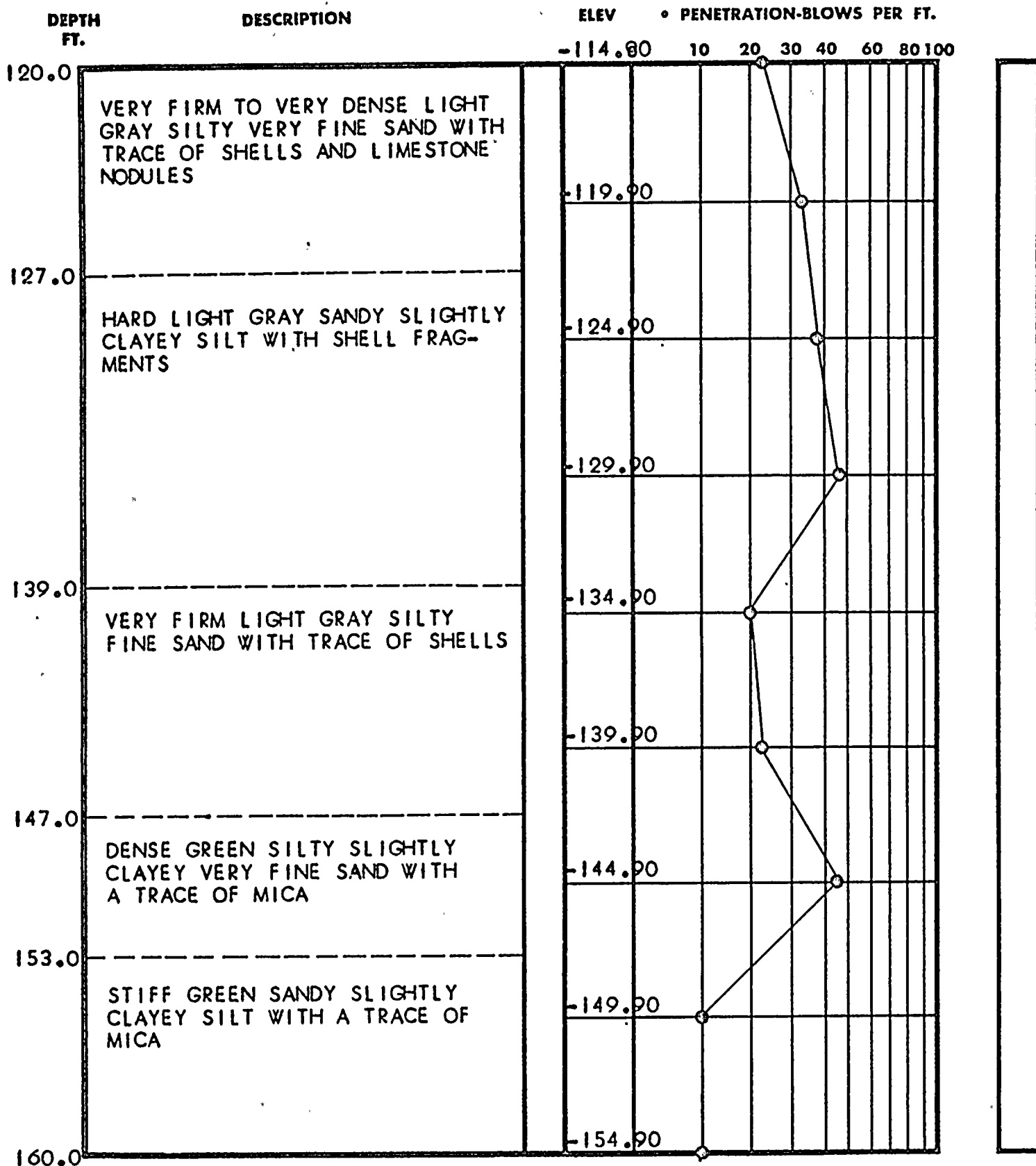
 WATER TABLE, 24 HR.

 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.

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BORING NO. 8-104

DATE DRILLED 1/12/69

JOB NO. 1-1127

 UNDISTURBED SAMPLE

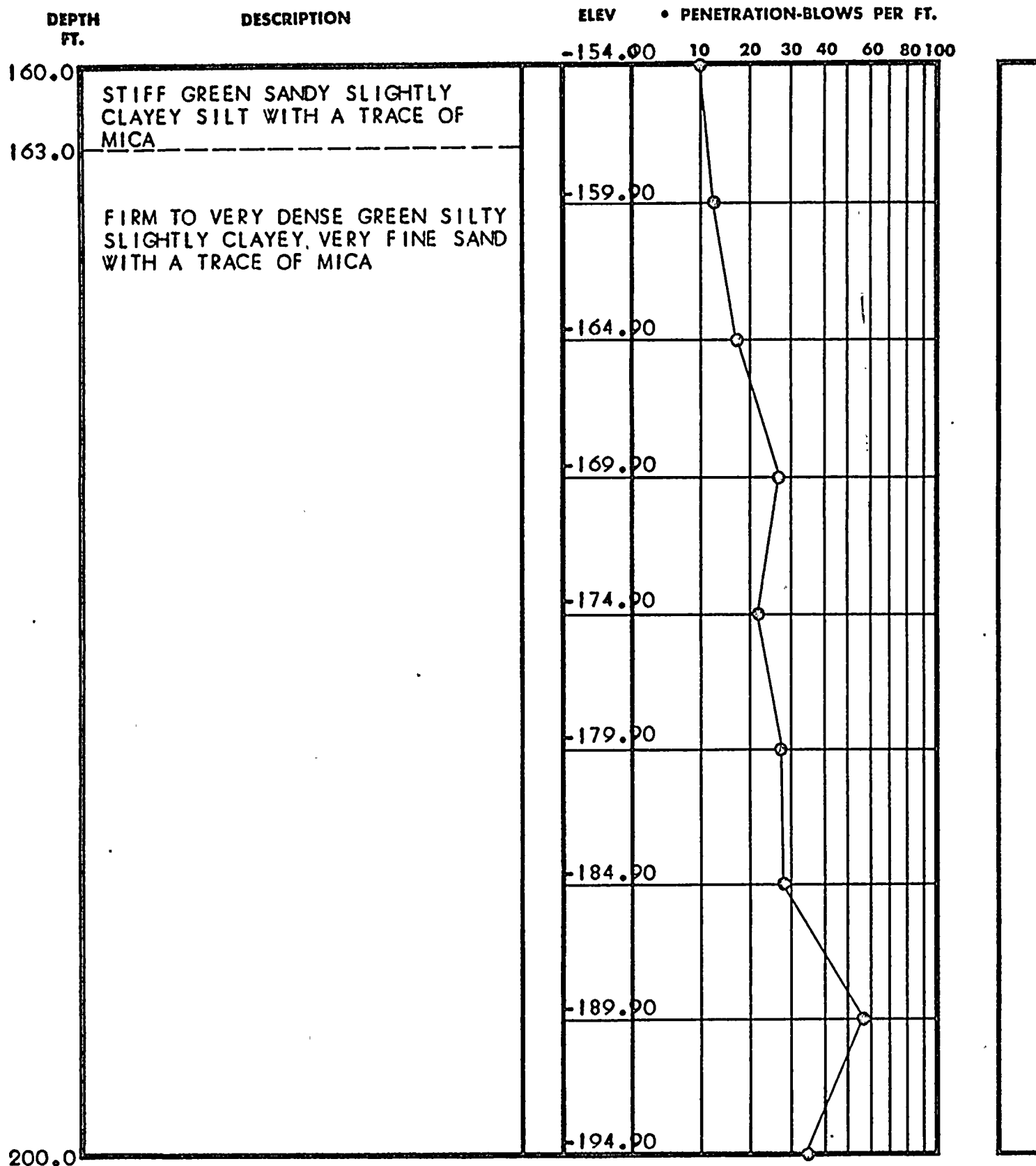
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

Page 5 of 6

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

BORING NO. B-104

DATE DRILLED 1/12/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

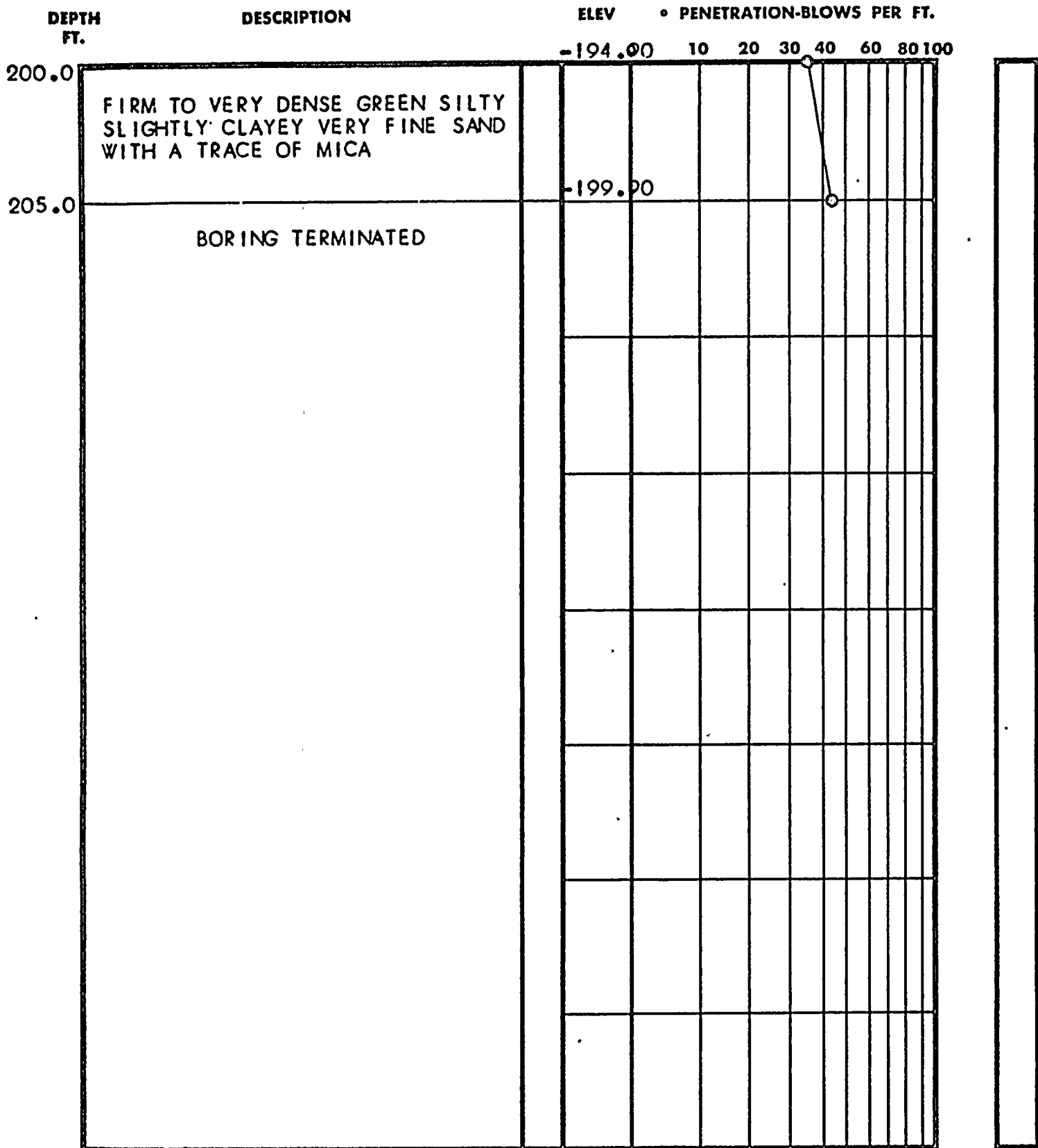
 WATER TABLE, 24 HR.

 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

Page 6 of 6

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

BORING NO. B-104

DATE DRILLED 1/12/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

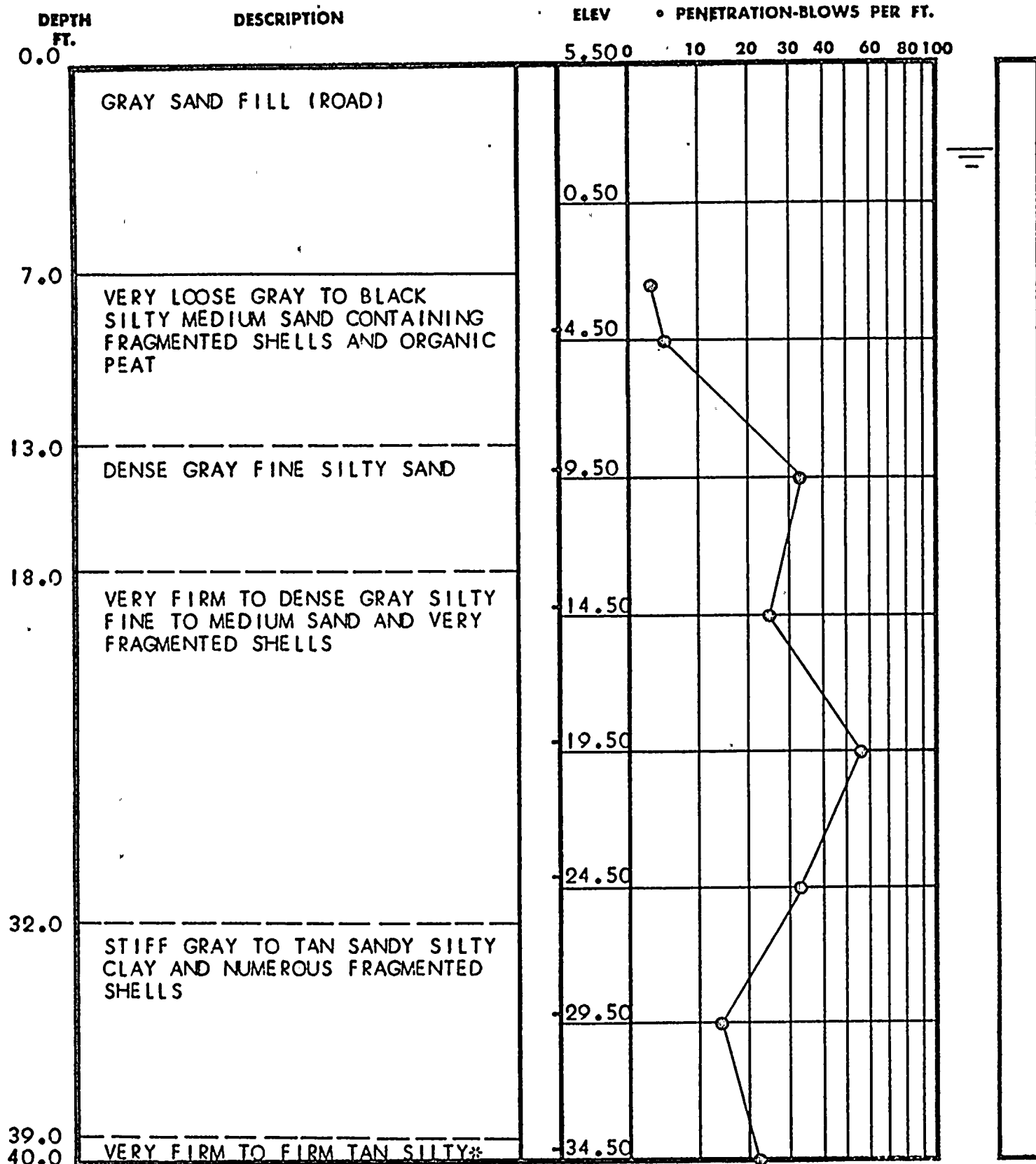
 WATER TABLE, 26 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



* FINE TO MEDIUM SAND AND SHELLS

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.

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BORING NO. B-105

DATE DRILLED 11/18/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

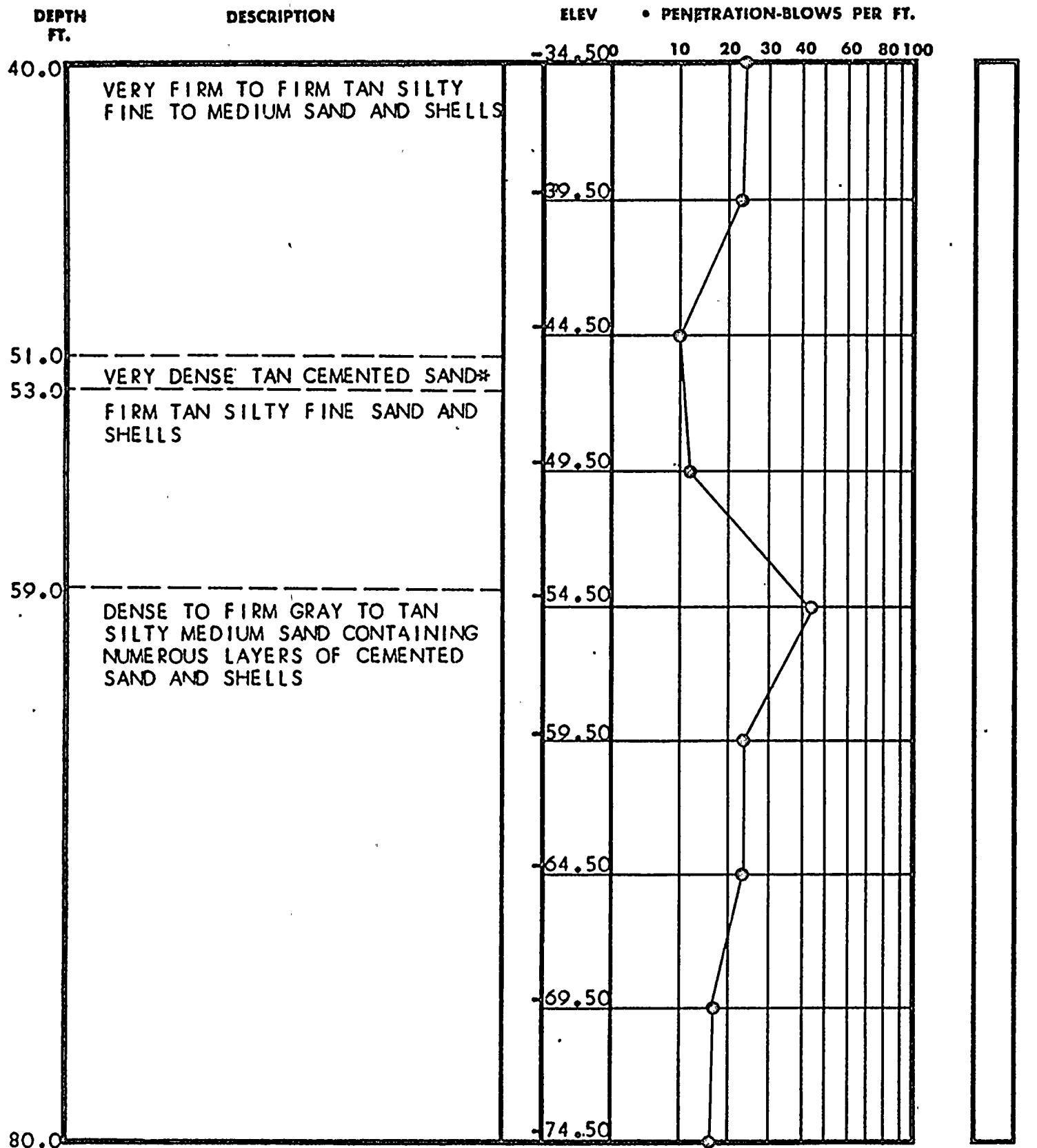
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



*AND SHELLS

TEST BORING RECORD

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

Page 2 of 6

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

BORING NO. 8-105


DATE DRILLED 11/18/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

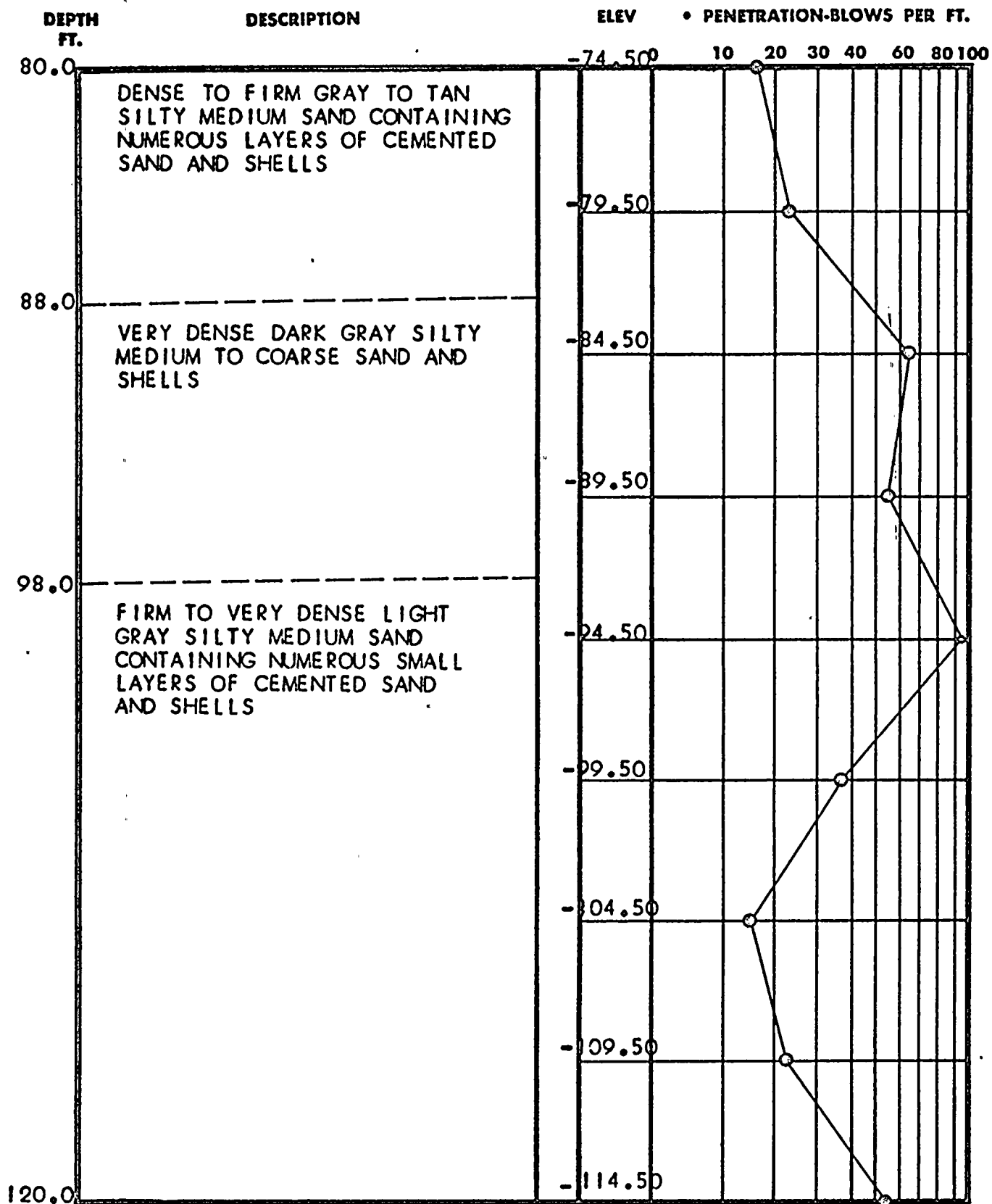
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING METHODS ASTM D-1586
CORE DRILLING METHODS 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.

Page 3 of 6

BORING NO. B-105

DATE DRILLED 11/18/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

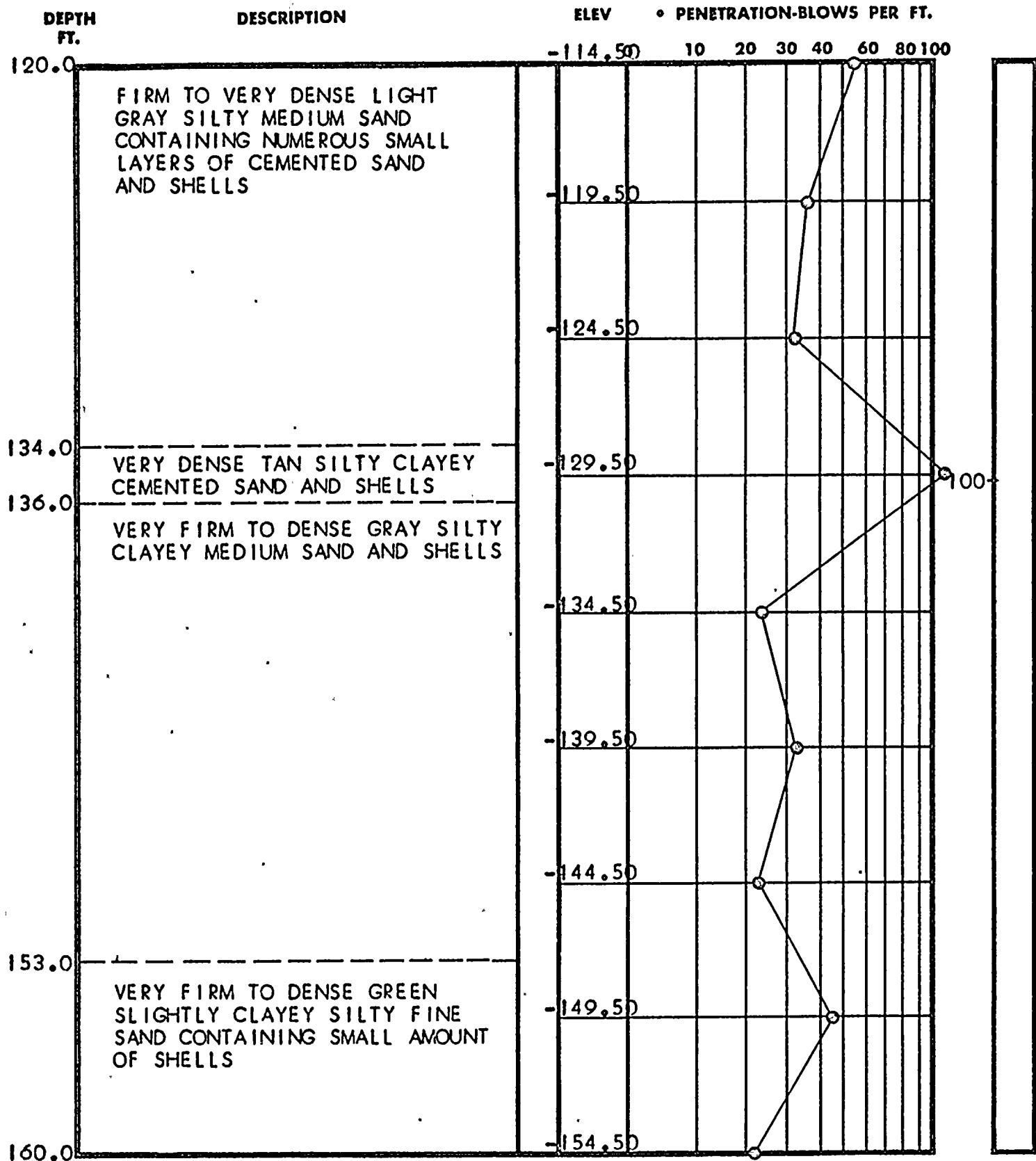
 % ROCK CORE RECOVERY

 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.

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BORING NO. B-105

DATE DRILLED 11/18/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

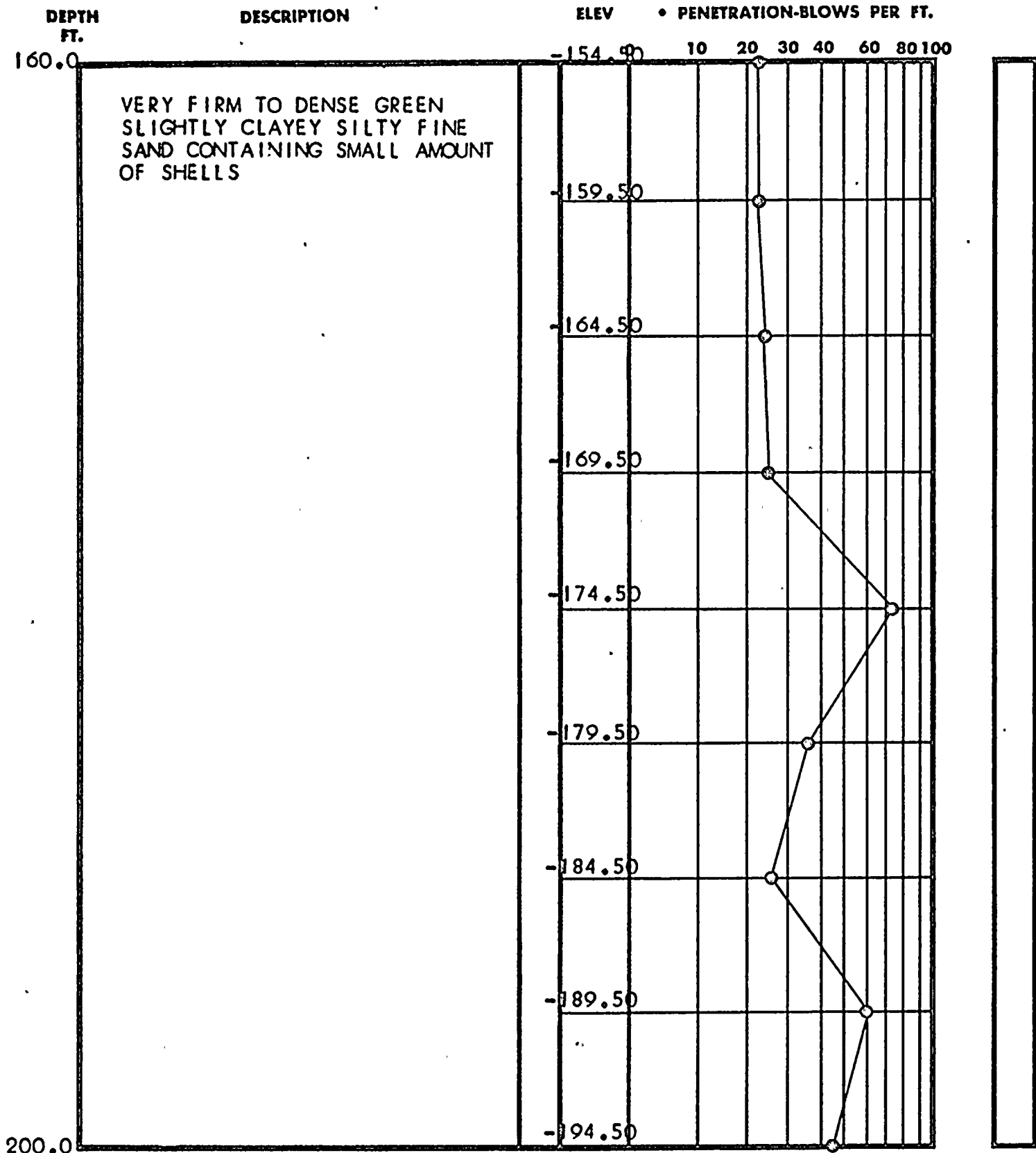
 50% ROCK CORE RECOVERY

 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

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

BORING NO. B-105

DATE DRILLED 11/18/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.

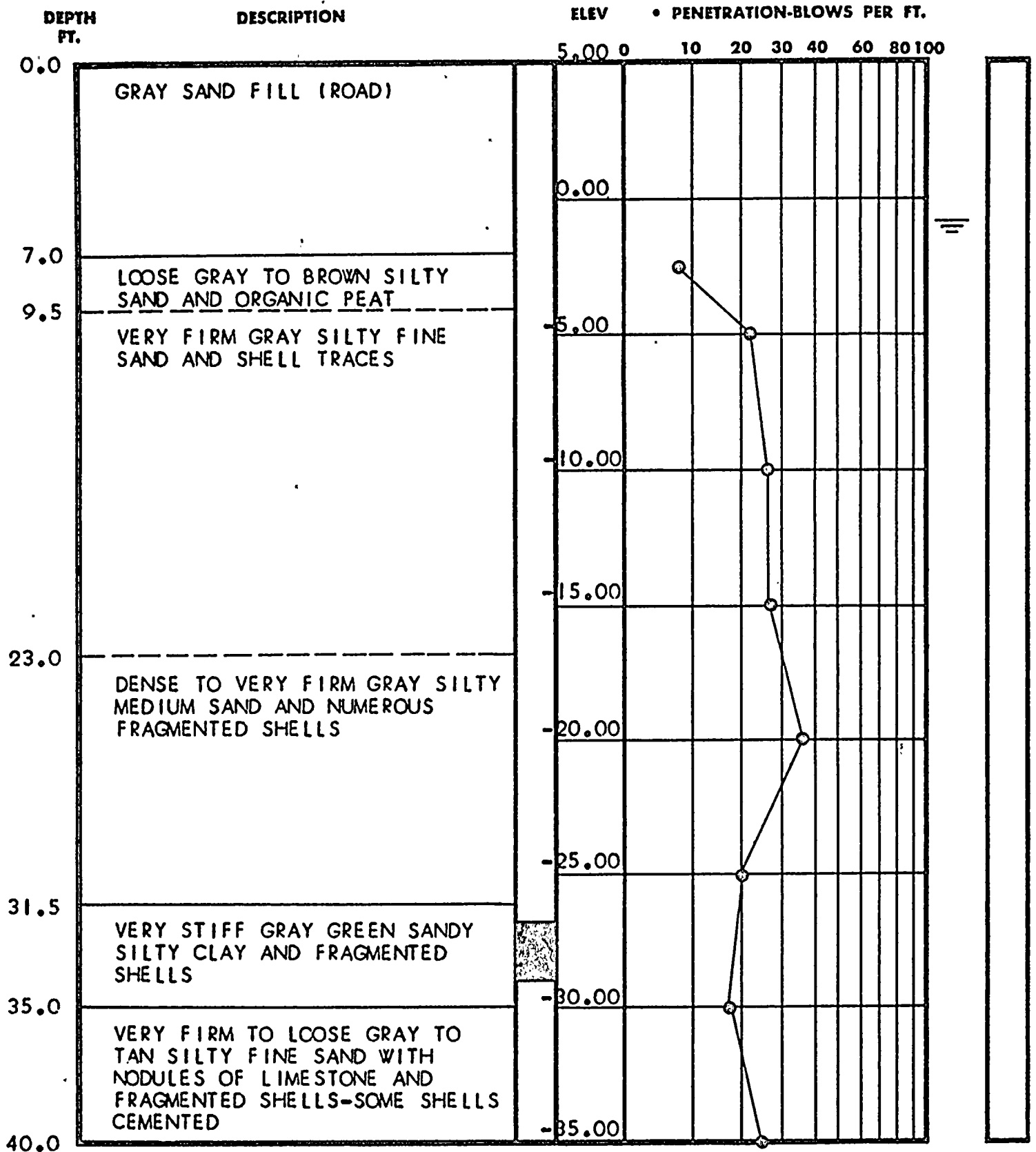
 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

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.

Page 1 of 6

BORING NO. B-1C6

DATE DRILLED 11/21/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

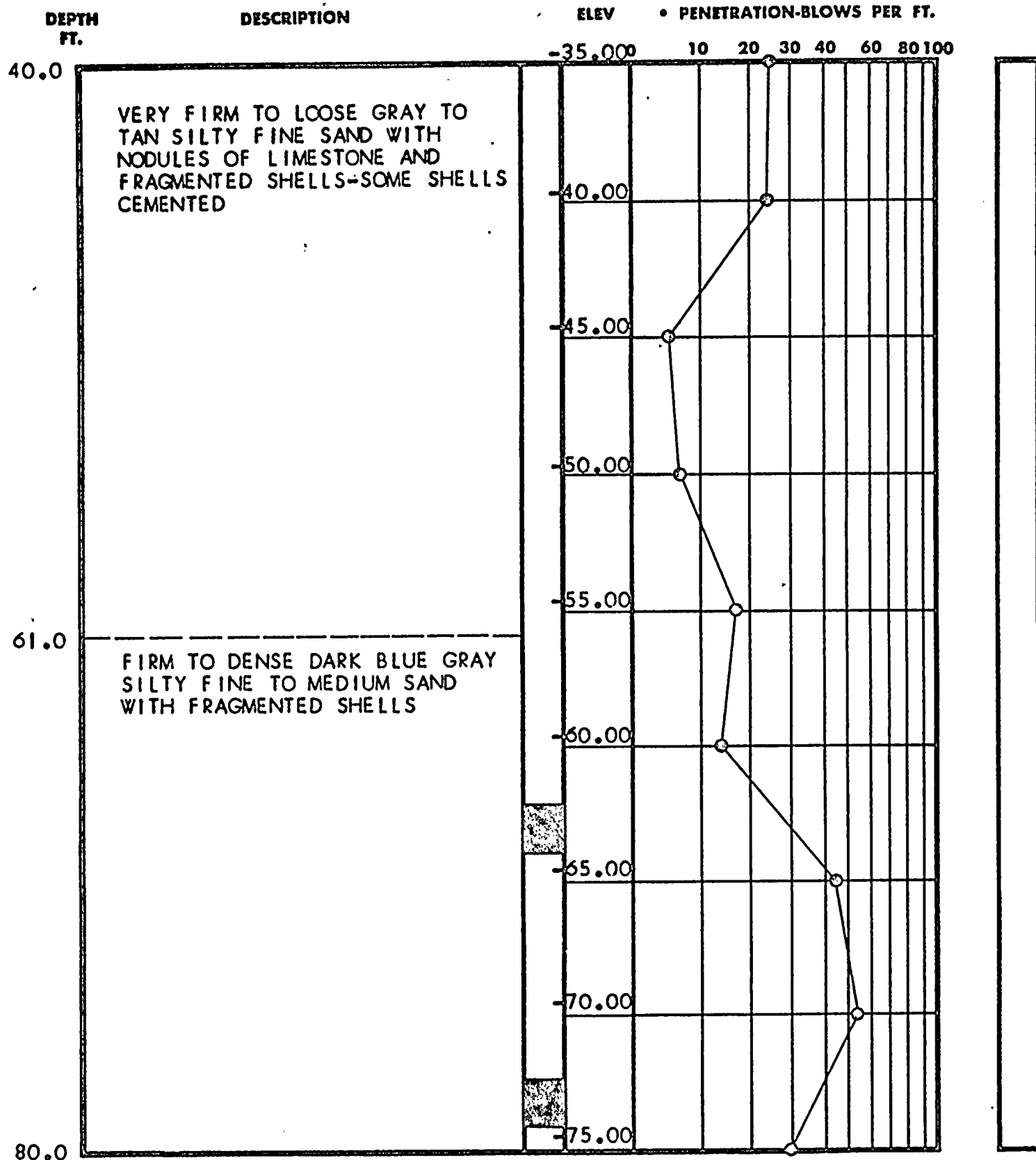
 WATER TABLE, 24 HR.

 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

Page 2 of 6

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

BORING NO. B-106

DATE DRILLED 11/21/68

JOB NO. J-1127

UNDISTURBED SAMPLE

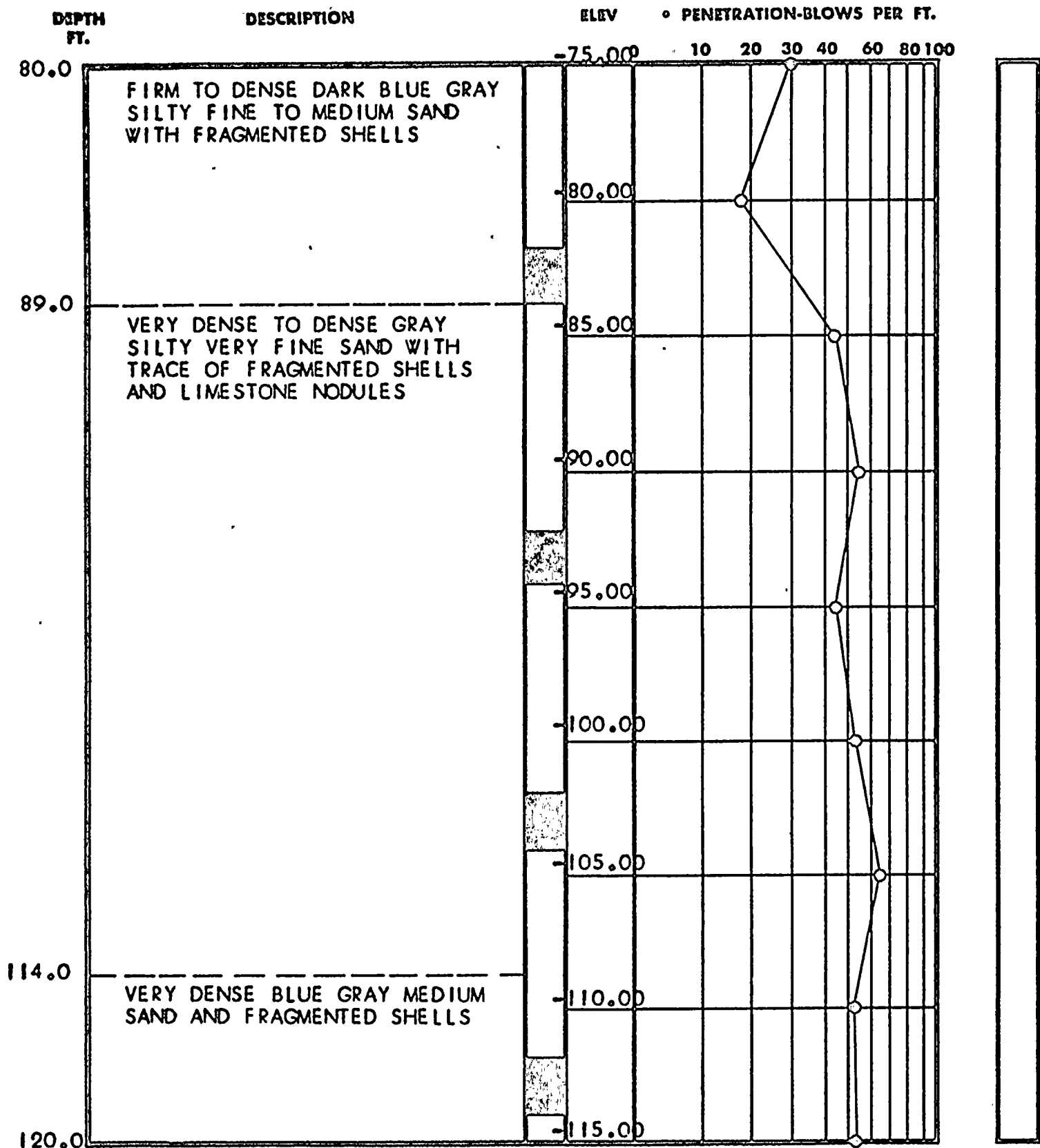
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

CORING AND SAMPLING METHODS ASTM D-1586
CORE DRILLING METHODS ASTM D-2113

PENETRATION IS THE NUMBER OF BLOWS OF 100 LB. HAMMER
FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

Page 3 of 6

BORING NO. B-106

DATE DRILLED 11/21/68

JOB NO. J-1127

UNDISTURBED SAMPLE

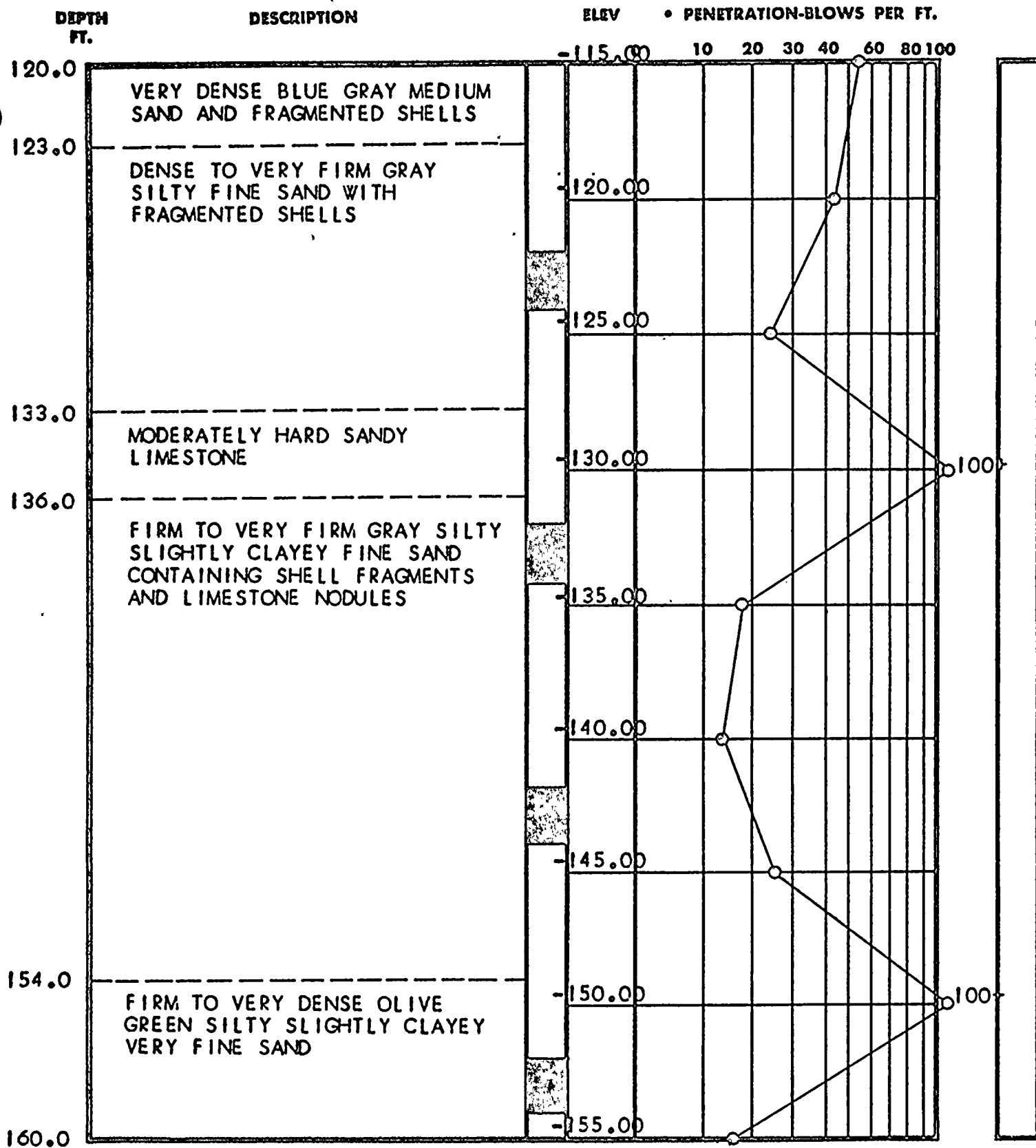
WATER TABLE, 24 HZ.

WATER TABLE, 1 HZ.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BOHRING 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.

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BORING NO. B-106

DATE DRILLED 11/21/68

JOB NO. J-1127

UNDISTURBED SAMPLE

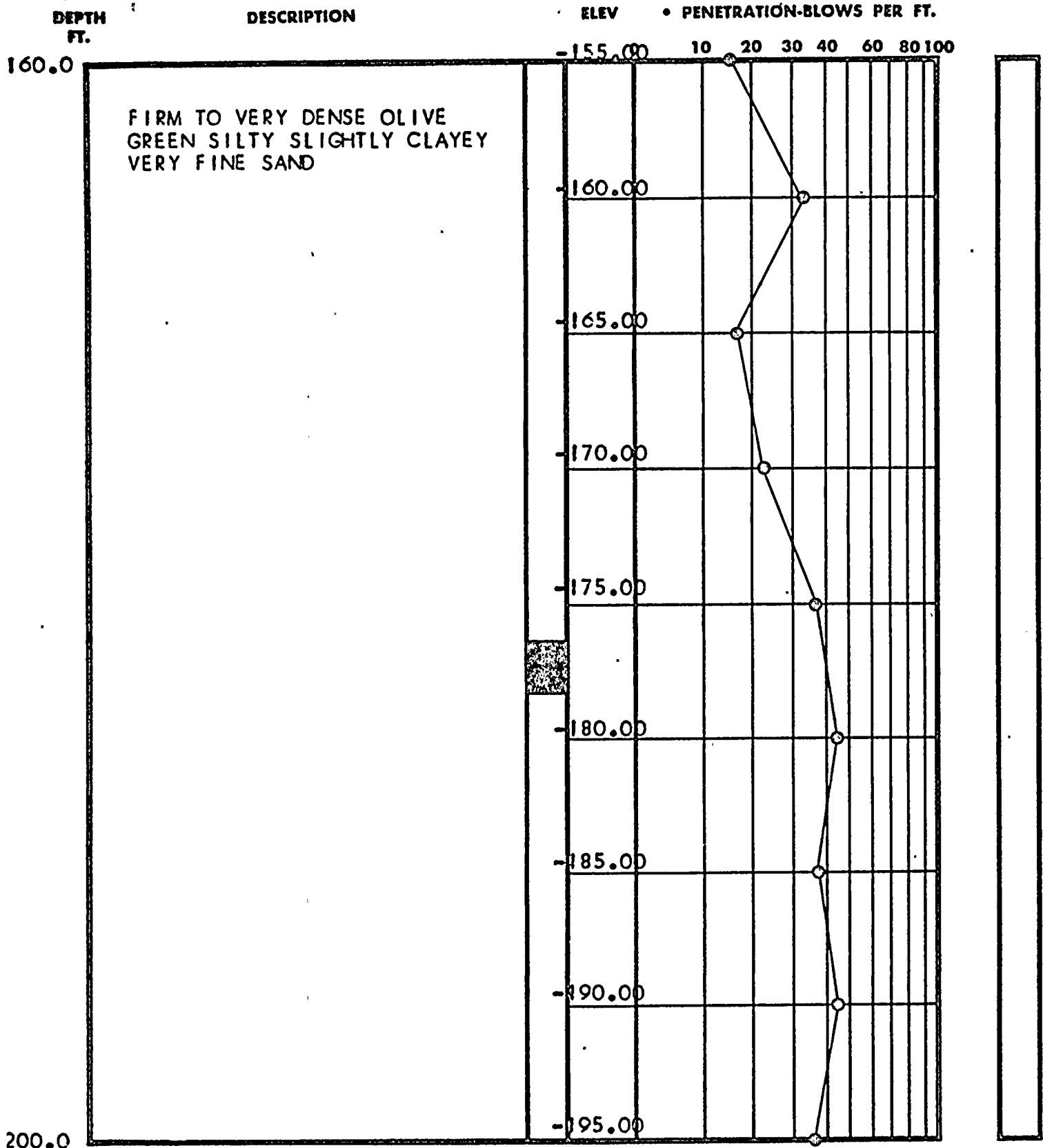
WATER TABLE, 24 HZ.

WATER TABLE, 1 HZ.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



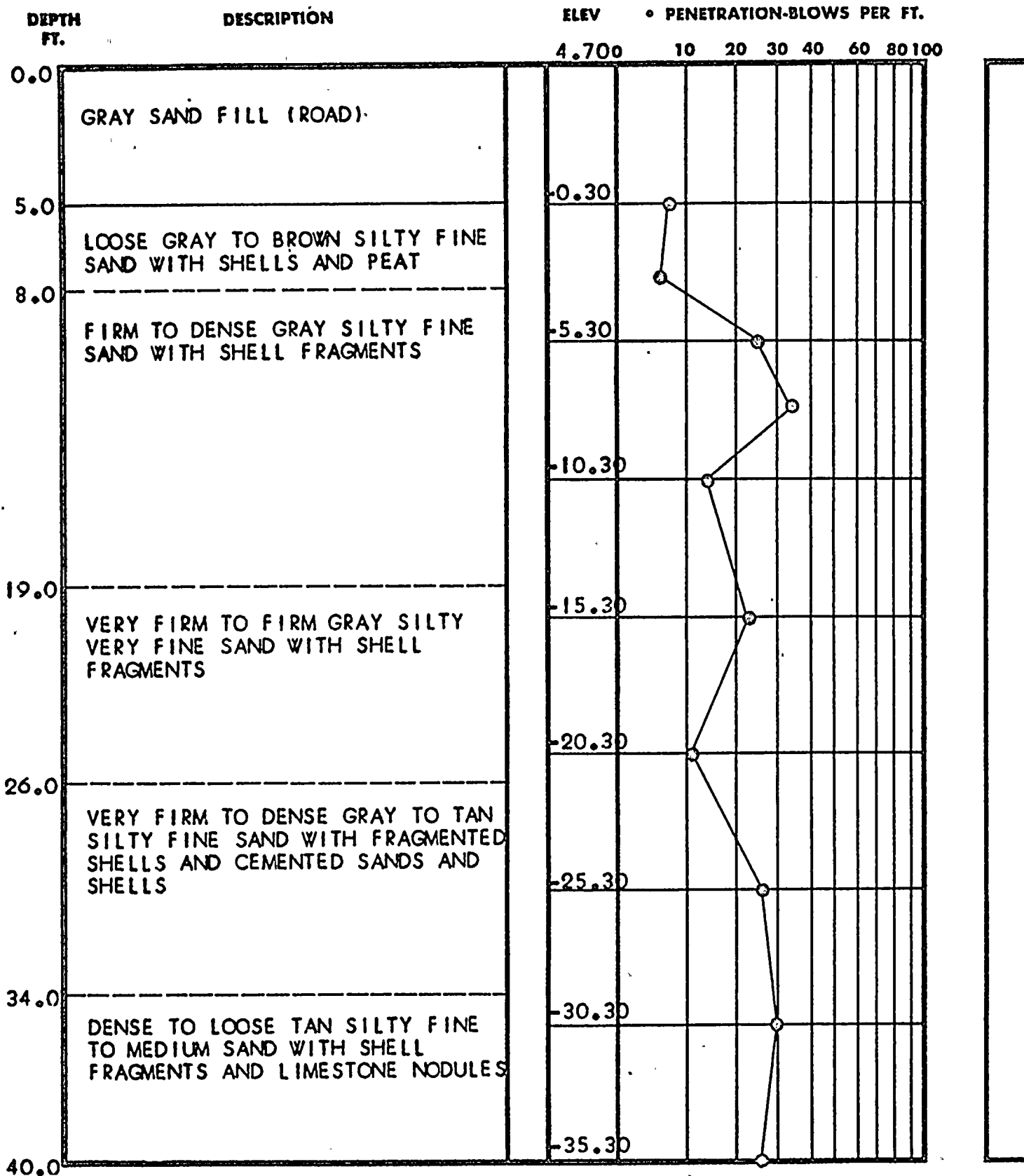
TEST BORING RECORD

DRILLING 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.

BORING NO. B-106
 DATE DRILLED 11/21/68
 JOB NO. J-1127

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

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

Page 1 of 8

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

BORING NO. B-107

DATE DRILLED 12/17/68

JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 IN.



WATER TABLE, 1 IN.

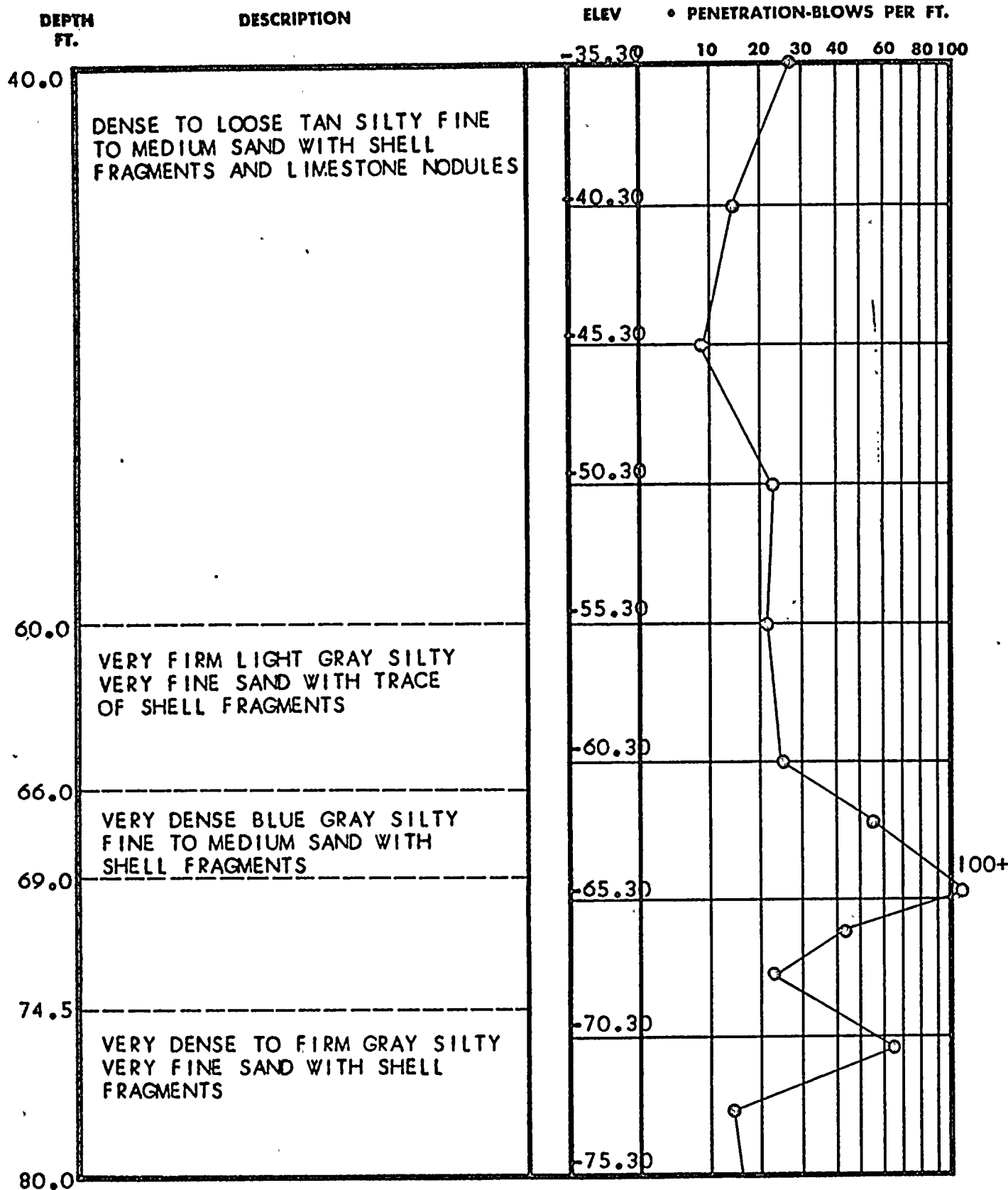


% ROCK CORE RECOVERY



LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

CORING 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.

Page 2 of 8

BORING NO. B-107

DATE DRILLED 12/17/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

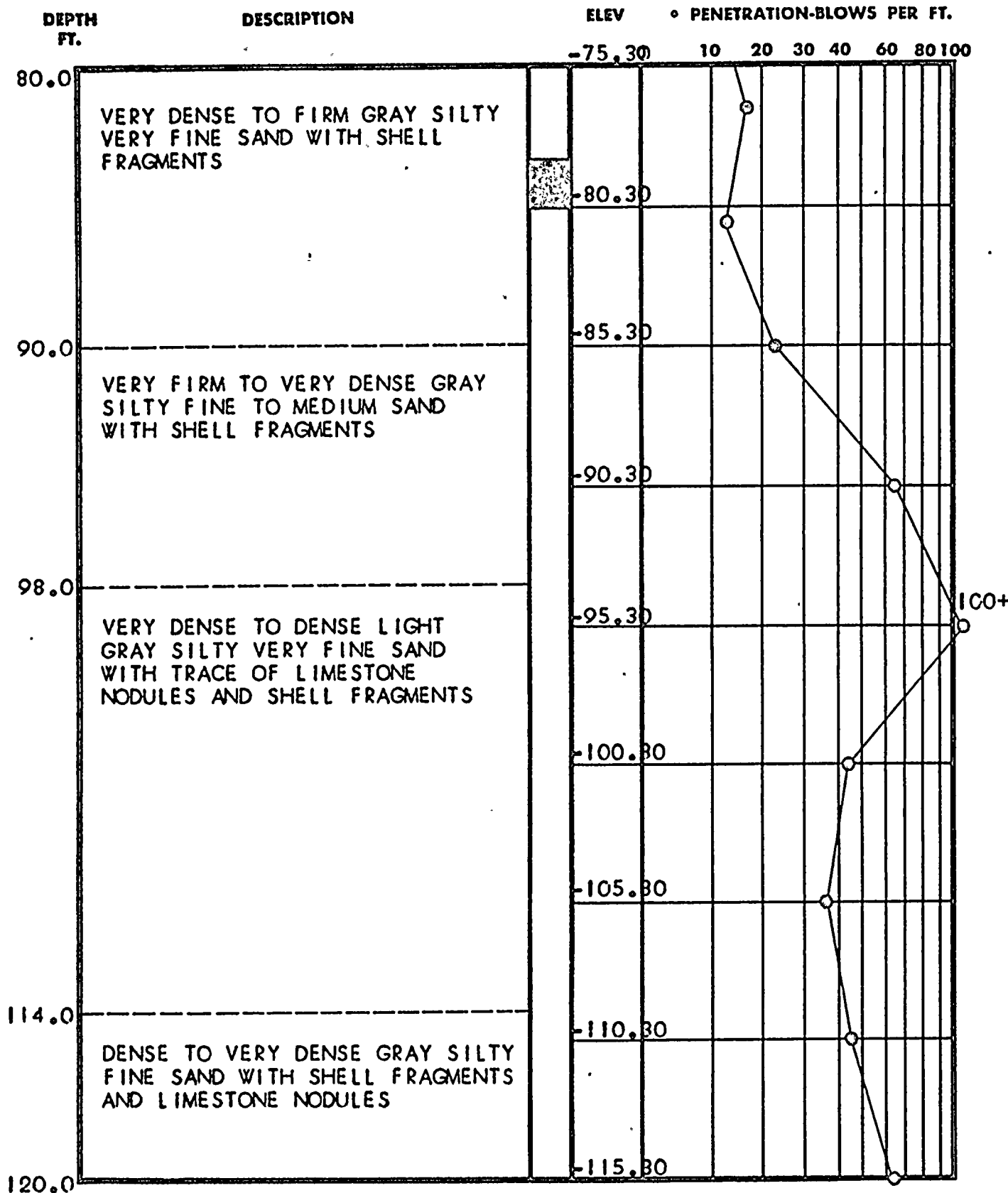
 % ROCK CORE RECOVERY

 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

Page 3 of 8

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

BORING NO. B-107

DATE DRILLED 12/17/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

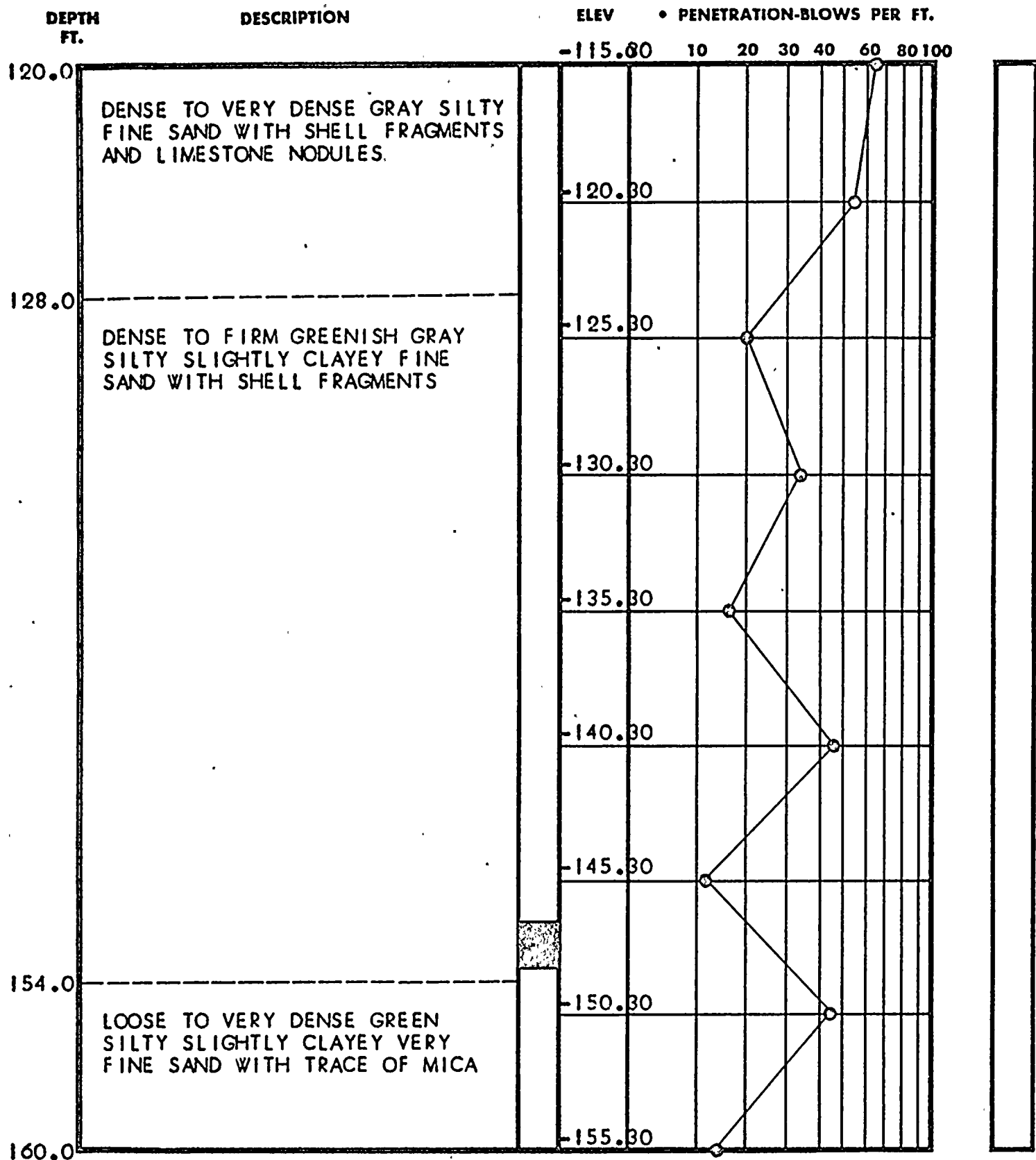
 WATER TABLE, 24 HZ.

 WATER TABLE, 1 HZ.

 % 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

Page 4 of 8

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

BORING NO. B-107

DATE DRILLED 12/17/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

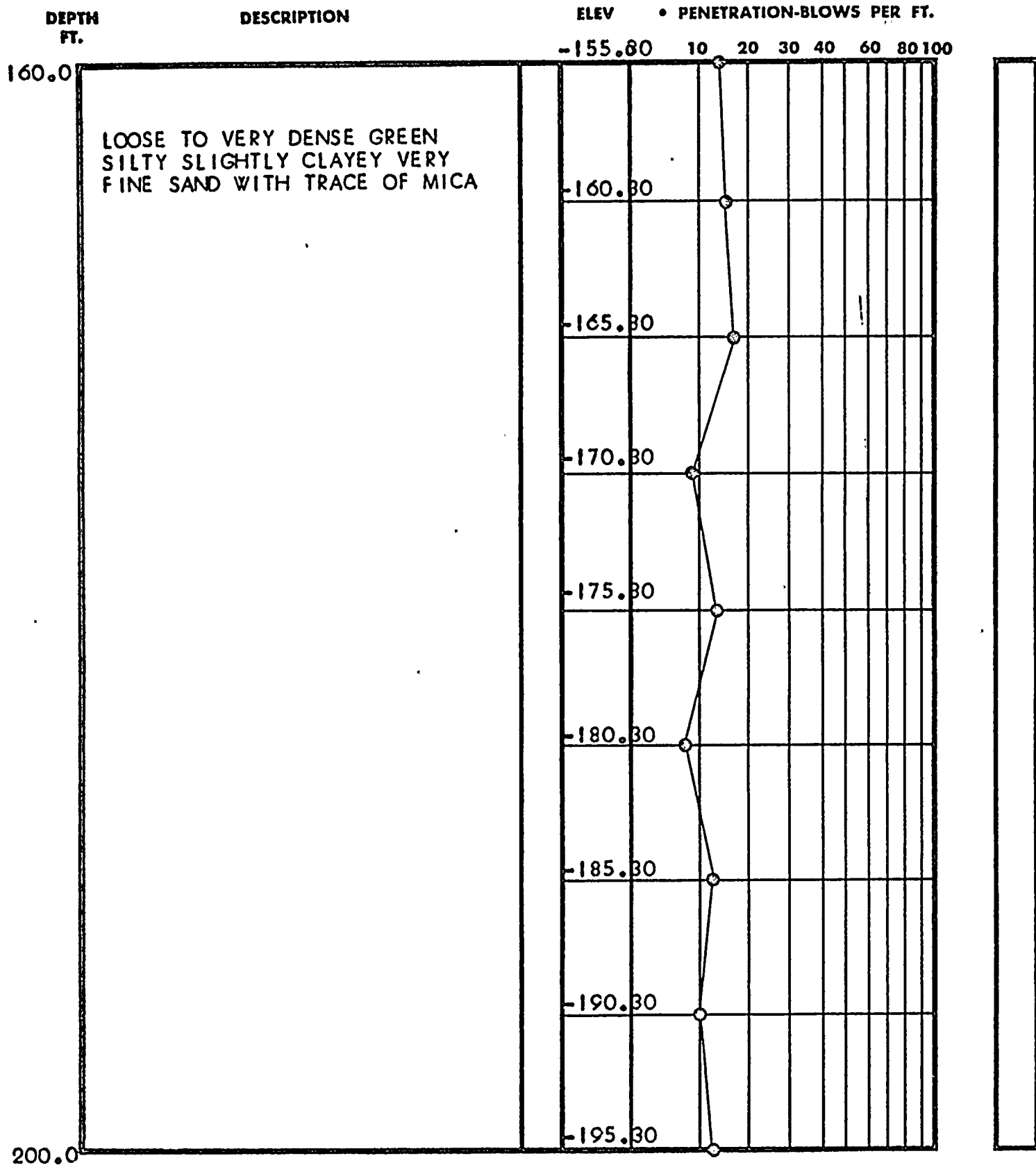
 WATER TABLE, 24 HR.

 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

Page 5 of 8

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

BORING NO. B-107

DATE DRILLED 12/17/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

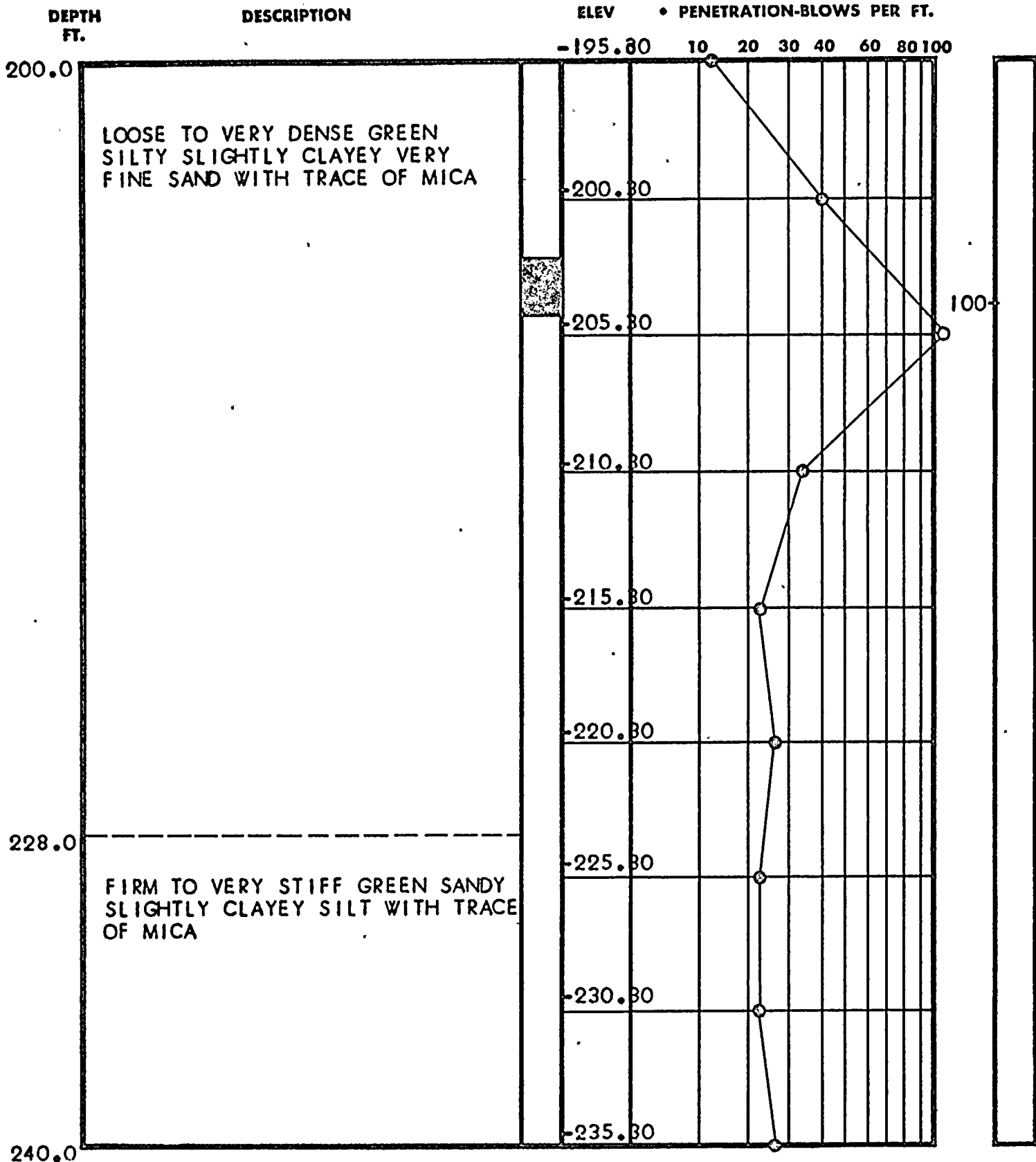
 WATER TABLE, 24 HR.

 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

Page 6 of 8

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

BORING NO. B-107

DATE DRILLED 12/17/68

JOB NO. J-1127

UNDISTURBED SAMPLE

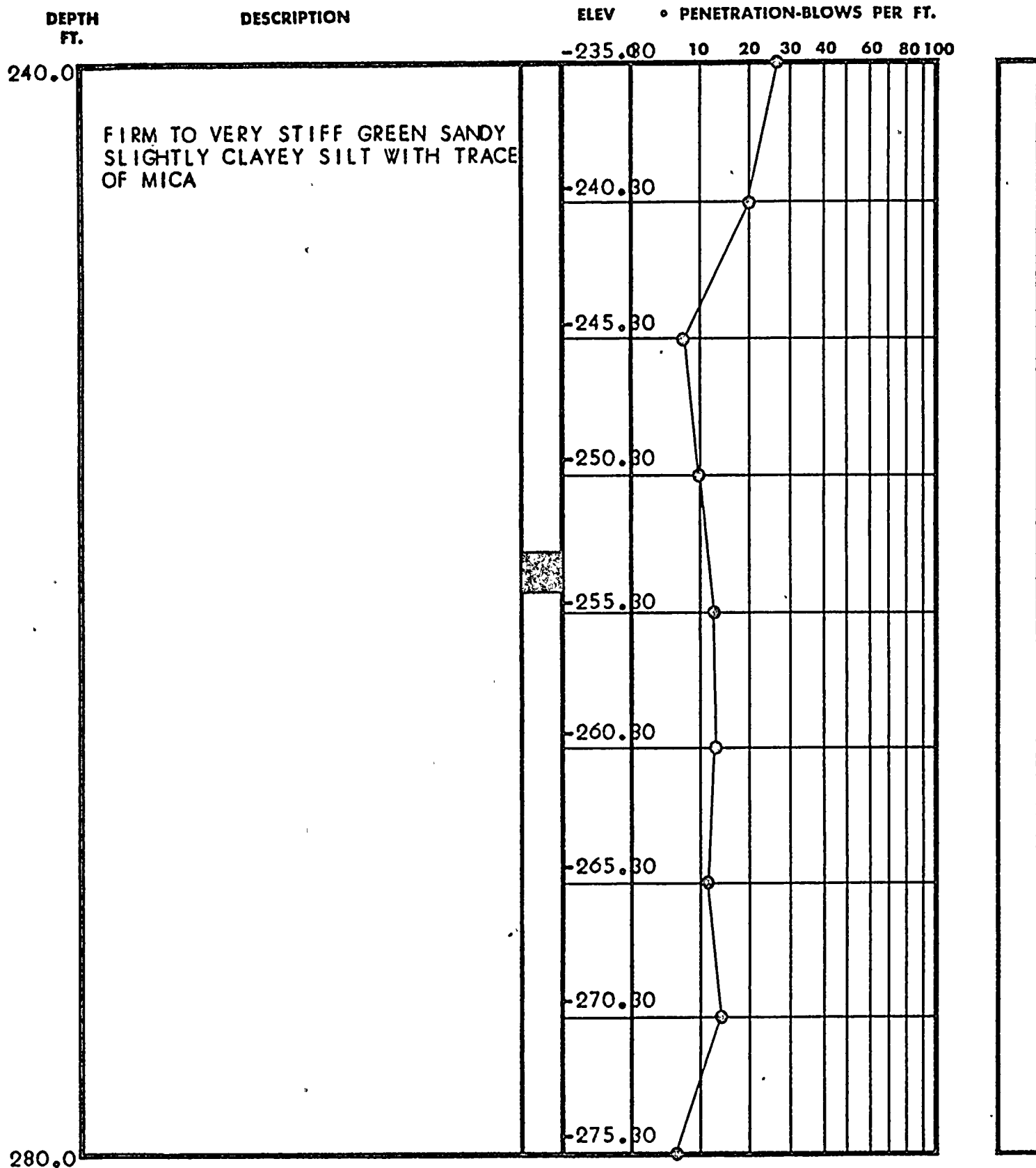
WATER TABLE, 24 HR.

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

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

BORING NO. B-107

DATE DRILLED 12/17/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

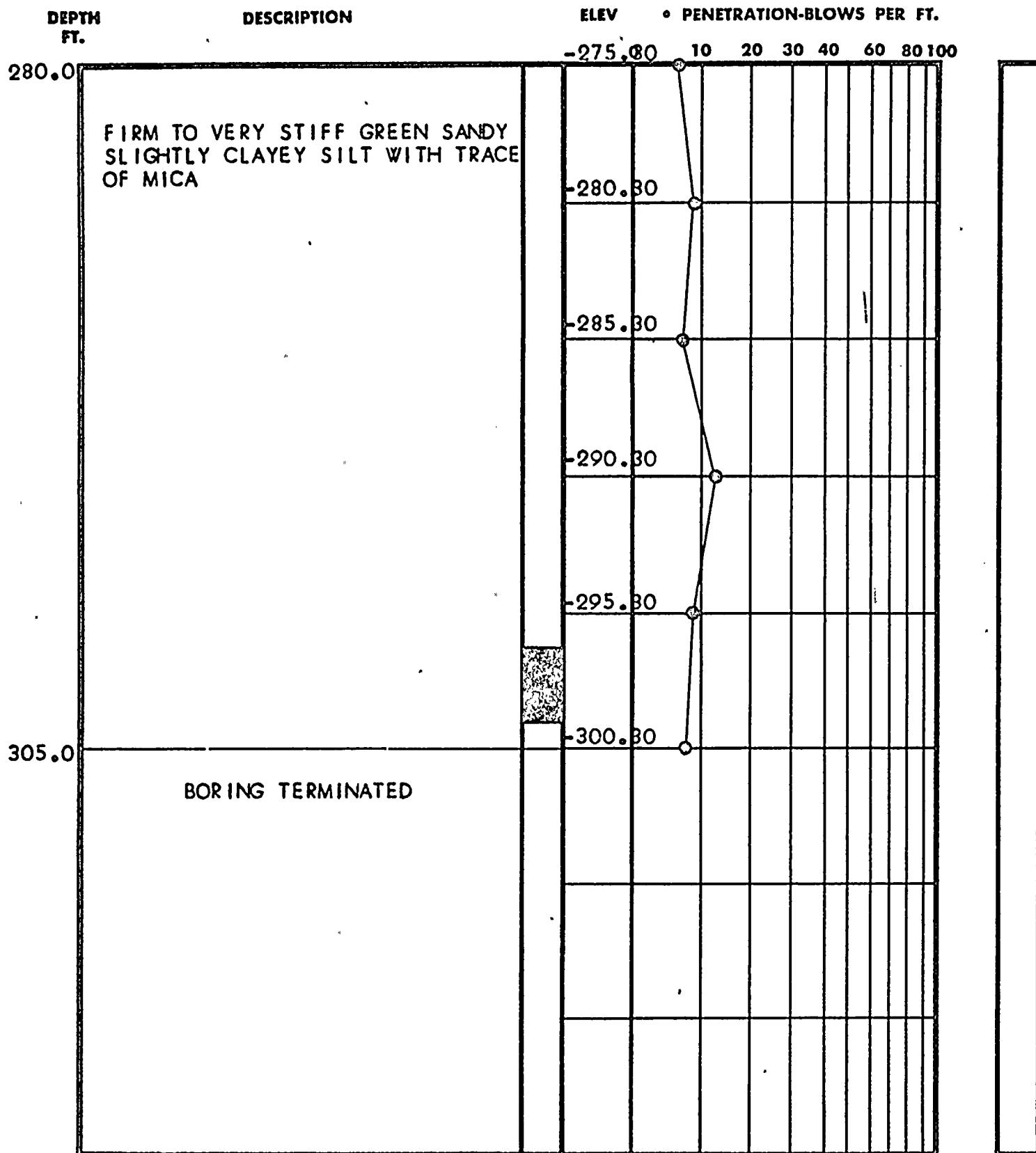
 WATER TABLE, 24 HR.

 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.

Page 8 of 8

BORING NO. B-107

DATE DRILLED 12/17/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

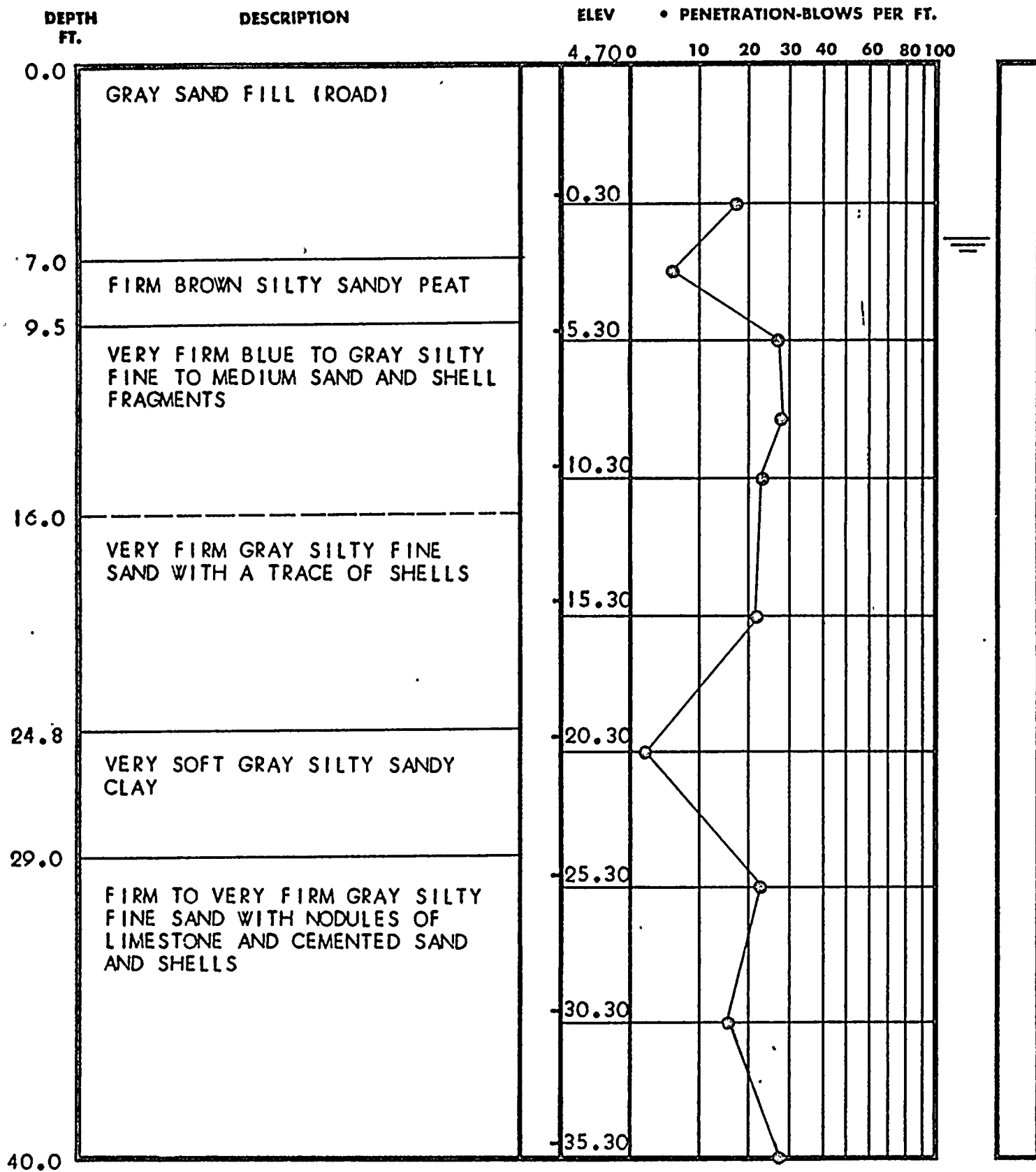
 WATER TABLE, 24 HR.

 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

Page 1 of 3

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

BORING NO. B-107A

DATE DRILLED 12/10/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

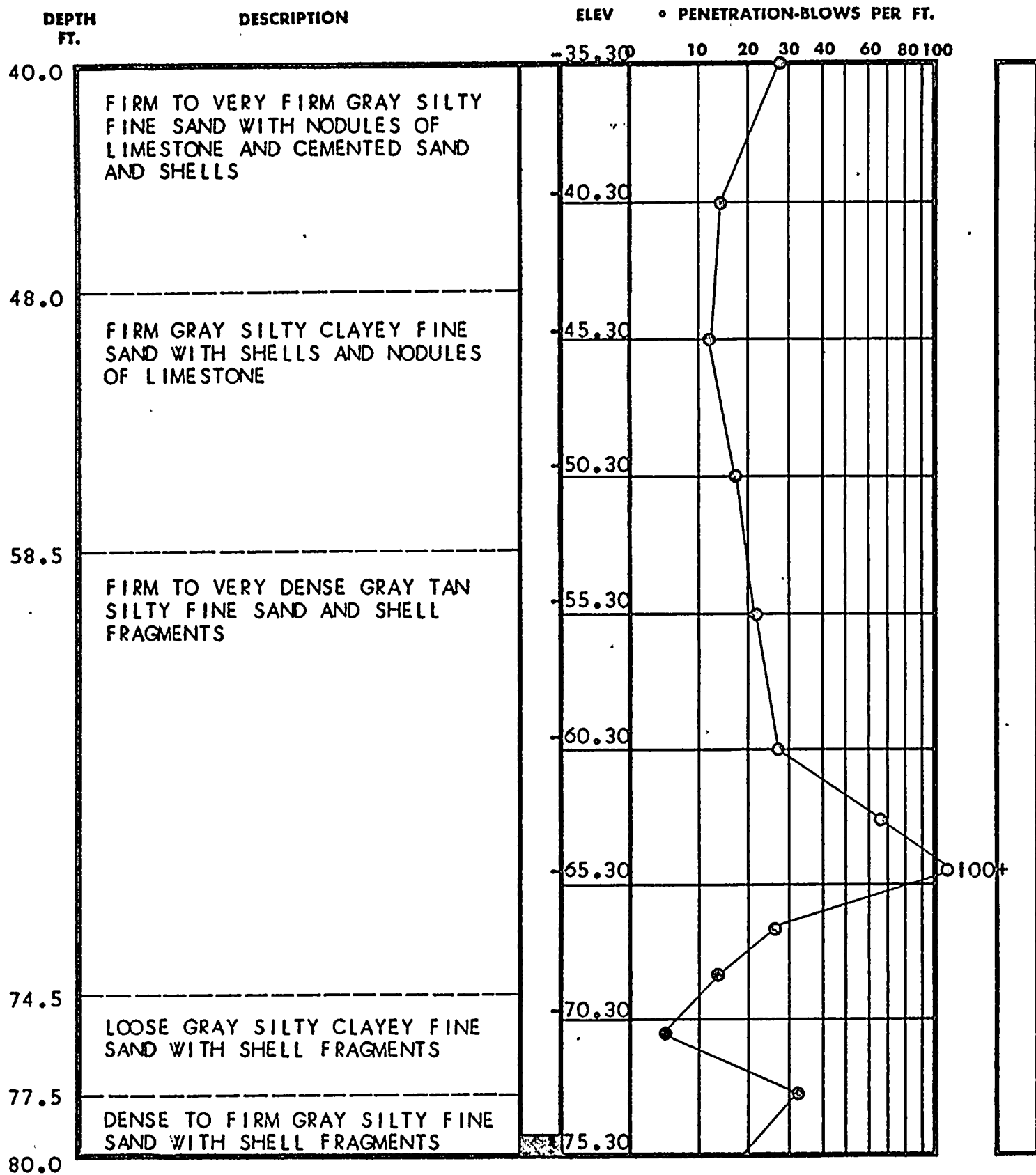
 WATER TABLE, 24 HR.

 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

Page 2 of 3

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

BORING NO. B-107A

DATE DRILLED 12/10/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

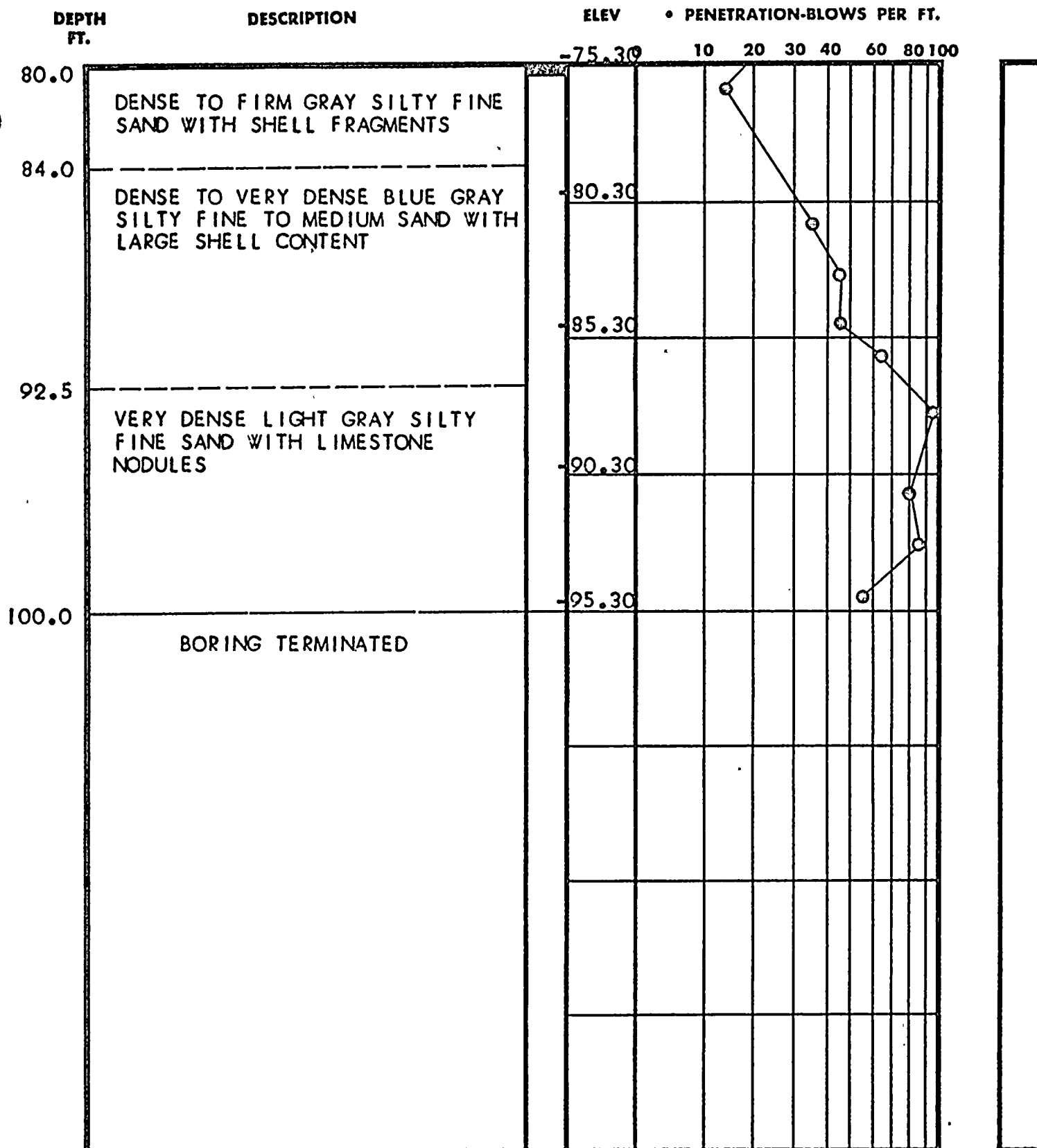
 WATER TABLE, 24 HR.

 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.

Page 3 of 3

BORING NO. B-107A

DATE DRILLED 12/10/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

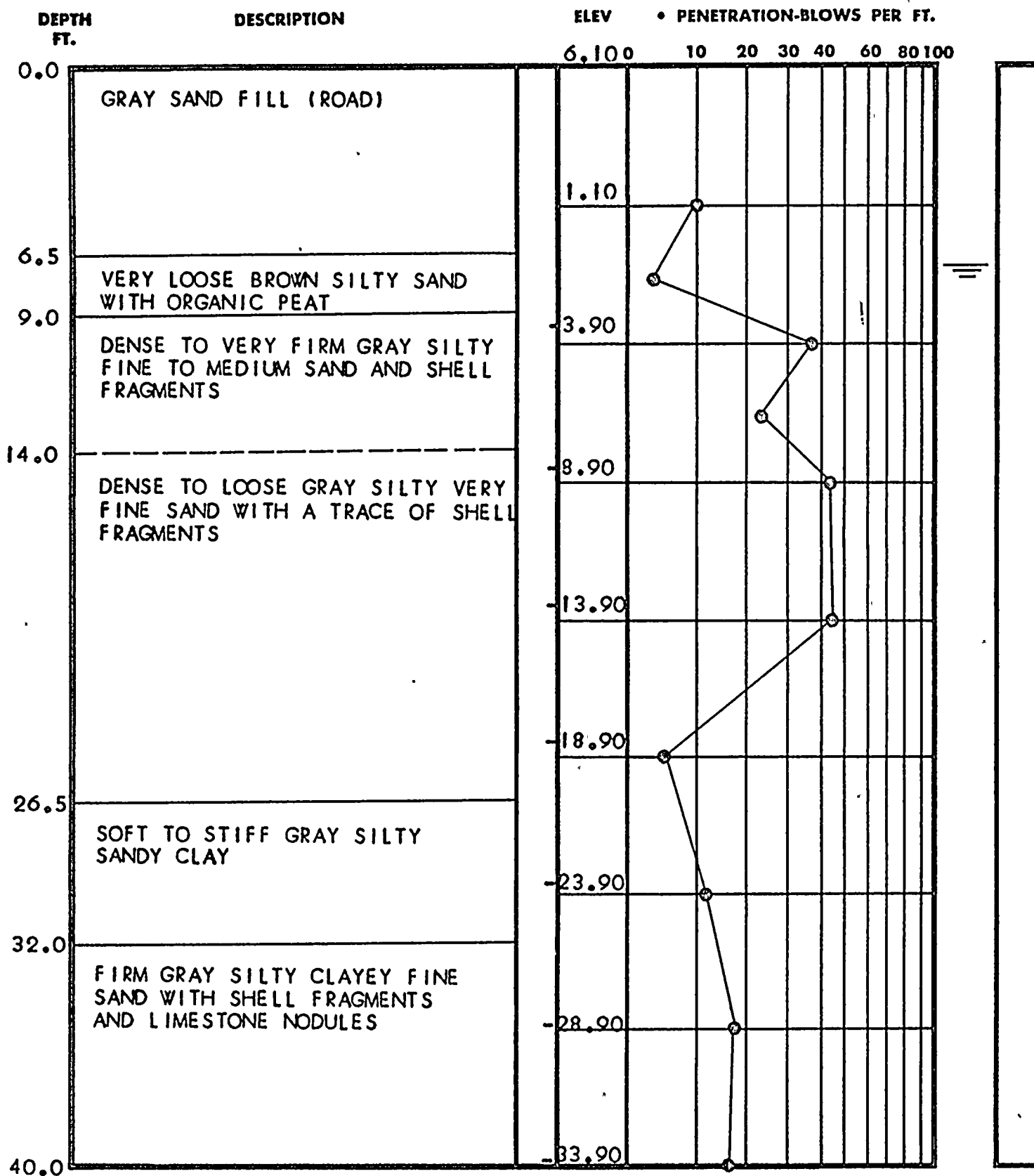
 WATER TABLE, 24 HR.

 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.

Page 1 of 6

BORING NO. B-108

DATE DRILLED 12/4/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

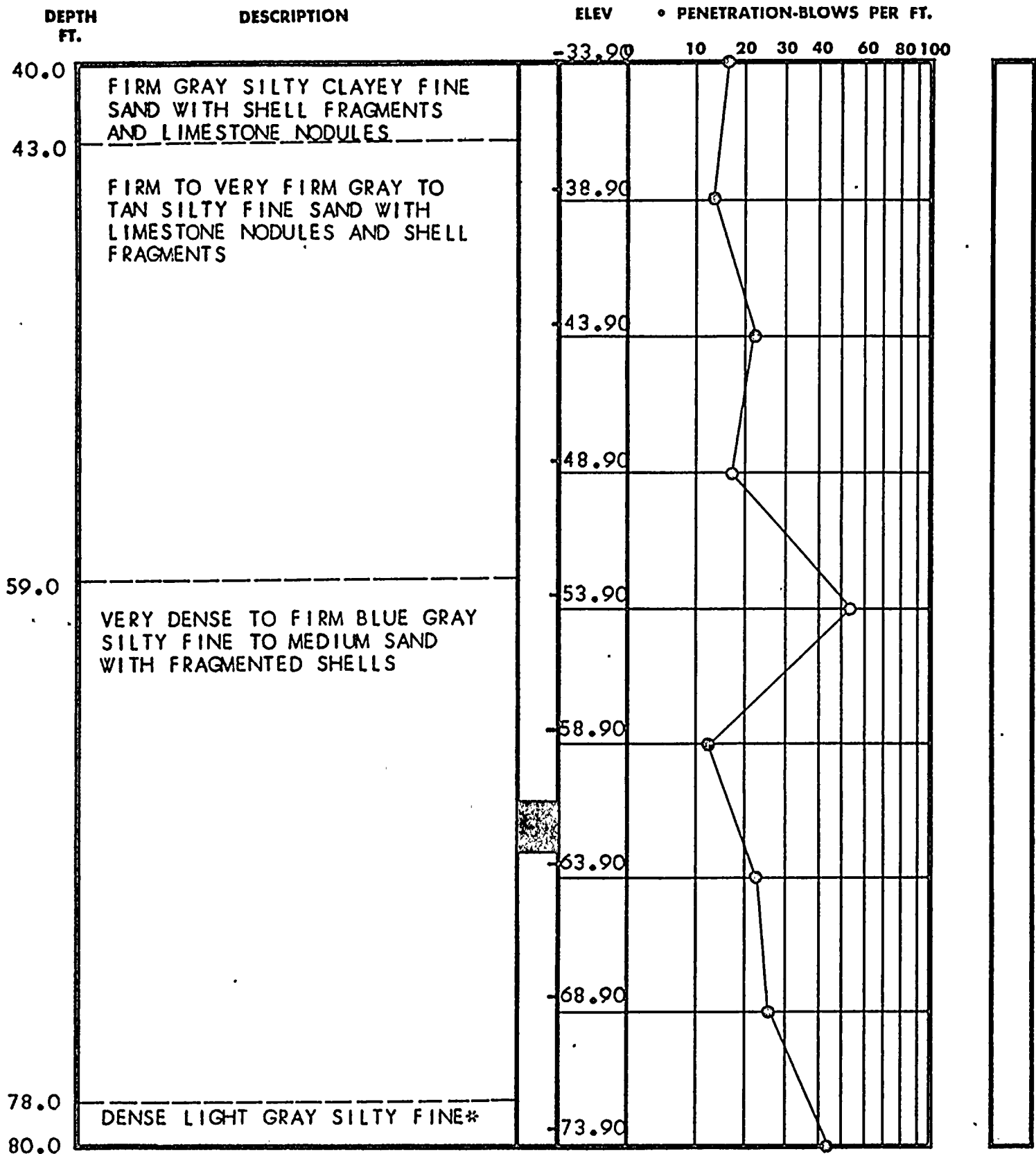
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



*SAND WITH FRAGMENTED SHELLS

TEST BORING RECORD

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

Page 2 of 6

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

BORING NO. B-108

DATE DRILLED 12/4/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

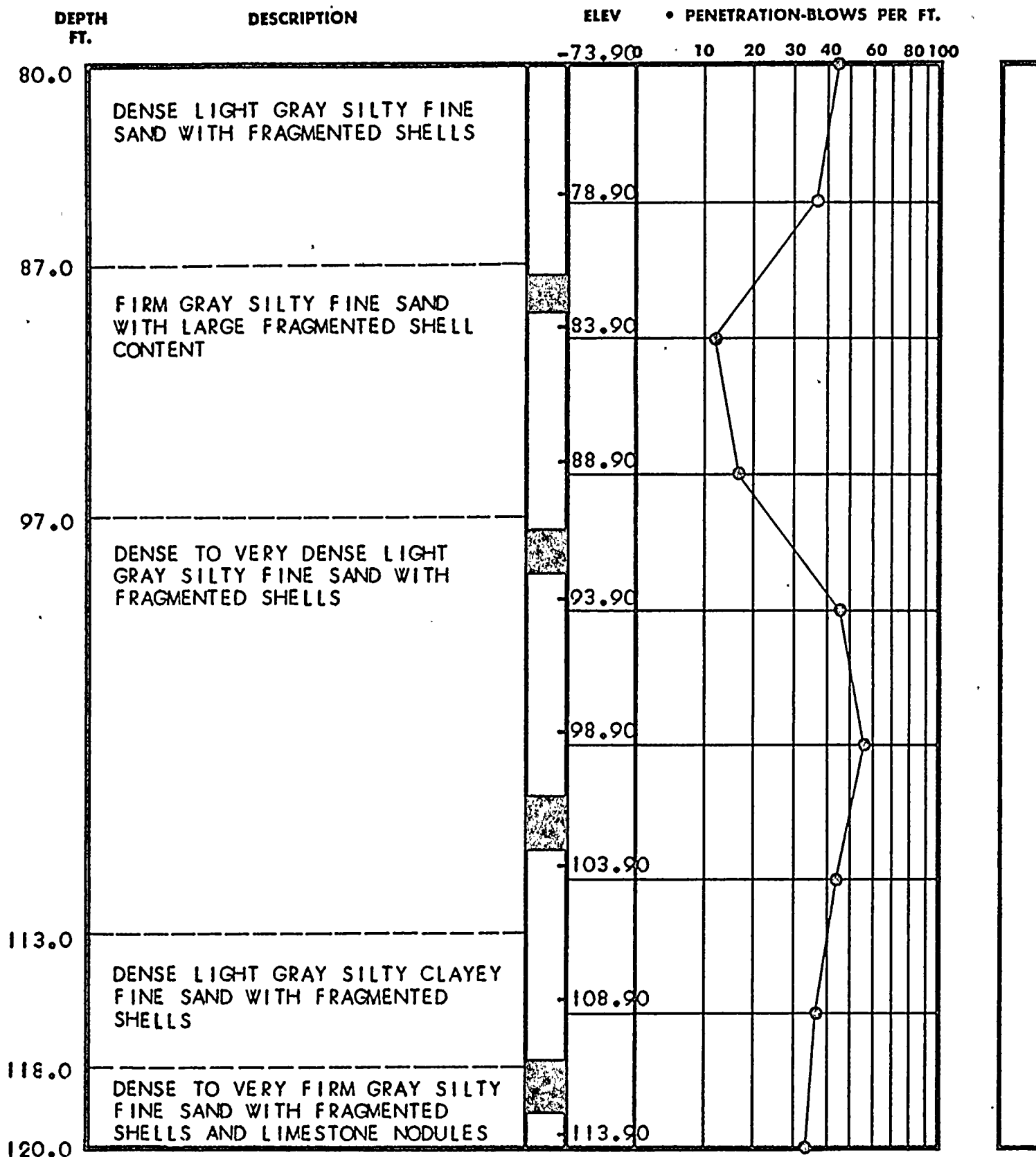
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

[80] % 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.

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BORING NO. B-108

DATE DRILLED 12/4/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

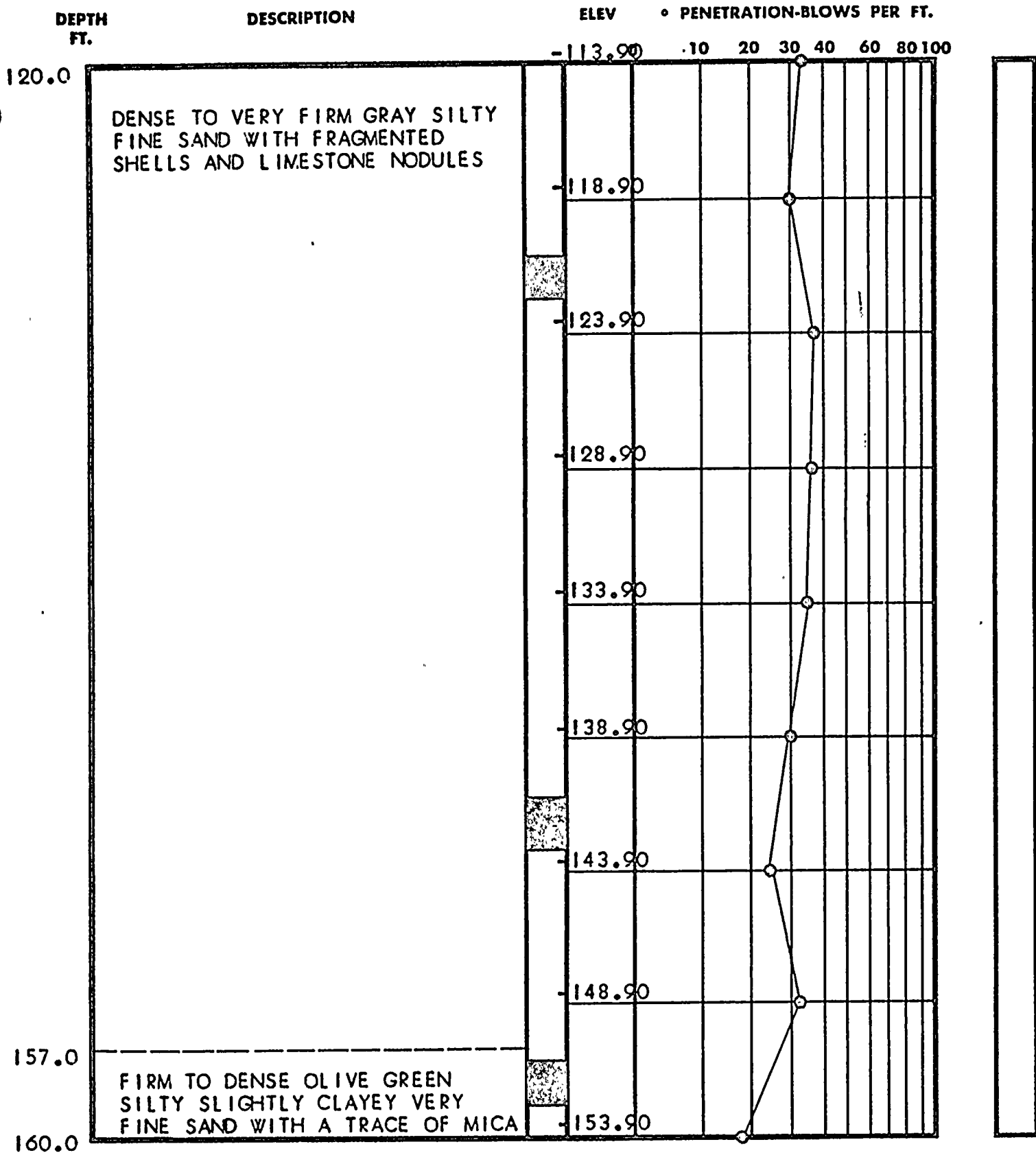
 WATER TABLE, 24 HR.

 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.

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BORING NO. B-108

DATE DRILLED 12/4/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

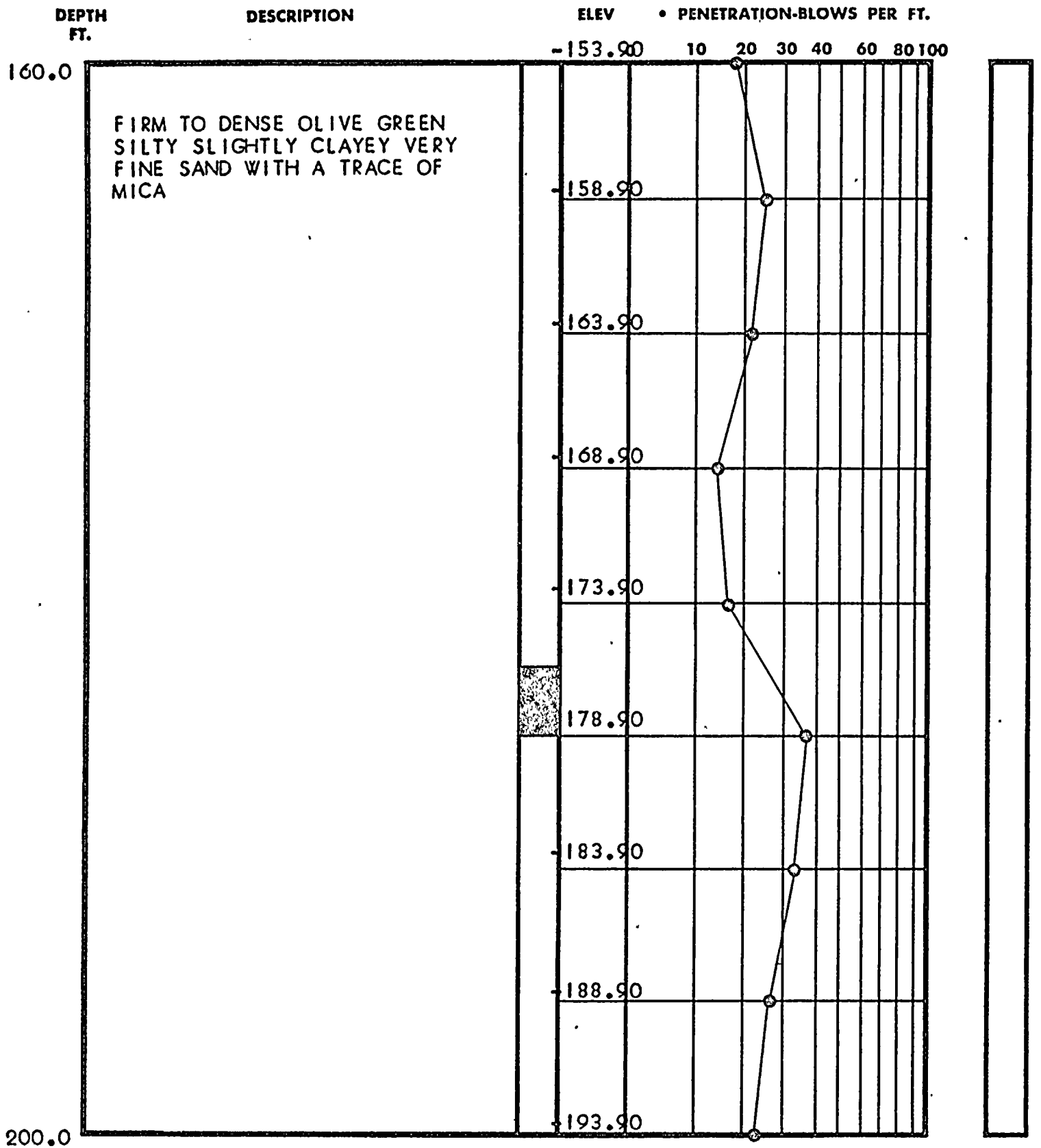
 % ROCK CORE RECOVERY

 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.

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BORING NO. B-108

DATE DRILLED 12/4/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

DEPTH
FT.

DESCRIPTION

ELEV • PENETRATION-BLOWS PER FT.

-193.00 10 20 30 40 60 80 100

200.0

FIRM TO DENSE OLIVE GREEN
SILTY SLIGHTLY CLAYEY VERY
FINE SAND WITH A TRACE OF
MICA

205.0

BORING TERMINATED

198.90

TEST BORING RECORD

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

Page 6 of 6

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

BORING NO. B-108

DATE DRILLED 12/4/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

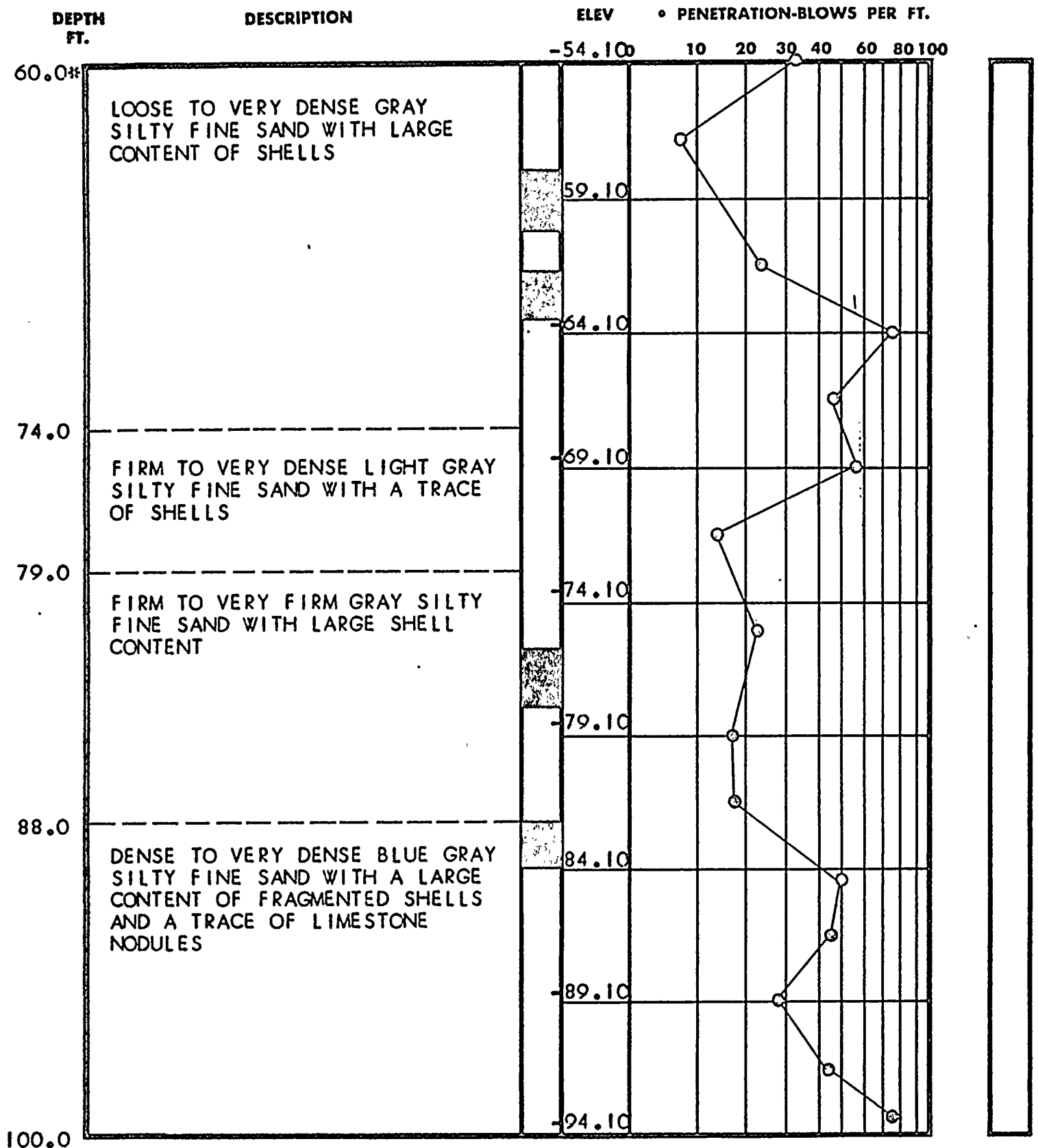
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



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.

TEST BORING RECORD

BORING NO. B-108A
 DATE DRILLED 12/11/68
 JOB NO. 1-1127

UNDISTURBED SAMPLE

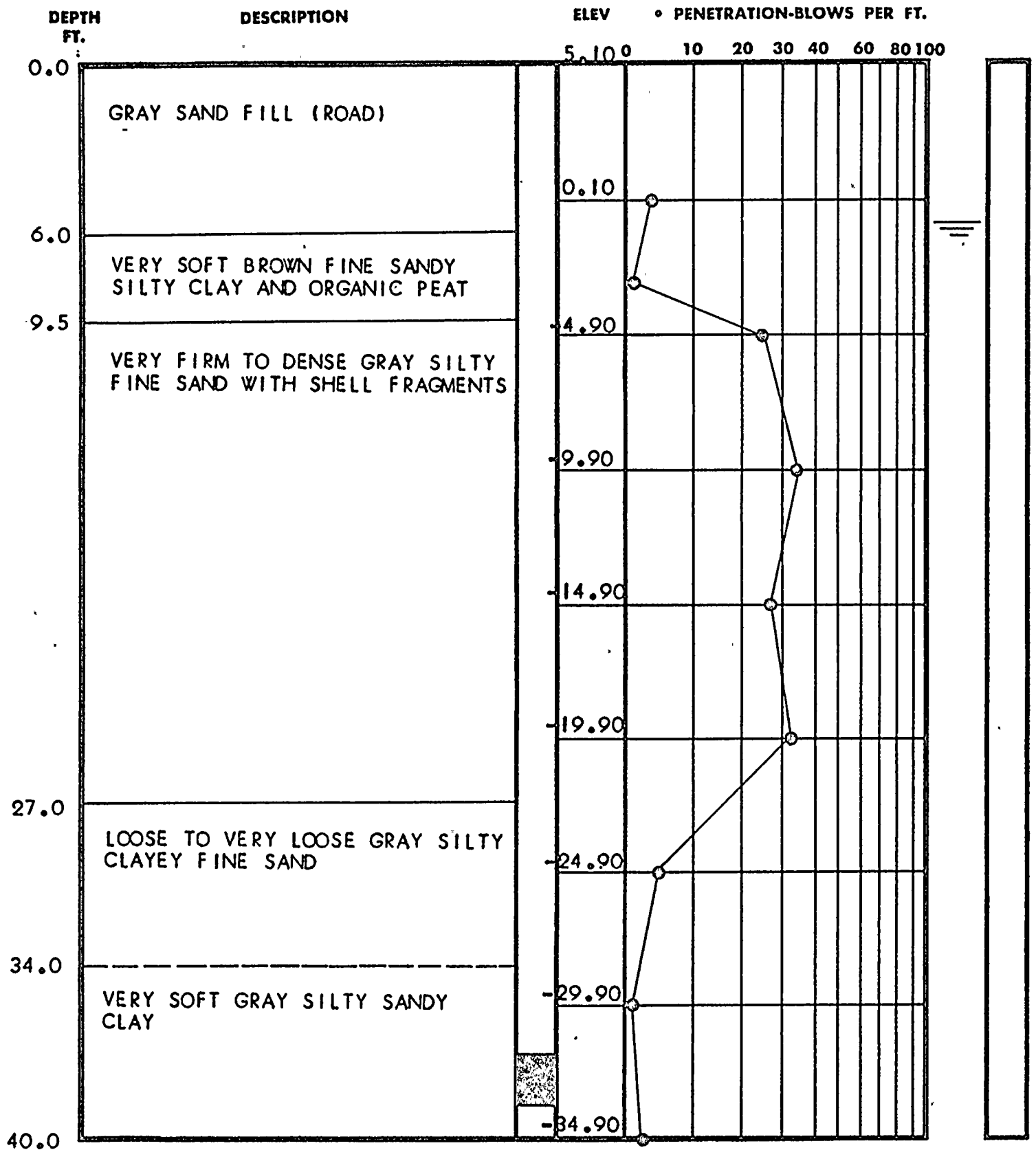
% ROCK CORE RECOVERY

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

Page 1 of 6

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

BORING NO. B-109

DATE DRILLED 12/6/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

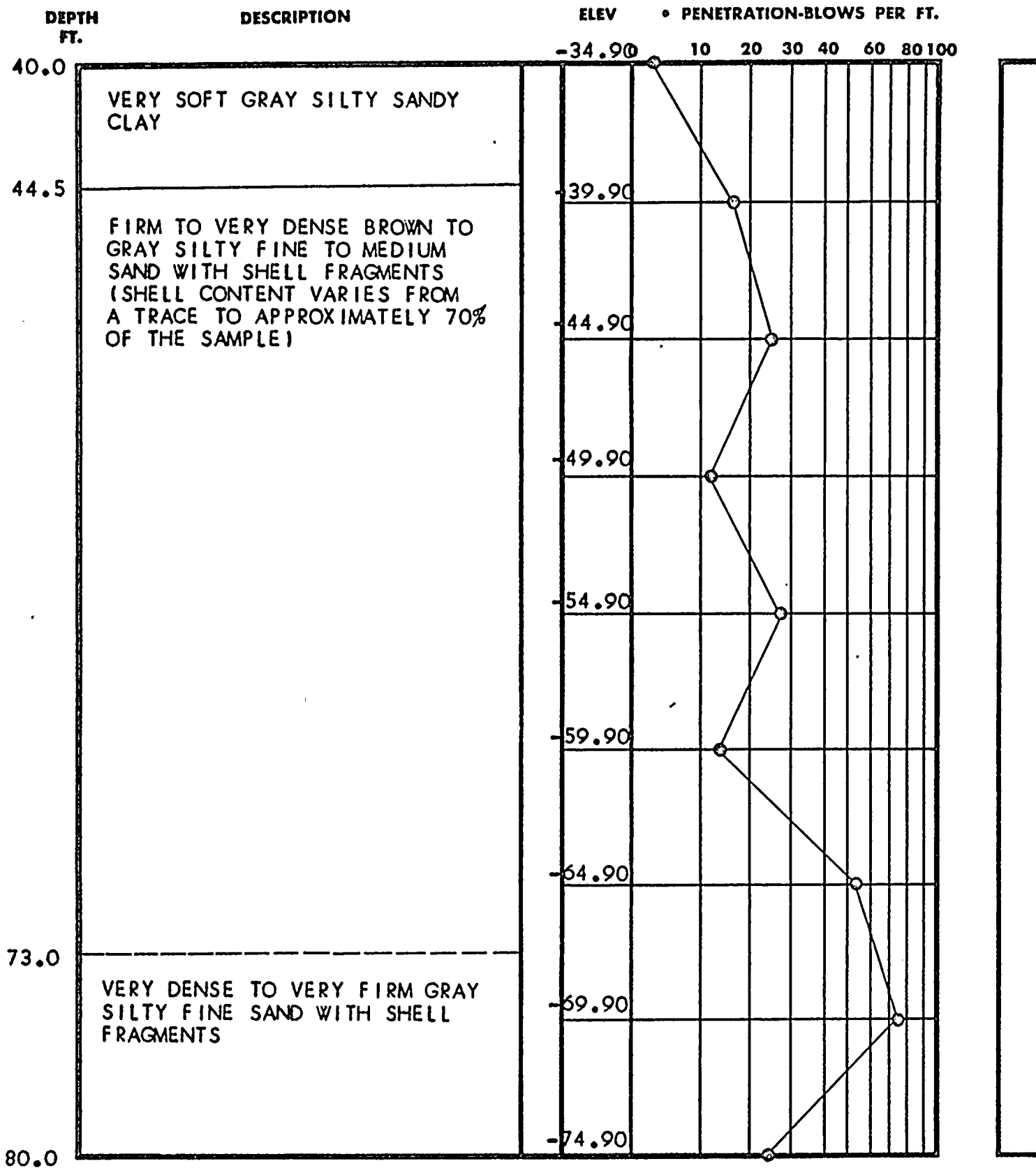
 WATER TABLE, 24 HR.

 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

Page 2 of 6

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

BORING NO. B-109

DATE DRILLED 12/6/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

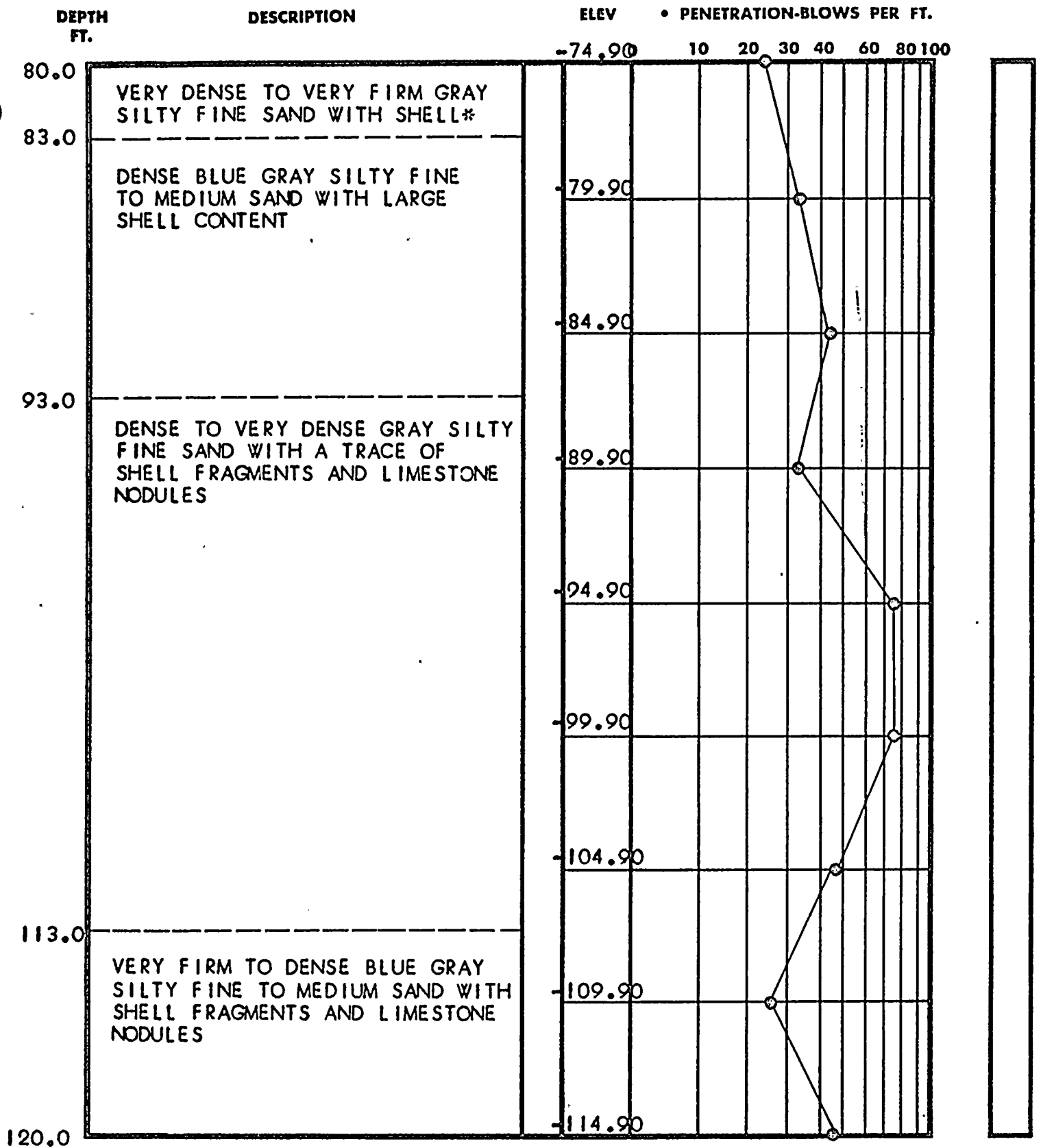
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



*F RAGMENTS

TEST BORING RECORD

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

Page 3 of 6

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

BORING NO. B-109

DATE DRILLED 12/6/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

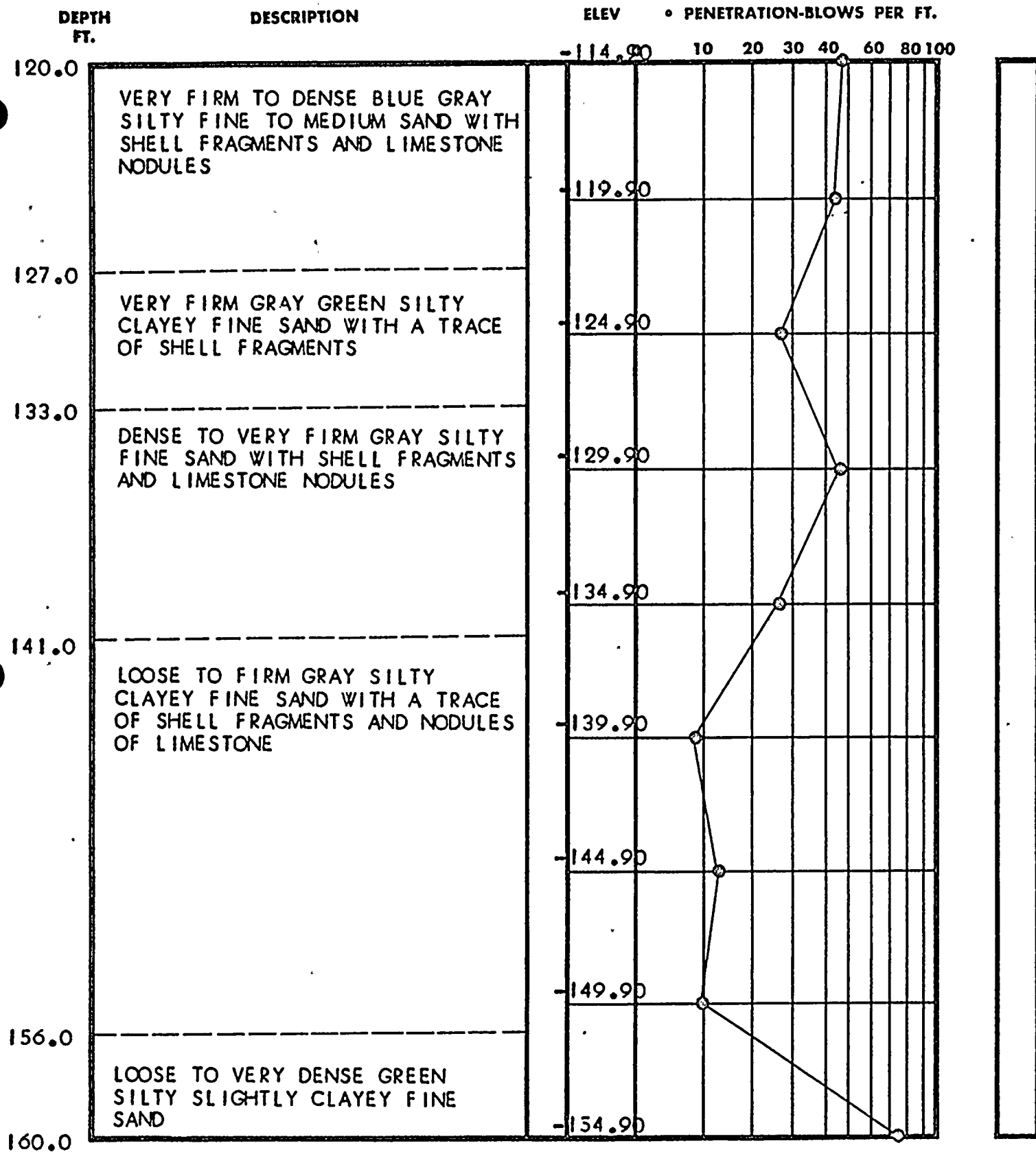
 WATER TABLE, 24 HR.

 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.

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BORING NO. B-109

DATE DRILLED 12/6/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

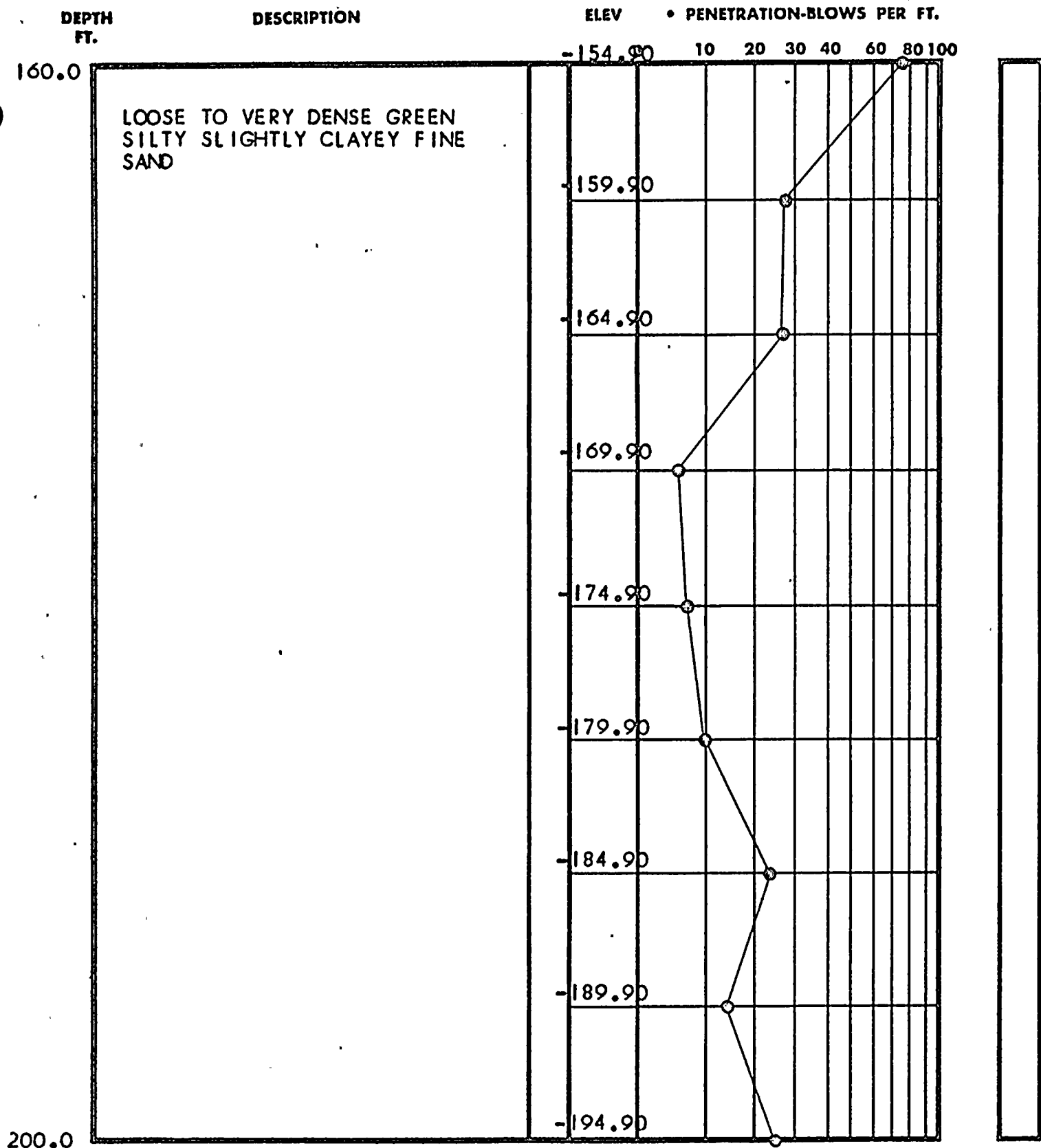
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

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

BORING NO. B-109

DATE DRILLED 12/6/68

JOB NO. J-1127

UNCONSOLIDATED SAMPLE

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV • PENETRATION-BLOWS PER FT.									
		-194.90	10	20	30	40	60	80	100		
200.0	LOOSE TO VERY DENSE GREEN SILTY SLIGHTLY CLAYEY FINE SAND										
205.0		-199.90									
	BORING TERMINATED										

TEST BORING RECORD

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

Page 6 of 6

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

BORING NO. B-109

DATE DRILLED 12/6/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

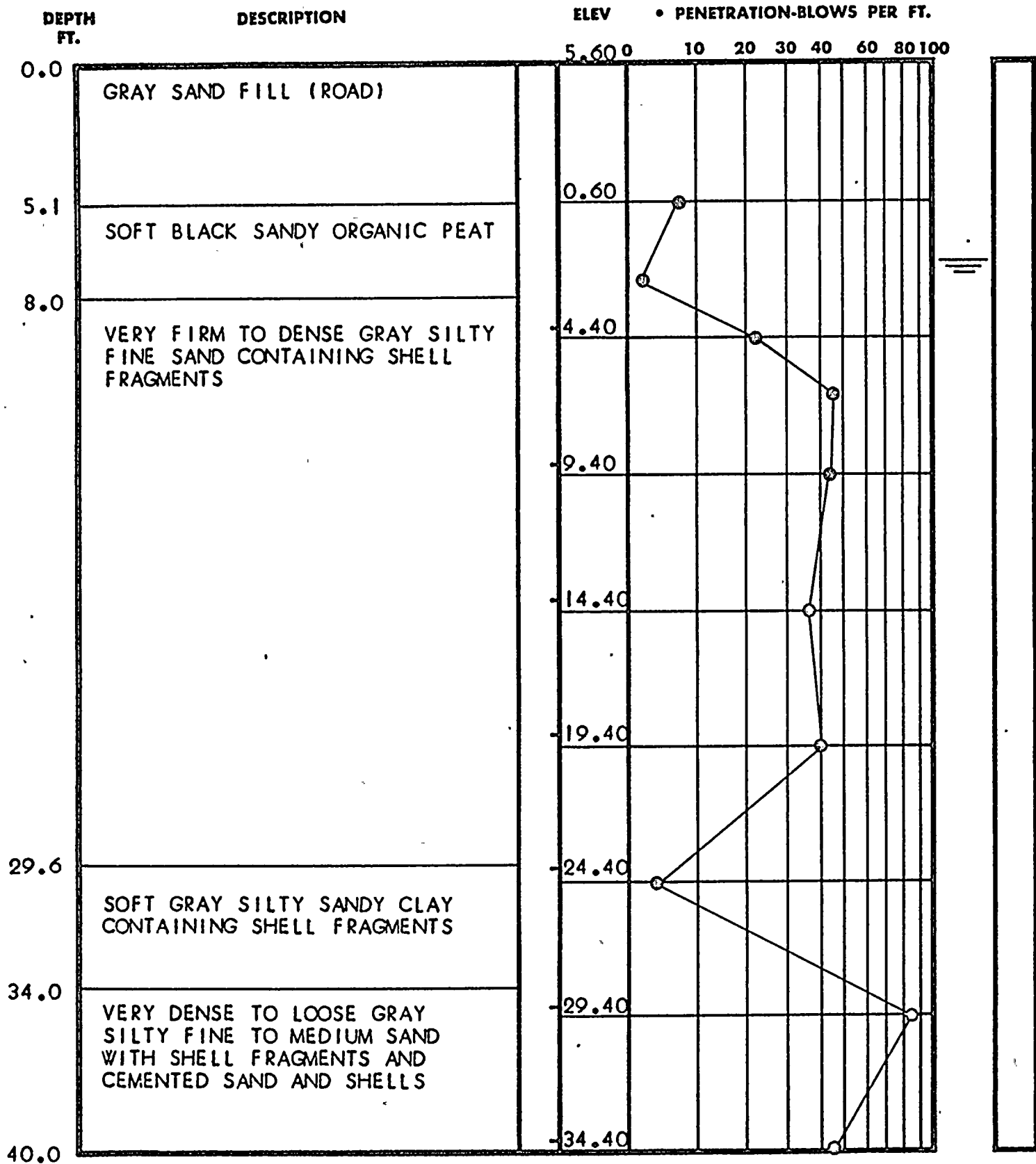
 WATER TABLE, 24 HR.

 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

Page 1 of 8

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

BORING NO. B-110

DATE DRILLED 11/26/68

JOB NO. J-1127

UNDISTURBED SAMPLE

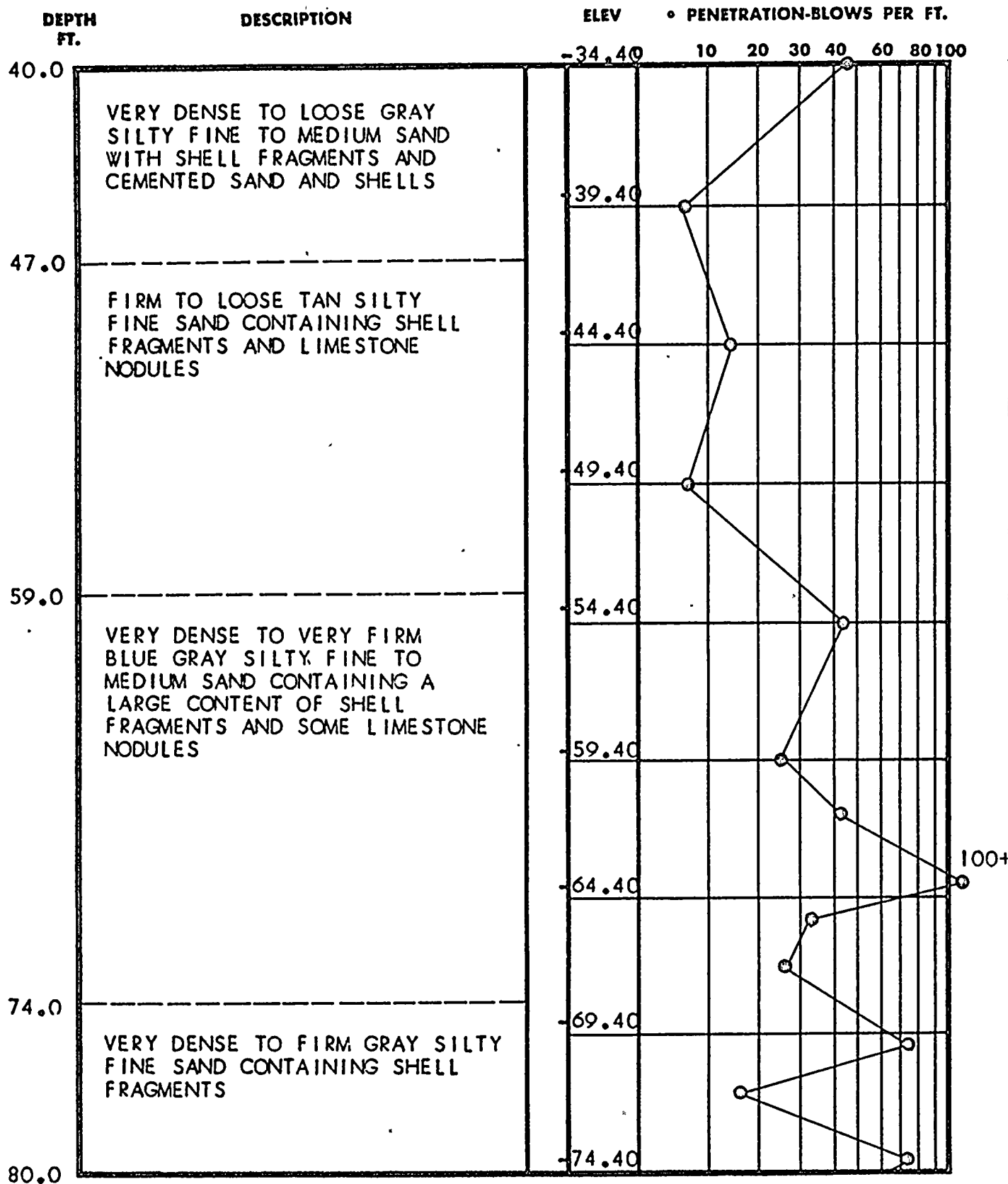
WATER TABLE, 24 HR.

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

Page 2 of 8

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

BORING NO. B-110

DATE DRILLED 11/26/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

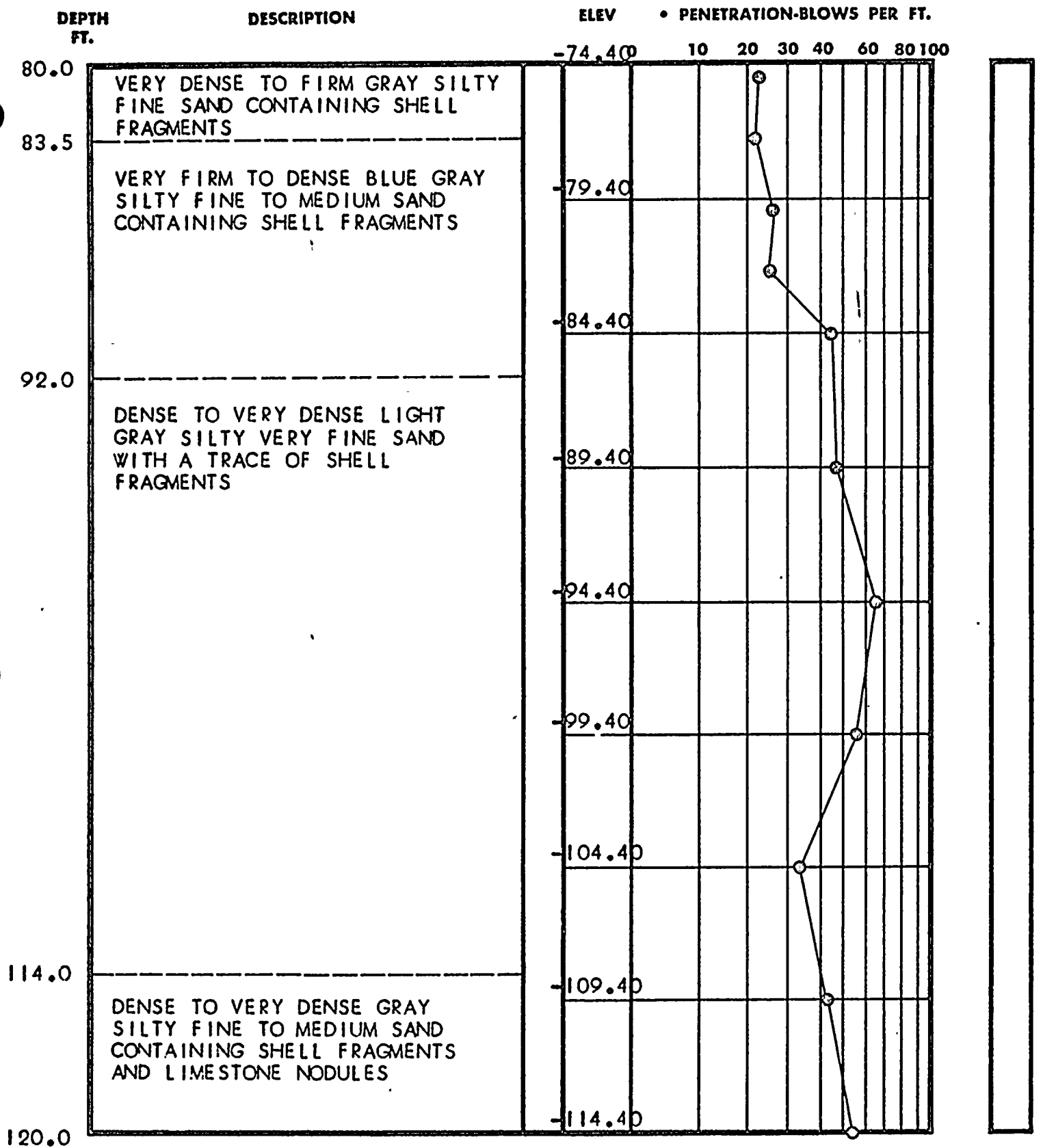
 WATER TABLE, 24 HR.

 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.

Page 3 of 8

BORING NO. B-110

DATE DRILLED 11/26/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

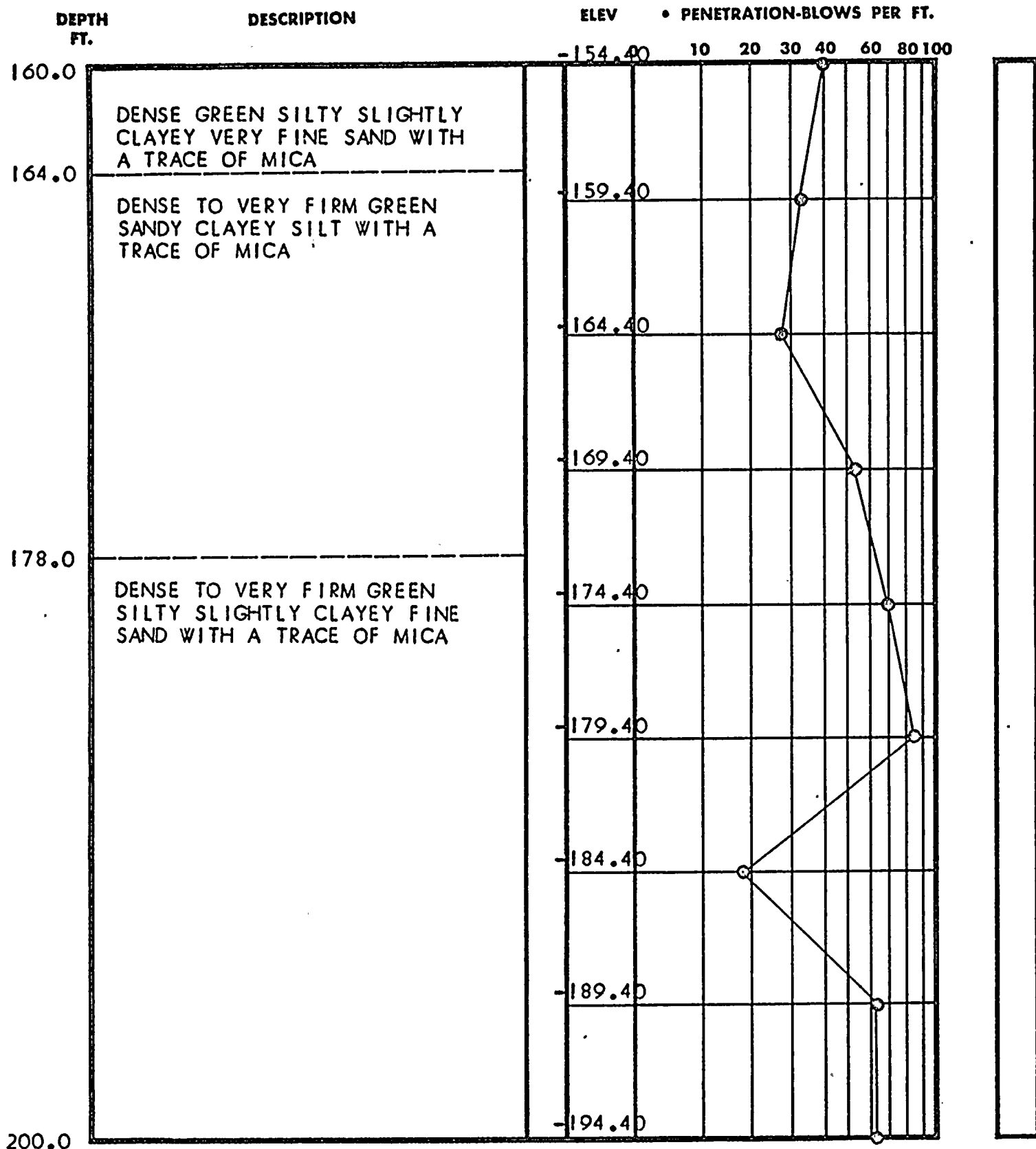
 WATER TABLE, 24 HR.

 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

Page 5 of 8

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

BORING NO. B-110

DATE DRILLED 11/27/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

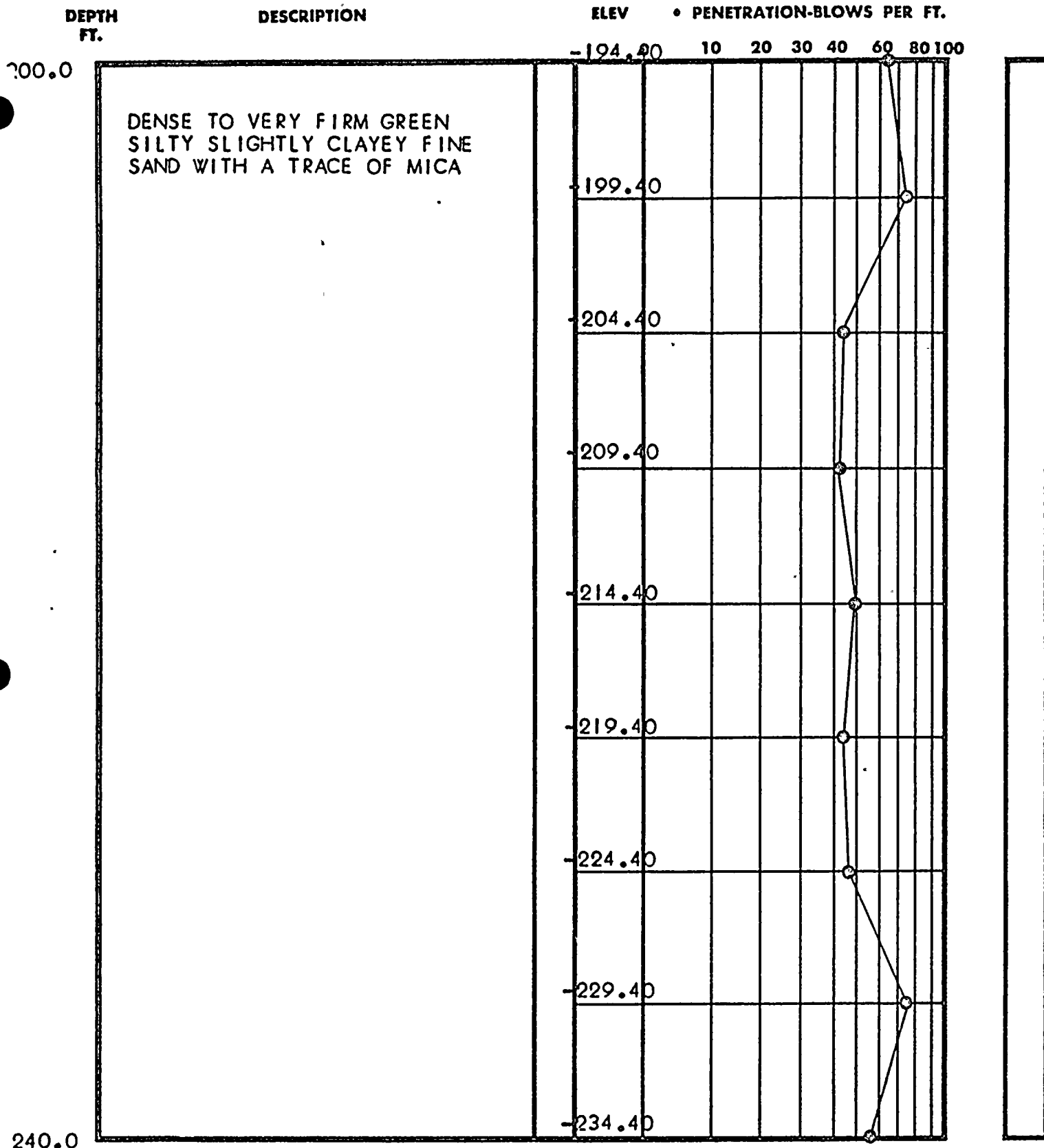
 WATER TABLE, 24 HR.

 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.

Page 6 of 8

BORING NO. B-110

DATE DRILLED 11/26/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

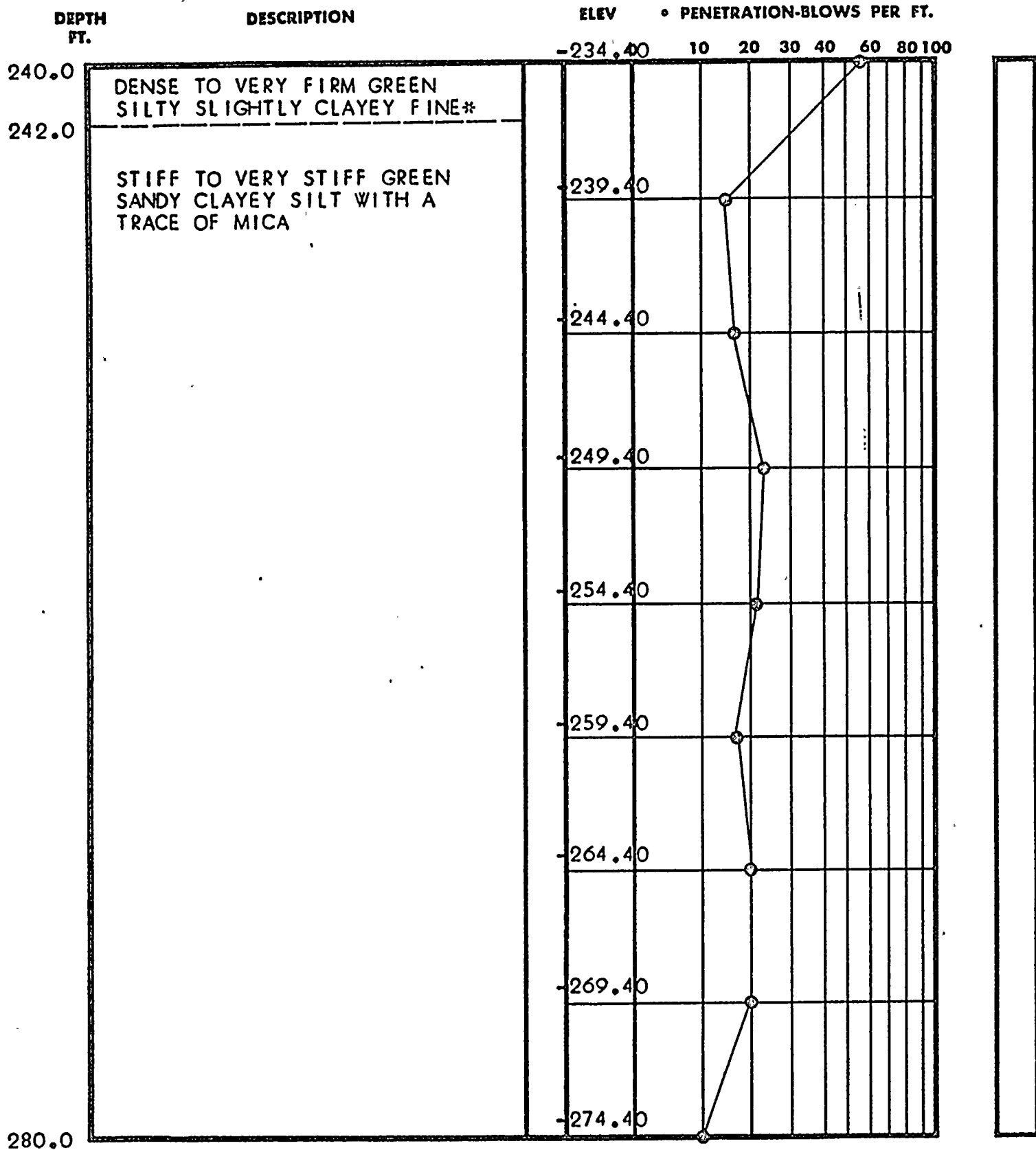
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



* SAND WITH A TRACE OF MICA

TEST BORING RECORD

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

Page 7 of 8

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

BORING NO. B-110

DATE DRILLED 11/26/68

JOB NO. J-1127

 UNSTUDDED SAMPLE

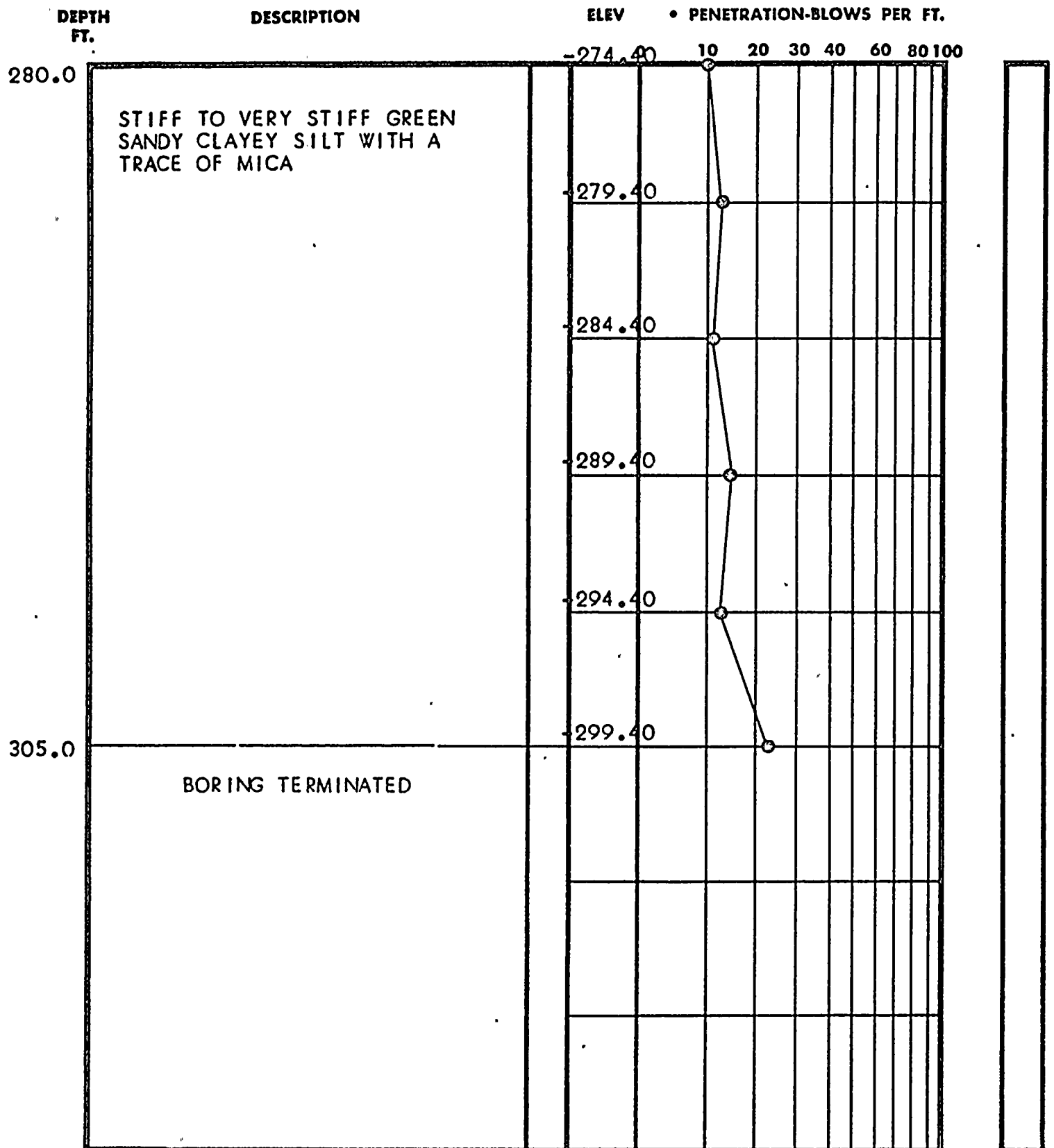
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

[50] % 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

Page 8 of 8

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

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

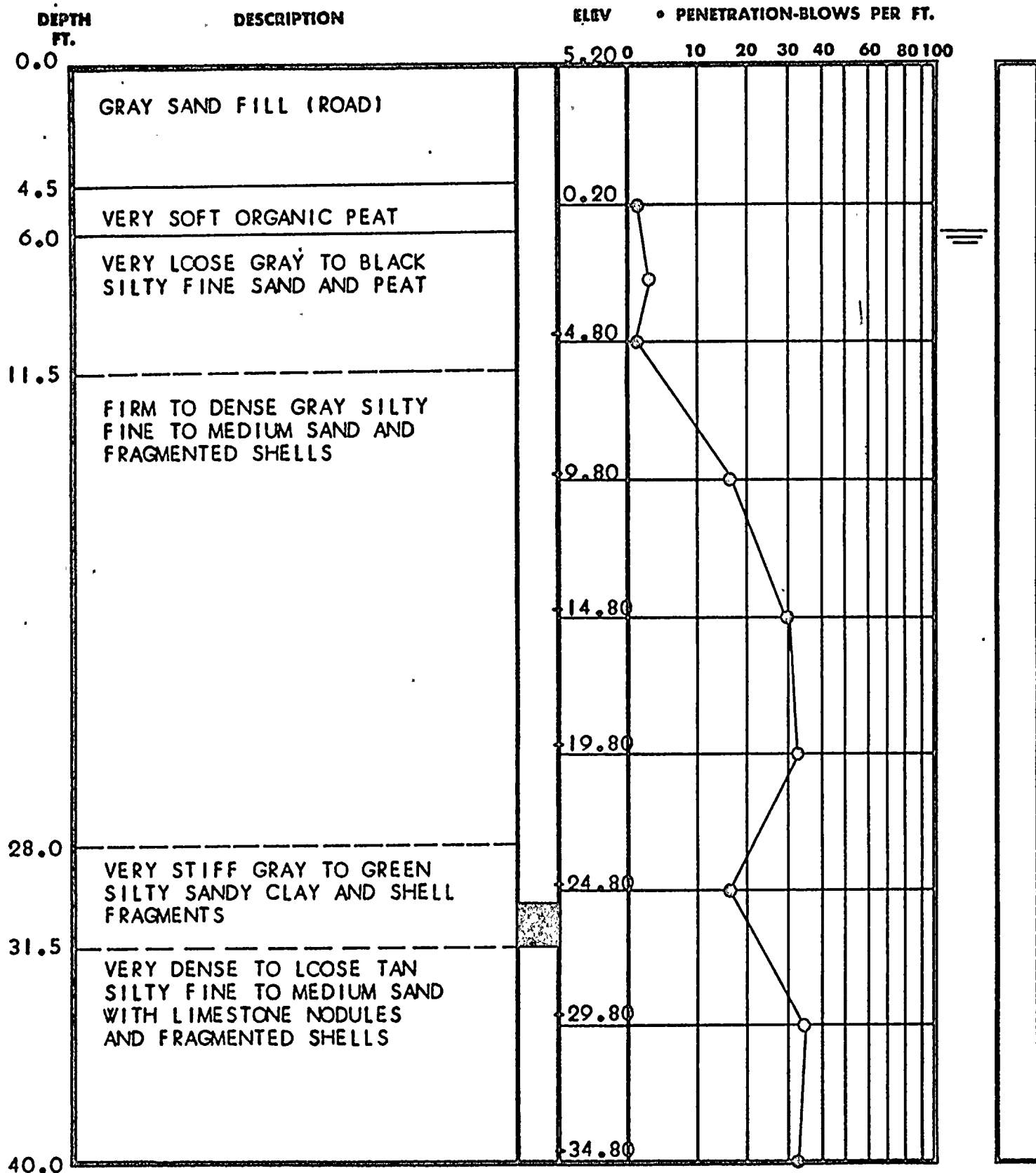
 UNDISTURBED SAMPLE

 WATER TABLE, 26 HR.
 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1506
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.

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BORING NO. B-111


DATE DRILLED 11/26/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

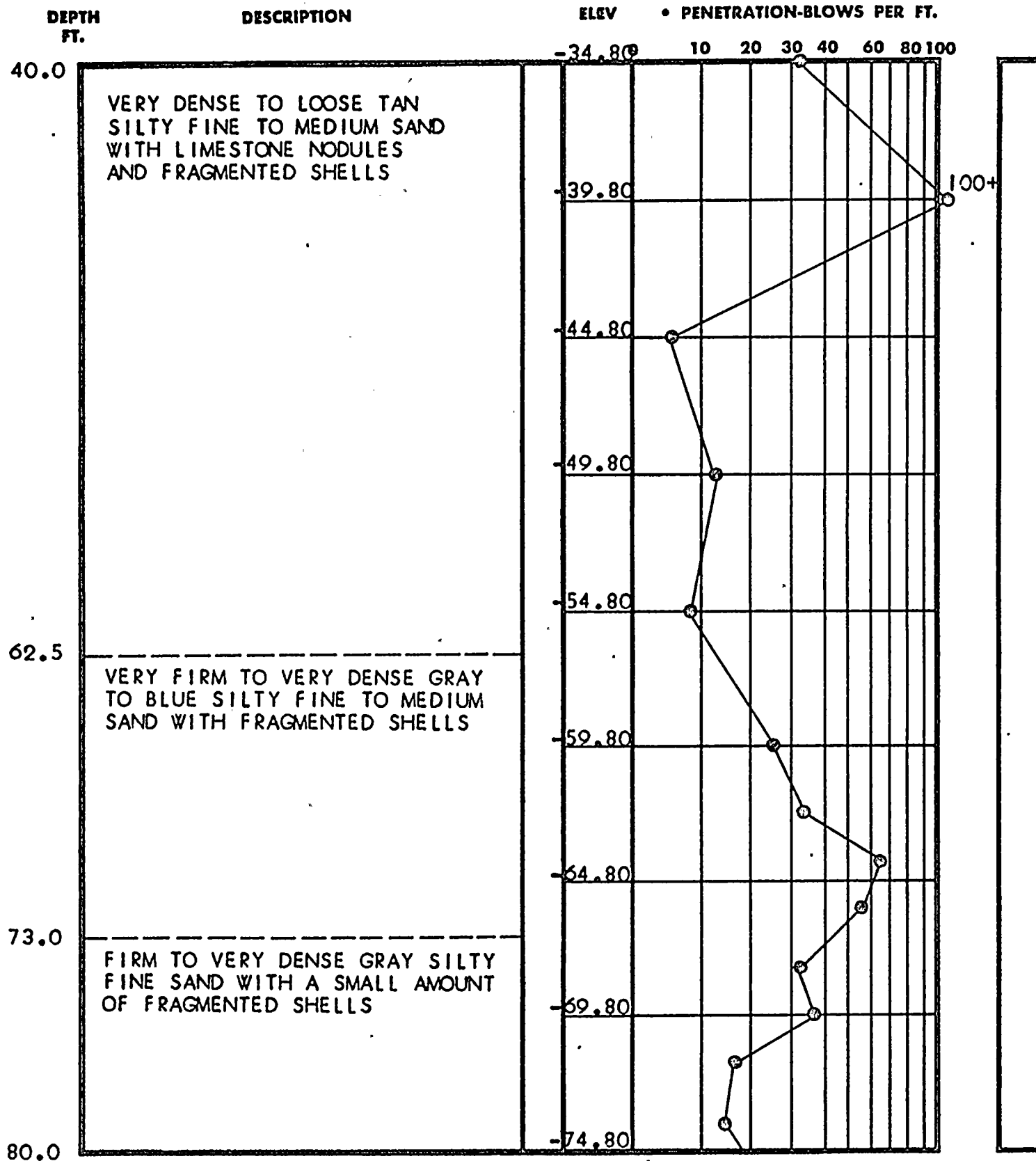
 WATER TABLE, 24 HZ.

 WATER TABLE, 1 HZ.

 % 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

Page 2 of 8

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

BORING NO. B-111

DATE DRILLED 11/26/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

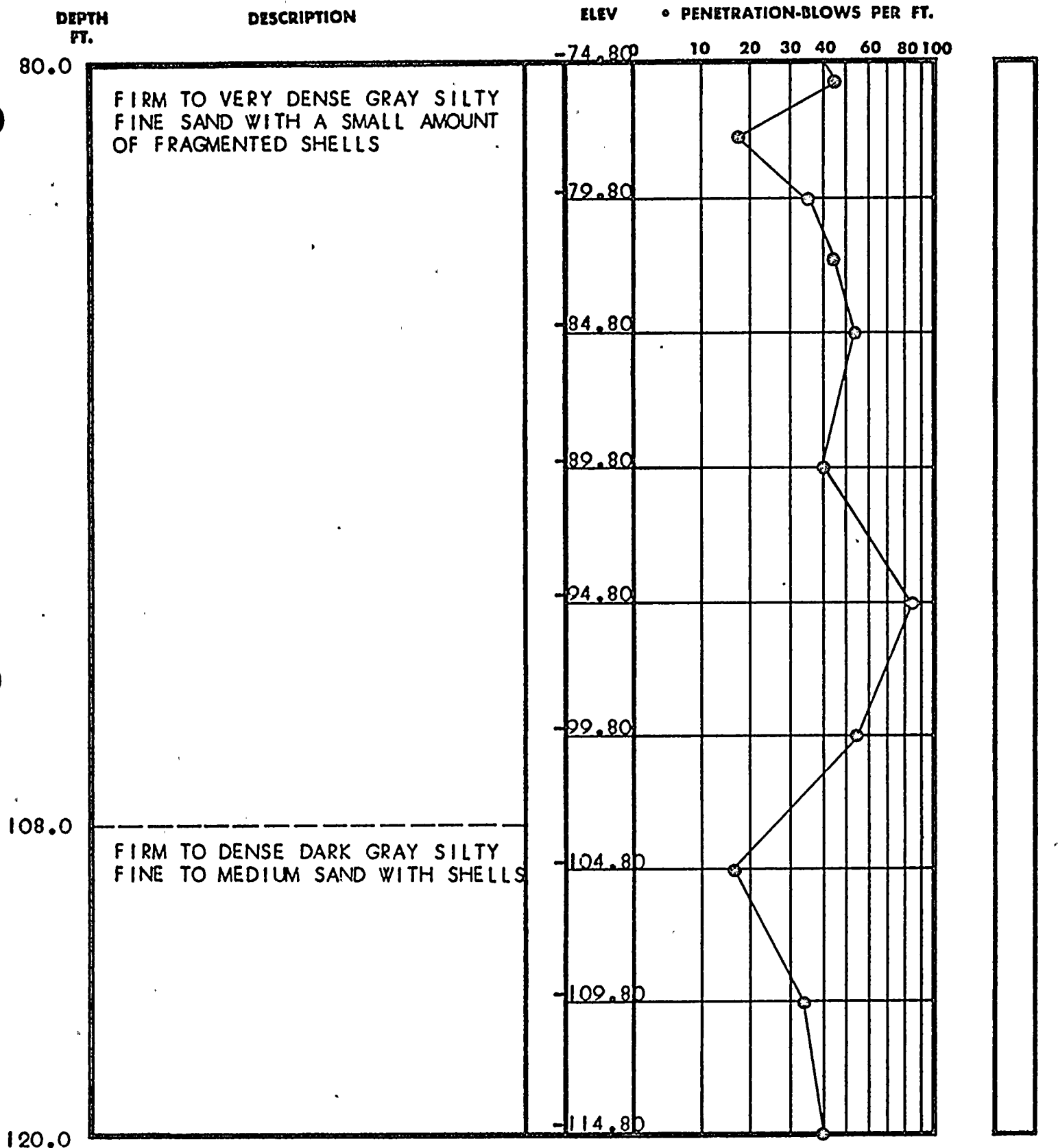
 WATER TABLE, 24 HR.

 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

Page 3 of 8

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

BORING NO. B-111

DATE DRILLED 11/26/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

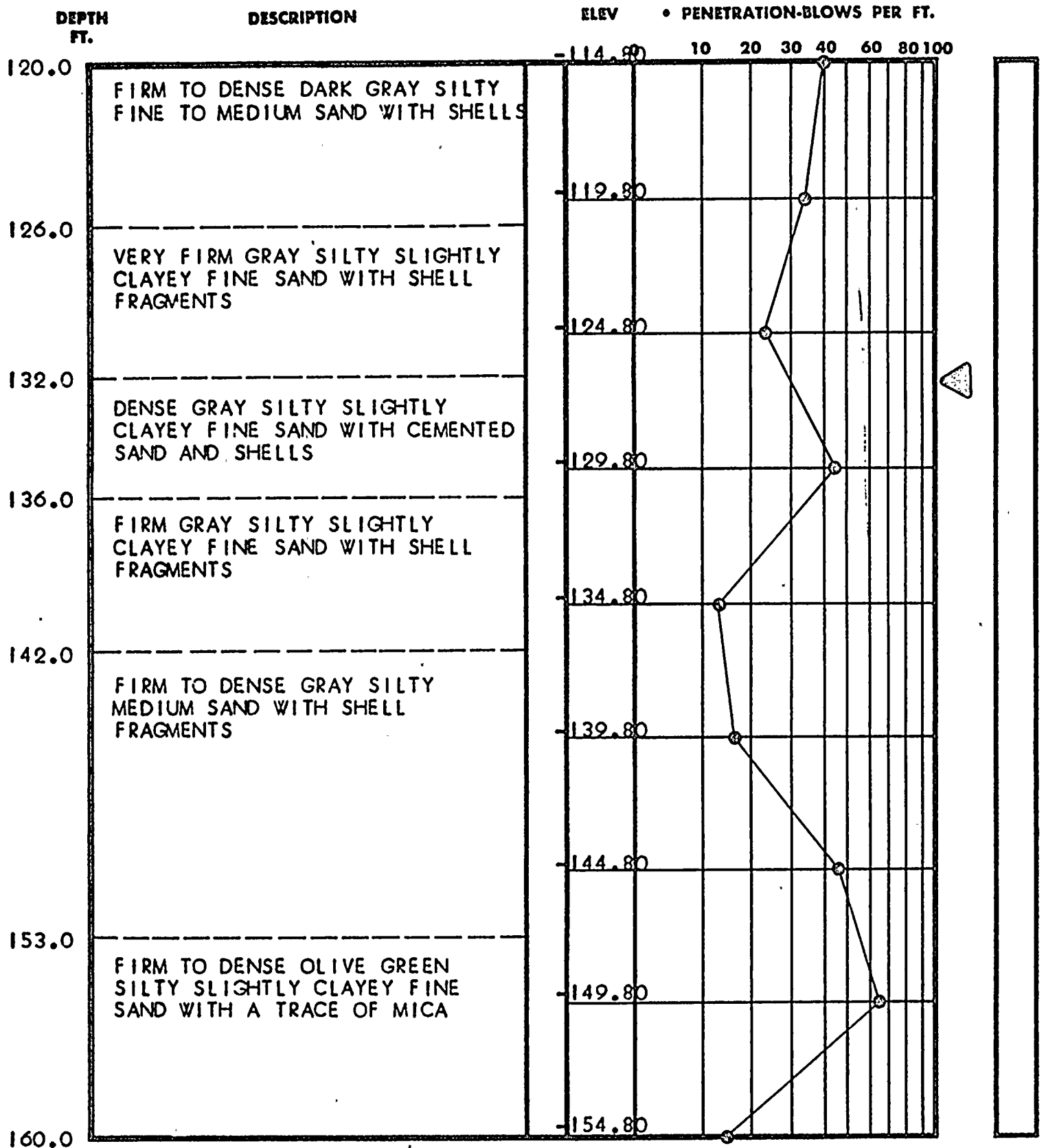
 WATER TABLE, 24 HR.

 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

Page 4 of 8

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

BORING NO. B-111

DATE DRILLED 11/26/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

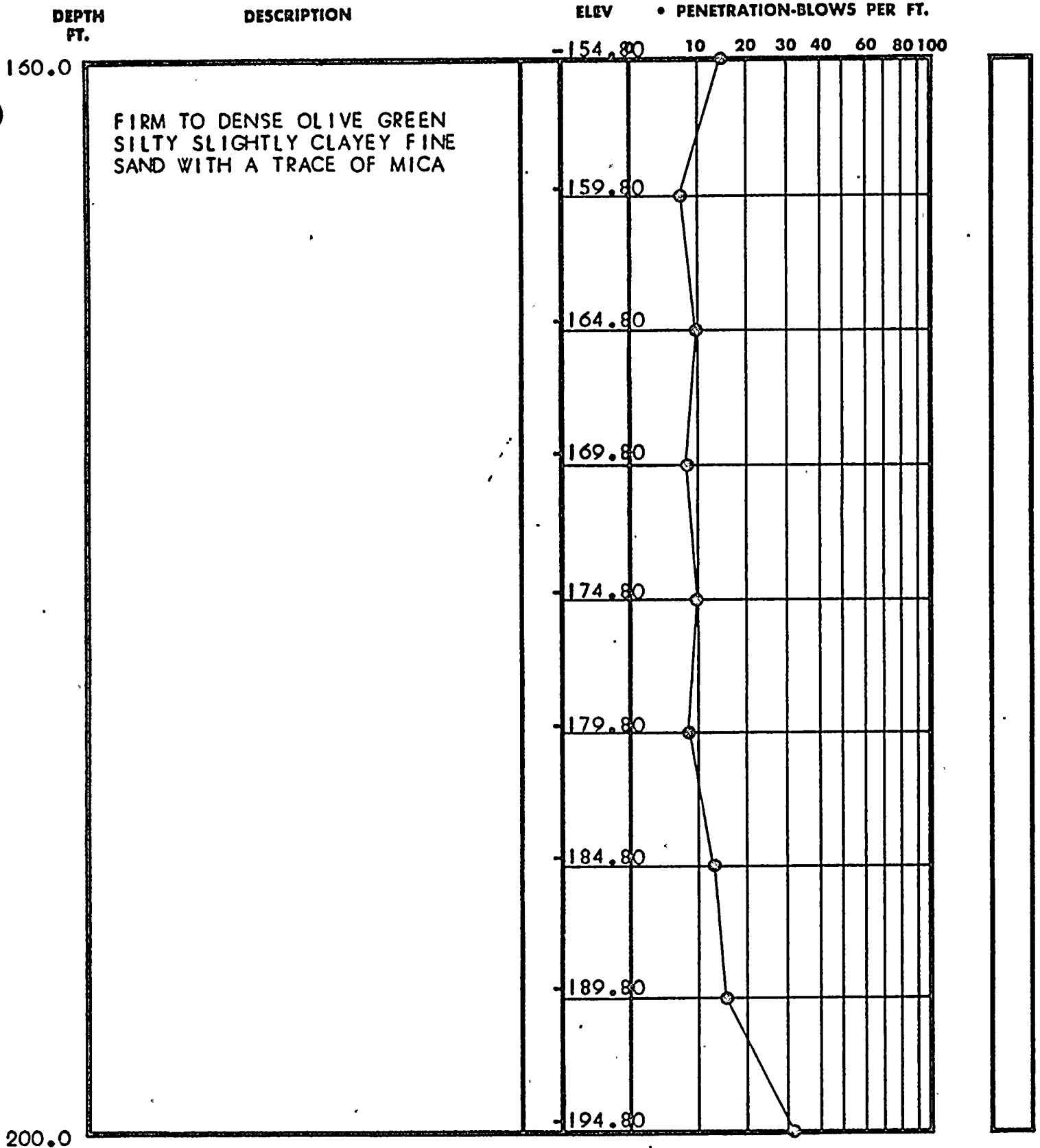
 WATER TABLE, 24 HR.

 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

Page 5 of 8

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

BORING NO. B-111

DATE DRILLED 11/26/68


JOB NO. J-1127

 UNDISTURBED SAMPLE

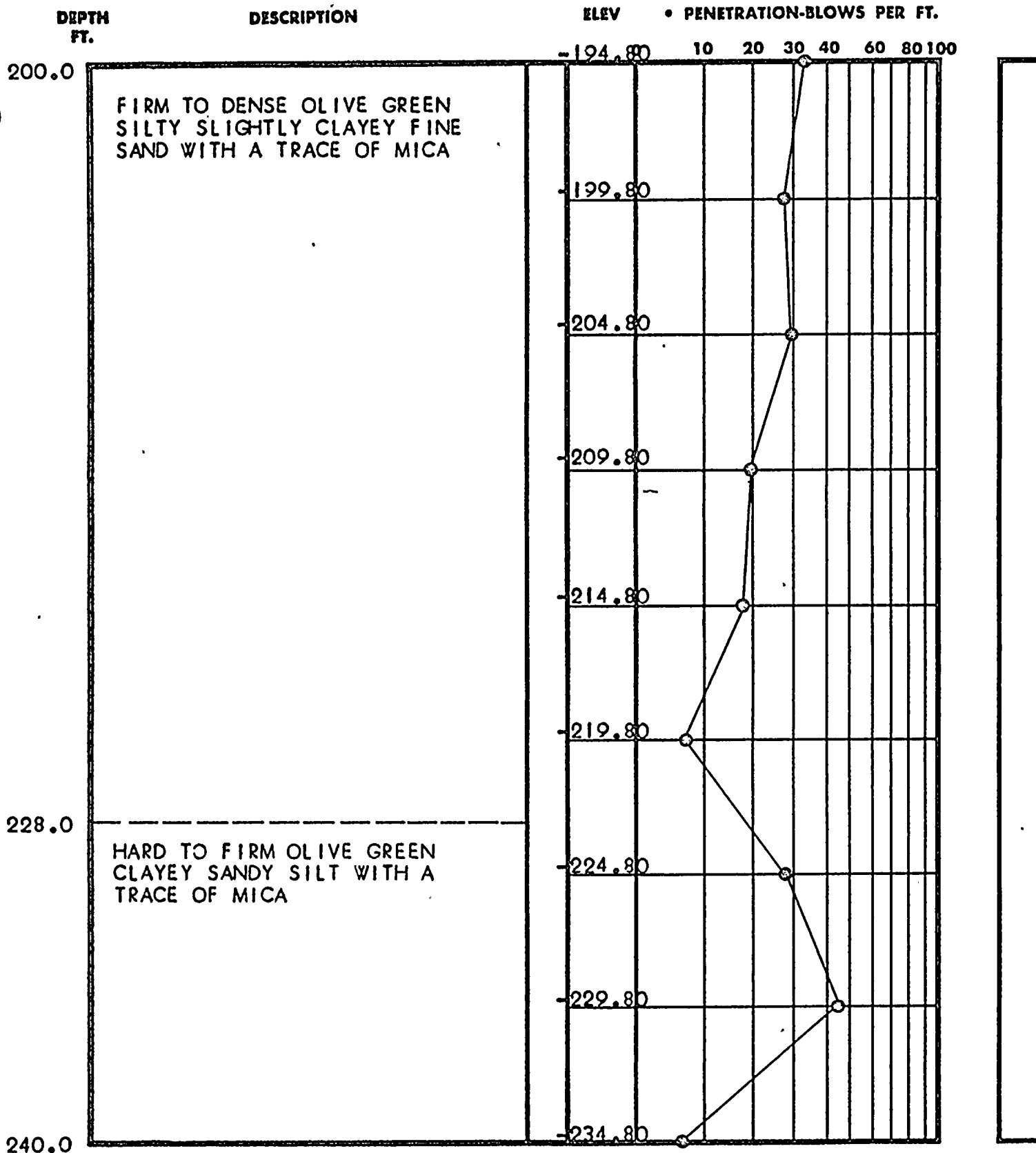
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

Page 6 of 8

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

BORING NO. B-111

DATE DRILLED 11/26/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

DEPTH
FT.

DESCRIPTION

ELEV • PENETRATION-BLOWS PER FT.

-234.80 10 20 30 40 60 80 100

240.0

HARD TO FIRM OLIVE GREEN
CLAYEY SANDY SILT WITH A
TRACE OF MICA

-239.80

-244.80

-249.80

-254.80

-259.80

268.0

FIRM TO VERY FIRM LIGHT GREEN
CLAYEY SANDY SILT WITH A TRACE
OF MICA

-264.80

-269.80

280.0

-274.80

TEST BORING RECORD

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

Page 7 of 8

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

BORING NO. B-111

DATE DRILLED 11/26/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

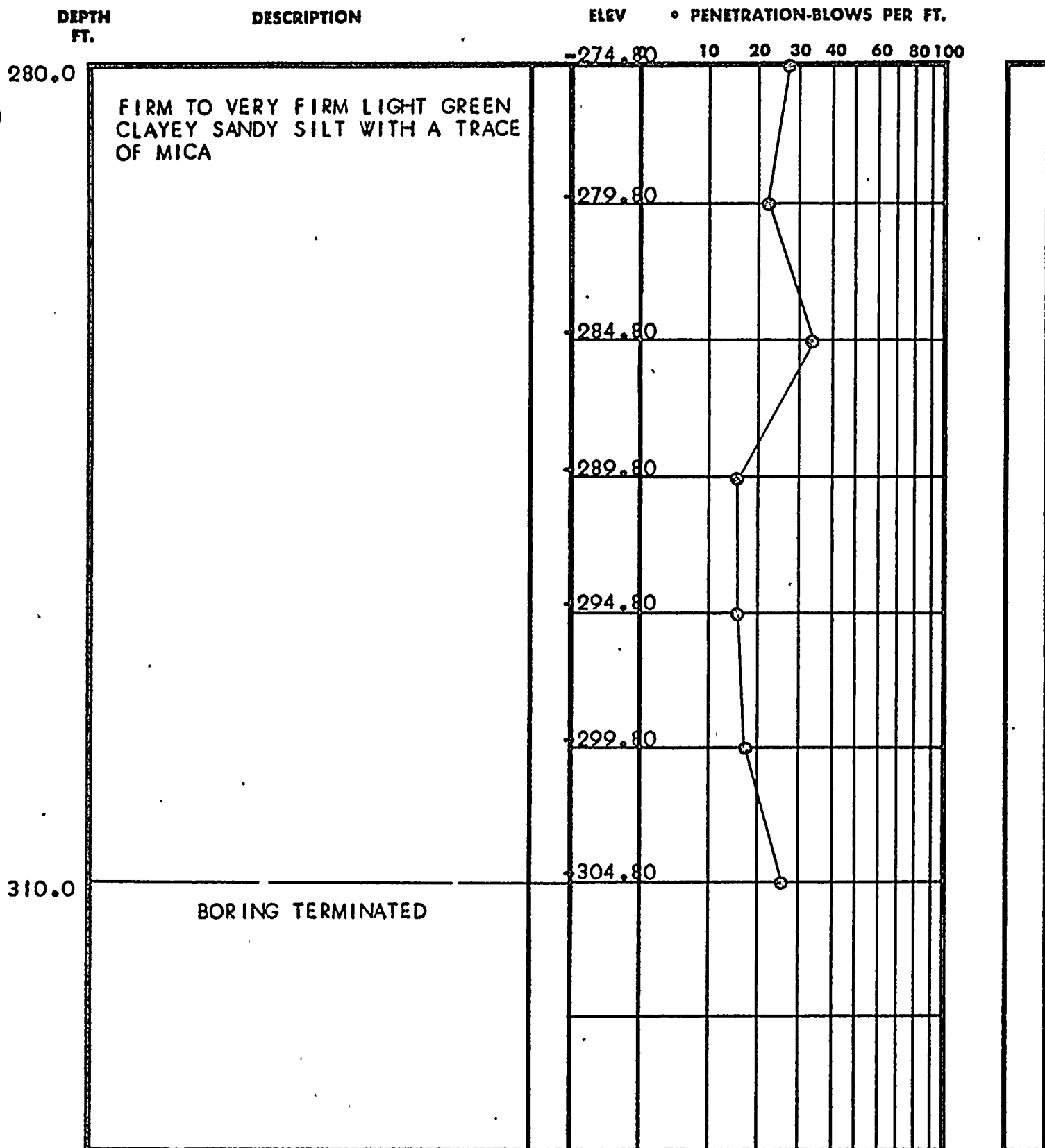
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

[50] % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

Page 8 of 8

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

BORING NO. B-111

DATE DRILLED 11/27/68

JOB NO. J-1127

UNDISTURBED SAMPLE

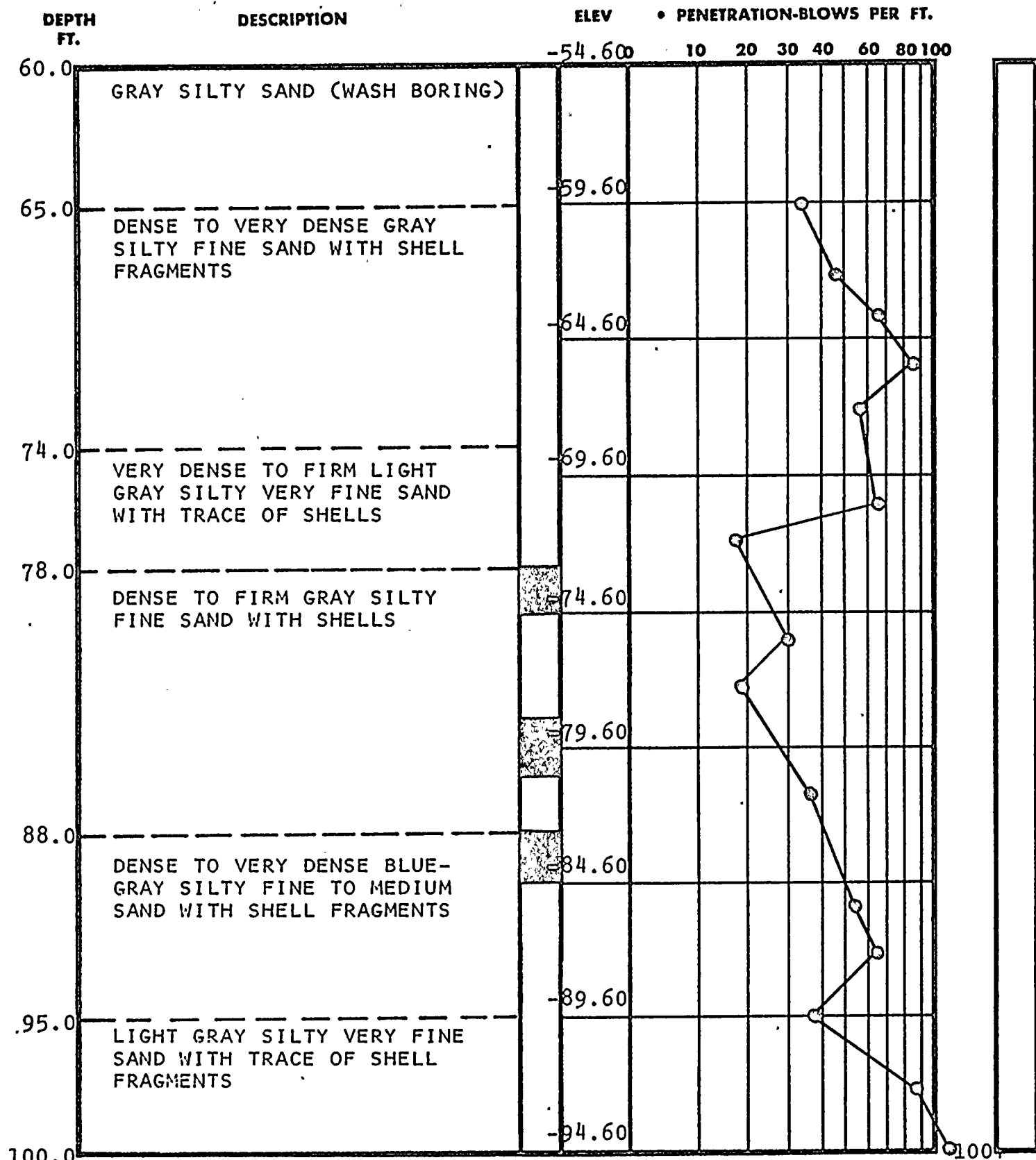
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



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.

PAGE 1 OF 1

TEST BORING RECORD

BORING NO. B-111A

DATE DRILLED 1/22/69

JOB NO. J-1127

UNDISTURBED SAMPLE

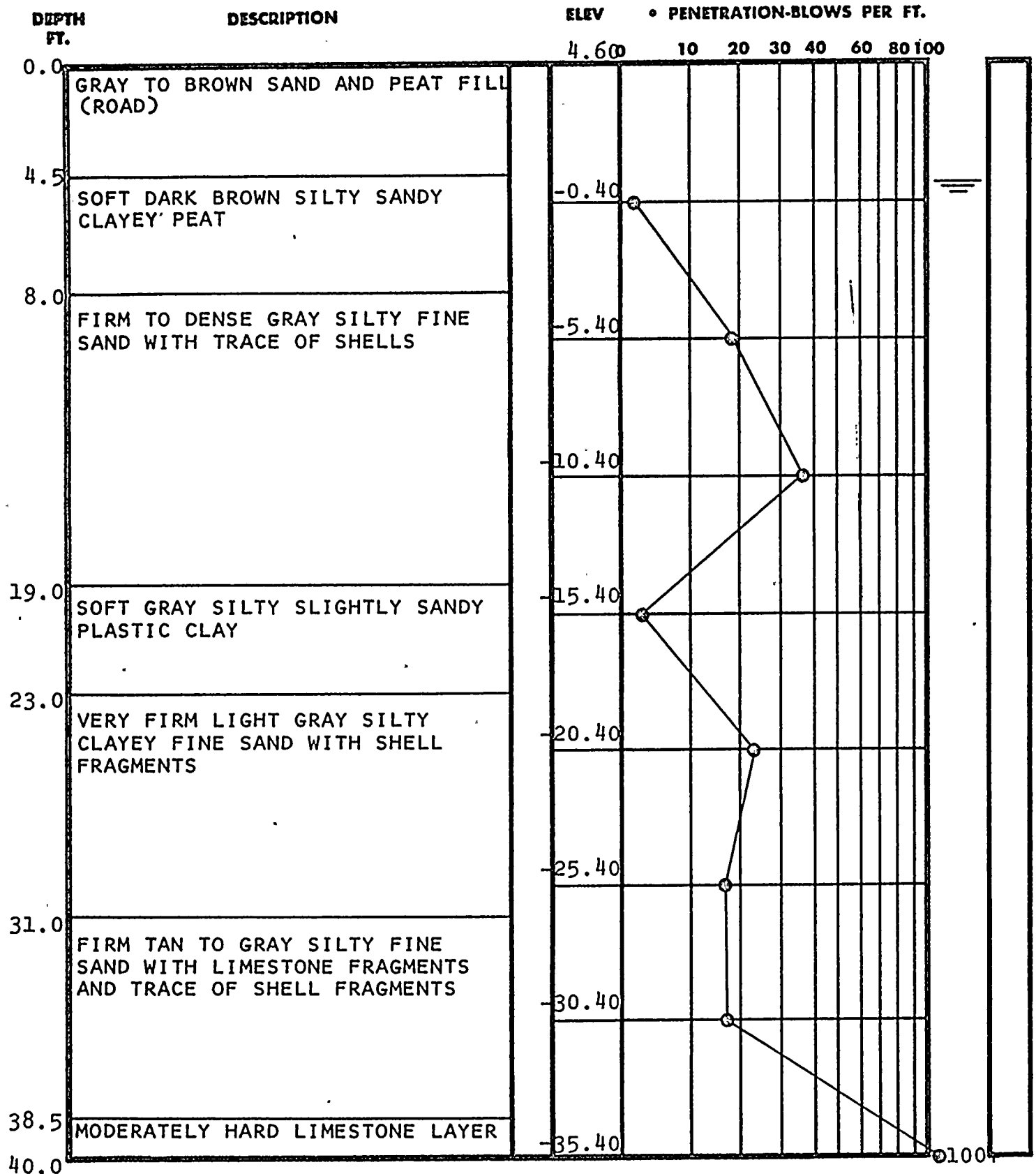
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

1/4 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.

PAGE 1 OF 6

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

UNDISTURBED SAMPLE

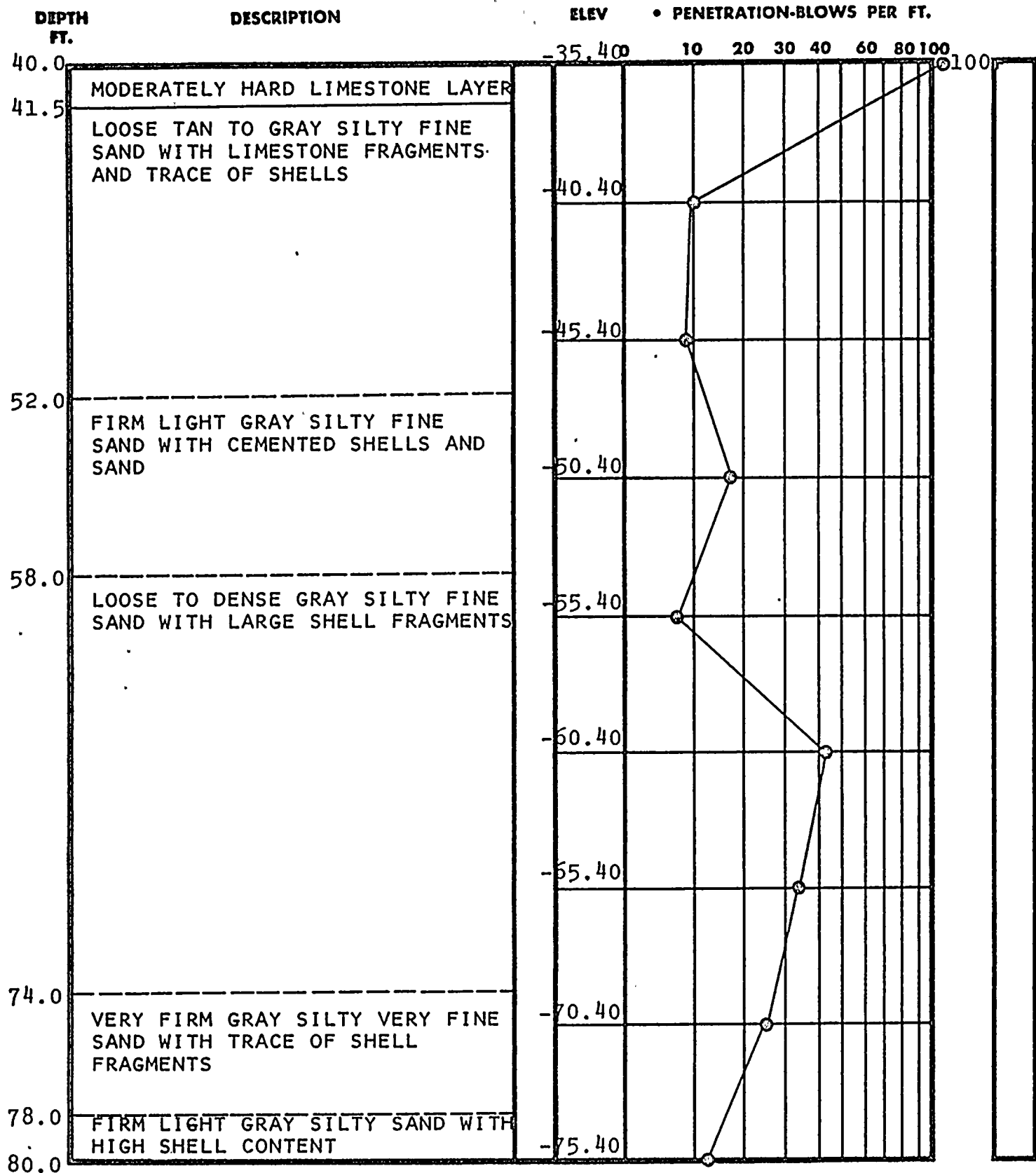
% ROCK CORE RECOVERY

WATER TABLE, 24 H2O

WATER TABLE, 1 H2O

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.

PAGE 2 OF 6

BORING NO. B-112

DATE DRILLED 1/16/69

JOB NO. J-1127

UNDISTURBED SAMPLE

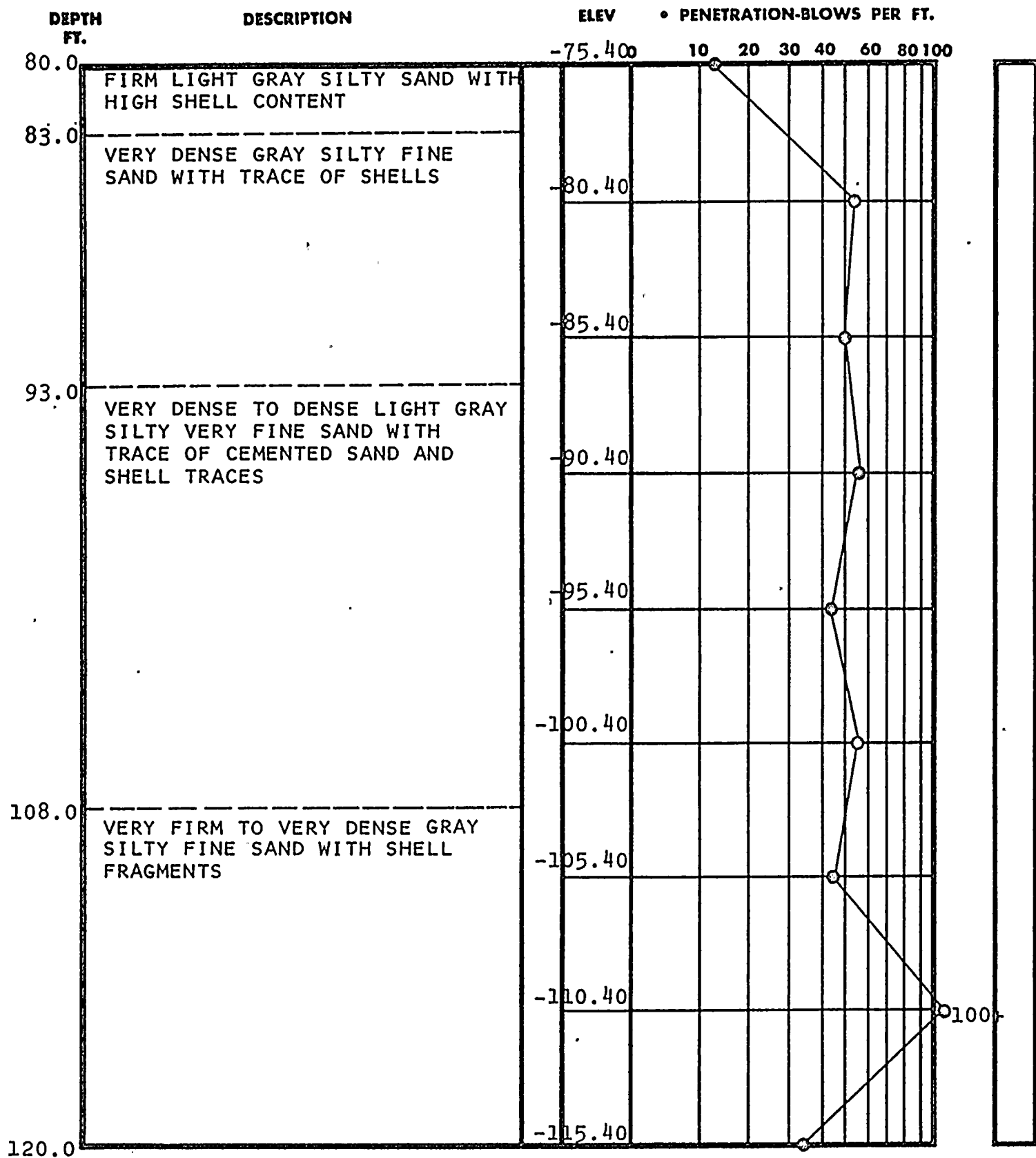
% ROCK CORE RECOVERY

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.

PAGE 3 OF 6

BORING NO. B-112

DATE DRILLED 1/16/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

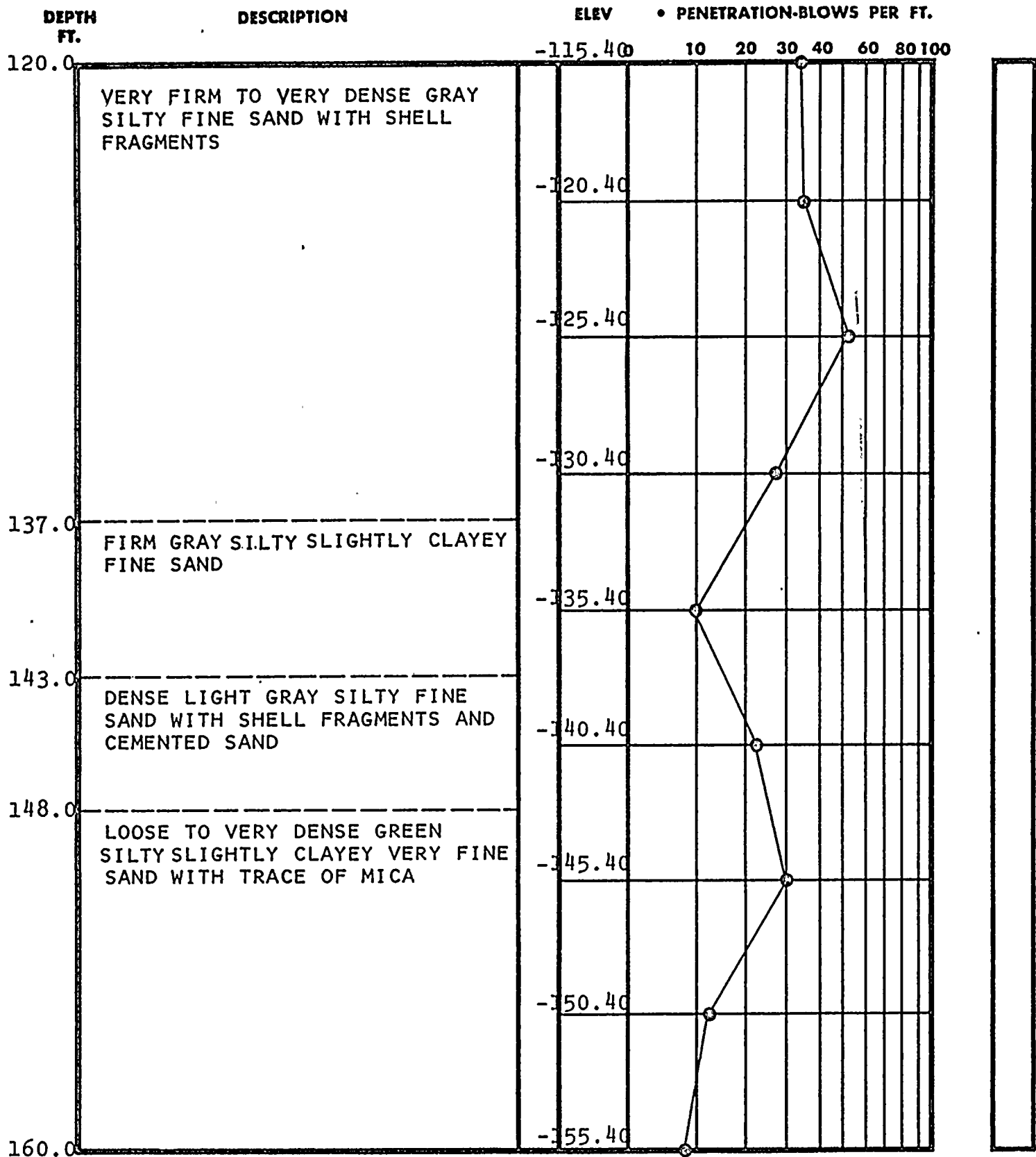
 WATER TABLE, 24 HR.

 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.

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BORING NO. B-112

DATE DRILLED 1/16/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

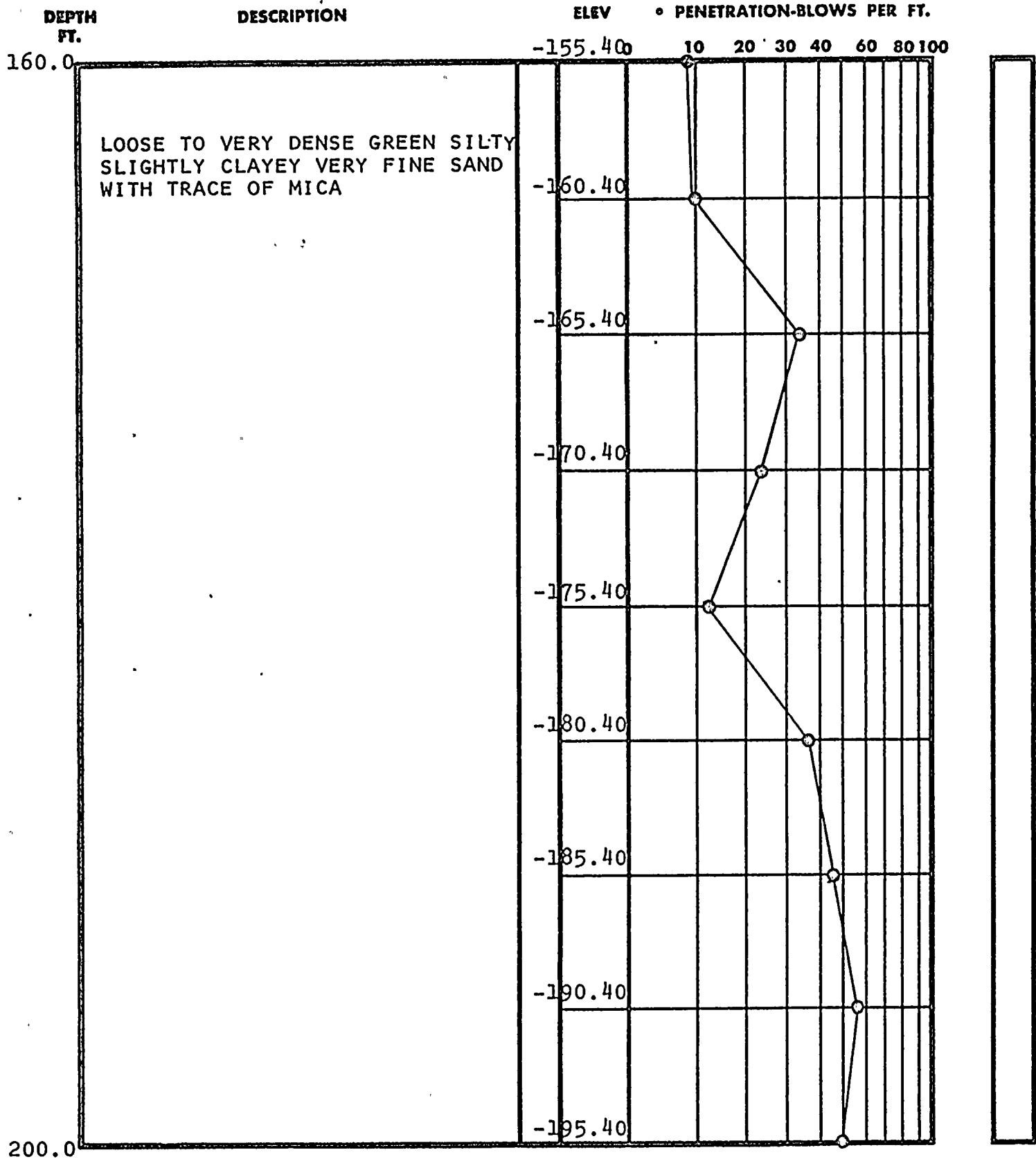
 WATER TABLE, 24 HR.

 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.

BORING NO. B-112

DATE DRILLED 1/16/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

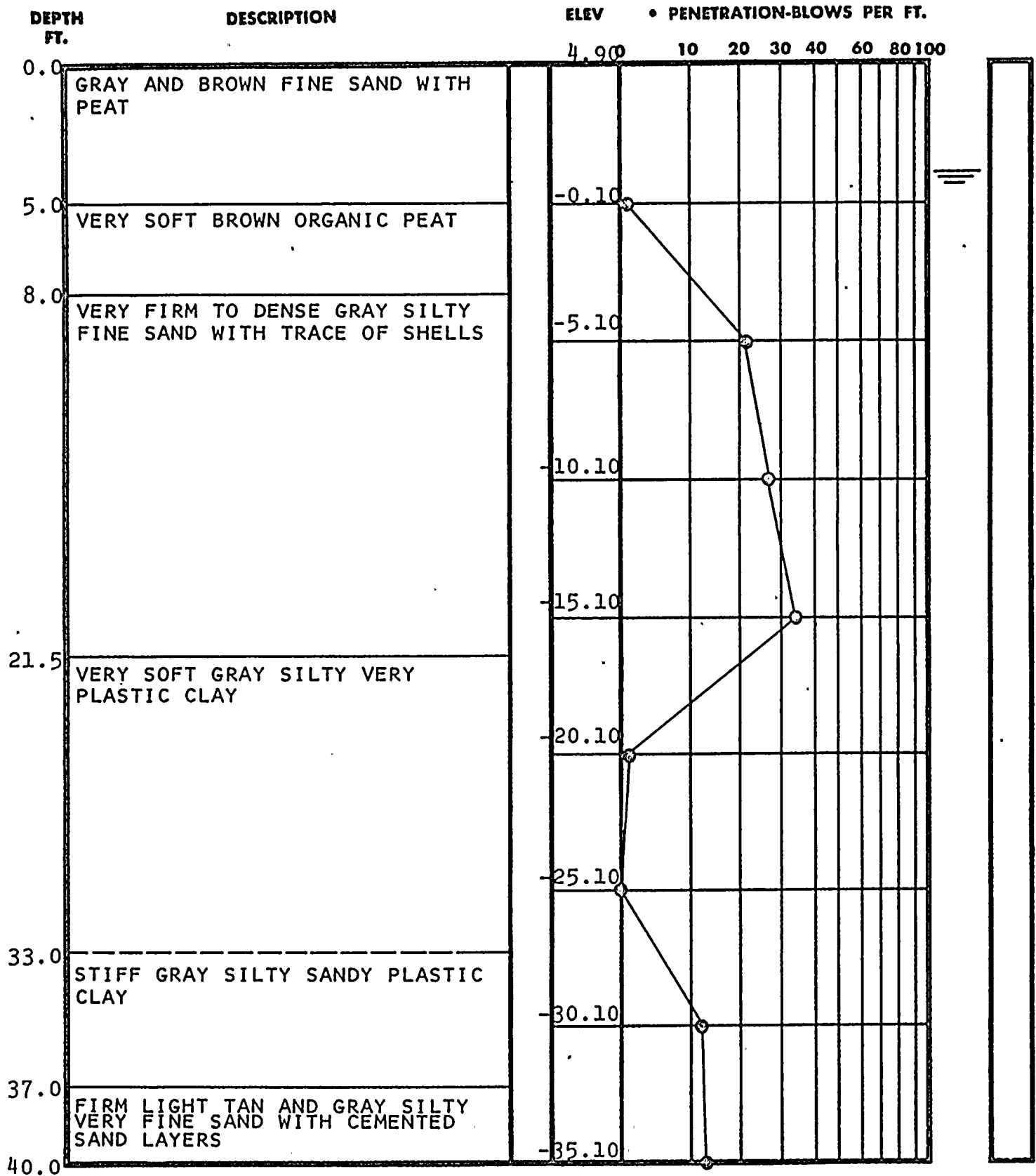
 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

PAGE 5 OF 6

LAW ENGINEERING TESTING CO.

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.

PAGE 1 OF 6

BORING NO. B-113

DATE DRILLED 1/11/69

JOB NO. J-1127

UNDISTURBED SAMPLE

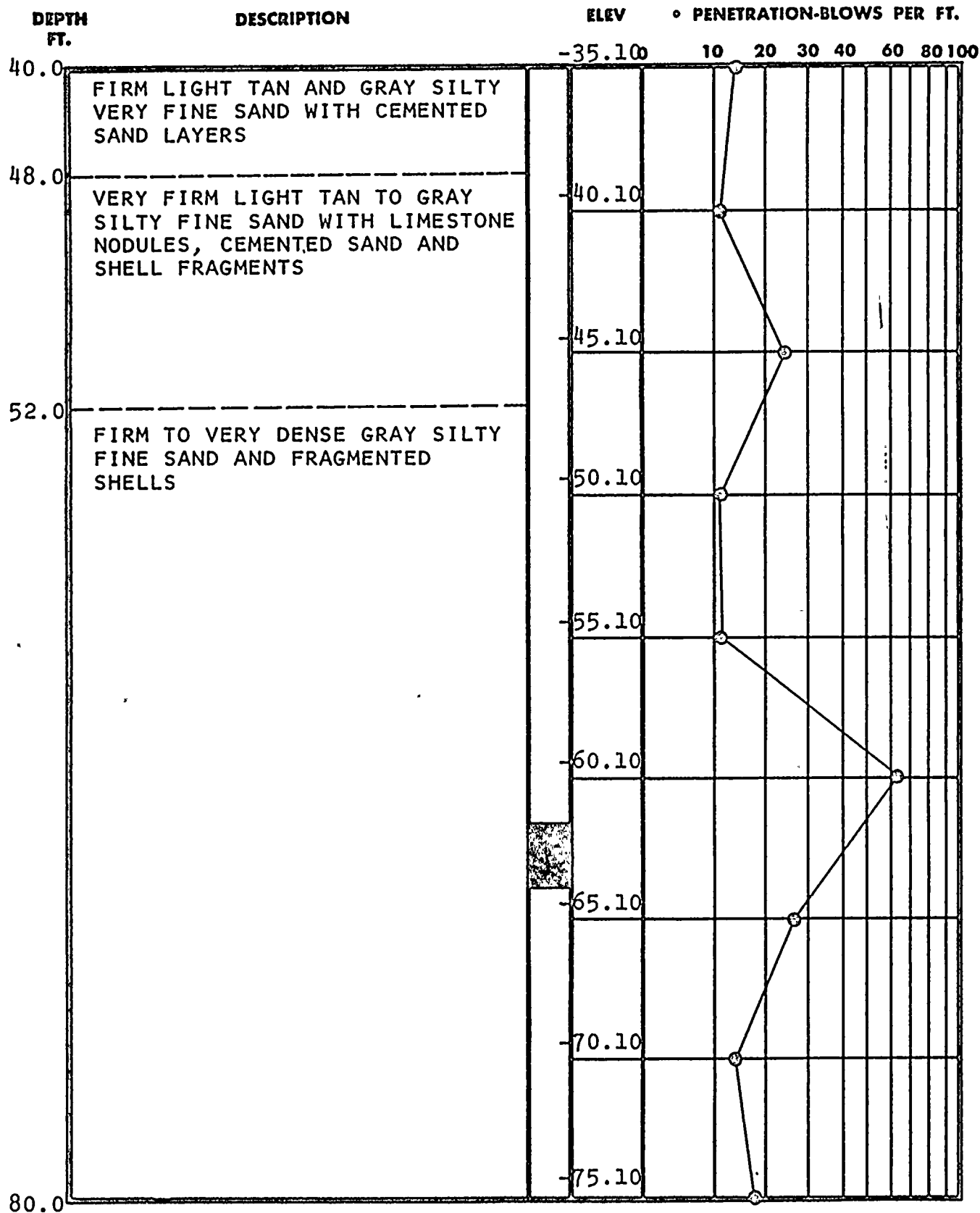
WATER TABLE, 24 IN.

WATER TABLE, 1 IN.

50% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

DORING AND SAMPLING METS ASTM D-1586
CORE BORING METS 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.

PAGE 2 OF 6

BORING NO. B-113


DATE DRILLED 1/11/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

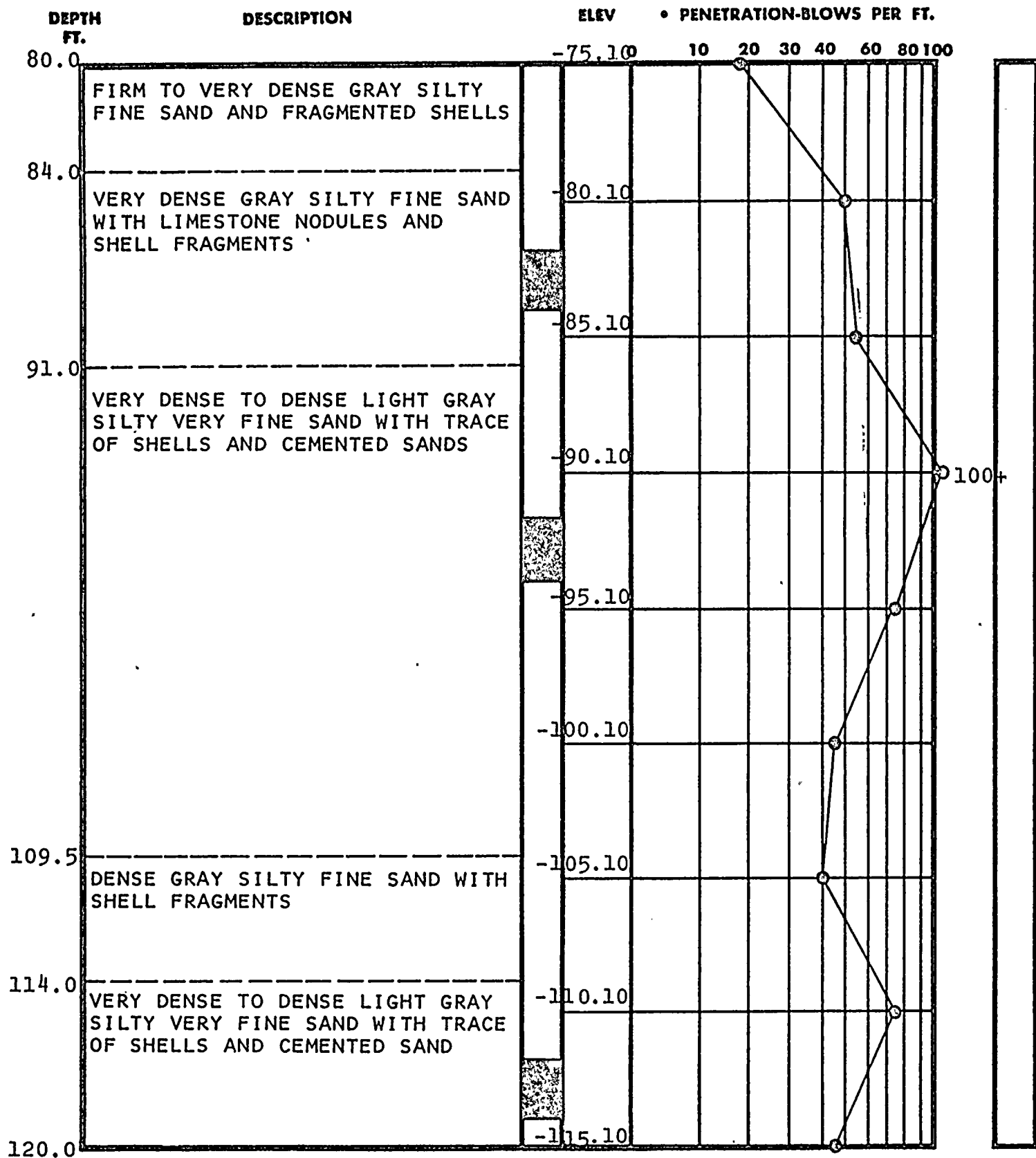
 WATER TABLE, 24 HR.

 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.

PAGE 3 OF 6

BORING NO. B-113

DATE DRILLED 1/11/69

JOB NO. J-1127

UNDISTURBED SAMPLE

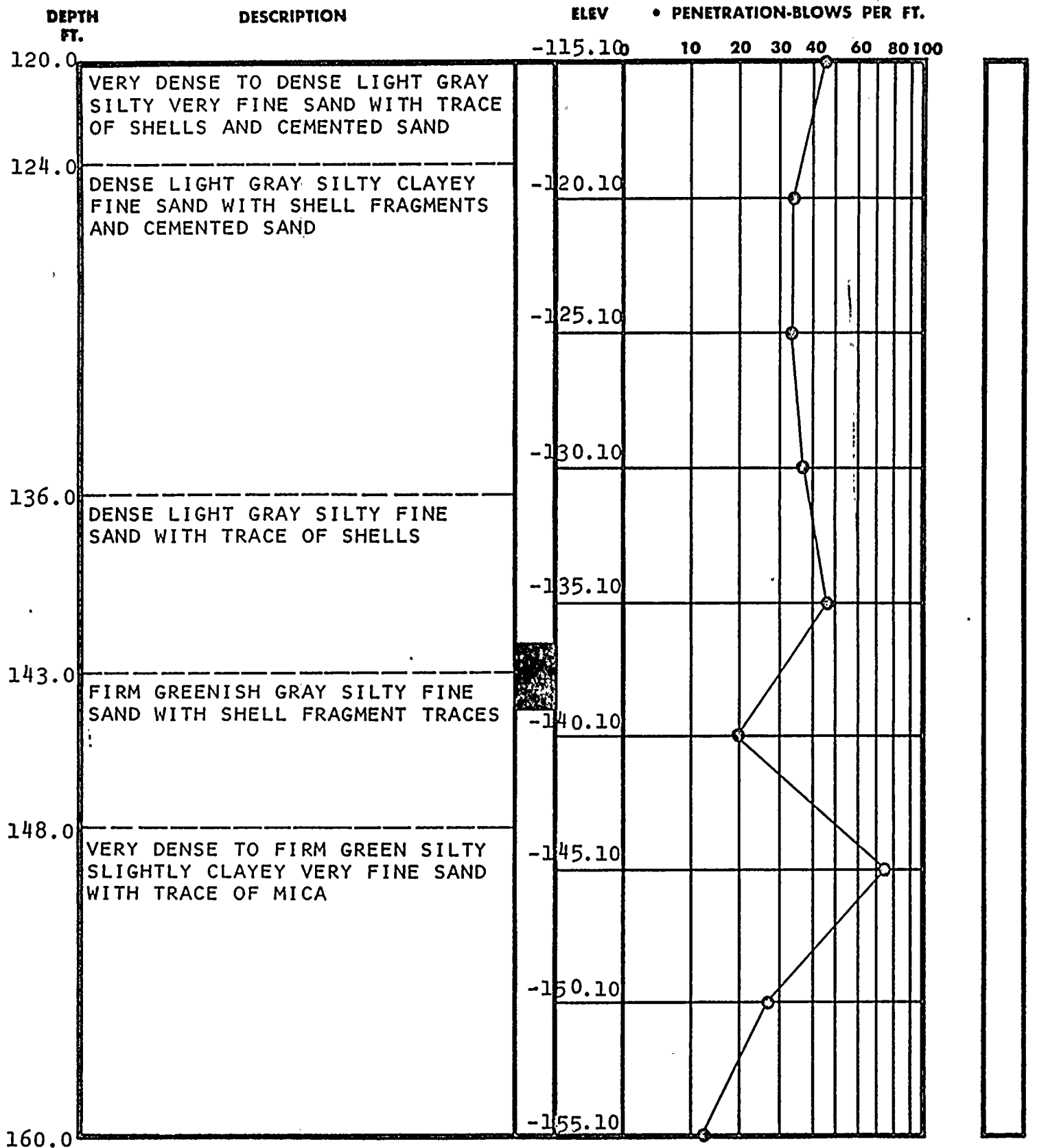
WATER TABLE, 24 HR.

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.

PAGE 4 OF 6

BORING NO. B-113

DATE DRILLED 1/11/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

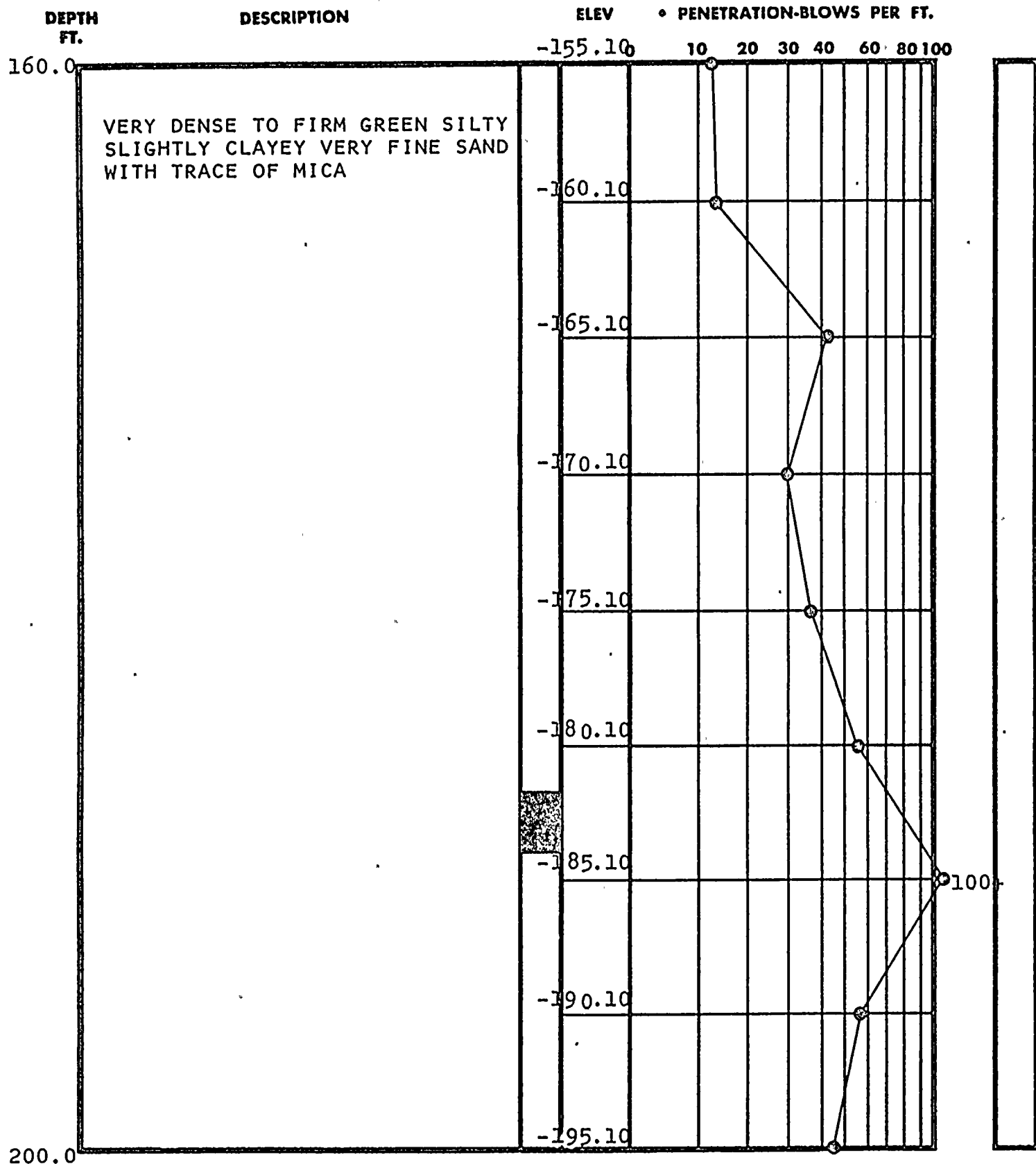
 WATER TABLE, 24 HR.

 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

PAGE 5 OF 6

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

BORING NO. B-113

DATE DRILLED 1/11/69

JOB NO. J-1127

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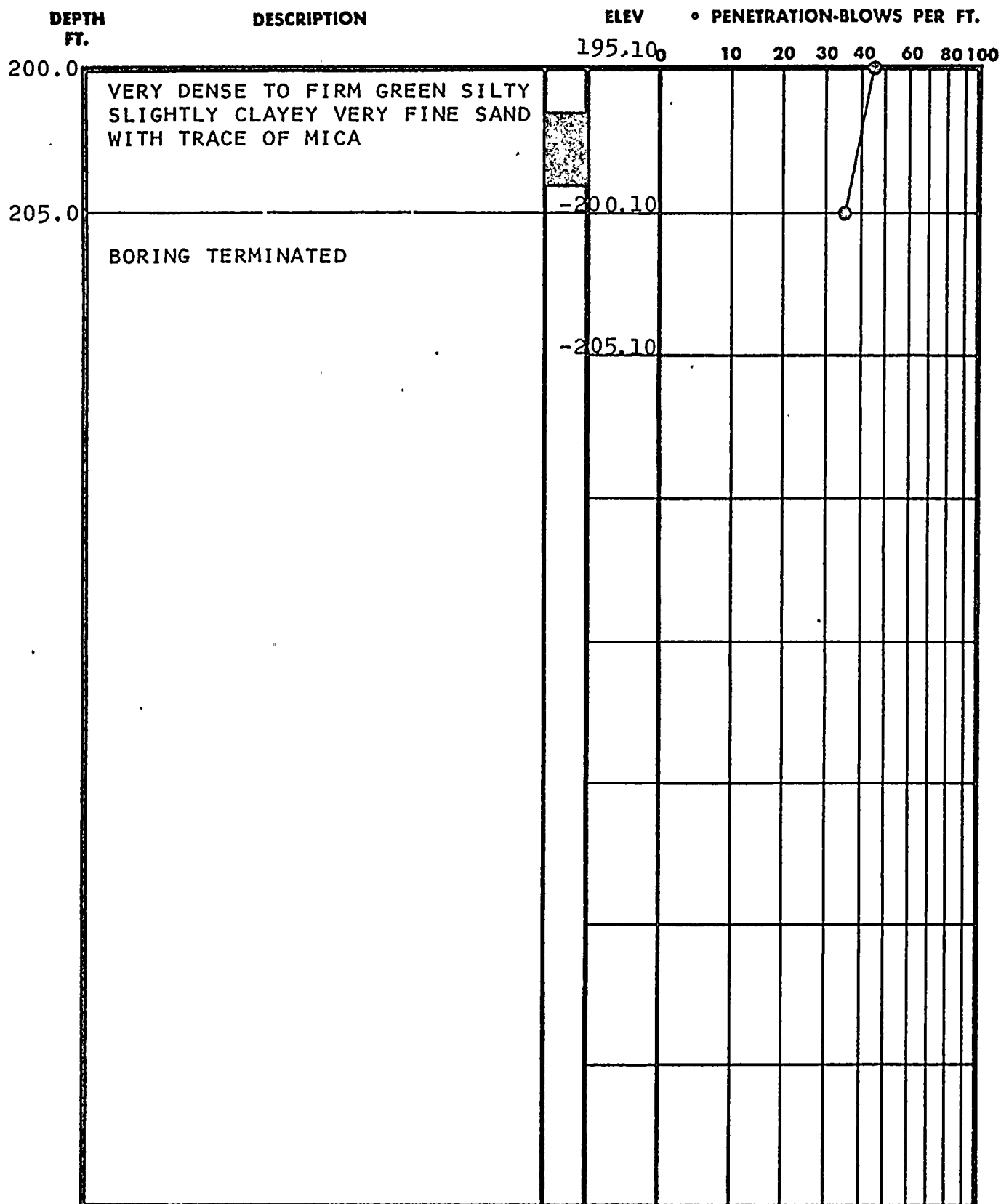
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING METHODS ASTM D-1586
CORE DRILLING METHODS 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.

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

 UNDISTURBED SAMPLE

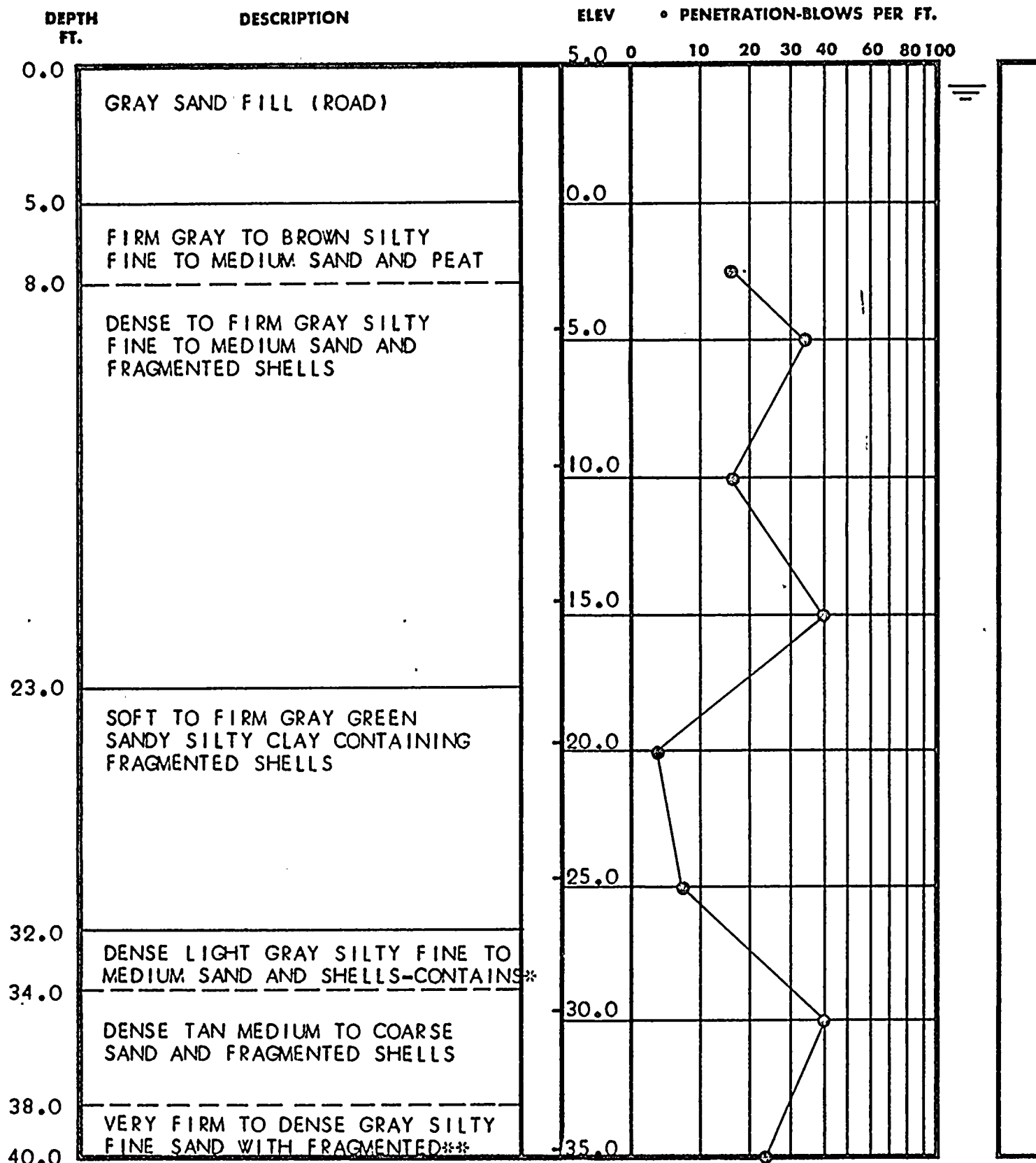
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

[50] % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



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

TEST BORING RECORD

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

Page 1 of 6

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

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

 UNDISTURBED SAMPLE

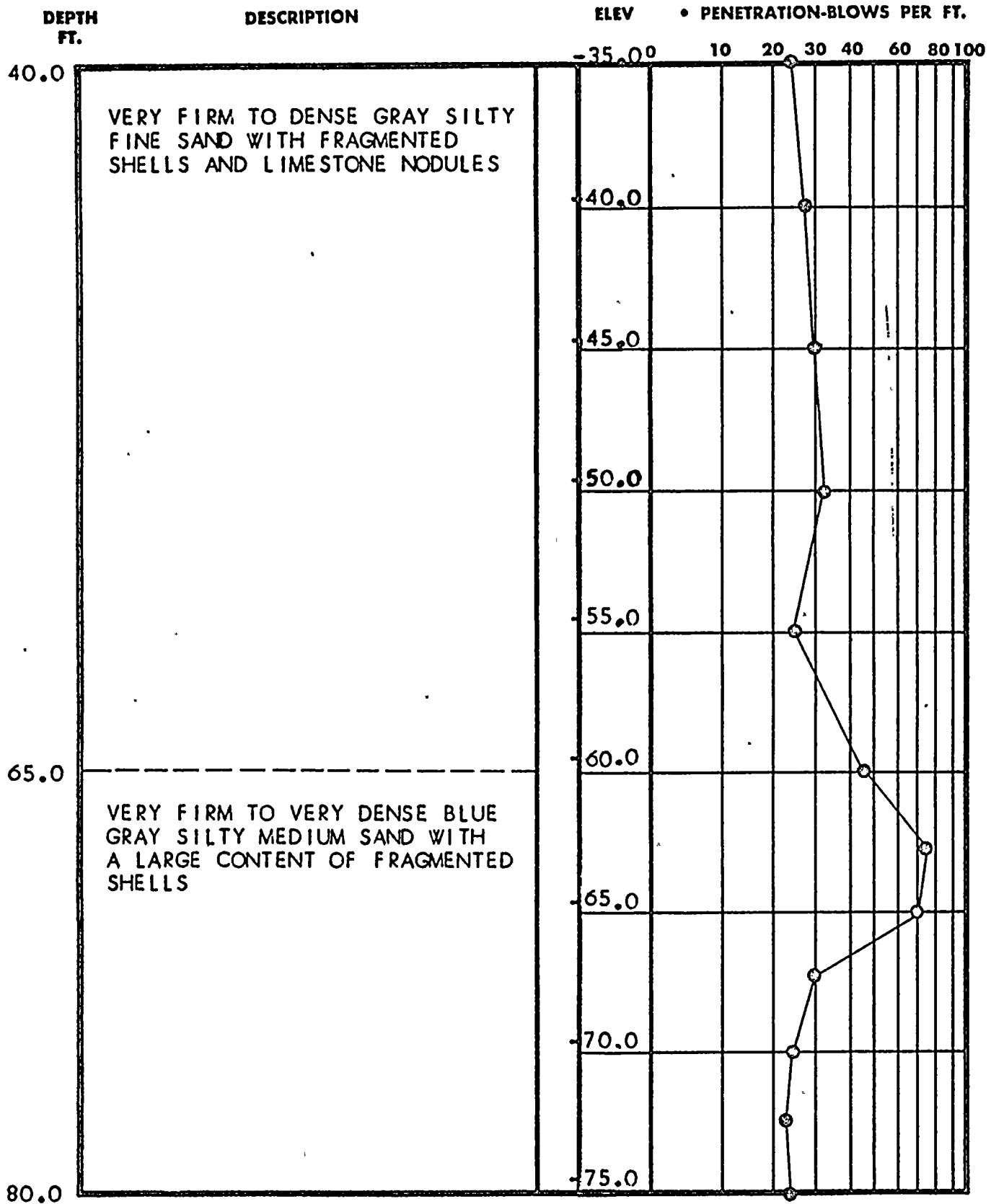
 WATER TABLE, 24 HR.

 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

Page 2 of 6

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

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

 UNDISTURBED SAMPLE

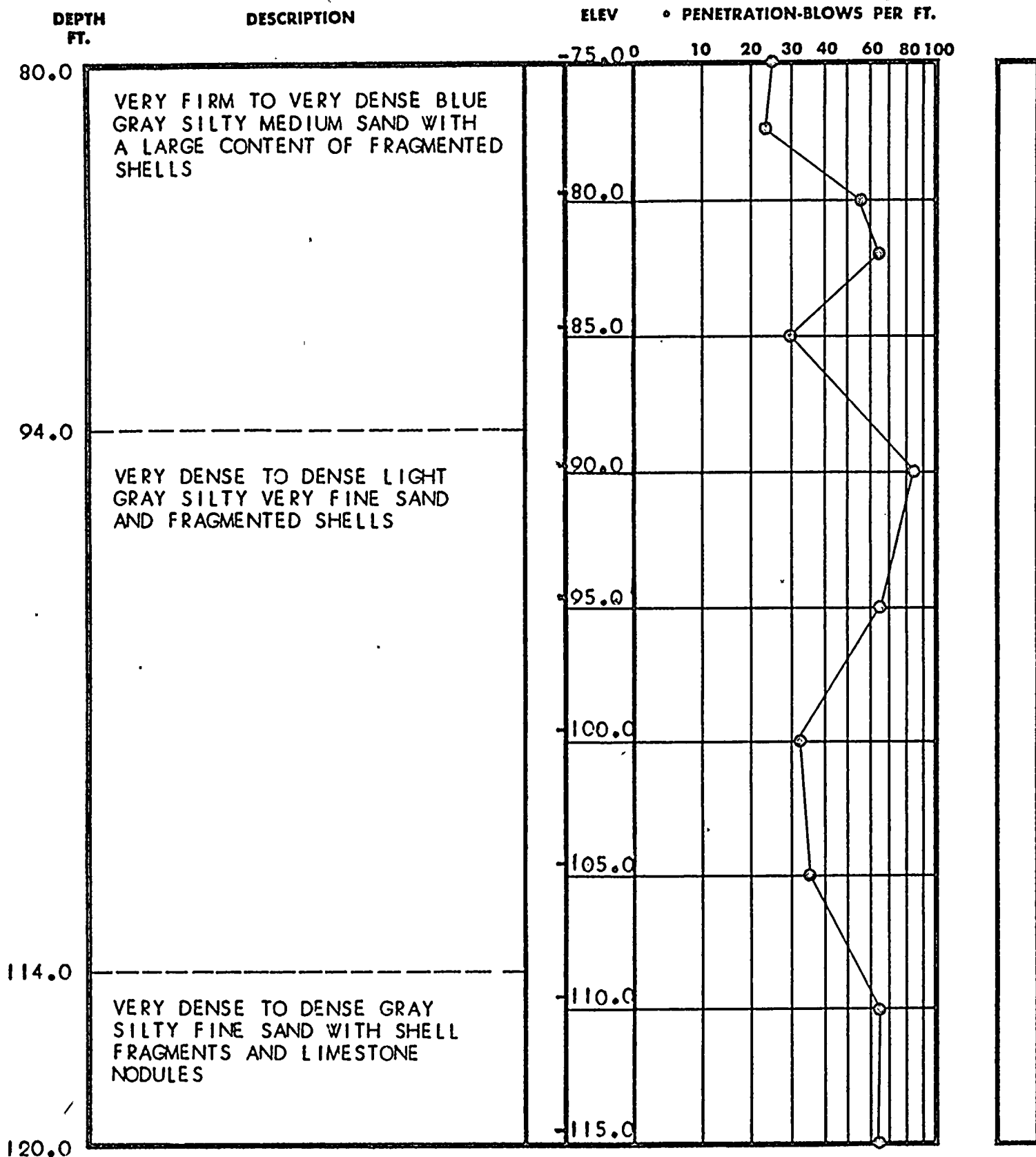
 WATER TABLE, 24 HR.

 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.

Page 3 of 6

BORING NO. B-114

DATE DRILLED 11/27/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

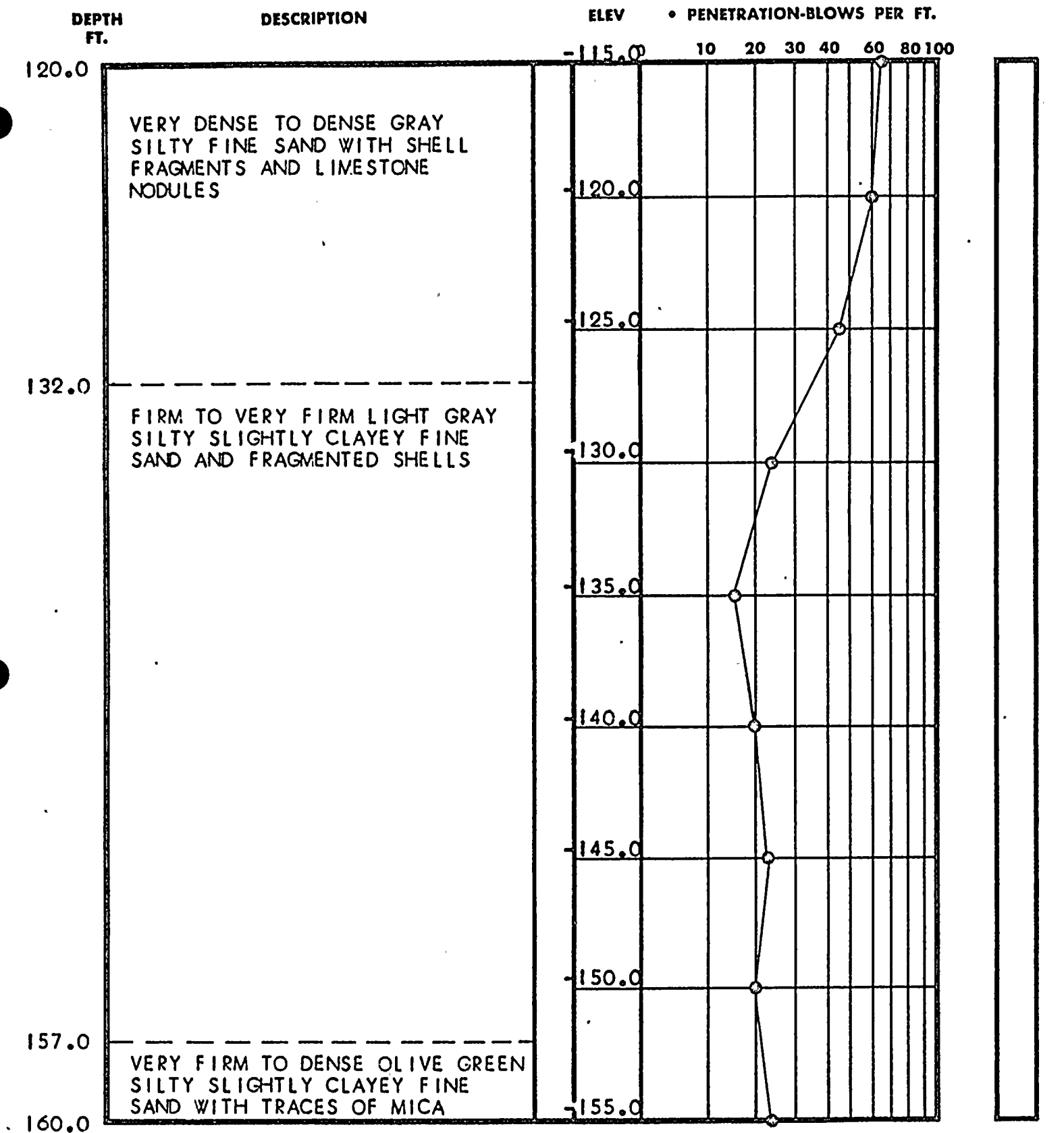
 WATER TABLE, 24 HR.

 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.

Page 4 of 6

BORING NO. B-114

DATE DRILLED 11/27/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

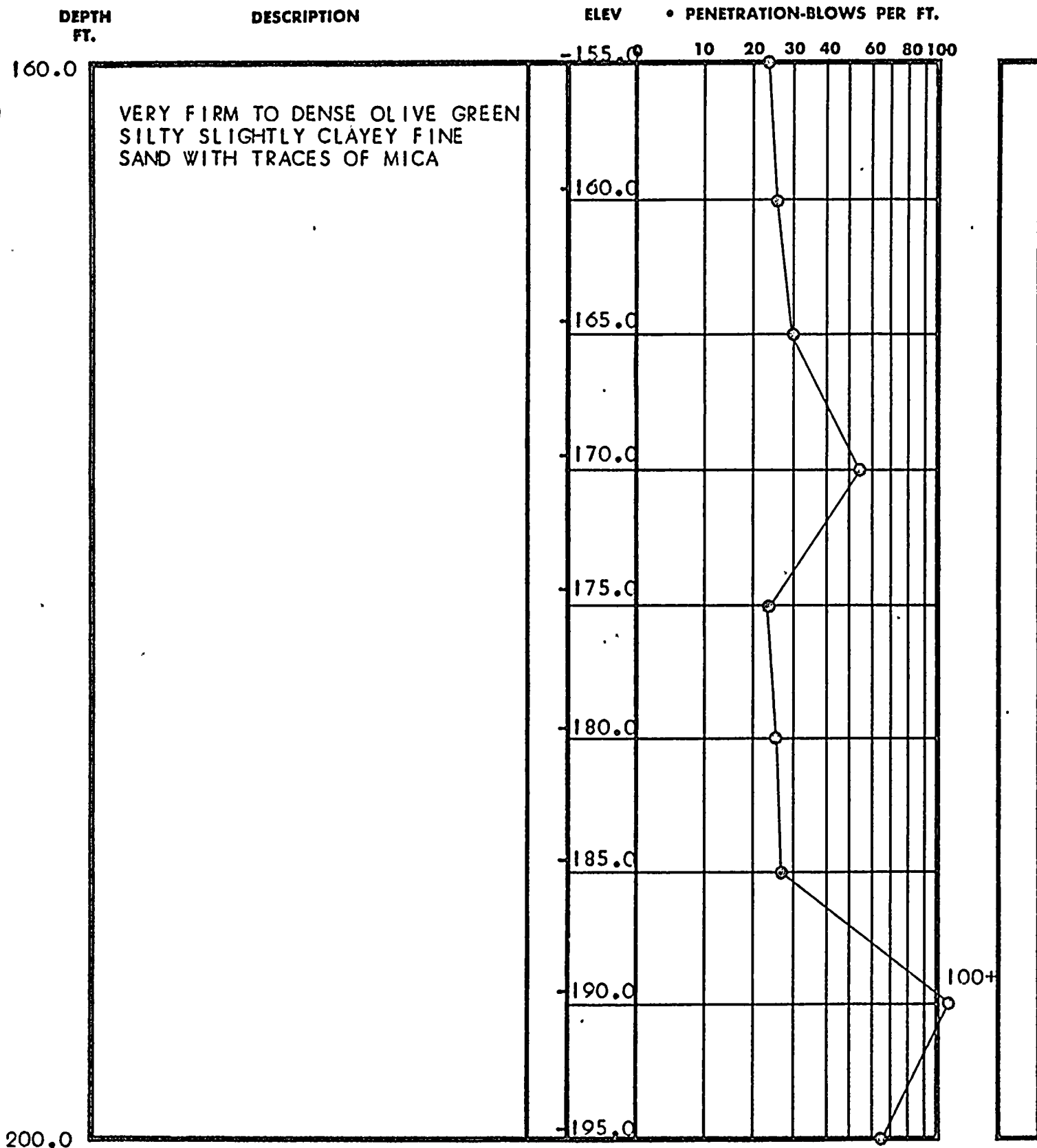
 WATER TABLE, 24 HR.

 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

Page 5 of 6

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

BORING NO. B-114

DATE DRILLED 11/27/68

JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 HR.



WATER TABLE, 1 HR.



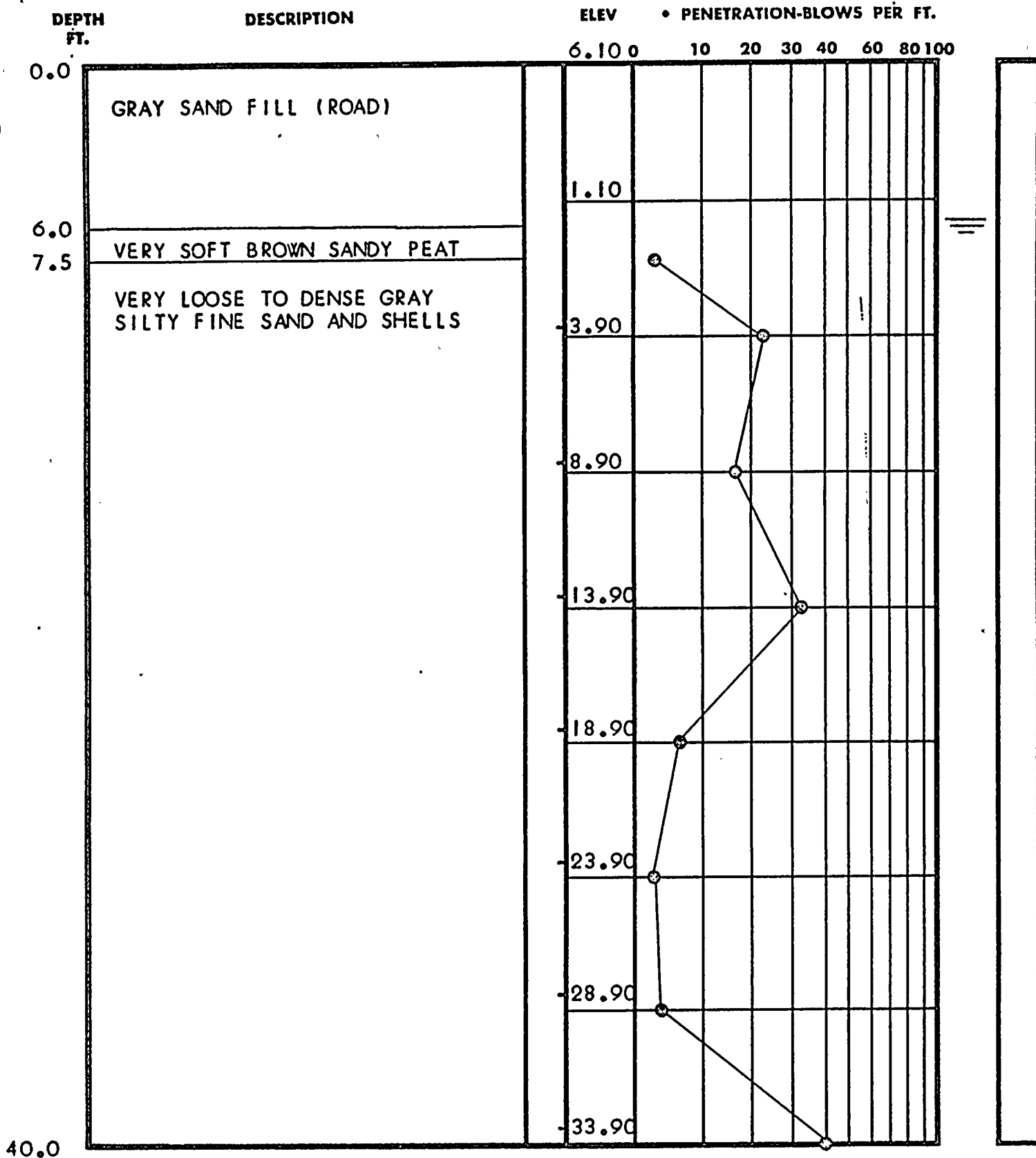
% ROCK CORE RECOVERY



LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

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.

Page 1 of 11

BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

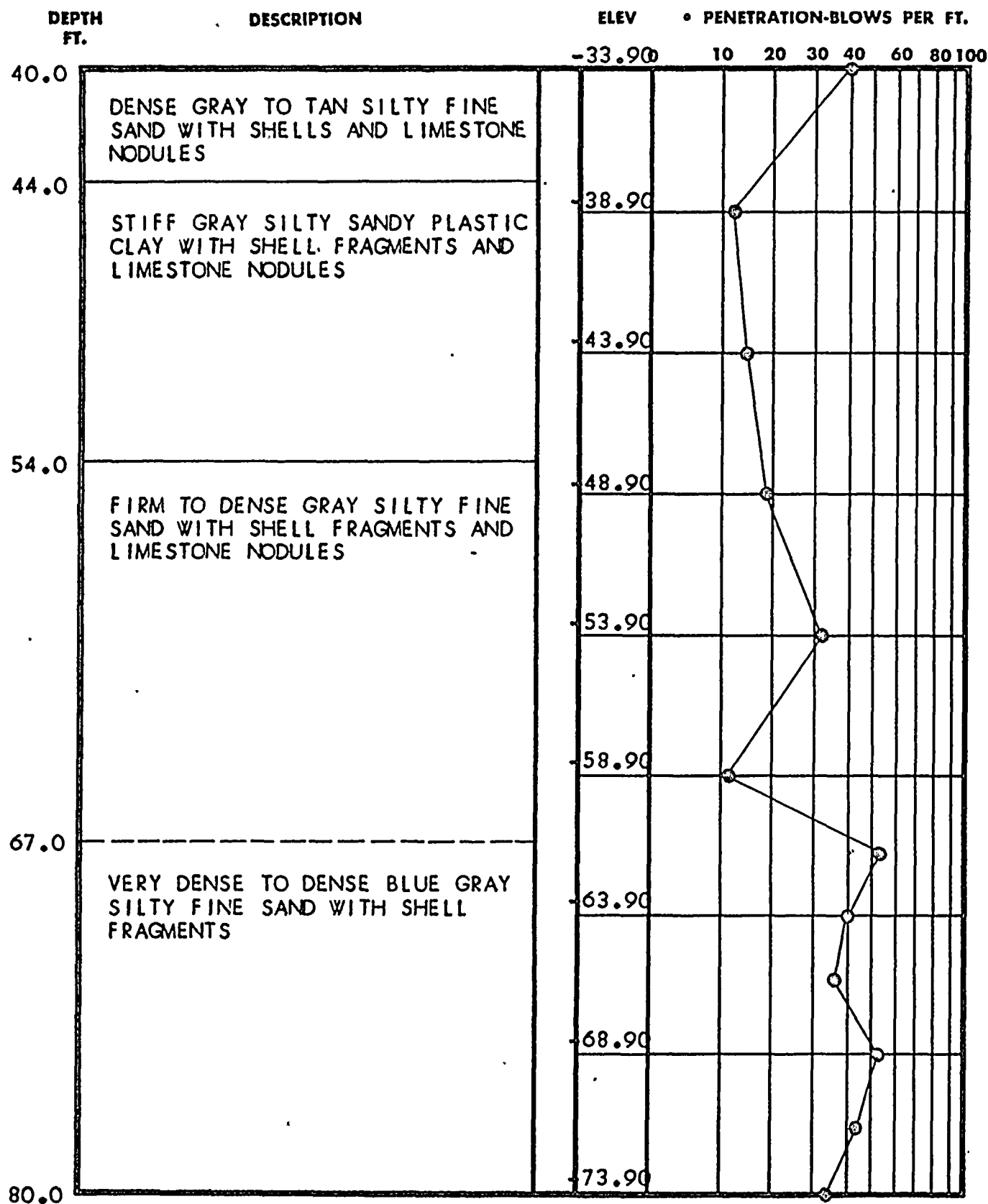
[50] % ROCK CORE RECOVERY

 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.

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BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

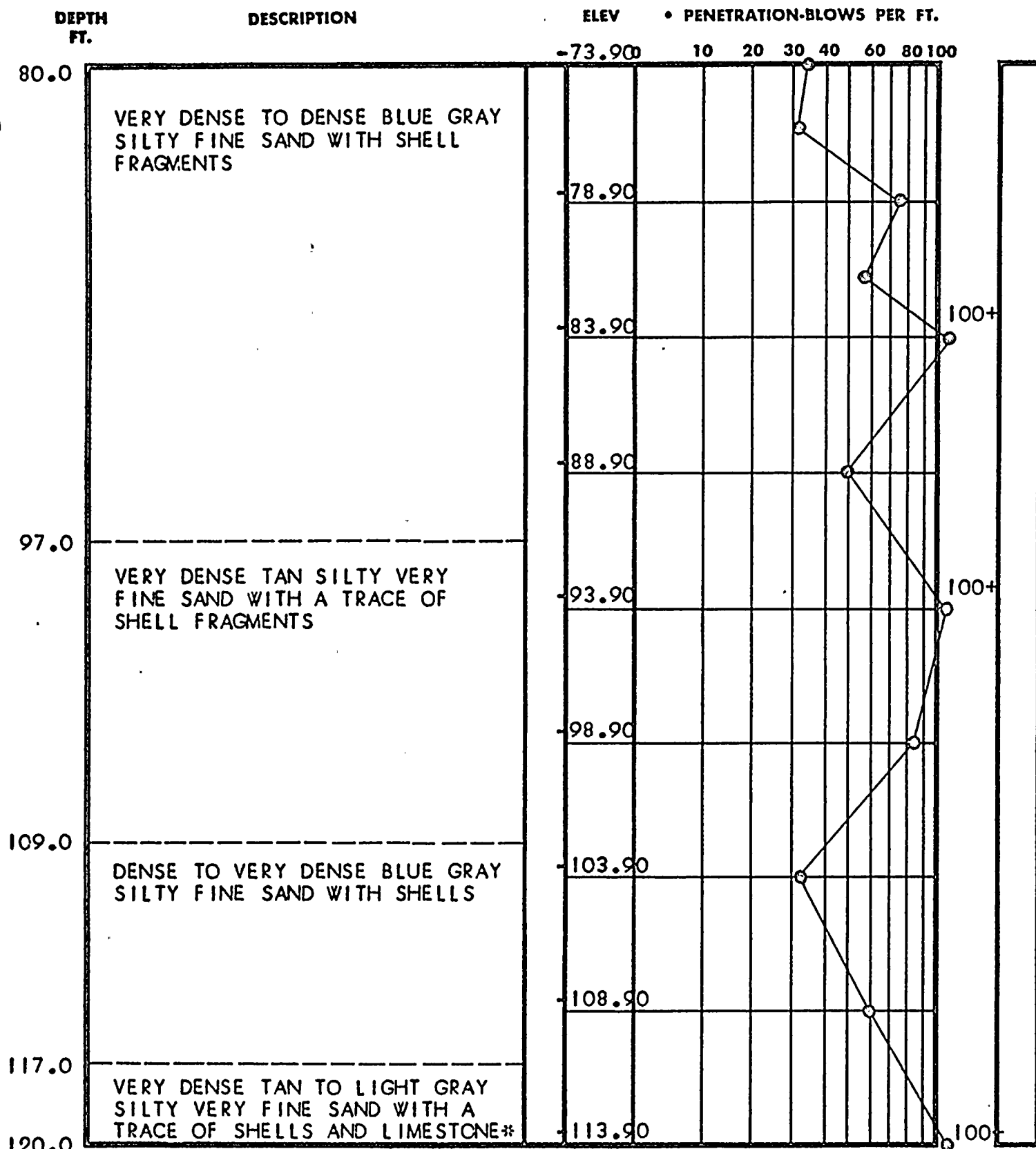
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



* NODULES

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.

Page 3 of 11

BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

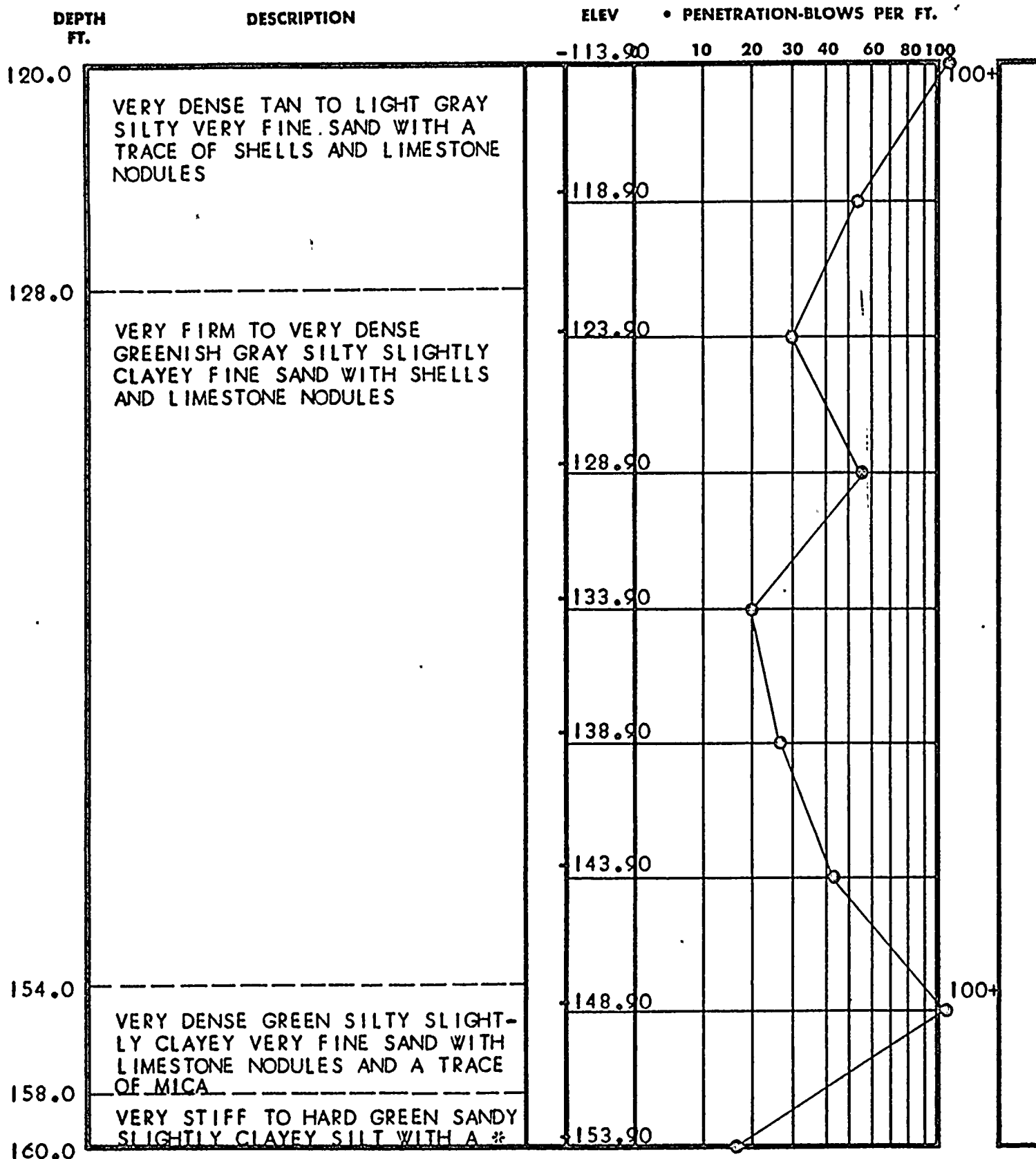
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TRACE OF MICA

TEST BORING RECORD

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

Page 4 of 11

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

BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

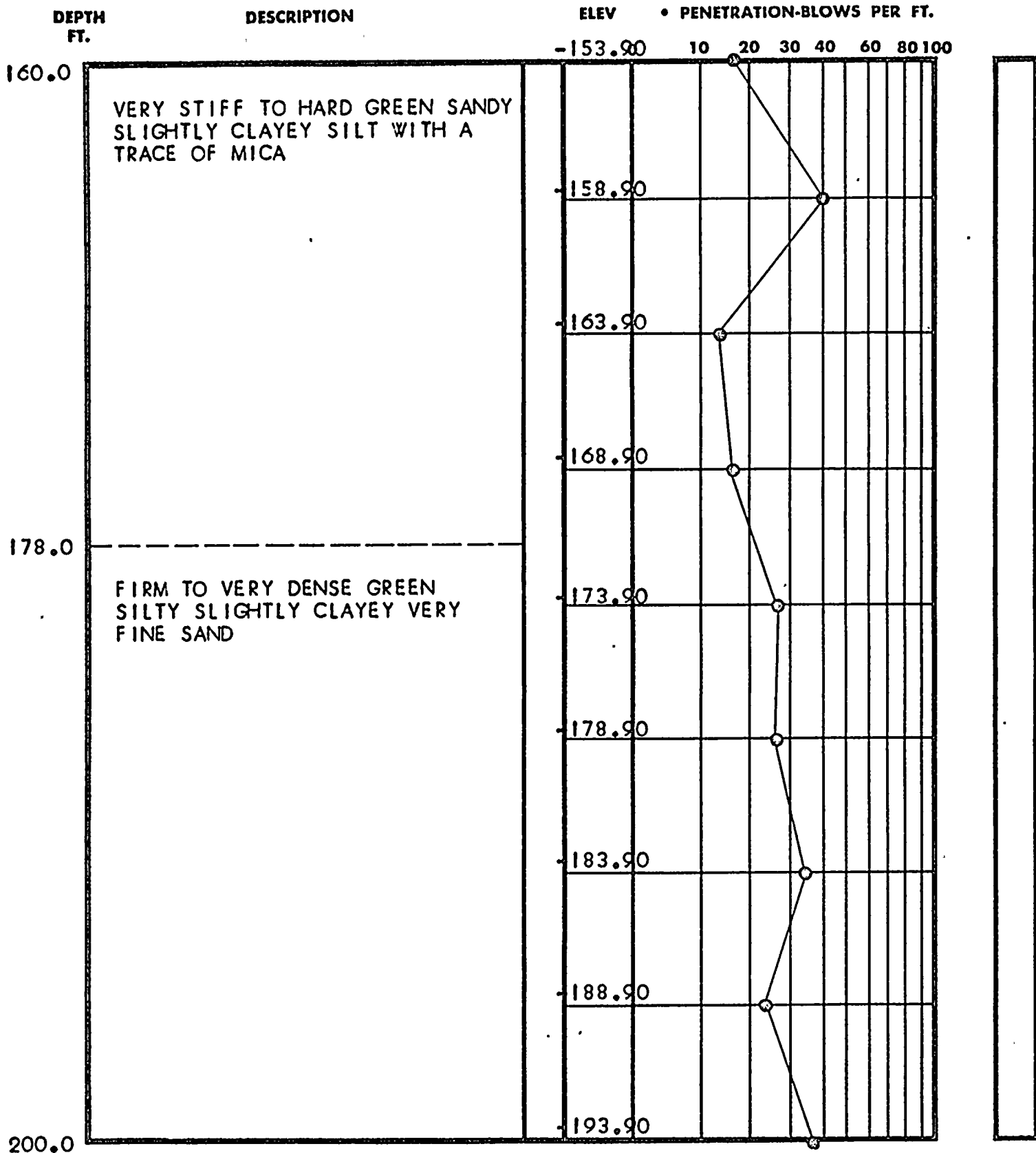
 WATER TABLE, 24 HR.

 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.

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BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

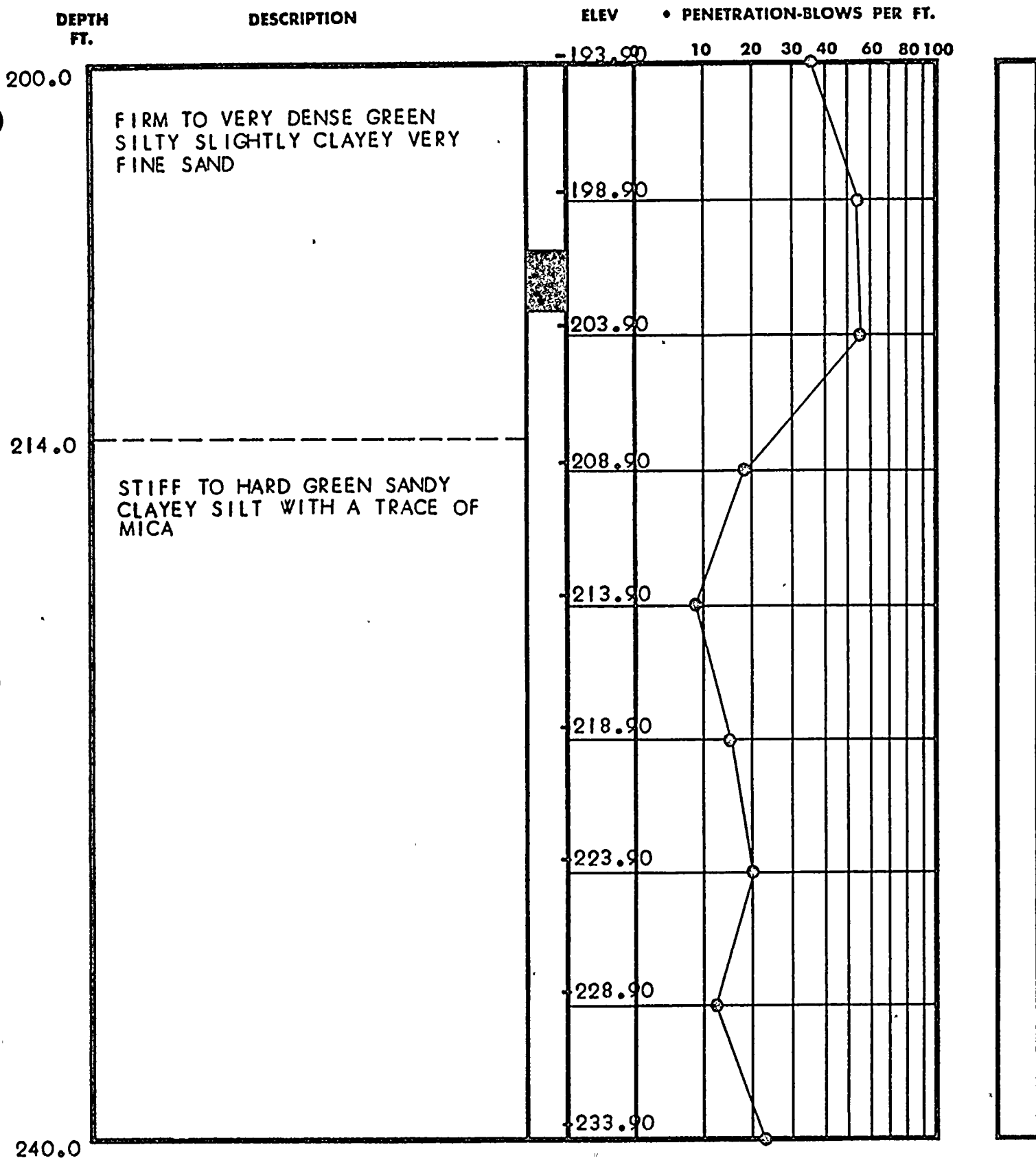
 WATER TABLE, 24 HR.

 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.

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BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

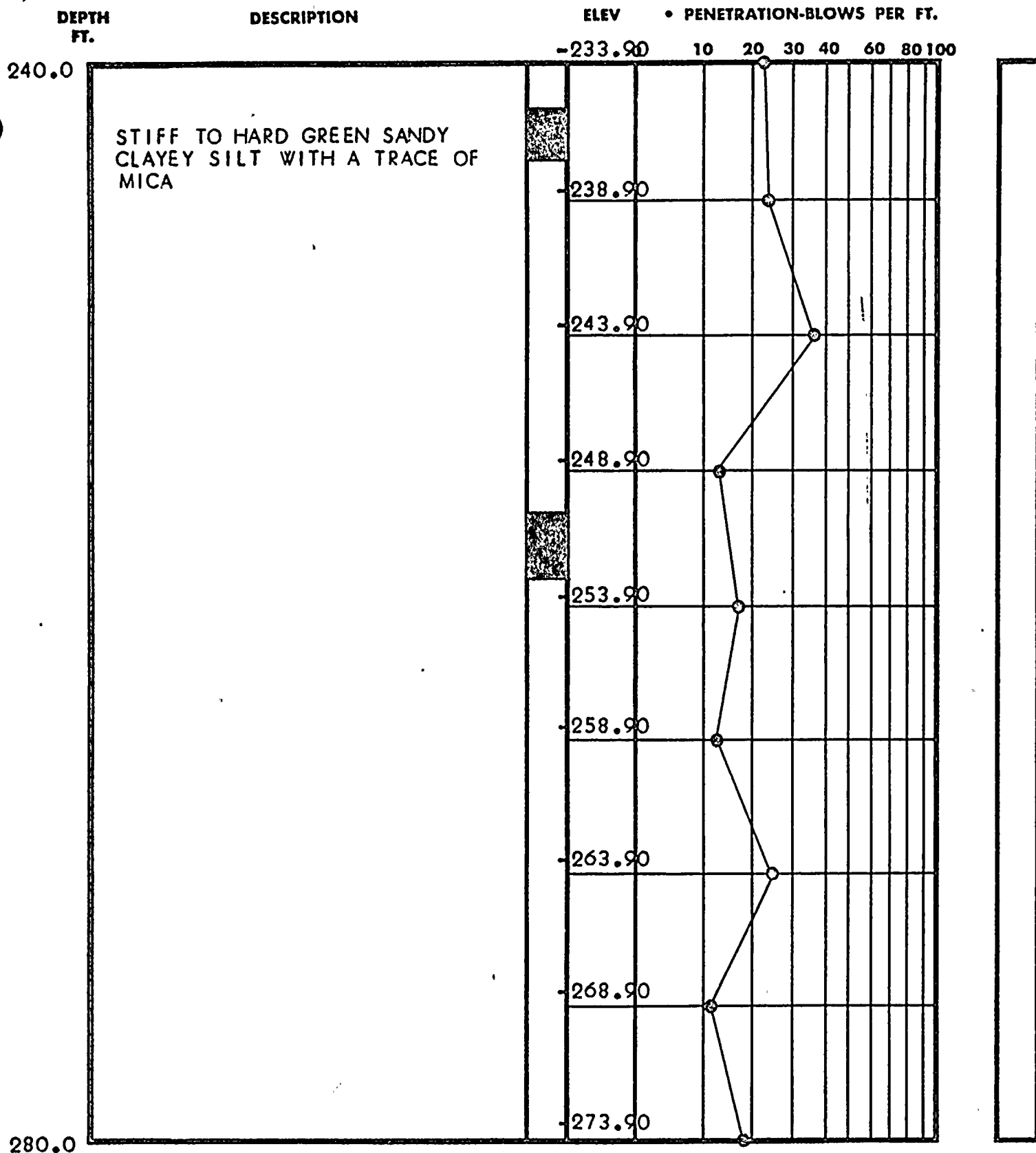
 WATER TABLE, 24 HR.

 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

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

BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

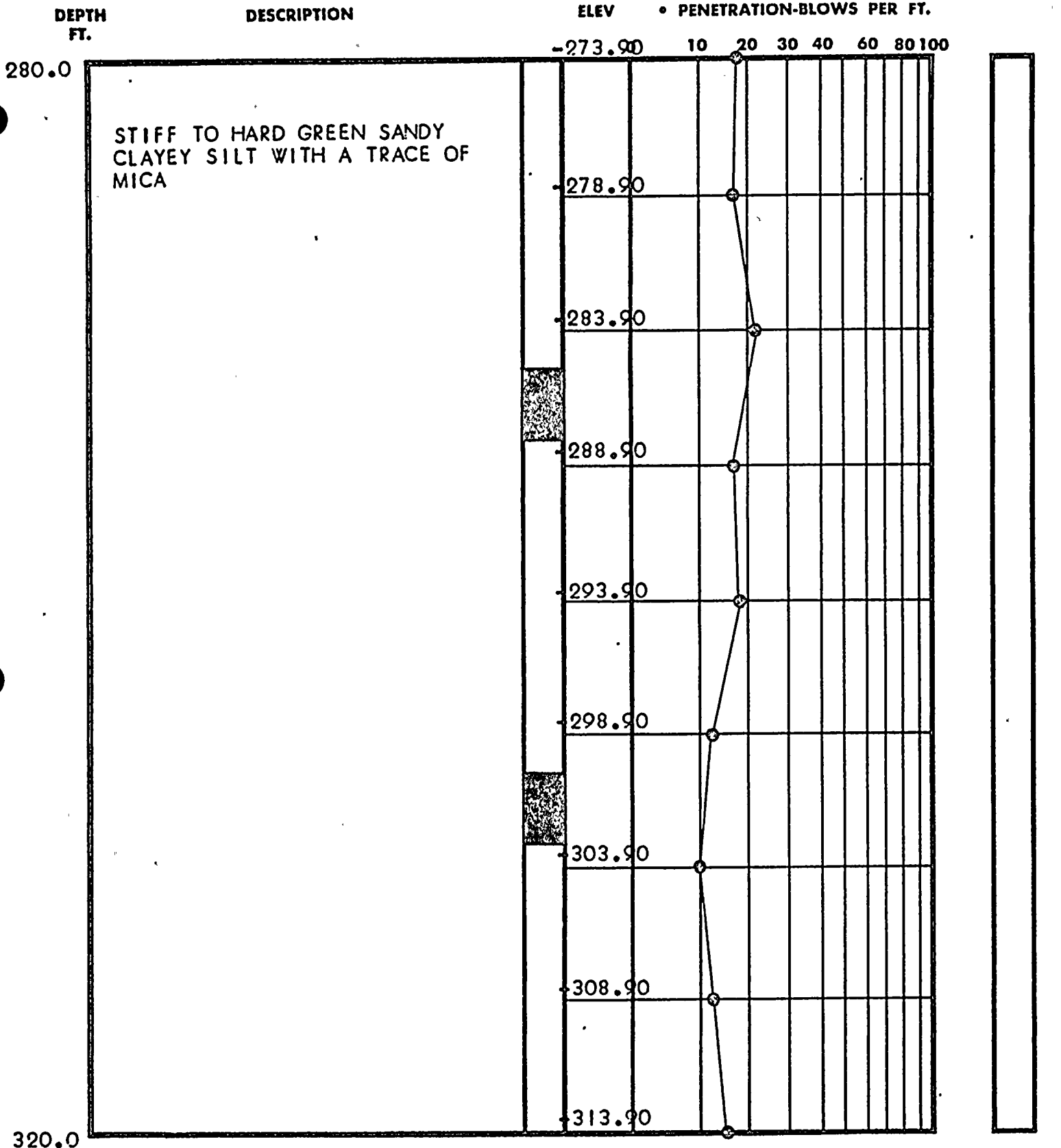
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

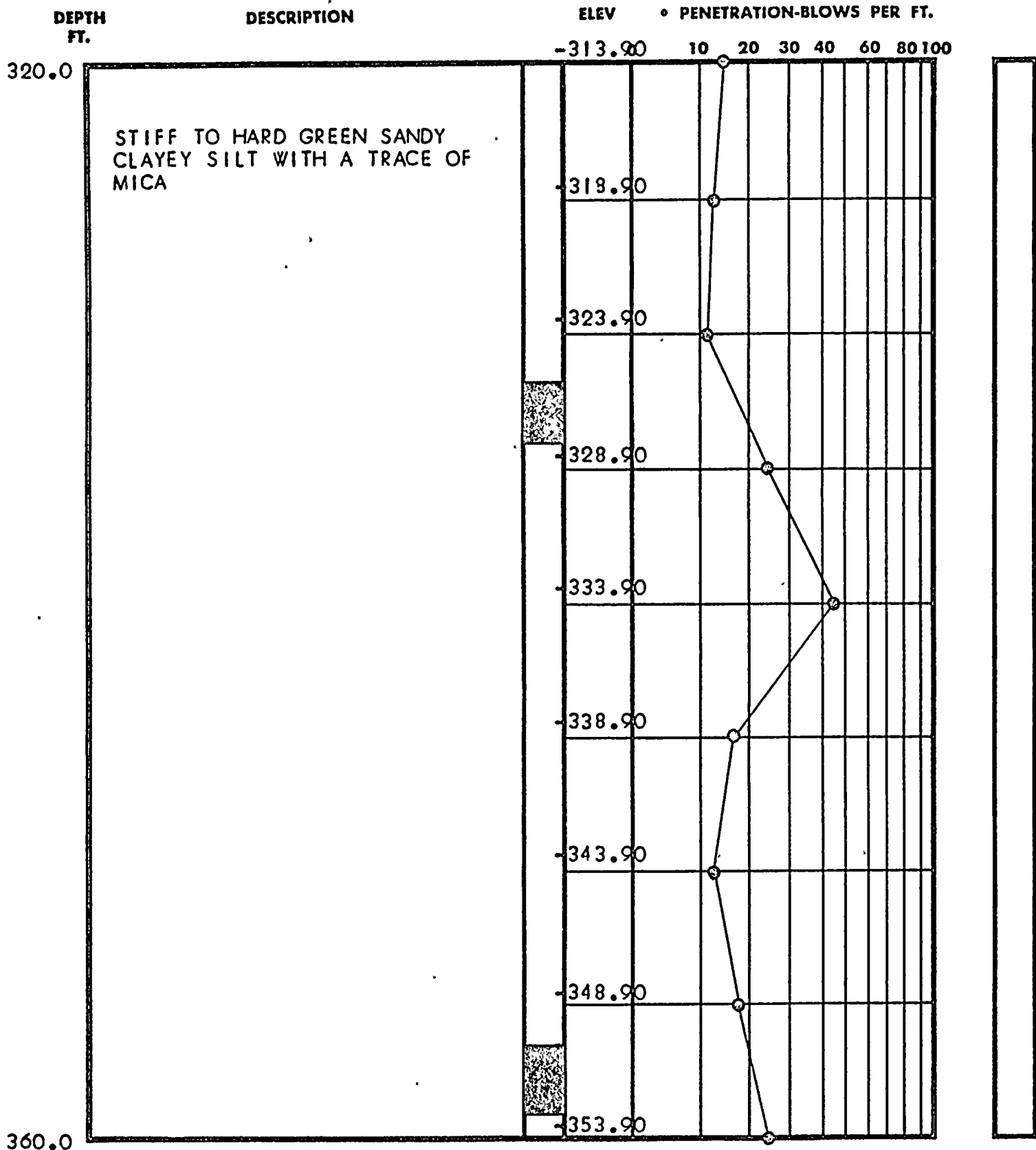


TEST BORING RECORD

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.

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

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



TEST BORING RECORD

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

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

BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

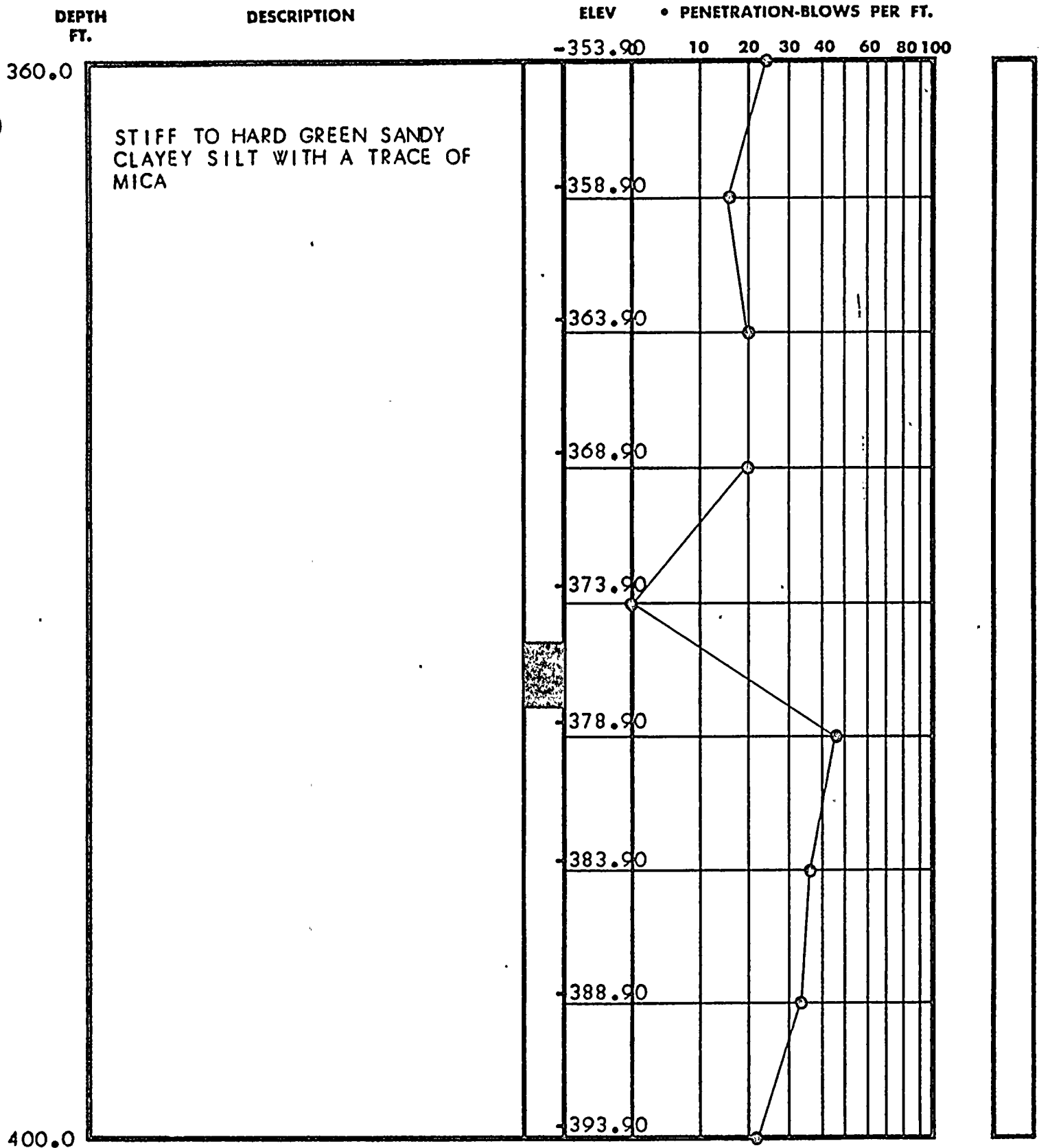
 WATER TABLE, 24 HR.

 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

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

BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

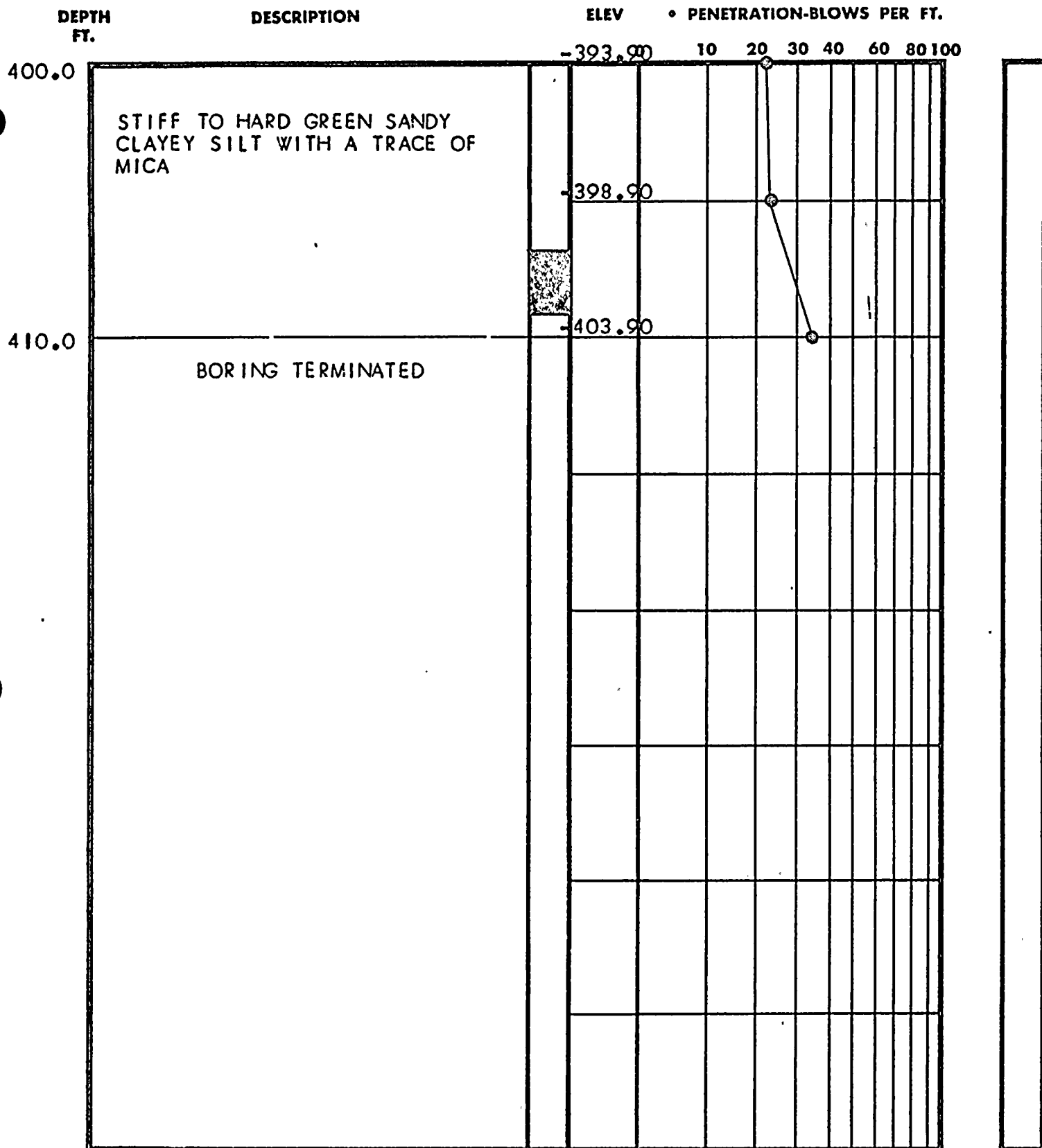
 WATER TABLE, 24 HR.

 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

Page 11 of 11

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

BORING NO. B-114A

DATE DRILLED 12/2/68

JOB NO. J-1127

UNDISTURBED SAMPLE

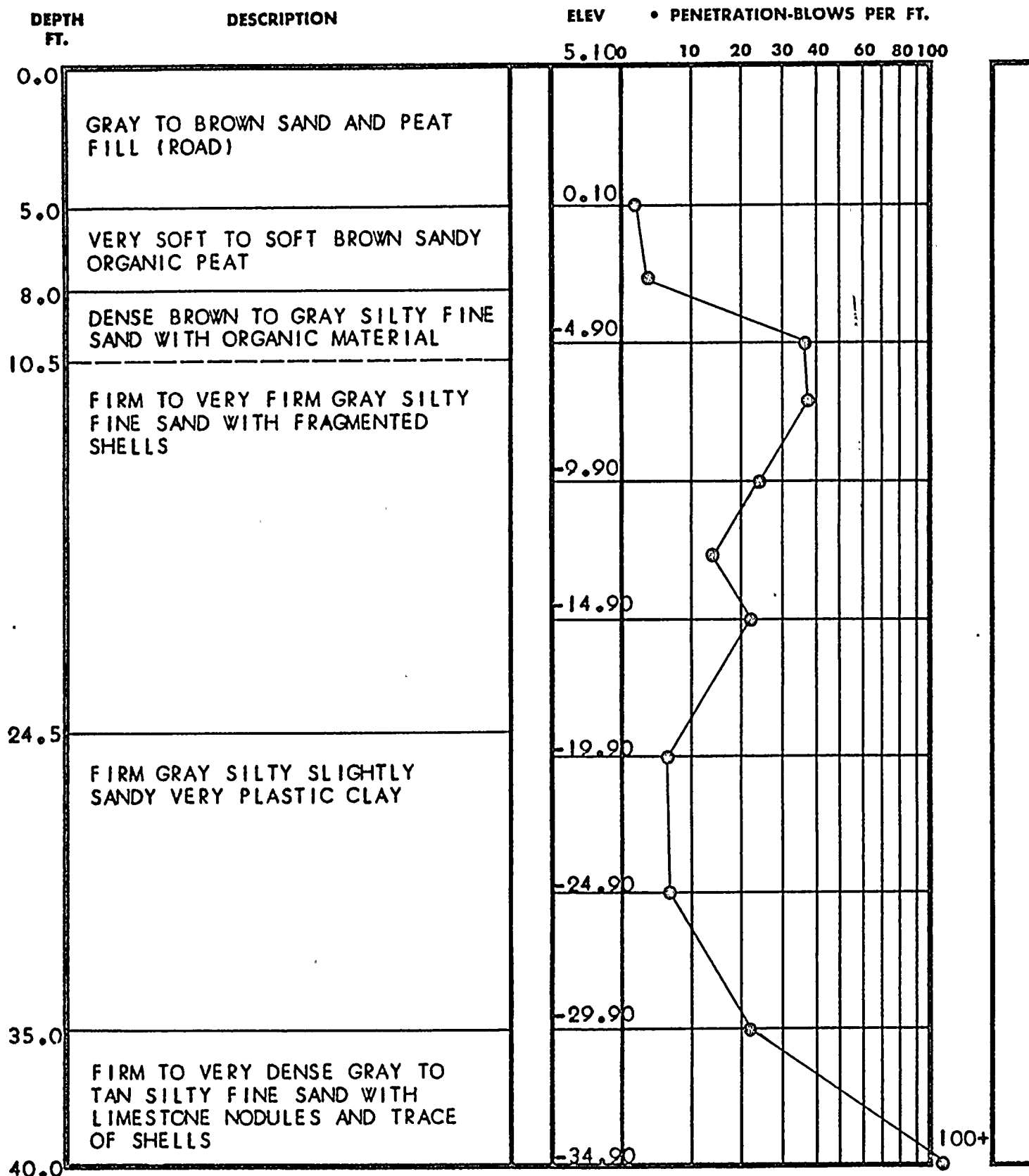
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1584
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.

Page 1 of 6

BORING NO. B-115

DATE DRILLED 1/7/69

JOB NO. 1-1127

 UNDISTURBED SAMPLE

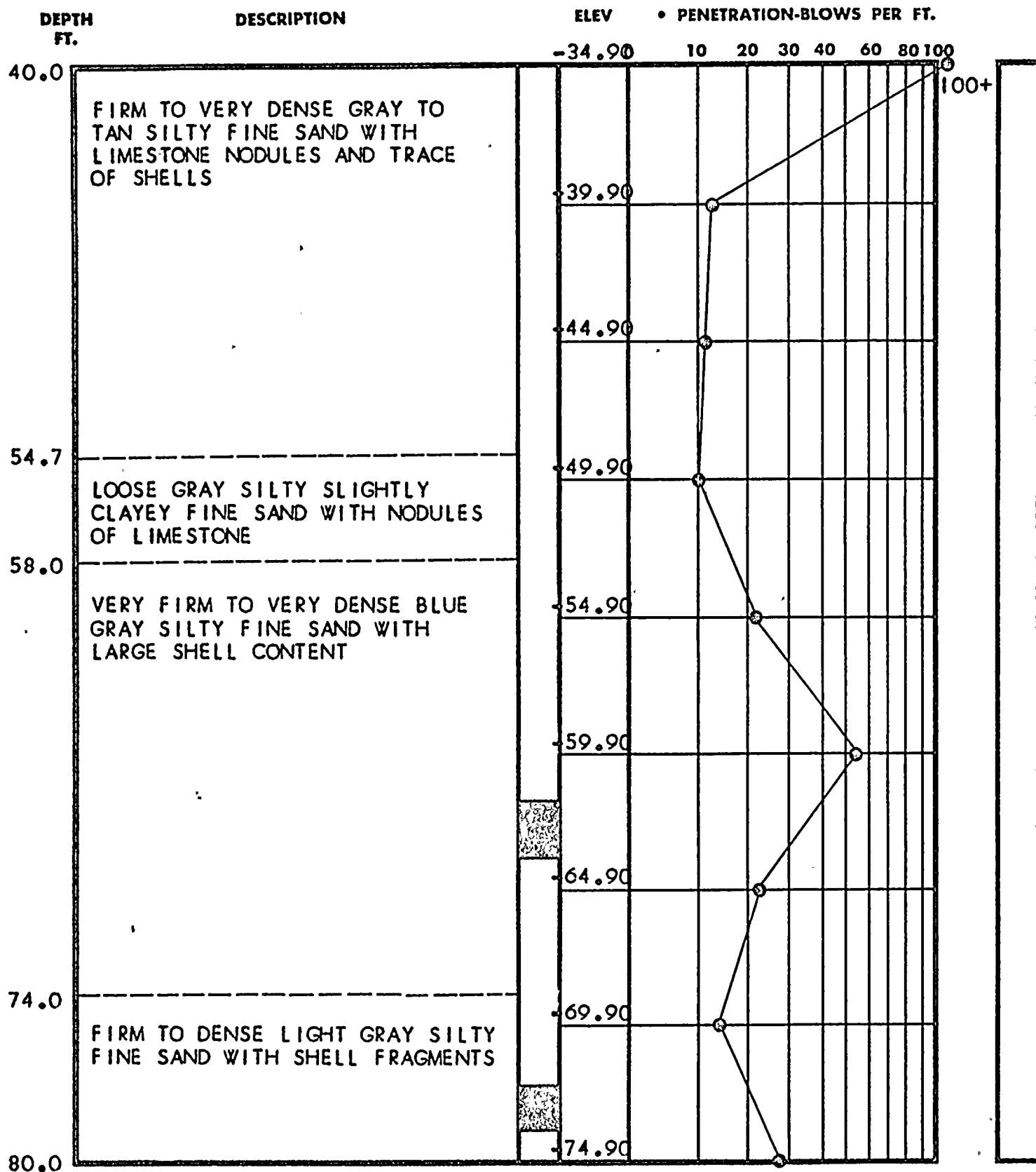
 WATER TABLE, 24 HR.

 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

Page 2 of 6

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

BORING NO. B-115

DATE DRILLED 1/7/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

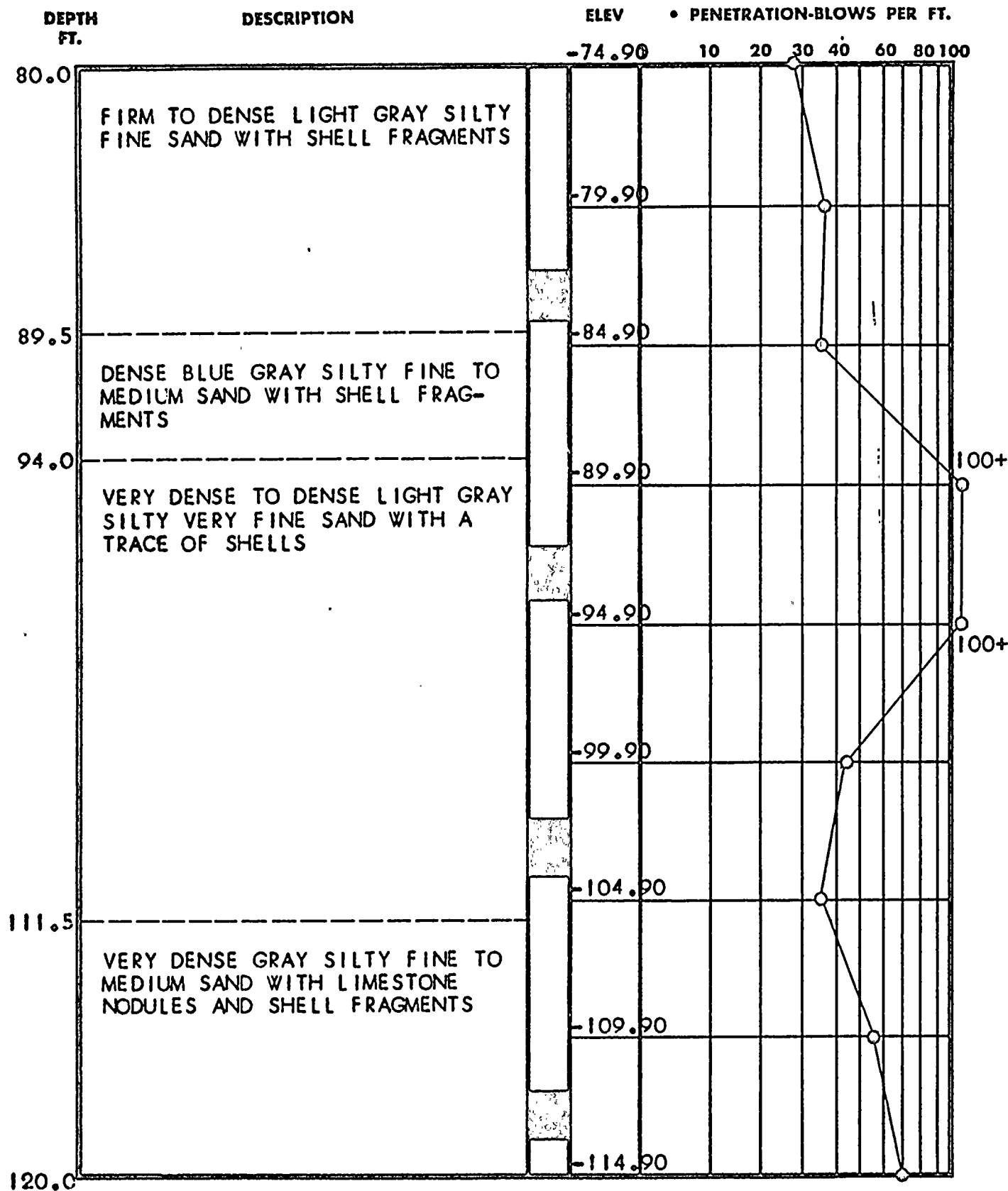
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING MEETS ASTM D-1506
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.

Page 3 of 6

BORING NO. B-115

DATE DRILLED 1/7/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

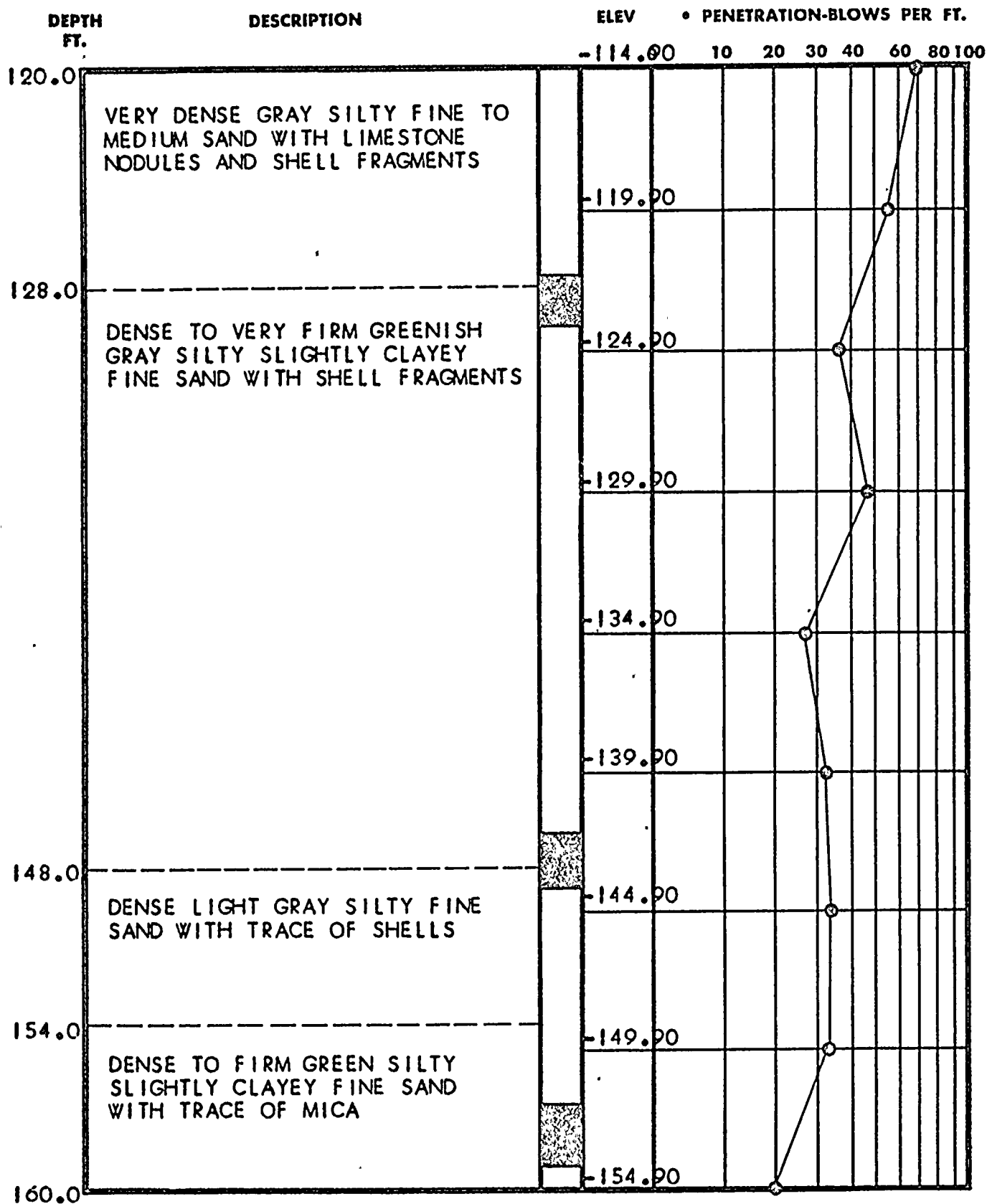
 WATER TABLE, 24 HR.

 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.

Page 4 of 6

BORING NO. B-115

DATE DRILLED 1/7/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

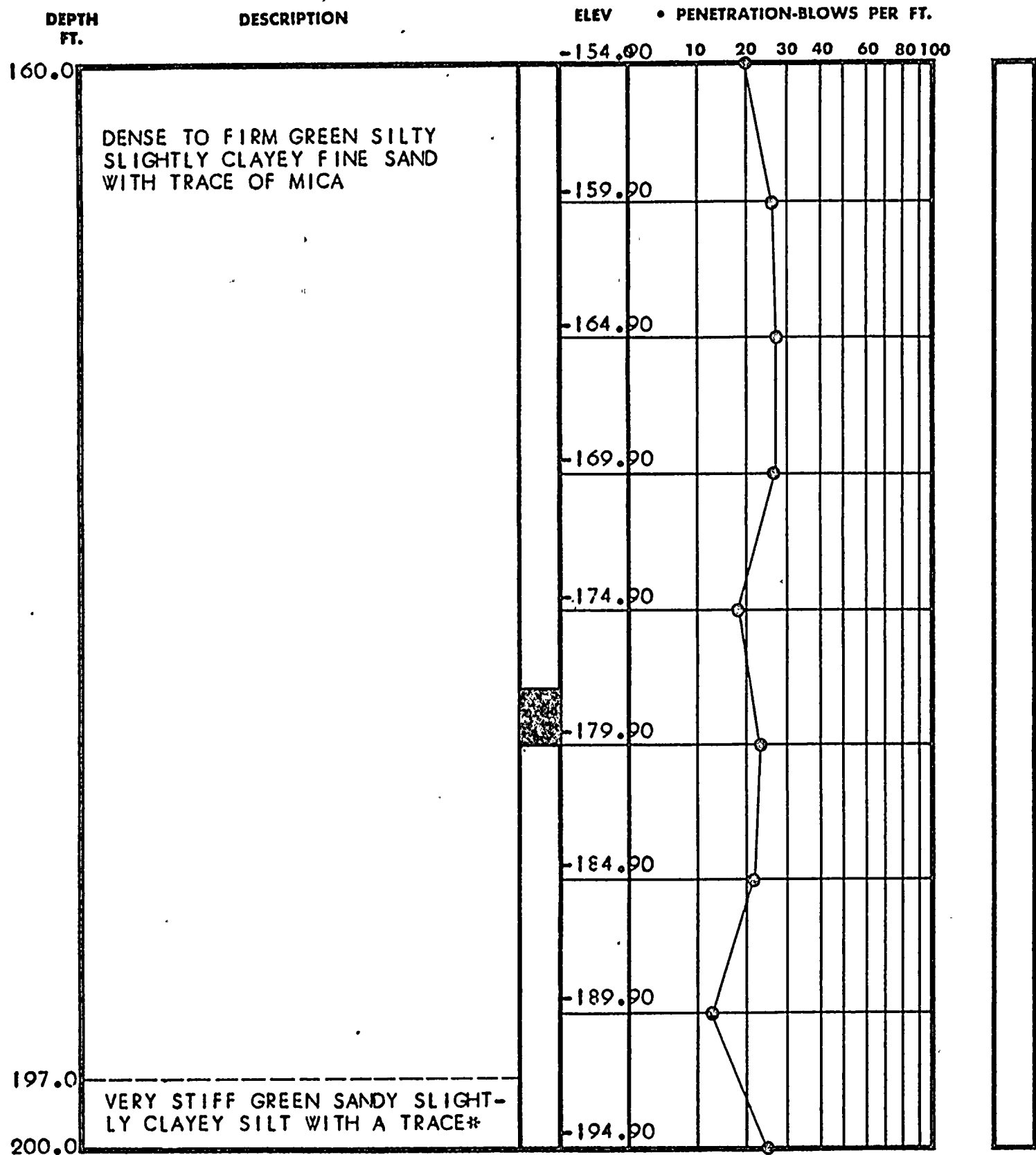
 % ROCK CORE RECOVERY

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



#OF MICA

TEST BORING RECORD

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

Page 5 of 6

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

BORING NO. B-115

DATE DRILLED 1/7/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

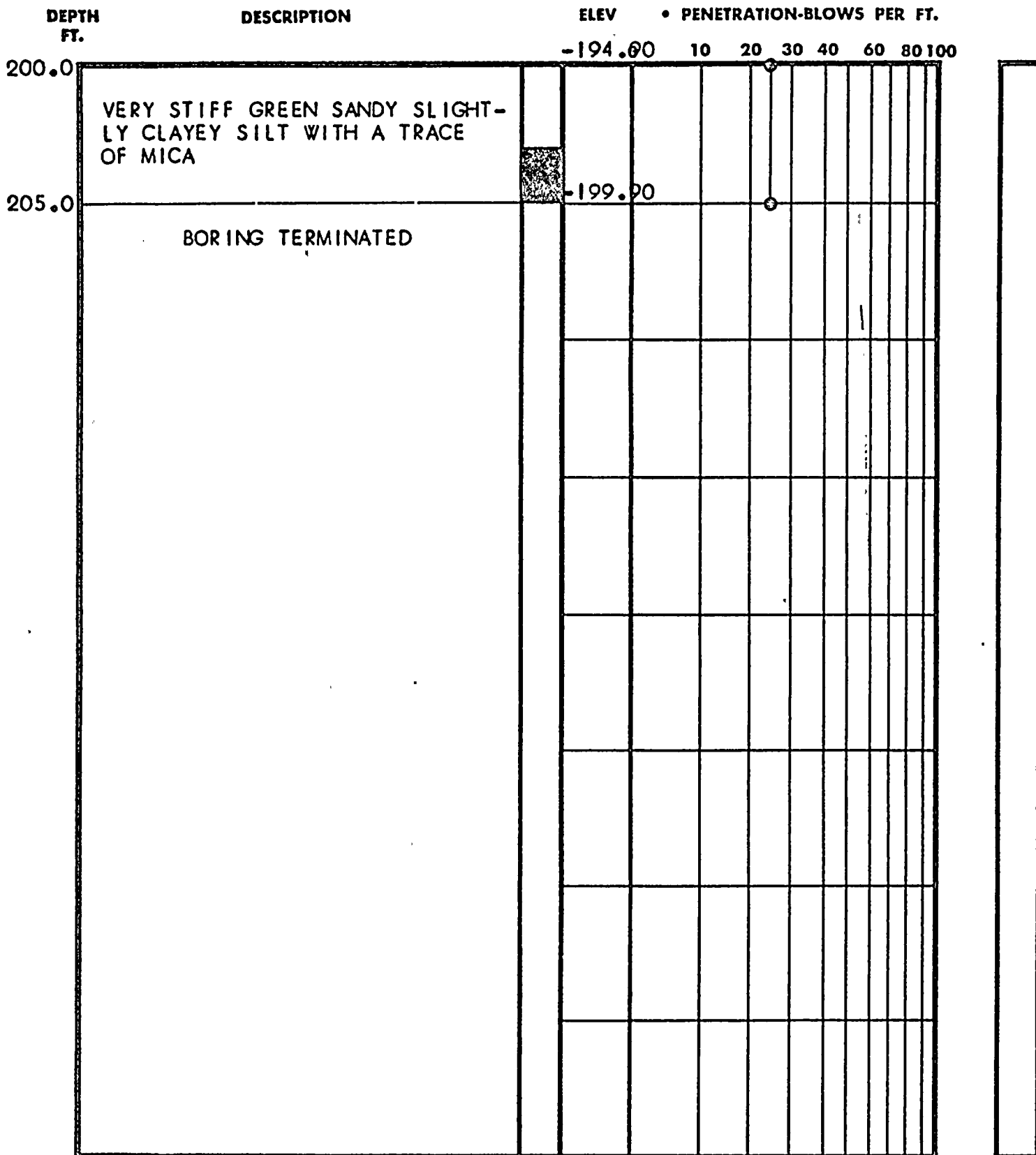
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING METS ASTM D-1586
CORE DRILLING METS 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

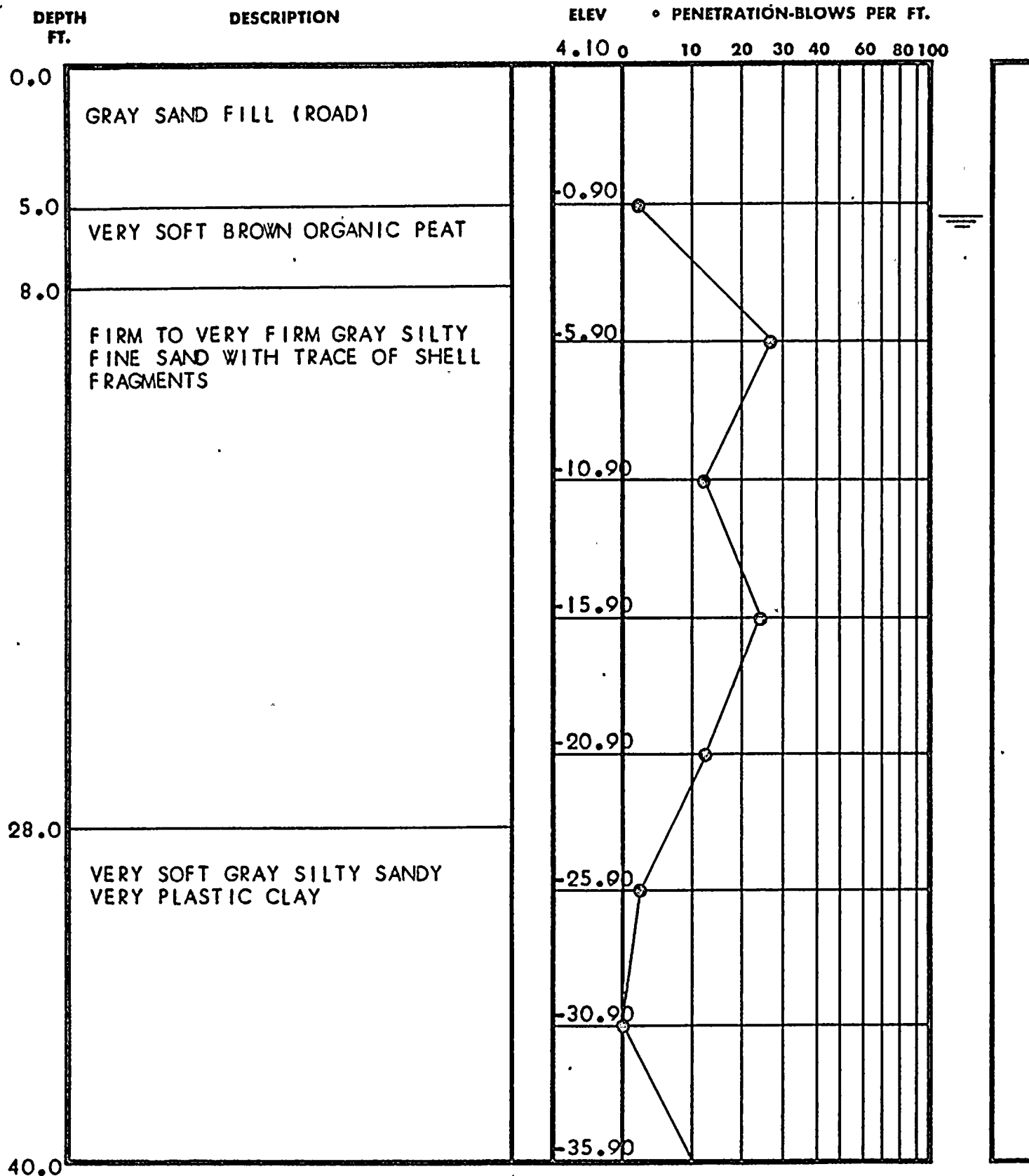
Page 6 of 6

BORING NO. B-115

DATE DRILLED 1/7/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

Page 1 of 6

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

BORING NO. B-116

DATE DRILLED 12/18/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

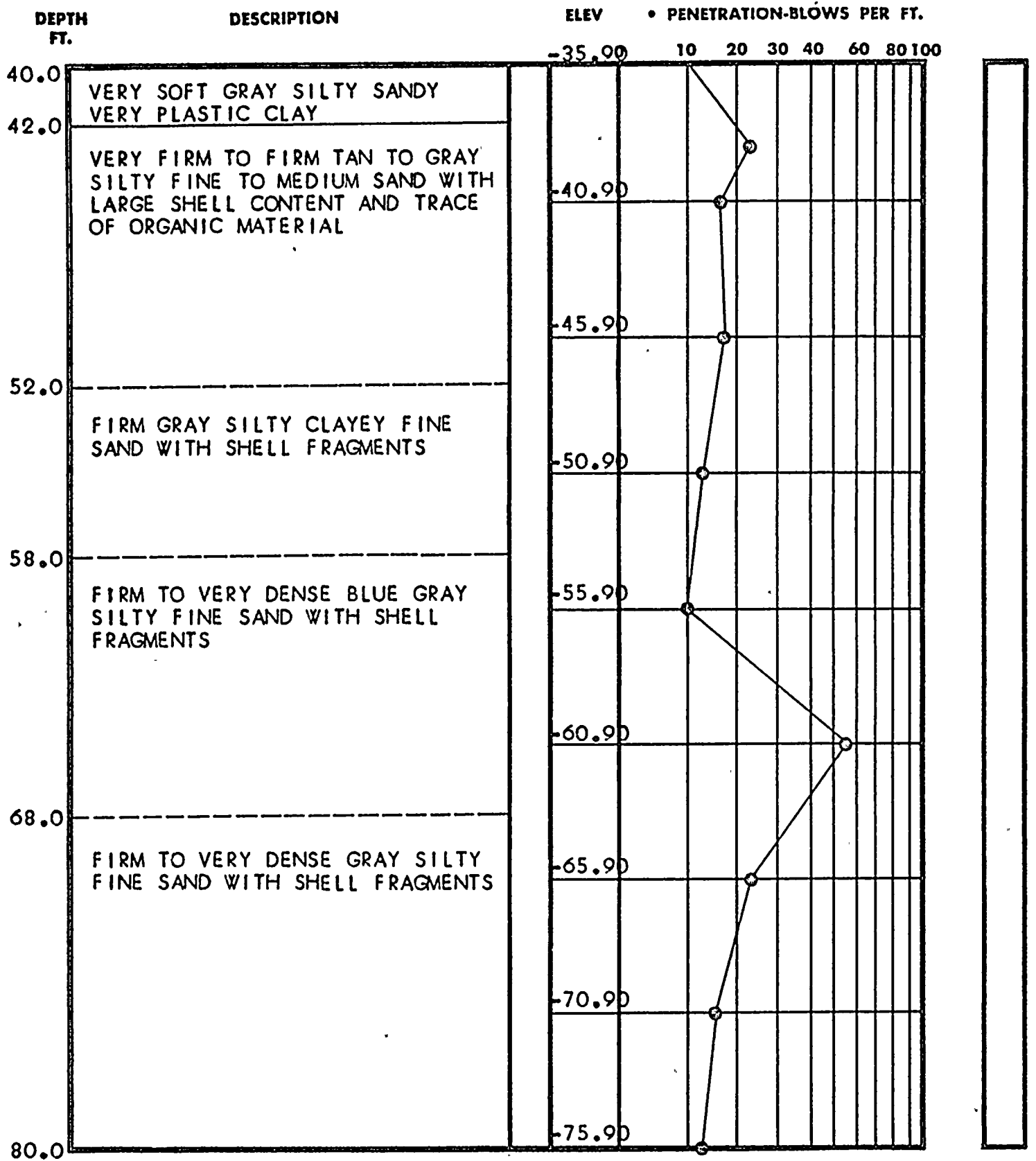
 WATER TABLE, 24 HR.

 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

Page 2 of 6

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

BORING NO. B-116

DATE DRILLED 12/18/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

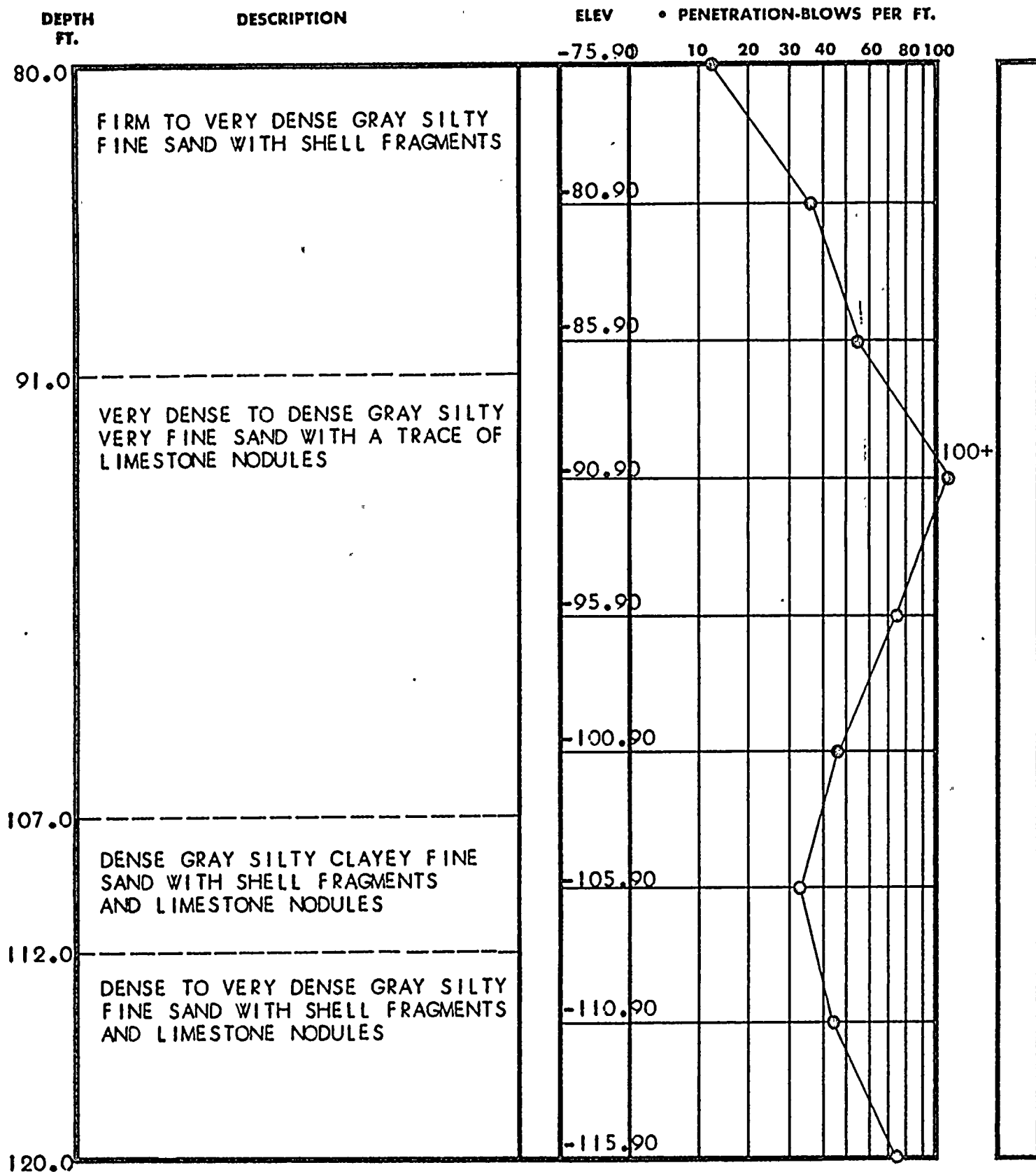
 WATER TABLE, 24 HR.

 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

Page 3 of 6

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

BORING NO. B-116

DATE DRILLED 12/18/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

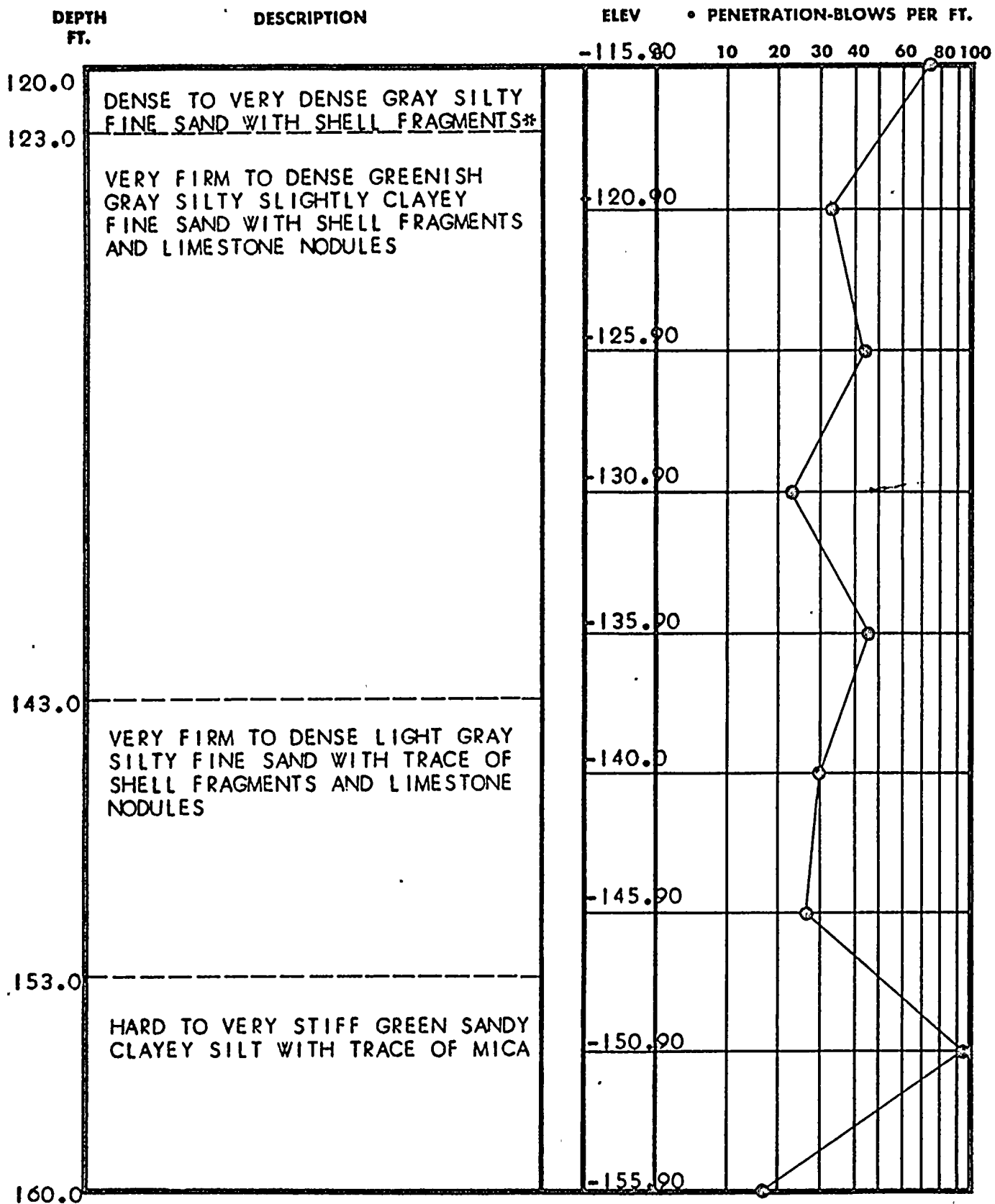
 WATER TABLE, 24 HR.

 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

Page 4 of 6

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

BORING NO. B-116

DATE DRILLED: 12/18/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

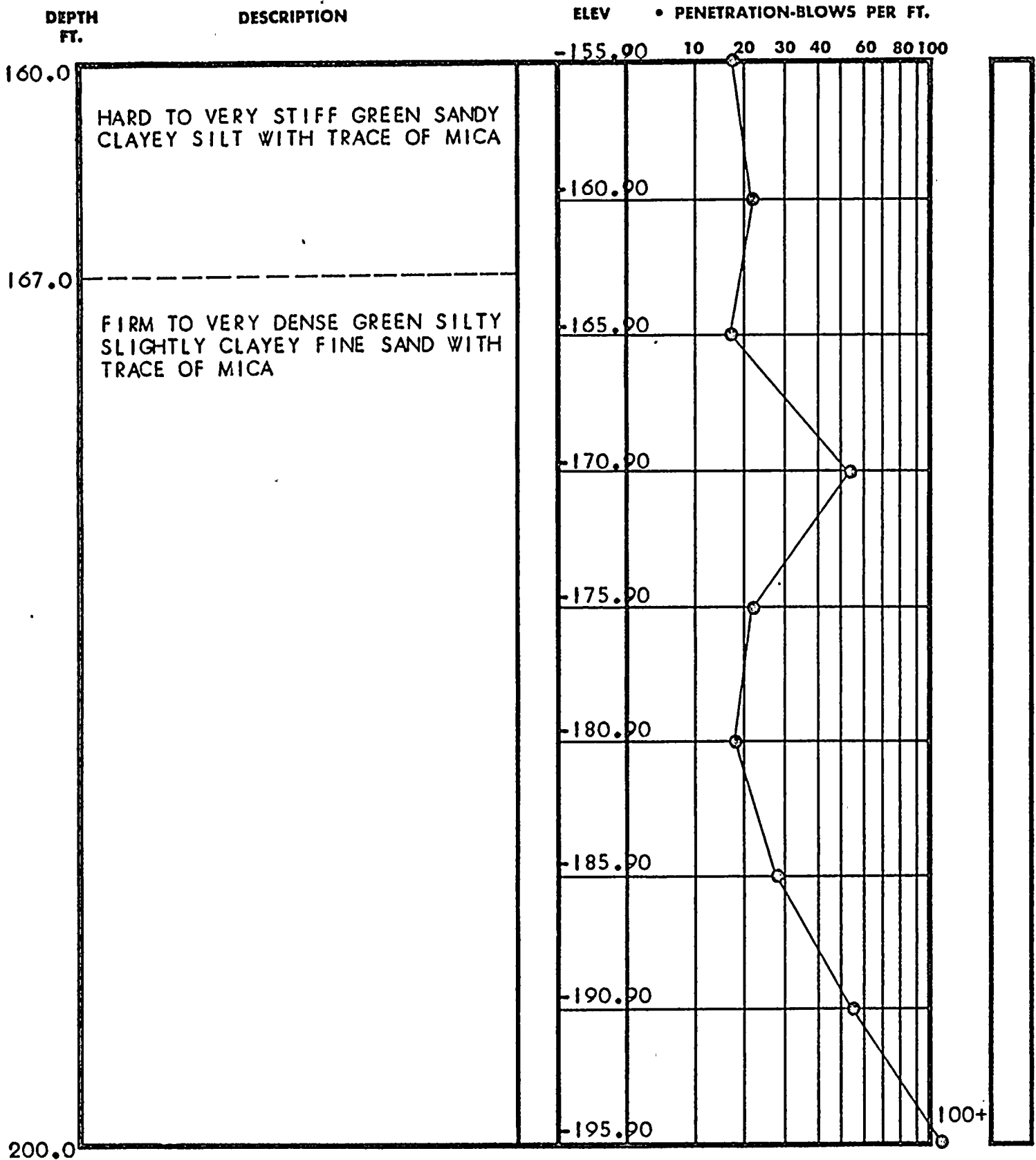
 WATER TABLE, 24 HR.

 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

Page 5 of 6

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

BORING NO. B-116

DATE DRILLED 12/18/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

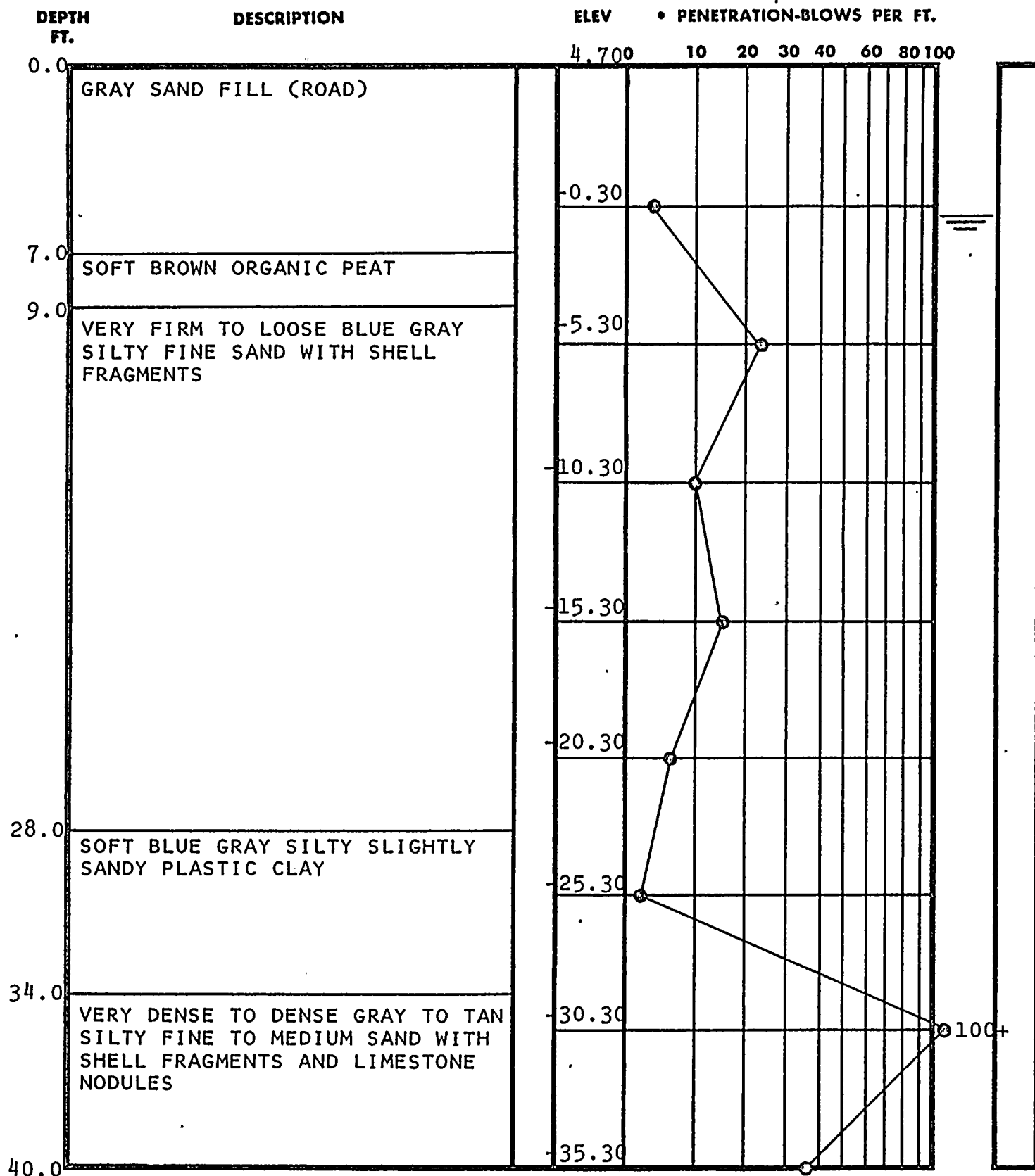
 WATER TABLE, 24 HR.

 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.

PAGE 1 OF 6

BORING NO. B-117

DATE DRILLED 1/08/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

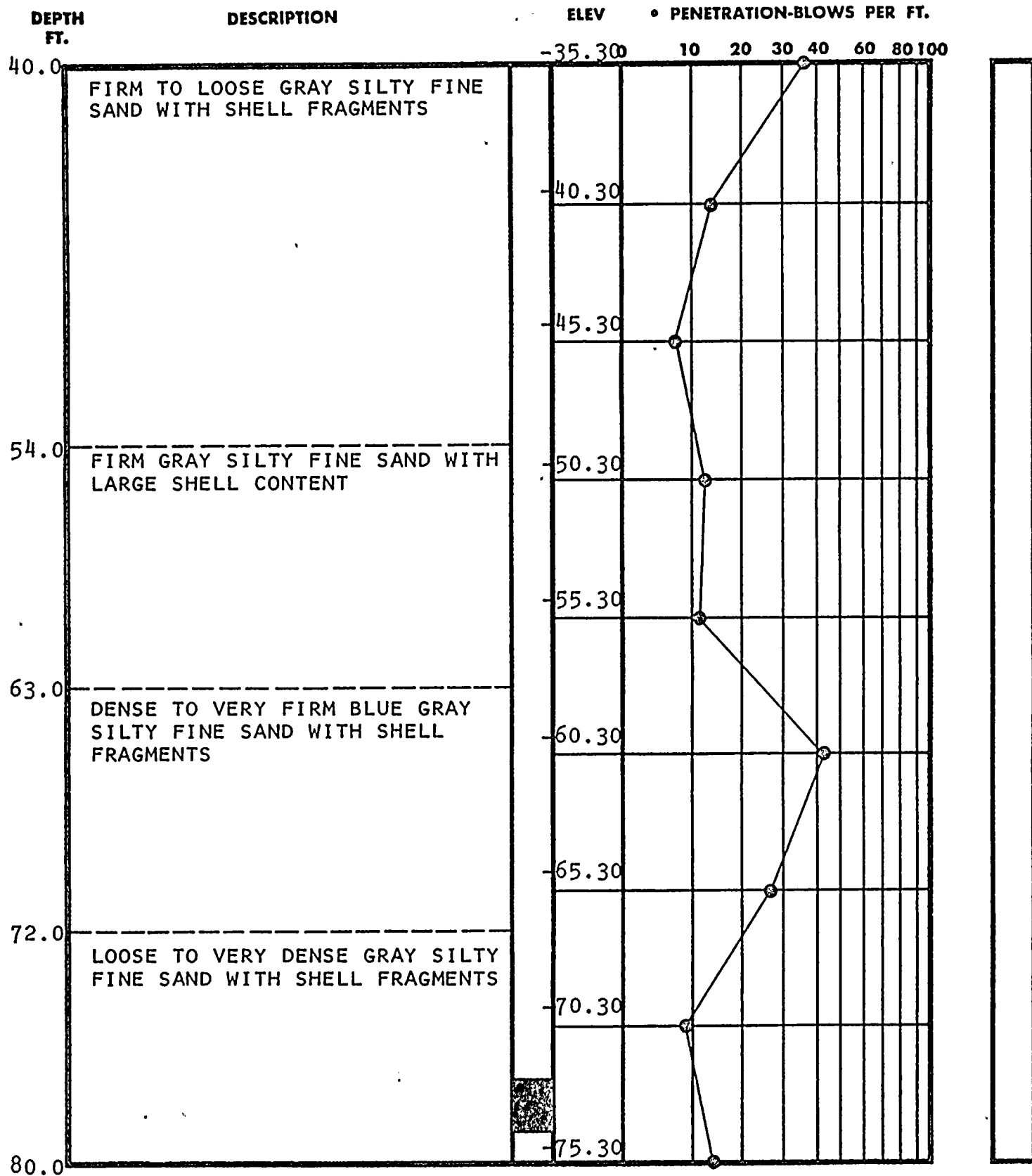
 WATER TABLE, 24 HR.

 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.

PAGE 2 OF 6

BORING NO. B-117

DATE DRILLED 1/08/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

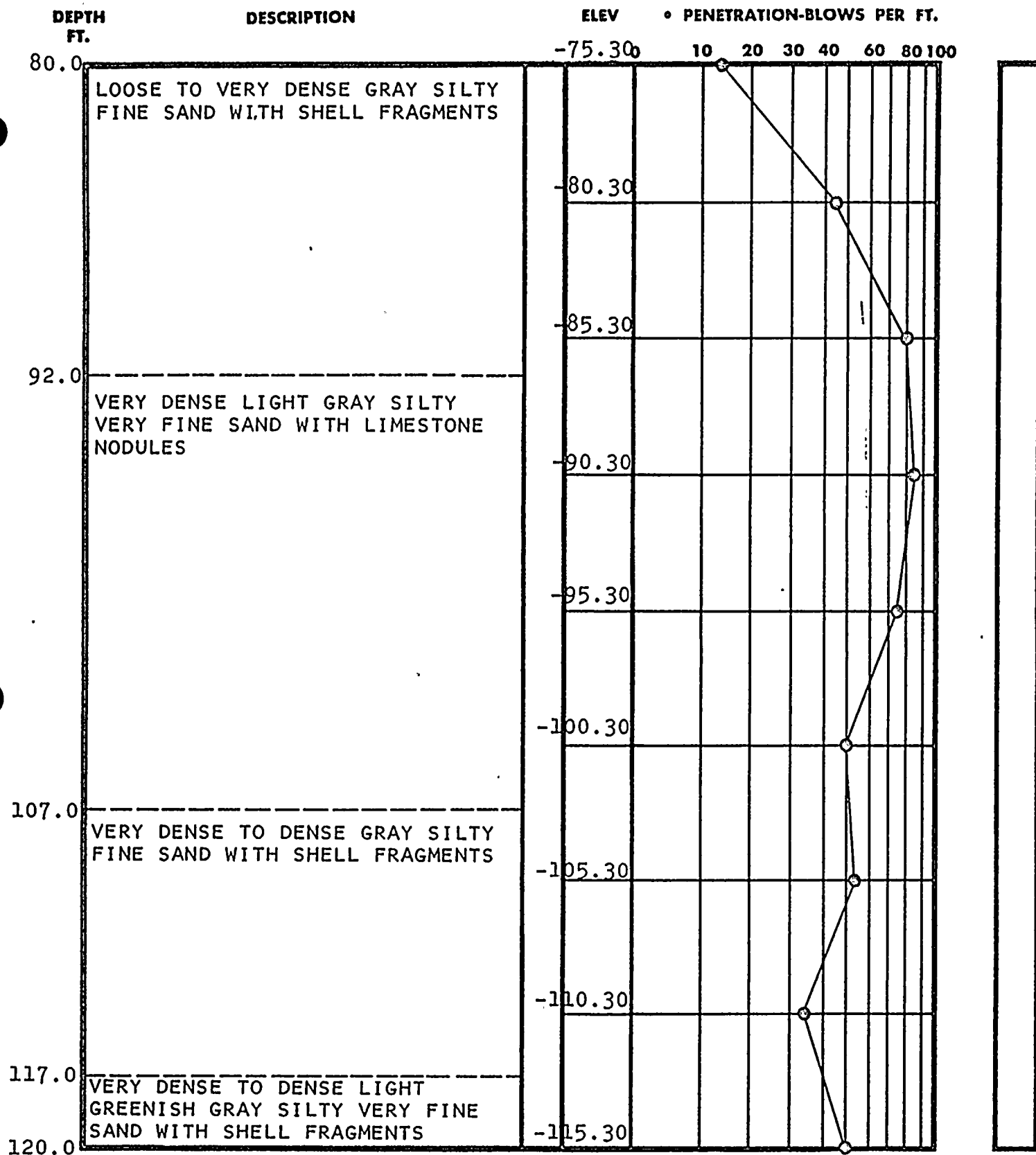
 WATER TABLE, 24 HR.

 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.

PAGE 3 OF 6

BORING NO. B-117

DATE DRILLED 1/08/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

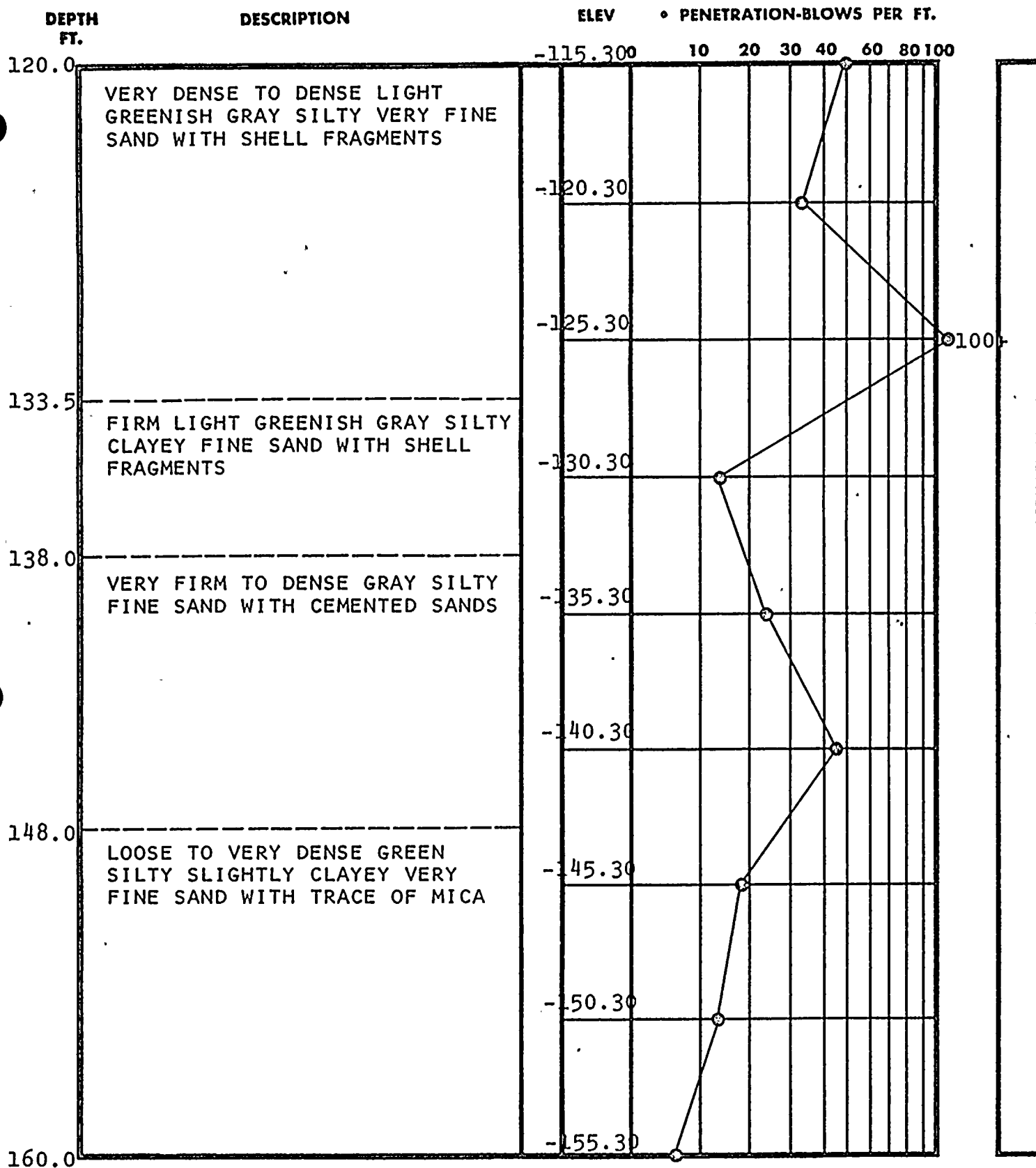
 WATER TABLE, 24 HR.

 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.

PAGE 4 OF 6

BORING NO. B-117

DATE DRILLED 1/08/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

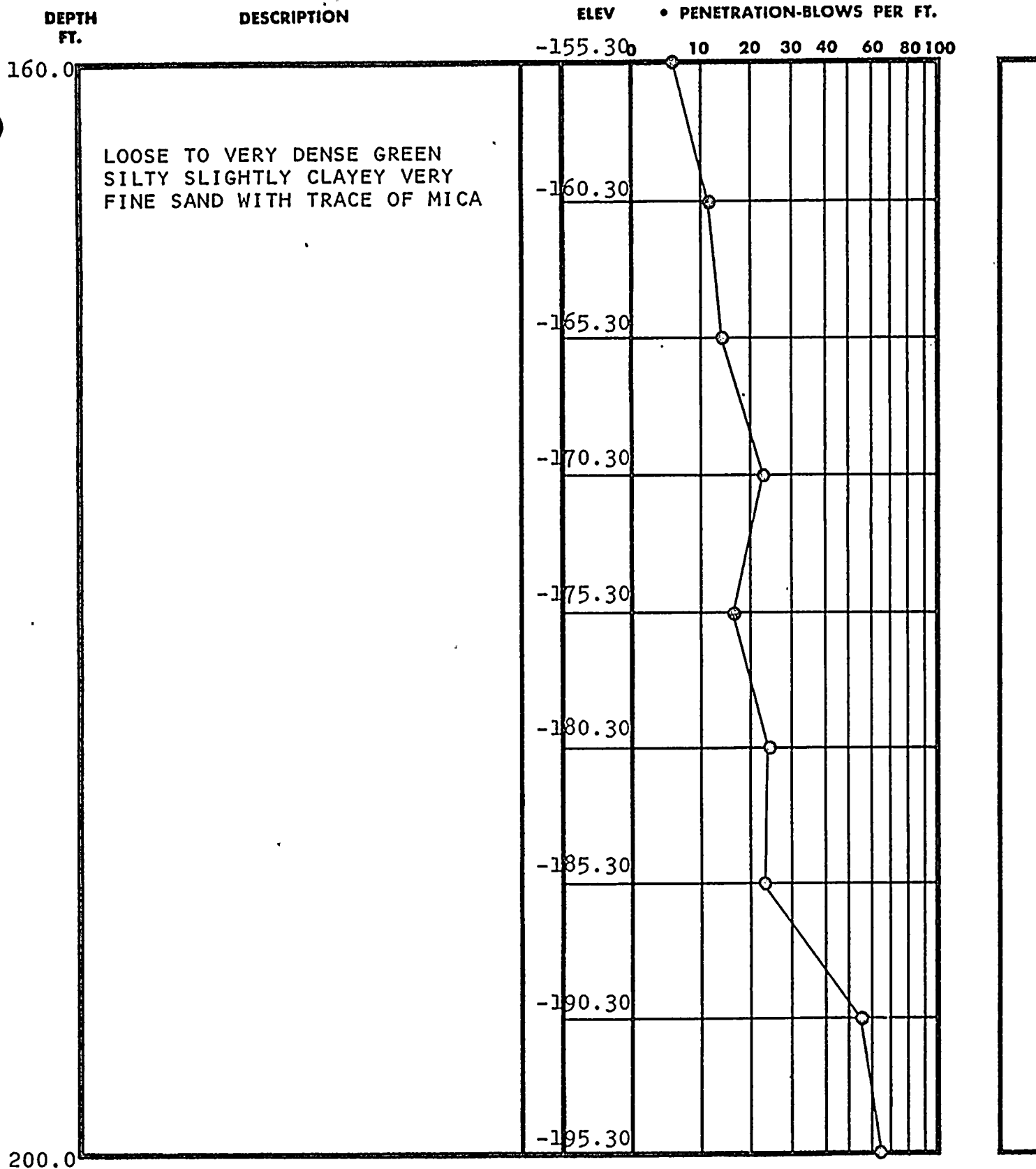
 WATER TABLE, 24 HR.

 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.

PAGE 5 OF 6

BORING NO. B-117
DATE DRILLED 1/08/69
JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 26 HR.



WATER TABLE, 1 HR.



% ROCK CORE RECOVERY



LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

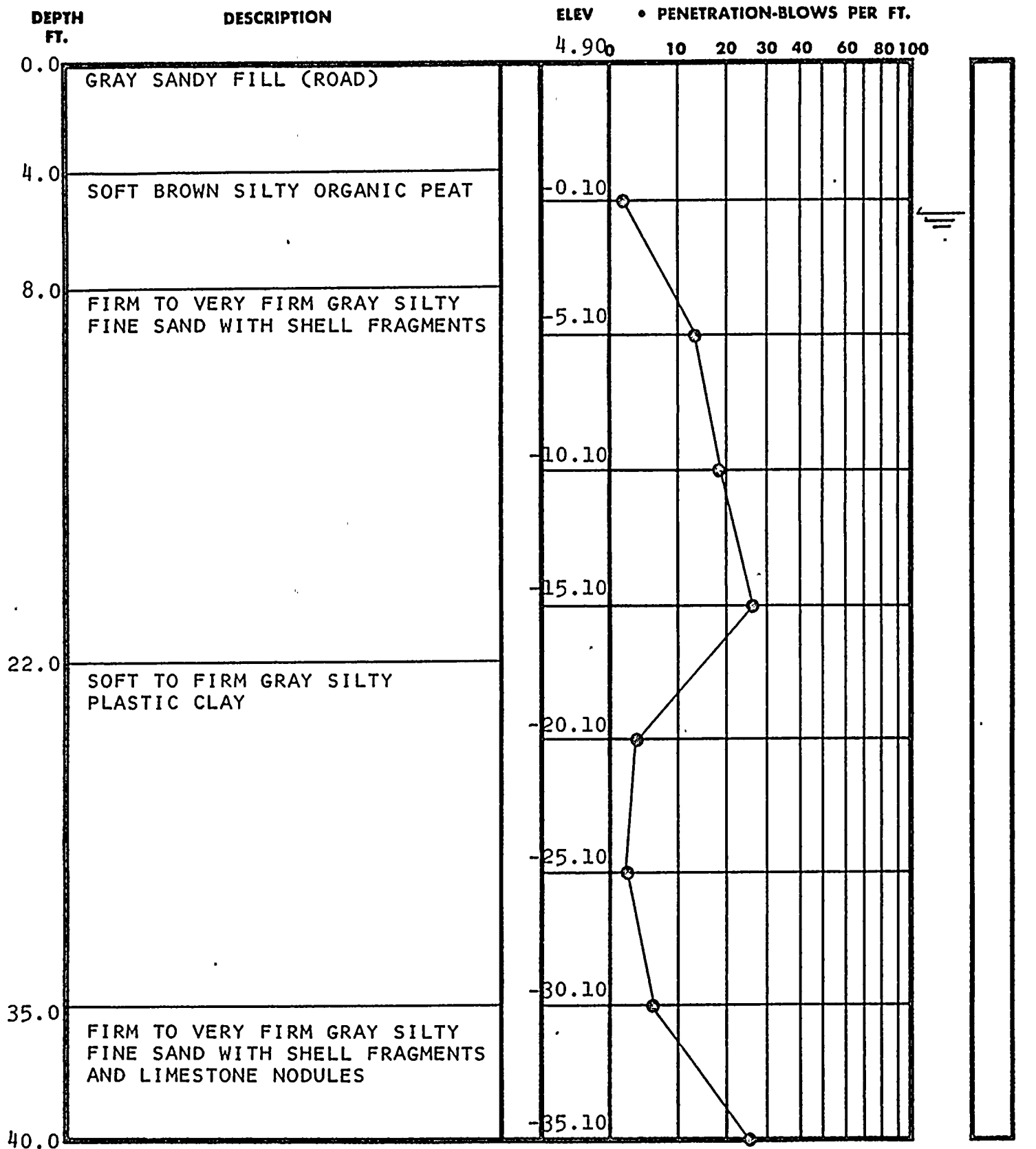
• PENETRATION-BLOWS PER FT.

10 20 30 40 60 80 100

-200.30

-205.30

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.

PAGE 1 OF 4

BORING NO. B-118

DATE DRILLED 1/18/69

JOB NO. J-1127

UNDISTURBED SAMPLE

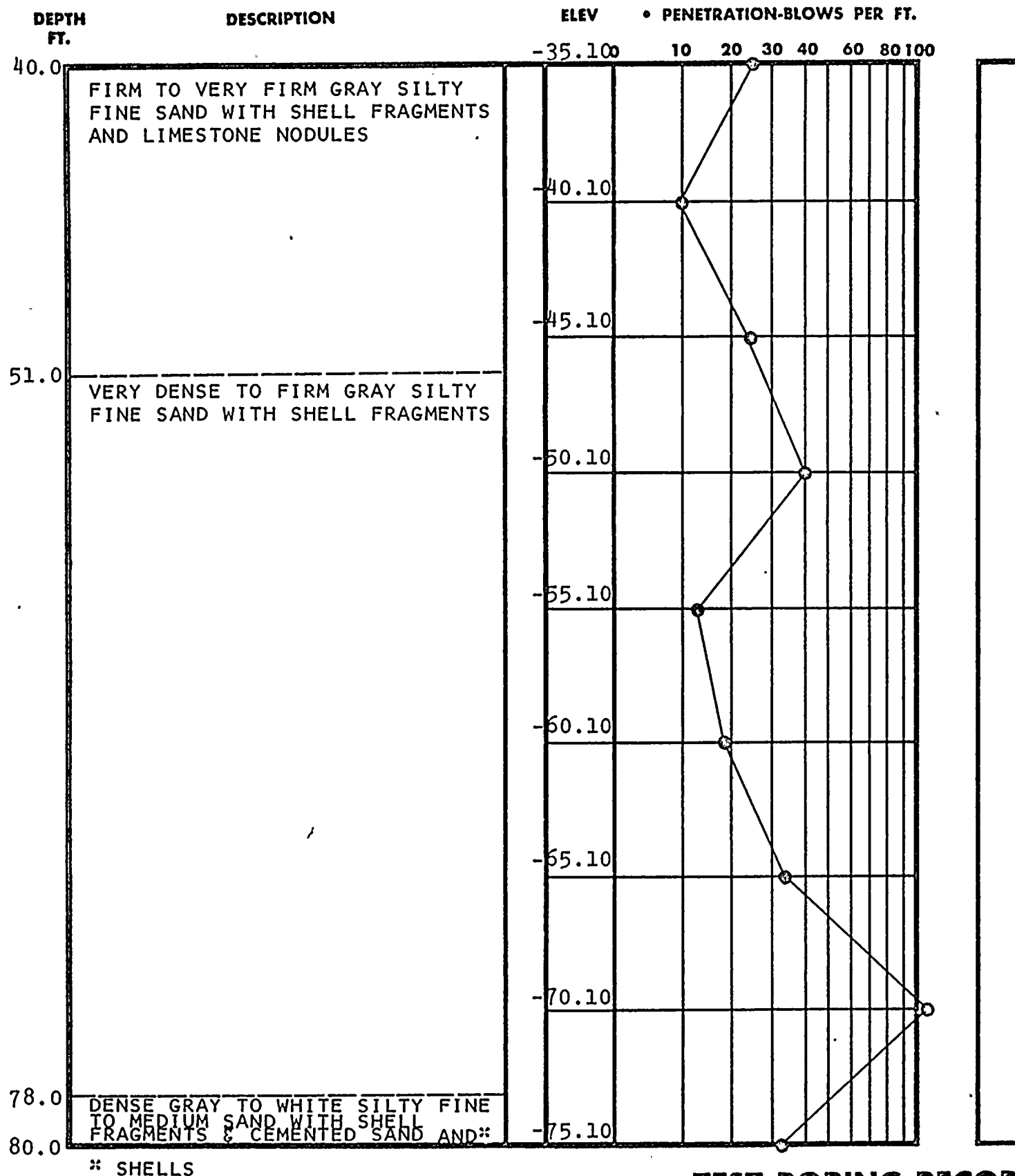
WATER TABLE, 24 HR.

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.

PAGE 2 OF 4

BORING NO. B-118


DATE DRILLED 1/18/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

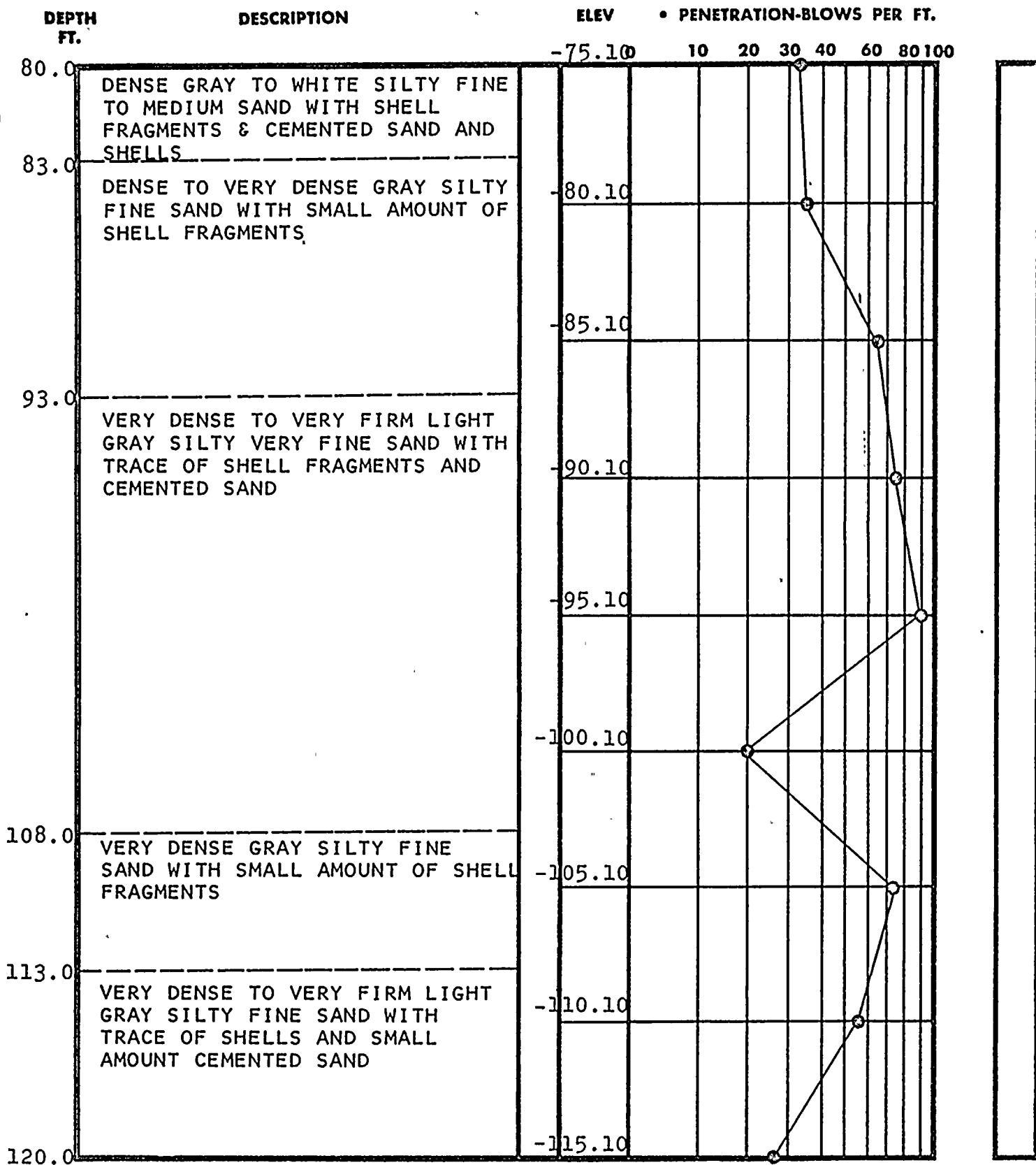
 WATER TABLE, 24 HR.

 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.

PAGE 3 OF 4

BORING NO. B-118

DATE DRILLED 1/18/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

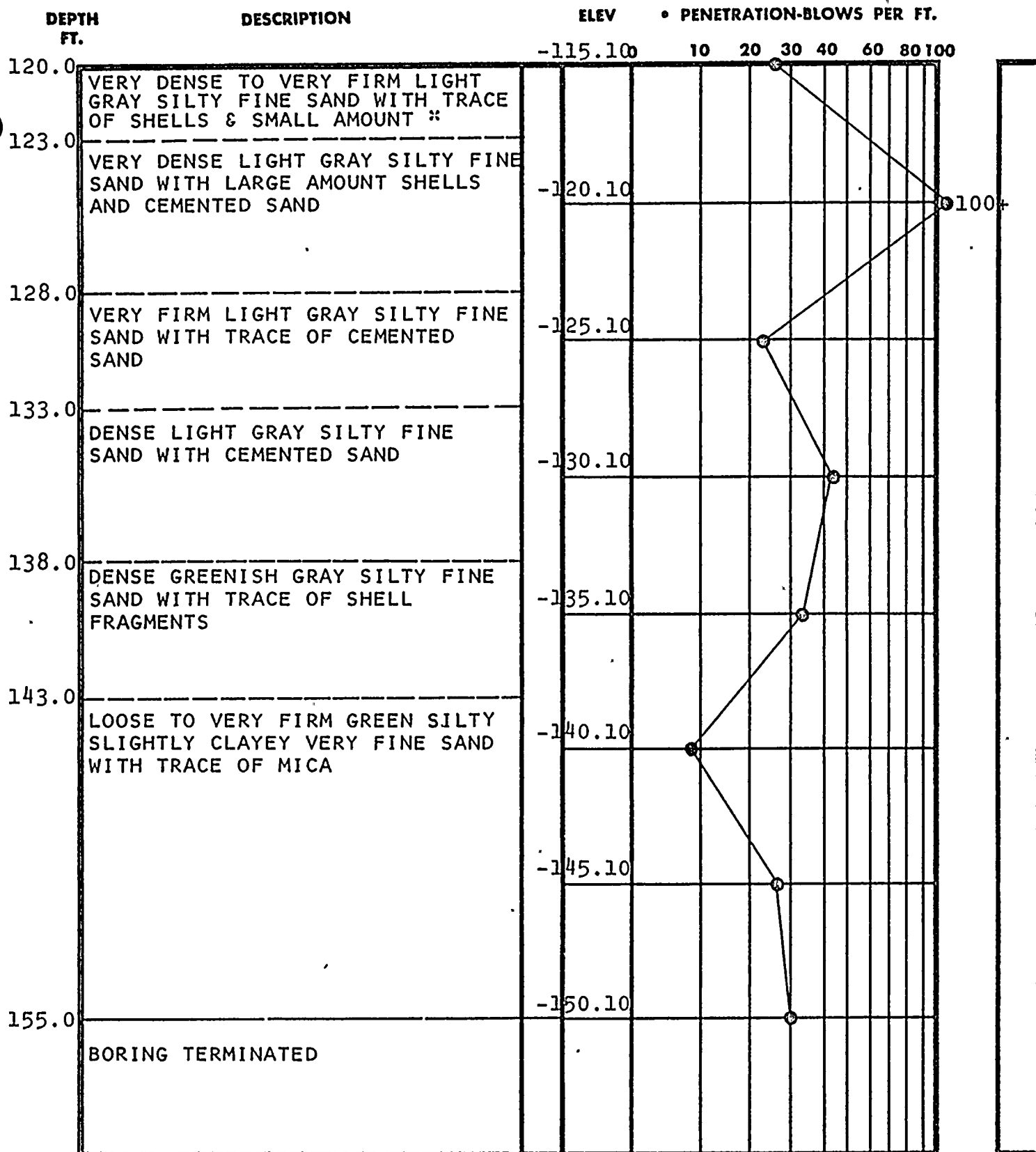
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



* CEMENTED SAND

TEST BORING RECORD

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

PAGE 4 OF 4

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

BORING NO. B-118

DATE DRILLED 1/18/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

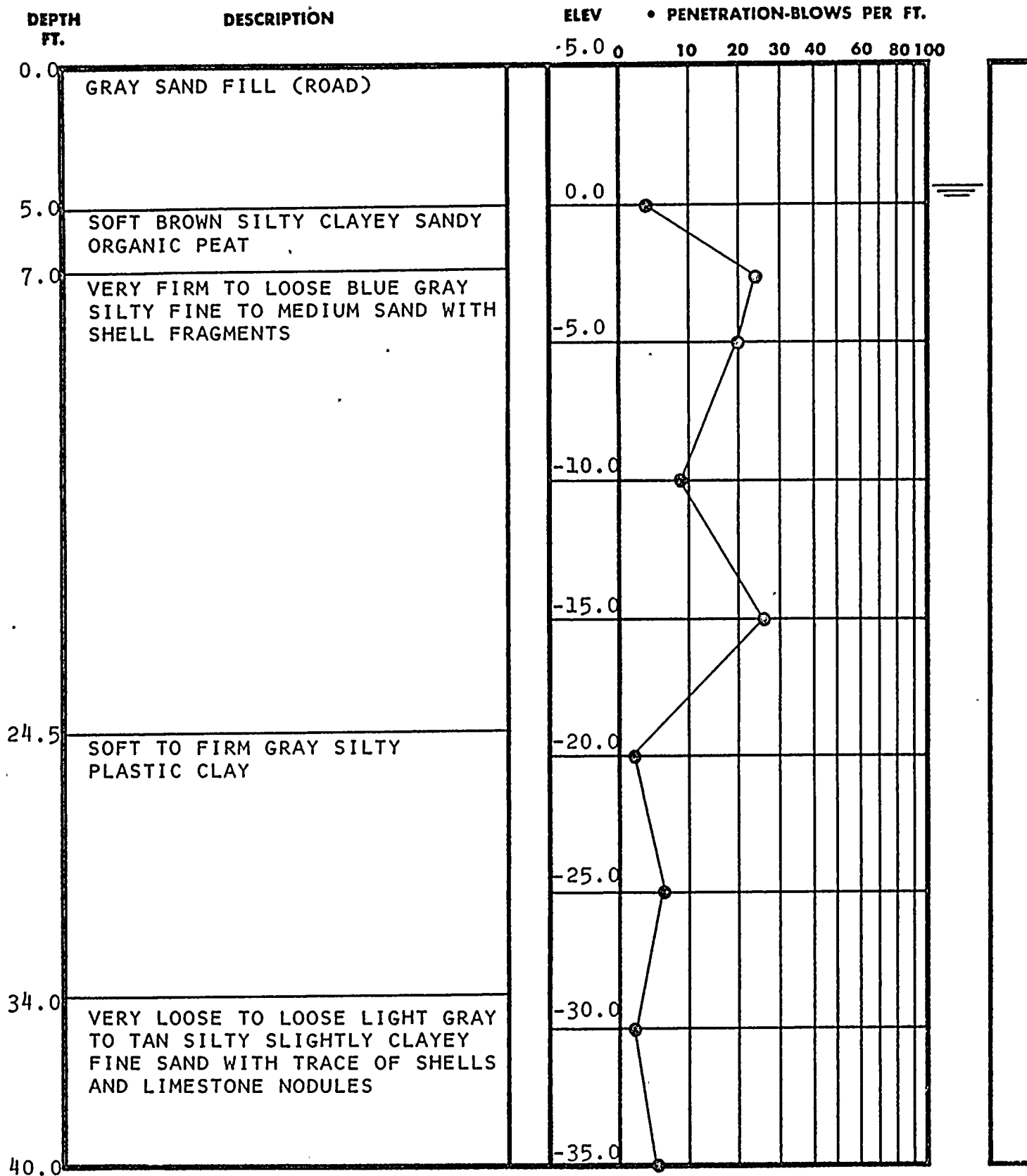
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



PAGE 1 OF 4

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.

BORING NO. B-119

DATE DRILLED 1/18/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

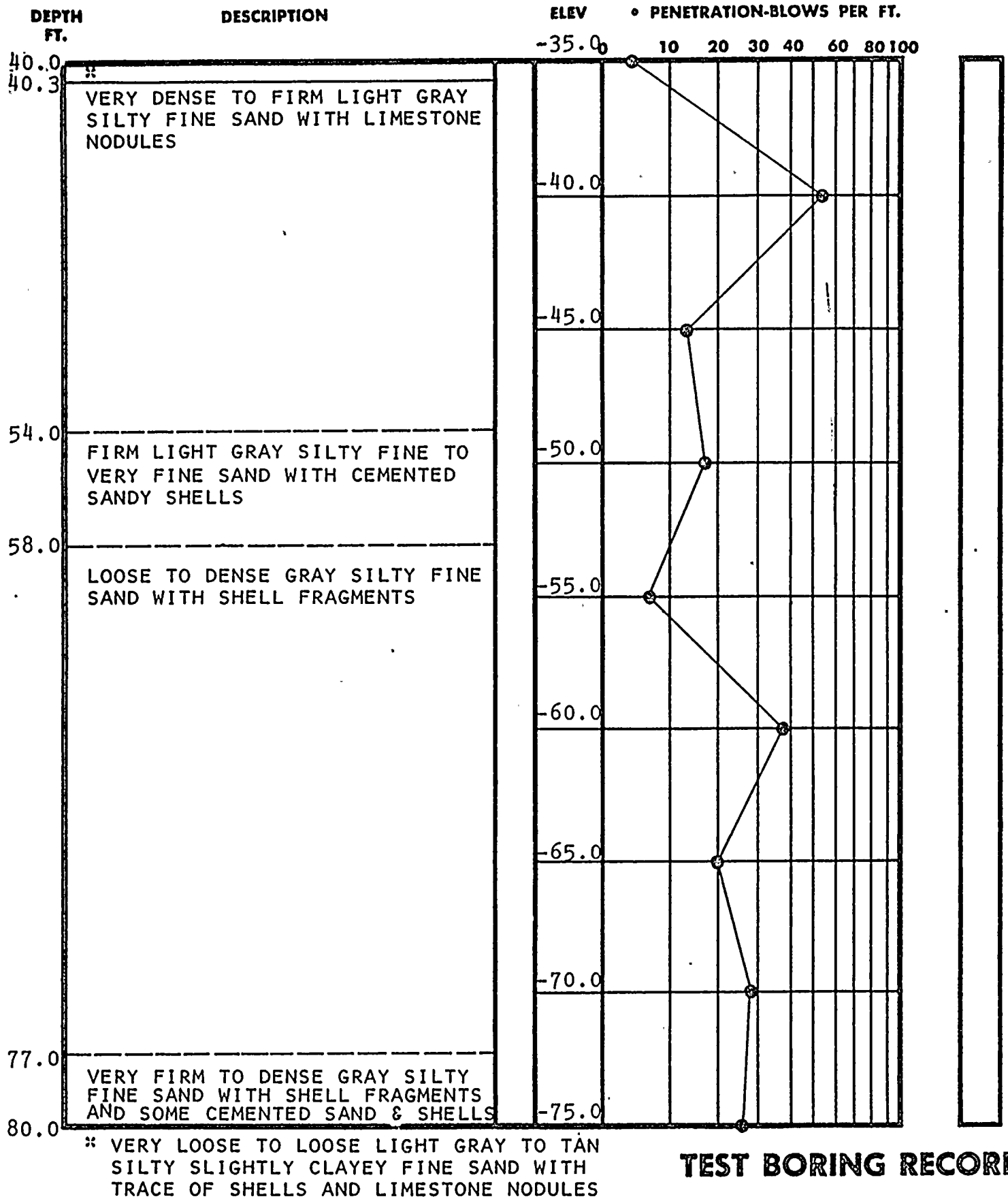
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

[80] % 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.

PAGE 2 OF 4

BORING NO. B-119
DATE DRILLED 1/18/69
JOB NO. J--127

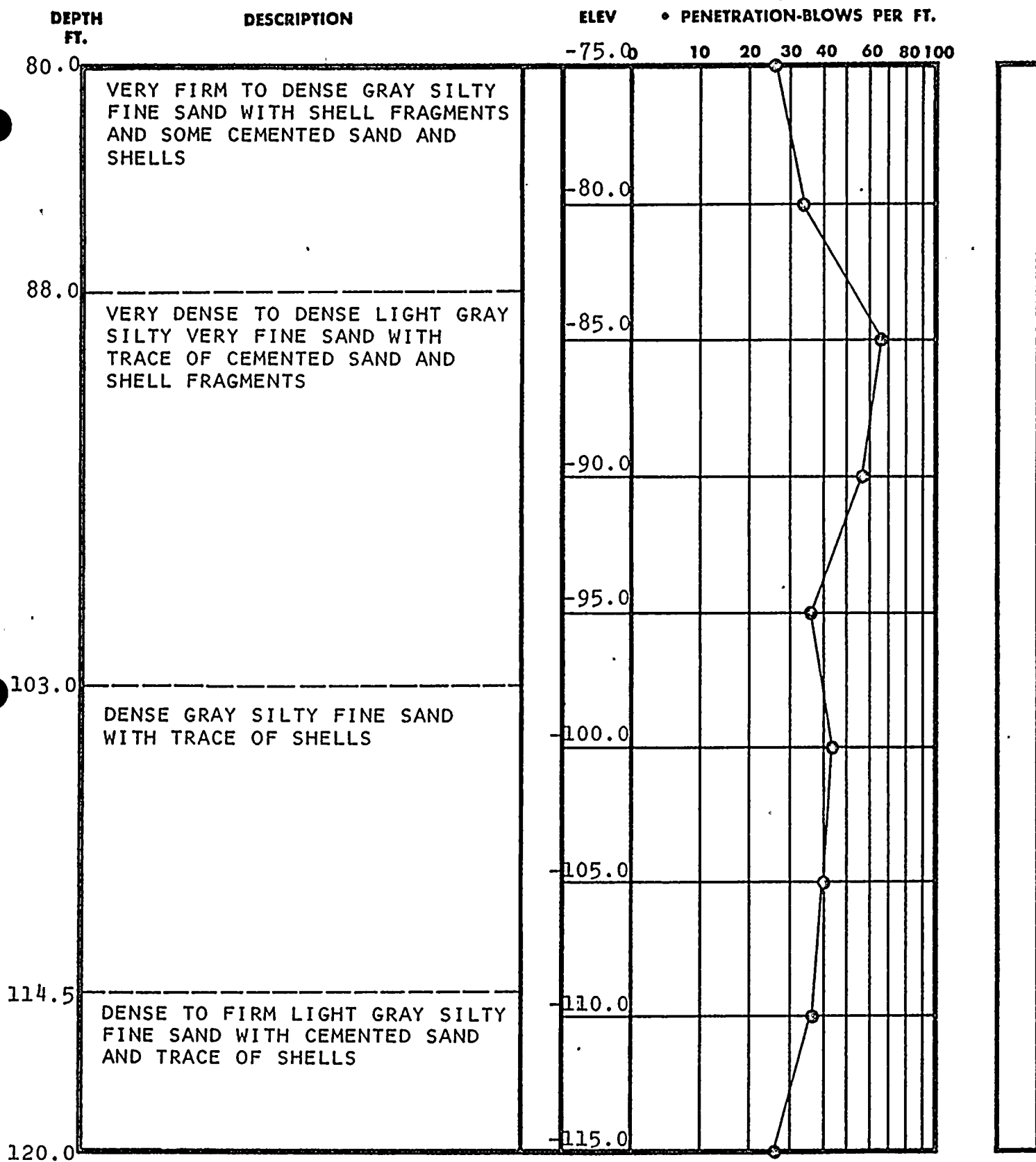
 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.
 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

PAGE 3 OF 4

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.

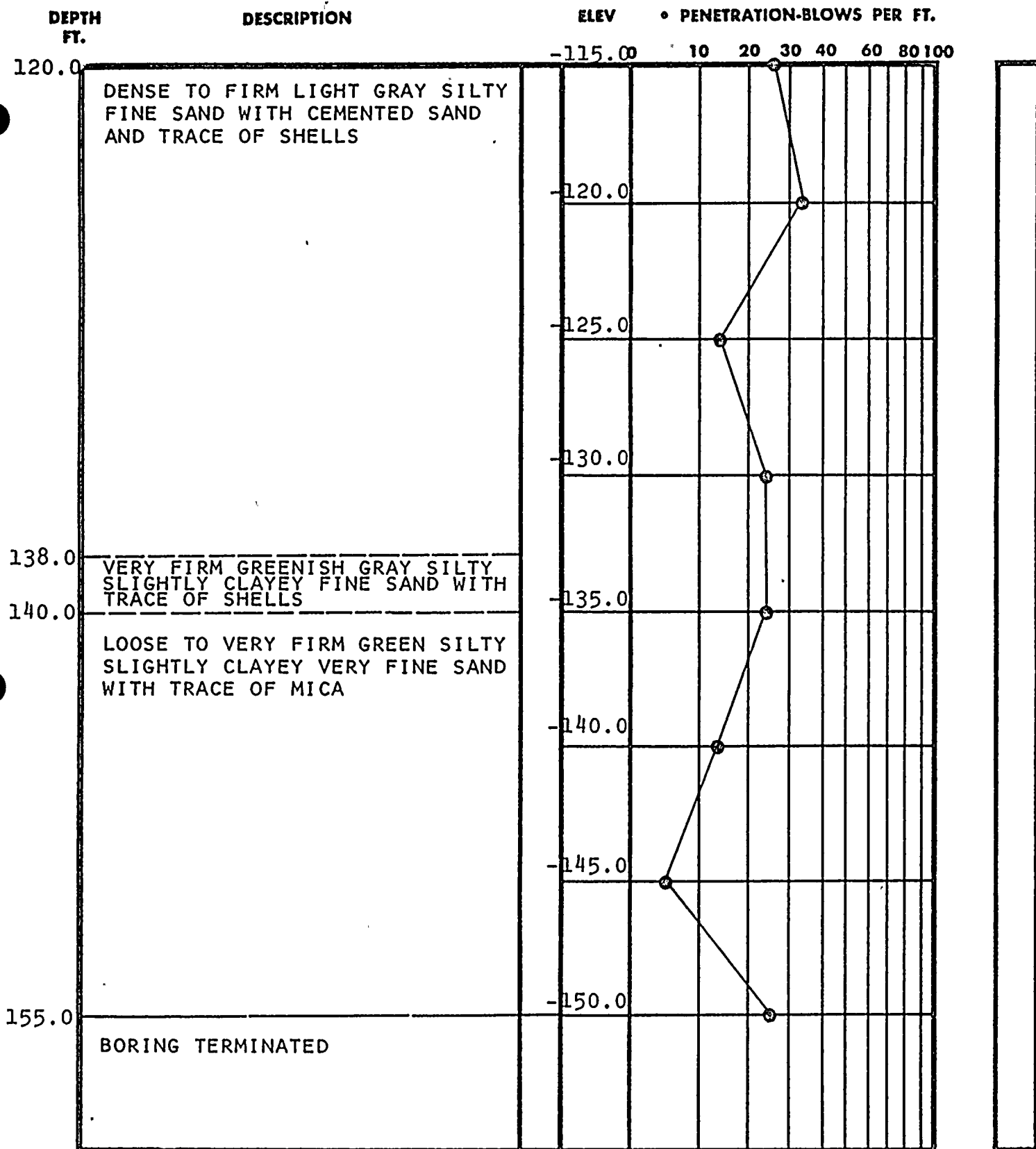
LOSS OF DRILLING WATER

BORING NO. B-119

DATE DRILLED 1/18/69

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

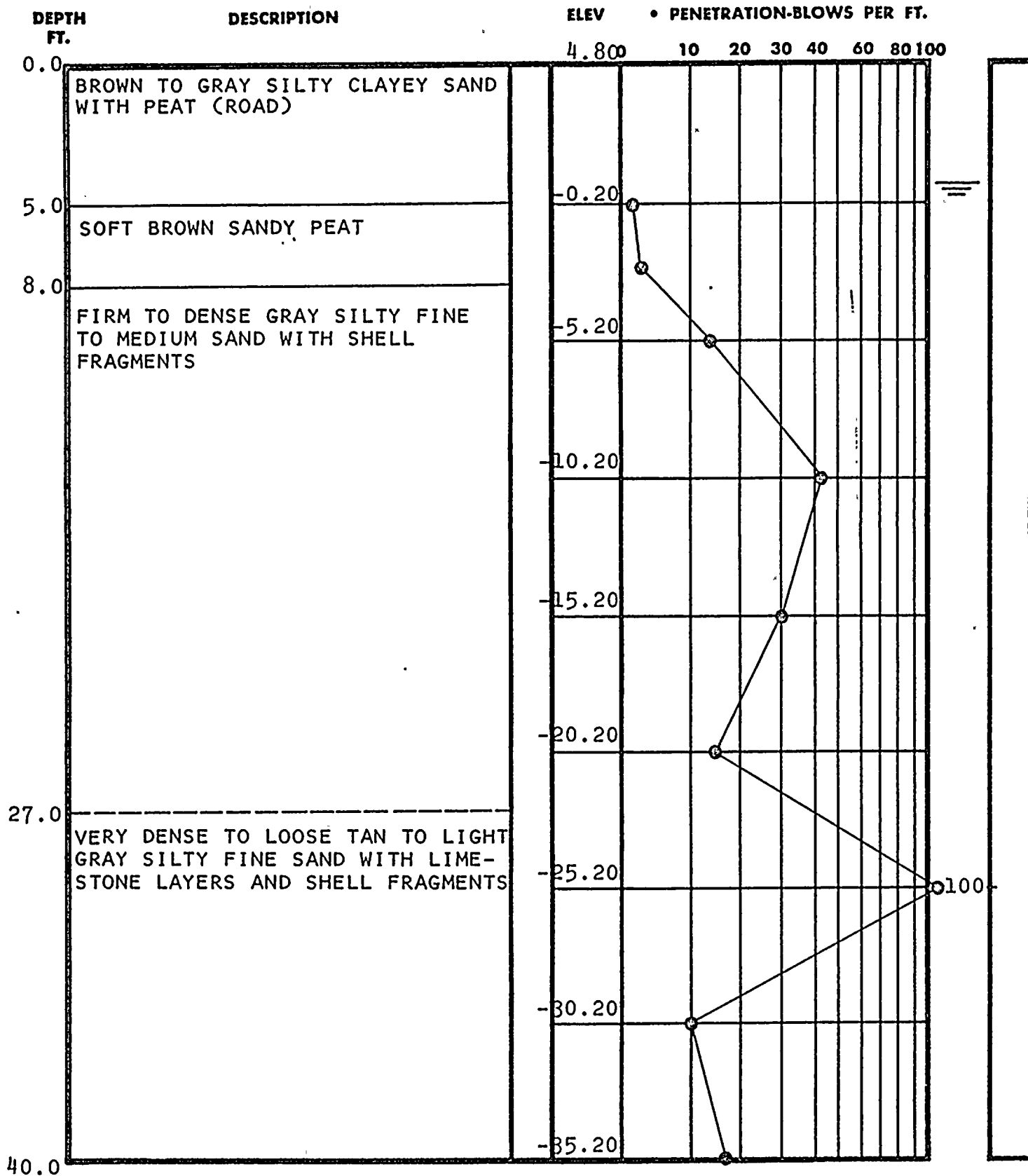
PAGE 4 OF 4

BORING NO. B-119

DATE DRILLED 1/18/69

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.

PAGE 1 OF 4

BORING NO. B-120

DATE DRILLED 1/18/69

JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 HR.



WATER TABLE, 1 HR.

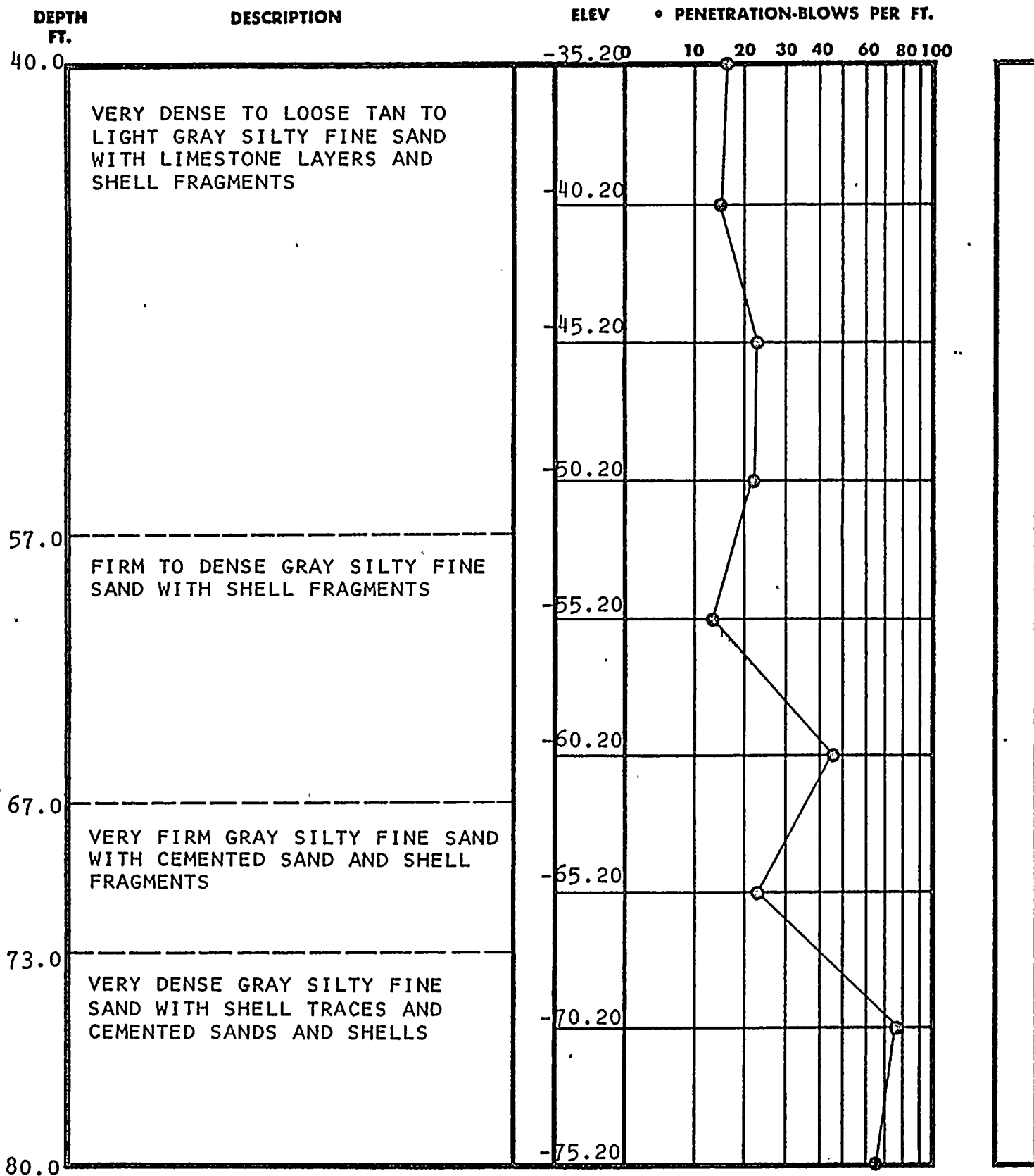


% ROCK CORE RECOVERY



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.

PAGE 2 OF 4

BORING NO. B-120

DATE DRILLED 1/18/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

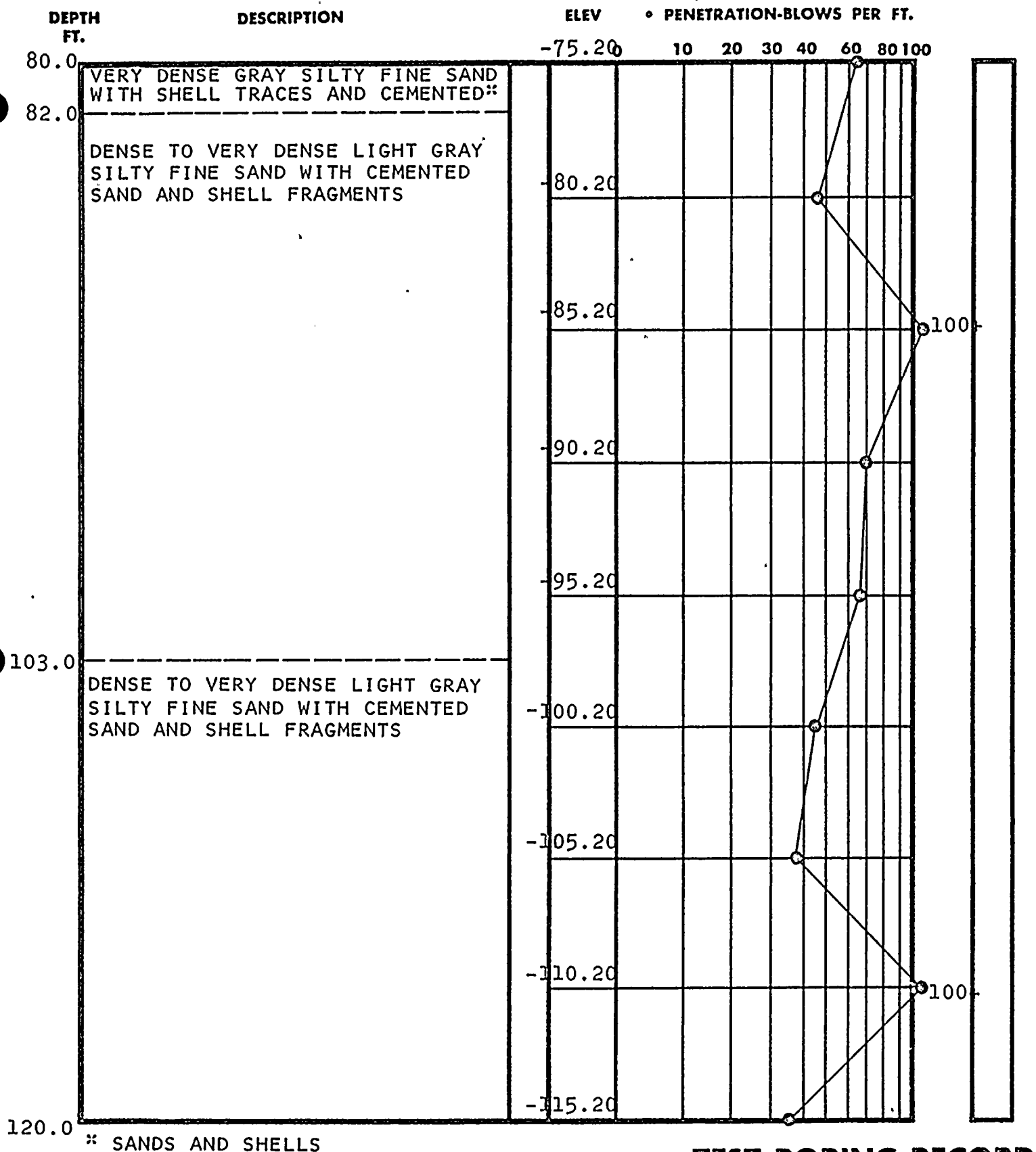
 WATER TABLE, 24 HR.

 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.

PAGE 3 OF 4

BORING NO. B-120

DATE DRILLED 1/18/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

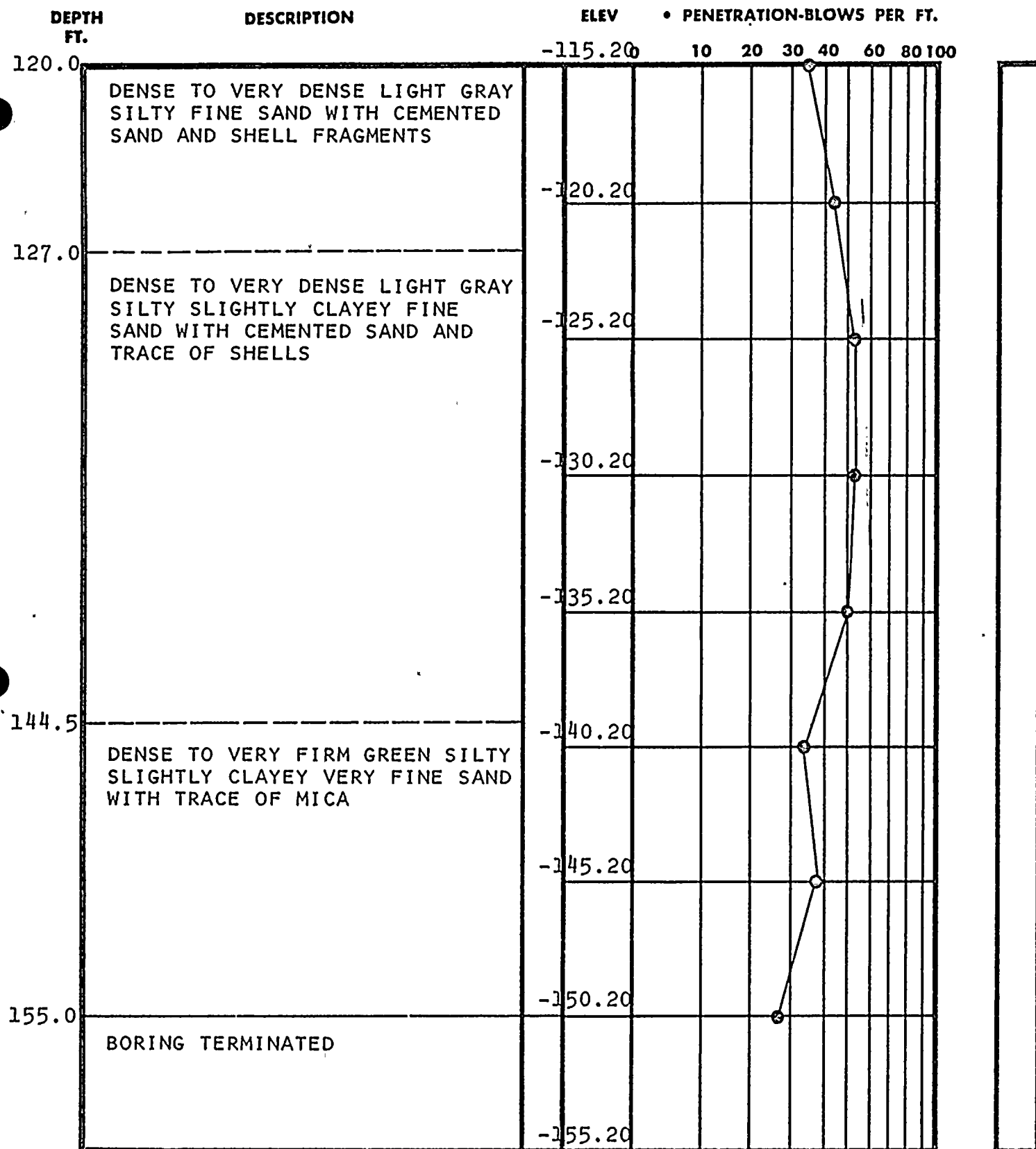
 WATER TABLE, 24 HR.

 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.

PAGE 4 OF 4

BORING NO. B-120

DATE DRILLED 1/18/69

JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 HR.



WATER TABLE, 1 HR.

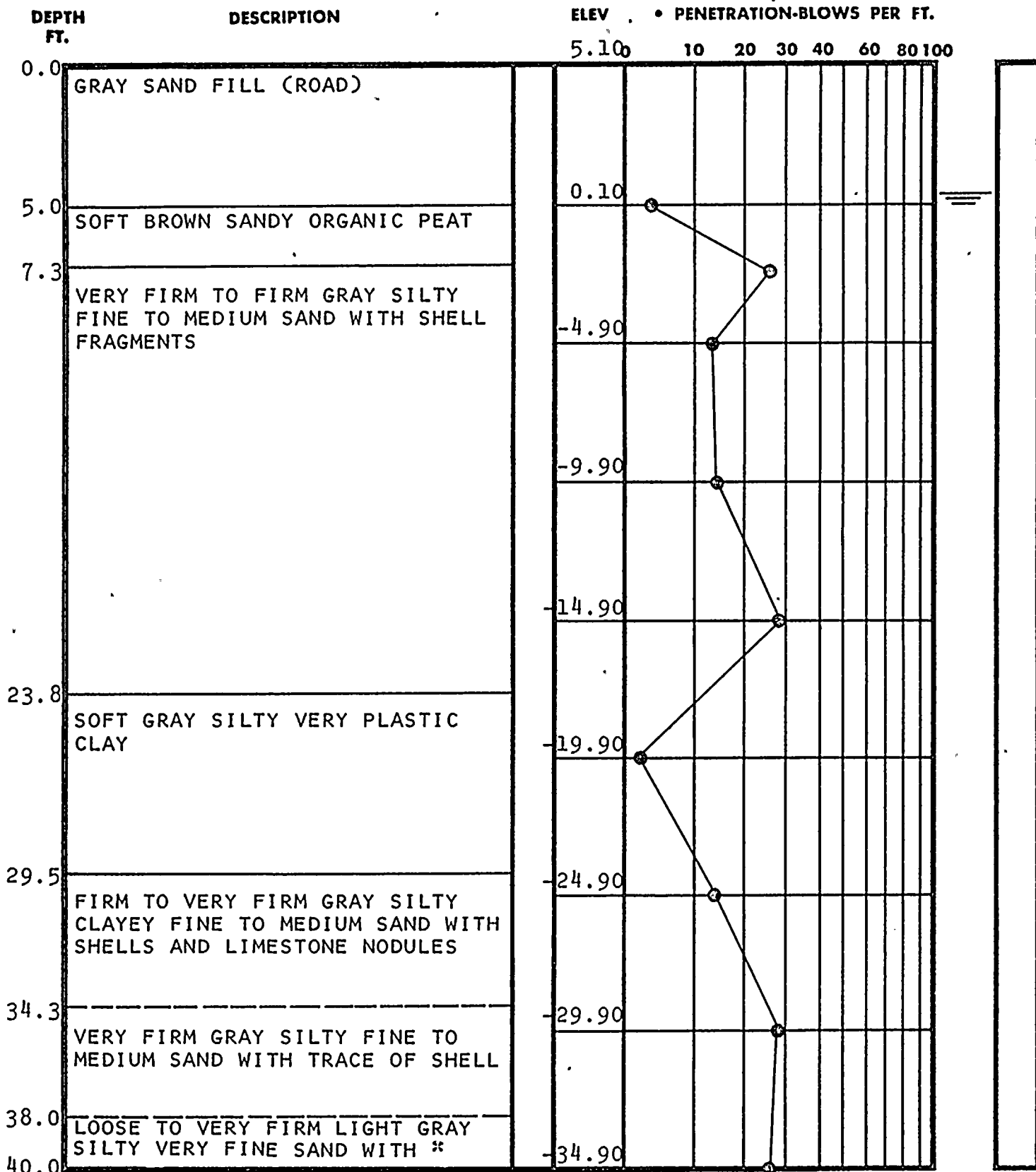


50 % ROCK CORE RECOVERY



LOSS OF DRILLING WATER

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.

PAGE 1 OF 4

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

 UNDISTURBED SAMPLE

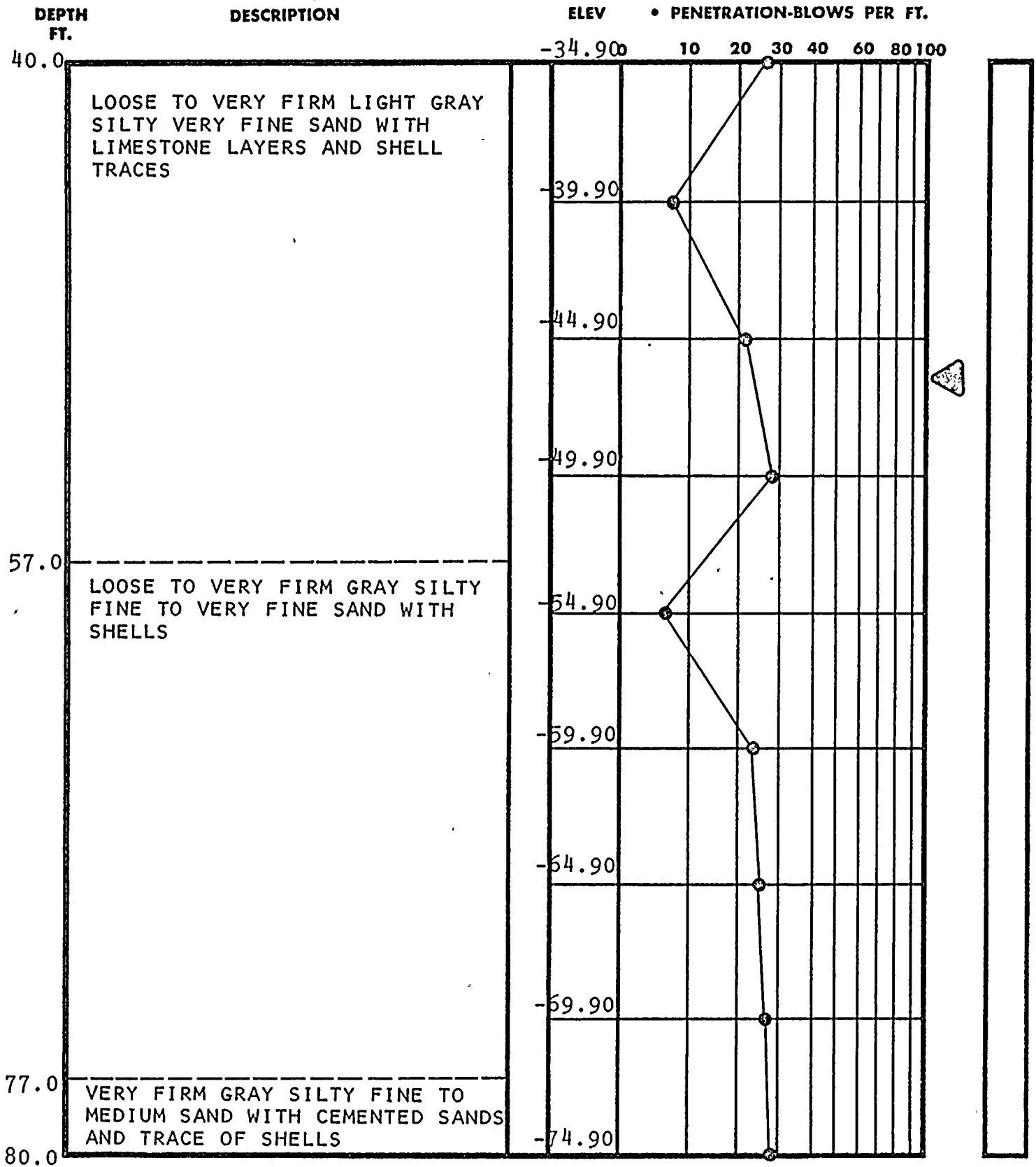
 WATER TABLE, 24 HR.

 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.

PAGE 2 OF 4

BORING NO. B-121

DATE DRILLED 1/16/69

JOB NO. J-1127

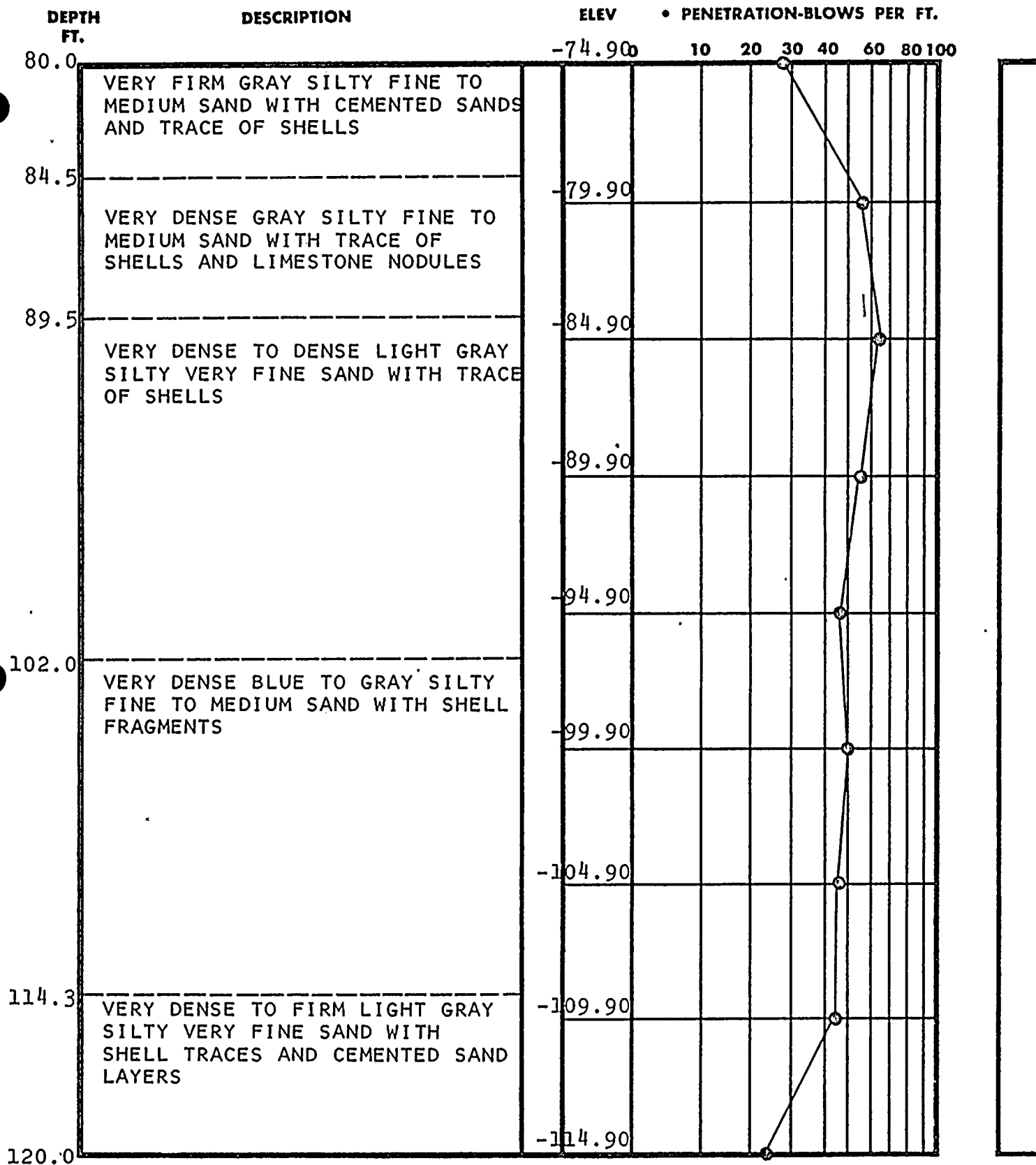
 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.
 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.

PAGE 3 OF 4

BORING NO. B-121

DATE DRILLED 1/16/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

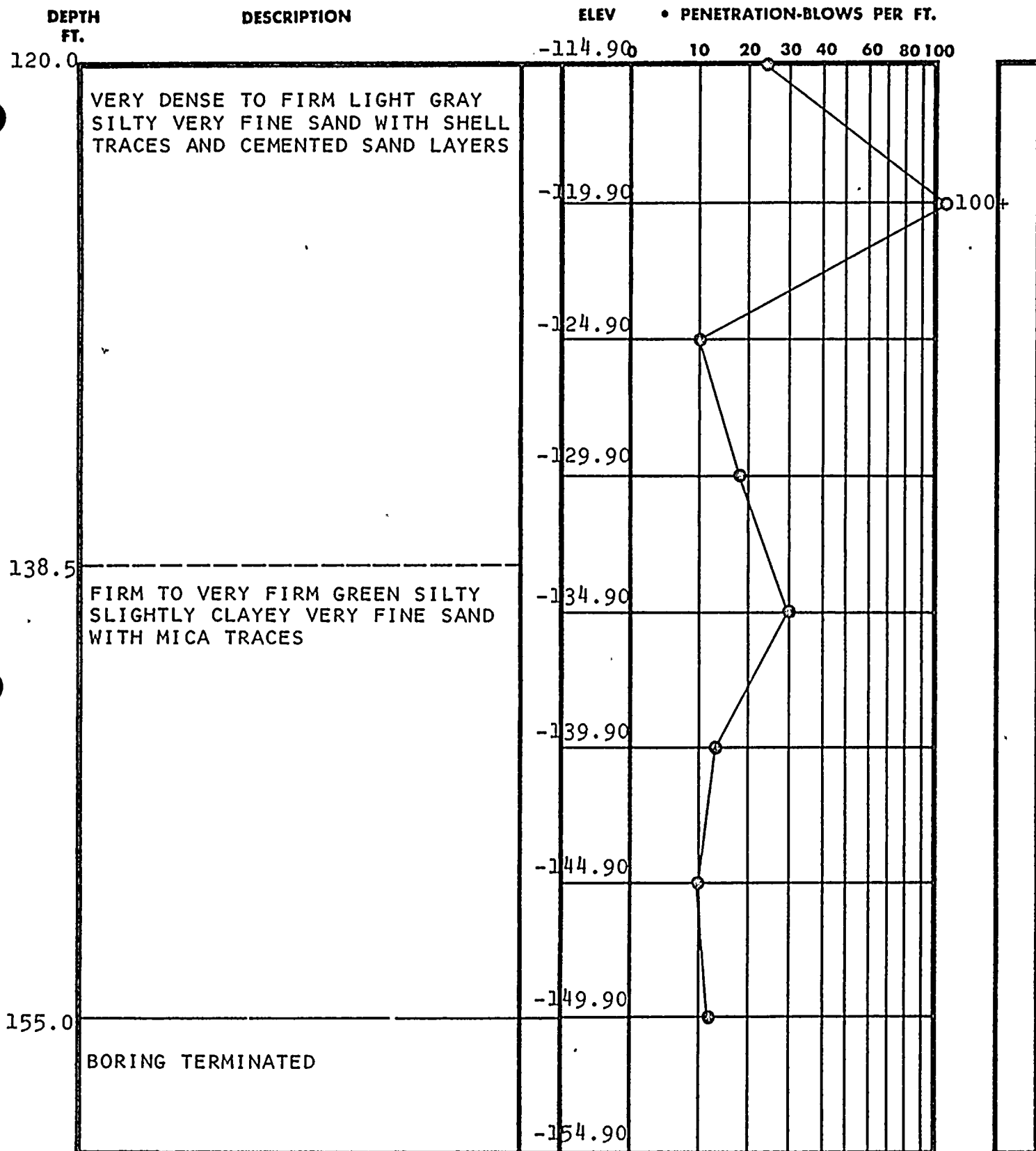
 WATER TABLE, 24 HR.

 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.

PAGE 4 OF 4

BORING NO. B-121

DATE DRILLED 1/16/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

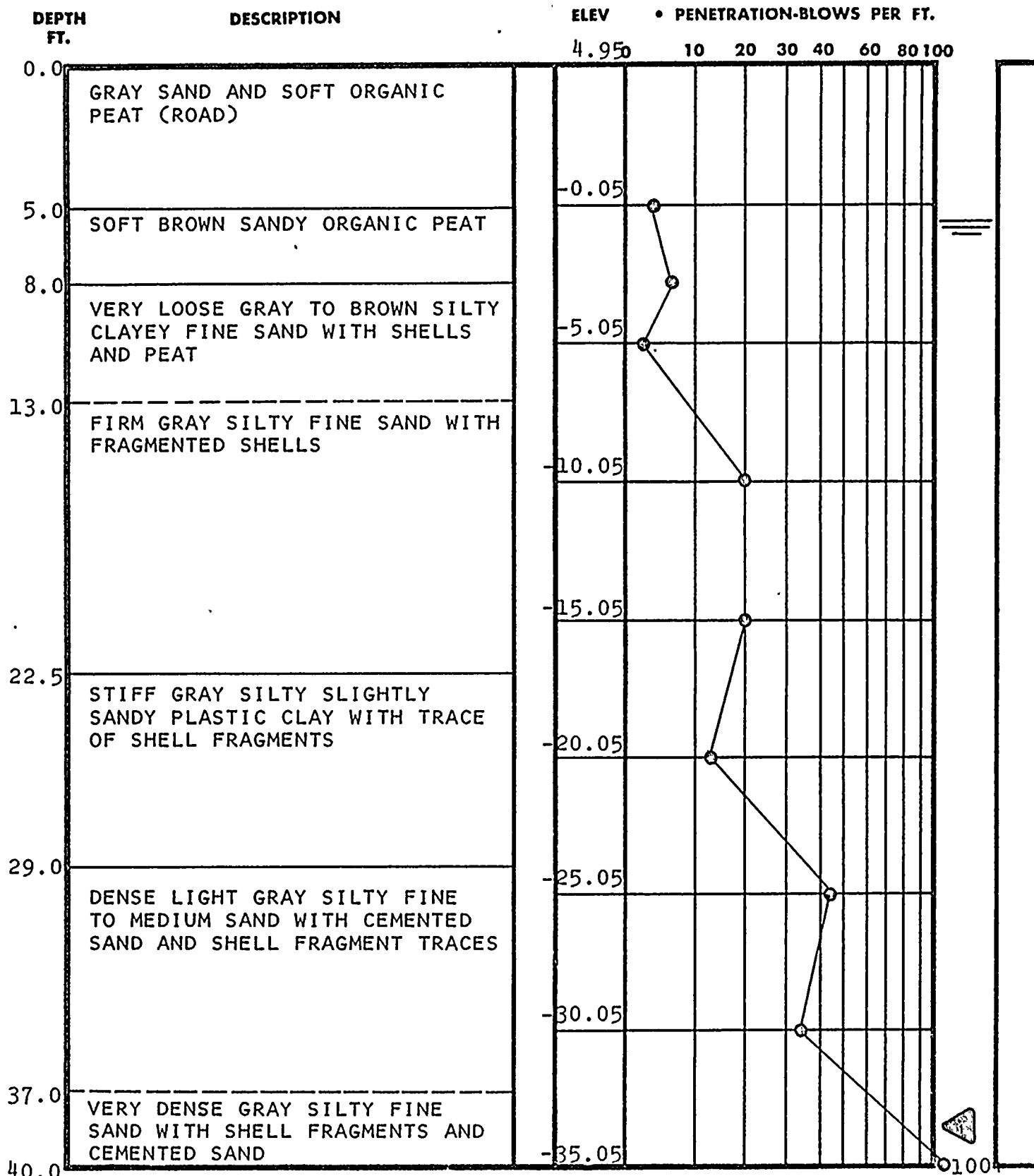
 WATER TABLE, 24 HR.

 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.

PAGE 1 OF 4

BORING NO. B-122

DATE DRILLED 1/15/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

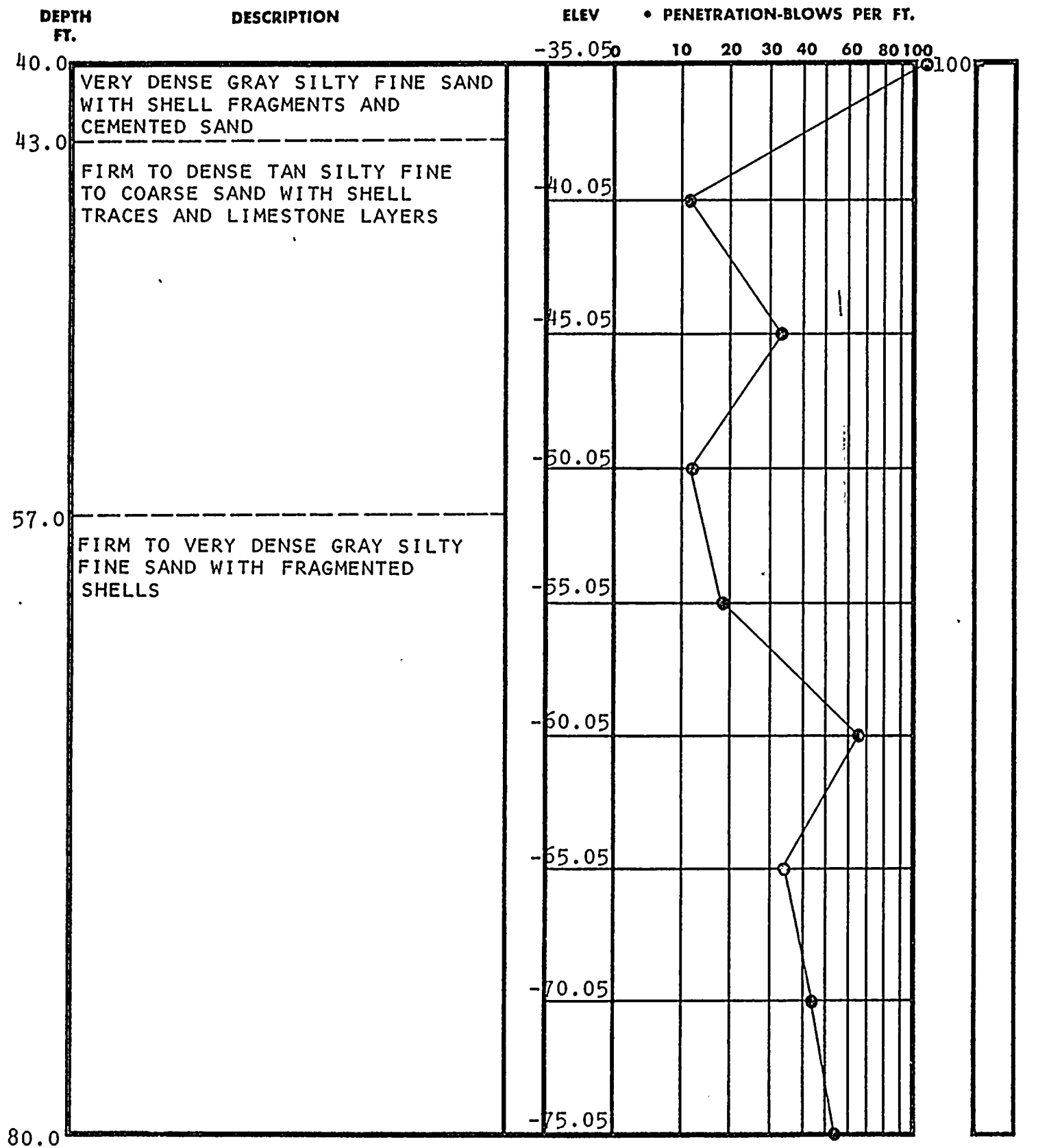
 WATER TABLE, 24 HR.

 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.

PAGE 2 OF 4

BORING NO. B-122

DATE DRILLED 1/15/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

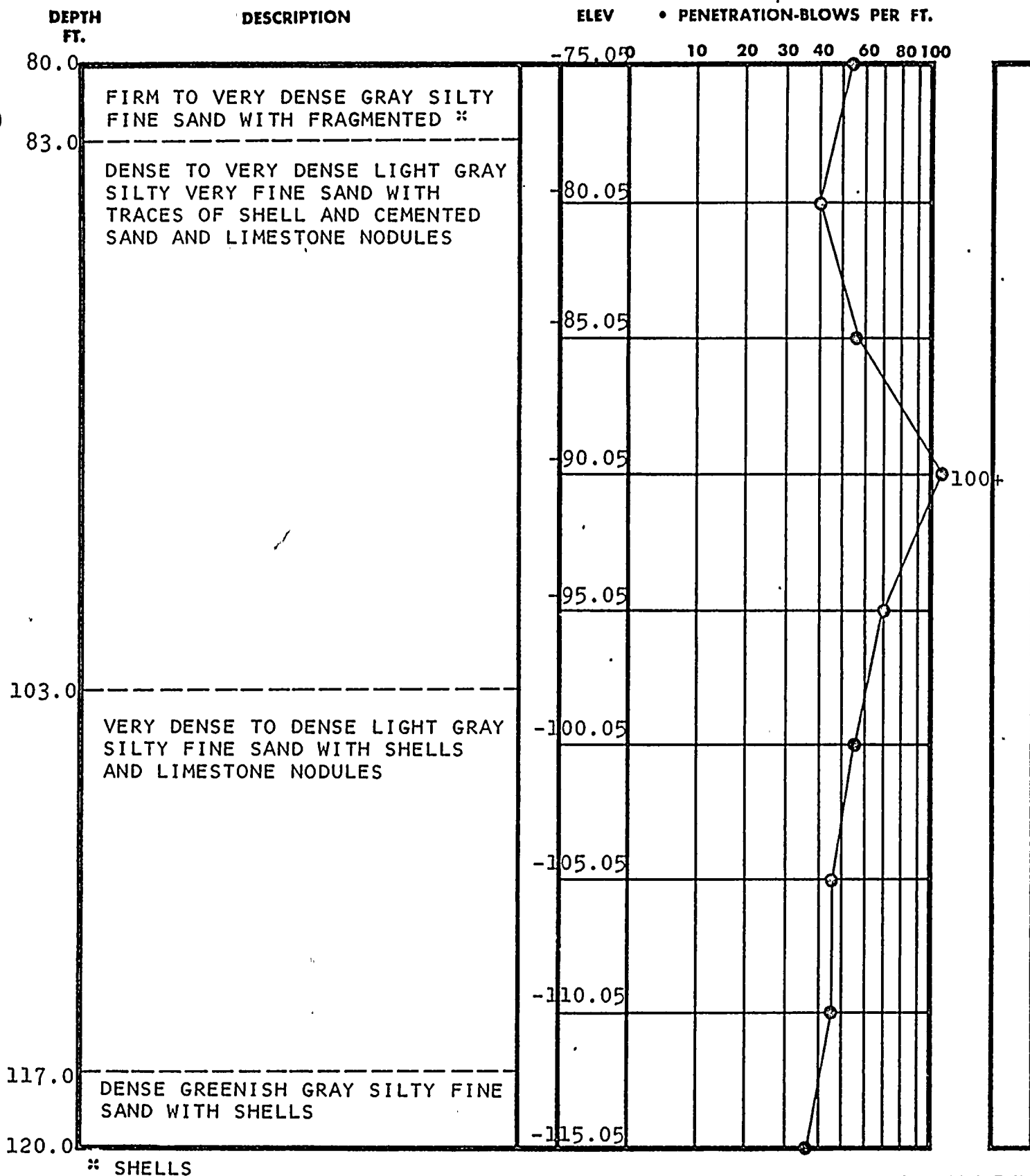
 WATER TABLE, 24 HR.

 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.

PAGE 3 OF 4

BORING NO. B-122

DATE DRILLED 1/15/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

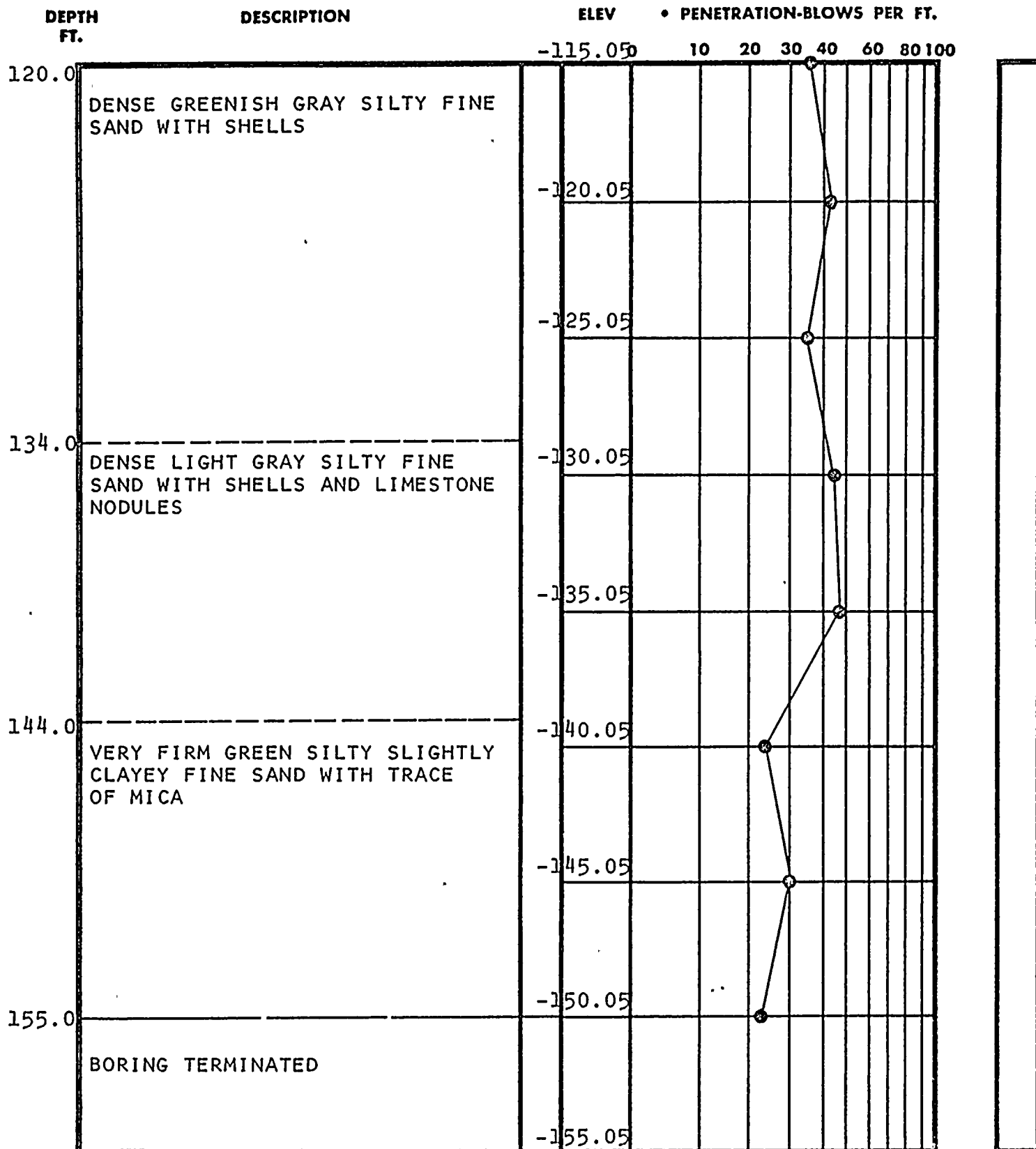
 WATER TABLE, 24 HR.

 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.

PAGE 4 OF 4

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

UNDISTURBED SAMPLE

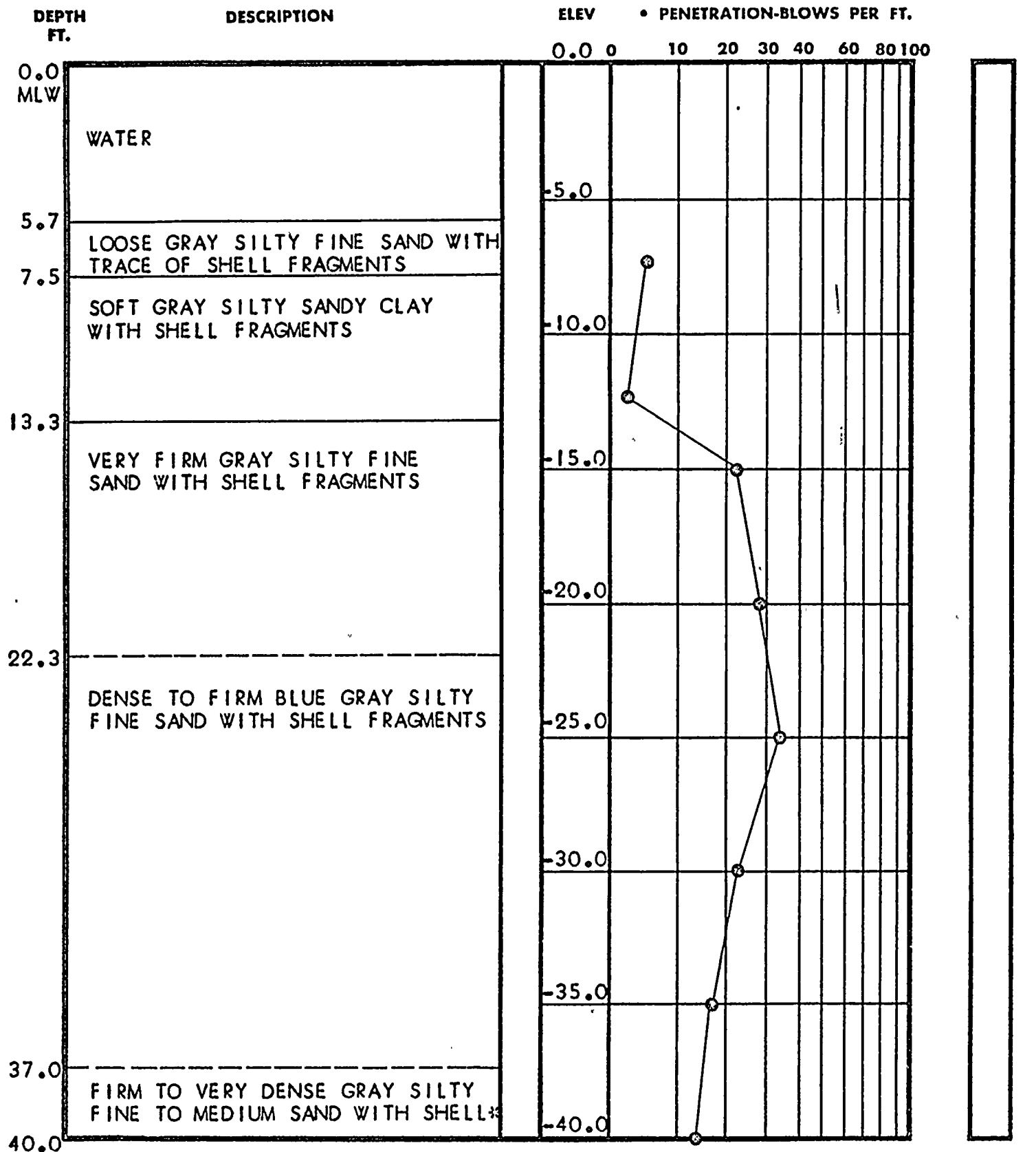
WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



* FRAGMENTS

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.

Page 1 of 2

BORING NO. B-123

DATE DRILLED 1/11/69

JOB NO. J-1127

UNDISTURBED SAMPLE

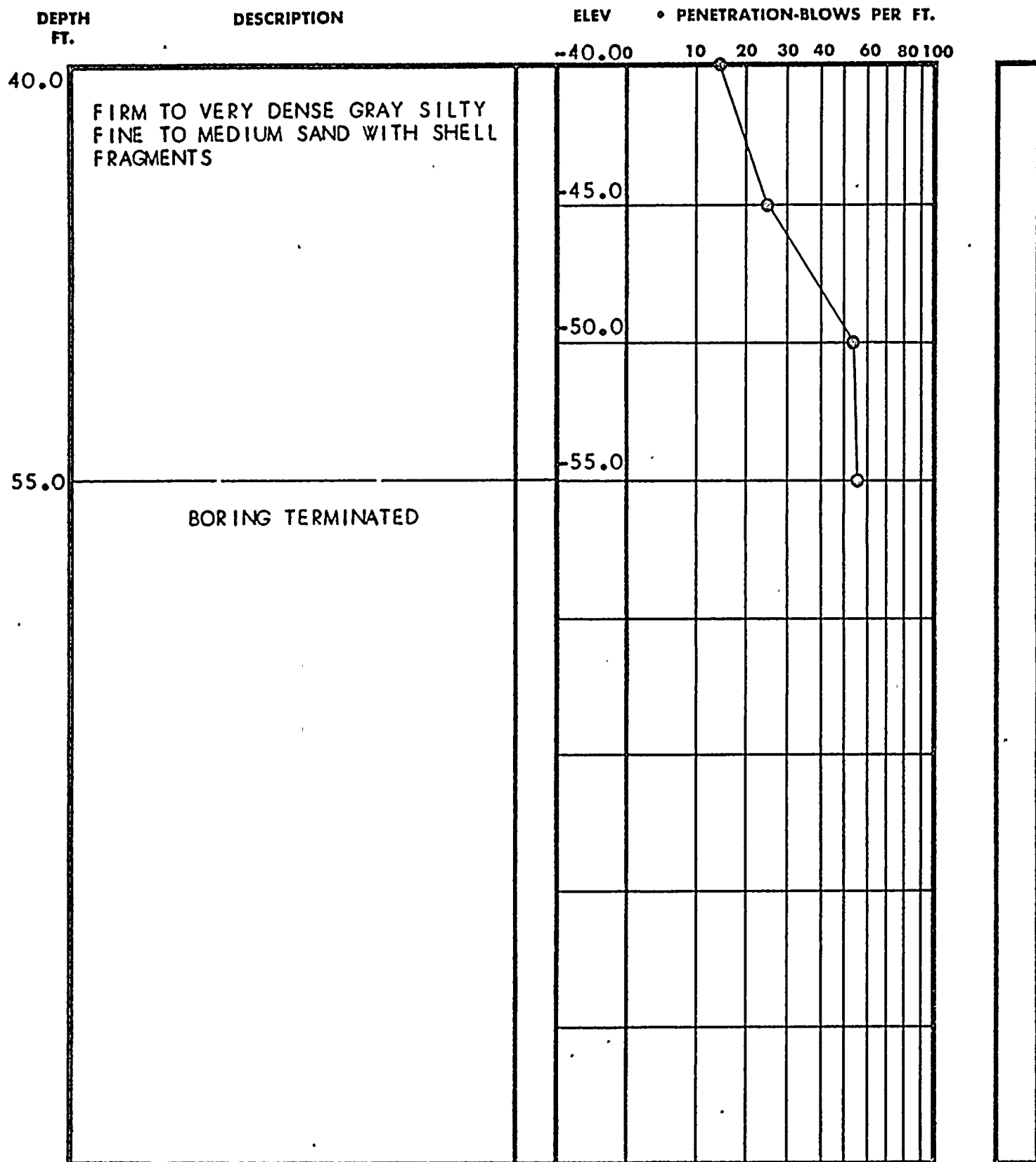
WATER TABLE, 24 HR.

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.

Page 2 of 2

BORING NO. B-123

DATE DRILLED 1/11/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

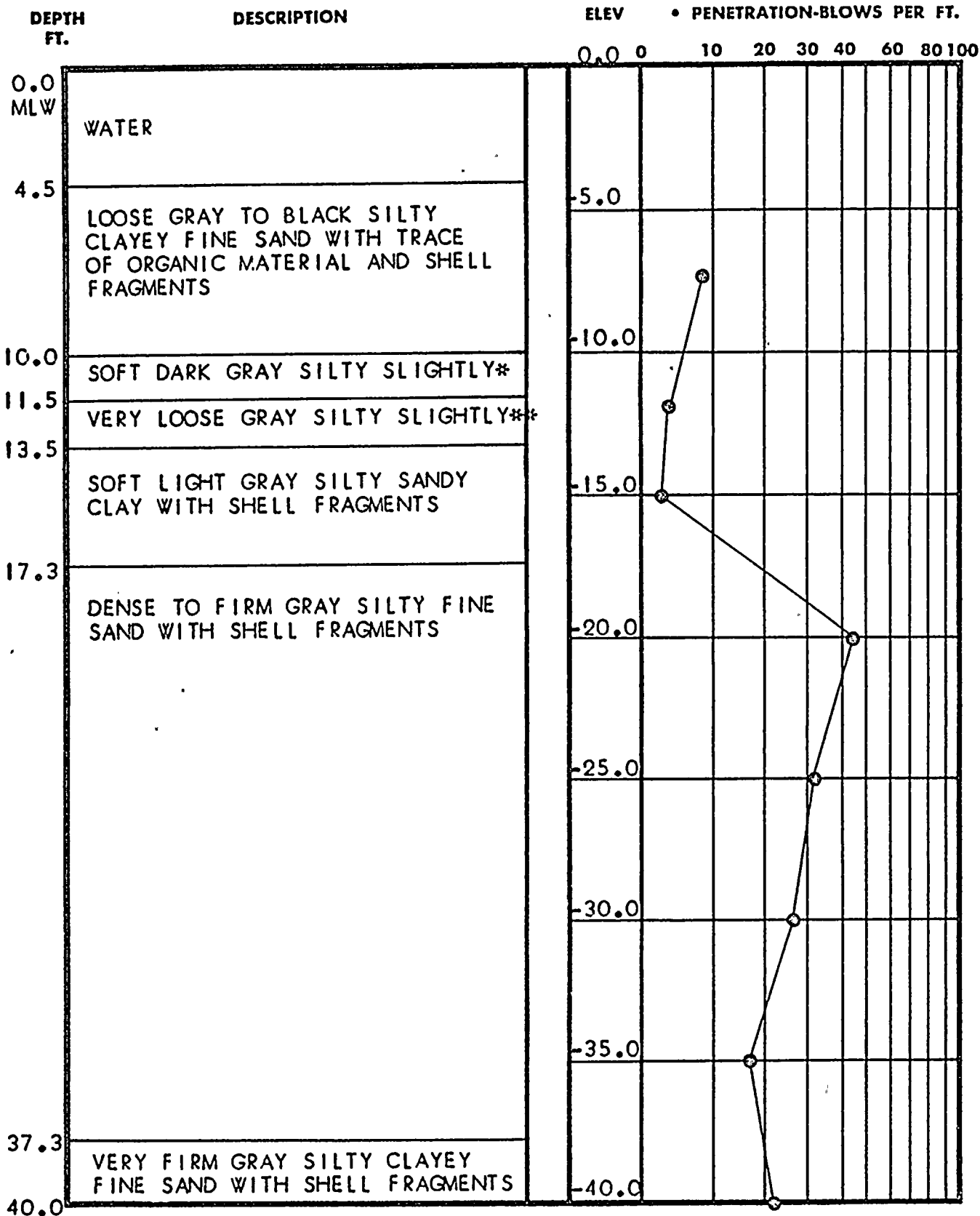
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

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

[30] % ROCK CORE RECOVERY

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 LOSS OF DRILLING WATER

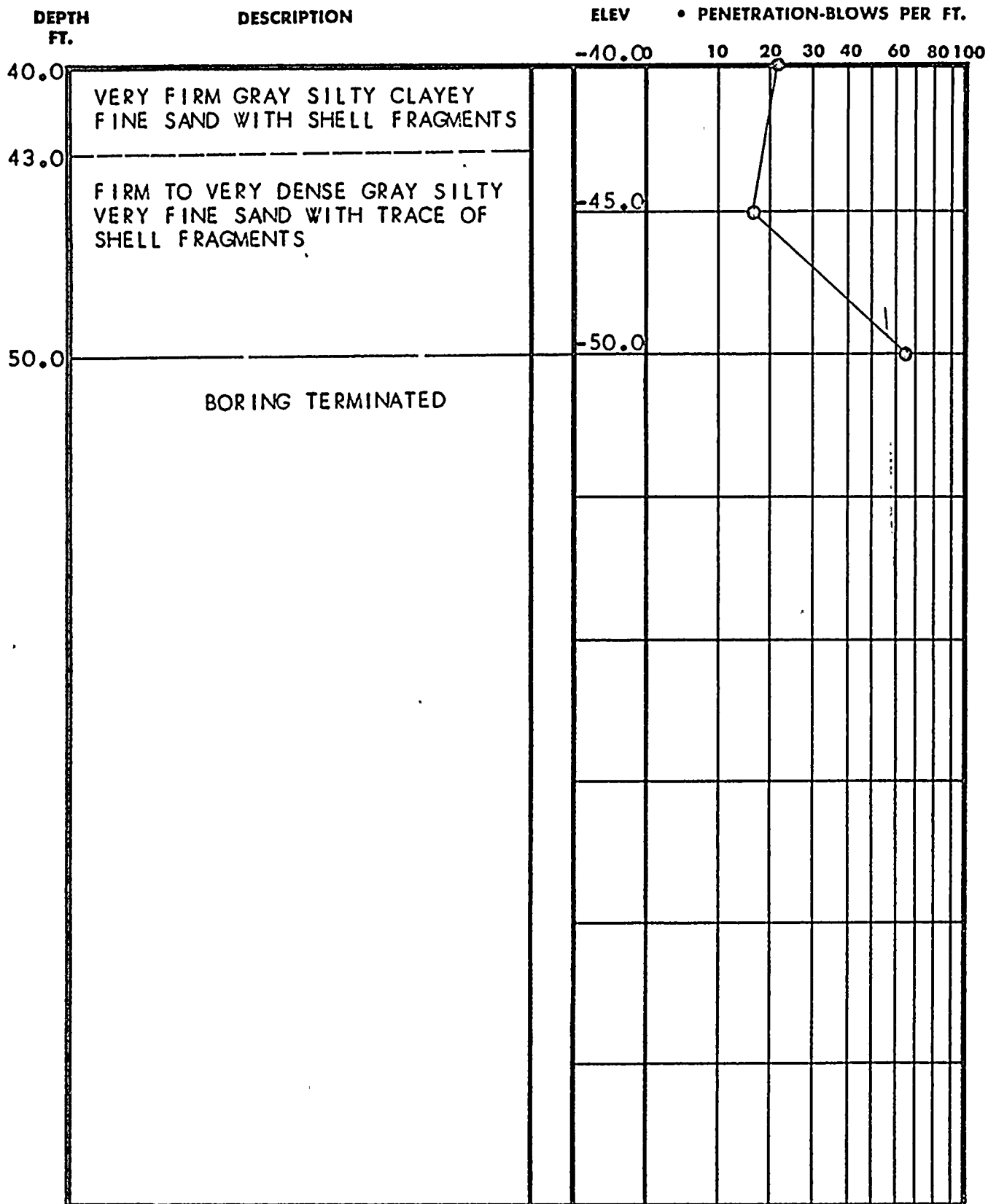
TEST BORING RECORD

BORING NO. B-124

DATE DRILLED 1/10/69

JOB NO. J-1127

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

BORING AND SAMPLING 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.

Page 2 of 2

BORING NO. B-124

DATE DRILLED 1/10/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

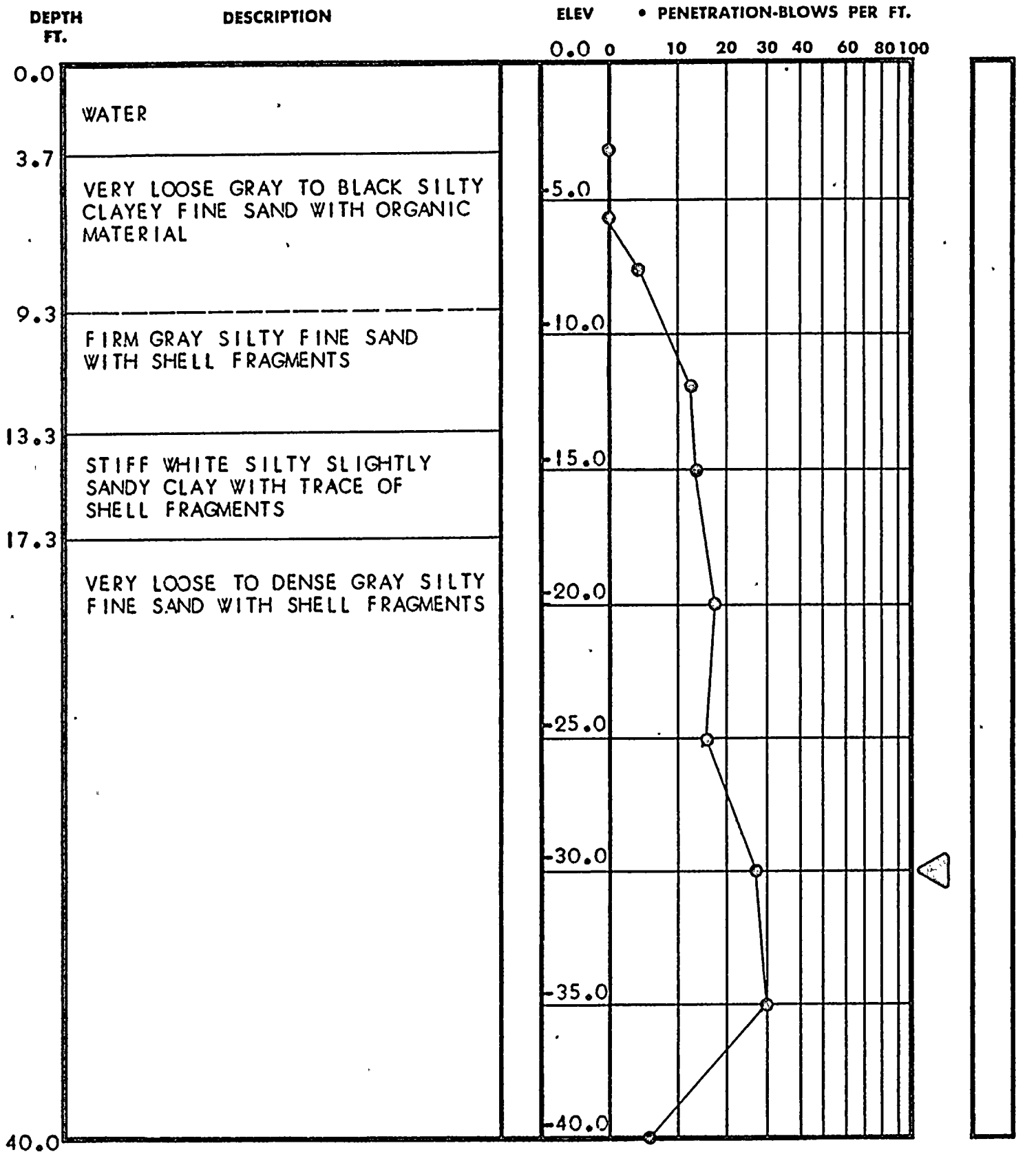
 WATER TABLE, 24 HR.

 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.

Page 1 of 2

BORING NO. B-125

DATE DRILLED 1/9/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

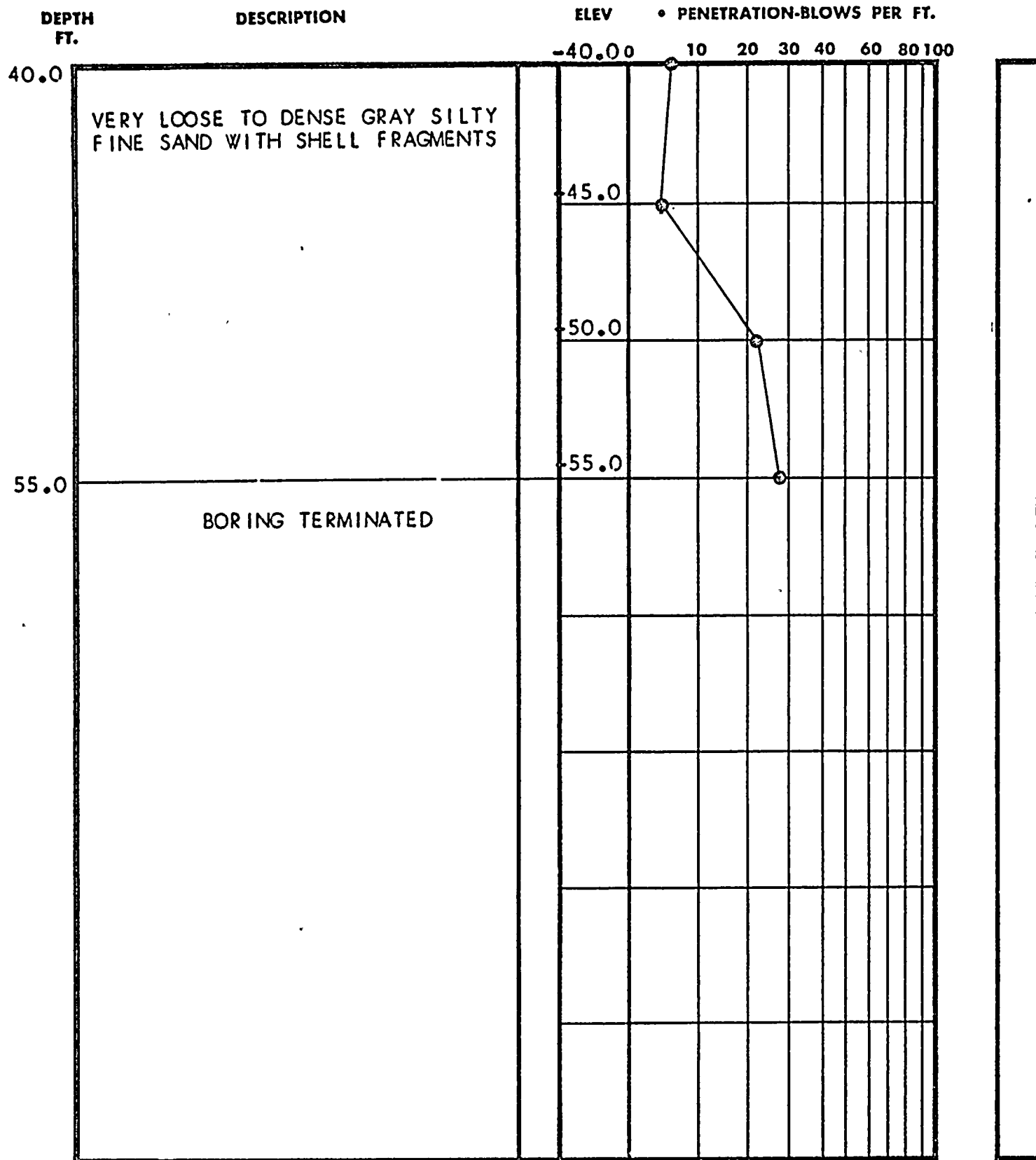
 WATER TABLE, 24 HR.

 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.

Page 2 of 2

BORING NO. B-125

DATE DRILLED 1/9/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

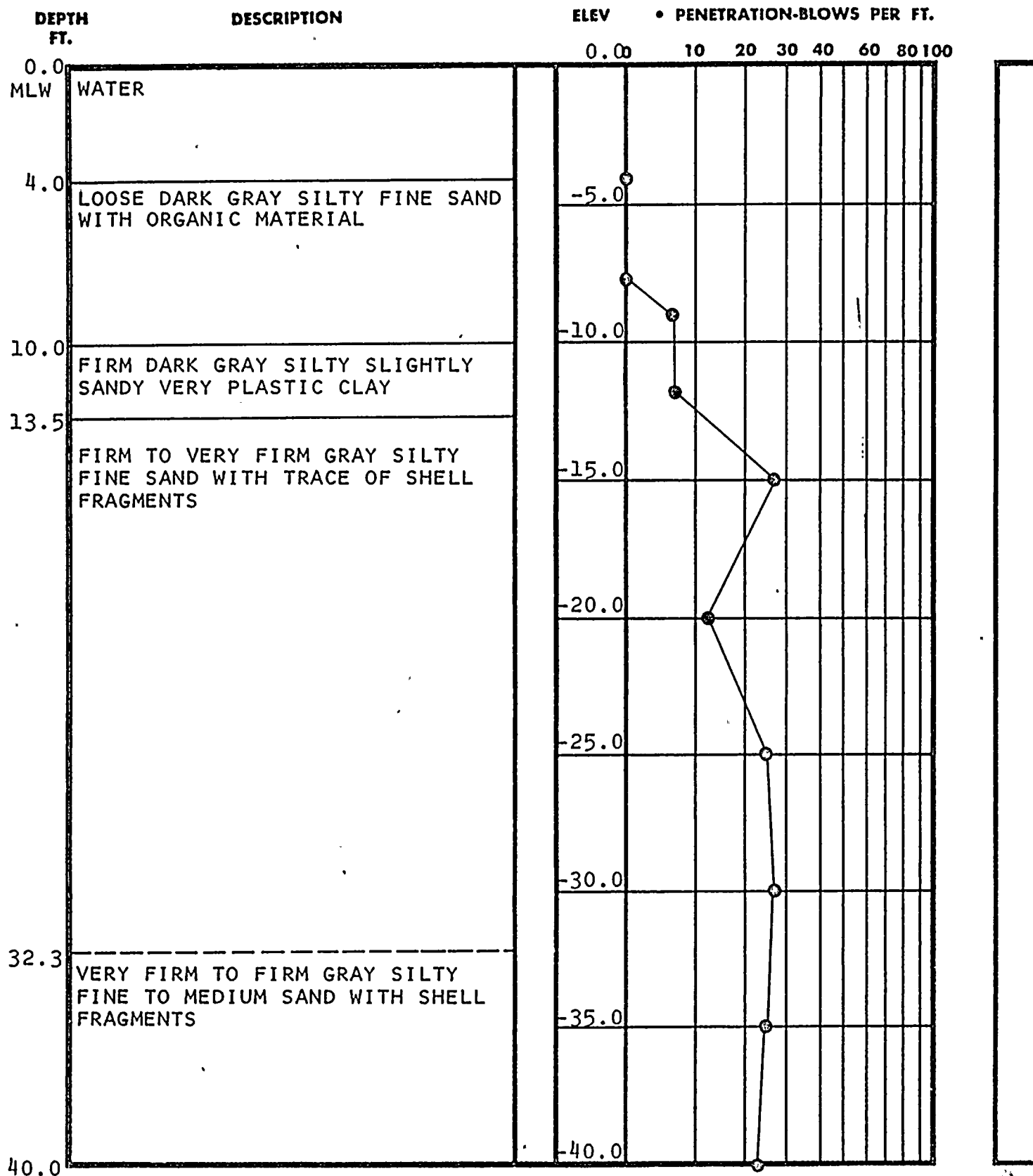
 WATER TABLE, 24 HR.

 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.

PAGE 1 OF 2

BORING NO. B-126

DATE DRILLED 1/14/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

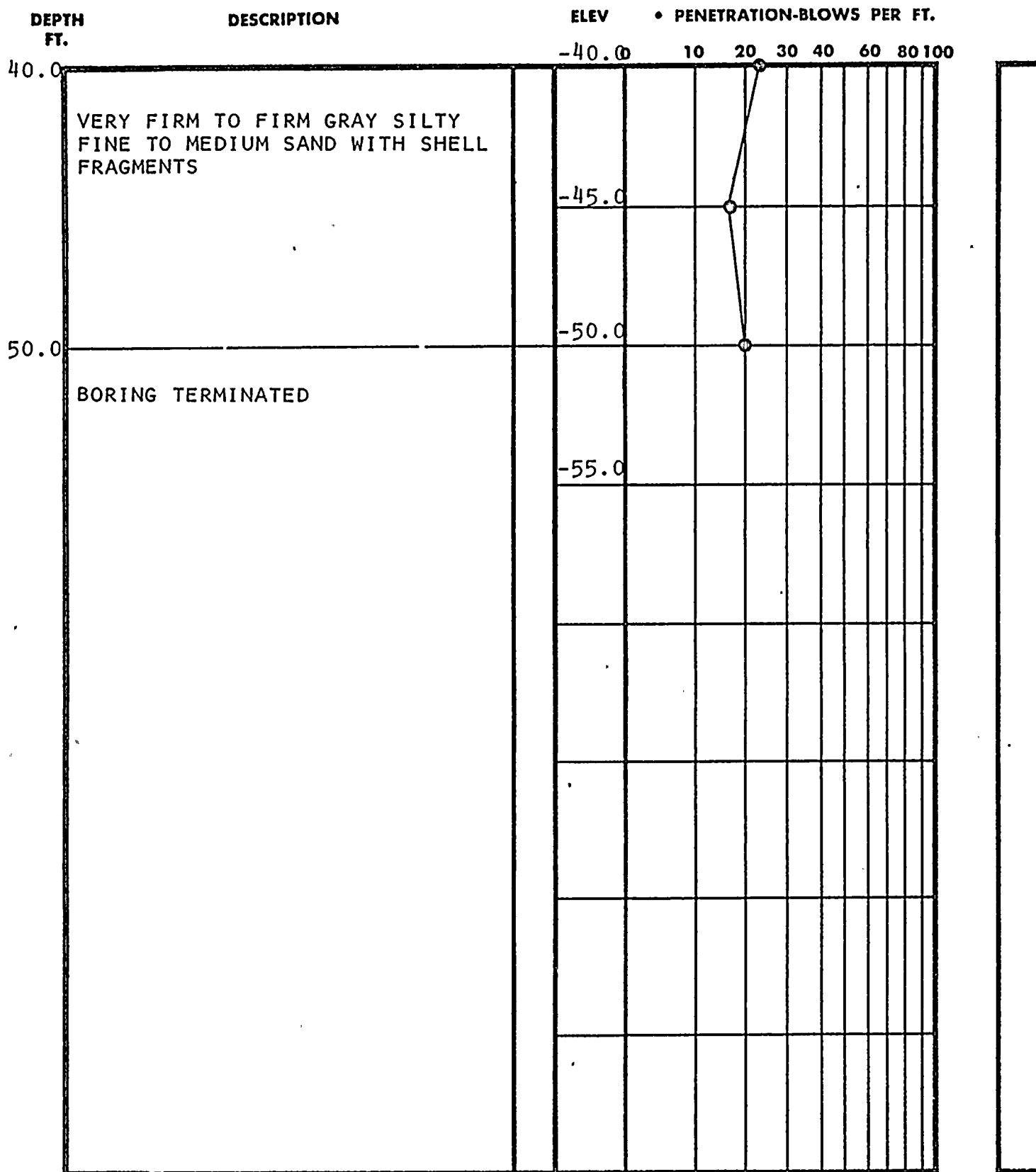
 WATER TABLE, 24 HR.

 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.

PAGE 2 OF 2

BORING NO. B-126

DATE DRILLED 1/14/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

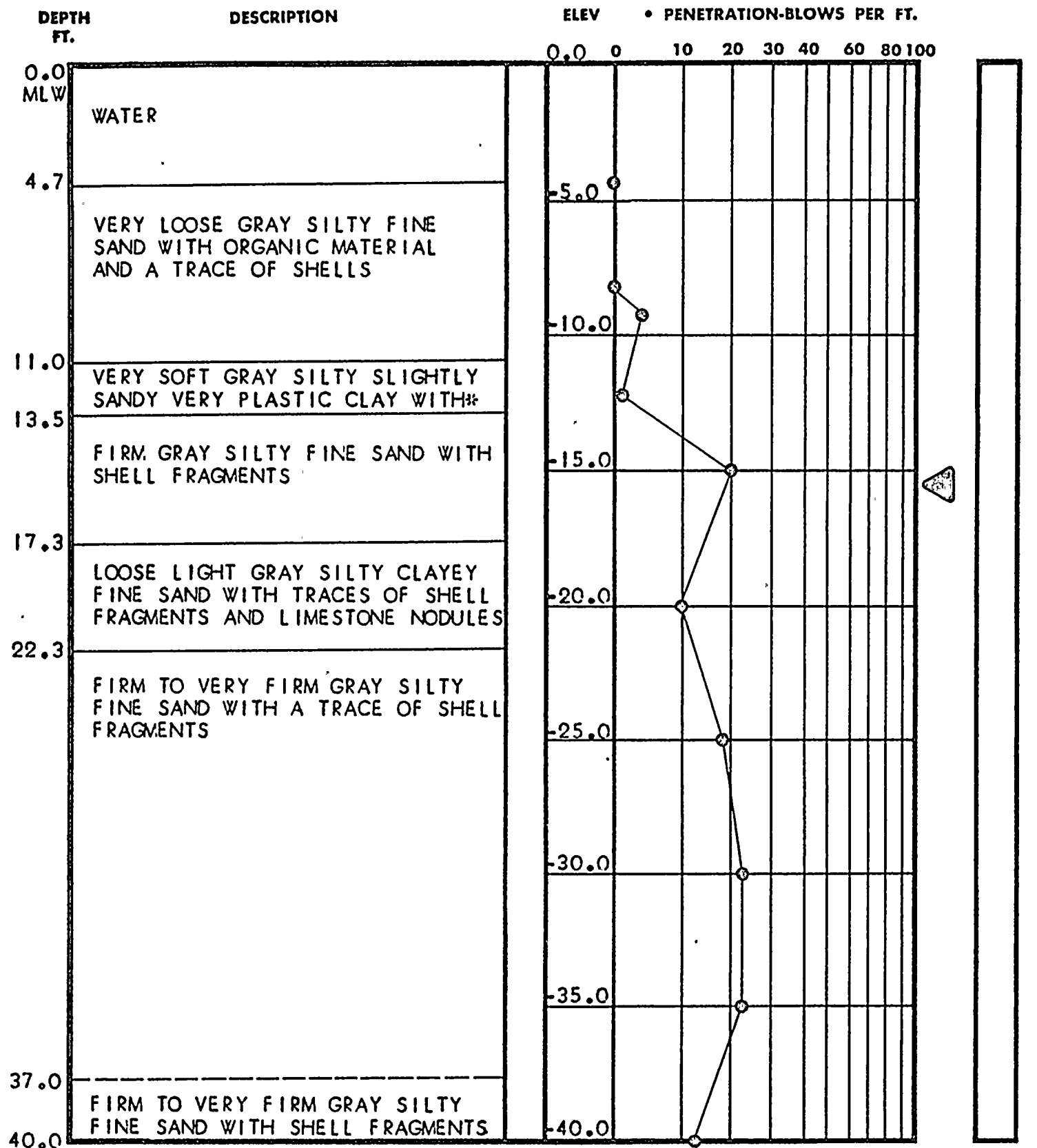
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



* A TRACE OF SHELLS

TEST BORING RECORD

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

Page 1 of 2

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

BORING NO. 8-127

DATE DRILLED 1/7/69

JOB NO. J-1127

UNDISTURBED SAMPLE

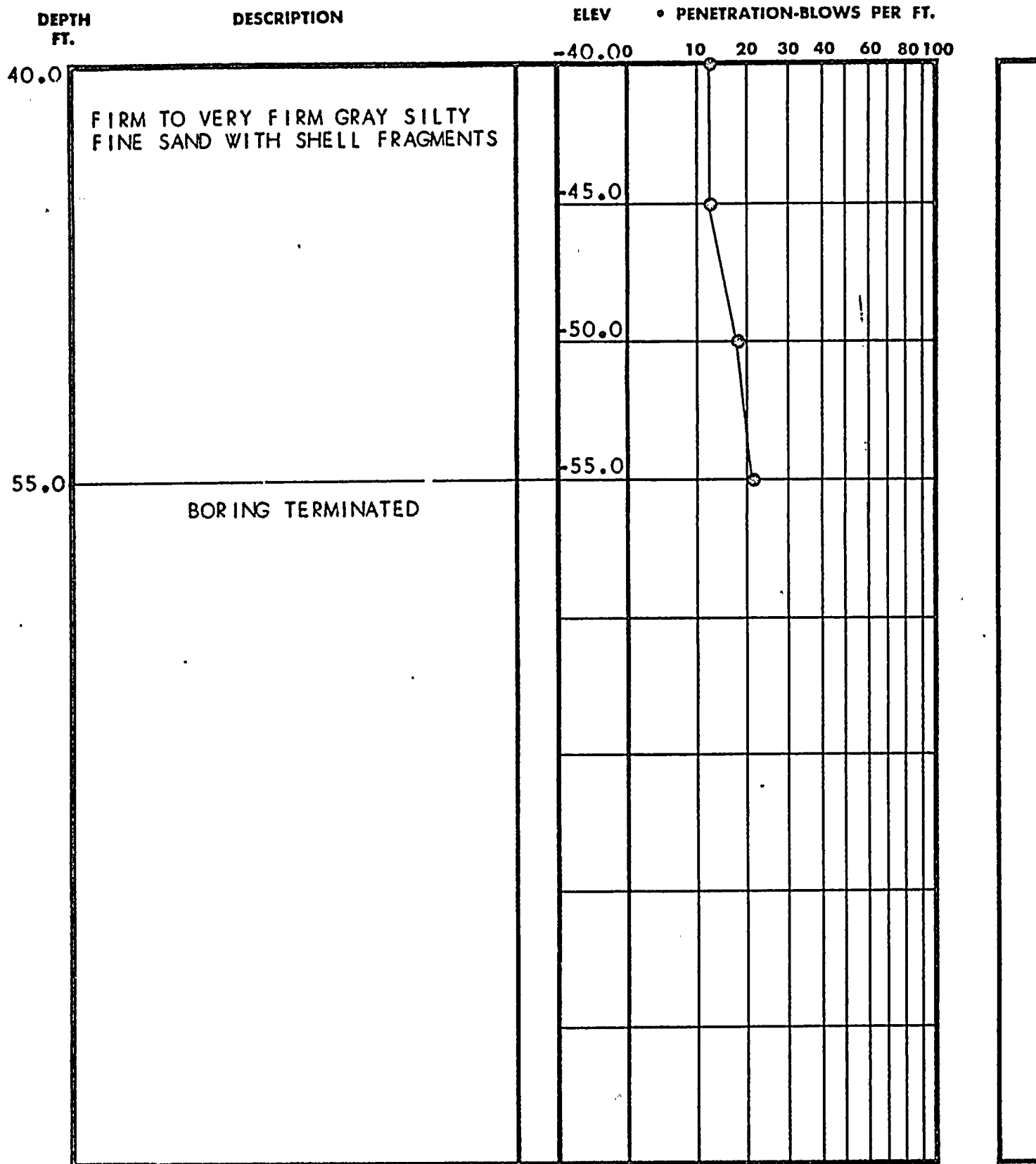
WATER TABLE, 24 HR.

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.

Page 2 of 2

BORING NO. 8-127

DATE DRILLED 1/7/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

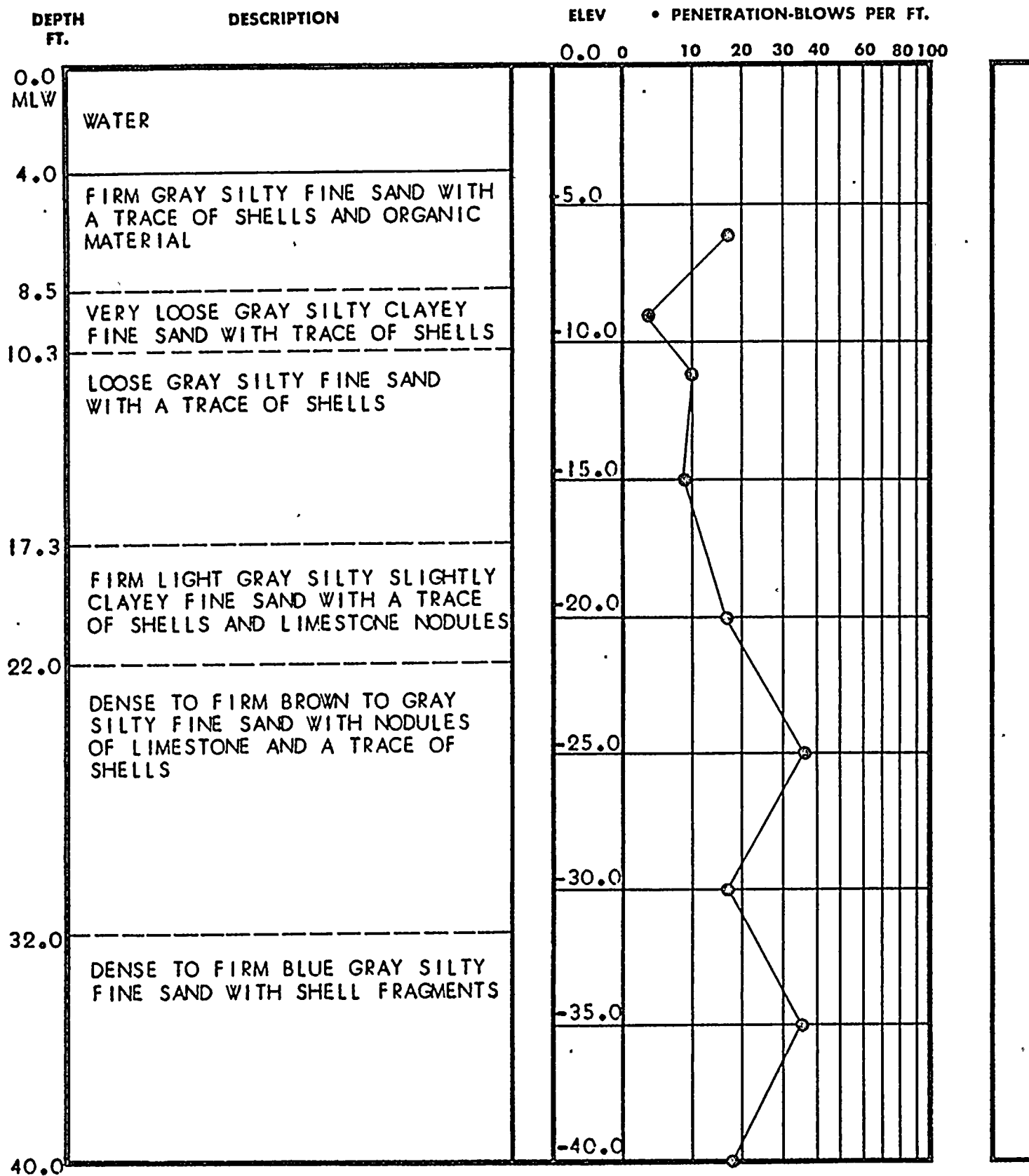
 WATER TABLE, 24 HR.

 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. L.D. SAMPLER 1 FT.

Page 1 of 2

BORING NO. B-128

DATE DRILLED 1/3/69

JOB NO. J-1127

UNDISTURBED SAMPLE

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

% ROCK CORE RECOVERY

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

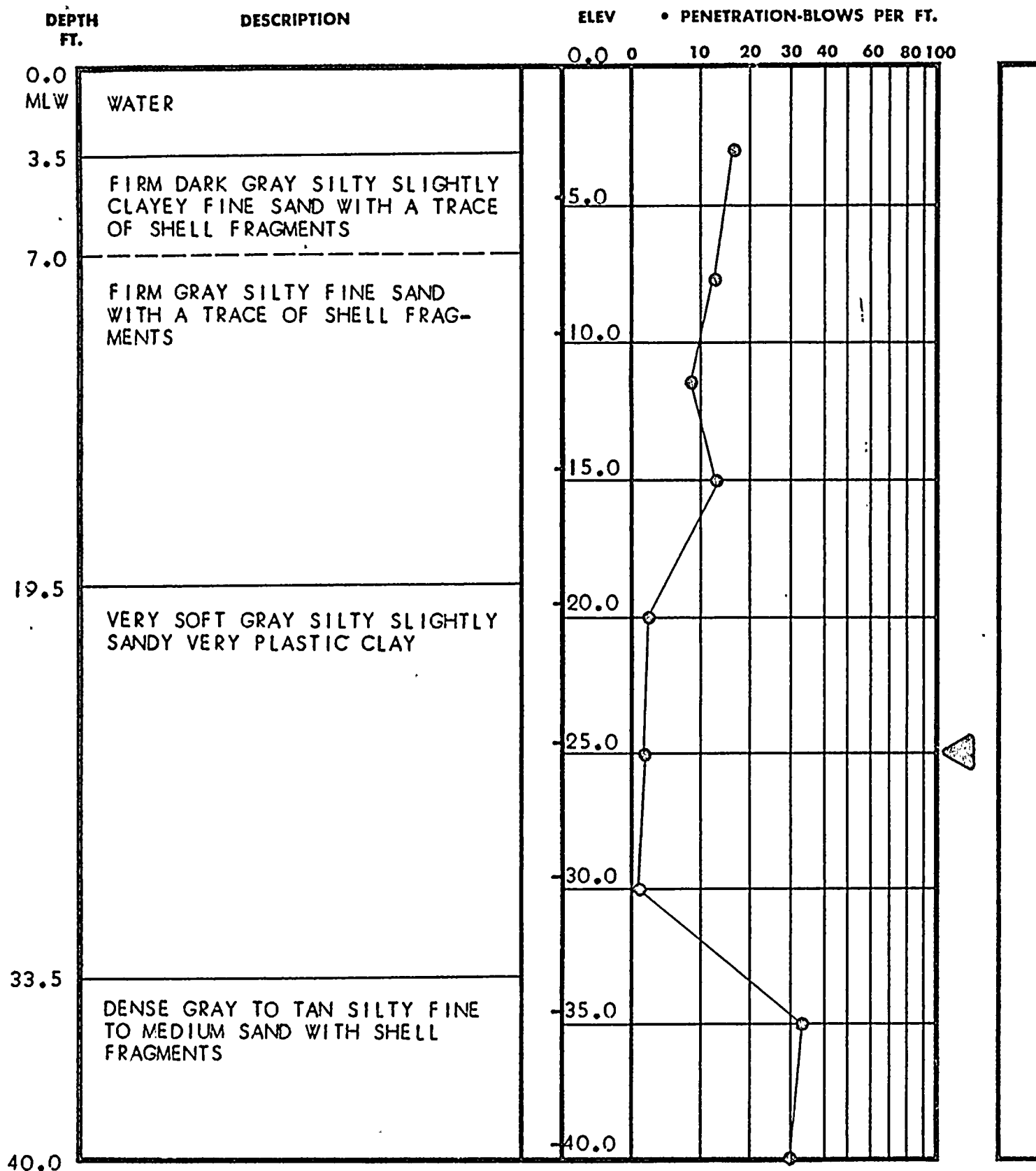
• PENETRATION-BLOWS PER FT.

0

55.0

BORING TERMINATED

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

Page 1 of 2

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

BORING NO. B-129

DATE DRILLED 12/18/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

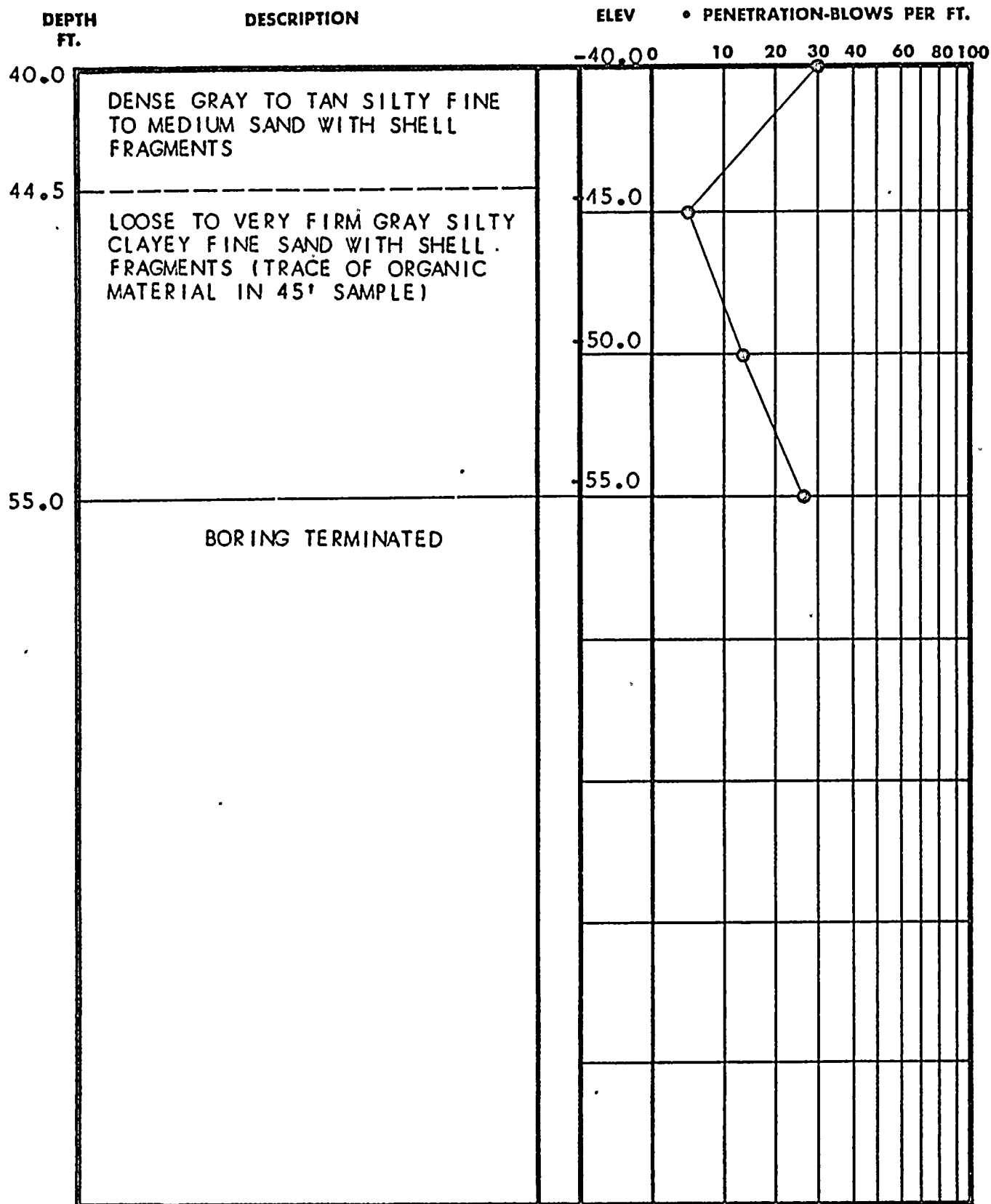
 WATER TABLE, 24 HR.

 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

Page 2 of 2

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

BORING NO. B-129

DATE DRILLED 12/18/68

JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 HR.



WATER TABLE, 1 HR.

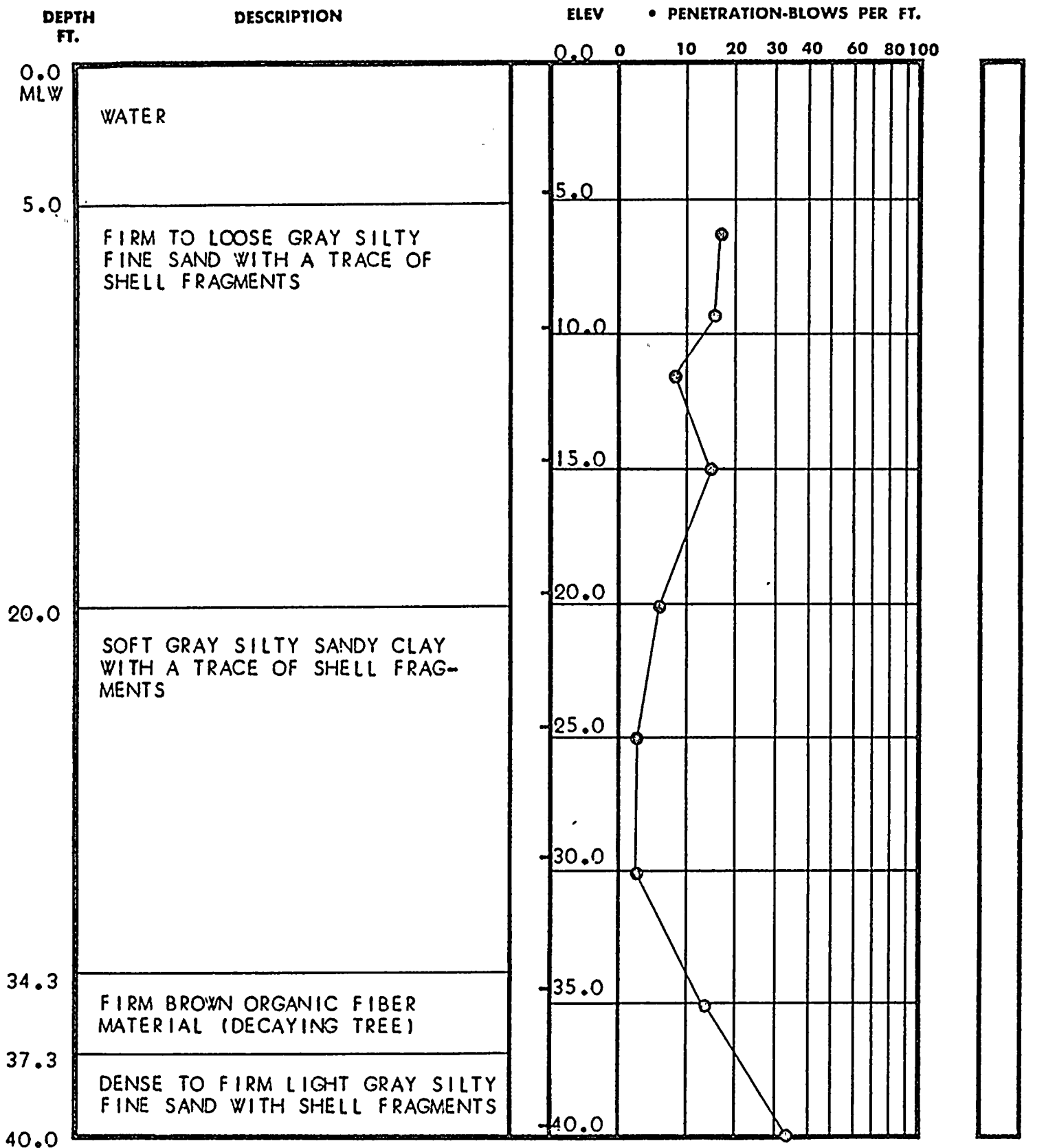


% ROCK CORE RECOVERY



LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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

Page 1 of 2

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

BORING NO. B-130

DATE DRILLED 12/16/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

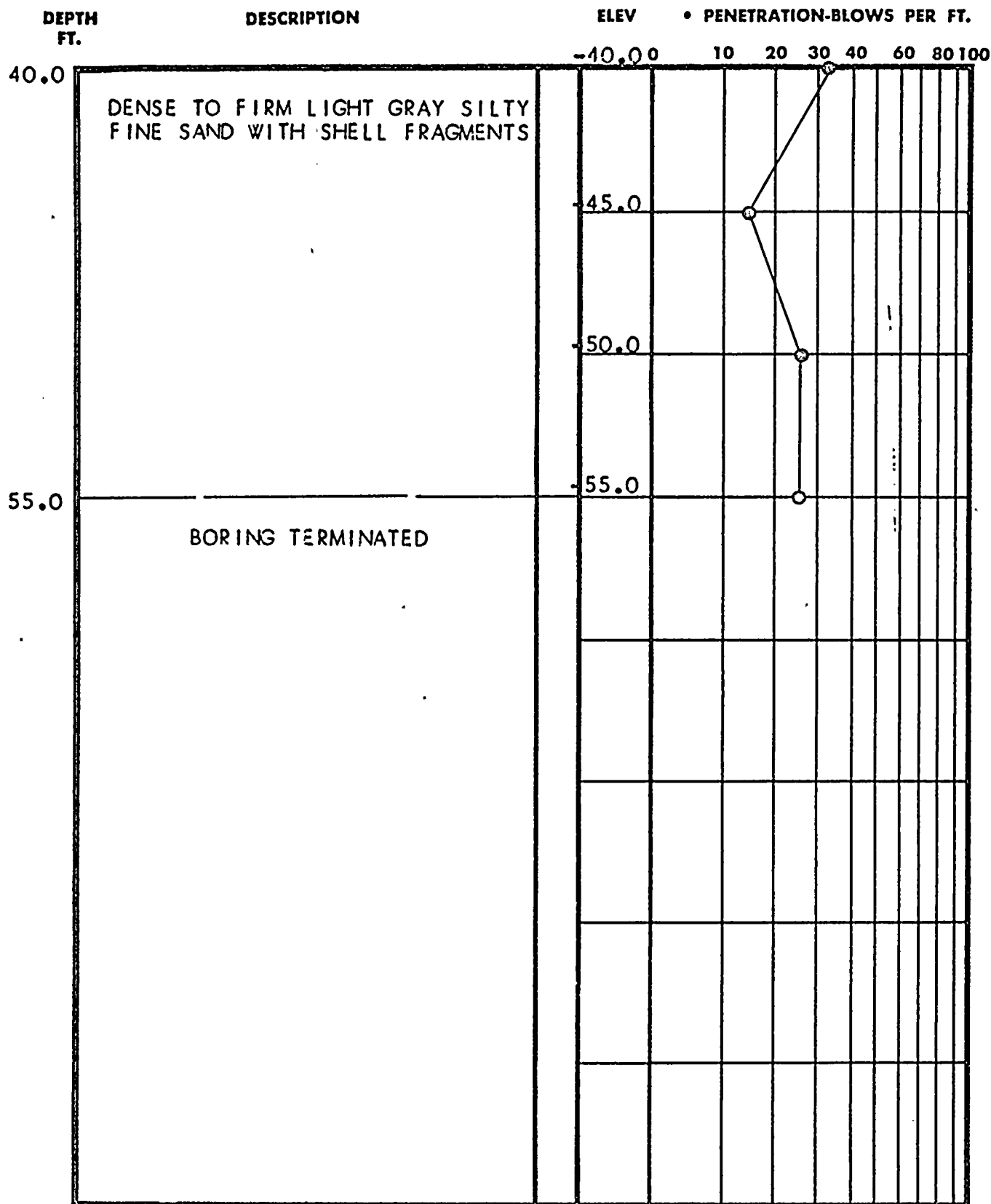
 WATER TABLE, 24 HR.

 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

Page 2 of 2

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

BORING NO. 8-130

DATE DRILLED 12/16/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

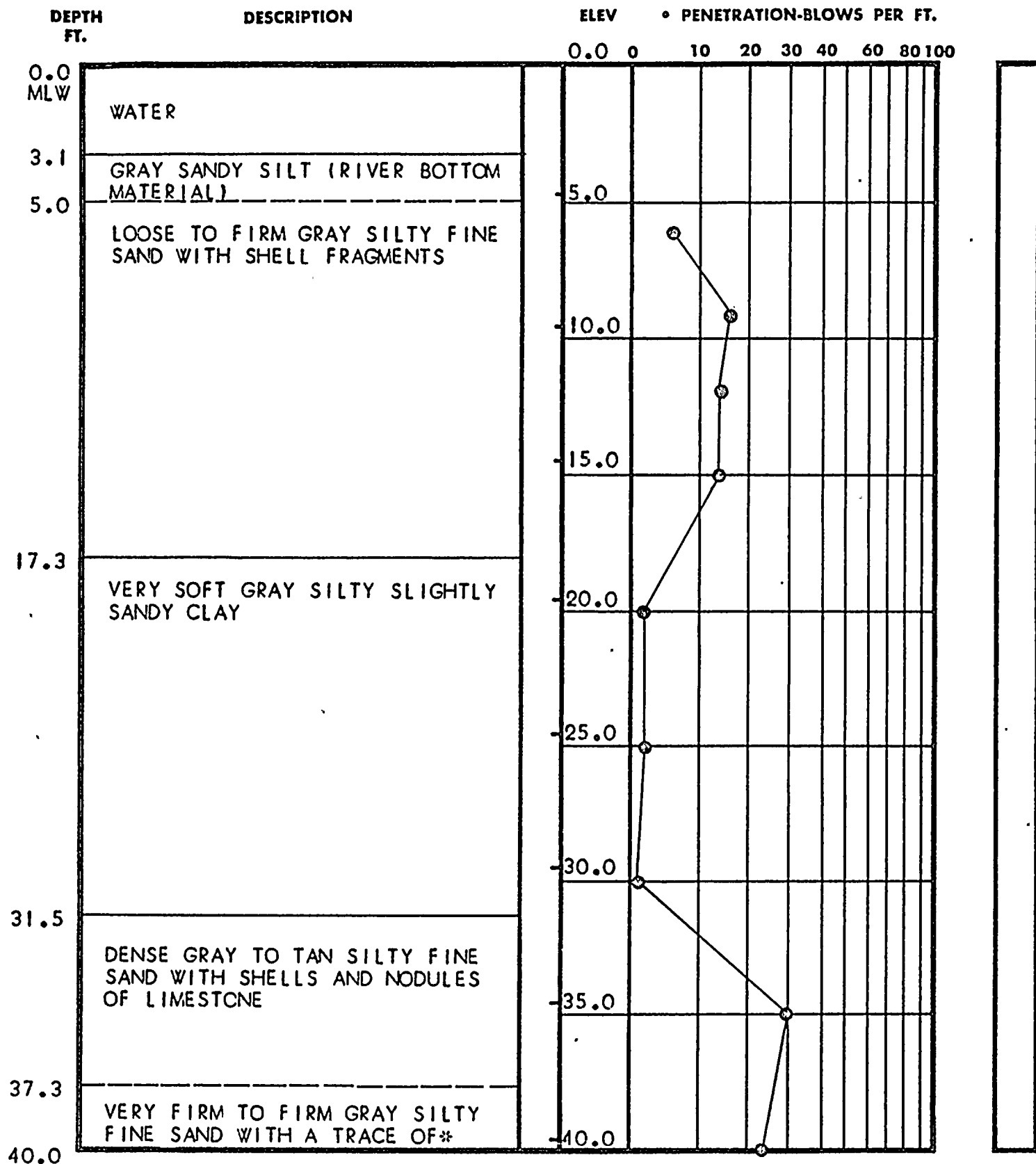
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



*SHELLS AND CLAY

TEST BORING RECORD

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

Page 1 of 2

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

BORING NO. B-131

DATE DRILLED 12/13/68

JOB NO. 1-1127

UNDISTURBED SAMPLE

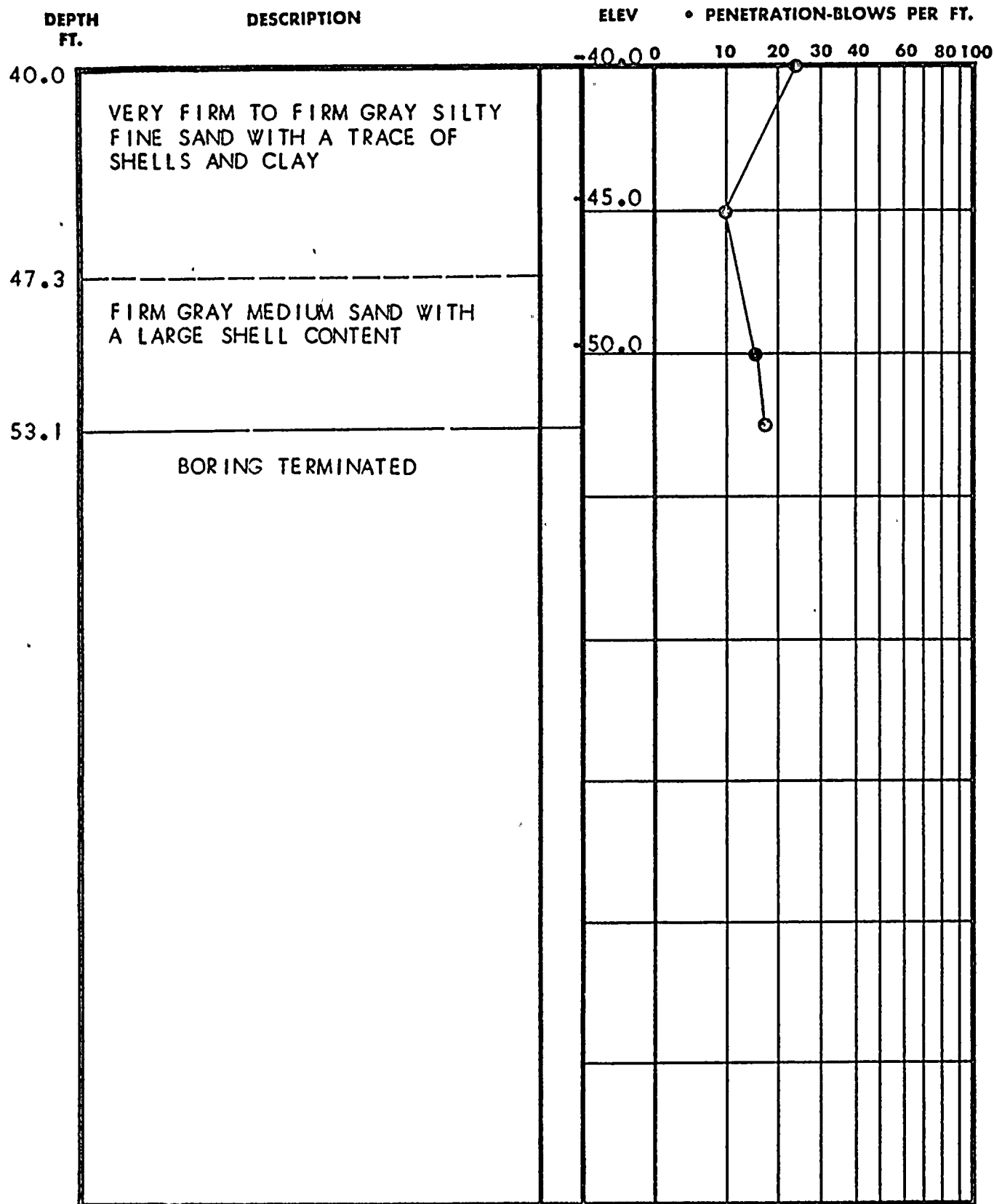
WATER TABLE, 24 HR.

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

Page 2 of 2

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

BORING NO. B-131

DATE DRILLED 12/13/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

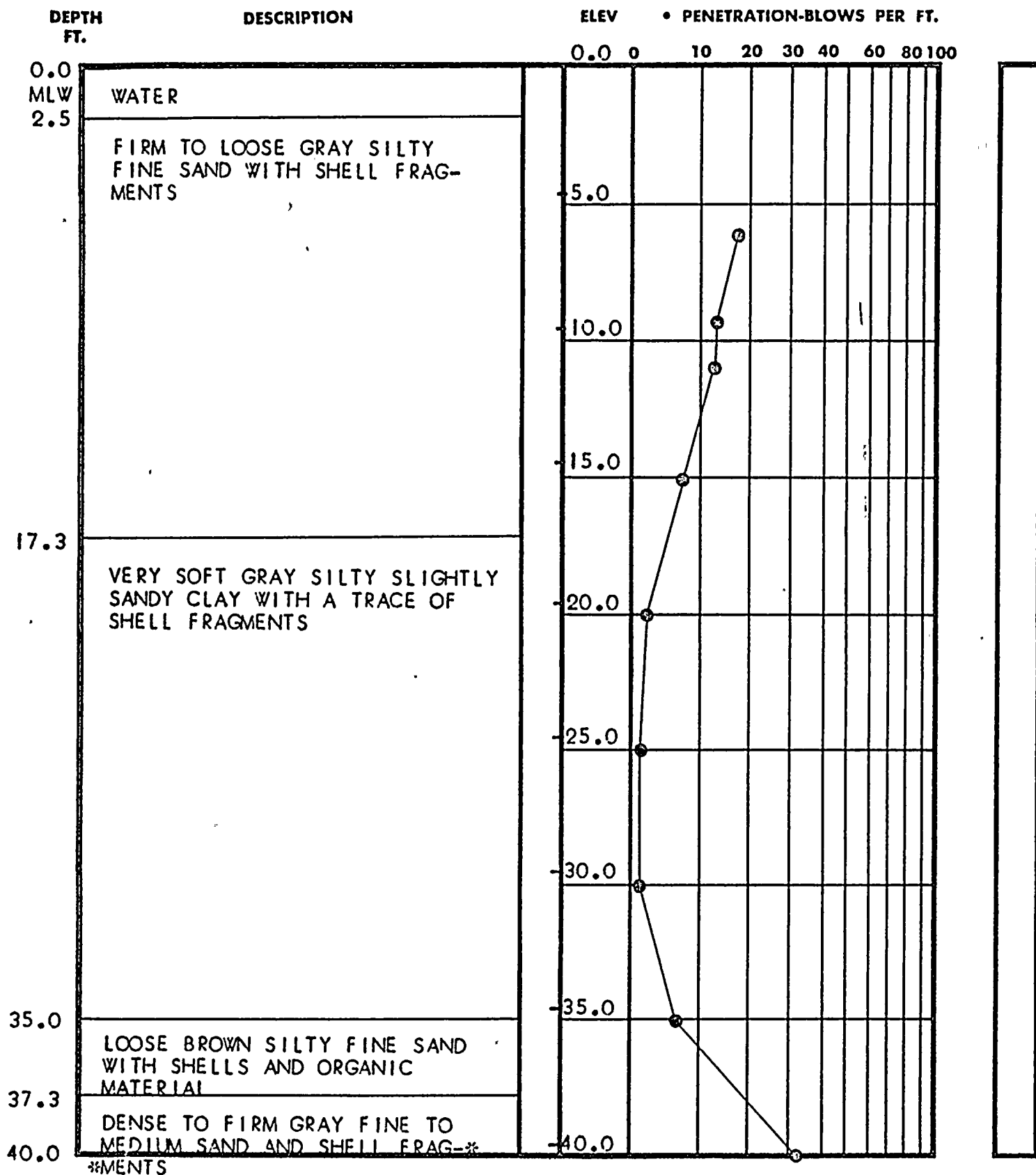
 WATER TABLE, 24 HR.

 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.

Page 1 of 2

BORING NO. B-132

DATE DRILLED 12/12/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

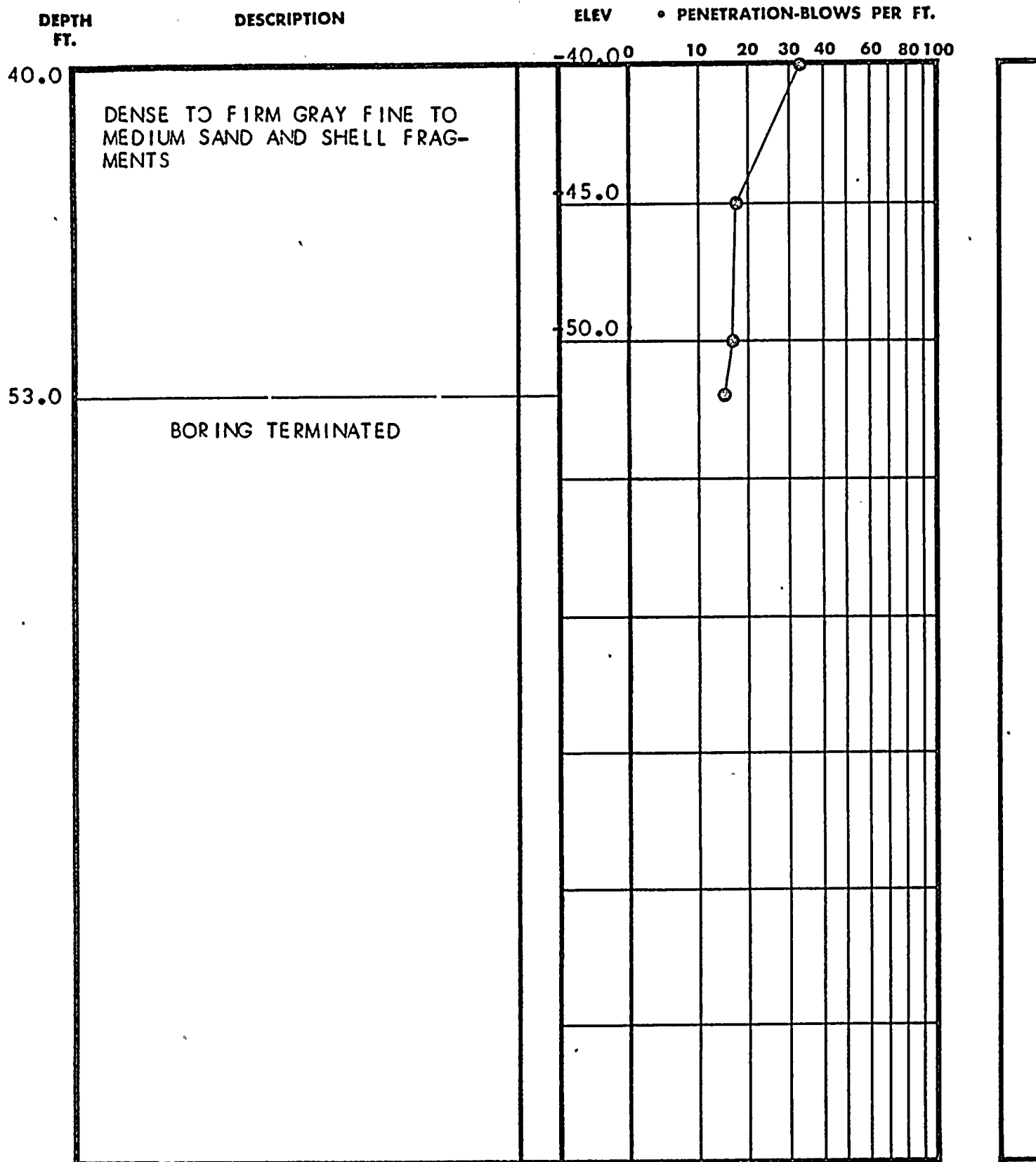
 WATER TABLE, 24 HR.

 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

Page 2 of 2

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

BORING NO. B-132

DATE DRILLED 12/12/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

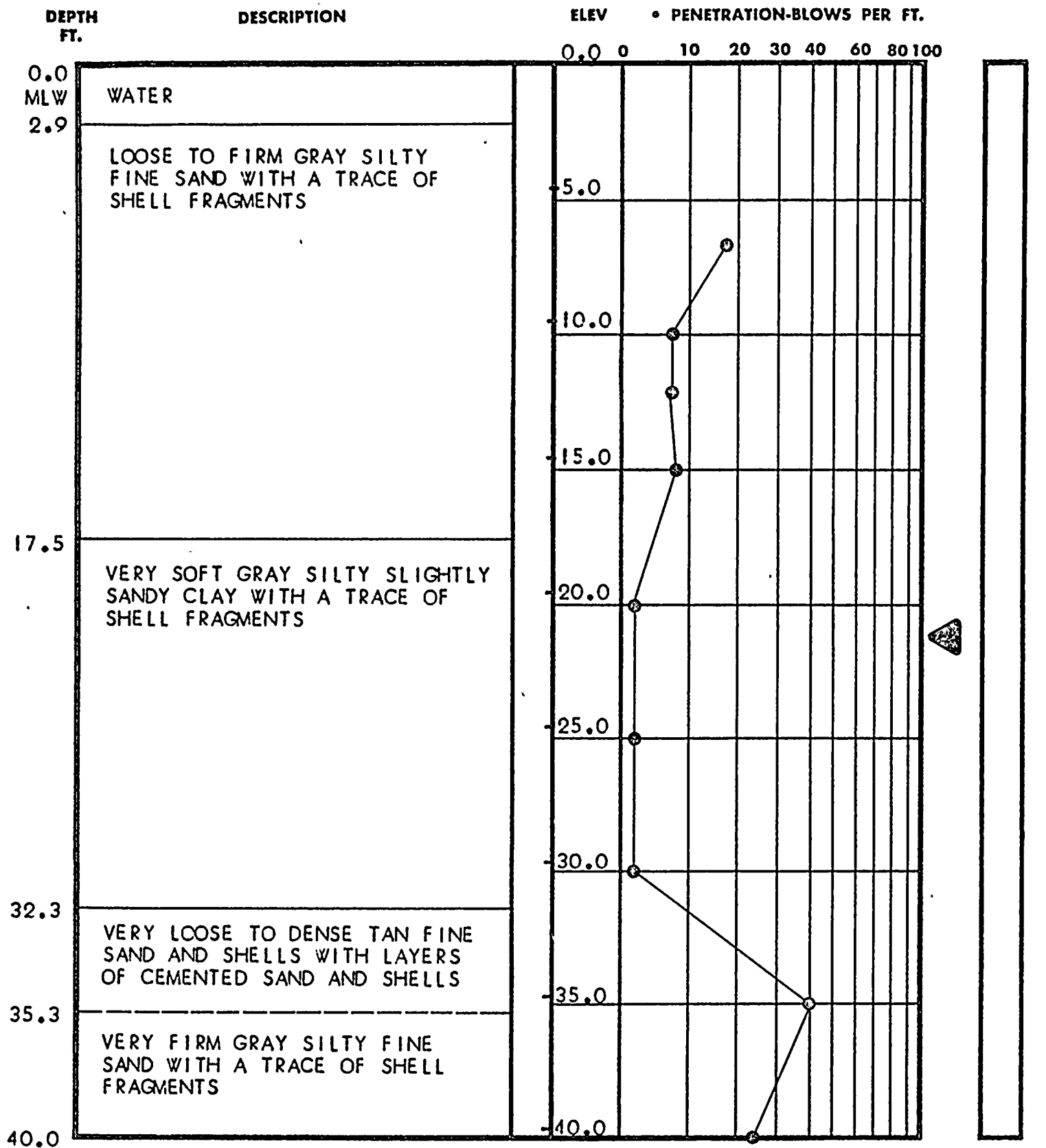
 WATER TABLE, 24 HR.

 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.

Page 1 of 2

BORING NO. B-133

DATE DRILLED 12/10/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

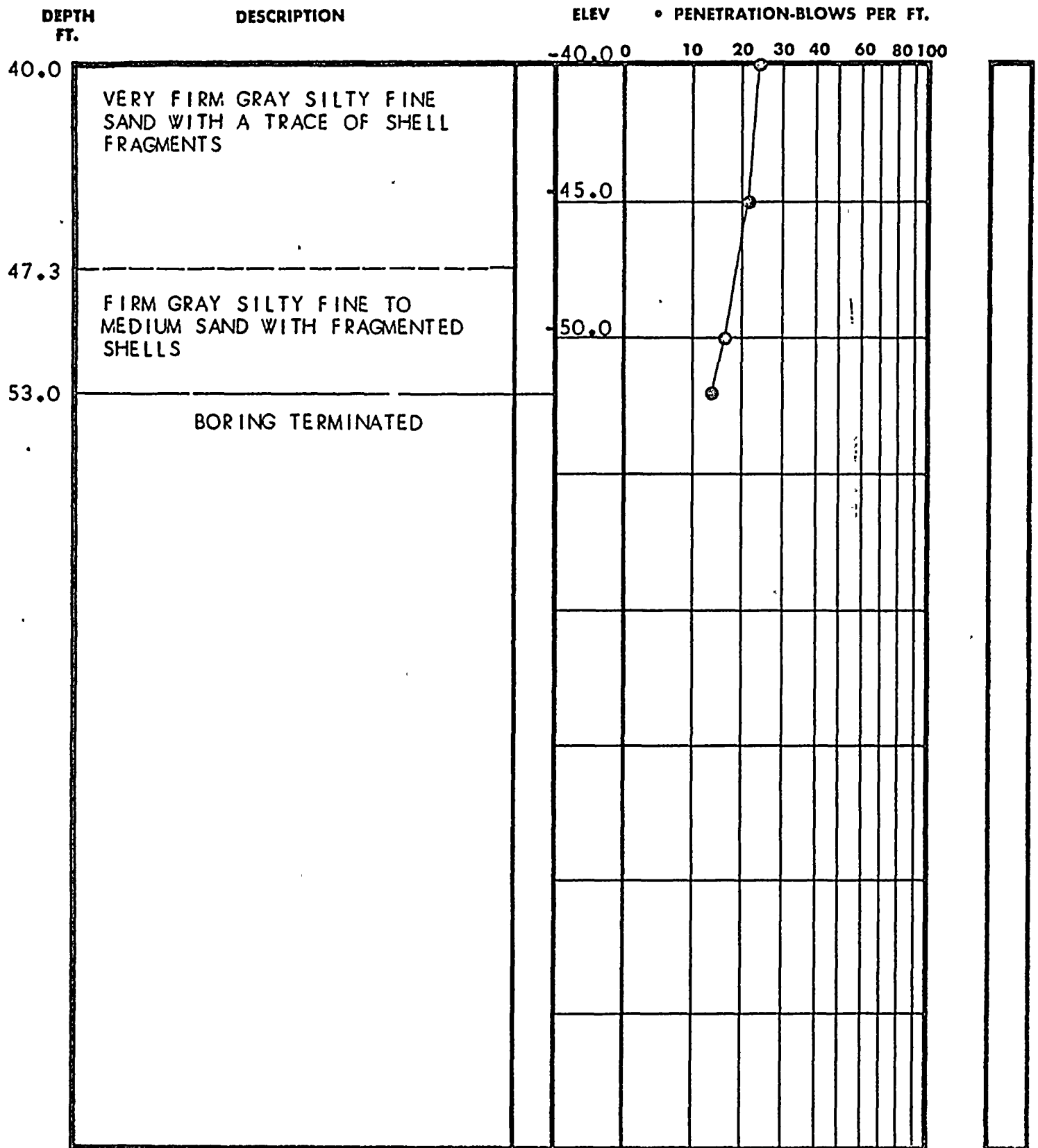
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 50% 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

Page 2 of 2

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

BORING NO. 8-133

DATE DRILLED 12/10/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

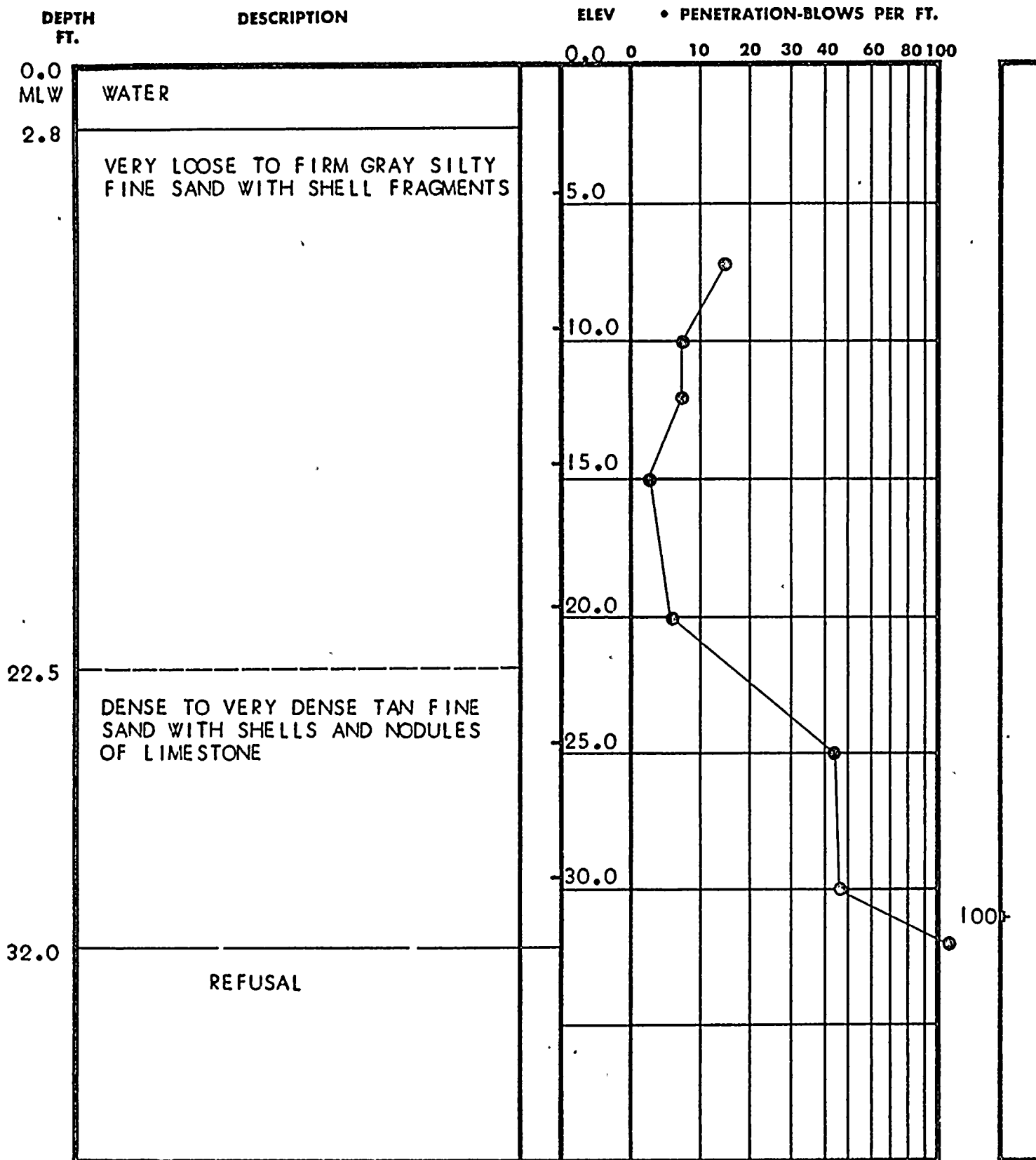
 WATER TABLE, 24 HR.

 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.

Page 1 of 1

BORING NO. B-134

DATE DRILLED 12/9/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

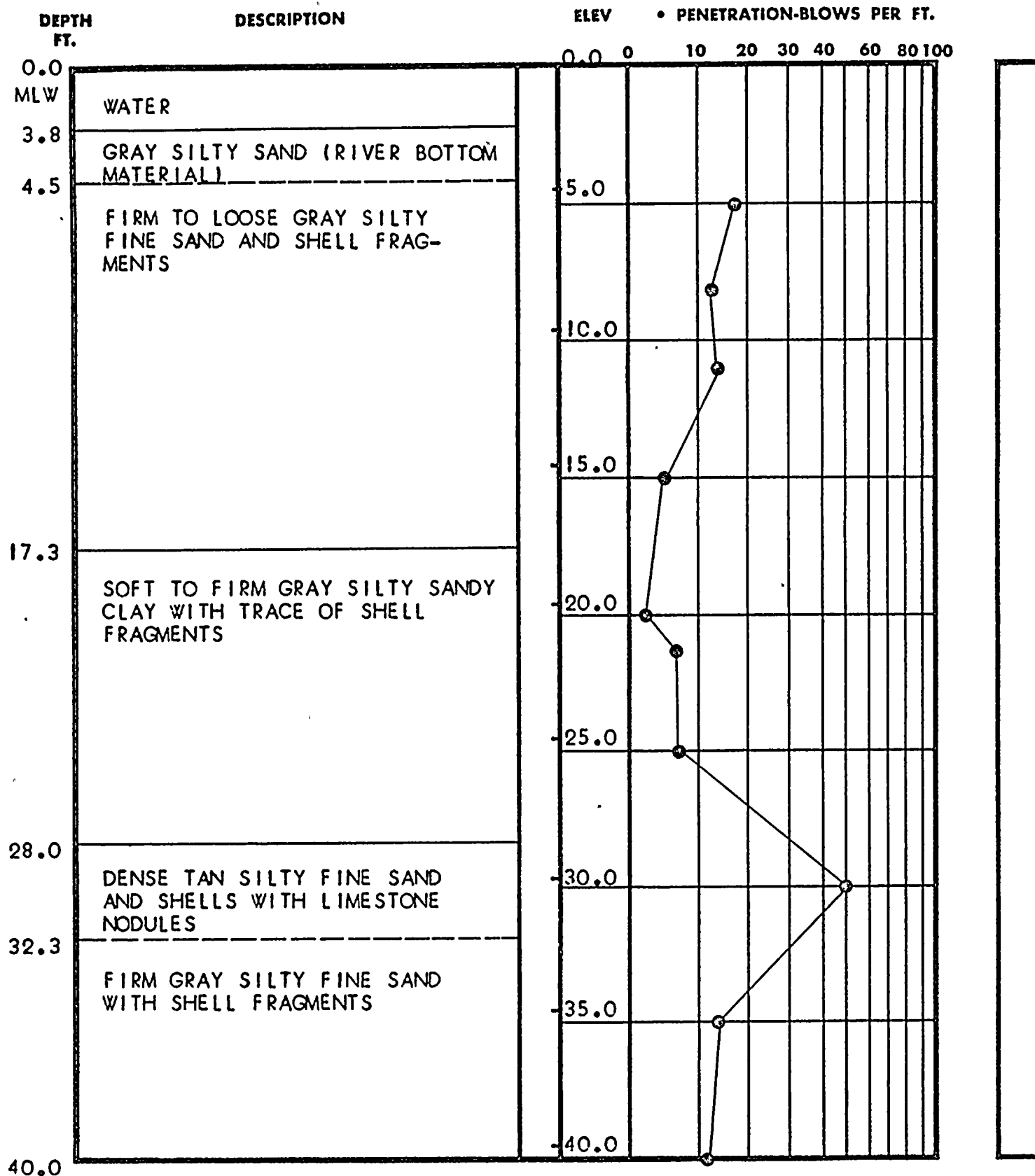
 WATER TABLE, 24 HR.

 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

Page 1 of 2

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

BORING NO. B-135

DATE DRILLED 12/6/68

JOB NO. J-1127

 UNDISTURBED SAMPLE

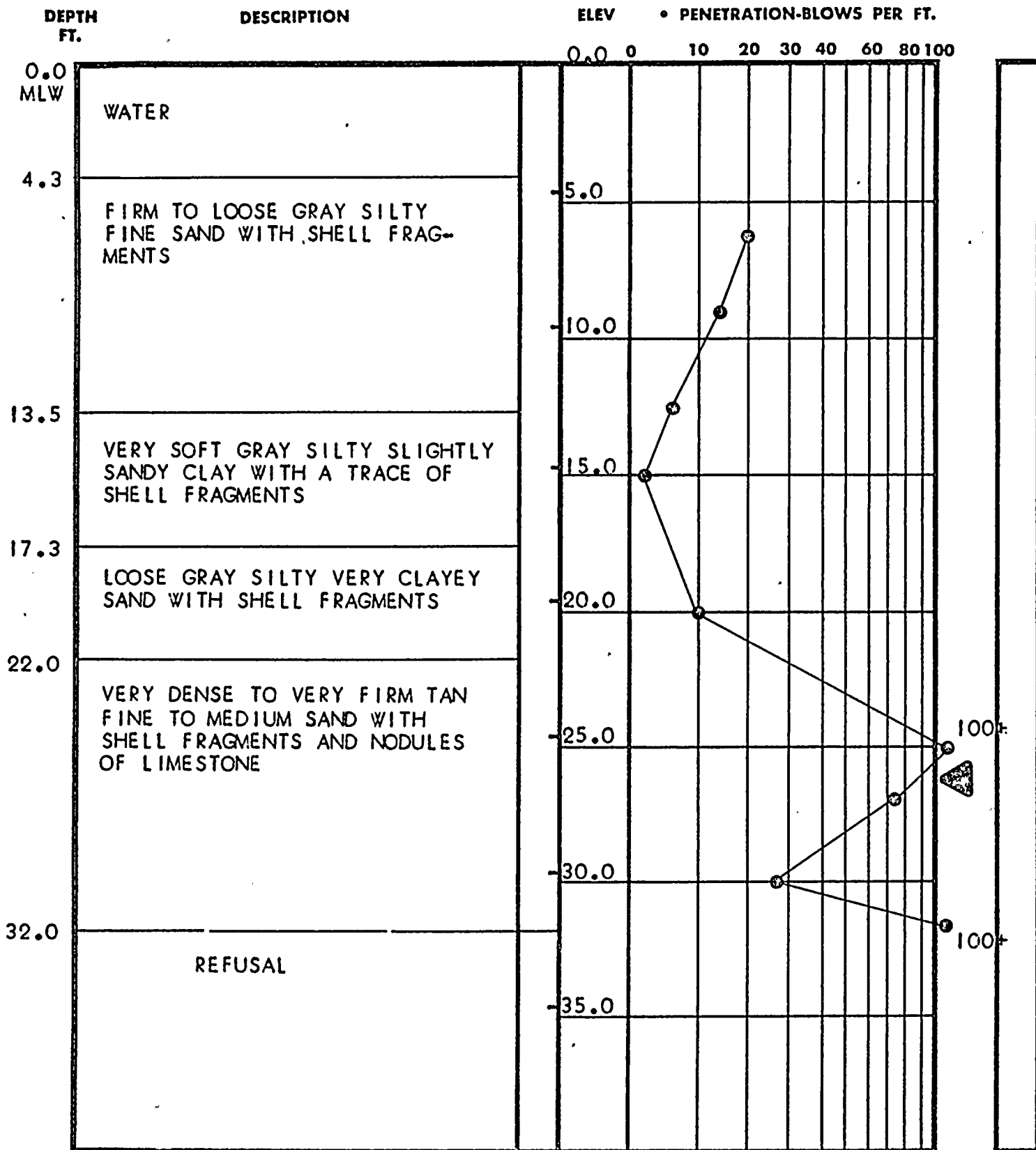
 WATER TABLE, 24 HR.

 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.

Page 1 of 1

BORING NO. 8-136

DATE DRILLED 12/5/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

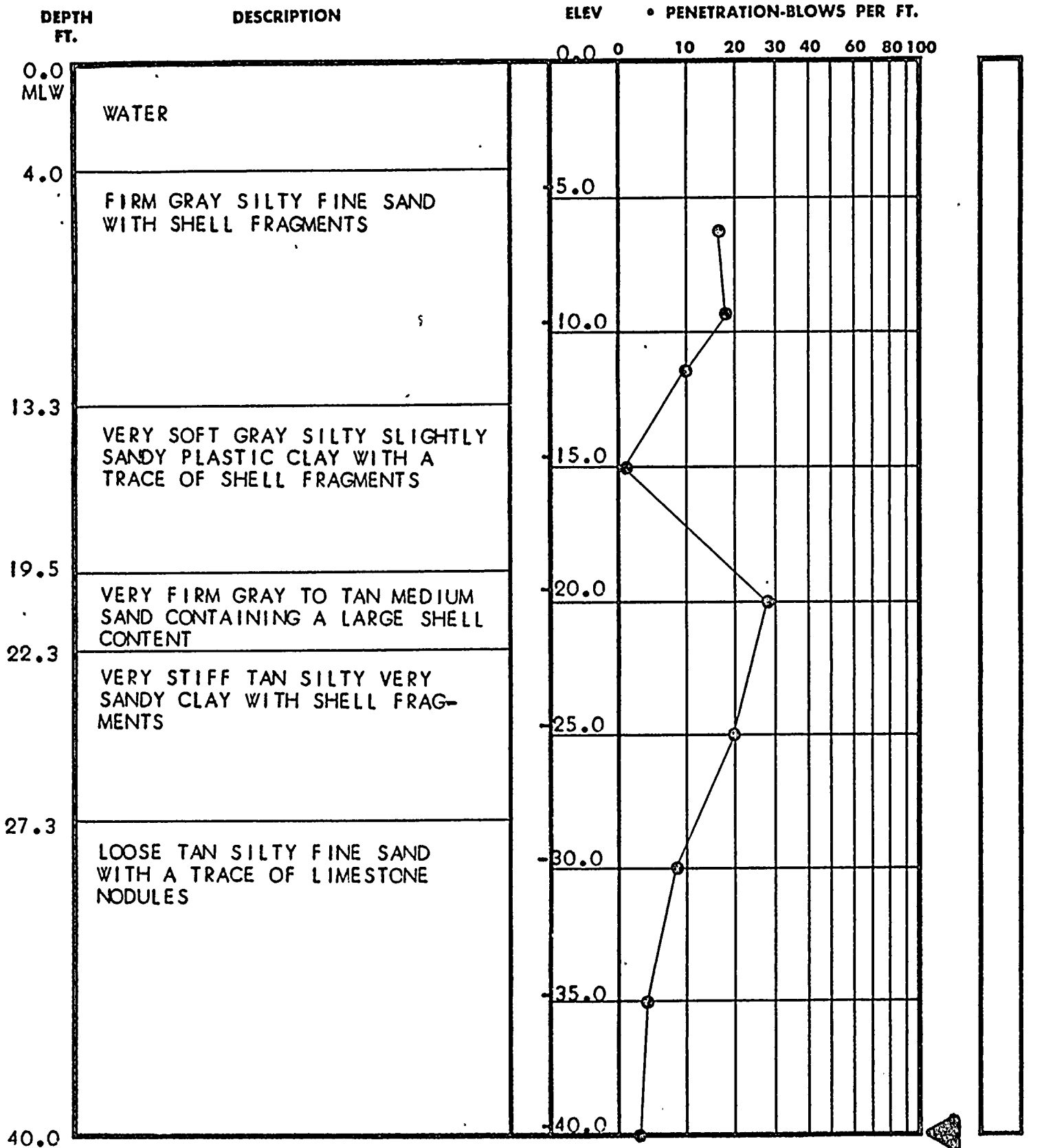
 WATER TABLE, 24 HR.

 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.

Page 1 of 2

BORING NO. B-137

DATE DRILLED 12/4/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

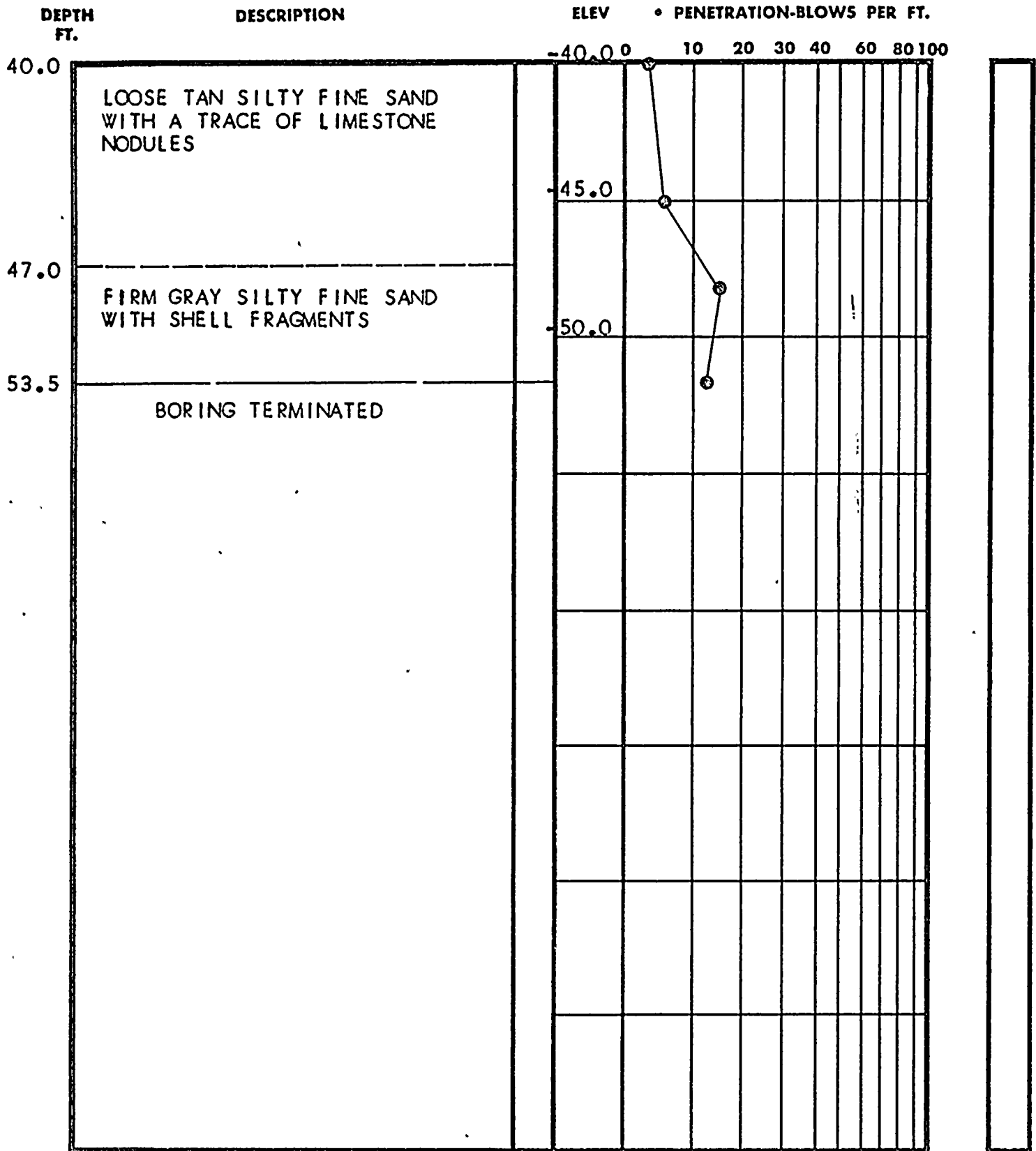
 WATER TABLE, 24 HR.

 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

Page 2 of 2

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

BORING NO. B-137

DATE DRILLED 12/4/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

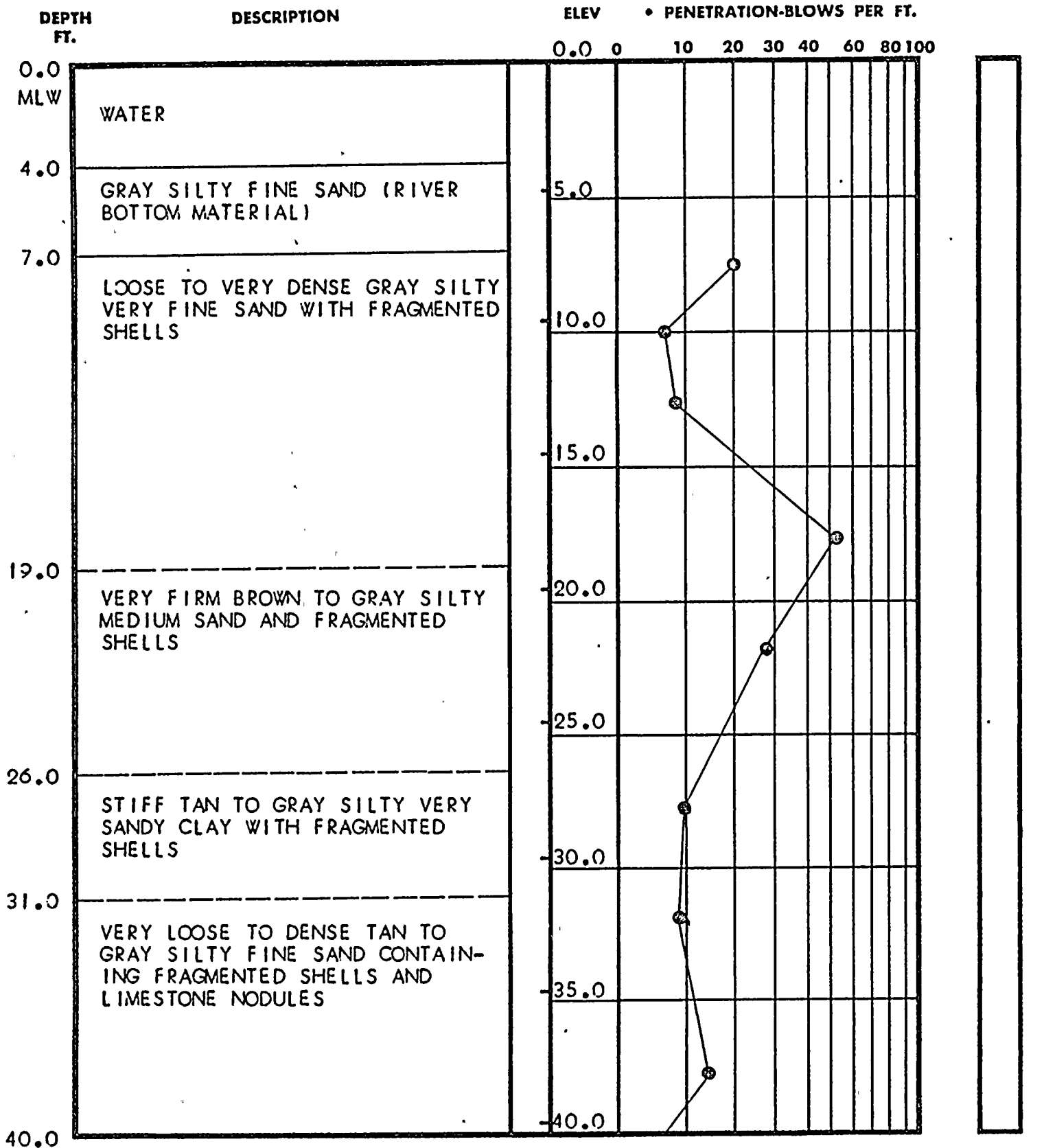
 WATER TABLE, 24 HR.

 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.

Page 1 of 2

BORING NO. 8-138

DATE DRILLED 11/27/68

JOB NO. 1-1127

 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

LAW ENGINEERING TESTING CO.

DEPTH FT.	DESCRIPTION	ELEV • PENETRATION-BLOWS PER FT.										
		0.0	0	10	20	30	40	60	80	100		
0.0 MLW	WATER											
		-5.0										
		-10.0										
		-15.0										
		-20.0										
23.0	LOOSE GRAY SILTY FINE SAND (RIVER BOTTOM MATERIAL)	-25.0										
27.5	DENSE GRAY SILTY FINE SAND WITH SHELL FRAGMENTS	-30.0										
30.5	MODERATELY HARD TAN SANDY *										100+	
32.0	FIRM TAN SILTY FINE SAND WITH LIVESTONE NODULES	-35.0										
36.0	REFUSAL										100+	

*LIVESTONE LAYER

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.

Page 1 of 1

BORING NO. B-139

DATE DRILLED 12/3/68

JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 HR.



WATER TABLE, 1 HR.

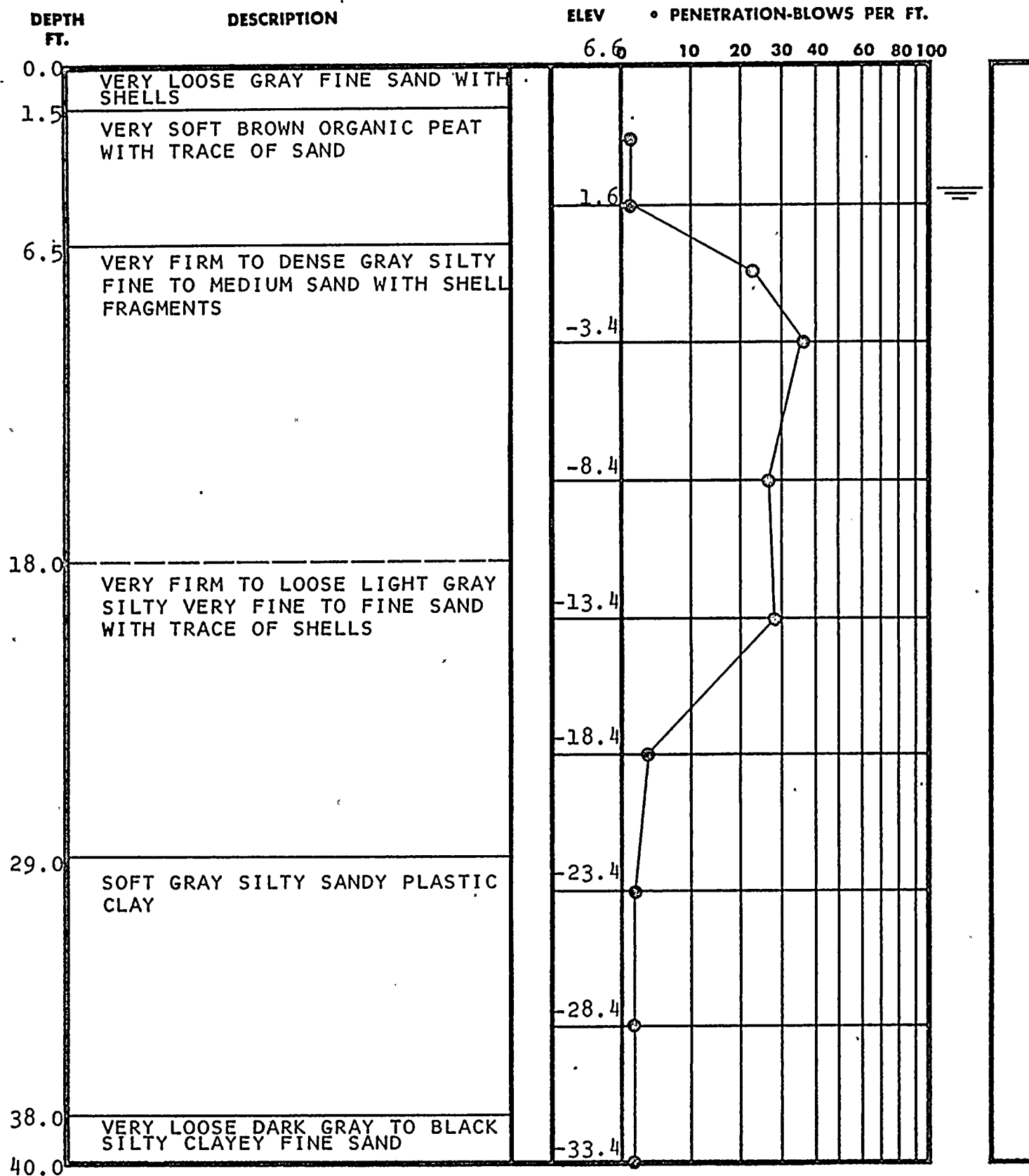


% ROCK CORE RECOVERY



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.

PAGE 1 OF 2

BORING NO. B-143

DATE DRILLED 1/23/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

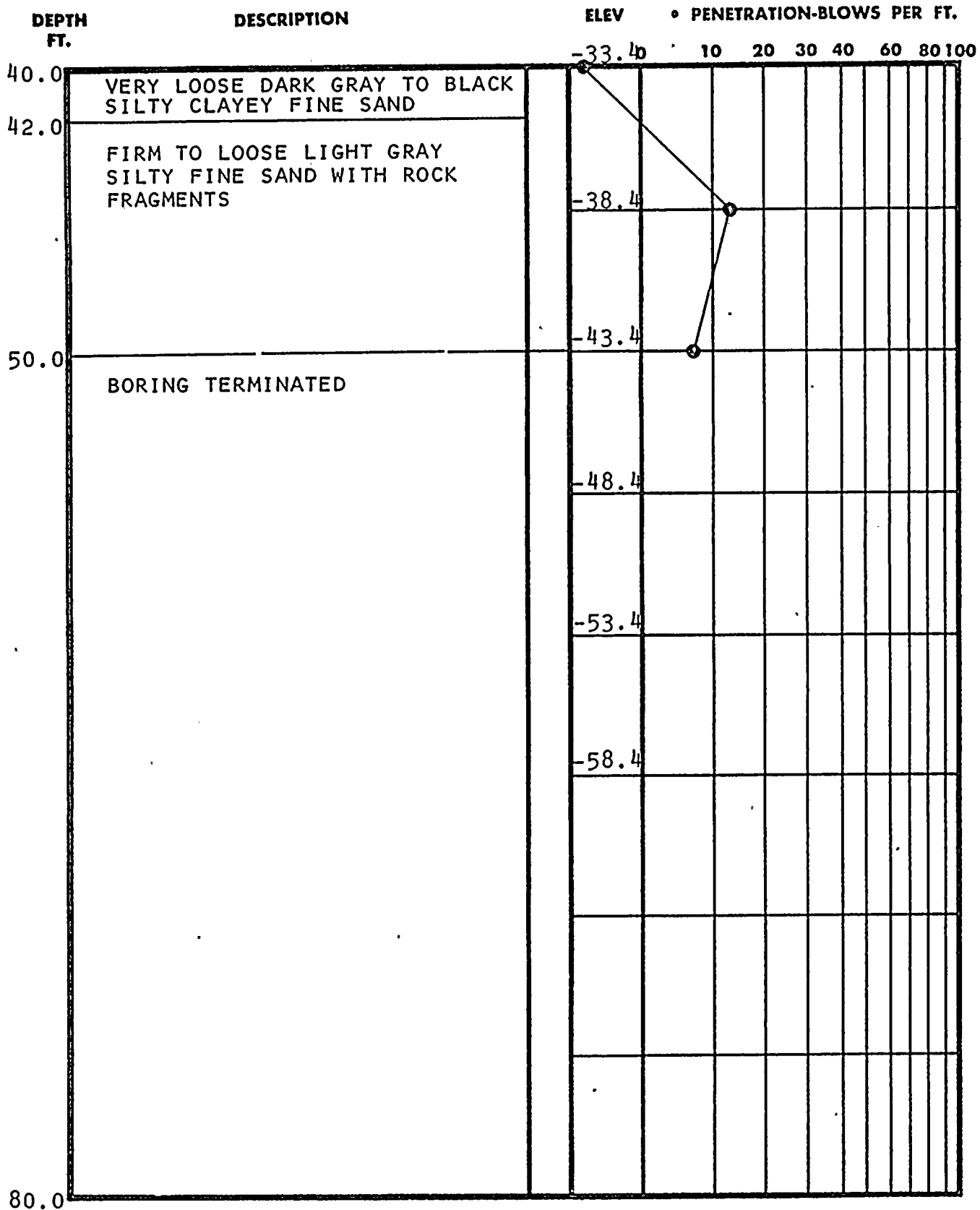
 WATER TABLE, 24 HR.

 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

PAGE 2 OF 2

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

BORING NO. B-143

DATE DRILLED 1/23/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

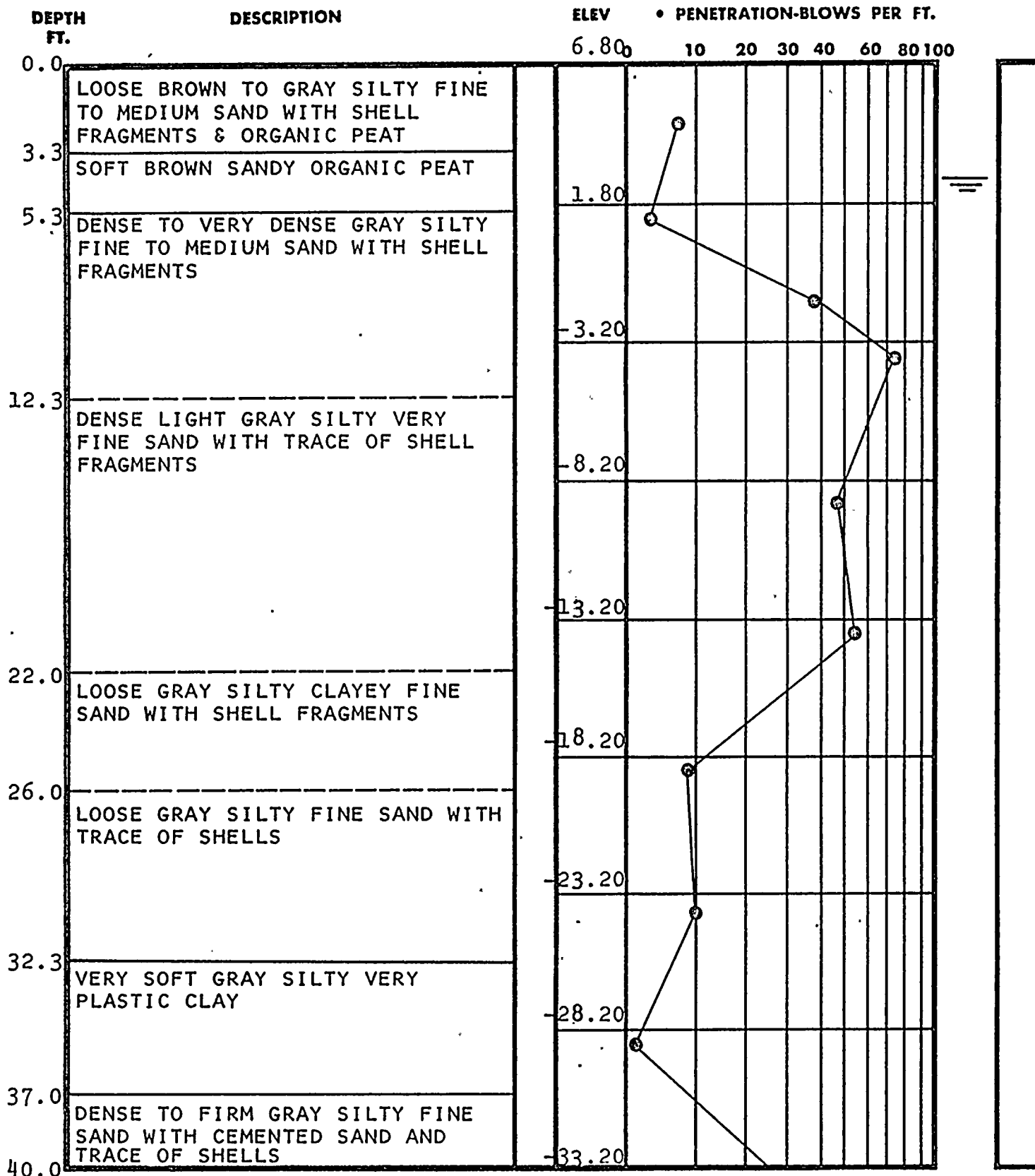
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

[50] % 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.

PAGE 1 OF 2

BORING NO. B-143A

DATE DRILLED 1/17/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

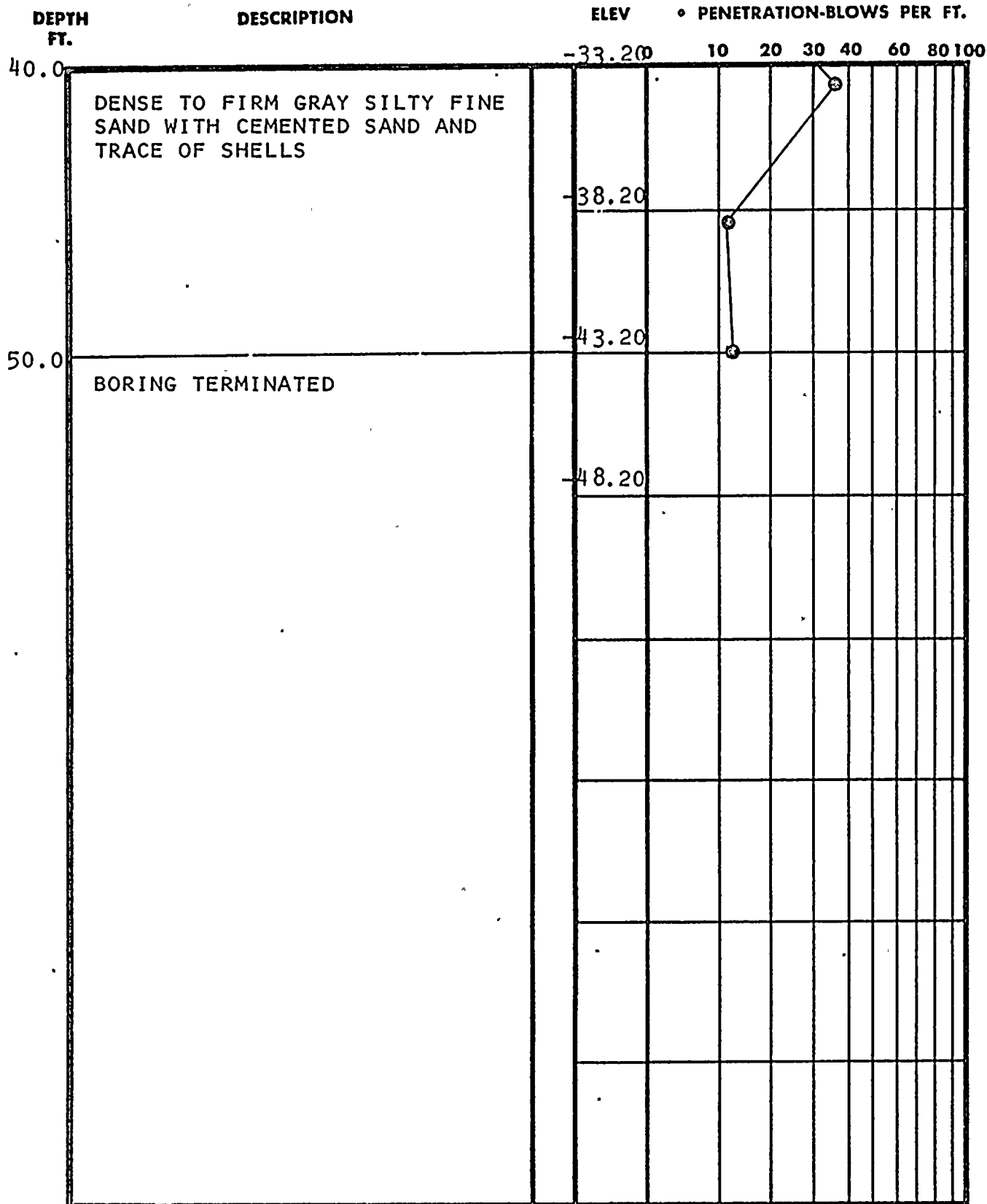
 WATER TABLE, 24 HR.

 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.

PAGE 2 OF 2

BORING NO. B-143A

DATE DRILLED 1/17/69

JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 HR.



WATER TABLE, 1 HR.

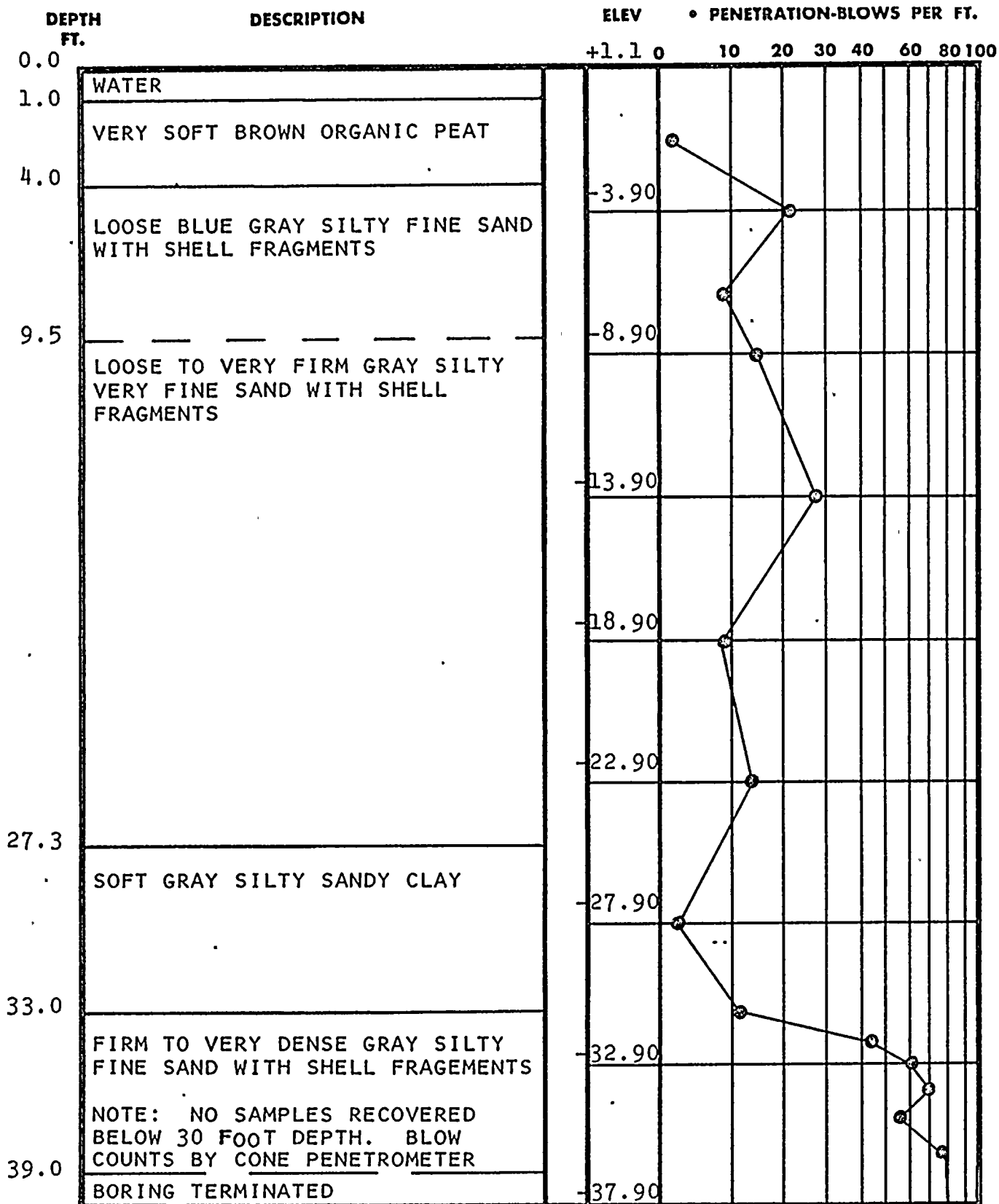


[50] % ROCK CORE RECOVERY



LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



NO GROUND WATER ENCOUNTERED

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.

PAGE 1 OF 1

BORING NO. B-144A

DATE DRILLED 3-2-69

JOB NO. J-1227

UNDISTURBED SAMPLE

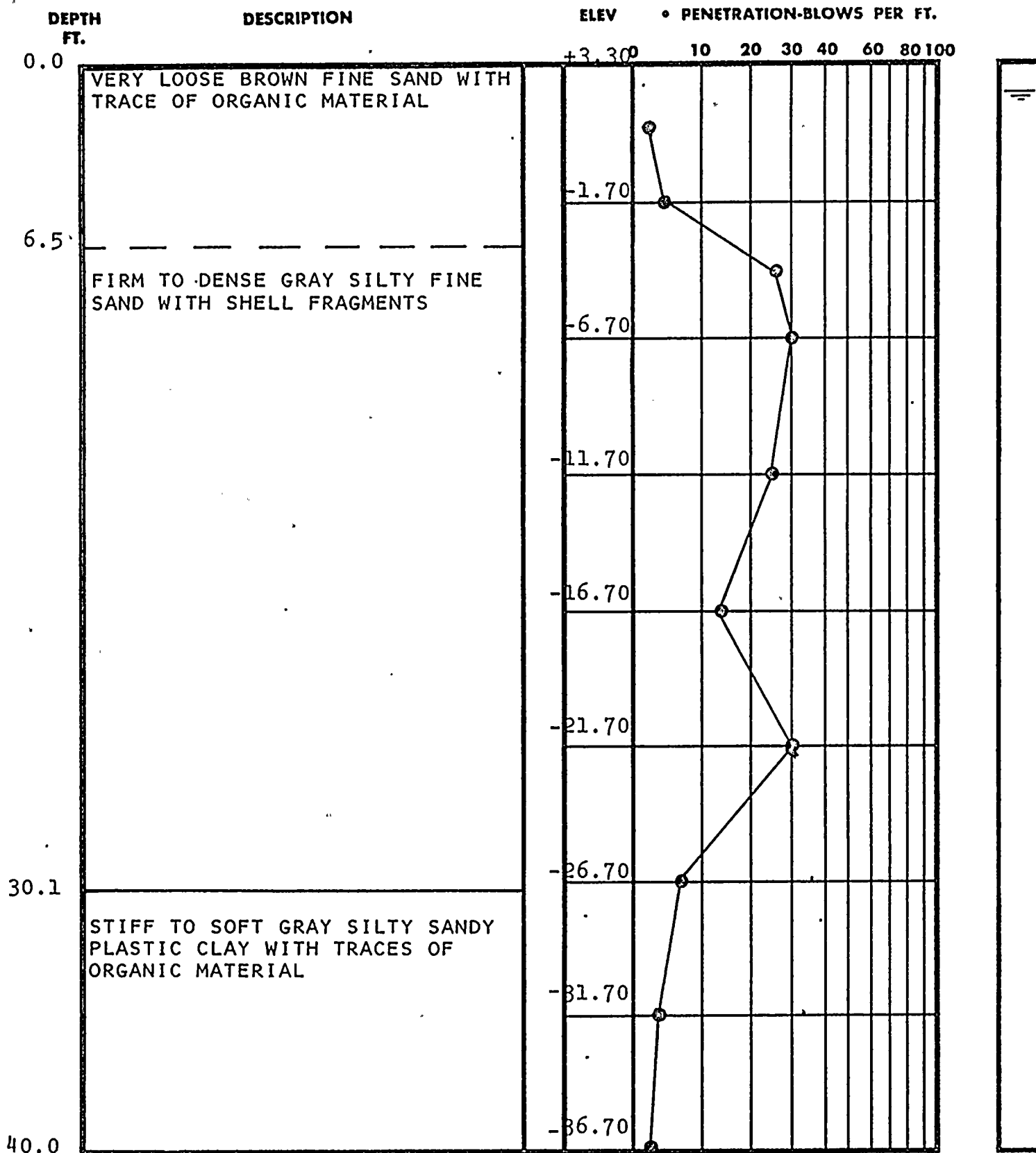
[50] % ROCK CORE RECOVERY

WATER TABLE, 24 HR.

WATER TABLE, 1 HR.

LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

PAGE 1 OF 2

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.

BORING NO. B-144B

DATE DRILLED 2-24-69

JOB NO. J1127

 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.

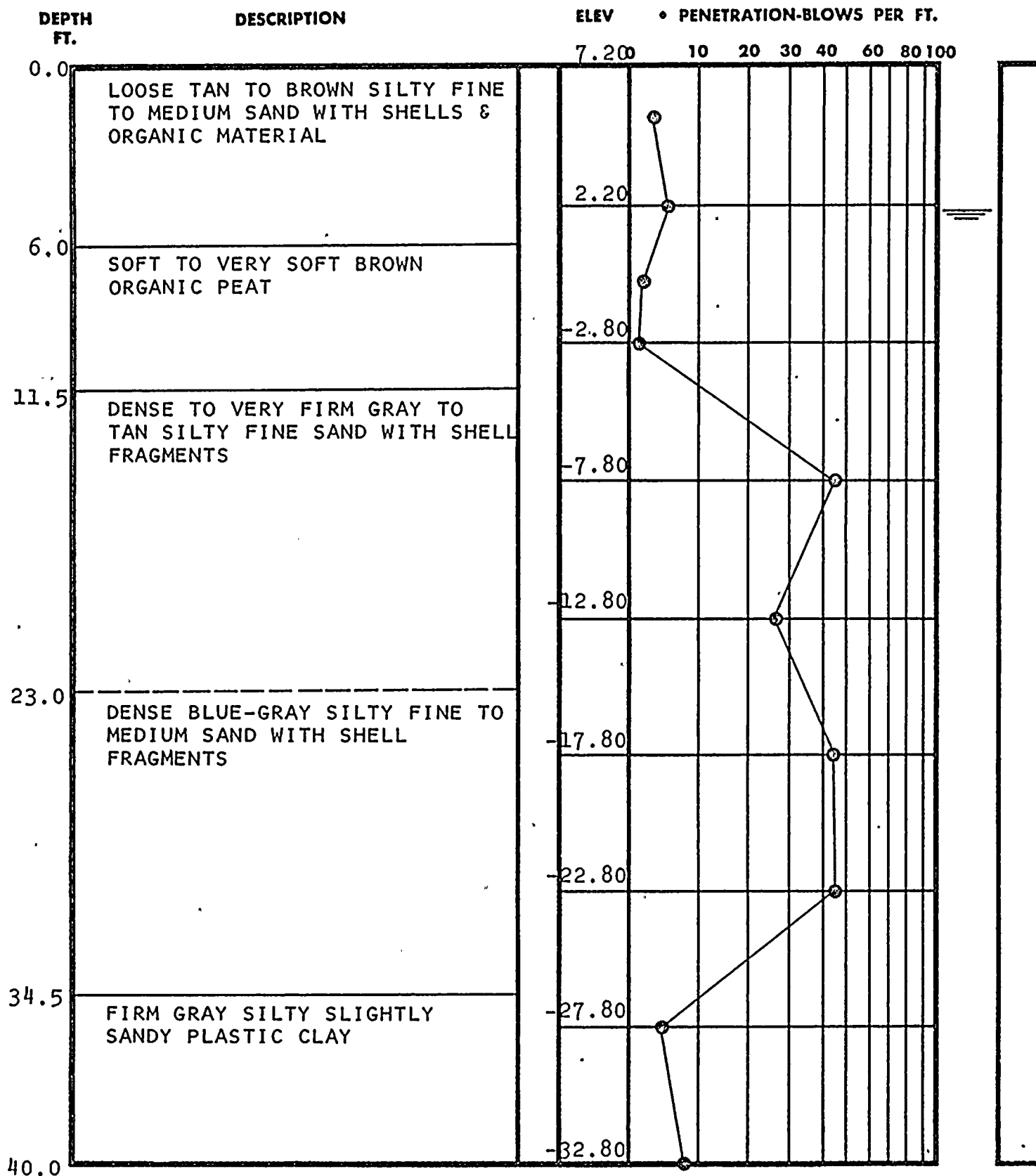
 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

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.

PAGE 1 OF 2

BORING NO. B-145

DATE DRILLED 1/23/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

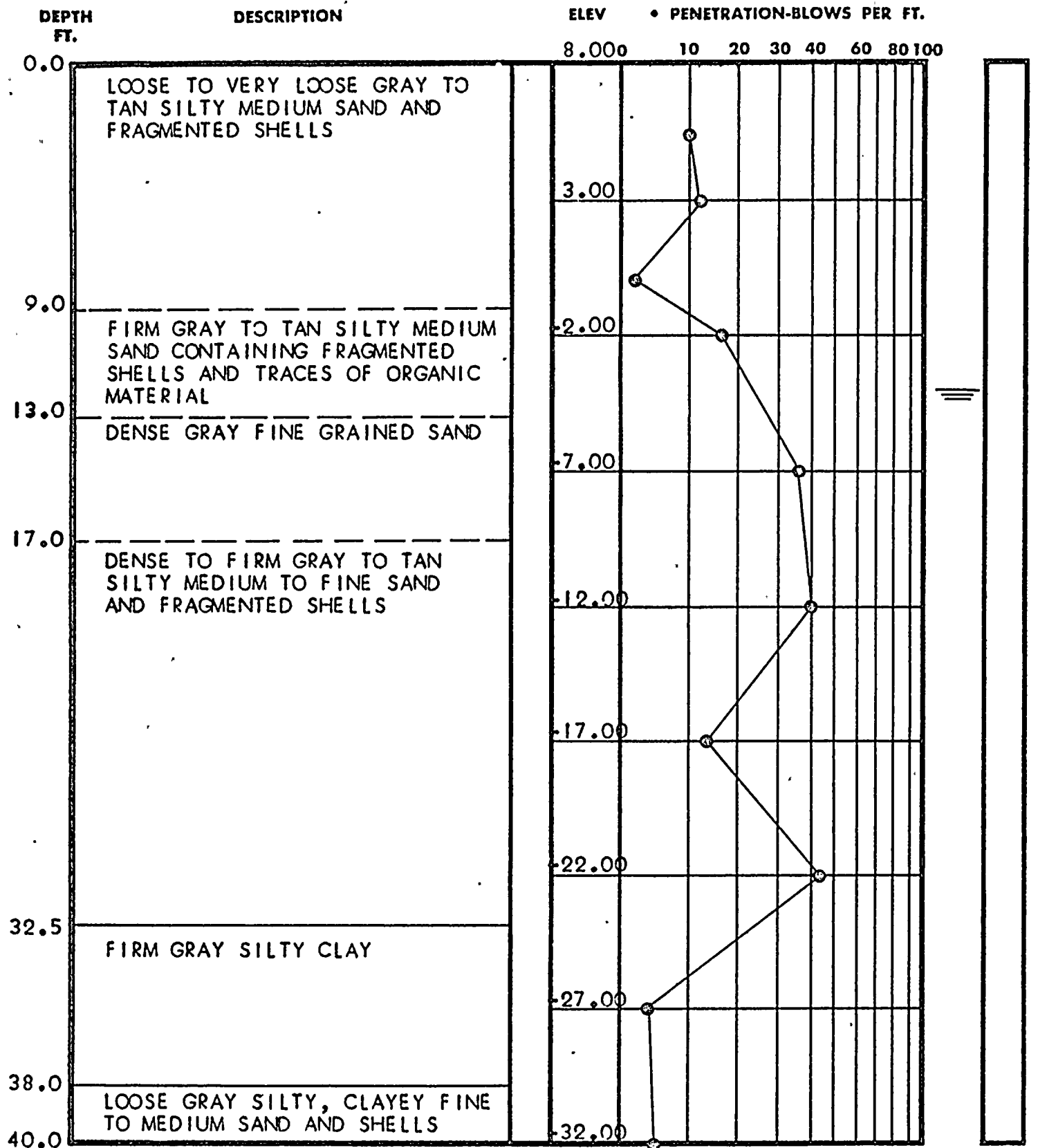
 WATER TABLE, 24 HR.

 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.

Page 1 of 2

BORING NO. B-145A

DATE DRILLED 11/13/68

JOB NO. 1-1127

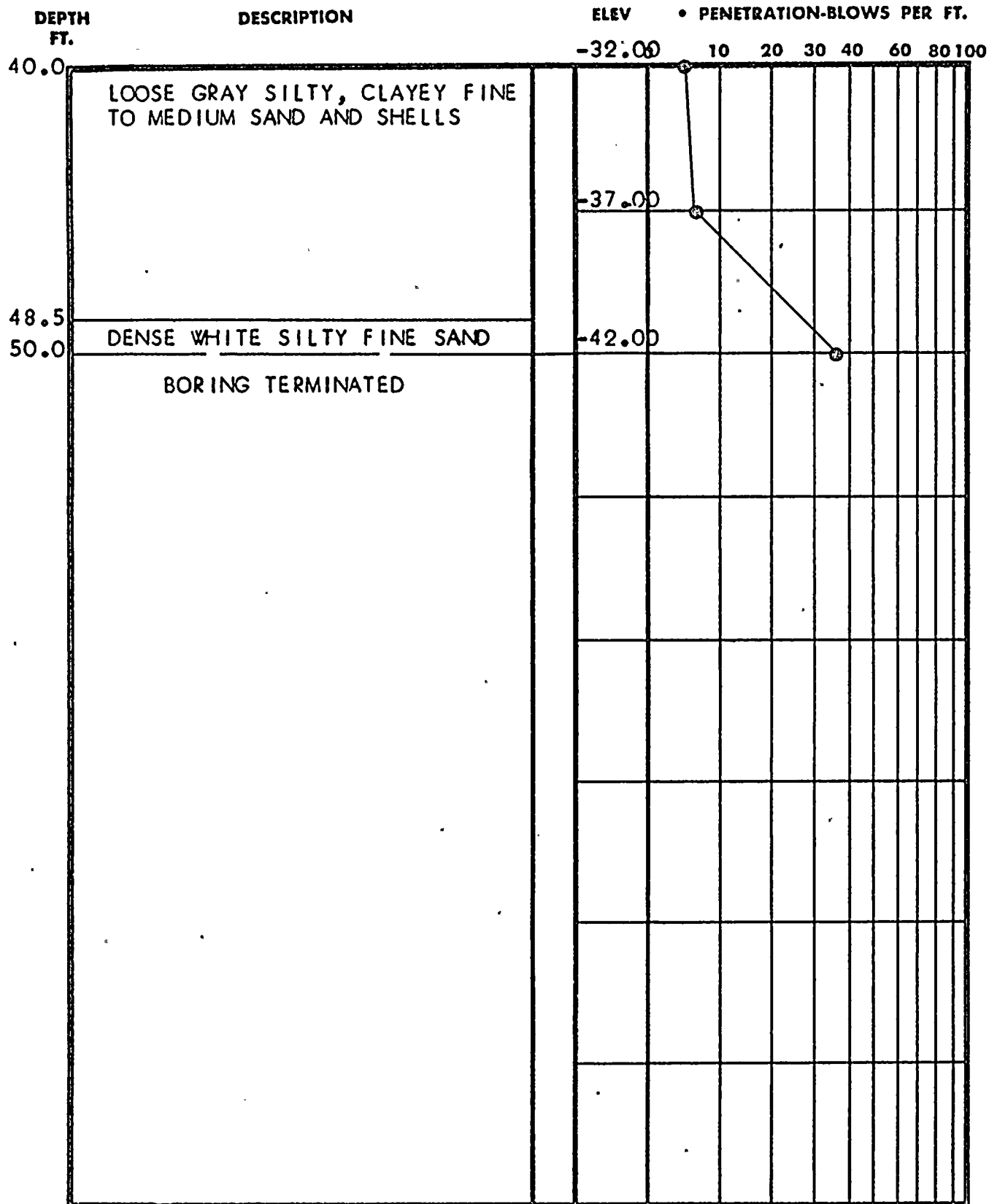
UNDISTURBED SAMPLE

WATER TABLE, 24 HR.
 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

Page 2 of 2

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

BORING NO. B-145 A
DATE DRILLED 11/18/68
JOB NO. J-1127



UNDISTURBED SAMPLE



WATER TABLE, 24 HR.

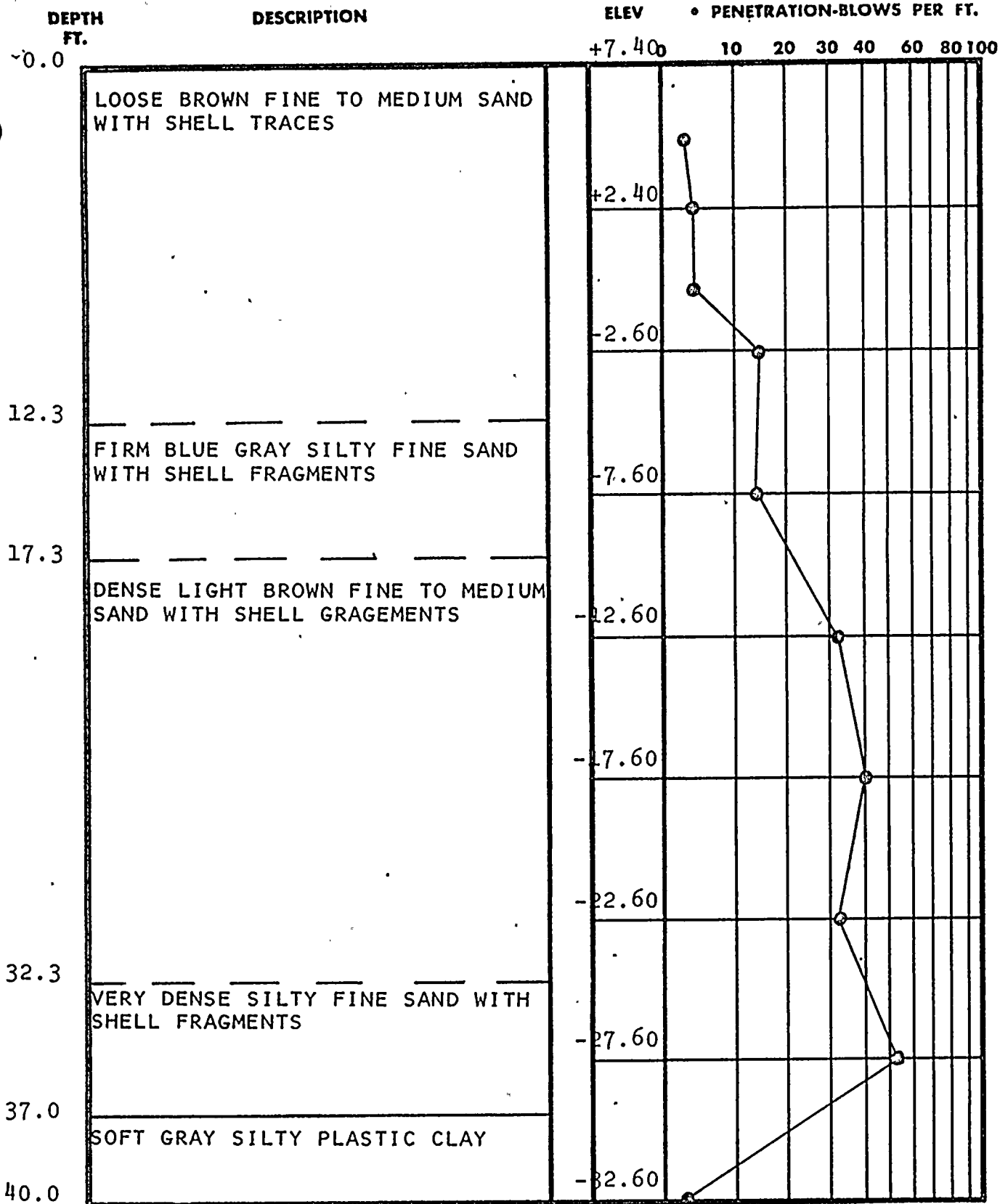
WATER TABLE, 1 HR.

50 % ROCK CORE RECOVERY



LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

PAGE 1 OF 2

BORING NO. B146

DATE DRILLED 2-21-69

JOB NO. J1127

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

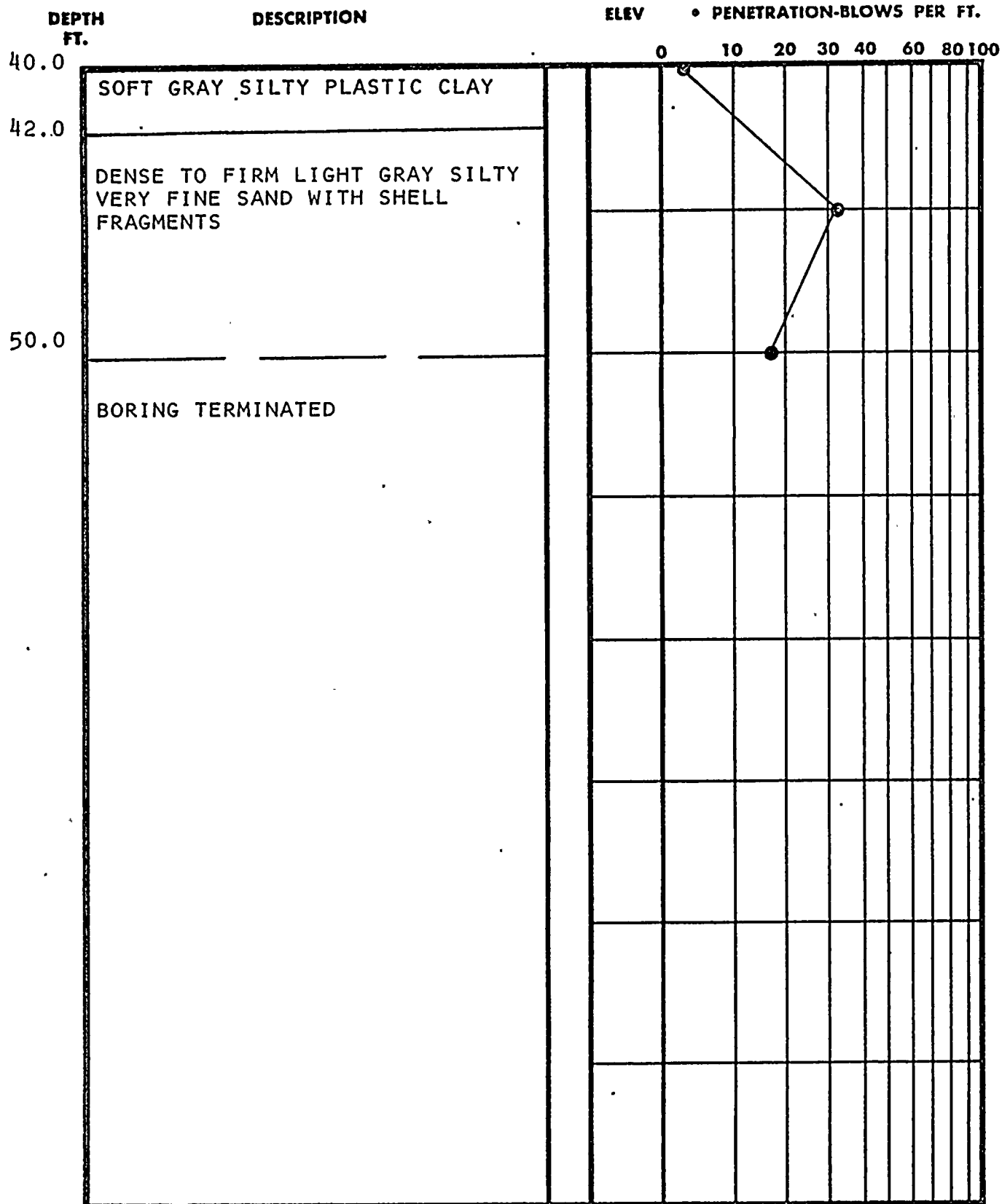
 % ROCK CORE RECOVERY

 WATER TABLE, 24 HR.

 WATER TABLE, TIME OF BORING

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

PAGE 2 OF 2

BORING NO. B146

DATE DRILLED 2-21-69

JOB NO. J1127

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

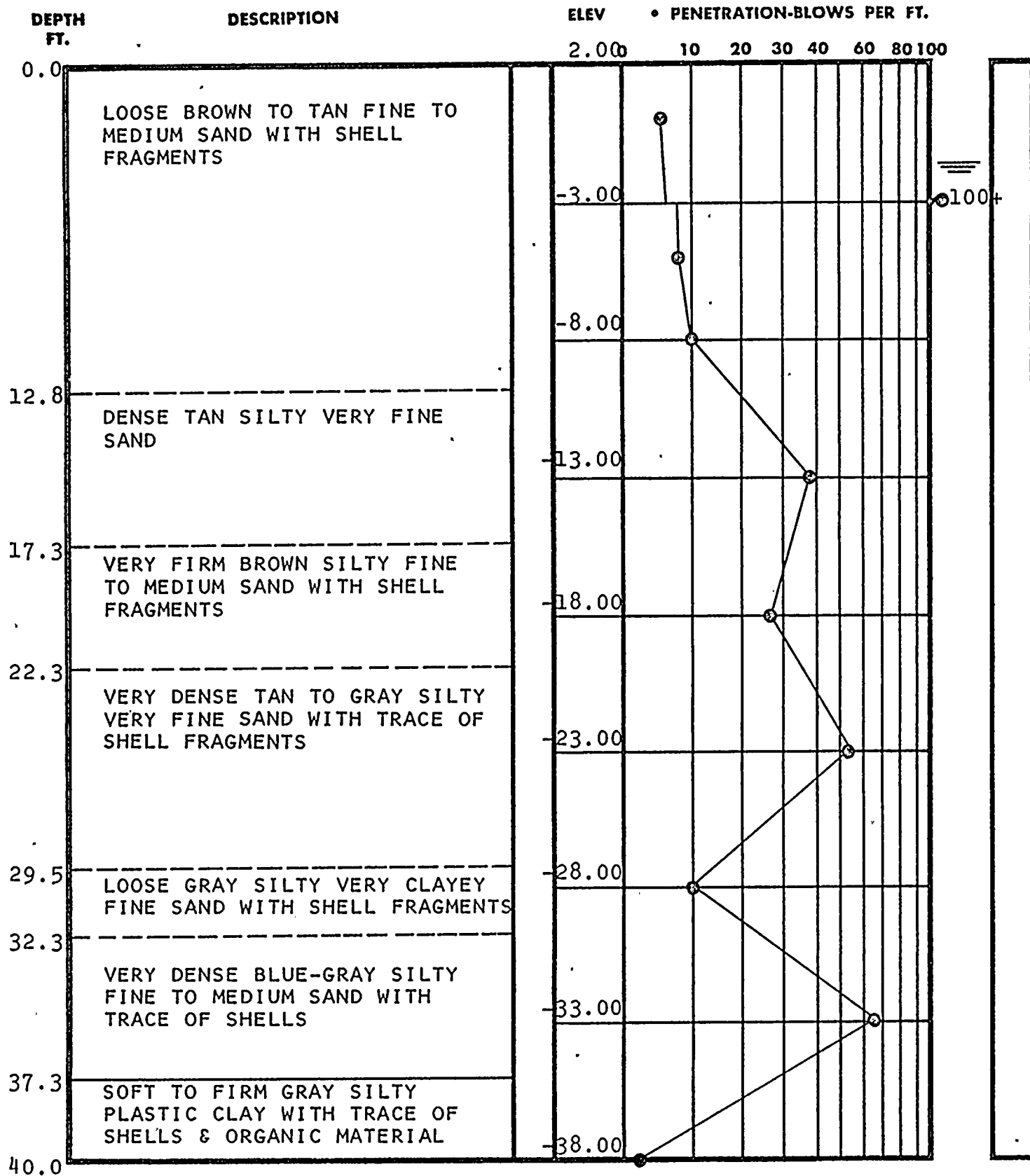
 WATER TABLE, 24 HR.

 WATER TABLE, TIME OF BORING

 % 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

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FALLING 30 IN. REQUIRED TO DRIVE 1.4 IN. I.D. SAMPLER 1 FT.

PAGE 1 OF 2

BORING NO. B-146A

DATE DRILLED 1/15/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

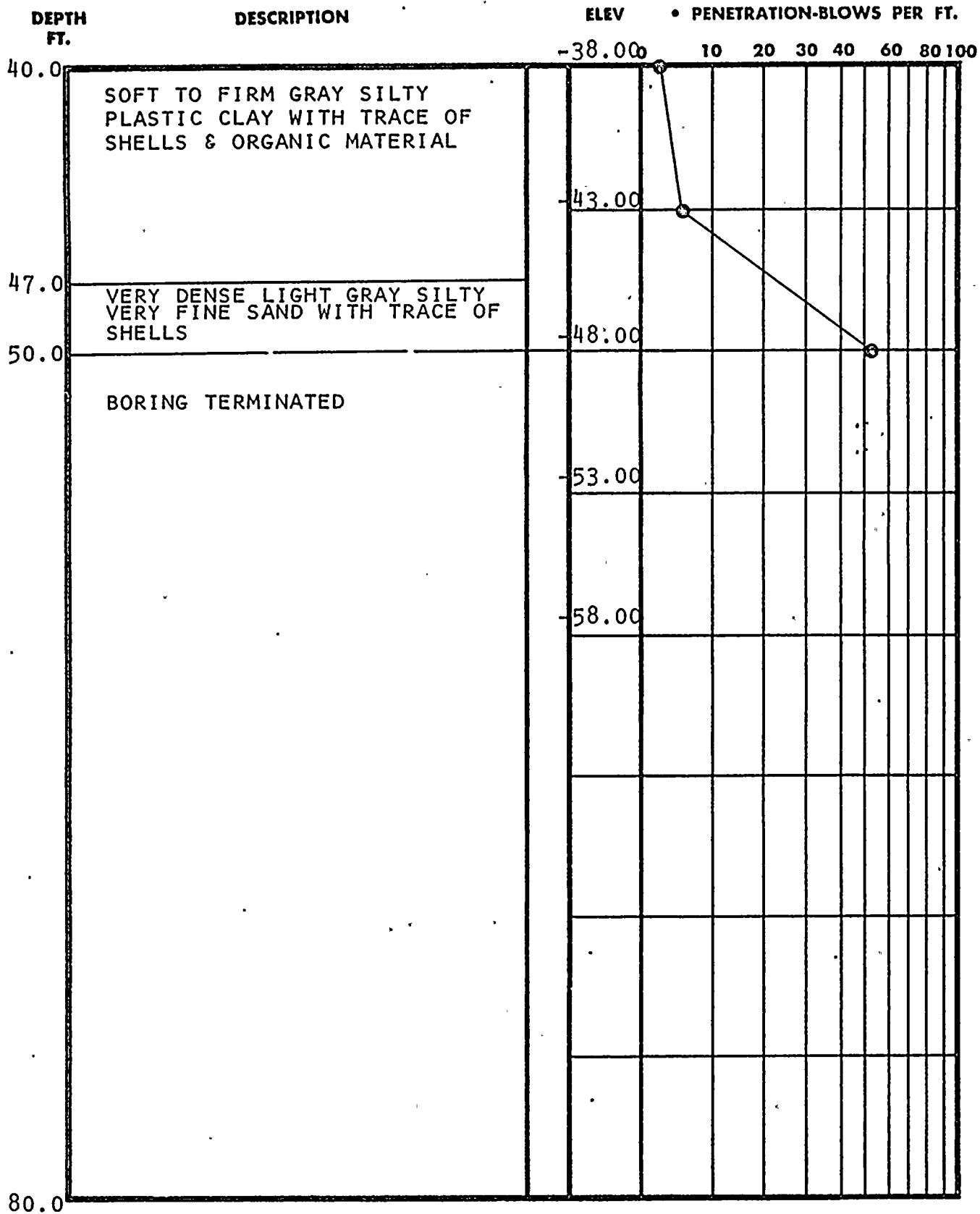
 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.



TEST BORING RECORD

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CORE DRILLING MEETS ASTM D-2113

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PAGE 2 OF 2

BORING NO. B-146A

DATE DRILLED 1/15/69

JOB NO. J-1127

 UNDISTURBED SAMPLE

 WATER TABLE, 24 HR.

 WATER TABLE, 1 HR.

 % ROCK CORE RECOVERY

 LOSS OF DRILLING WATER

LAW ENGINEERING TESTING CO.

REPORT OF AUGER BORINGS
TO OBTAIN BAG SAMPLES
FLORIDA POWER & LIGHT COMPANY
HUTCHINSON ISLAND PLANT - UNIT NO. 1
JOB NO. J-1127

<u>HOLE NUMBER</u>	<u>ZONE NUMBER</u>	<u>DEPTH</u>	<u>REMARKS</u>
A-1	I	12-27	0-12' SPOILED MATERIAL
	II	27-47	
	III	47-67	BORING TERMINATED @ 67'
A-1A	I	12-30	0-12' SPOILED MATERIAL BORING TERMINATED @ 30'
A-2	I	12-27	0-12' SPOILED MATERIAL
	II	27-47	
	III	47-67	BORING TERMINATED @ 67'
A-3	I	12-27	0-12' SPOILED MATERIAL
	II	27-47	
	III	47-67	BORING TERMINATED @ 67'
A-4	I	12-27	0-12' SPOILED MATERIAL
	II	27-47	
	III	47-67	BORING TERMINATED @ 67'



PIEZOMETER INSTALLATION AND WATER TESTING

Nine shallow piezometers were installed in locations as shown on the attached Boring Plan—Plate I and designated Borings SP1—SP9. Borings were advanced using normal fishtail drilling procedures to specified depths. Casing was then set to within three feet of the bottom of each of the borings. The boring was then flushed using clear water until all drilling fluids had been removed. Slotted PVC pipe was then installed, the casing removed, and a sand filter blanket was installed around the PVC pipe.

Static water tests were performed on specified piezometer borings as shown on the attached Report of Water Testing. This procedure called for NX Casing to be set to a certain zone to be tested. Casing was then sealed to prevent any leakage from occurring outside the zone. Water was then poured into the casing and maintained at a certain level. The rate of water flow into the zone was measured by a flow meter in gallons per minute. Results of the static water testing are shown on the attached Report of Water Testing.

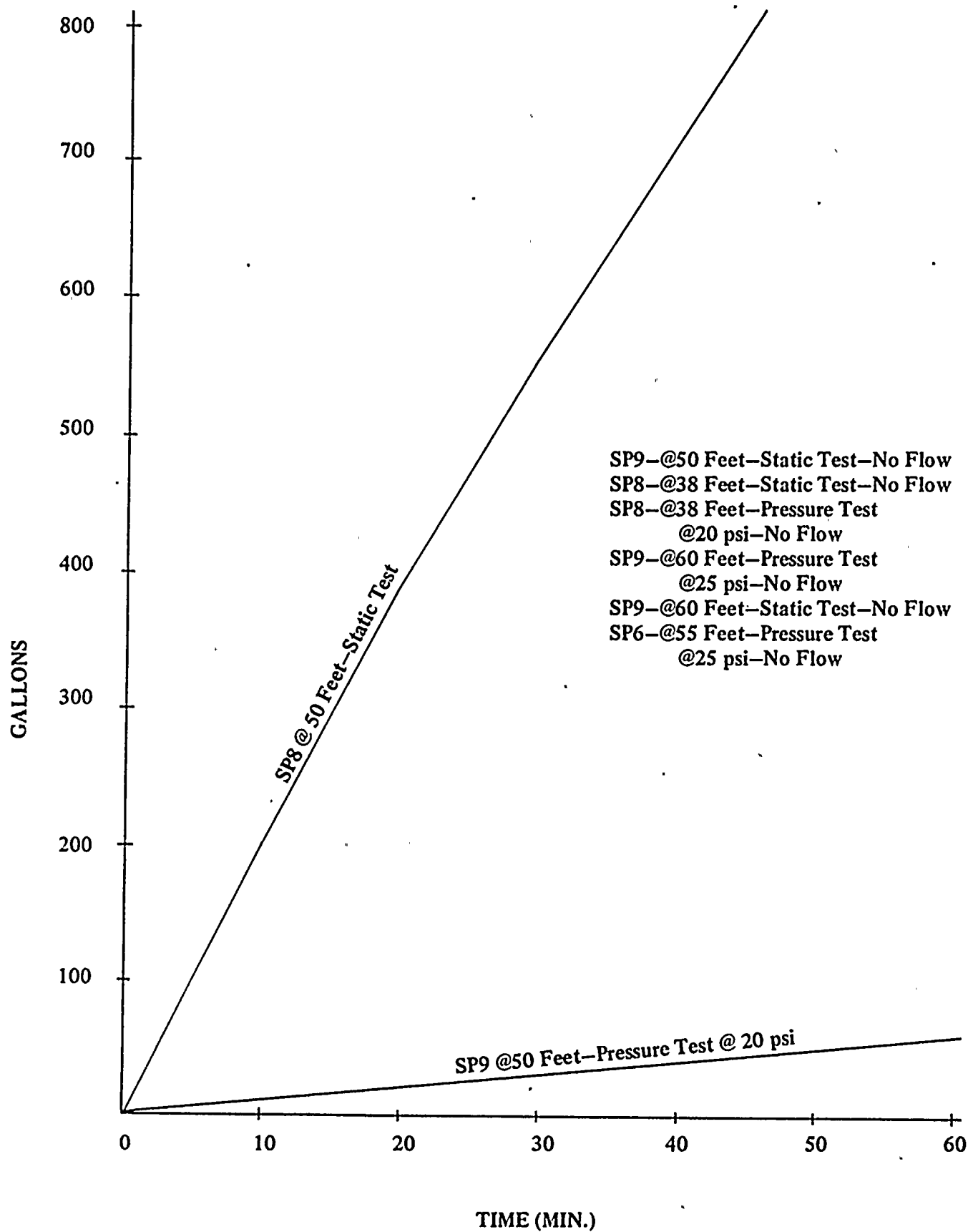
Pressure water testing was also performed on specified piezometer borings. Testing procedures are similar to that of static water testing except that water was pumped into the zone under a pressure varying from 20 to 25 psi. The rate of flow was measured by a flow meter in gallons per minute and is recorded on the attached Report of Water Testing.



REPORT OF PIEZOMETER INSTALLATIONS
FLORIDA POWER & LIGHT COMPANY
HUTCHINSON ISLAND PLANT - UNIT NO. 1
JOB NUMBER J-1127

<u>PIEZOMETER NUMBER</u>	<u>DEPTH SET</u>
SP-1	60'
SP-2	60'
SP-3	55'
SP-4	58'
SP-5	60'
SP-6	55'
SP-7	60'
SP-8	50'
SP-9	60'





SP9-@50 Feet-Static Test-No Flow
SP8-@38 Feet-Static Test-No Flow
SP8-@38 Feet-Pressure Test
@20 psi-No Flow
SP9-@60 Feet-Pressure Test
@25 psi-No Flow
SP9-@60 Feet-Static Test-No Flow
SP6-@55 Feet-Pressure Test
@25 psi-No Flow

Report of Water Testing
Florida Power & Light Co.
Hutchinson Island Plant-Unit 1
Job No. J-1127

LAW ENGINEERING TESTING COMPANY



