A

Granular Resources Inventory
- Southern Mackenzie Valley -
Grain Size Analysis

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

GRANULAR RESOURCE INVENTORY - SOUTHERN MACKENZIE VALLEY GRAIN SIZE ANALYSIS

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INTRODUCTION

Grain size studies have been carried out on 151 sediment samples from unconsolidated deposits in the southern Mackenzie Valley[1].

Sampling and laboratory analysis was done on three occasions during 1971 and 1972. This report contains a description of sampling, laboratory procedures, and grain size results obtained from these three studies.

1972 SAMPLES - G. V. MINNING

Sampling

Sediment samples were collected during the summer of 1972 in connection with field checking of granular deposits. An attempt was made to sample the major types of unconsolidated deposits (glaciofluvial, glaciolacustrine, alluvial, eolian, and morainal) that might supply granular material for major construction projects. Sample locations are indicated on a 1:500,000 map with the letters GM or LR and a dotted pattern (see Figure 1).

Laboratory Procedure

Dry Sieve Method

Samples with few aggregates or with aggregates that could easily be separated into single grains (e.g. most sands and gravels) were analyzed by the dry sieve method (see Folk, 1968, p. 34). Sieve sizes used and relation to grain sizes are as follows:

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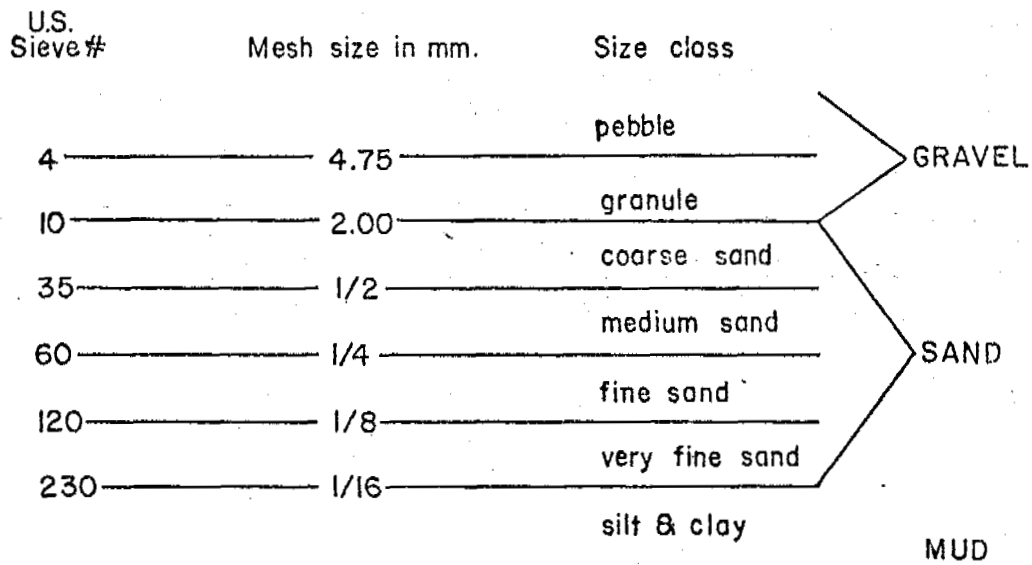
[1]Map sheets covered were 95A, B, G, H, I, J, K, N, O, and 85 D, E.



If attempts to disaggregate a sample were not successful the wet sieve method was employed.

Wet Sieve Method

A small sample (usually 100 grams) was dried, weighed, and then placed in a beaker with water to disaggregate the lumps. After thorough mixing it was allowed to settle. Then the silt and clay suspension was poured through the same stack of sieves used in the dry sieve method. This procedure was repeated until the clay was removed and the water in the beaker appeared fairly clear after mixing. The remaining material was checked by binocular microscope to ensure that disaggregation was complete and was then

flushed through the sieve with large quantities of water. Each sieve was checked to make sure that no appreciable amount of aggregates was left or that clogging of the screens by silt and clay had occurred. Then each sieve was dried and the contents were weighed.

This method proved to be more precise than dry sieving, possibly due to more thorough disaggregation of lumps and less clogging of screens by fine particles. It was, however, more time consuming and was used only where necessary - i.e., for till samples and samples with persistent aggregates.

Results of Grain Size Analysis

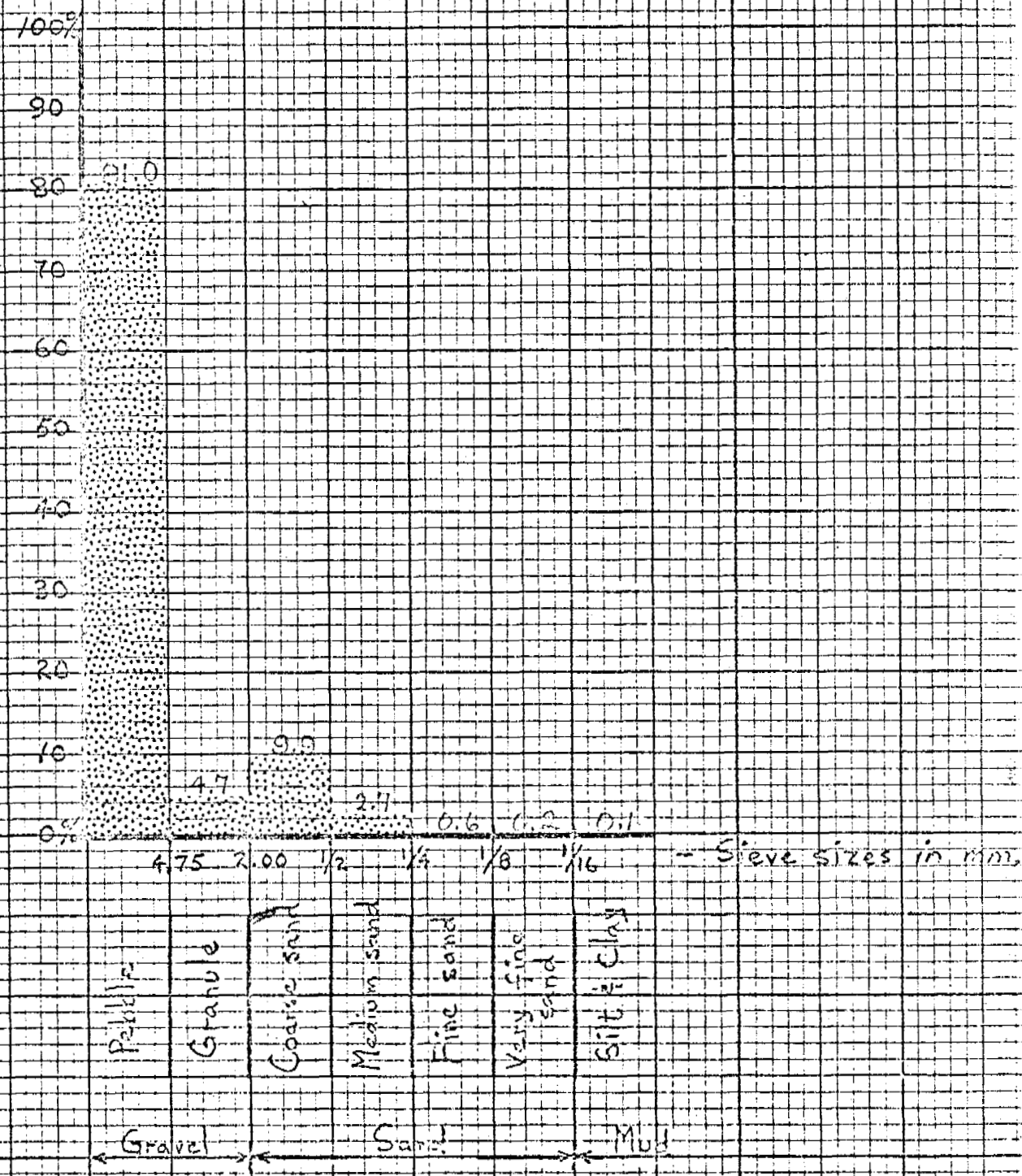
Results of laboratory work on grain size were plotted on histograms (pages 6 to 46 of this report). It should be noted that GM-123 and Mile 265 samples are from gravel pits which currently furnish material for road surfacing. Other deposits of glaciofluvial gravels and beach gravels show quite similar grain size breakdowns and would be good sources of construction materials. The chart which follows shows sample number, type of deposit sampled, type of material analyzed, and page number for corresponding histogram.

Sample Number	Type of Deposit	Type of Material	Page No.
Mile 265*	glaciofluvial	gravel	6
GM-3	glaciofluvial	gravel	7
GM-14	glaciofluvial	gravel	8
GM-16	glaciofluvial	gravel	9
GM-20	glaciofluvial	gravel	10
GM-25	glaciofluvial	gravel	11
GM-56	glaciofluvial	gravel	12
GM-67b	glaciofluvial	gravel	13
GM-74	glaciofluvial	gravel	14
GM-81	glaciofluvial	gravel	15
GM-83	glaciofluvial	gravel	16
LR-4a	glaciofluvial	gravel	17
LR-17	glaciofluvial	gravel	18
GM-108	glaciofluvial	gravel and sand	19
GM-130	glaciofluvial	gravel and sand	20
GM-105	glaciofluvial	gravel and sand	21
GM-104	glaciofluvial	gravel and sand	22
GM-102	glaciofluvial	sand and gravel	23
GM-63	glaciofluvial	sand	24
LR-4b	glaciofluvial	sand	25
GM-48	glaciofluvial	sand	26
GM-50	glaciofluvial	gravelly sand	27

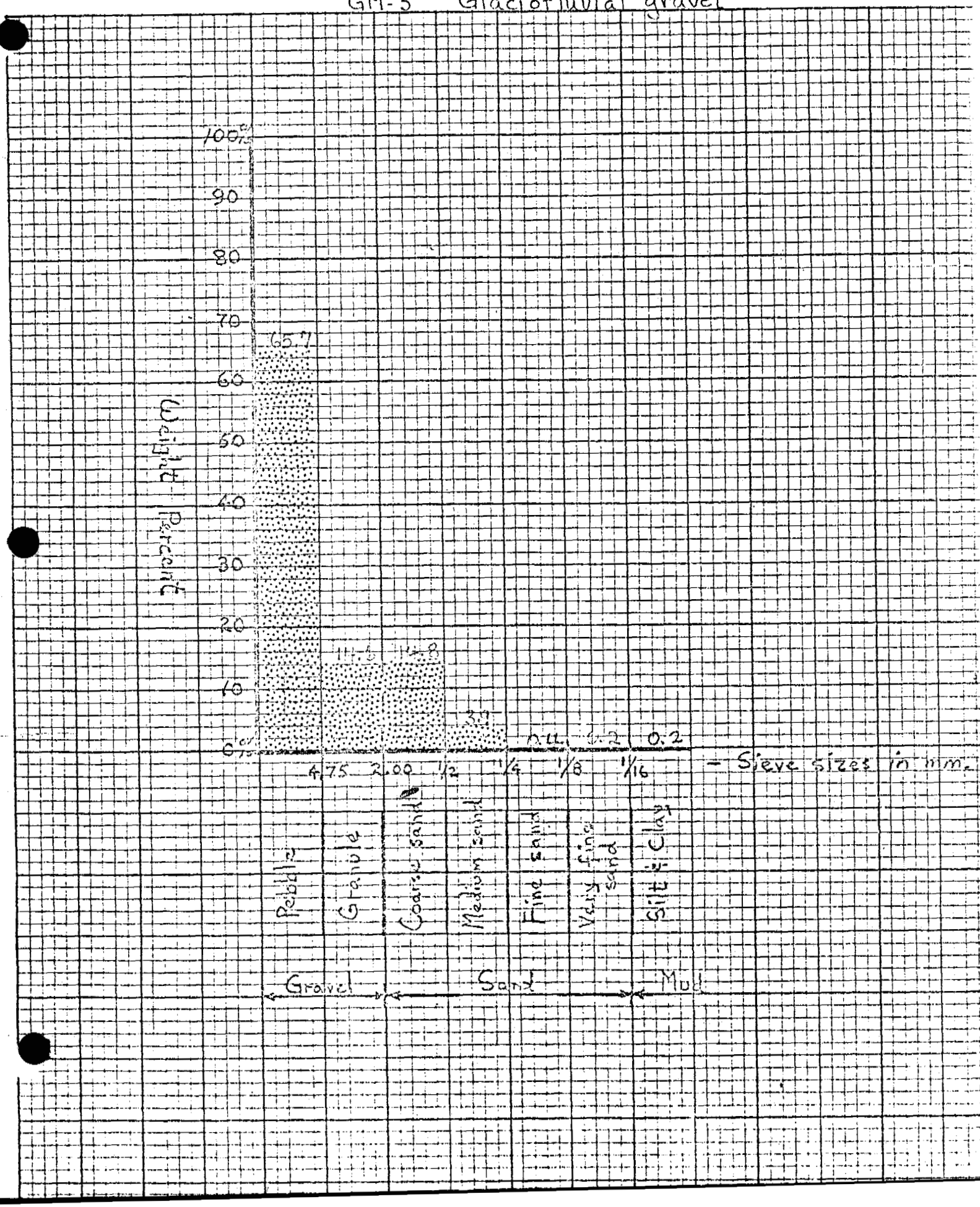
Sample Number	Type of Deposit	Type of Material	Page No.
GM-123*	glaciolacustrine beach	gravel	28
GM-115	glaciolacustrine beach	gravel	29
GM-112	glaciolacustrine beach	gravel and sand	30
GM-111	glaciolacustrine beach	sand	31
LR-7	glaciolacustrine beach	sand	32
GM-37	glaciolacustrine beach	silt	33
GM-22a	glaciolacustrine beach	silt	34
GM-4	alluvial	gravelly sand	35
GM-9	eolian dune	fine sand	36
LR-2	morainal	till	37
LR-16	morainal	till	38
GM-19	morainal	till	39
GM-22b	morainal	till	40
GM-57	morainal	till	41
GM-58	morainal	till	42
GM-72	morainal	till	43
GM-87	morainal	till	44
GM-116	morainal	till	45
GM-125	morainal	till	46

*Samples from active gravel pits.

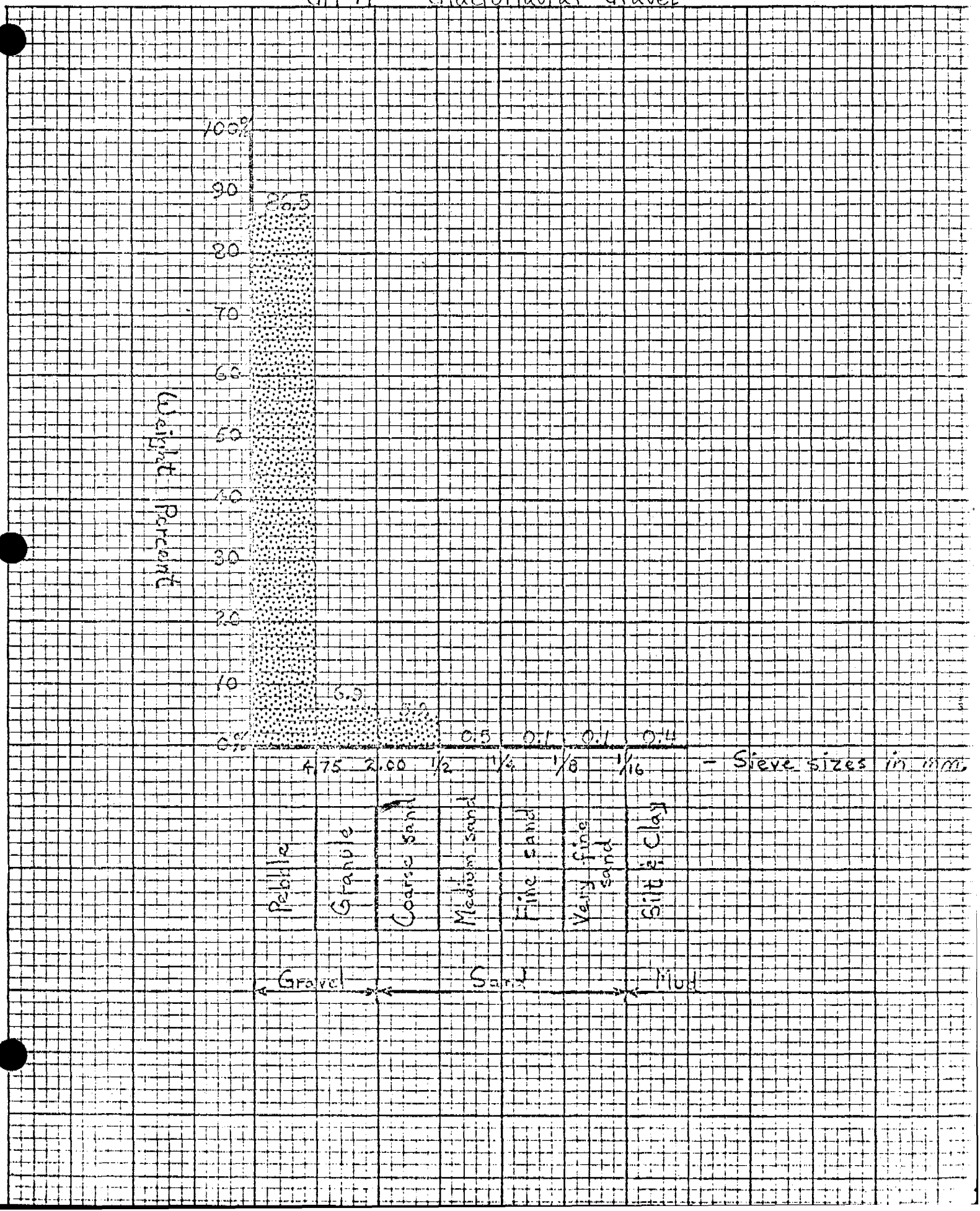
Mile 265 Glaciofluvial Gravel Pit



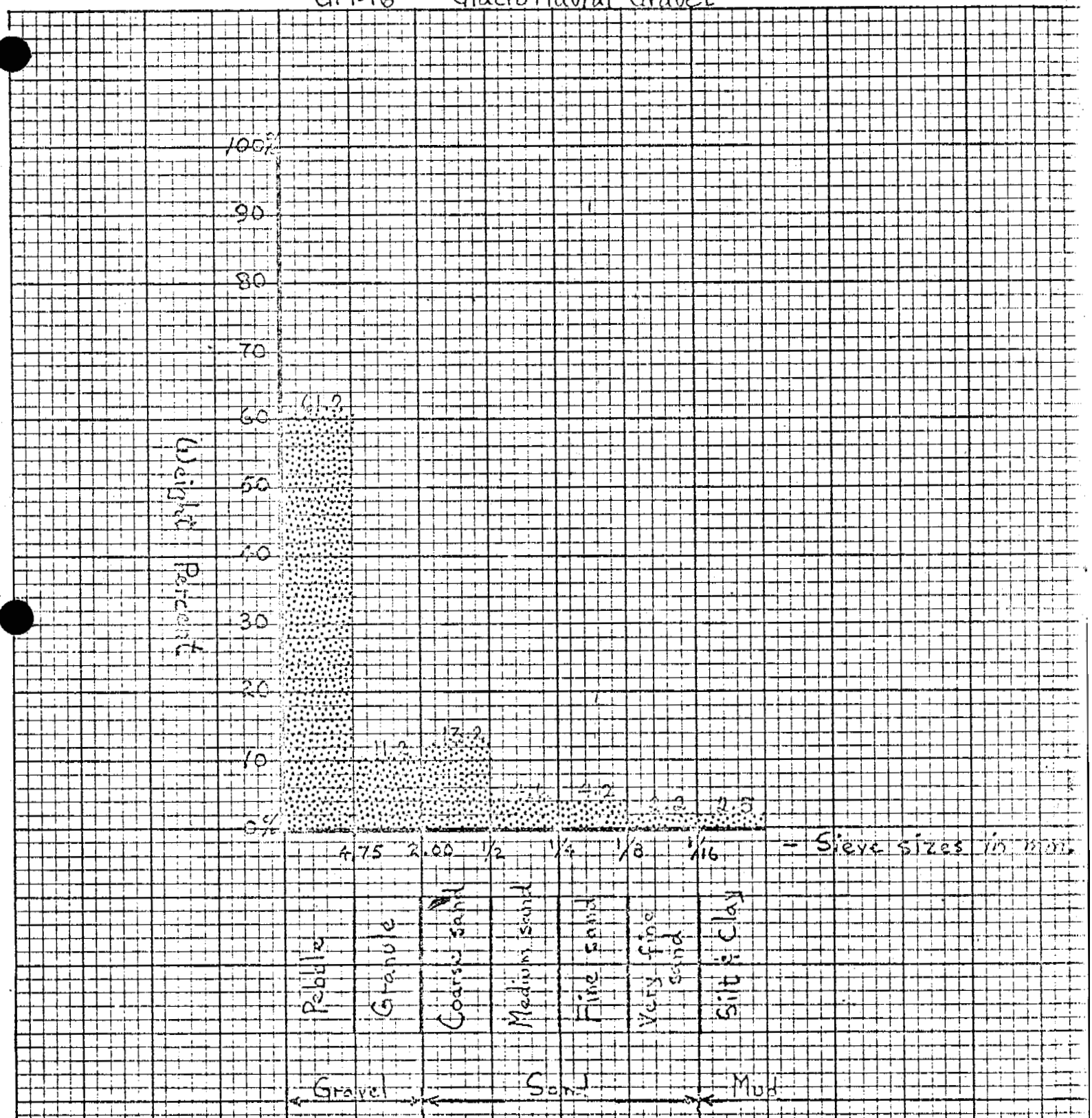
GM-3 Glaciofluvial gravel



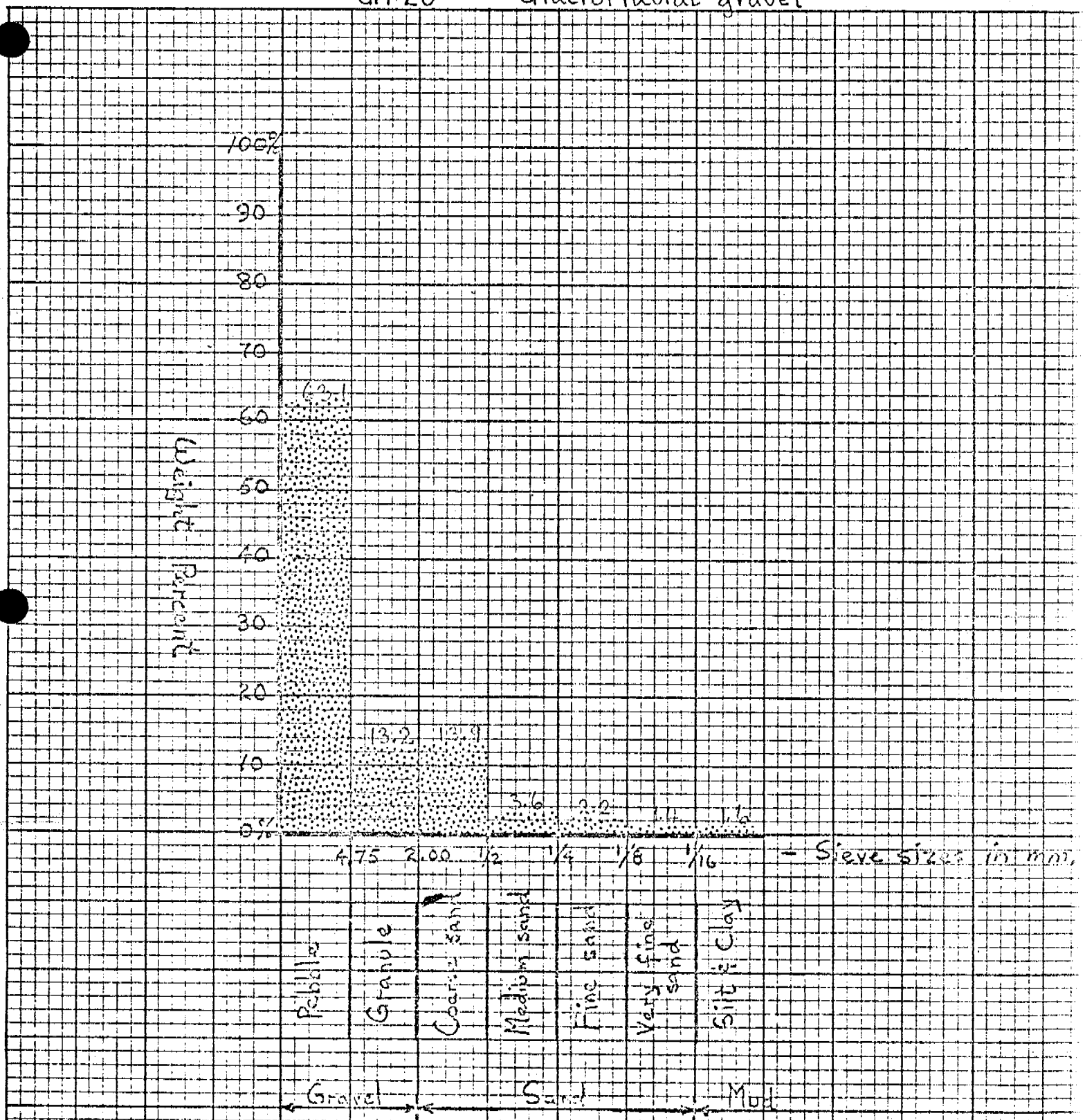
GM 14 Glaciofluvial Gravel



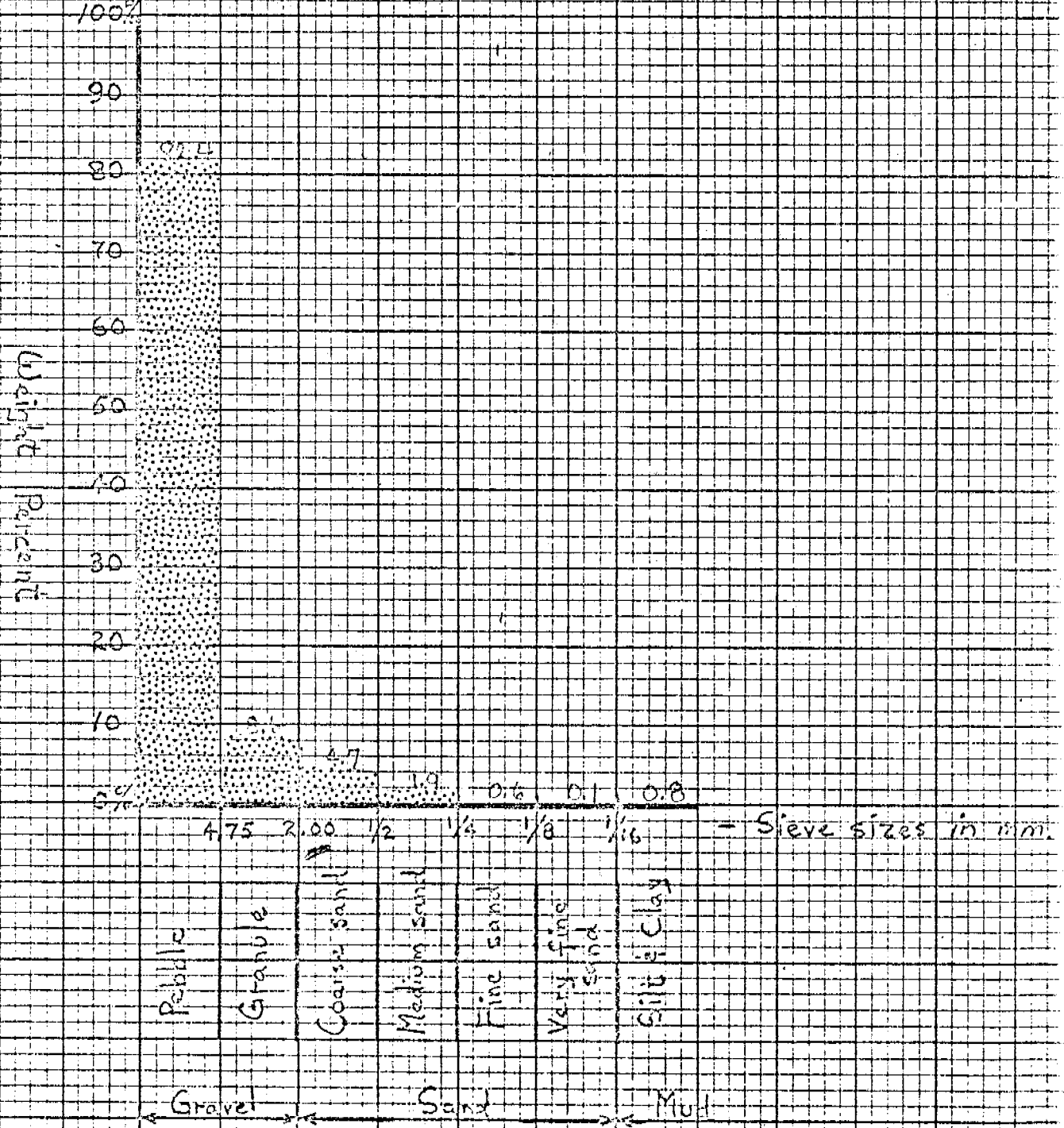
GM-16 Glaciofluvial Gravel



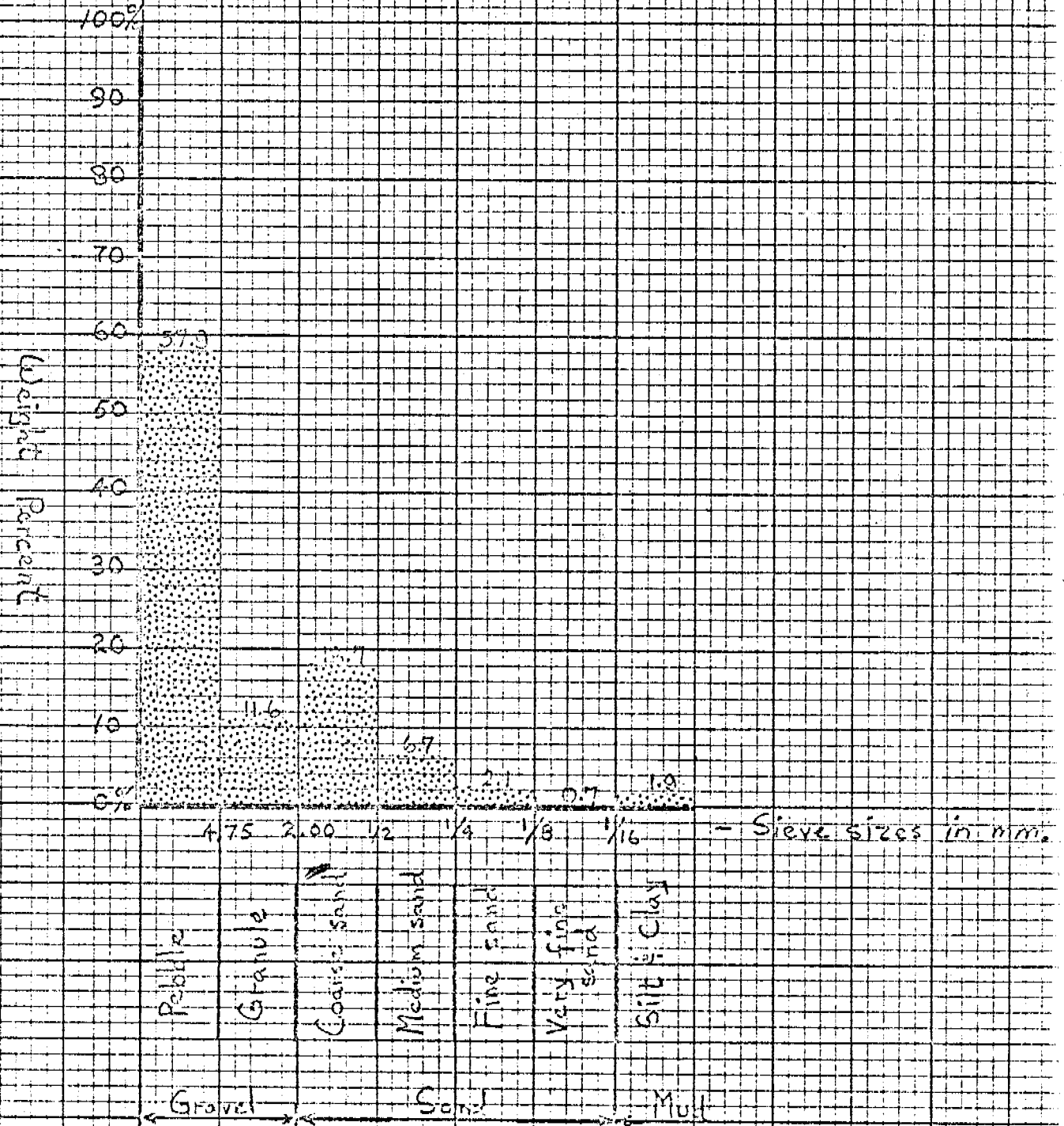
GM-20 Glaciofluvial gravel



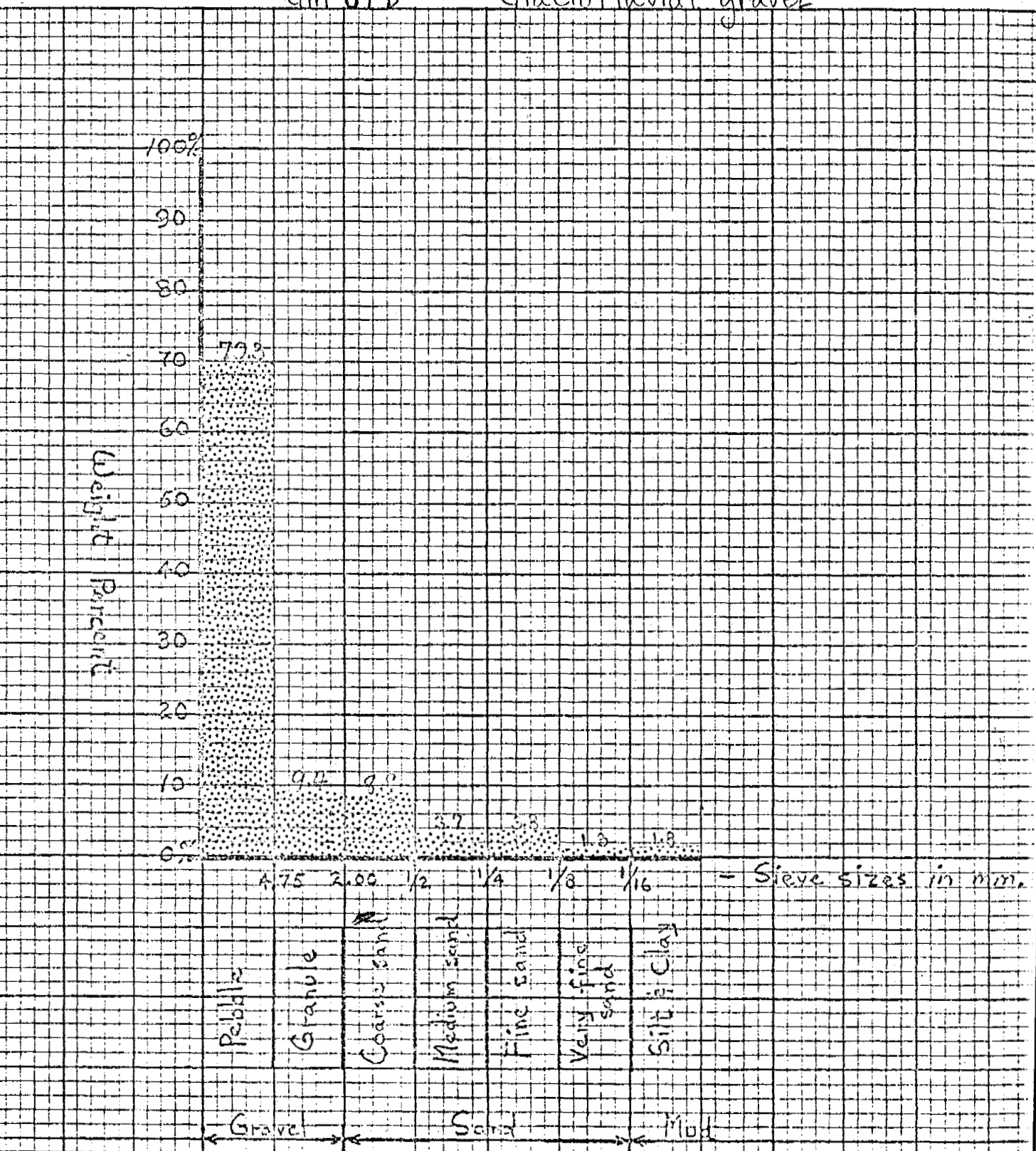
GM-25 Glaciofluvial gravel



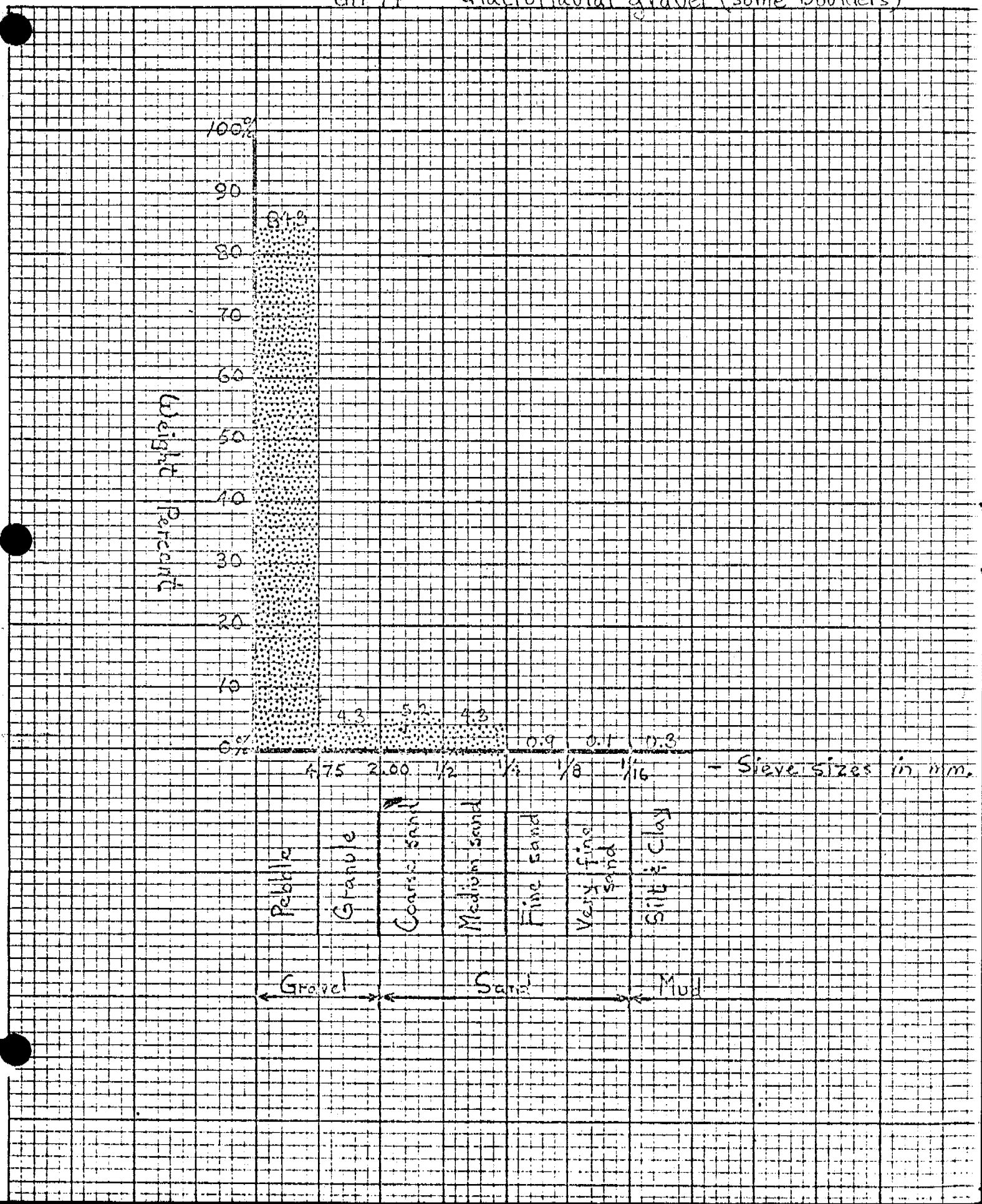
GM-56 Glaciofluvial gravel



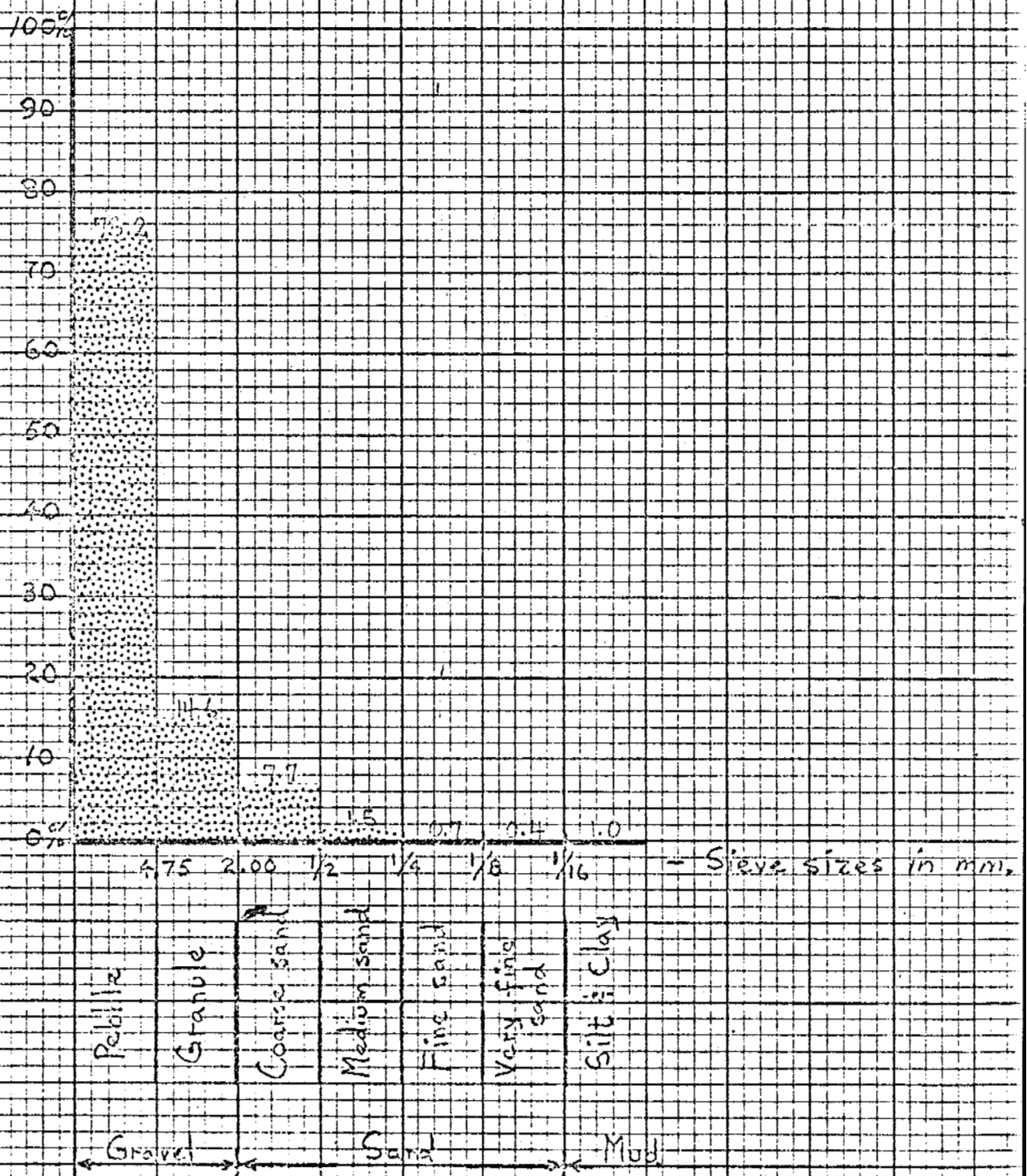
GM-67b Glaciofluvial gravel



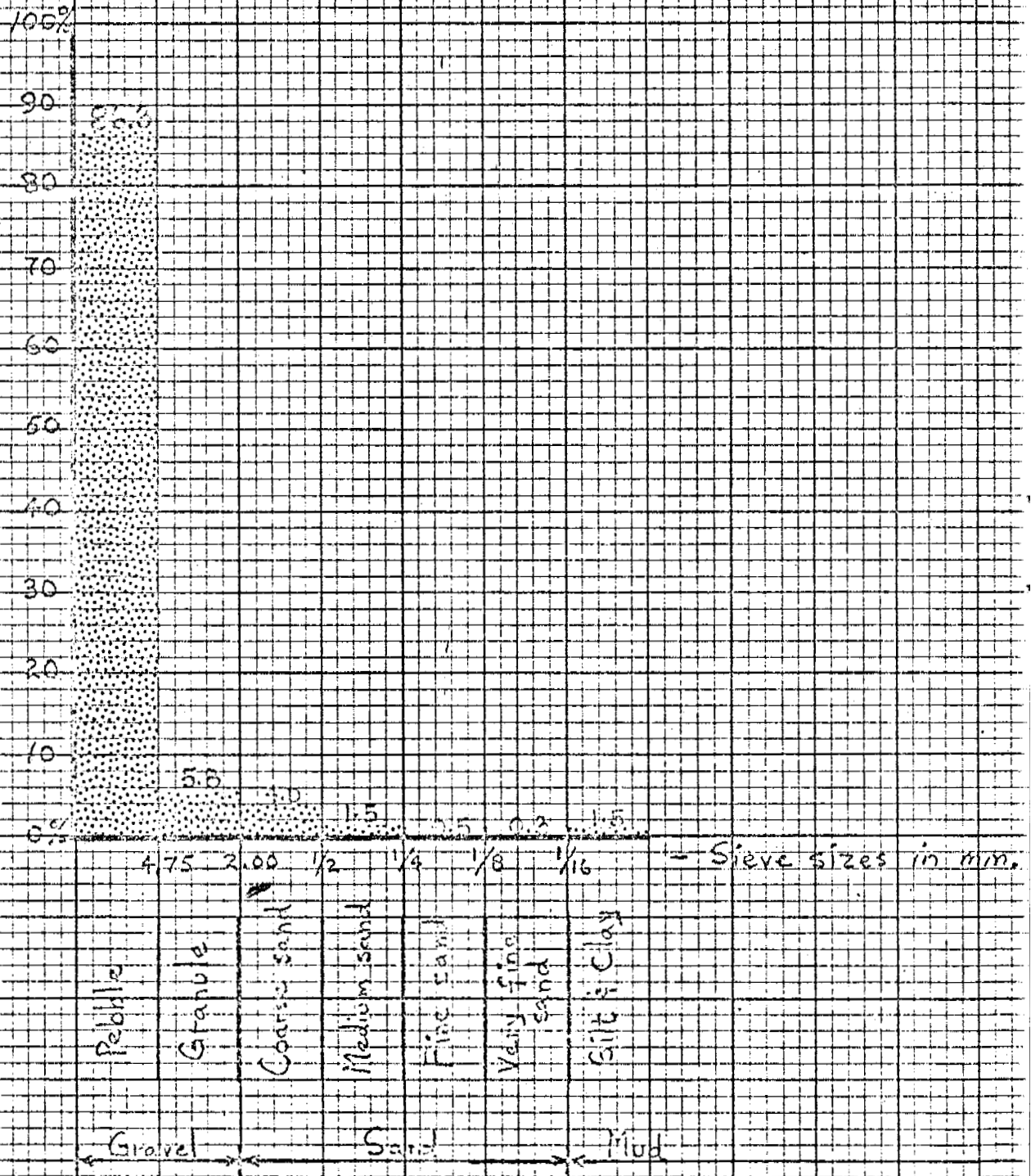
GM-74 Glaciofluvial gravel (some boulders)



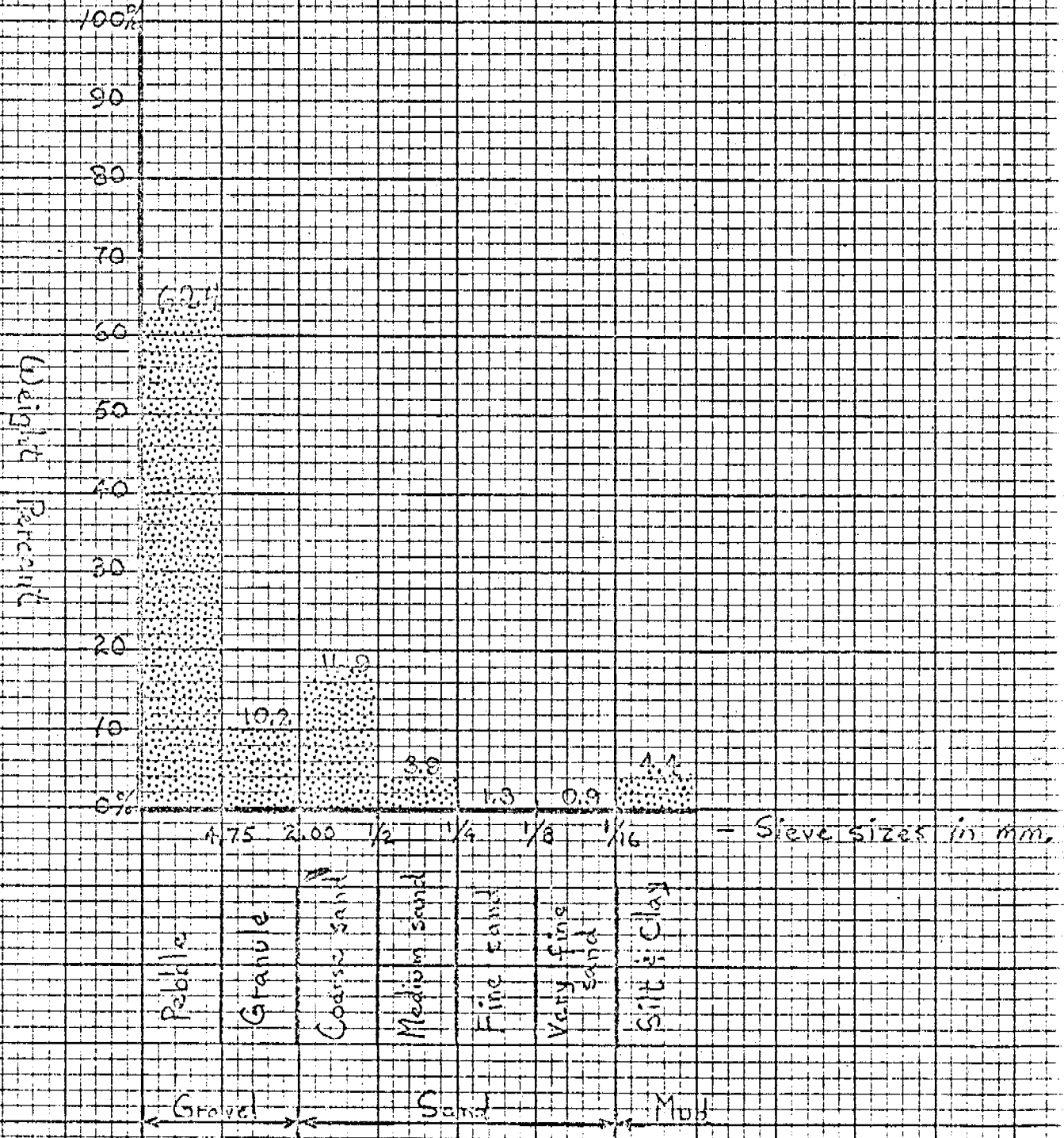
GM-81 Glaciofluvial gravel (esker)



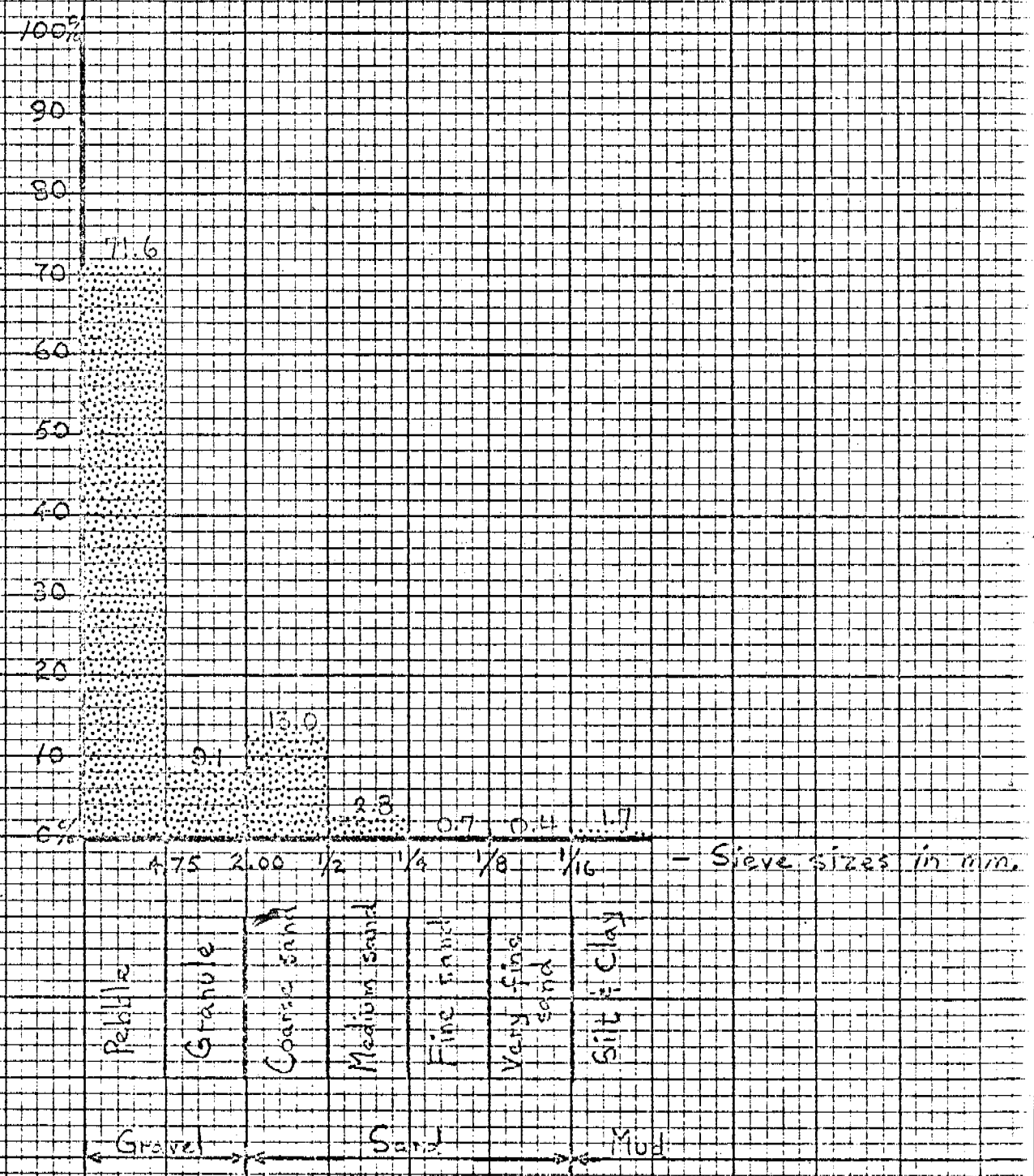
GM-83 Glaciofluvial gravel (esker complex)



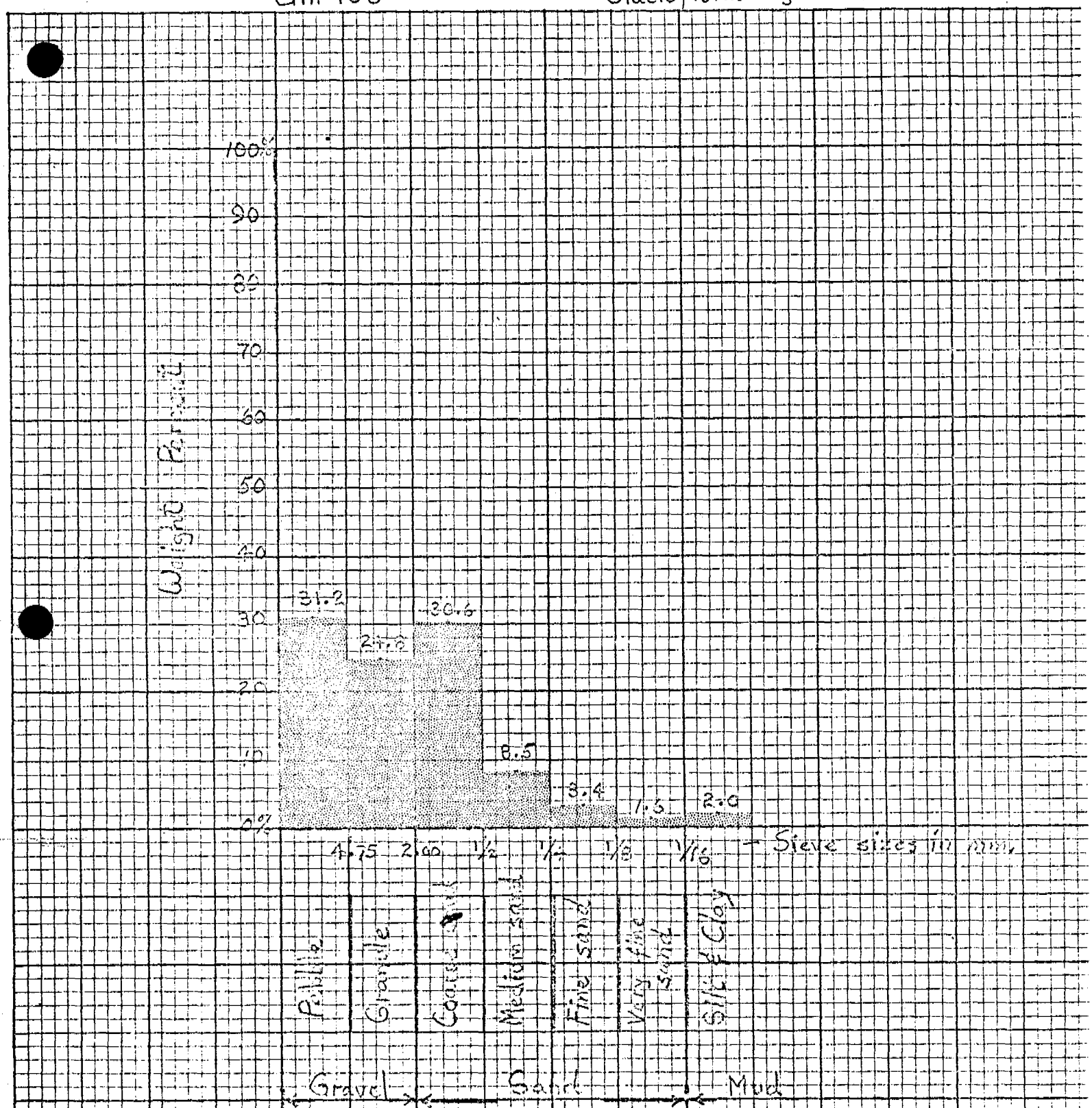
LR-4a Glaciofluvial Gravel



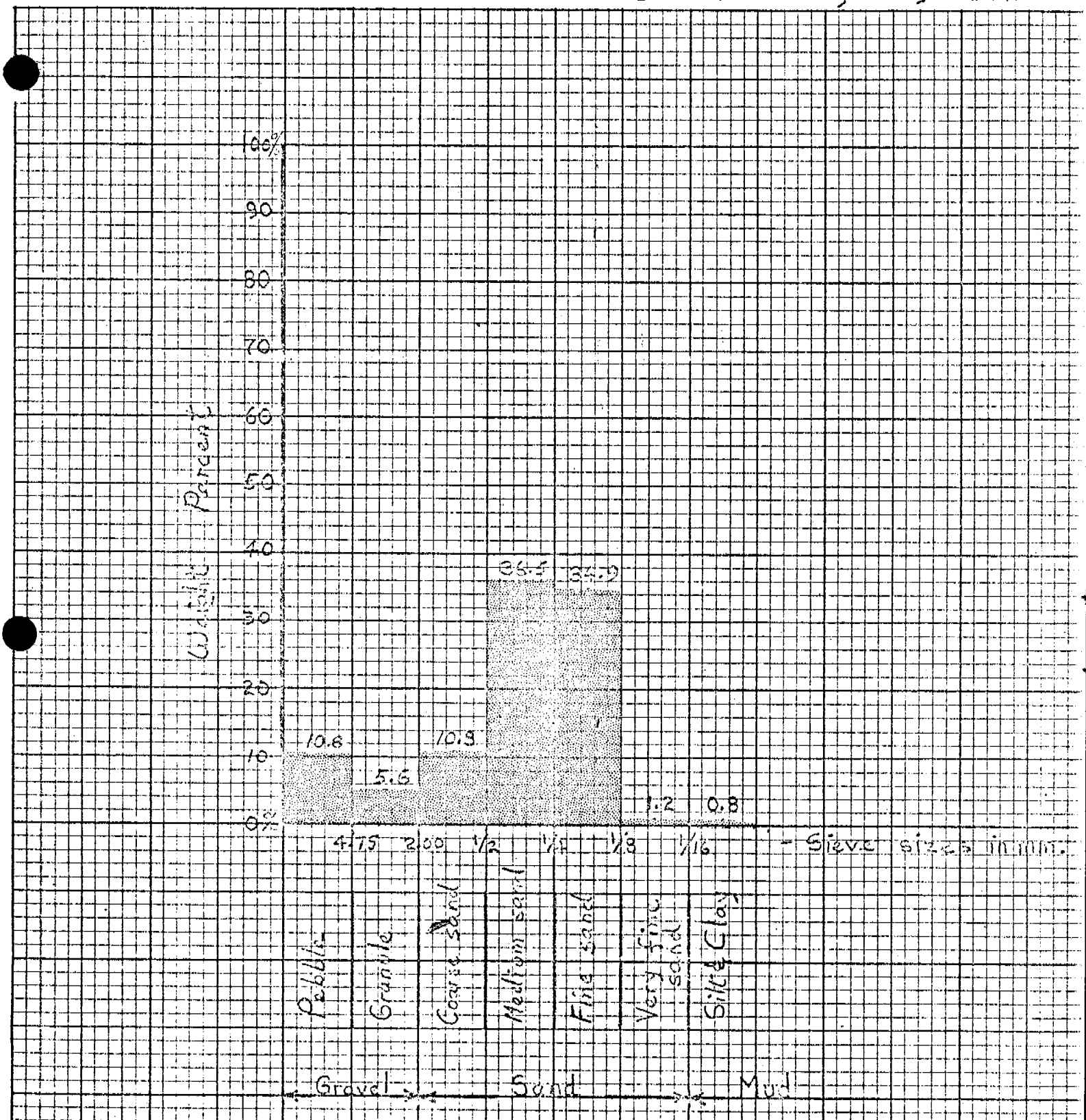
LR.-17 Glaciofluvial gravel



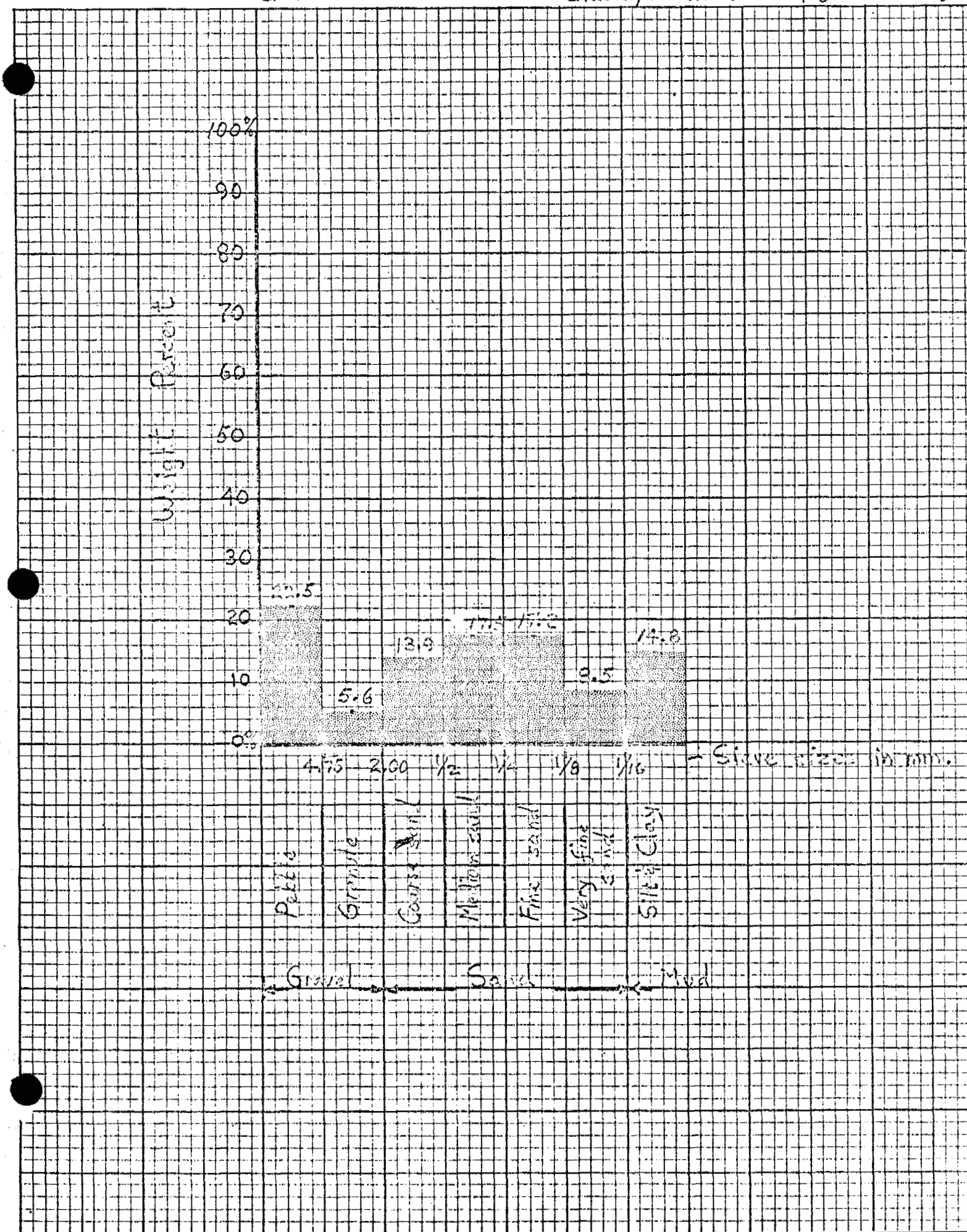
Gm 108 Glaciofluvial gravel & sand



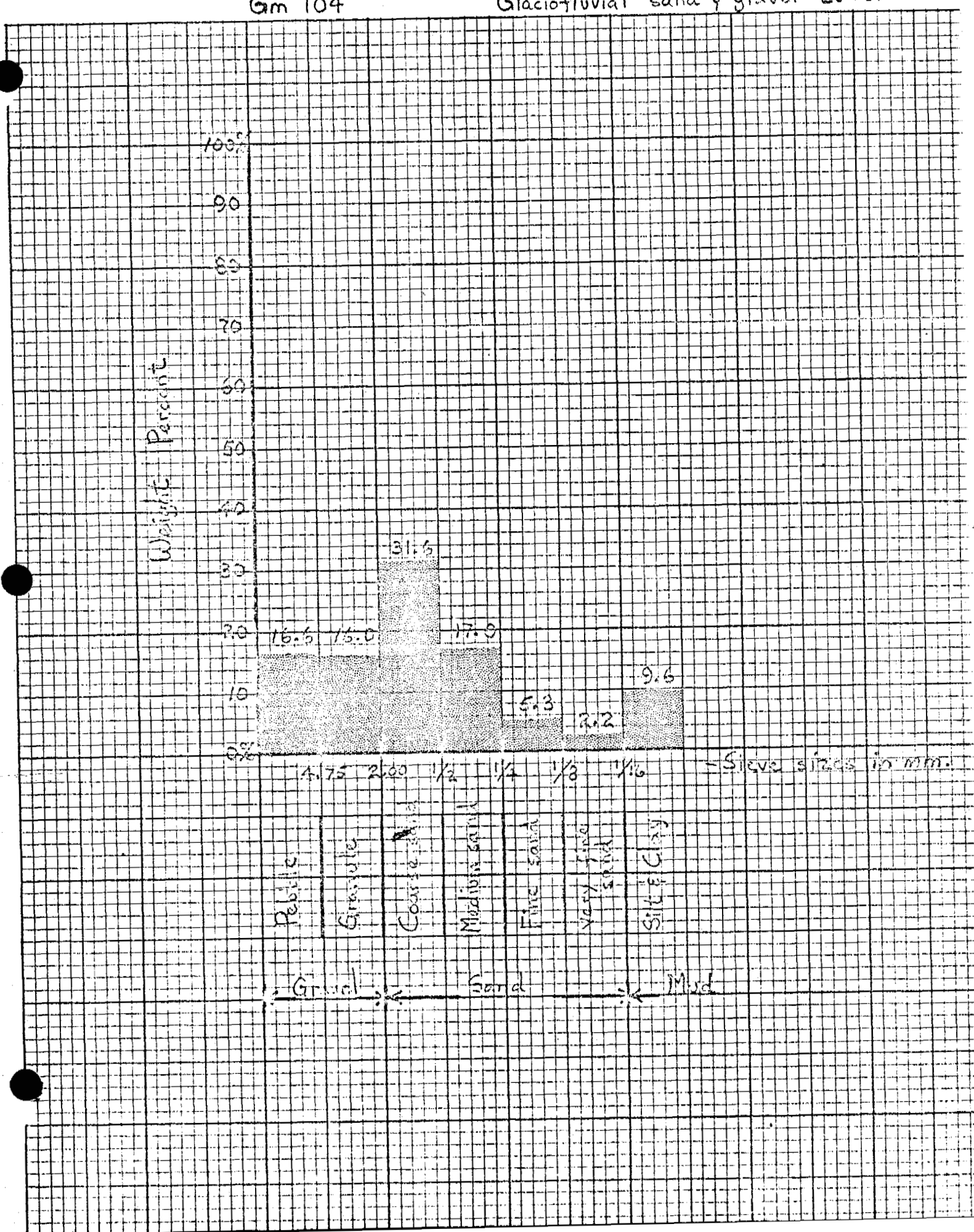
Gm 130 Glaciofluvial gravelly sand



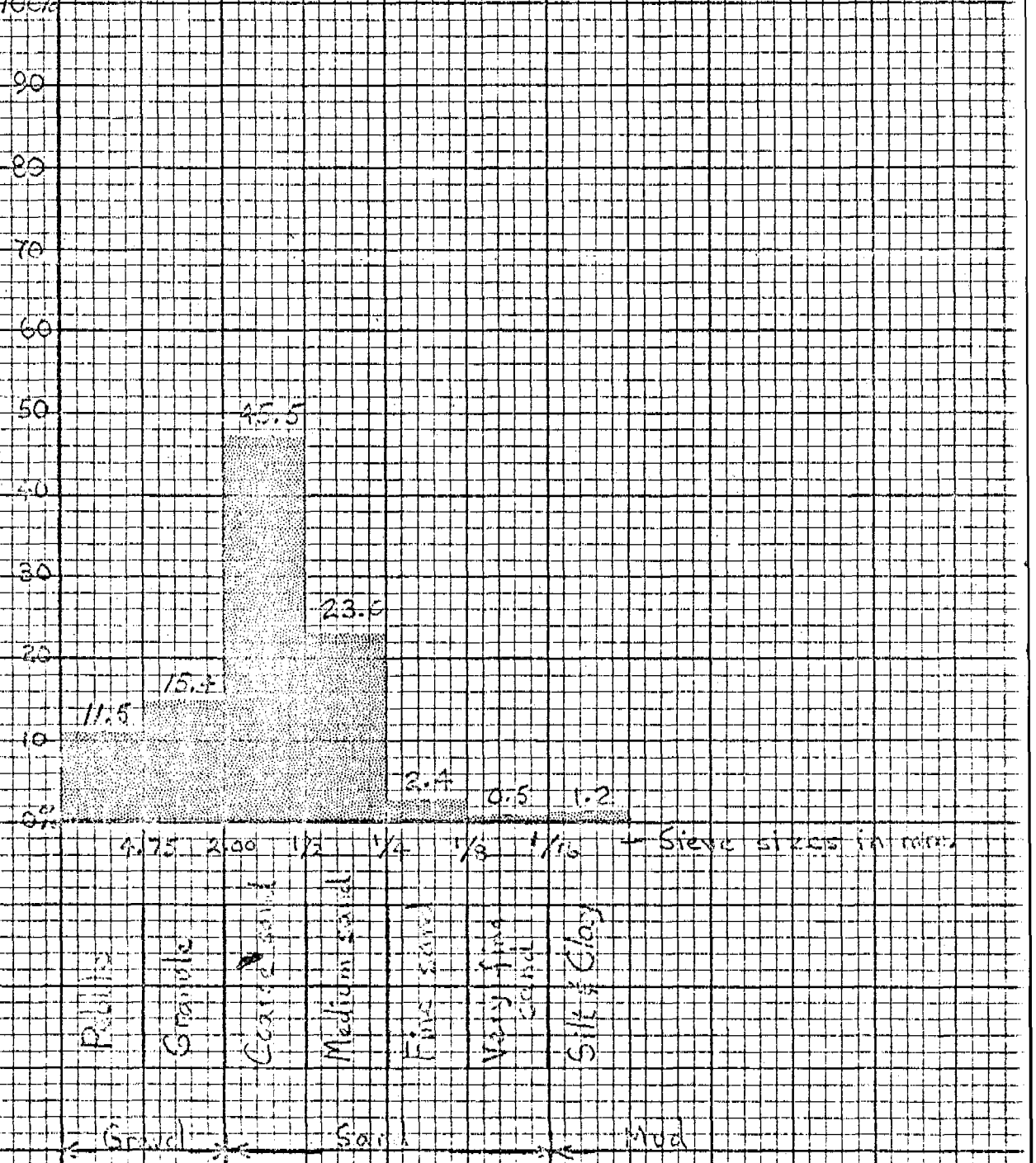
Gm 105 Glaciofluvial sand & gravel ridge



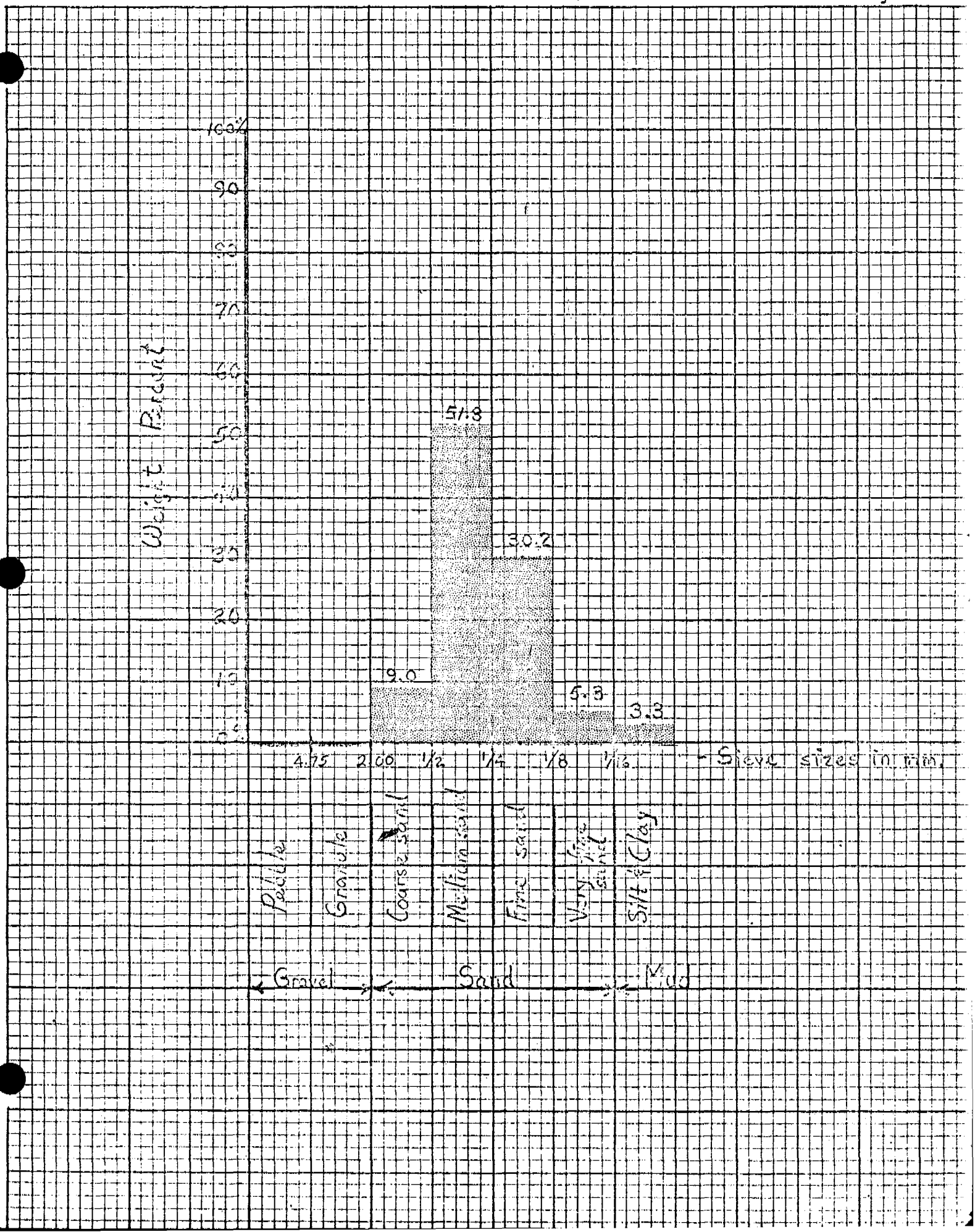
Gm 104 Glaciofluvial sand & gravel esker



Gm 102 Glaciofluvial sand & gravel

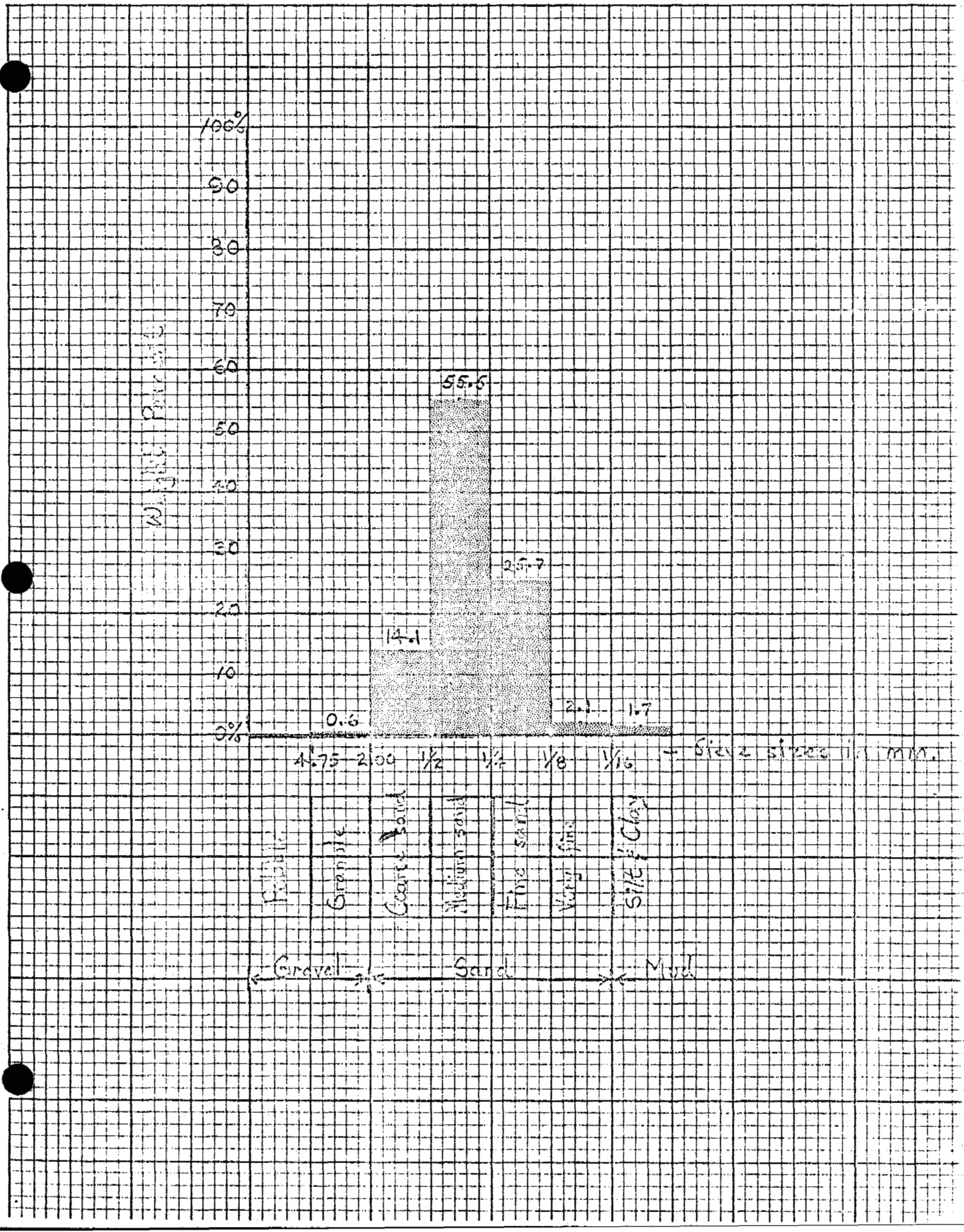


Gm 63 Glaciofluvial medium sand ridge

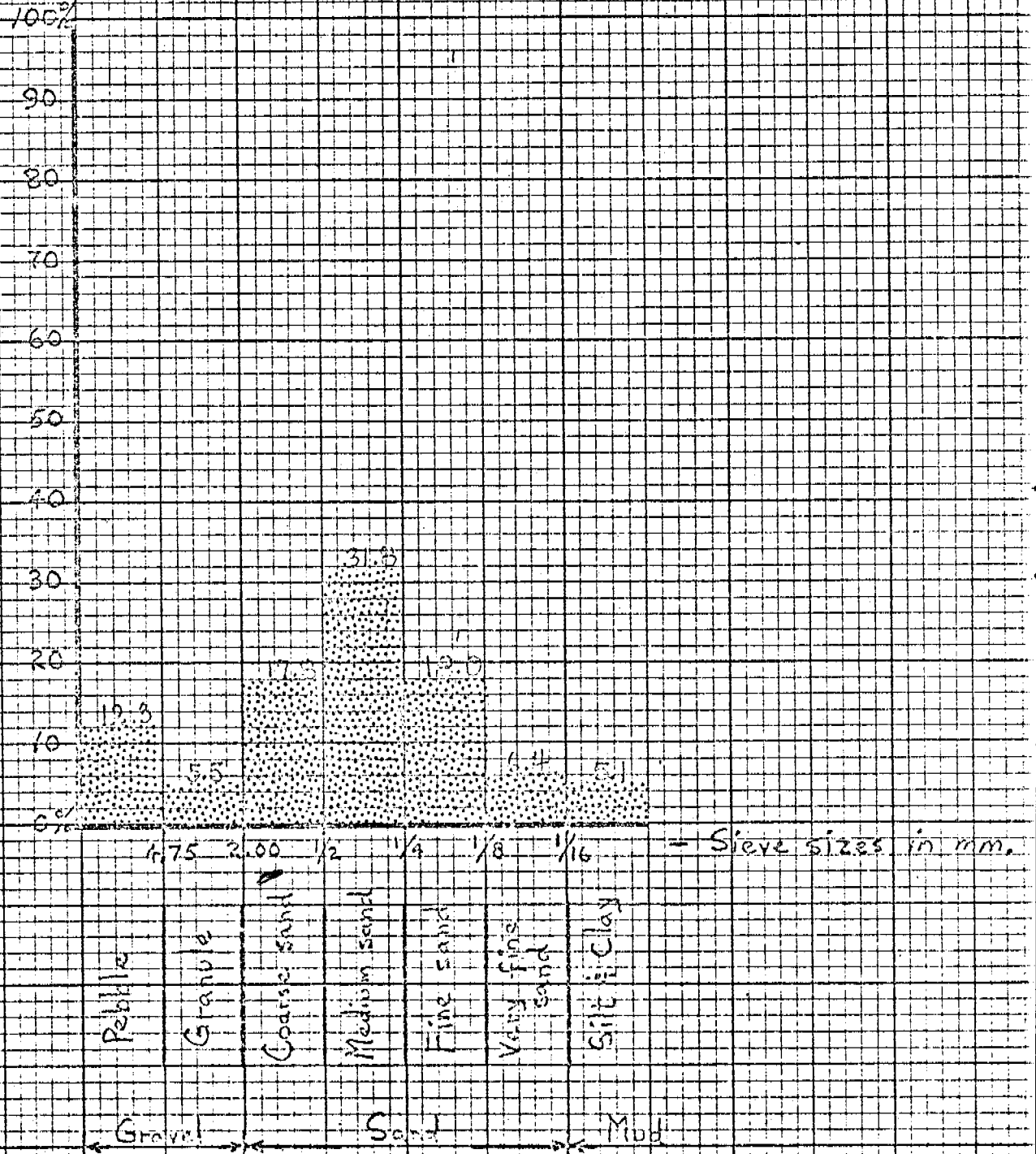


LR-4b

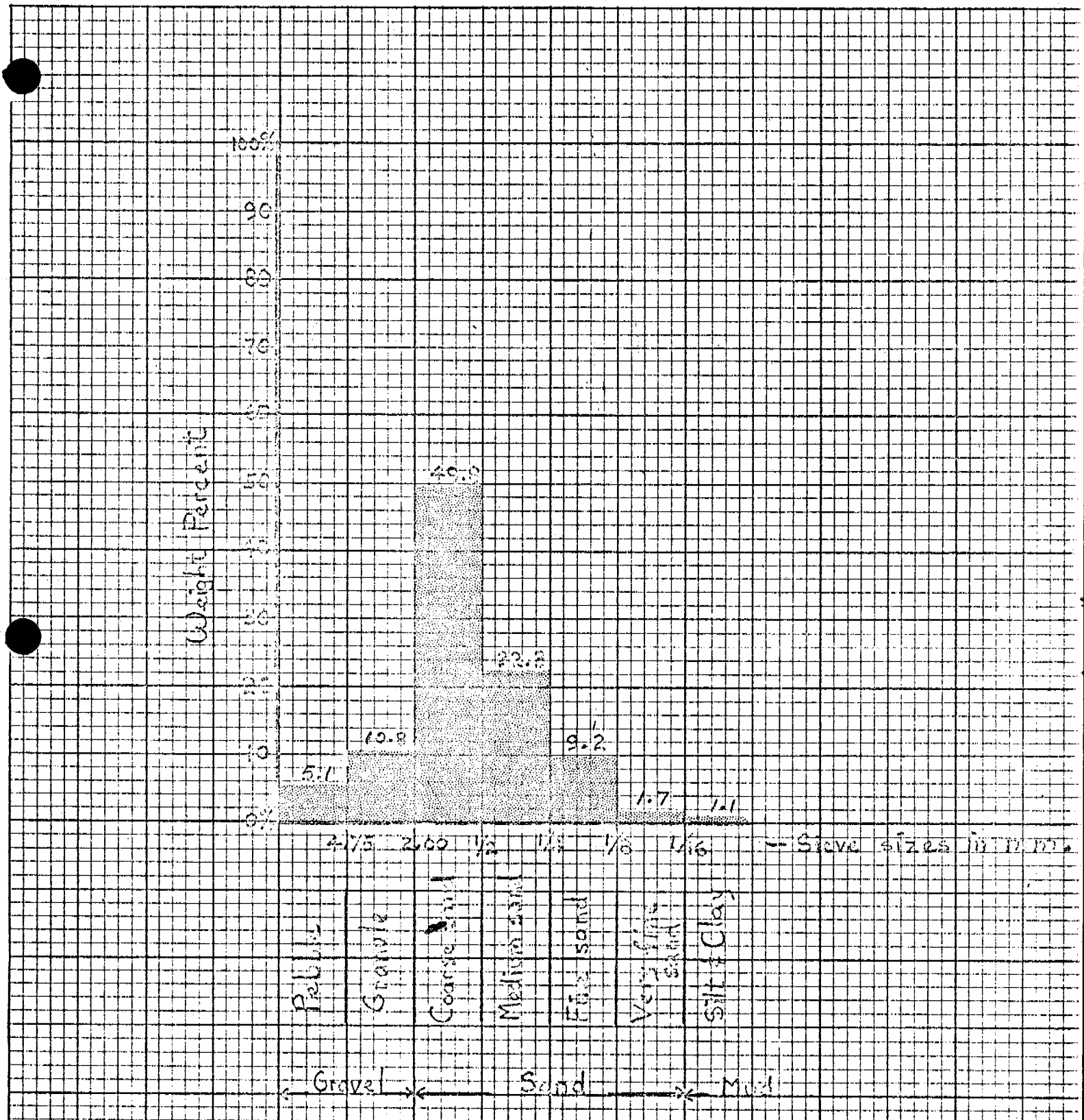
Glaciofluvial sand



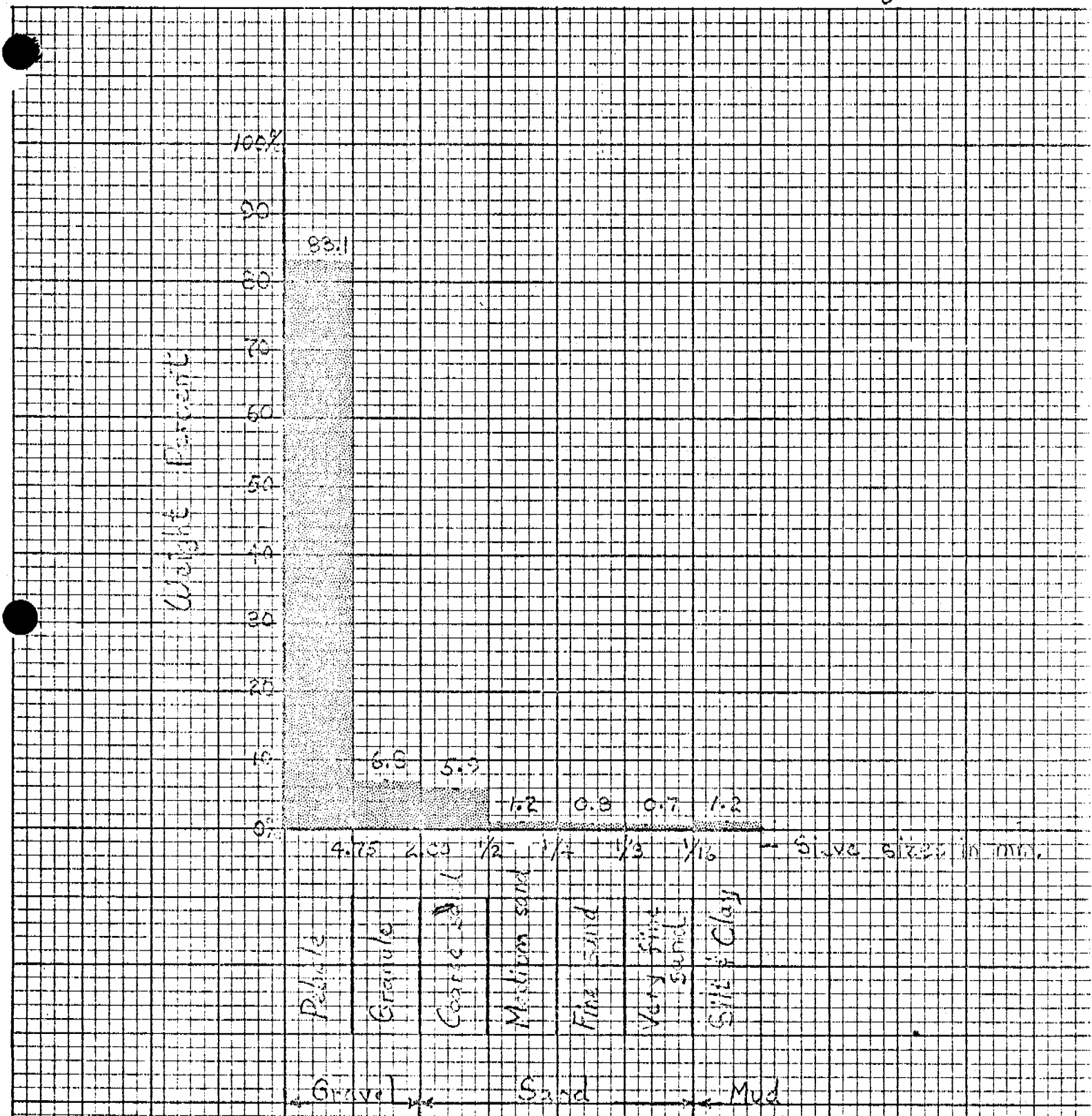
GM-48 Glaciofluvial sand



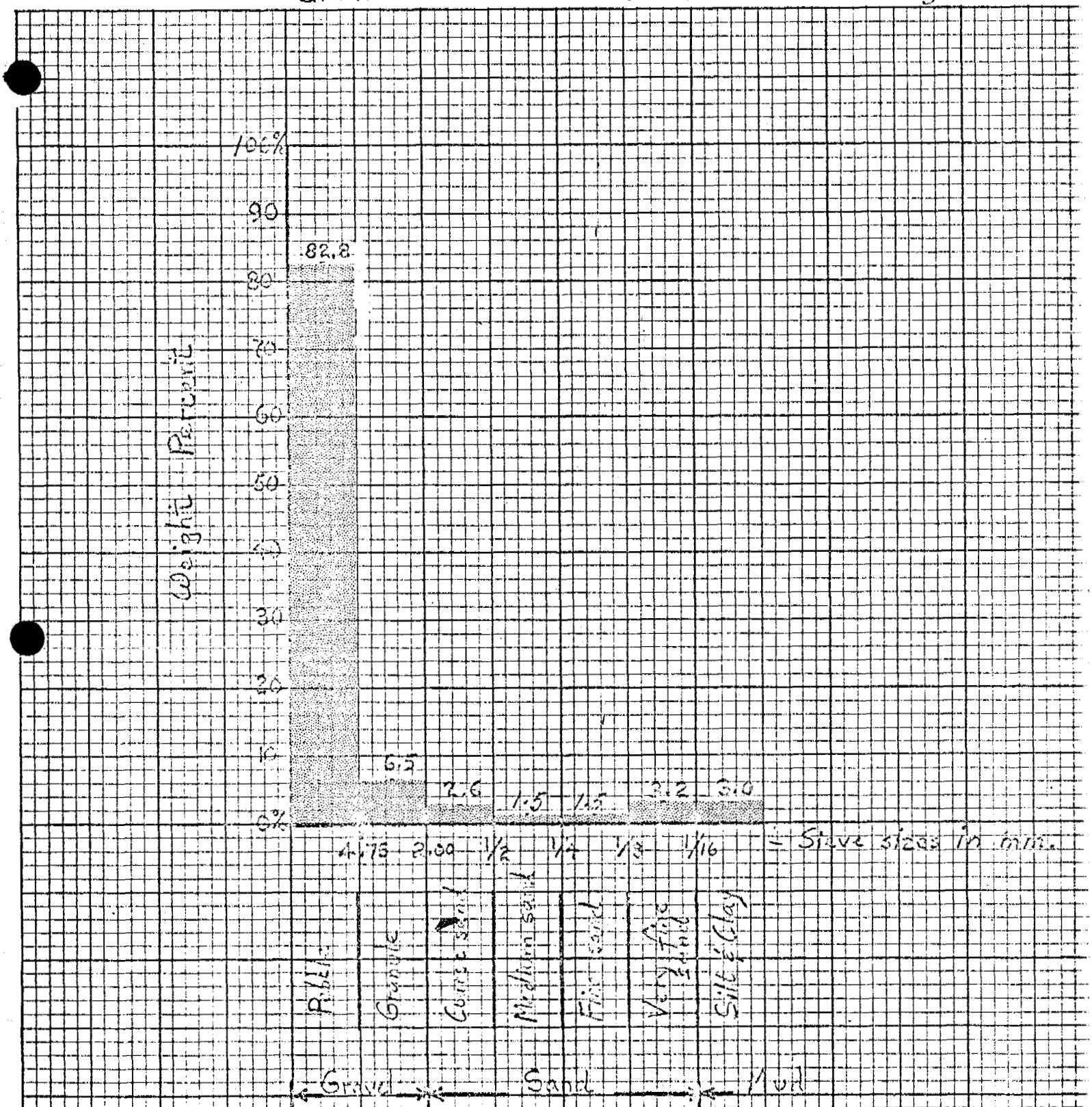
Gm 50 Glaciofluvial gravelly sand



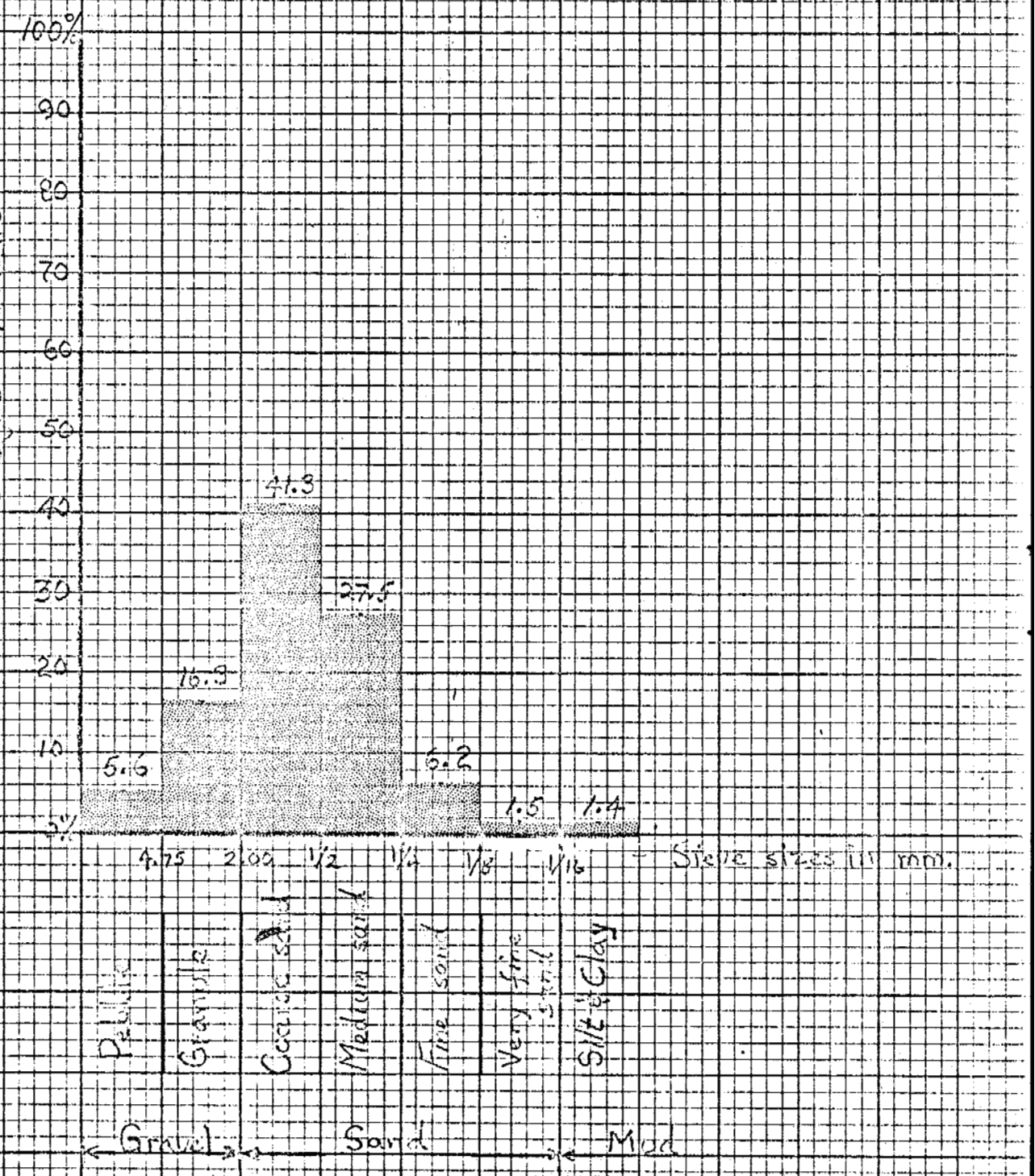
Gm 123 Glaciolacustrine gravel beach



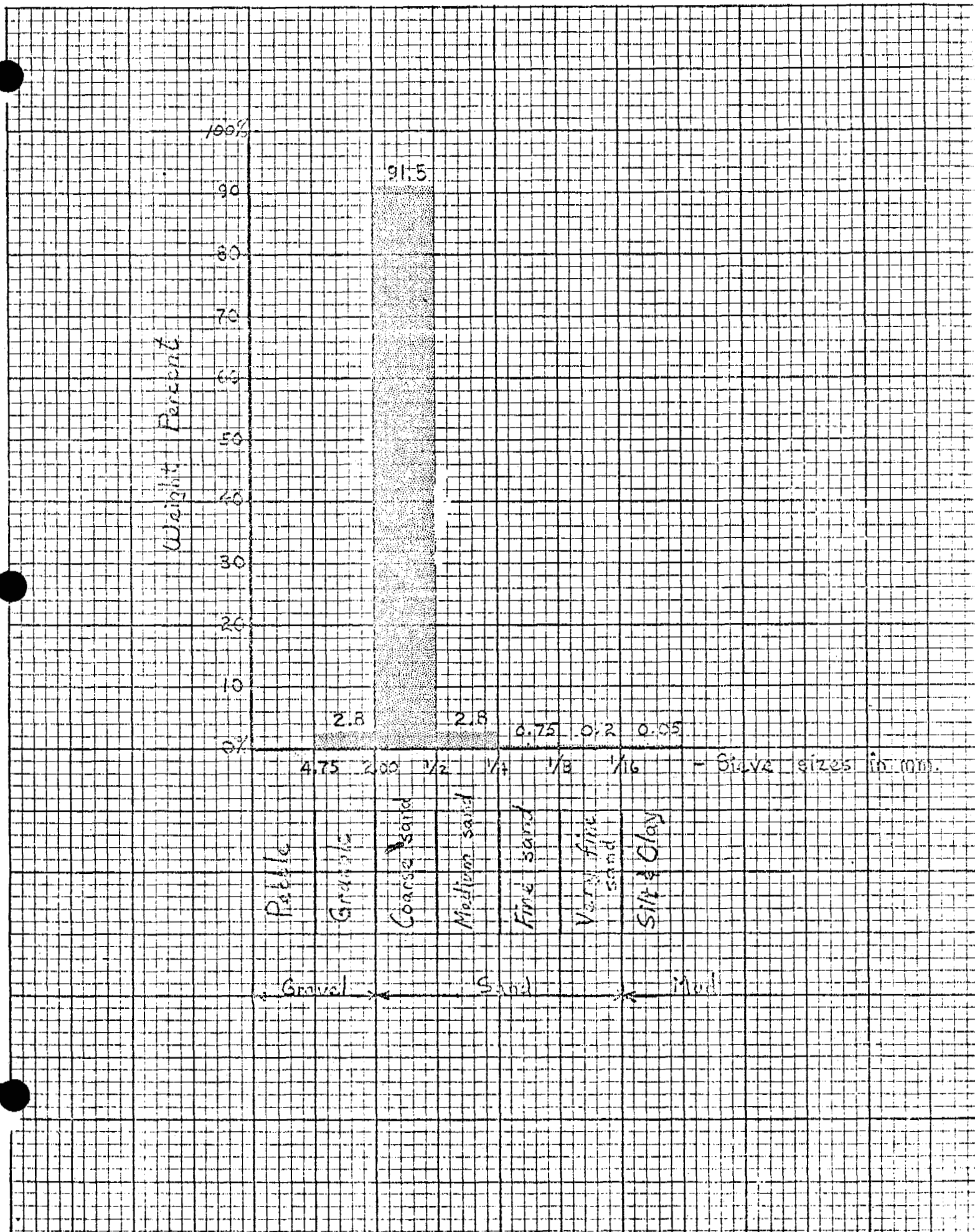
Gm 115 Glaciolacustrine beach gravel



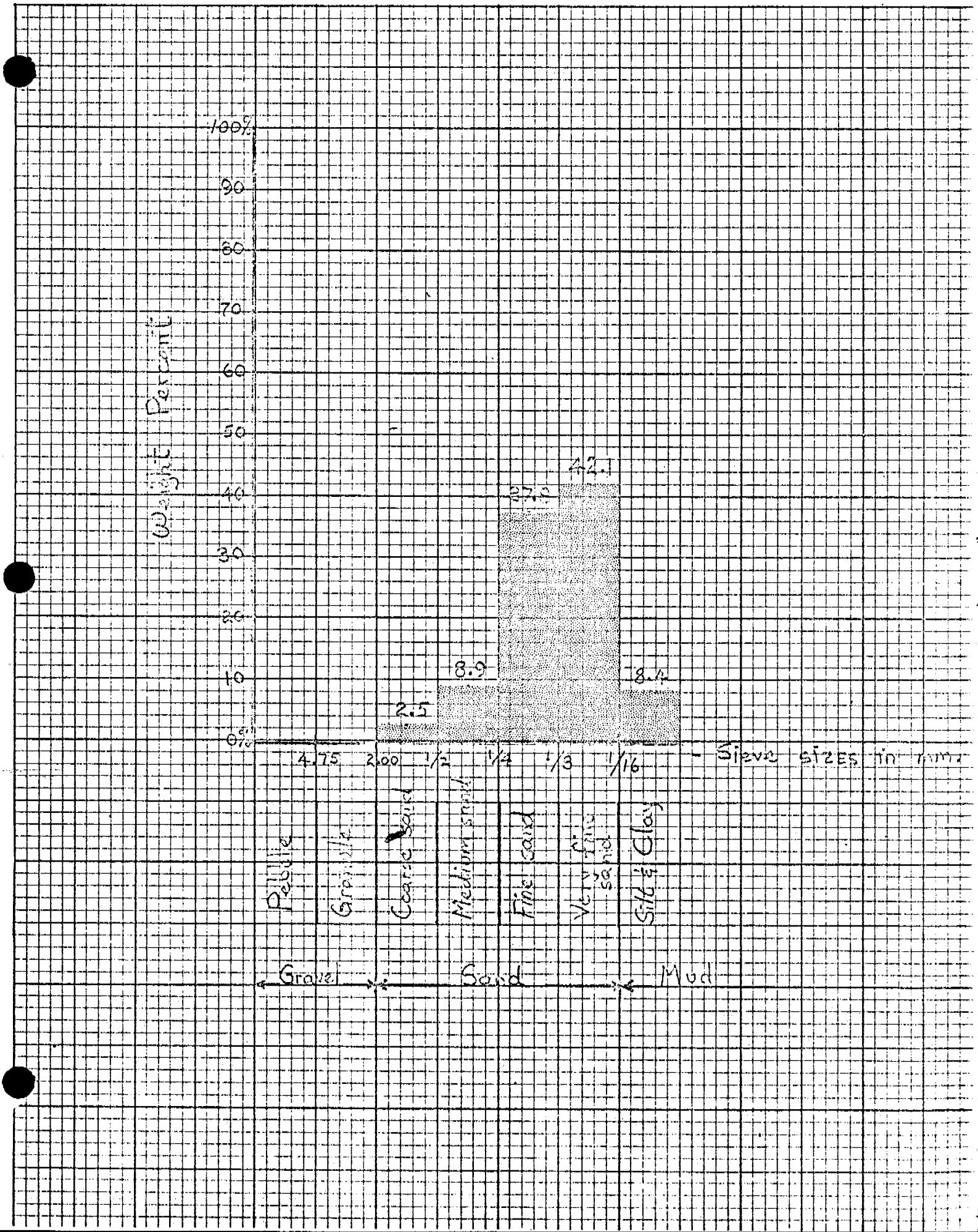
Gm 112 Glaciolacustrine gravel & sand beach



Gm III Glaciolacustrine coarse sand beach

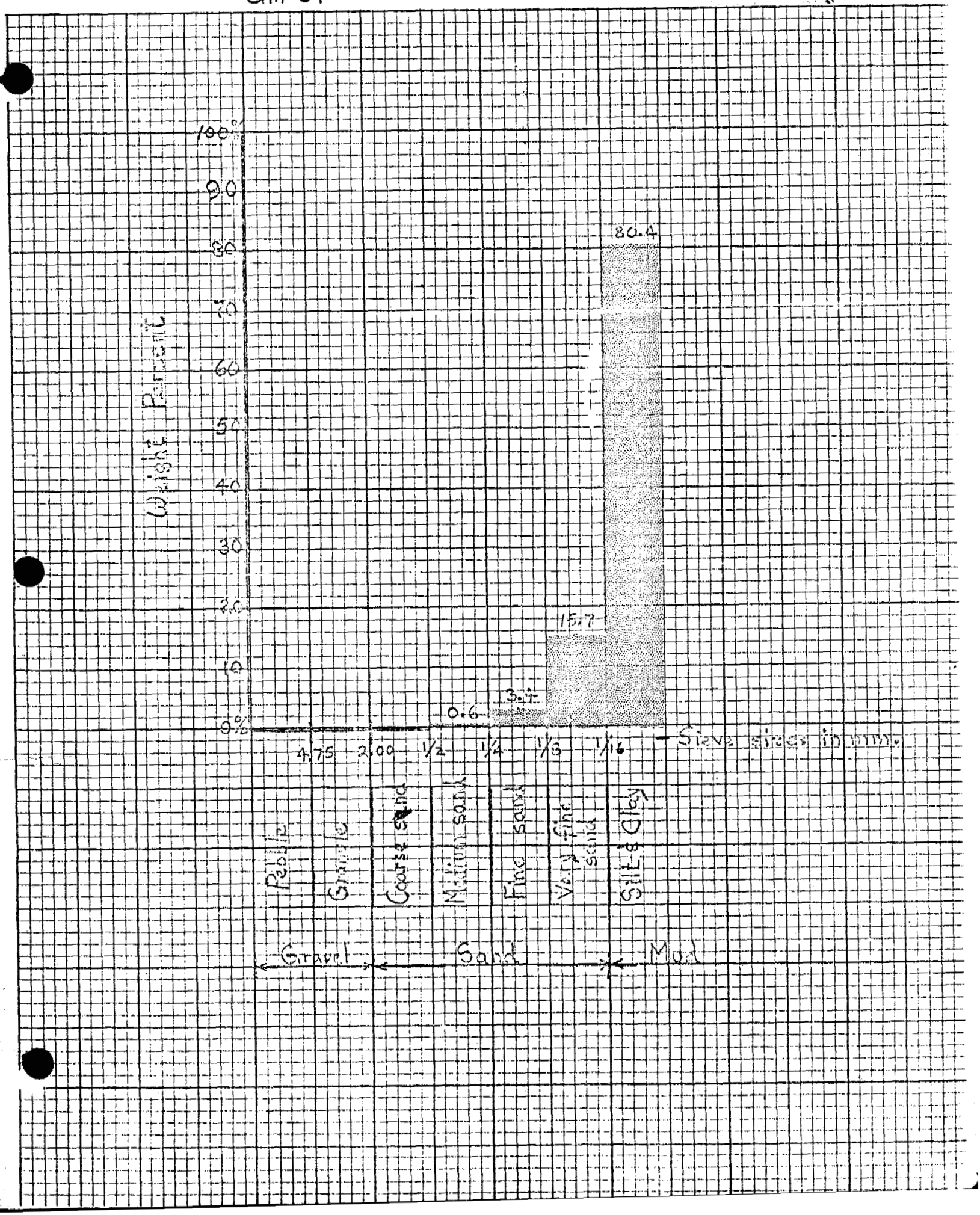


LR-7 Glaciolacustrine sand

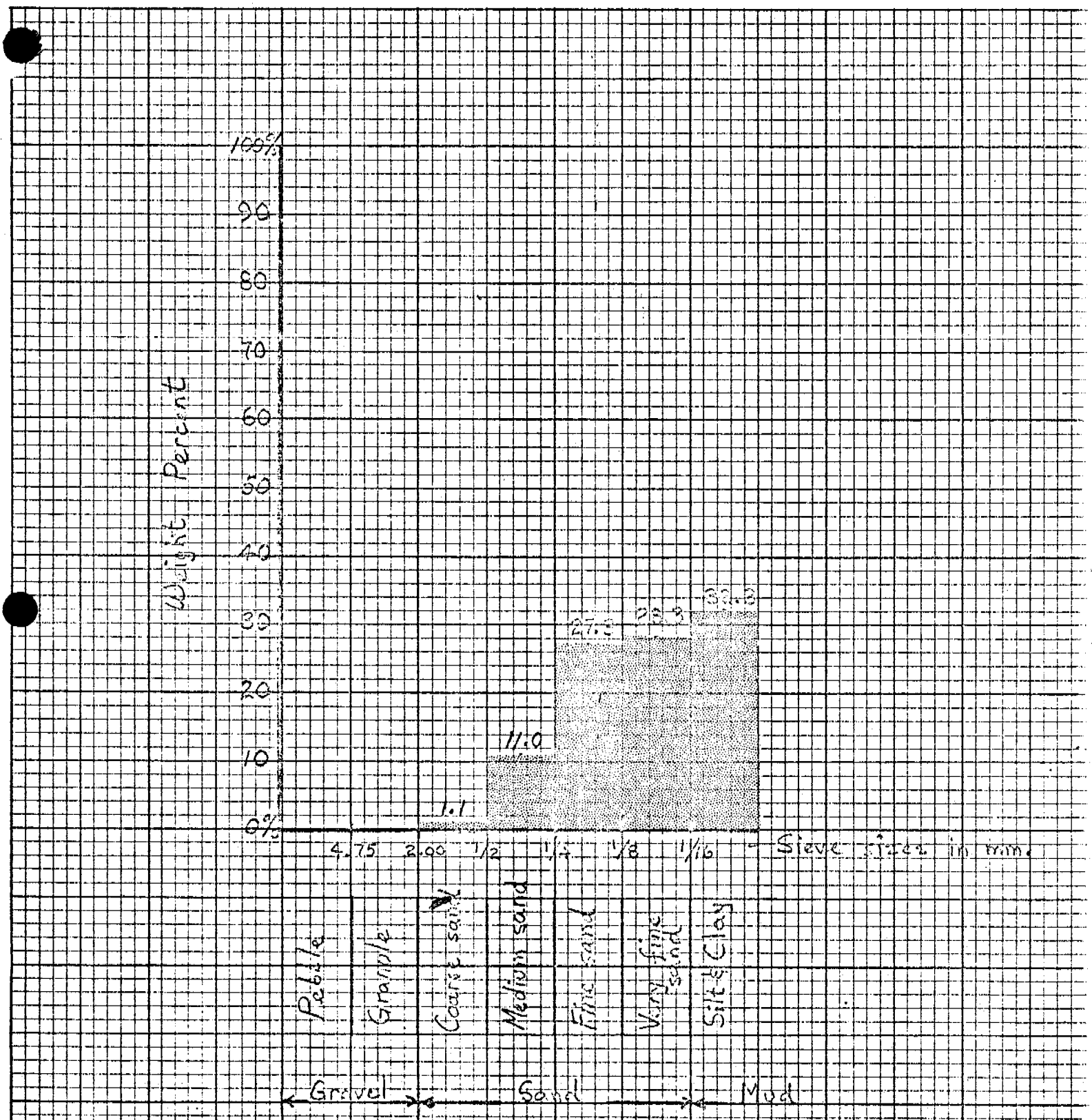


Gm 37

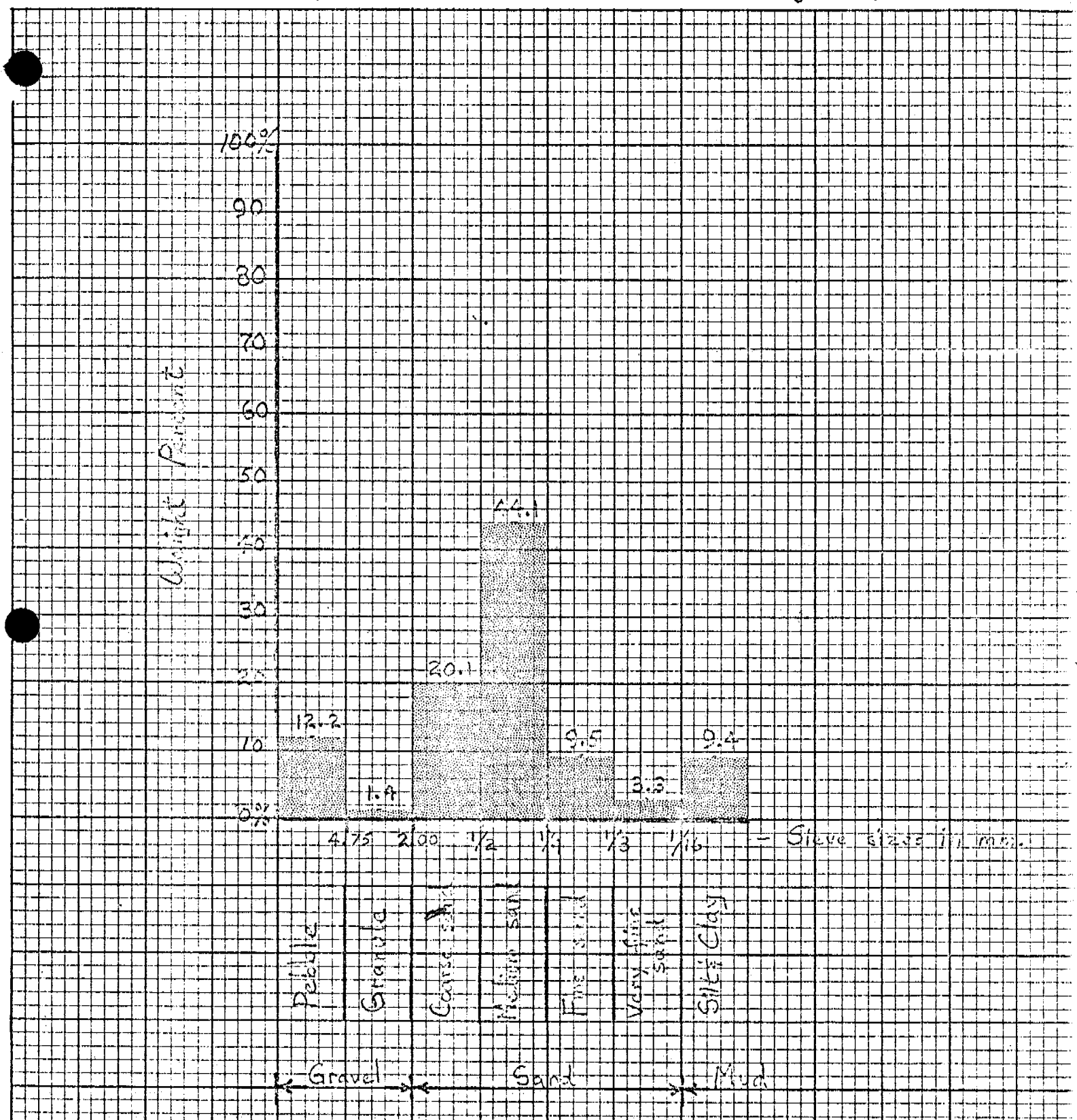
Glaciolacustrine silt



Gm 22a Glaciolacustrine silt

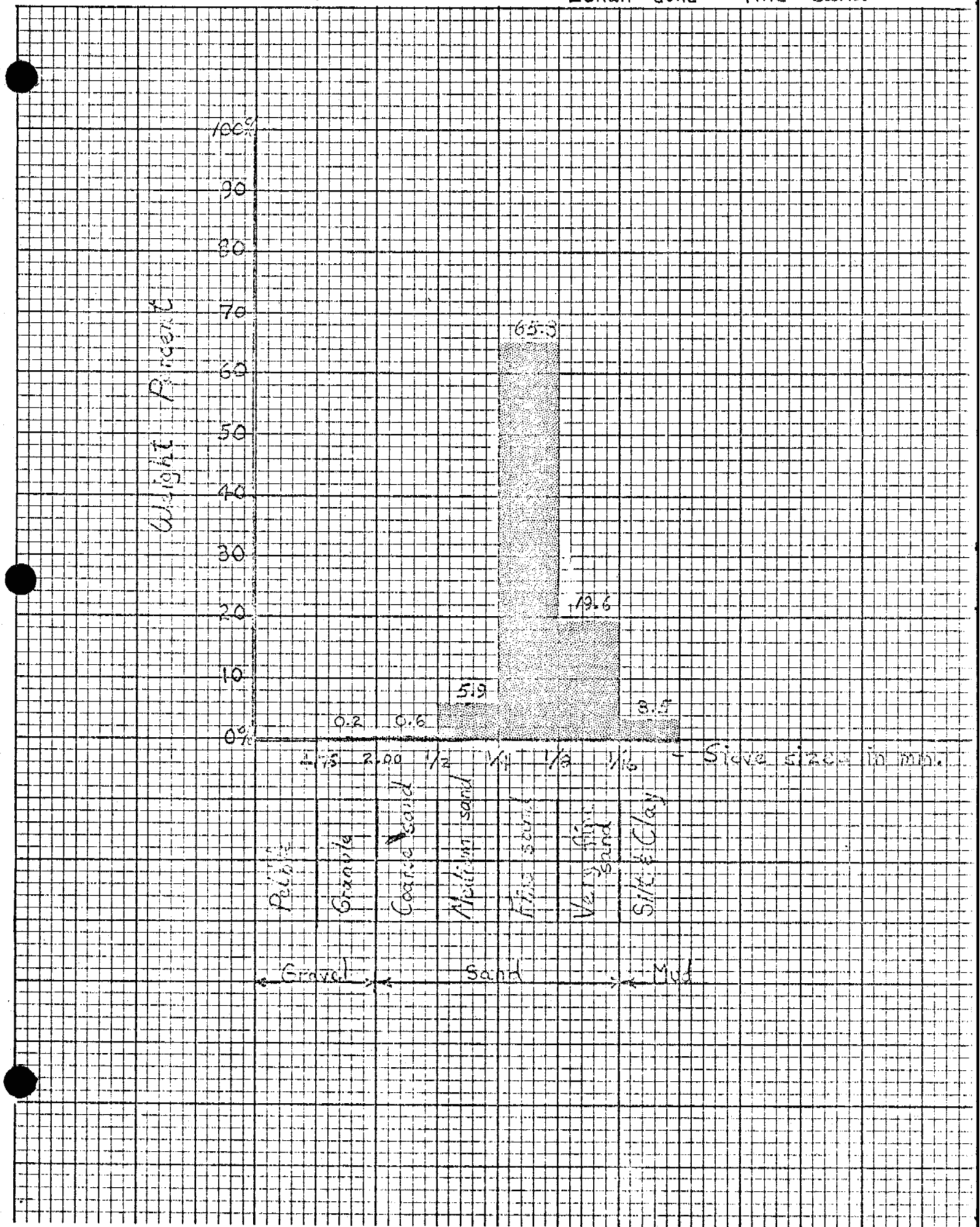


Gm 4 Alluvial gravelly sand

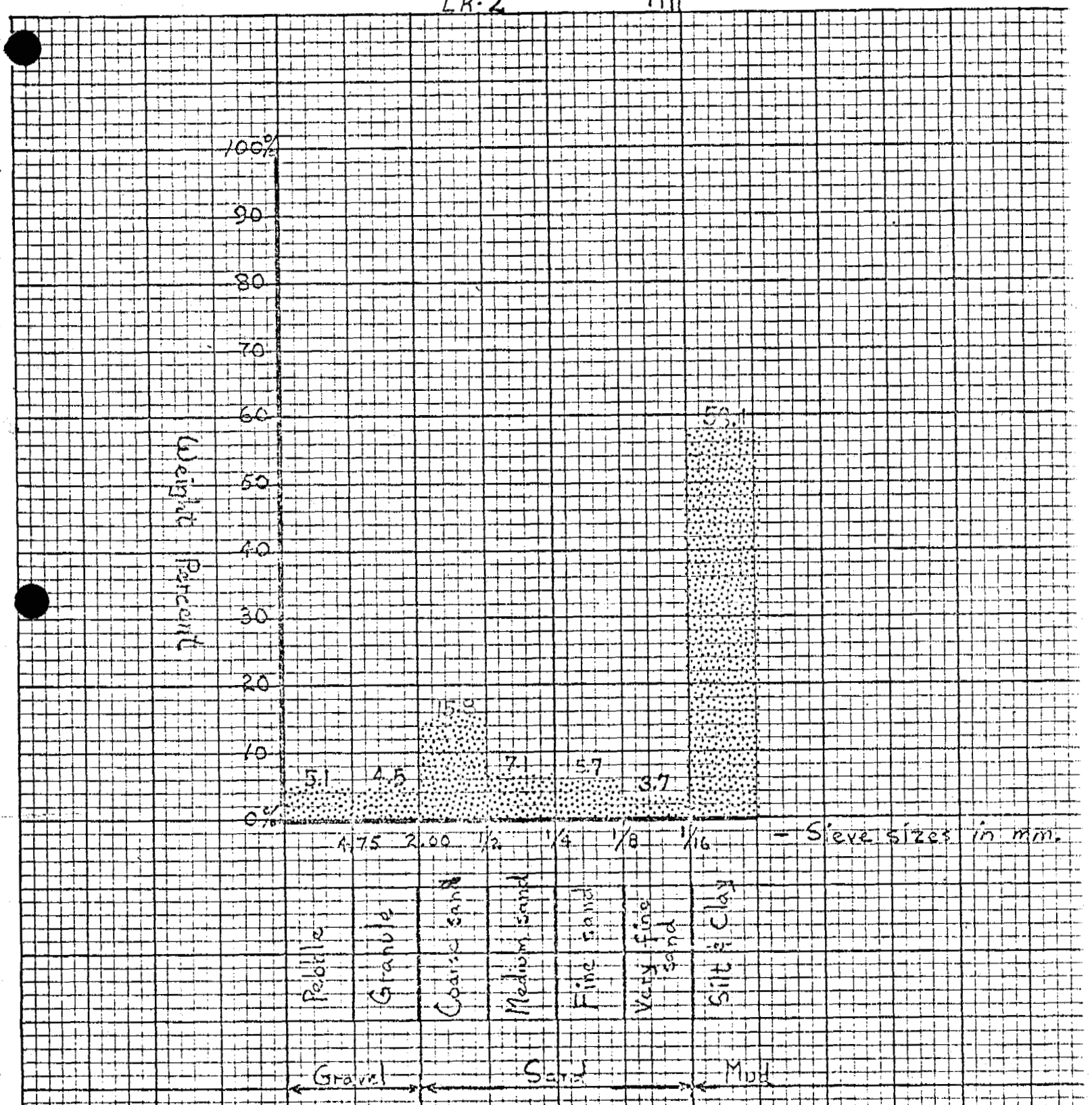


Gm 9

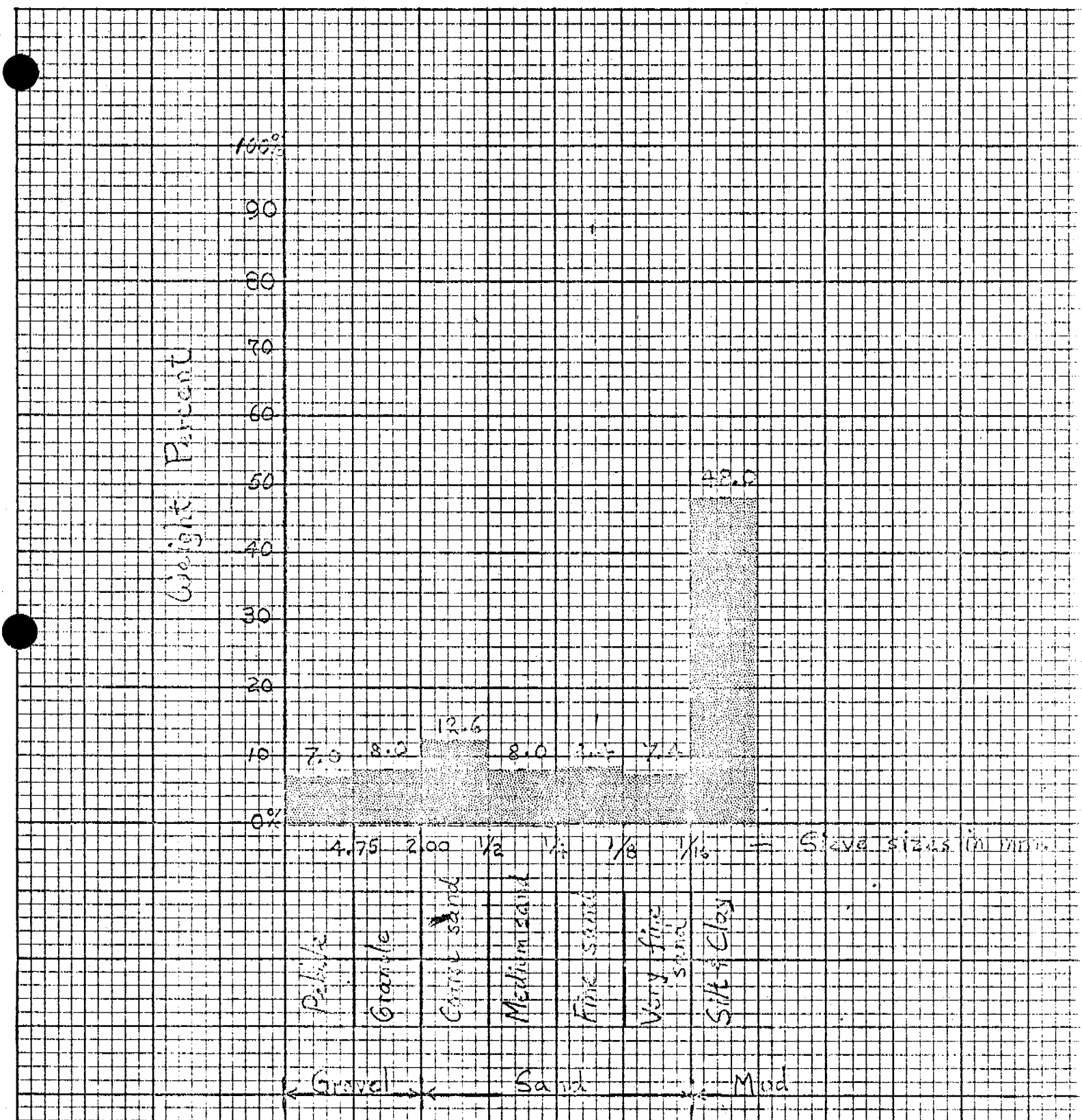
Eolian dune – fine sand



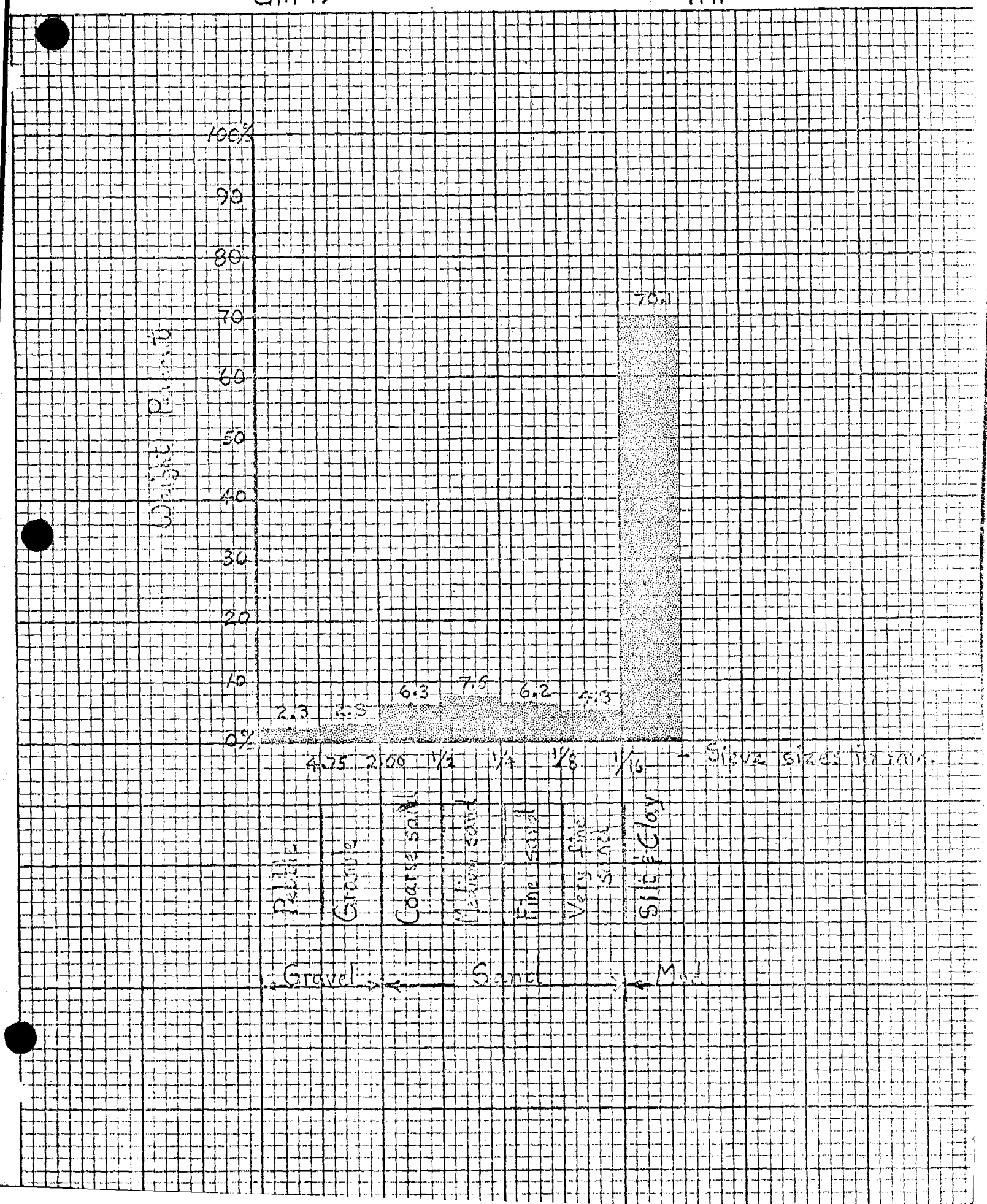
LR-2 Till


100%
90
80
70
60
50
40
30
20
10
0%
Weight Percent
5.1
4.5
15.8
7.1
5.7
3.7
50.1
4.75
2.00
1/2
1/4
1/8
1/16
= Sieve sizes in mm.
Pebble
Granule
Coarse sand
Medium sand
Fine sand
Very fine sand
Silt
Clay
Gravel
Sand
Mud

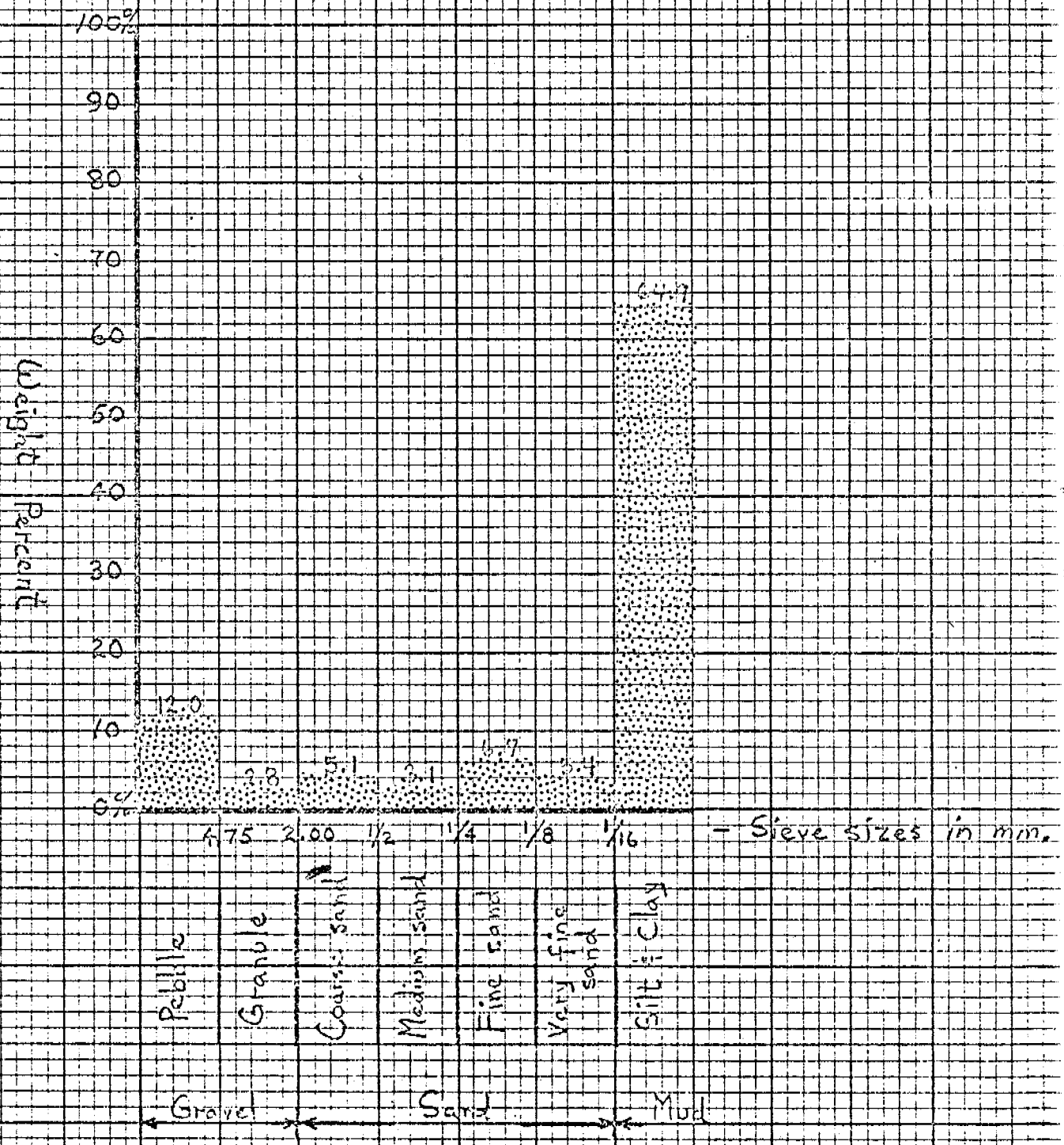
LR-16 Till


100%
90
80
70
60
50
40
30
20
10
0%
Weight Percent
7.0
8.0
12.6
8.0
4.4
13.0
4.75
2.00
1/2
1/4
1/8
1/16
Sieve sizes in mm
Pebble
Granule
Coarse sand
Medium sand
Fine sand
Very fine sand
Silt & Clay
Gravel
Sand
Mud

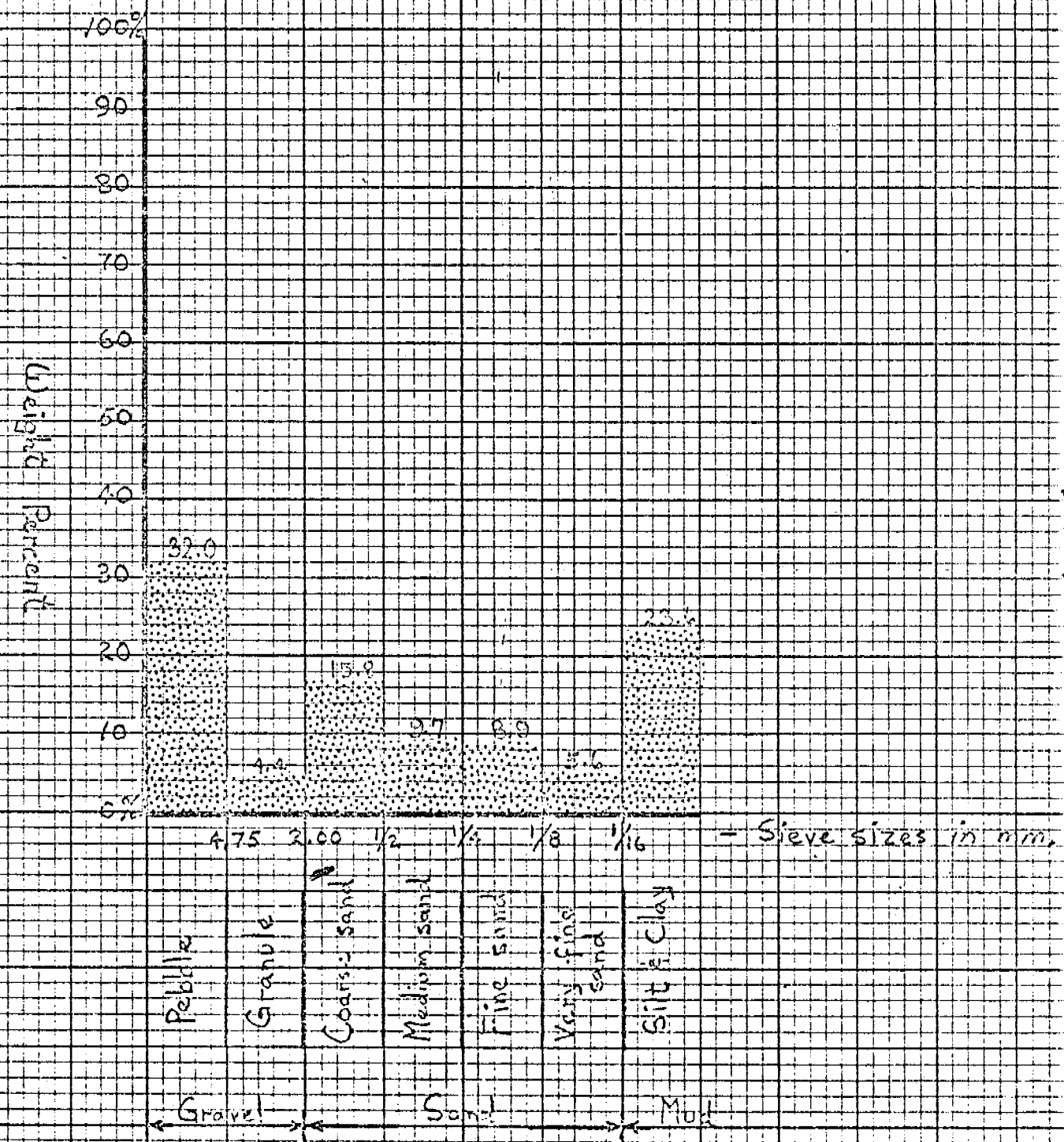
Gm 19 Till


100%
90
80
70
60
50
40
30
20
10
0%
Cumulative Percentage
70.1
6.3
7.5
6.2
2.3
2.3
4.75
2.00
1/2
1/4
1/8
1/16
Sieve sizes in mm.
Granule
Coarse sand
Medium sand
Fine sand
Very fine sand
Silt & Clay
Pebble
Gravel
Sand
Mud

GM 22b Till

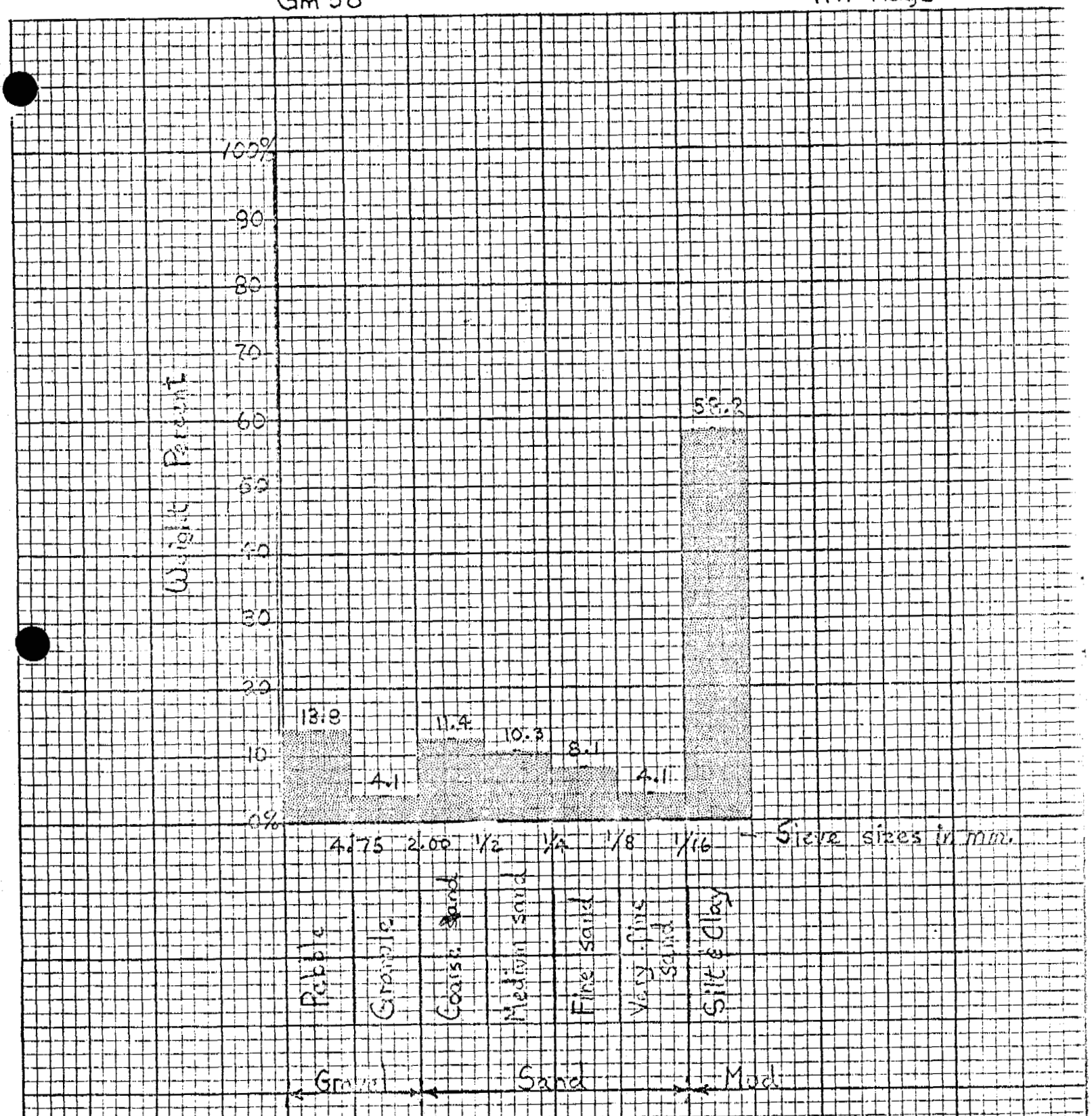

100%
90
80
70
60
50
40
30
20
10
0%
Weight Percent
12.0
2.8
5.1
2.1
6.7
3.4
6.7
4.75
2.00
1/2
1/4
1/8
1/16
- Sieve sizes in mm.
Pebble
Granule
Coarse sand
Medium sand
Fine sand
Very fine sand
Silt & Clay
Gravel
Sand
Mud

GM-57 Gravelly till ridge

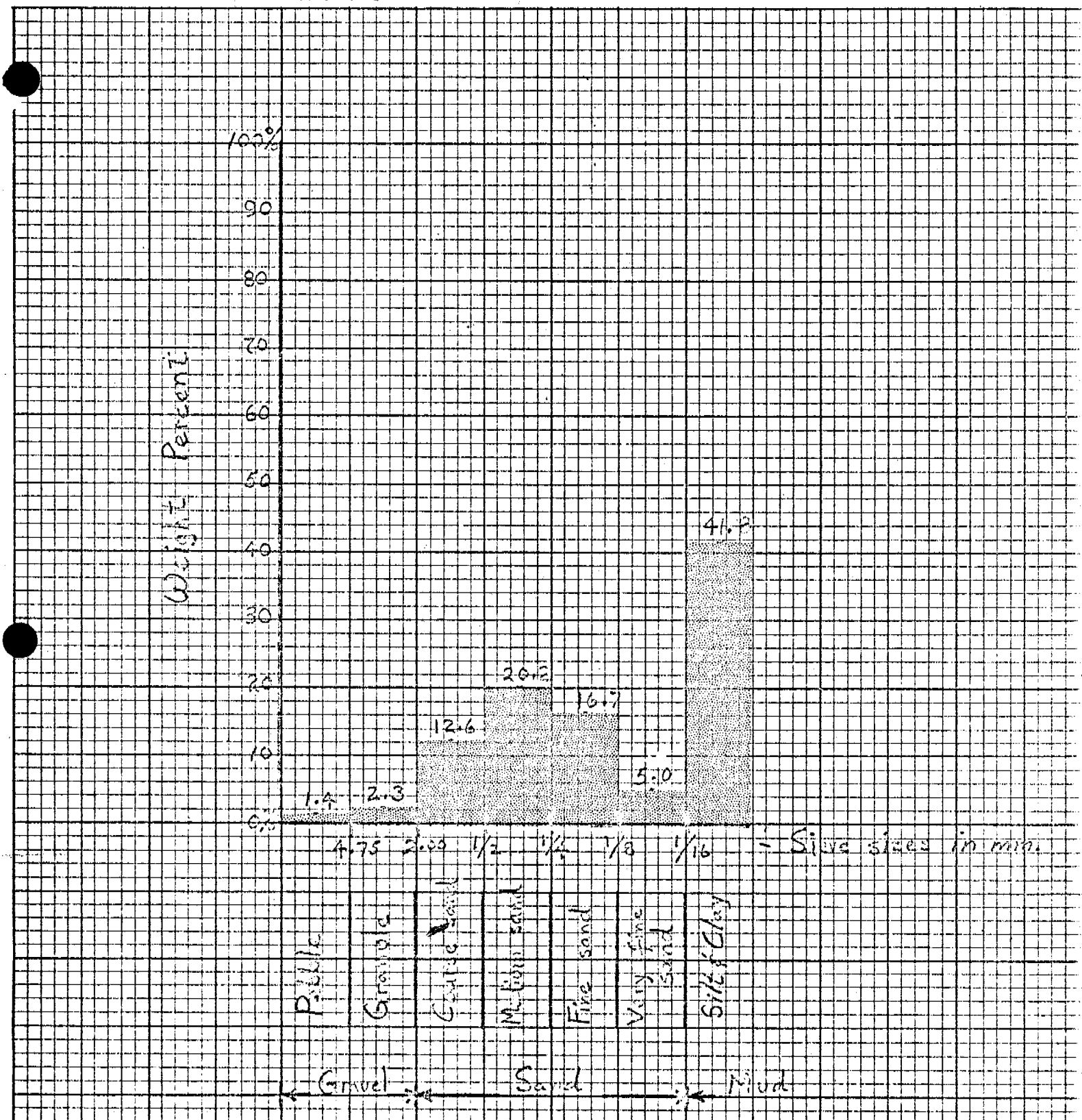


Gm 58

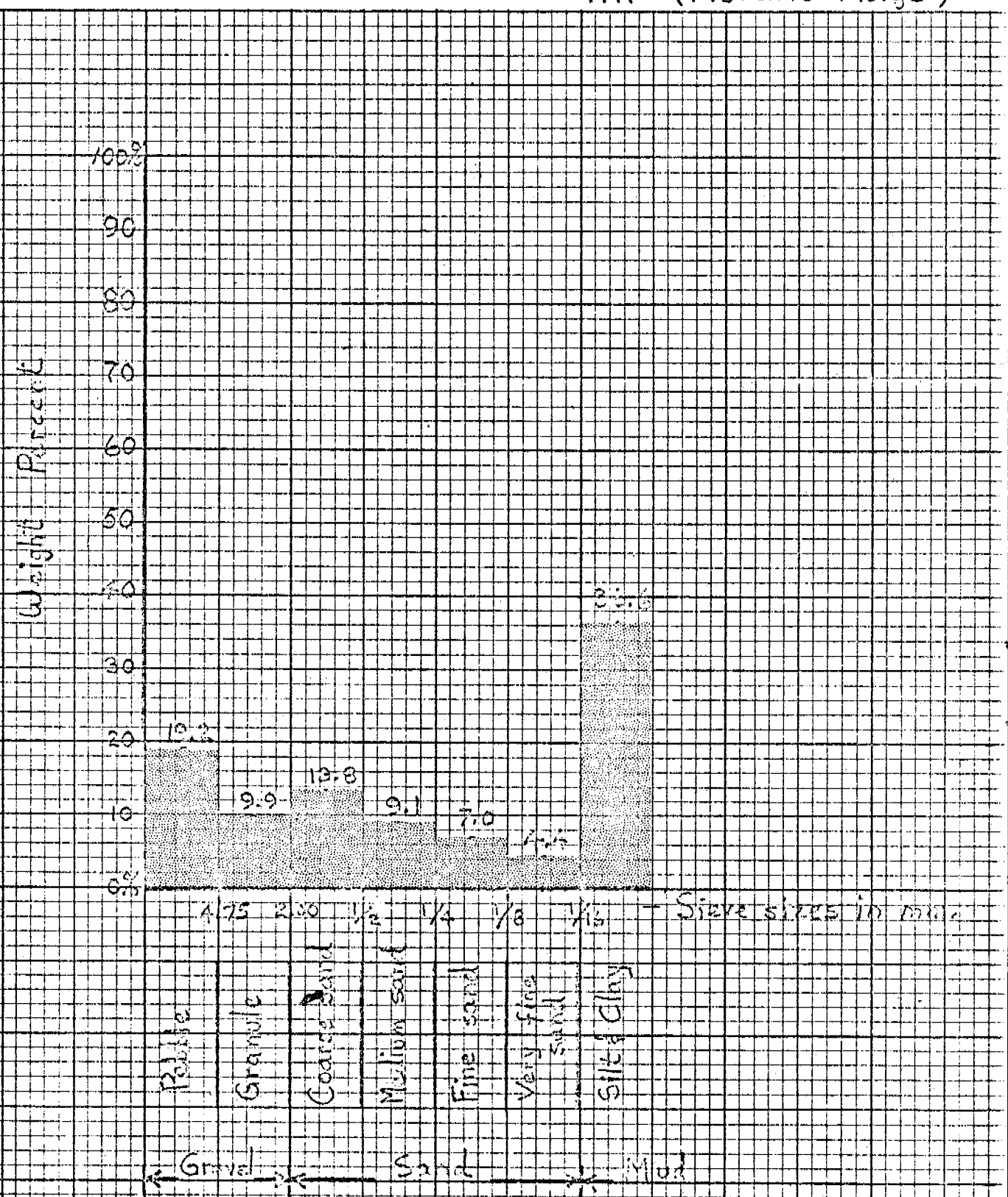
Till ridge



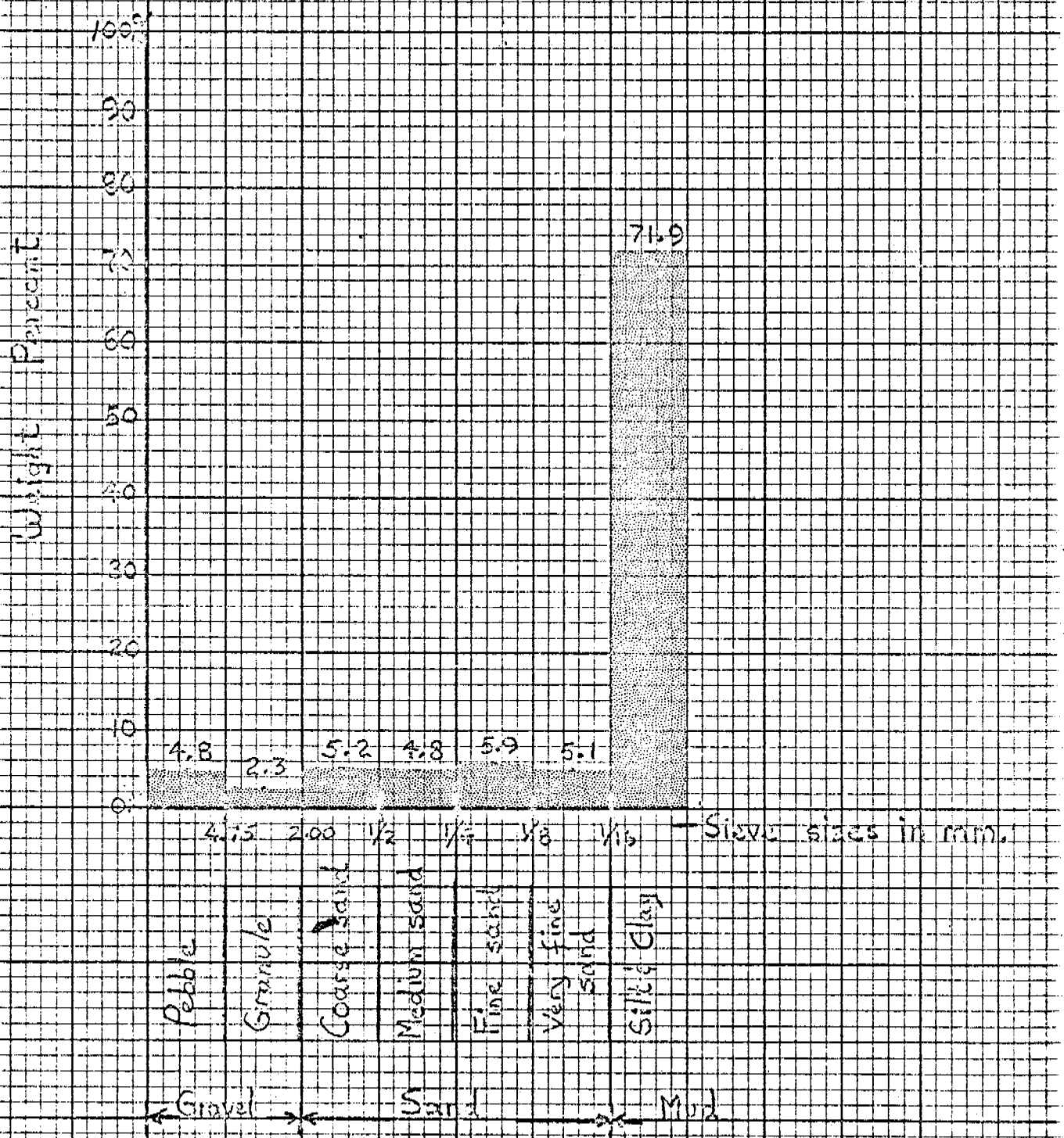
Gm 72 Till


100%
90
80
70
60
50
40
30
20
10
0%
Percent
41.2
20.8
16.7
12.6
5.0
1.4
2.3
4.75
2.00
1/2
1/4
1/8
1/16
Sieve sizes in mm.
Pebble
Granule
Gravel
Coarse sand
Medium sand
Fine sand
Very fine sand
Silt & Clay
Gravel
Sand
Mud

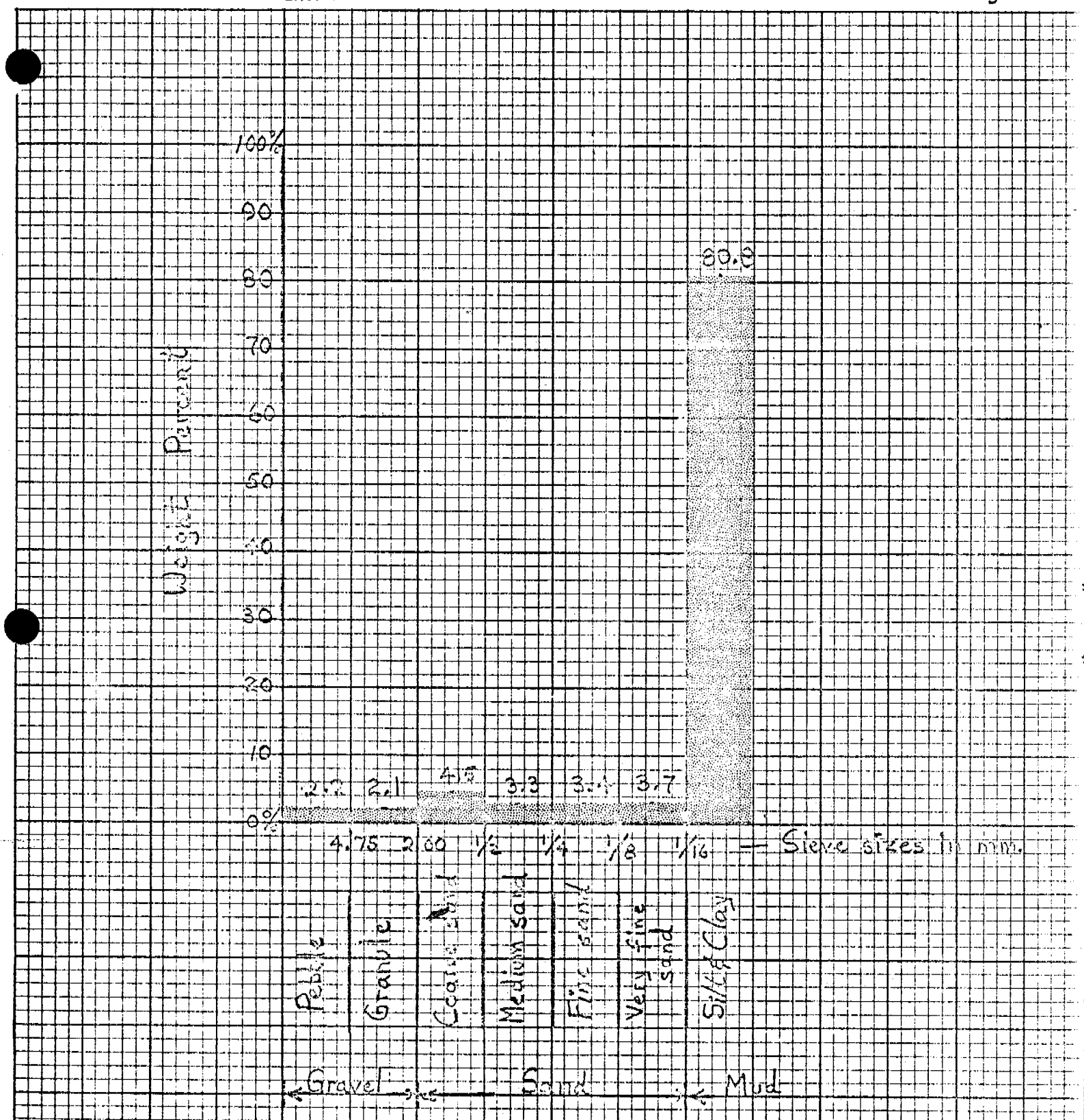
Gm 87 Till - (Moraine ridge)



Gm 116 Till


100%
90
80
70
60
50
40
30
20
10
0%
Weight Percent
71.9
4.8
2.3
5.2
4.8
5.9
5.1
4.75
2.00
1/2
1/4
1/8
1/16
Sieve sizes in mm.
Pebble
Granule
Coarse sand
Medium sand
Fine sand
Very fine sand
Silt & Clay
Gravel
Sand
Mud

Gm 125 Till - (Crevasse filling)



1972 SAMPLES - N. W. RUTTER AND A. N. BOYDELL

Sampling

Sediment samples were collected during the summer of 1972 when surficial geology mapping and shallow drilling were being carried out. Laboratory analysis was done in the field. Sample locations are indicated on a 1:500,000 map with the letters RR or ANB and an X pattern (see Figure 1).

Laboratory Procedure

Samples were dry sieved with 1 1/2", 3/4", 3/8", #4, and #10 sieves. All the material passing through the #10 sieve (upper limit of sand) was wet sieved on a #230 screen to separate the silt and clay fractions.

Results of Grain Size Analysis

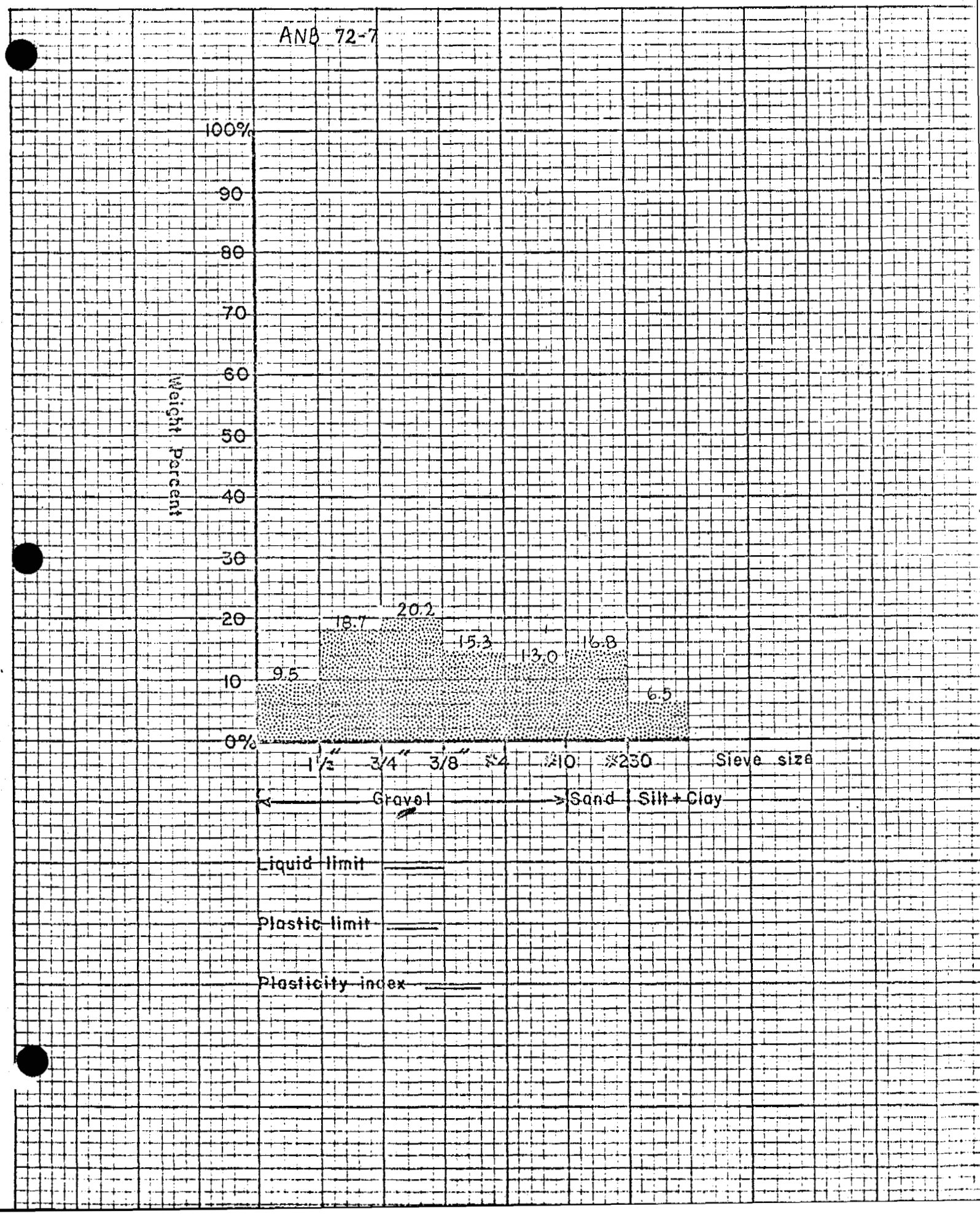
Results of grain size analysis were plotted on histograms (pages 51 to 107 of this report). Liquid limit, plastic limit, and plasticity index were also determined for samples with appreciable amounts of silt and clay. Figures for these tests appear on the bottom of the histograms. The chart which follows shows sample number, type of deposit sampled, type of material analyzed, and page number for corresponding histogram.

Sample Number	Type of Deposit	Type of Material	Page No.
ANB 72-7	glaciofluvial	gravel	51
ANB 72-15	glaciofluvial	gravel and sand	52
ANB 72-12	glaciofluvial ridge	sand and gravel	53
ANB 72-4	glaciofluvial esker	sand and gravel	54
ANB 72-59	glaciofluvial meltwater channel	gravel and sand	55
ANB 72-33	glaciolacustrine	sand and silt	56
ANB 72-8	glaciolacustrine	silt	57
ANB 72-10	glaciolacustrine	silt	58
ANB 72-34	glaciolacustrine	silt	59
ANB 72-49	glaciolacustrine	silt	60
RR 72-1	glaciolacustrine	silt and clay	61
ANB 72-19	glaciolacustrine	silt and clay	62
ANB 72-35	glaciolacustrine	silt and clay	63
ANB 72-11	morainal drumlin	sand	64
ANB 72-31	morainal drumlin	sand	65
ANB 72-18	morainal	sand lens in till	66
RR 72-3	morainal	till	67
RR 72-4	morainal	till	68
RR 72-5	morainal	till	69
RR 72-6	morainal	till	70

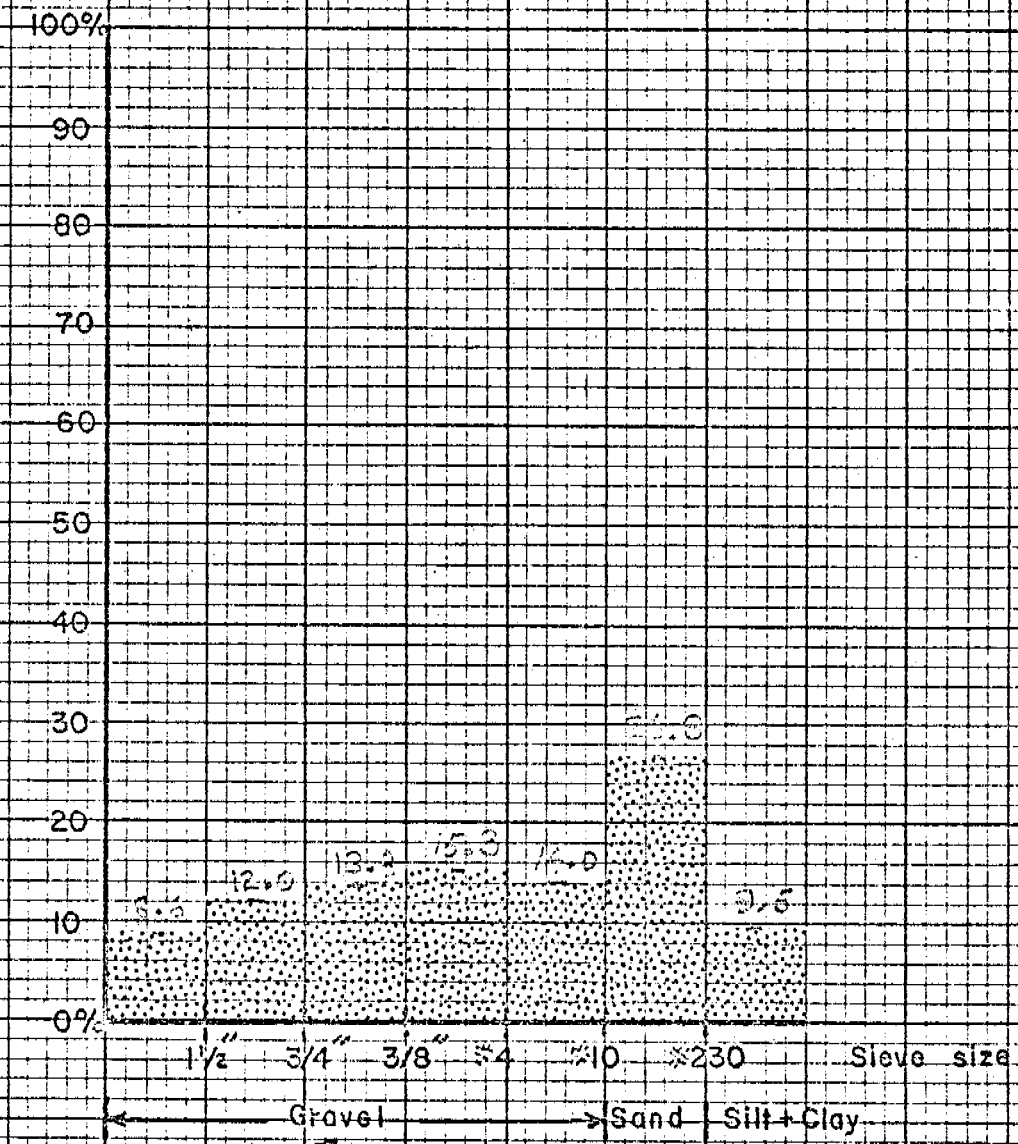
Sample Number	Type of Deposit	Type of Material	Page No.
RR 72-8	morainal	till	71
RR 72-9	morainal	till	72
RR 72-11	morainal	till	73
RR 72-18	morainal	till	74
ANB 72-3	morainal	till	75
ANB 72-5	morainal	till	76
ANB 72-9	morainal	till	77
ANB 72-14	morainal	till	78
ANB 72-17	morainal	till	79
ANB 72-22	morainal	till	80
ANB 72-29	morainal	till	81
ANB 72-30	morainal	till	82
ANB 72-36	morainal	till	83
ANB 72-37	morainal	till	84
ANB 72-38	morainal	till	85
ANB 72-40	morainal	till	86
ANB 72-41	morainal	till	87
ANB 72-44	morainal	till	88
ANB 72-44a	morainal	till	89
ANB 72-45	morainal	till	90
ANB 72-46	morainal	till	91
ANB 72-48	morainal	till	92

Sample Number	Type of Deposit	Type of Material	Page No.
ANB 72-50	morainal	till	93
ANB 72-54	morainal	till	94
ANB 72-57	morainal	till	95
ANB 72-65	morainal	till	96
ANB 72-66	morainal	till	97
ANB 72-72	morainal	till	98
ANB 72-73	morainal	till	99
ANB 72-74	morainal	till	100
ANB 72-75	morainal	till	101
ANB 72-76	morainal	till	102
ANB 72-77	morainal	till	103
ANB 72-79	morainal	till	104
ANB 72-81	morainal	till	105
ANB 72-82	morainal	till	106
ANB 72-84	morainal	till	107

ANB 72-7 Glaciofluvial gravel



ANB 72-15 Glaciofluvial gravel & sand.

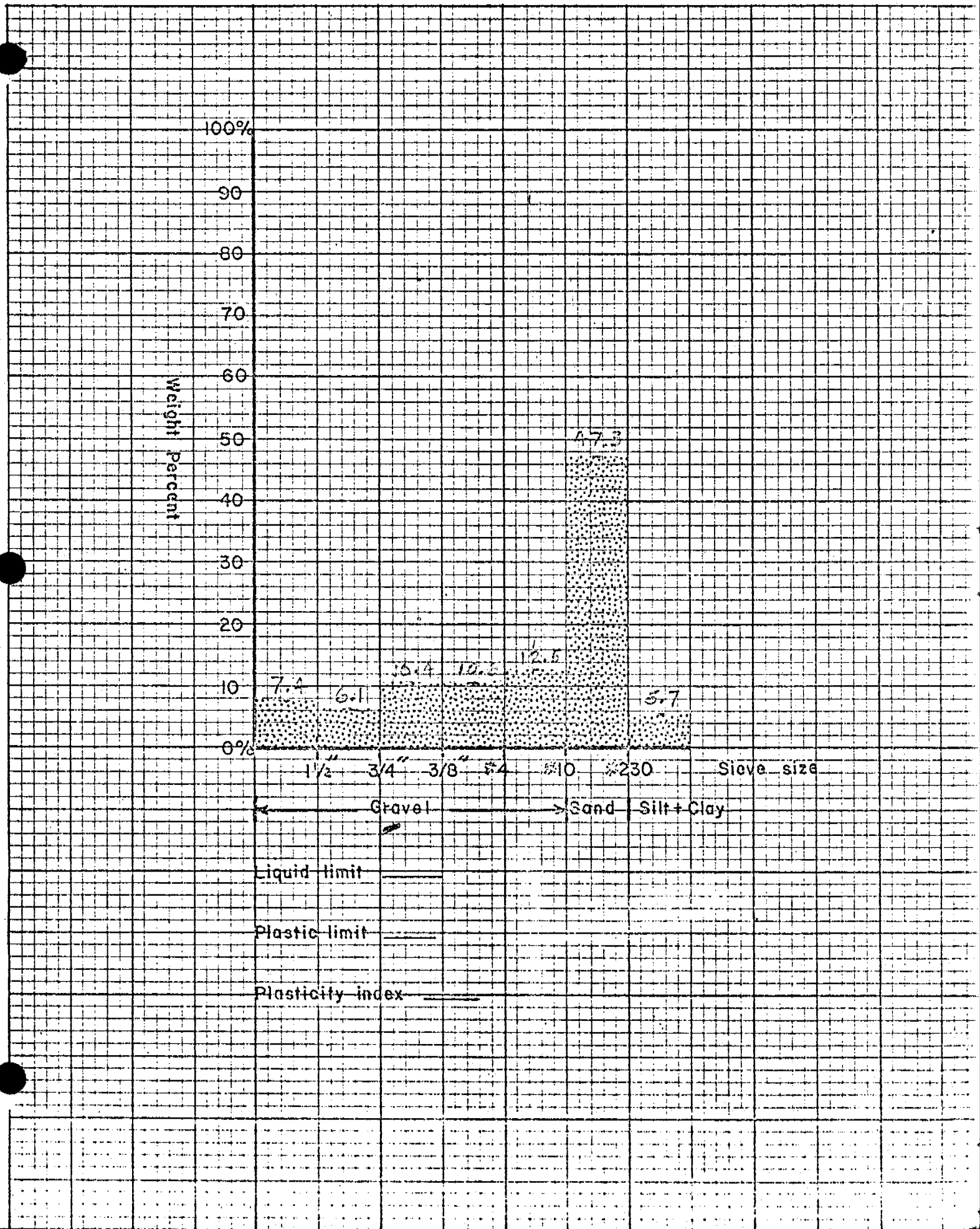


Liquid limit

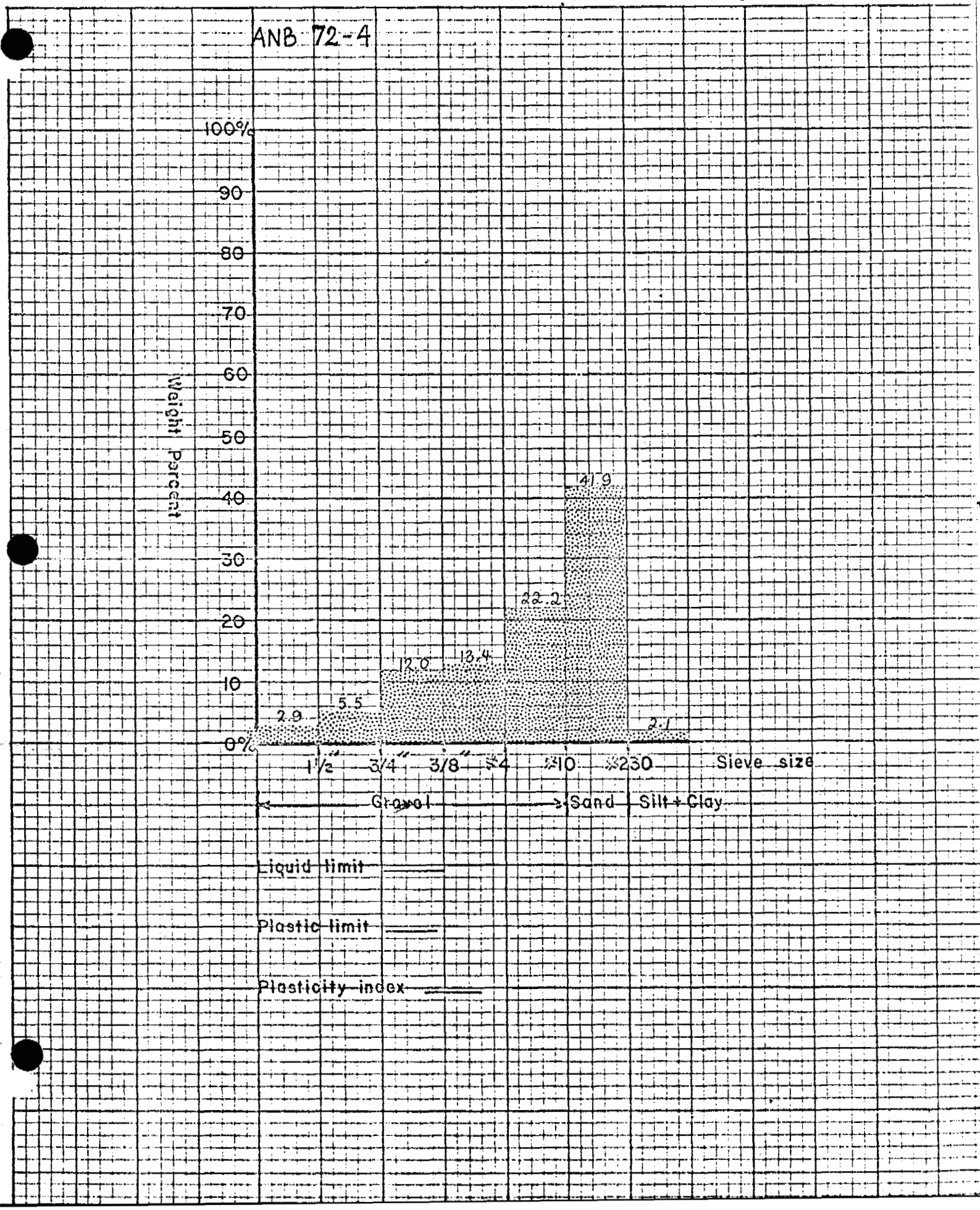
Plastic limit

Plasticity index

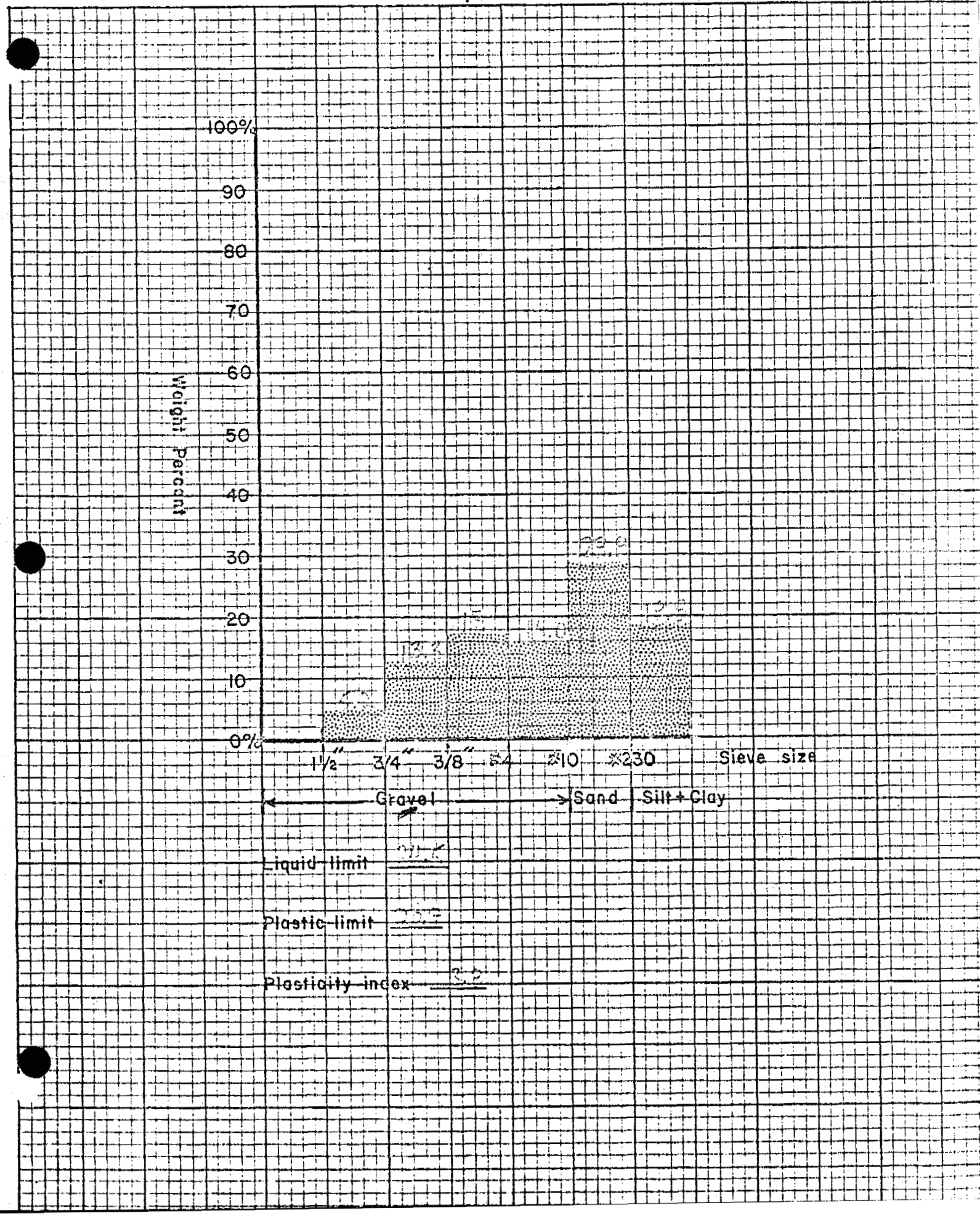
ANB 72-12 Glaciofluvial sand & gravel ridge.



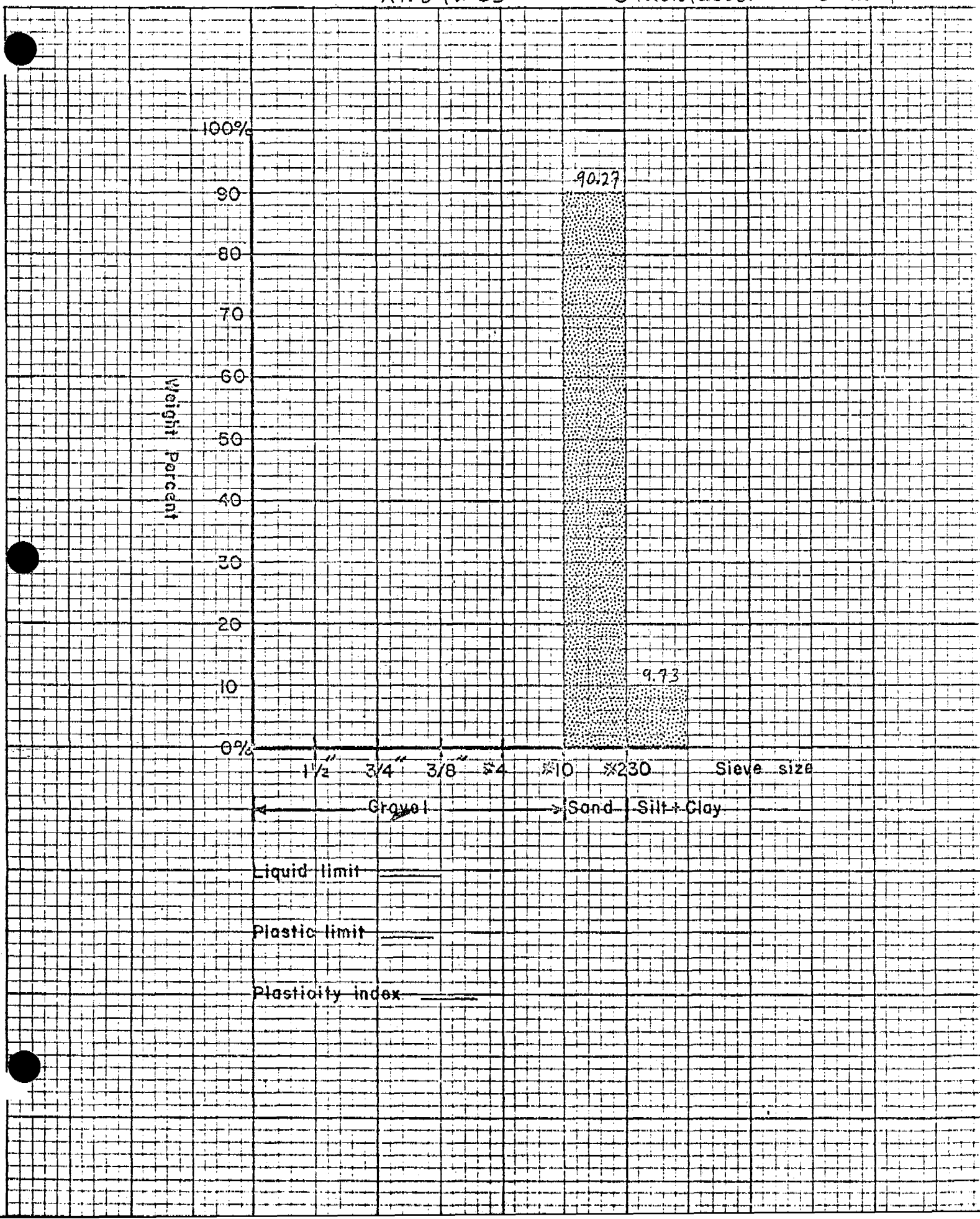
ANB 72-4 Glaciofluvial sand & gravel (esker)



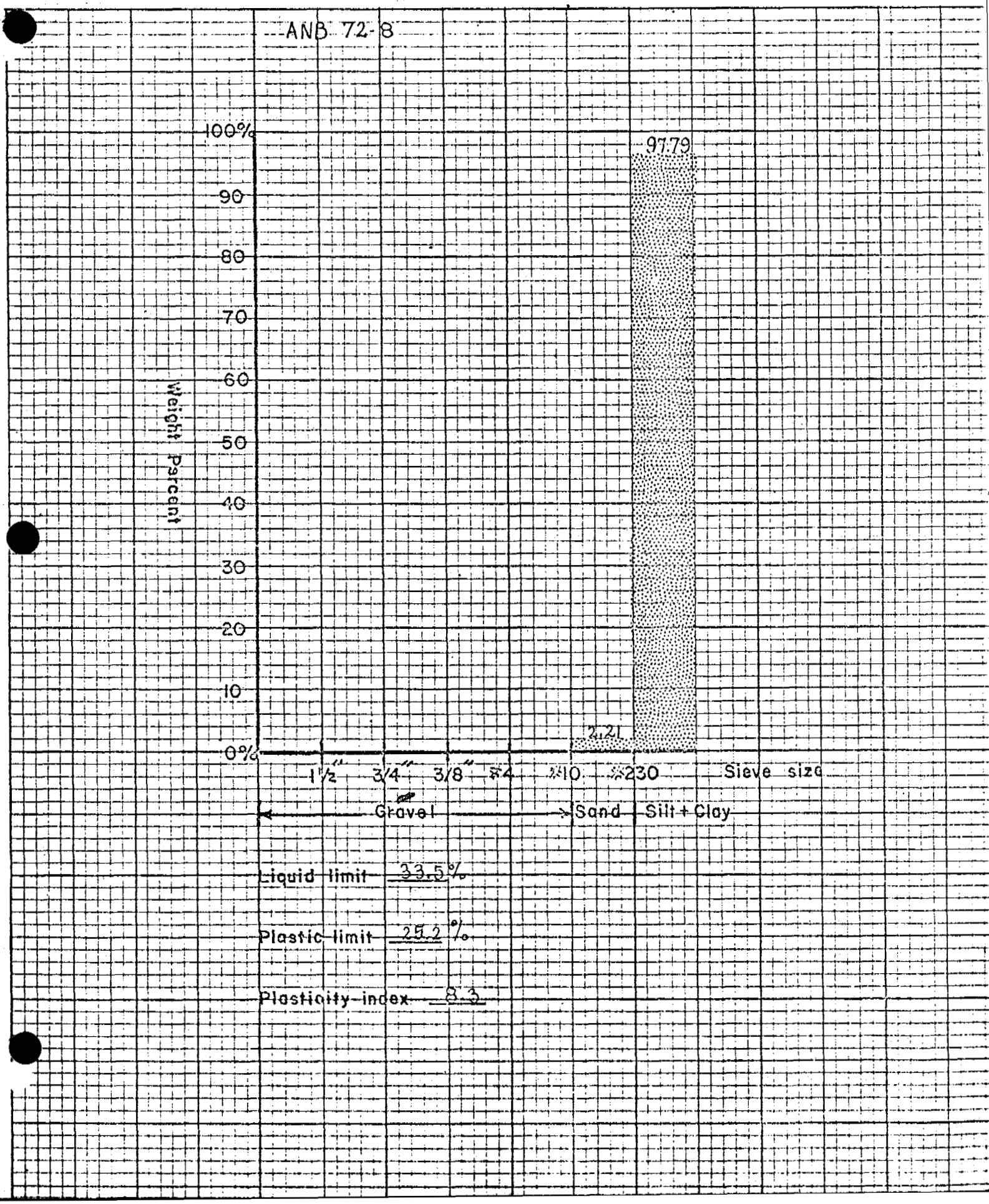
ANB 72-59 Material from meltwater channel



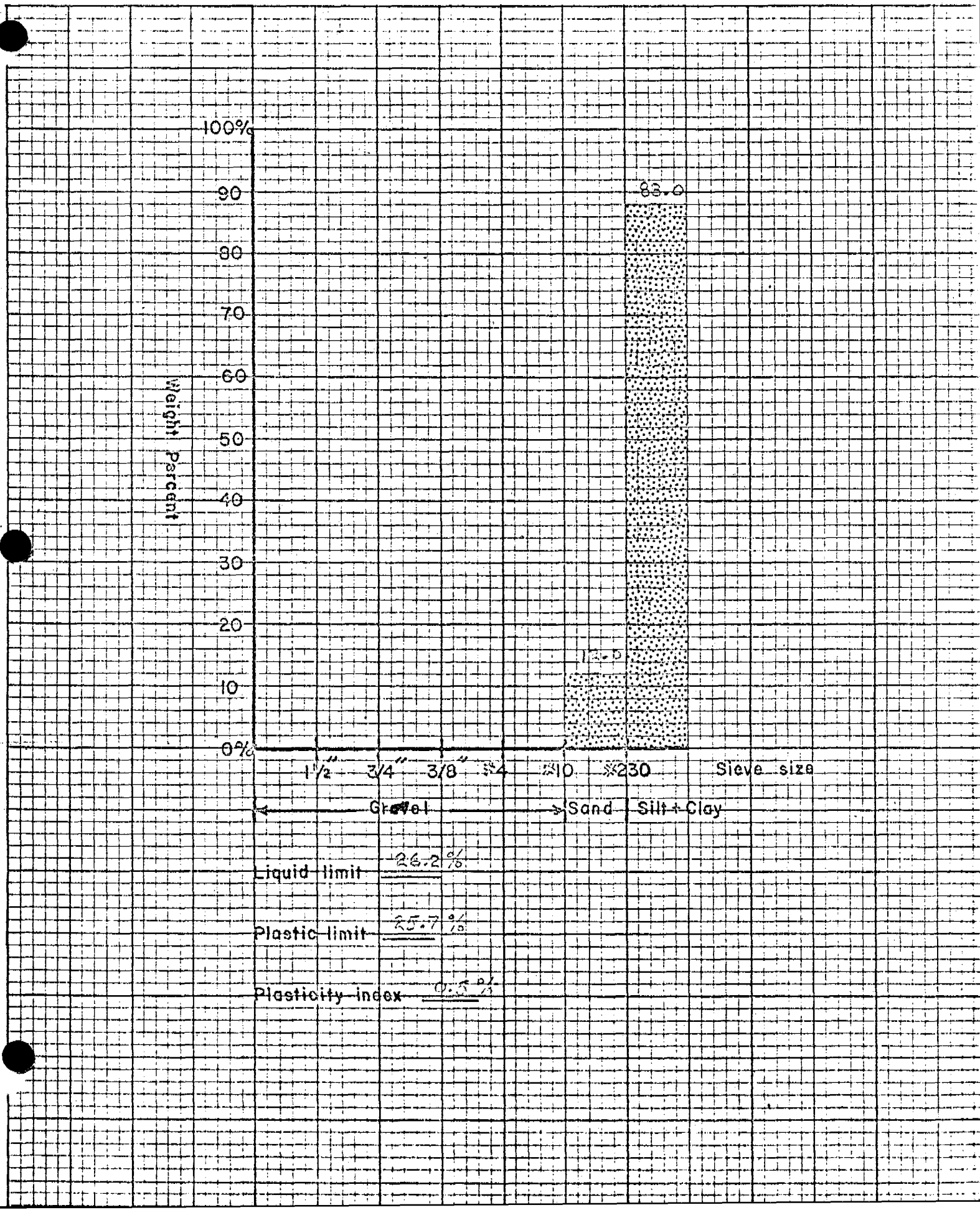
ANB 72-33 Glaciolacustrine sand & silt



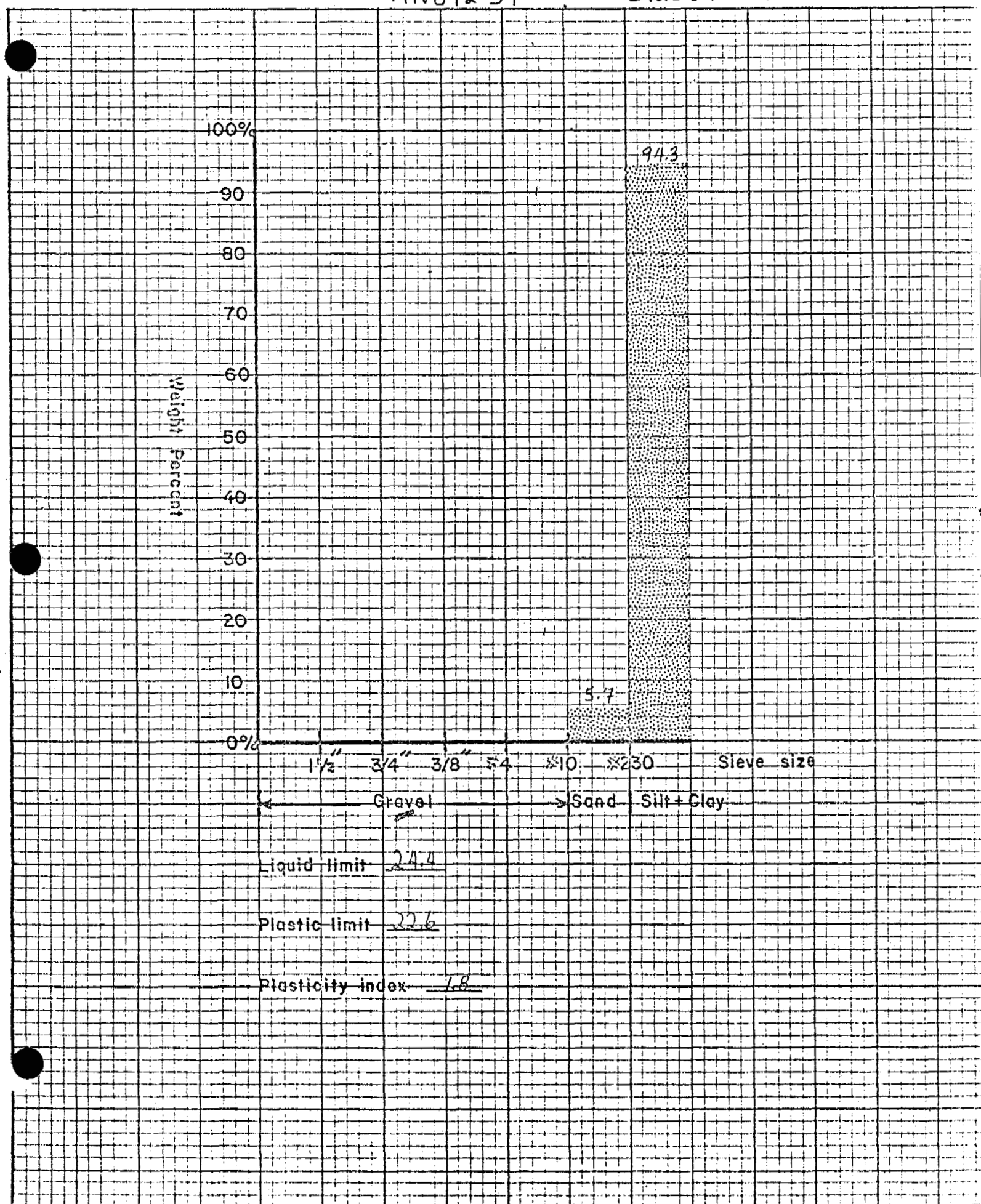
ANB 72-8 Glaciolacustrine silt



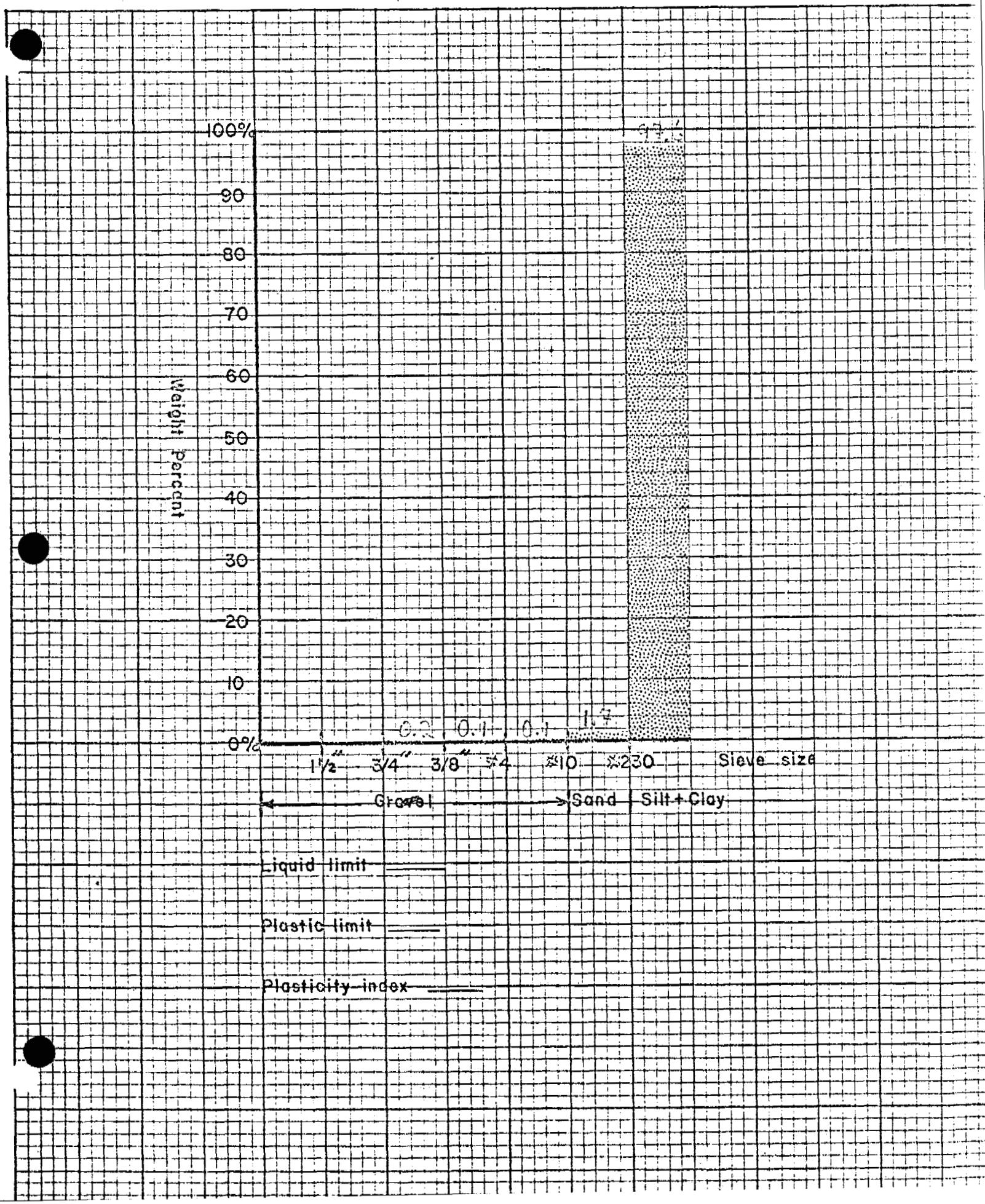
ANB 72-10 Glaciolacustrine silt



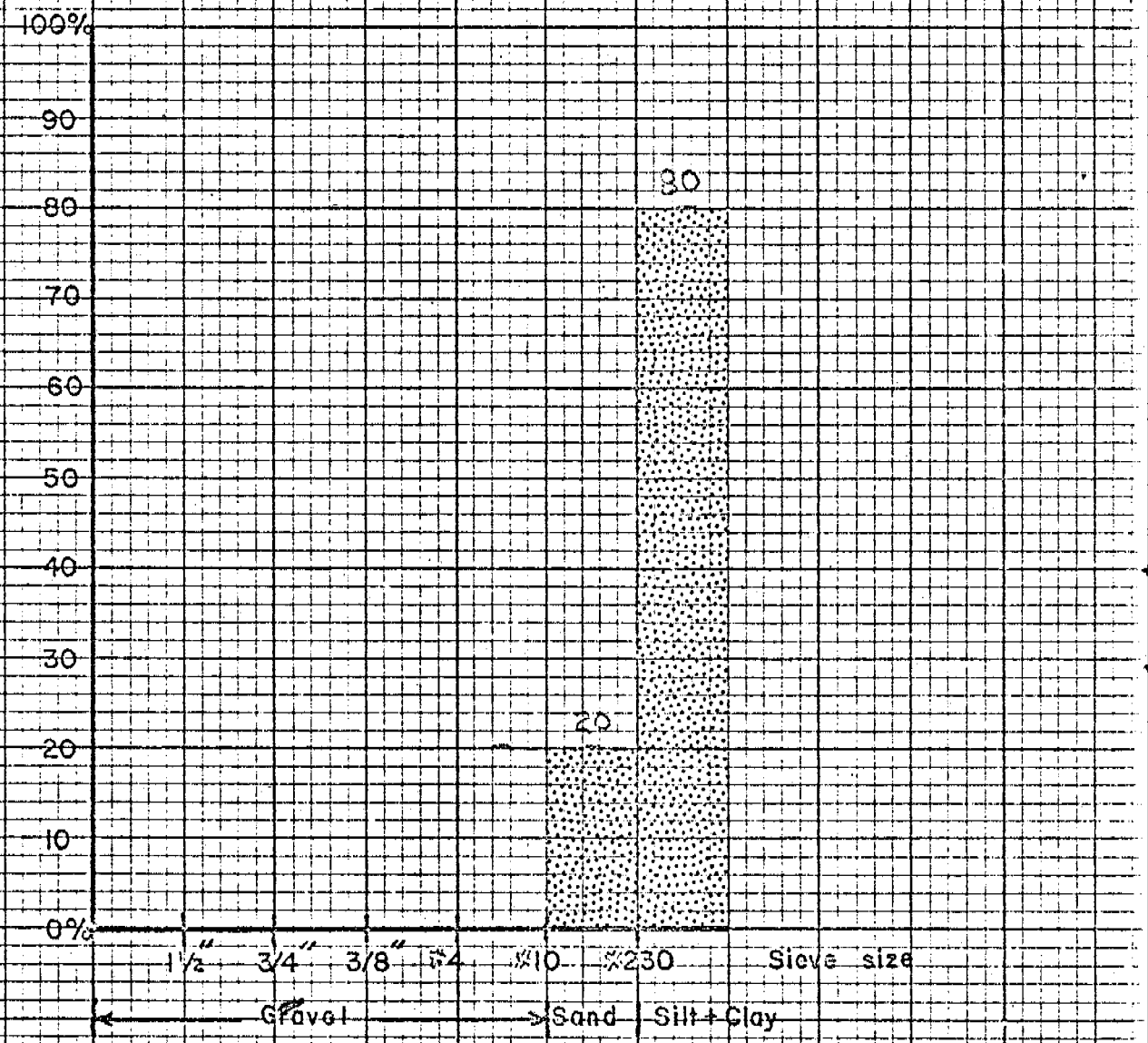
ANB72-34 Glacio lacustrine silt



ANB-72-49 Glaciolacustrine silt



R.R 72-1 Glaciolacustrine silt & clay

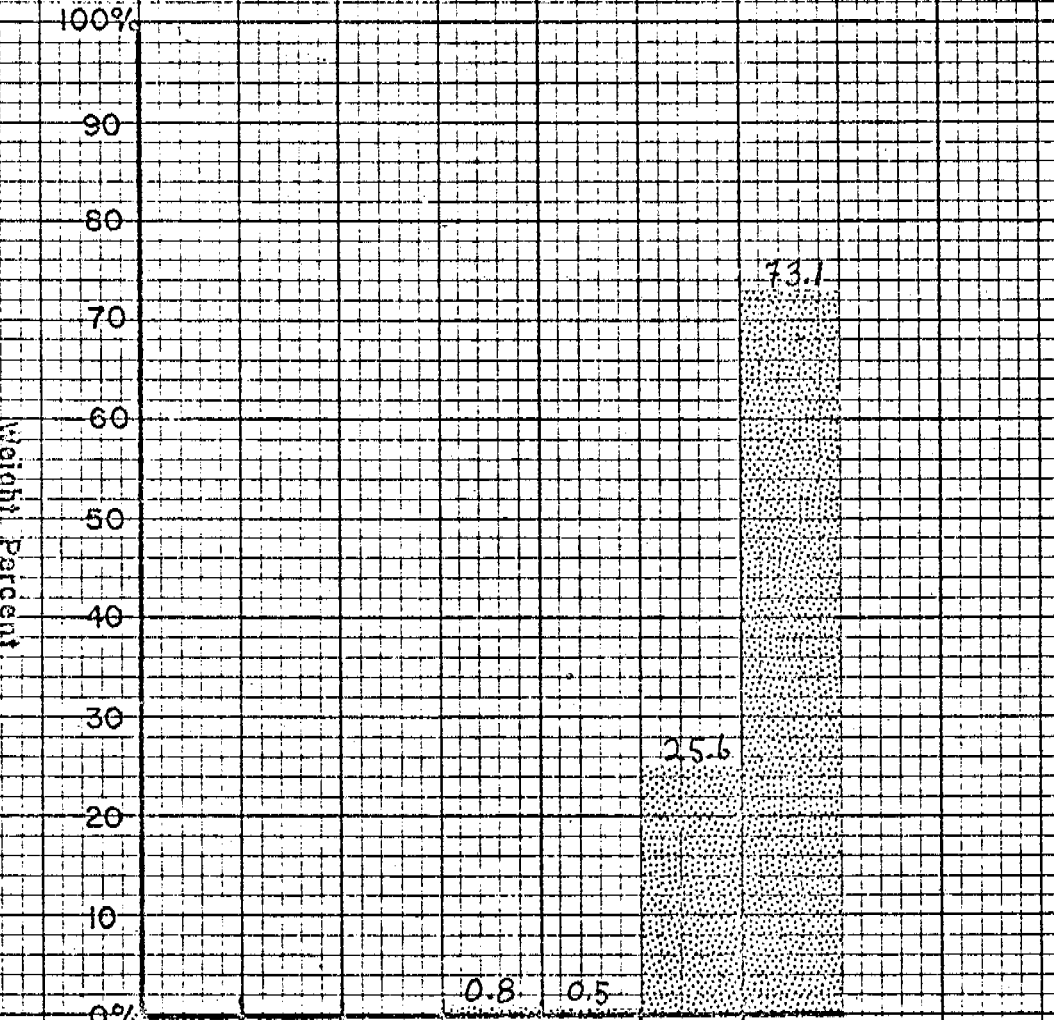


Liquid limit 61.2

Plastic limit 28.6

Plasticity index 32.6

ANB 72-19 Glaciolacustrine silt & clay

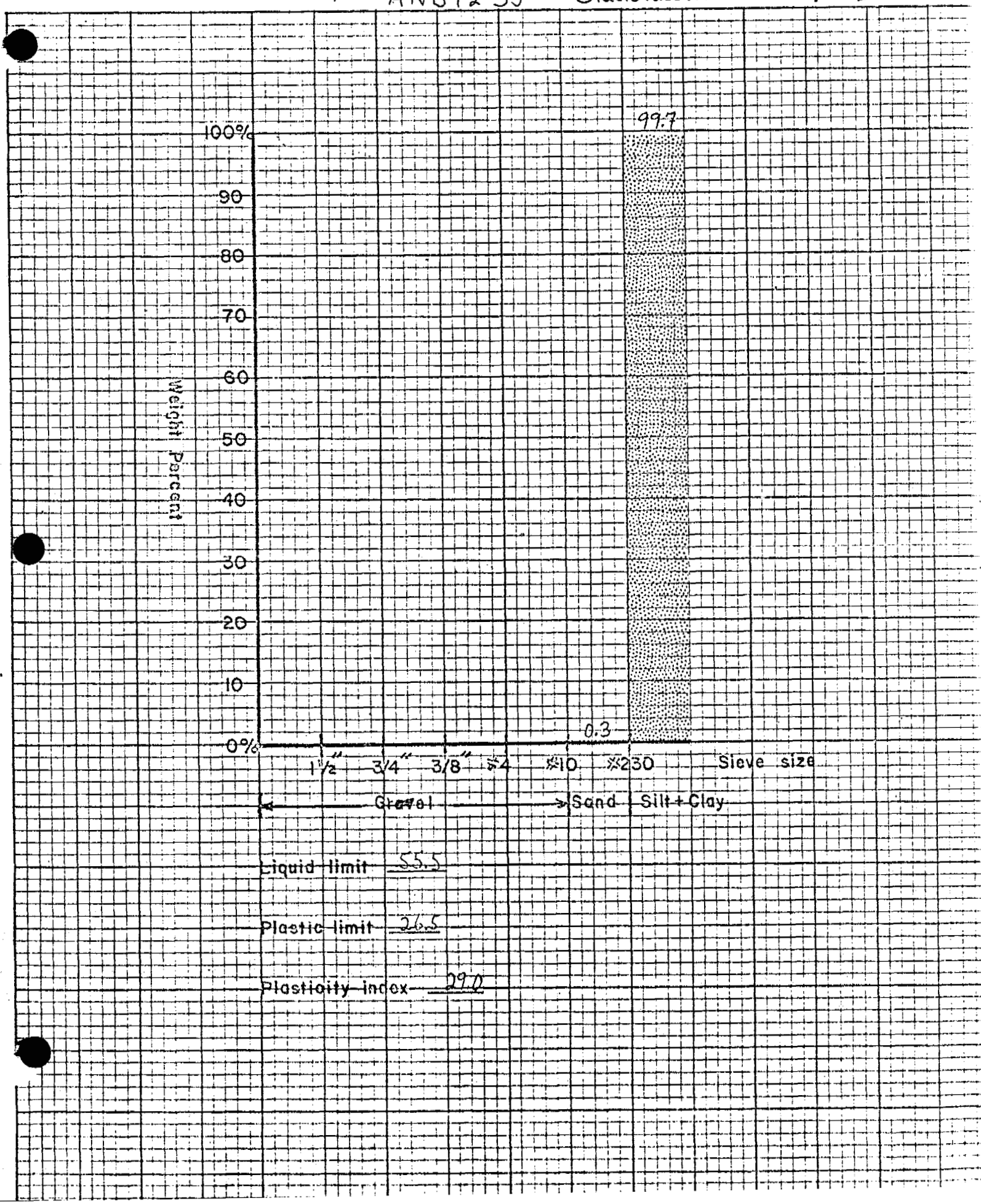


Liquid limit 25.3

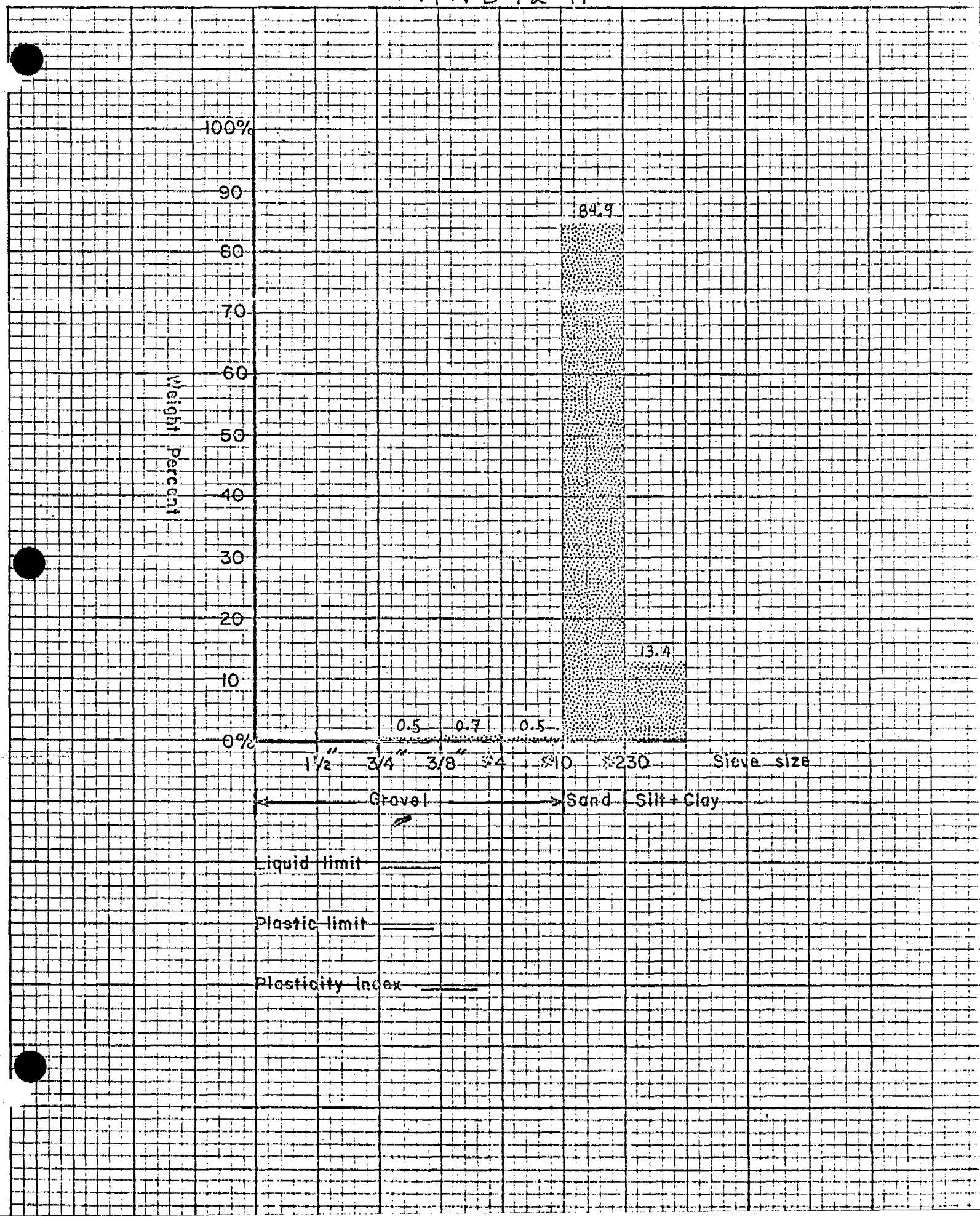
Plastic limit 18.3

Plasticity index 7.0

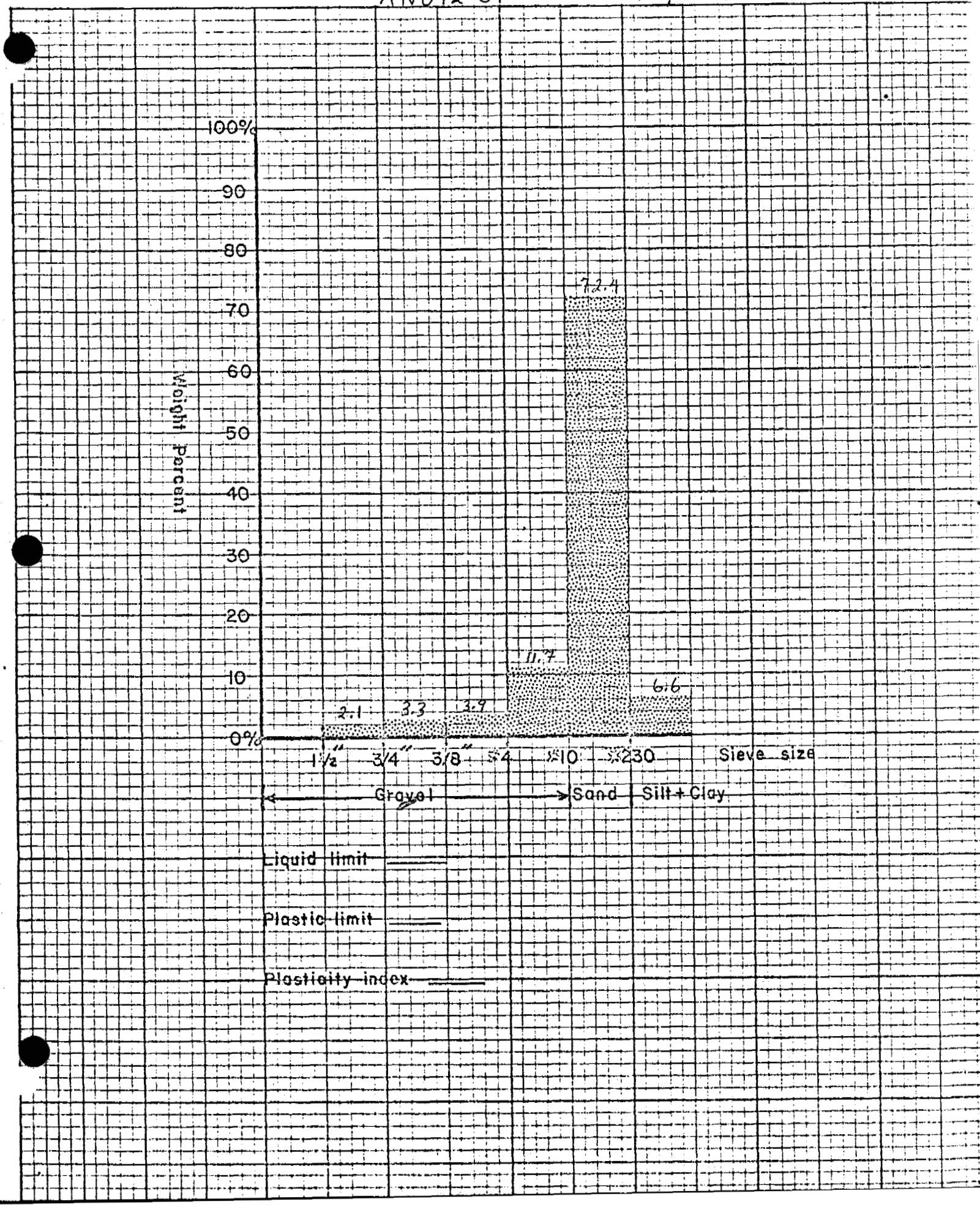
ANB72-35 Glaciolacustrine silt & clay



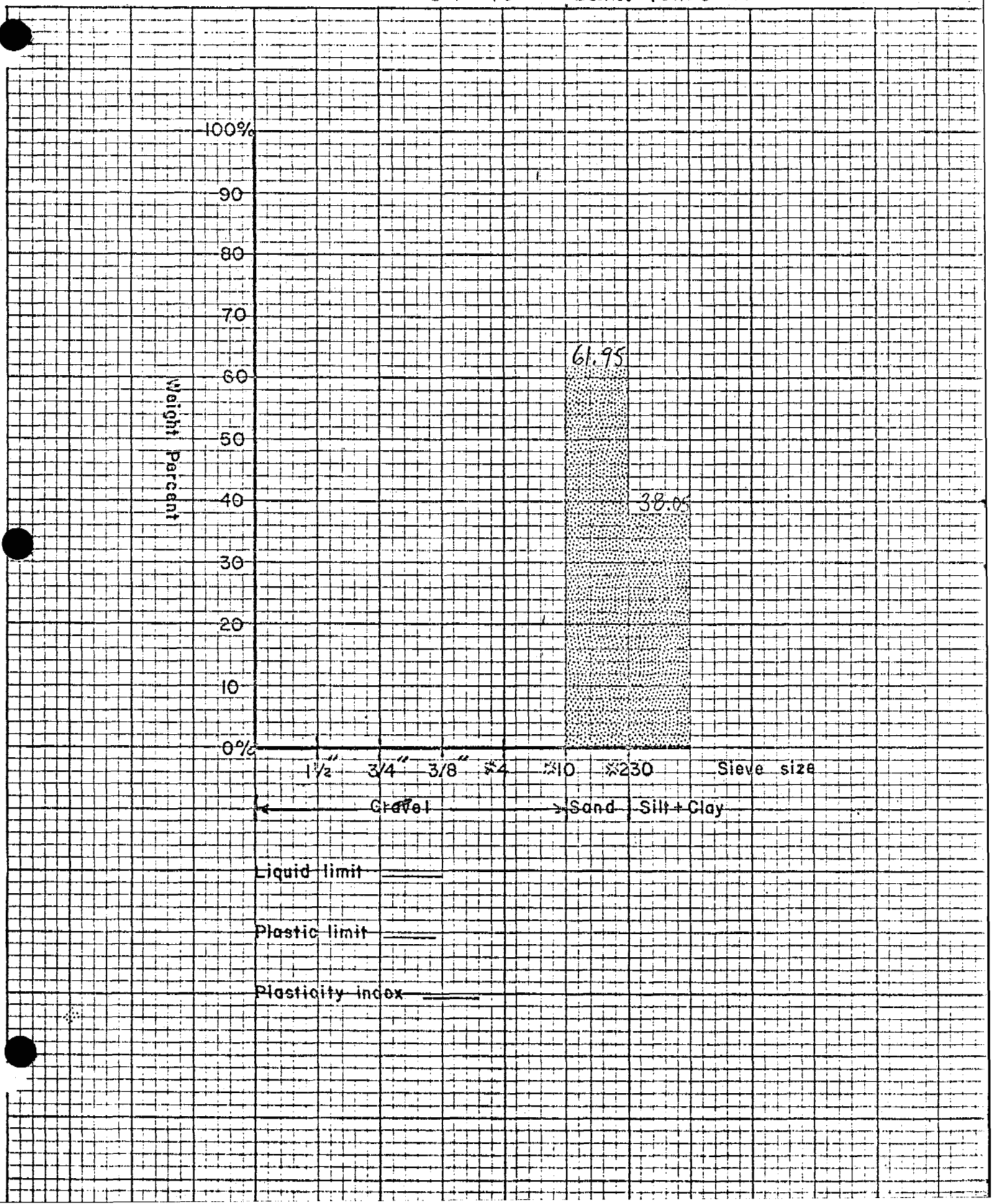
ANB 72-11 Coarse sand drumlin



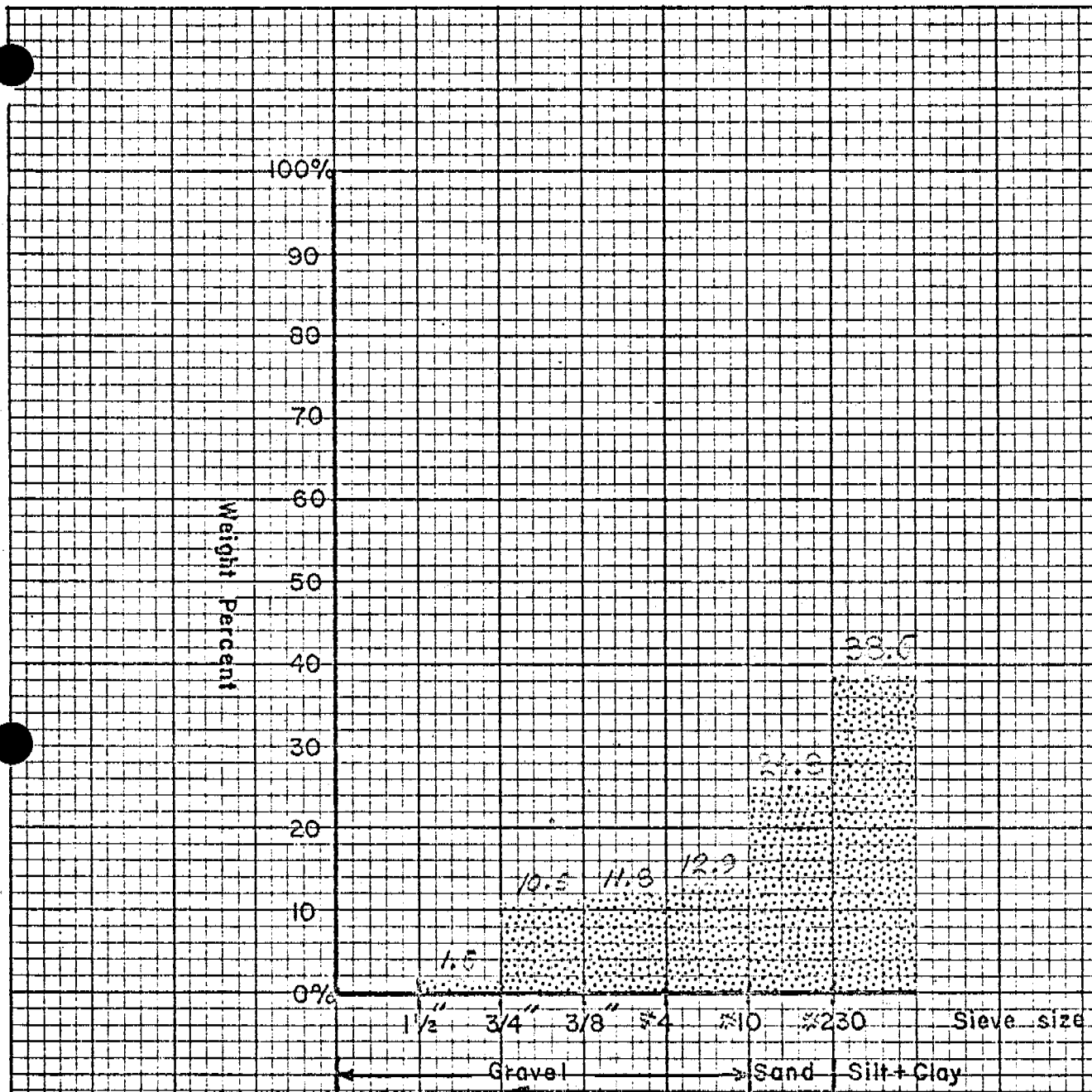
ANB72-31 Sand from drumlin



ANB 72-18 Sand lense within till



RR 72-3 Till



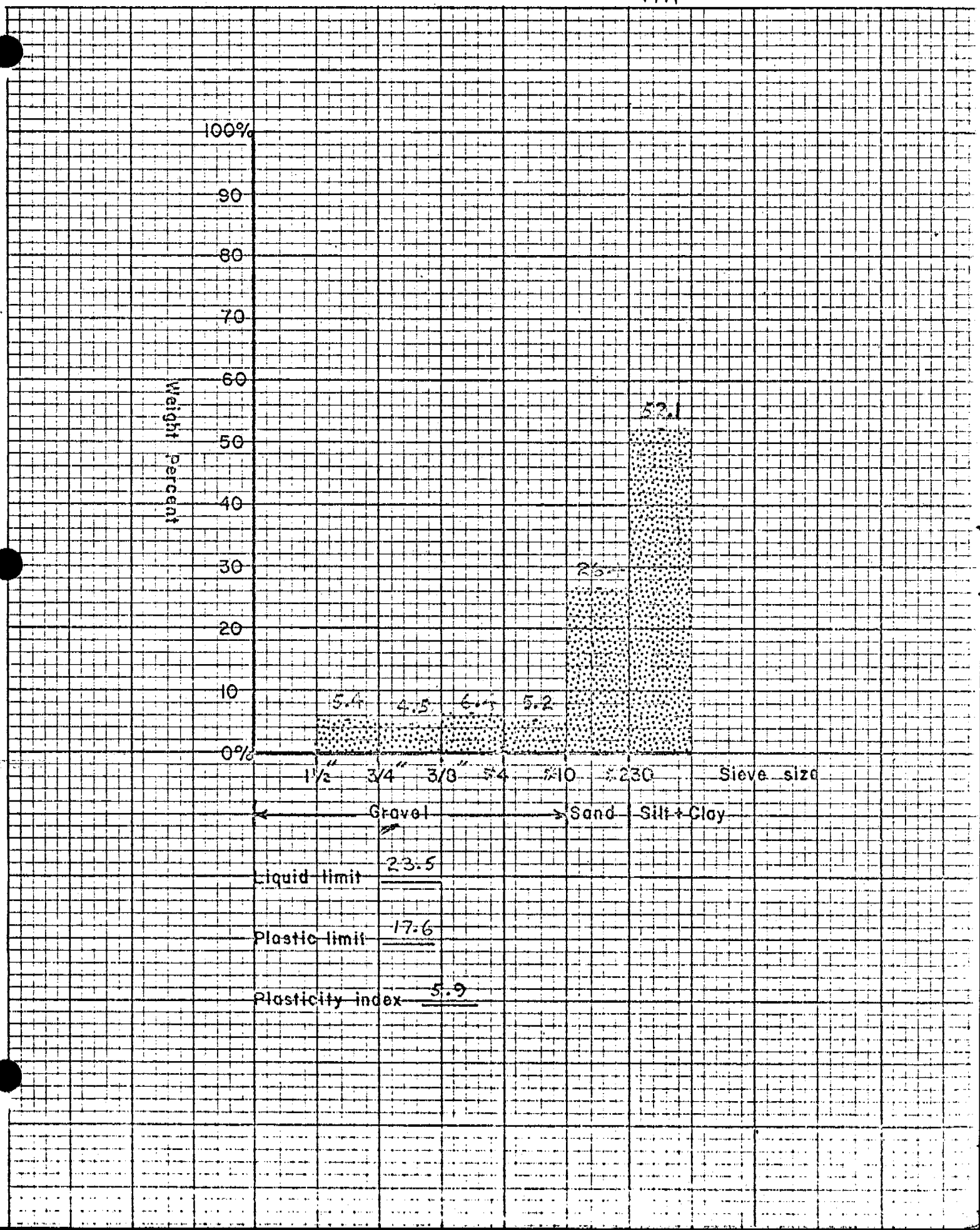
Liquid limit 21.0

Plastic limit 14.2

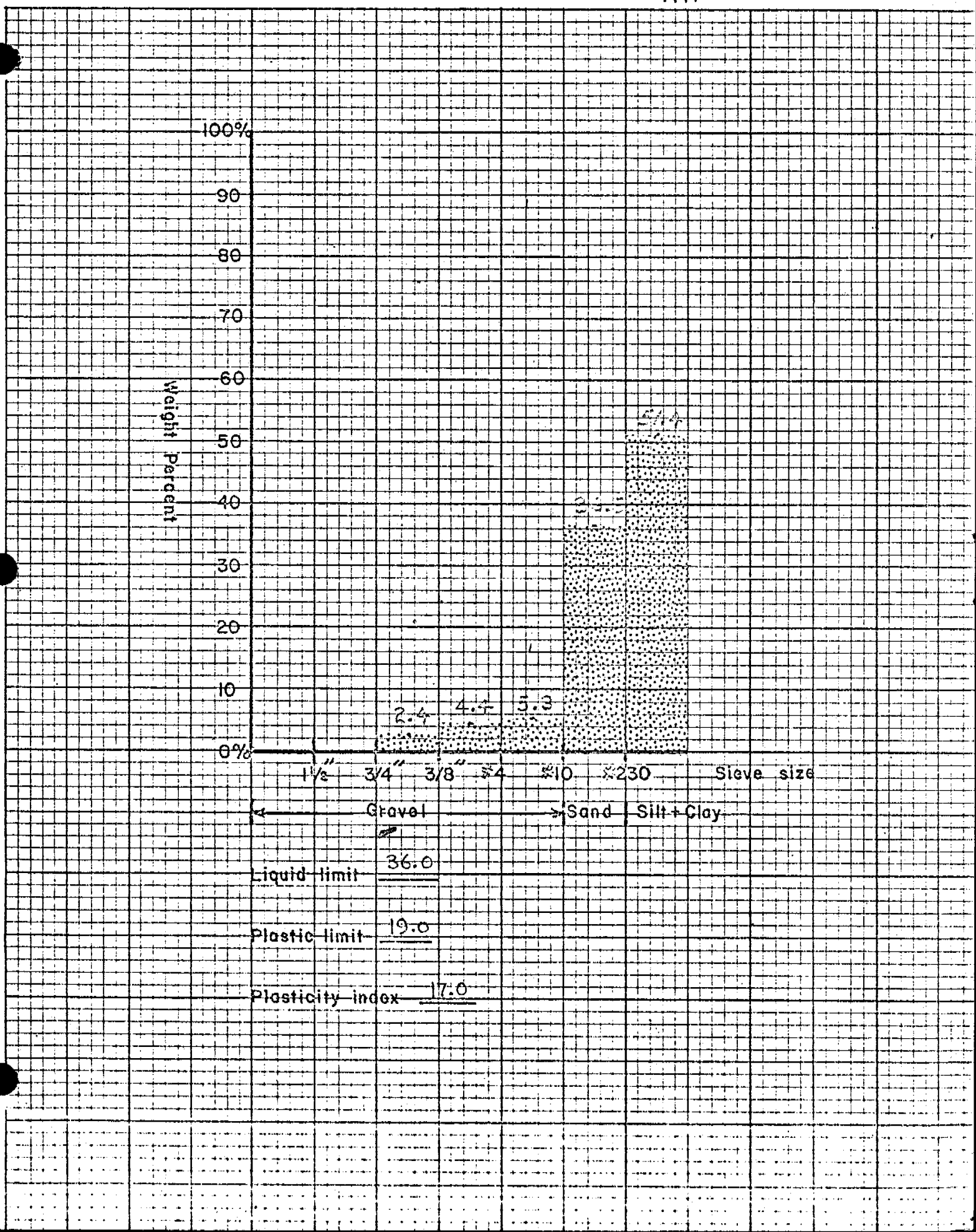
Plasticity index 6.8

RR 72-4

Till


100%
90
80
70
60
50
40
30
20
10
0%
Weight percent
53.1
26
5.4
4.5
6.3
5.2
1½"
¾"
⅜"
#4
#10
#230
Sieve size
Gravel
Sand
Silt + Clay
Liquid limit 23.5
Plastic limit 17.6
Plasticity index 5.9

RR 72-5 Till

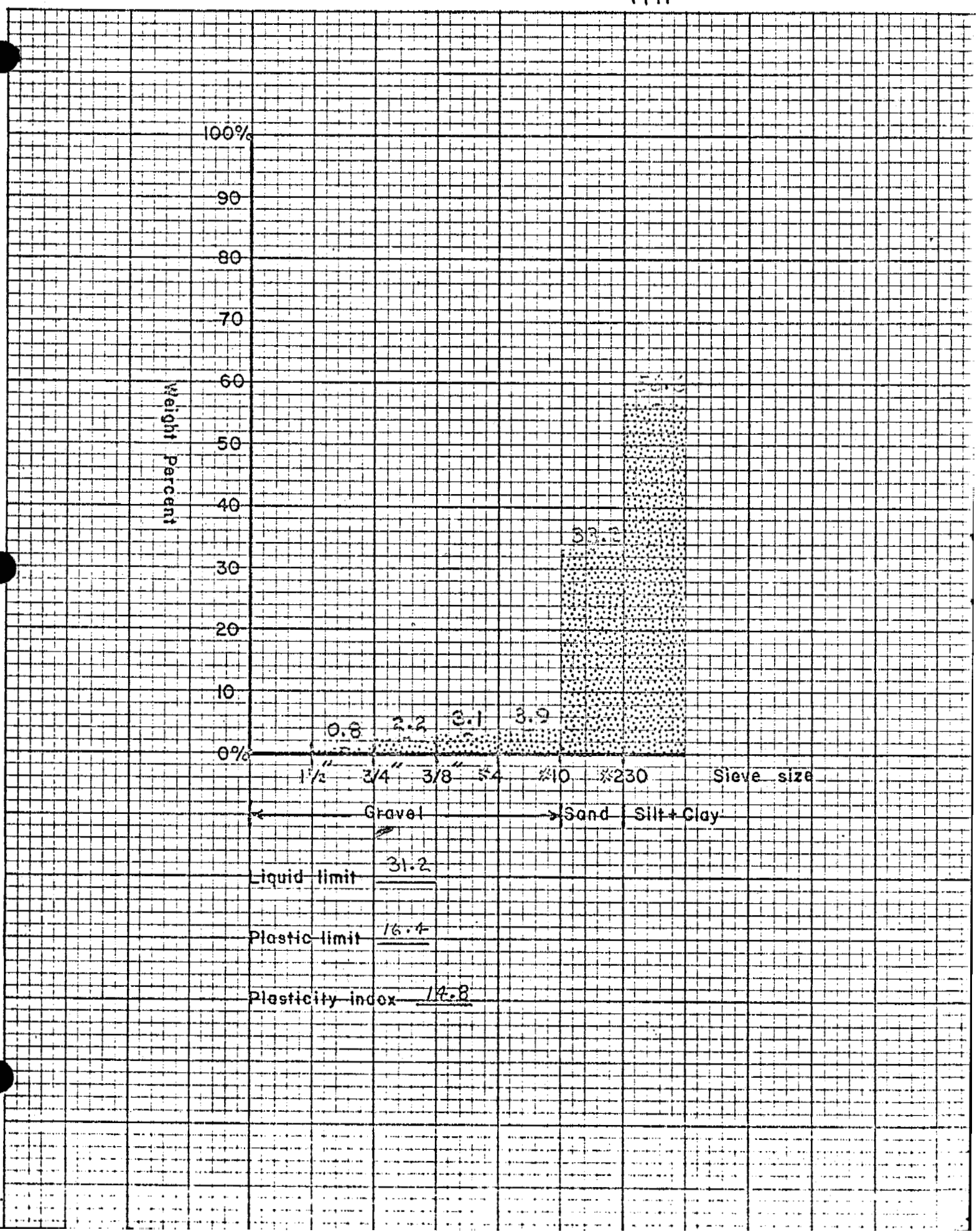


Liquid limit 36.0

Plastic limit 19.0

Plasticity index 17.0

R.R 72-6. Till


100%
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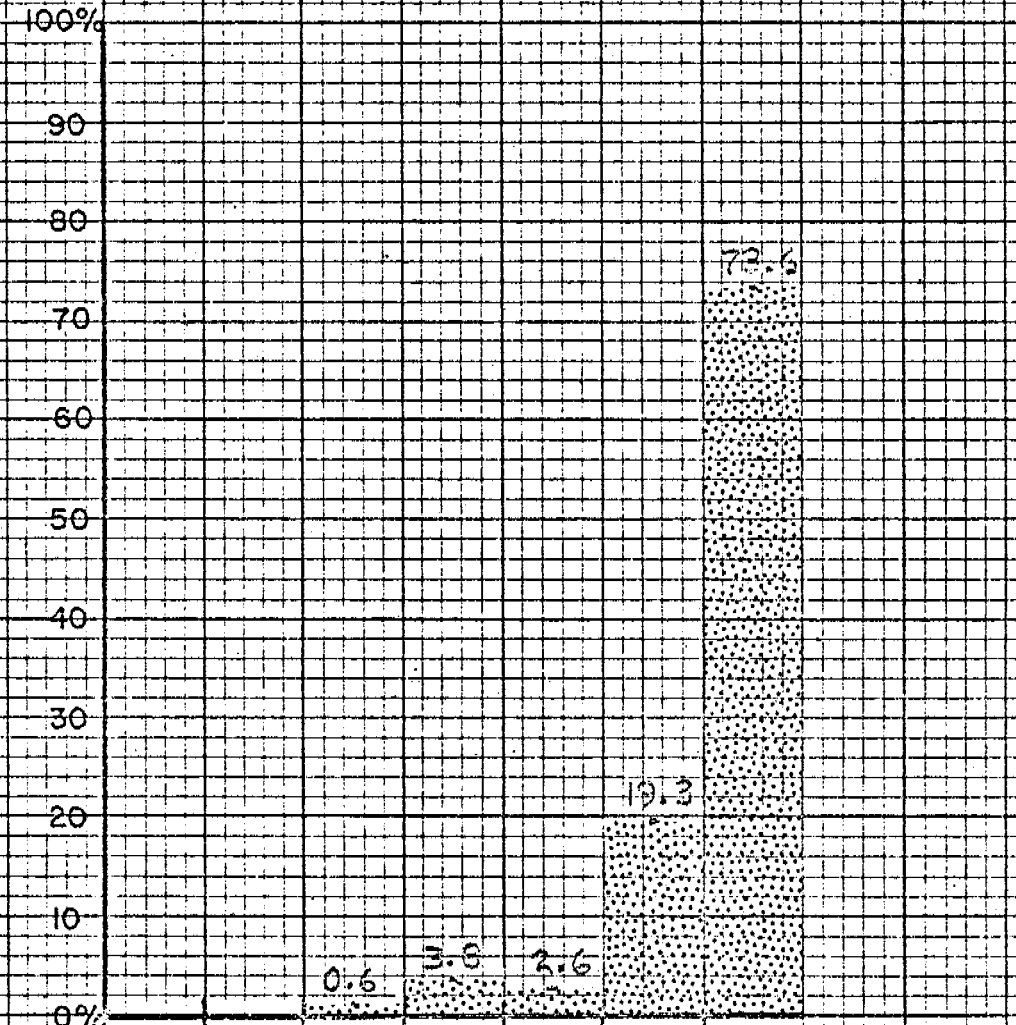
80
70
60
50
40
30
20
10
0%
Weight Percent
0.8
2.2
2.1
3.9
37.1
1½"
¾"
⅜"
#4
#10
#230
Sieve size
Gravel
Sand
Silt + Clay
Liquid limit 31.2
Plastic limit 16.4
Plasticity index 14.8

RR 72-8 Till

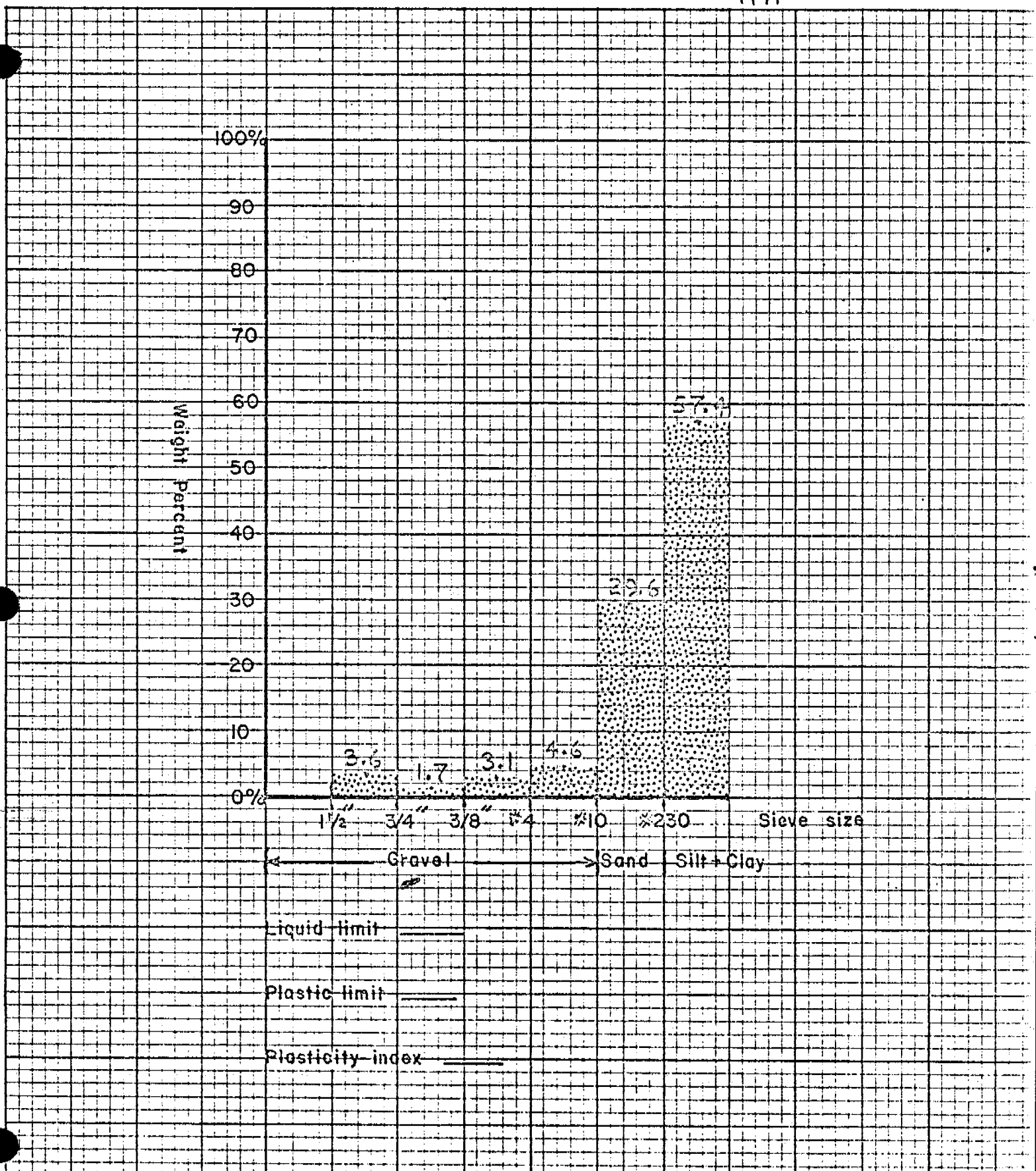


Liquid limit 34.1

Plastic limit 20.5

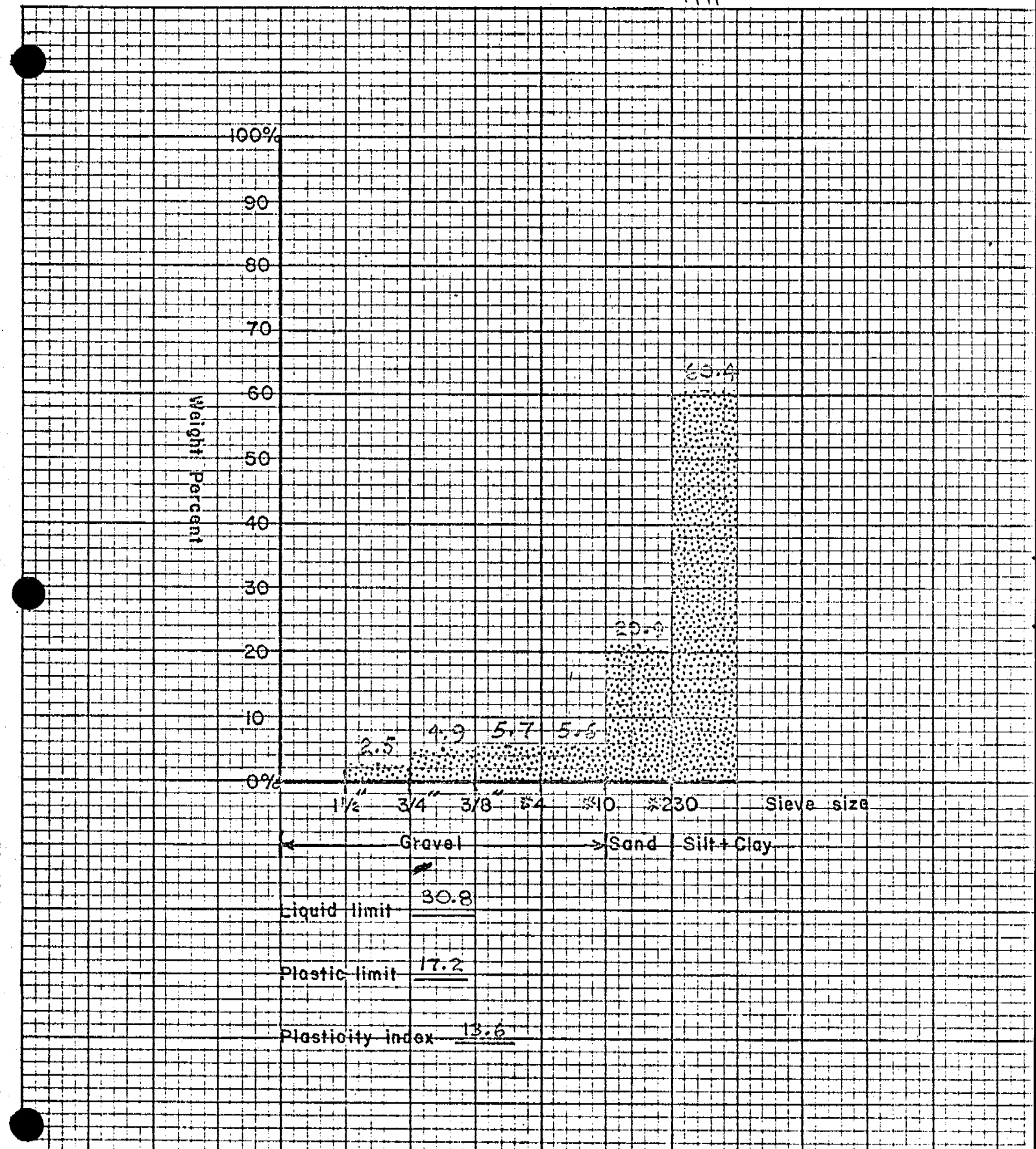
Plasticity index 13.6

RR 72-9 Till


100%
90
80
70
60
50
40
30
20
10
0%
Weight Percent
3.6
1.7
3.1
4.6
20.6
76.1
1½"
¾"
⅜"
#4
#10
#230
Sieve size
Gravel
Sand
Silt + Clay
Liquid limit
Plastic limit
Plasticity index

RR 72-11

Till

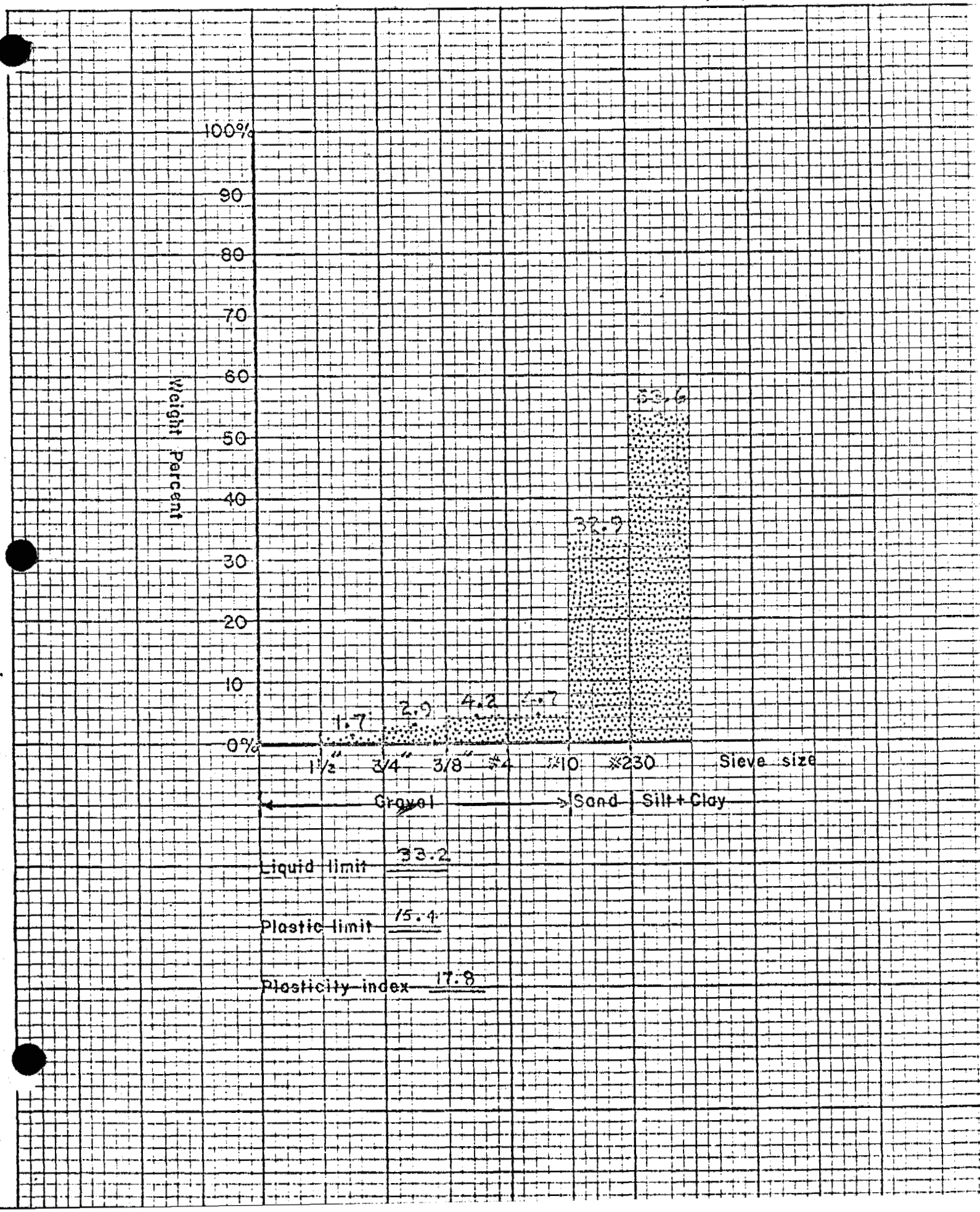


Liquid limit 30.8

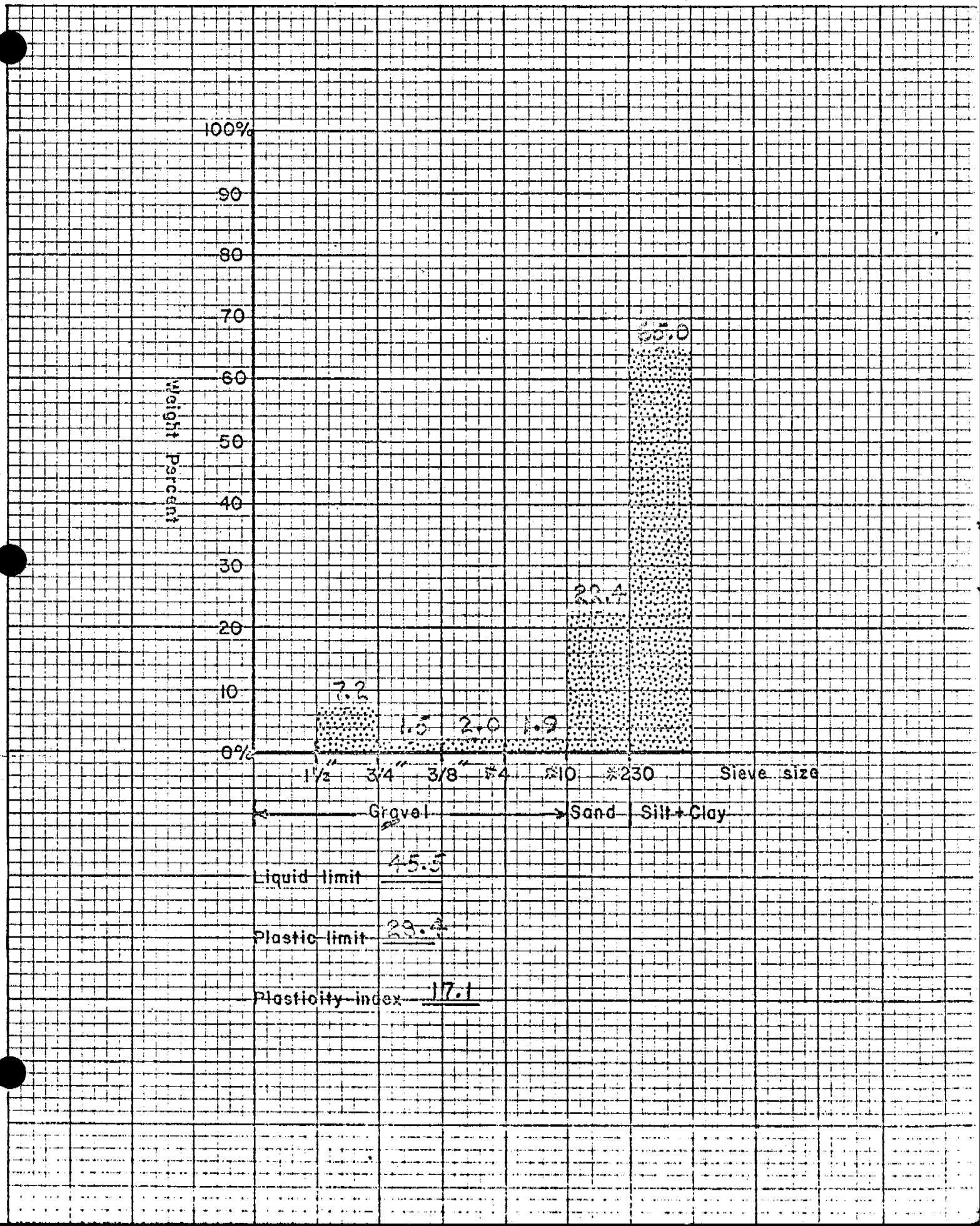
Plastic limit 17.2

Plasticity index 13.6

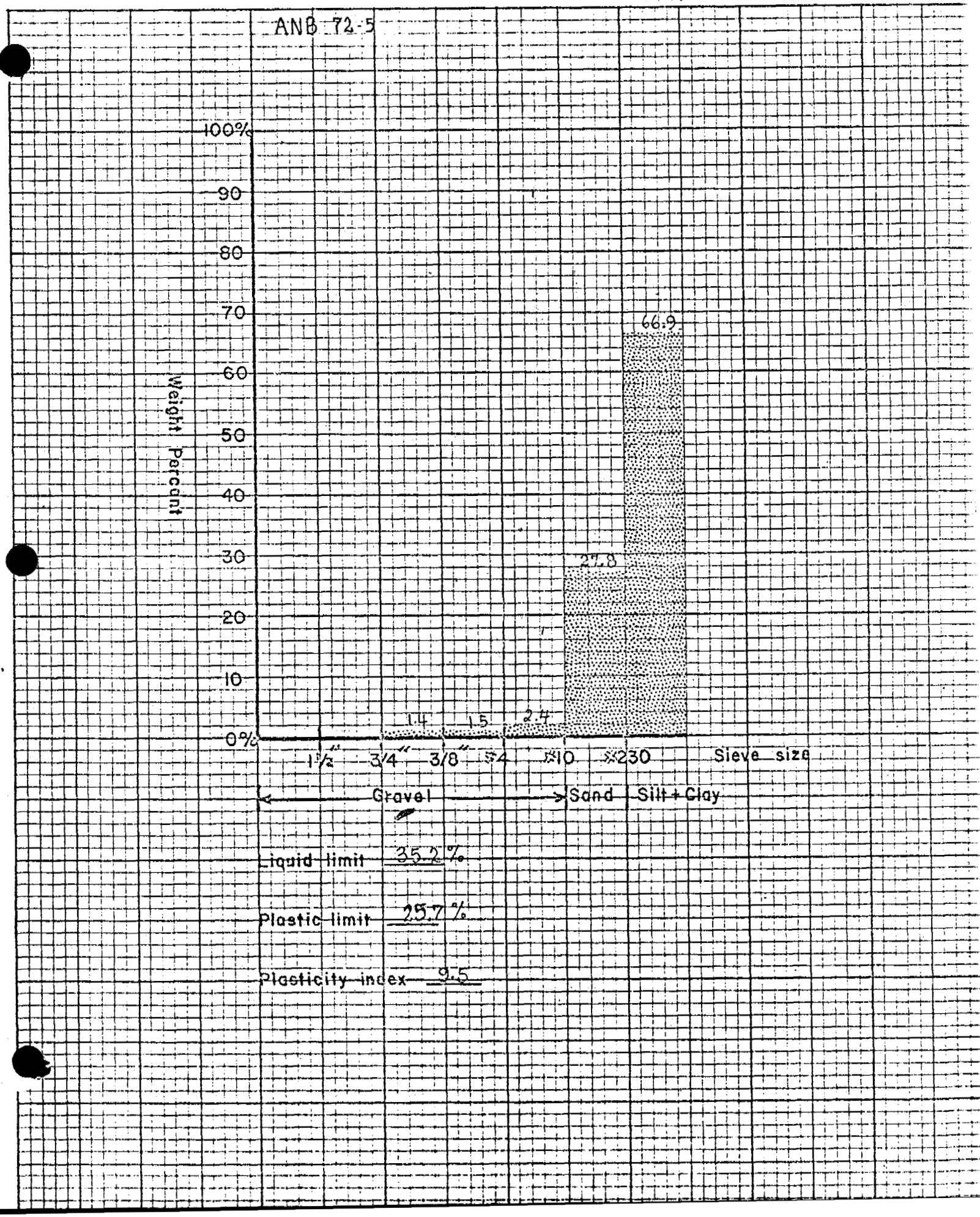
RR-72-18 Till


100%
90
80
70
60
50
40
30
20
10
0%
Weight Percent
1.7
2.9
4.2
#7
38.9
53.6
1½"
¾"
⅜"
#4
#10
#230
Sieve size
Gravel
Sand
Silt + Clay
Liquid limit 33.2
Plastic limit 15.4
Plasticity index 17.8

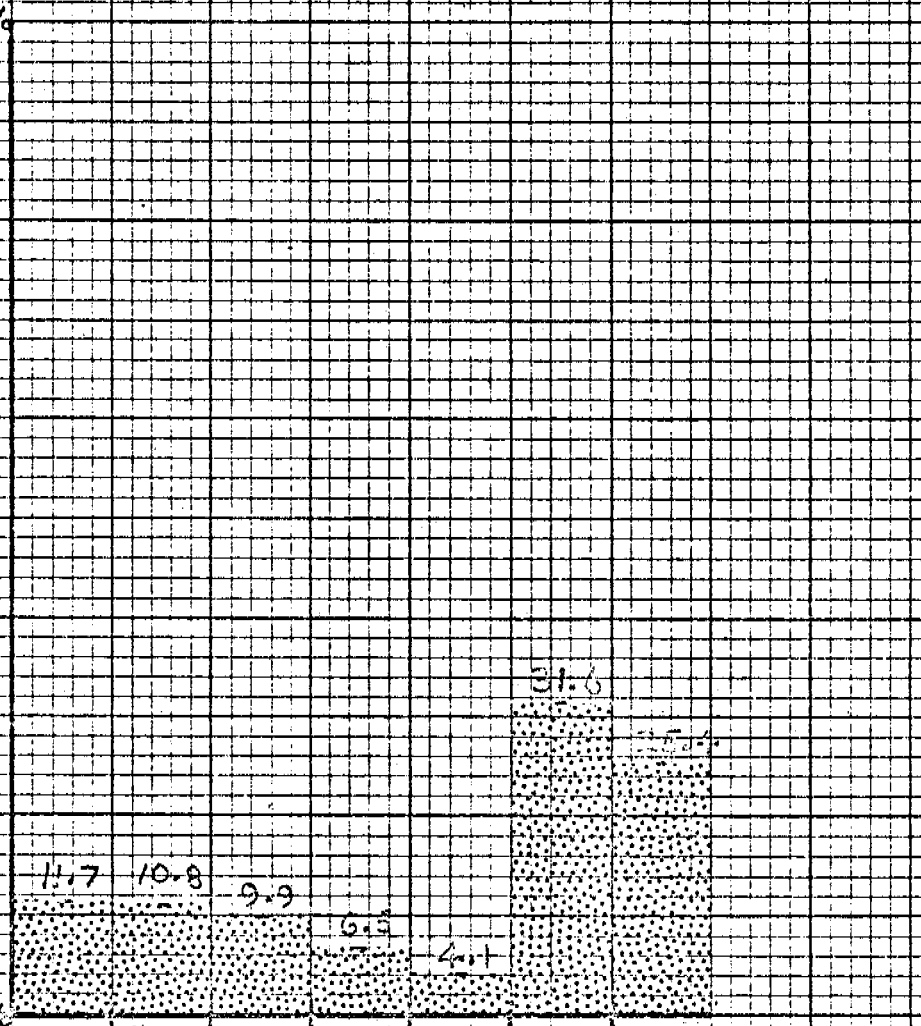
ANB 72-3 Till


100%
90
80
70
60
50
40
30
20
10
0%
Weight Percent
65.0
20.4
7.2
1.5
2.0
1.9
1½
¾
⅜
#4
#10
#230
Sieve size
Gravel
Sand
Silt + Clay
Liquid limit 45.5
Plastic limit 28.4
Plasticity index 17.1

ANB 72-5 Till


ANB 72-5
100%
90
80
70
60
50
40
30
20
10
0%
Weight Percent
66.9
27.8
1.4
1.5
2.4
1½"
¾"
⅜"
#4
#10
#230
Sieve size
Gravel
Sand
Silt + Clay
Liquid limit 35.2 %
Plastic limit 25.7 %
Plasticity index 9.5

ANB 72-9 Till (stony)

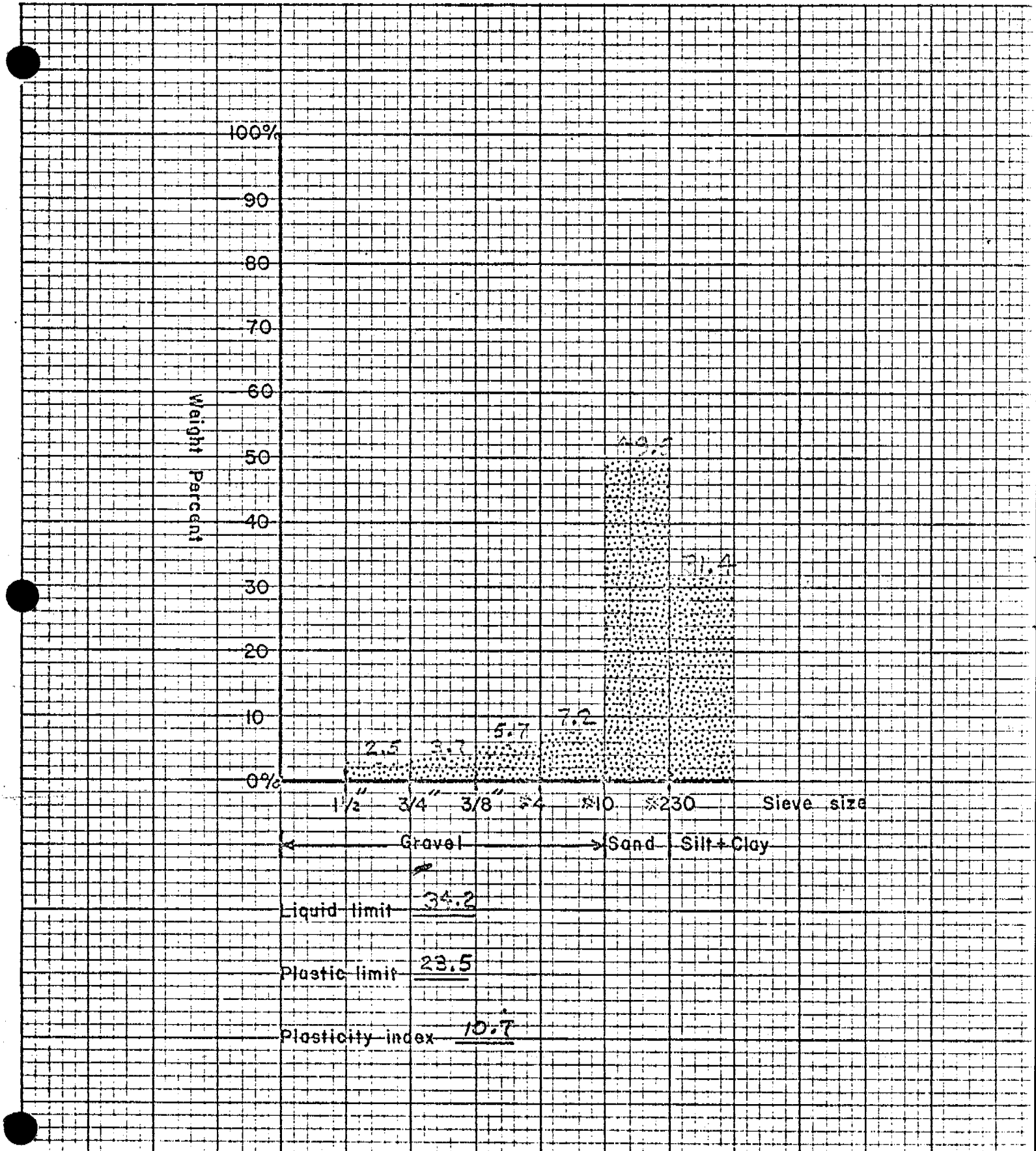


Liquid limit 22.0%

Plastic limit 19.3%

Plasticity index 2.7%

ANB 72-14 Till (sandy)

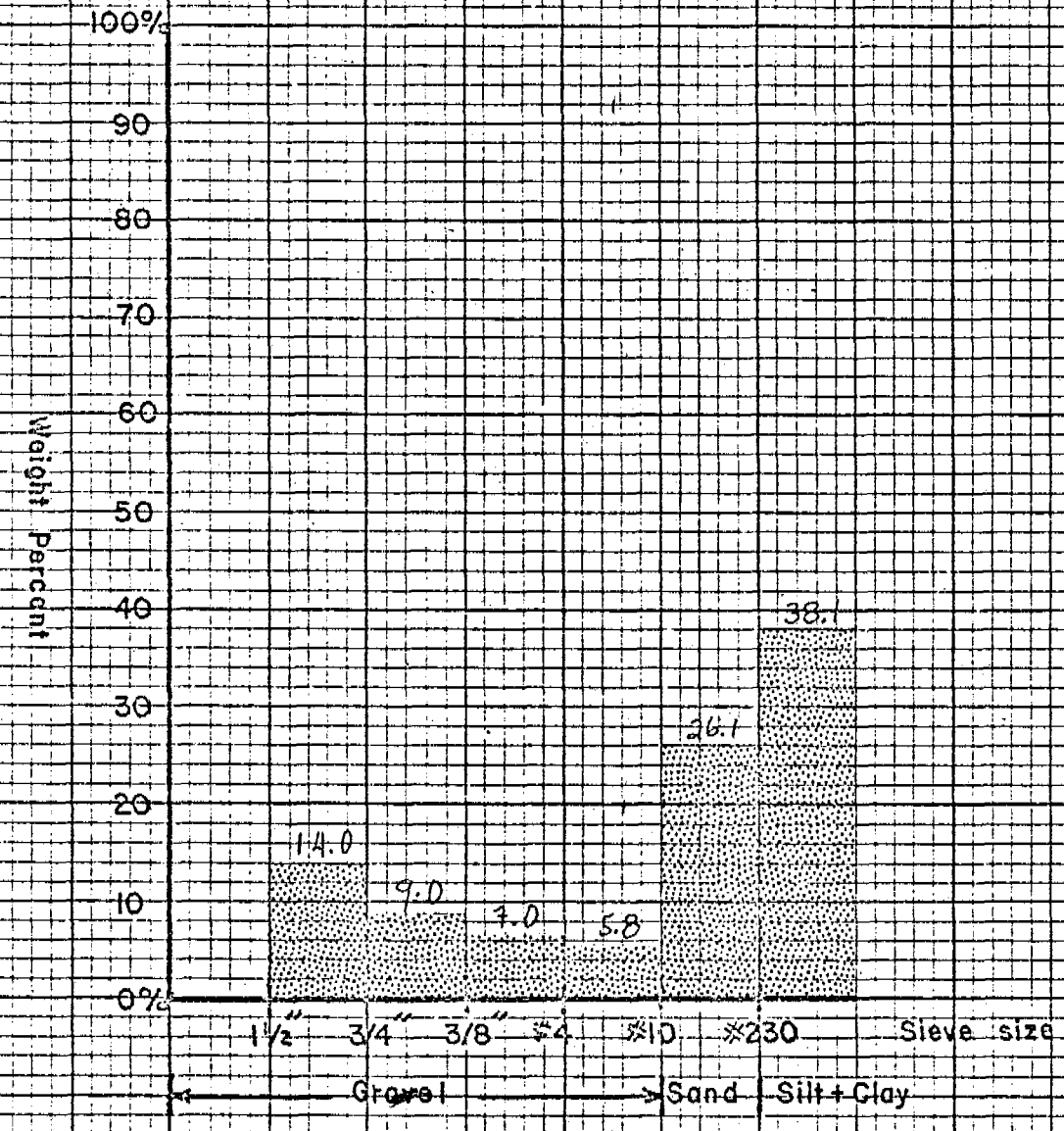


Liquid limit 34.2

Plastic limit 23.5

Plasticity index 10.7

ANB72-17 Till

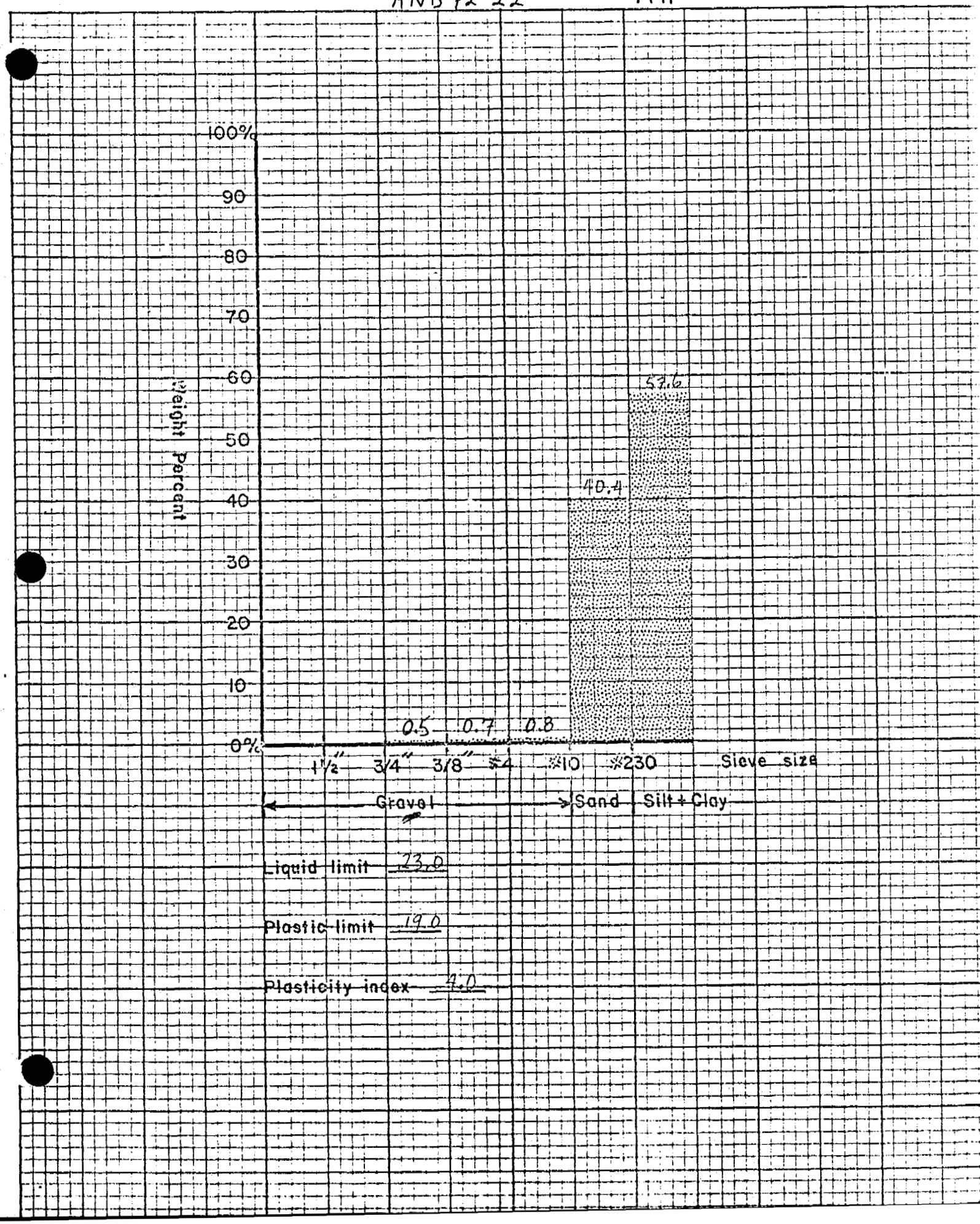


Liquid limit 25.6

Plastic limit 19.6

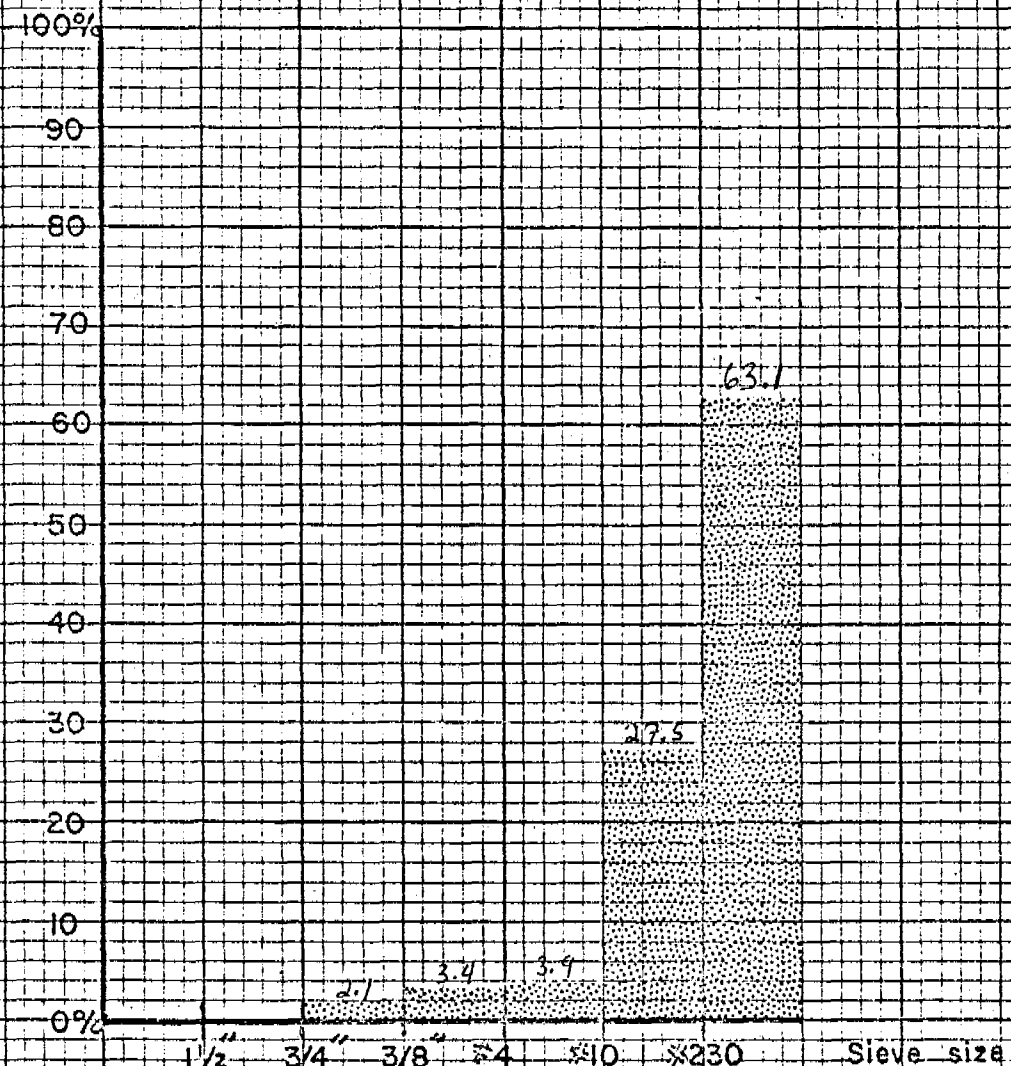
Plasticity index 6.0

ANB 72-22 Till



ANB 72-29 Till (fines only).

Coarse fraction ANB 72-30



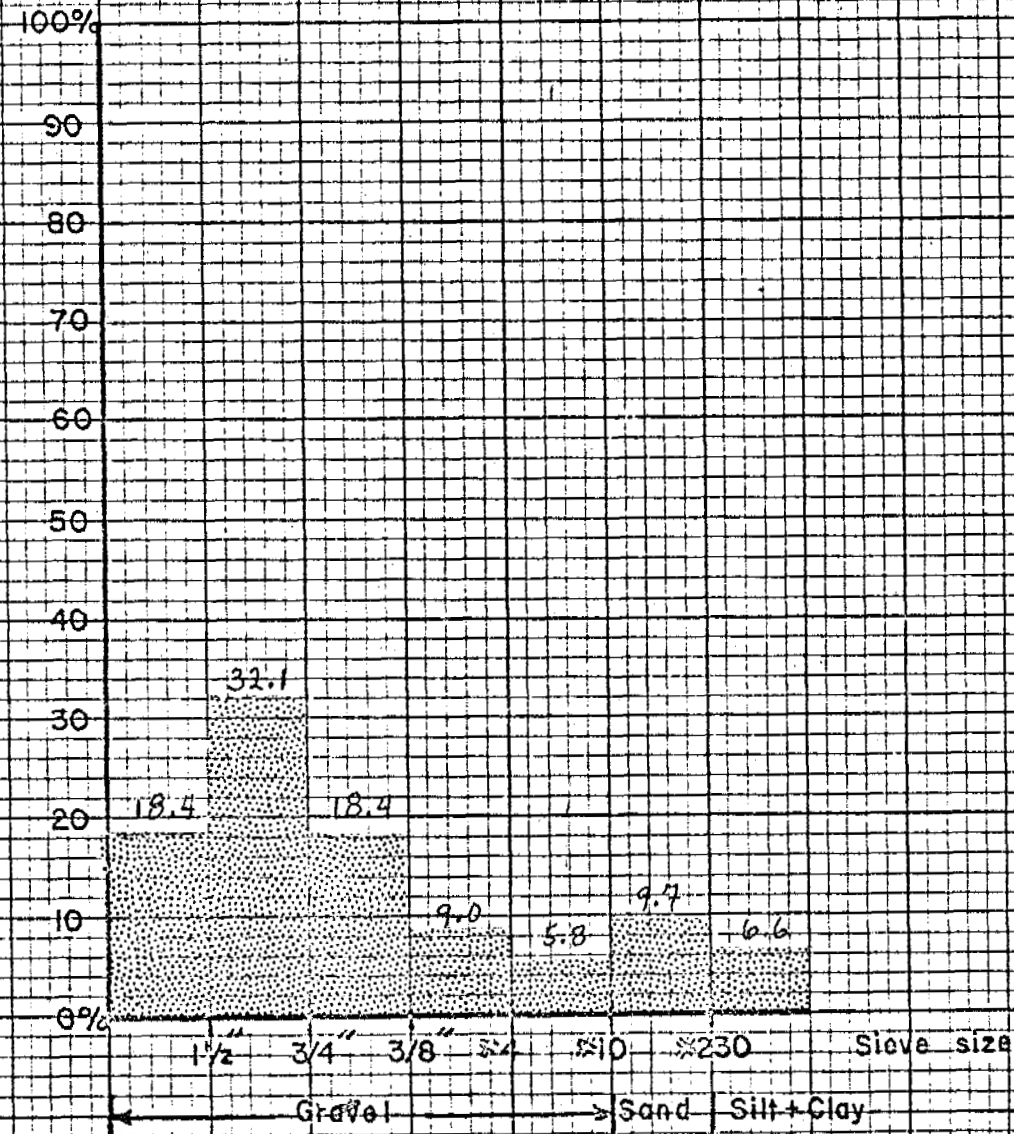
Liquid limit 35.3

Plastic limit 20.5

Plasticity index 14.8

ANB72-30 Till (Coarse material only)

Fine fraction ANB72-29

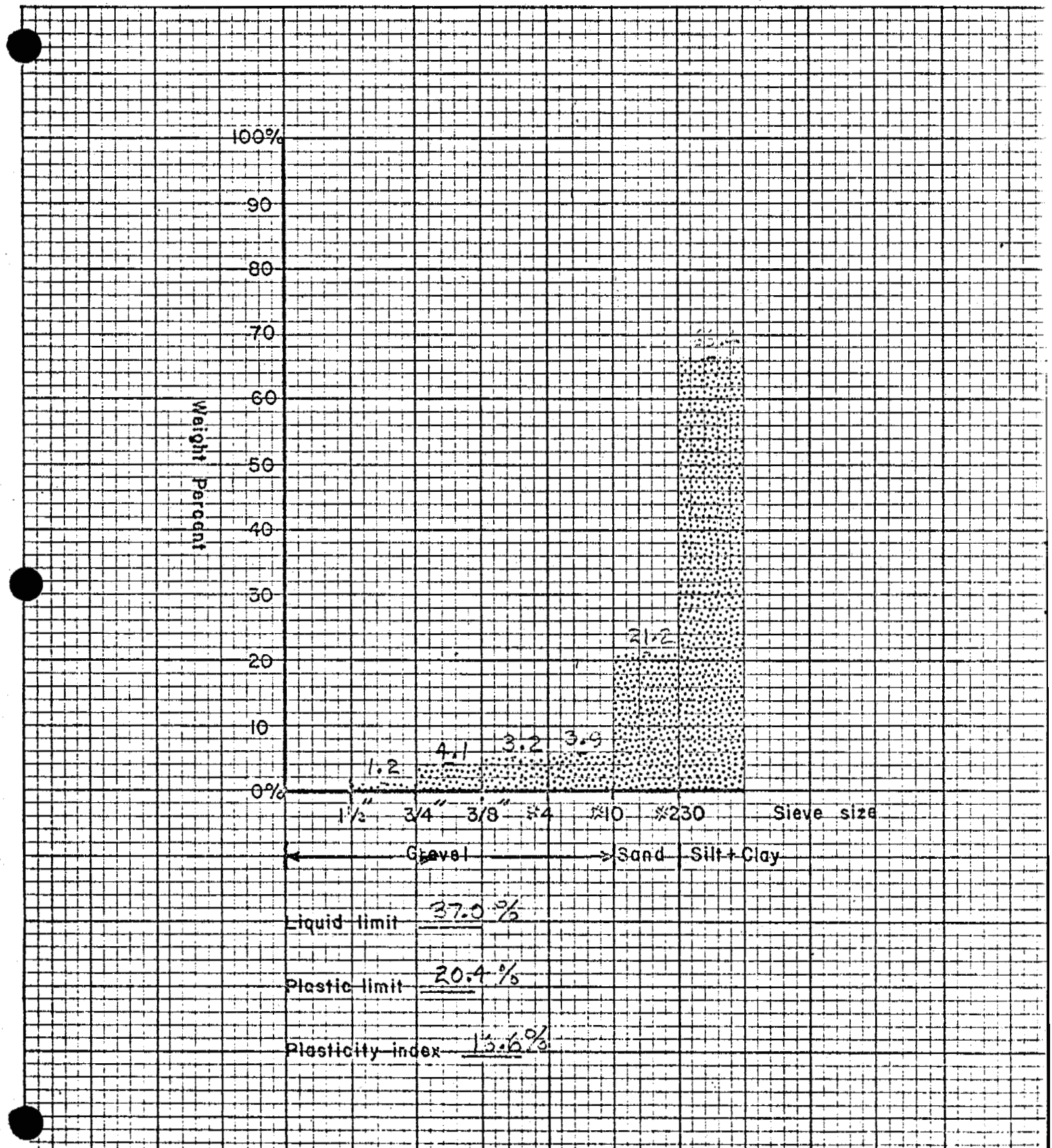


Liquid limit 26.6

Plastic limit 17.4

Plasticity index 9.2

ANB 72-36 Till

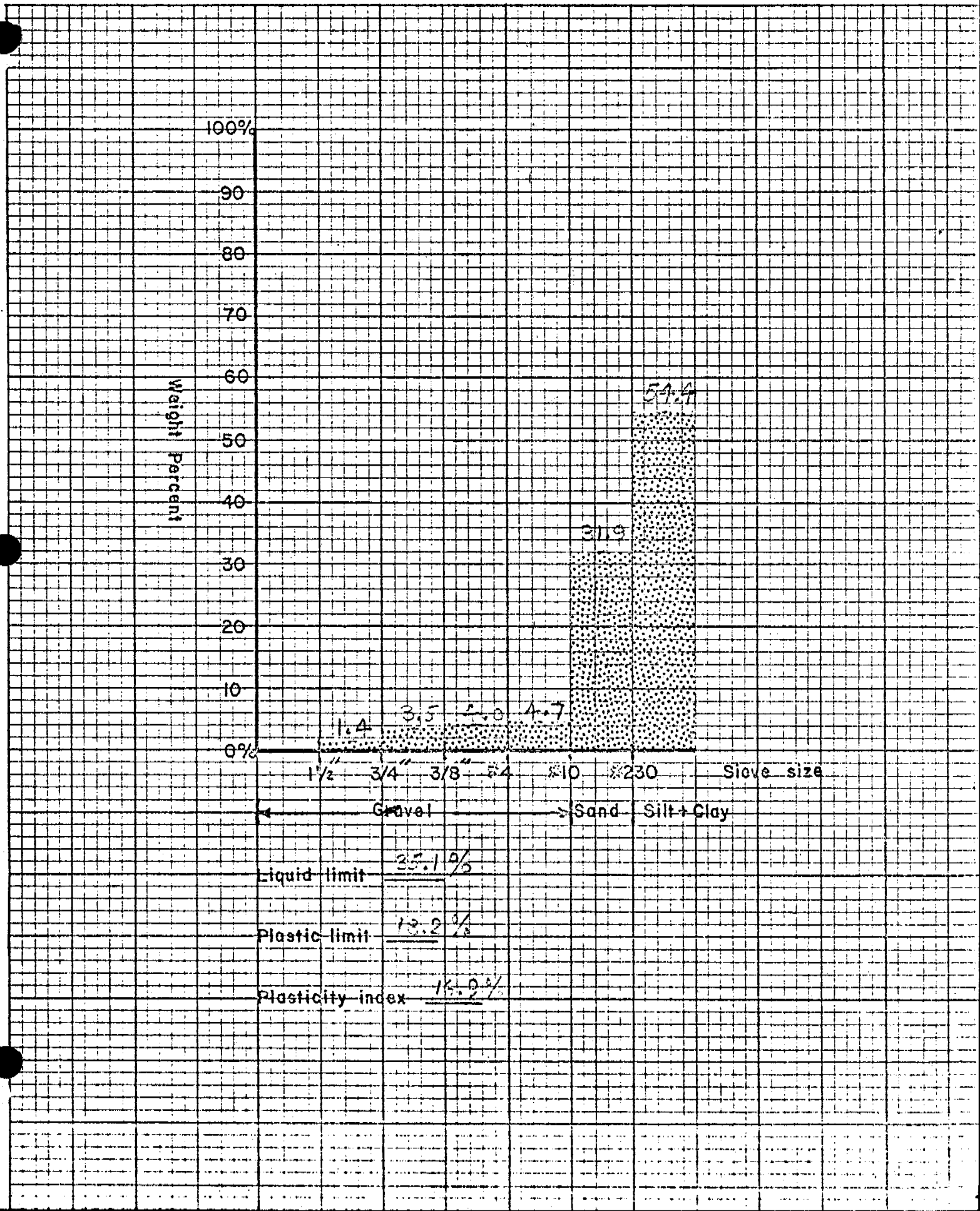


Liquid limit 37.0 %

Plastic limit 20.4 %

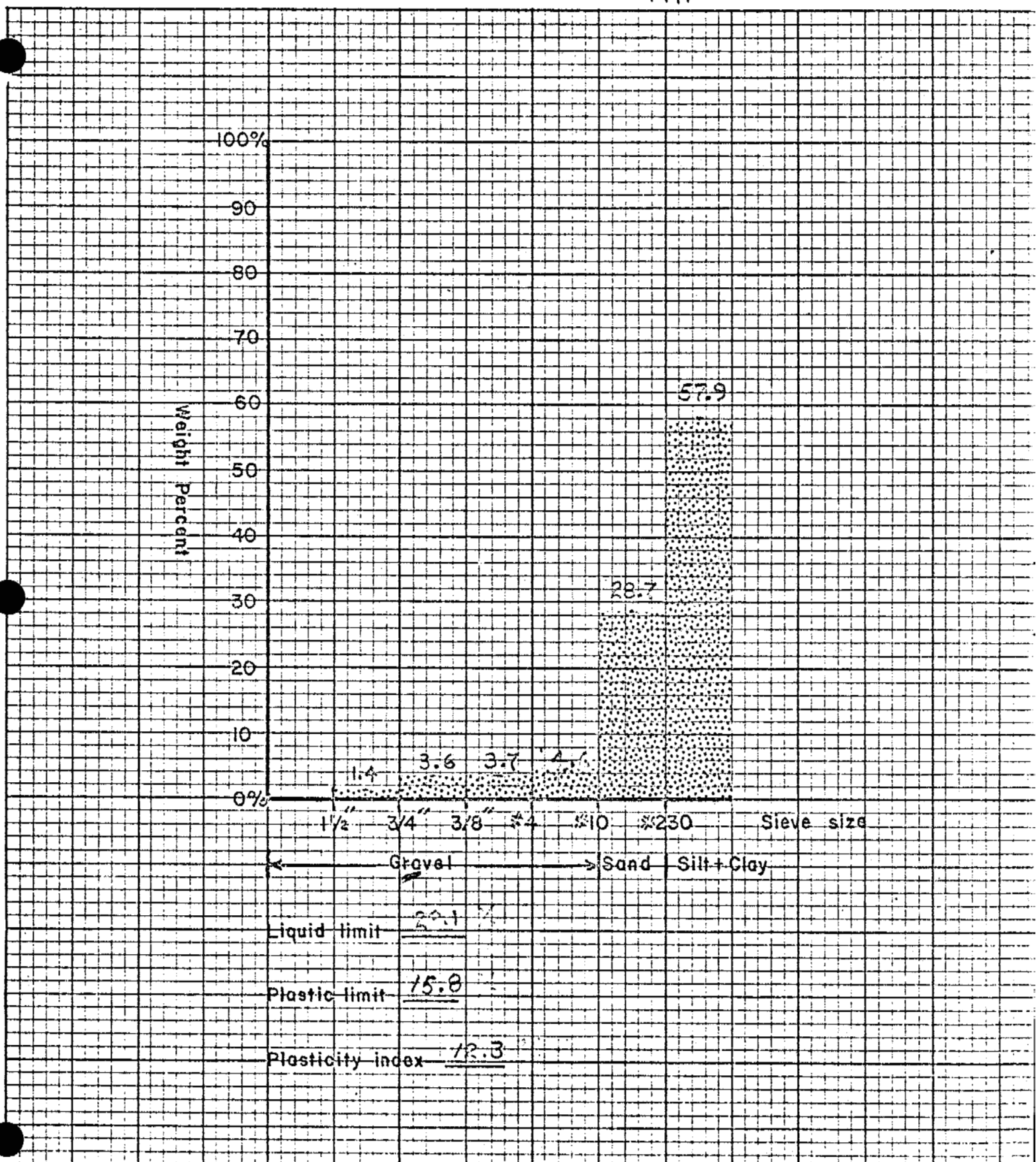
Plasticity index 16.6 %

ANB-72-37 Till



ANB 72-38

Till

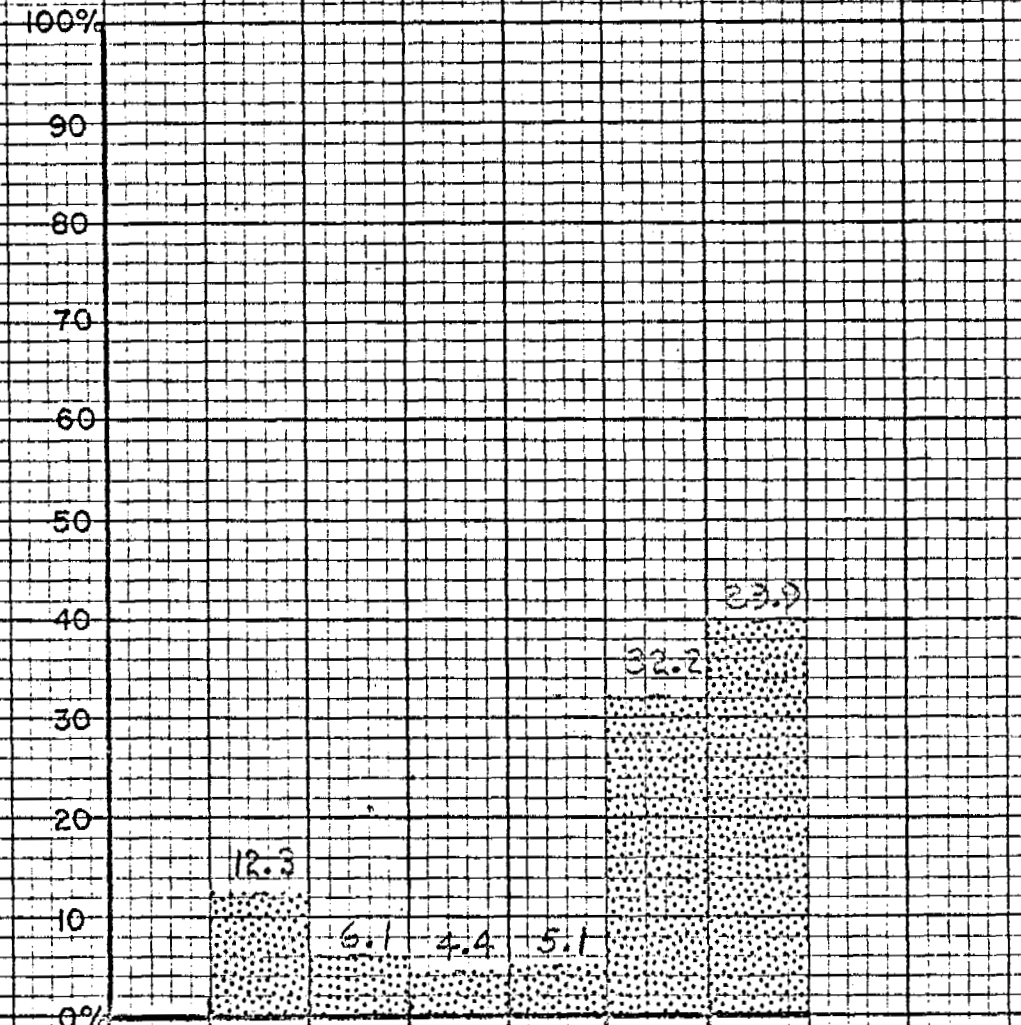


Liquid limit 29.1

Plastic limit 15.8

Plasticity index 13.3

ANB 72-40 Till

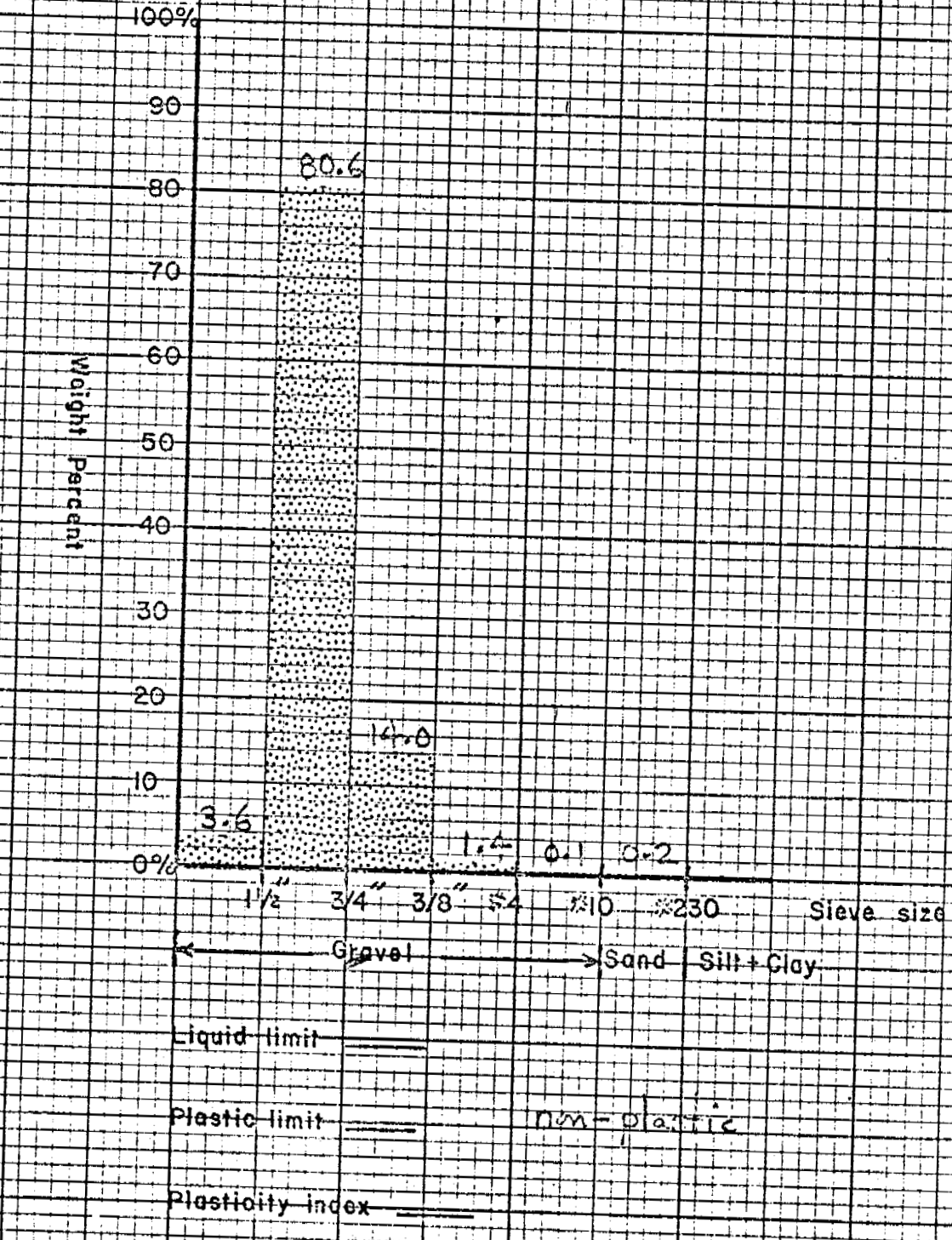


Liquid limit 23.4

Plastic limit 14.5

Plasticity index 8.9

ANB 72-41 Till (coarse fraction of ANB 72-40)

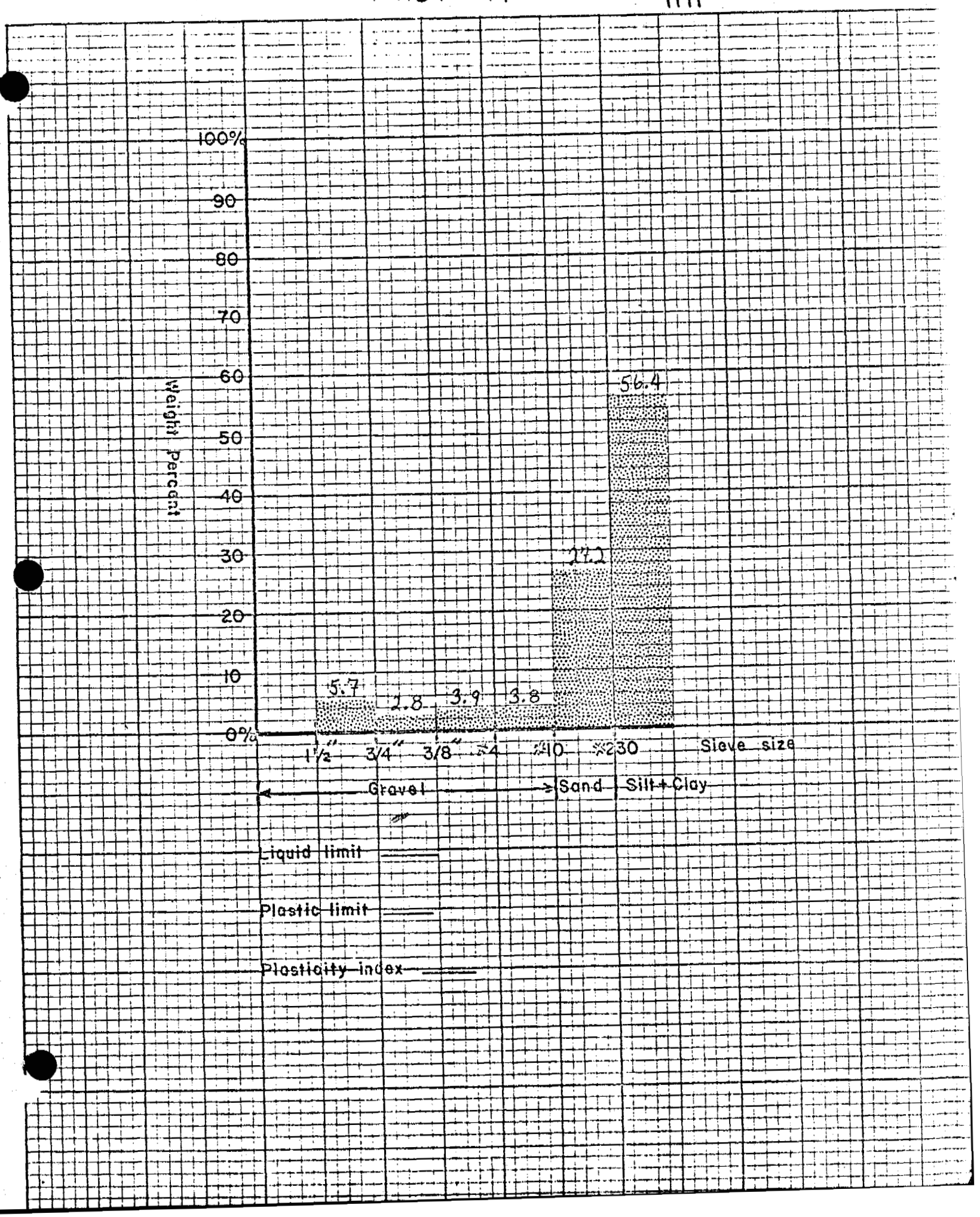


Liquid limit ——

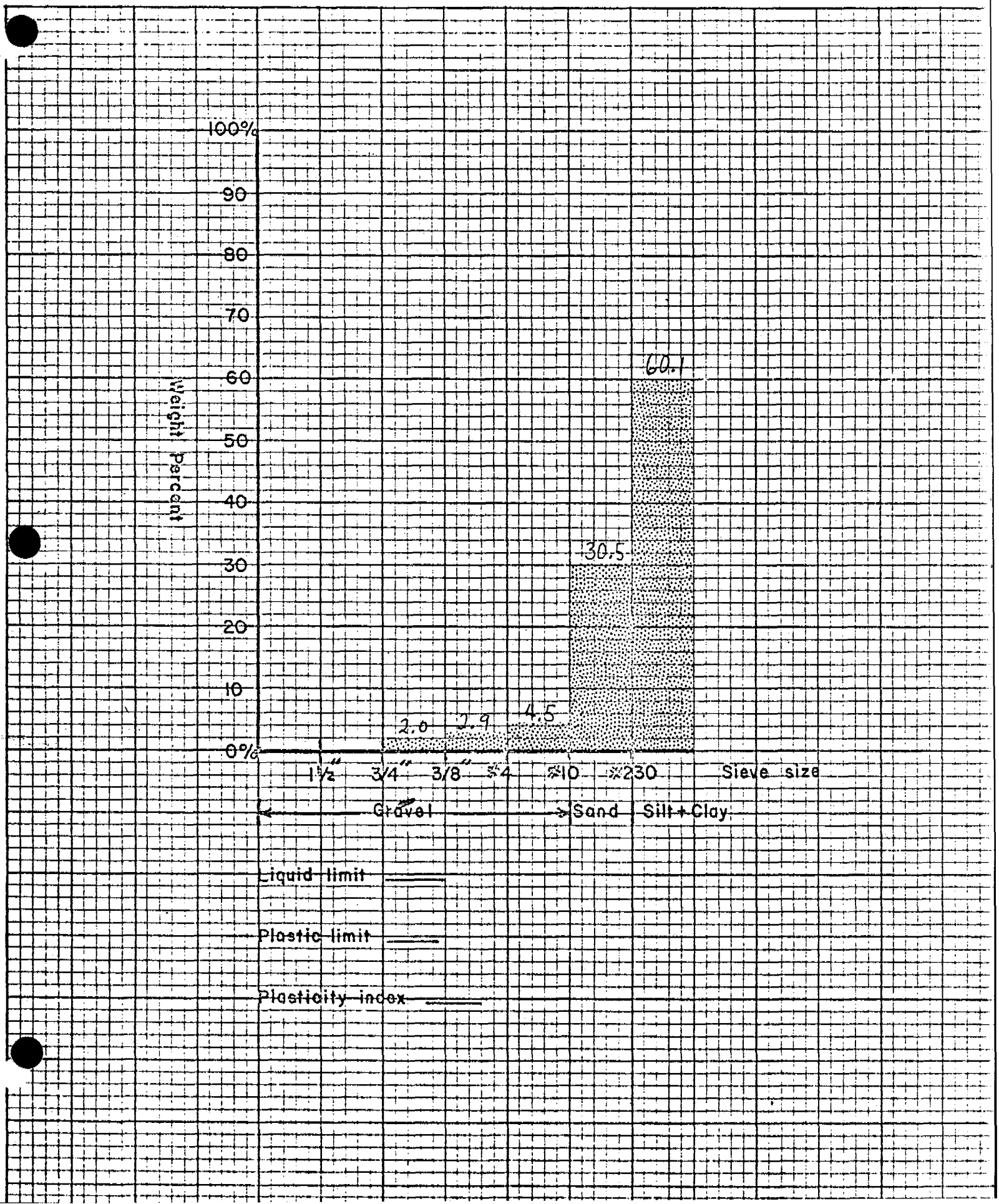
Plastic limit —— non-plastic

Plasticity index ——

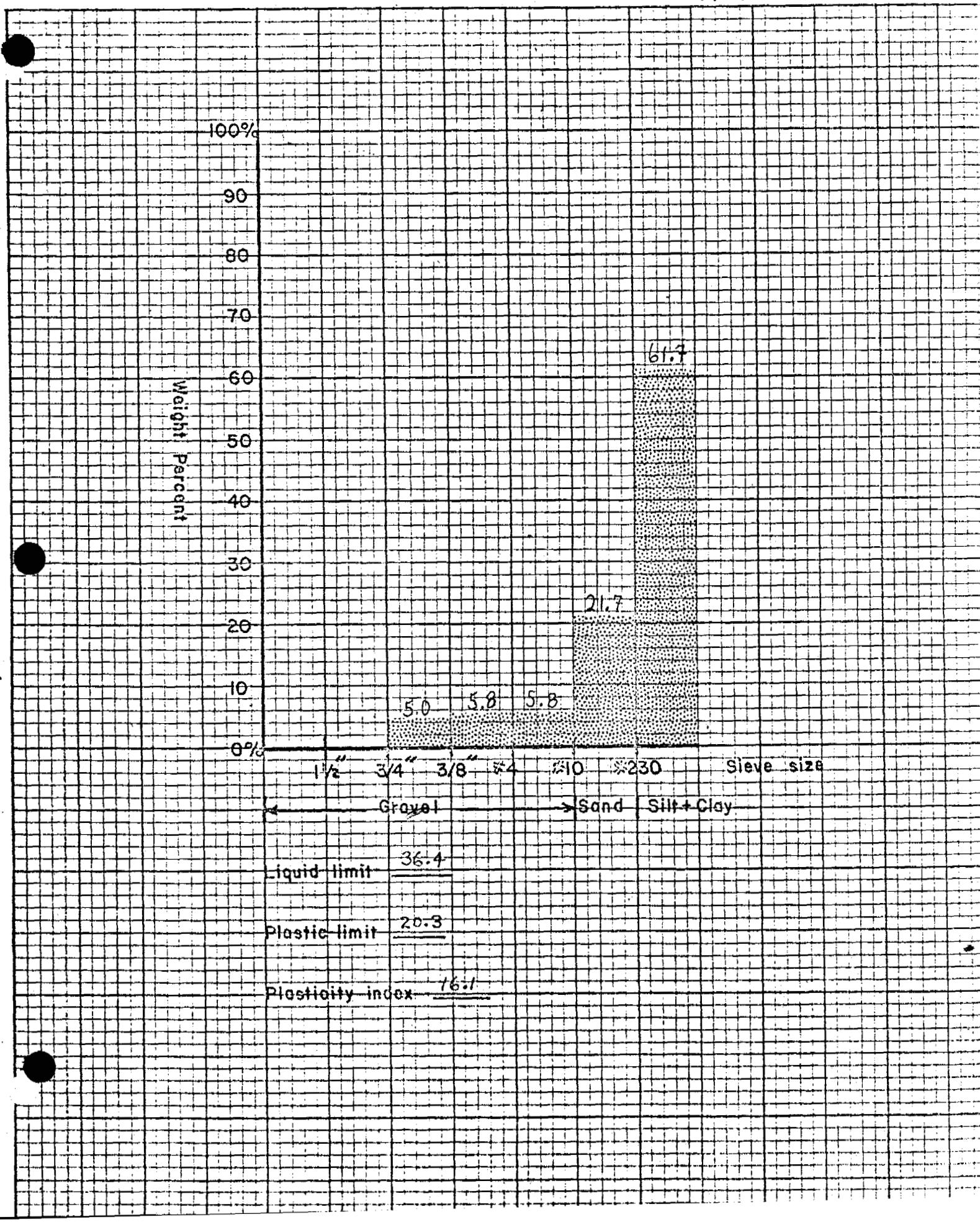
ANB72-44 Till



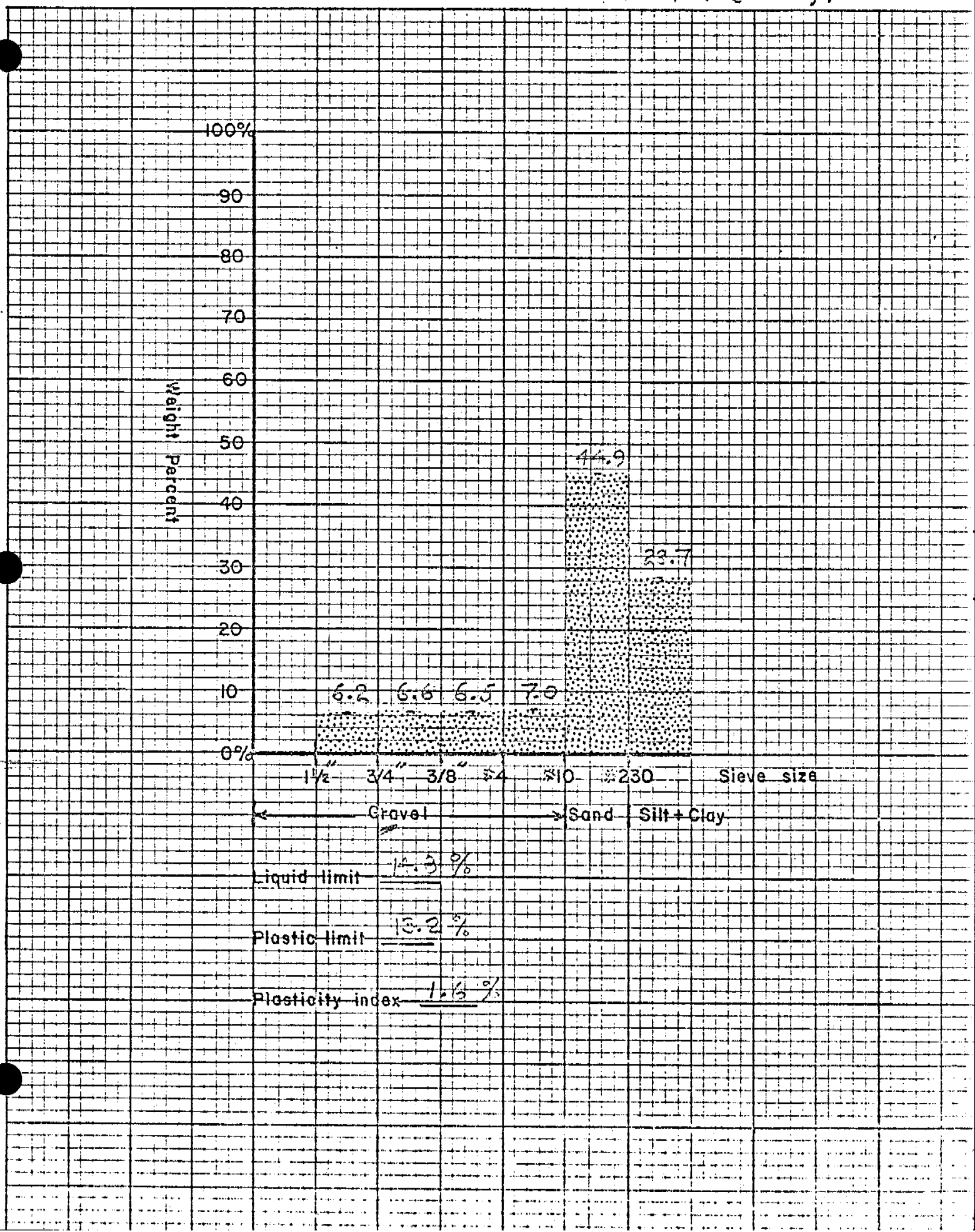
ANB 72-44a Till



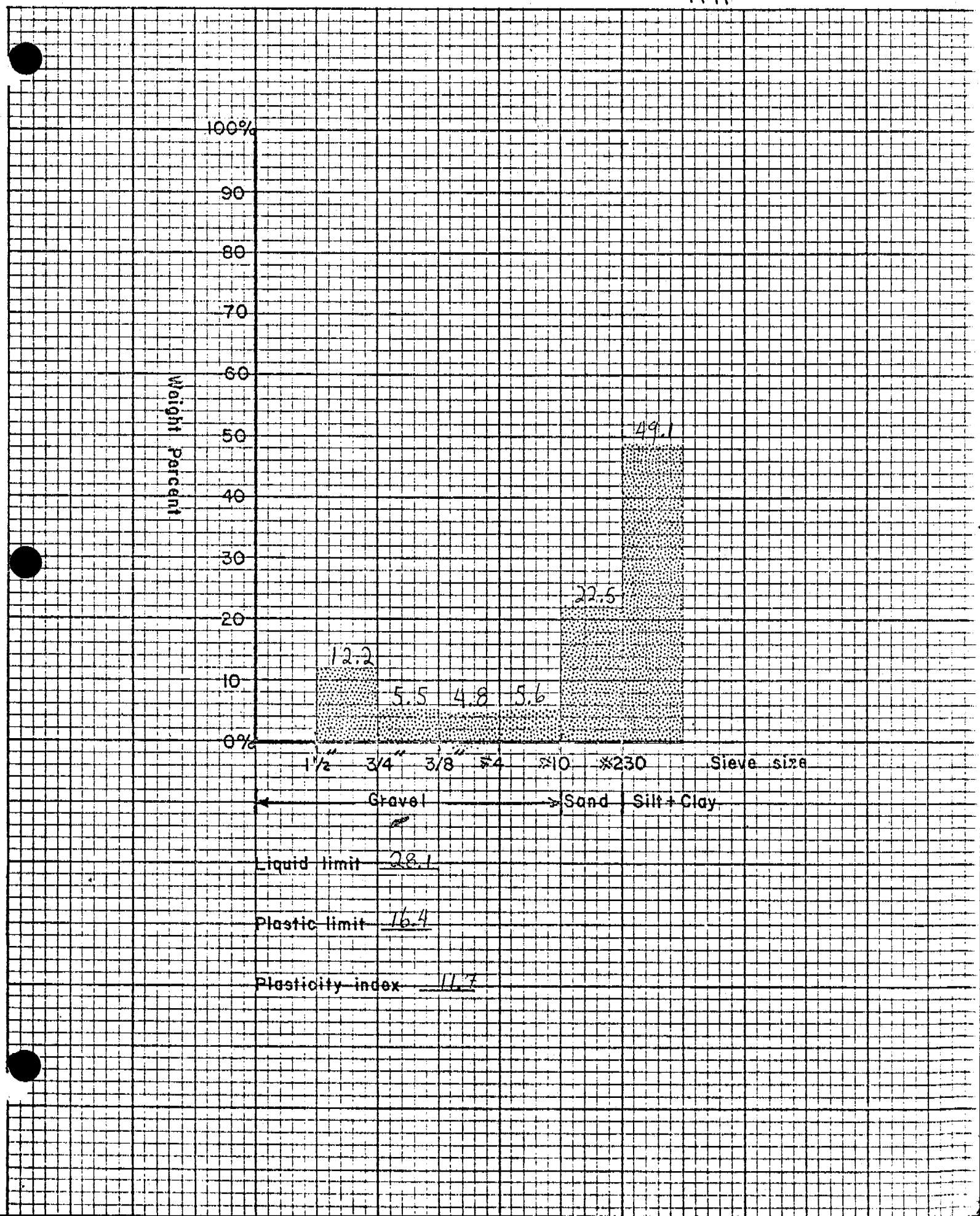
ANB 72-45 Till



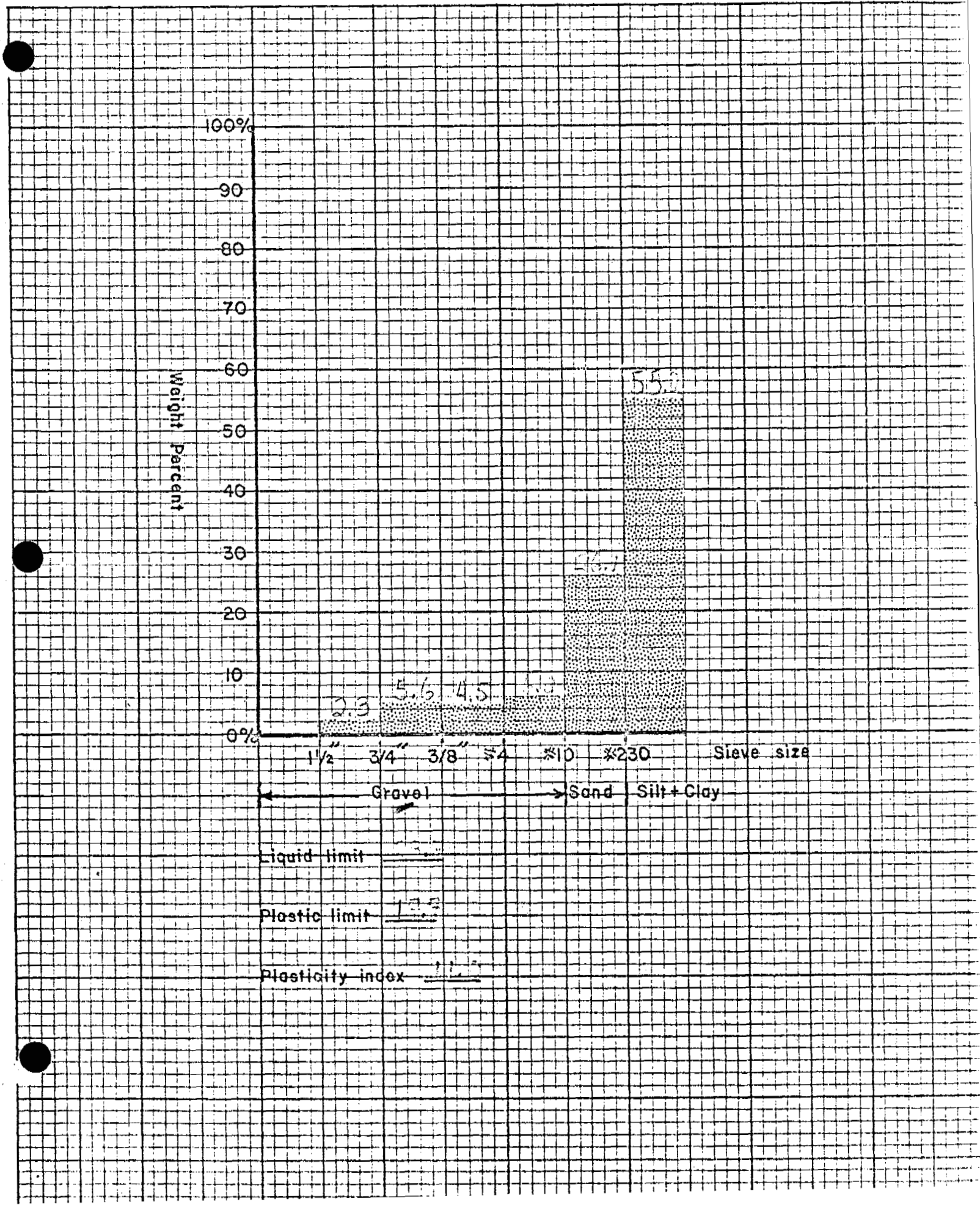
ANB 72-46 Till (sandy)



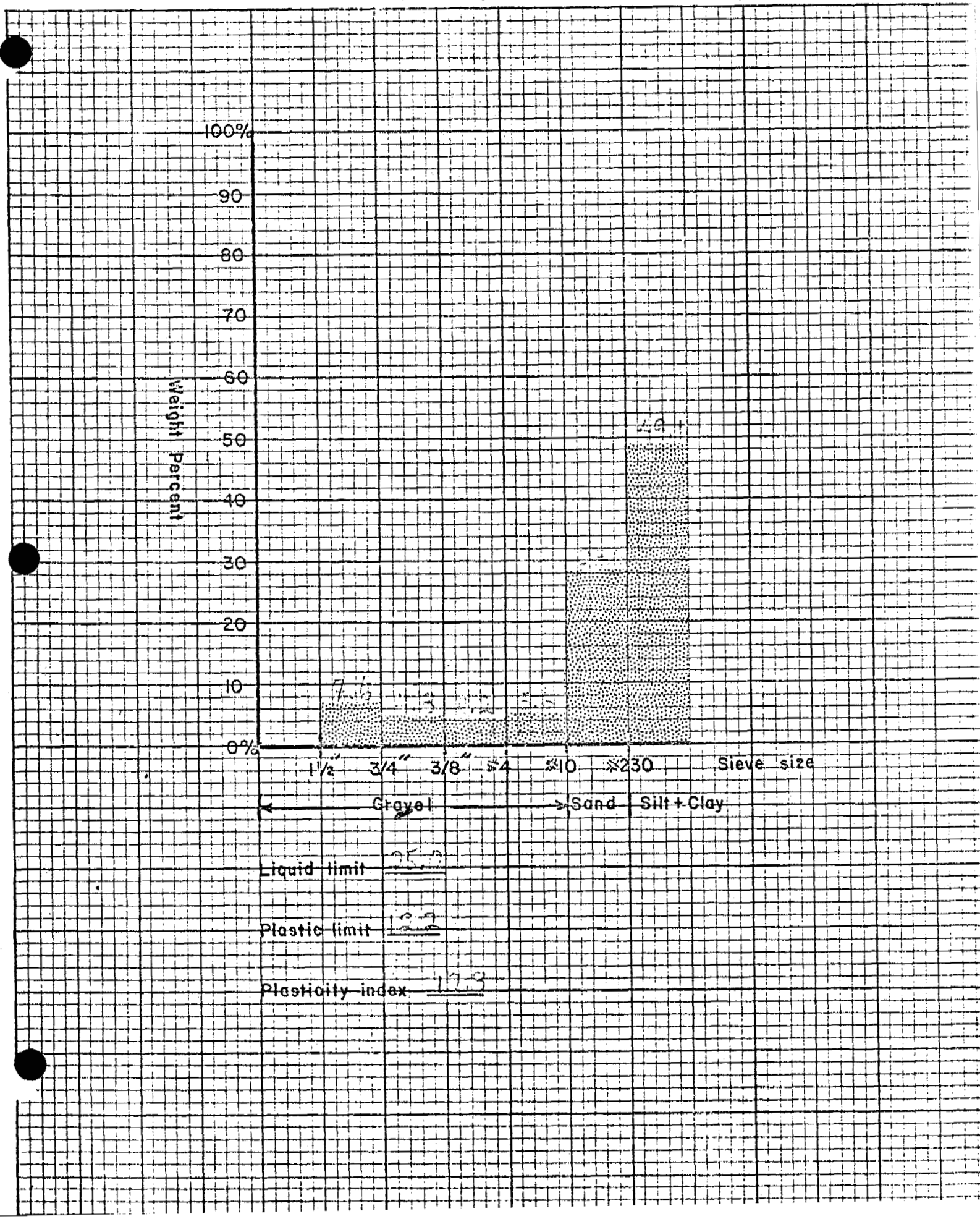
ANB 72-48 Till



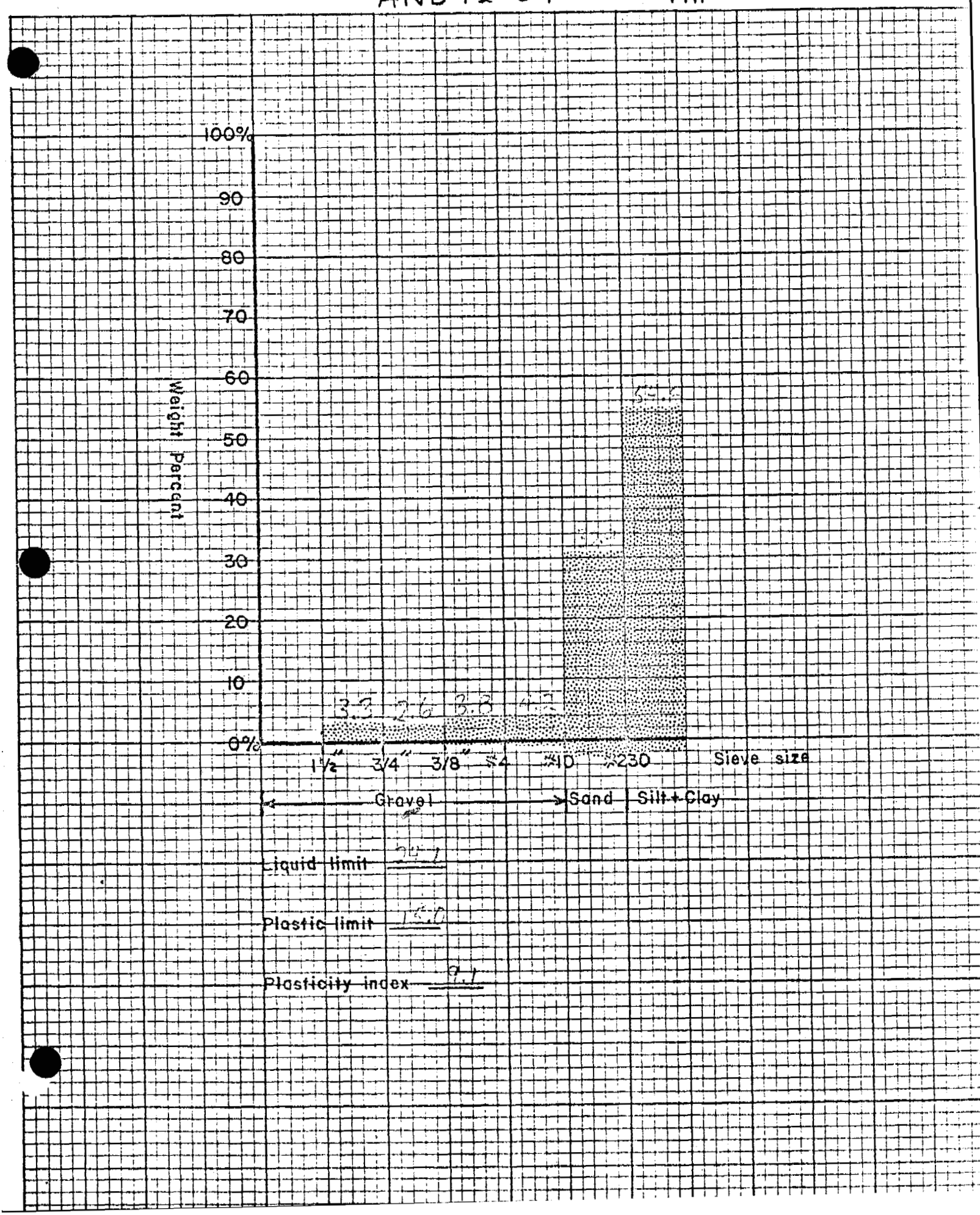
ANB 72-50 Till



ANB 72-54 Till



ANB 72-57 Till



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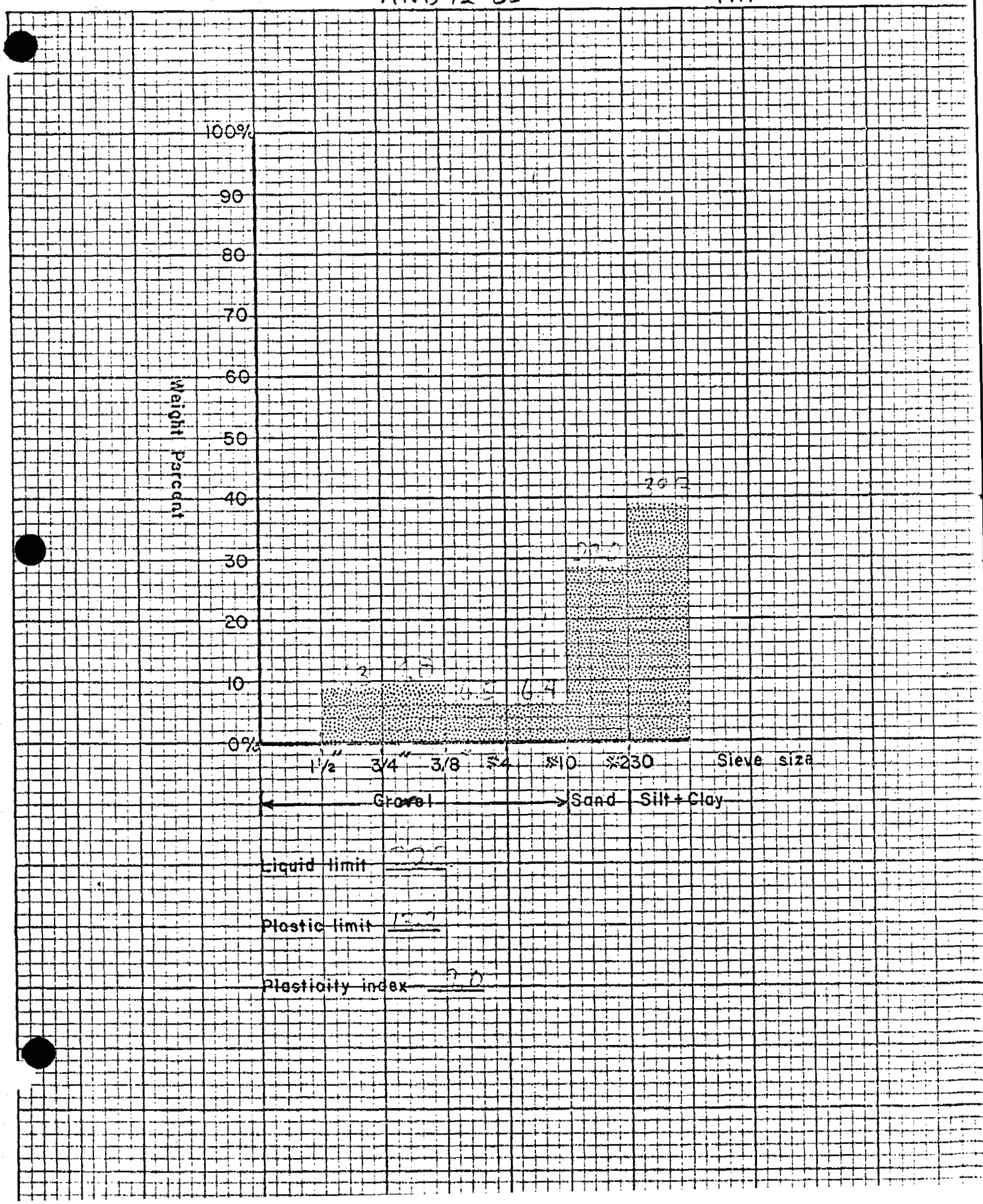
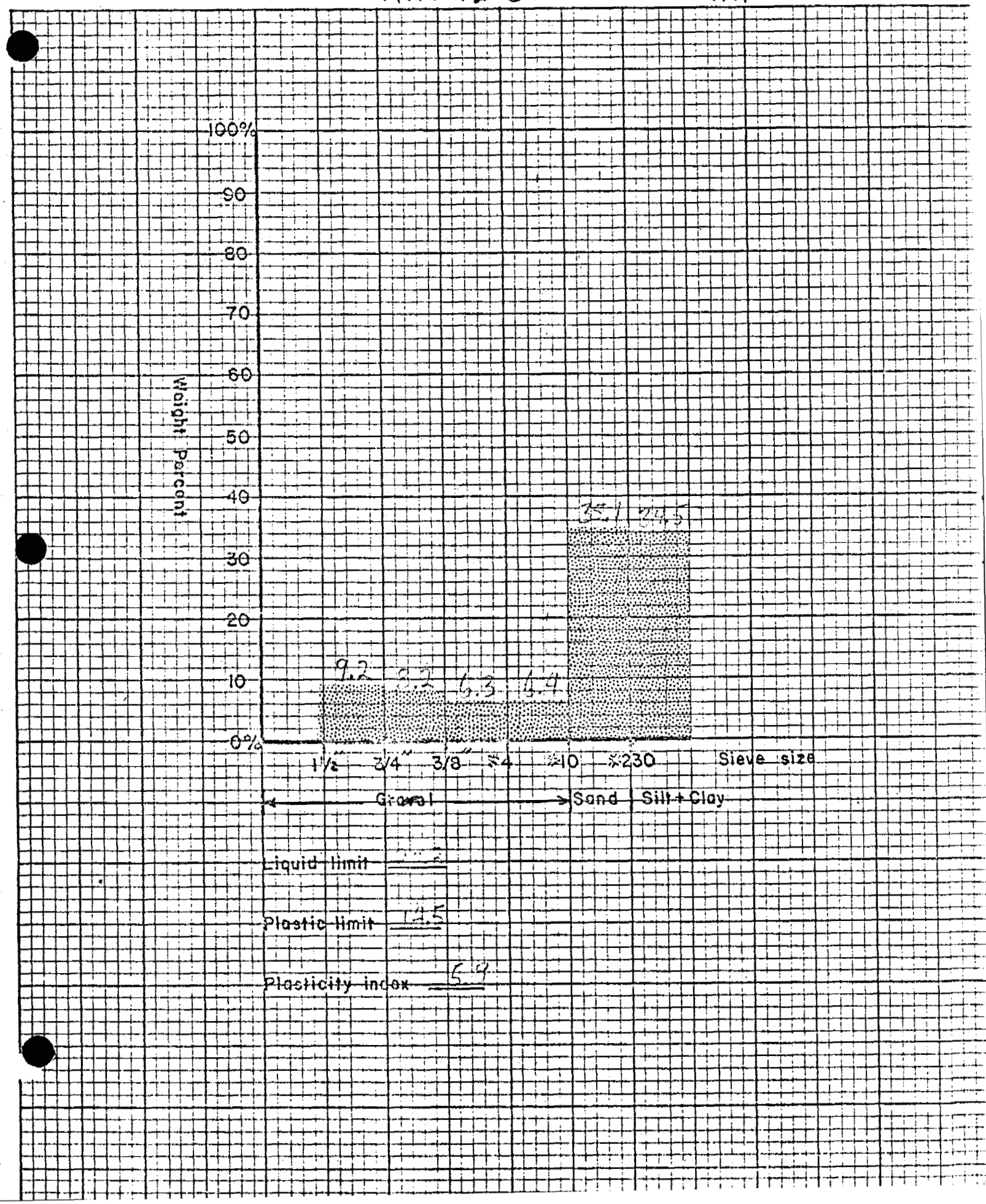
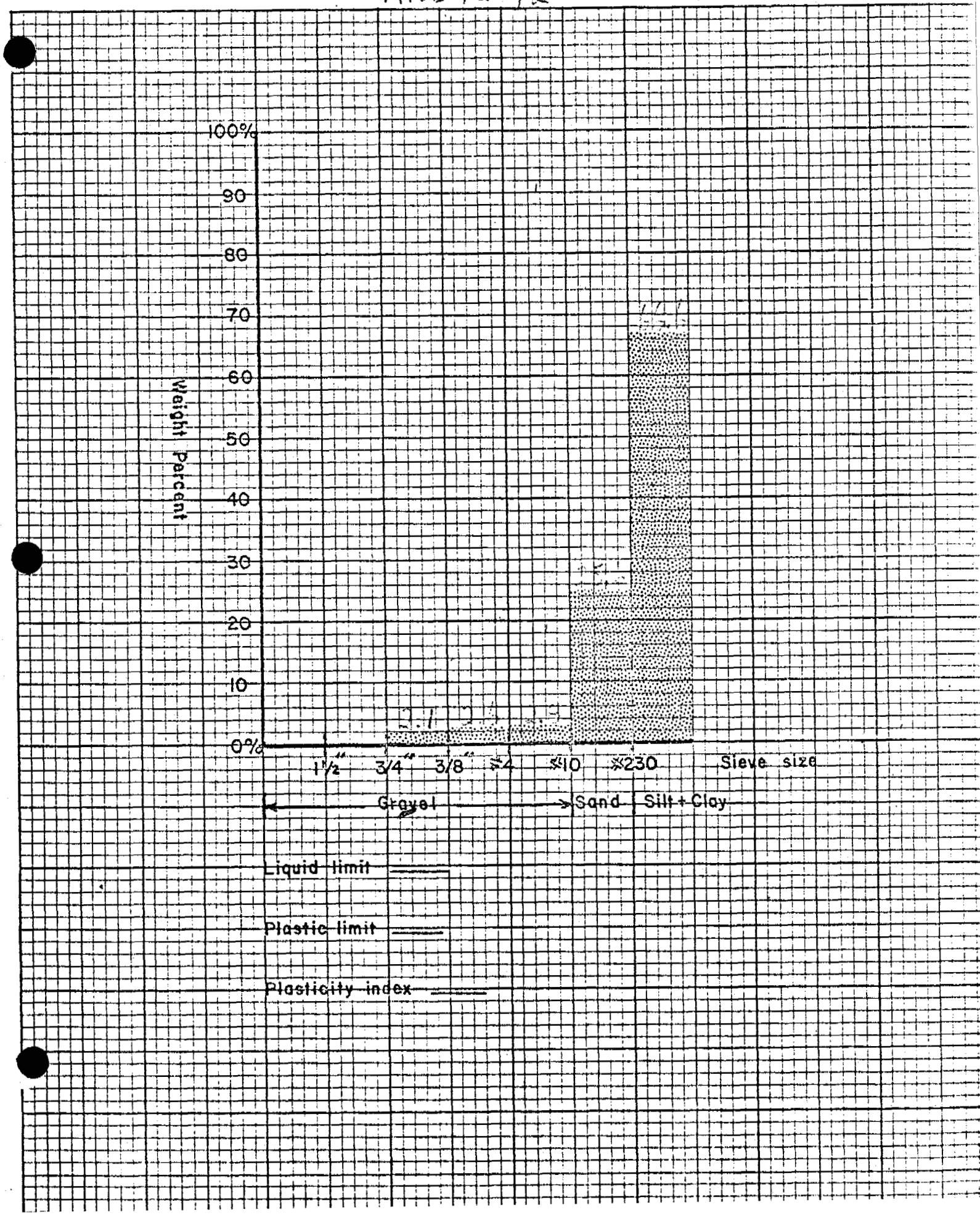


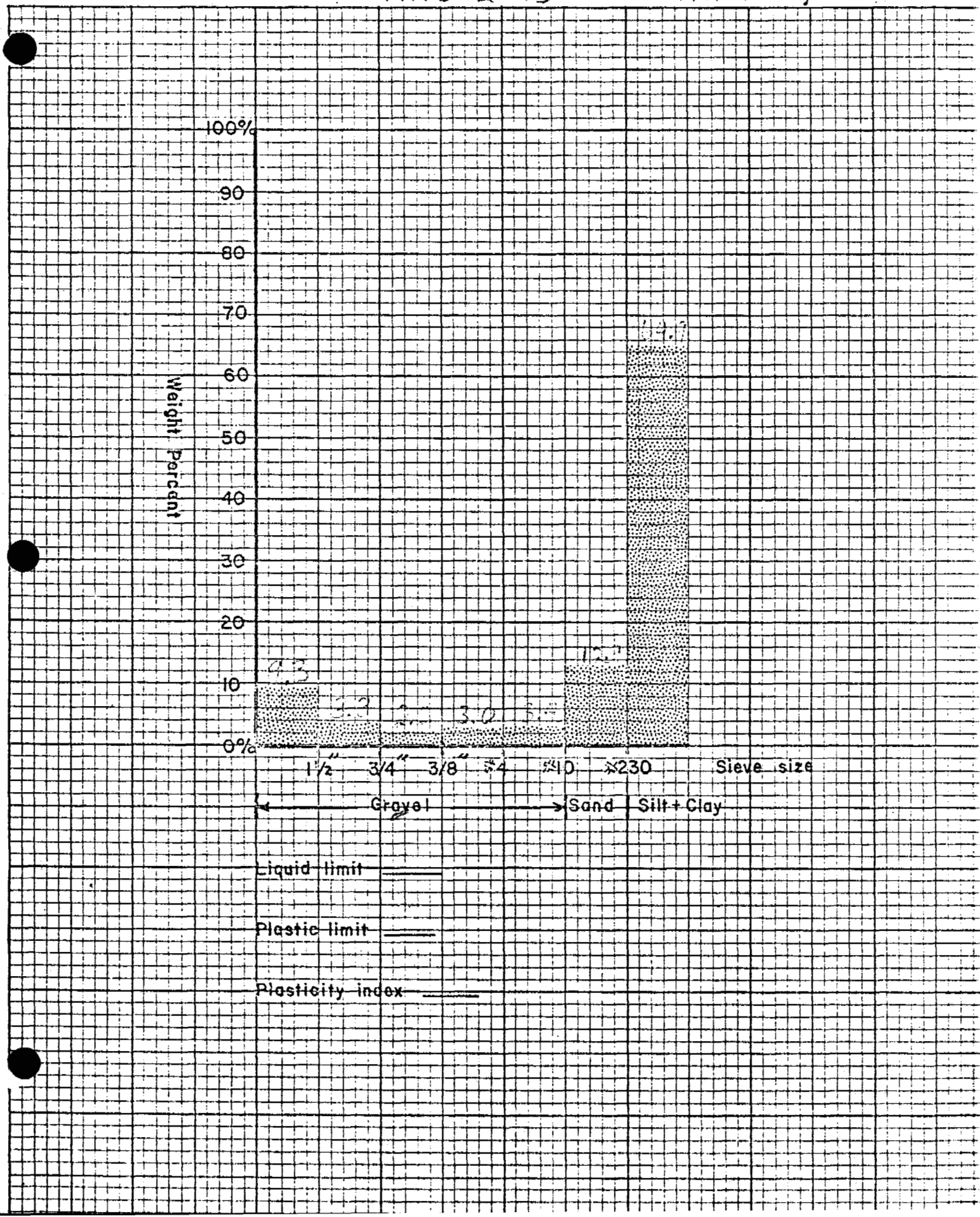
ANB 72-66 Till



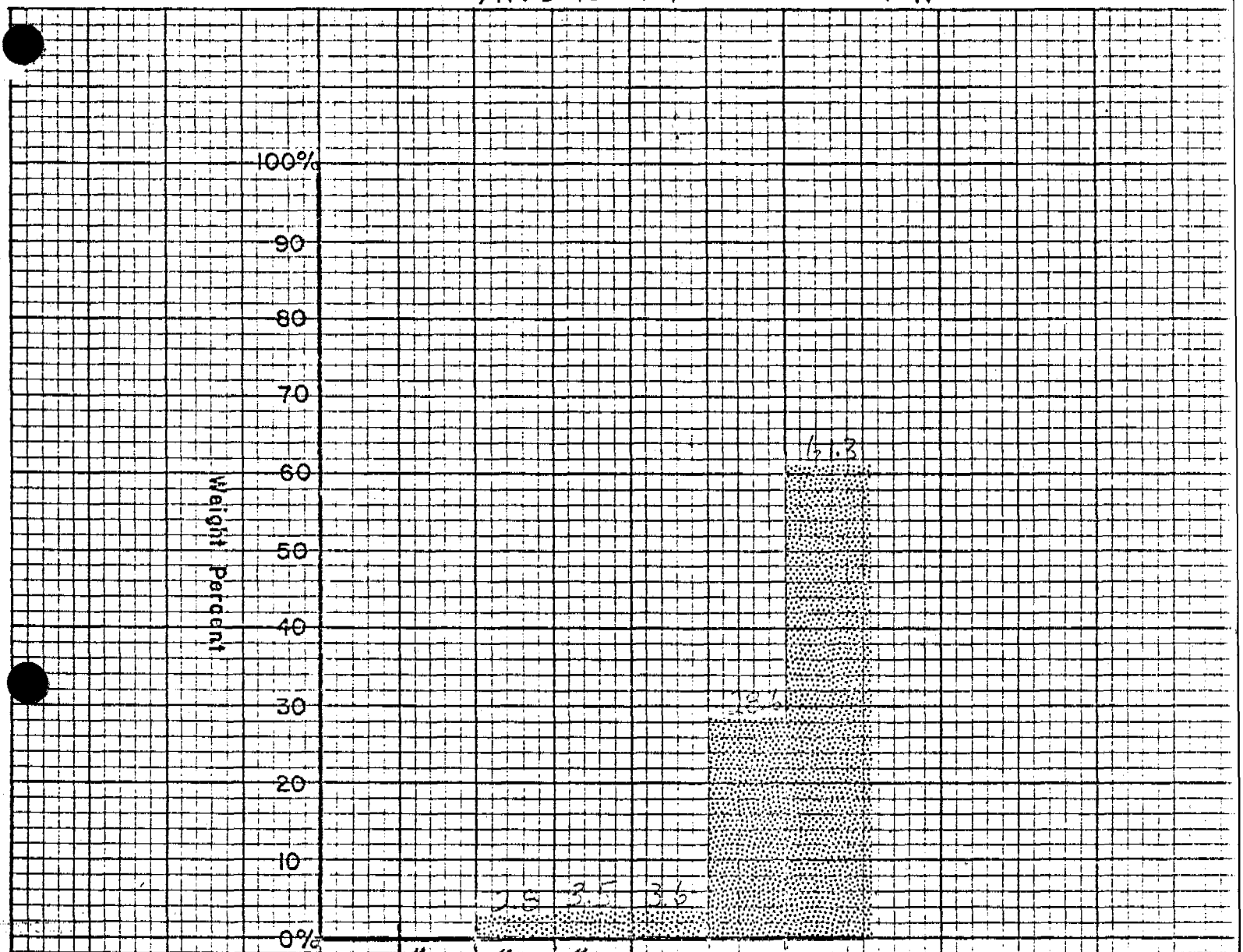
ANB 72-72 Till



ANB 72-73 Till (stony)



ANB 72-74 Till

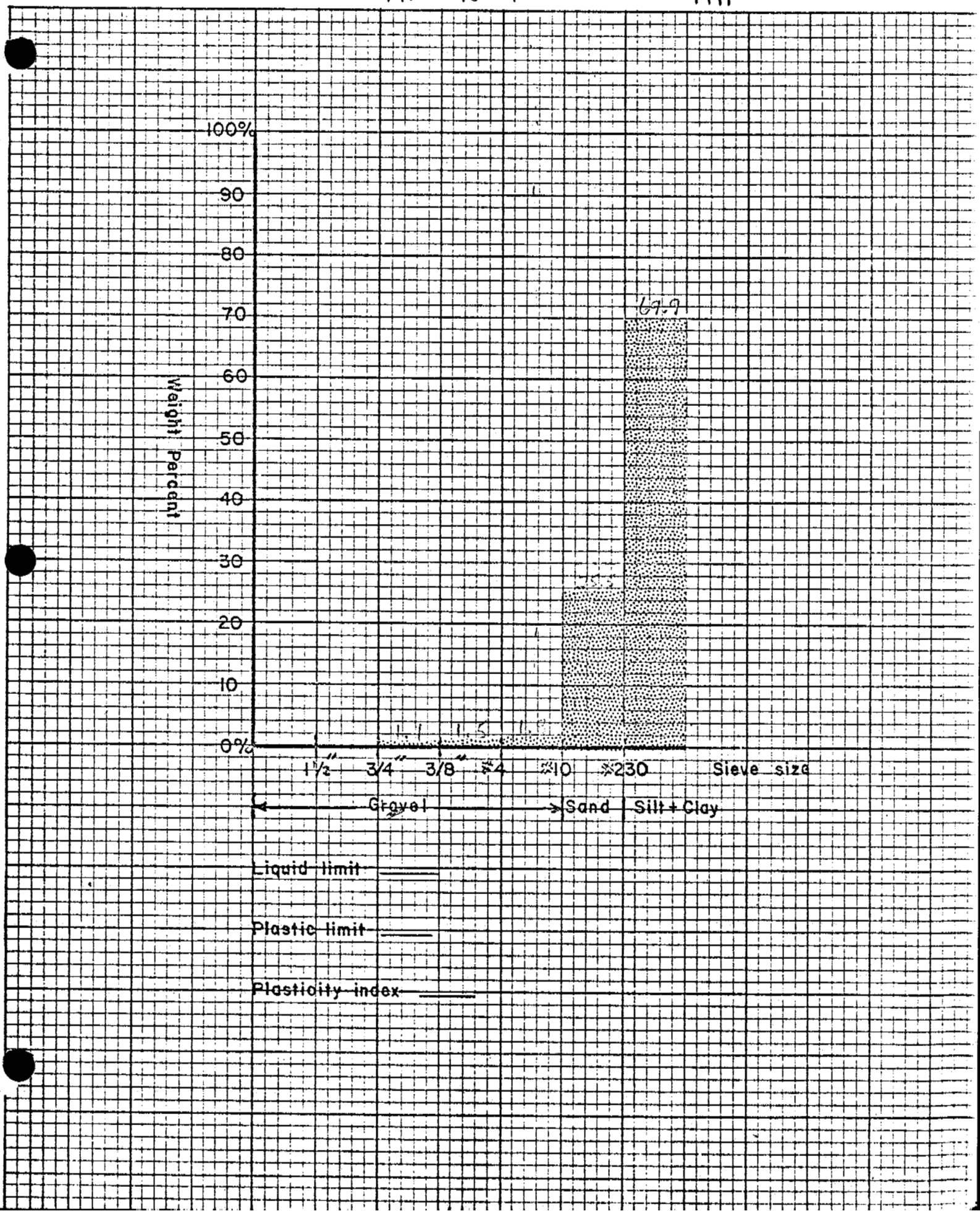


Liquid limit 23.1

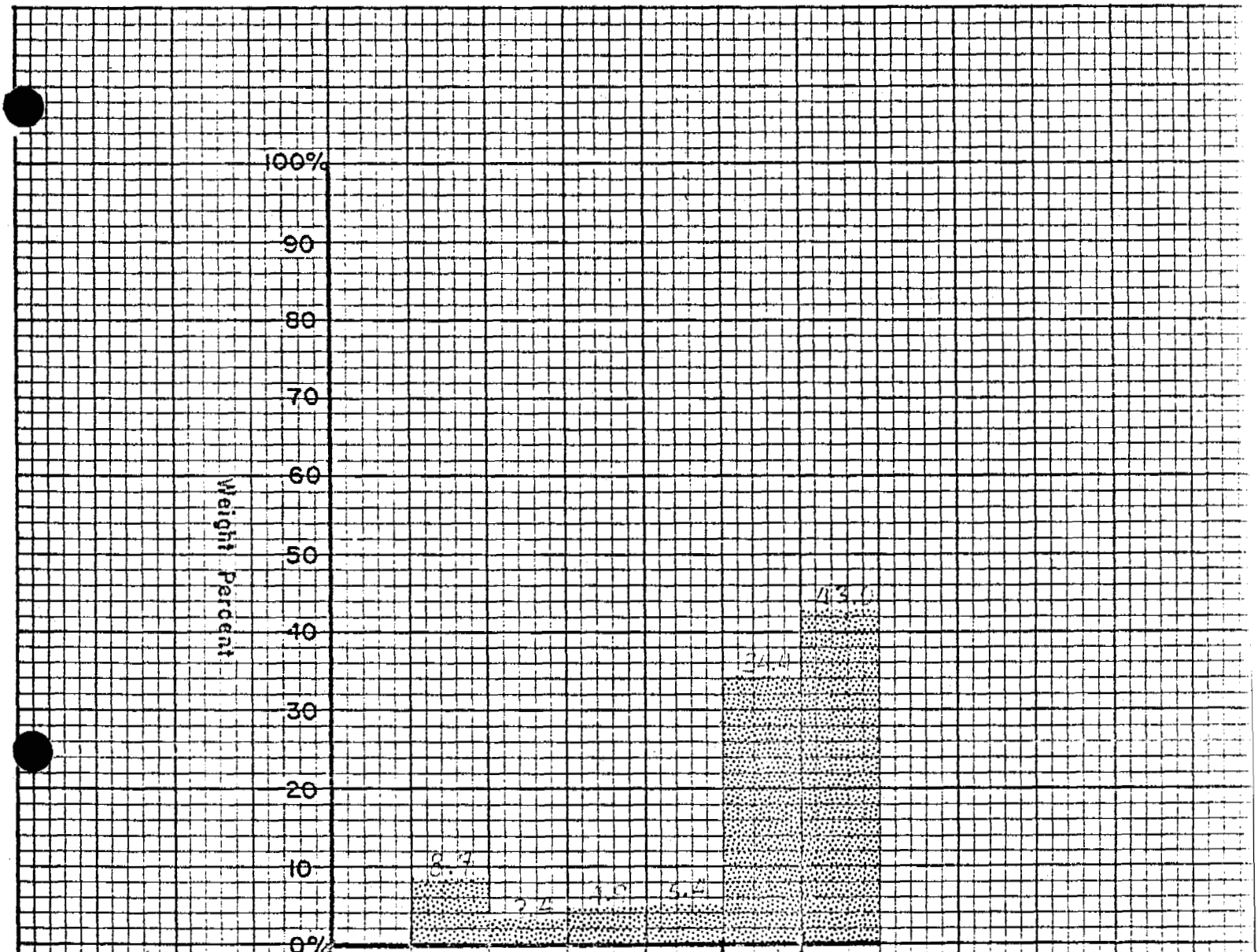
Plastic limit 13.3

Plasticity index 9.8

ANB 72-75 Till



ANB72-76 Till



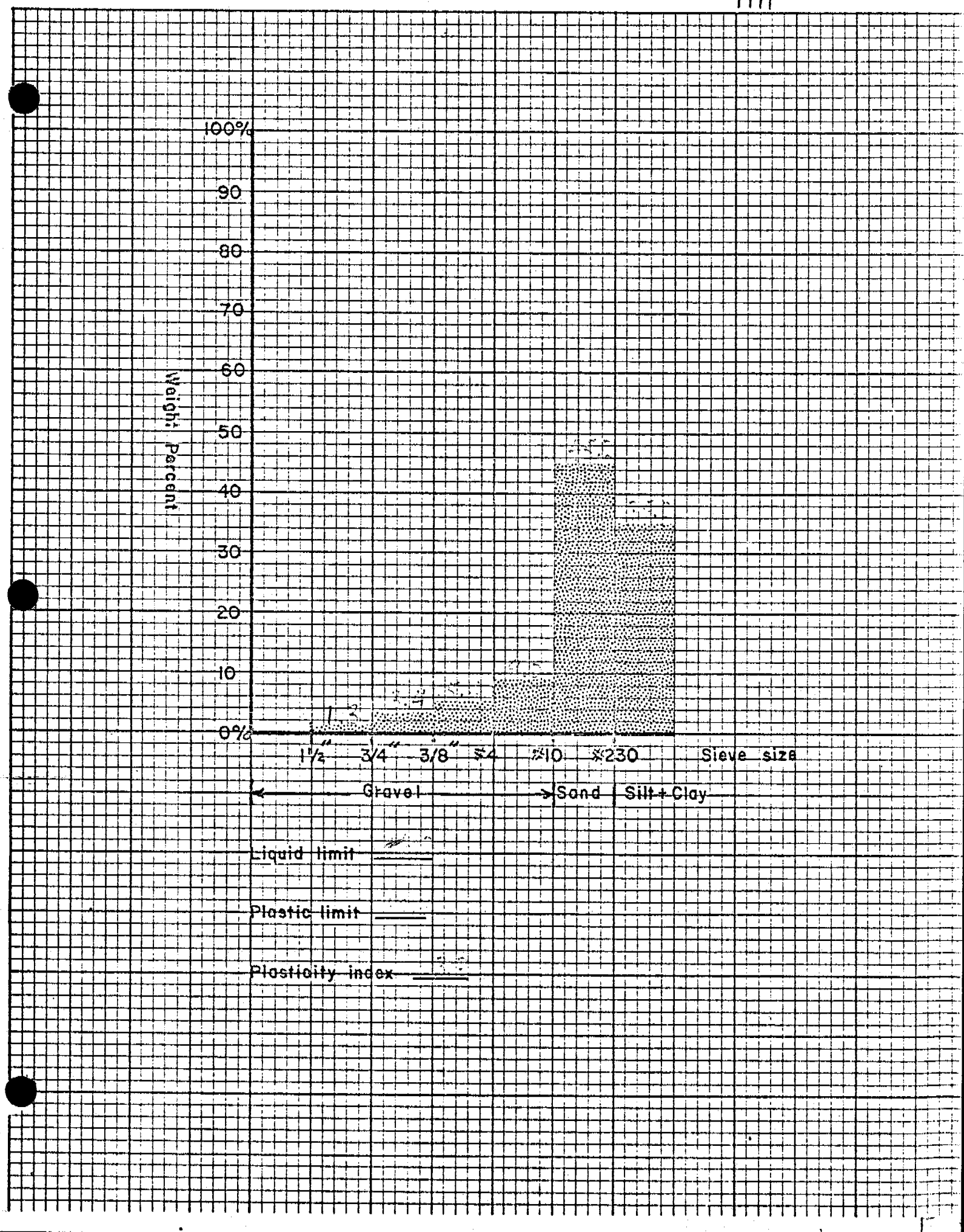
Liquid limit 32.1

Plastic limit 12.5

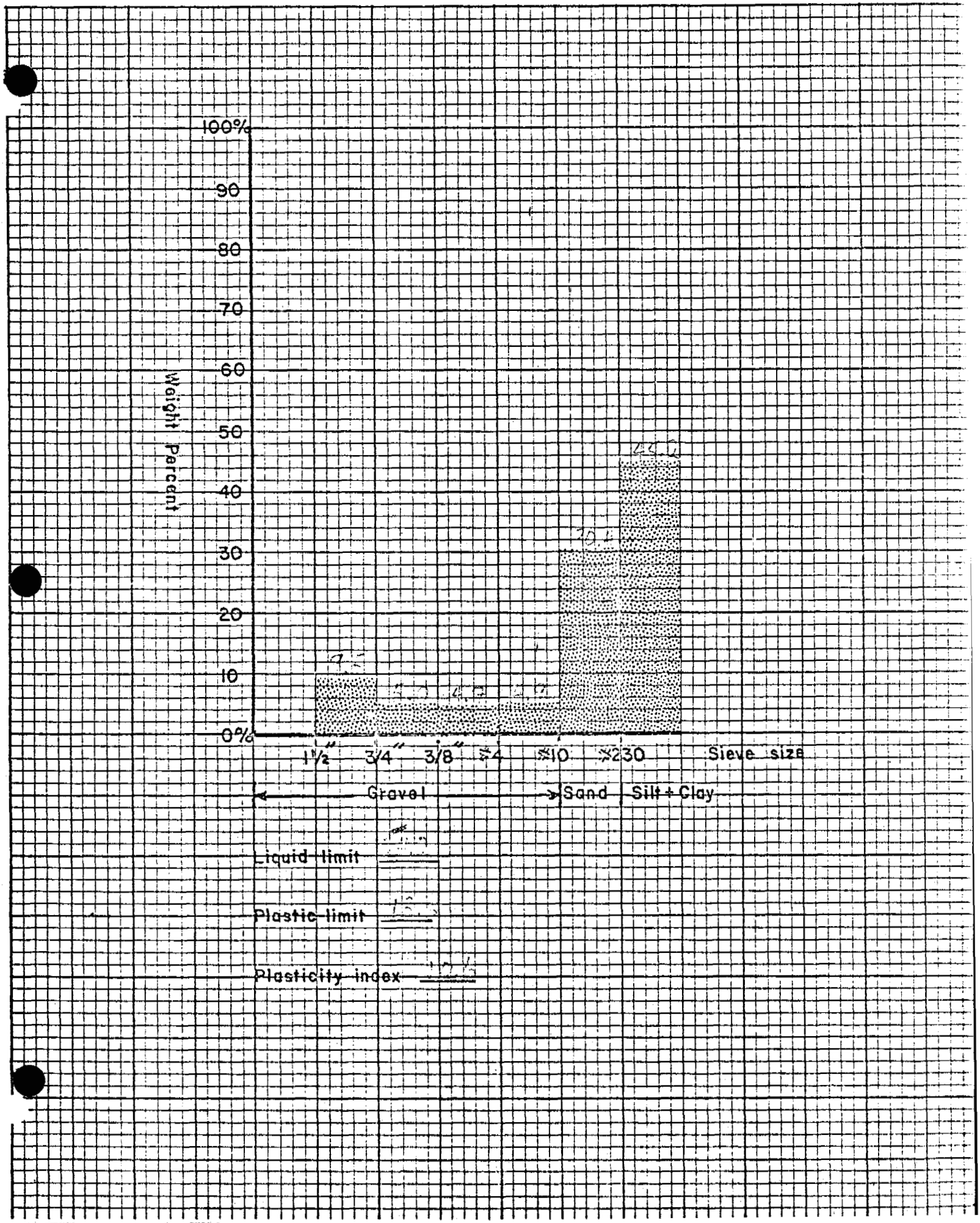
Plasticity index 9.6

ANB72-77

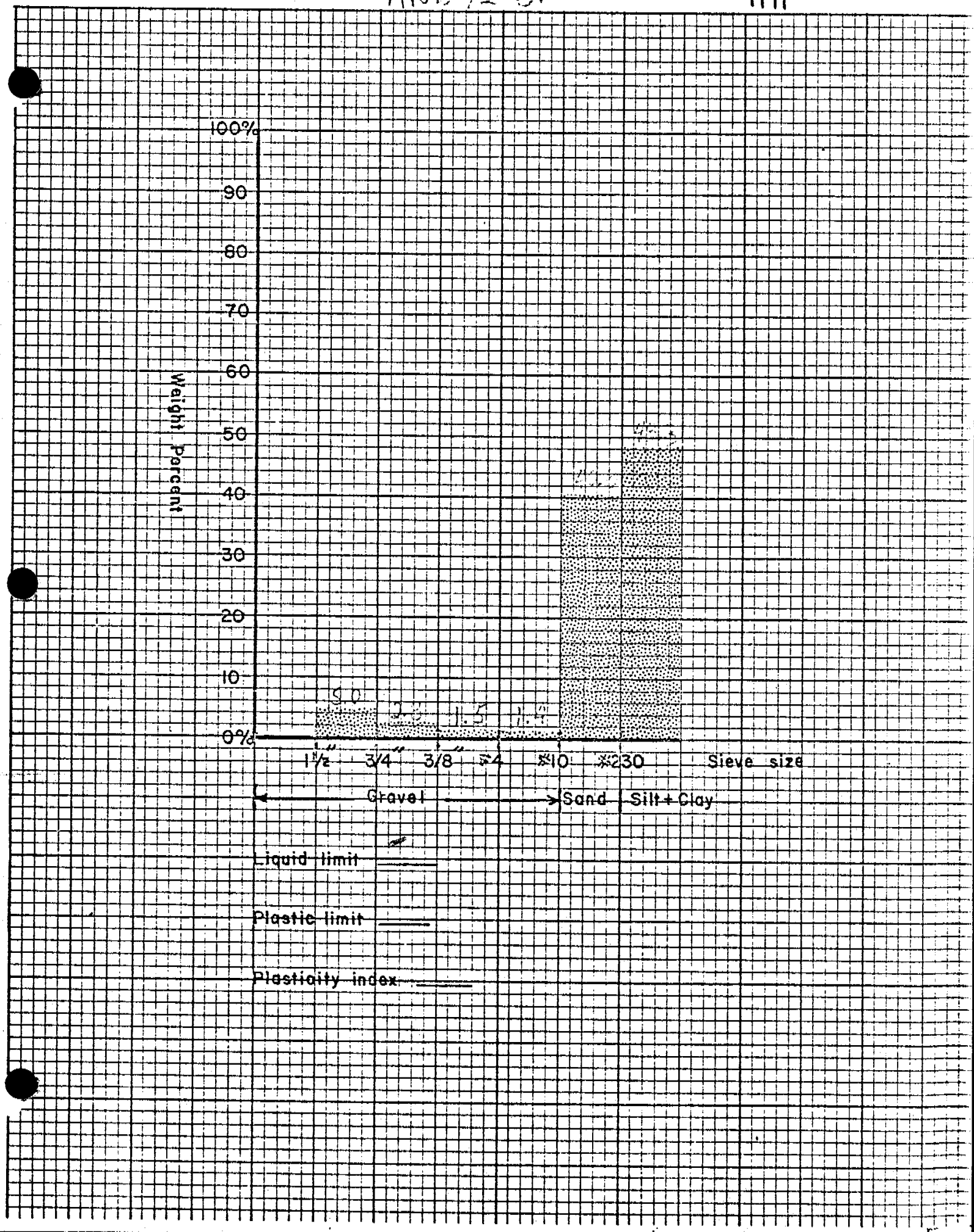
Till



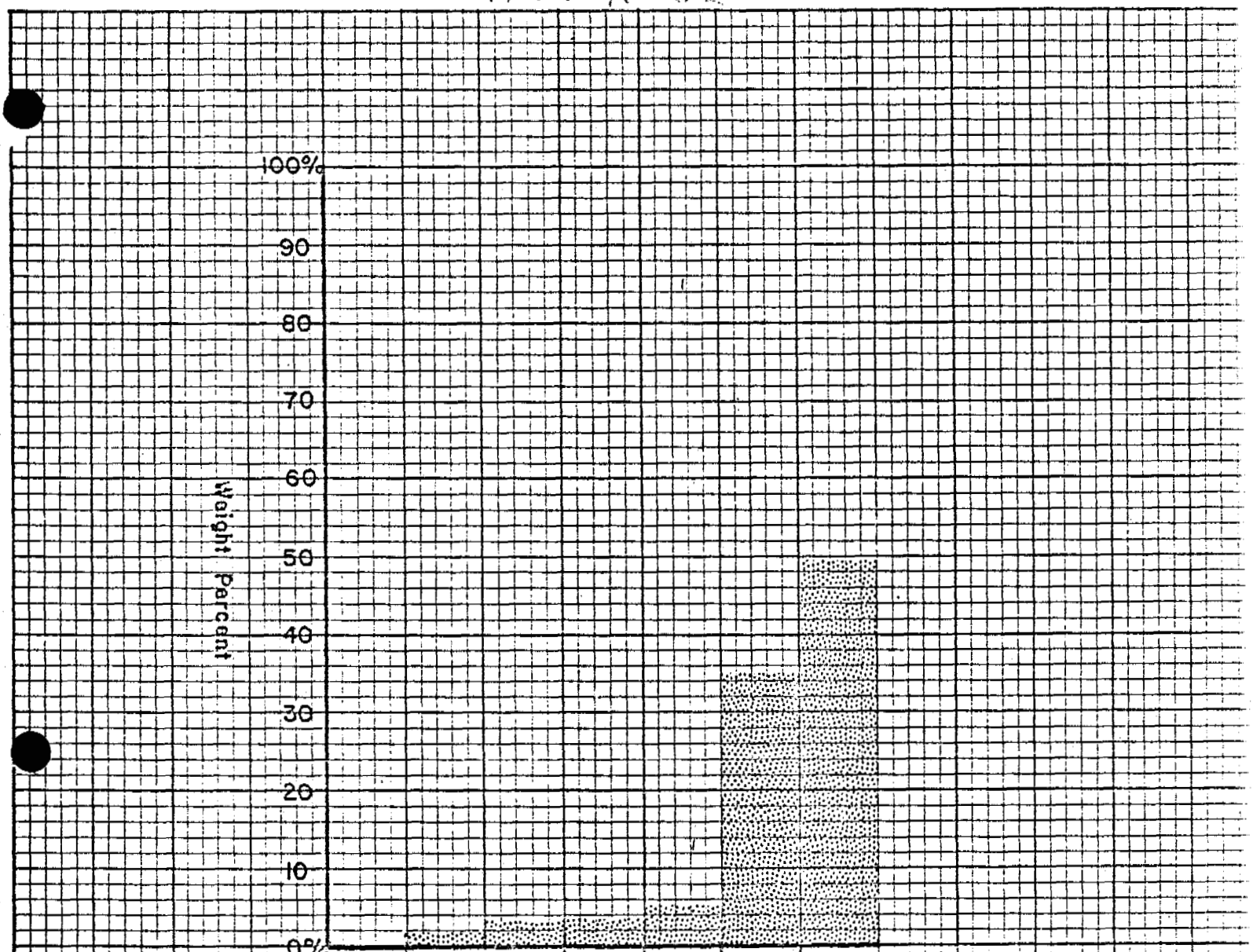
ANB72-79 Till



ANB 72-81 Till



ANB 72-92 Till (stony)

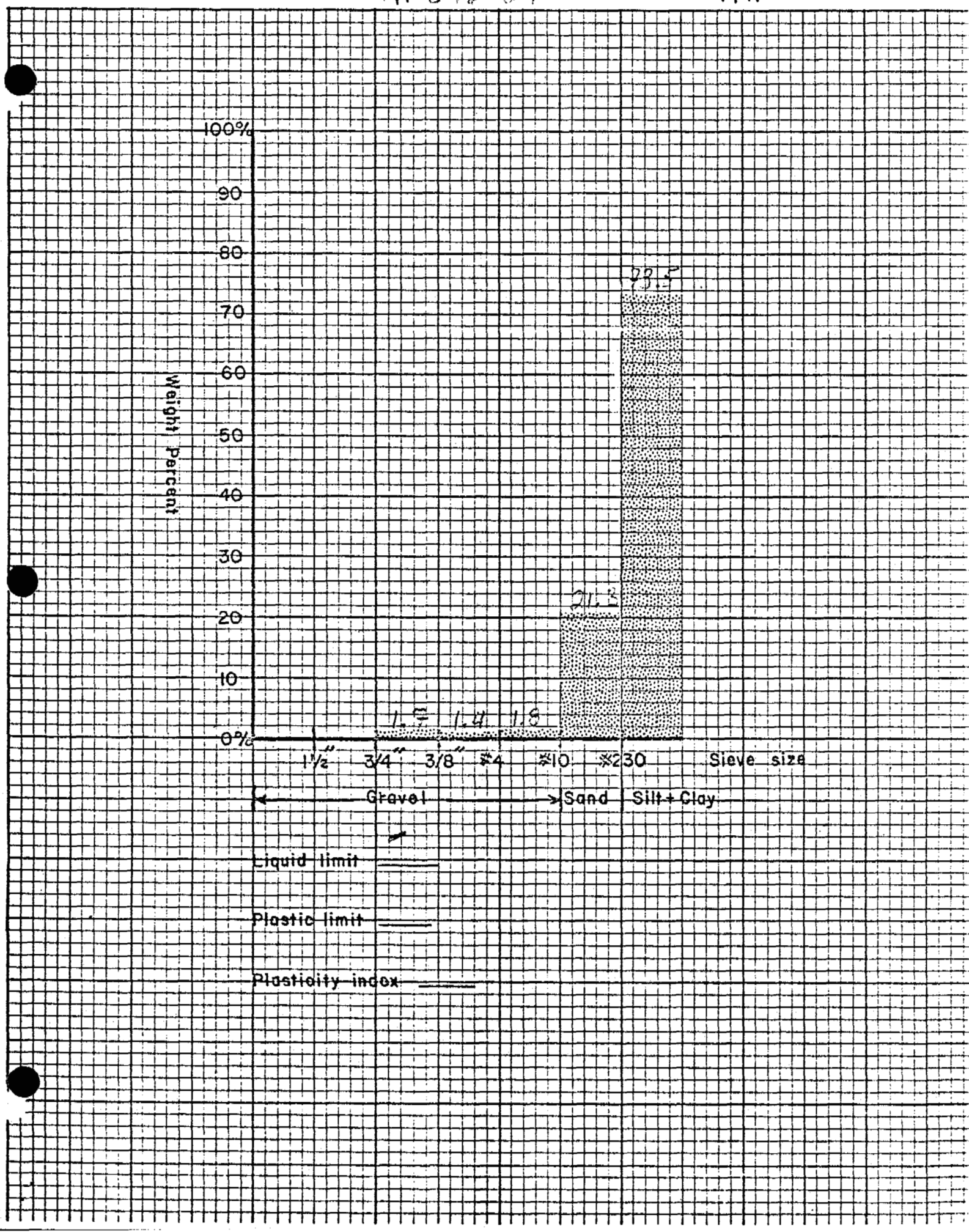


Liquid limit ——

Plastic limit ——

Plasticity index ——

AN877-84 Till



1971 SAMPLES -
N. W. RUTTER, G. V. MINNING, J. A. NETTERVILLE

Sampling

Till samples were collected during the summer of 1971 in connection with surficial geology mapping. They were analyzed in the laboratory the following winter. Sample locations are indicated on the 1:500,000 map with various letters, numbers, and a striped pattern (see Figures 1 and 2).

Laboratory Procedure

Grain size analysis was done by wet sieving and hydrometer. Sand silt and clay fractions were determined for each sample.

Results of Grain Size Analysis

Results of this grain size study are plotted on Figure 2, pages 109, 110.

Fig. 2

SAMPLE NO.	STOP NO.	MAP-AREA	% CLAY	% SILT	% CLAY & SILT	SAND
MCA-71-27	15	95 B	56.4	35.4	91.8	8.2
MCA-71-31	10	95 B	39.4	43.8	83.2	16.9
MCA-71-31	10	95 B	42.0	39.2	81.2	18.8
MCA-71-32	5	95 B	46.0	34.2	80.2	19.8
MCA-71-34	23a	95 B	22.2	38.6	60.8	39.2
MCA-71-35	4	95 B	46.0	43.6	89.6	10.4
MCA-71-36	860	95 B	30.0	62.6	92.6	7.4
MCA-71-37	880	95 B	36.2	42.8	79.0	21.0
MCA-71-52	842	95 B	27.2	63.2	90.4	9.6
MCA-71-54	833	95 B	47.0	29.6	76.6	23.4
MCA-71-57	838	95 B	62.0	27.8	89.8	10.2
MCA-71-57	838	95 B	62.2	29.8	92.0	8.0
MCA-71-60	841	95 B	30.2	35.6	65.8	34.2
RR-71-101	926D	95 B	16.8	51.0	67.8	32.2
MCA-71-55	844	95 C	38.2	31.6	69.8	30.2
MCA-71-1A	M76	95 H	40.2	30.6	70.8	29.2
MCA-71-3	M35	95 H	46.0	31.2	77.2	22.8
MCA-71-6	295	95 H	26.2	27.6	53.8	46.2
RR-71-10	N93	95 H	54.2	44.6	98.8	1.2
RR-71-11	N177	95 H	45.8	24.8	70.6	29.4
RR-71-12	N99	95 H	34.8	31.0	65.8	34.2
RR-71-14	N125	95 H	38.2	33.6	71.8	28.2
RR-71-15	N147	95 H	47.8	25.0	72.8	27.2
RR-71-1	131	95 J	29.8	28.0	57.8	42.2
RR-71-5	143	95 J	48.8	41.0	89.8	10.2
RR-71-6	143	95 J	36.8	30.8	67.6	32.4

Fig. 2

Sample no.	Field Stop no.	Map Sheet	Clay	Silt	Clay & Silt	Sand
MCA-71-39	513	85 E	36.8	34.8	71.6	28.4
MCA-71-40	417	85 E	46.8	30.4	77.2	22.8
MCA-71-42	453	85 E	45.2	35.6	80.8	19.2
MCA-71-50	N4	85 E	37.0	34.6	71.6	28.4
MCA-71-51	N53	85 E	43.0	34.6	77.6	22.4
MCA-71-56	443	85 E	75.4	24.2	99.6	0.4
MCA-71-58	495	85 E	58.2	32.4	90.6	9.4
MCA-71-59	N33	85 E	36.8	36.8	73.6	26.4
MCA-71-61	486	85 E	19.0	27.8	46.8	53.2
MCA-71-62	476	85 E	52.0	42.6	94.6	5.4
MCA-71-63	D5	85 E	41.2	32.0	73.2	26.8
RR-71-102	768	95 A	35.0	28.4	63.4	36.6
RR-71-103	704	95 A	44.2	23.4	67.6	32.4
RR-71-104	628	95 A	35.2	28.4	63.6	36.4
RR-71-107	623	95 A	33.8	29.0	62.8	37.2
RR-71-108	623	95 A	34.8	29.0	63.8	36.2
RR-71-109	815	95 A	41.8	26.0	67.8	32.2
RR-71-110	687	95 A	26.2	24.6	50.8	49.2
RR-71-115	794	95 A	47.8	24.0	71.8	28.2
RR-71-116	683	95 A	38.2	29.6	67.8	32.2
RR-71-118	709	95 A	32.2	22.6	54.8	45.2
MCA-71-20	885	95 B	28.8	56.0	84.8	15.2
MCA-71-23	874	95 B	30.0	51.8	81.8	18.2
MCA-71-24	887	95 B	19.0	22.6	41.6	58.4
MCA-71-24	887	95 B	21.8	72.8	94.6	5.4
MCA-71-25	7	95 B	81.0	15.6	96.6	3.4
MCA-71-26	3	95 B	36.0	62.8	98.8	1.2

OBSERVATIONS OF GRAIN SIZE DATA

A few trends are noted when comparing grain size data from various deposits. Most of the glaciofluvial gravels show a distribution similar to that of the sample from an active gravel pit at Mile 265. Mixed sand and gravel of glaciofluvial origin show a wider range of grain sizes and some deposits, especially eskers and ridges, commonly contain considerable amounts of silt and clay, e.g. 14.8% and 9.6% in GM-105 and GM-104 respectively.

Glaciolacustrine beach deposits are well-sorted - note the profile for GM-111, page 31. Many beach ridges in the Mills Lake area (85E) are of this type. Beach deposits contain little silt or clay - note histogram for sample GM-123, page 28, which is from an active gravel pit in a beach ridge deposit.

Glaciolacustrine silts are well-sorted. They consist of silt and fine sand with no coarse material.

Morainal deposits of till show various patterns in grain size distribution. Most have a wide range of grain sizes from pebbles and cobbles to fine clay particles. Till in morainal ridges and drumlins is usually drier and contains fewer fines and more gravel and sand. These gravelly tills could be used for fill material.

Reference

Folk, R.L., 1968, Petrology of Sedimentary Rocks, Austin, Texas.