

August 8, 1985



LAW ENGINEERING TESTING COMPANY

geotechnical, environmental & construction materials consultants

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P.O. BOX 13260 • ATLANTA, GEORGIA 30324
(404) 873-4761

Southern Company Services, Inc.
P. O. Box 2625
Birmingham, Alabama 35202

Attention: Mr. J. A. Bailey

Subject: Report of Laboratory Grain Size Testing
Standard Penetration Soil Test Borings
For Category I Backfill
Vogtle Electrical Generating Plant
LETCo Job Number 7429

Gentlemen:

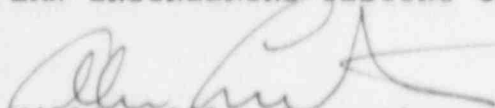
Law Engineering is pleased to submit the results of Laboratory Grain Size Testing for selected samples from the soil test borings performed in Category I Backfill at Plant Alvin W. Vogtle. This laboratory testing was requested by Mr. Zia Yazdani of Bechtel Power Corporation on July 24, 1985.

The Grain Size distribution of the assigned samples was determined in the laboratory by first washing each sample over a #200 sieve (75 μ m), then determining the size distribution of the portion of the sample coarser than the No. 200 sieve by dry sieving. The testing procedures conform to ASTM D-1140-54(1971) and D-422-63 (1972). The results of the Grain Size Testing is presented on the attached Table 1 and on the individual Grain Size Distribution Sheets.

We have enjoyed assisting Georgia Power in this work, and look forward to providing our services as the project continues. If you have any questions, do not hesitate to contact us.

Very truly yours,

LAW ENGINEERING TESTING COMPANY


William Allen Lancaster
Civil Engineer

/es

cc: Bechtel Power Corporation
Zia Yazdani

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TABLE I
PLANT ALVIN VOGTLE
JOB NO 7429
GRAIN SIZE TESTS

<u>BORING NO</u>	<u>SAMPLE NO</u>	<u>DEPTH (FT)</u>	<u>PERCENT GRAVEL RETAINED ON NO 4 SIEVE</u>	<u>PERCENT SAND PERCENT PASSING NO 4 AND RETAINED ON NO 200 SIEVE</u>	<u>PERCENT FINES PASSING NO 200 SIEVE</u>
SPT-101	S-5	11.5-13.0	0	90.4	9.6
SPT-101	S-6	14.0-15.5	0	87.7	12.3
SPT-102	S-3	6.5- 8.0	0	91.8	8.2
SPT-102	S-4	9.0-10.5	0	90.2	9.8
SPT-103	S-3	6.5- 8.0	0	90.1	9.9
SPT-104	S-3	6.5- 8.0	0	90.6	9.4
SPT-104	S-4	9.0-10.5	0	88.2	11.8
SPT-105	S-2	4.0- 5.5	0	91.8	8.2
SPT-105	S-3	6.5- 8.0	0	93.7	6.3
SPT-106	S-4	9.0-10.5	0	90.6	9.4
SPT-106	S-5	11.5-13.0	0	87.9	12.1
SPT-107	S-5	11.5-13.0	0	94.1	5.9
SPT-107	S-6	14.0-15.5	0	91.2	8.8
SPT-107	S-7	16.5-18.0	0	87.8	12.2
SPT-108	S-4	9.0-10.5	0	85.0	15.0
SPT-108	S-5	11.5-13.0	0	87.8	12.2
SPT-108	S-6	14.0-15.5	0	90.0	10.0
SPT-109	S-2	4.0- 5.5	0	92.4	7.6
SPT-109	S-3	6.5- 8.0	0	93.4	6.6
SPT-109	S-4	9.0-10.5	0	91.7	8.3
SPT-109	S-5	11.5-13.0	0	90.8	9.2
SPT-109	S-6	14.0-15.5	0	89.5	10.5
SPT-110	S-2	4.0- 5.5	0	90.7	9.3
SPT-110	S-3	6.5- 8.0	0	90.9	9.1
SPT-110	S-5	11.5-13.0	0	90.8	9.2
SPT-110	S-6	14.0-15.5	0	89.8	10.2

The graph illustrates the grain size distribution of a soil sample. The vertical axis represents the percentage of soil finer than a given grain size, ranging from 0 to 100. The horizontal axis represents the grain size in millimeters on a logarithmic scale, ranging from 100 mm to 0.001 mm. The curve shows that approximately 100% of the soil is finer than 100 mm, and about 10% of the soil is finer than 0.075 mm. A dashed vertical line is drawn at 0.075 mm, indicating the No. 20 sieve size.

Grain Size (mm)	Percent Finer (%)
100	100
2	100
0.85	100
0.425	100
0.25	100
0.15	100
0.106	100
0.075	10
0.06	10
0.05	10
0.04	10
0.03	10
0.025	10
0.02	10
0.015	10
0.0125	10
0.01	10
0.0075	10
0.006	10
0.005	10
0.004	10
0.003	10
0.0025	10
0.002	10
0.0015	10
0.00125	10
0.001	10



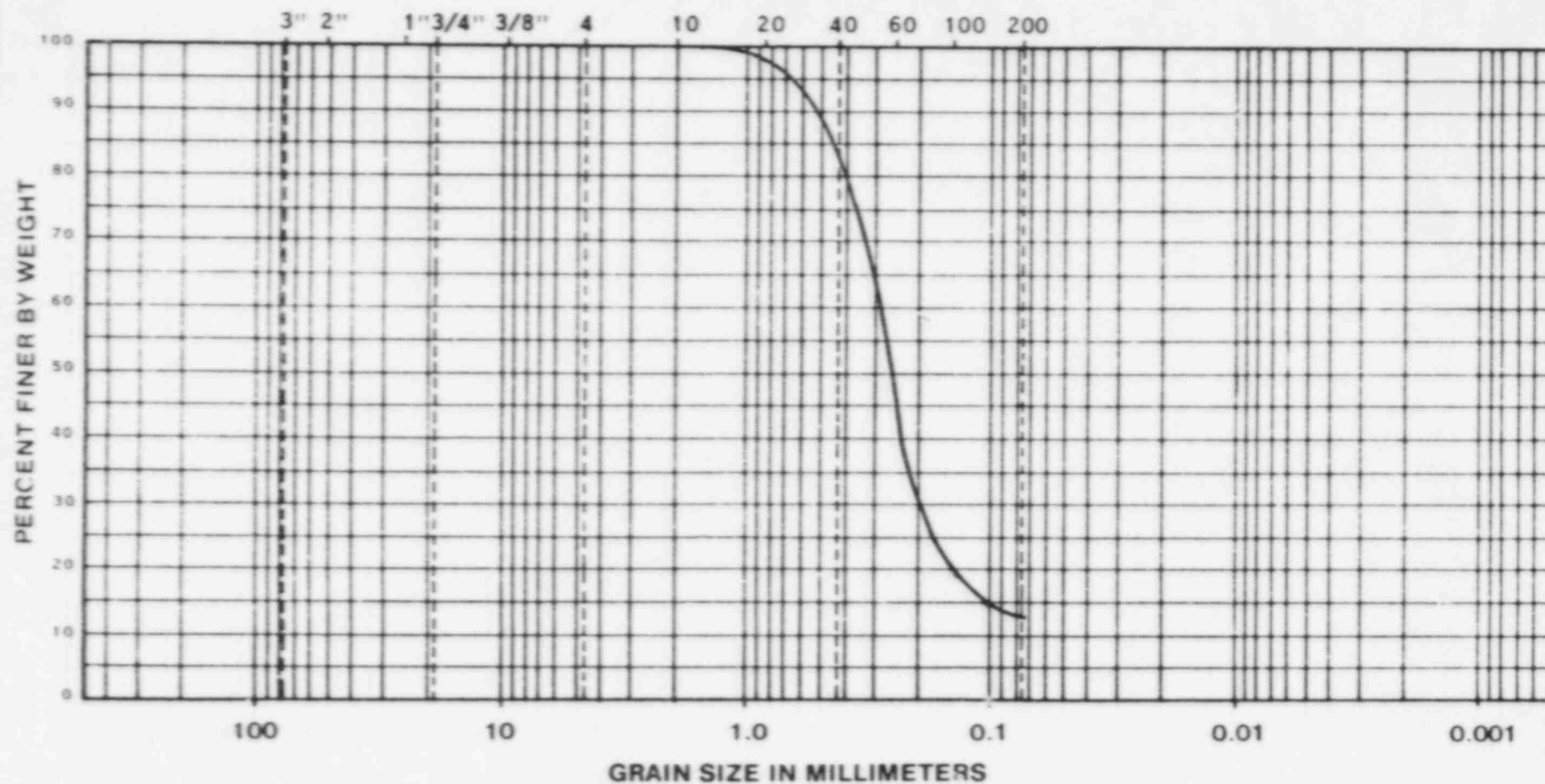
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Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 101	S5 11.5 - 13.0					
JOB NO.						
7429						

BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



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Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 101	S6 14.0 - 15.5					
JOB NO. 7429						



Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 102	S3 6.5 - 8.0					
JOB NO.						
7429						

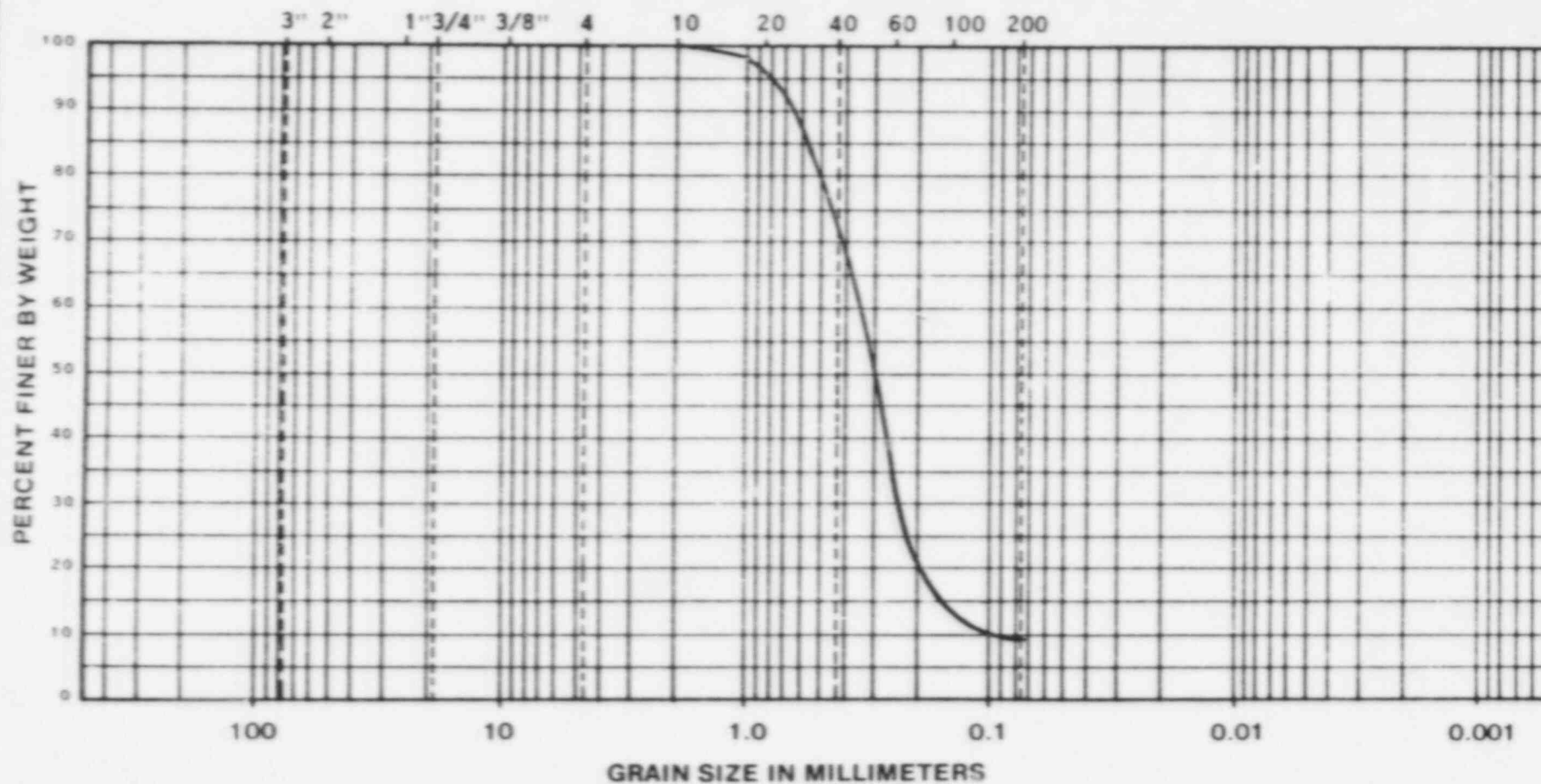


Grain Size Distribution

[illegible]

BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

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Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 103	S3					
JOB NO.	6.5 - 8.0					

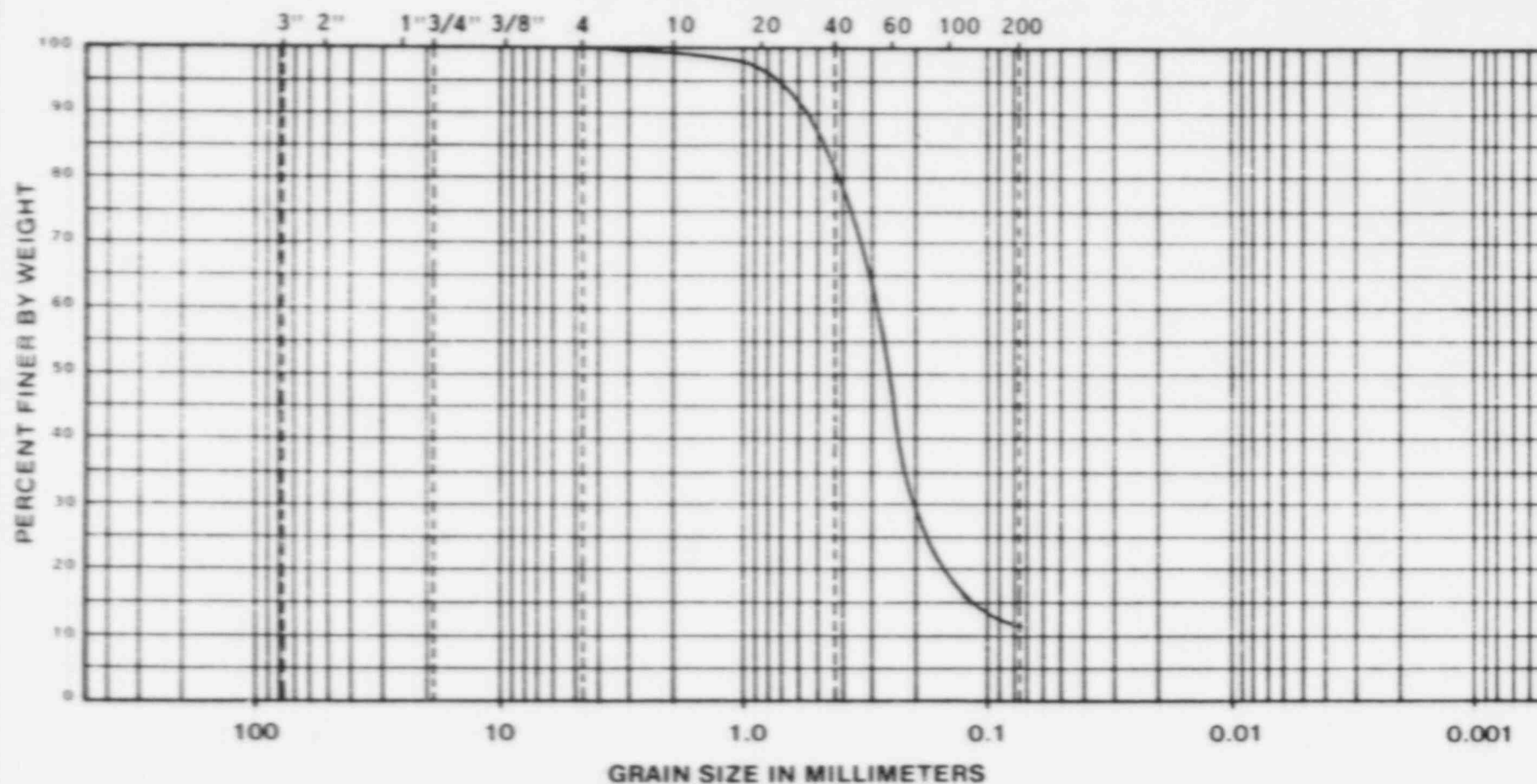


Grain Size Distribution

[illegible]

BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



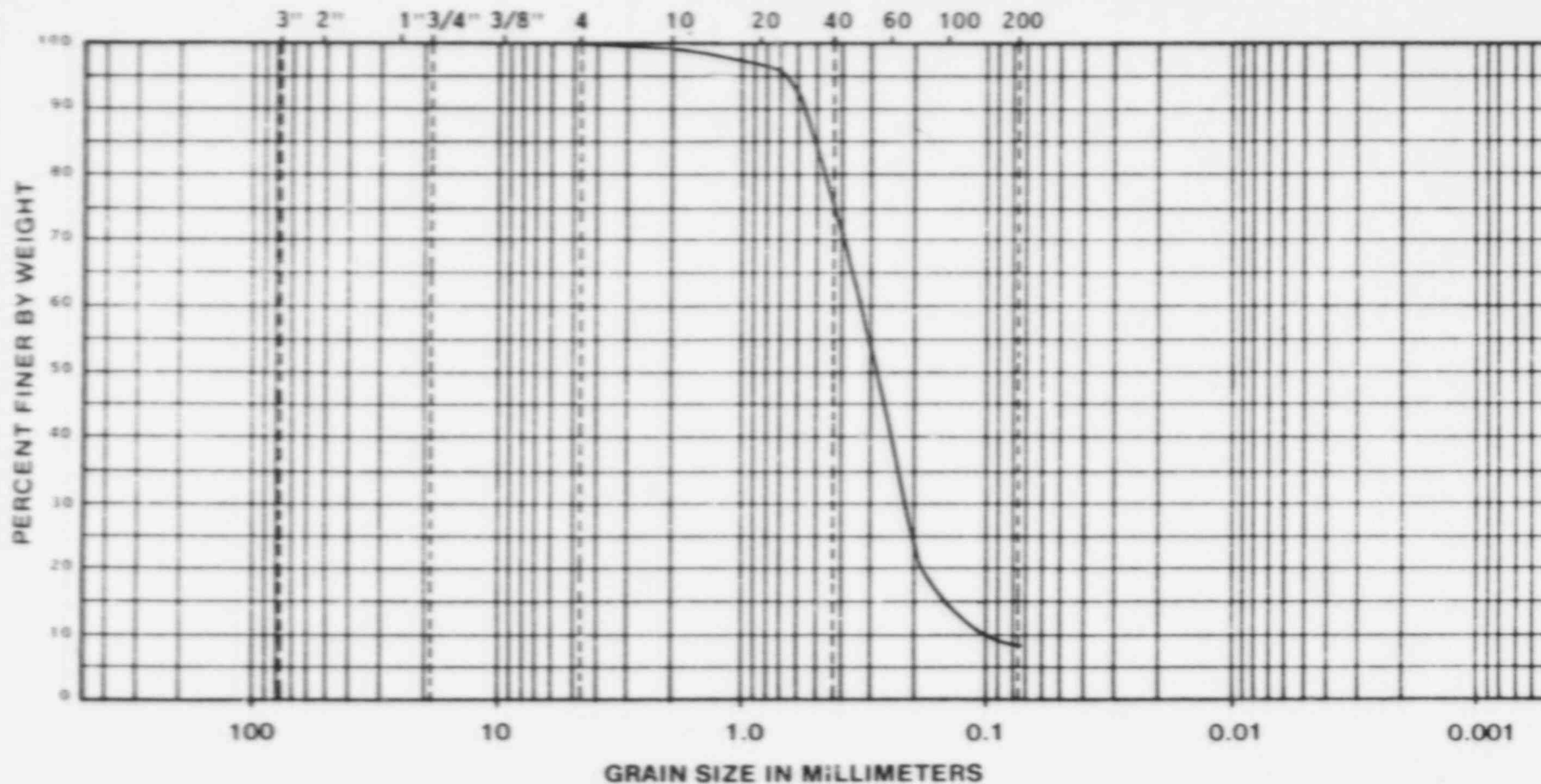
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Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 104	S4 9.0 - 10.5					
JOB NO.						
7429						

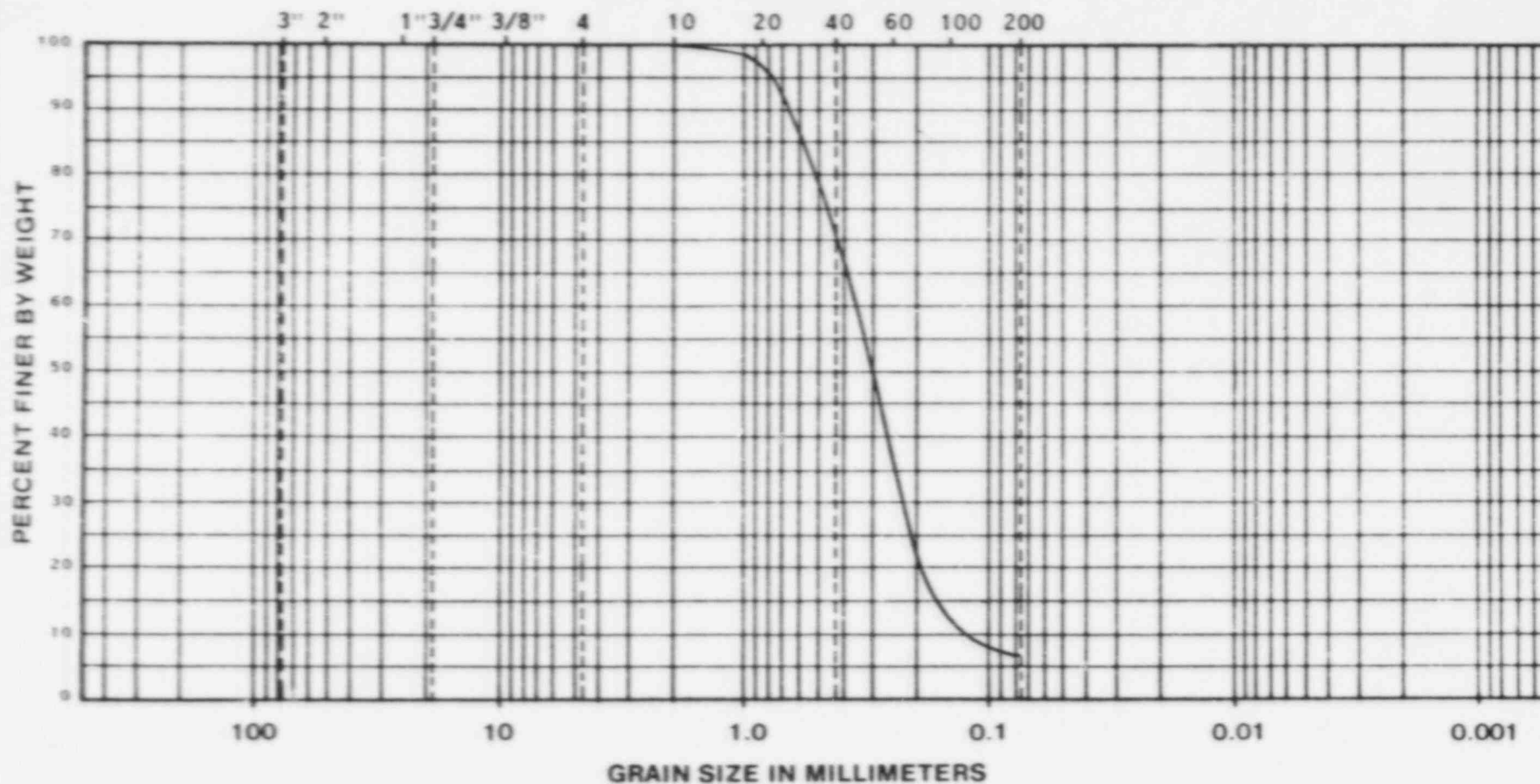
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		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



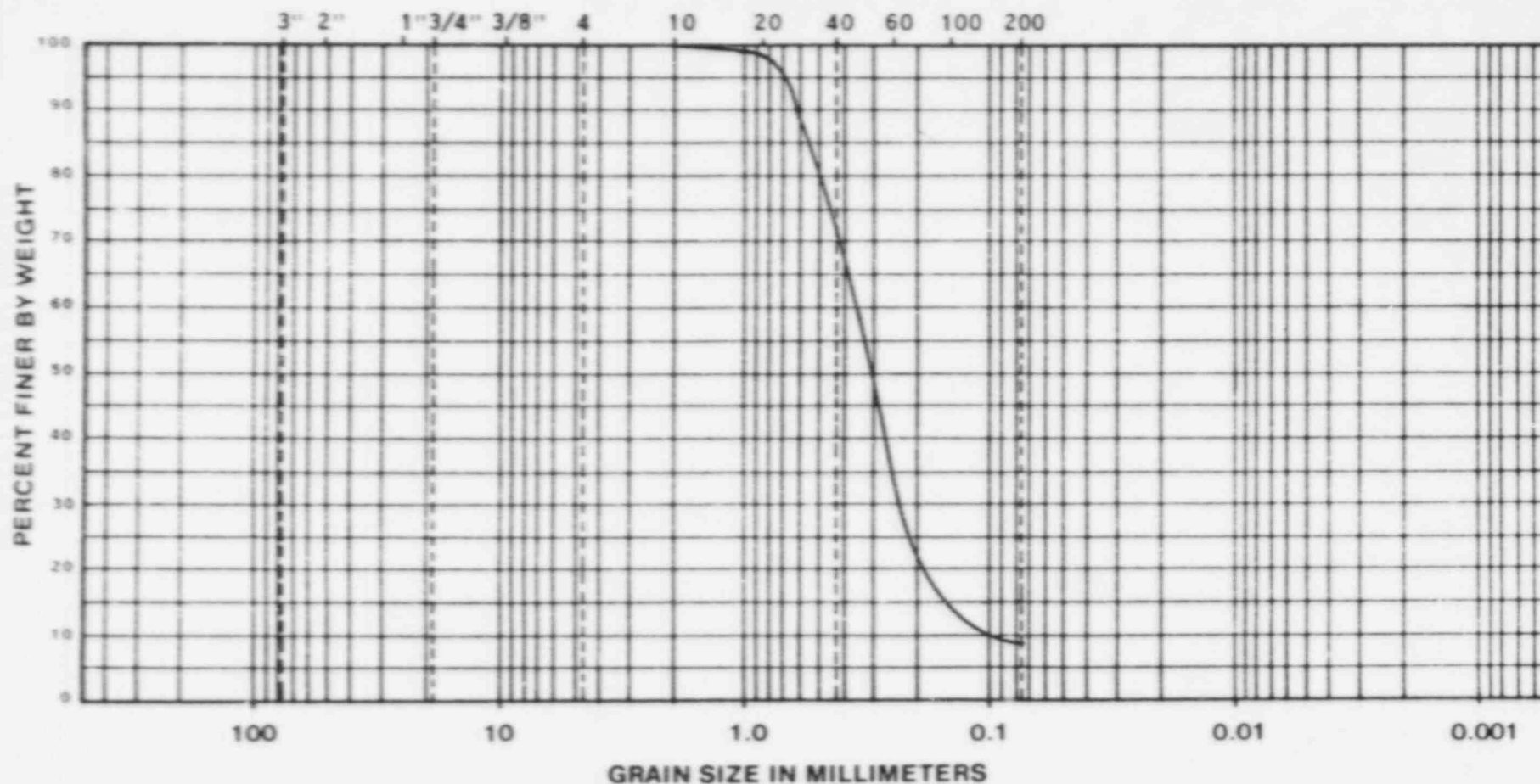
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Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 105	S3 6.5 - 8.0					
JOB NO. 7429						

BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



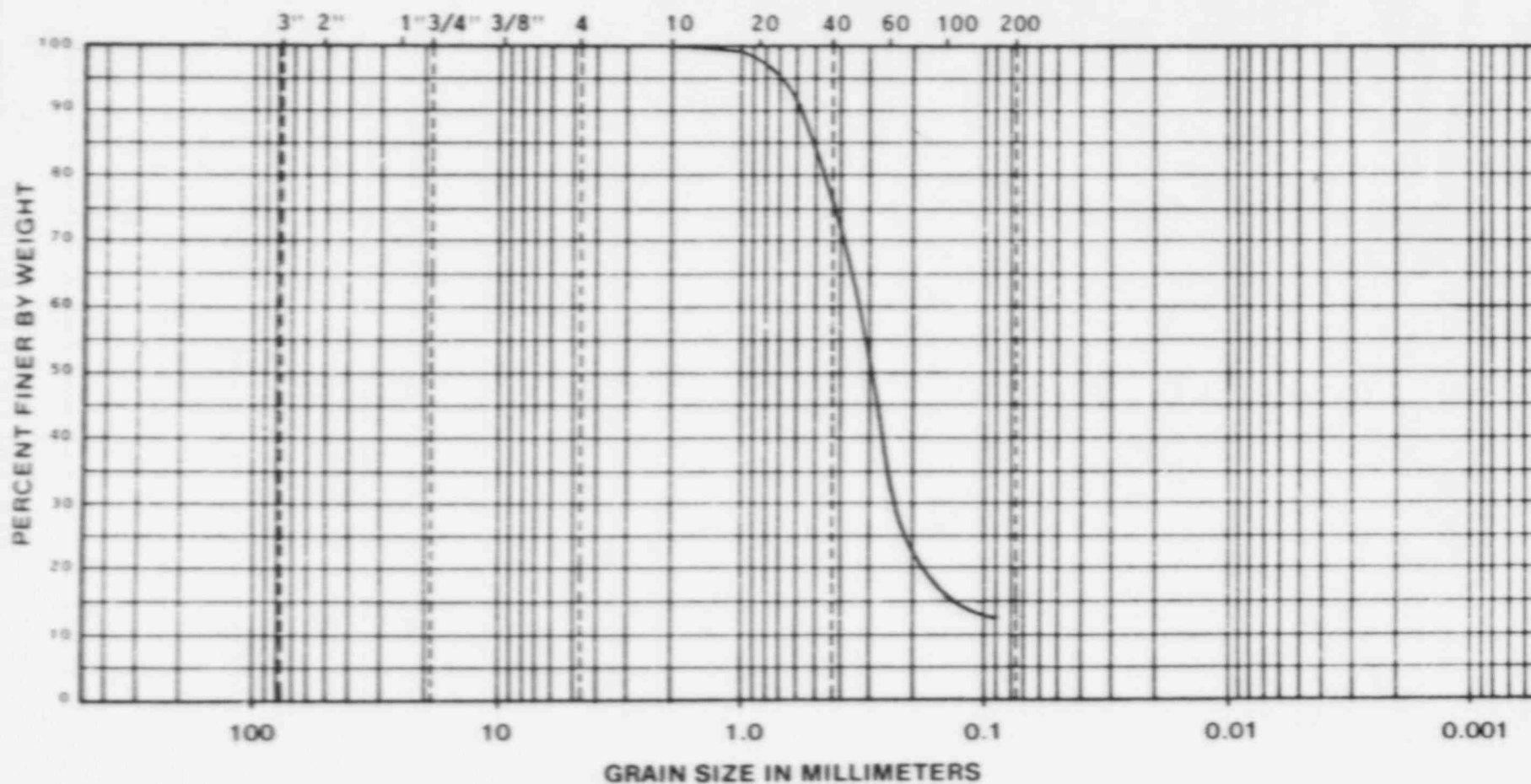
**Law Engineering
Testing Company**

Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 106	S4 9.0 - 10.5					
JOB NO.						
7429						

BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



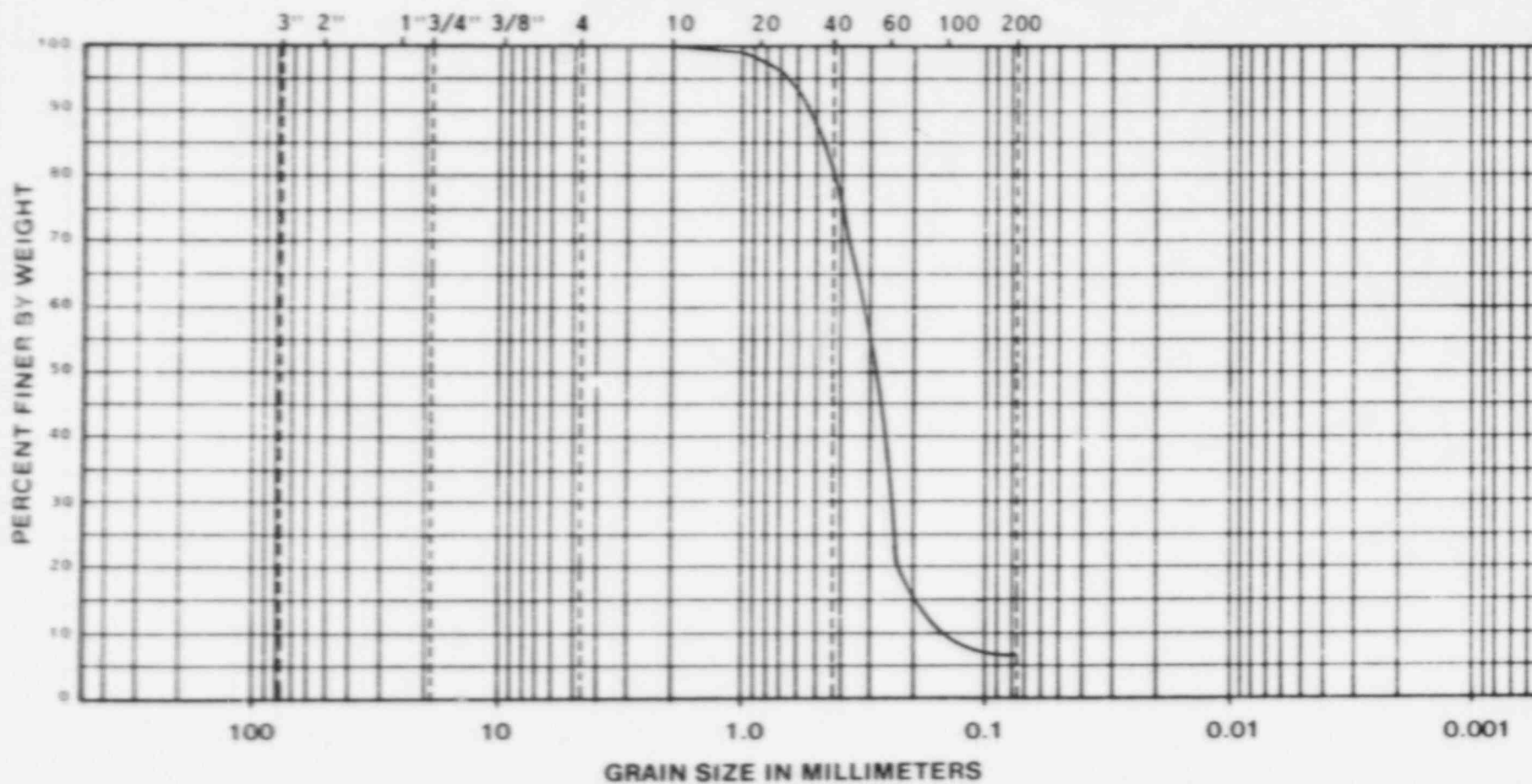
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Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 106	SS					
JOB NO.	11.5 - 13.0					
7429						

BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



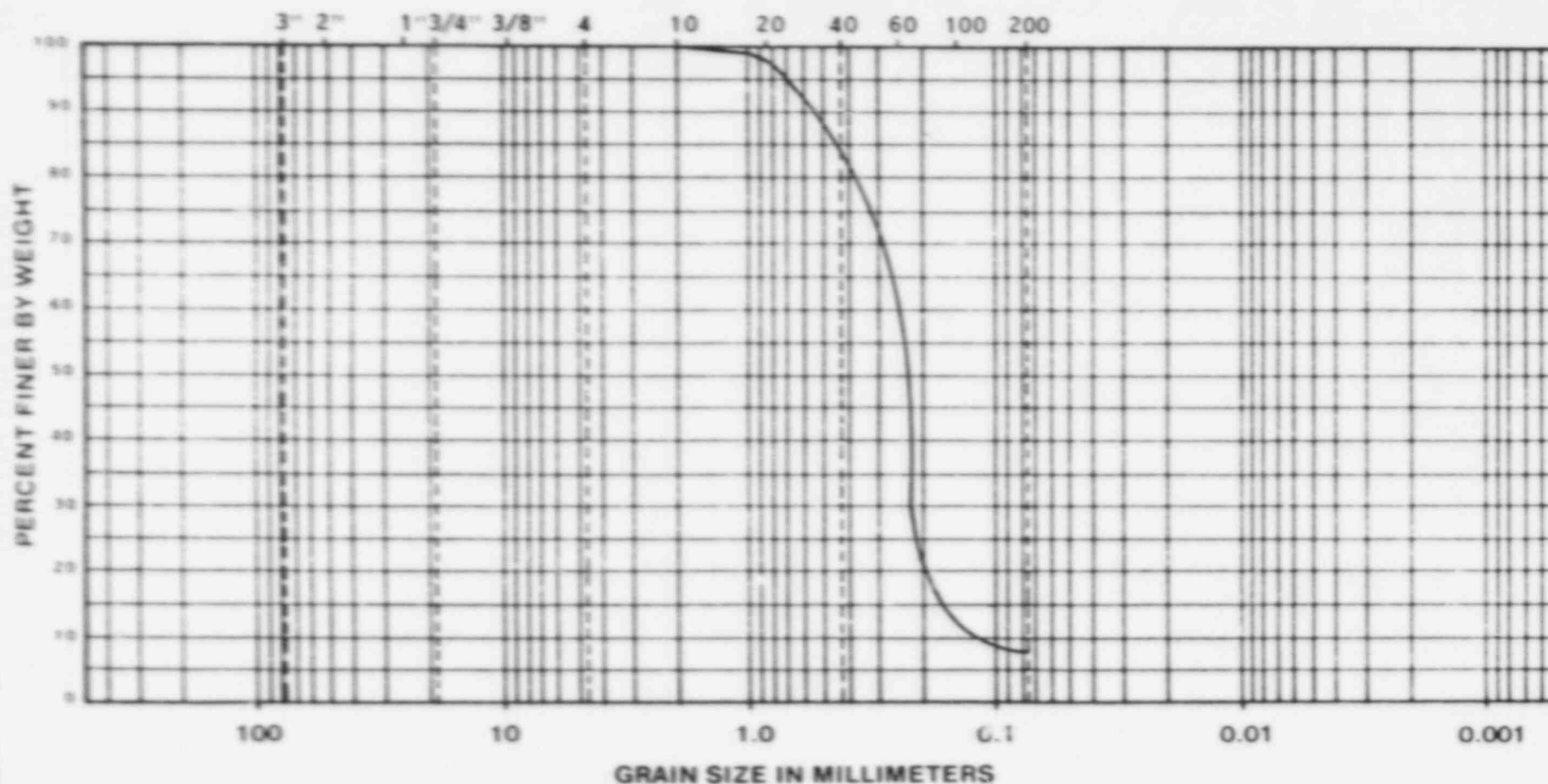
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Grain Size Distribution

BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 107	SS 11.5 - 13.0					
JOB NO						
7429						

SOIL DEFS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

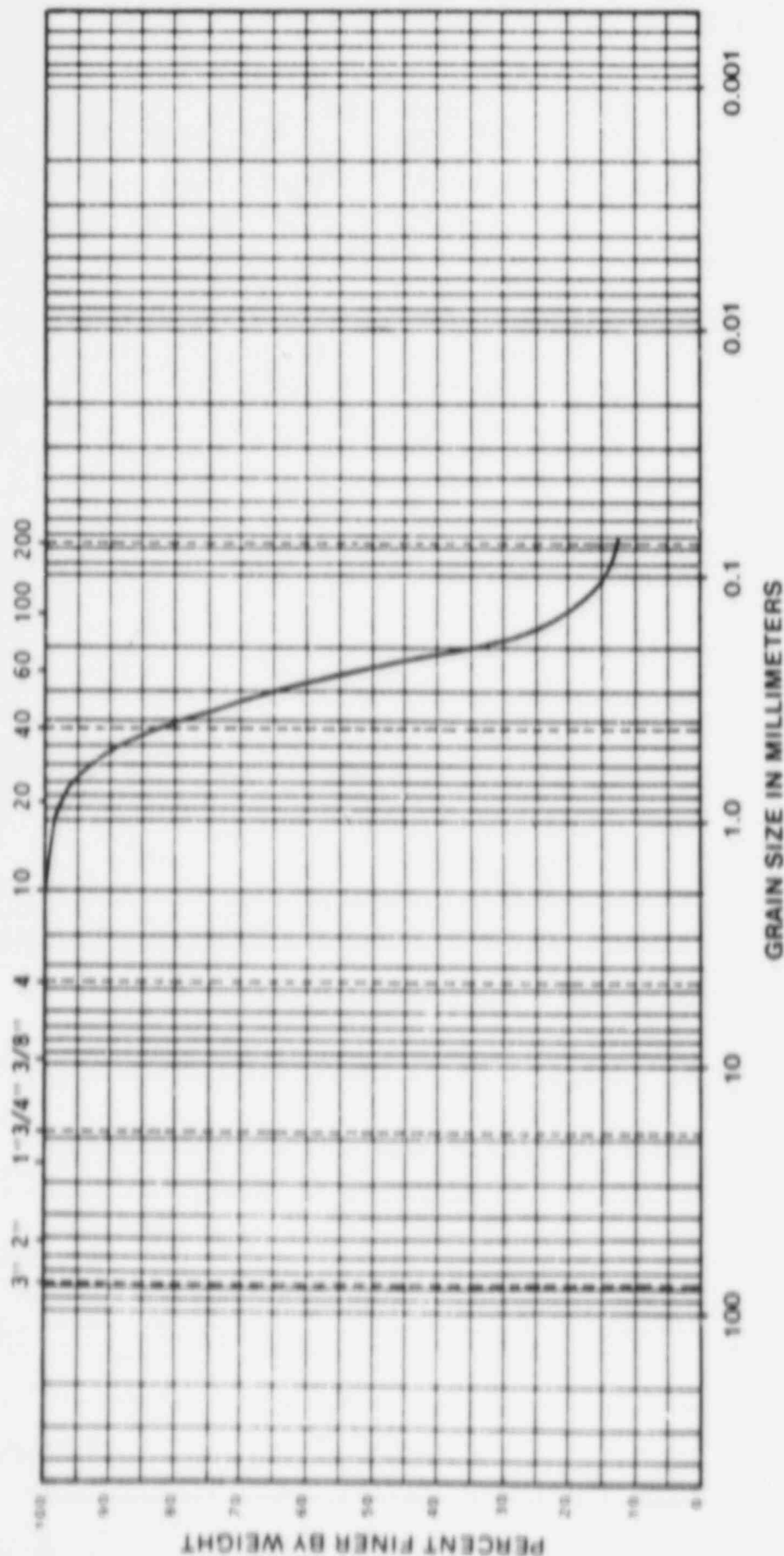
U. S. STANDARD SIEVE SIZES




**Law Engineering
Testing Company**

Grain Size Distribution

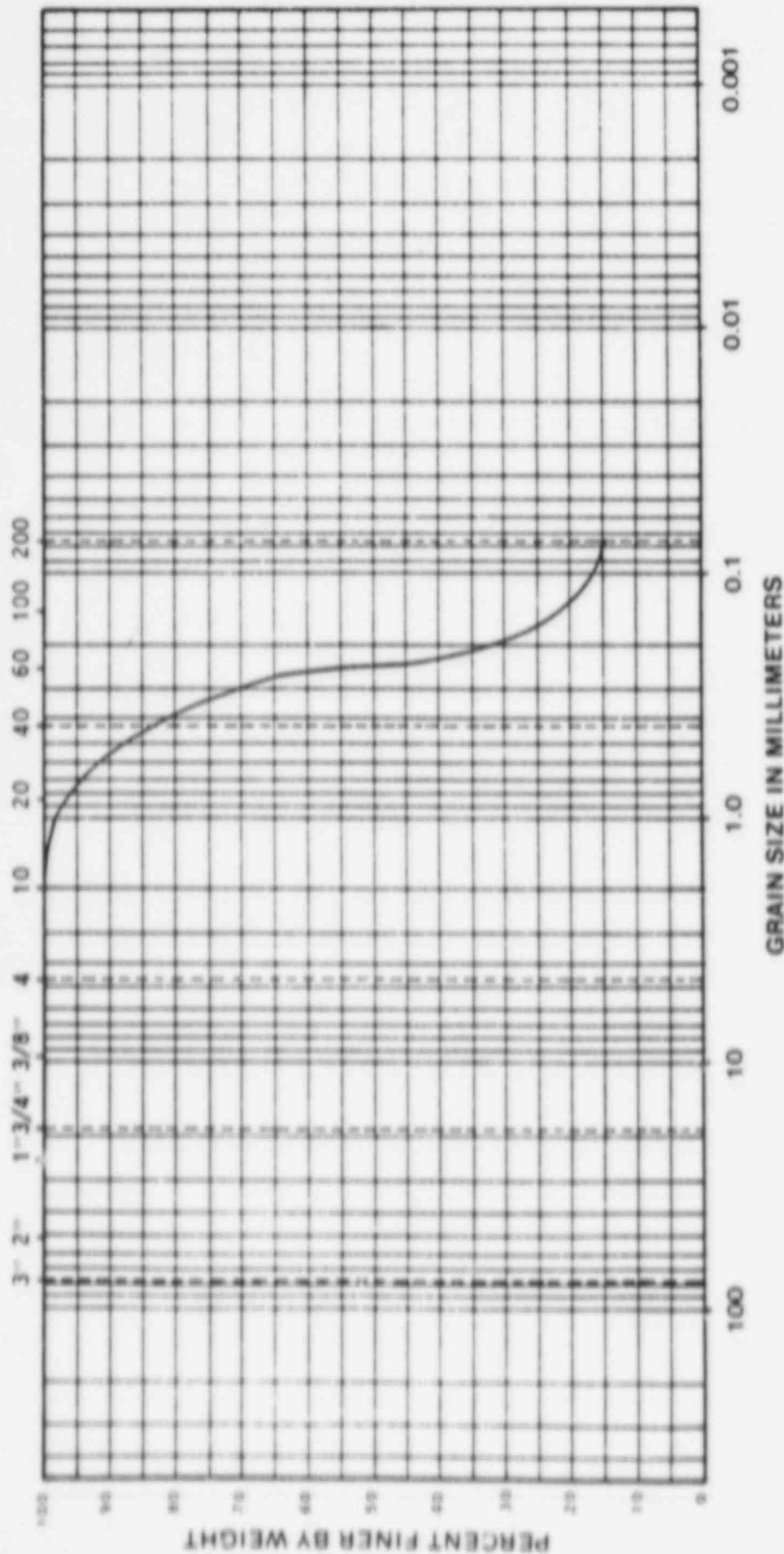
BORING NO	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 107	S6 14.0 - 15.5					
JOB NO						
7429						



 Law Engineering Testing Company Grain Size Distribution		BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
		SPT 107	S7					
		JOB NO.	16.5 - 18.0					
		7429						

COBBLES		GRAVEL		SAND			FINES	
3" 2"	1 3/4"	3/8"	4"	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

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The graph illustrates the grain size distribution of a material. The vertical axis represents the percentage of material finer than a given grain size, ranging from 0 to 100. The horizontal axis represents the grain size in millimeters on a logarithmic scale, ranging from 100 mm down to 0.001 mm. The curve shows that approximately 100% of the material is finer than 100 mm, and the percentage finer decreases as the grain size decreases, reaching 0% finer at approximately 0.075 mm.

Grain Size (mm)	Percent Finer (%)
100	100
75	100
50	100
30	100
20	100
15	100
10	100
7.5	100
5	100
3.75	100
2.5	100
1.9	100
1.5	100
1.18	100
0.85	100
0.75	100
0.6	100
0.425	100
0.3	100
0.25	100
0.2	100
0.15	100
0.106	100
0.075	100
0.06	100
0.05	100
0.04	100
0.03	100
0.025	100
0.02	100
0.015	100
0.01	100
0.0075	100
0.006	100
0.005	100
0.004	100
0.003	100
0.0025	100
0.002	100
0.0015	100
0.001	100

GRAIN SIZE IN MILLIMETERS

DESCRIPTION OR CLASSIFICATION

PL	PI
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175

NAT

MIL-403

BOOKING NO.

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Grain Size Distribution

The graph illustrates the grain size distribution of a material. The vertical axis represents the percentage of material finer than a given grain size, ranging from 0 to 100 percent. The horizontal axis represents the grain size in millimeters on a logarithmic scale, ranging from 100 mm to 0.001 mm. The curve shows that approximately 100% of the material is finer than 100 mm, and the percentage finer decreases as the grain size decreases, reaching 0% finer at approximately 0.075 mm.

Grain Size (mm)	Percent Finer (%)
100	100
75	100
60	100
45	100
30	100
20	100
15	100
10	100
7.5	100
6	100
4.75	100
3.75	100
3.0	100
2.5	100
2.0	100
1.5	100
1.18	100
0.85	100
0.75	100
0.6	100
0.425	100
0.3	100
0.25	100
0.2	100
0.15	100
0.106	100
0.075	100
0.06	100
0.0425	100
0.03	100
0.025	100
0.02	100
0.015	100
0.0106	100
0.0075	100
0.006	100
0.00425	100
0.003	100
0.0025	100
0.002	100
0.0015	100
0.00106	100
0.00075	100
0.0006	100
0.000425	100
0.0003	100
0.00025	100
0.0002	100
0.00015	100
0.000106	100
0.000075	100
0.00006	100
0.0000425	100
0.00003	100
0.000025	100
0.00002	100
0.000015	100
0.0000106	100
0.0000075	100
0.000006	100
0.00000425	100
0.000003	100
0.0000025	100
0.000002	100
0.0000015	100
0.00000106	100
0.00000075	100
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0.0000000000006	100
0.000000000000425	100
0.0000000000003	100
0.00000000000025	100
0.0000000000002	100
0.00000000000015	100
0.000000000000106	100
0.000000000000075	100
0.00000000000006	1

GRAIN SIZE IN MILLIMETERS

DESCRIPTION OR CLASSIFICATION

14

768

22

MC

DATA

1

12

1

1

10

1996

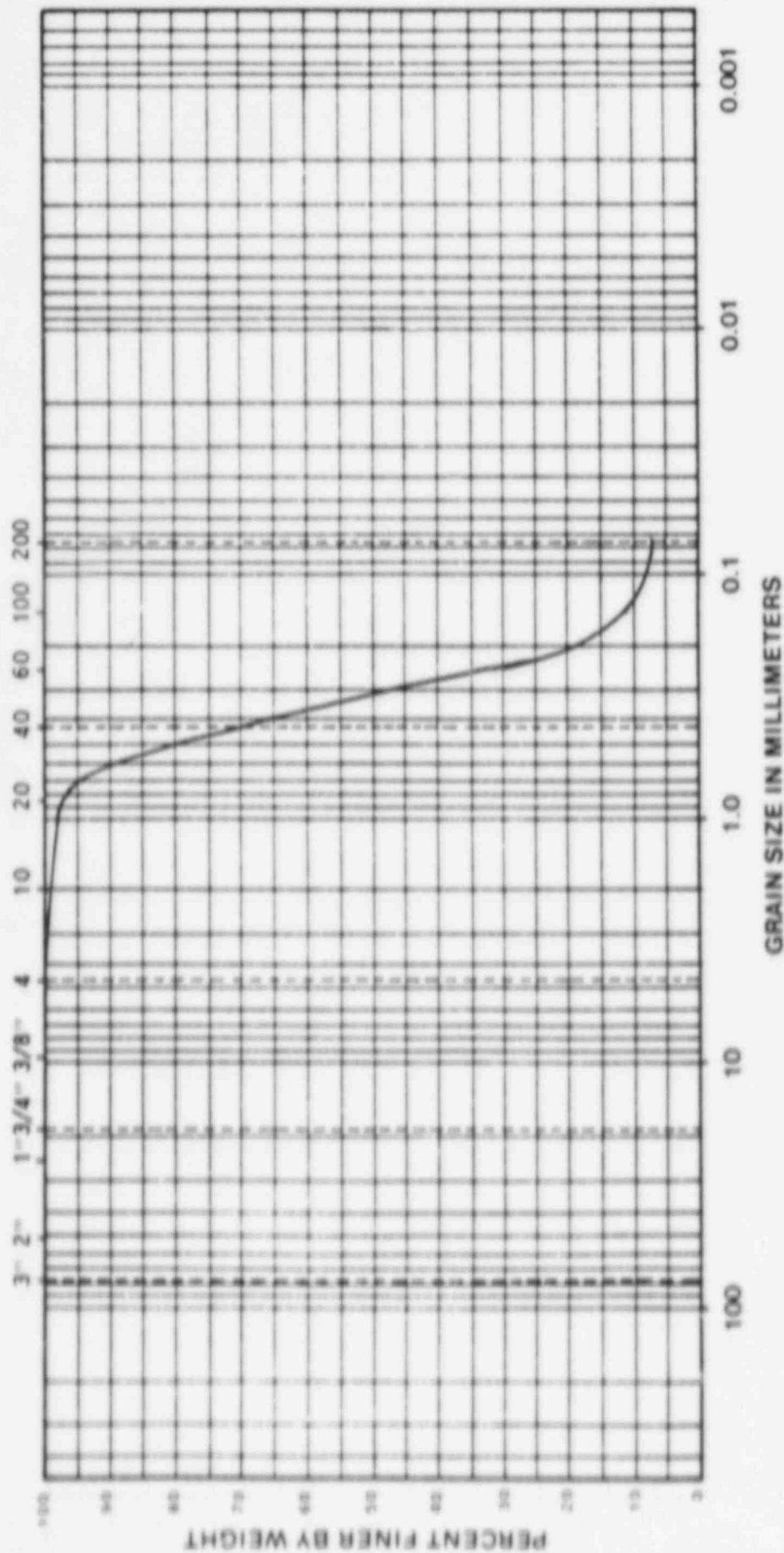
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Grain Size Distribution

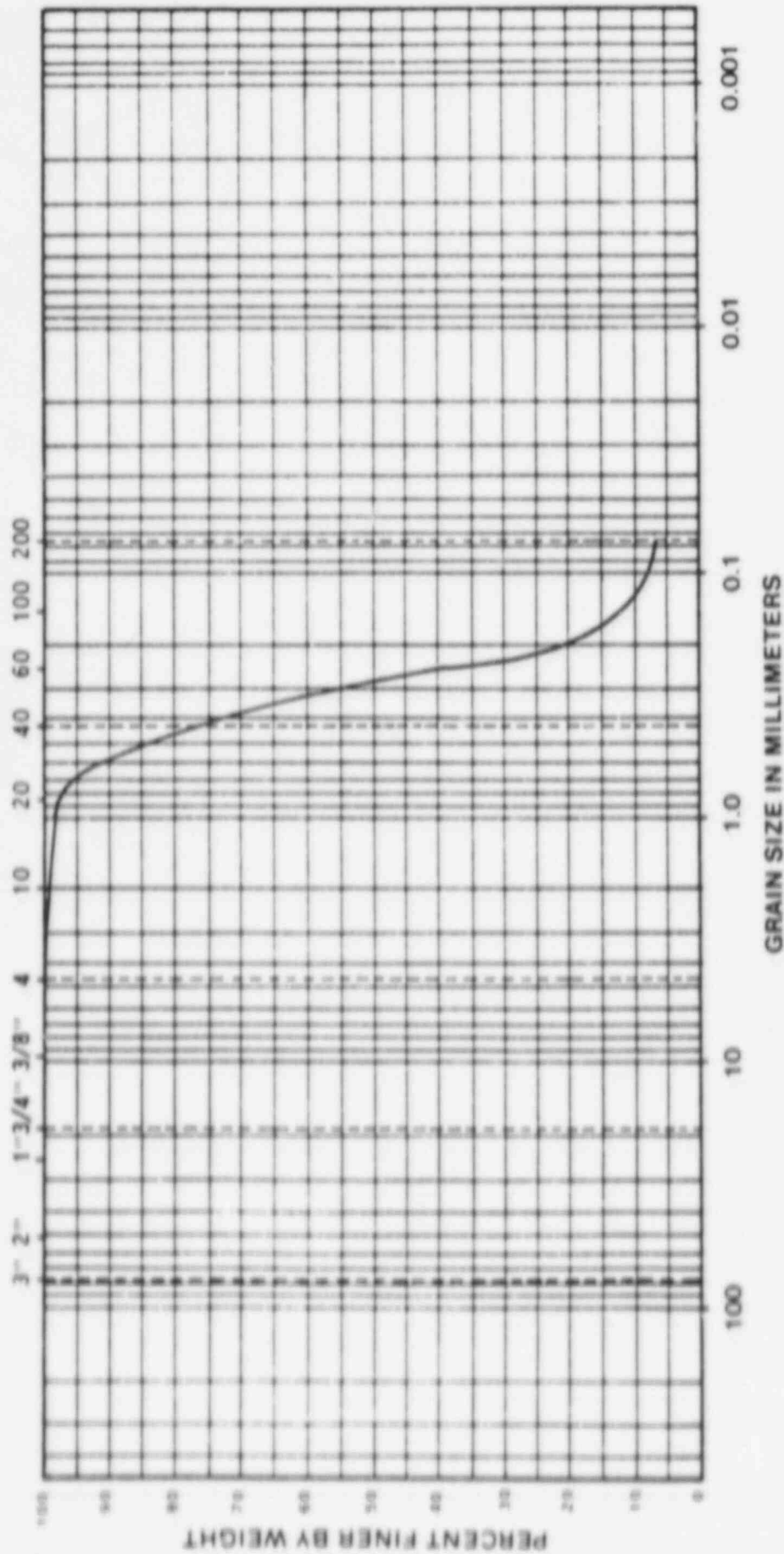
GRAVEL	COBBLES		GRAVEL		SAND		FINES	
	COARSE	FINE	COARSE	FINE	COARSE	MEDIUM	FINE	CLAY SIZES

U. S. STANDARD SIEVE SIZES



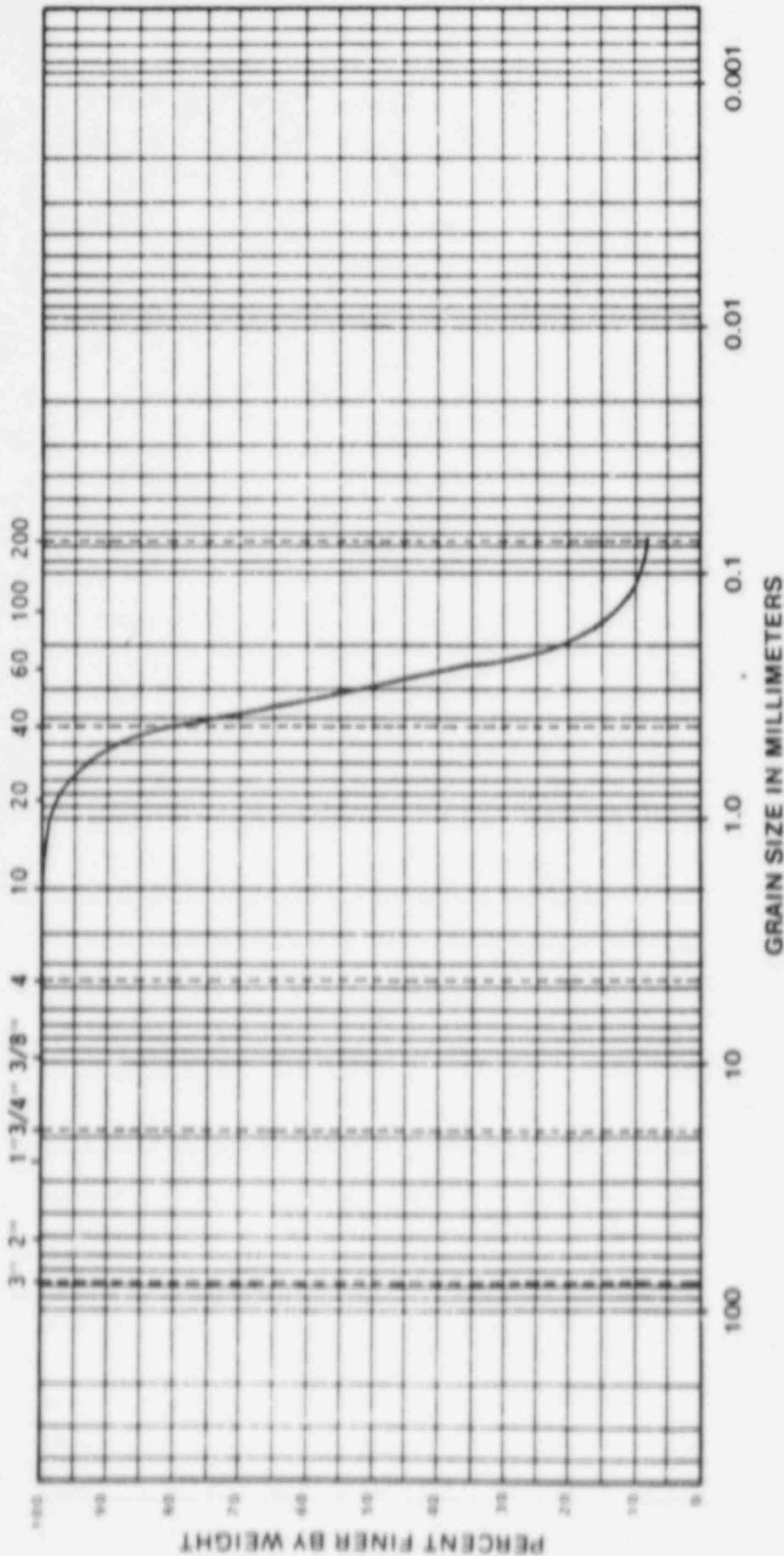
COBBLES		GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES		

U. S. STANDARD SIEVE SIZES



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

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Grain Size Distribution

DESCRIPTION OR CLASSIFICATION

PL PI

LL

NAT W/C

DEPTH

SPT NO

JOB NO

7429

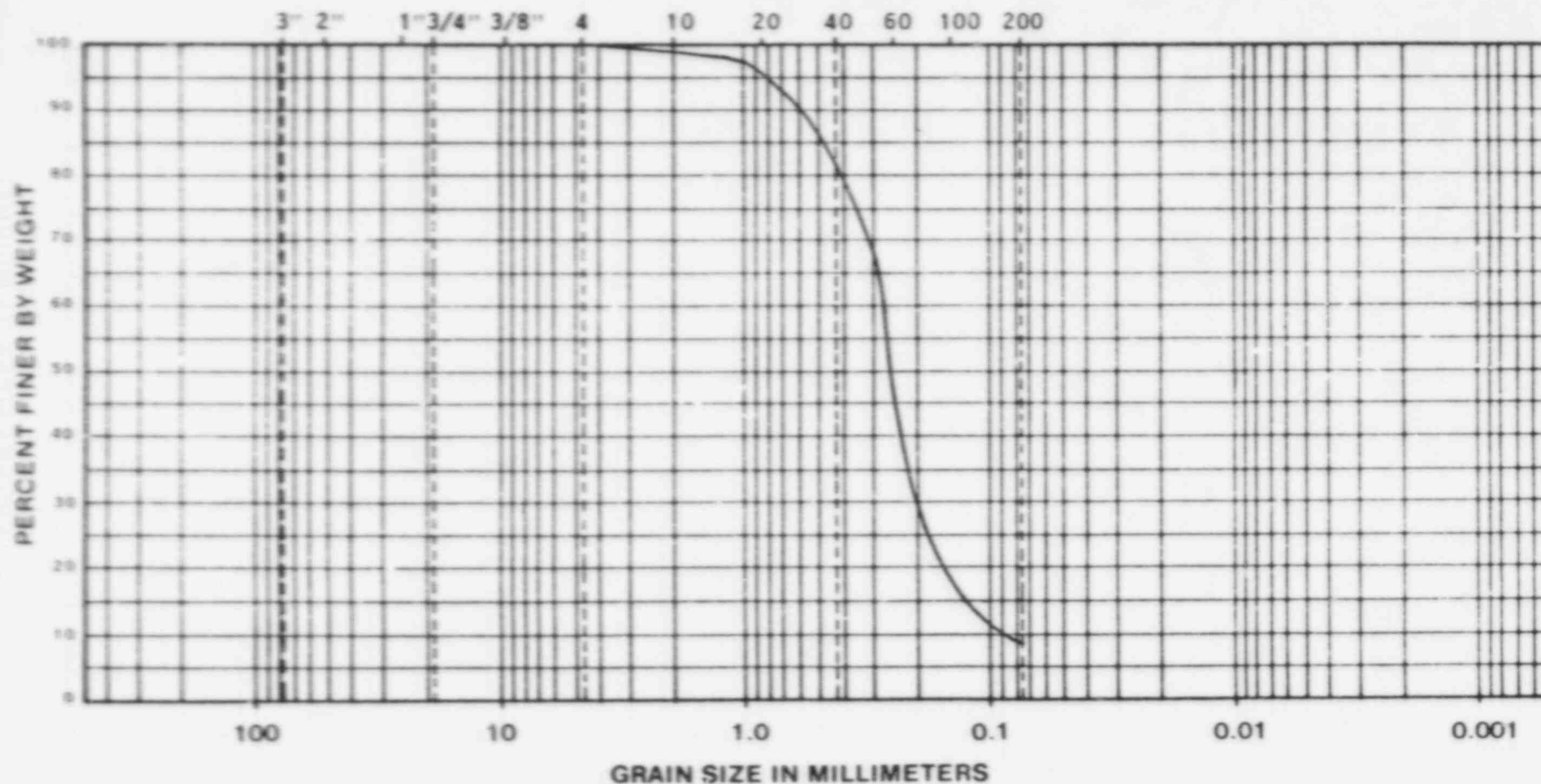
SPT 109

SA

9.0 - 10.5

SOIL SIZES	GRAVEL		SAND			FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

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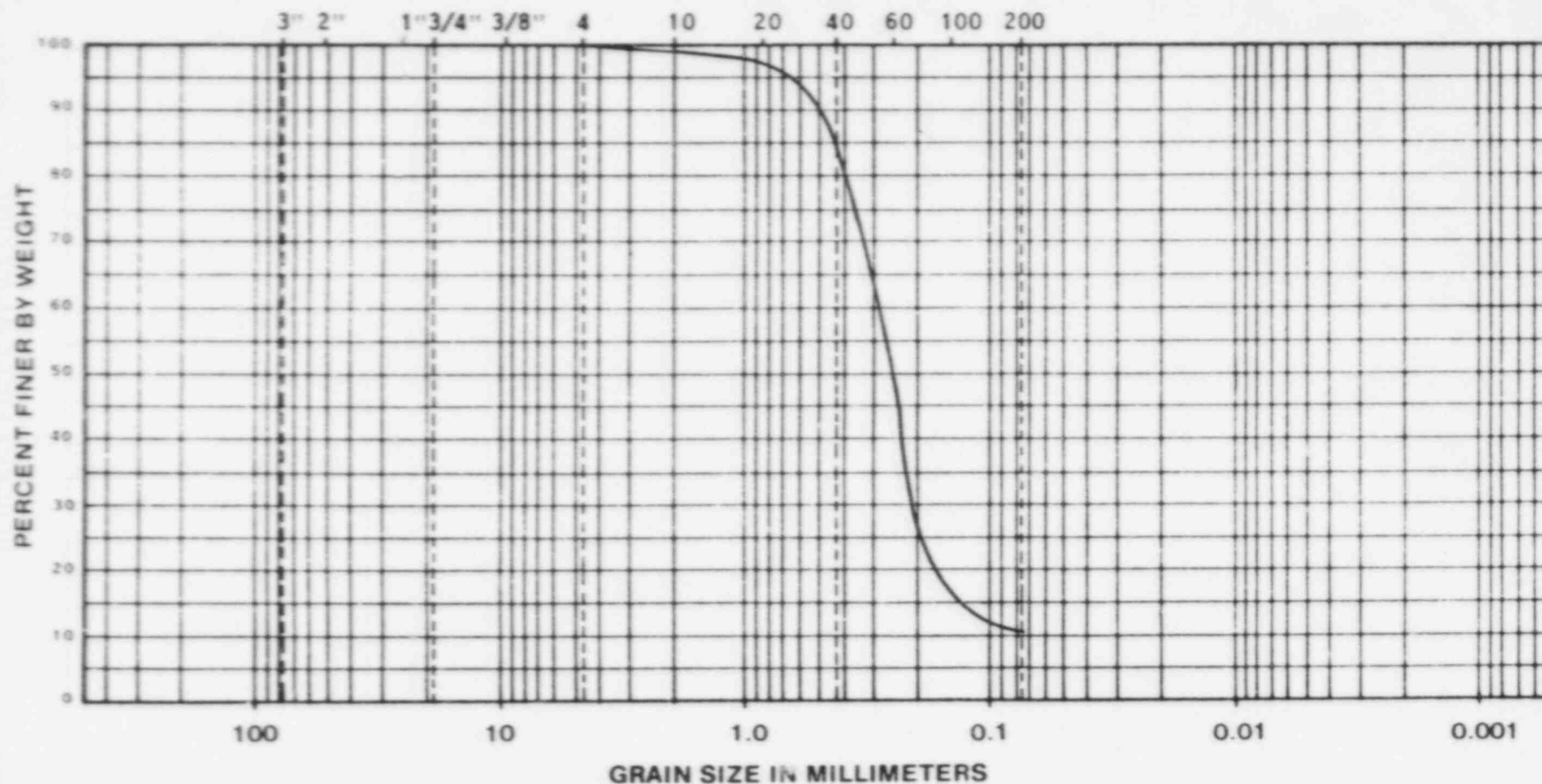
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Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 109	55					
JOB NO.	11.5 - 13.0					
7429						

BOULDER DEWS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



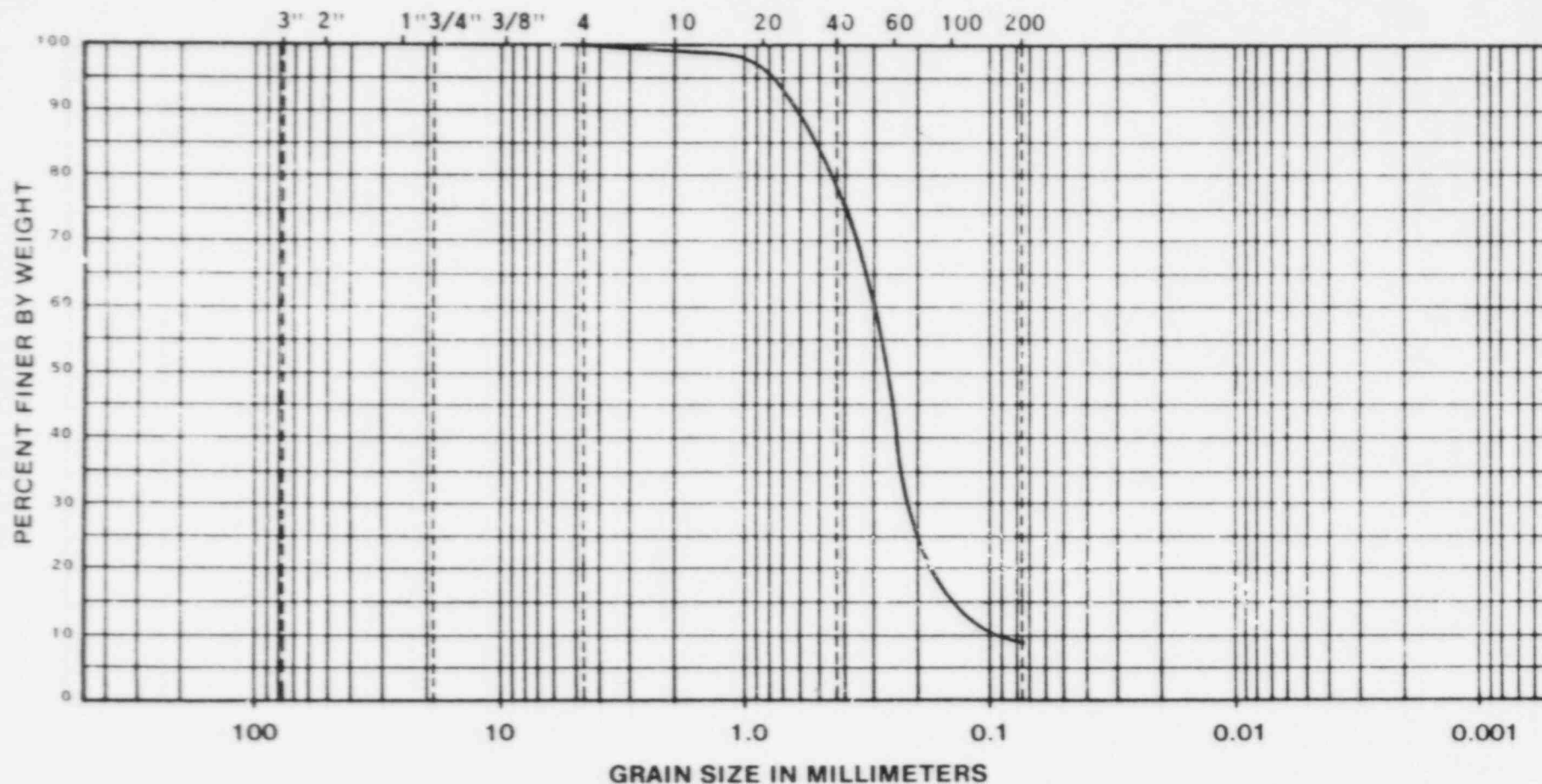
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Grain Size Distribution

BORING NO.	DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION
SPT 109	S6 14.0 - 15.5					
JOB NO.						
7429						

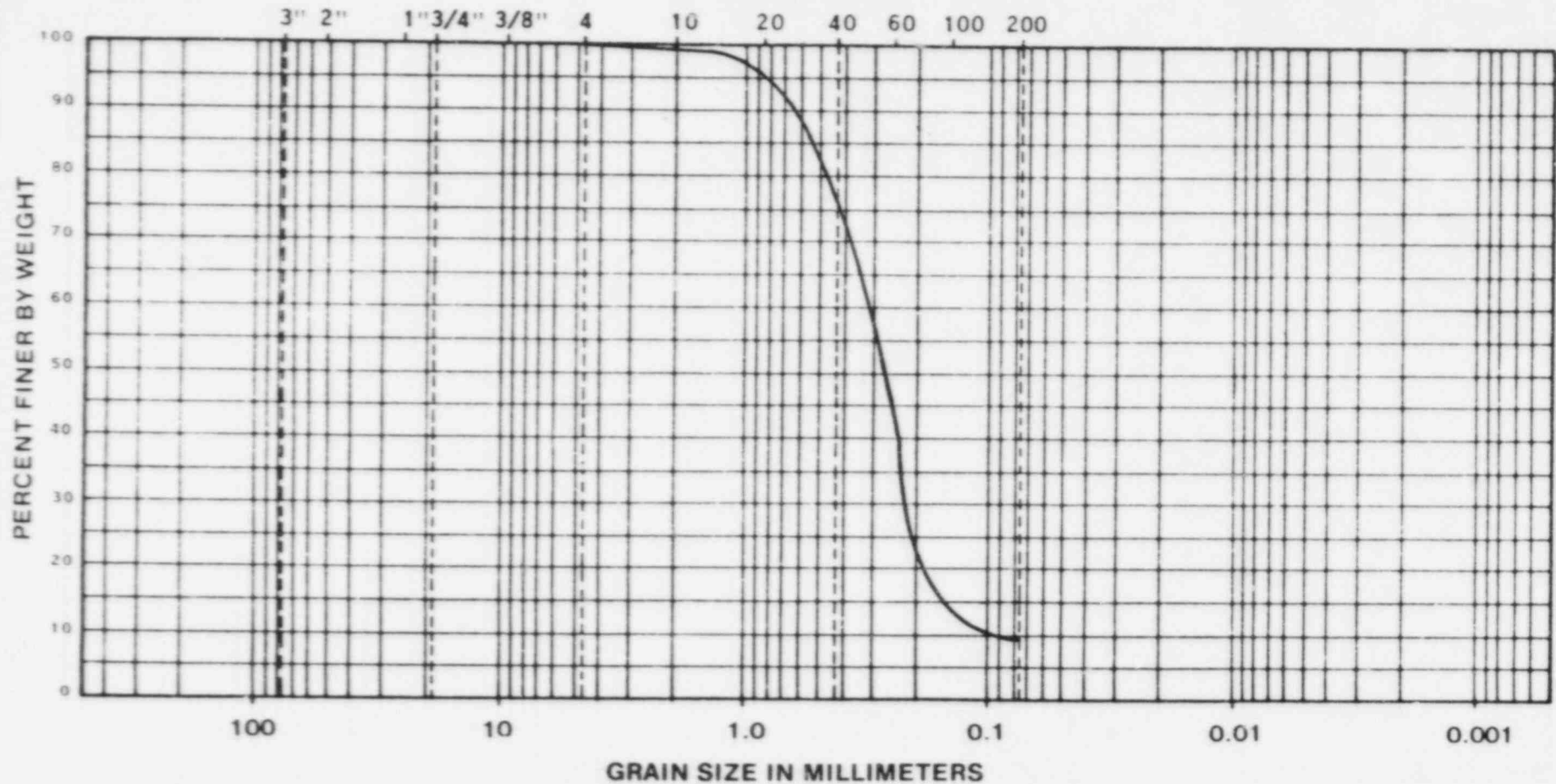
BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



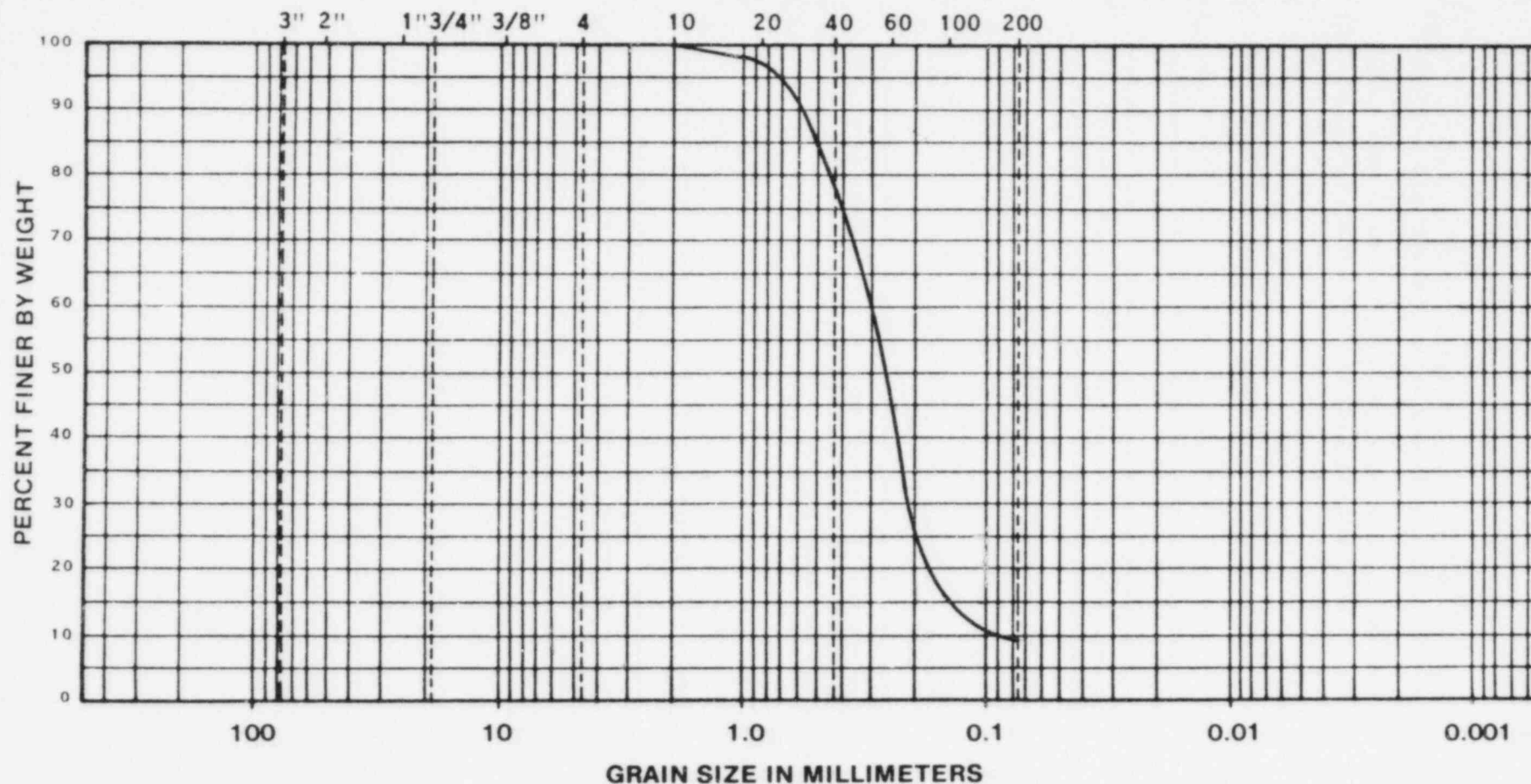
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Grain Size Distribution

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SPT 110	S3					
JOB NO.	6.5 - 8.0					
7429						

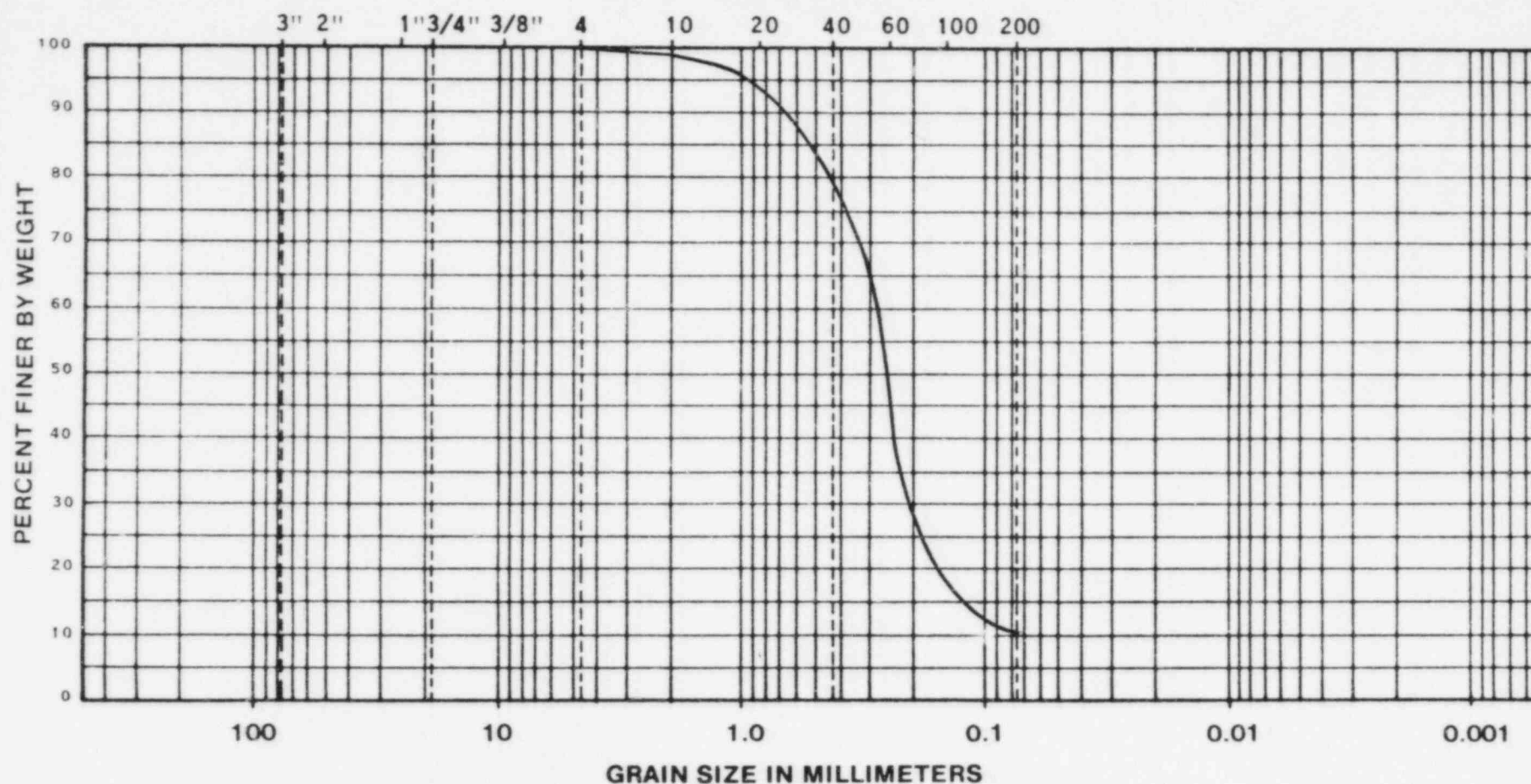
BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



BOUL- DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U. S. STANDARD SIEVE SIZES



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Grain Size Distribution

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