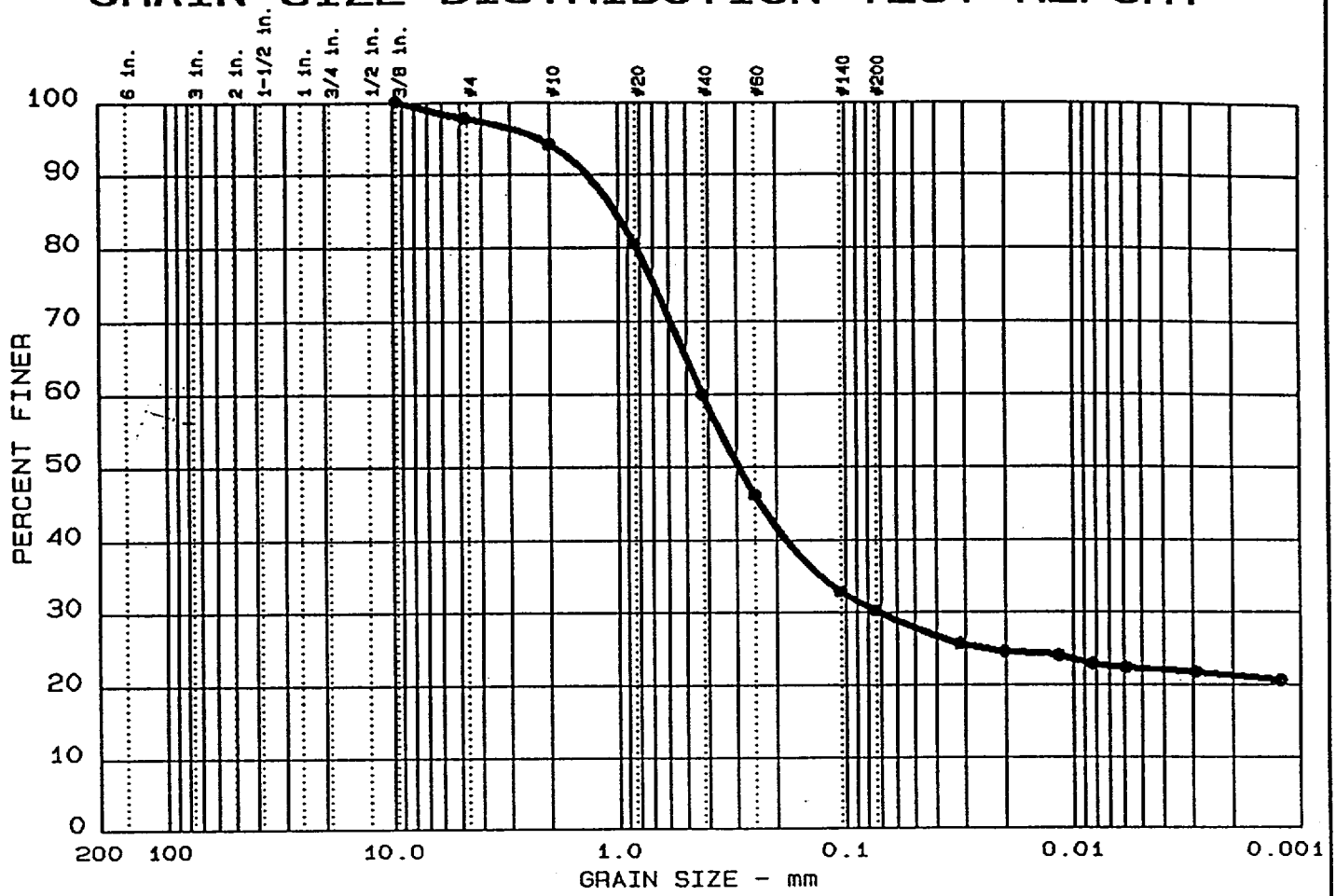
GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	12	0.0	2.3	67.6	7.8	22.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	48	25	1.01	0.42	0.29	0.072				

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Clayey Sand	SC	A-2-7 (2.3)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-9 @ 20-21.5 Ft.

Date: March 27, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

ASTM D422
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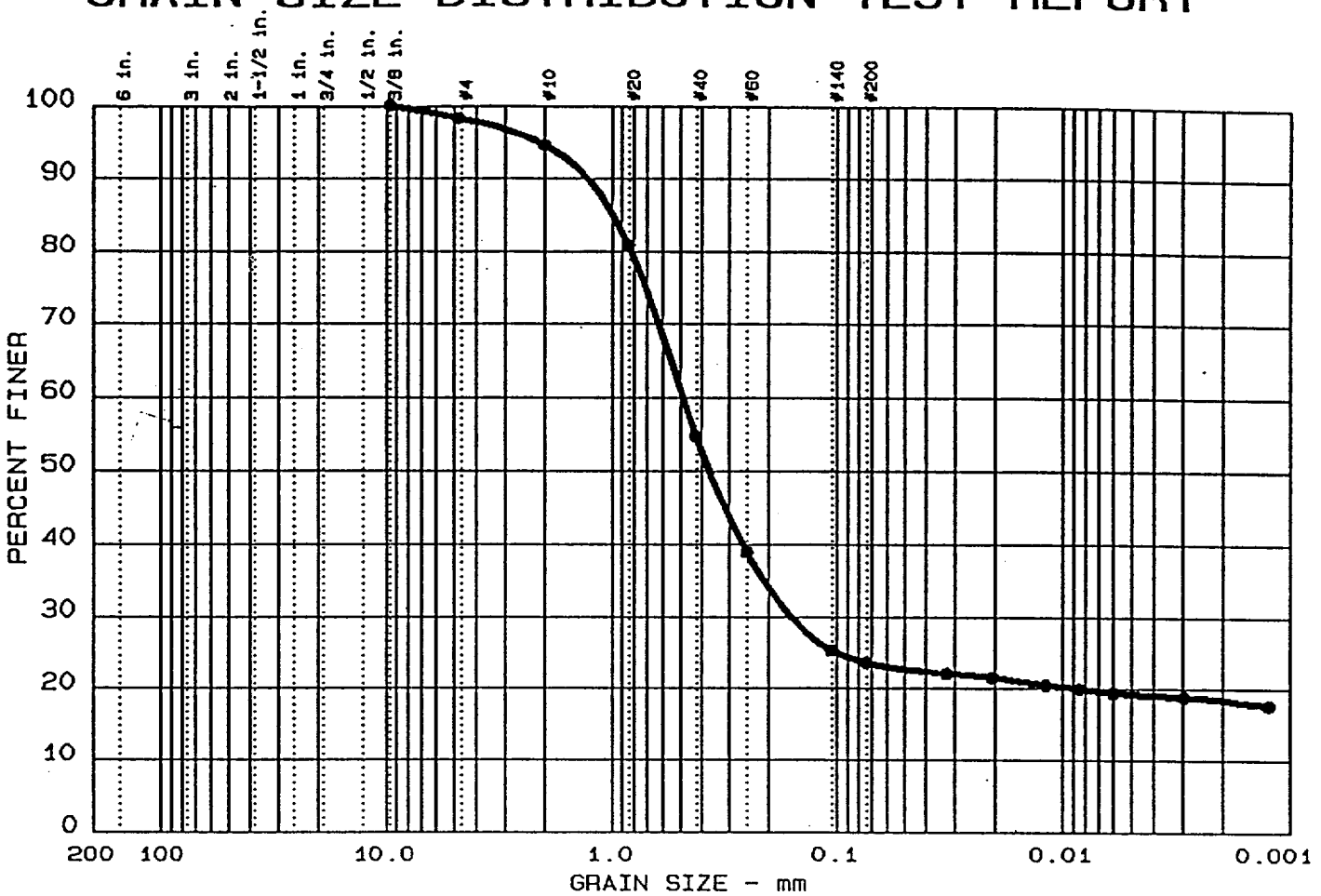
ASTM D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	1.7	74.6	4.4	19.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.98	0.48	0.37	0.158				

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-10 @ 21.5-23 Ft.

Date: March 24, 1998

Remarks:

Tested by: SC+JTm

Reviewed by: HB

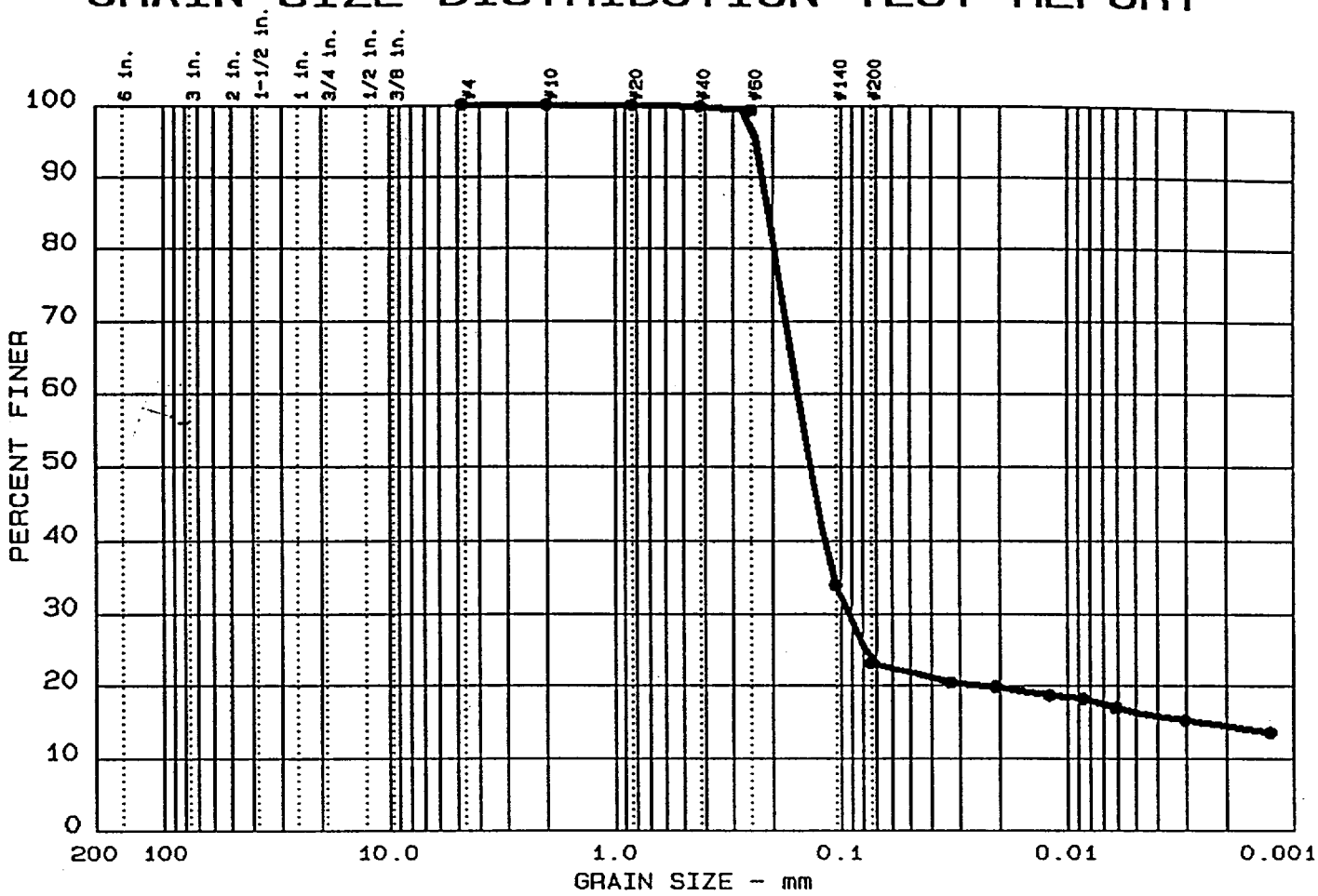
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	76.8	6.8	16.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.21	0.15	0.14	0.092	0.0027			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-11 @ 23-24.5 Ft.

Date: March 24, 1998

Remarks:

Tested by: SC

Reviewed by: HB

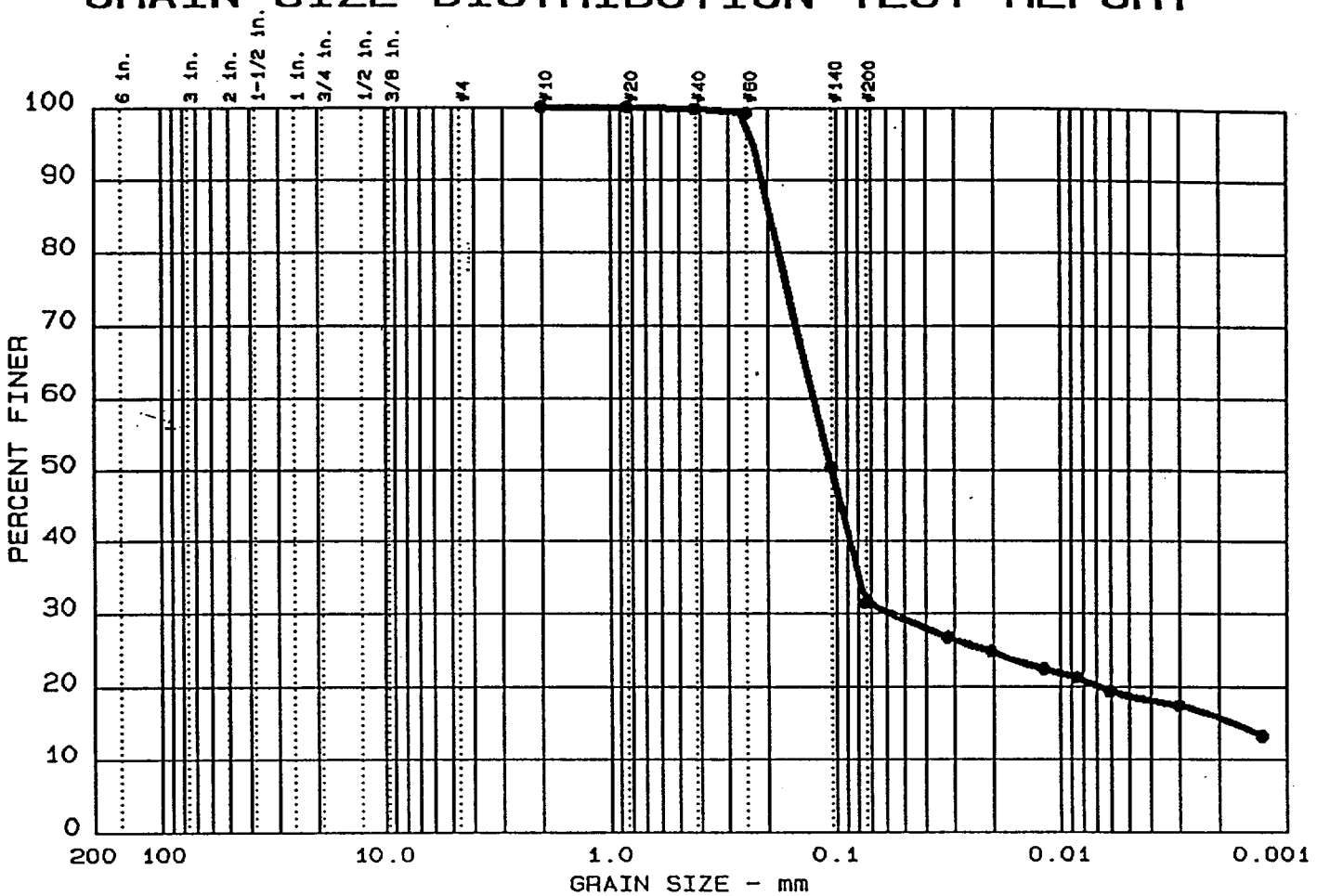
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	68.8	12.5	18.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.19	0.13	0.10	0.059	0.0017			

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-12 @ 24.5-26 Ft.

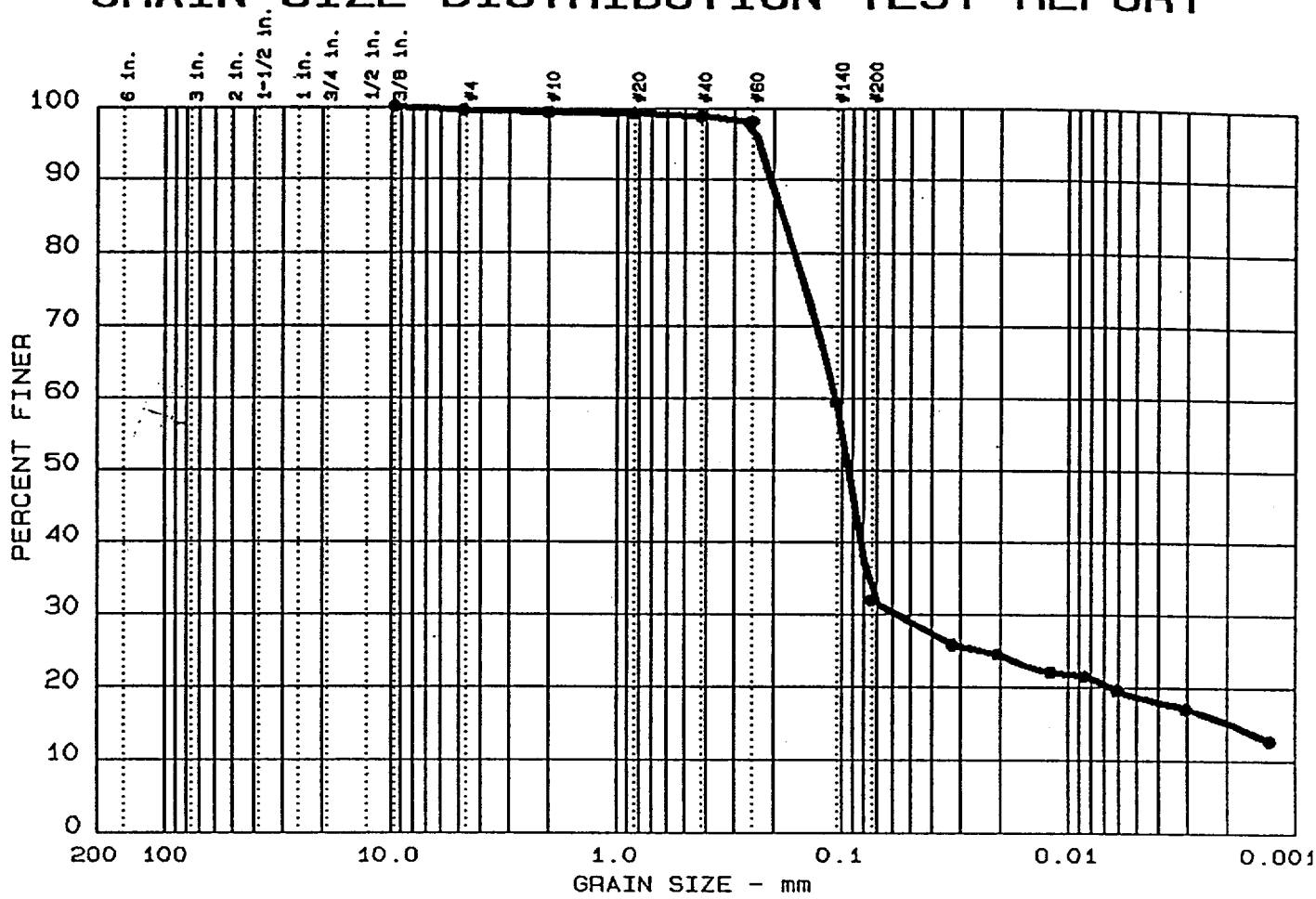
Date: March 24, 1998

Remarks:
Tested by: SC
Reviewed by: HJ
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	0.5	67.7	13.1	18.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	35	10	0.18	0.11	0.09	0.057	0.0019			

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-13 @ 26-27.5 Ft.

Date: March 27, 1998

Remarks:

Tested by: SC + JTM

Reviewed by: HD

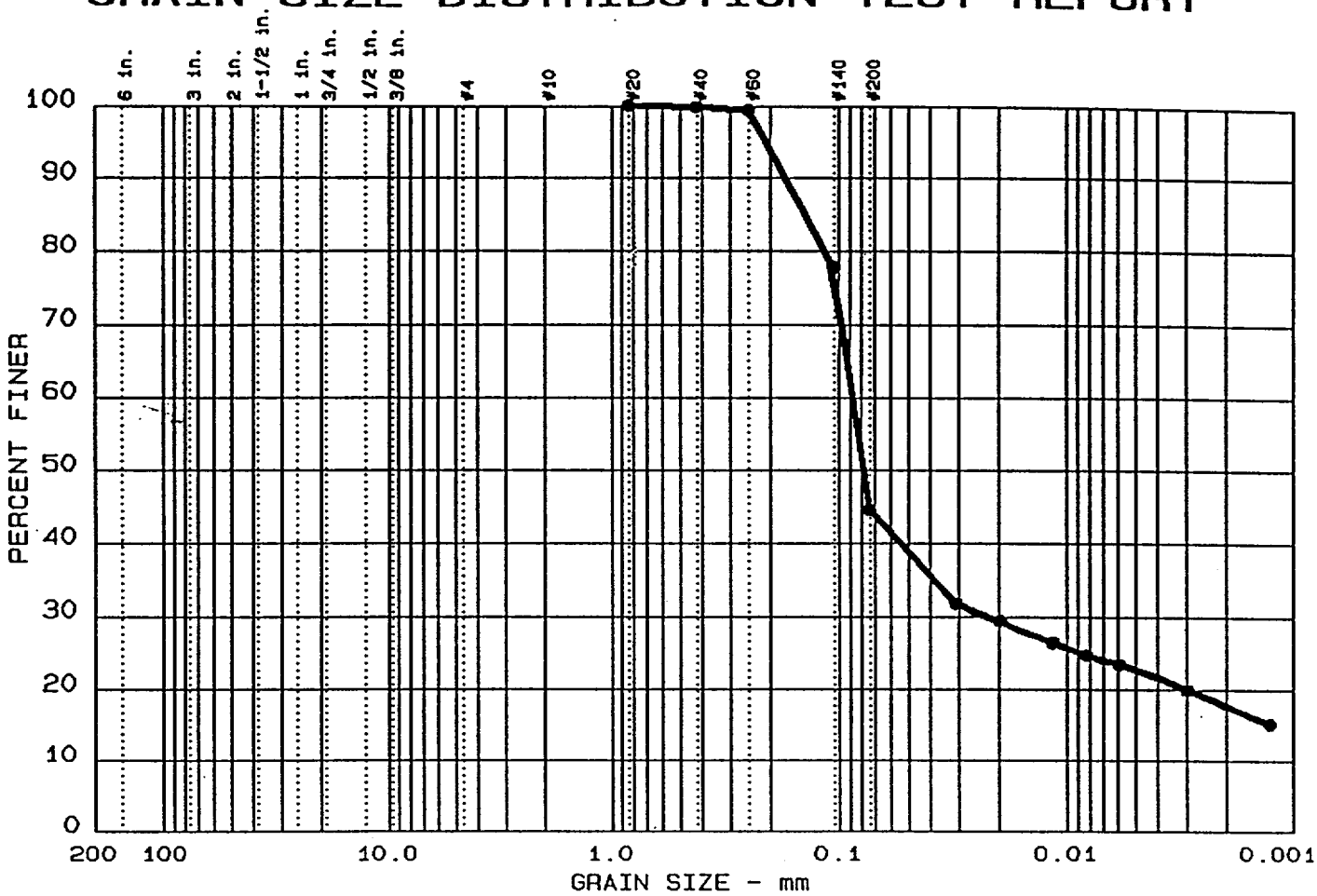
ASTM D422
&
ASTM D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	0.0	55.6	21.6	22.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.14	0.09	0.08	0.023				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown & Purple Silt Sand	SM	A-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-14 @ 27.5-29 Ft.

Date: March 24, 1998

Remarks:

Tested by: SC

Reviewed by: HS

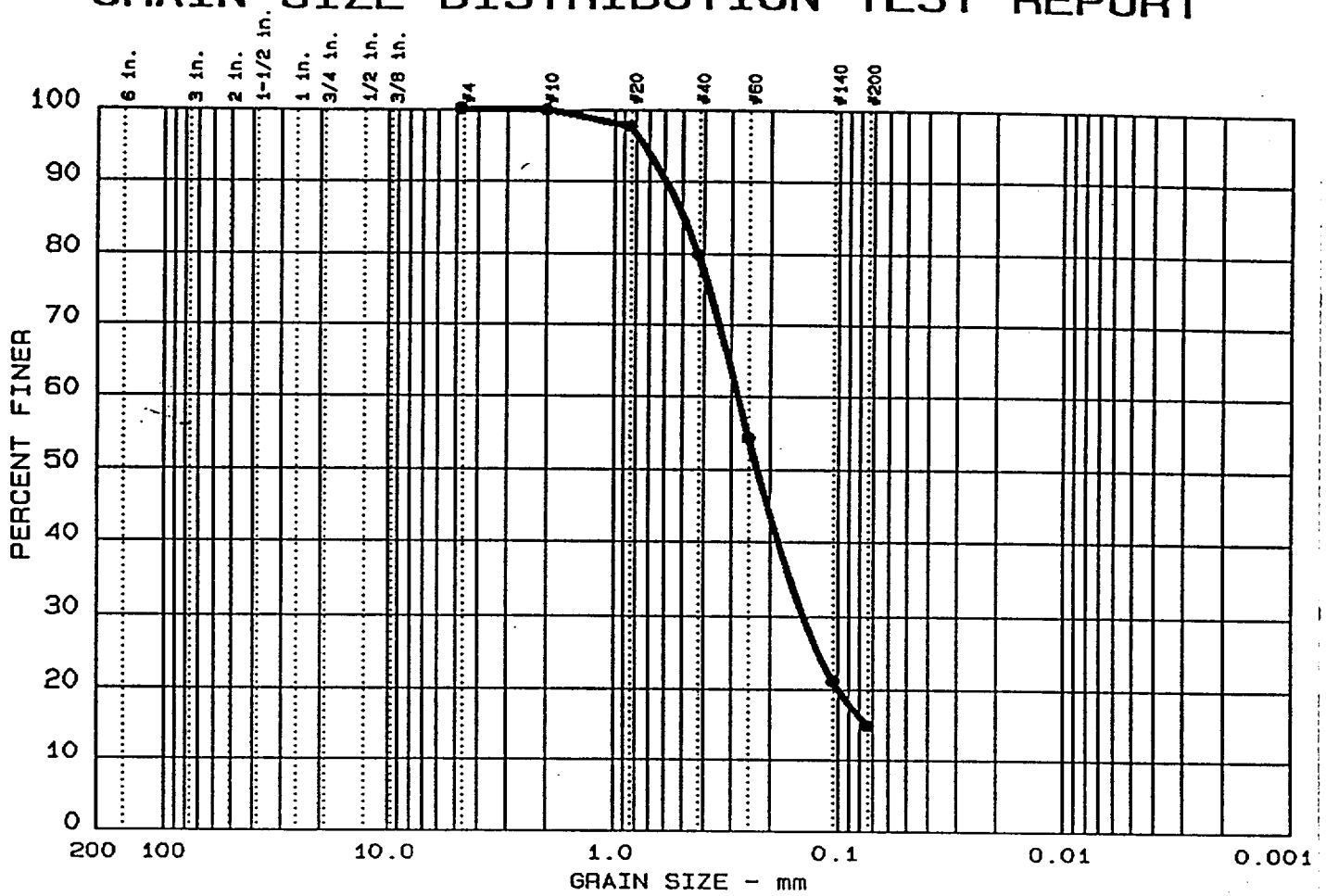
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	12	0.0	0.0	85.0	15.0	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.48	0.28	0.23	0.143	0.0740			

MATERIAL DESCRIPTION	USCS	AASHTO
● Red & Tan brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-15 @ 29-30.5 Ft.

Date: +

Remarks:

Tested by: SC

Reviewed by: [illegible]

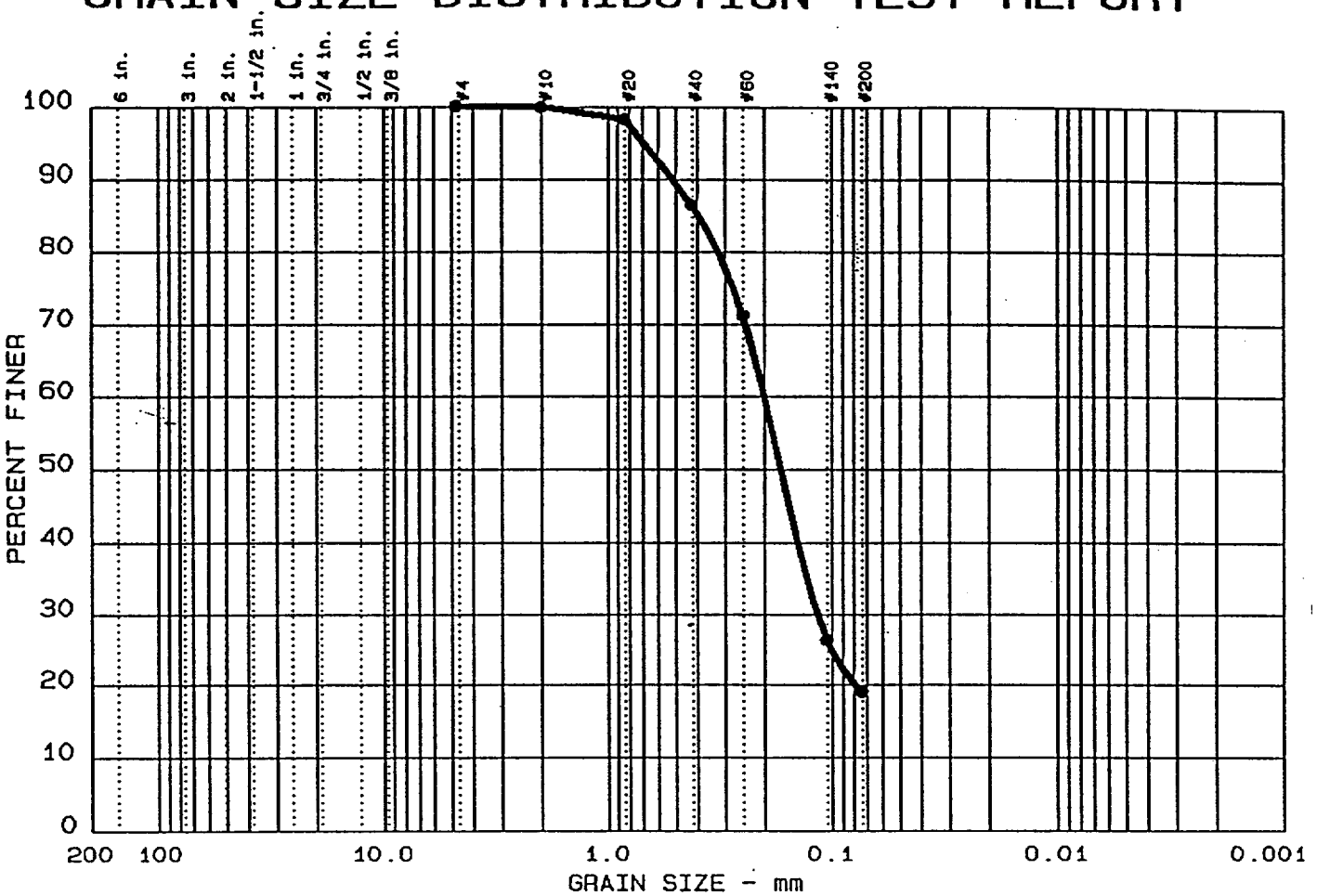
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	81.0	19.0	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.39	0.20	0.17	0.115				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-16 @ 30.5-32 Ft.

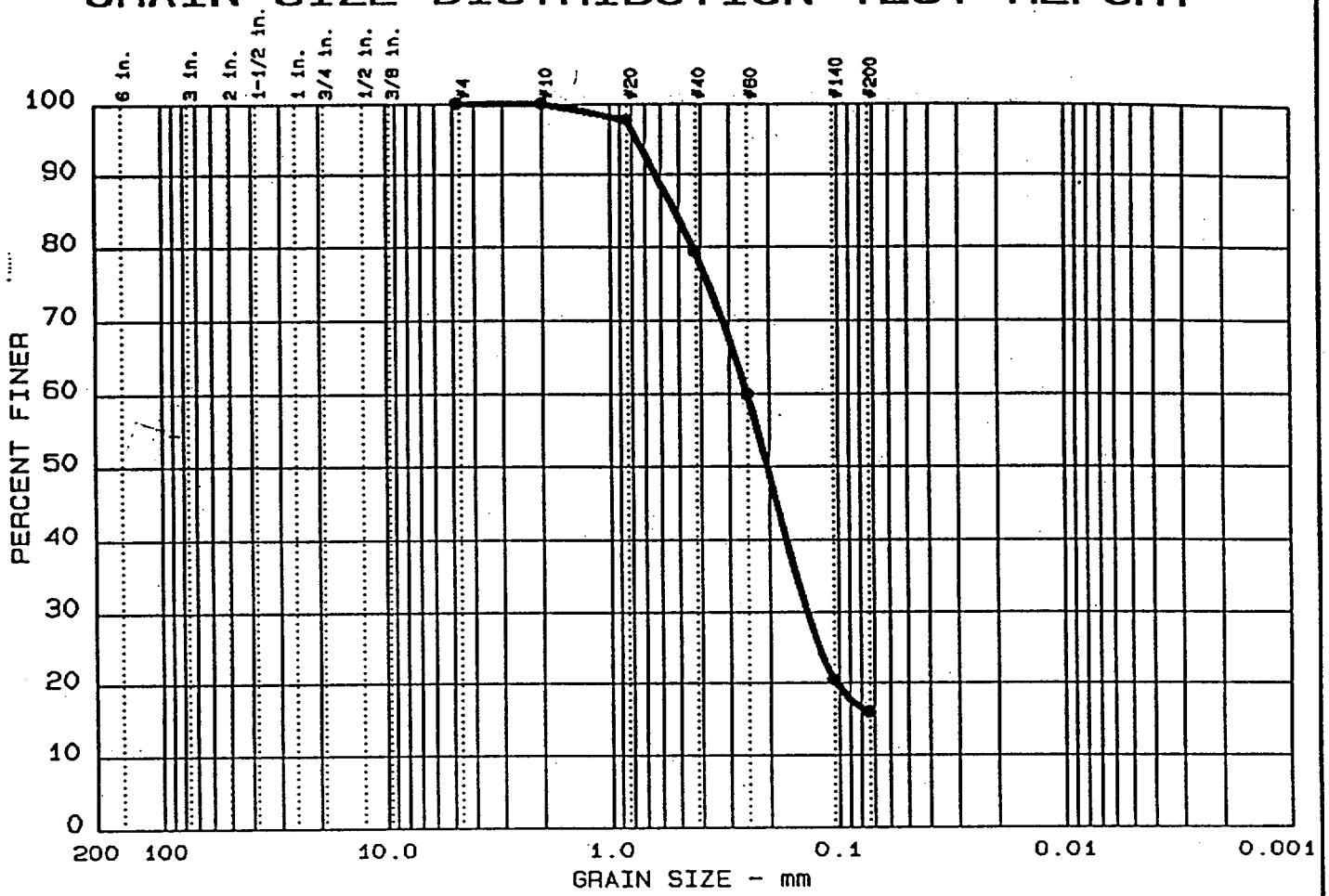
Date: March 24, 1998

Remarks:
Tested by: SCJTM
Reviewed by: HS
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	84.0	16.0	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.51	0.25	0.20	0.137				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-17 @ 32-33.5 Ft.

Date: March 24, 1998

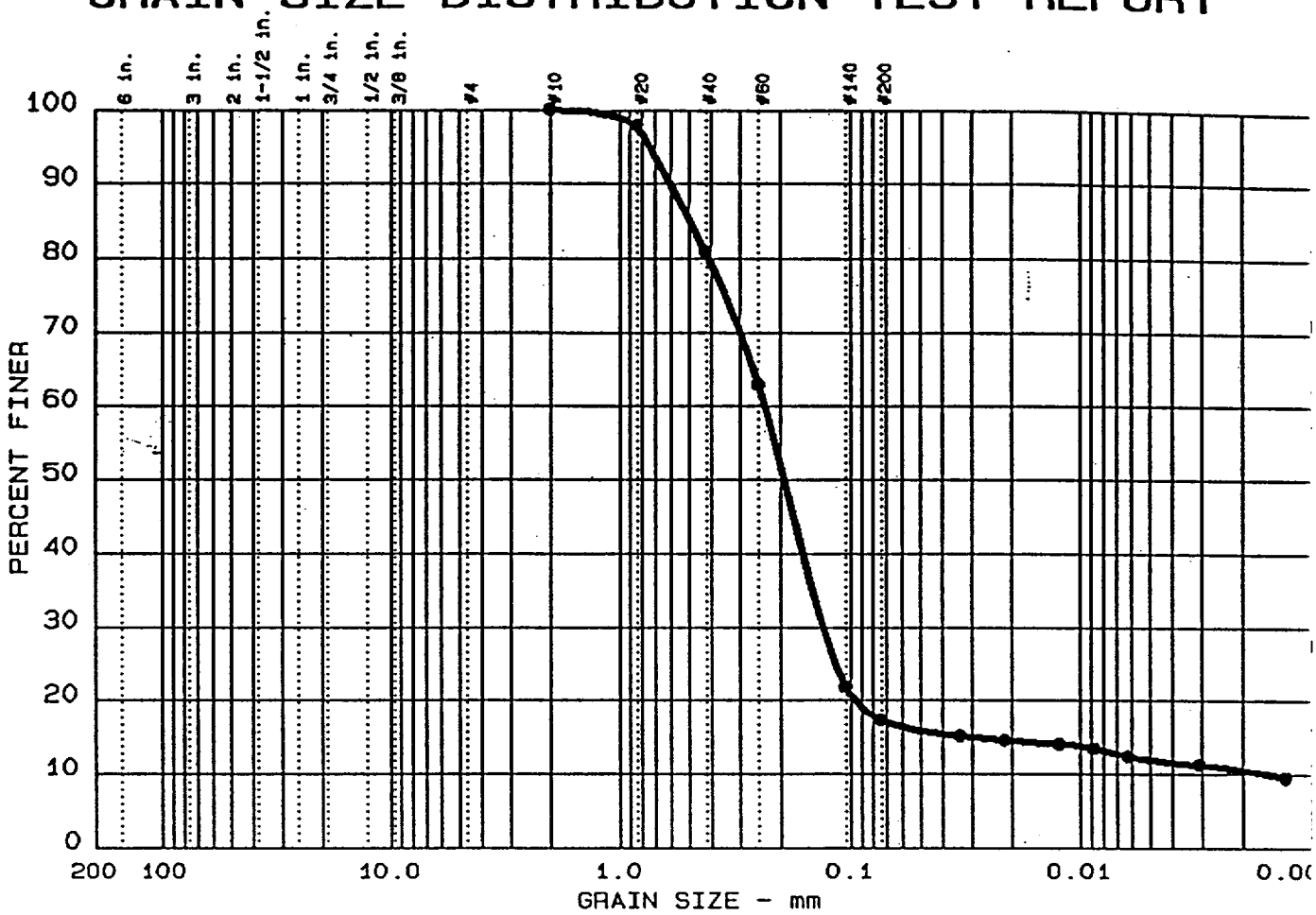
Remarks:
Tested by: SCT=JTM
Reviewed by: H
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	0.0	82.6	5.5	11.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.49	0.23	0.19	0.132	0.0265	0.0015	48.31	153.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-18 @ 33.5-35 Ft.

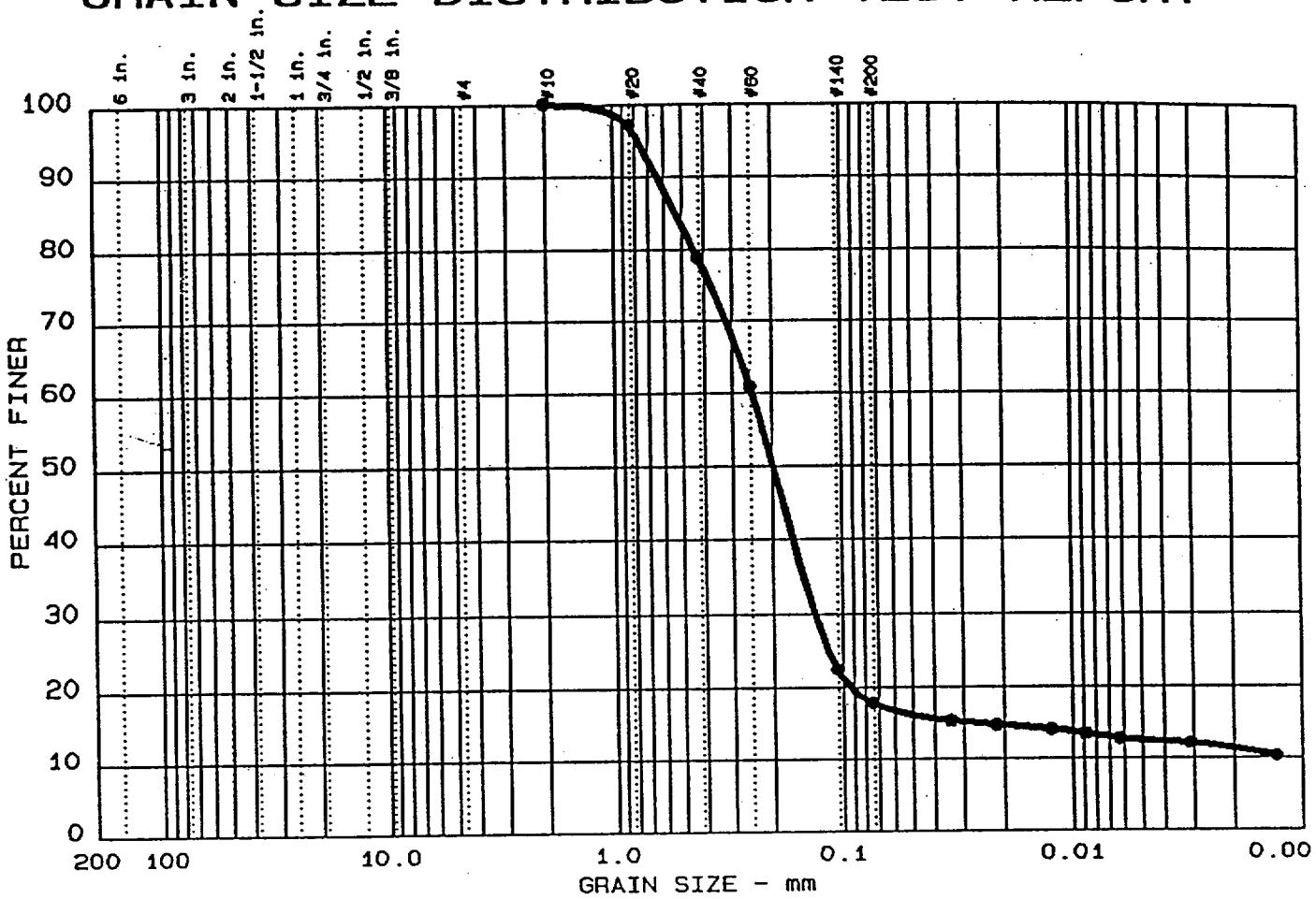
Date: March 24, 1998

Remarks:
Tested by: SC
Reviewed by: [illegible]
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	82.2	5.3	12.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	35	12	0.52	0.24	0.20	0.131	0.0265			

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Clayey Sand	SC	A-2-6 (0.1)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-19 @ 35-36.5 Ft.

Date: March 27, 1998

Remarks:

Tested by: SC

Reviewed by: HS

ASTM D422
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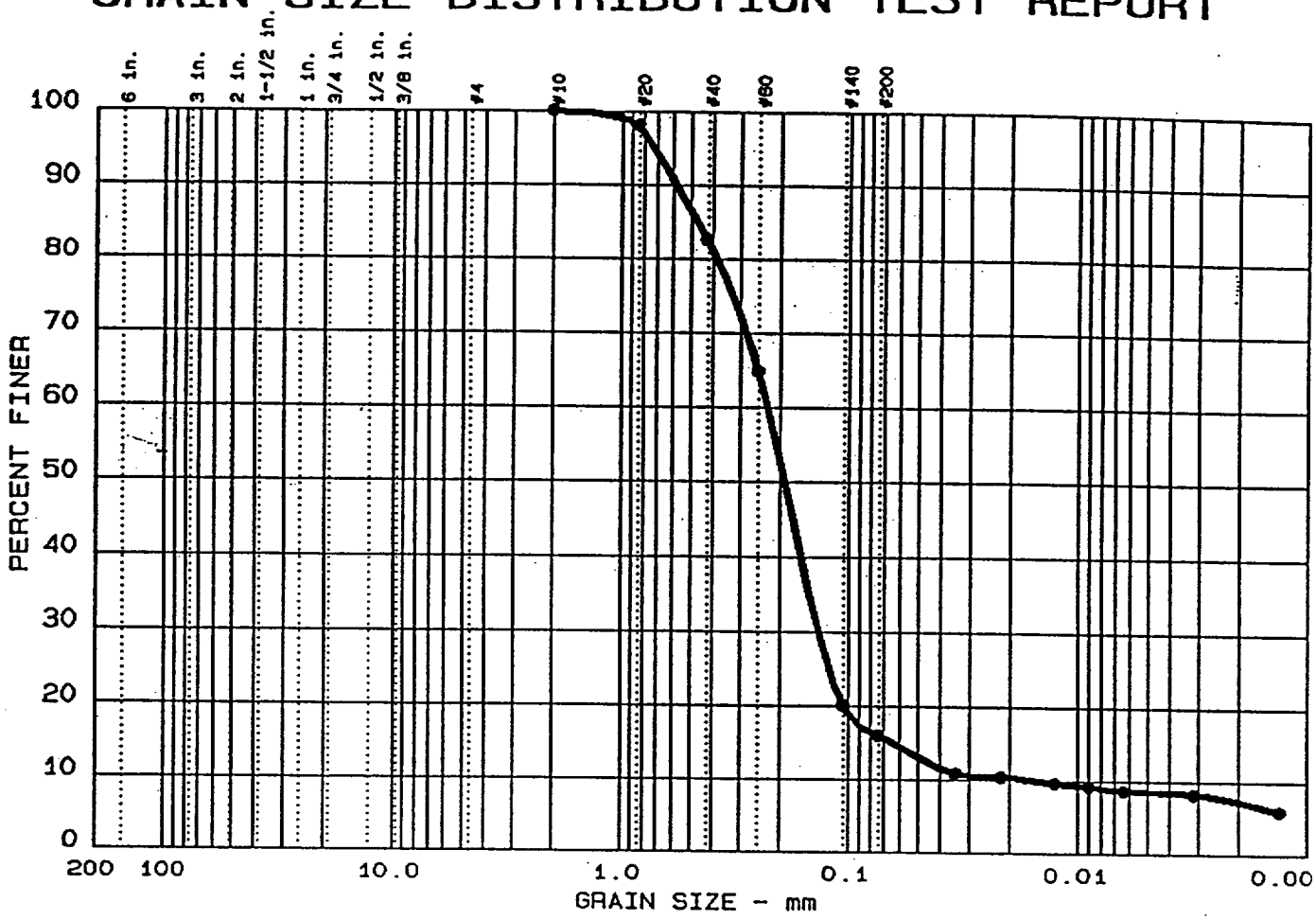
ASTM D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	17	0.0	0.0	84.0	7.5	8.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.46	0.23	0.19	0.135	0.0630	0.0153	5.22	14.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-20 @ 36.5-38 Ft.

Date: March 24, 1998

Remarks:

Tested by: SCJ TM

Reviewed by: HJ

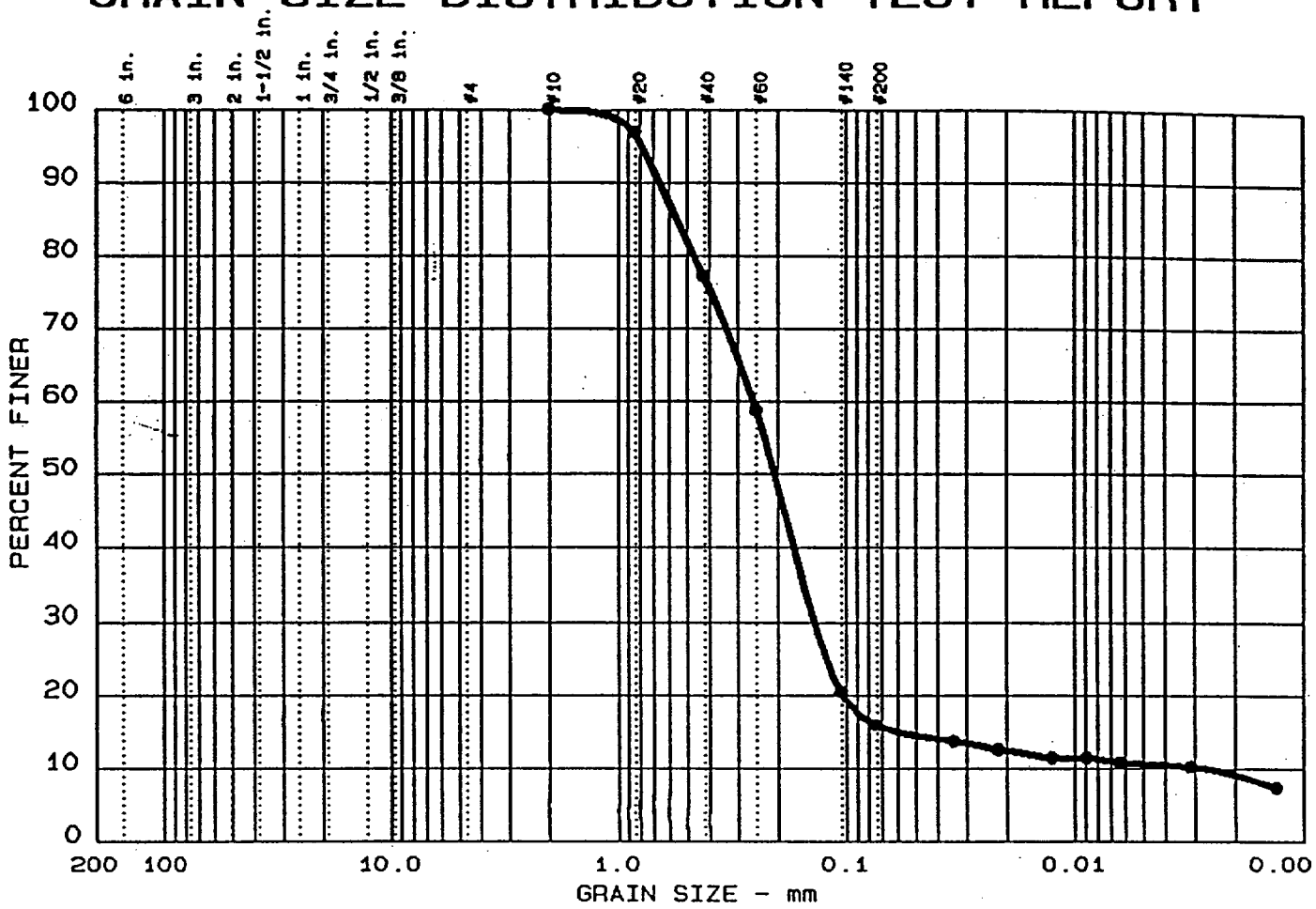
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	18	0.0	0.0	84.0	5.3	10.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.55	0.26	0.21	0.138	0.0587	0.0027	27.23	94.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-21 @ 38-39.5 Ft.

Date: March 24, 1998

Remarks:

Tested by: SC

Reviewed by: HB

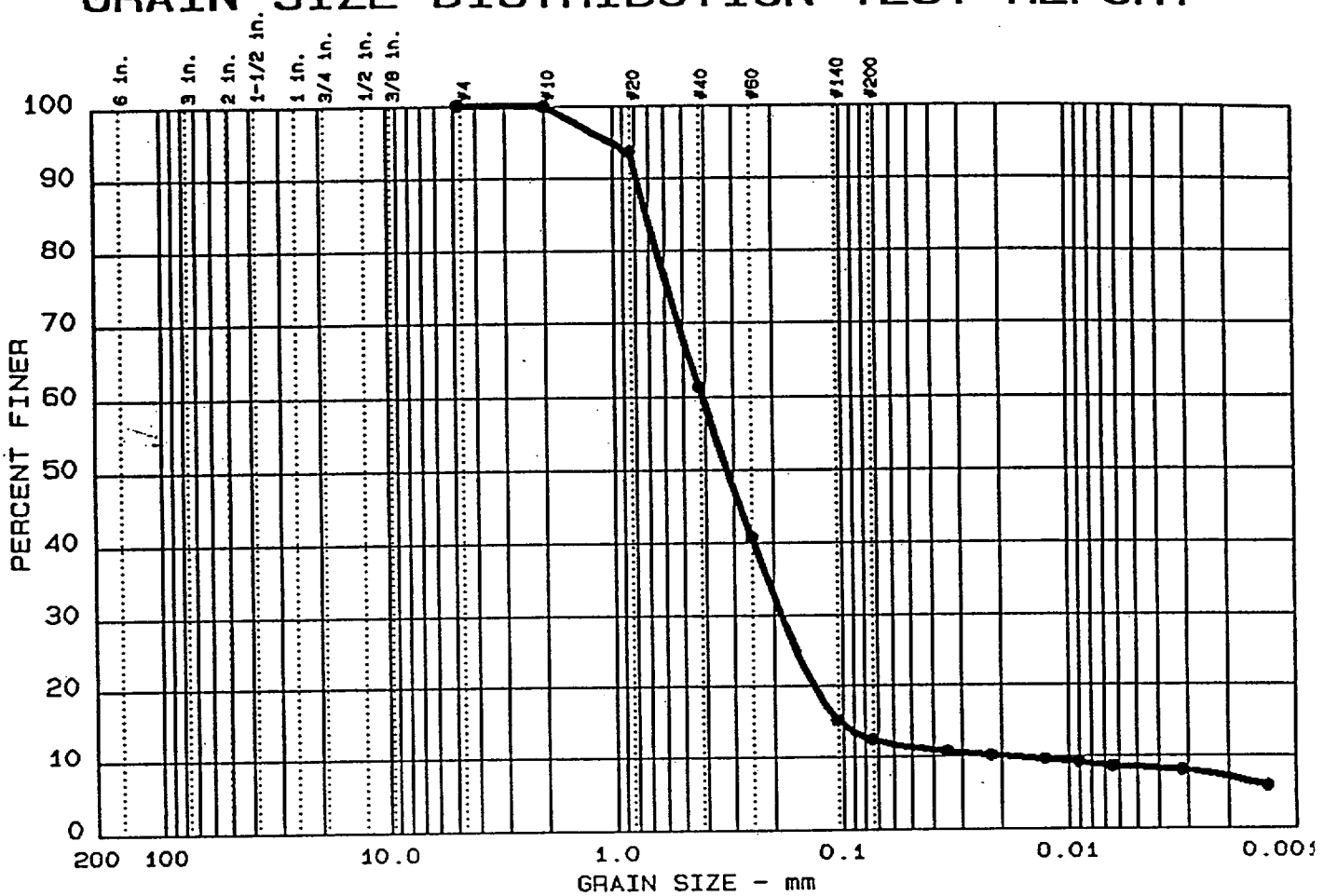
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	19	0.0	0.0	87.6	4.1	8.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.71	0.41	0.32	0.185	0.1030	0.0173	4.88	23.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Silty Sand	SM	A-2-4 (0.3)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-22 @ 39.5-40 Ft.

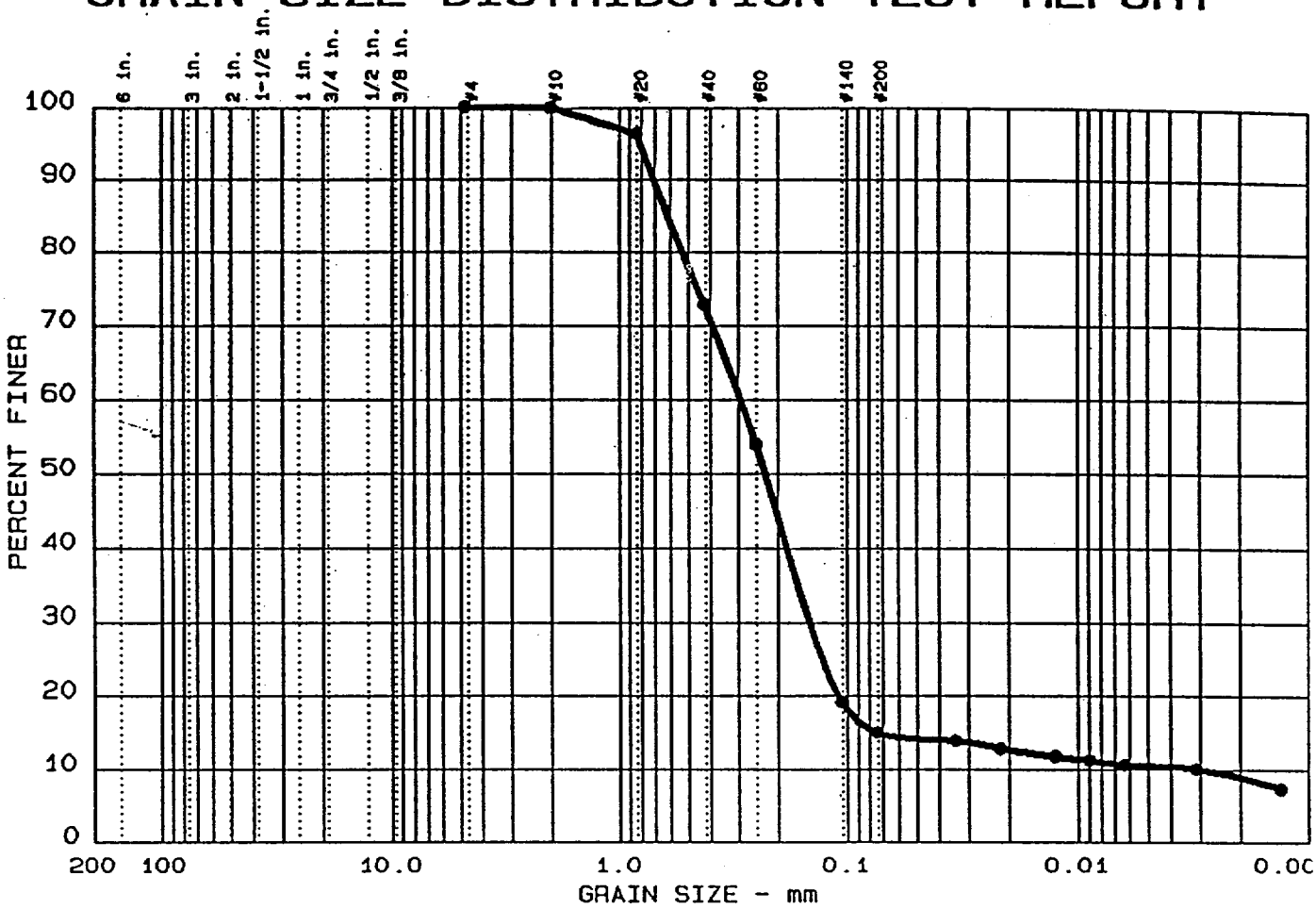
Date: March 24, 1998

Remarks:
Tested by: SCS
Reviewed by: HD
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	20	0.0	0.0	85.0	4.5	10.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.61	0.29	0.23	0.146	0.0731	0.0027	26.55	106.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-23 @ 41-43.5 Ft.

Date: March 24, 1998

Remarks:

Tested by: SCATTM

Reviewed by: HJ

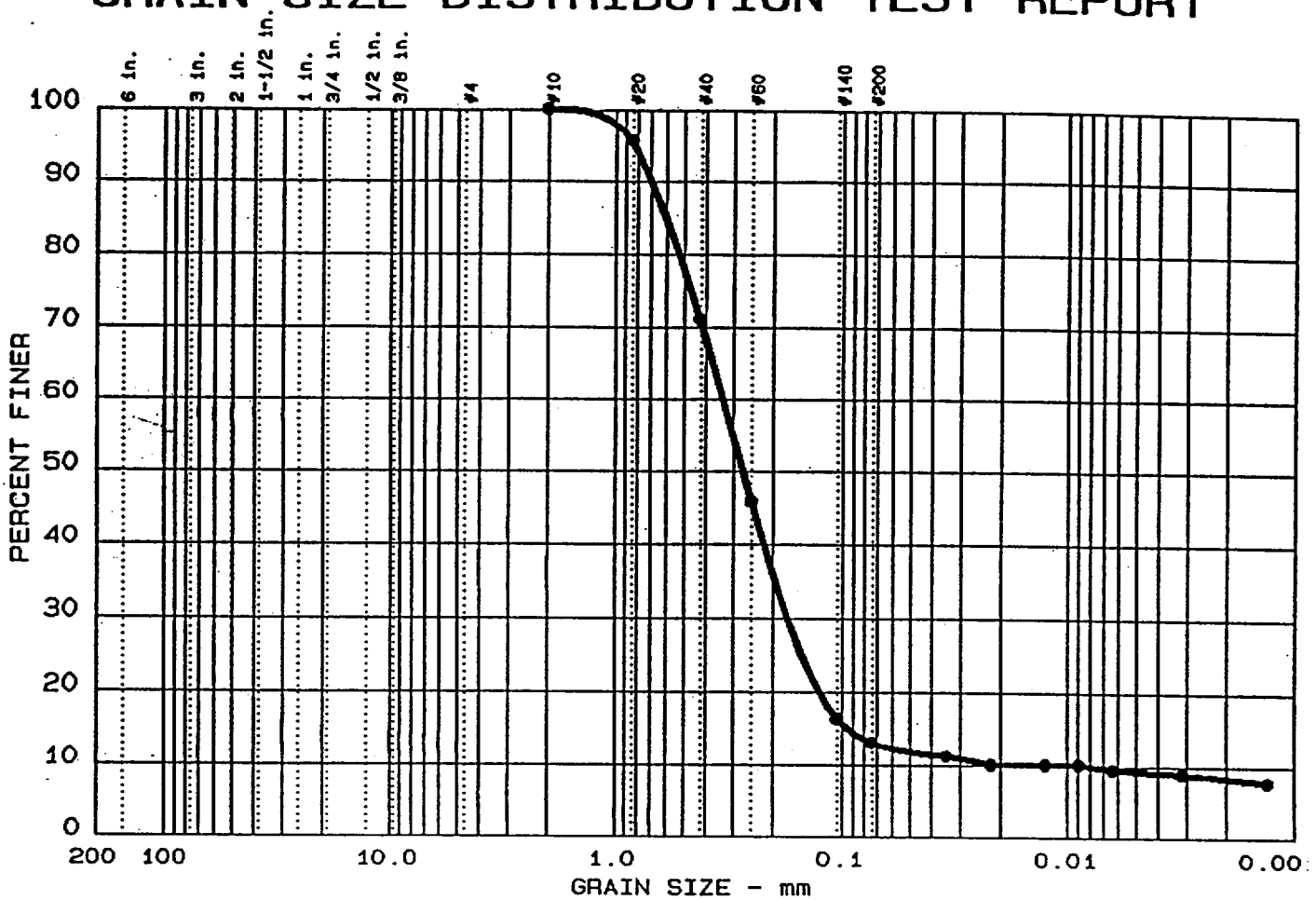
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	0.0	86.9	3.9	9.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.60	0.33	0.27	0.172	0.0934	0.0080	11.14	42.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Silty Sand	SM	A-2-4 (0.2)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-24 @ 42.5-44 Ft.

Date: March 24, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

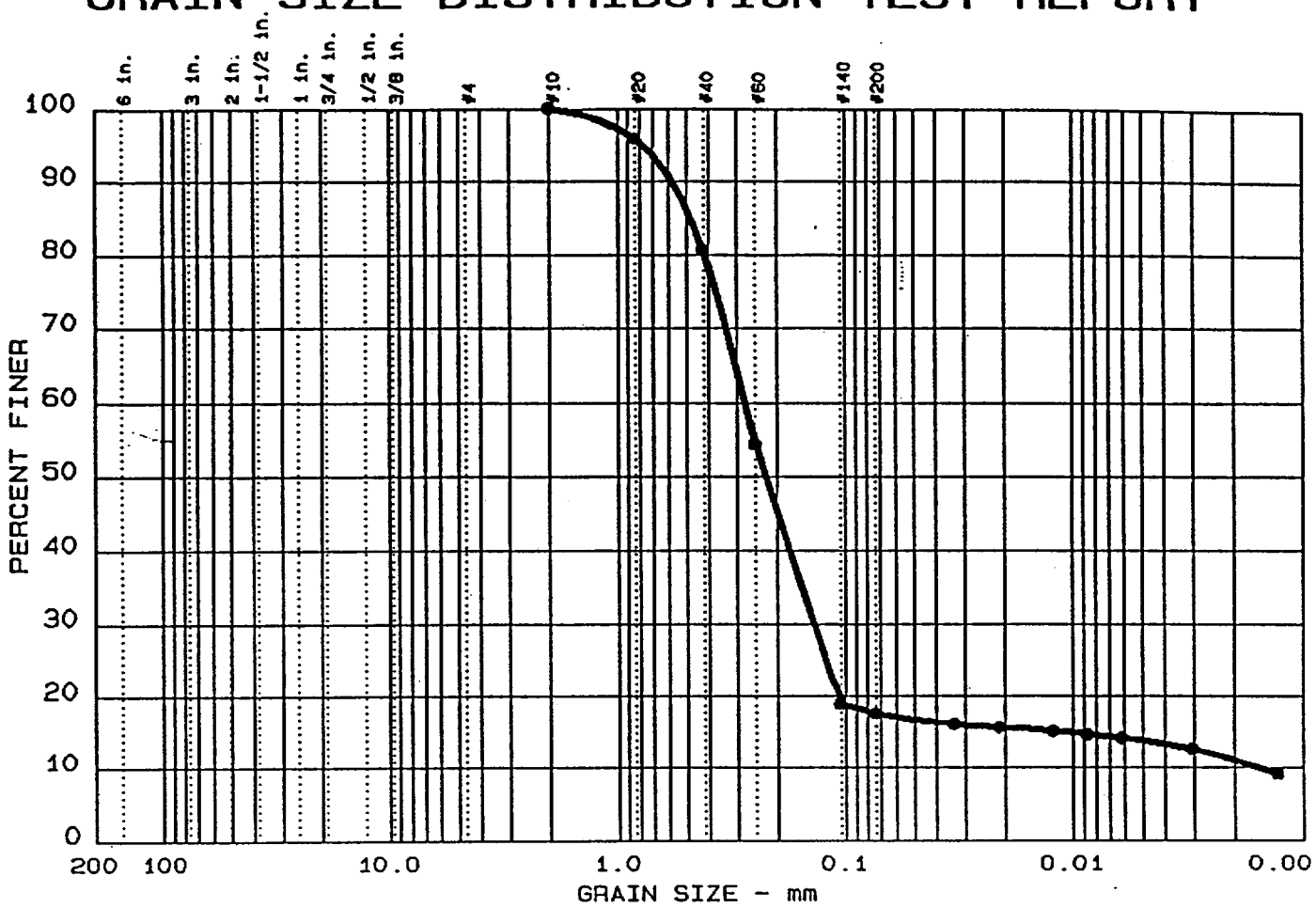
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	82.4	3.9	13.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.47	0.28	0.22	0.138	0.0108	0.0016	43.50	174.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-25 @ 44-45.5 Ft.

Date: March 27, 1998

Remarks:

Tested by: SC JJTM

Reviewed by: HS

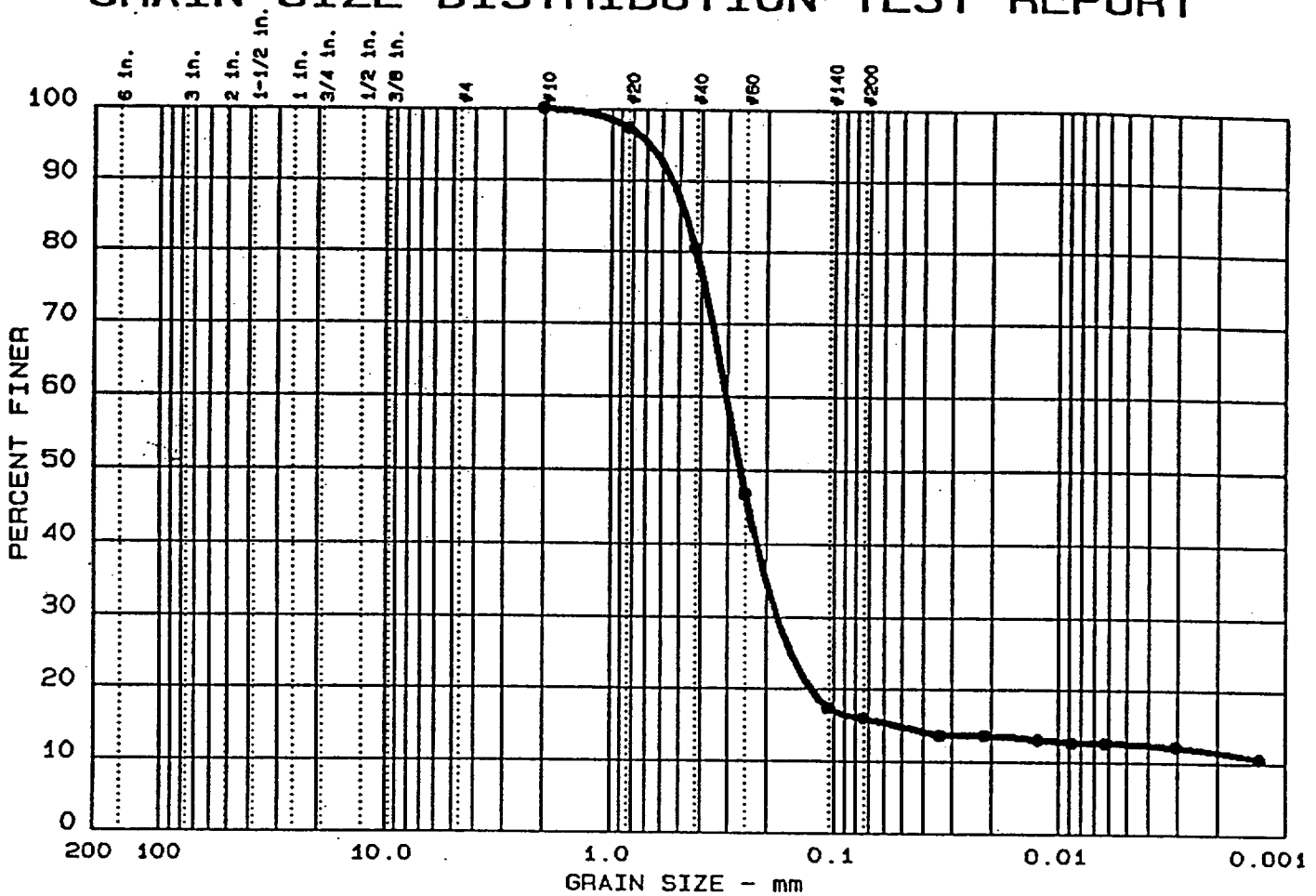
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	84.0	3.4	12.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.46	0.30	0.26	0.179	0.0521			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-26 @ 45.5-47 Ft.

Date: April 2, 1998

Remarks:

Tested by: SC

Reviewed by: HD

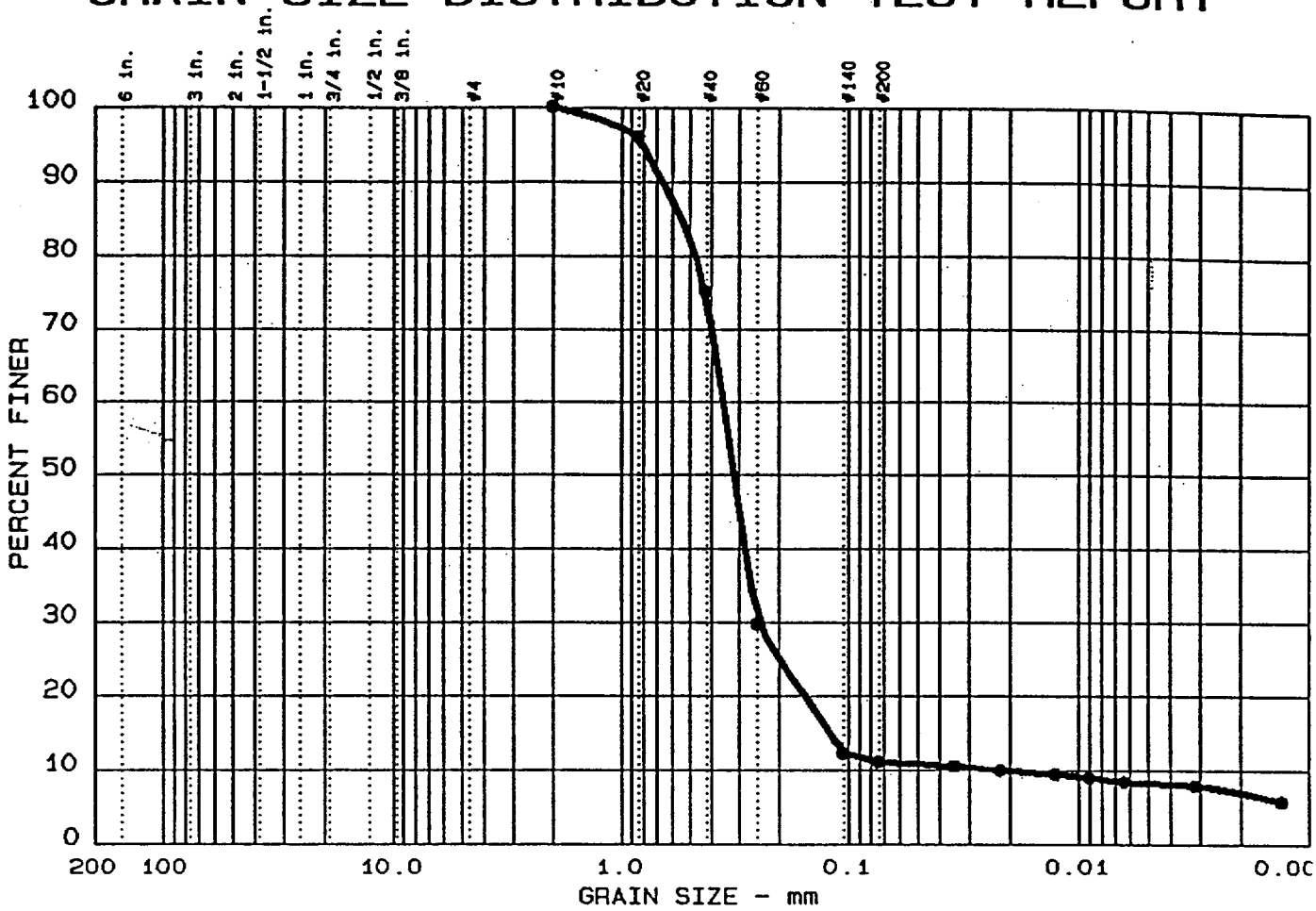
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	B	0.0	0.0	88.9	2.9	8.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.54	0.35	0.31	0.251	0.1201	0.0195	9.15	18.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Poorly Graded Sand with Silt	SP-SM	A-2-4 (0.4)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-27 @ 47-48.5 Ft.

Date: March 27, 1998

Remarks:

Tested by: SC+JTM

Reviewed by: HP

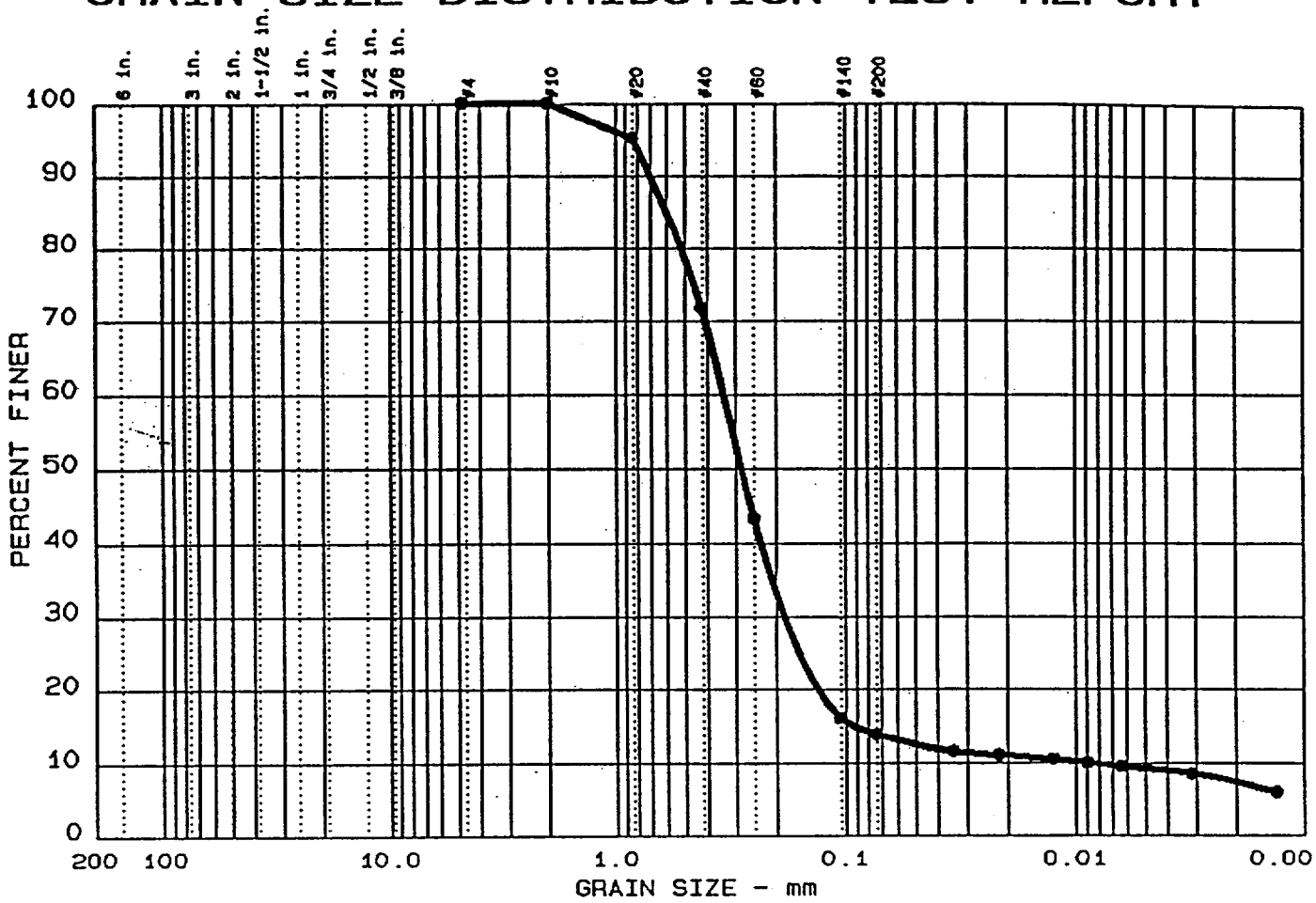
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	86.1	4.6	9.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.59	0.34	0.28	0.185	0.0926	0.0079	12.85	42.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Silty Sand	SM	A-2-4 (0.1)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-28 @ 48.5-50 Ft.

Date: March 27, 1998

Remarks:

Tested by: SC+JTM

Reviewed by: HO

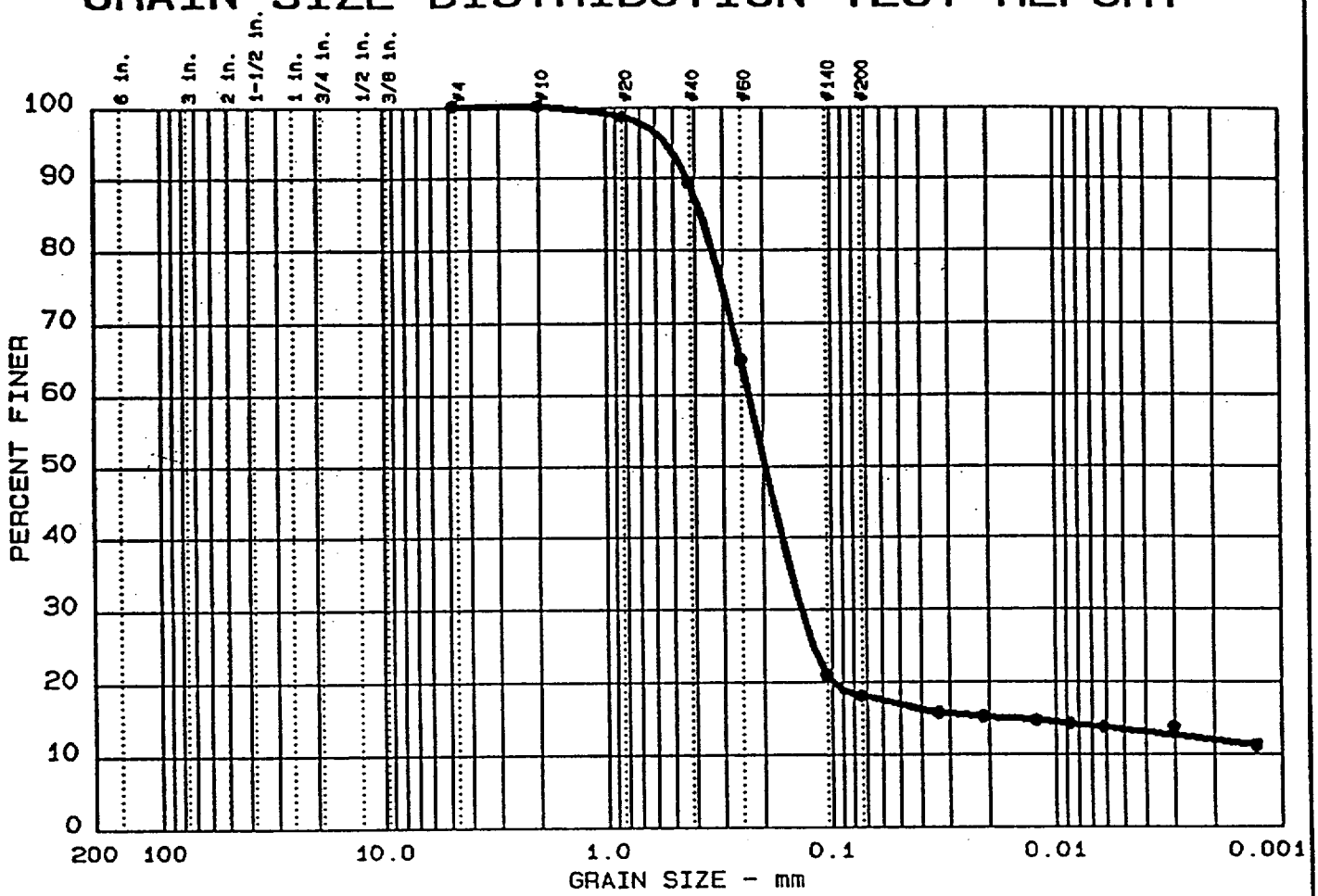
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	81.9	4.7	13.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.37	0.23	0.20	0.136	0.0149			

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Browm Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-29 @ 50-51.5 Ft.

Date: April 2, 1998

Remarks:

Tested by: SC

Reviewed by: KS

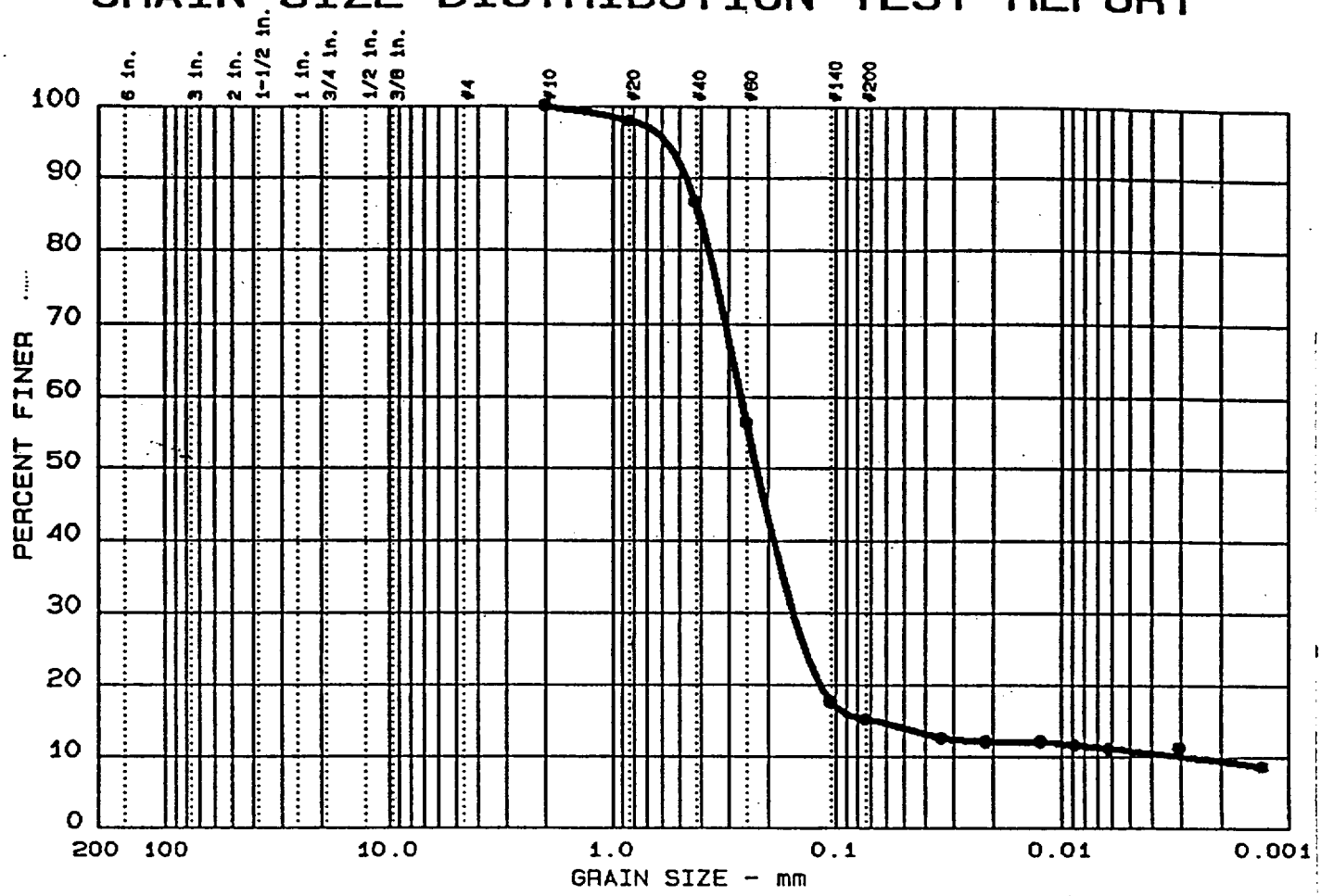
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	84.8	4.4	10.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.40	0.26	0.22	0.155	0.0653	0.0028	33.00	95.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-30 @ 51.5-53 Ft.

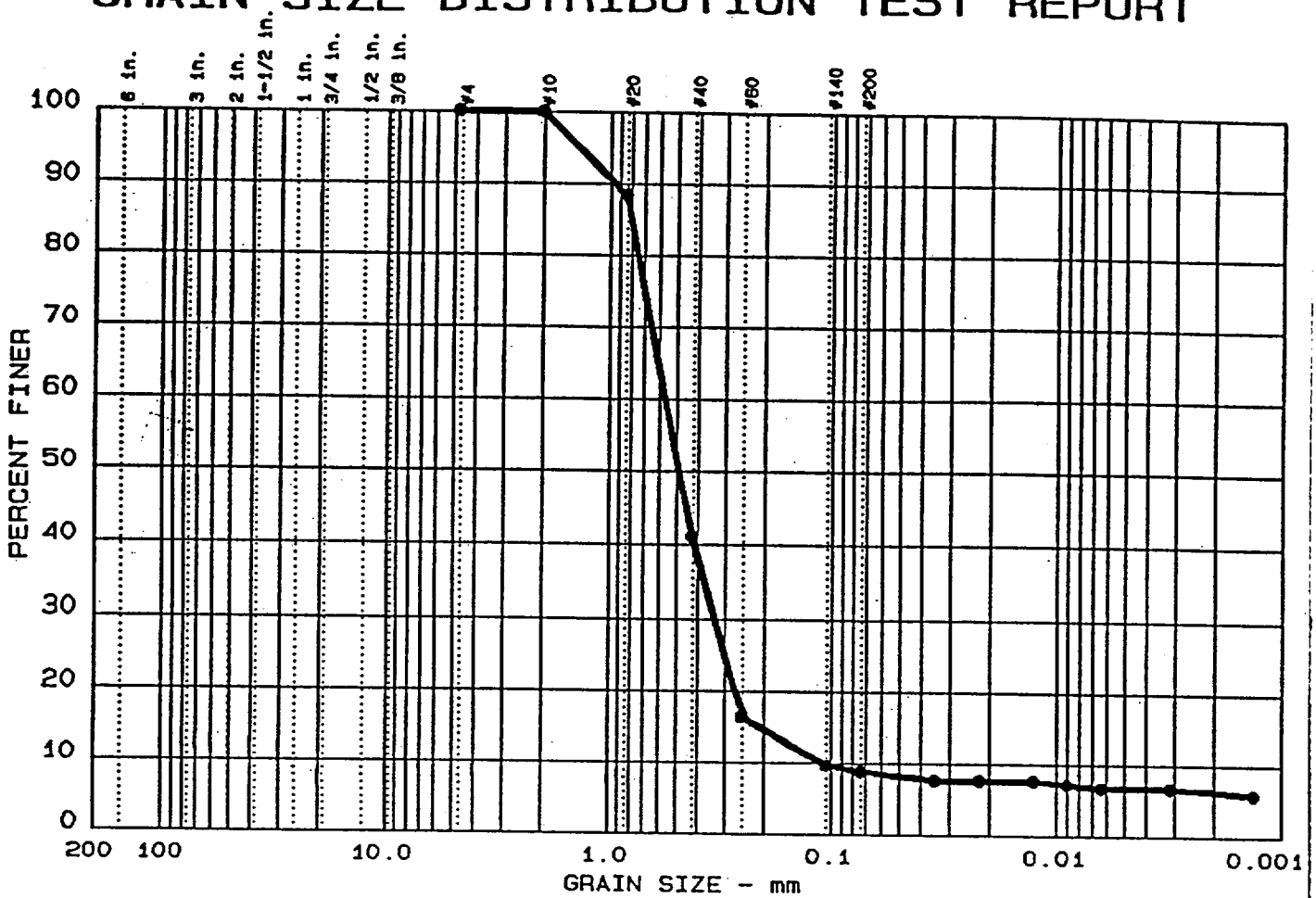
Date: April 2, 1998

Remarks:
Tested by: SC
Reviewed by: HD
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	91.2	2.1	6.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.80	0.56	0.48	0.333	0.2051	0.1089	1.81	5.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-31 @ 53-54.5 Ft.

Date: April 2, 1998

Remarks:

Tested by: SC

Reviewed by: HD

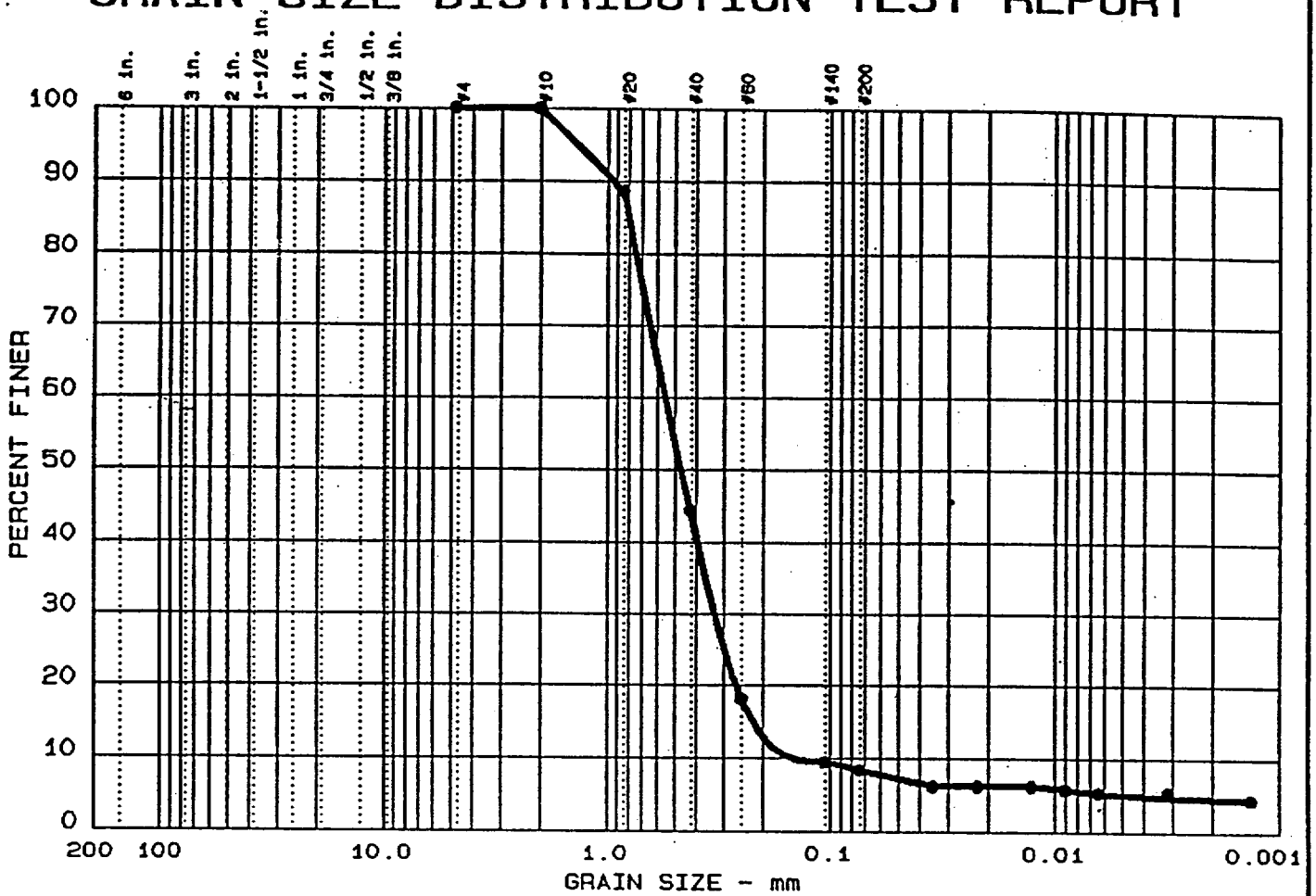
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	91.6	3.3	5.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.79	0.55	0.47	0.329	0.2226	0.1404	1.41	3.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-32 @ 54.5-56 Ft.

Date: April 2, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

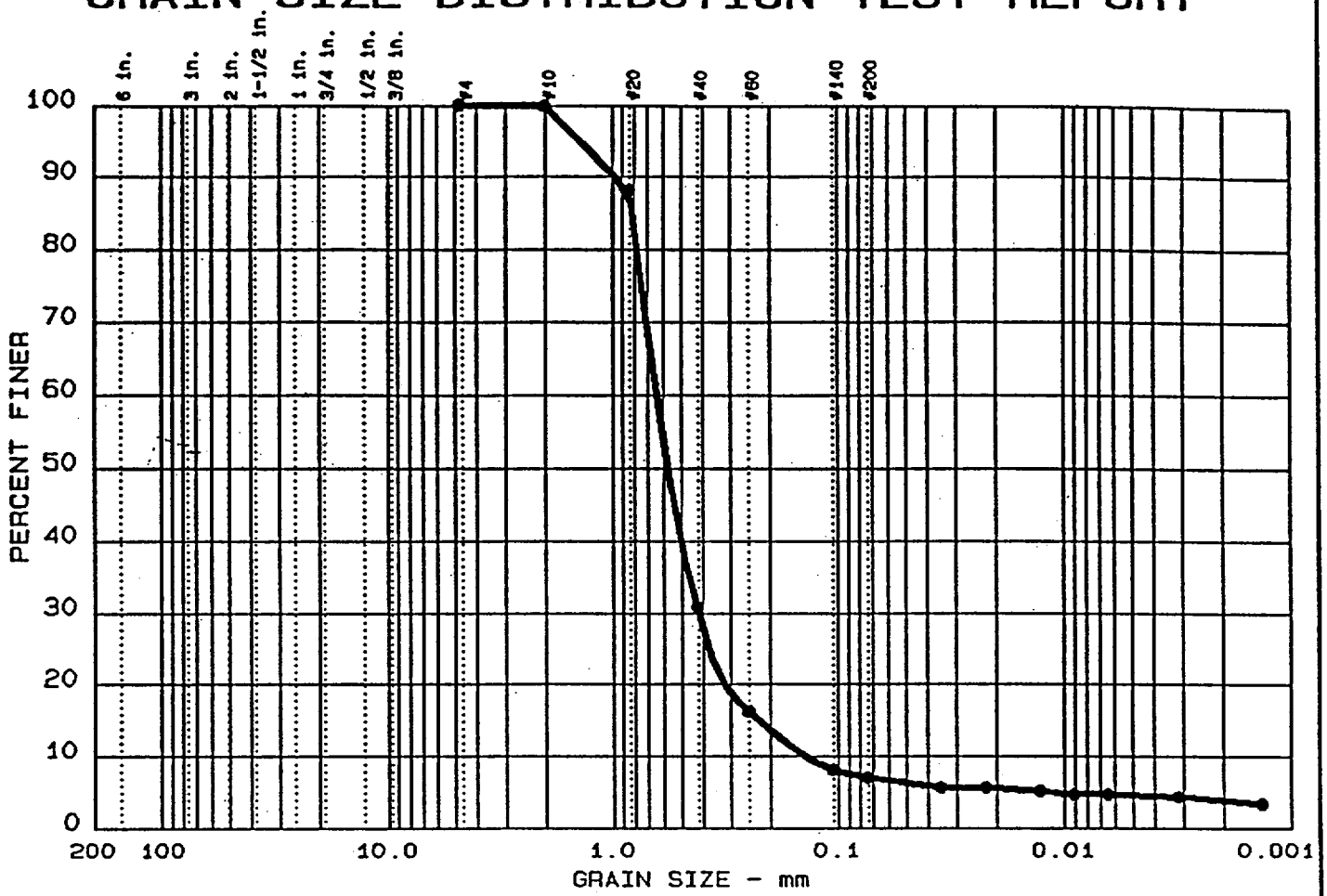
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	92.9	2.5	4.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.81	0.64	0.57	0.414	0.2226	0.1388	1.95	4.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-33 @ 56-57.5 Ft.

Date: April 2, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

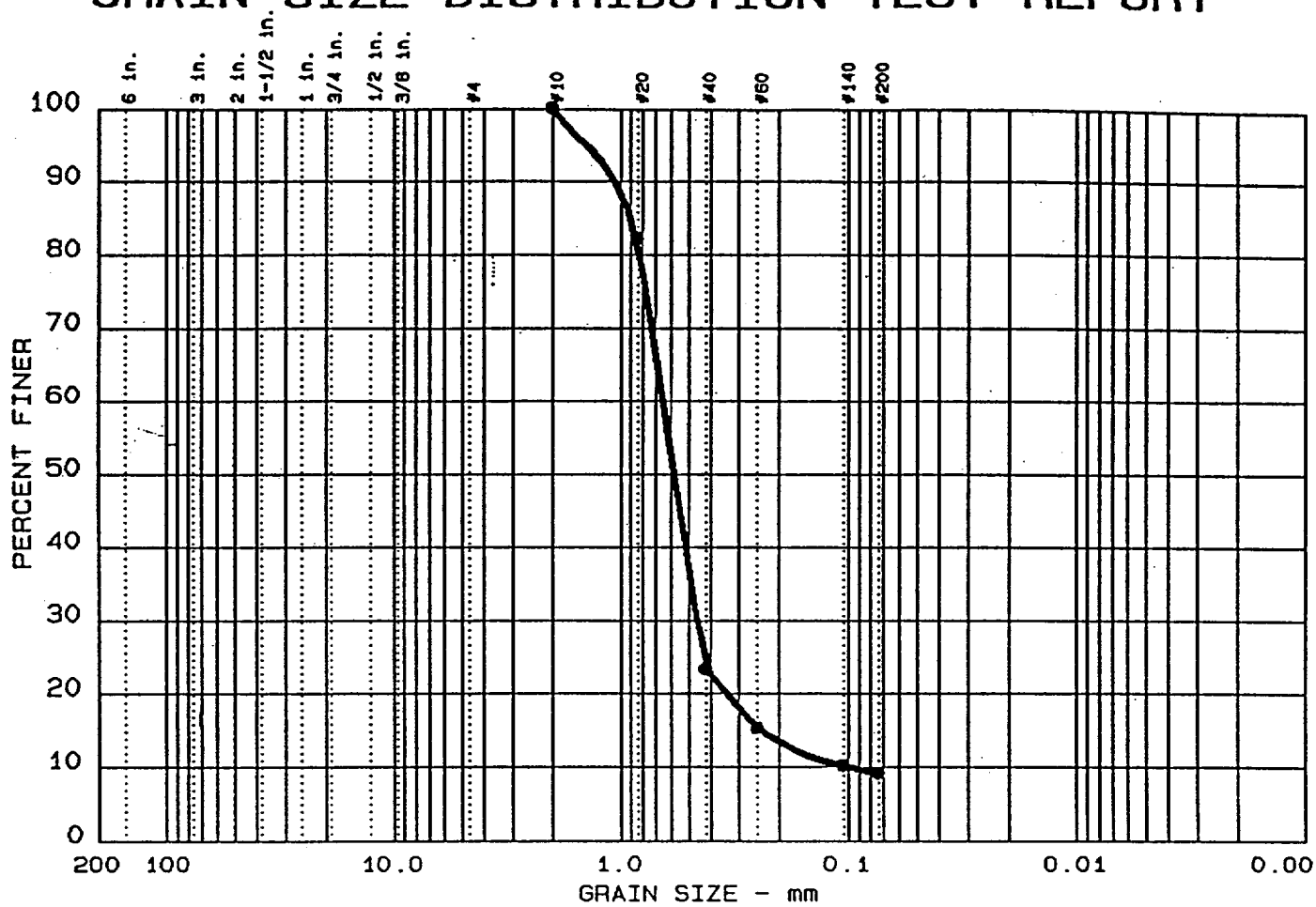
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	90.8	9.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.90	0.65	0.57	0.454	0.2382	0.0993	3.21	6.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-34 @ 57.5-59 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HS

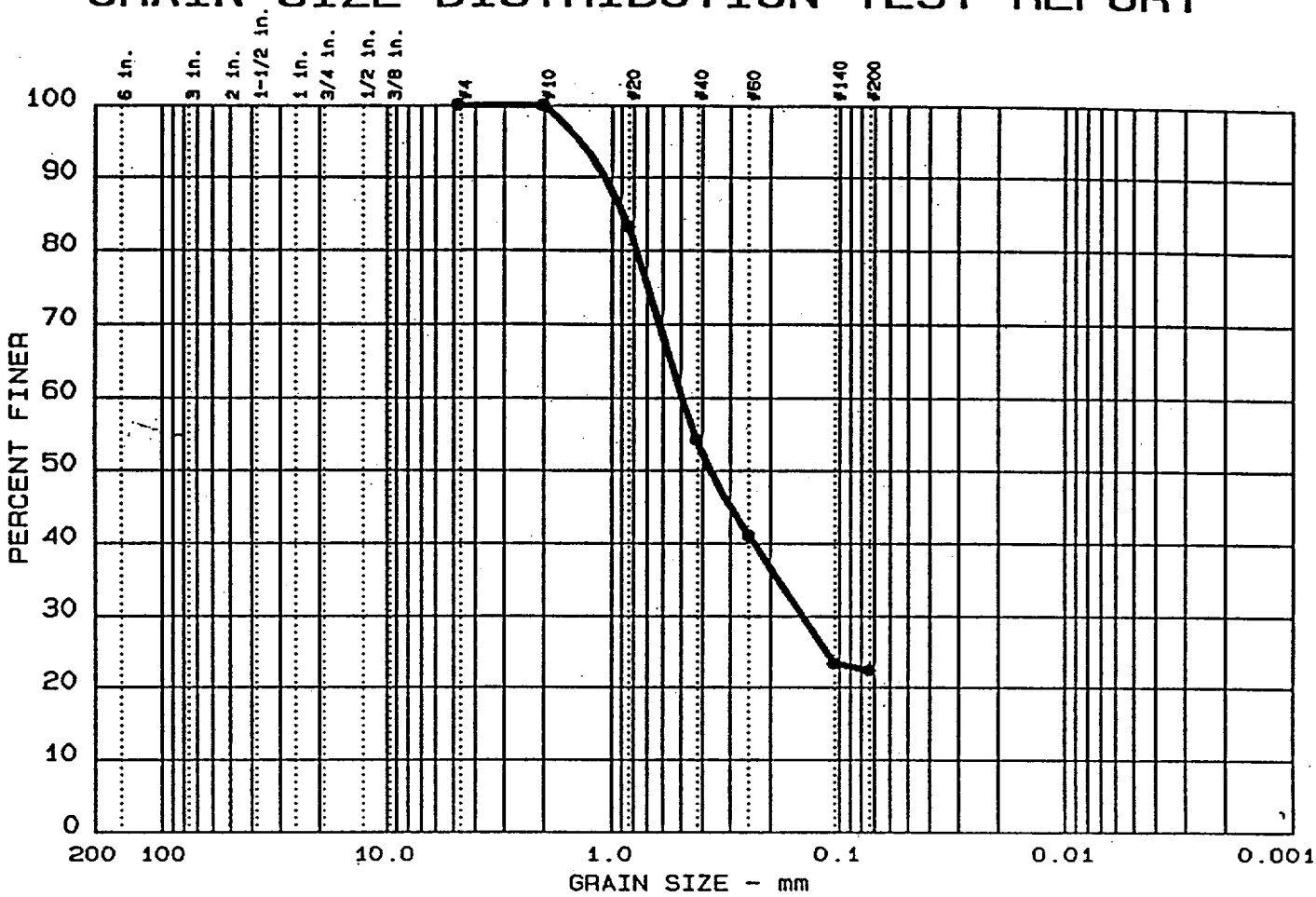
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	77.6	22.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.88	0.49	0.37	0.144				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-35 @ 59-60.5 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HS

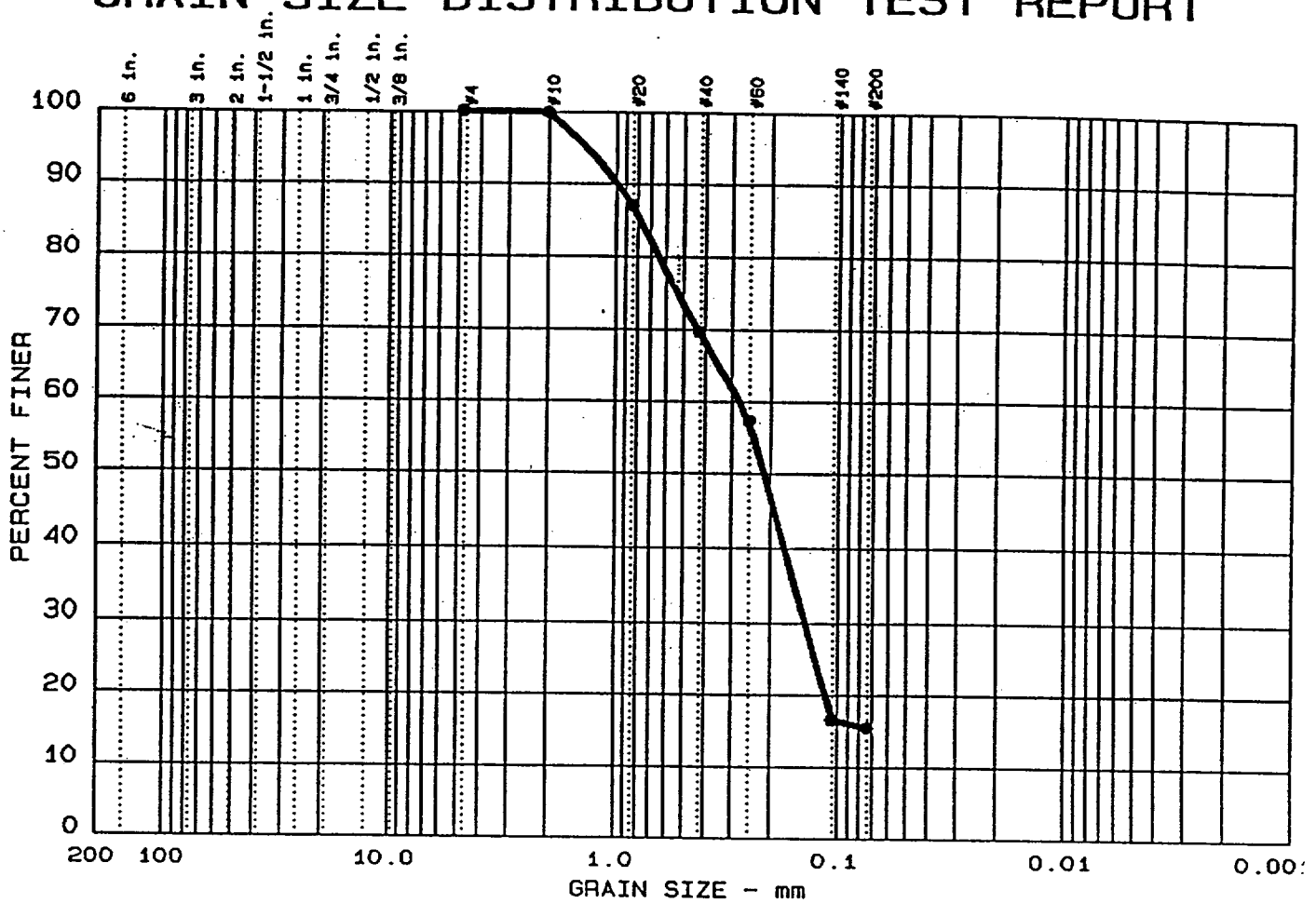
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	B	0.0	0.0	84.5	15.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.77	0.28	0.21	0.140				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-36 @ 60.5-62 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HS

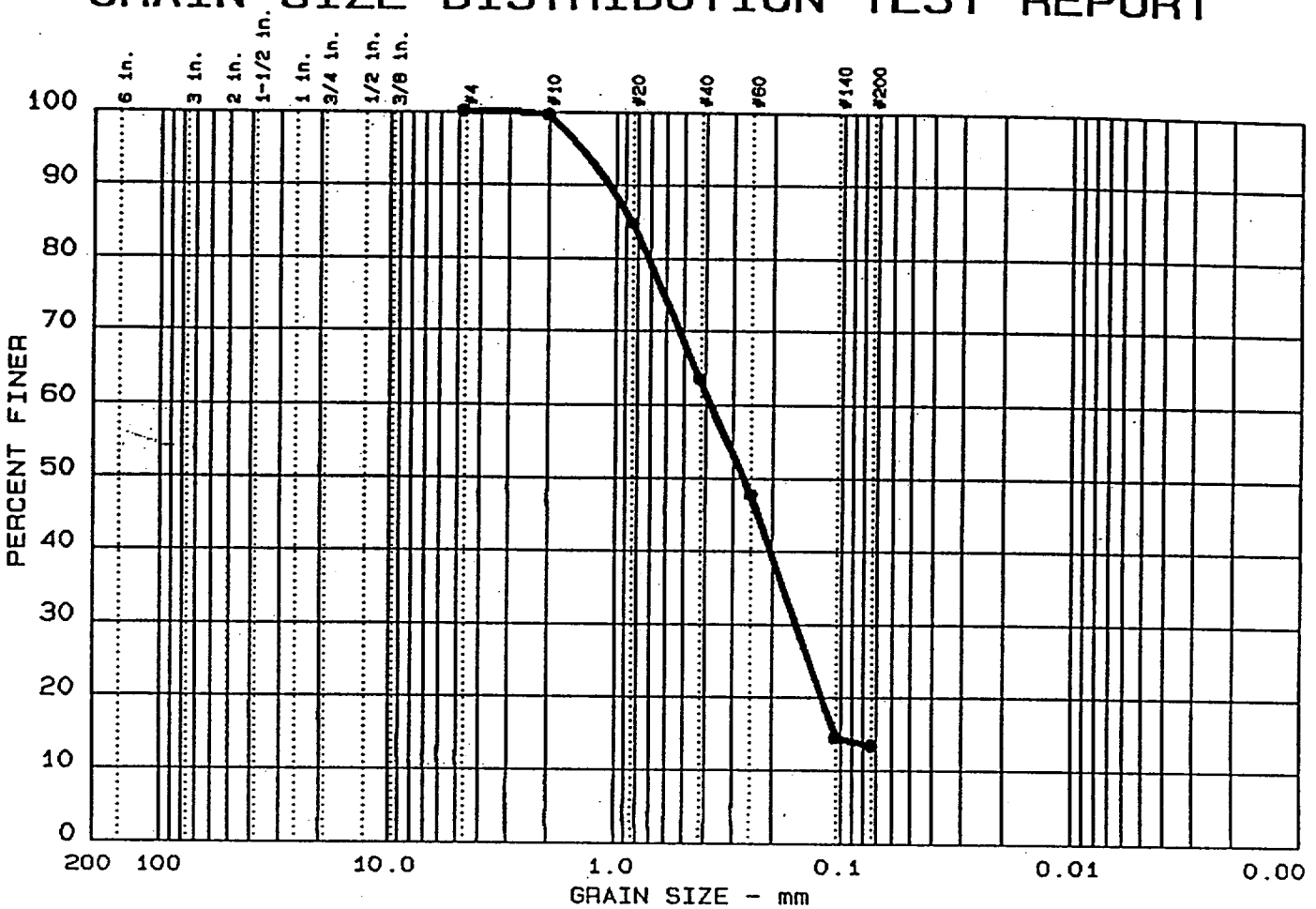
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	86.6	13.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.84	0.38	0.27	0.157	0.1063			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.2)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-37 @ 62-63.5 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HS

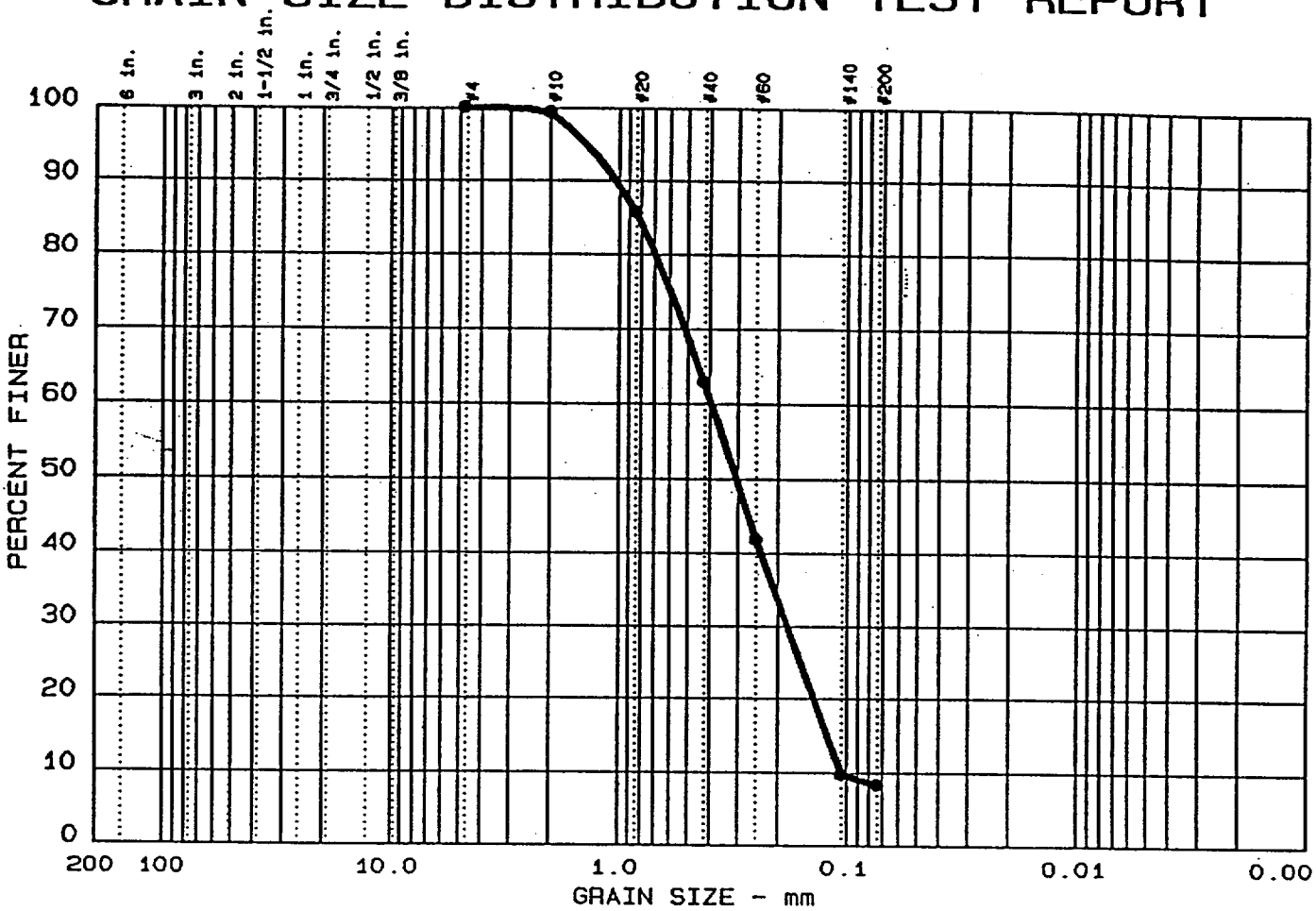
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	91.7	8.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.81	0.39	0.30	0.181	0.1209	0.1053	0.80	3.7

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Silty Sand	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-38 @ 63.5-65 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HD

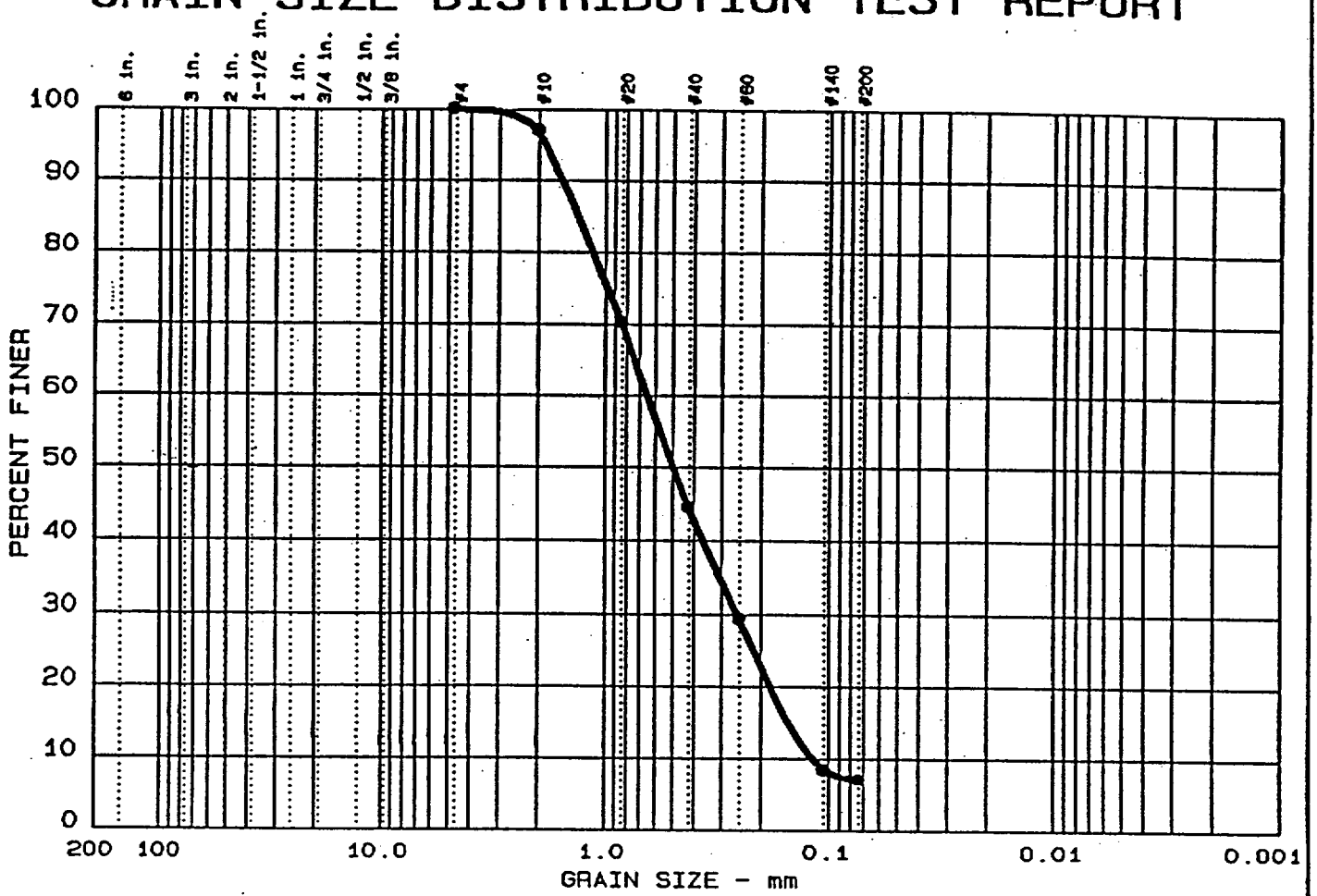
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	92.9	7.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.32	0.64	0.49	0.256	0.1503	0.1167	0.87	5.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-39 @ 65-66.5 Ft.

Date: April 2, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

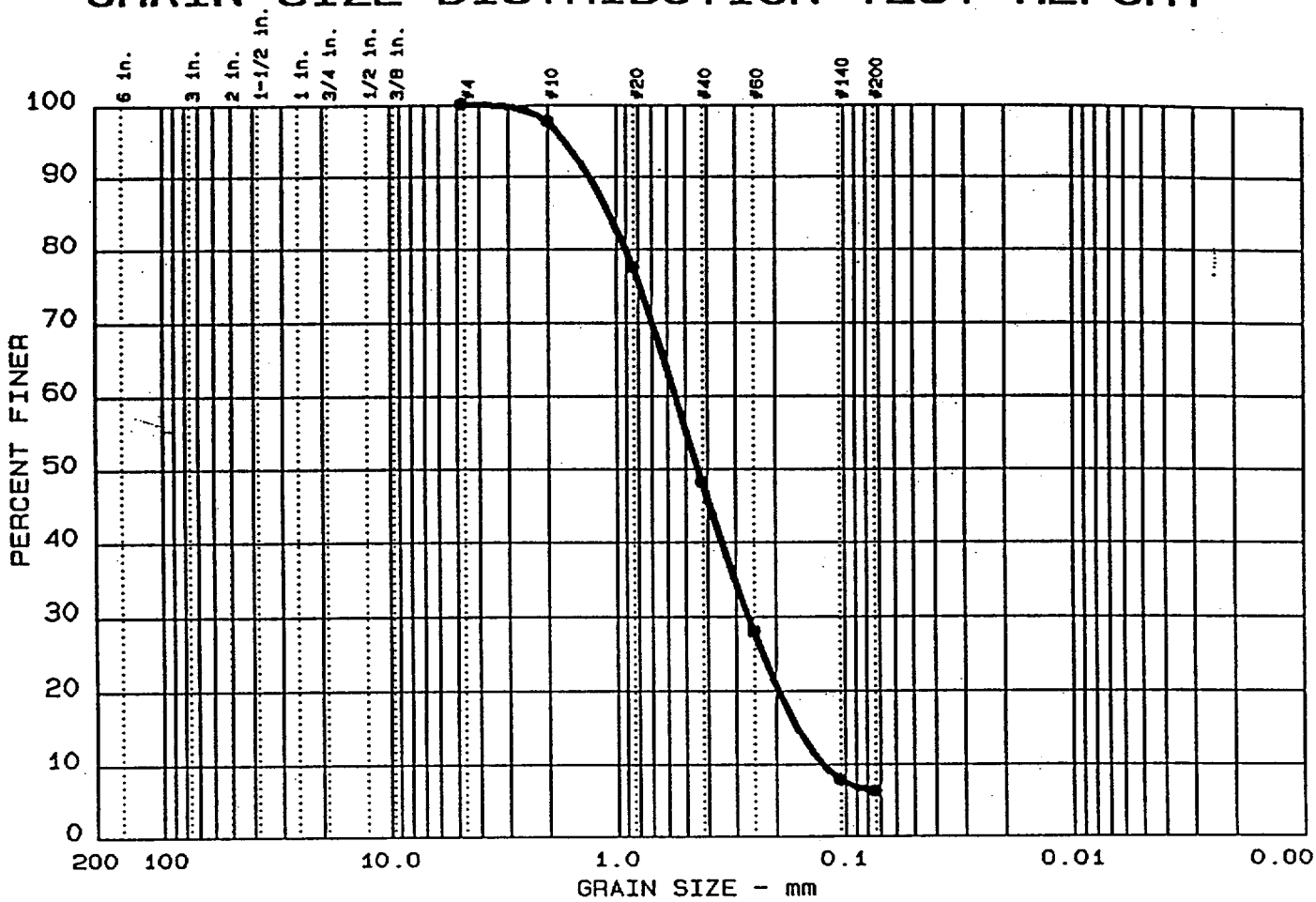
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	0.0	93.7	6.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.07	0.55	0.44	0.264	0.1607	0.1247	1.02	4.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Silty Sand	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-40 @ 66.5-68 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HB

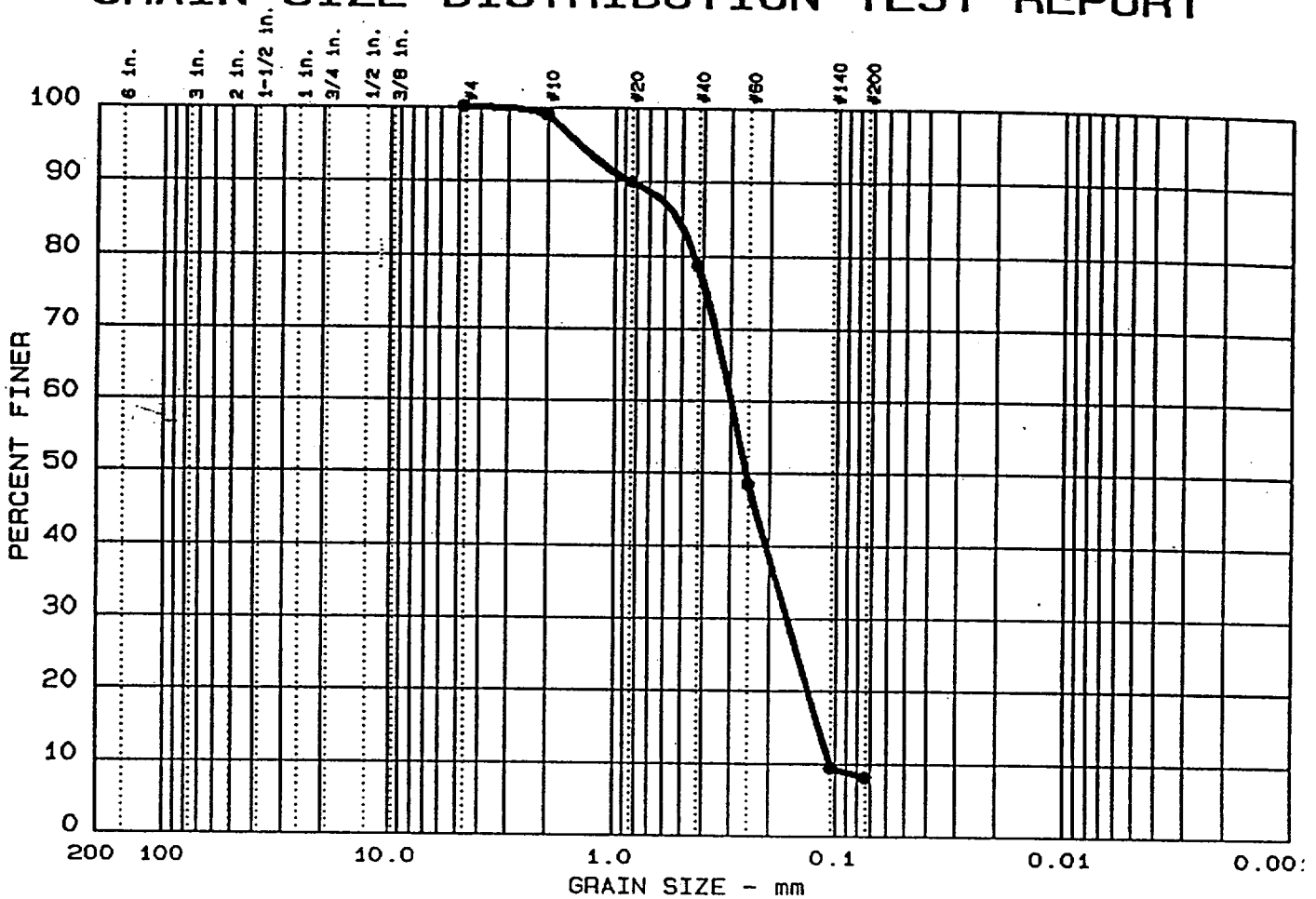
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	12	0.0	0.0	91.8	8.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.52	0.30	0.26	0.165	0.1183	0.1062	0.86	2.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-41 @ 68-69.5 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HB

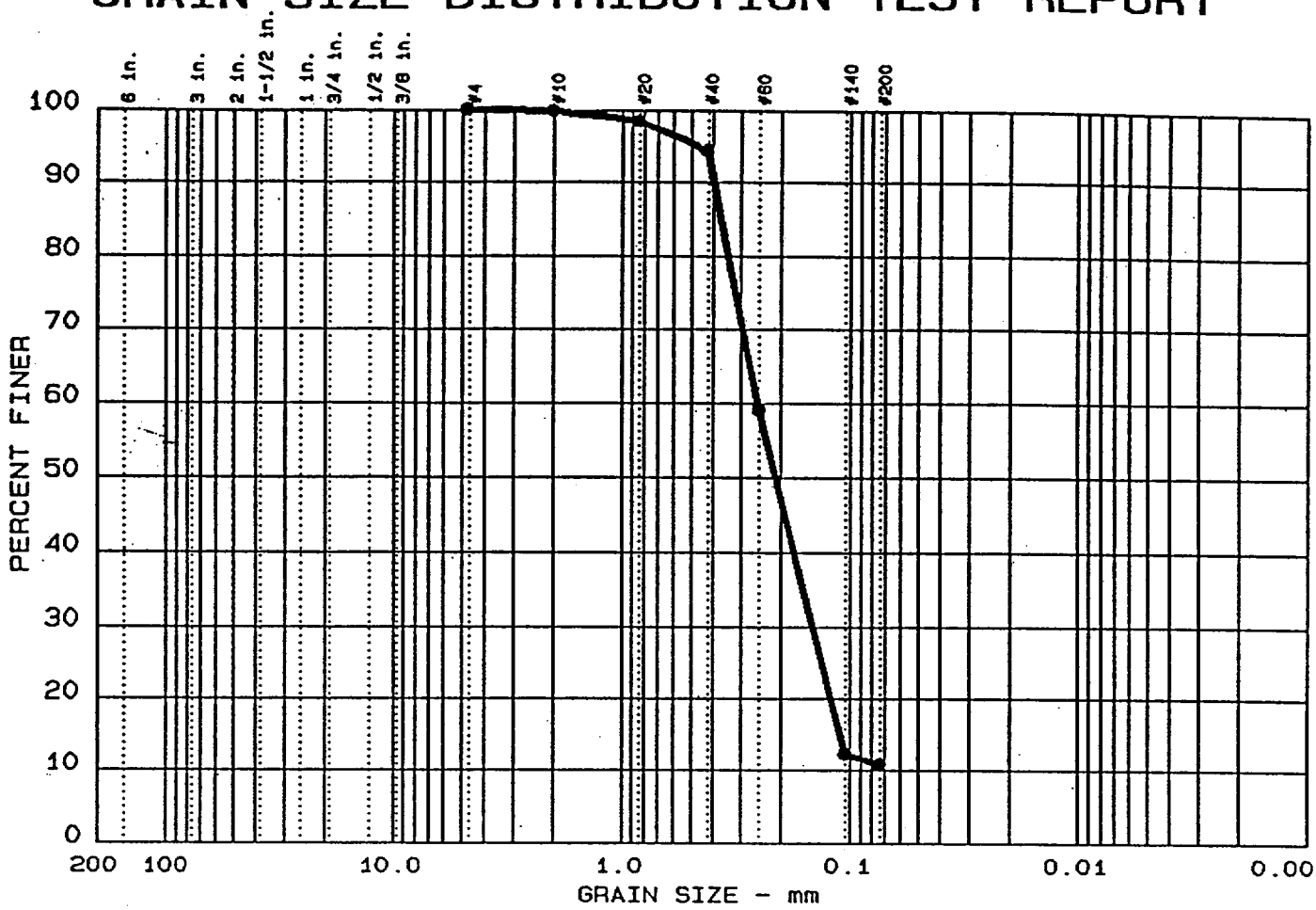
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	89.2	10.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.37	0.25	0.21	0.146	0.1104			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-2-4 (0.4)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-42 @ 69.5-71 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HB

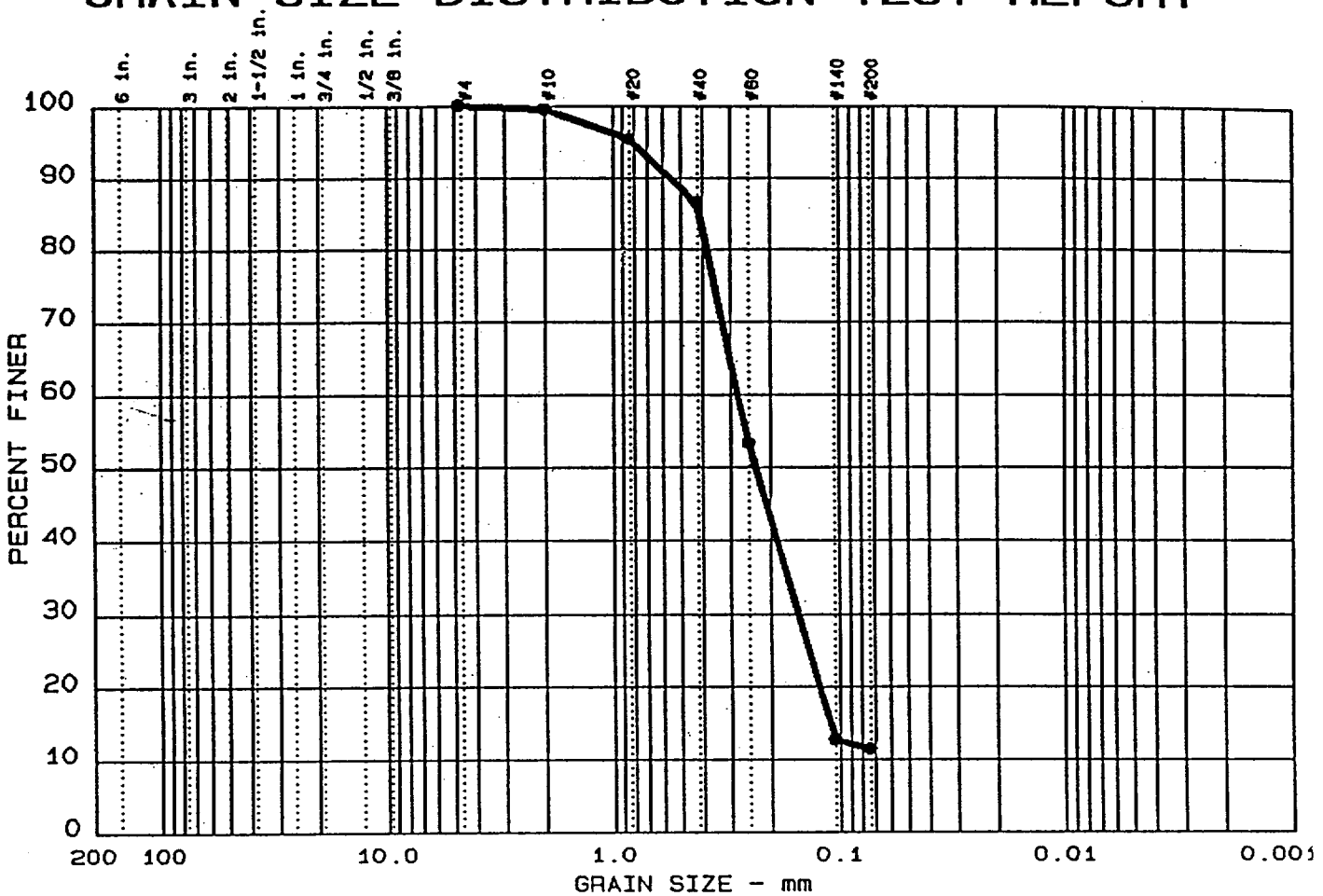
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	88.5	11.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.41	0.28	0.23	0.152	0.1099			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-2-4 (0.4)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-43 @ 71-72.5 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HS

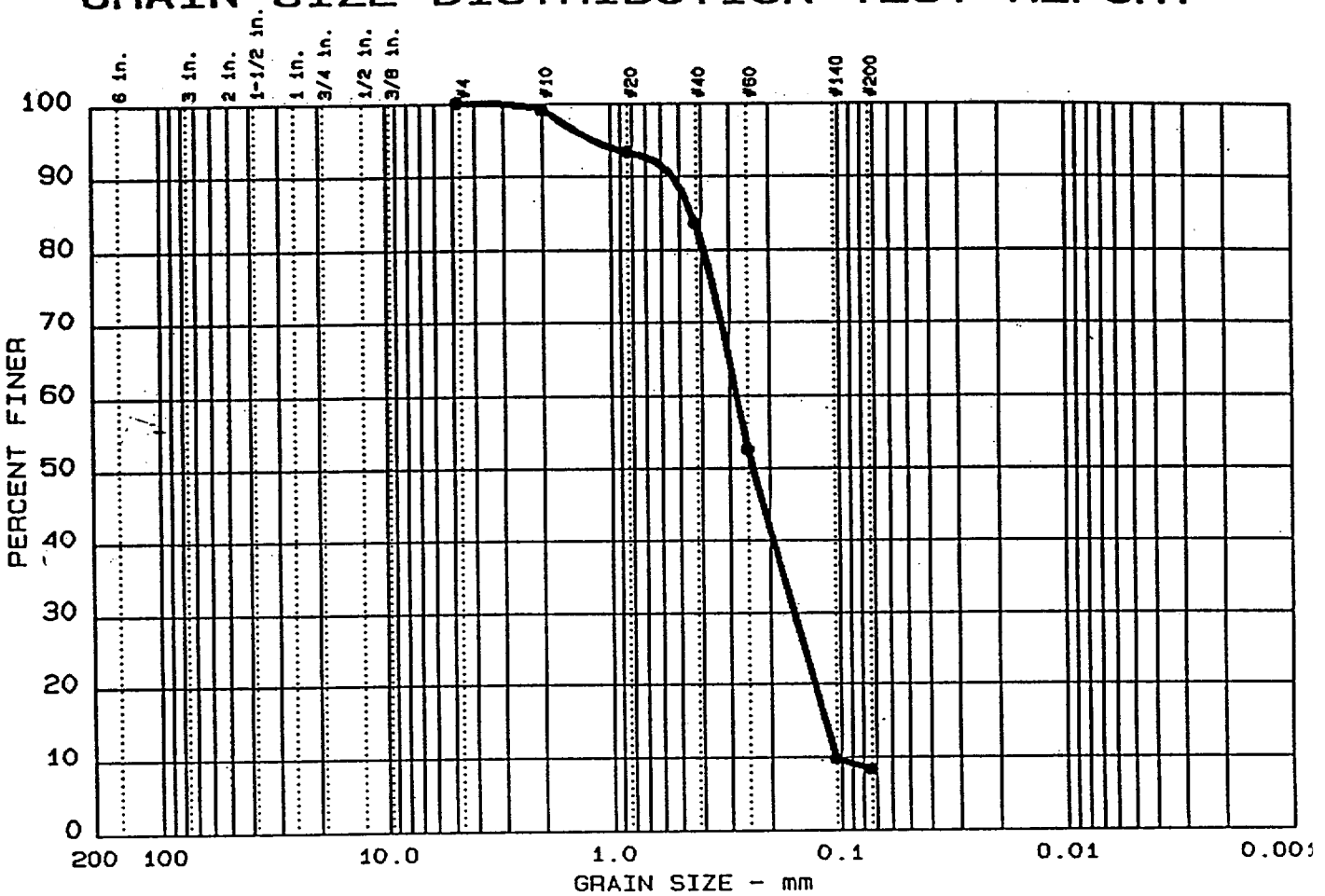
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	0.0	91.7	8.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.44	0.28	0.24	0.158	0.1168	0.1053	0.86	2.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-44 @ 72.5-74 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

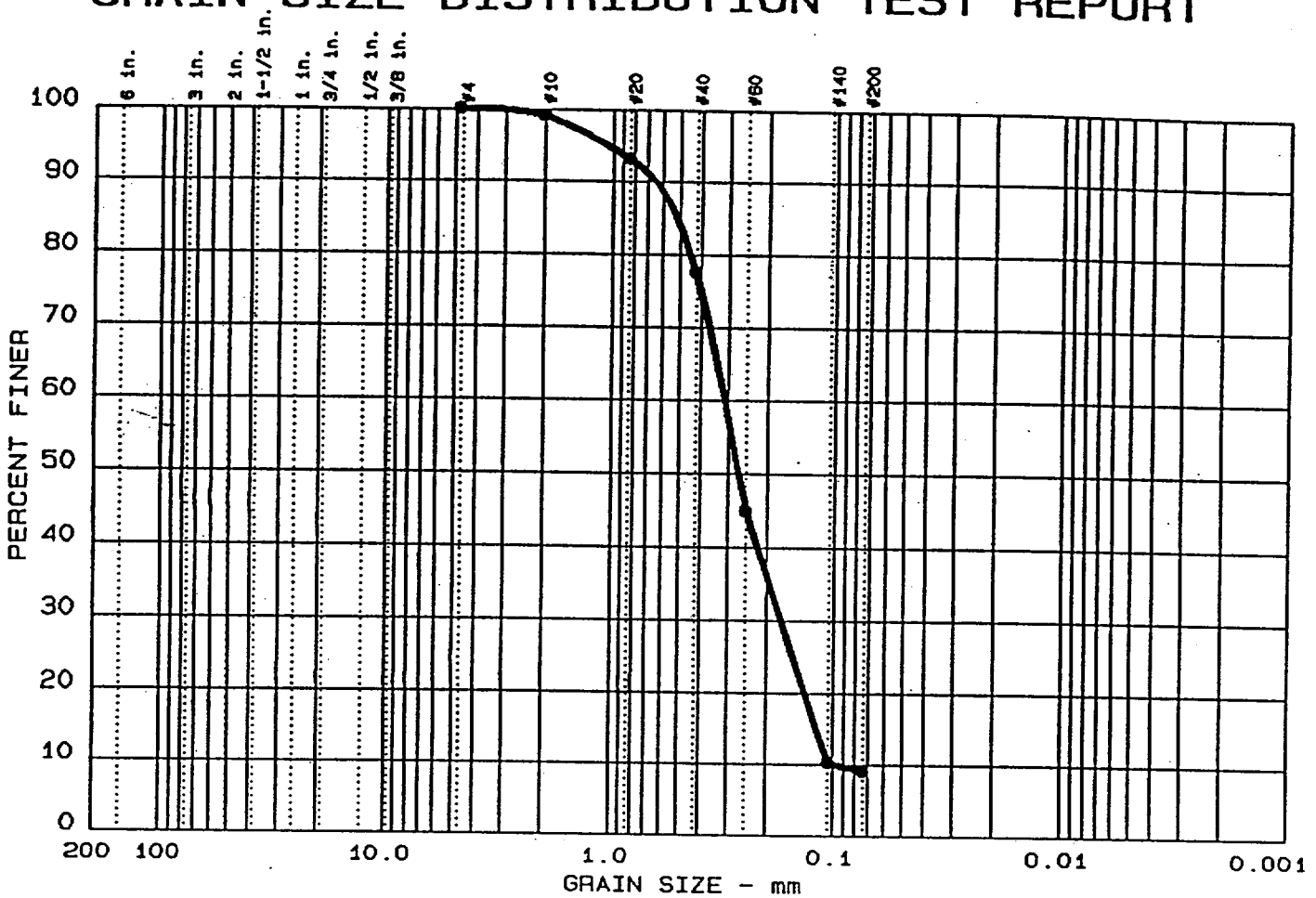
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	0.0	90.9	9.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.51	0.31	0.27	0.172	0.1180	0.0927	1.02	3.3

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-45 @ 74-75.5 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

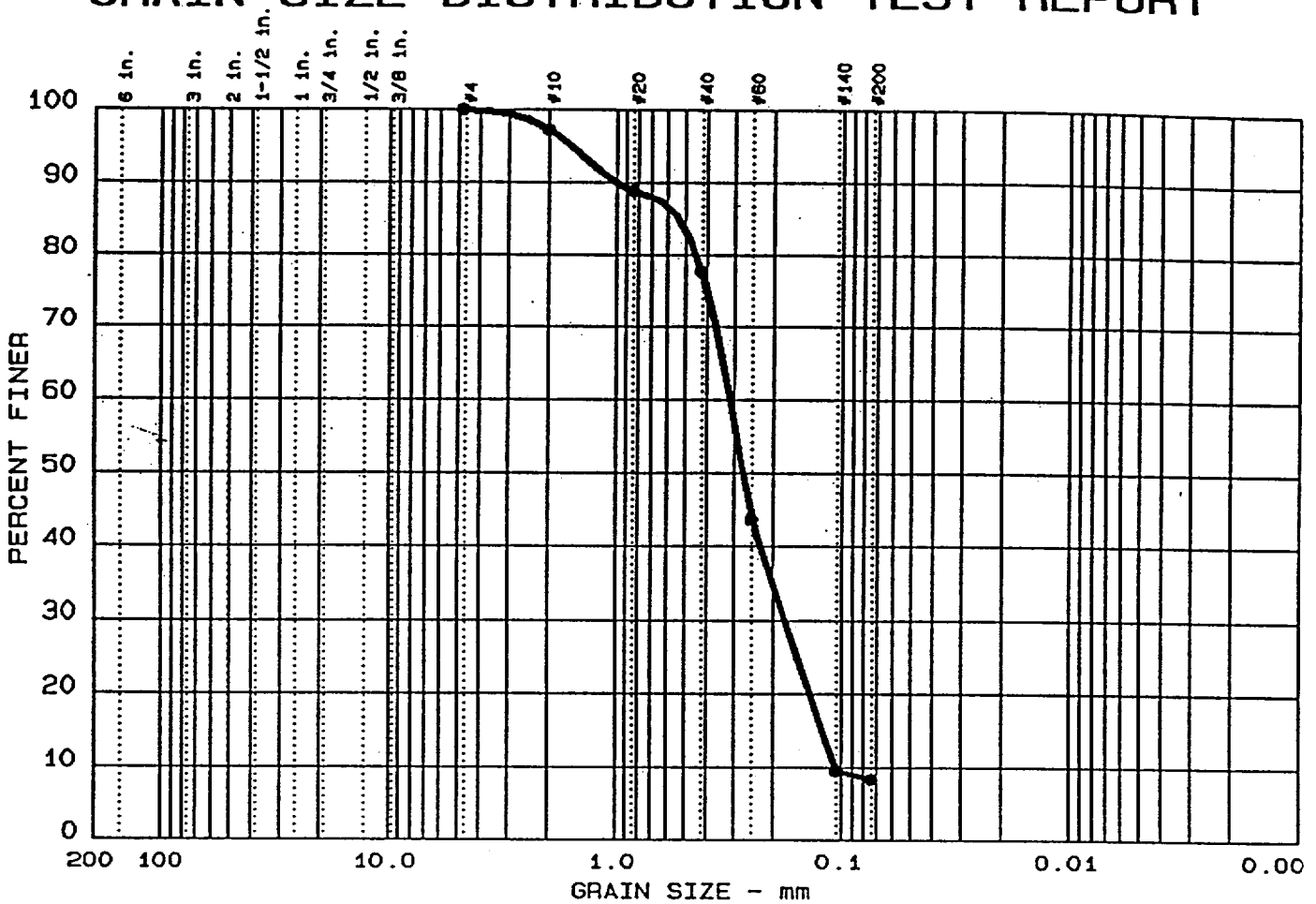
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	17	0.0	0.2	91.6	8.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.52	0.31	0.27	0.177	0.1206	0.1063	0.94	2.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-46 @ 75.5-77 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HB

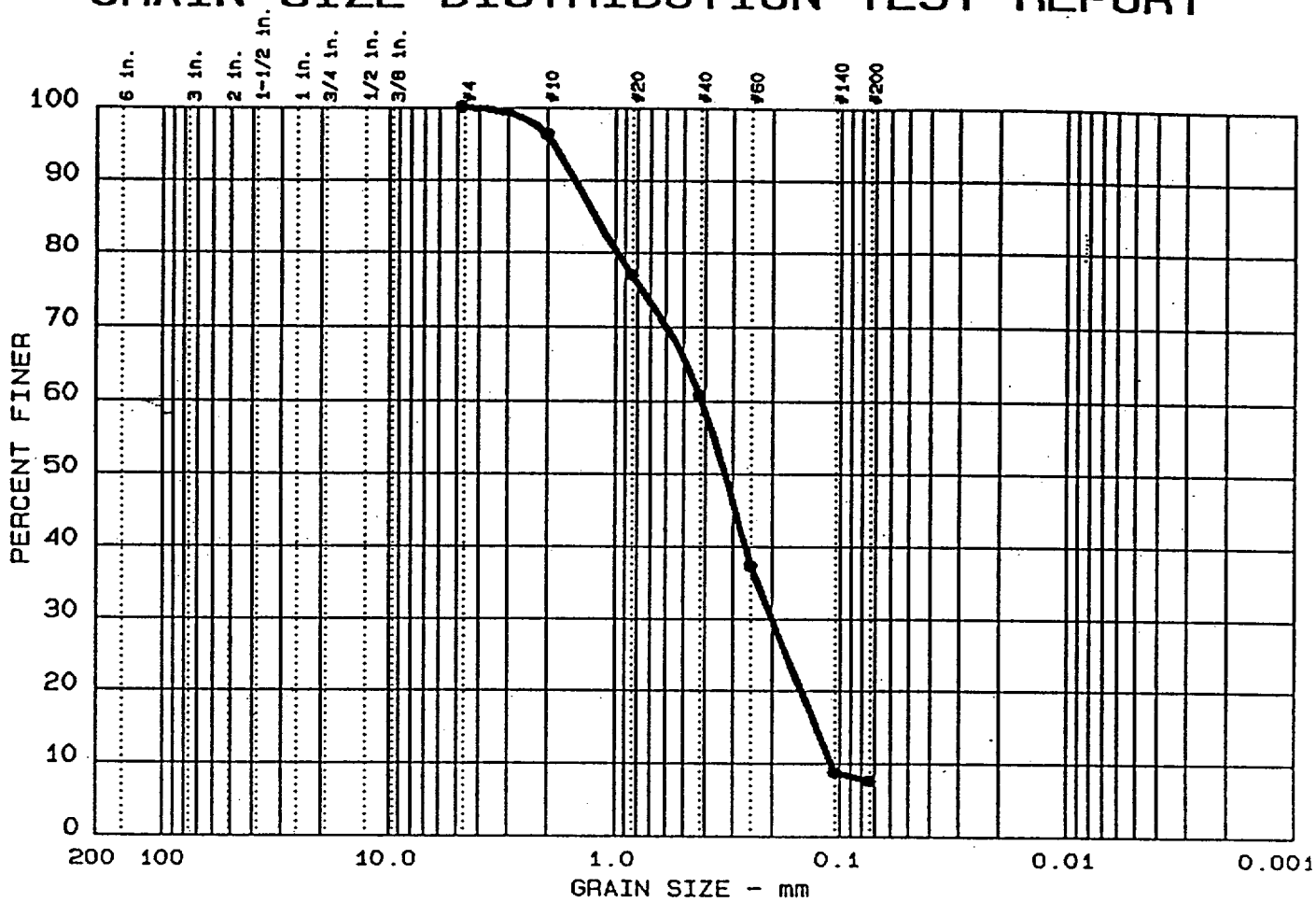
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	18	0.0	0.0	92.4	7.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.22	0.41	0.32	0.200	0.1269	0.1089	0.89	3.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-47 @ 77-78.5 Ft.

Date: March 29, 1998

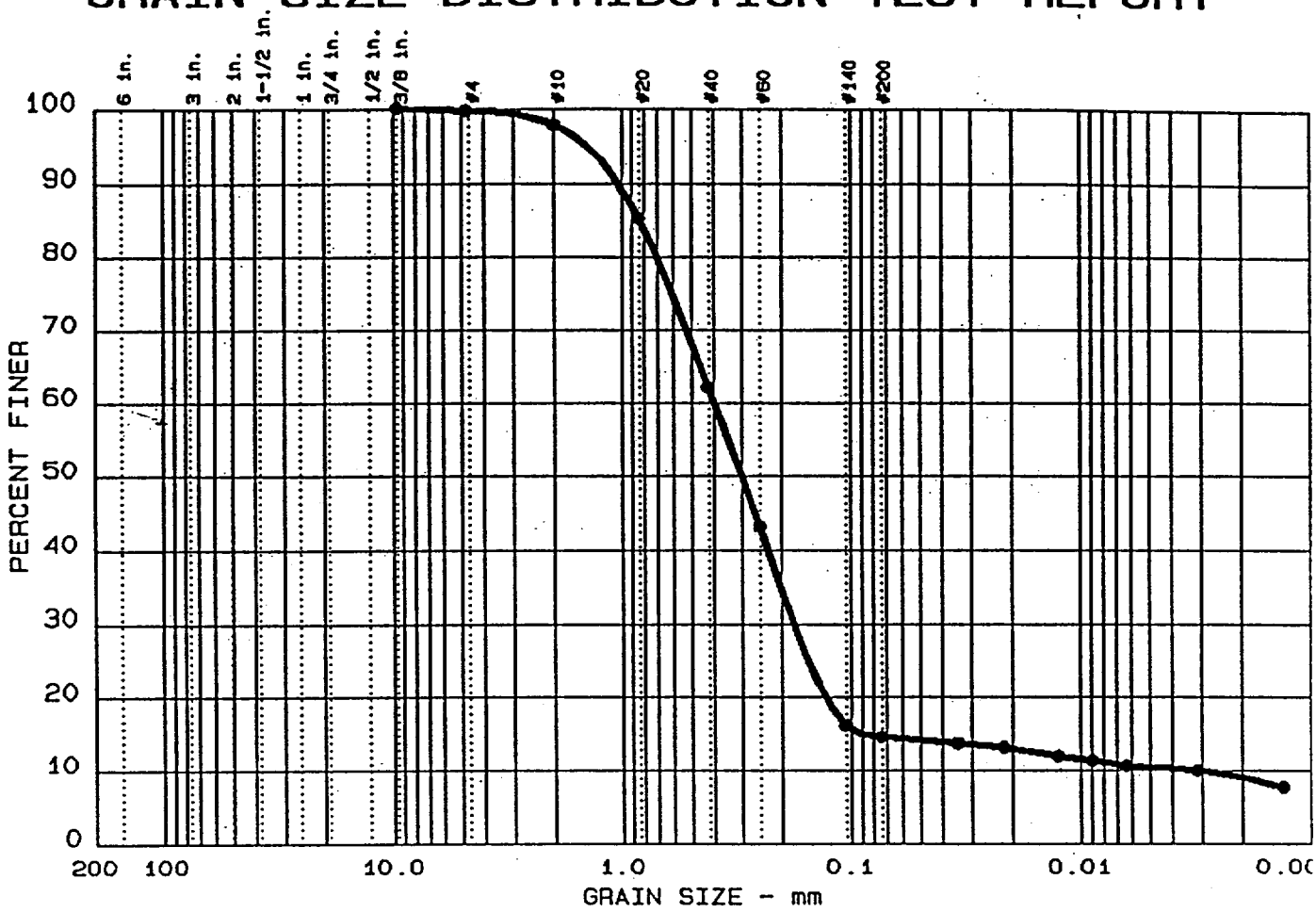
Remarks:

Tested by: SC
Reviewed by: HD
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.4	85.1	4.1	10.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.83	0.40	0.30	0.177	0.0907	0.0028	28.48	143.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-48 @ 78.5-80 Ft.

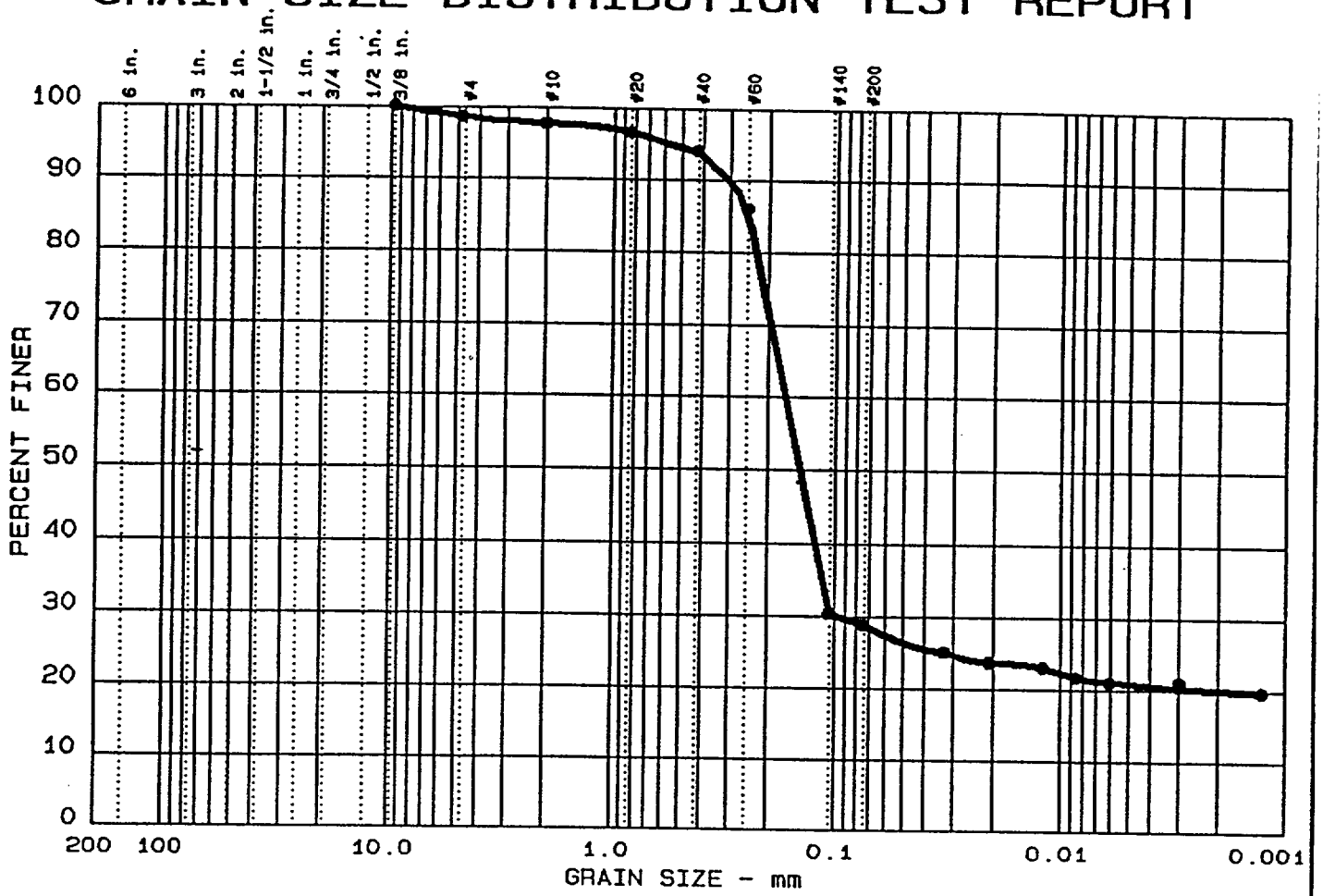
Date: April 9, 1998

Remarks:
Tested by: SC & JTM
Reviewed by: H
ASTM D 422
&
ASTM D 4318

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	1.5	69.8	7.9	20.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	36	10	0.25	0.17	0.14	0.097				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-49 @ 80-81.5 Ft.

Date: April 13, 1998

Remarks:

Tested by: SC

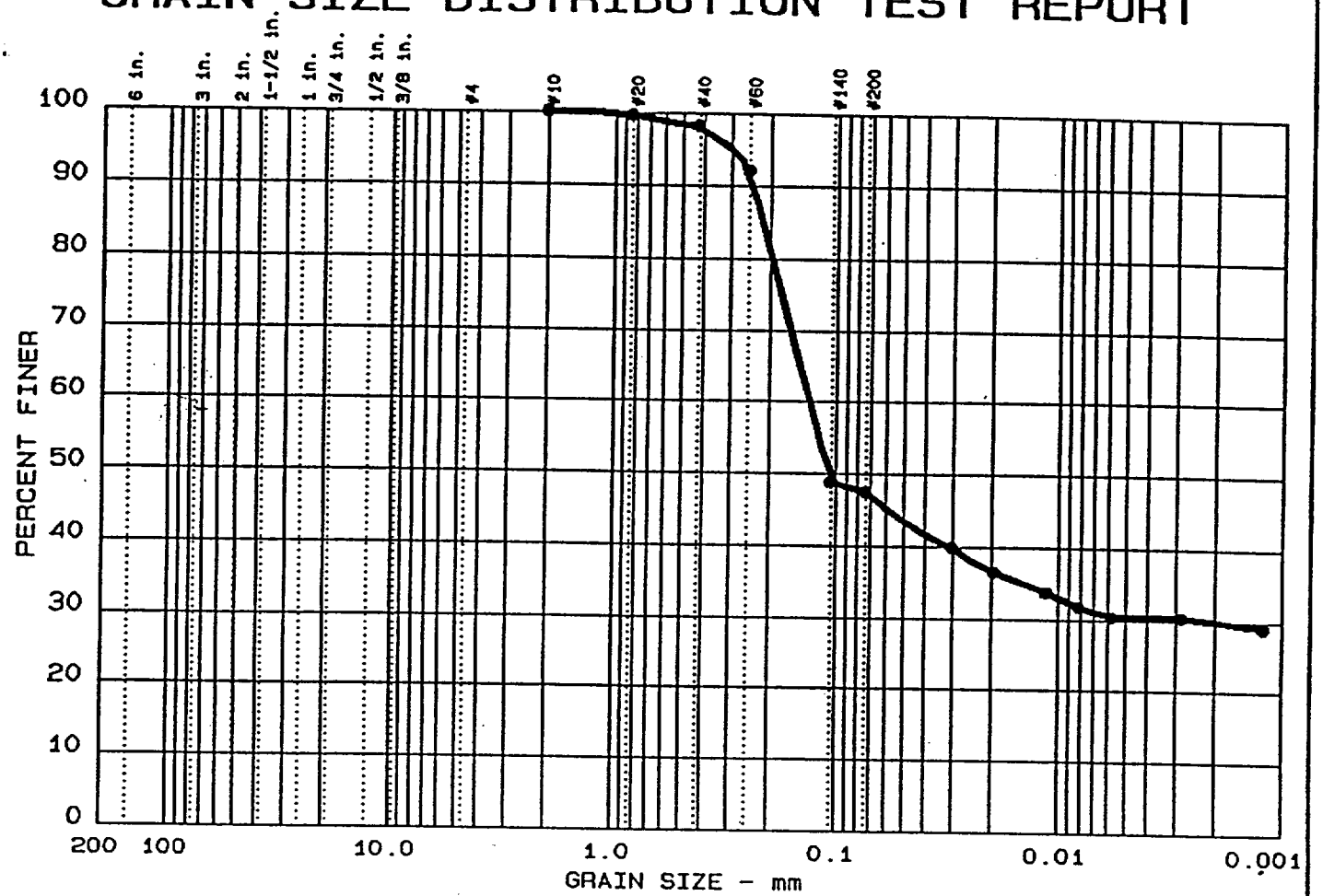
Reviewed by: HS

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	B	0.0	0.0	52.6	17.0	30.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.22	0.13	0.11	0.002				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-50 @ 81.5-83 Ft.

Date: April 2, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

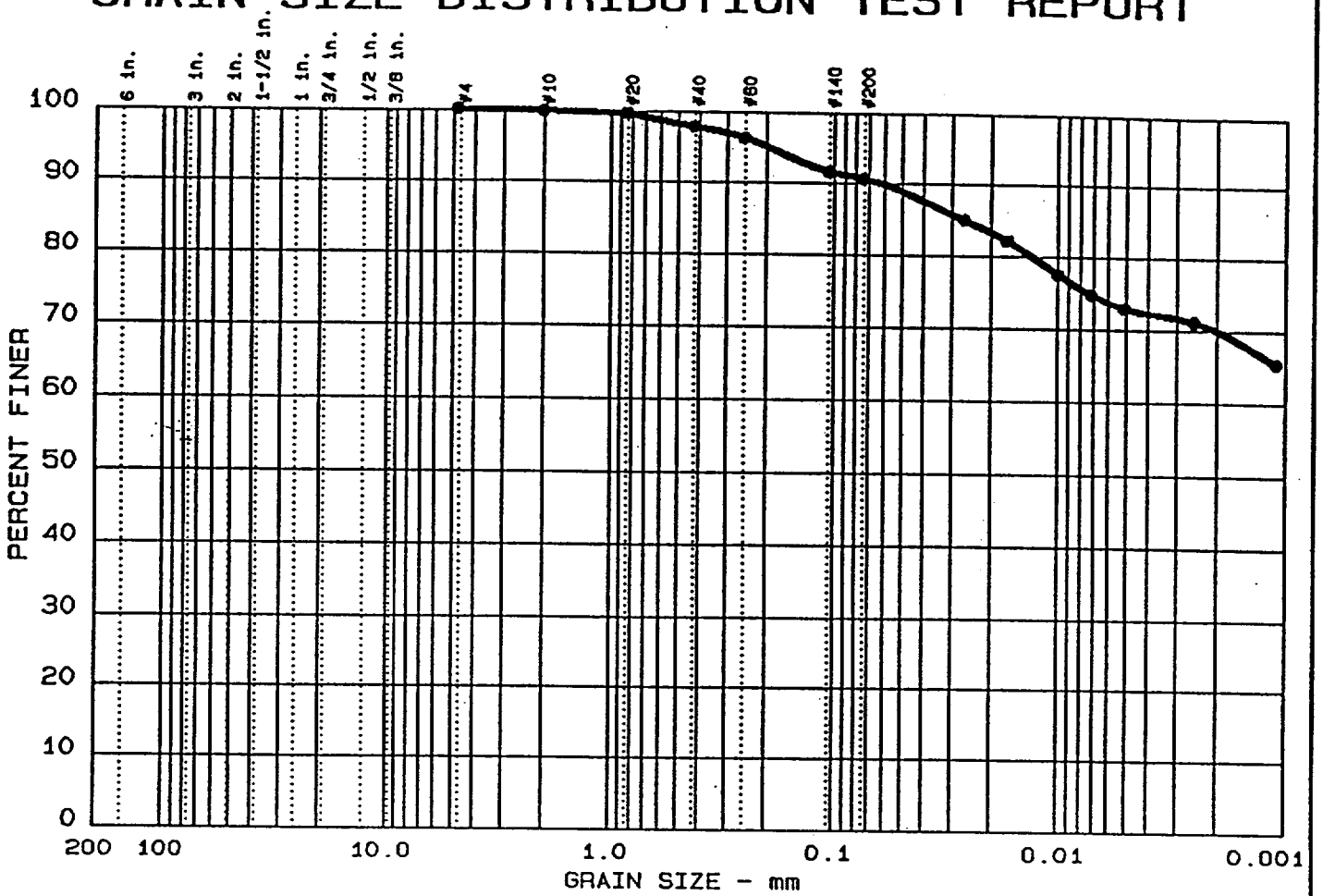
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	9.3	17.9	72.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	90	26								

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Elastic Silt with Sand	MH	A-7-5 (37.4)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-51 @ 83-84.5 Ft.

Date: April 2, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

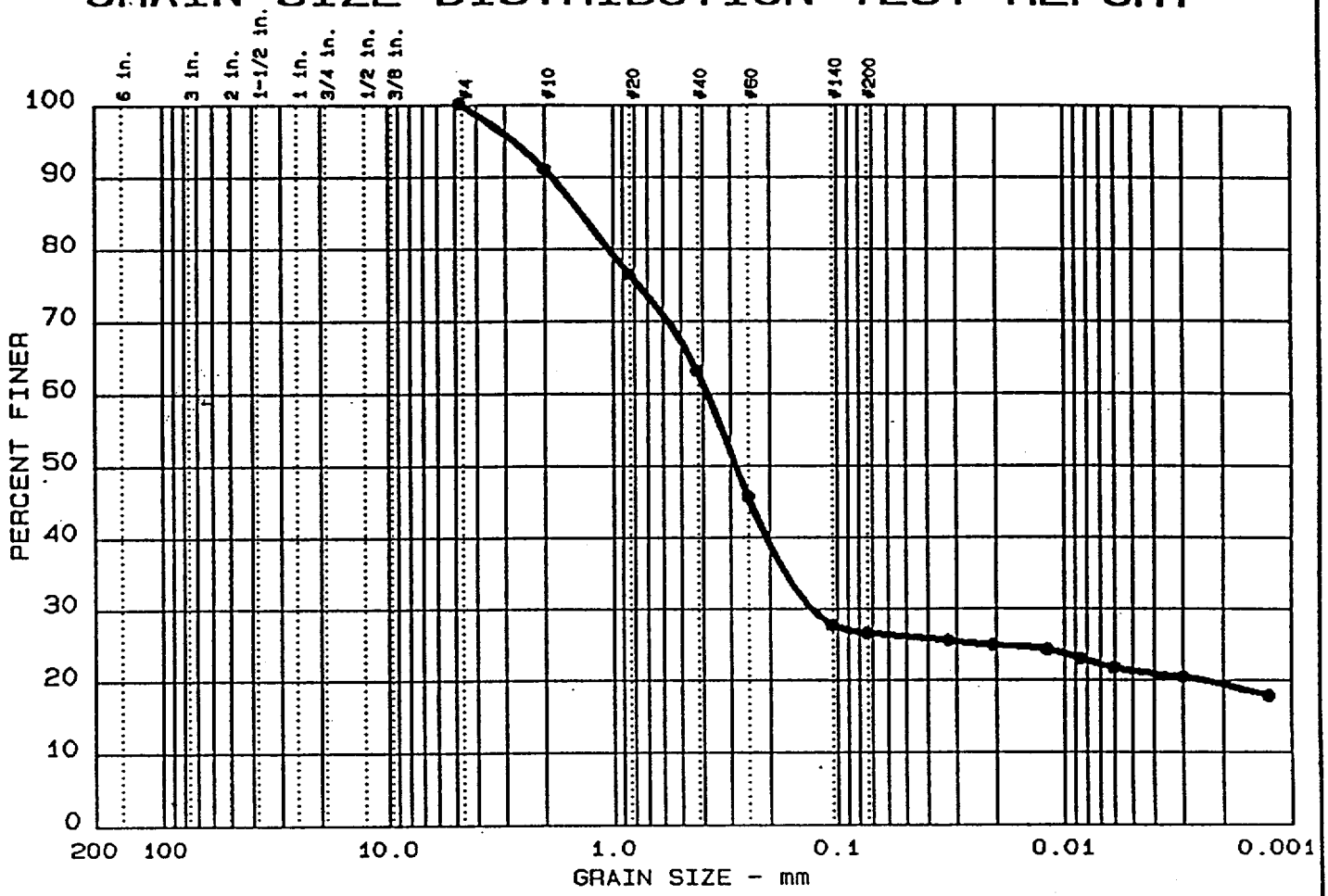
ASTM D 422
&
ASTM D 4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	73.4	5.3	21.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.36	0.38	0.28	0.130				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-52 @ 84.5-86 Ft.

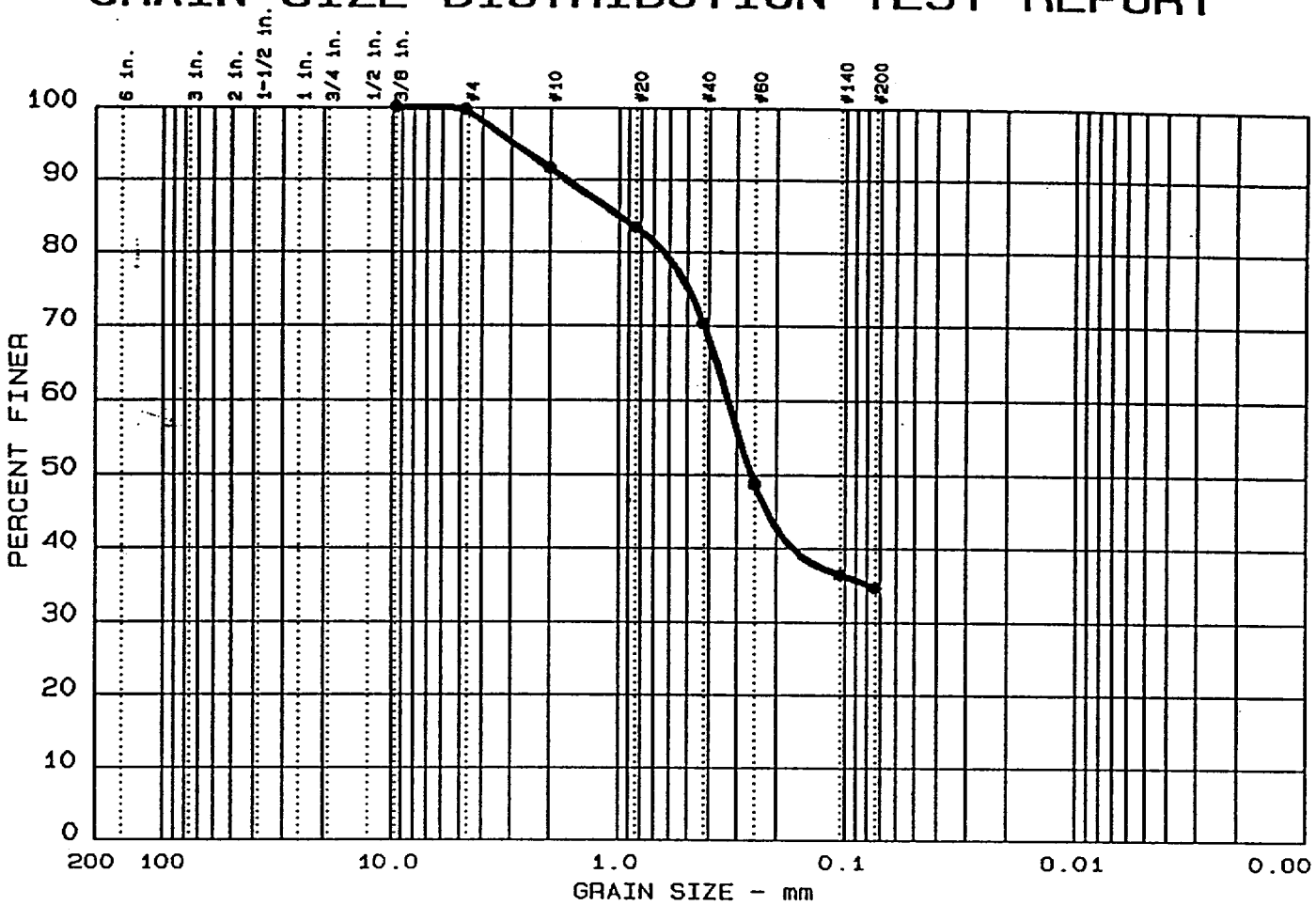
Date: March 27, 1998

Remarks:
Tested by: SCJ
Reviewed by: H
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	19	0.0	0.3	65.1	34.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.99	0.33	0.26					

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-53 @ 86-87.5 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

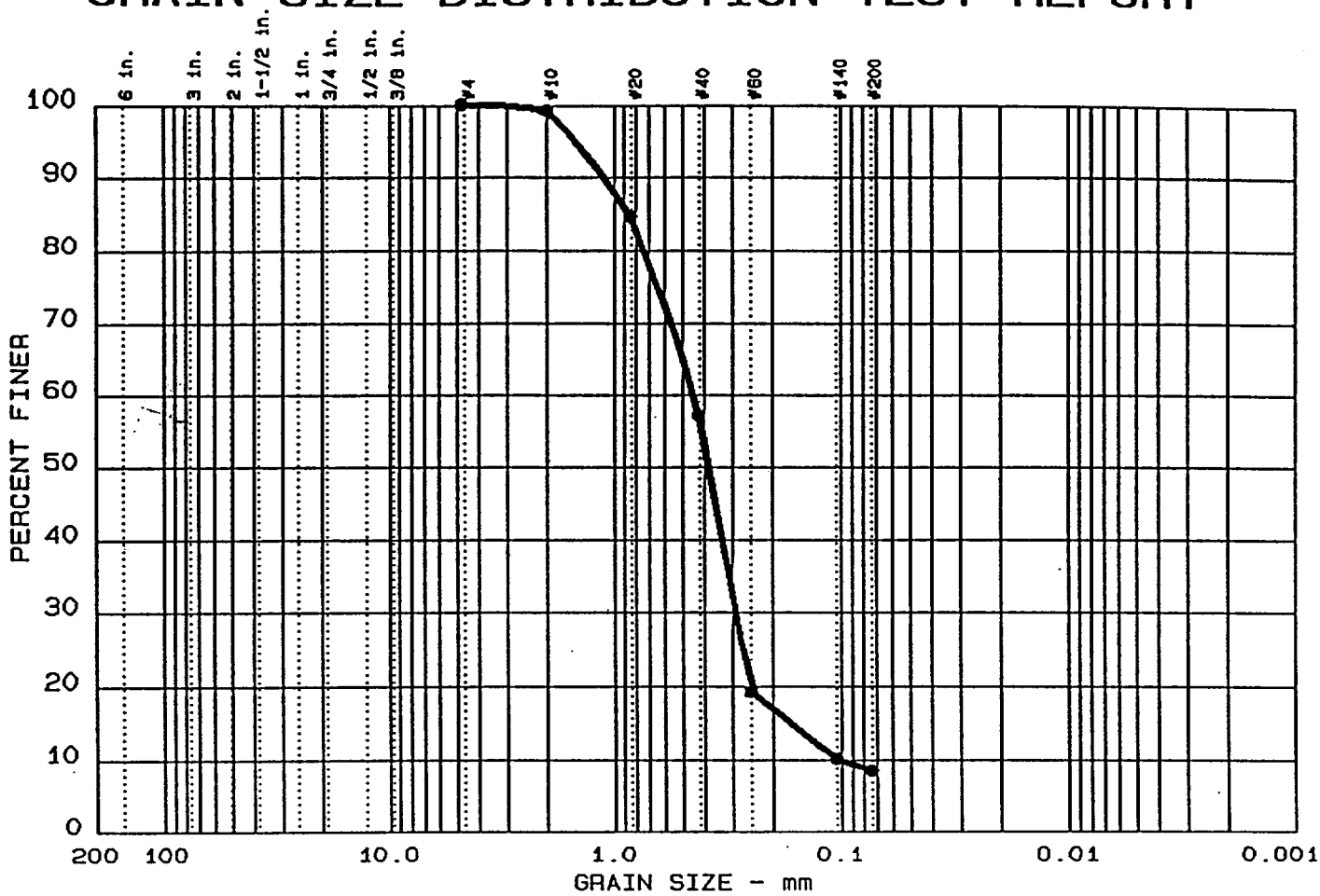
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	20	0.0	0.0	91.5	8.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.85	0.44	0.38	0.289	0.1665	0.1015	1.86	4.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-54 @ 87.5-89 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HD

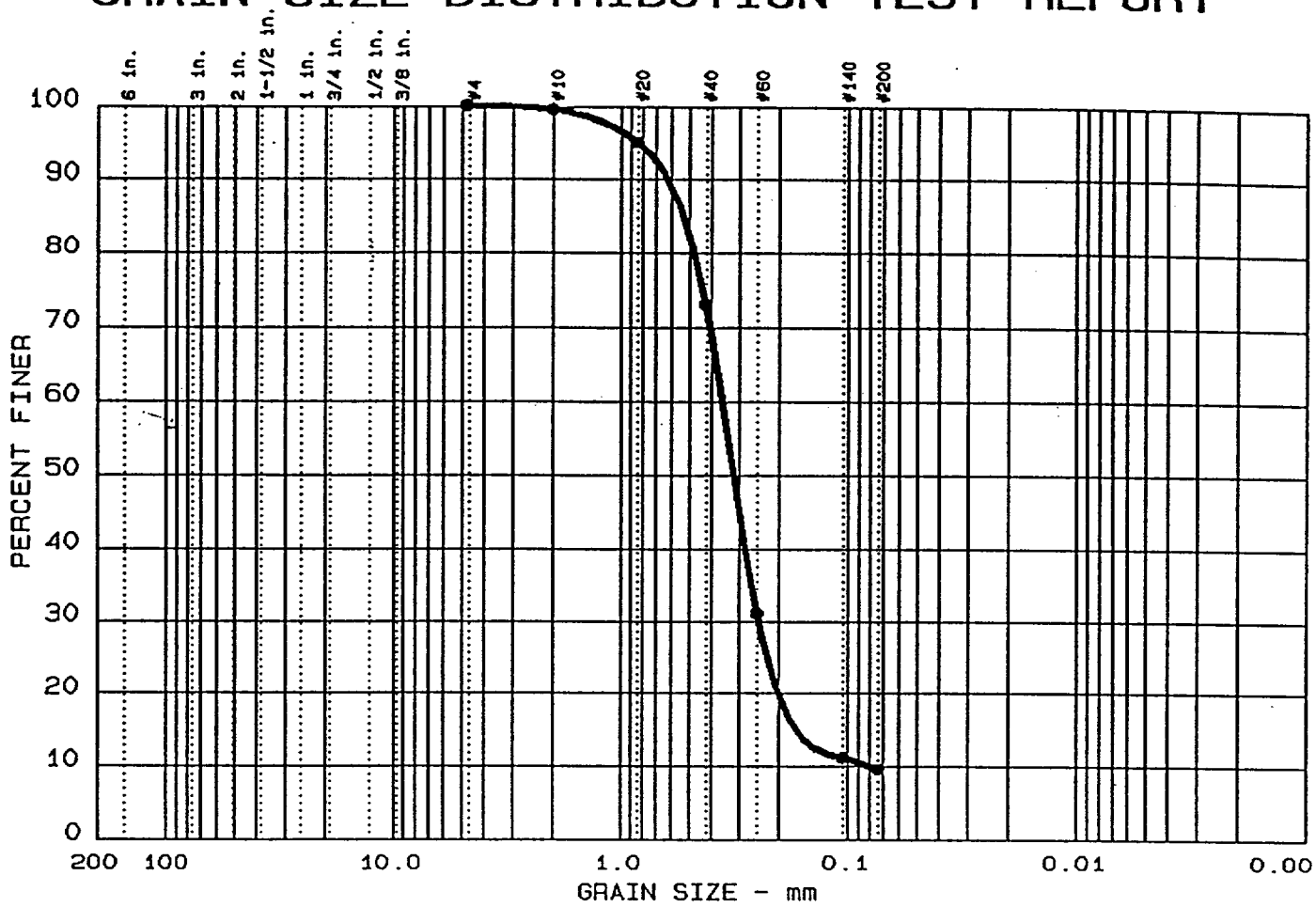
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	90.4	9.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.52	0.35	0.32	0.245	0.1679	0.0794	2.14	4.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-55 @ 89-90.5 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HB

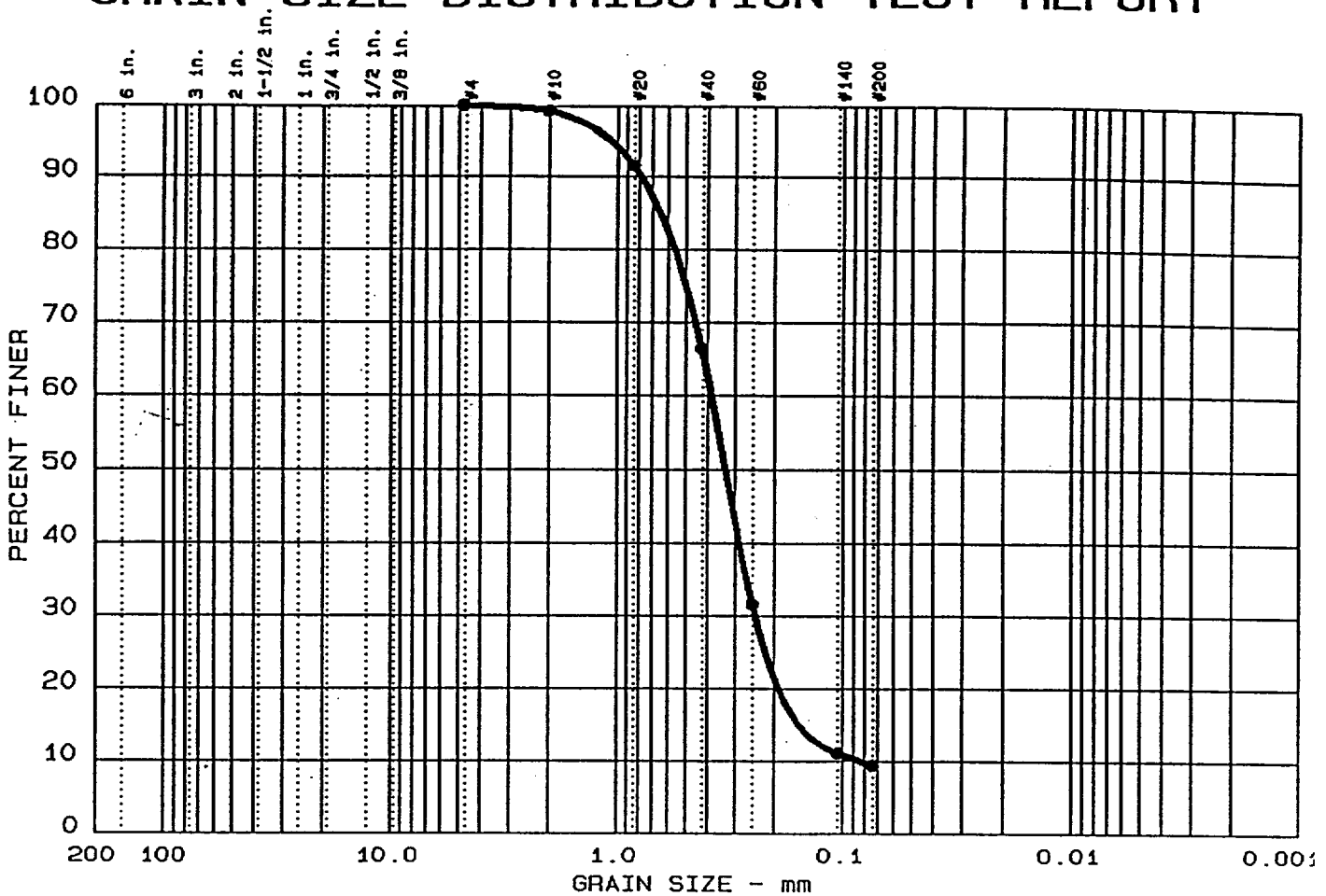
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	90.6	9.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.64	0.38	0.33	0.243	0.1552	0.0834	1.87	4.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-56 @ 90.5-92 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HS

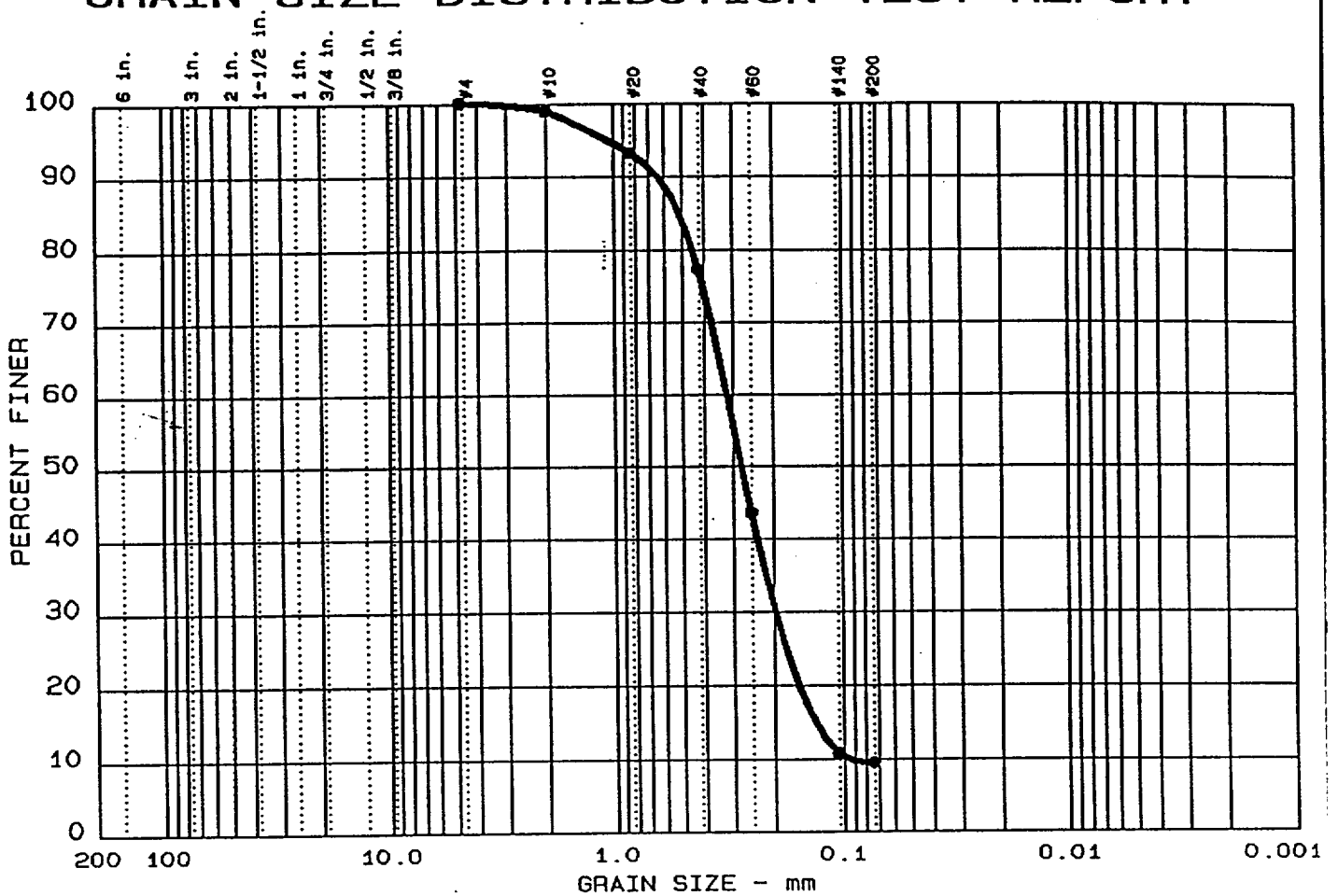
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	90.5	9.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.51	0.32	0.28	0.197	0.1318	0.0933	1.31	3.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-57 @ 92-93.5 Ft.

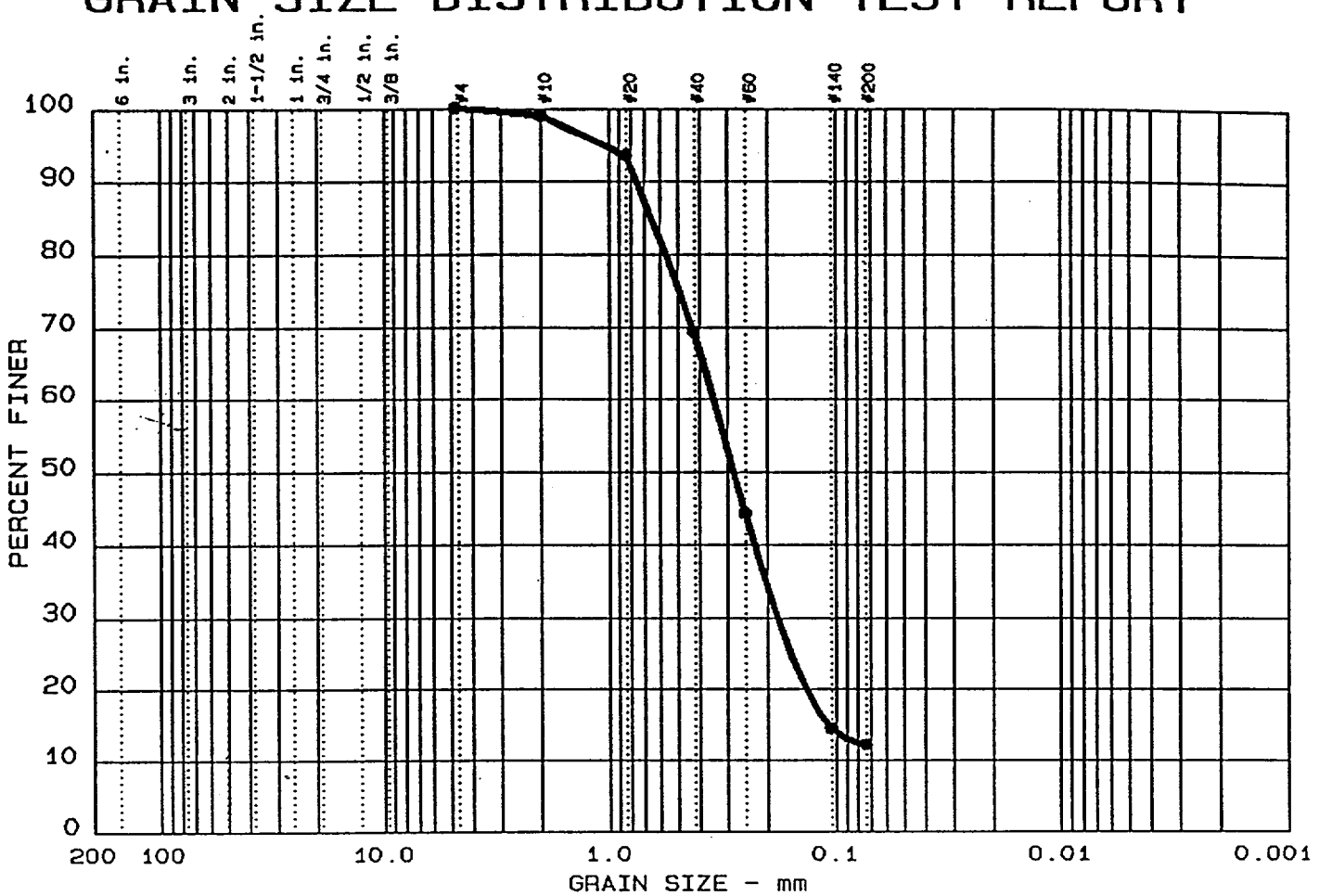
Date: March 29, 1998

Remarks:
Tested by: SC
Reviewed by: HJ
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	87.8	12.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.65	0.34	0.28	0.181	0.1076			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.3)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-59 @ 95-96.5 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HB

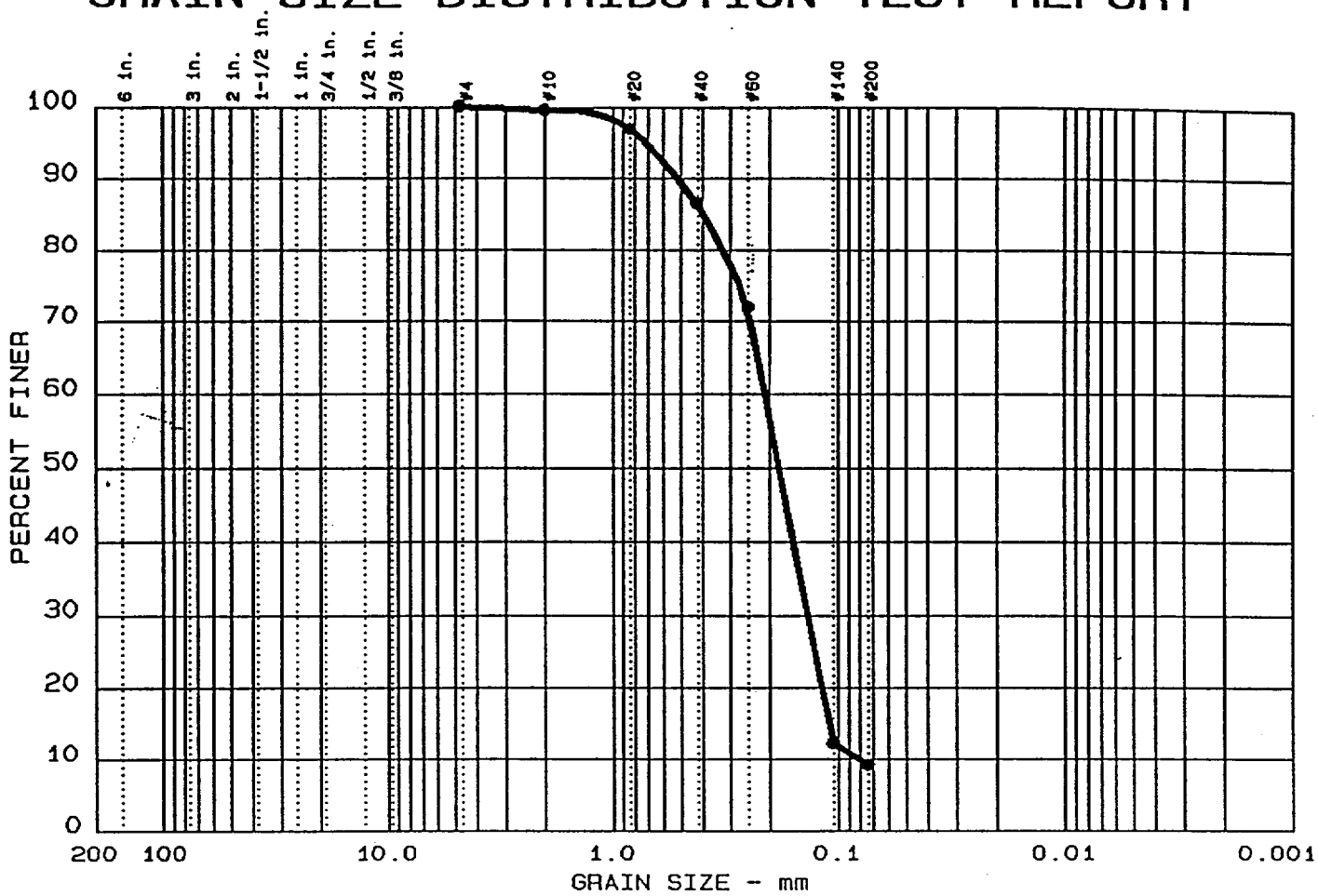
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	90.8	9.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.39	0.21	0.18	0.136	0.1091	0.0809	1.09	2.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-60 @ 96.5-98 Ft.

Date: March 29, 1998

Remarks:

Tested by: SC

Reviewed by: HD

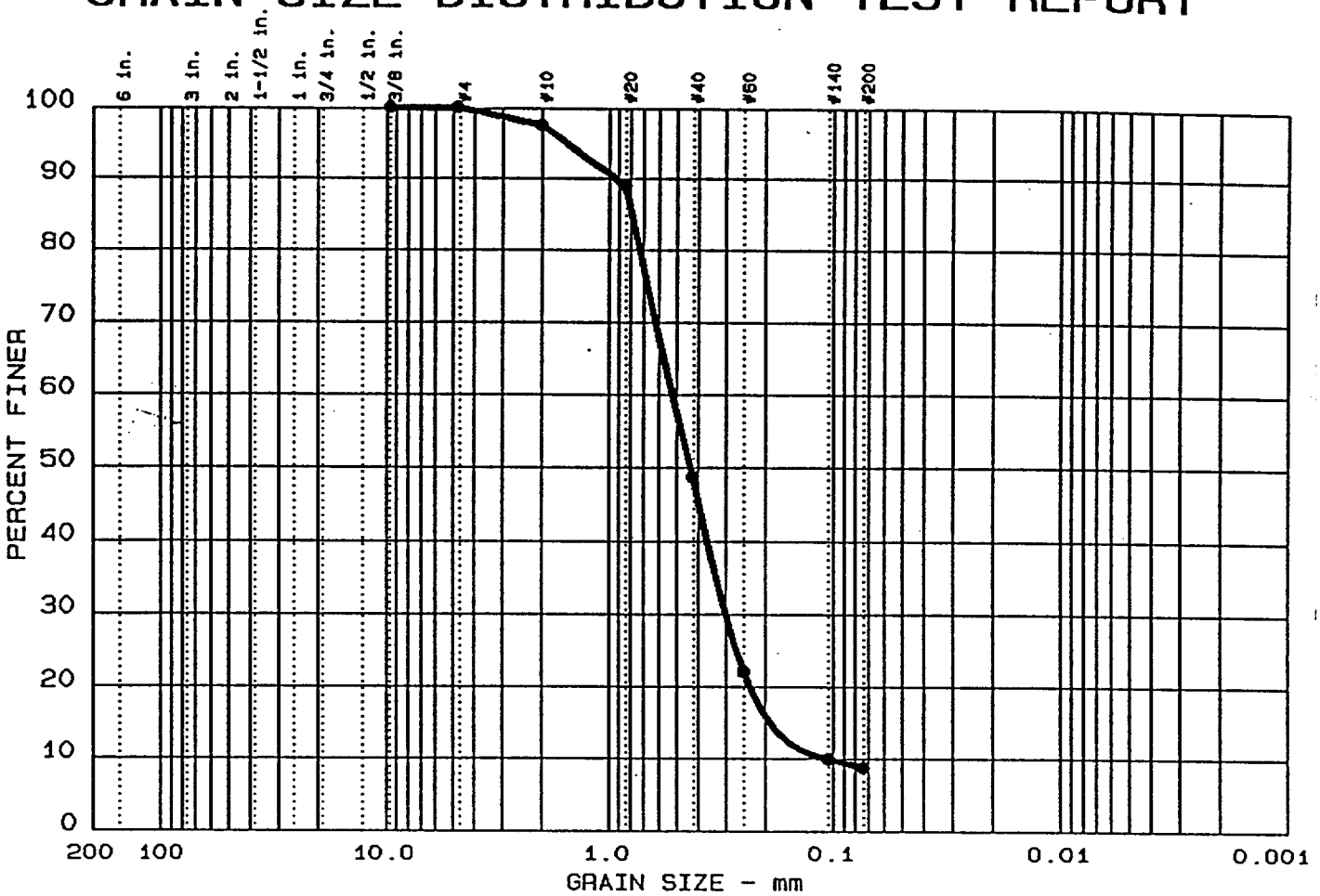
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	91.2	8.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.79	0.52	0.43	0.301	0.1901	0.1057	1.66	4.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-61 @ 98-99.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

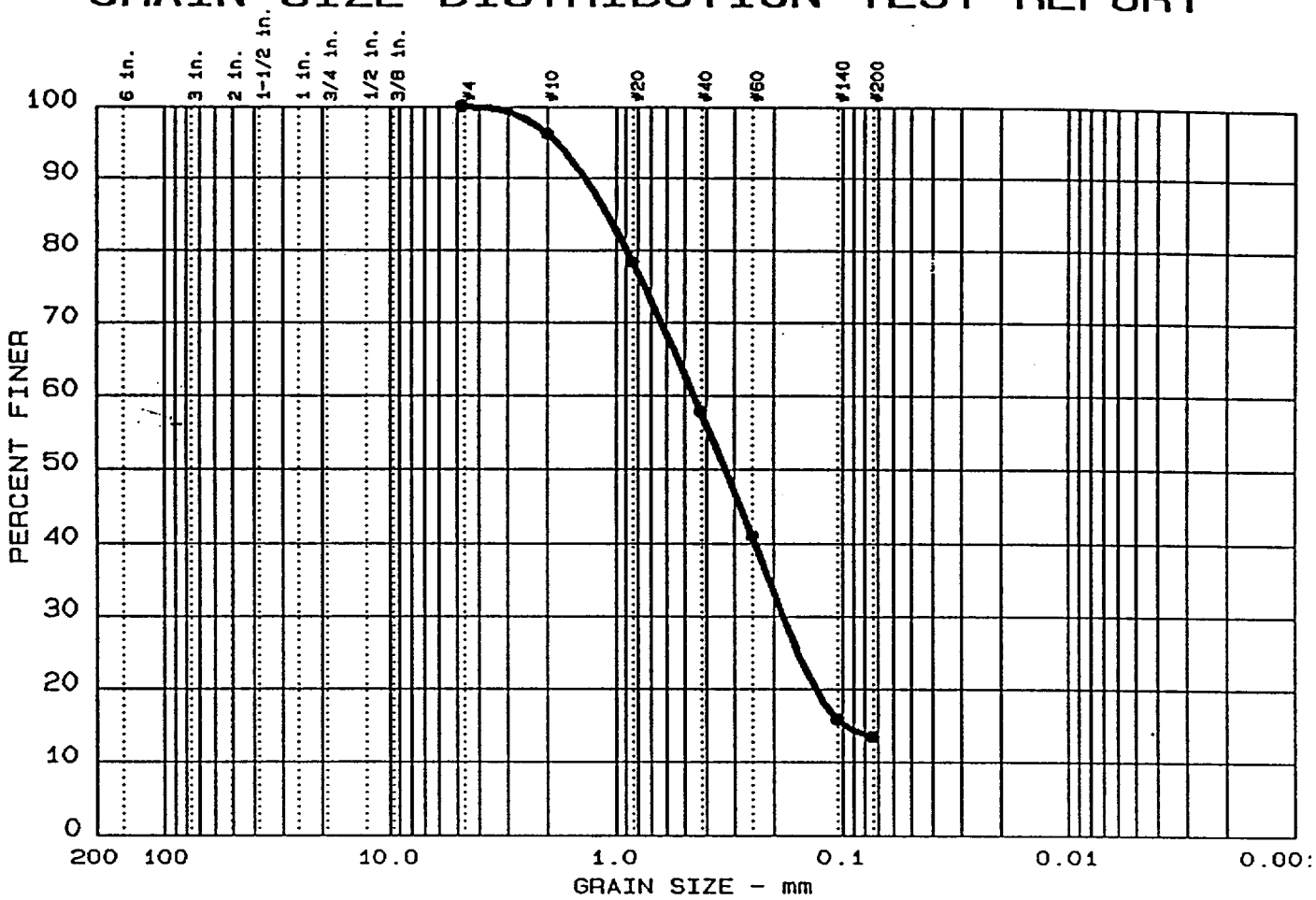
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	86.5	13.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	1.08	0.45	0.33	0.182	0.0964			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.1)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-62 @ 99.5-101.0 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

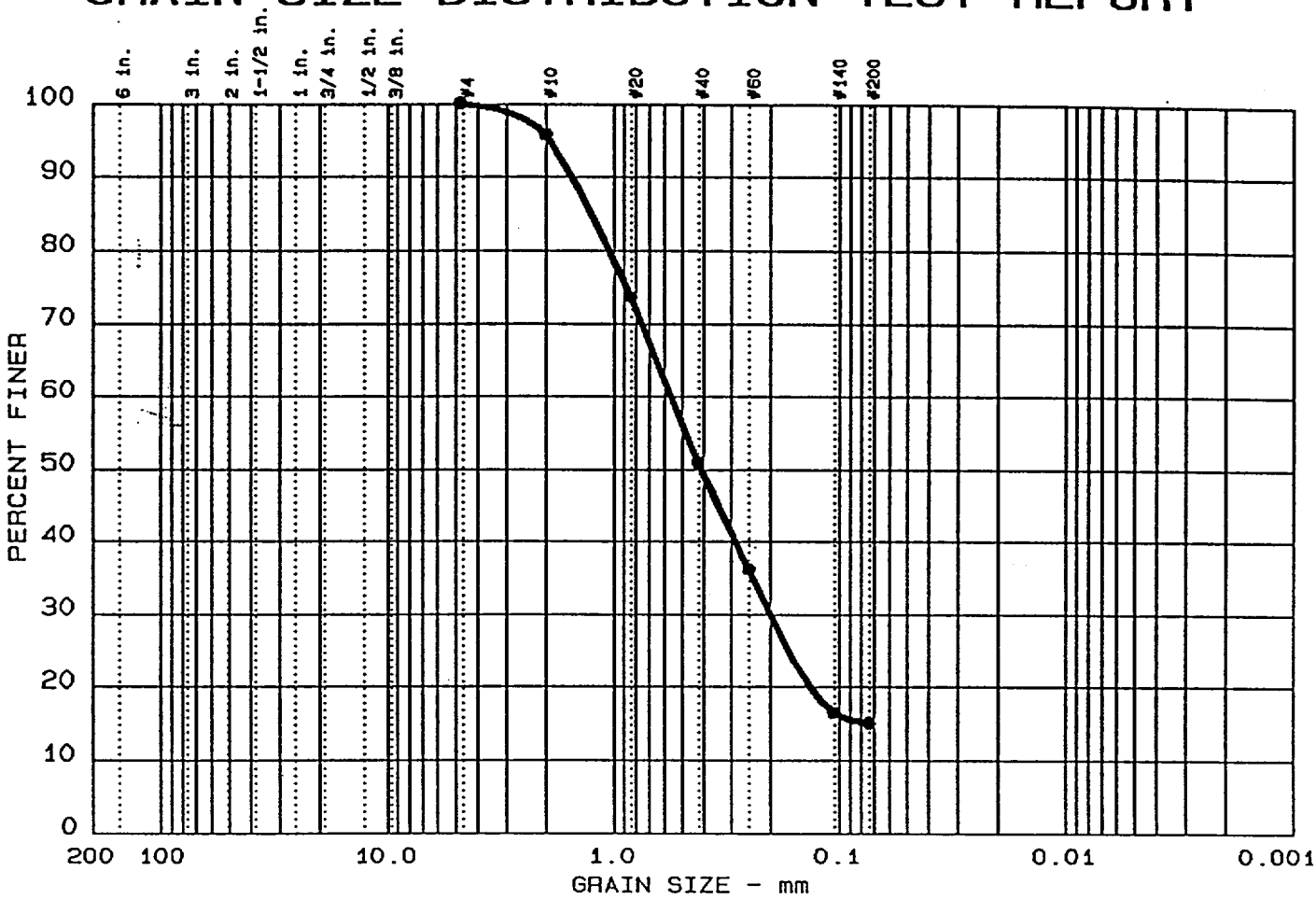
ASTM D422
& ASTM D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	84.9	15.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	1.24	0.56	0.41	0.201				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-63 @ 101-102.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HD

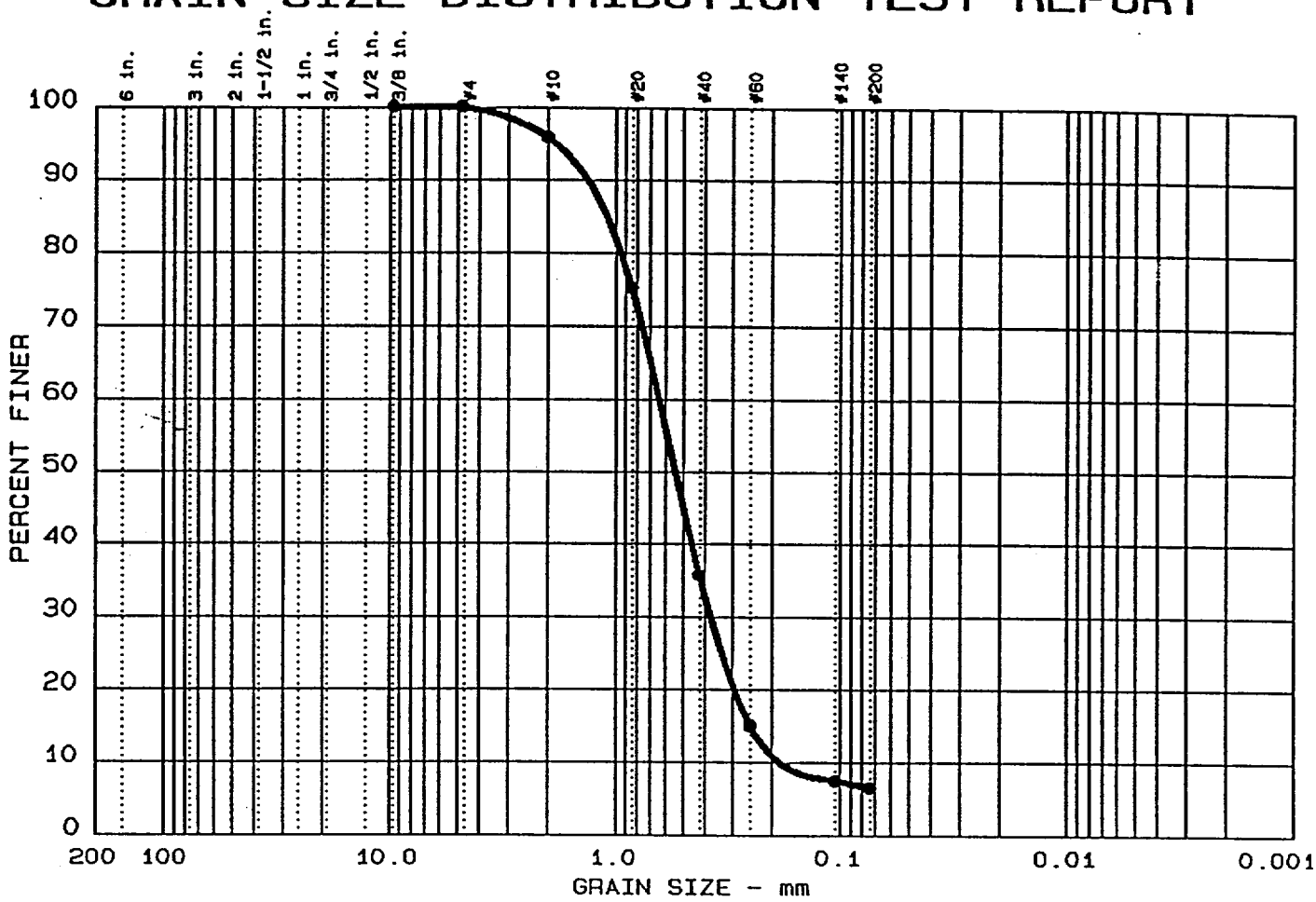
ASTM D422
&
ASTM D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	93.5	6.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.08	0.63	0.54	0.375	0.2480	0.1860	1.20	3.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-64 @ 102.5-104 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

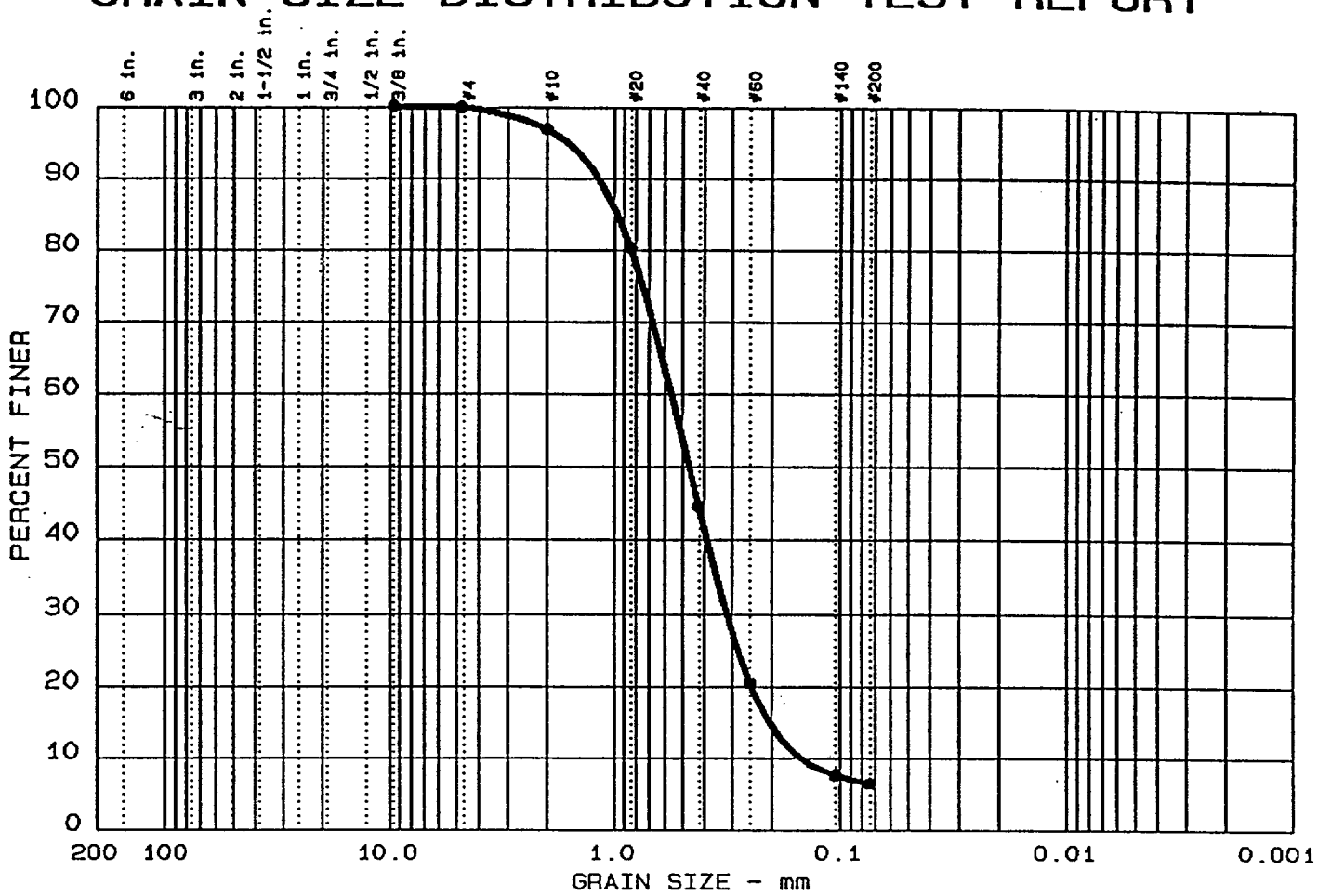
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.1	93.4	6.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.95	0.55	0.46	0.316	0.2039	0.1477	1.22	3.7

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-65 @ 104-105.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

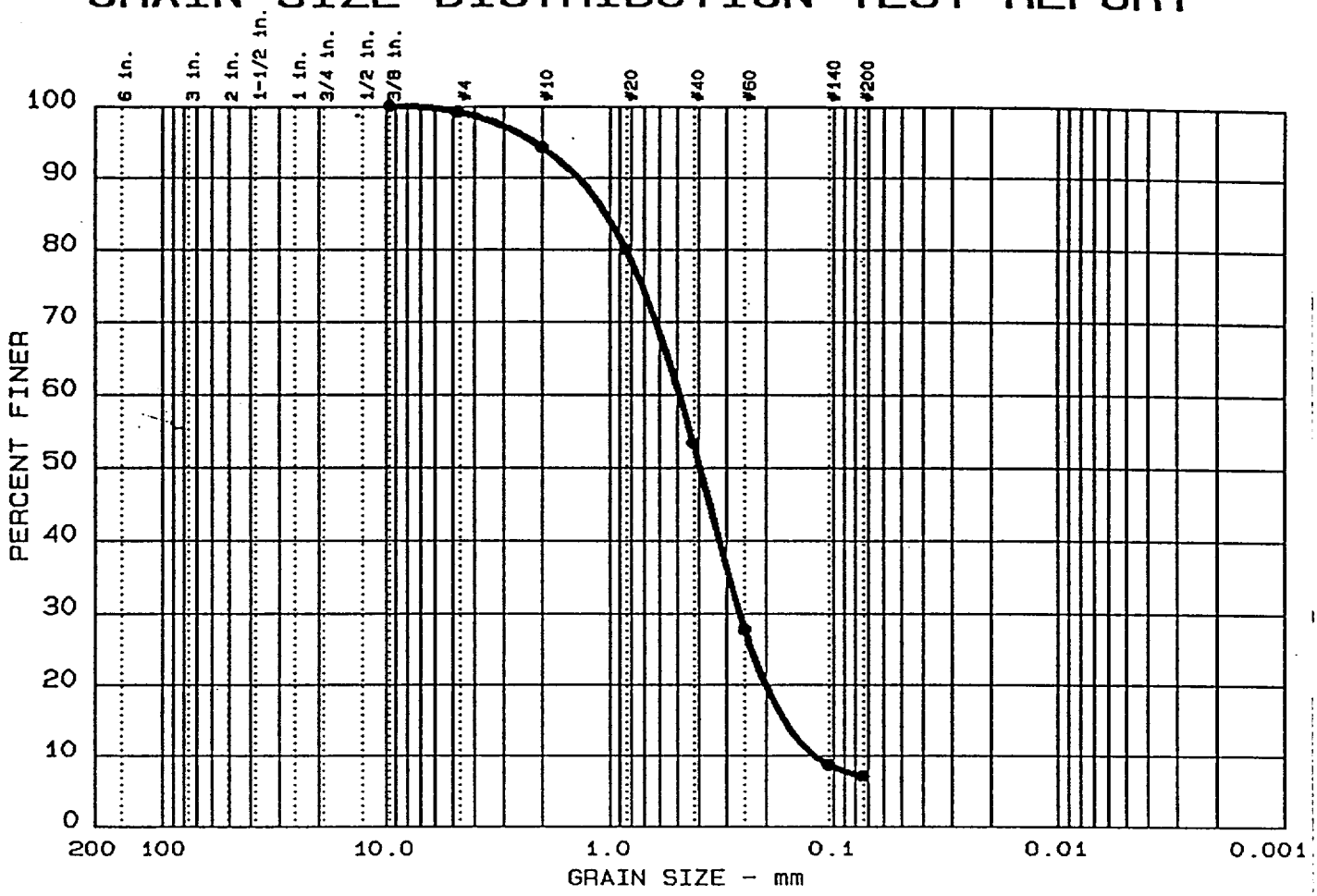
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.8	92.1	7.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.02	0.48	0.39	0.263	0.1658	0.1215	1.17	4.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-66 @ 105.5-107 Ft.

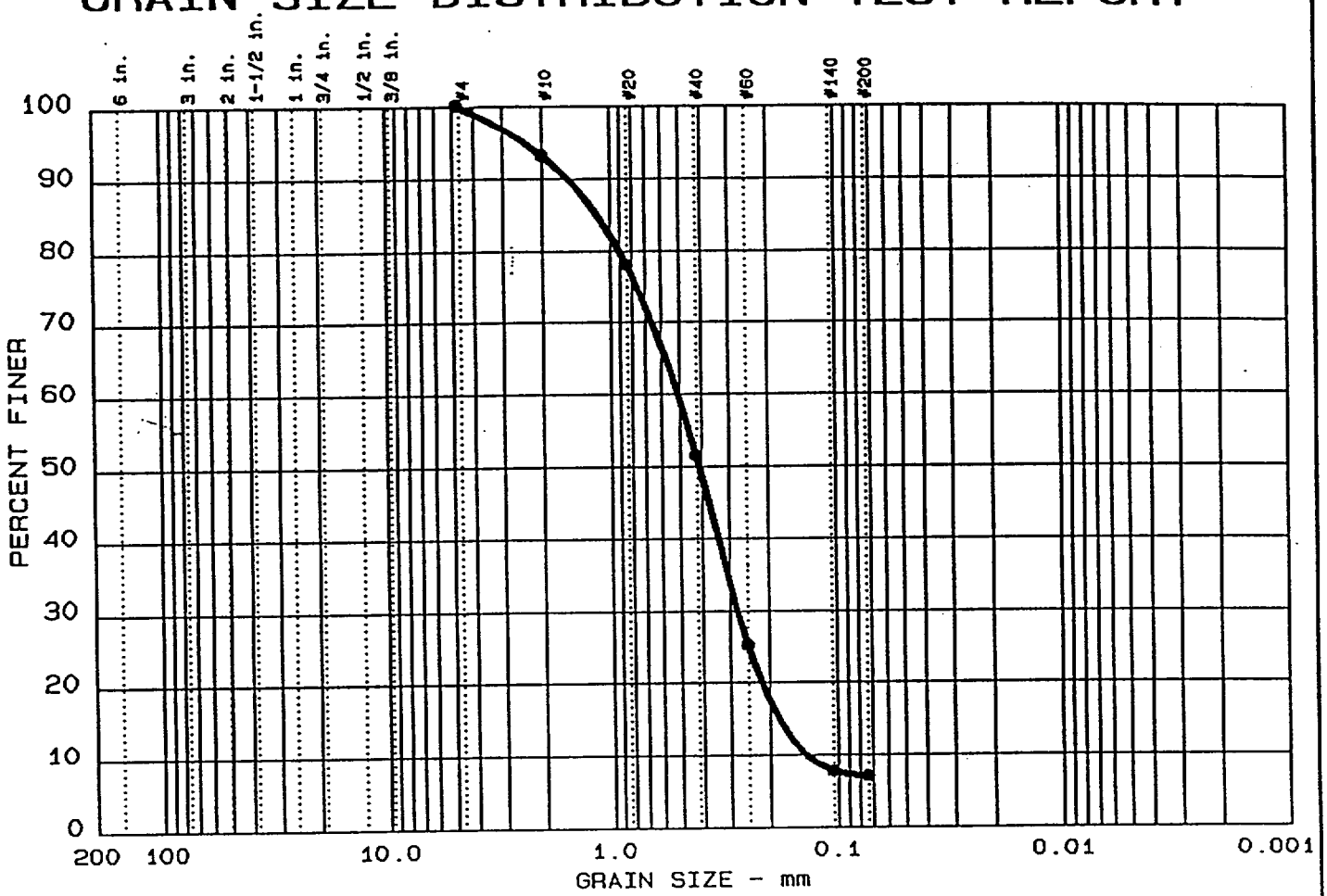
Date: April 9, 1998

Remarks:
Tested by: SC
Reviewed by: HJ
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	92.9	7.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.12	0.50	0.41	0.277	0.1826	0.1369	1.11	3.7

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-67 @ 107-108.5 Ft.

Date: April 15, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

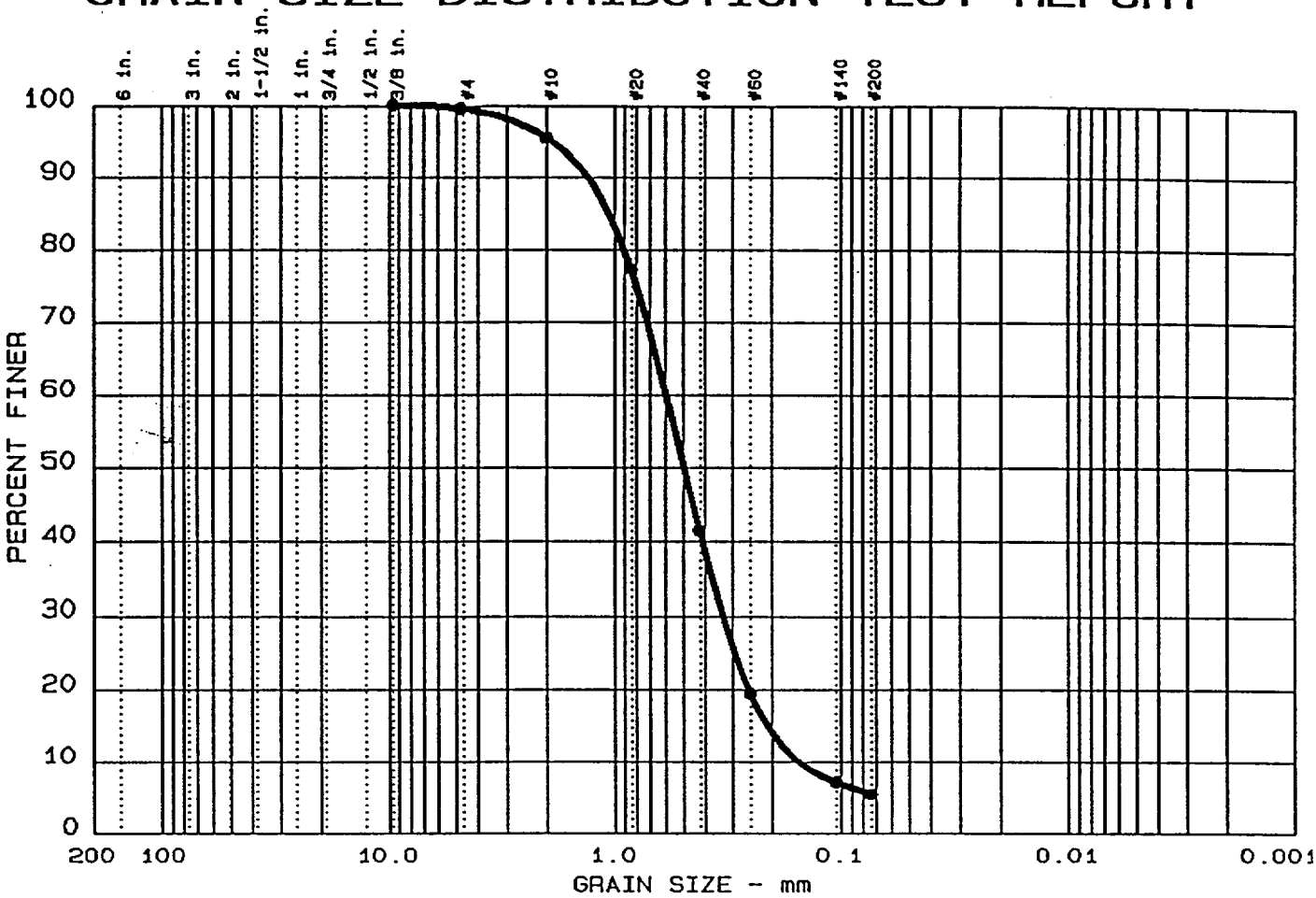
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.4	94.1	5.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.05	0.59	0.49	0.331	0.2087	0.1529	1.21	3.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-68 @ 108.5-110 Ft.

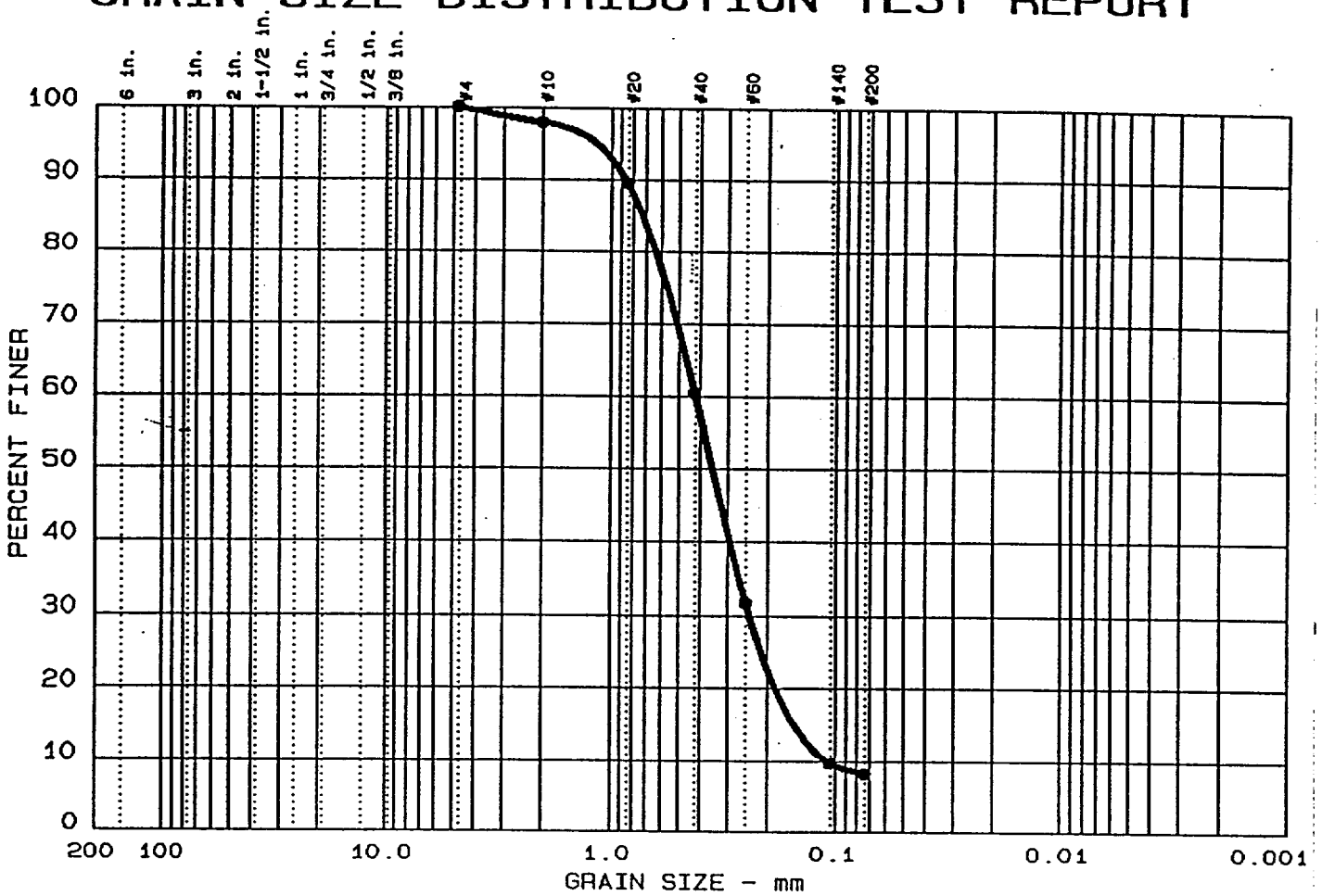
Date: April 15, 1998

Remarks:
Tested by: SC
Reviewed by: HJ
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	91.8	8.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.72	0.42	0.35	0.241	0.1522	0.1078	1.30	3.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-69 @ 110-111.5 Ft.

Date: April 15, 1998

Remarks:

Tested by: SC

Reviewed by: WS

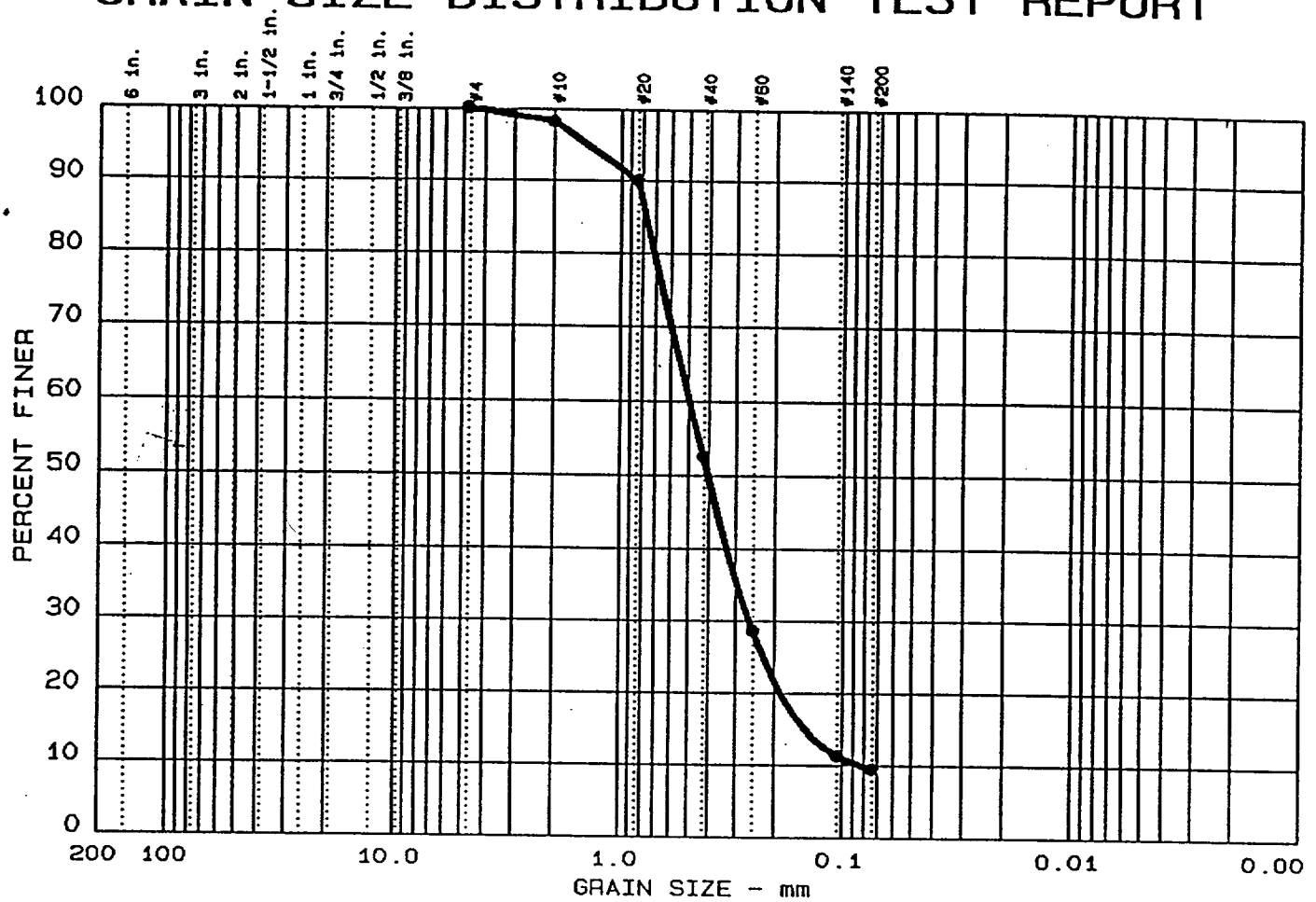
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	0.0	90.5	9.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.77	0.49	0.40	0.260	0.1447	0.0833	1.66	5.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-70 @ 111.5-113 Ft.

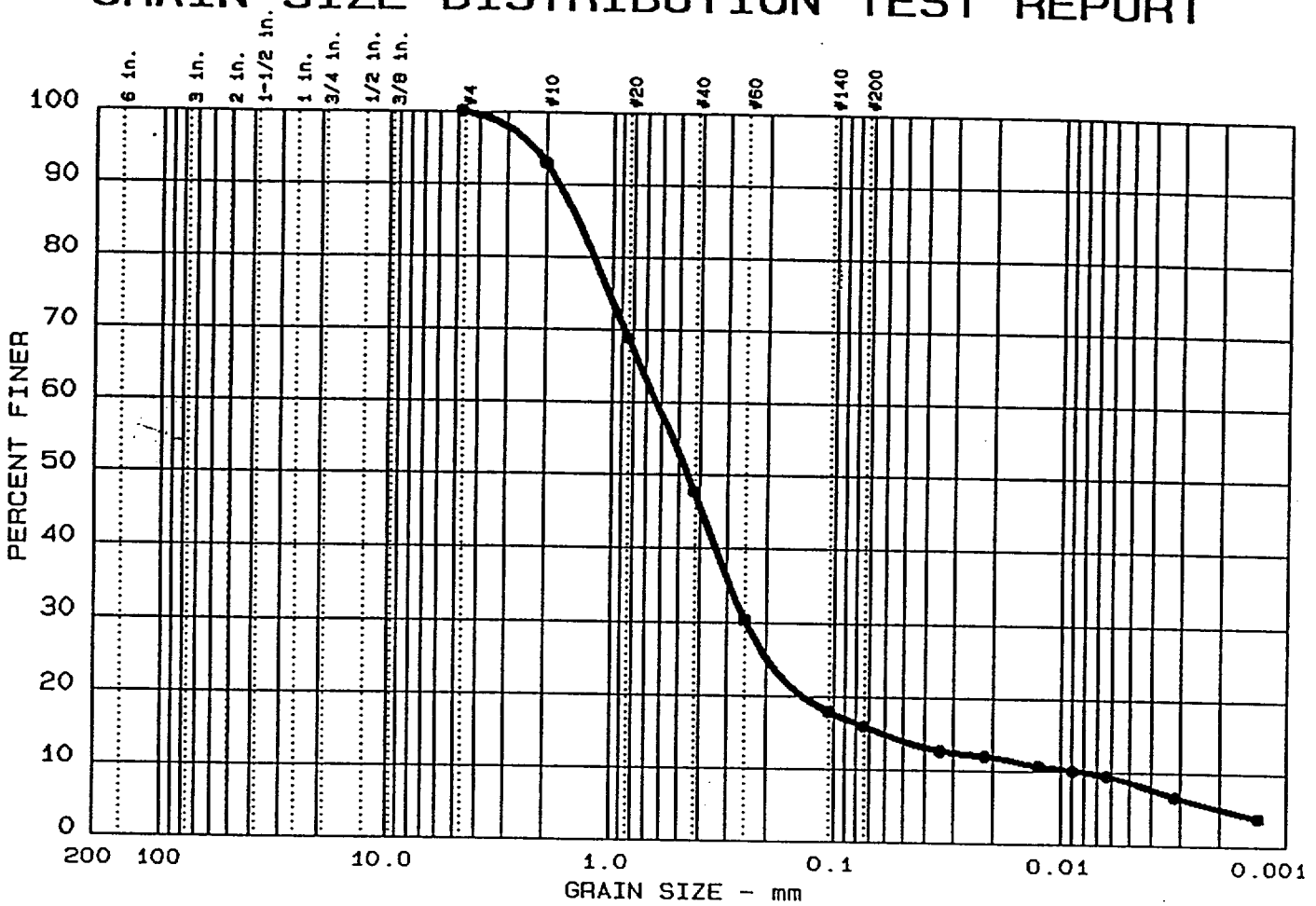
Date: April 15, 1998

Remarks:
Tested by: SC
Reviewed by: HD
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	84.0	7.3	8.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	40	2	1.43	0.62	0.45	0.247	0.0587	0.0079	12.40	78.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-71 @ 113-114.5 Ft.

Date: April 13, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

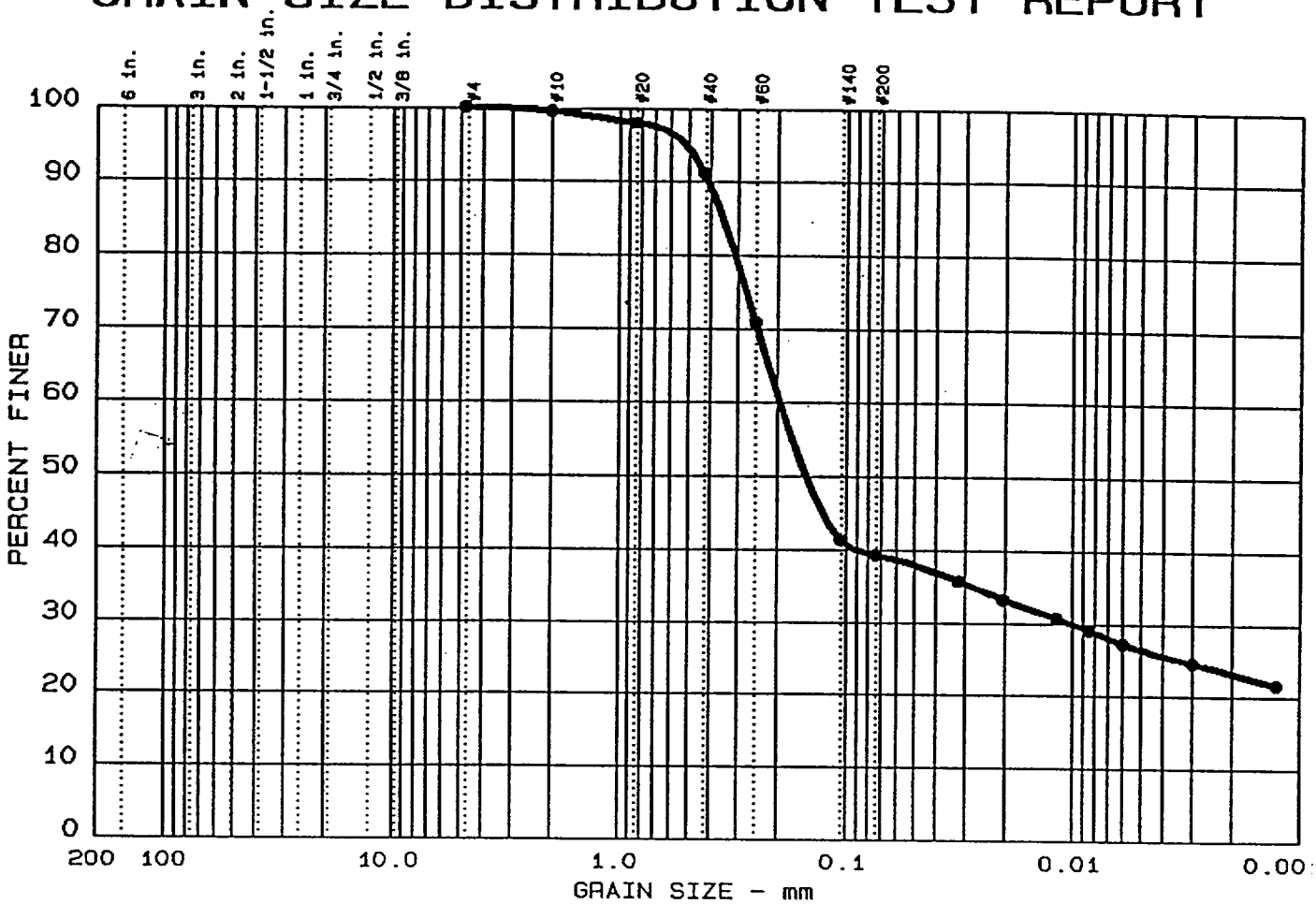
ASTM D 422
&
ASTM D 4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	60.8	12.8	26.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	63	22	0.35	0.19	0.15	0.010				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-7-5(4.1)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-72 @ 114.5-116 Ft.

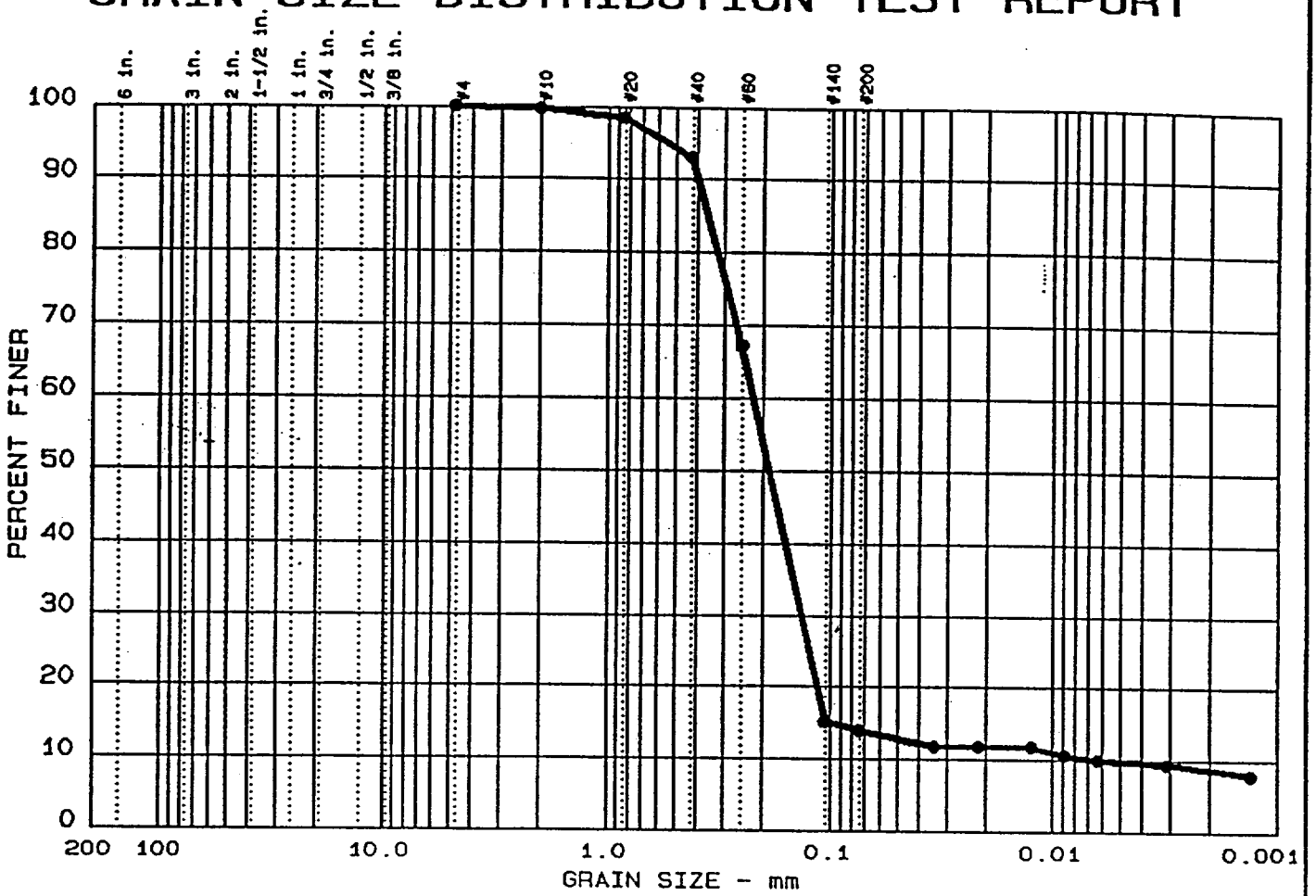
Date: April 13, 1998

Remarks:
Tested by: SC
Reviewed by: HS
ASTM D422
&
ASTM D4318

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	18	0.0	0.0	86.1	4.1	9.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.35	0.22	0.19	0.134	0.1007	0.0062	13.12	35.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Silty Sand	SM	A-2-4 (0.1)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-73 @ 116-117.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

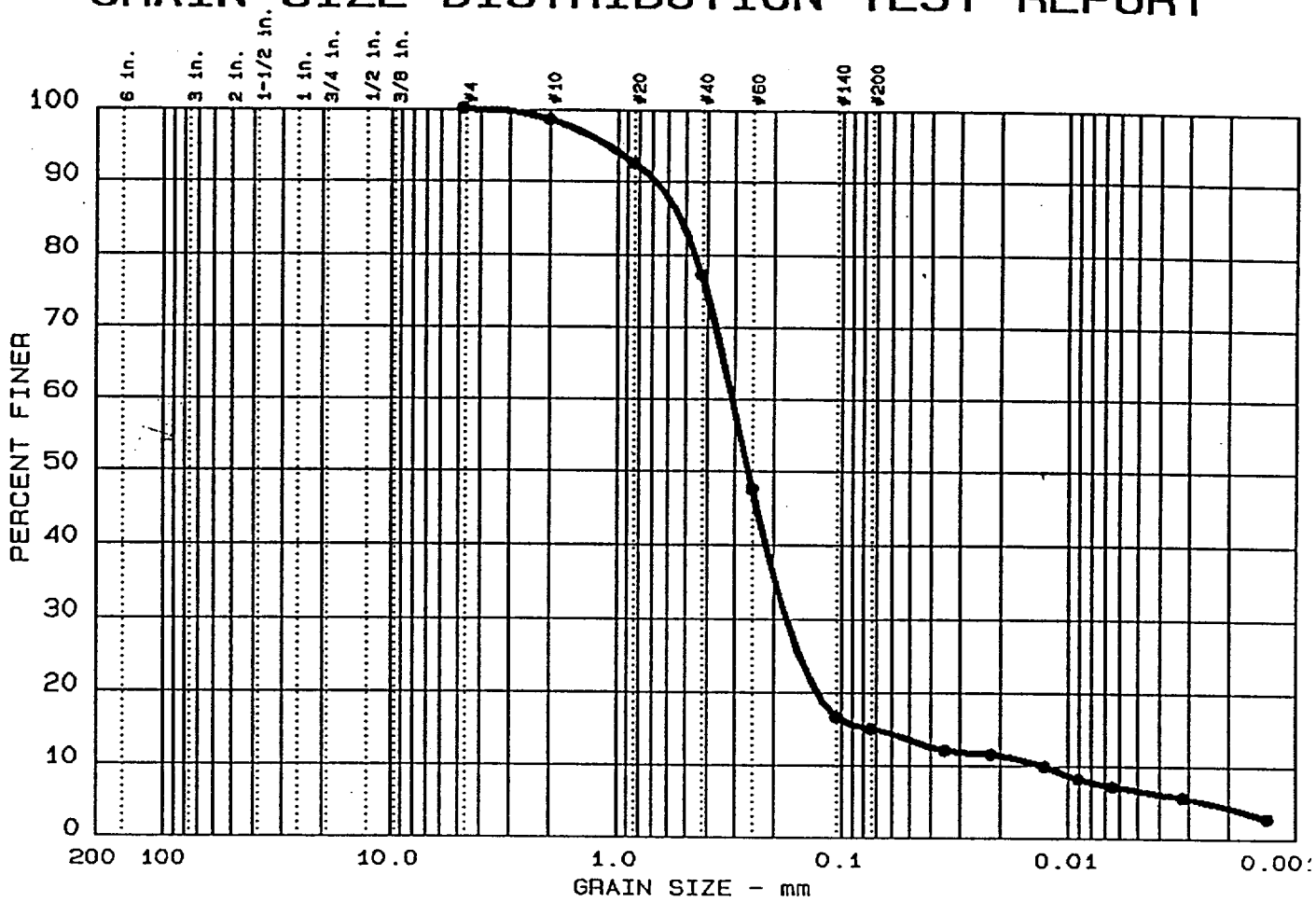
ASTM D422
&
ASTM D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	84.9	8.5	6.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.52	0.31	0.26	0.175	0.0705	0.0130	7.68	23.7

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan & White Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-74 @ 117.5-119 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HS

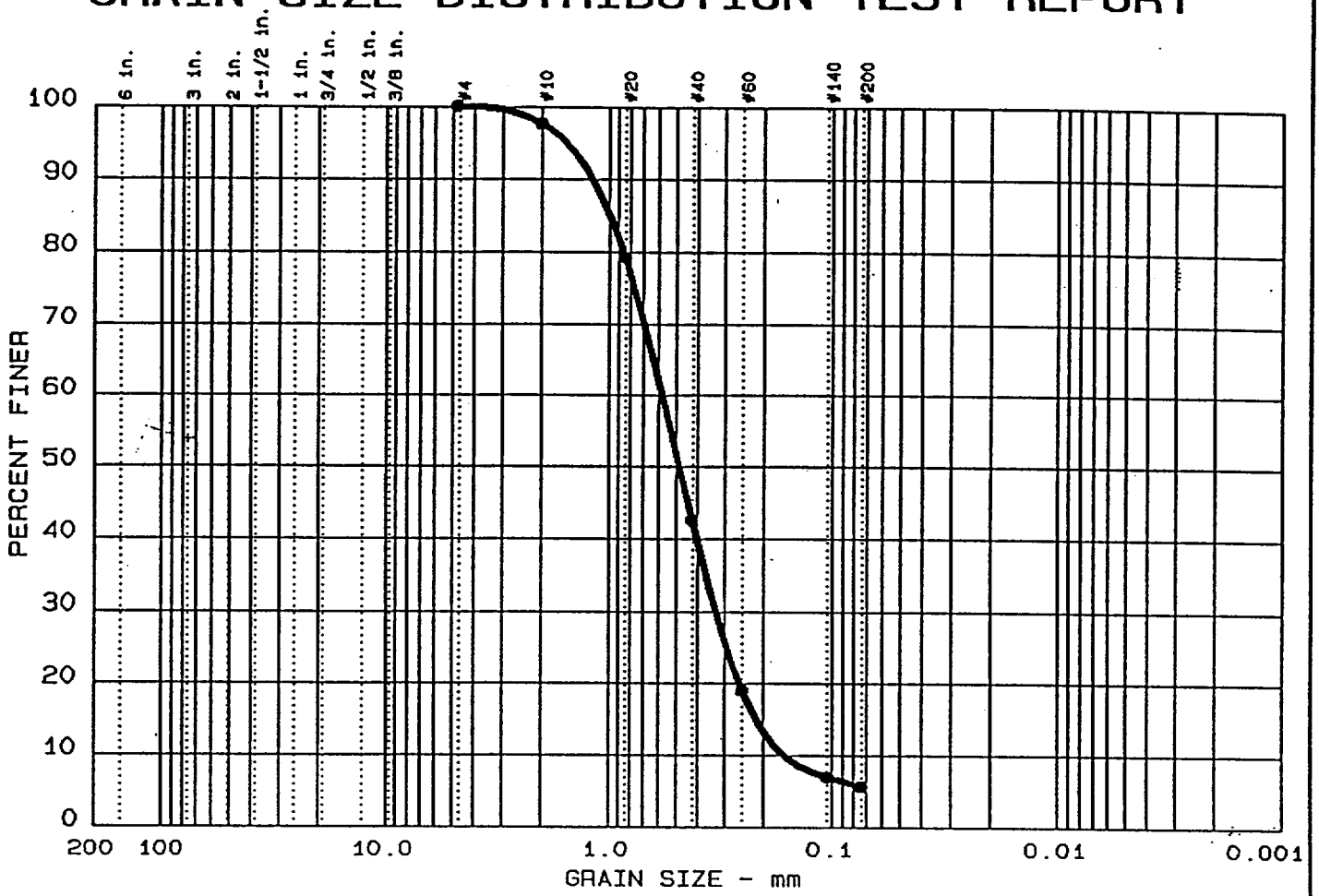
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	94.4	5.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.98	0.57	0.48	0.328	0.2163	0.1622	1.16	3.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: Fb-6 SS-75 @ 119-120.5 Ft.

Date: April 15, 1998

Remarks:

Tested by: SC

Reviewed by: HS

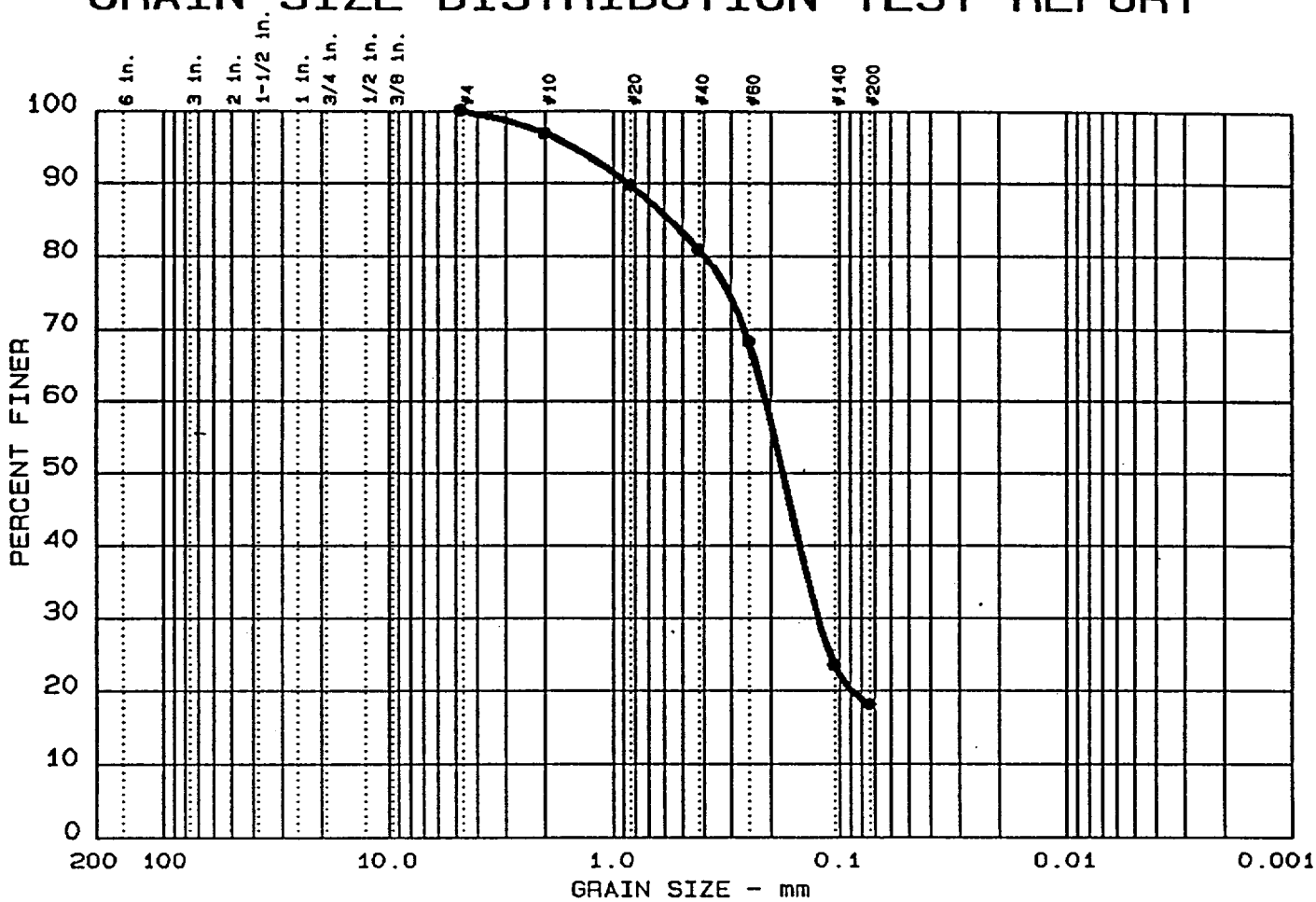
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	81.8	18.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.56	0.21	0.18	0.124				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-76 @ 120.5-122.0 Ft

Date: April 15, 1998

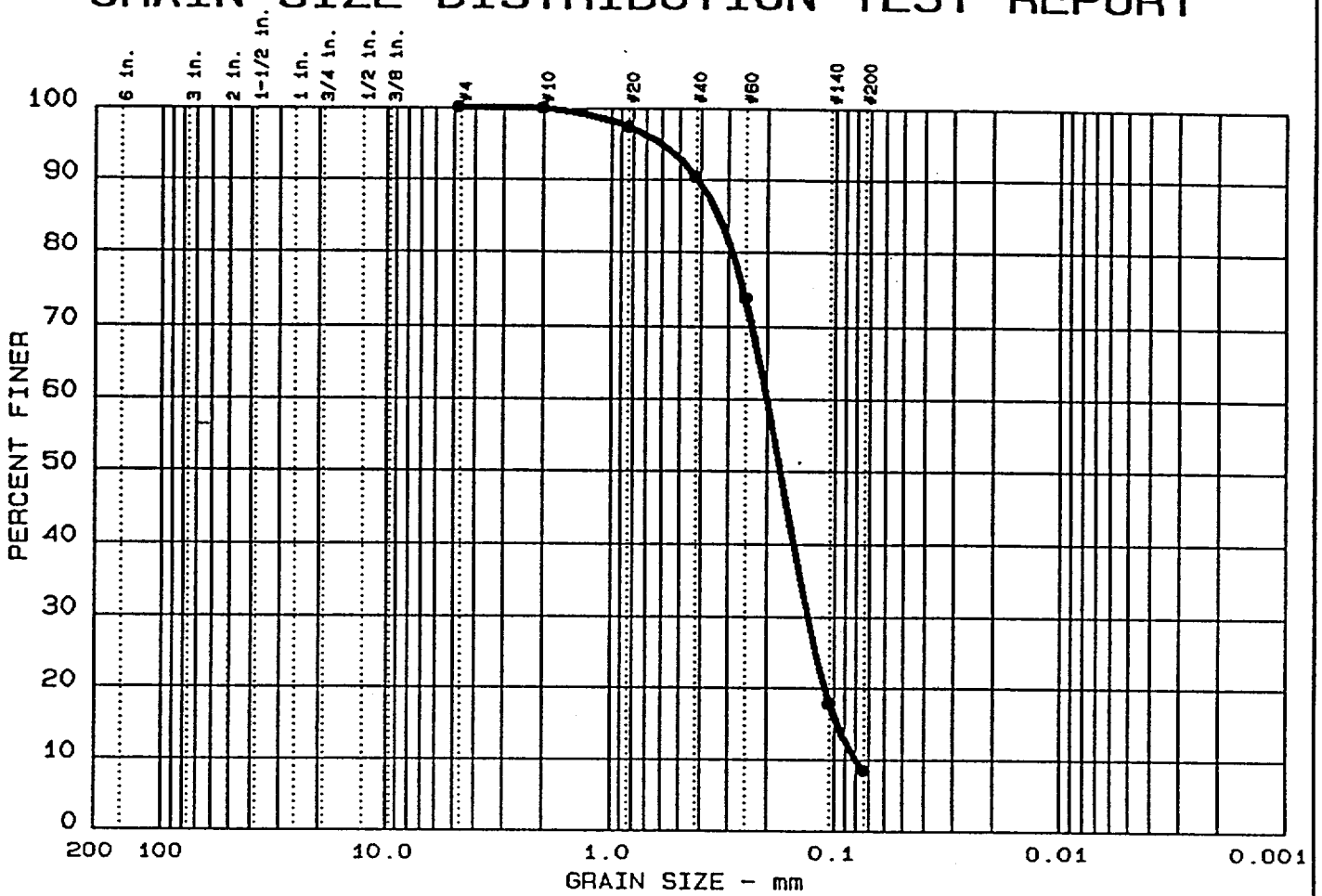
Remarks:
Tested by: SC
Reviewed by: HD

ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	91.5	8.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.33	0.20	0.17	0.131	0.0971	0.0798	1.08	2.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-77 @ 122-123.5 Ft.

Date: April 15, 1998

Remarks:

Tested by: SC

Reviewed by: HB

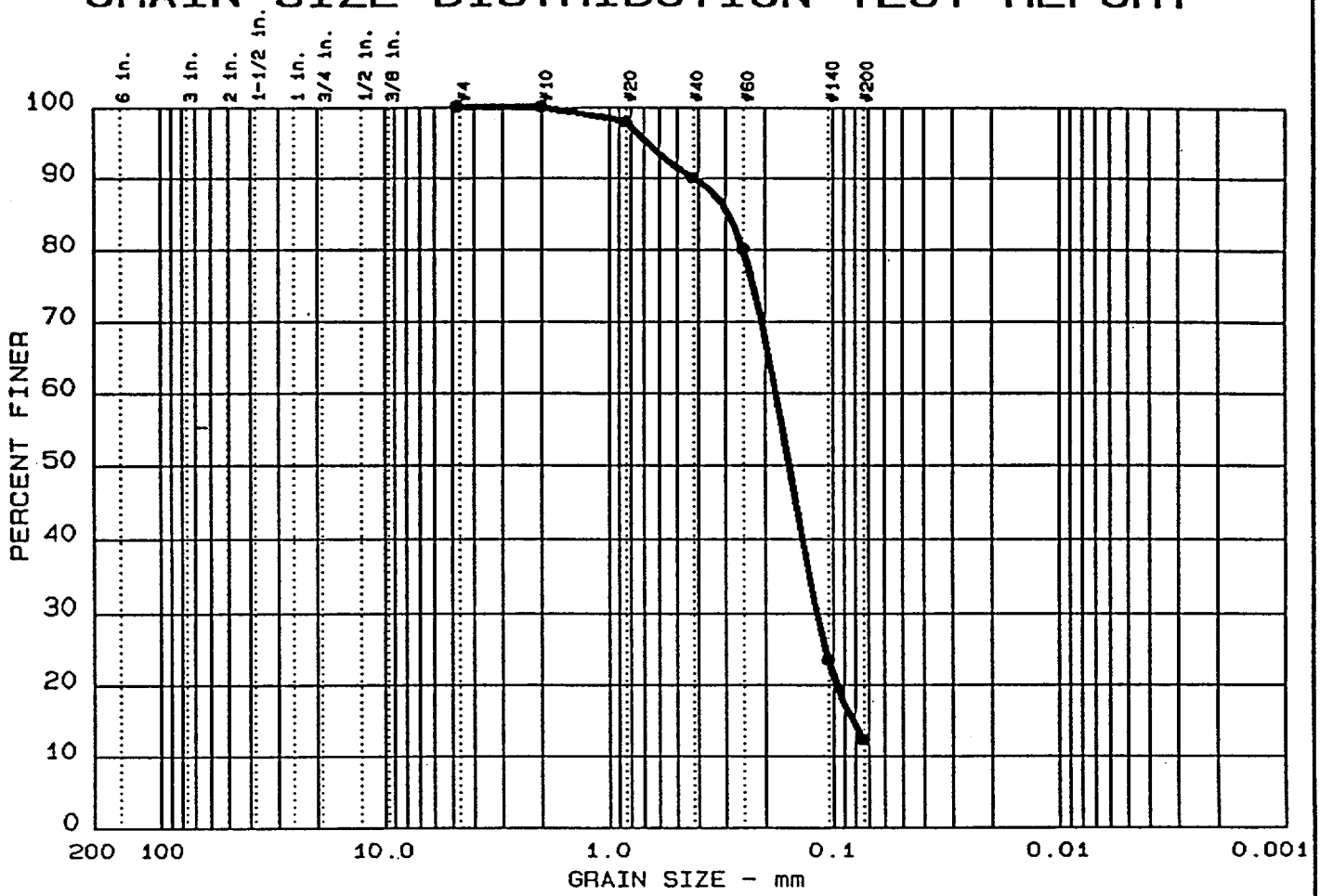
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	87.6	12.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.29	0.18	0.16	0.118	0.0817			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.3)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-78 @ 123.5-125.0 Ft.

Date: April 15, 1998

Remarks:

Tested by: SC

Reviewed by: HS

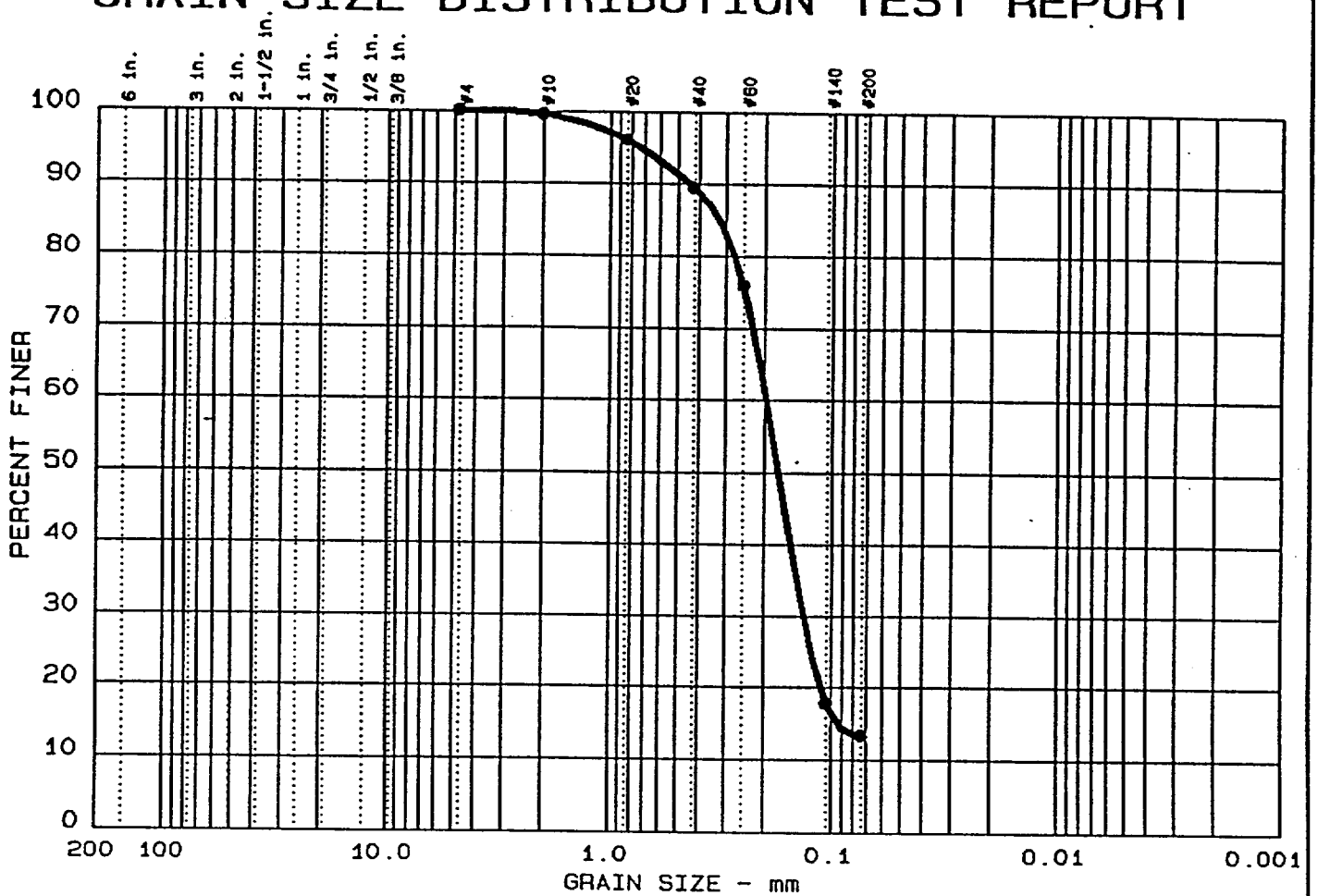
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	86.6	13.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.32	0.20	0.17	0.132	0.0938			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.2)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-79 @ 125-126.5 Ft.

Date: April 15, 1998

Remarks:

Tested by: SG

Reviewed by: HJ

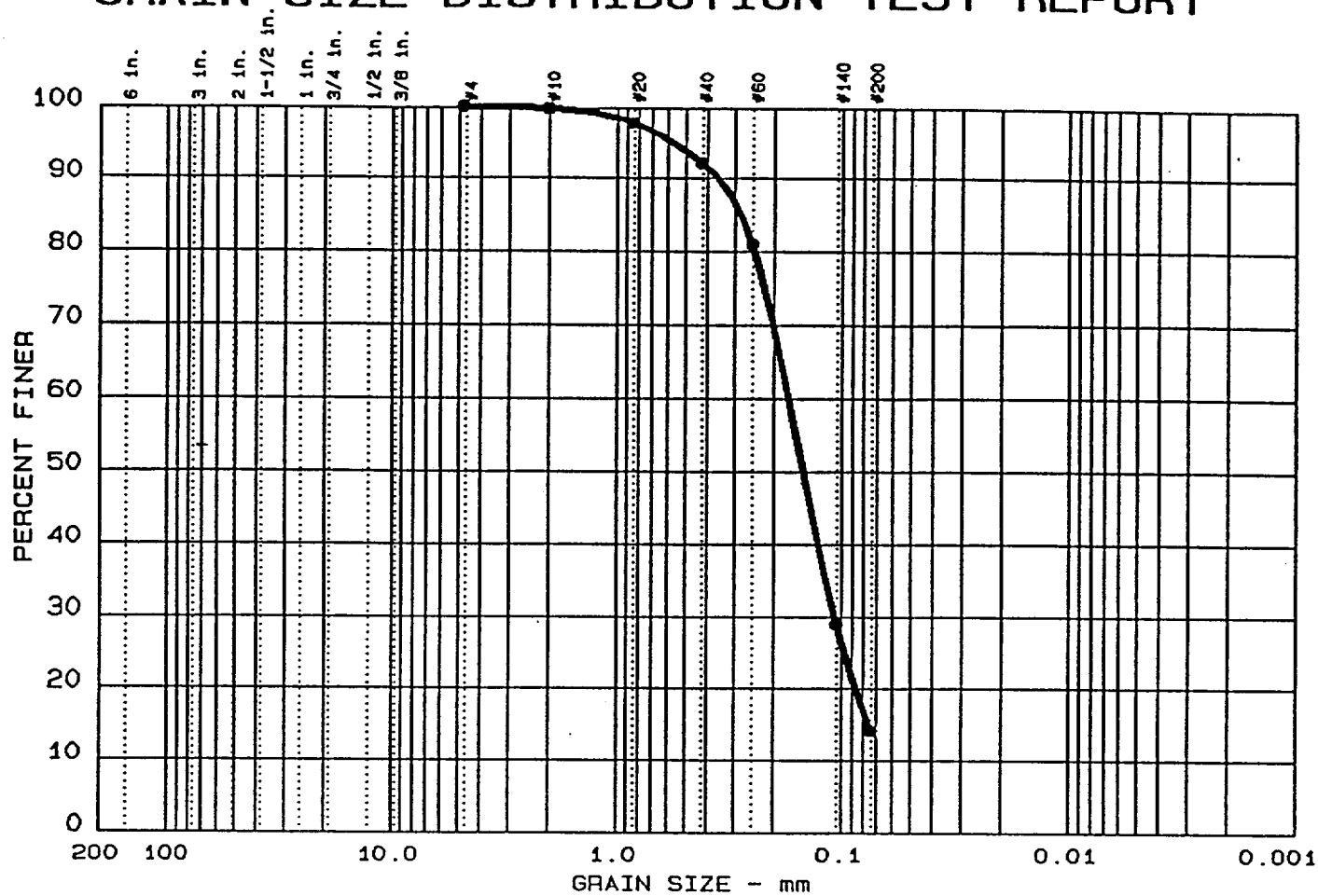
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	85.8	14.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.28	0.17	0.15	0.107	0.0757			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.1)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-80 @ 126.5-128.0 Ft.

Date: April 15, 1998

Remarks:

Tested by: SC

Reviewed by: HB

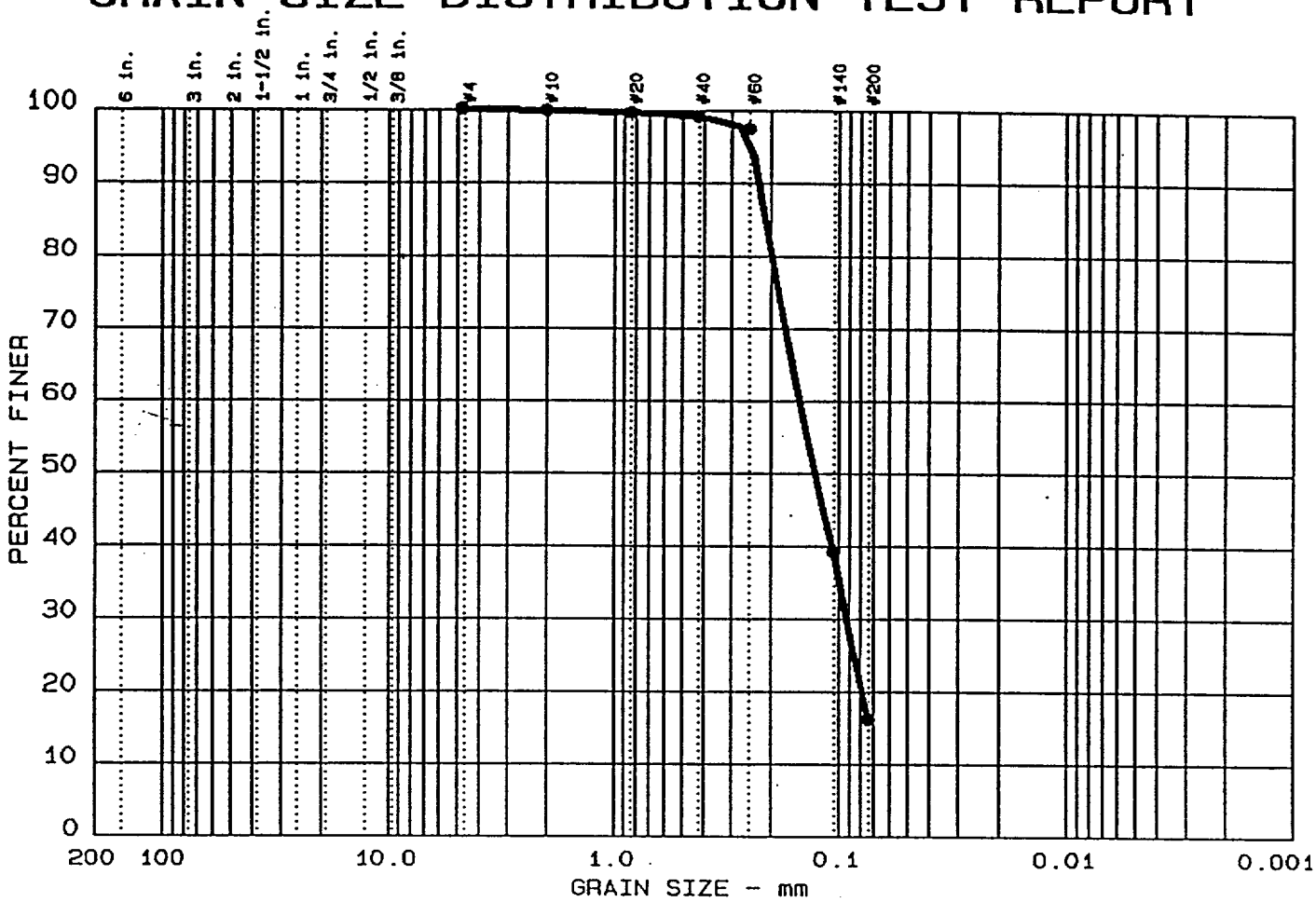
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	83.8	16.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.21	0.15	0.13	0.092				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-82 @ 129.5-131 Ft.

Date: April 15, 1998

Remarks:

Tested by: SC

Reviewed by: HD

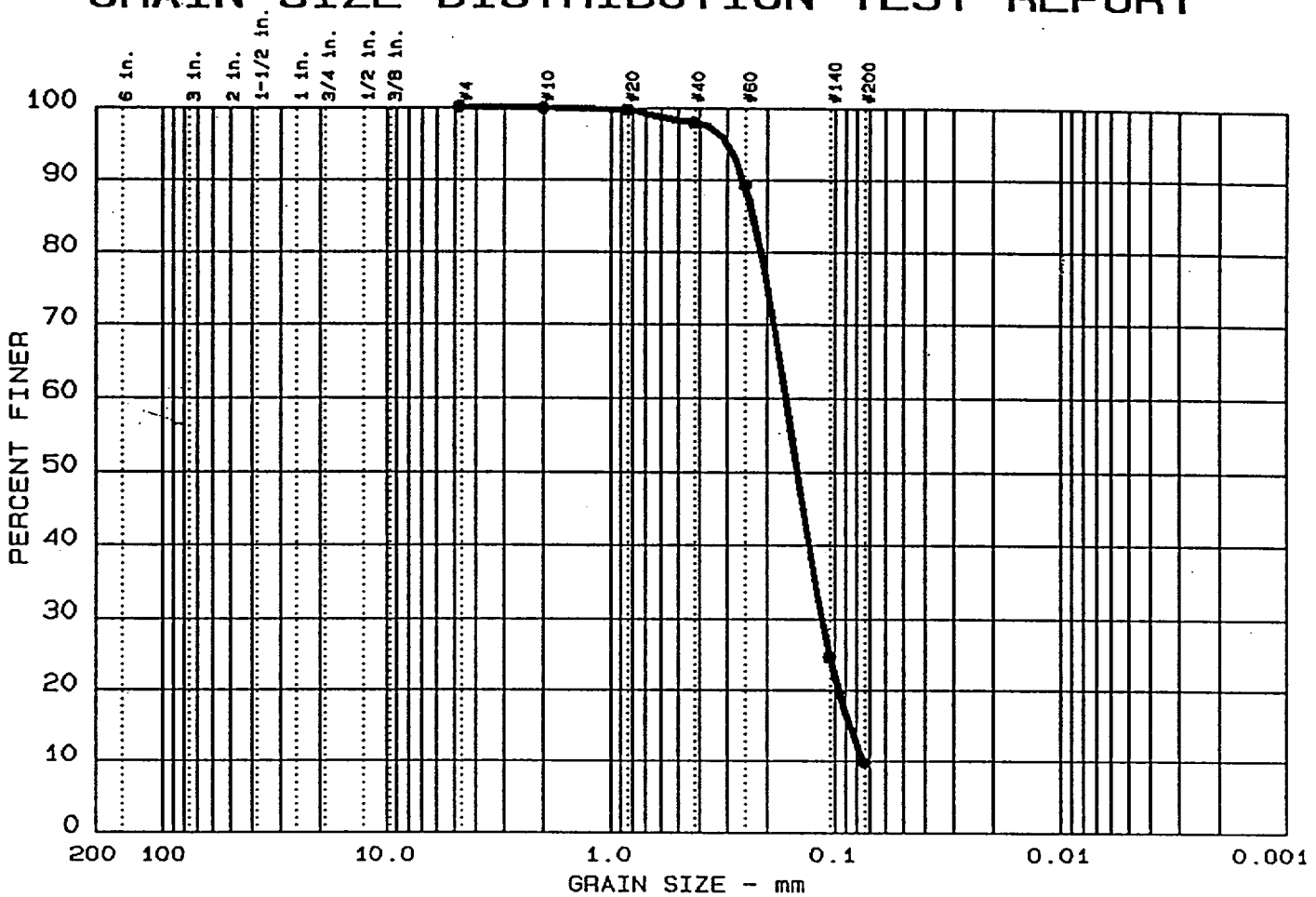
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	12	0.0	0.0	90.3	9.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.23	0.16	0.15	0.114	0.0854	0.0744	1.06	2.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-84 @ 132.5-134 Ft.

Date: April 15, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

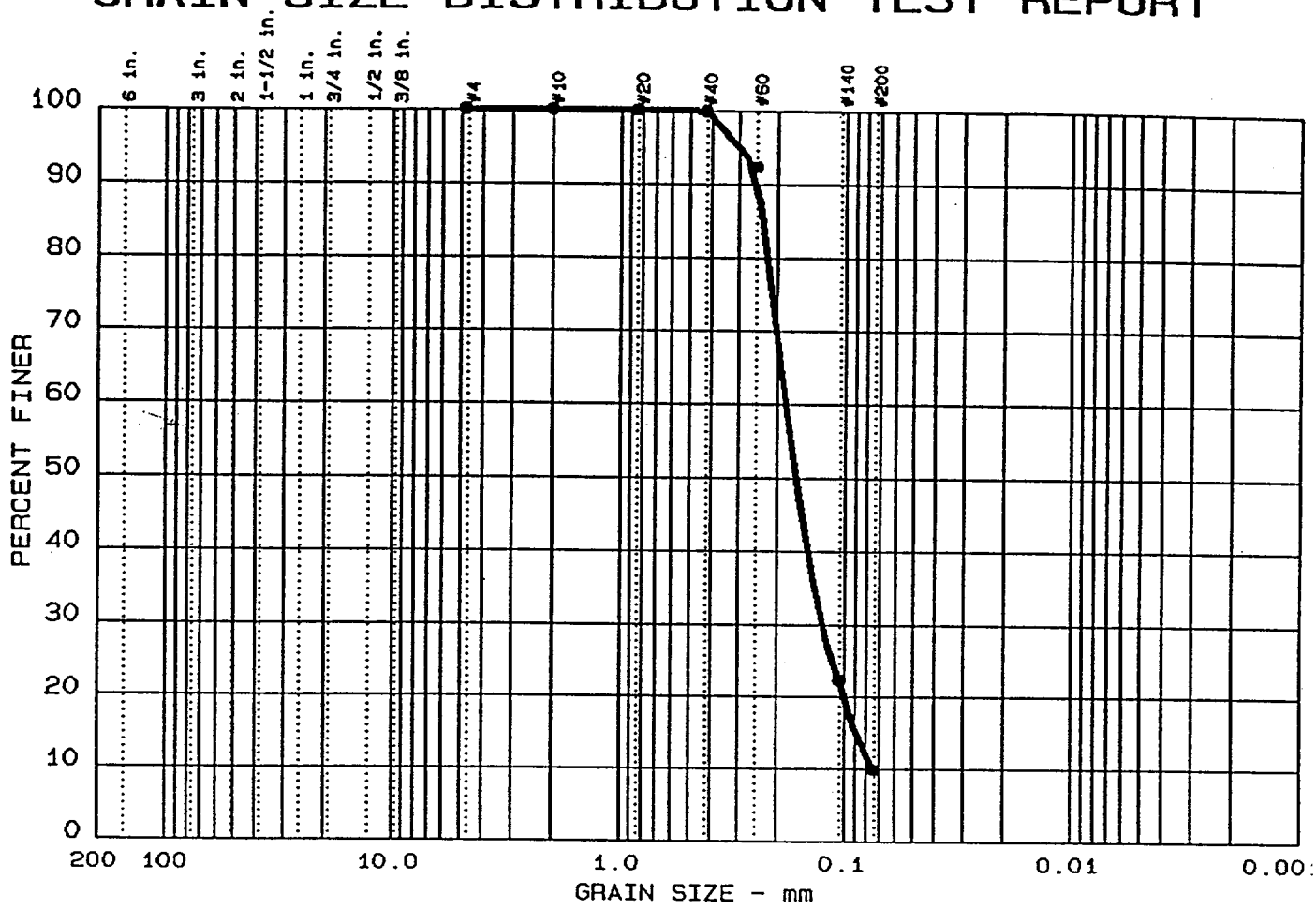
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	90.1	9.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.23	0.18	0.16	0.126	0.0889			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-85 @ 134-135.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HB

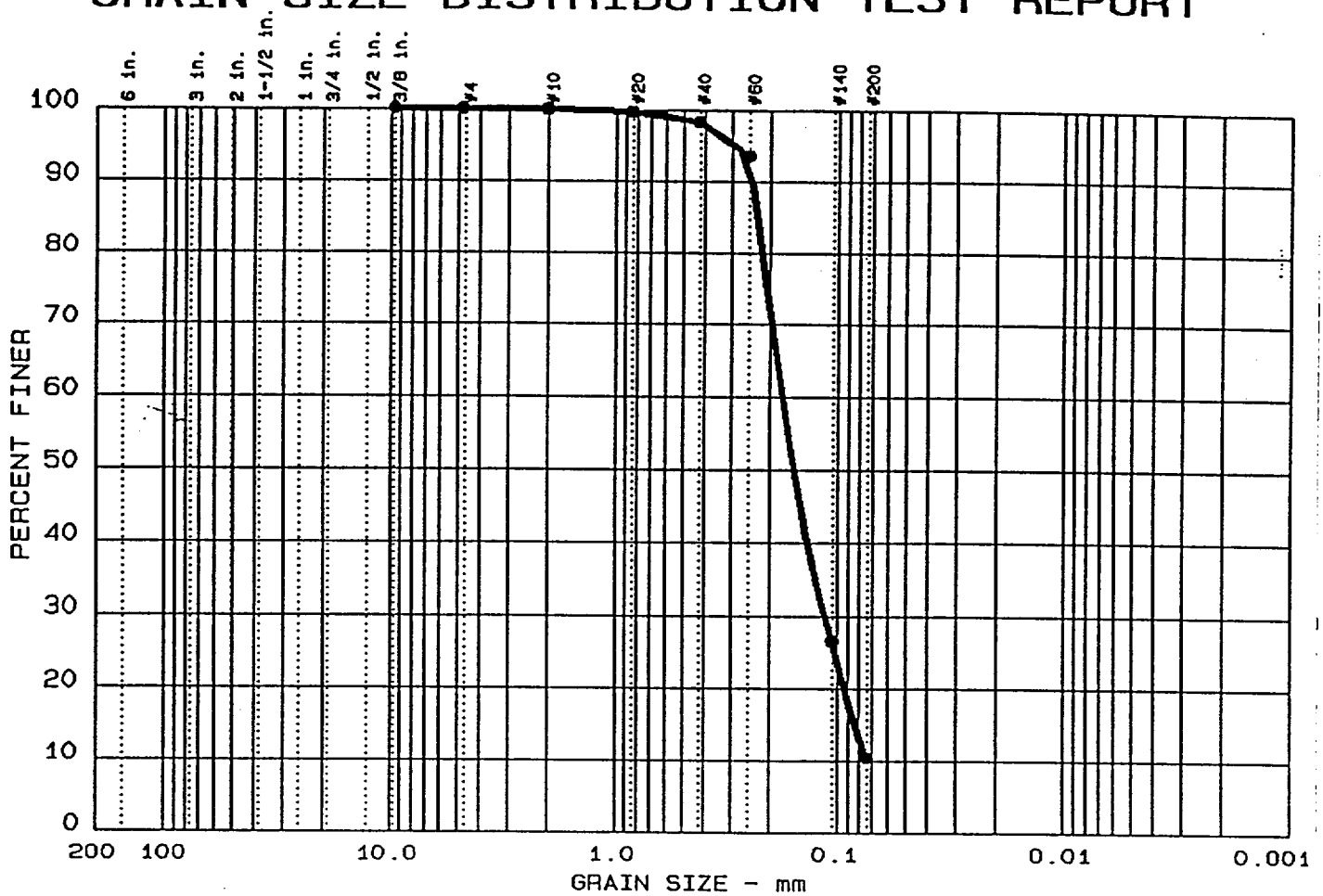
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	0.0	89.6	10.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.23	0.18	0.16	0.114	0.0832			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-86 @ 135.5-137 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HB

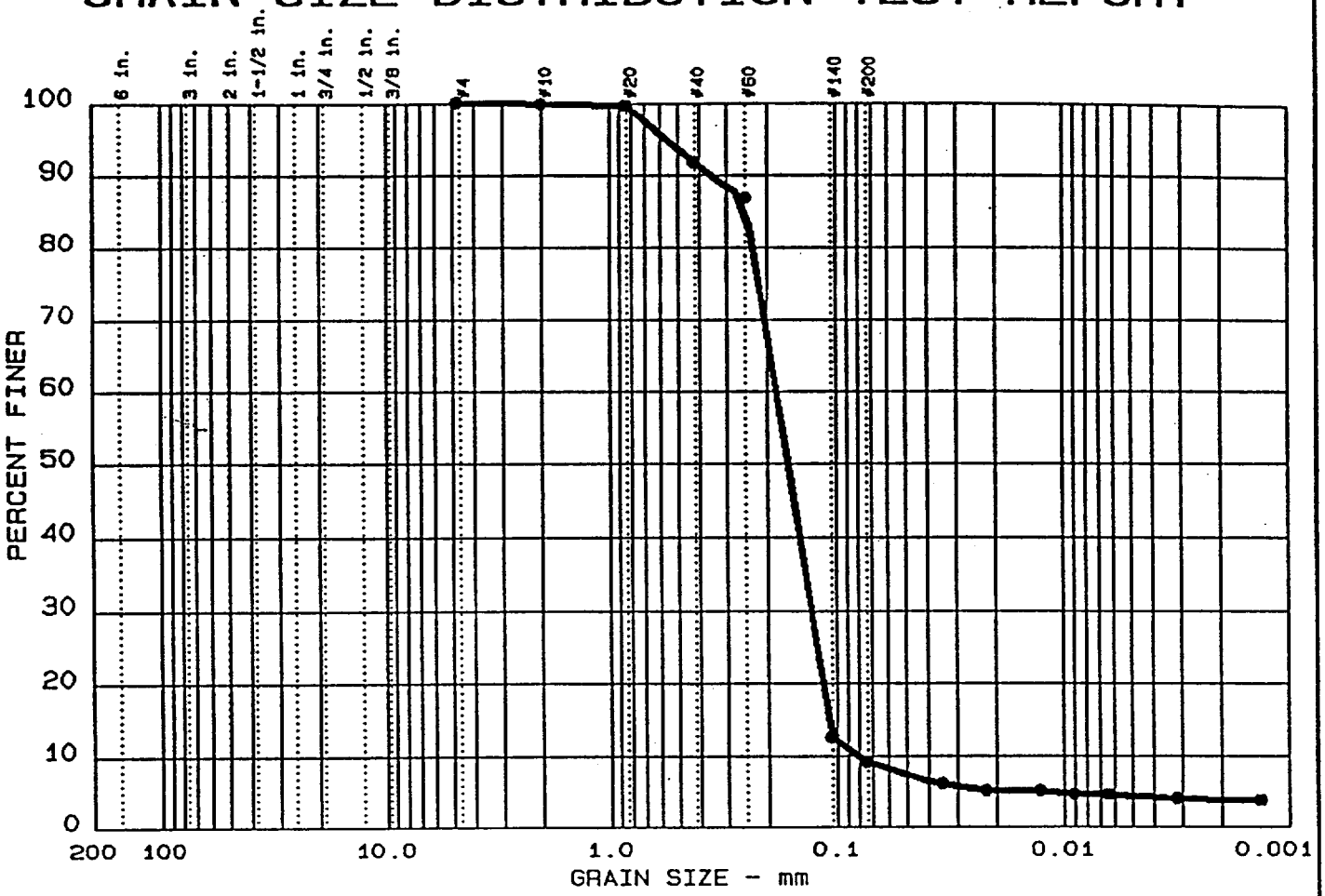
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	19	0.0	0.0	90.8	4.8	4.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.24	0.18	0.16	0.129	0.1080	0.0801	1.13	2.3

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-87 @ 137-138.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HD

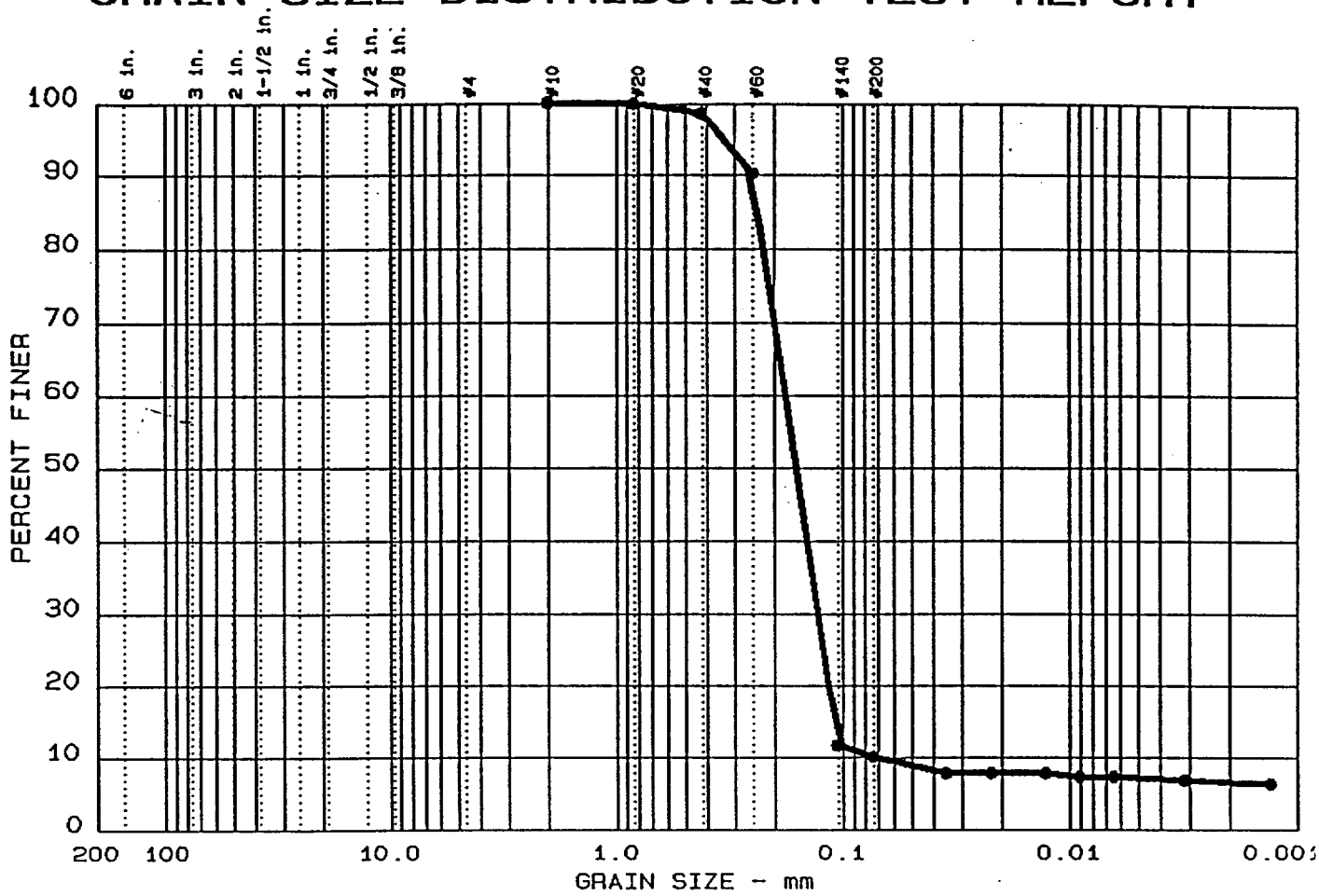
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	89.9	3.0	7.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.24	0.18	0.16	0.128	0.1089	0.0711	1.30	2.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SP-SM	A-3

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-88 @ 138.5-140 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HD

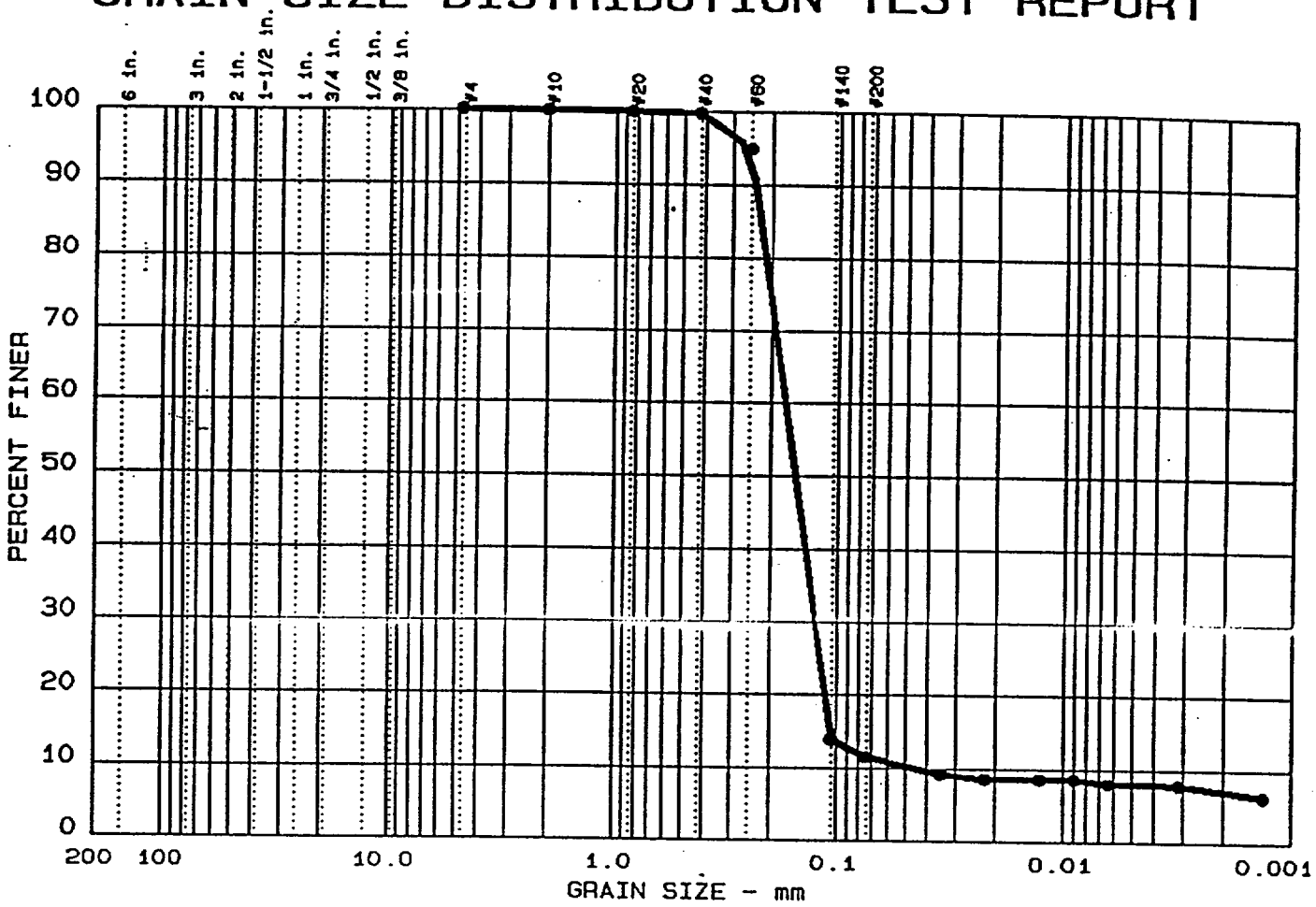
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	20	0.0	0.0	88.5	3.6	7.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.22	0.17	0.15	0.125	0.1062	0.0448	2.02	3.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Silt	SP-SM	A-2-4 (0.3)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-89 @ 140-141.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

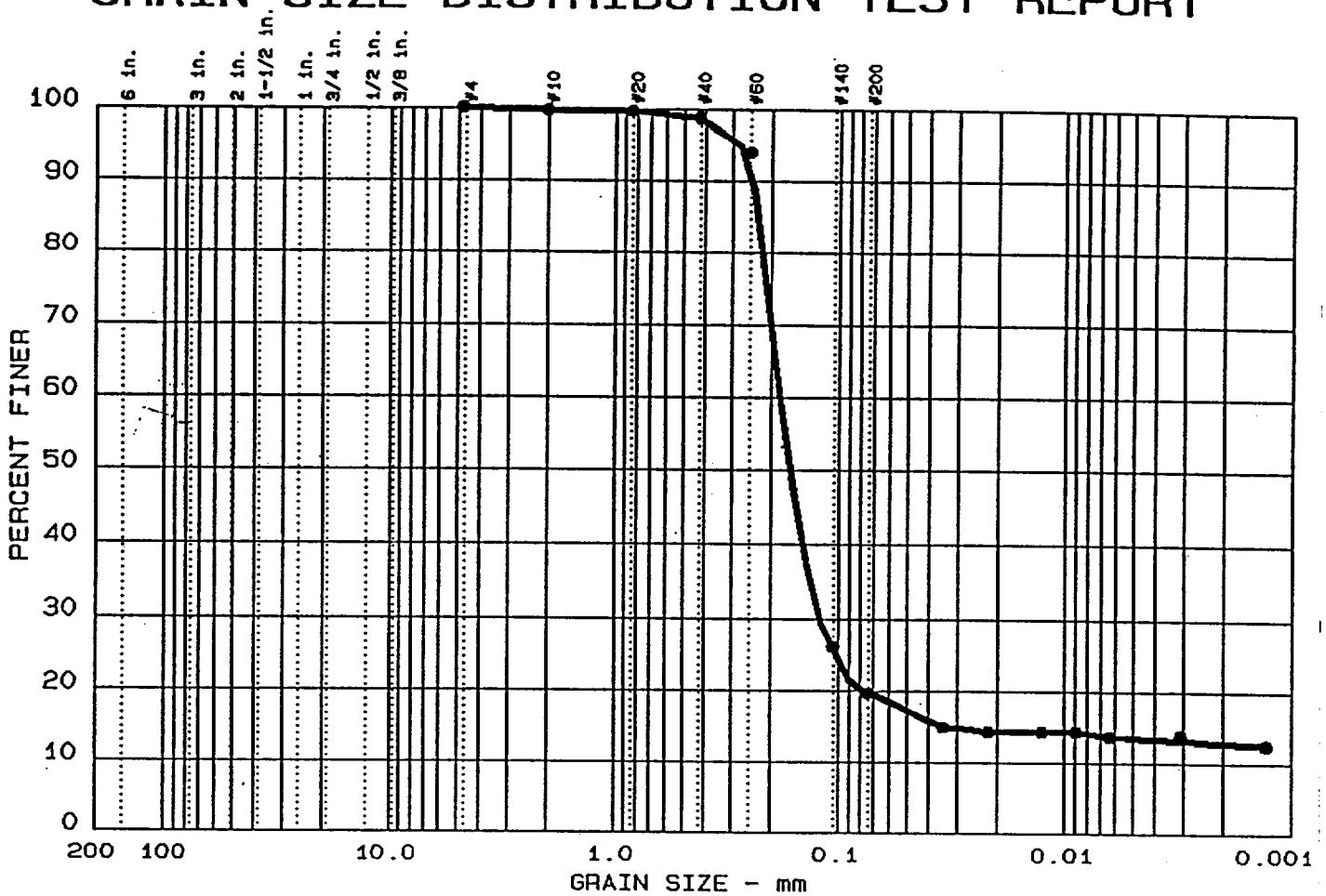
ASTM D 422
&
ASTM D 4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	80.3	6.2	13.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.23	0.18	0.16	0.121	0.0345			

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown & Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-90 @ 141.5-143 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HS

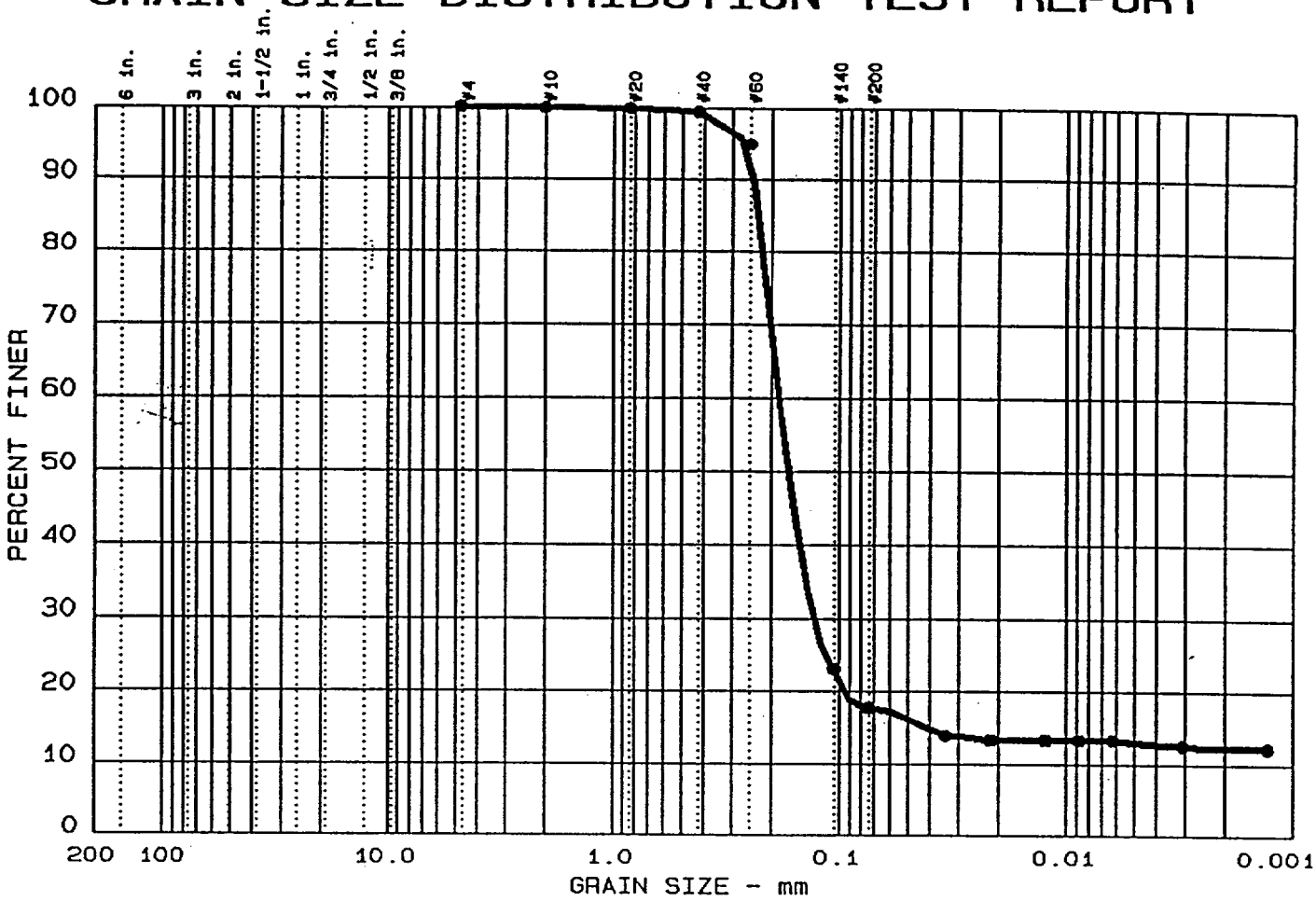
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	82.2	4.7	13.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	34	8	0.23	0.18	0.17	0.129	0.0404			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-91 @ 143-144.5 Ft.

Date: April 13, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

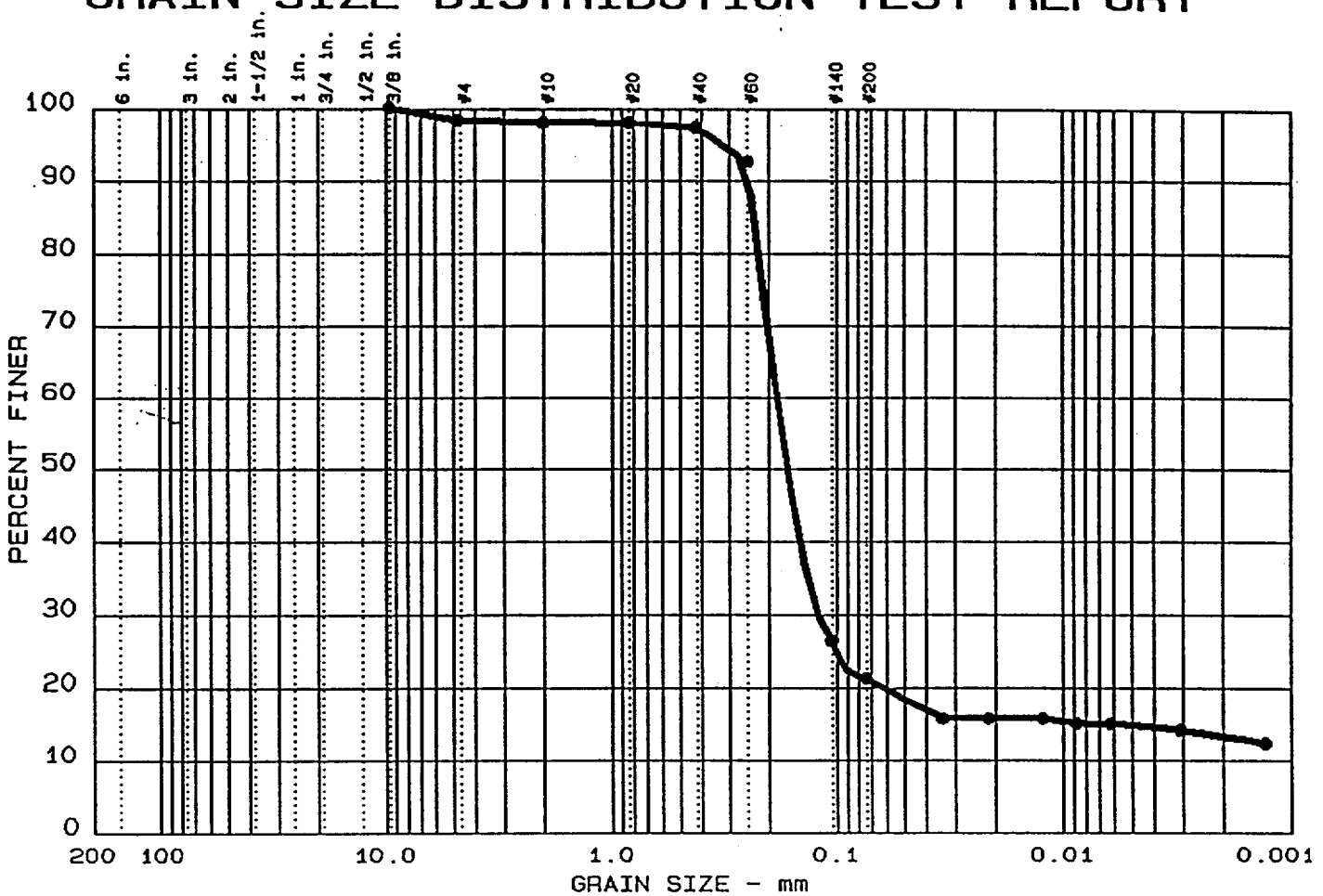
ASTM D422
&
ASTM D 4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	1.6	77.1	6.5	14.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	54	29	0.23	0.18	0.16	0.121	0.0055			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Clayey Sand	SC	A-2-7 (1.1)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-92 @ 144.5-146 Ft.

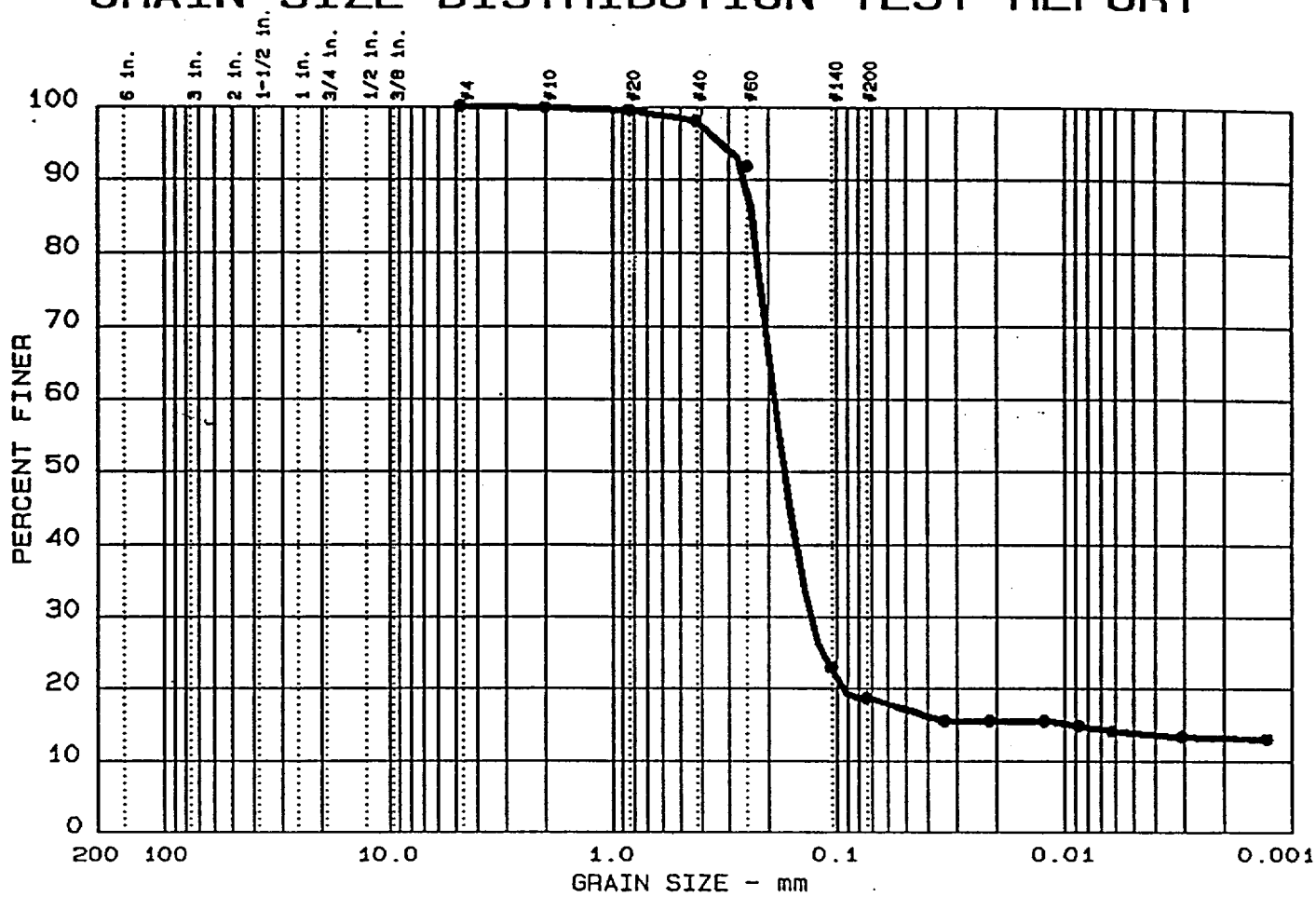
Date: April 13, 1998

Remarks:
Tested by: SC
Reviewed by: HJ
ASTM D422 & ASTM D4318

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	81.3	4.9	13.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.24	0.19	0.17	0.130	0.0092			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-93 @ 146-147.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HS

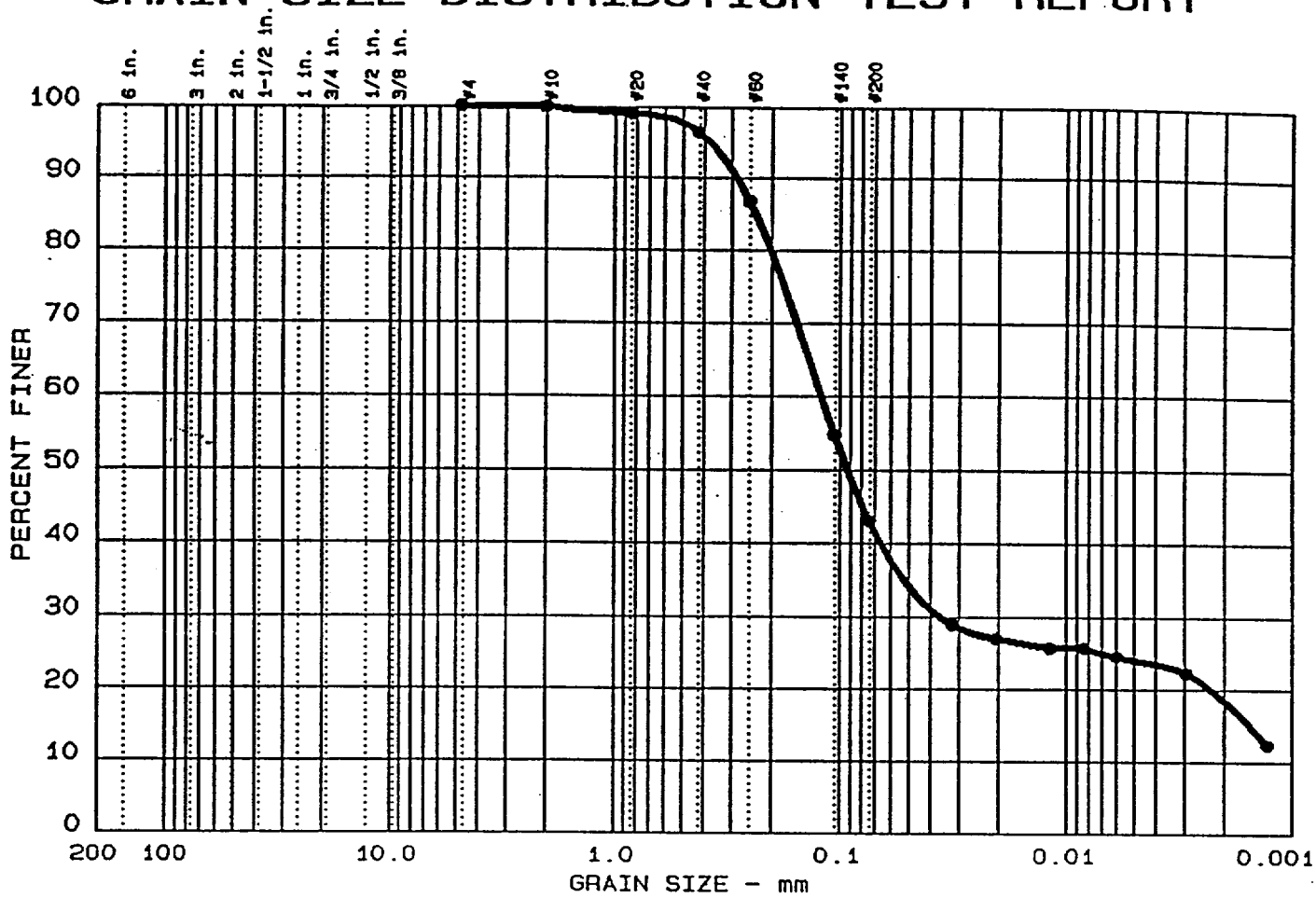
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	B	0.0	0.0	57.0	19.0	24.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	43	20	0.23	0.12	0.09	0.036	0.0015			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-7-6 (4.5)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-94 @ 147.5-149 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HD

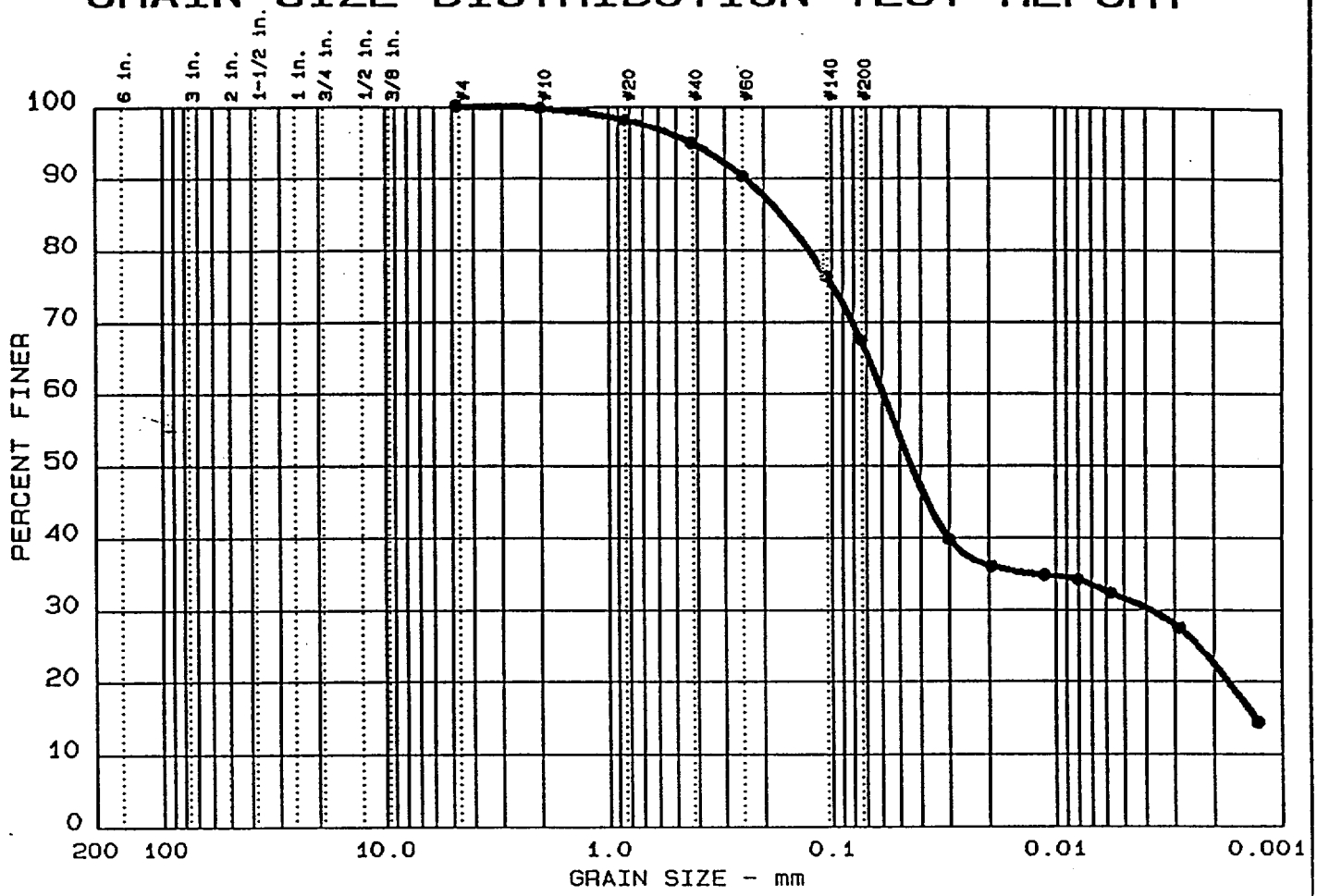
ASTM D 422
&
ASTM D 4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	0.0	32.6	35.9	31.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.17		0.04	0.004	0.0013			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Sandy Silt	ML	A-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-95 @ 149-150.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HD

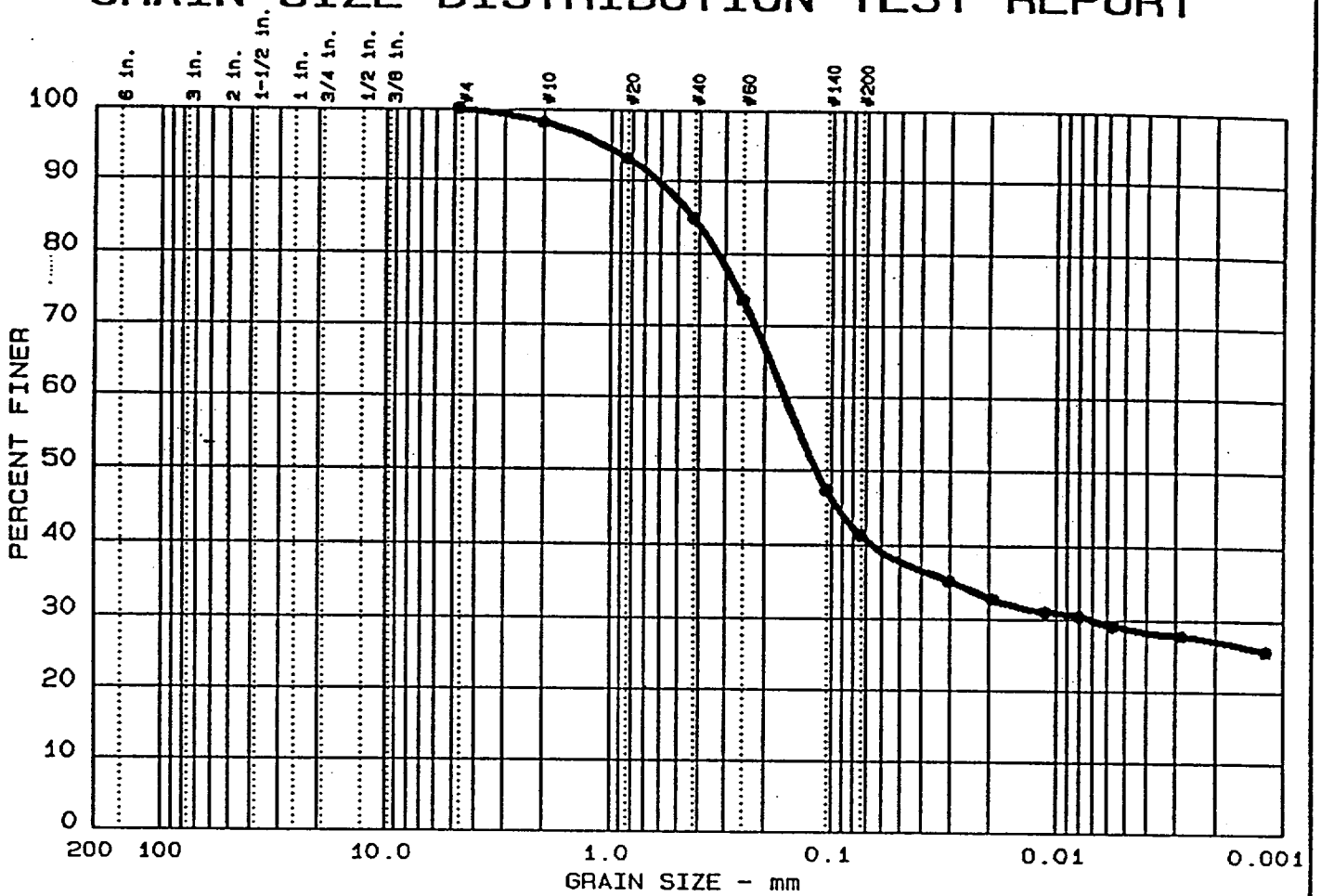
ASTM D 422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	58.8	12.4	28.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.42	0.16	0.12	0.007				

MATERIAL DESCRIPTION	USCS	AASHTO
● Gray Tan Silty Sand	SM	A-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-96 @ 150.5-152 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

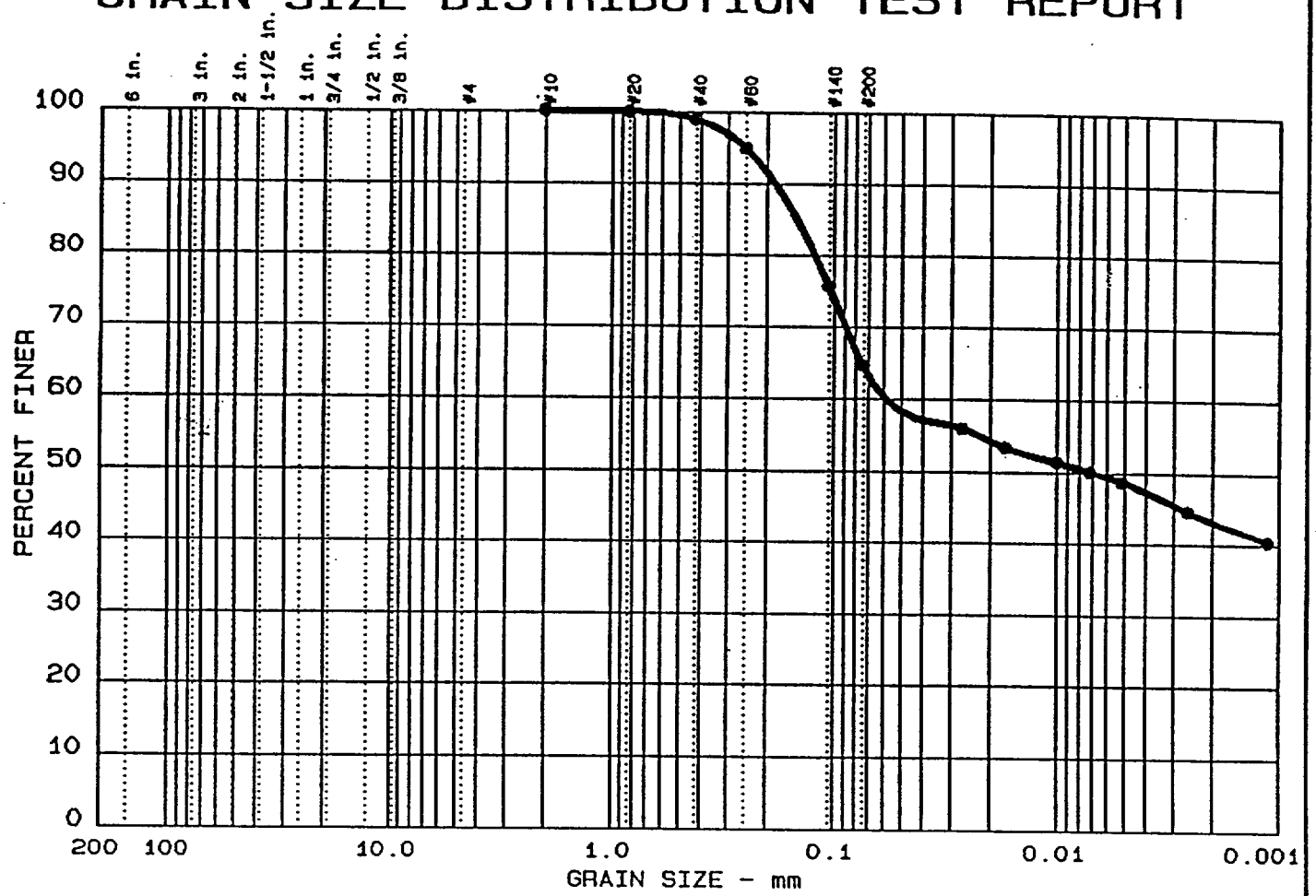
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	35.4	16.1	48.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.15		0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Sandy Silt	ML	A-4 (0.0)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-97 @ 152-153.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

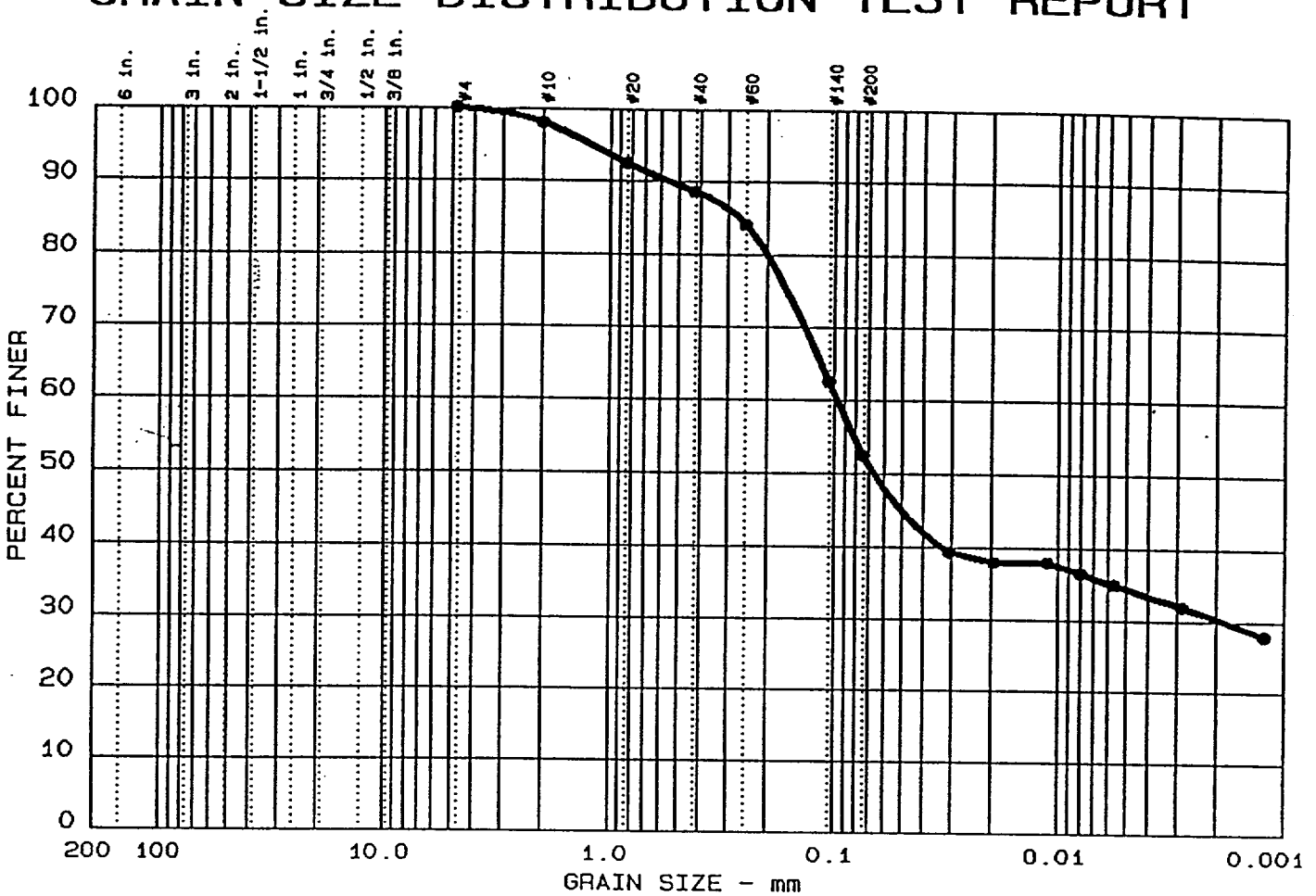
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	47.6	18.1	34.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	61	39	0.26	0.10	0.07	0.002				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Sandy Fat Clay	CH	A-7-6 (15.9)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-98 @ 153.5-155 Ft.

Date: April 13, 1998

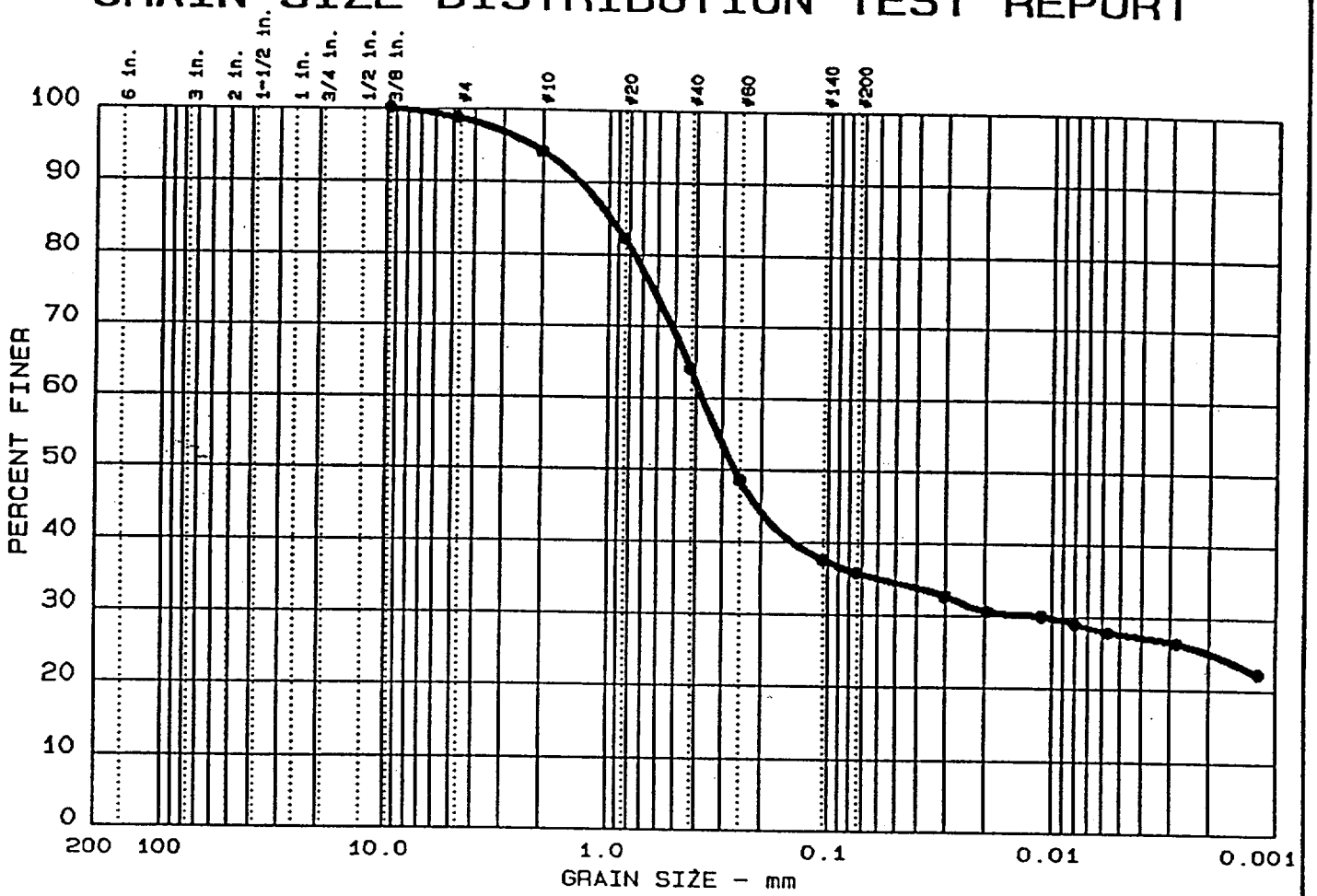
Remarks:
Tested by: SC
Reviewed by: HJ
ASTM D 422
&
ASTM D 4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	1.3	62.9	8.2	27.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	63	40	0.97	0.37	0.26	0.012				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-7-6 (6.6)

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
◆ Location: FB-6 SS-99 @ 155-156.5 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HB

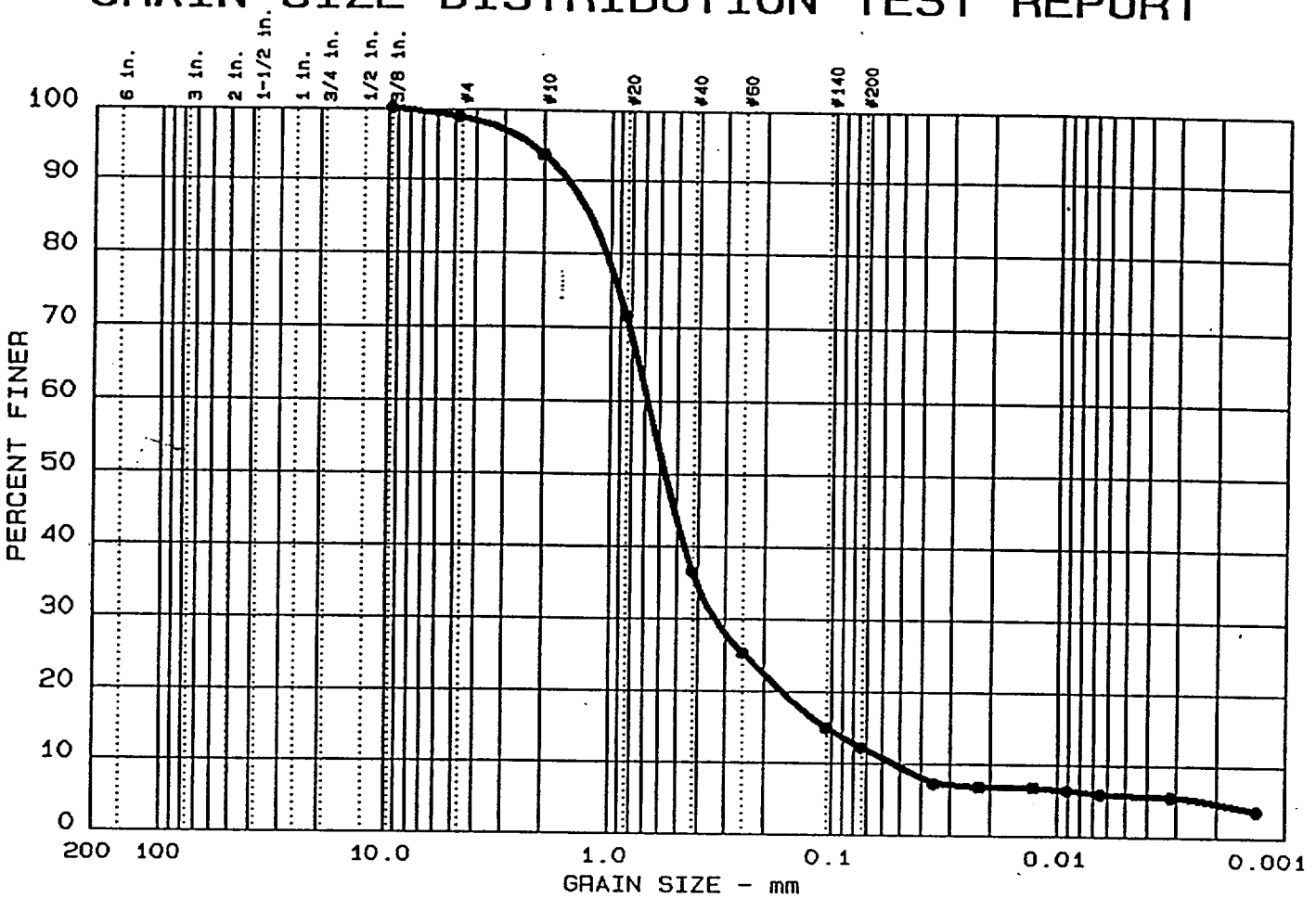
ASTM D 422
&
ASTM D 4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	17	0.0	1.1	86.7	6.4	5.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.22	0.67	0.56	0.333	0.1053	0.0522	3.16	12.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Silty Sand	SM	A-1-b

Project No.: 50161-7-0108 Task 16
Project: APSF Confirmatory Testing
● Location: FB-6 SS-100 @ 156.5-158 Ft.

Date: April 9, 1998

Remarks:

Tested by: SC

Reviewed by: HD

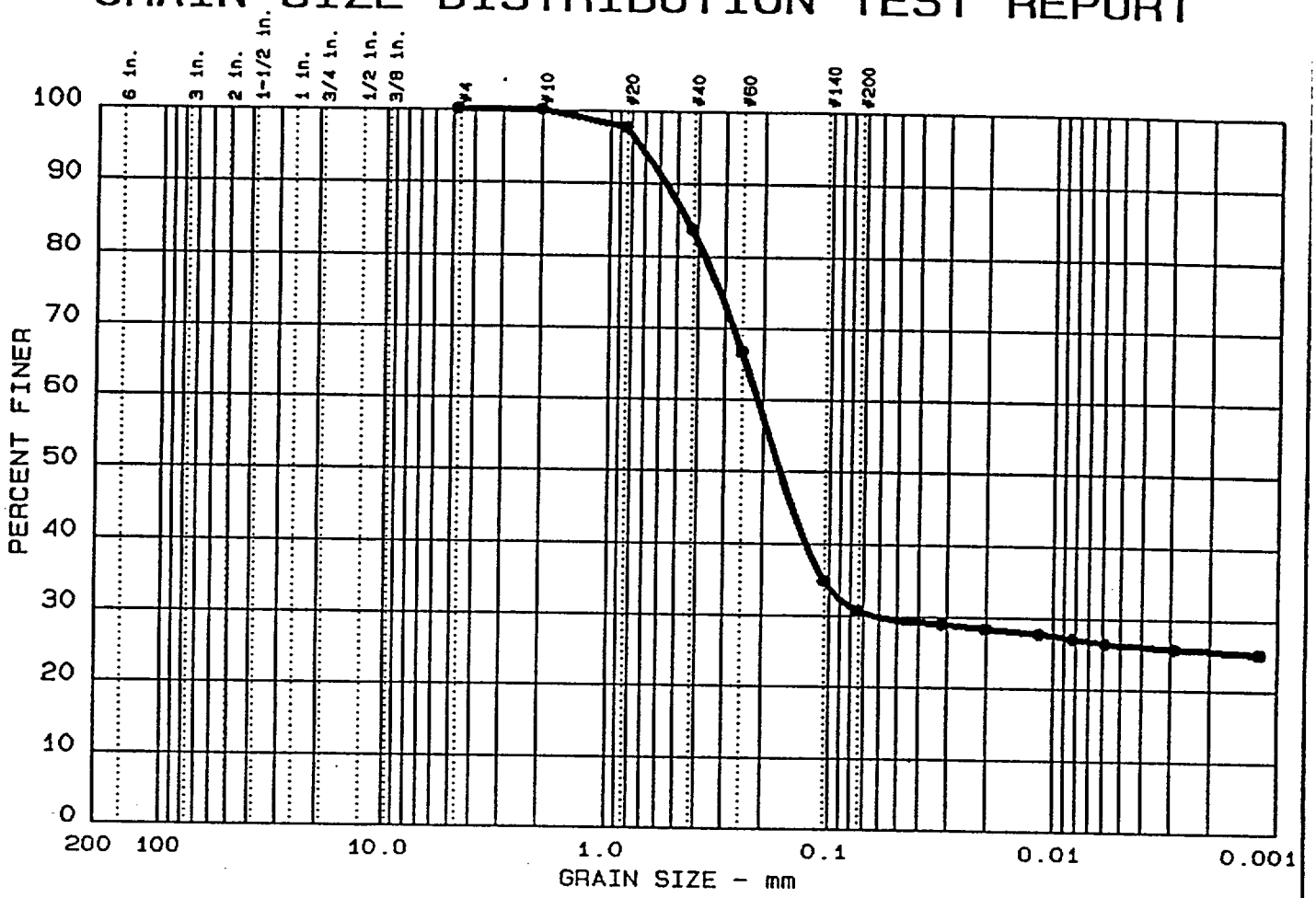
ASTM D422

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	69.4	4.4	26.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	21	2	0.44	0.21	0.17	0.064				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan-Red Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-17 SS-3 @ 10.0-11.5 Ft.

Date: June 19, 1998

Remarks:

Tested by: SC+JTM

Reviewed by: HB

Moisture Content = 18.0%

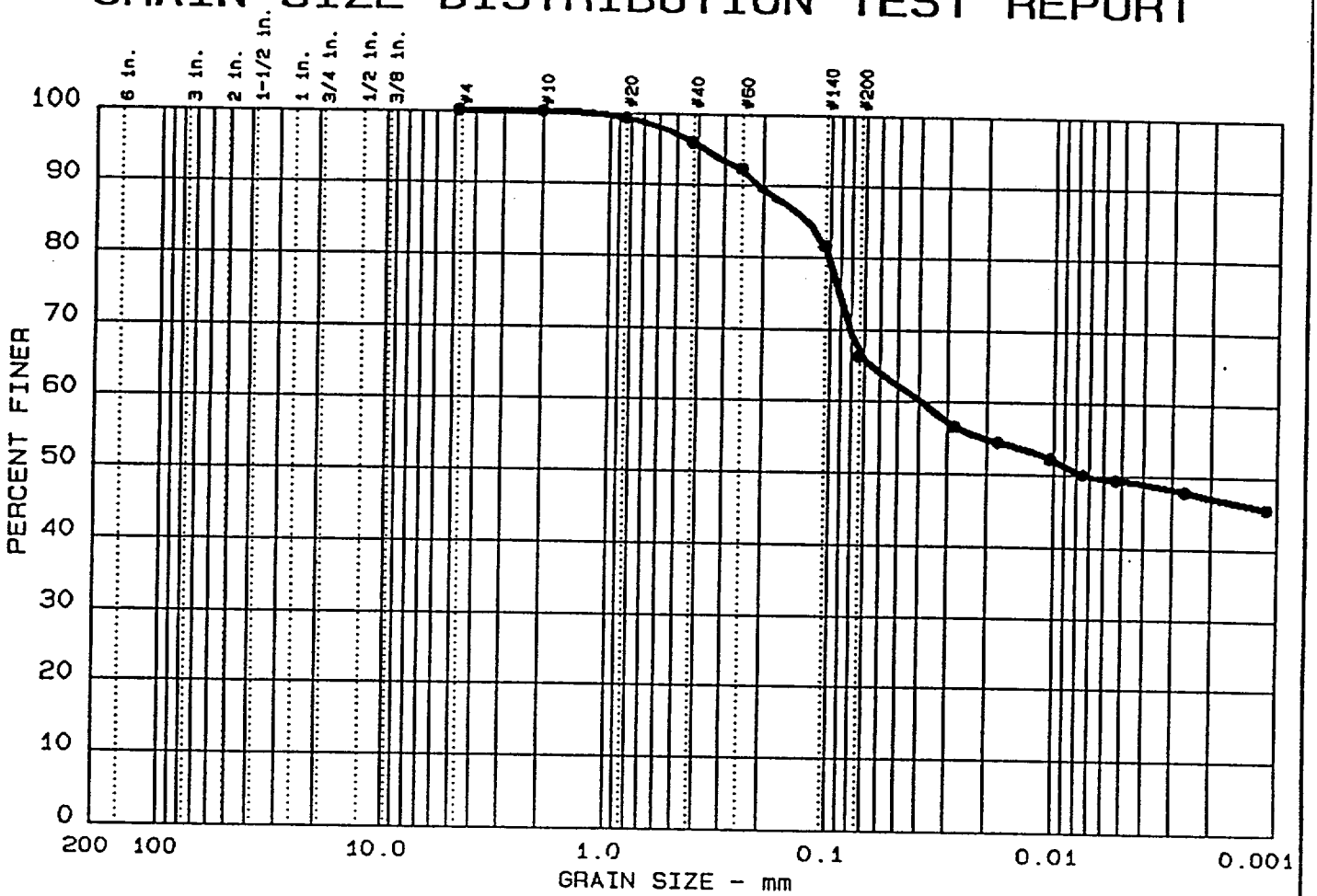
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	33.8	16.9	49.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	68	32	0.12		0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Sandy Elastic Silt	MH	A-7-5 (21.8)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-5 @ 13-14.5 Ft.

Date: June 19, 1998

Remarks:

Tested by: SCJTM

Reviewed by: HJ

Moisture Content = 27.7%

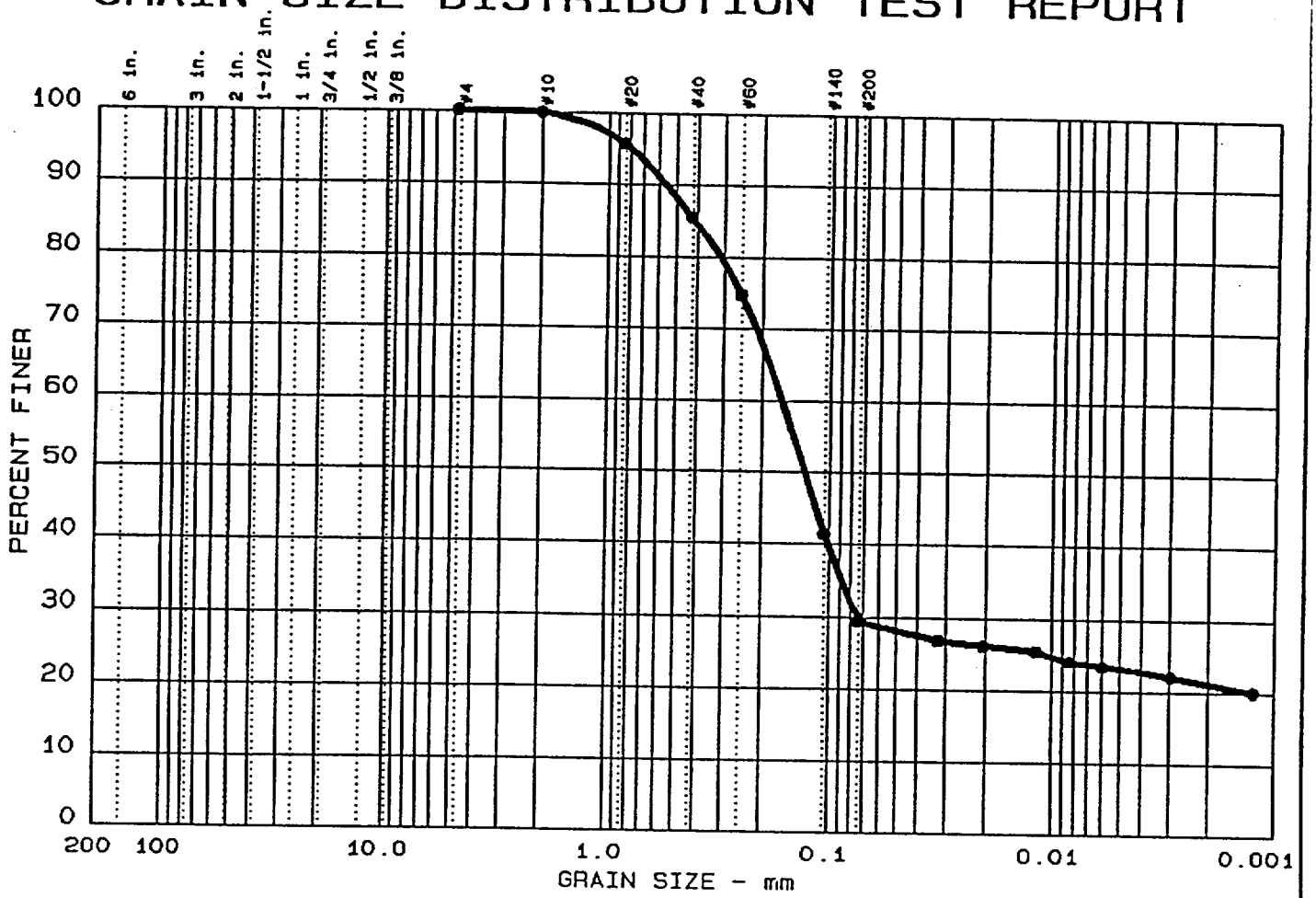
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	70.7	6.1	23.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	41	19	0.40	0.16	0.13	0.076				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-2-7 (1.3)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-17 SS-7 @ 16.0-17.5 Ft.

Date: June 19, 1998

Remarks:

Tested by: SGJTM

Reviewed by: HJ

Moisture Content = 17.7%

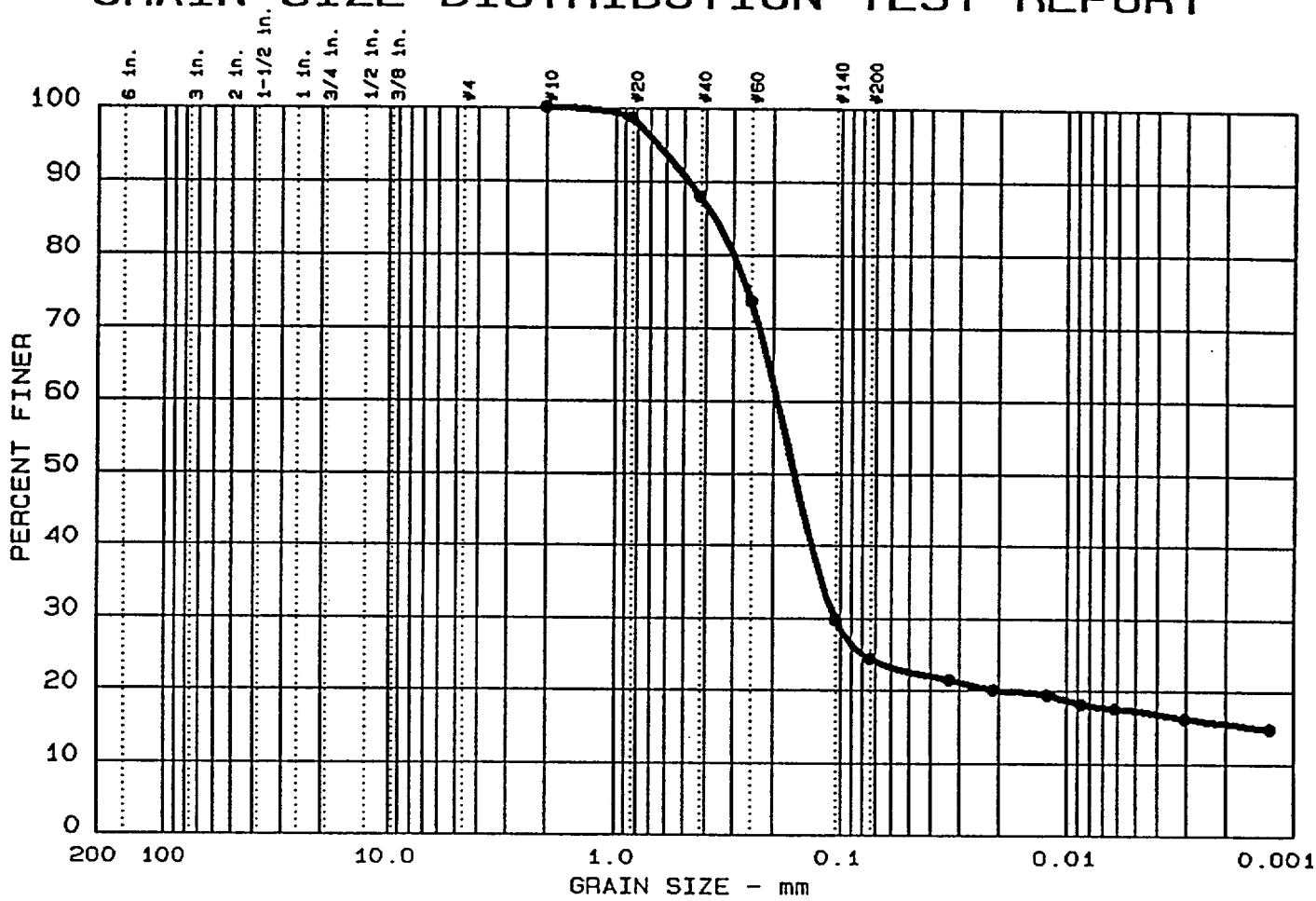
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	75.6	7.1	17.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	39	17	0.36	0.19	0.16	0.106	0.0013			

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Clayey Sand	SC	A-2-6 (0.6)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-9 @ 19-20.5 Ft.

Date: June 19, 1998

Remarks:

Tested by: SC JJTM

Reviewed by: HS

Moisture Content = 20.1%

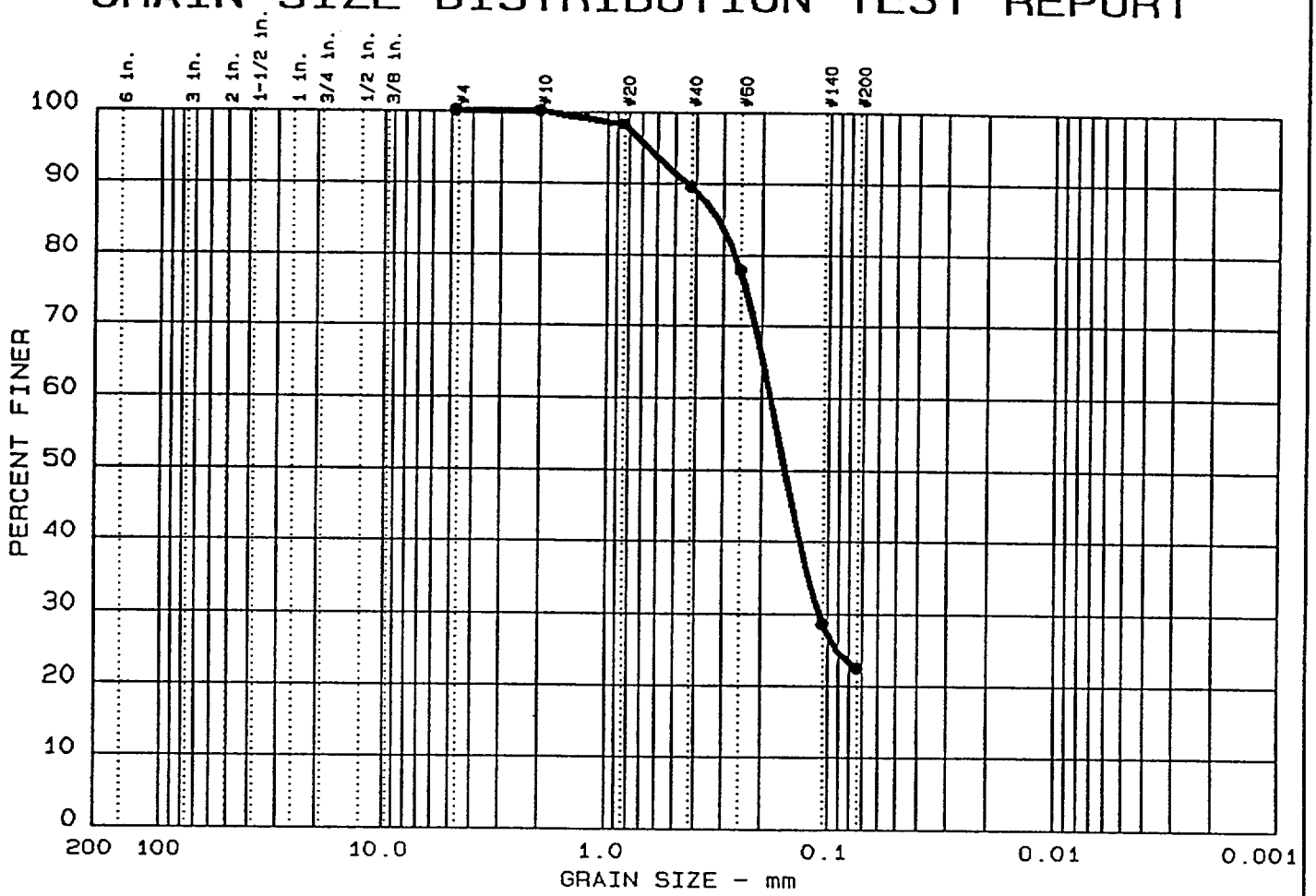
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	77.5	22.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.31	0.18	0.16	0.109				

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-17 SS-11 @ 22-23.5 Ft.

Date: June 21, 1998

Remarks:

Tested by: SC + JTM

Reviewed by: HD

Moisture Content = 19.6%

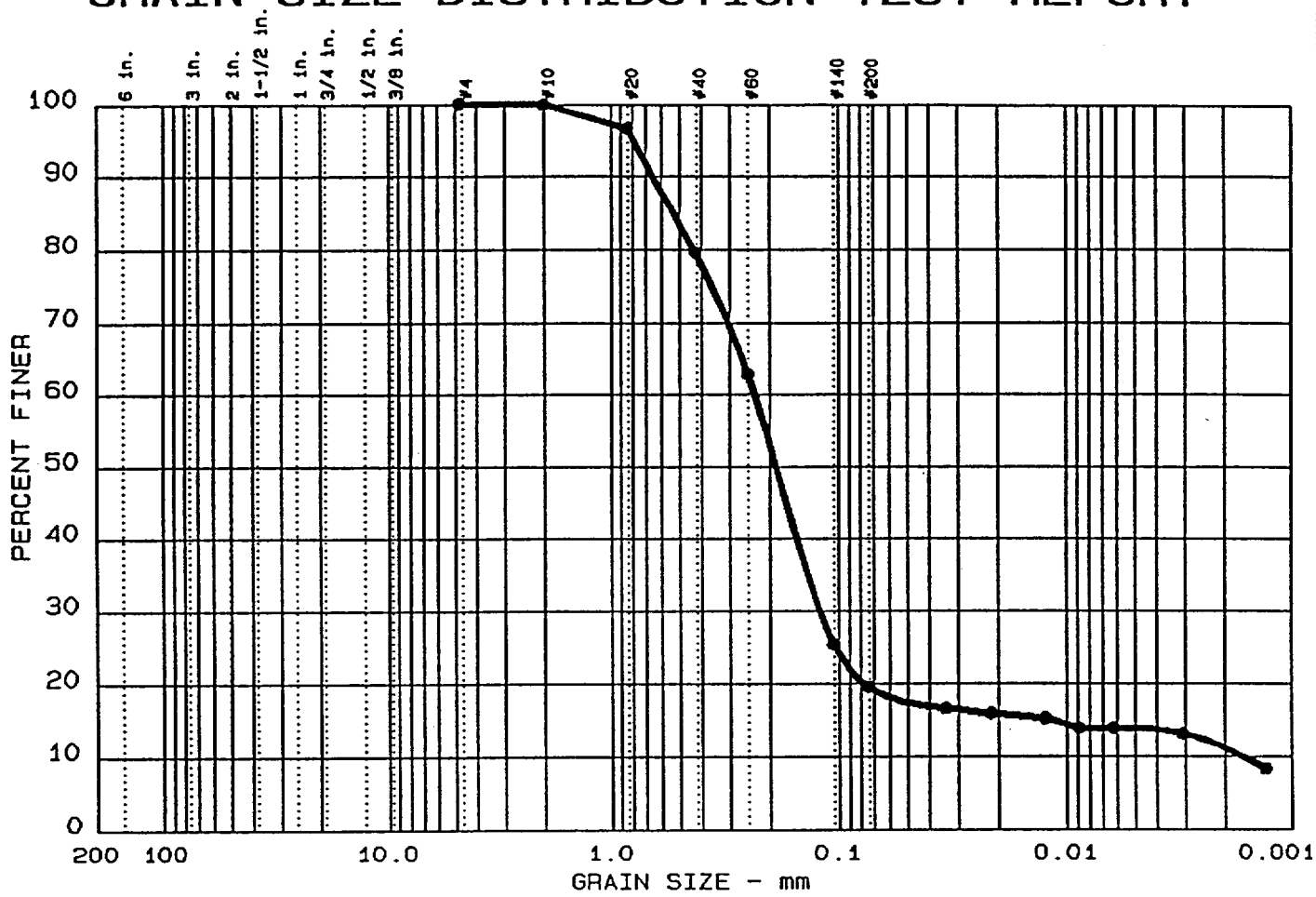
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	80.4	5.7	13.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	37	14	0.52	0.23	0.19	0.121	0.0115	0.0017	38.06	141.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan-Red Brown Clayey Sand	SC	A-2-6 (0.2)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-13 @ 25.0-26.5 Ft.

Date: June 19, 1998

Remarks:

Tested by: SC [illegible]

Reviewed by: [illegible]

Moisture Content = 19.1%

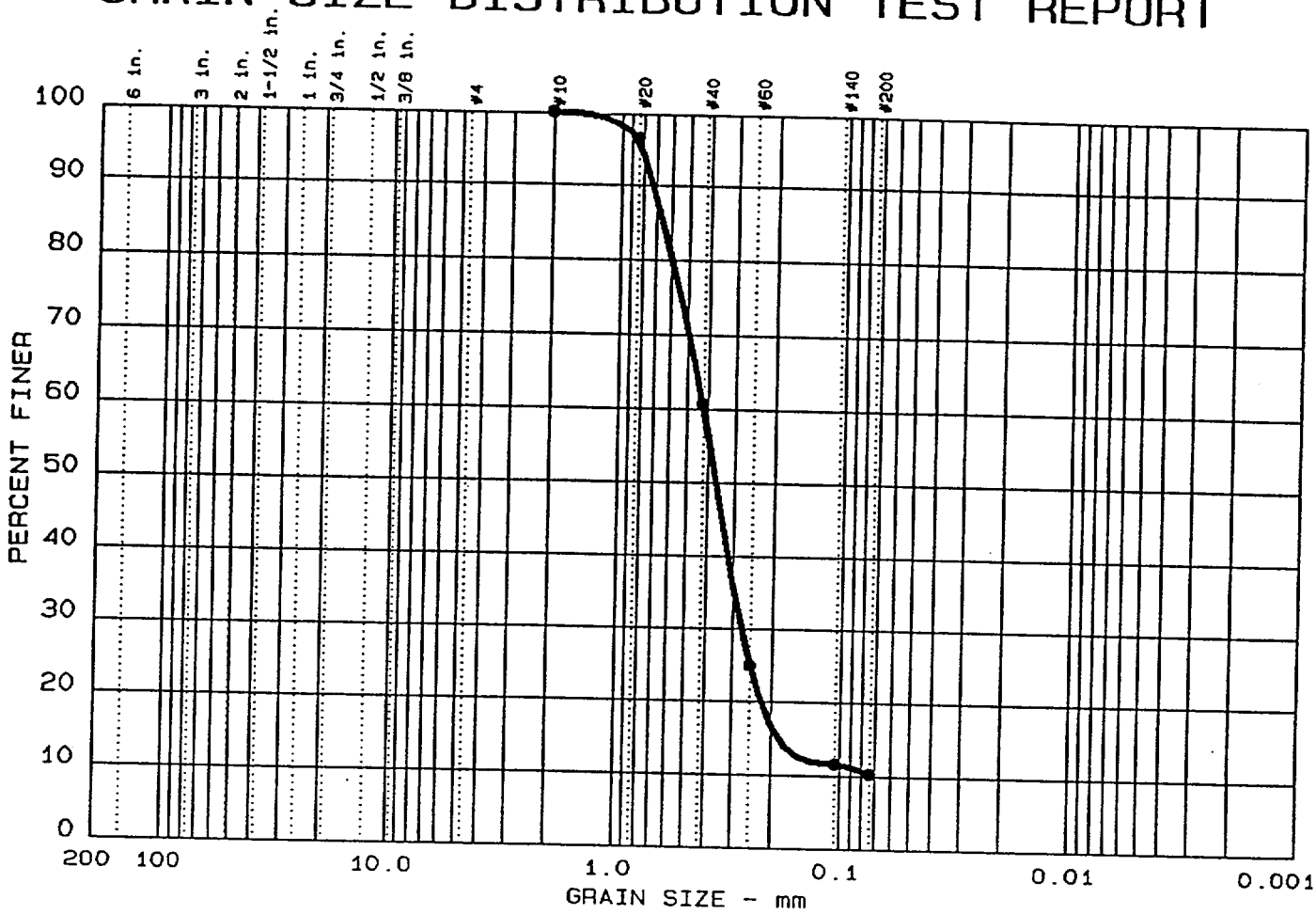
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	89.7	10.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.65	0.42	0.36	0.274	0.1849			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan-Red Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-15 @ 28-29.5 Ft.

Date: June 21, 1998

Remarks:

Tested by: SC J Stm

Reviewed by: HD

Moisture Content = 19.2%

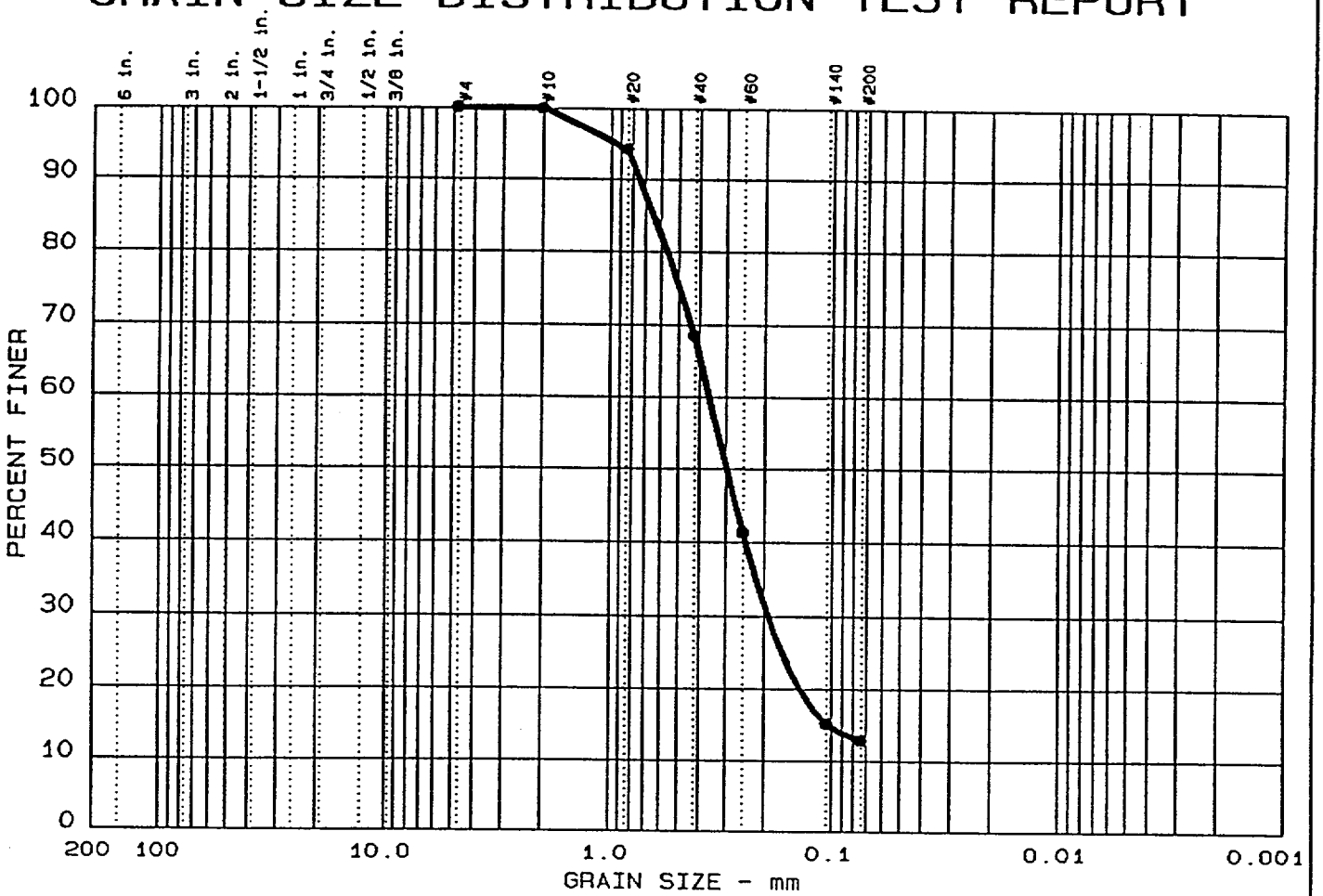
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	87.1	12.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.64	0.36	0.30	0.192	0.1017			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan-Red Brown Silty Sand	SM	A-2-4 (0.2)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-17 SS-17 @ 31.0-32.5 Ft.

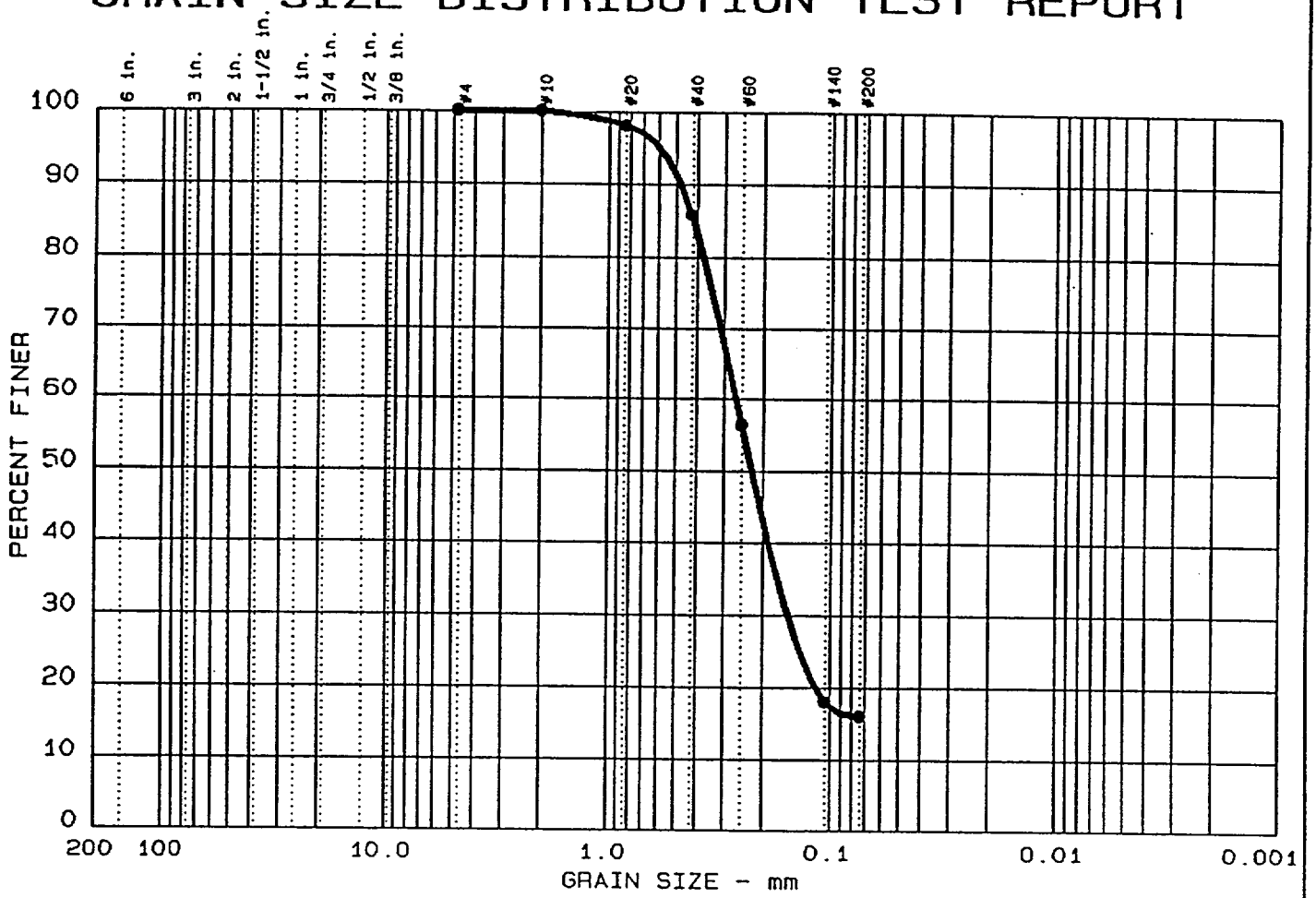
Date: June 21, 1998

Remarks:
Tested by: SC + STM
Reviewed by: WS
Moisture Content = 16.4%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	83.9	16.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.41	0.26	0.23	0.154				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-19 @ 34-35.5 Ft.

Date: June 21, 1998

Remarks:

Tested by: SC + STM

Reviewed by: HS

Moisture Content = 16.7%

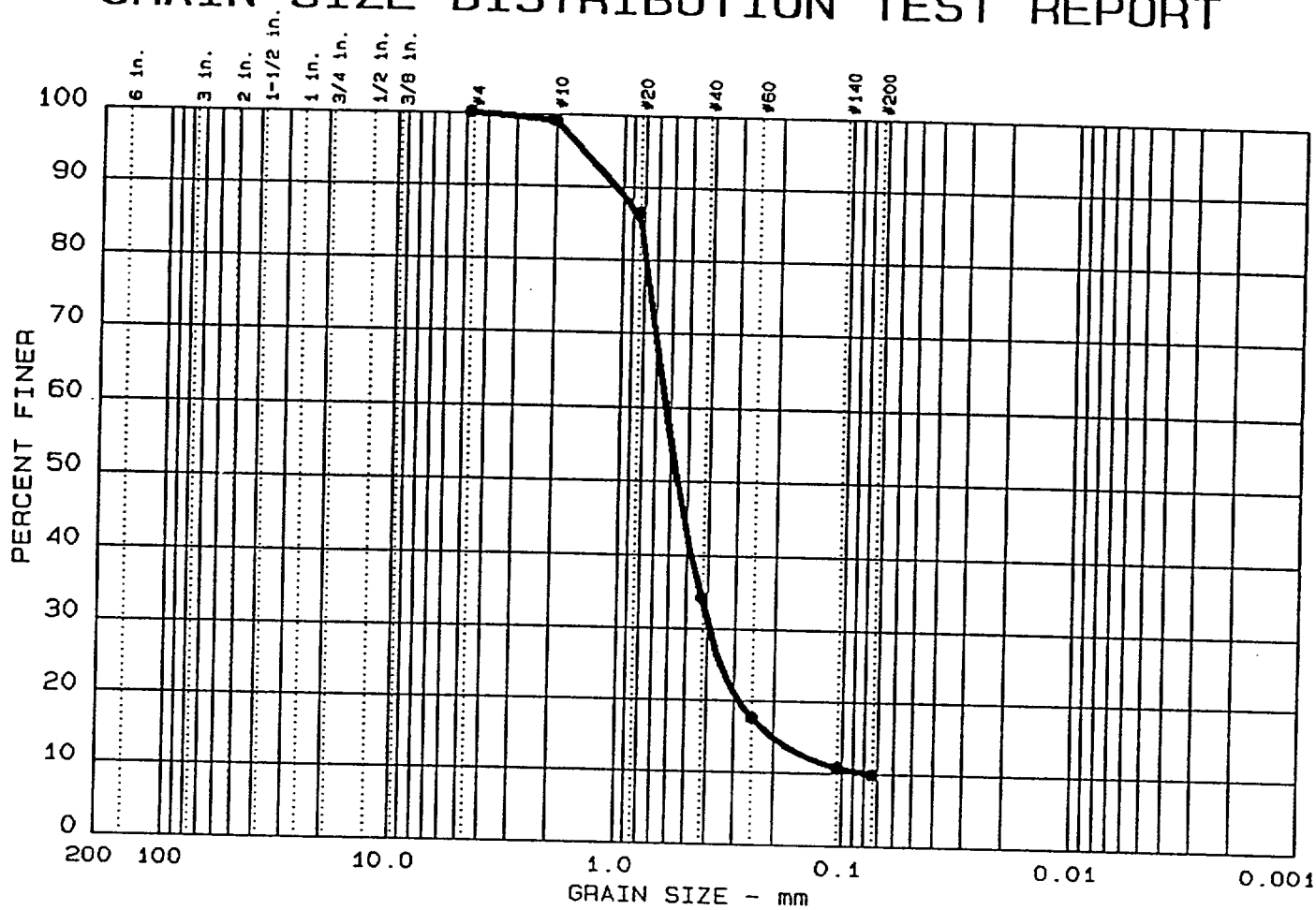
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	90.1	9.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.83	0.62	0.55	0.389	0.2018	0.0741	3.27	8.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-20 @ 35.5-37.0 Ft.

Date: June 21, 1998

Remarks:

Tested by: SCdJTm

Reviewed by: HS

Moisture Content = 12.8%

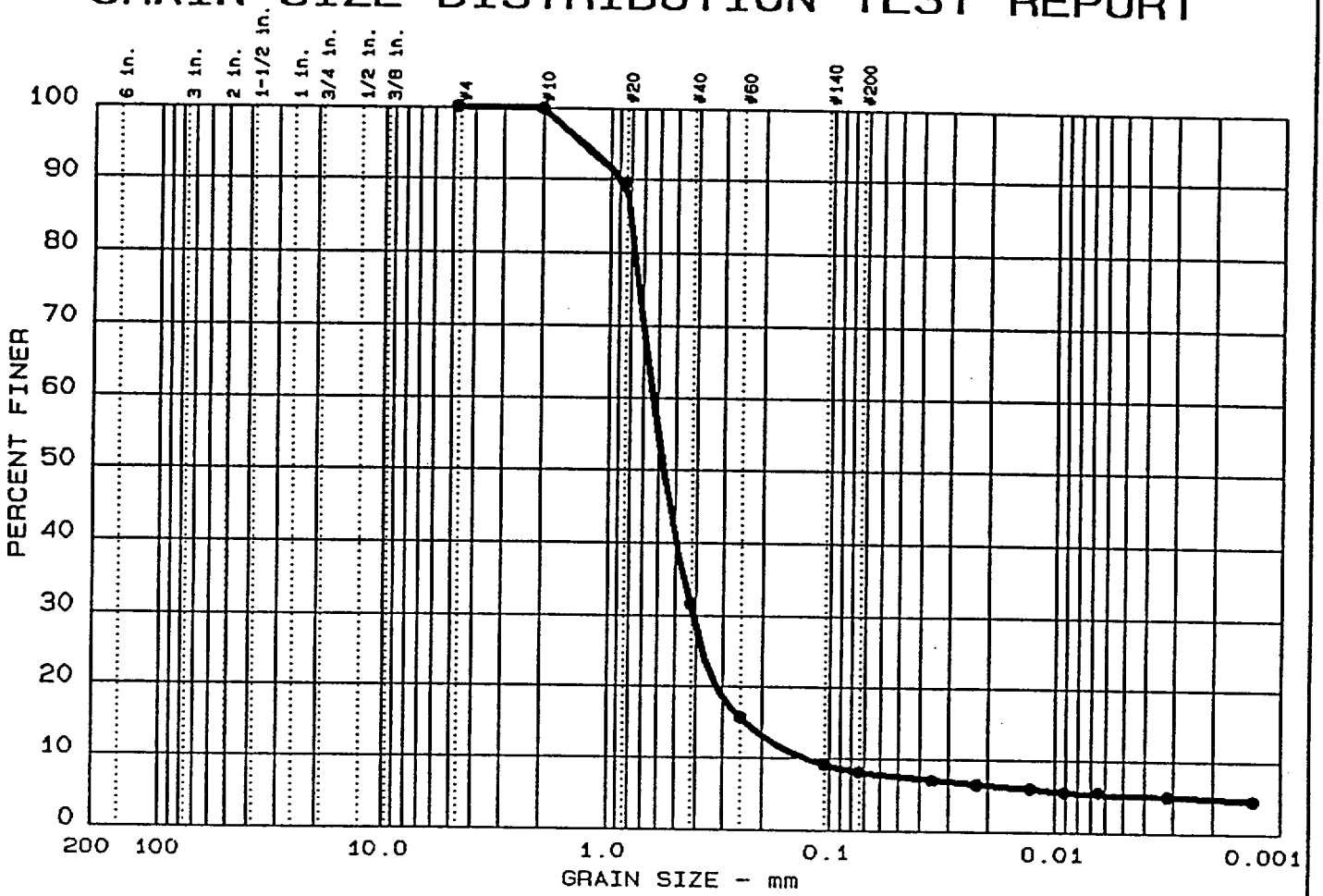
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	91.9	3.0	5.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.80	0.63	0.56	0.409	0.2355	0.1279	2.09	4.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-22 @ 38.5-40.0 Ft.

Date: June 19, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

Moisture Content = 15.1%

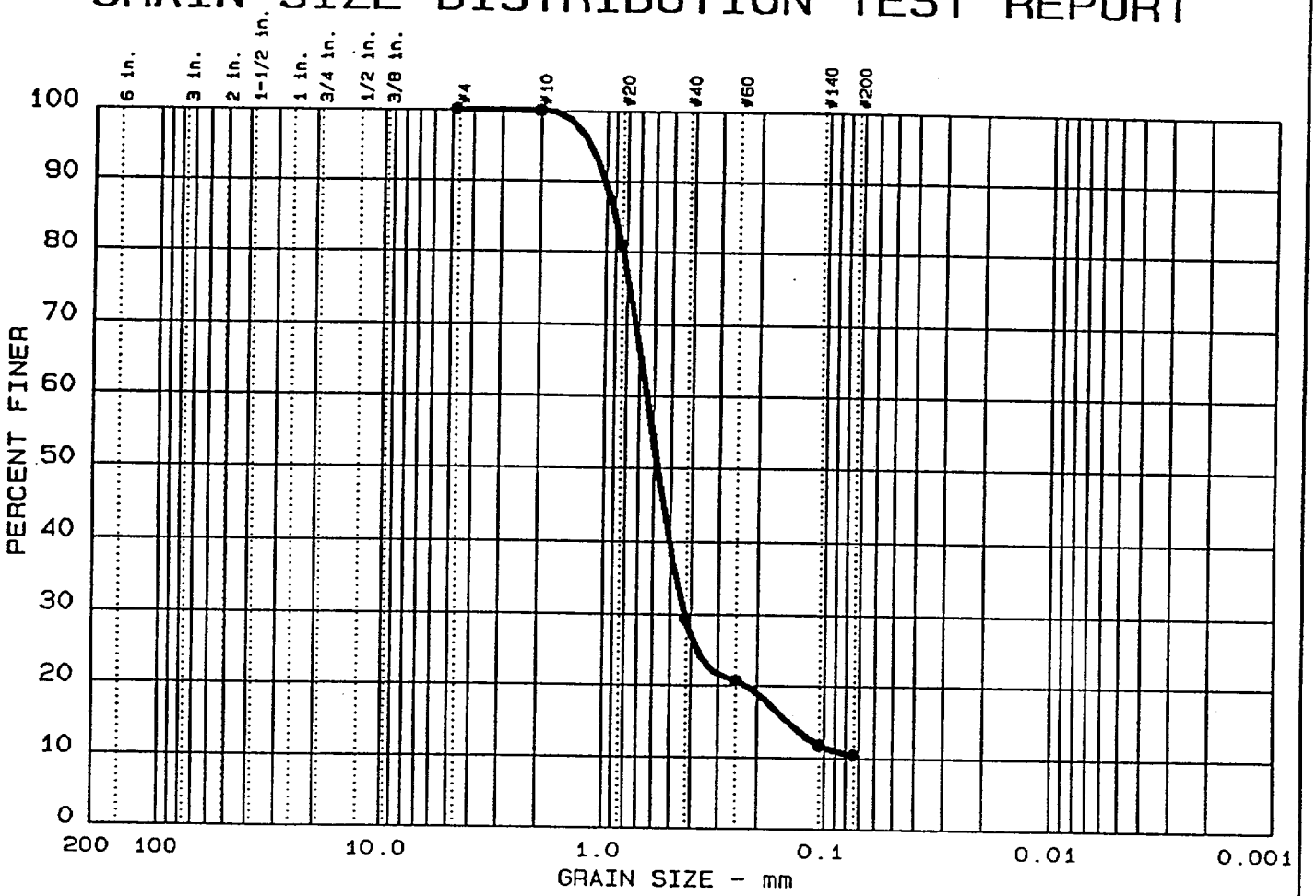
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	89.5	10.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.90	0.64	0.57	0.426	0.1444			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-24 @ 41.5-43.0 Ft.

Date: June 21, 1998

Remarks:

Tested by: SCJJm

Reviewed by: HJ

Moisture Content = 14.9%

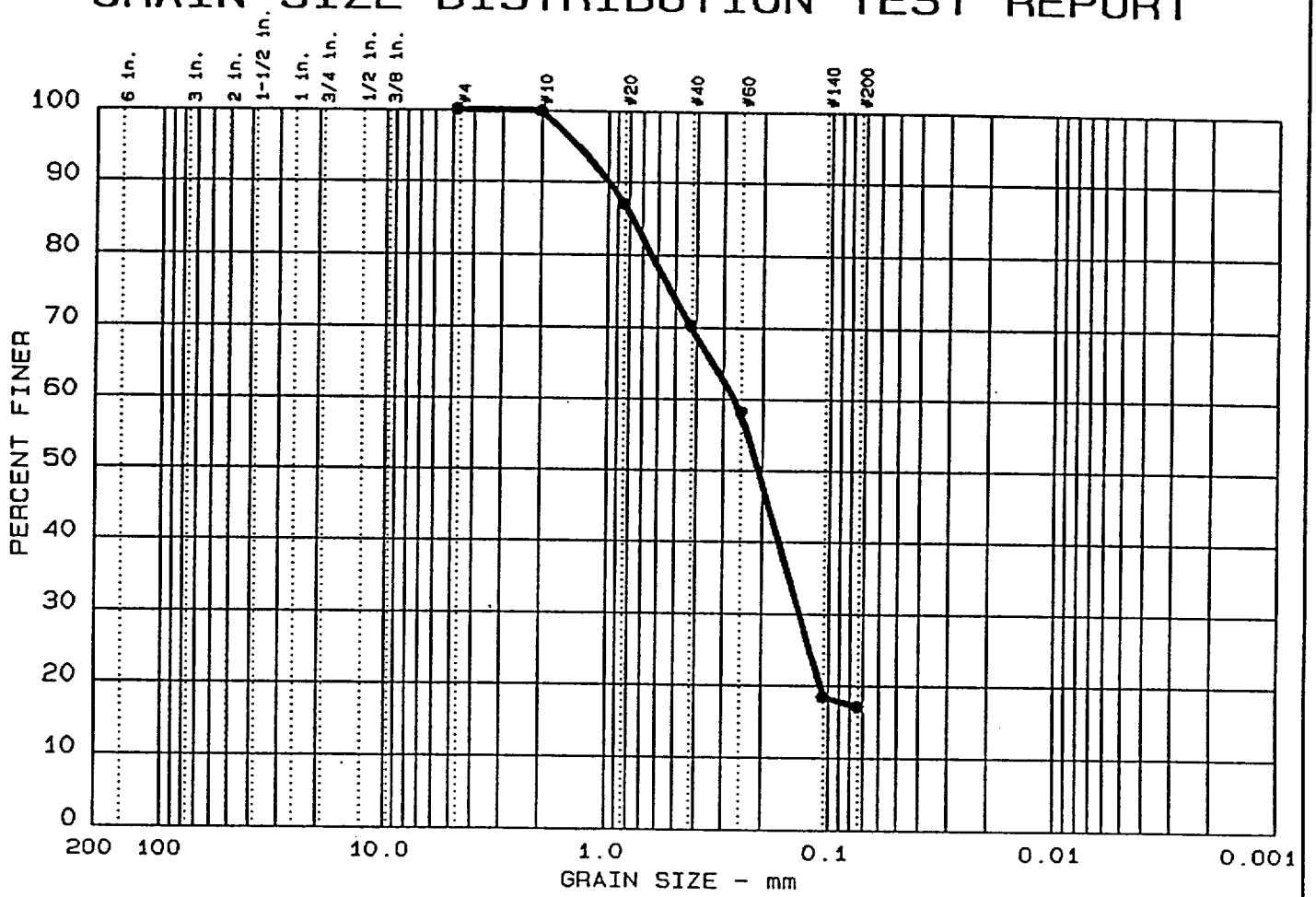
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	83.0	17.0	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.77	0.27	0.21	0.135				

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-26 @ 44.5-46.0 Ft.

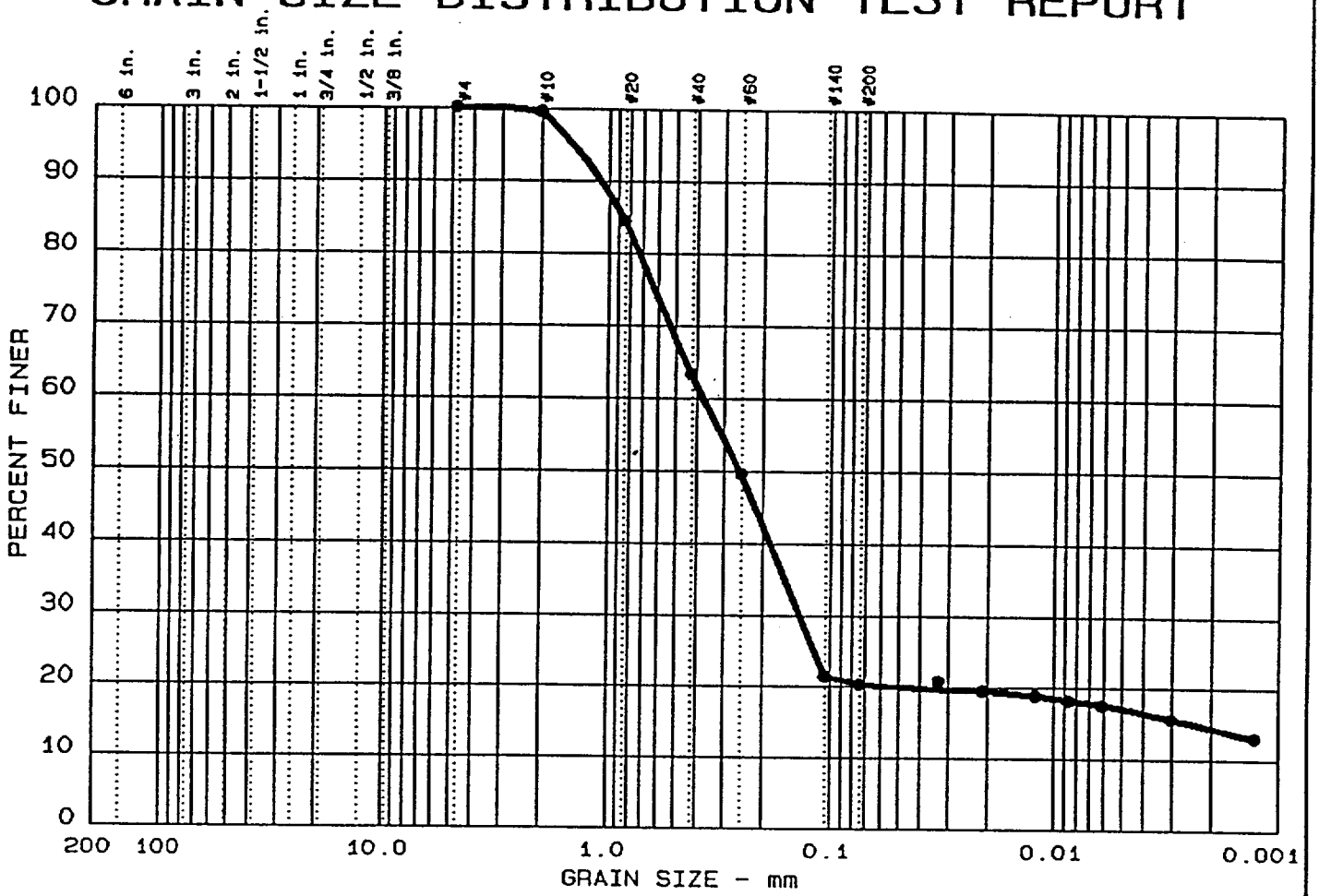
Date: June 21, 1998

Remarks:
Tested by: SC + CS
Reviewed by: HD
Moisture Content = 13.3%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	79.7	3.2	17.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	44	22	0.85	0.37	0.25	0.136	0.0024			

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Clayey Sand	SC	A-2-7 (0.6̄)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-17 SS-27 @ 46.0-47.5 Ft.

Date: June 19, 1998

Remarks:

Tested by: SC

Reviewed by: HS

Moisture Content = 16.4%

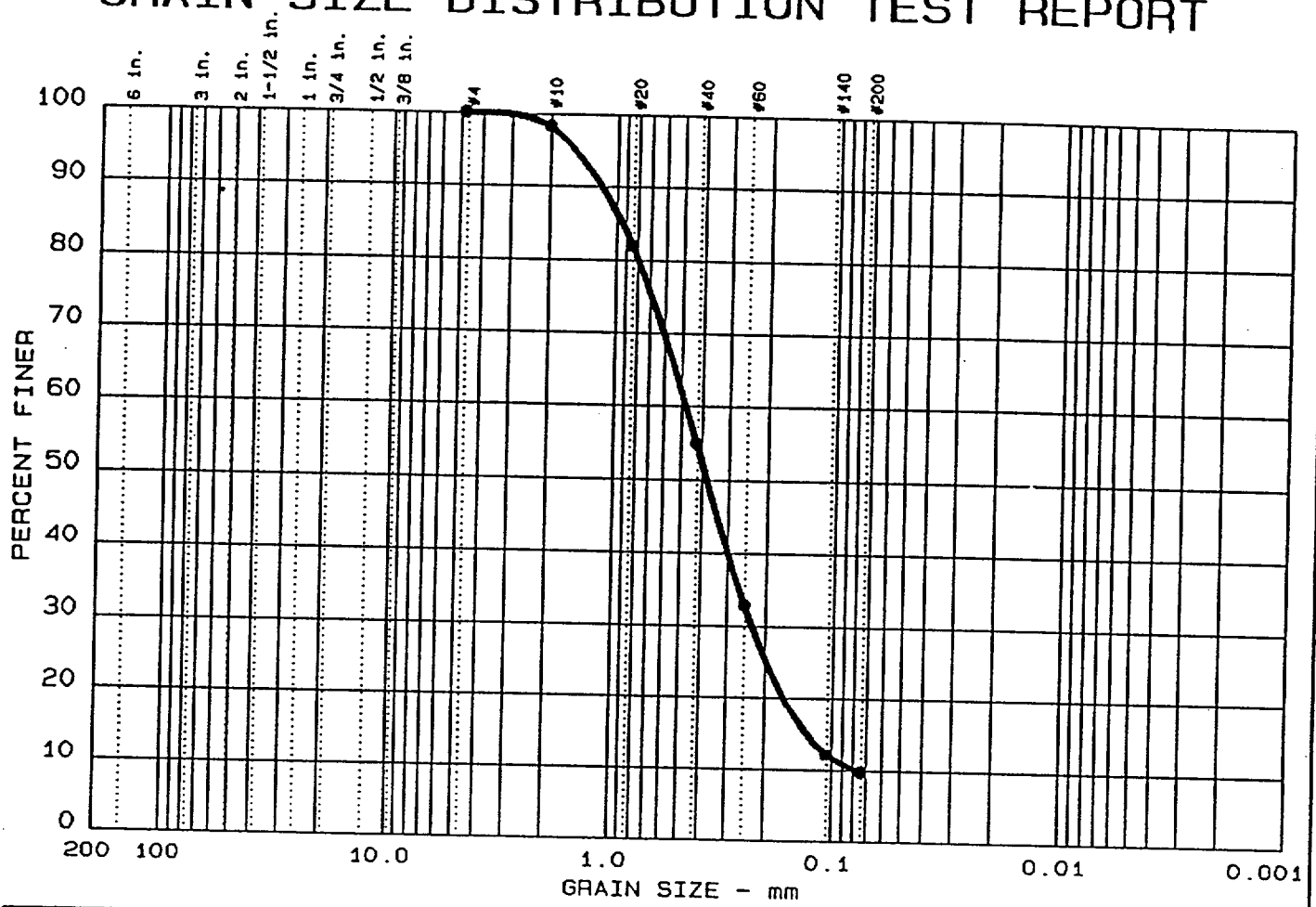
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	0.0	90.2	9.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.93	0.47	0.38	0.231	0.1284	0.0765	1.48	6.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Well Graded Sand with Silt	SW-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-30 @ 50.5-52.0 Ft.

Date: June 21, 1998

Remarks:

Tested by: S Cotton

Reviewed by: HJ

Moisture Content = 13.7%

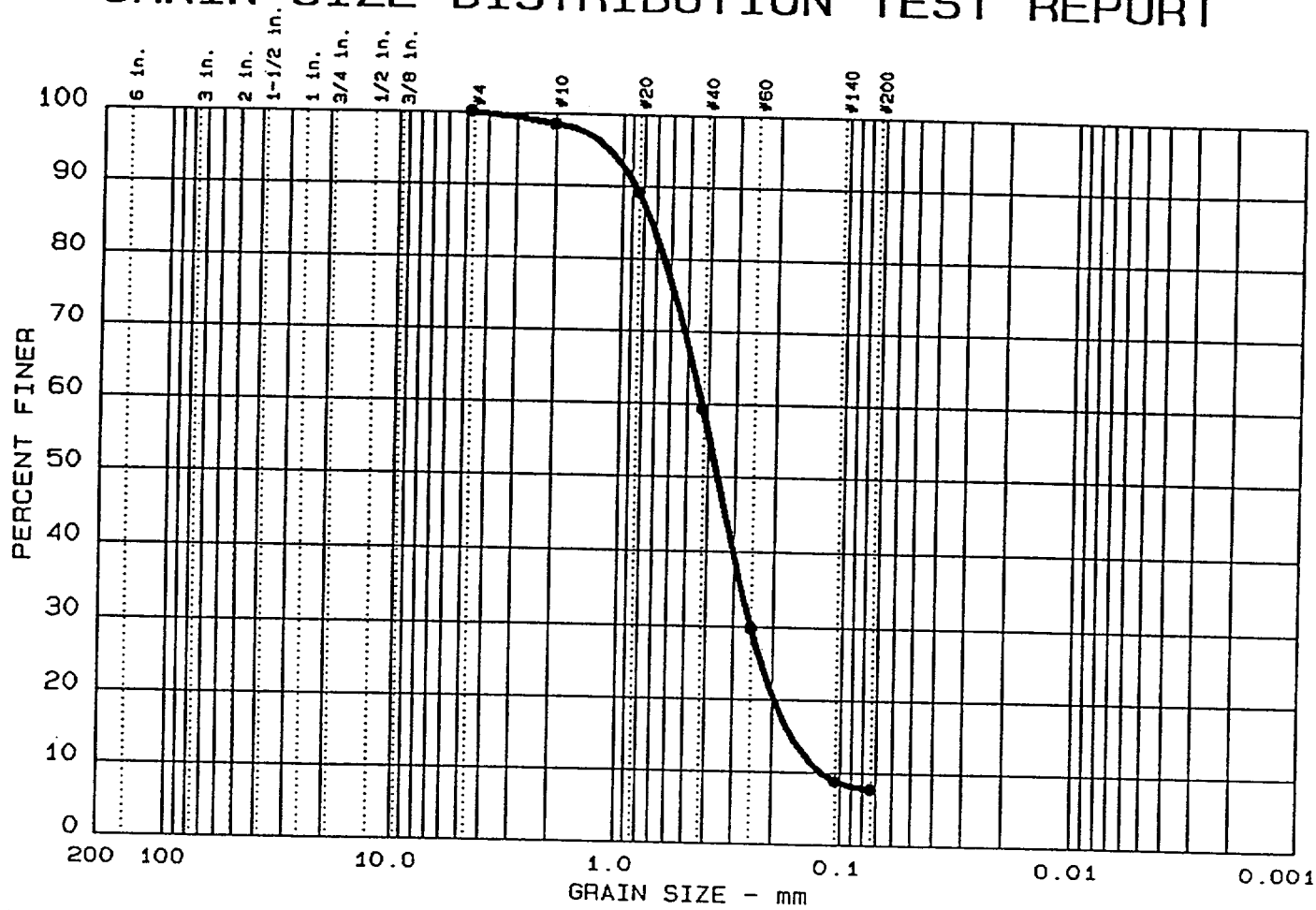
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	92.3	7.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.73	0.42	0.36	0.251	0.1639	0.1201	1.23	3.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-32 @ 53.5-55.0 Ft.

Date: June 21, 1998

Remarks:

Tested by: SCJJTm

Reviewed by: WS

Moisture Content = 16.4%

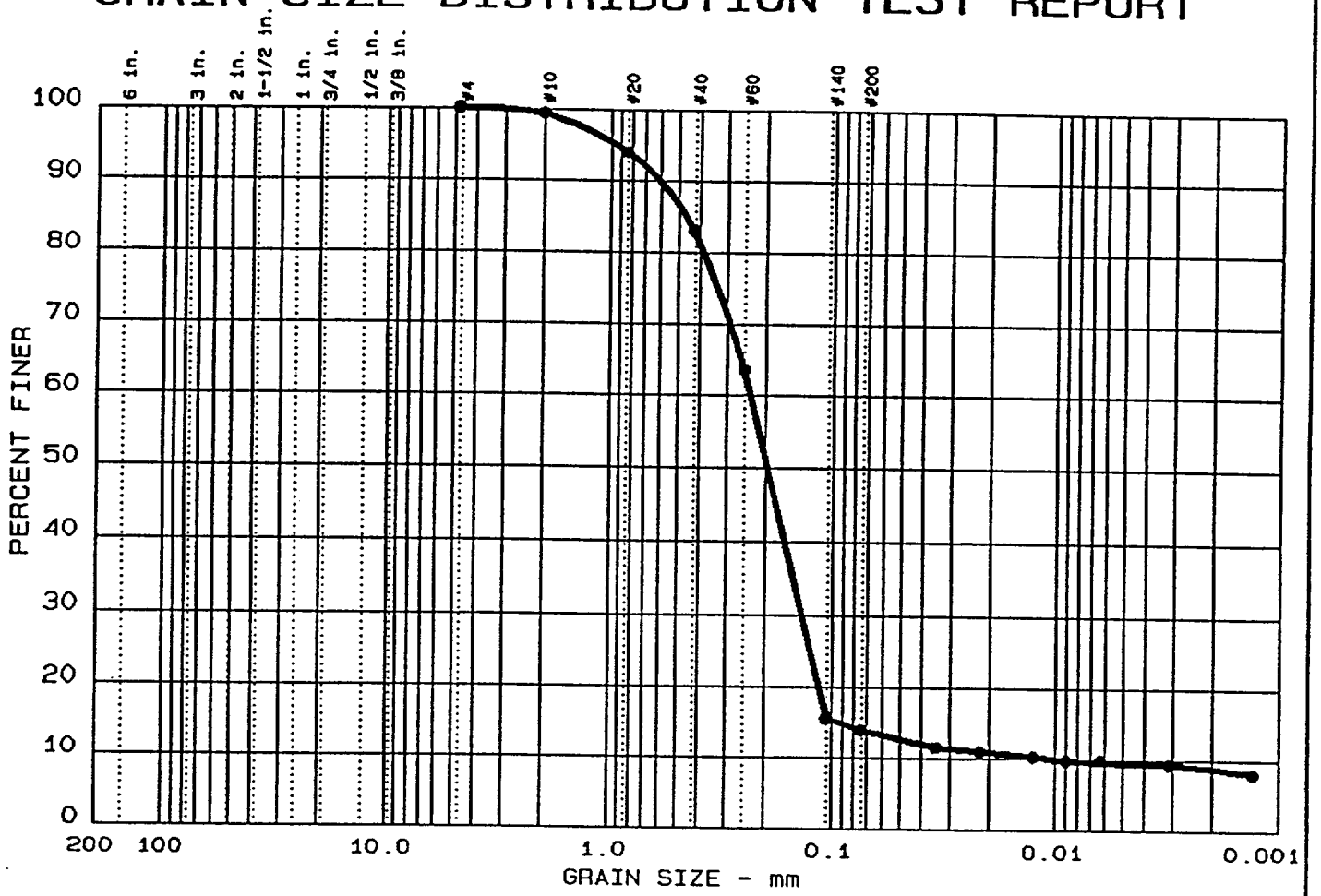
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	86.0	4.5	9.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	28	3	0.45	0.23	0.20	0.136	0.0920	0.0100	7.93	23.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-34 @ 56.5-58.0 Ft.

Date: June 19, 1998

Remarks:

Tested by: SC + JTM

Reviewed by: [illegible]

Moisture Content = 19.9%

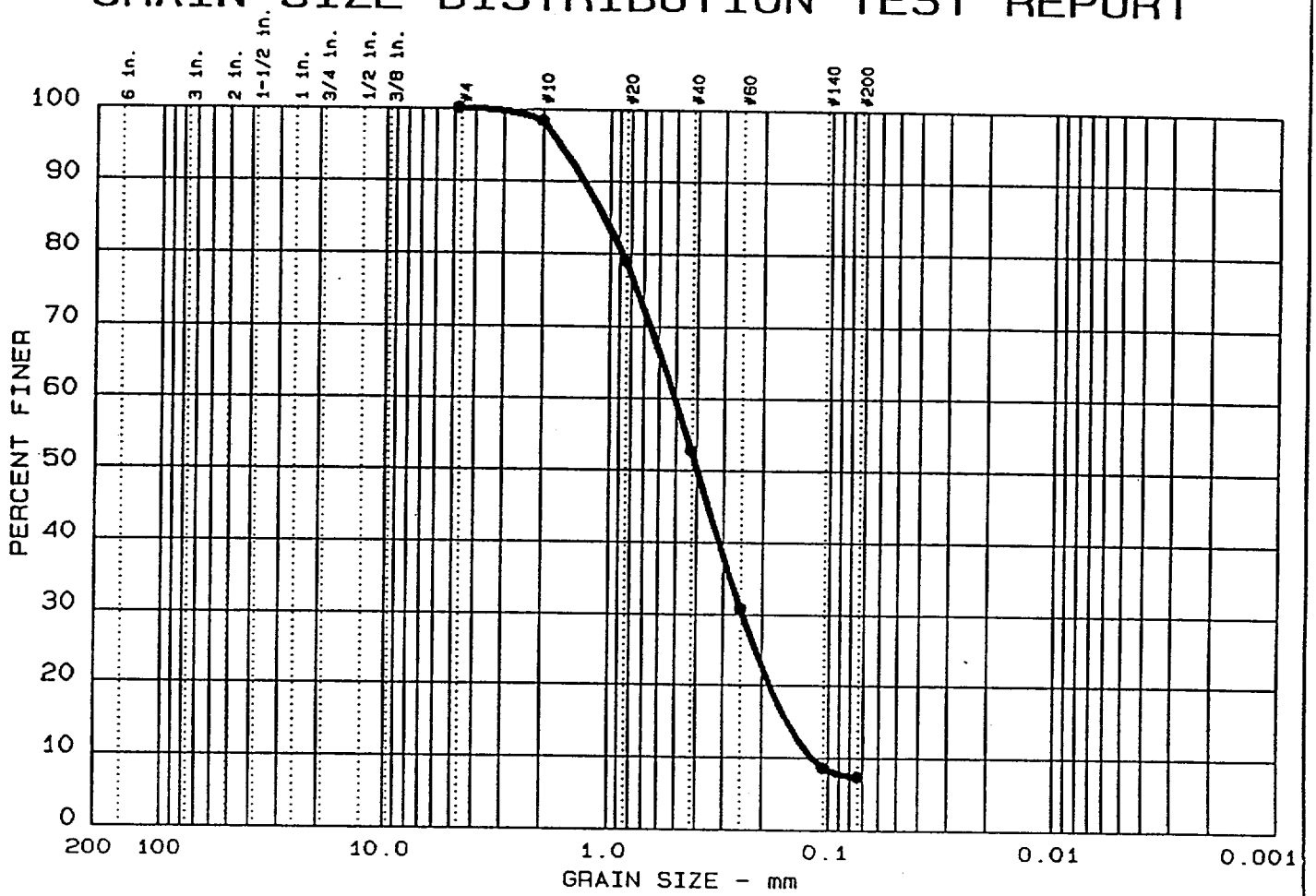
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	92.6	7.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.05	0.50	0.39	0.245	0.1529	0.1174	1.02	4.3

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-37 @ 61.0-62.5 Ft.

Date: June 21, 1998

Remarks:

Tested by: SGJTM

Reviewed by: HB

Moisture Content = 16.4%

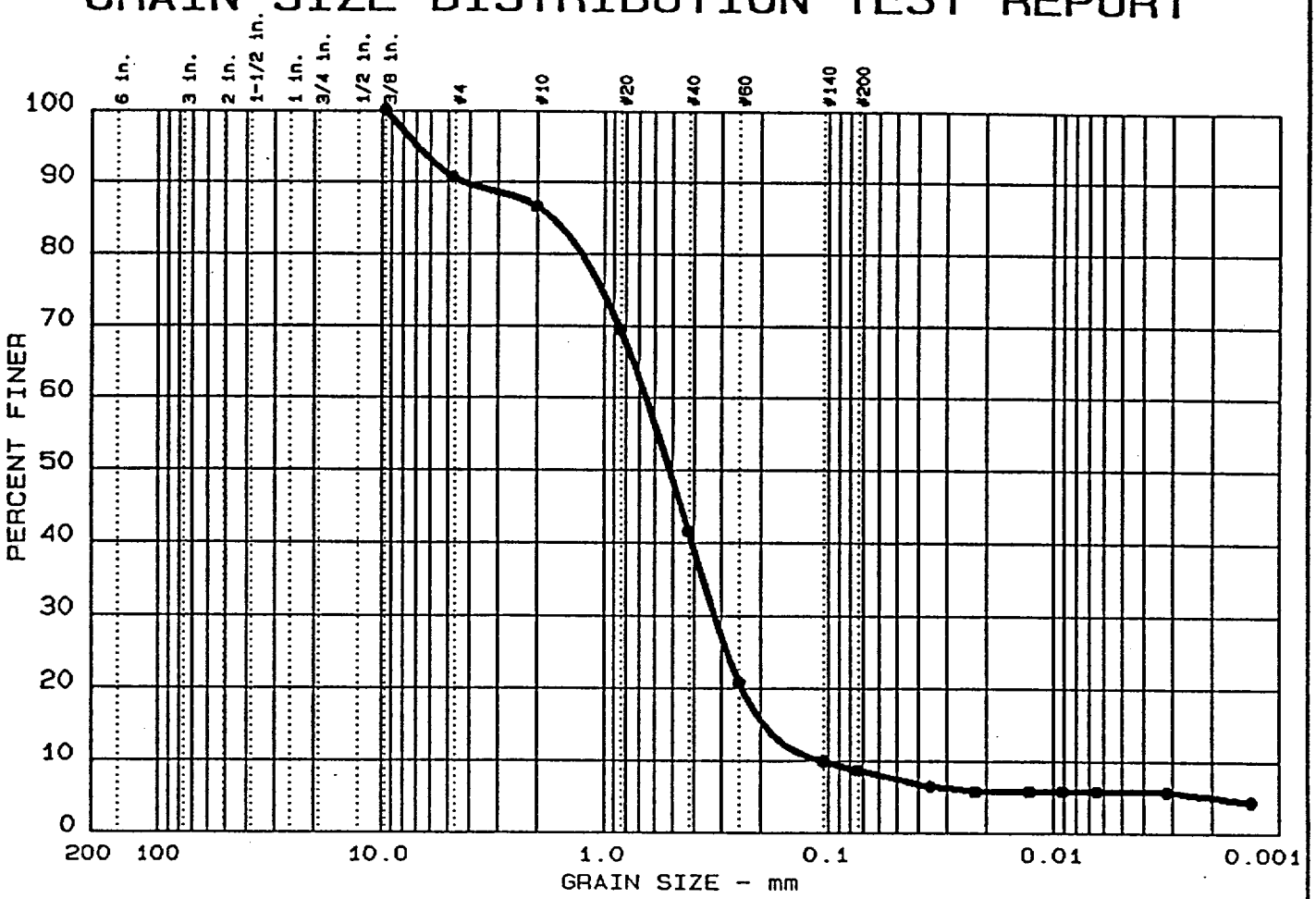
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	9.3	82.0	3.0	5.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	NL	NP	1.70	0.65	0.51	0.321	0.1936	0.1064	1.50	6.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Well-Graded Silty Sand	SW-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-40 @ 65.5-67.0 Ft

Date: June 19, 1998

Remarks:

Tested by: SCdJTm

Reviewed by: H

Moisture Content = 16.2%

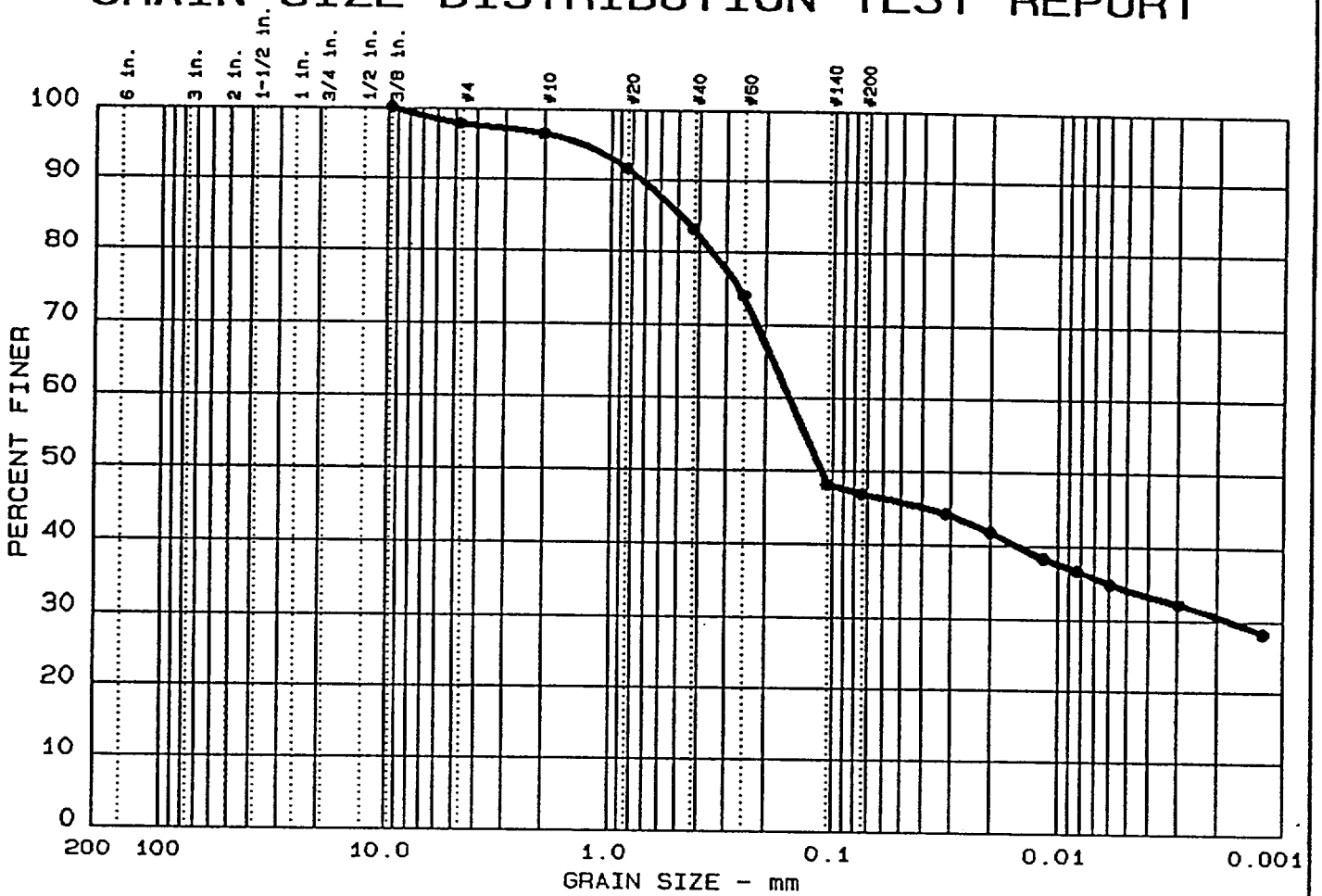
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	2.2	51.1	12.7	34.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	73	46	0.48	0.16	0.11	0.002				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown & Black Clayey Sand	SC	A-7-6 (15.9)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-41 @ 67.0-68.5 Ft.

Date: June 19, 1998

Remarks:

Tested by: SC[illegible]

Reviewed by: [illegible]

Moisture Content = 30.4%

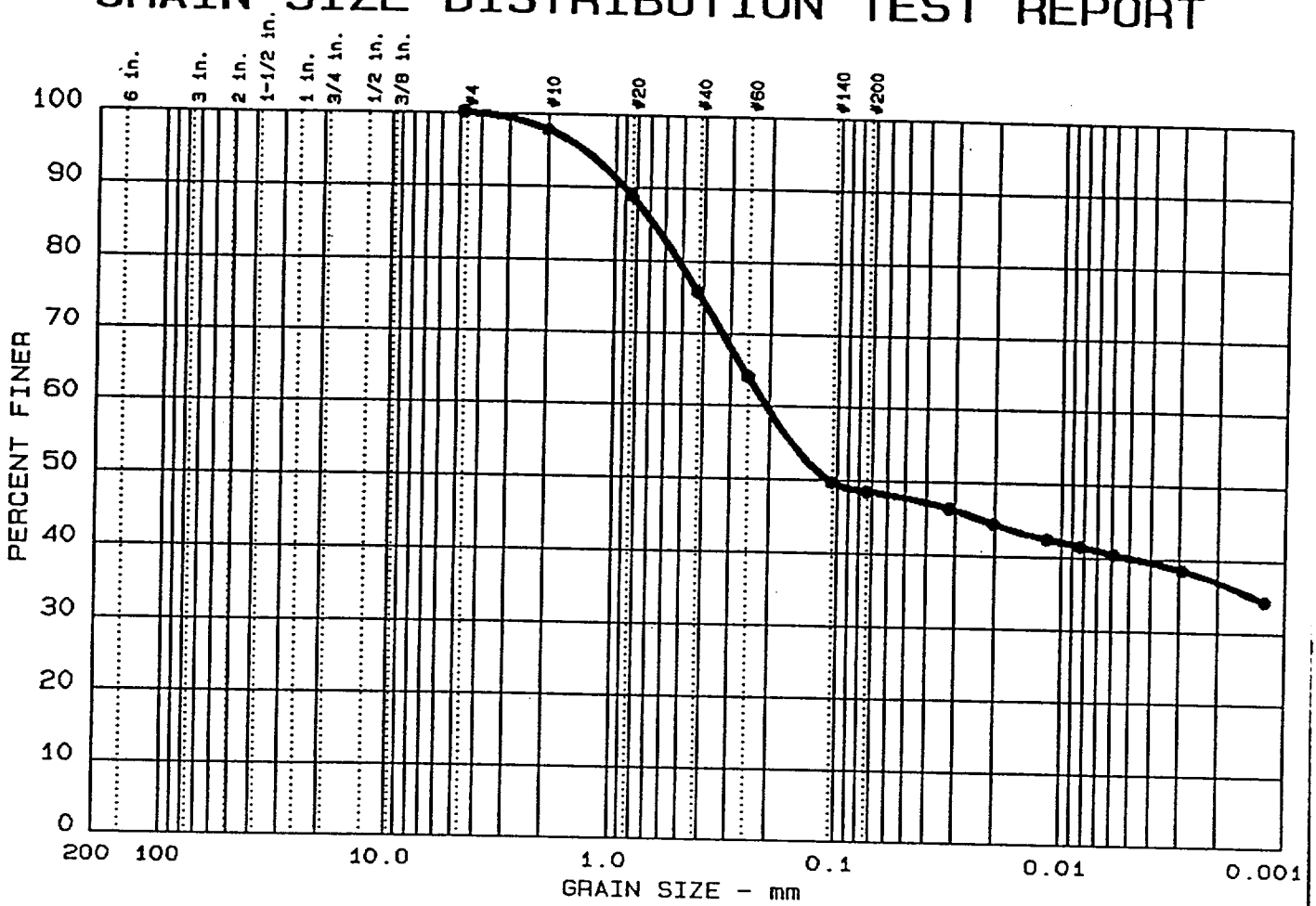
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	0.0	51.6	8.4	40.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	75	43	0.66	0.21	0.11					

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-7-5 (15.8)

Project No.: 50161-7-0108 Task 21
Project: F-Area Norhteast Expansion
● Location: FB-17 SS-42 @ 68.5-70.0 Ft.

Date: June 19, 1998

Remarks:

Tested by: JTM + SC

Reviewed by: HD

Moisture Content = 43.0%

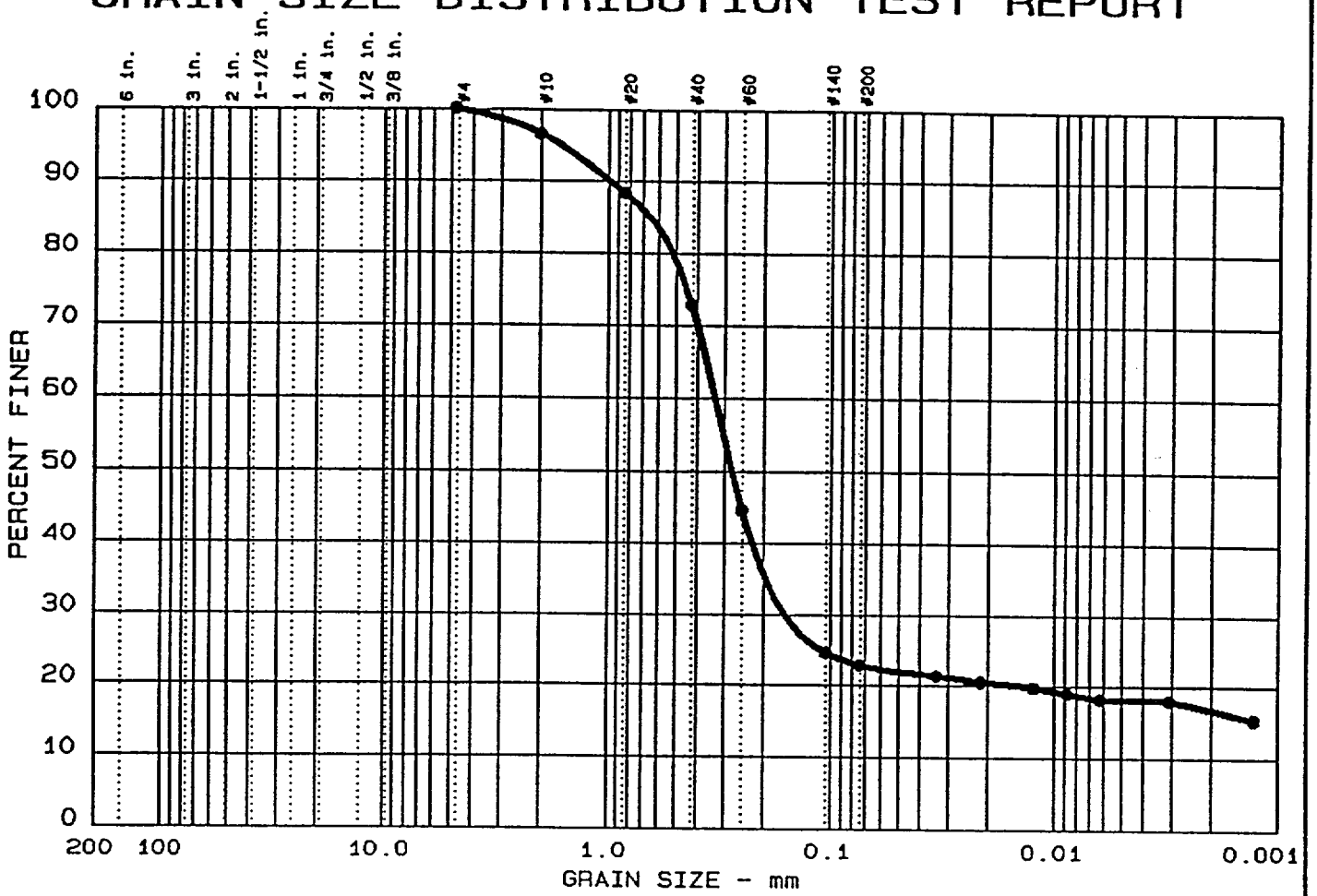
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	0.0	77.2	4.7	18.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	29	8	0.64	0.33	0.28	0.161				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-43 @ 70.0-71.5 Ft.

Date: June 19, 1998

Remarks:

Tested by: SCJ Tm

Reviewed by: HT

Moisture Content = 29.3%

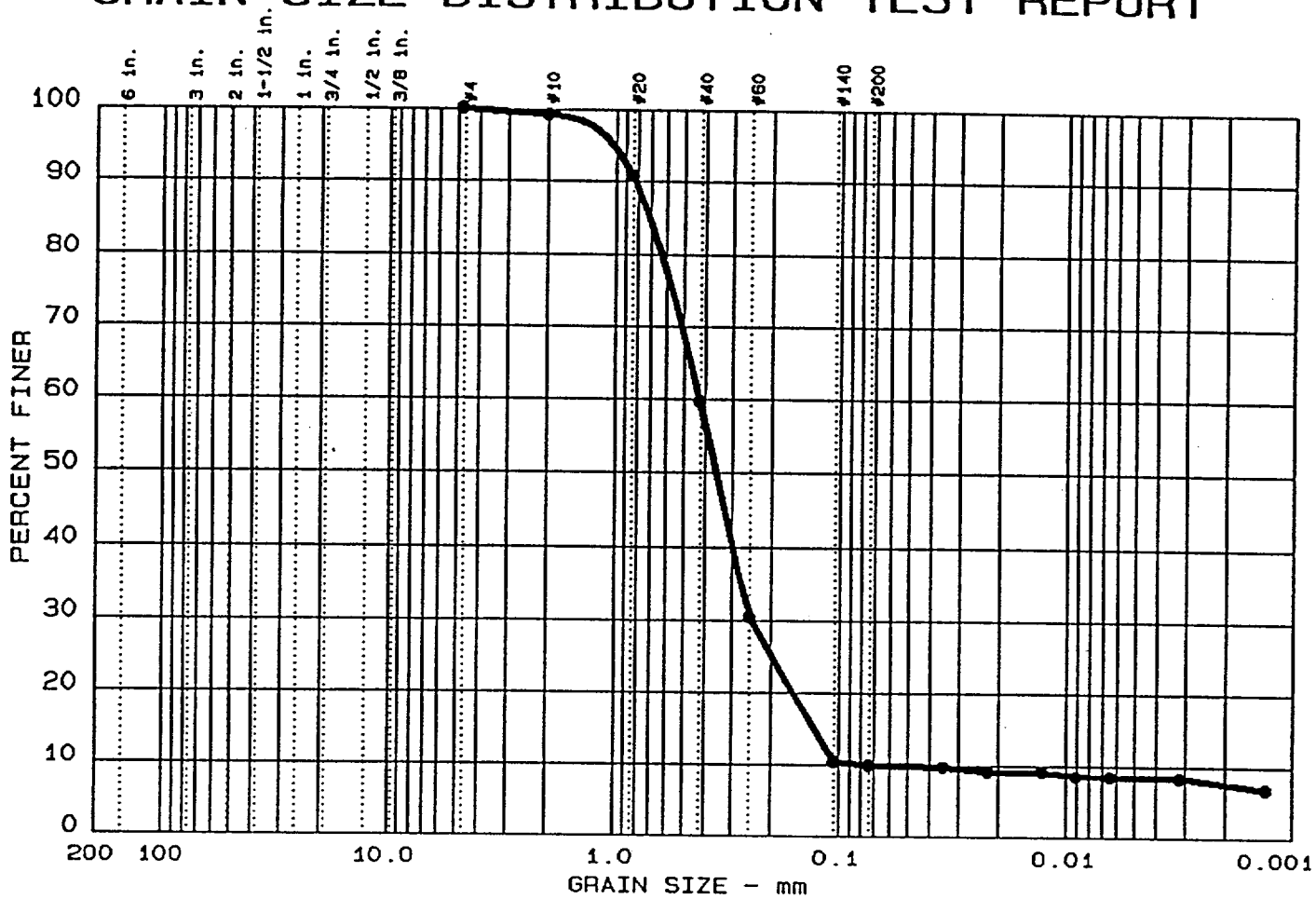
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	90.0	1.5	8.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.70	0.42	0.35	0.246	0.1278	0.0752	1.91	5.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-45 @ 73.0-74.5 Ft.

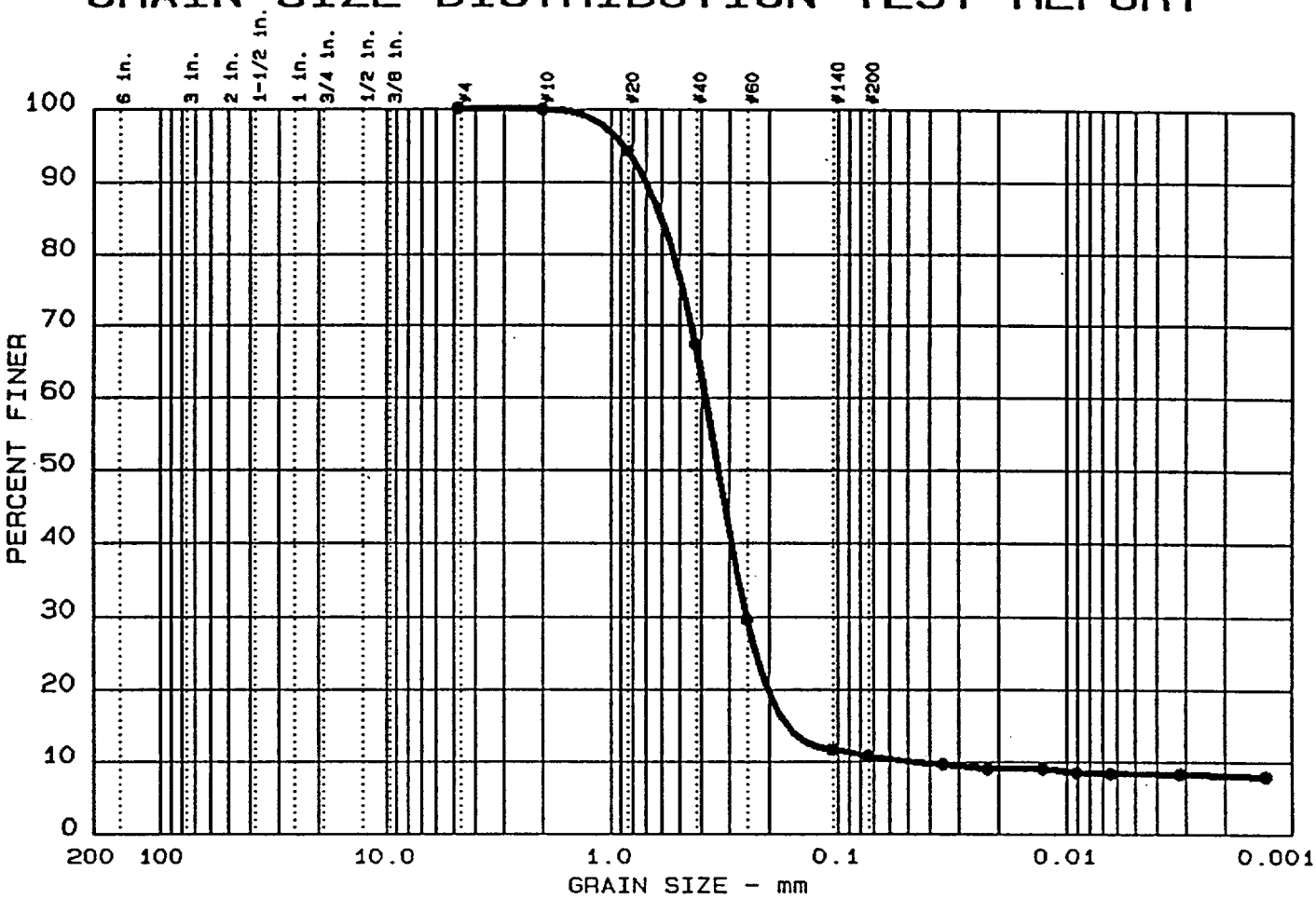
Date: June 19, 1998

Remarks:
Tested by: SCWTM
Reviewed by: HJ
Moisture Content = 30.0%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	0.0	89.2	2.5	8.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.59	0.38	0.33	0.250	0.1652	0.0466	3.55	8.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-2-4 (0.4)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-49 @ 79.0-80.5 Ft.

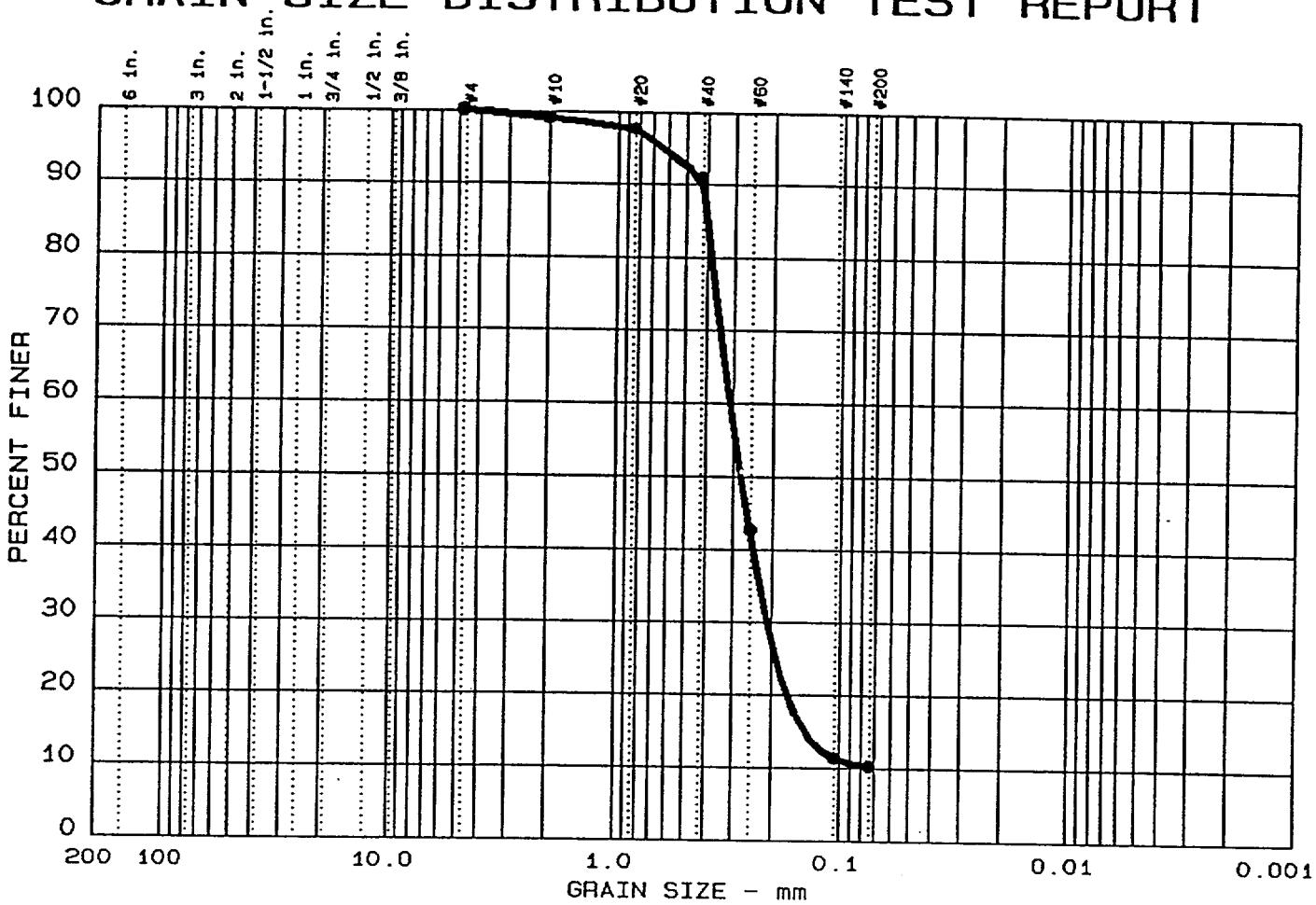
Date: June 19, 1998

Remarks:
Tested by: SCJTM
Reviewed by: HB
Moisture Content = 26.3%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	89.7	10.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.40	0.31	0.28	0.210	0.1422			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-52 @ 83.5-85.0 Ft.

Date: June 25, 1998

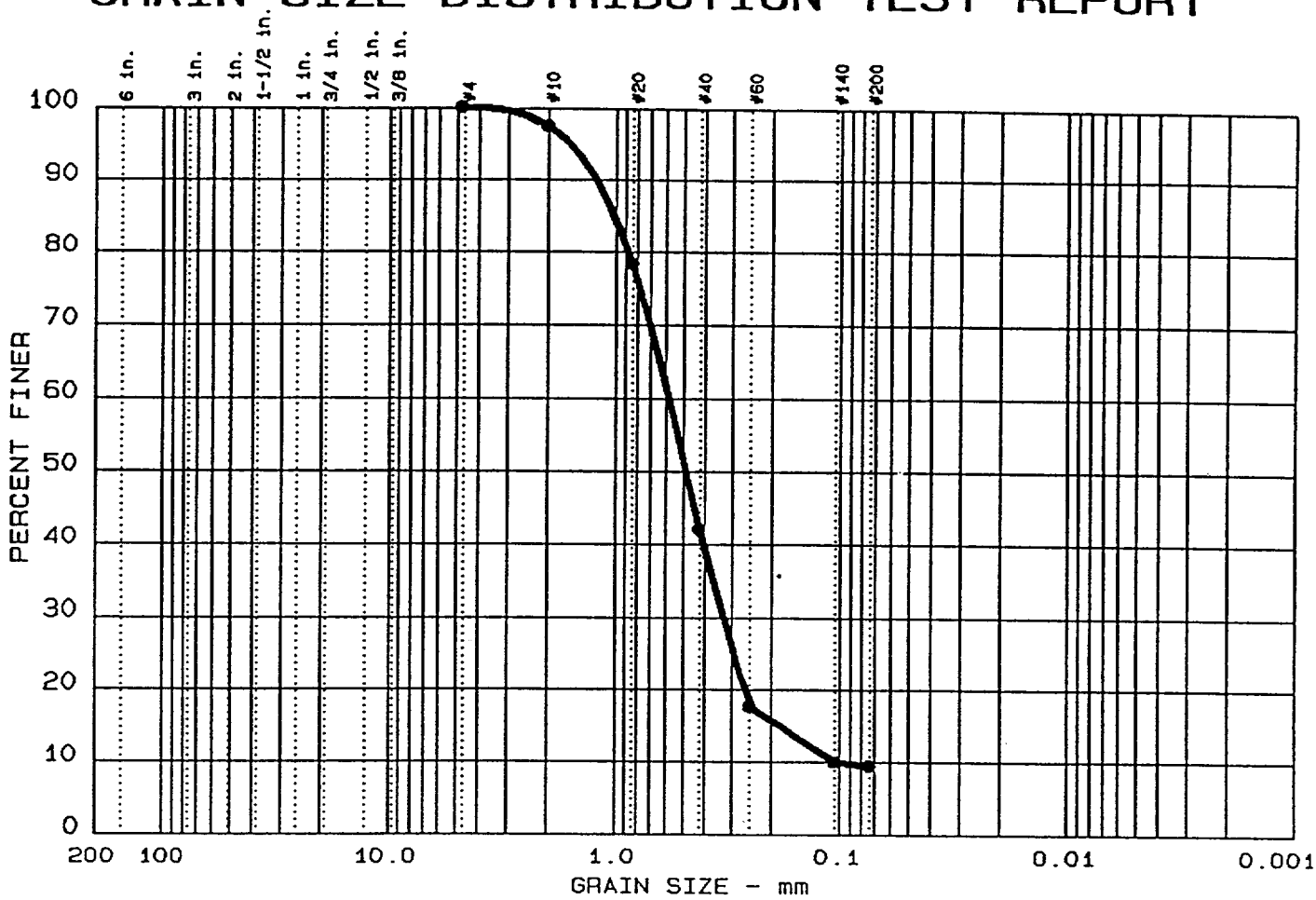
Remarks:
Tested by: CS+SG
Reviewed by: HJ
Moisture Content = 28.8%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	20	0.0	0.0	90.5	9.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.01	0.57	0.48	0.325	0.1826	0.0926	1.98	6.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Well Graded Sand with Silt	SW-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-55 @ 88.0-89.5 Ft.

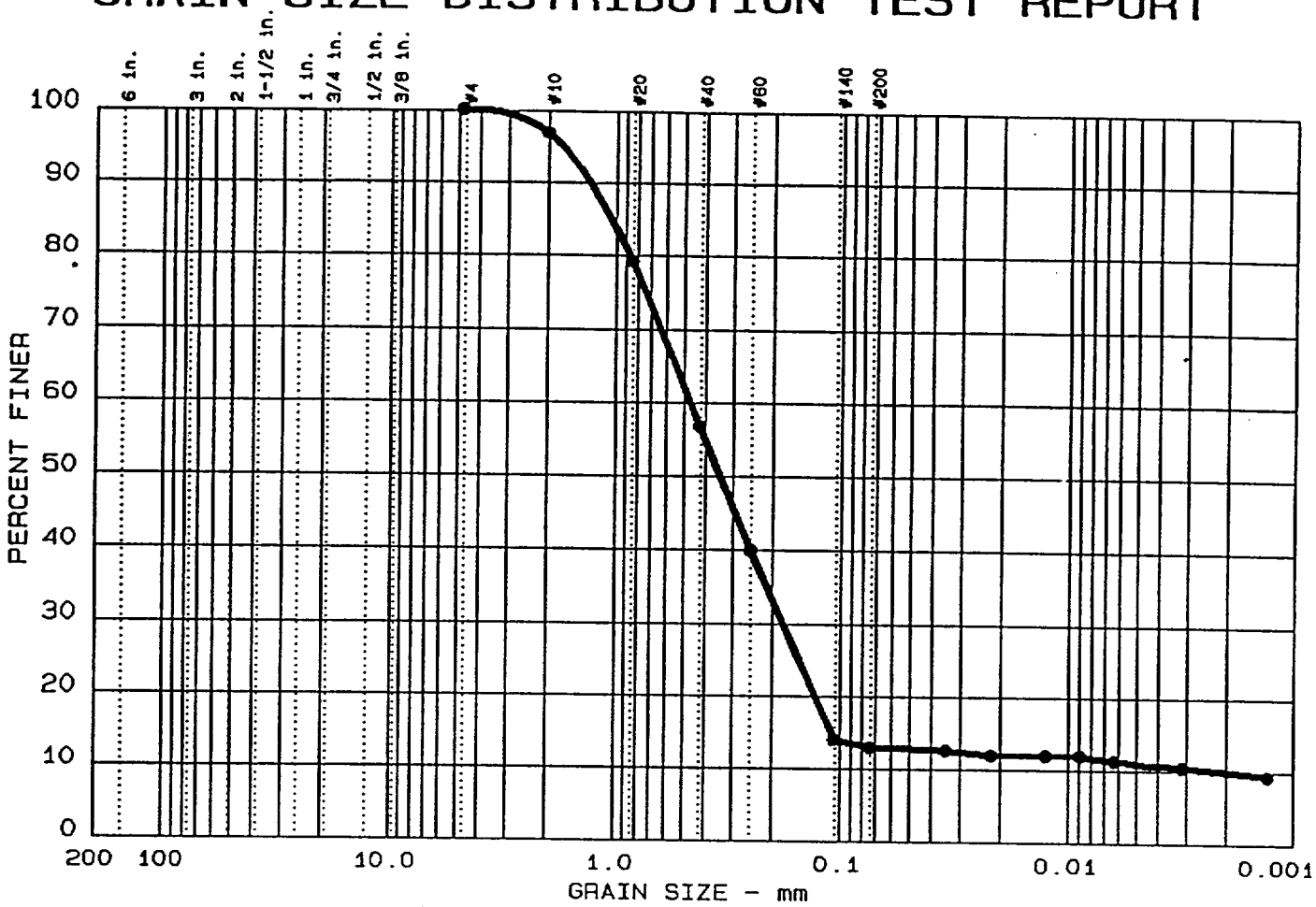
Date: June 25, 1998

Remarks:
Tested by: SCJ
Reviewed by: bb
Moisture Content = 23.1%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	87.1	2.0	10.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	38	13	1.04	0.46	0.34	0.179	0.1080	0.0020	35.36	235.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown & Gray Silty Sand	SM	A-2-6 (0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Notheast Expansion
● Location: FB-17 SS-57 @ 91-92.5 Ft.

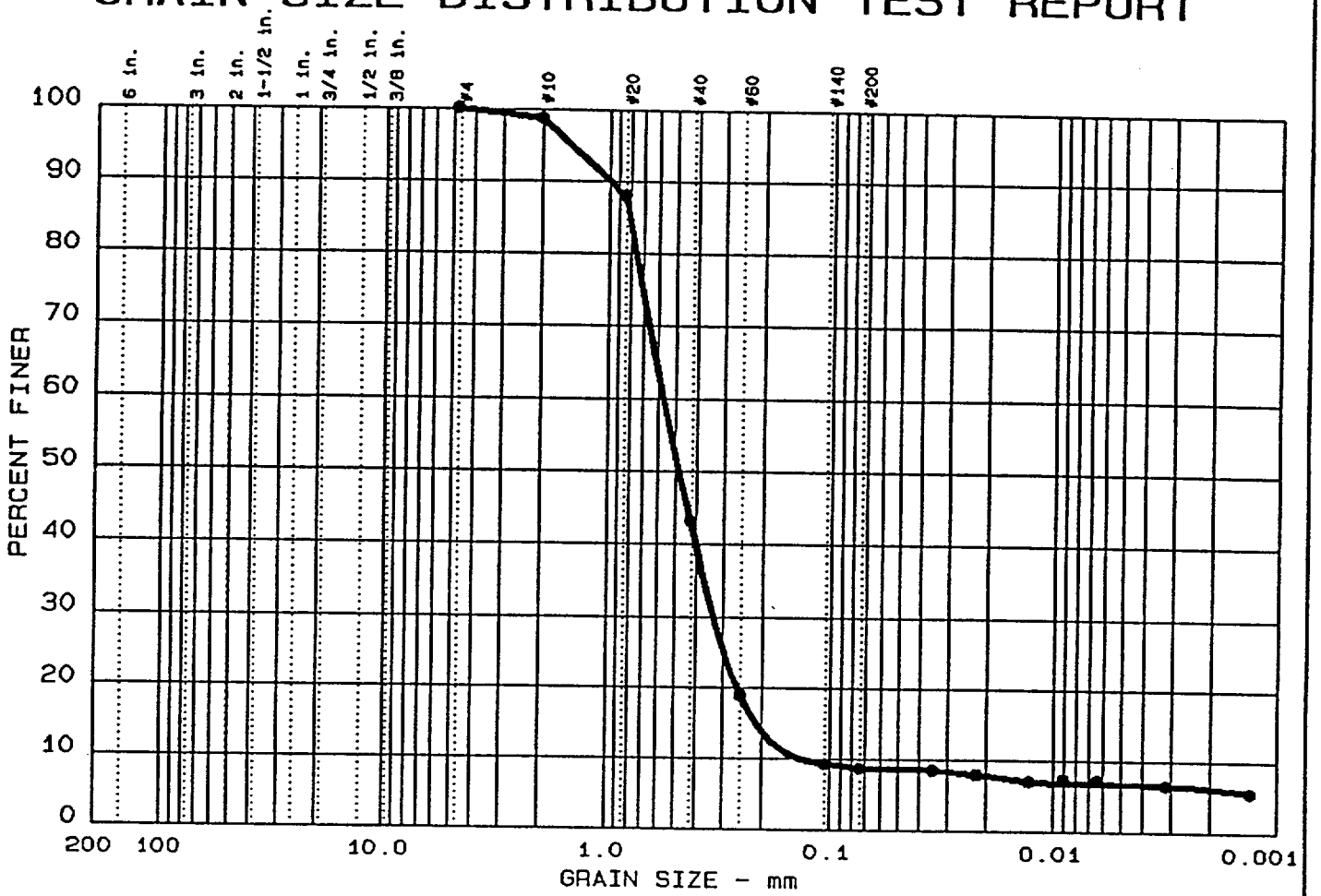
Date: June 30, 1998

Remarks:
Tested by: SCWm
Reviewed by: HJ
Moisture Content = 27.2%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	91.4	1.9	6.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.80	0.56	0.48	0.332	0.2118	0.1337	1.47	4.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-58 @ 92.5-94.0 Ft.

Date: June 23, 1998

Remarks:

Tested by: SCJJTm

Reviewed by: HD

Moisture Content = 26.2%

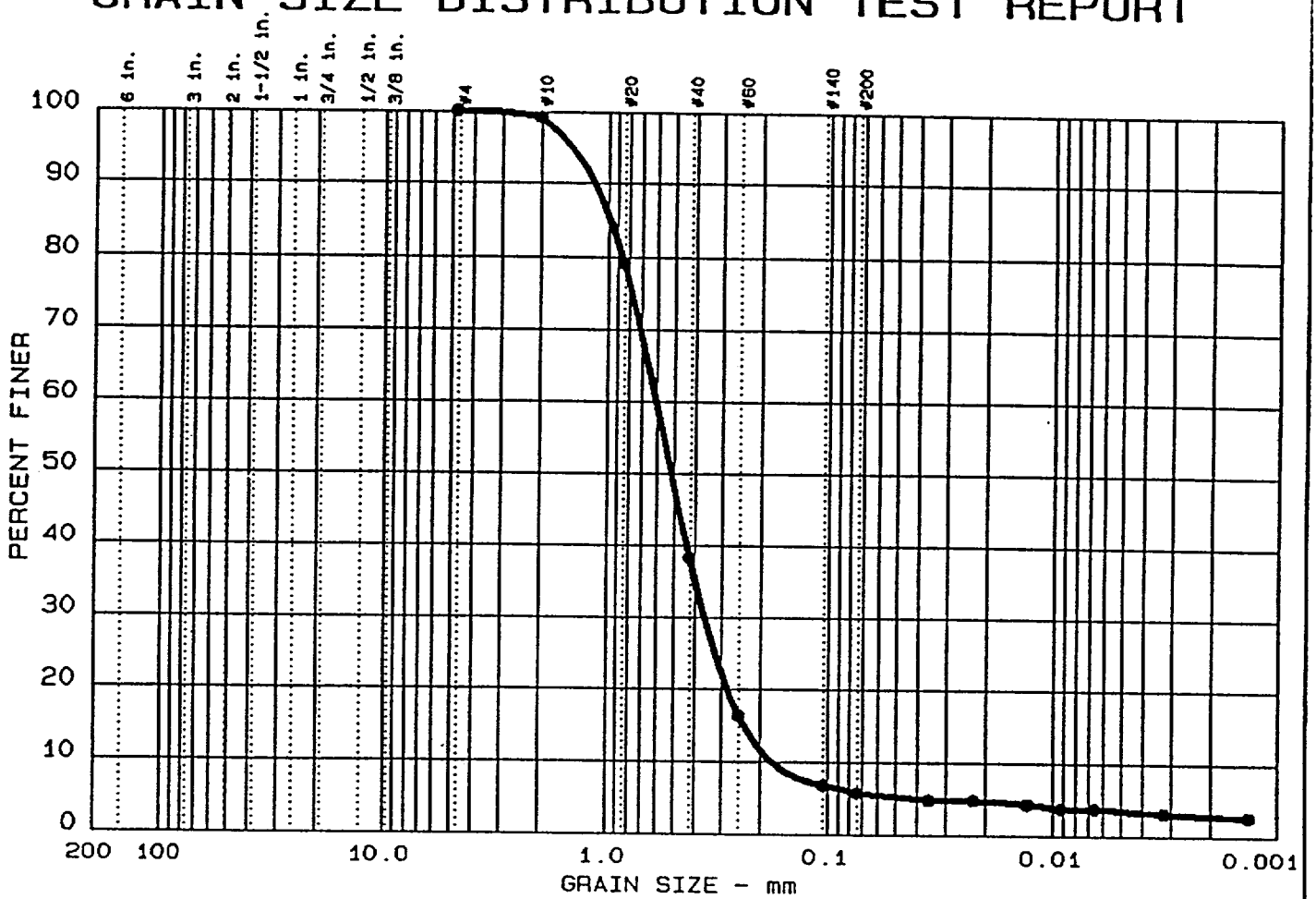
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	94.3	2.3	3.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.97	0.60	0.51	0.358	0.2363	0.1772	1.21	3.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt ...	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-60 @ 95.5-97.0 Ft.

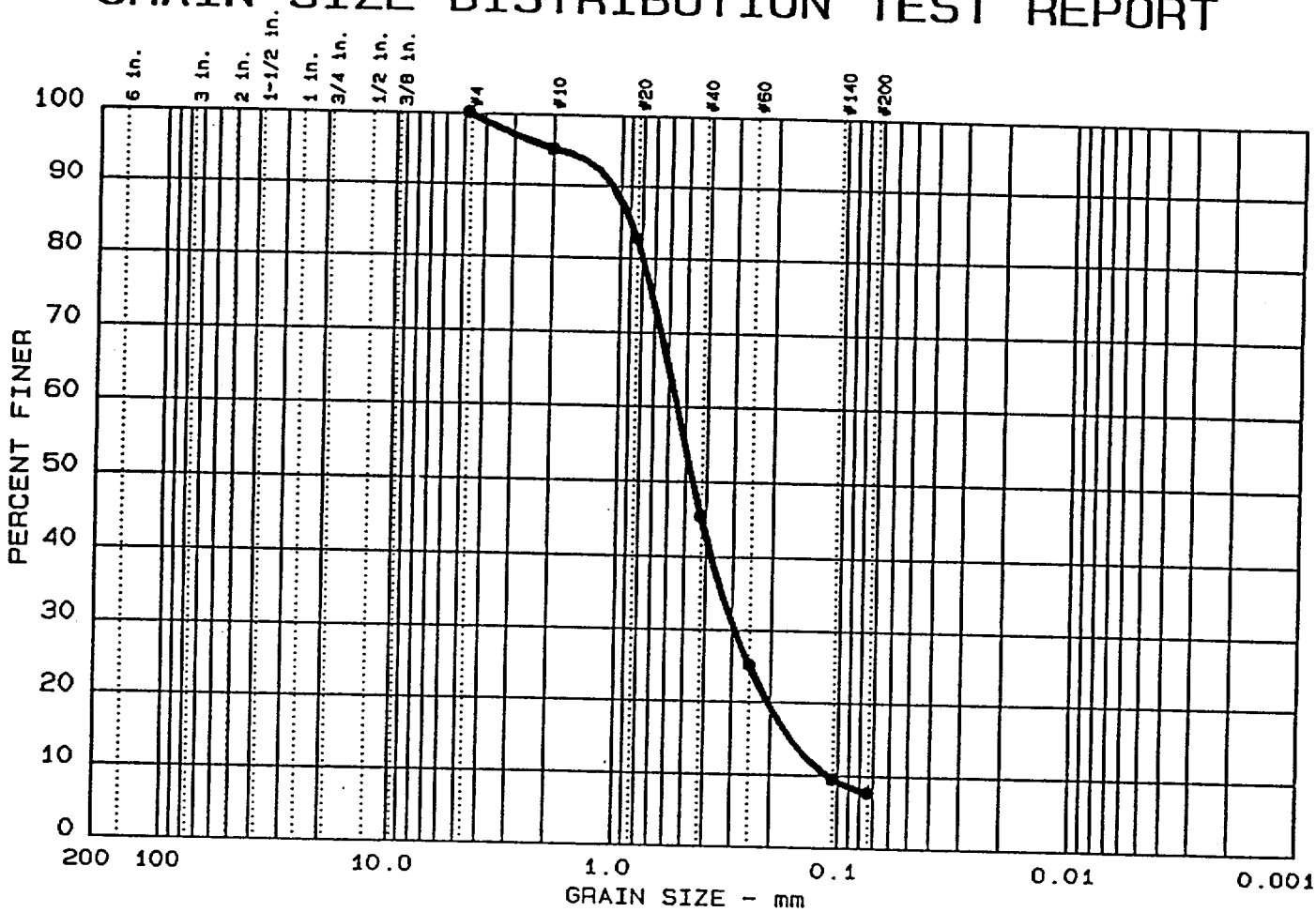
Date: June 23, 1998

Remarks:
Tested by: SCJJTM
Reviewed by: ob
Moisture Content = 20.2%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	92.3	7.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.89	0.54	0.46	0.292	0.1622	0.1096	1.43	5.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-620 98.5-100.0 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

Moisture Content = 19.6%

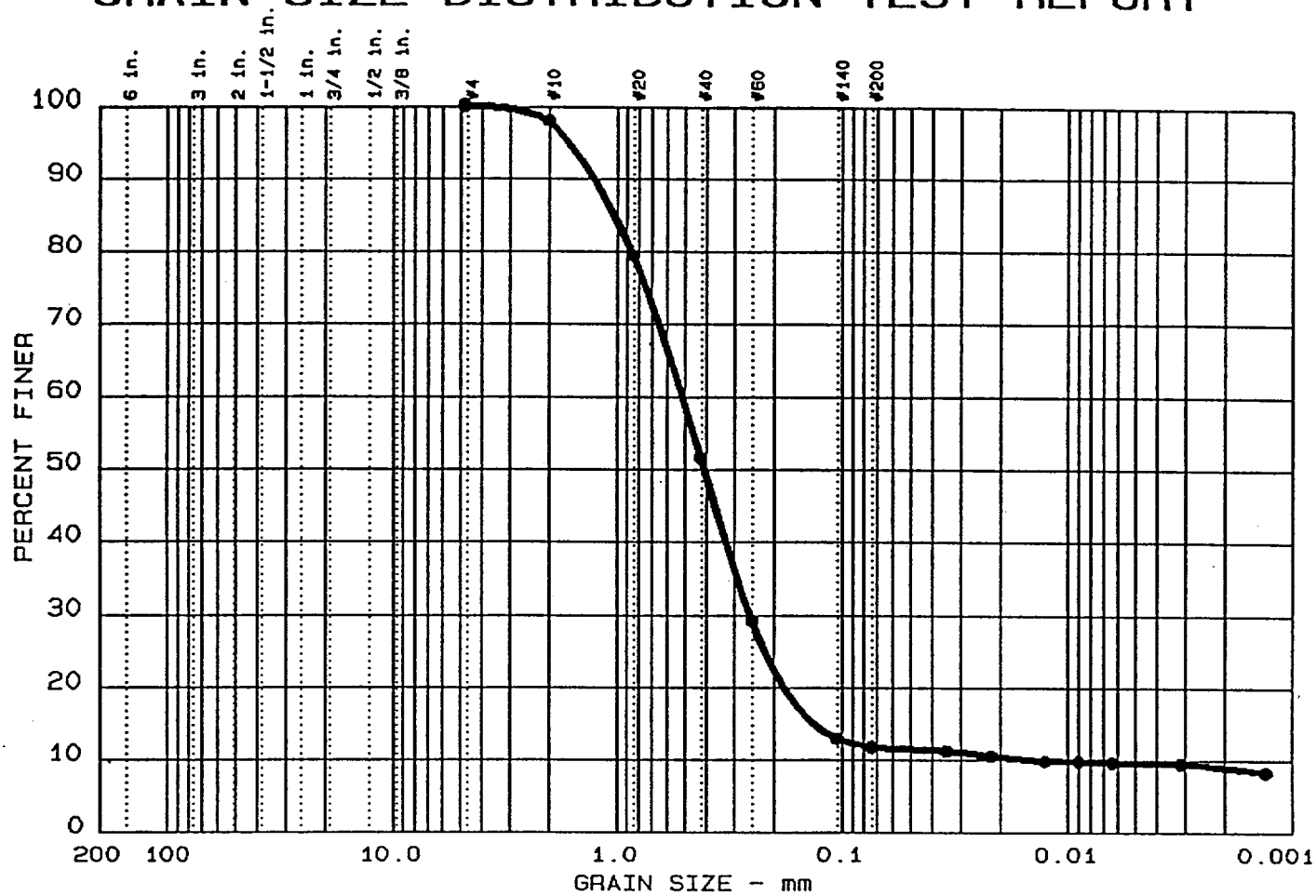
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	88.2	2.2	9.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	40	15	1.02	0.51	0.41	0.256	0.1327	0.0137	9.38	37.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown & Gray Poorly Graded Sand with Clay	SP-SC	A-2-6 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Notheast Expansion
● Location: FB-17 SS-63 @ 100.0-101.5 Ft.

Date: June 30, 1998

Remarks:

Tested by: SCJ TM

Reviewed by: HS

Moisture Content = 29.8%

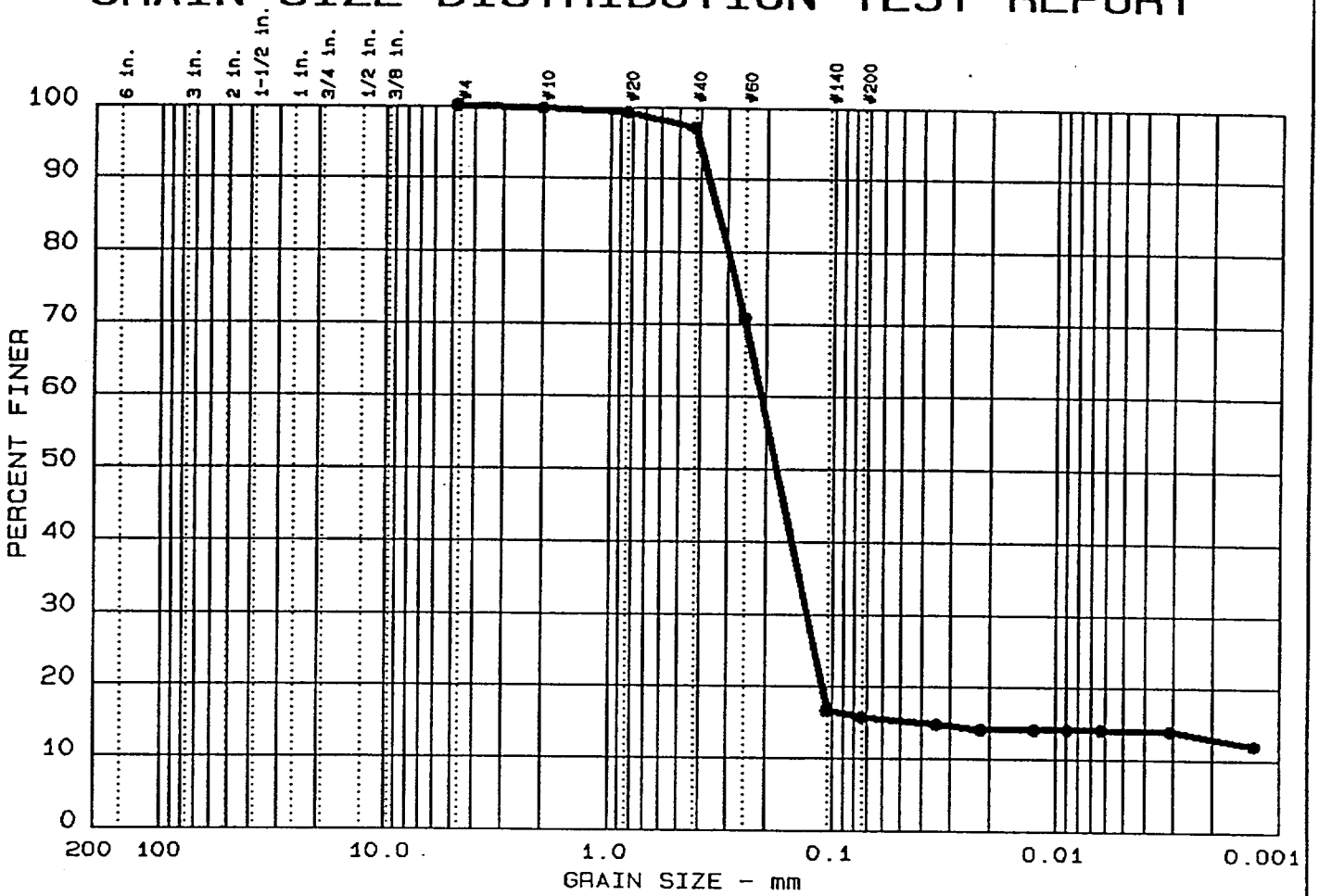
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	84.2	1.7	14.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	29	1	0.33	0.21	0.18	0.130	0.0371			

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Notheast Expansion
● Location: FB-17 SS-65 @ 103-104.5 Ft.

Date: June 30, 1998

Remarks:

Tested by: SCJTM

Reviewed by: HD

Moisture Content = 40.1%

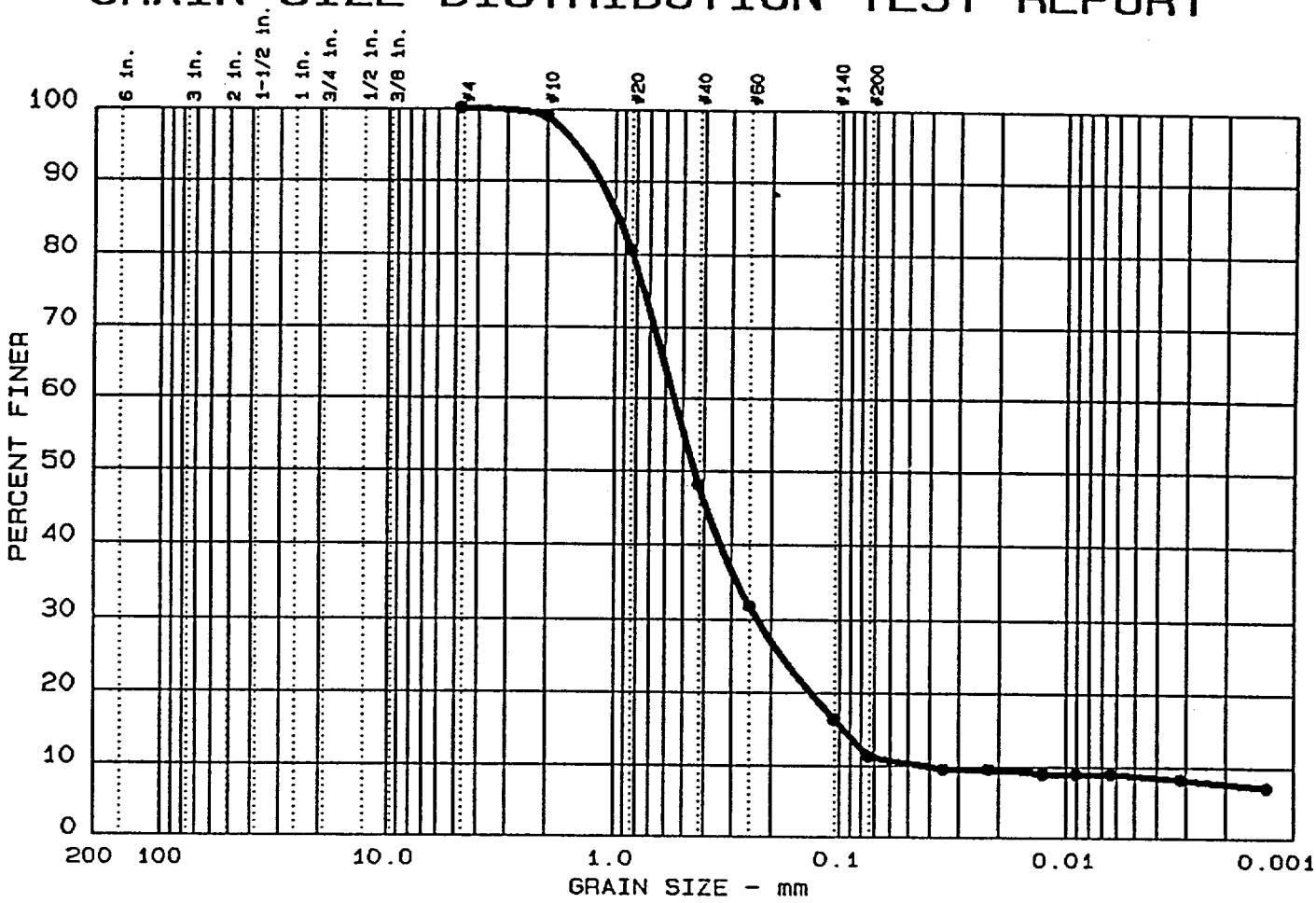
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	0.0	88.8	2.5	8.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	32	7	0.95	0.54	0.44	0.231	0.0951	0.0415	2.37	13.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Well Graded Sand with Silt	SW-SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-67 @ 108.0-109.5 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC [illegible]

Reviewed by: [illegible]

Moisture Content = 25.8%

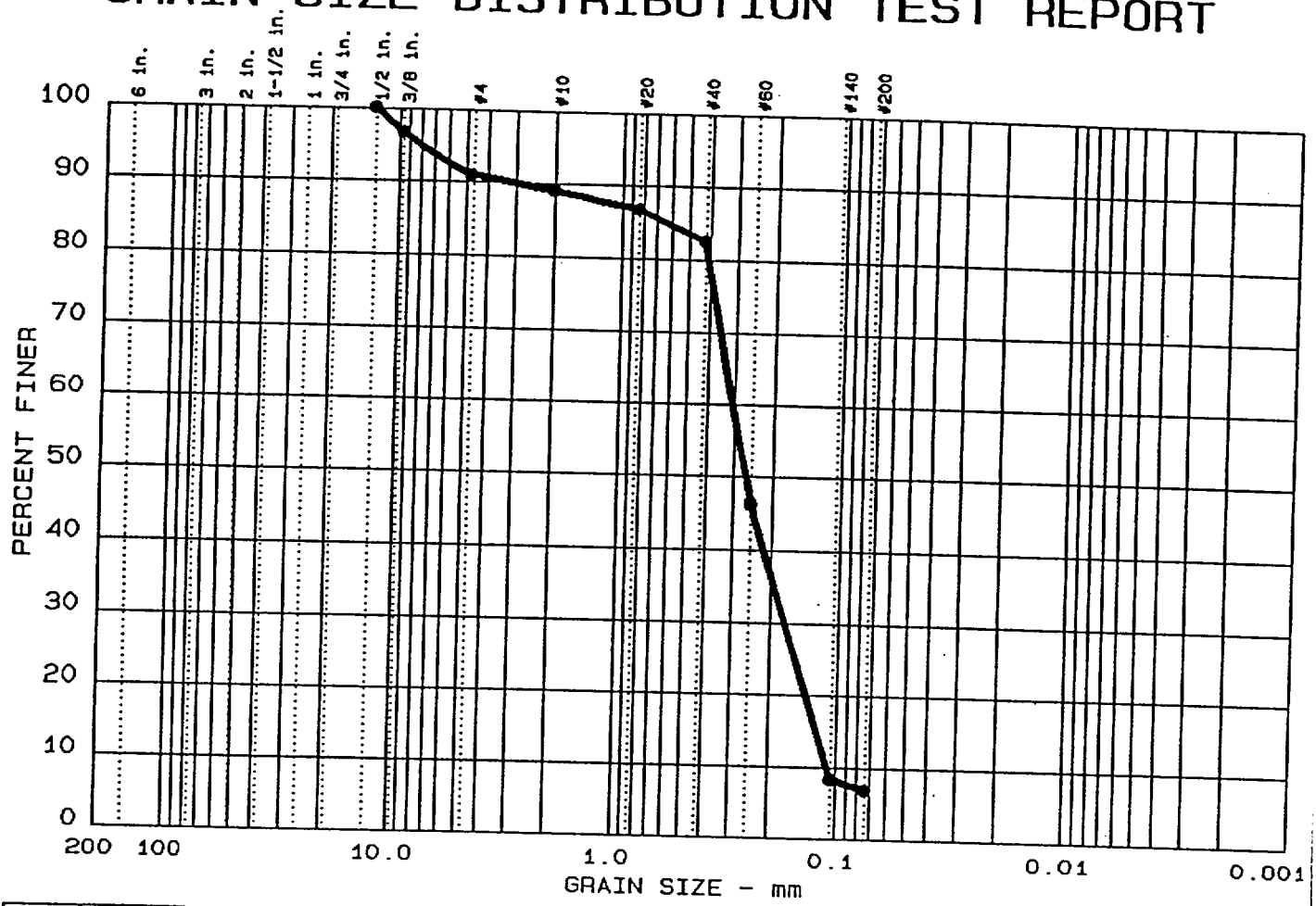
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	9.0	84.1	6.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.62	0.31	0.26	0.172	0.1220	0.1088	0.89	2.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Silt and Gravel	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-69 @ 111.0-112.5 Ft.

Date: June 25, 1998

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Remarks:

Tested by: CS+SC

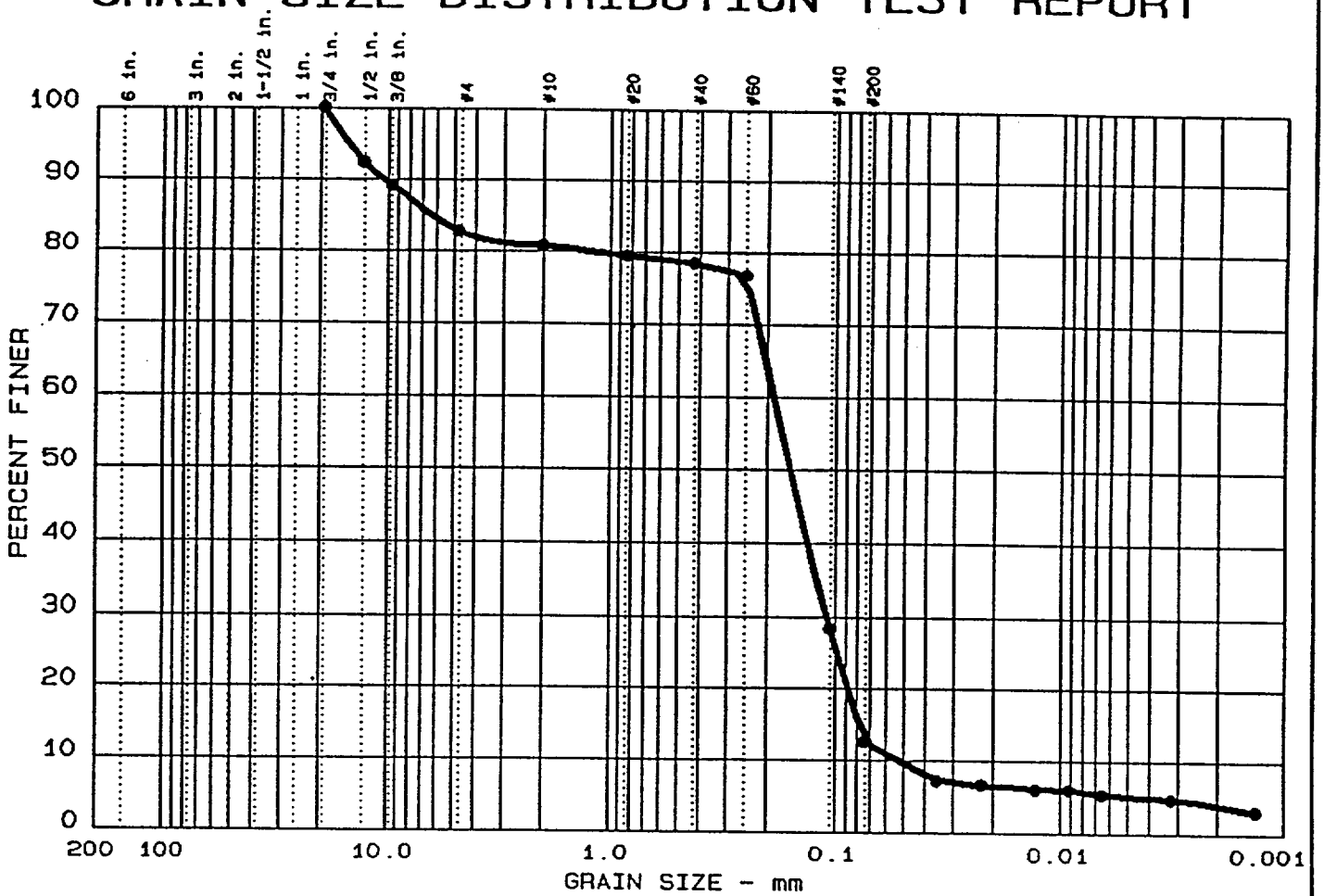
Reviewed by: HB

Moisture Content = 19.8%

ASTM D422 & D2216

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	17.2	70.2	7.5	5.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	6.24	0.19	0.16	0.109	0.0778	0.0514	1.23	3.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Silty Sand	SM	A-2-4 (0.2)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17SS-71 @ 114.0-115.5 Ft.

Date: June 23, 1998

Remarks:

Tested by: SCJ Jim

Reviewed by: HS

Moisture Content = 24.6%

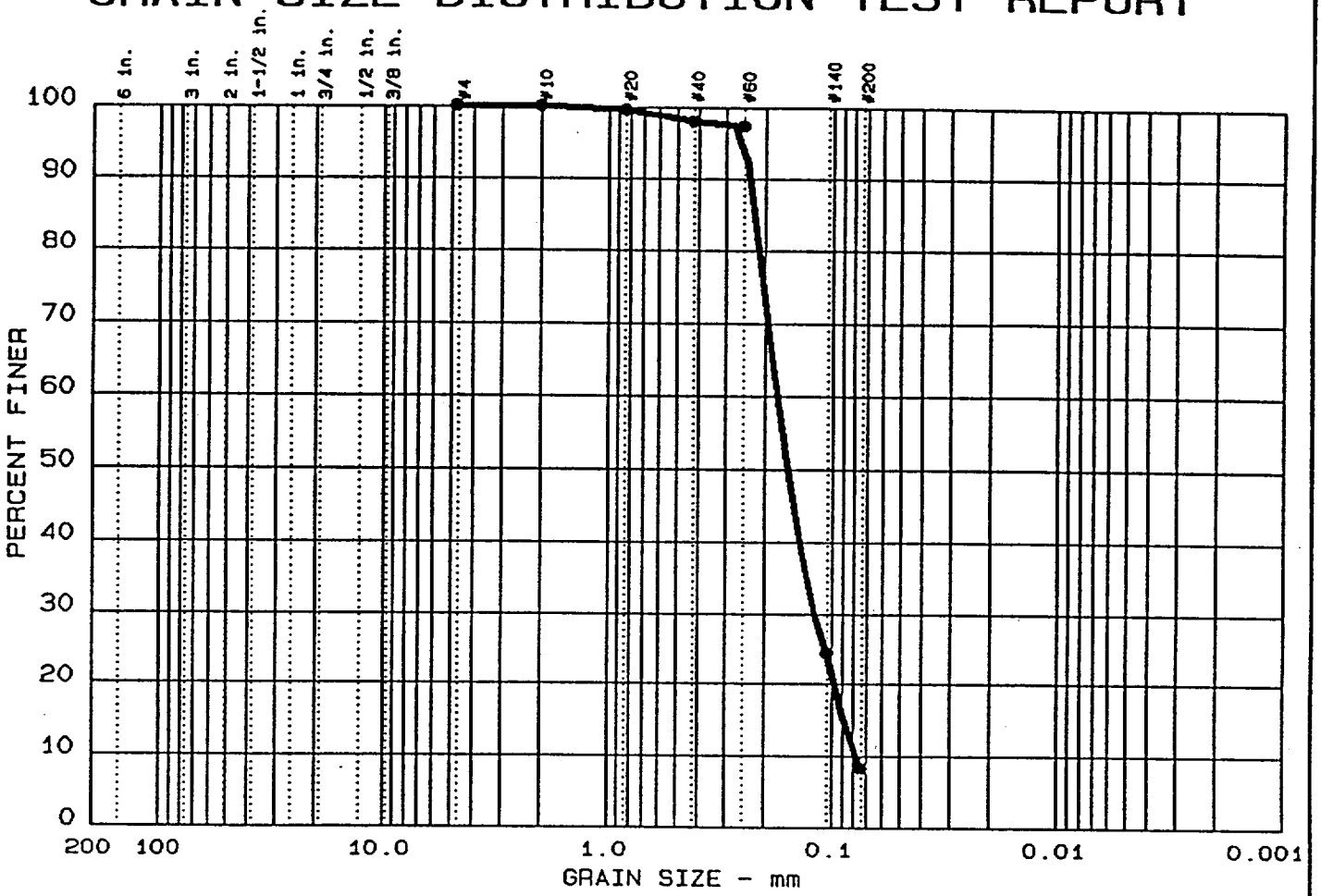
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	91.7	8.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.22	0.18	0.16	0.120	0.0882	0.0776	1.05	2.3

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-17 SS-72 @ 115.5-117.67 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

Moisture Content = 33.5%

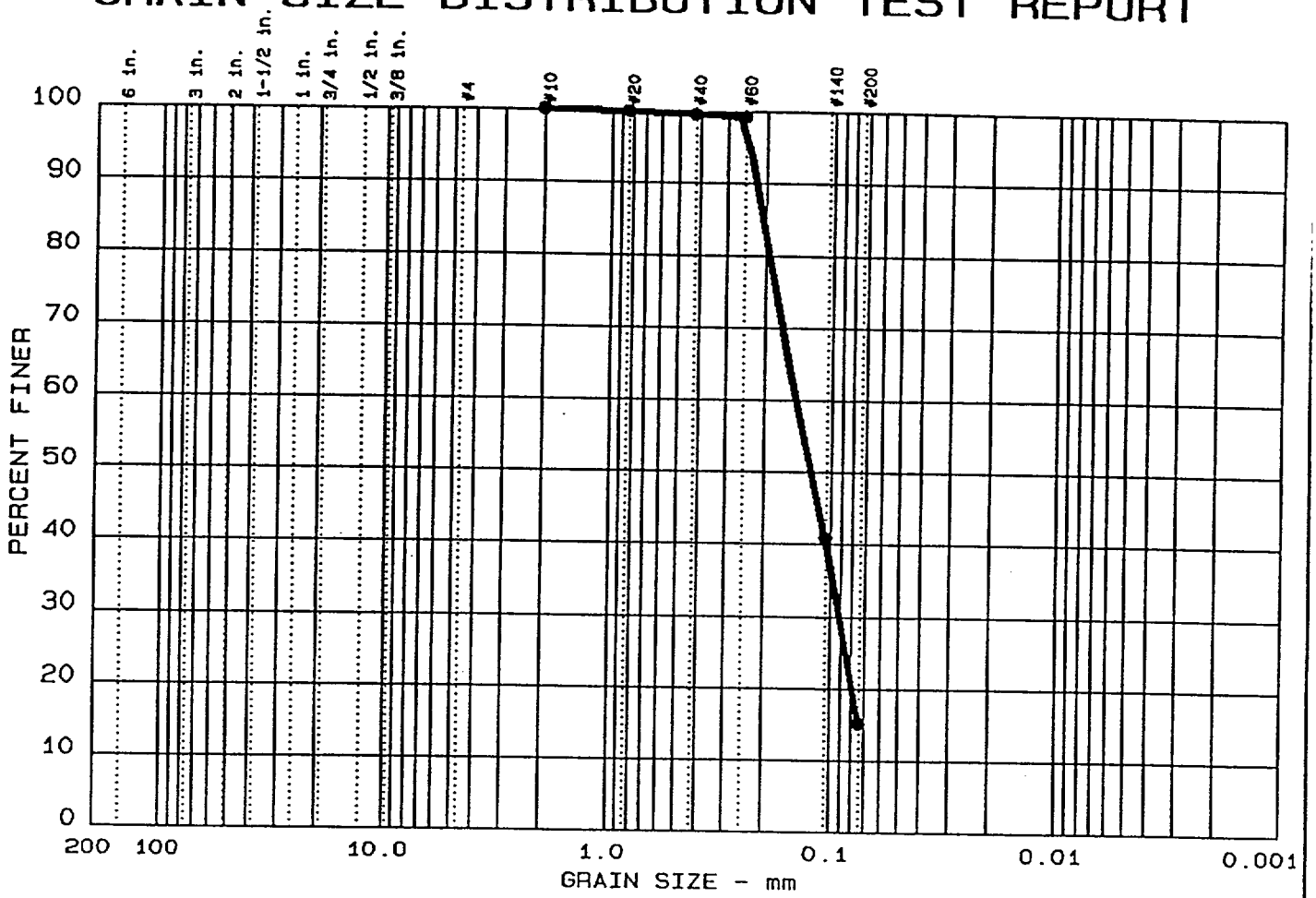
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	84.8	15.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.21	0.14	0.12	0.091				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-73 @ 118.0-119.5 Ft.

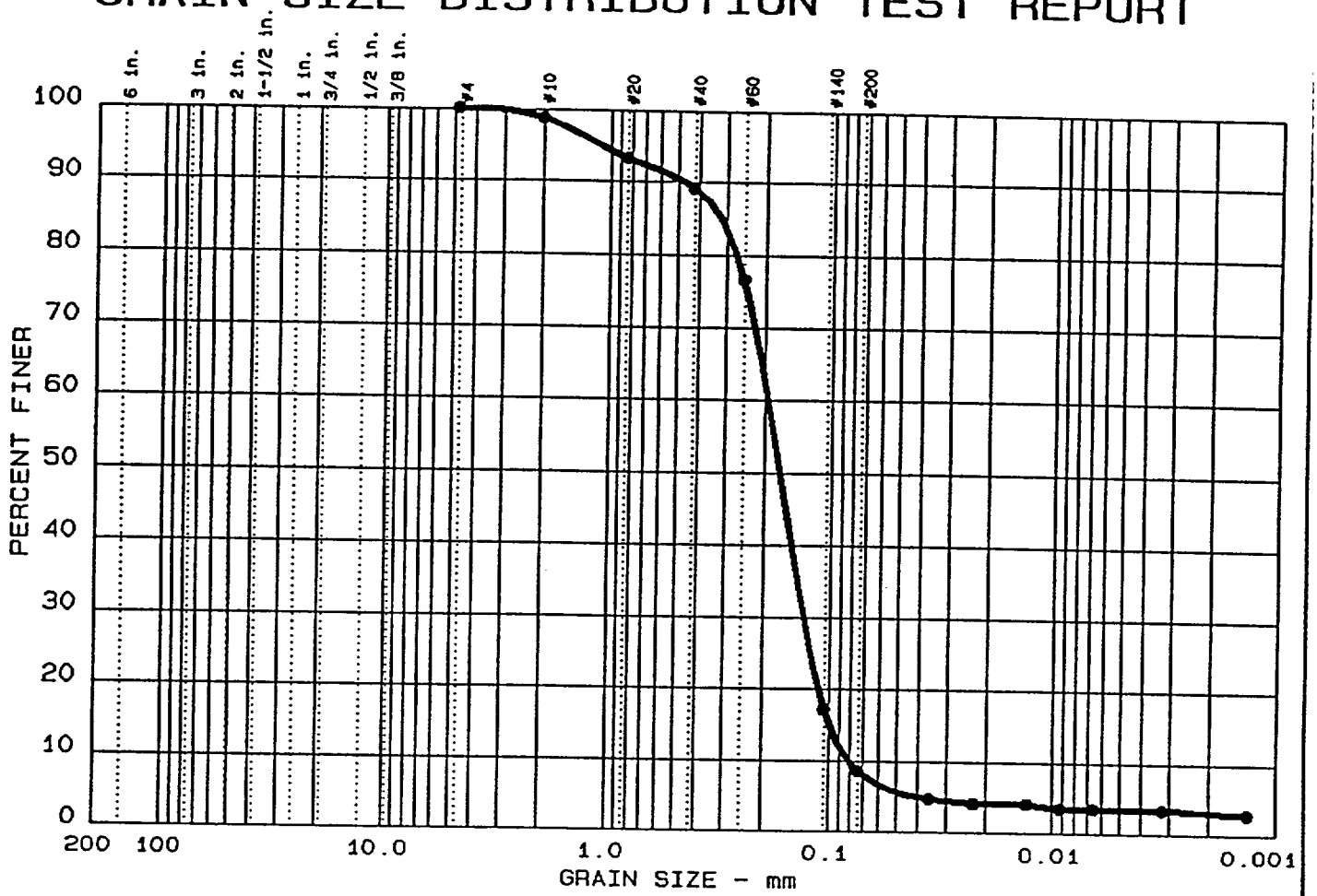
Date: June 25, 1998

Remarks:
Tested by: CS & SC
Reviewed by: HS
Moisture Content = 27.0%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	91.3	5.2	3.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.32	0.19	0.17	0.131	0.0993	0.0807	1.10	2.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-76 @ 122.5-124.0 Ft.

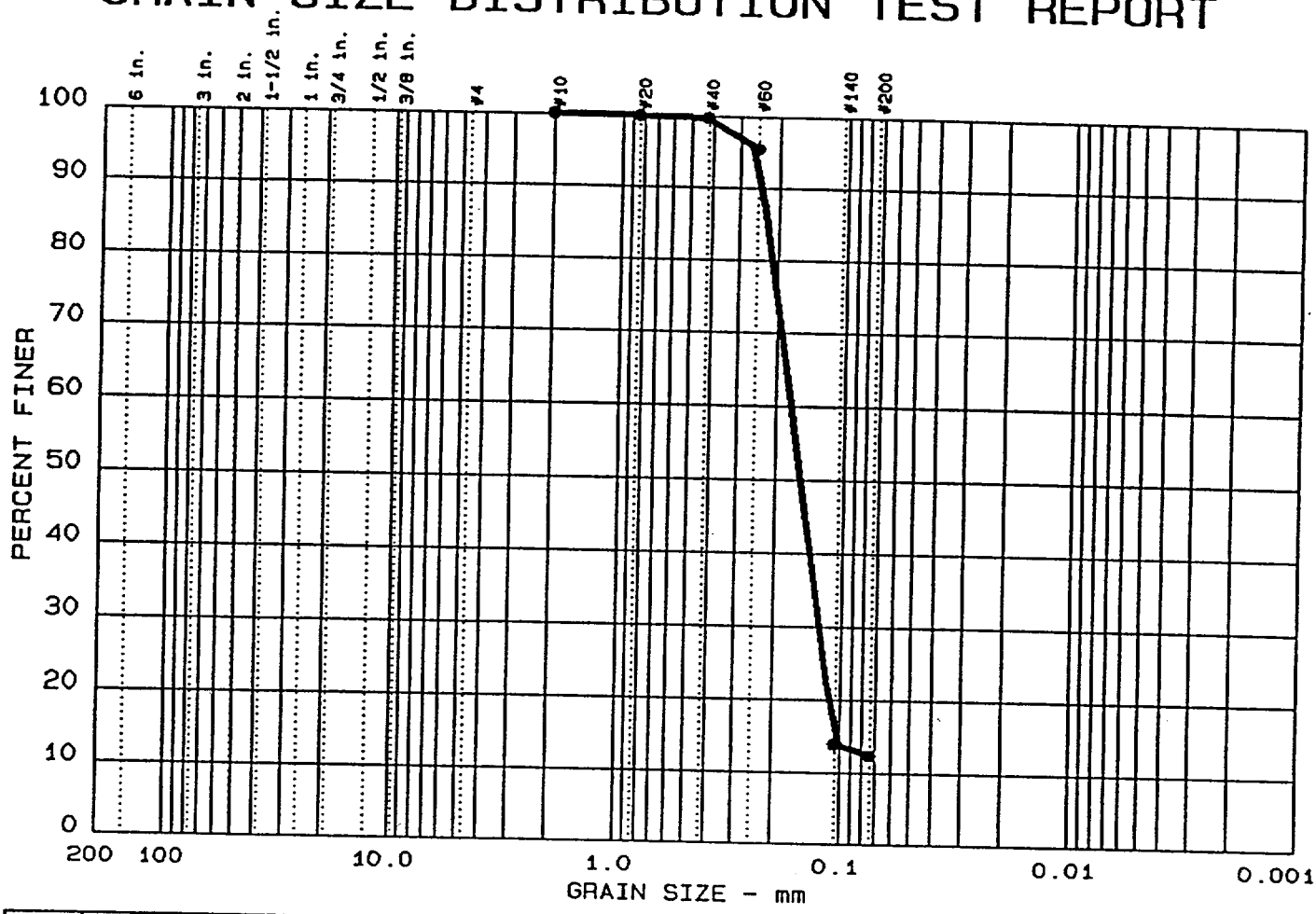
Date: June 23, 1998

Remarks:
Tested by: SC + JTn
Reviewed by: HB
Moisture Content = 24.7%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	87.6	12.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.22	0.17	0.15	0.124	0.1060			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Silty Sand	SM	A-2-4 (0.3)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-78 @ 125.5-127.0 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HS

Moisture Content = 39.4%

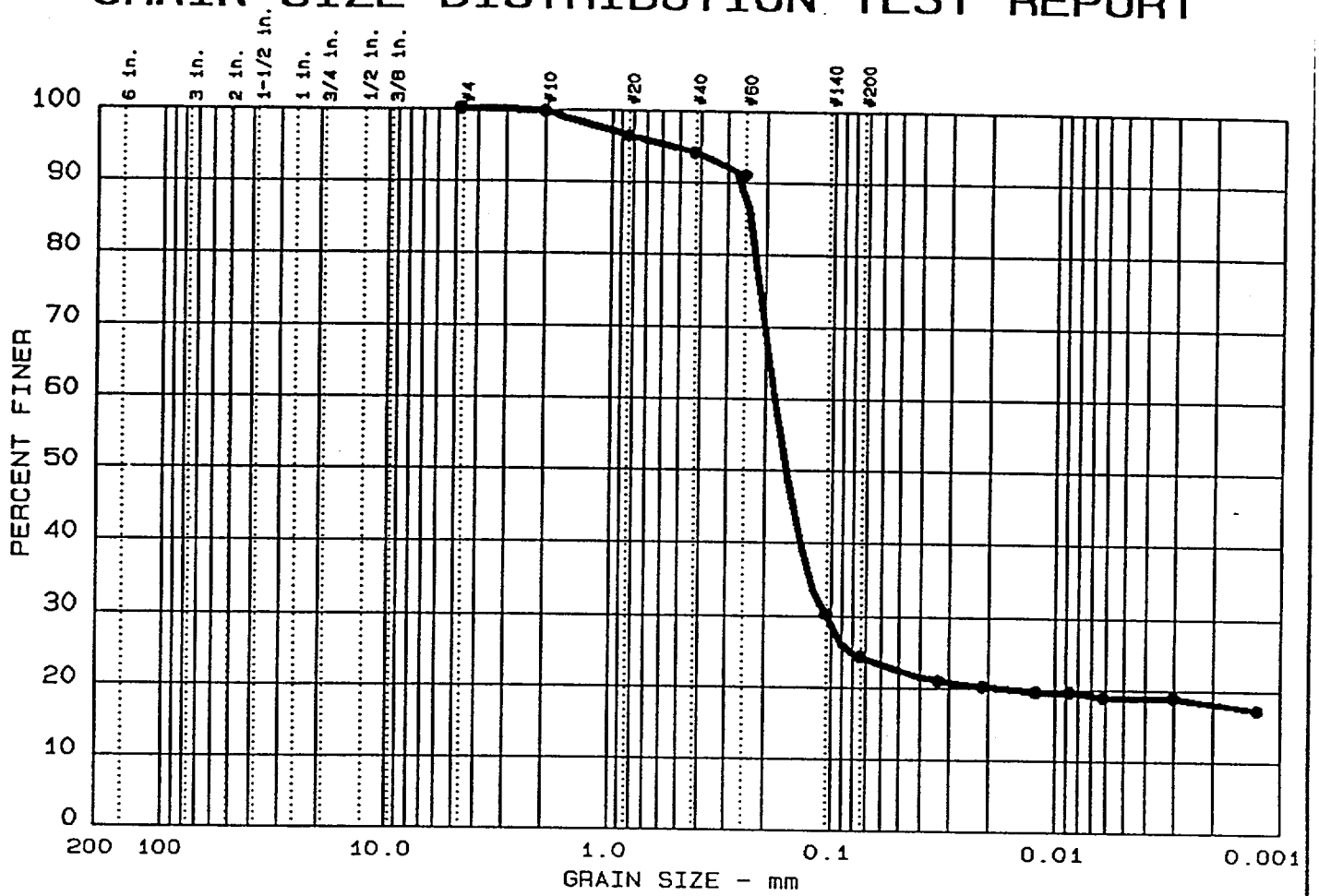
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	75.6	5.5	18.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	46	21	0.23	0.18	0.16	0.104				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Clayey Sand	SC	A-2-7 (1.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-80 @ 128.5-130.0 Ft.

Date: June 26, 1998

Remarks:

Tested by: SC+JTM

Reviewed by: HJ

Moisture Content = 37.7%

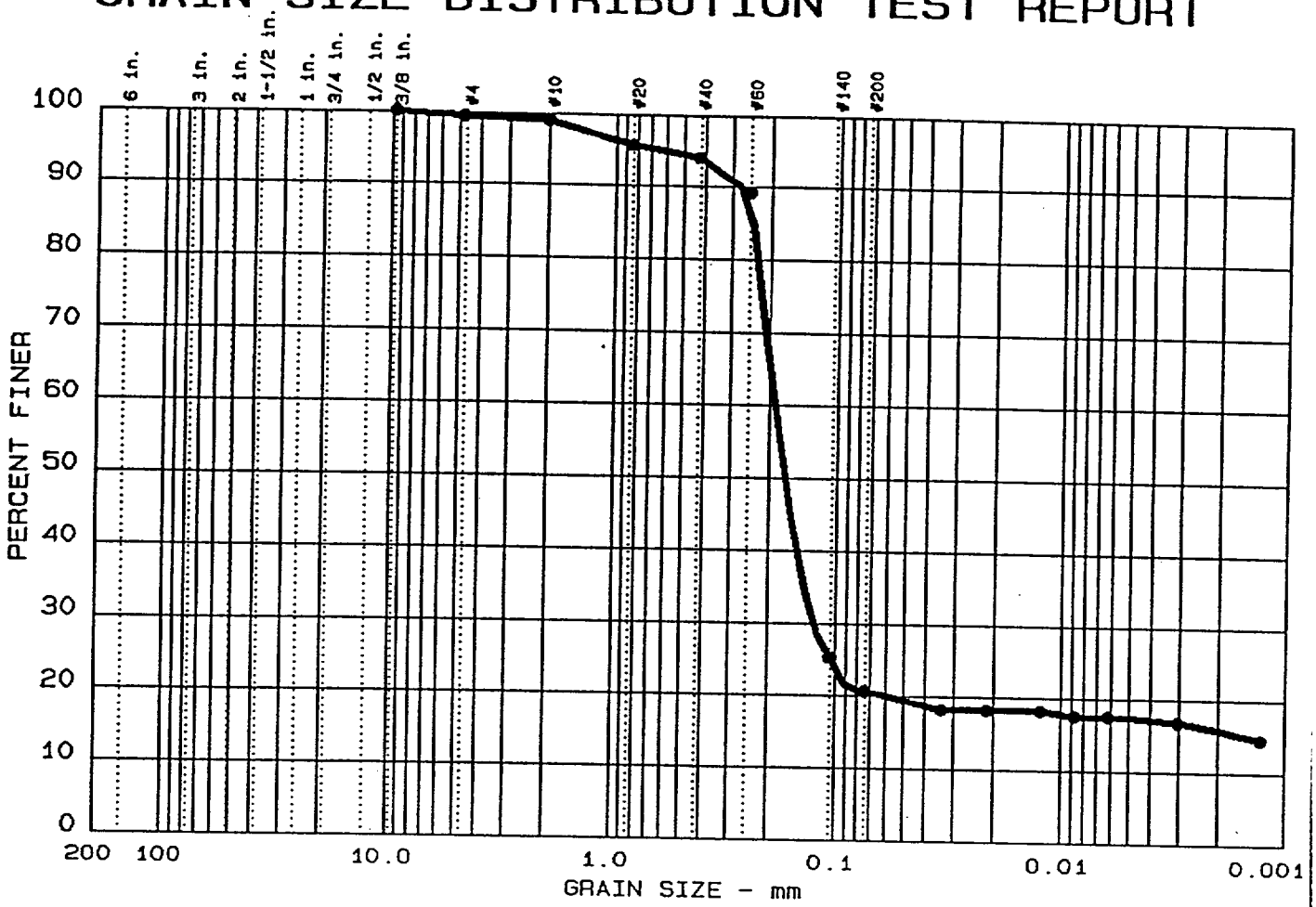
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.6	78.7	3.3	17.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	45	19	0.24	0.19	0.17	0.125	0.0015			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Clayey Sand	SC	A-2-7 (0.5)

Project No.: 50161-7-0108 Task 21
Project: F-Area Notheast Expansion
◆ Location: FB-17 SS-81 @ 130.0-131.5 Ft.

Date: June 30, 1998

Remarks:

Tested by: SCJTM

Reviewed by: HJ

Moisture Contnet = 40.5%

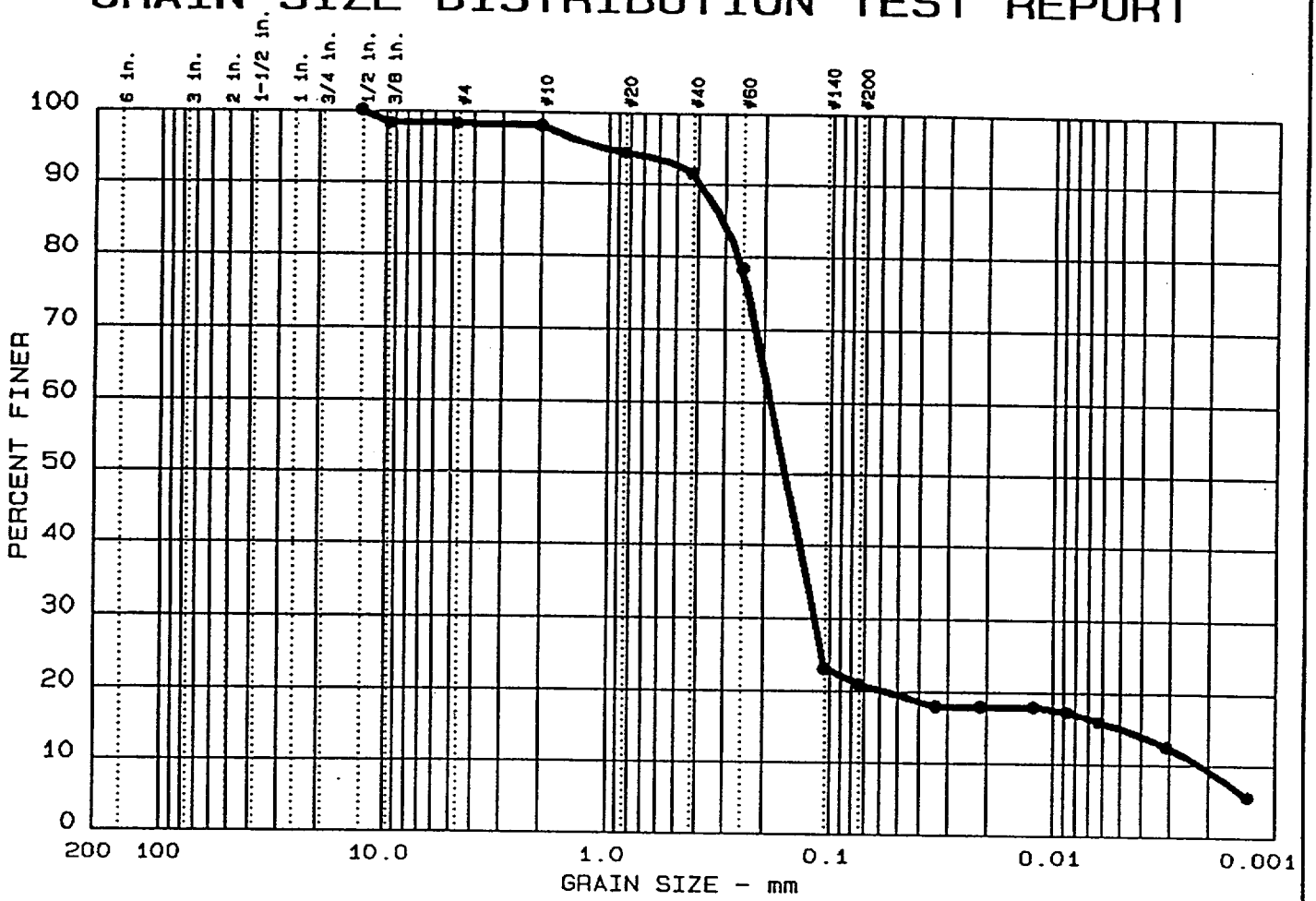
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	1.7	77.3	6.0	15.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	42	19	0.31	0.19	0.16	0.117	0.0049	0.0022	34.00	86.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Clayey Sand	SC	A-2-7 (0.5)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-83 @ 133.0-134.5 Ft.

Date: June 26, 1998

Remarks:

Tested by: SC+DTM

Reviewed by: HB

Moisture Content = 36.1%

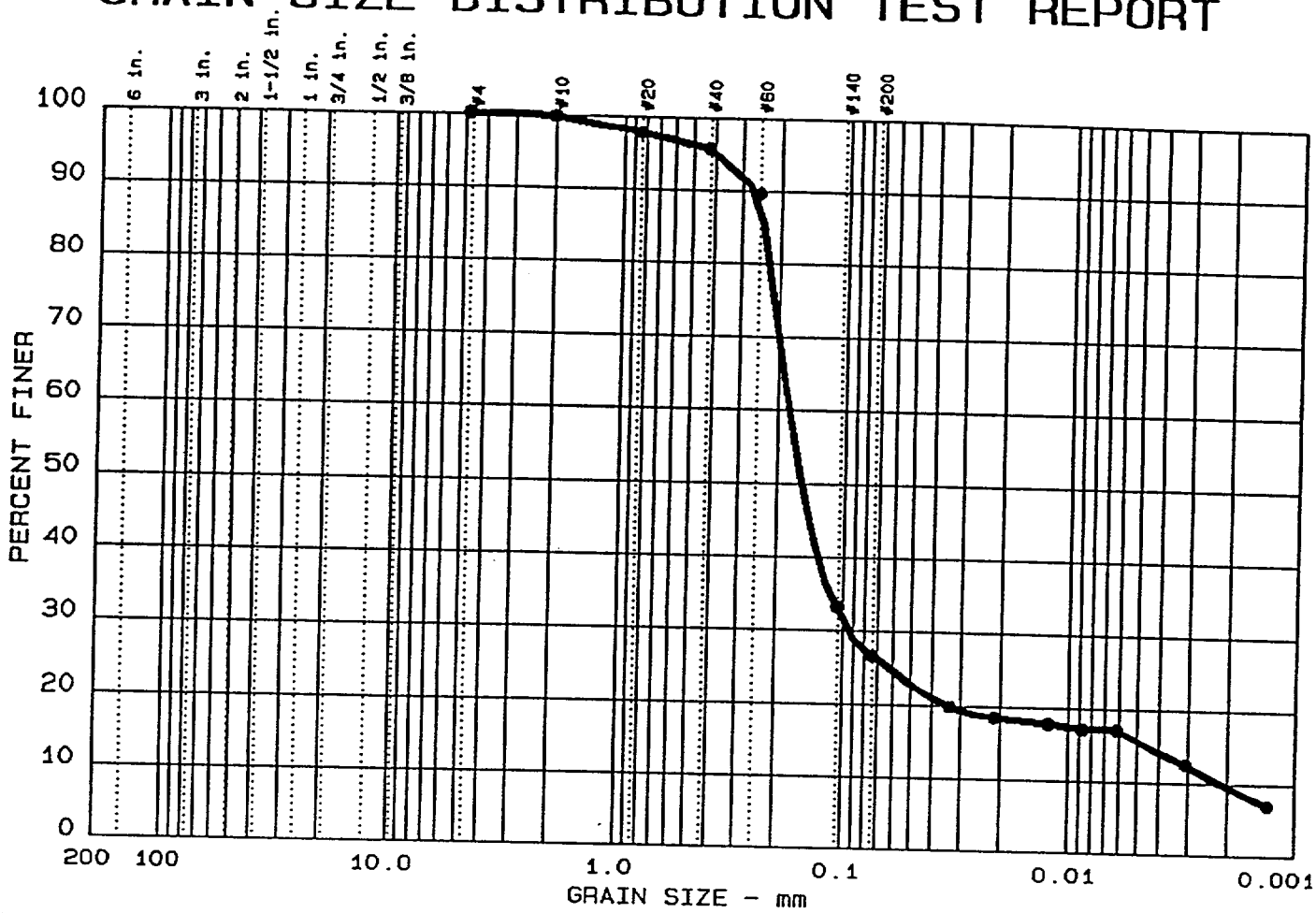
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	0.0	73.4	10.9	15.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	38	16	0.24	0.18	0.15	0.094	0.0045	0.0021	23.50	83.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Clayey Sand	SC	A-2-6 (0.7)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-85 @ 136.0-137.5 Ft.

Date: June 26, 1998

Remarks:

Tested by: SCabeSTM

Reviewed by: HD

Moisture Content = 31.8%

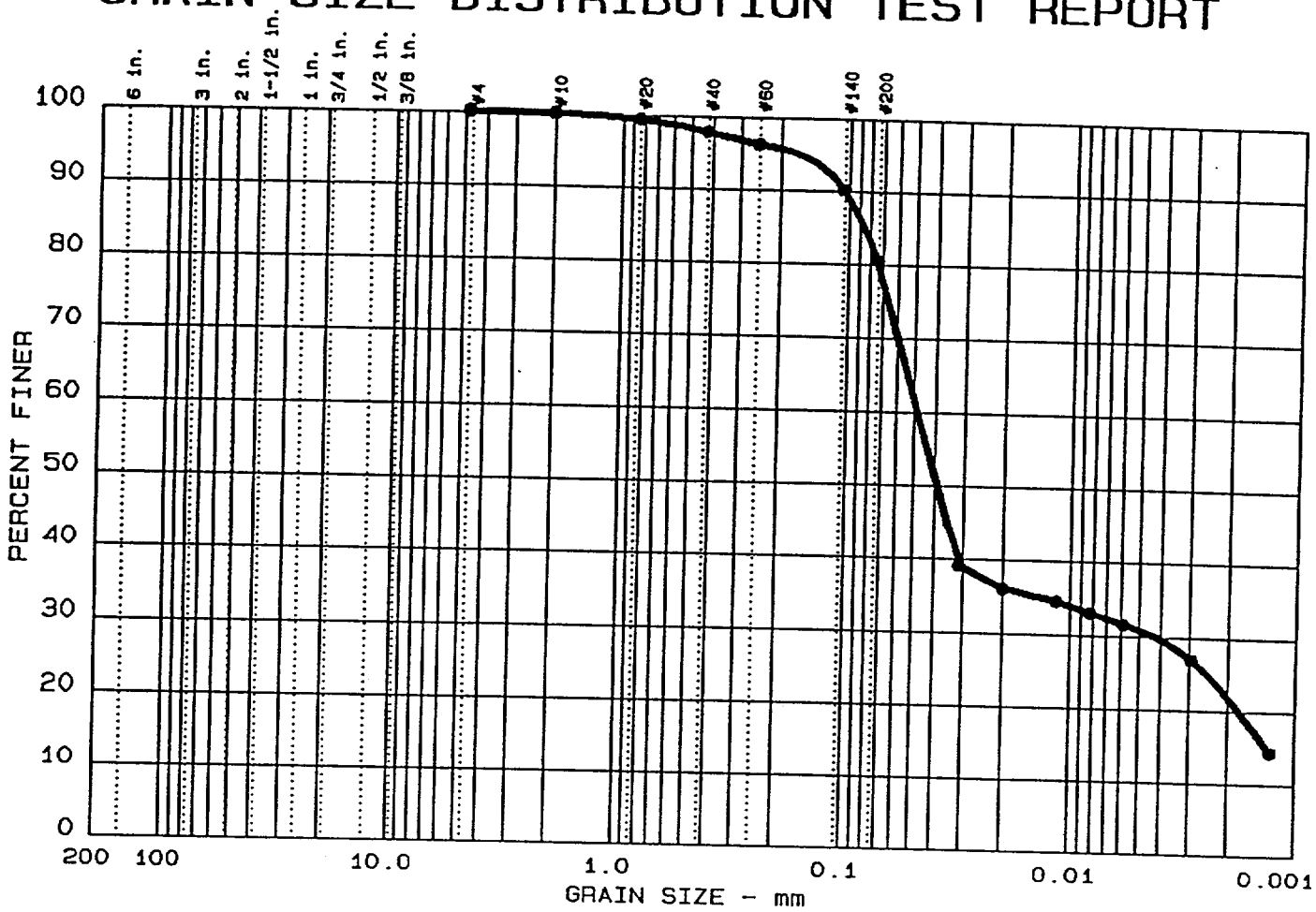
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	19.4	49.8	30.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	60	35	0.09		0.04	0.004	0.0013			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Sandy Fat Clay	CH --	A-7-6 (30.3)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-87 @ 139.0-140.5 Ft.

Date: June 30, 1998

Remarks:

Tested by: SCCS+ATM

Reviewed by: WS

Moisture Content = 53.0%

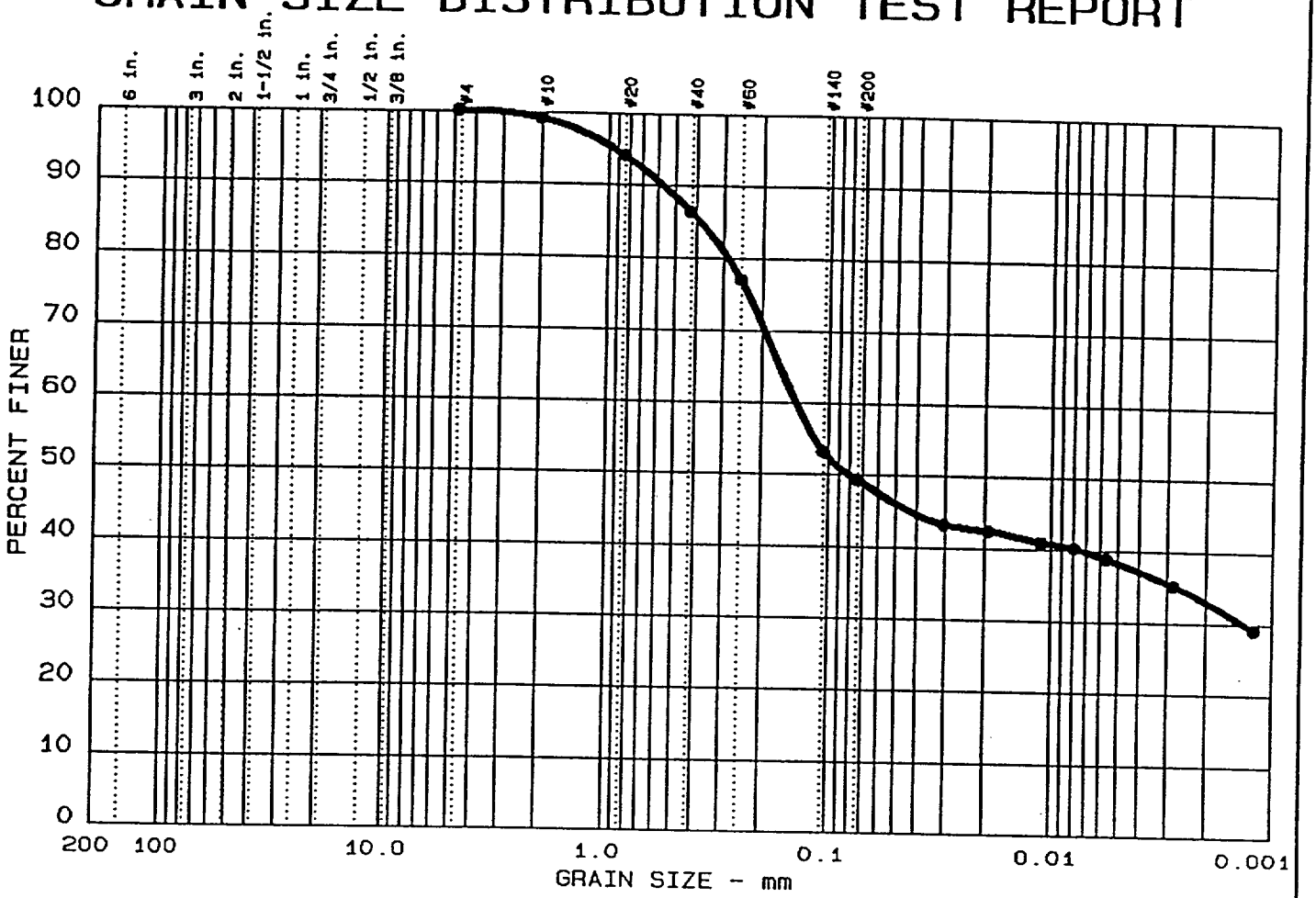
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	50.7	11.1	38.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	63	40	0.38	0.14	0.08	0.001				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-2-6 (14.6)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-17 SS-88 @ 140.5-142.0 Ft.

Date: June 26, 1998

Remarks:

Tested by: SCHatm

Reviewed by: HD

Moisture Content = 30.8%

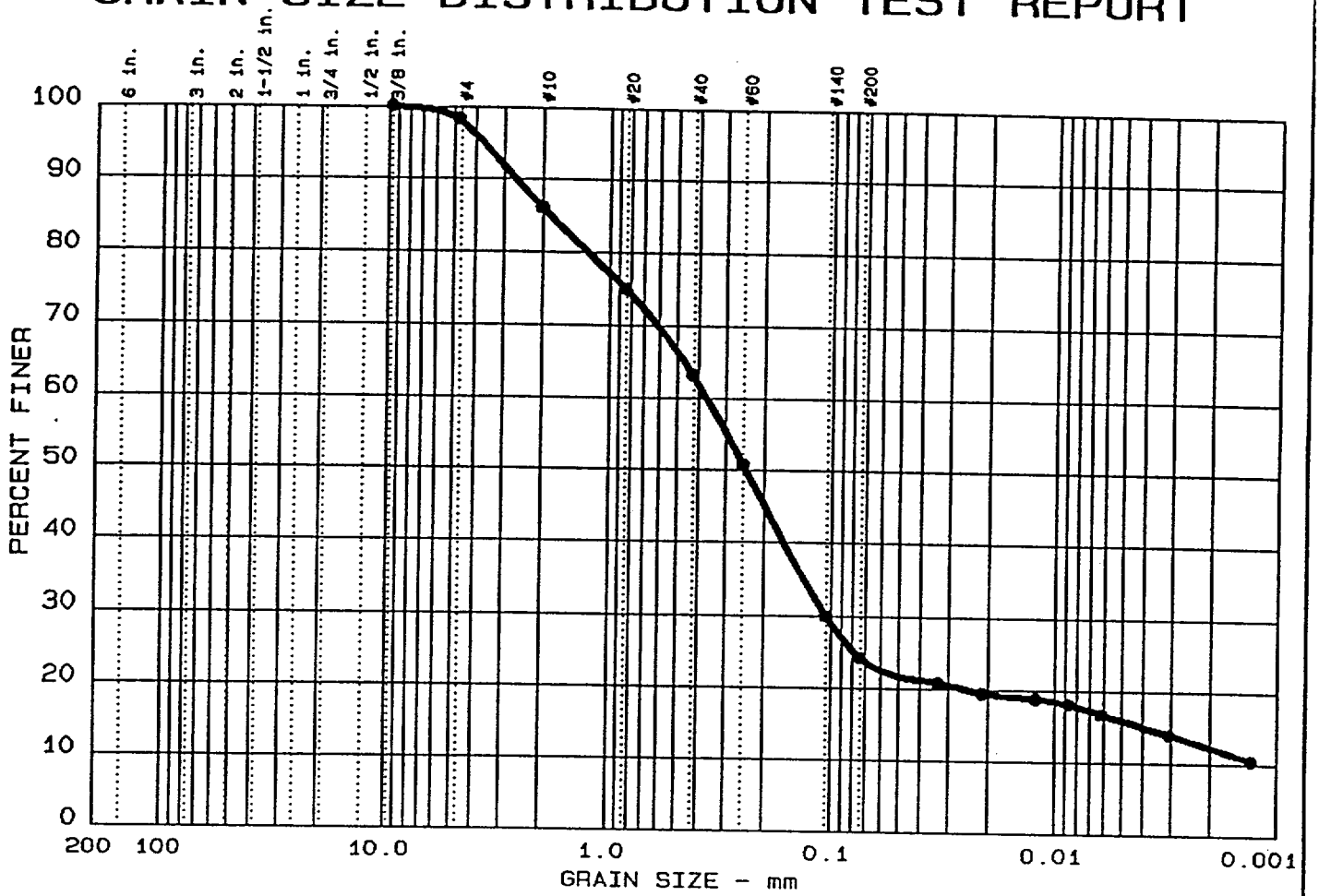
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	1.6	74.1	8.3	16.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	60	38	1.84	0.36	0.24	0.105	0.0038			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown & Gray Clayey Sand	SC	A-2-7 (2-5)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-17 SS-89 @ 142.0-143.5 Ft.

Date: June 26, 1998

Remarks:

Tested by: SCWDM

Reviewed by: WD

Moisture Content = 34.8%

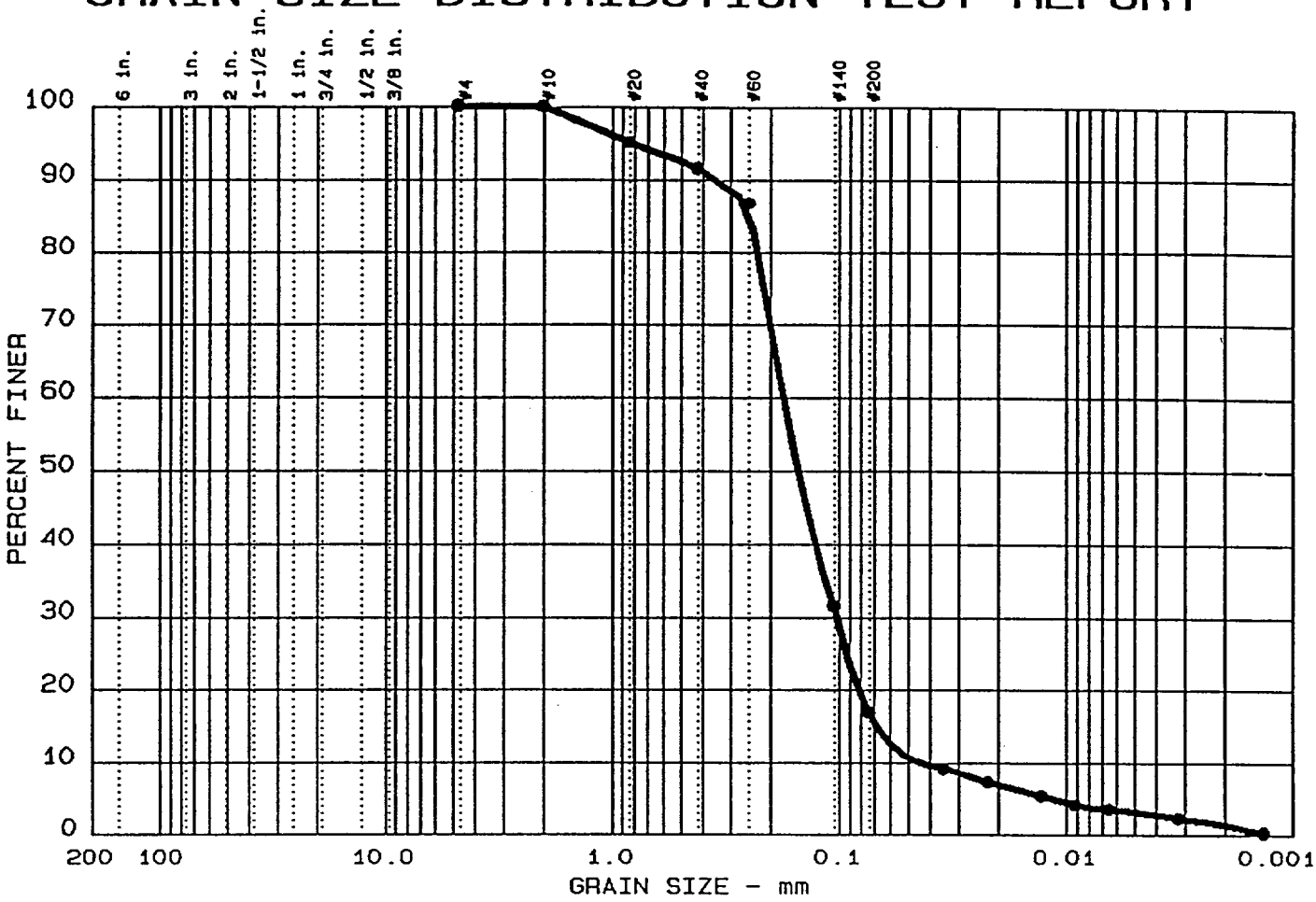
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	83.0	13.9	3.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	32	8	0.24	0.18	0.15	0.102	0.0681	0.0430	1.38	4.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Gray Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Notheast Expansion
● Location: FB-17 SS-90 @ 143.5-145.0 Ft.

Date: June 30, 1998

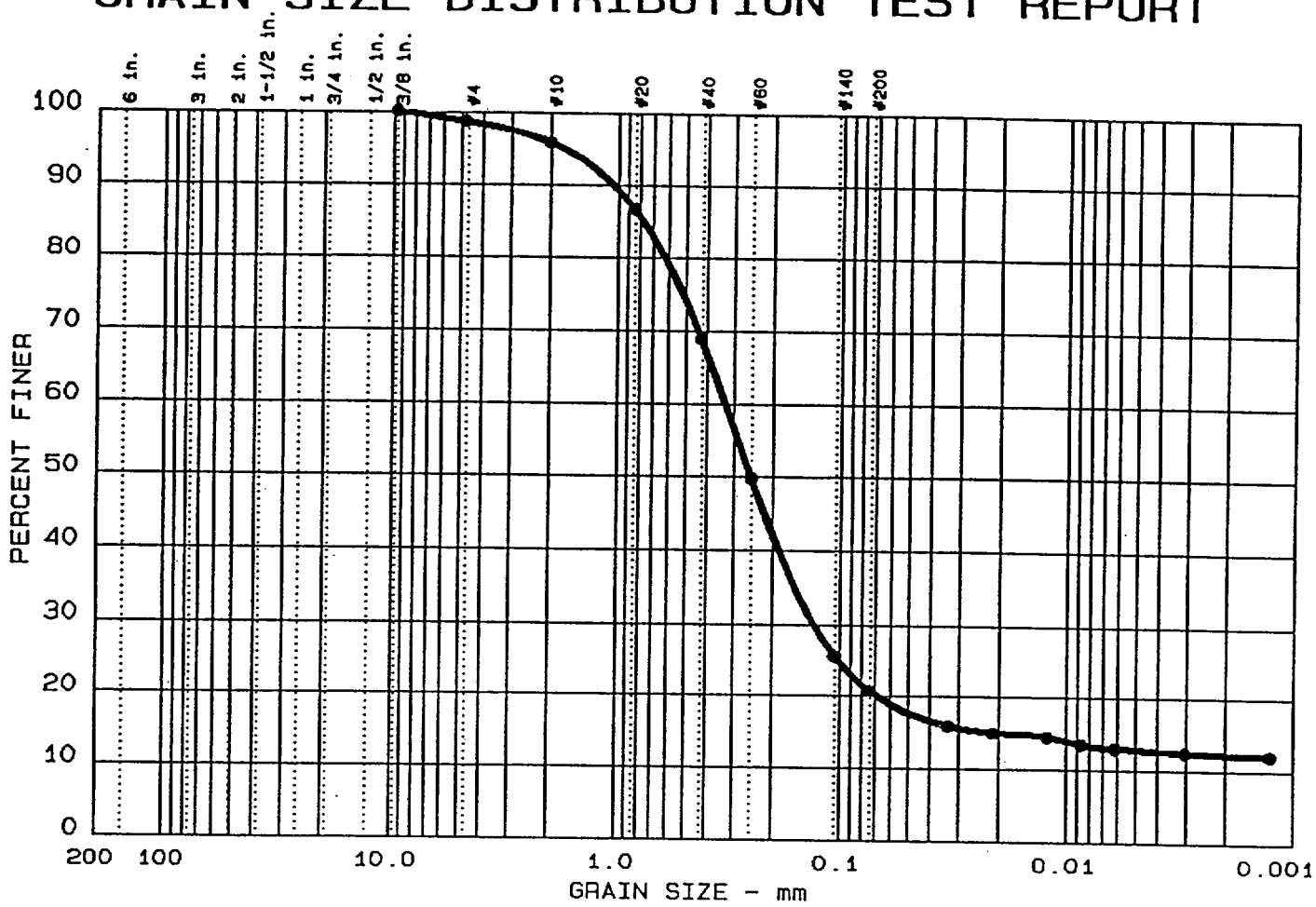
Remarks:
Tested by: SCJ
Reviewed by: HJ
Moisture Content = 33.0%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	1.3	77.9	8.0	12.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	22	6	0.77	0.33	0.25	0.130	0.0214			

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Clayey Silty Sand	SC-SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-1 @ 6.0 Ft.

Date: June 30, 1998

Remarks:

Tested by: SC CS

Reviewed by: HJ

Moisture Content = 13.8%

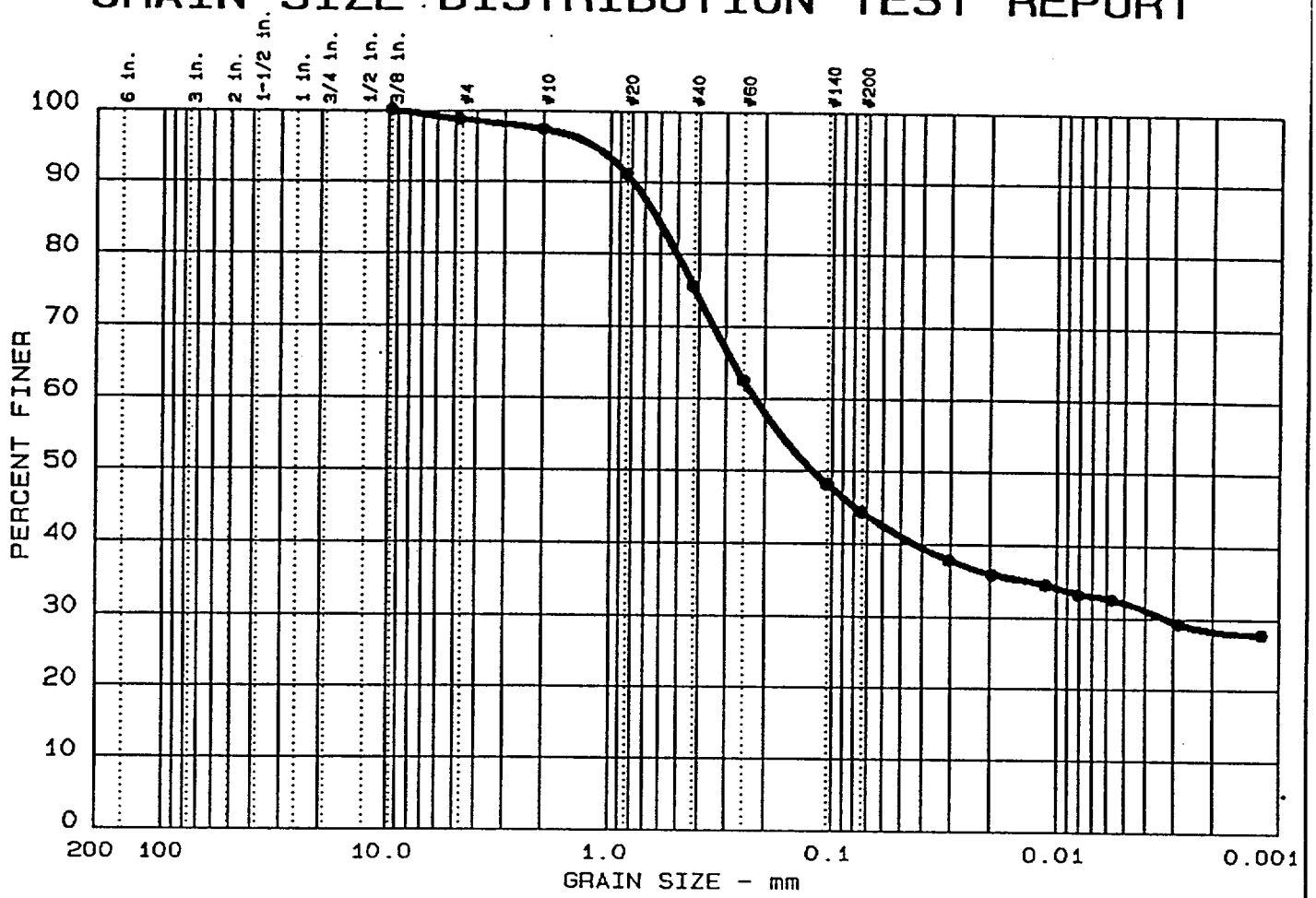
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	1.3	54.4	12.2	32.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	61	32	0.61	0.22	0.12	0.003				

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Tan Clayey Sand	SC	A-7-6 (9.1)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-3 @ 9.0 Ft.

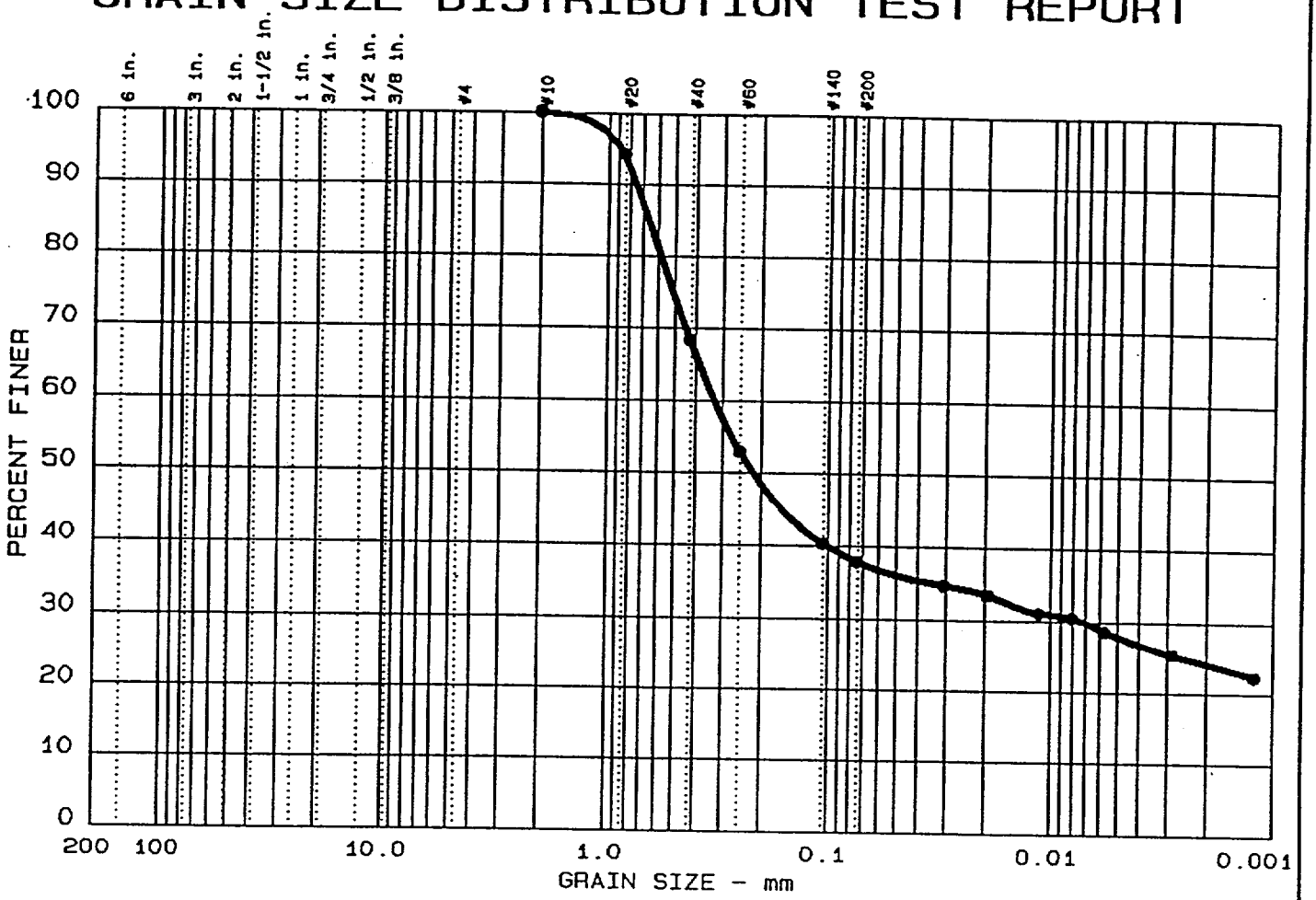
Date: June 26, 1998

Remarks:
Tested by: SCHD
Reviewed by: HD
Moisture Content = 22.9%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	62.2	10.0	27.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	61	32	0.65	0.33	0.22	0.007				

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown & Purple Clayey Sand	SC	A-7-6 (6.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-5 @ 12.0 Ft.

Date: June 26, 1998

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Remarks:

Tested by: SC + SCM

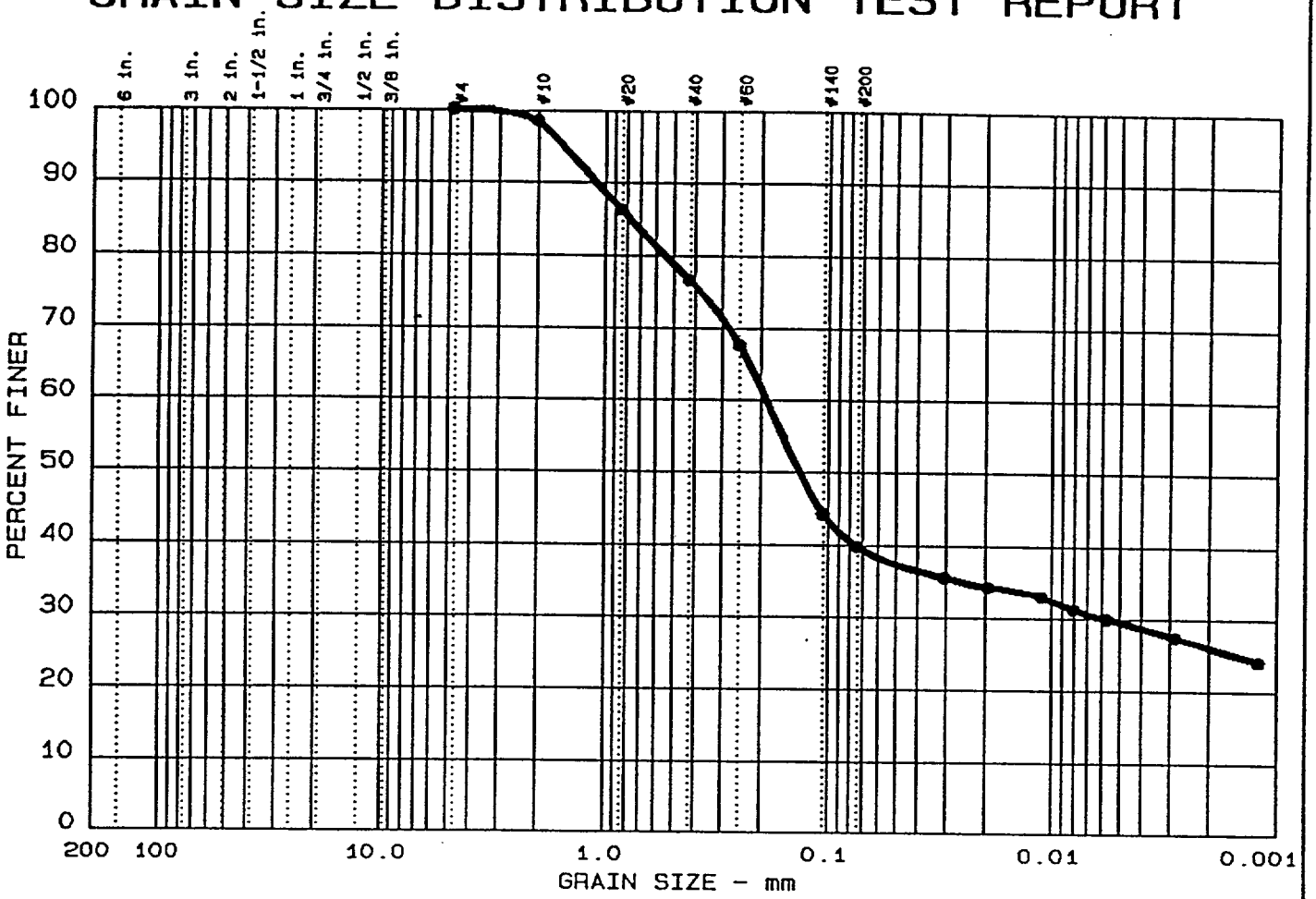
Reviewed by: KD

Moisture Content = 18.8%

ASTM D422, D4318 & D2216

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	60.3	10.3	29.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	55	30	0.77	0.19	0.13	0.006				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan & Red Brown Clayey Sand	SC	A-7-6 (6.4)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-7 @ 15.0 Ft.

Date: June 26, 1998

Remarks:

Tested by: SCJJTM

Reviewed by: HD

Moisture Content = 21.6%

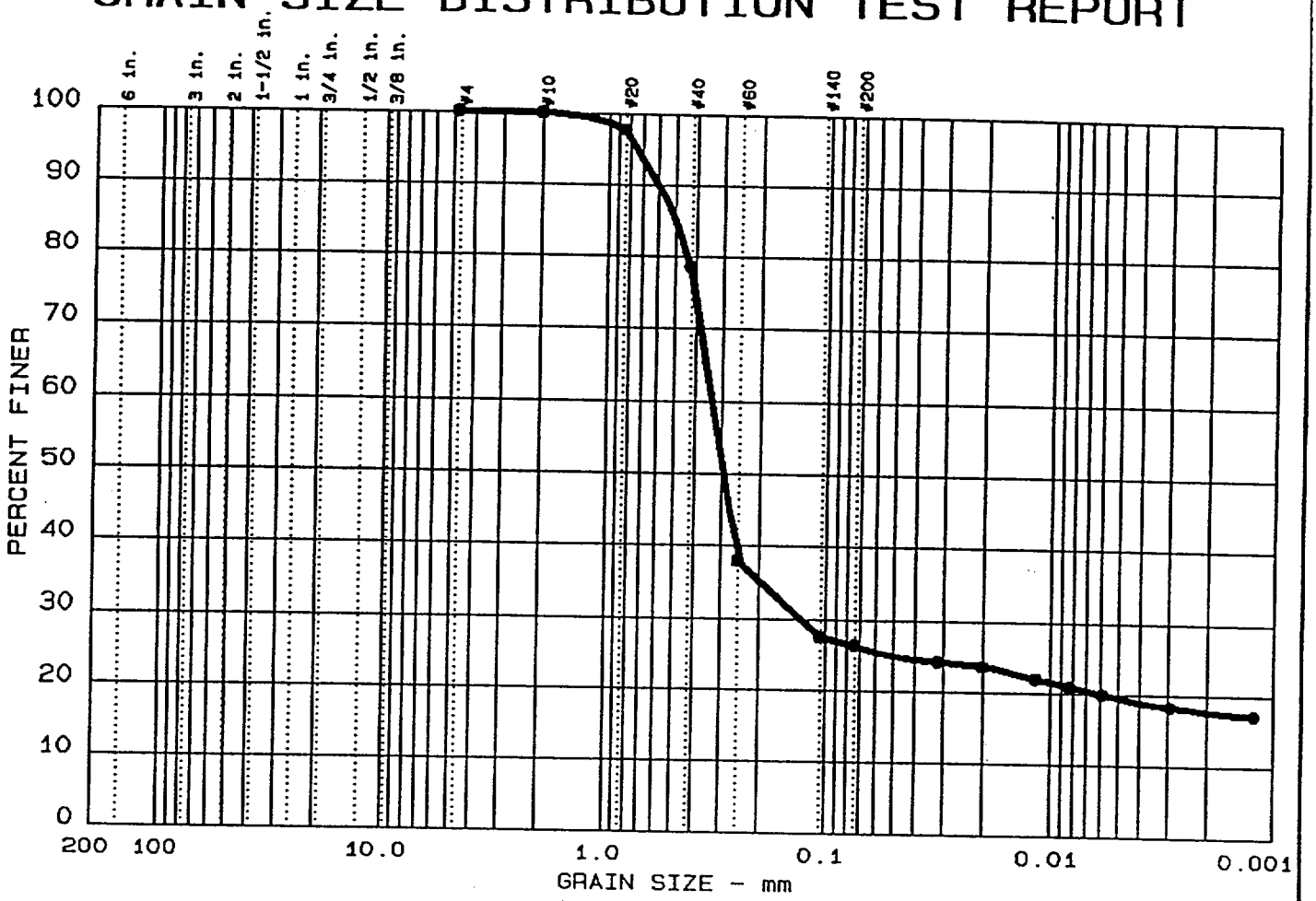
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	73.6	6.9	19.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	49	28	0.49	0.33	0.29	0.129				

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Clayey Sand	SC	A-2-7 (2.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-9 @ 18.0 Ft.

Date: June 26, 1998

Remarks:

Tested by: [illegible]

Reviewed by: [illegible]

Moisture Content = 18.0%

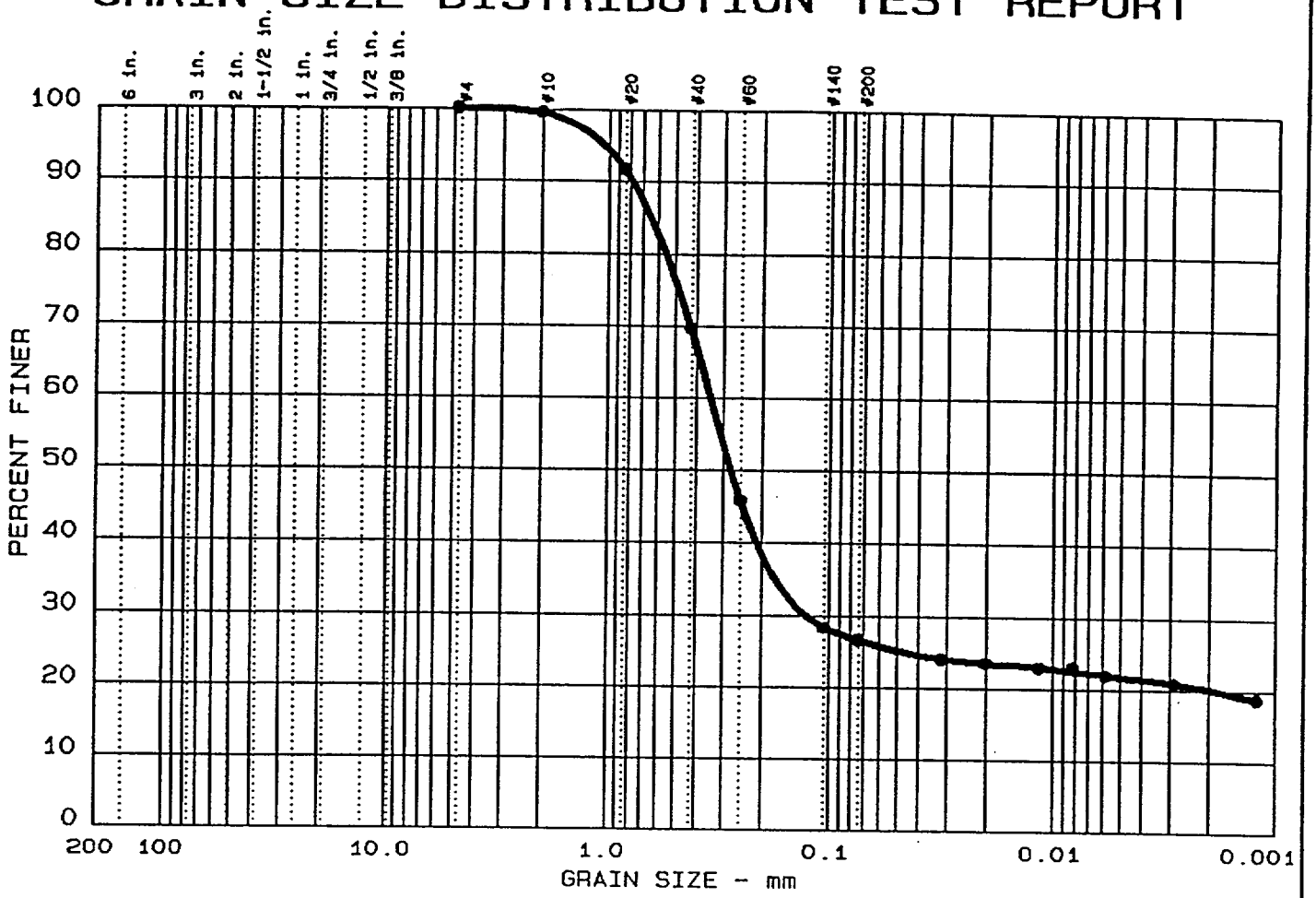
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	73.4	4.8	21.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	42	22	0.64	0.34	0.28	0.126				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-2-7 (1.4)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-13 @ 24.0 Ft.

Date: June 26, 1998

Remarks:

Tested by: SCtstm

Reviewed by: HS

Moisture Content = 20.8%

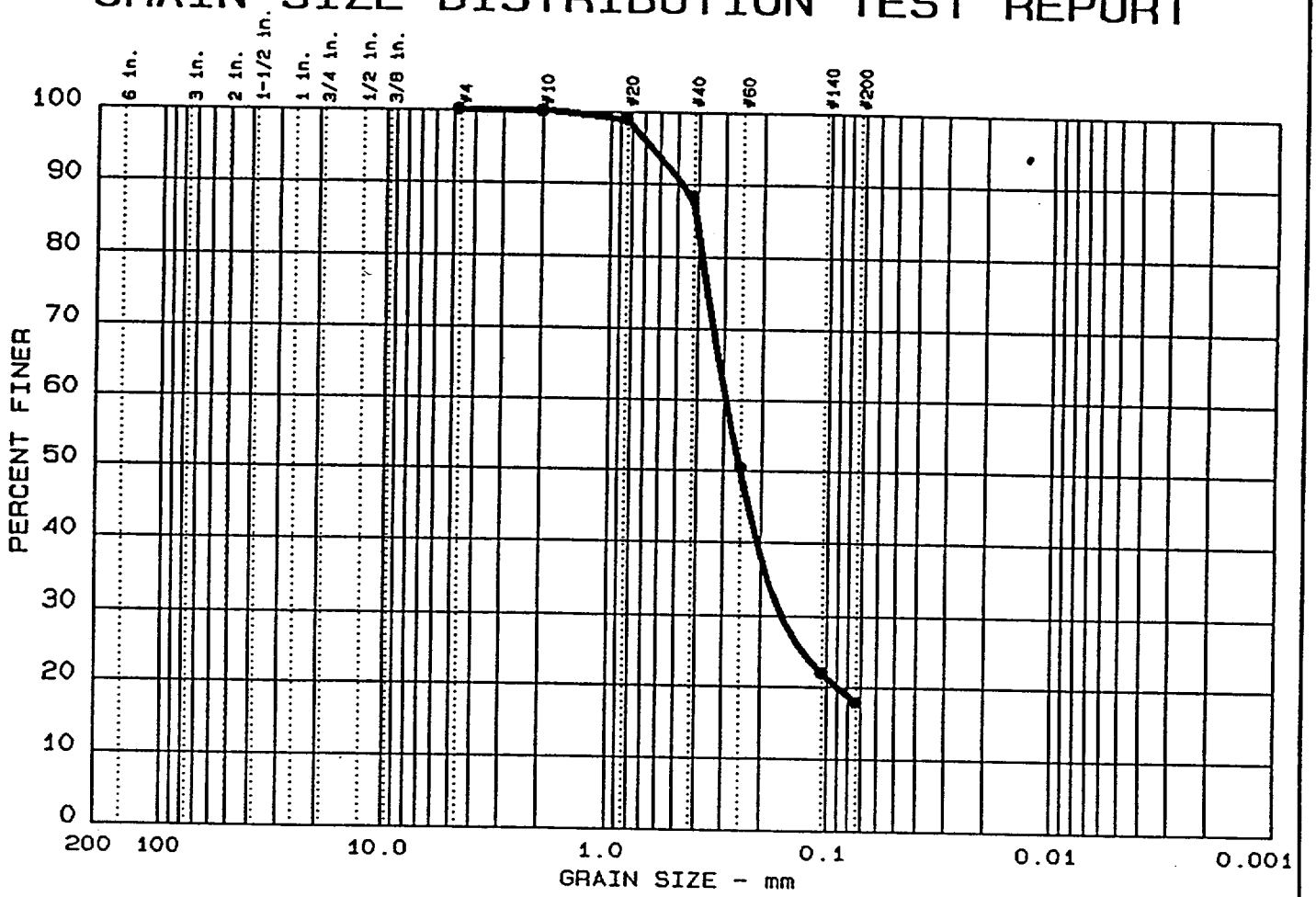
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	82.0	18.0	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.40	0.29	0.25	0.160				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-17 @ 30.0 Ft.

Date: June 23, 1998

Remarks:

Tested by: SCJ

Reviewed by: KD

Moisture Content = 15.7%

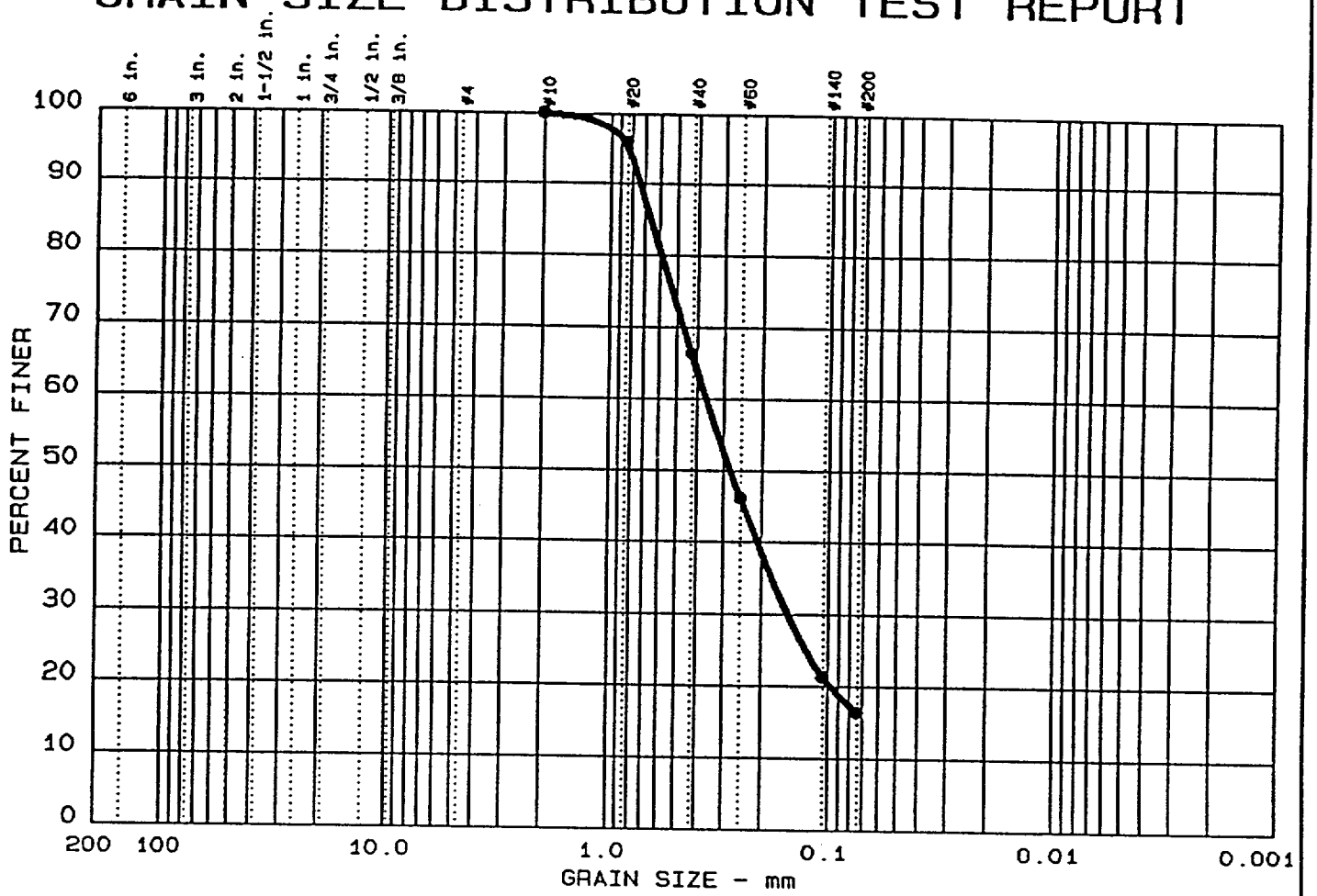
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	0.0	83.6	16.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.65	0.36	0.28	0.152				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-21 @ 36.0 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

Moisture Content = 17.5%

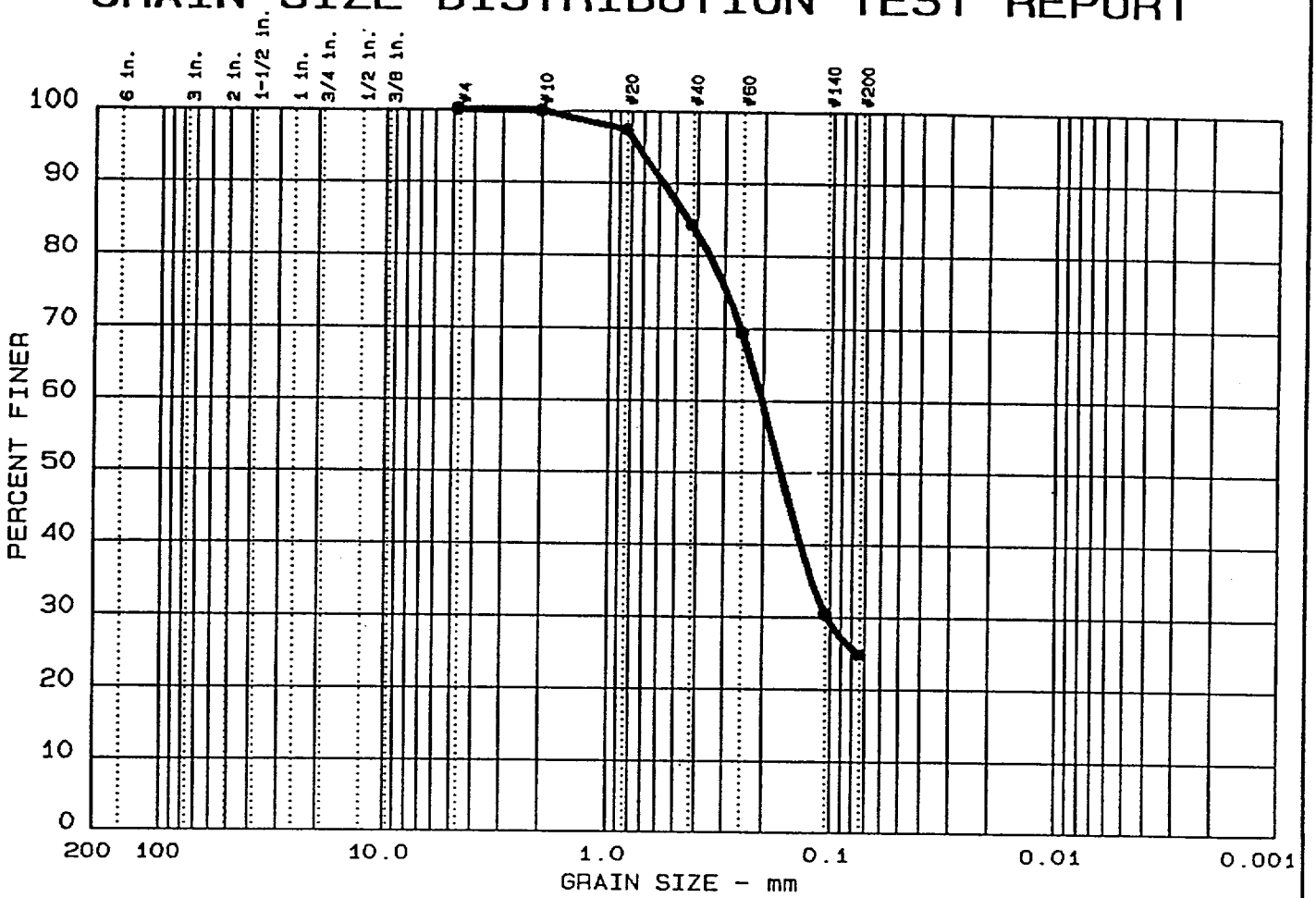
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	0.0	75.2	24.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.43	0.20	0.17	0.103				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-26 @ 43.5 Ft.

Date: June 25, 1998

Remarks:

Tested by: SC+CS

Reviewed by: [illegible]

Moisture Content = 19.1%

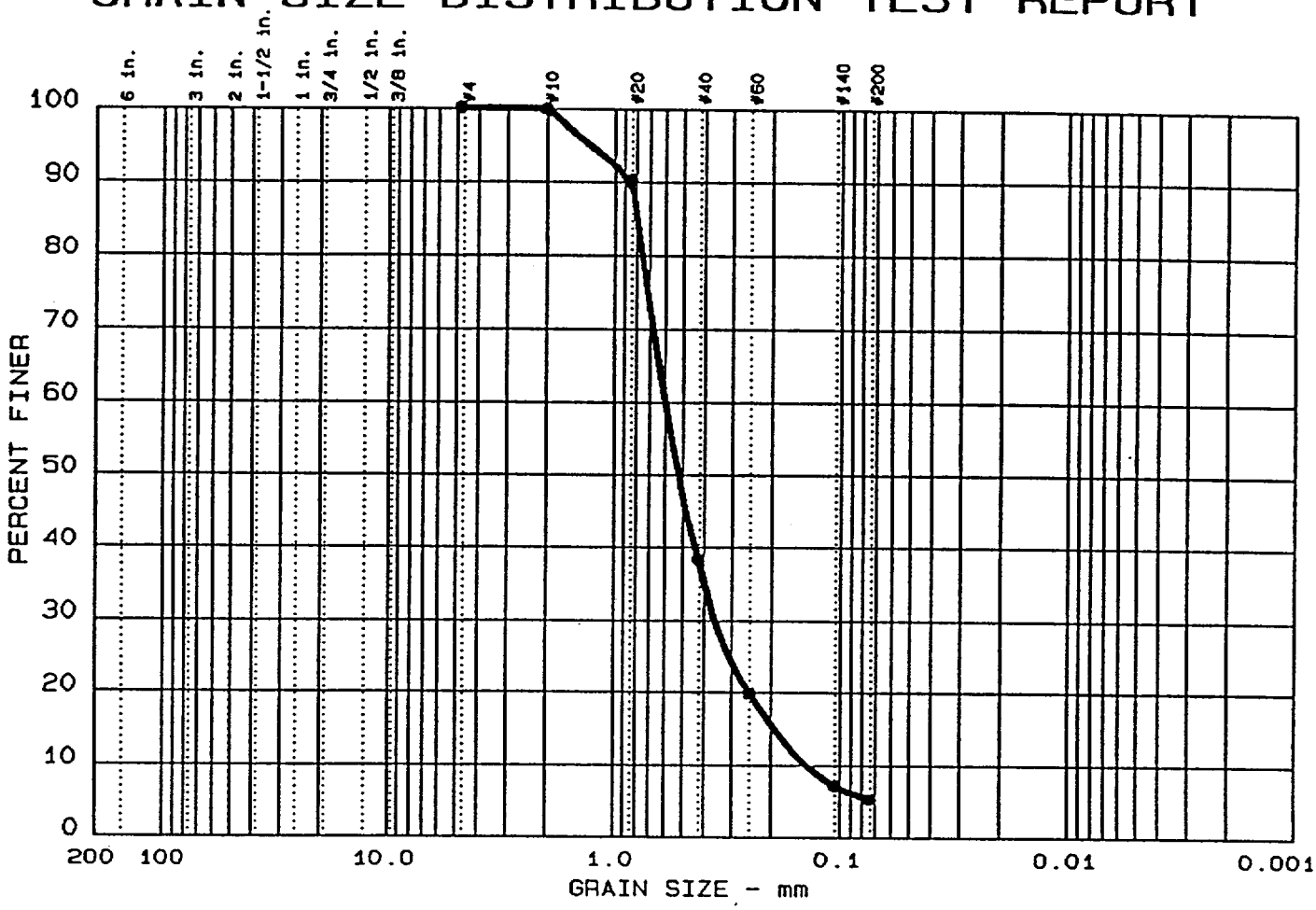
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	12	0.0	0.0	94.7	5.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.79	0.59	0.52	0.357	0.1936	0.1387	1.55	4.3

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-30 @ 49.5 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HB

Moisture Content = 17.0%

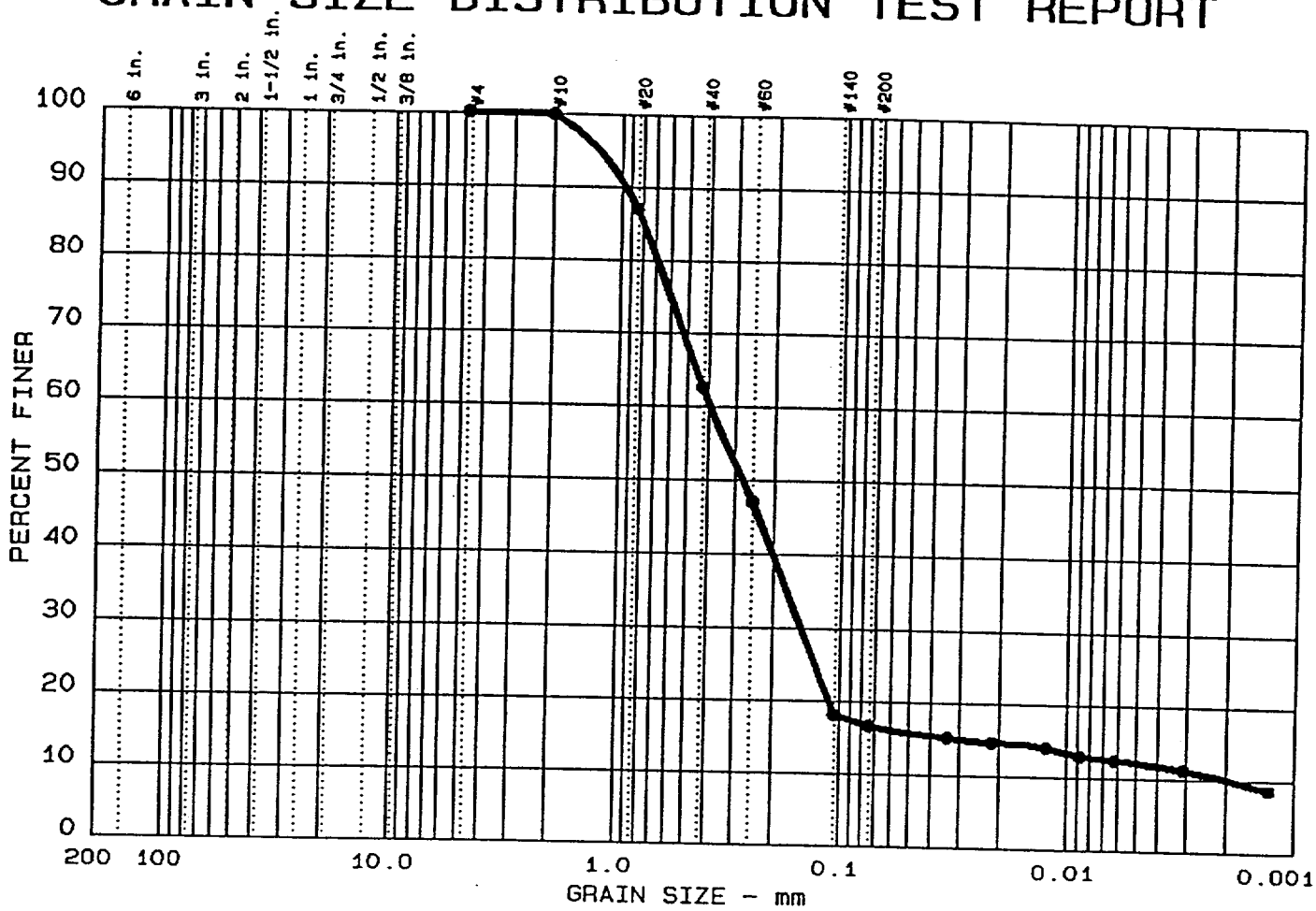
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	0.0	83.3	4.5	12.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	37	13	0.79	0.39	0.28	0.150	0.0299	0.0019	29.85	201.8

MATERIAL DESCRIPTION	USCS	AASHTO
●. Tan Brown Clayey Sand	SC	A-2-6 (0.1)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-32 @ 52.5 Ft.

Date: June 30, 1998

Remarks:

Tested by: SC CSdstm

Reviewed by: HJ

Moisture Content = 17.2%

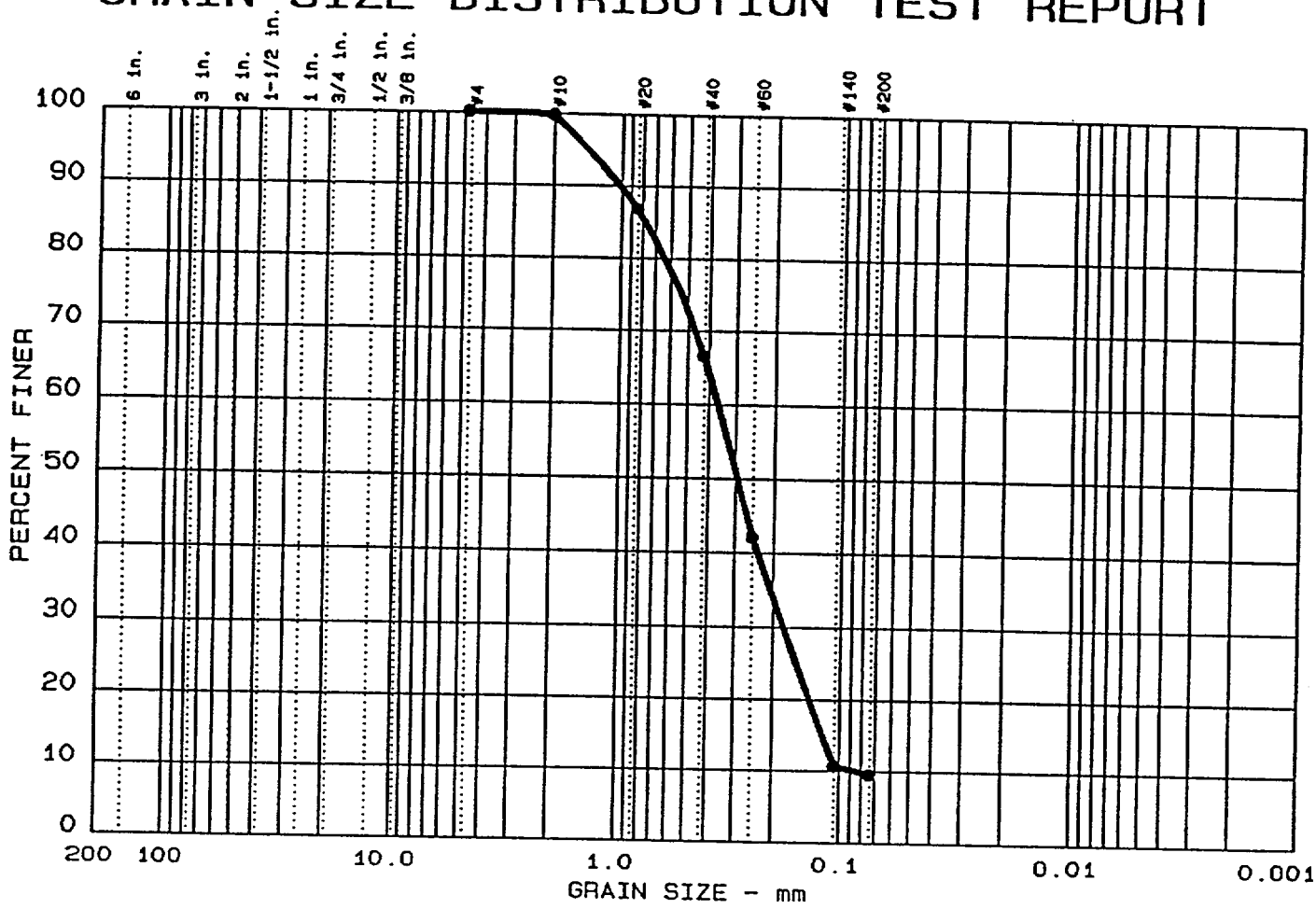
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	90.5	9.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.77	0.36	0.29	0.179	0.1183	0.0828	1.08	4.3

MATERIAL DESCRIPTION	USCS	AASHTO
● Red Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20SS-34 @ 55.5 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HS

Moisture Content = 18.5%

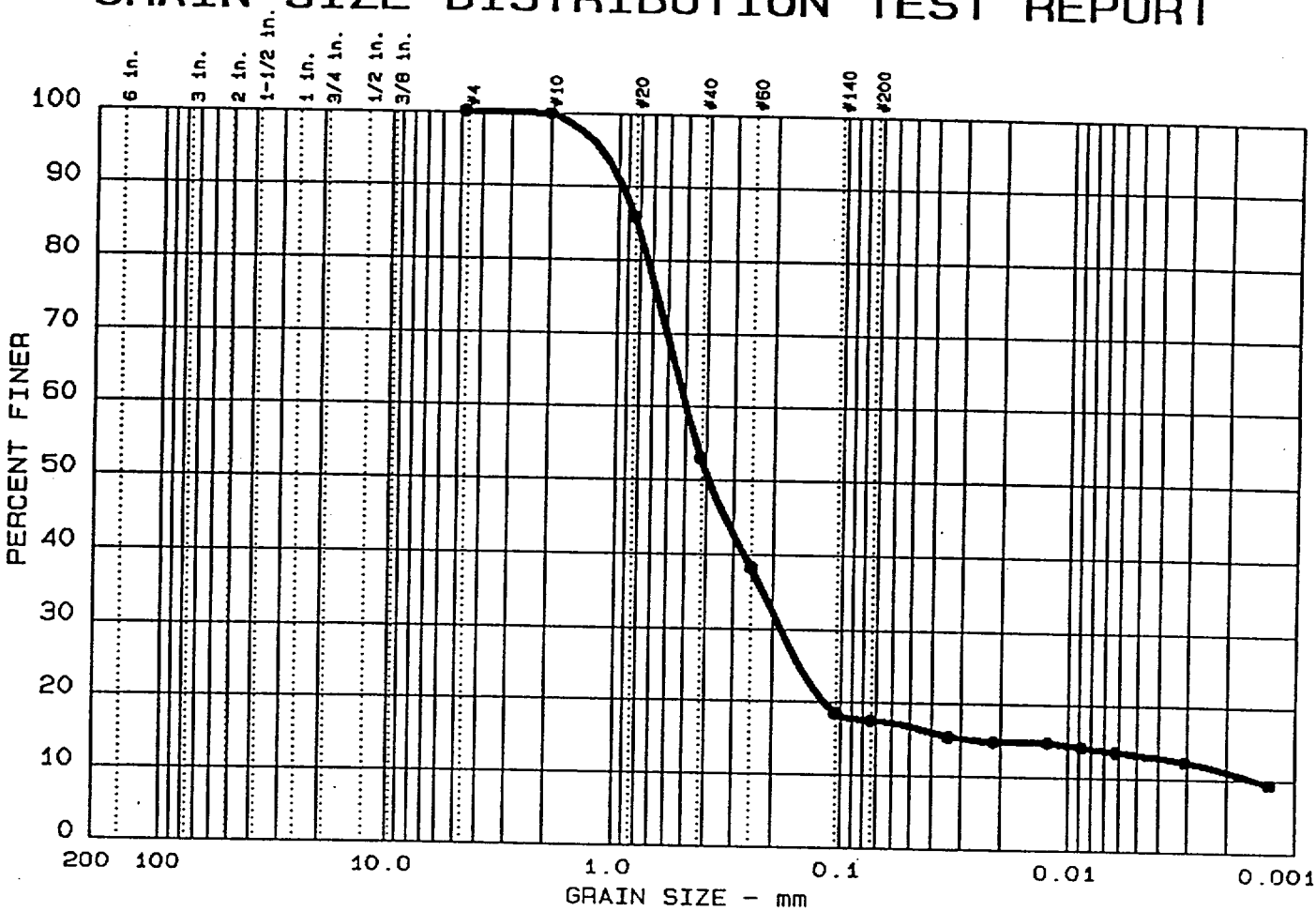
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	82.5	4.3	13.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	40	18	0.82	0.49	0.39	0.184	0.0237	0.0015	46.03	328.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan-Brown Clayey Sand	SC	A-2-6(0.2)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-36 @ 58.5 Ft.

Date: June 30, 1998

Remarks:

Tested by: SC, CS+KDM

Reviewed by: [illegible]

Moisture Content = 19.5%

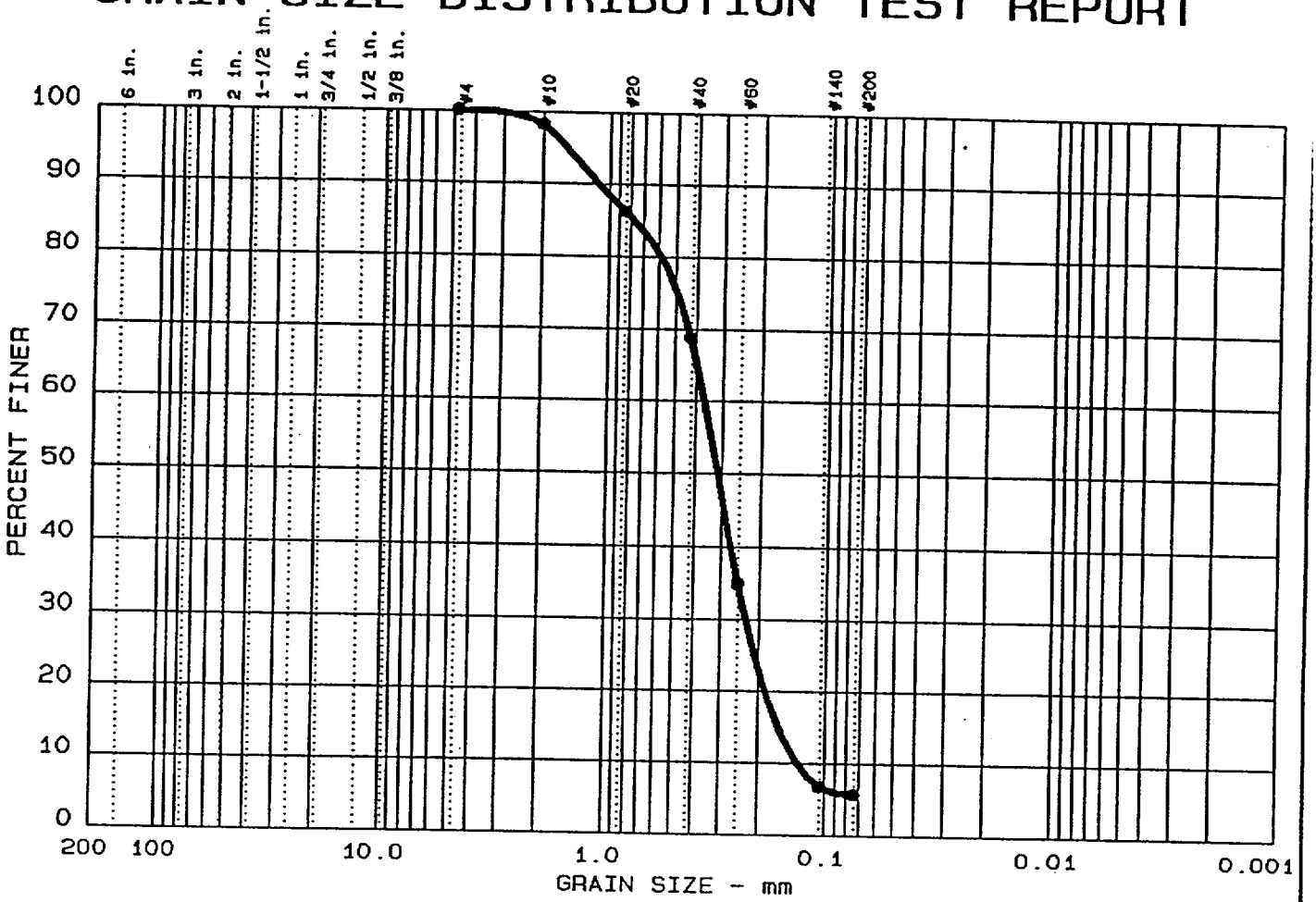
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	94.4	5.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.76	0.36	0.31	0.230	0.1618	0.1315	1.11	2.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-38 @ 61.5 Ft.

Date: June 25, 1998

Remarks:

Tested by: SC

Reviewed by: LB

Moisture Content = 18.4%

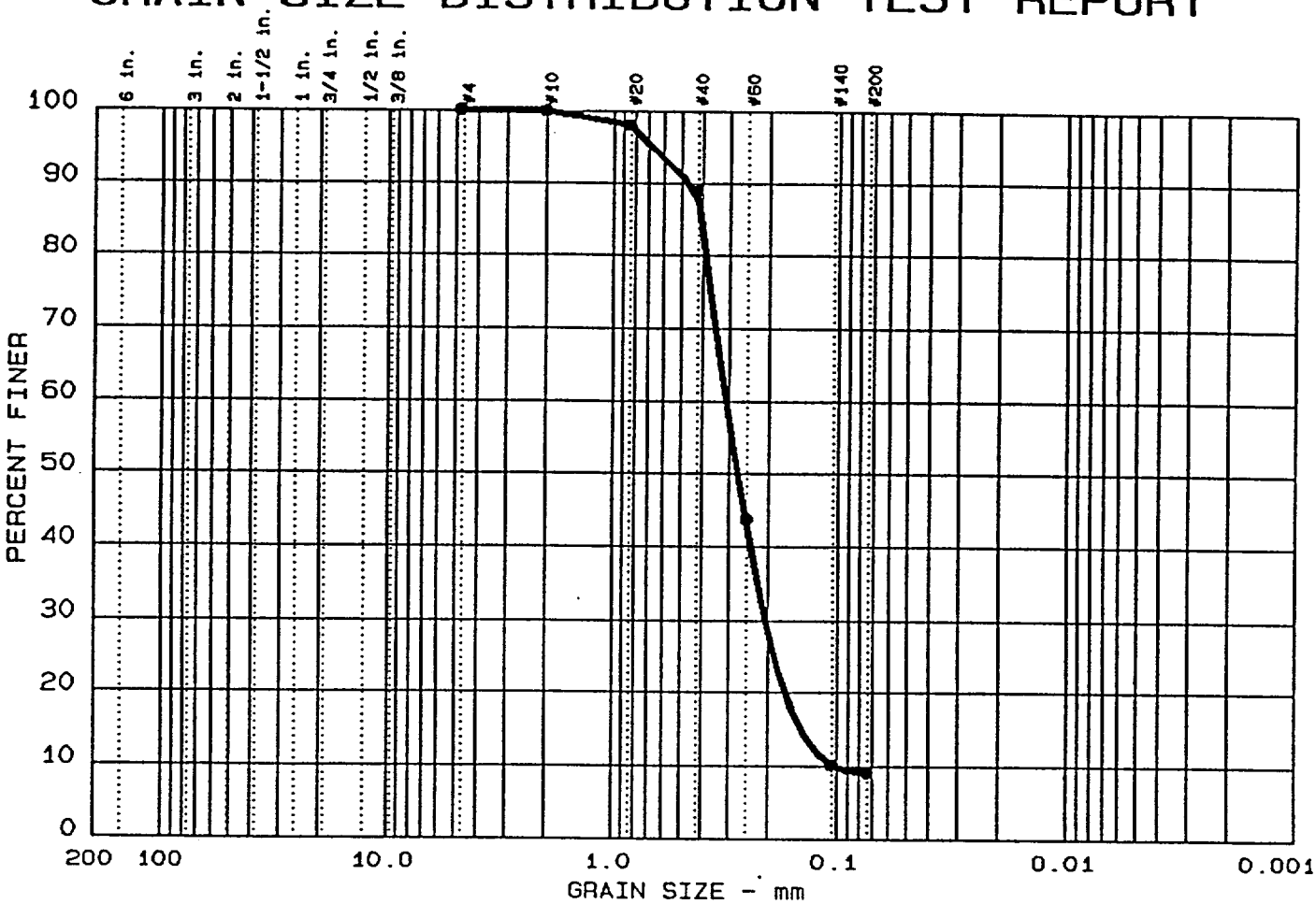
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	90.8	9.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.40	0.31	0.27	0.206	0.1426	0.1021	1.35	3.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-40 @ 64.5 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HD

Moisture Content = 22.5%

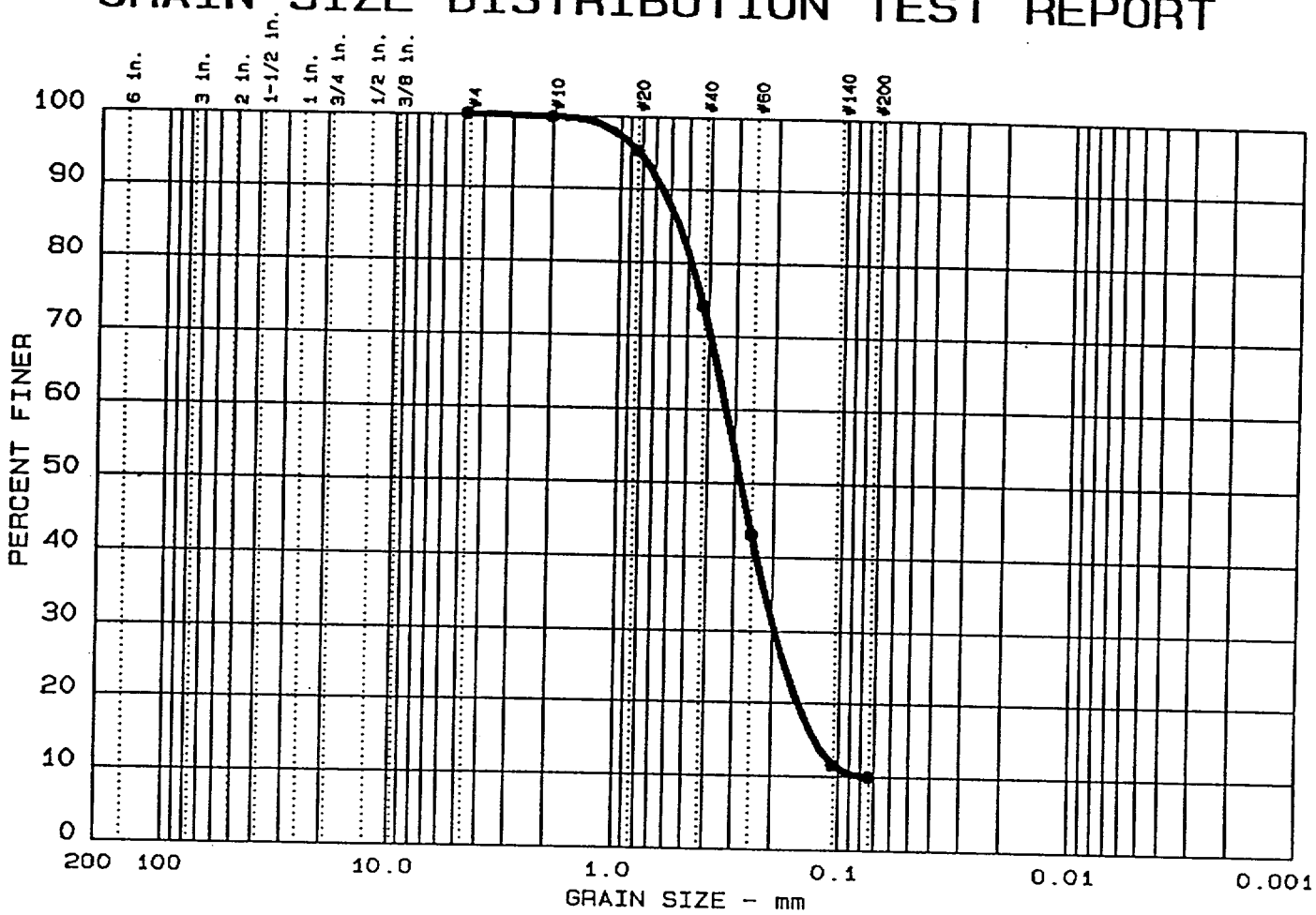
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	90.1	9.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.54	0.33	0.28	0.195	0.1274	0.0741	1.56	4.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-44 @ 70.5 Ft.

Date: June 25, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

Moisture Content = 22.3%

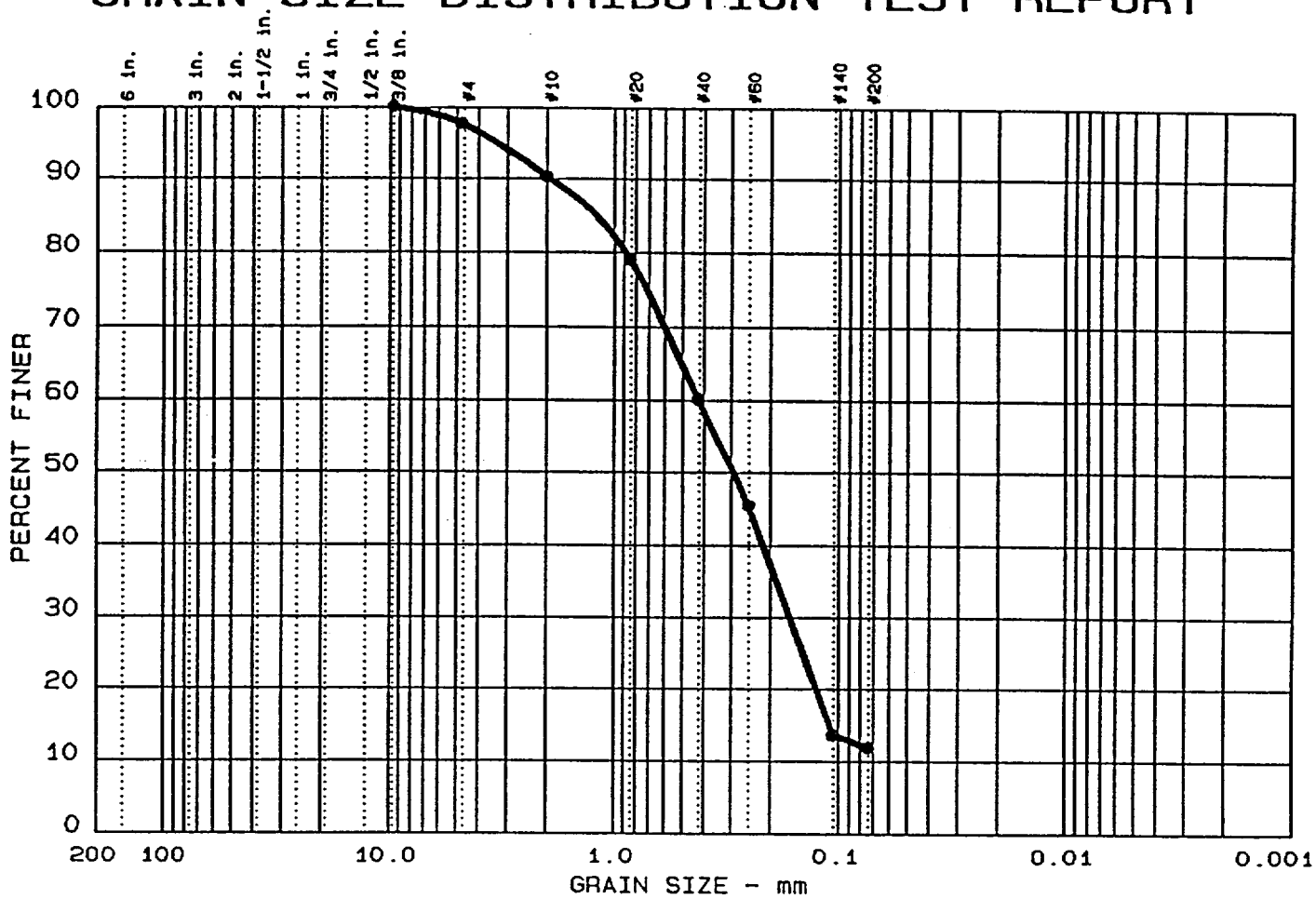
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	2.3	85.8	11.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.19	0.42	0.29	0.164	0.1084			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Silt	SP-SM	A-2-4 (0.3)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-46 @ 73.5 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

Moisture Content = 18.5%

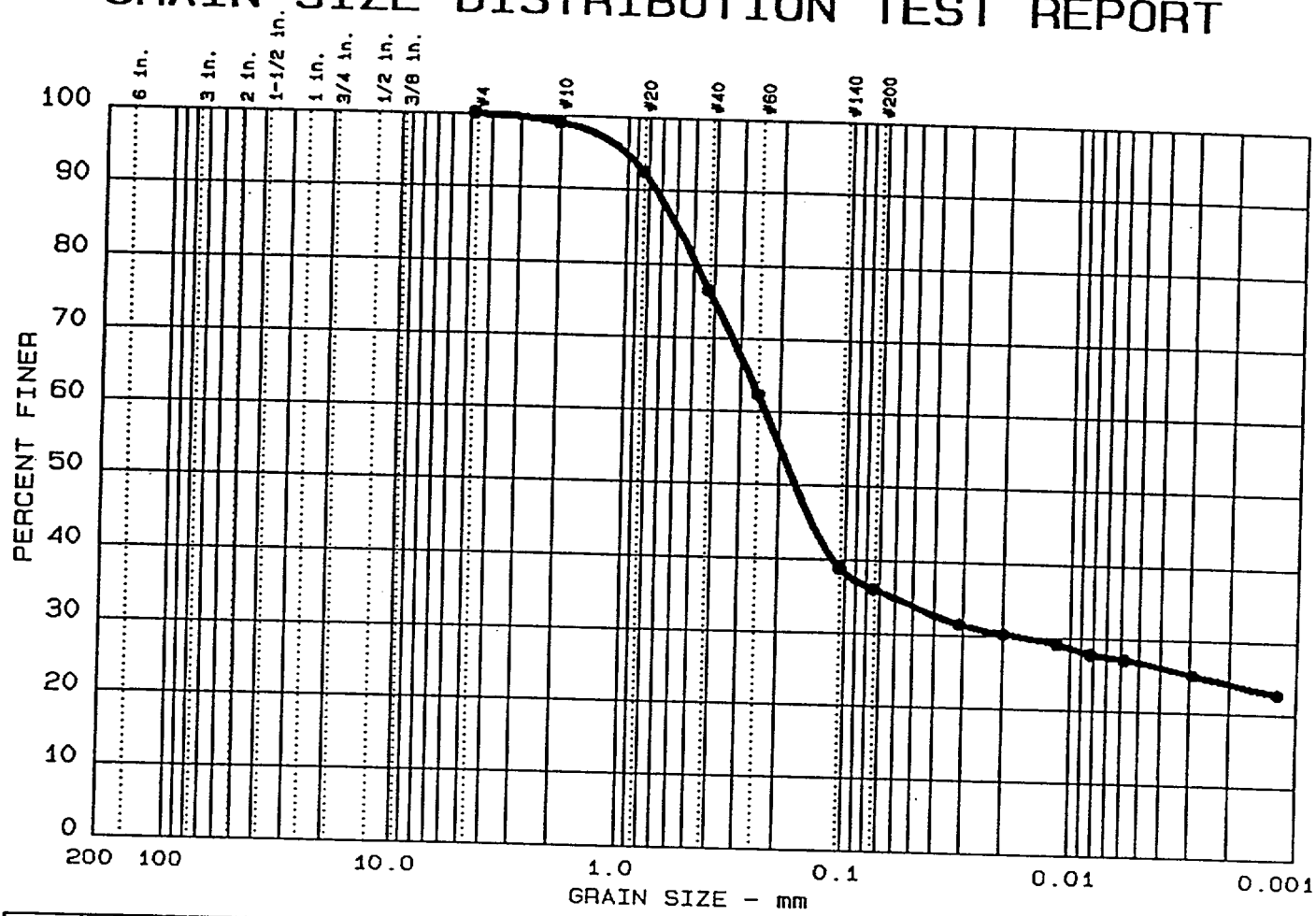
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	64.0	9.2	26.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	47	21	0.58	0.23	0.17	0.017				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown & Black Clayey Sand	SC	A-7-6 (2.5)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-48 @ 76.5 Ft.

Date: June 30, 1998

Remarks:

Tested by: SC + JTM

Reviewed by: HB

Moisture Content = 26.9%

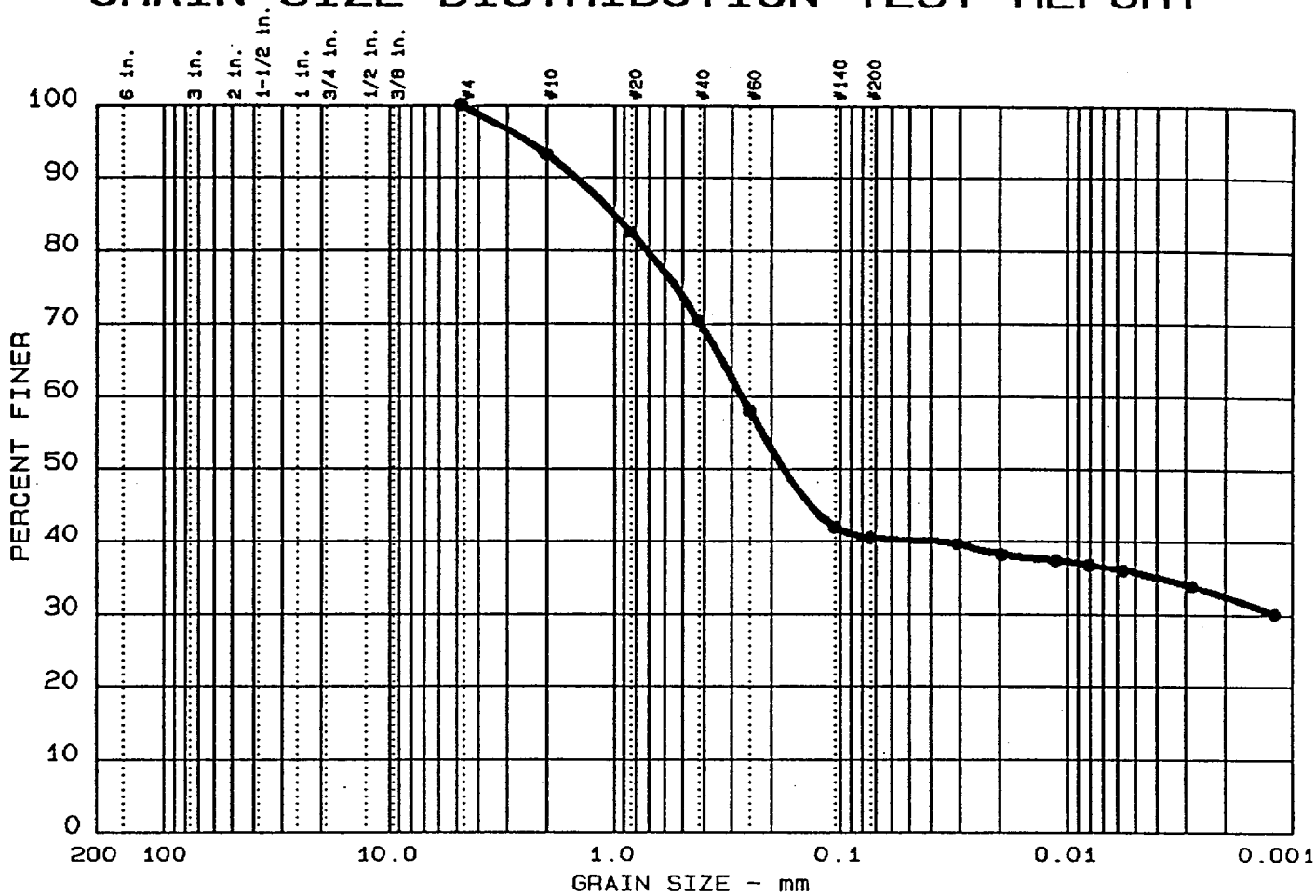
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	59.7	4.7	35.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	63	26	1.00	0.27	0.18					

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown & Black Silty Sand	SM	A-7-5 (5.6)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-49 @ 78.0 Ft.

Date: June 26, 1998

Remarks:

Tested by: SC+JTM

Reviewed by: HB

Moisture Content = 36.5%

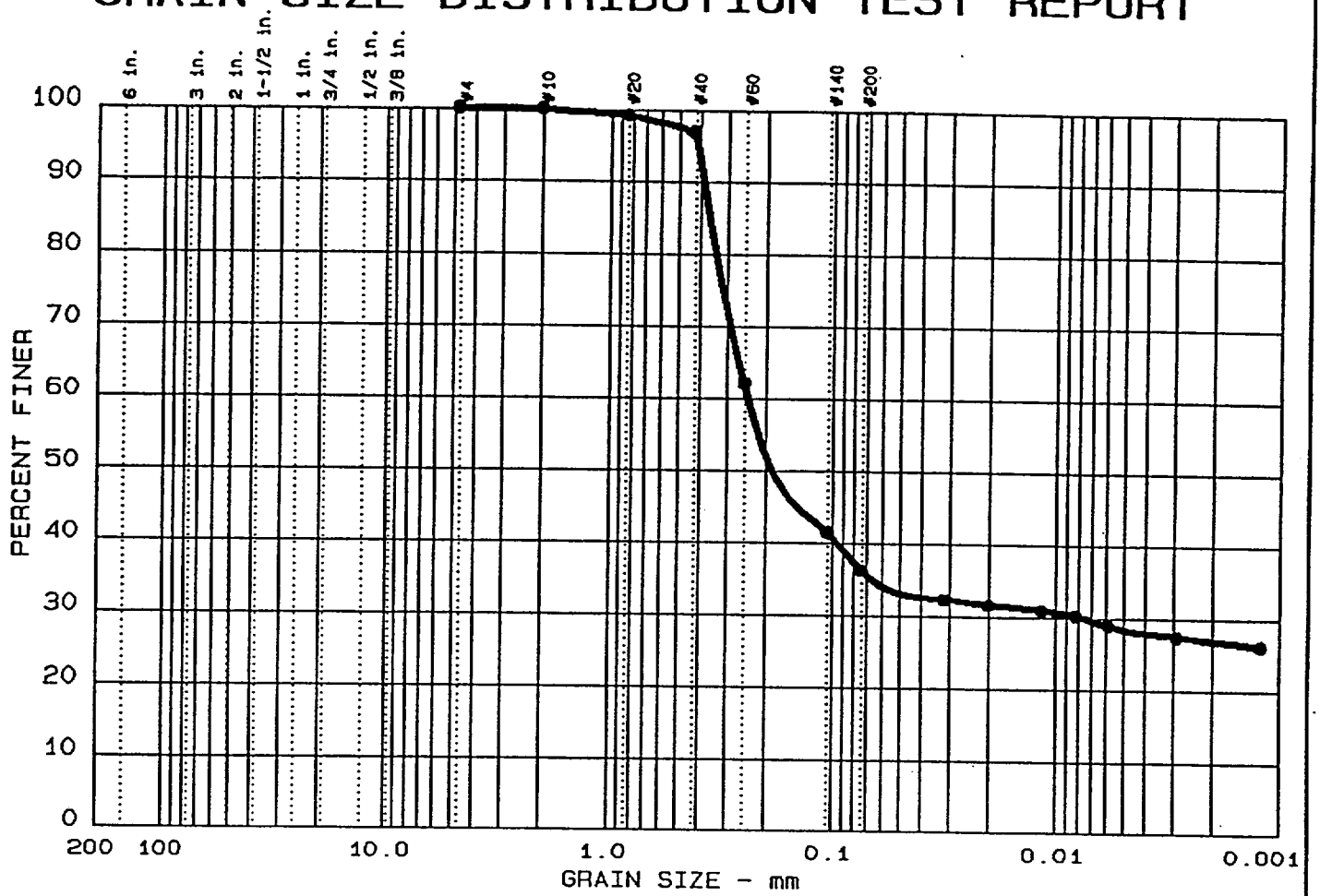
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	63.8	7.8	28.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	57	25	0.36	0.24	0.19	0.008				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Silty Sand	SM	A-7-5 (3.4)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-50 @ 79.5 Ft.

Date: June 30, 1998

Remarks:

Tested by: SC CS & TM

Reviewed by: HD

Moisture Content = 32.8%

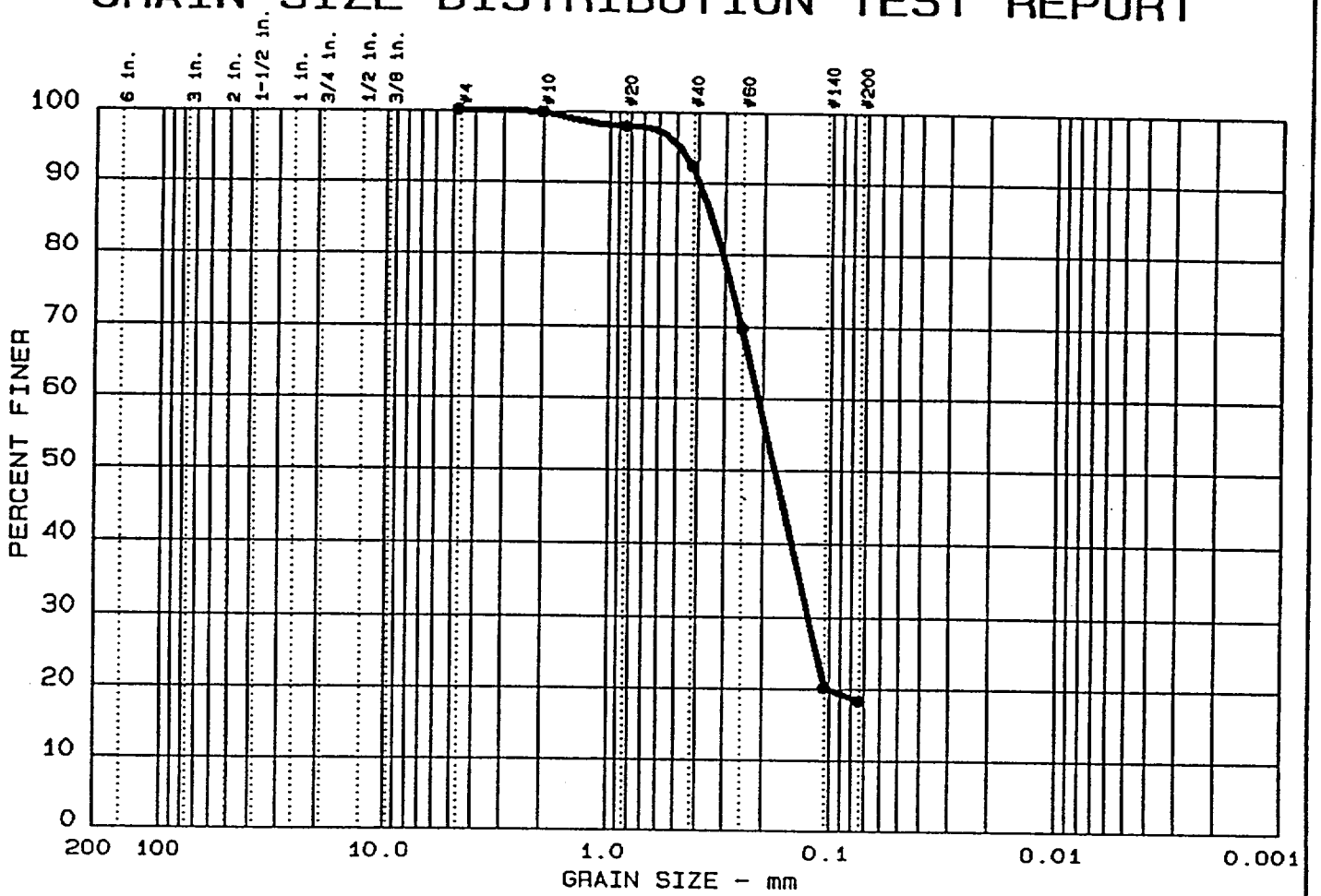
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	0.0	81.7	18.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.34	0.21	0.18	0.124				

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-52 @ 82.5 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HS

Moisture Content = 25.8%

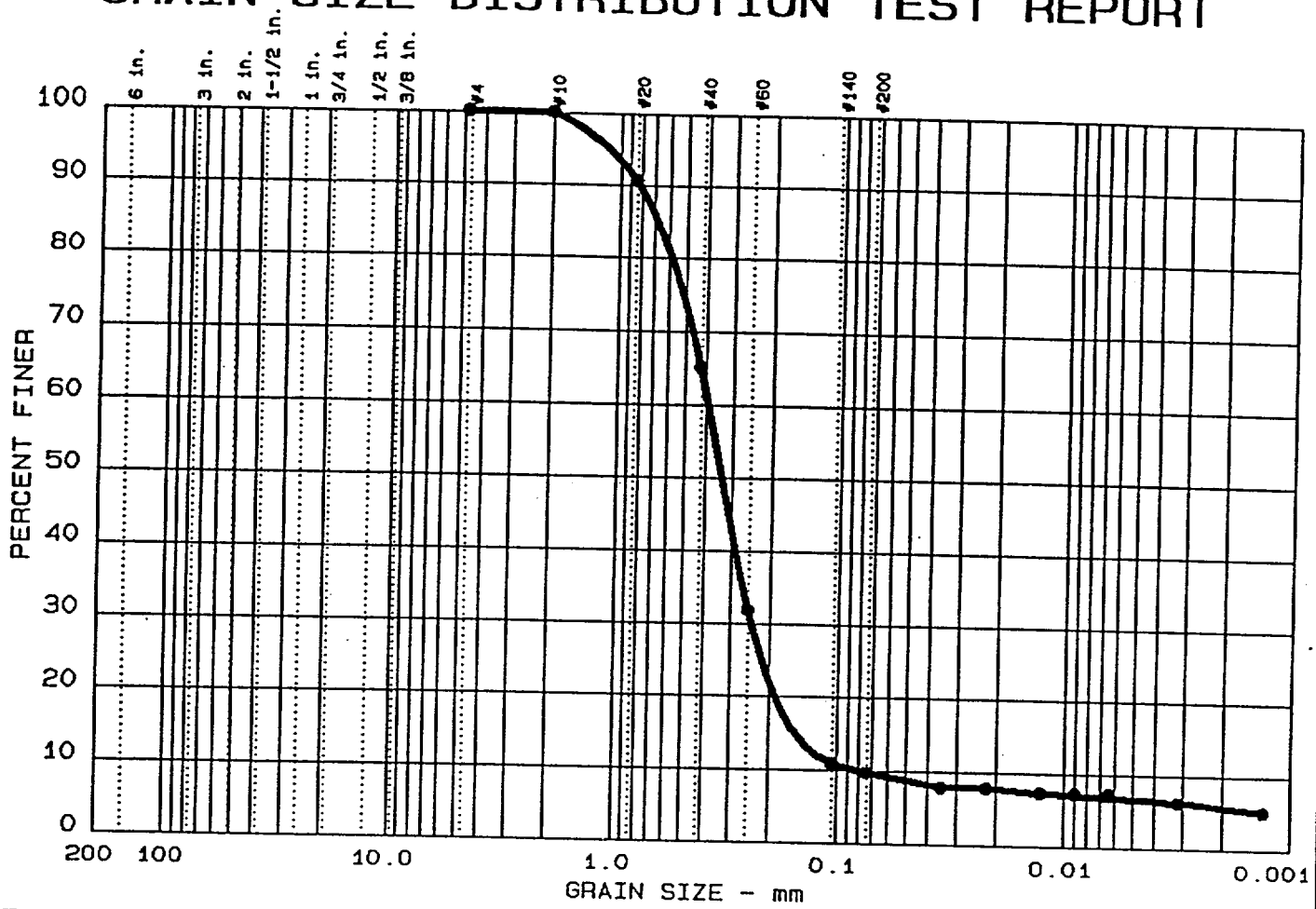
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	90.3	3.1	6.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.67	0.39	0.33	0.241	0.1521	0.0807	1.86	4.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-54 @ 85.5 Ft.

Date: June 26, 1998

Remarks:

Tested by: SC+ [illegible]

Reviewed by: [illegible]

Moisture Content = 22.4%

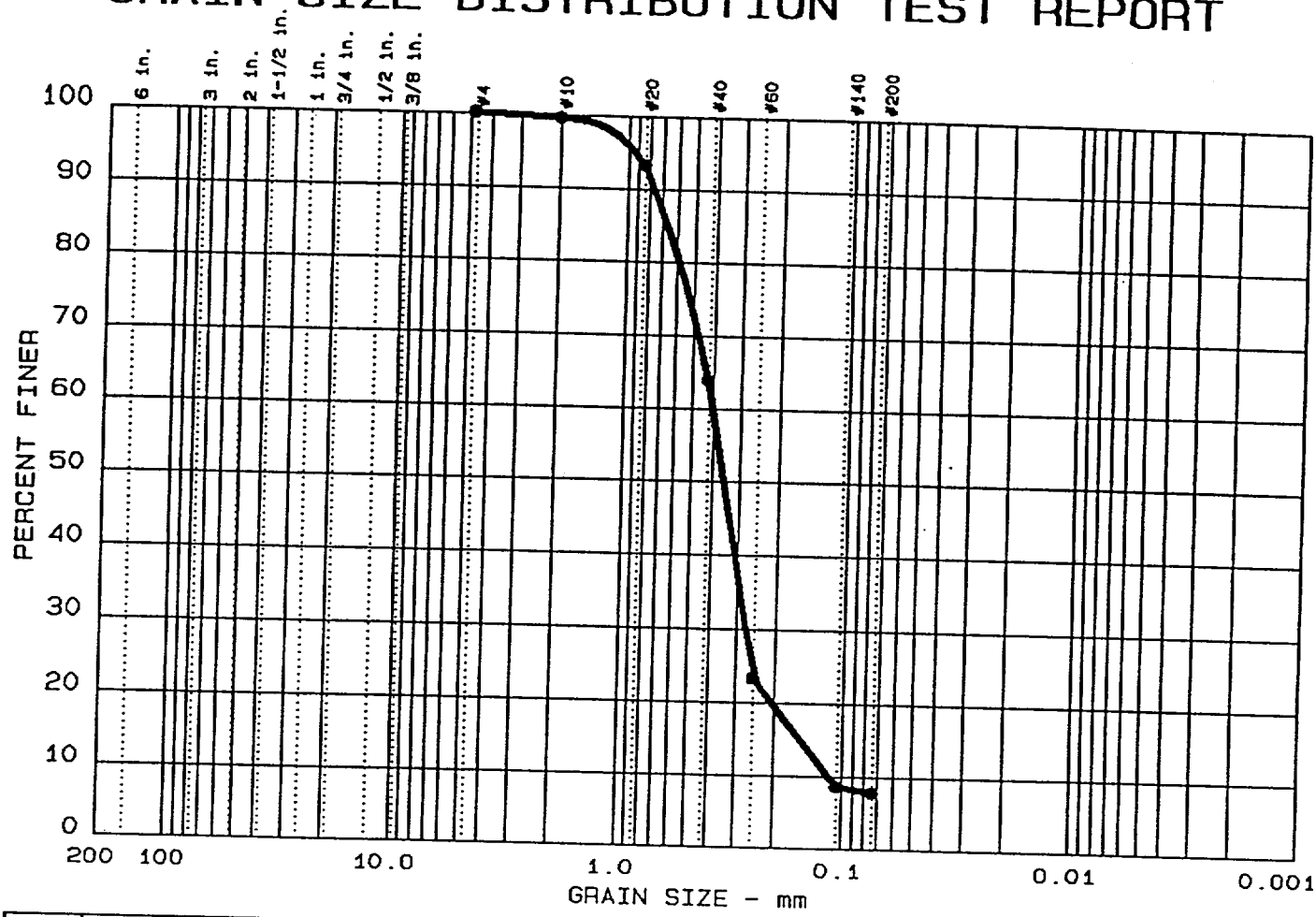
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	92.2	7.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.66	0.40	0.35	0.272	0.1512	0.1134	1.63	3.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-56 @ 88.5 Ft.

Date: June 25, 1998

Remarks:

Tested by: SC

Reviewed by: HS

Moisture Content = 18.9%

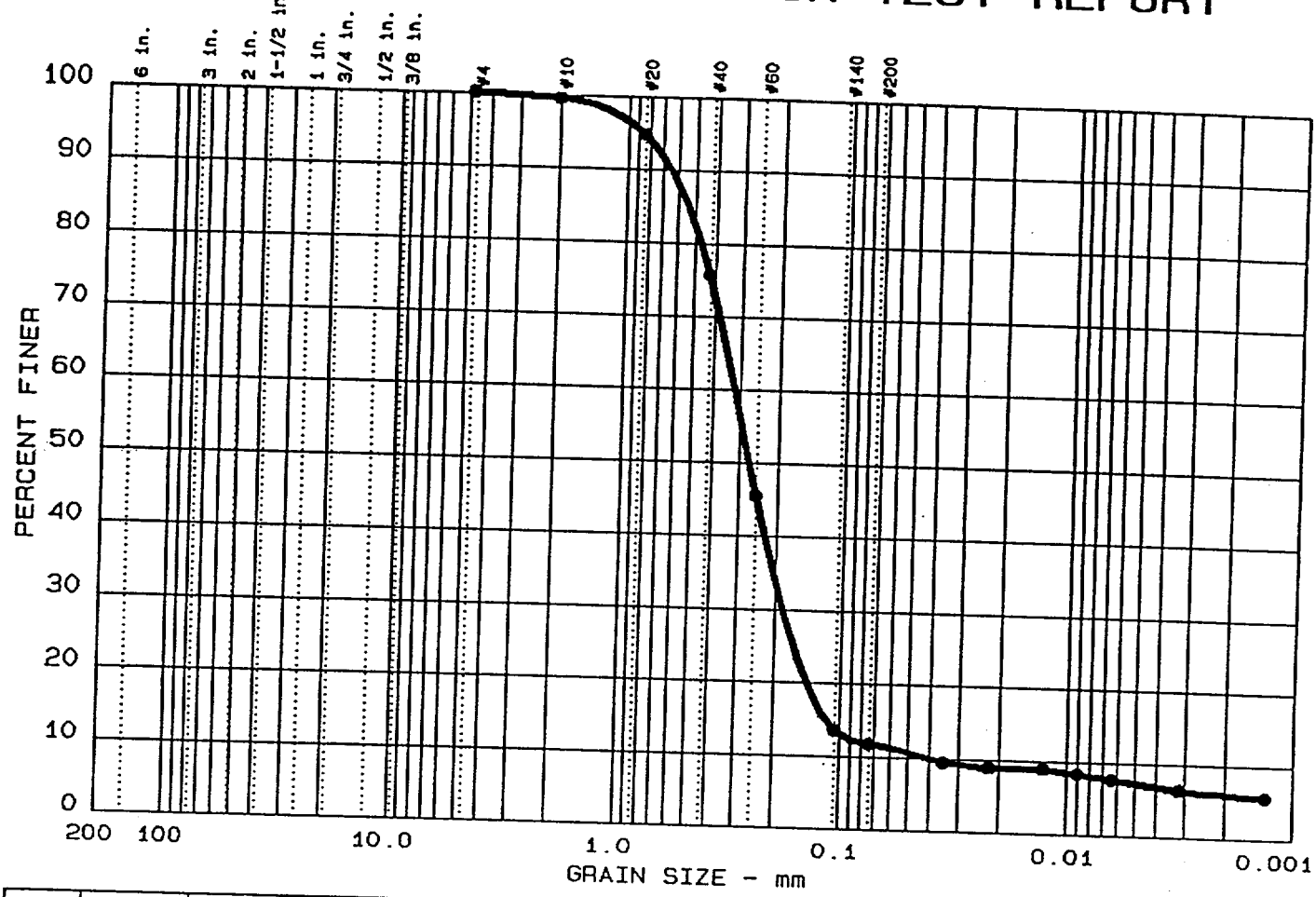
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	88.2	4.6	7.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.53	0.32	0.27	0.184	0.1149	0.0399	2.69	8.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Well Graded Sand with Silt	SW-SM	A-2-4 (0.3)

Project No.: 50161-7-0108 Task 21
Project: F-Area Notheast Expansion
◆ Location: FB-20 SS-59 @ 93.0 Ft

Date: June 26, 1998

Remarks:

Tested by: SCHJTM

Reviewed by: HJ

Moisture Content = 20.4%

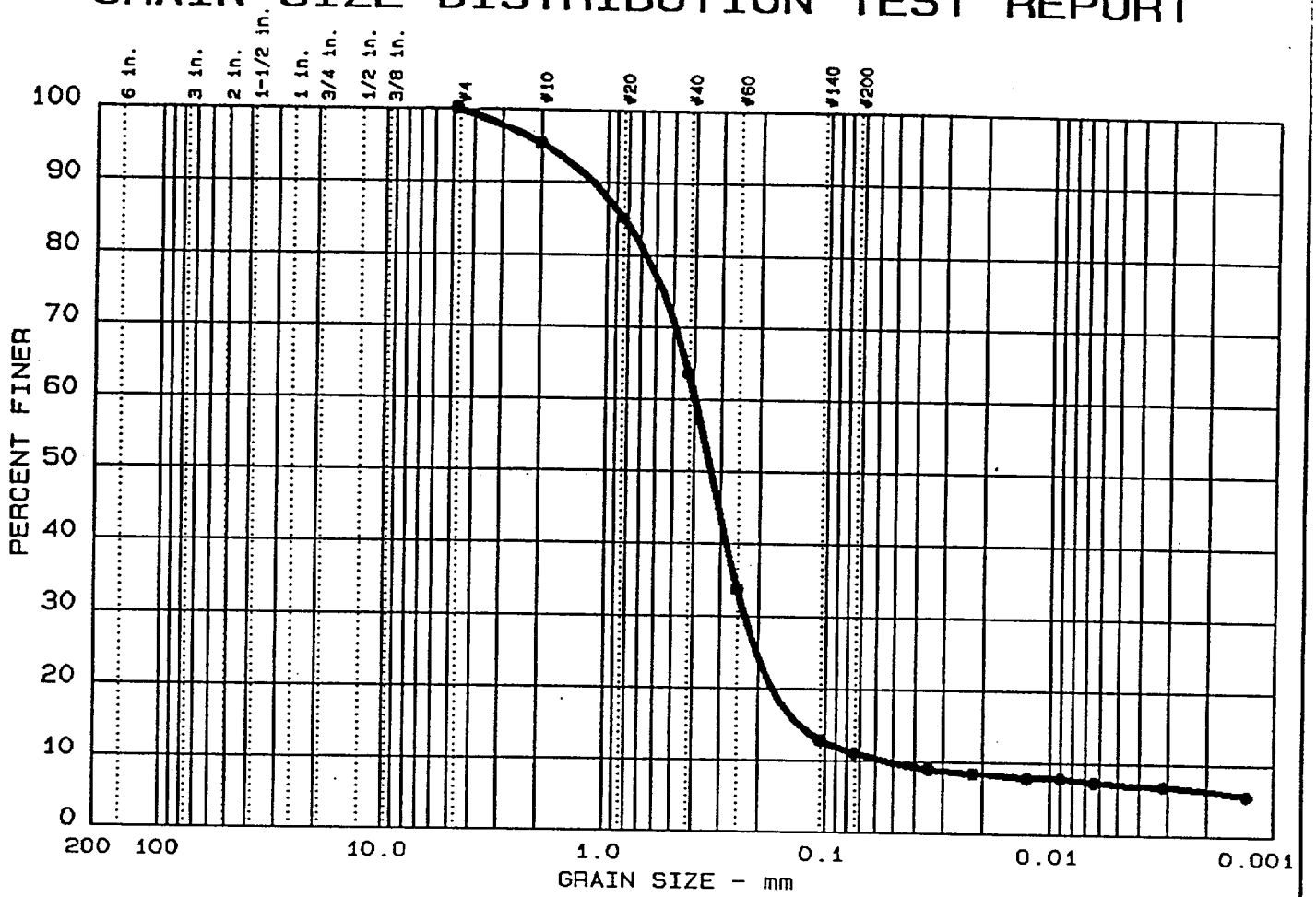
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	88.9	4.0	7.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	NL	NP	0.83	0.39	0.33	0.232	0.1303	0.0519	2.64	7.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Well Graded Sand with Silt	SW-SM	A-2-4 (0.4)

Project No.: 50161-7-0108 Task 21
Project: F-Area Notheast Expansion
● Location: FB-20 SS-61 @ 96.0 Ft.

Date: June 26, 1998

Remarks:

Tested by: SCadd Tm

Reviewed by: HS

Moisture Content = 20.1%

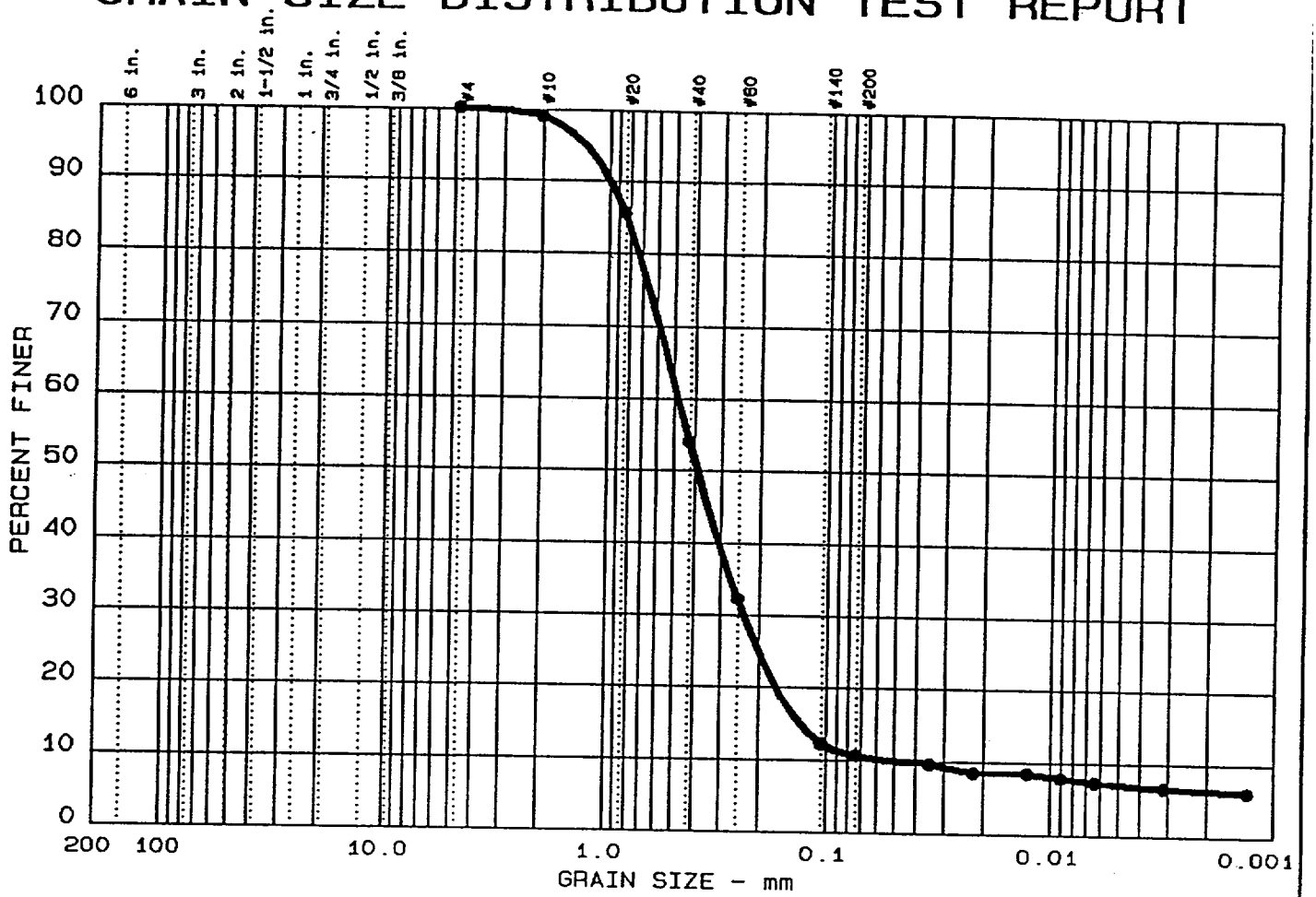
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	89.3	3.7	7.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	31	8	0.83	0.47	0.39	0.235	0.1290	0.0463	2.51	10.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Well Graded Sand with Silt	SW-SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-63 @ 99.1-100.6 Ft.

Date: June 30, 1998

Remarks:

Tested by: SC JTM CS

Reviewed by: HJ

Moisture Content = 20.9%

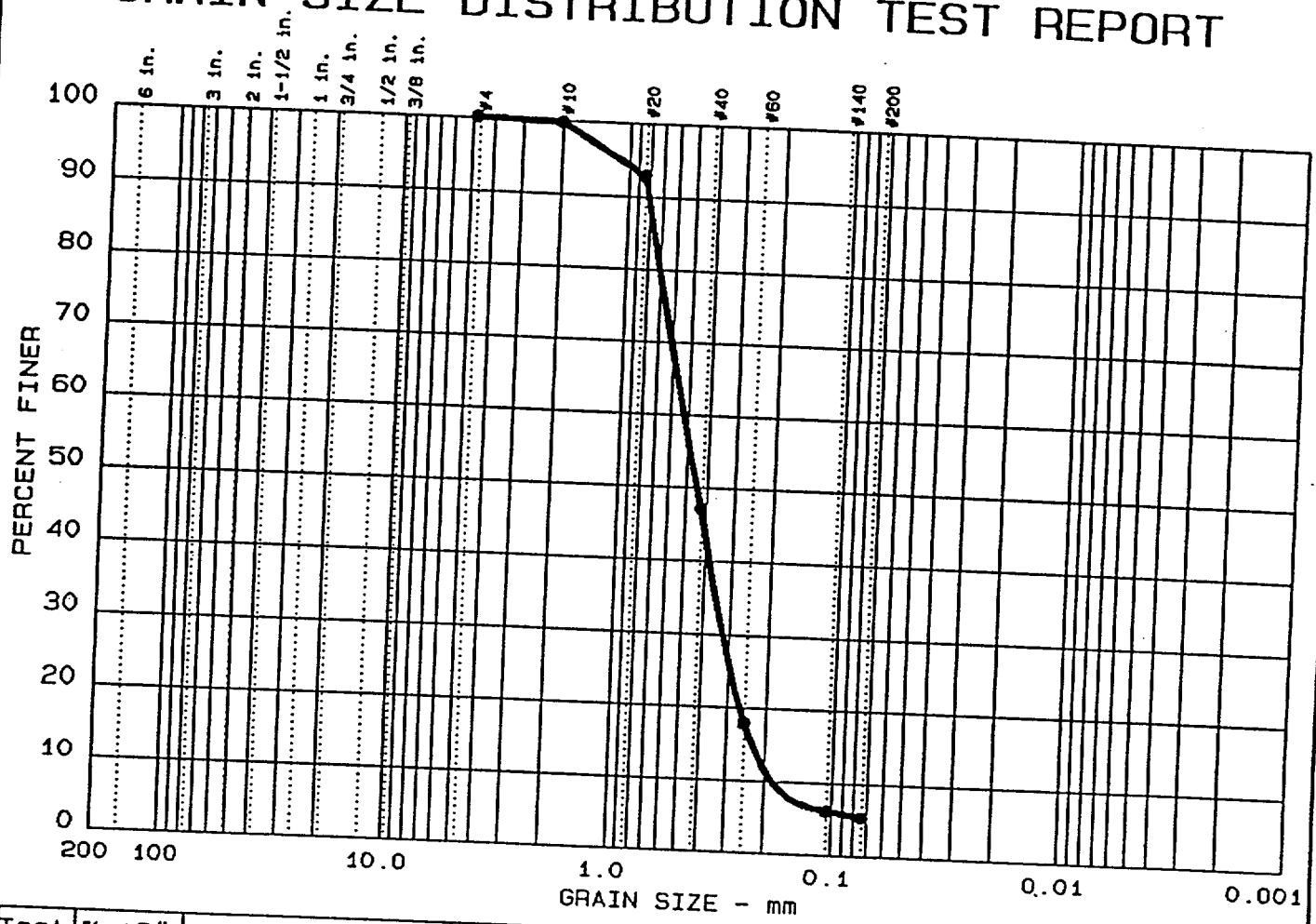
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	17	0.0	0.0	94.7	5.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.75	0.52	0.44	0.322	0.2294	0.1843	1.08	2.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-66 @ 103.6-105.1 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HS

Moisture Content = 24.5%

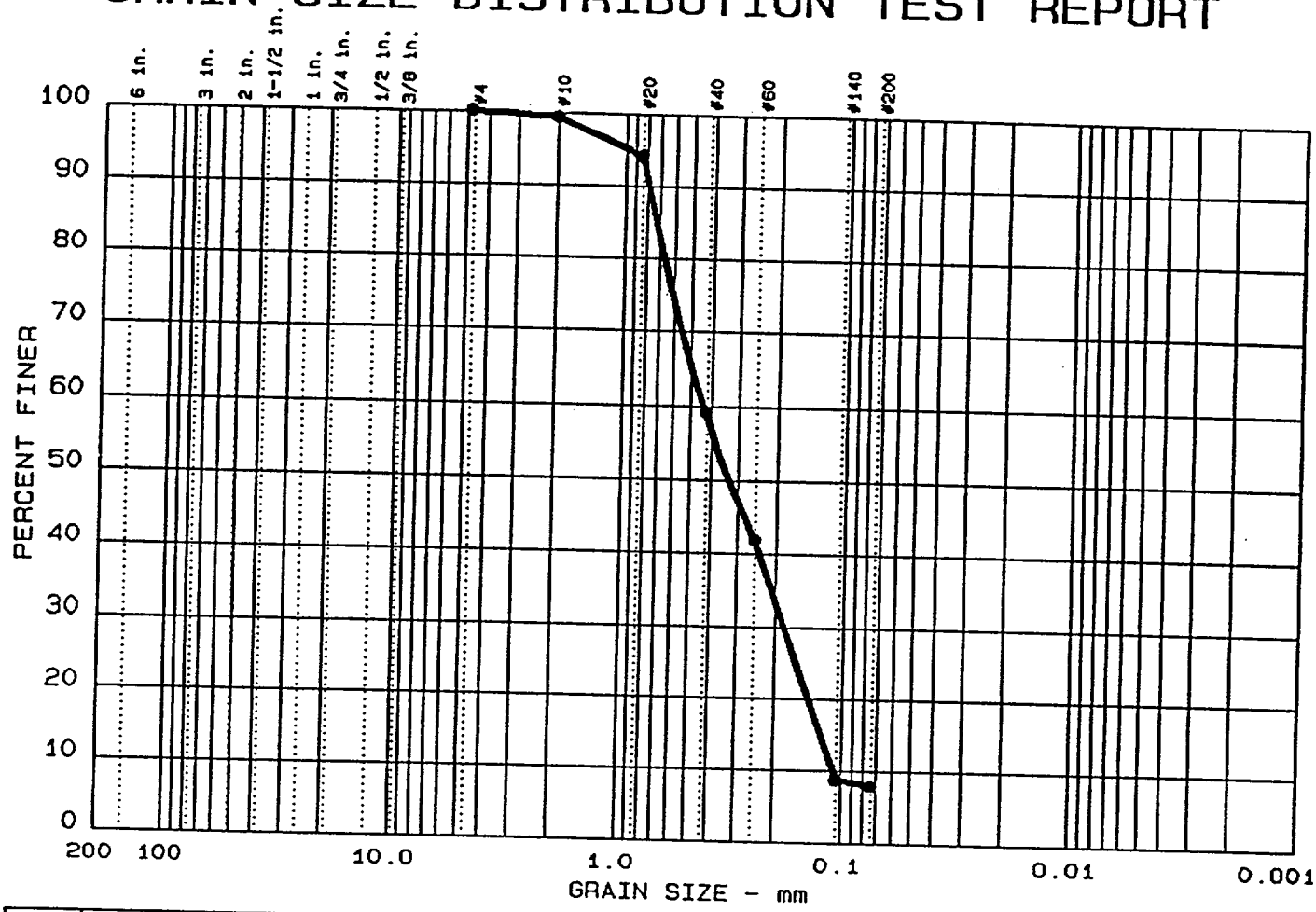
ASTM D422 & D2216

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	18	0.0	0.0	92.1	7.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.72	0.43	0.33	0.183	0.1236	0.1085	0.72	3.9

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-20 SS-68 @ 106.6-108.1 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: [illegible]

Moisture Content = 26.2%

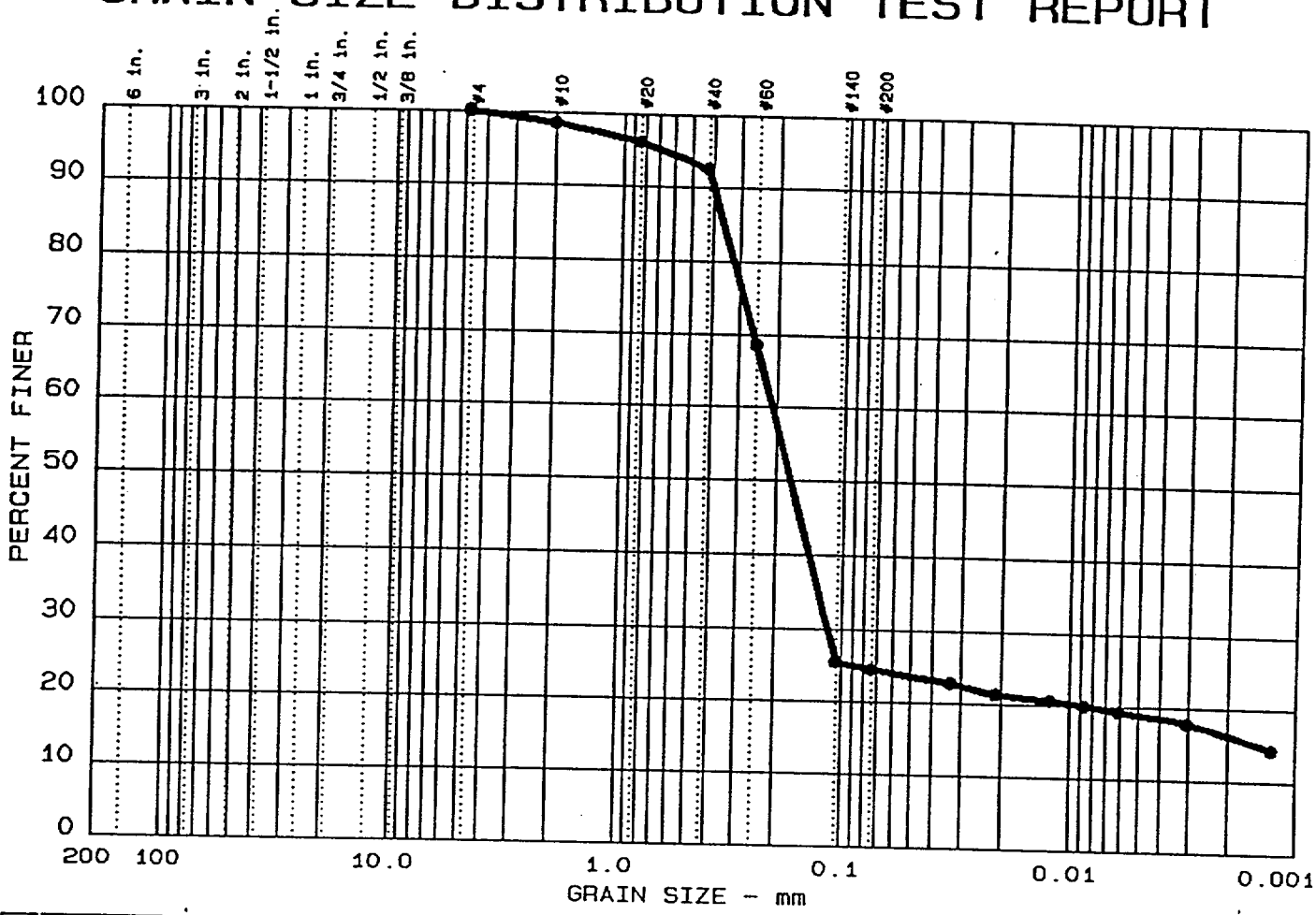
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	75.5	5.6	18.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	44	19	0.35	0.21	0.17	0.115	0.0014			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Clayey Sand	SC	A-2-7 (0.8)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-20 SS-70 @ 109.6-112.7 Ft.

Date: June 30, 1998

Remarks:

Tested by: CS SC & JTM

Reviewed by: LB

Moisture Content = 47.3%

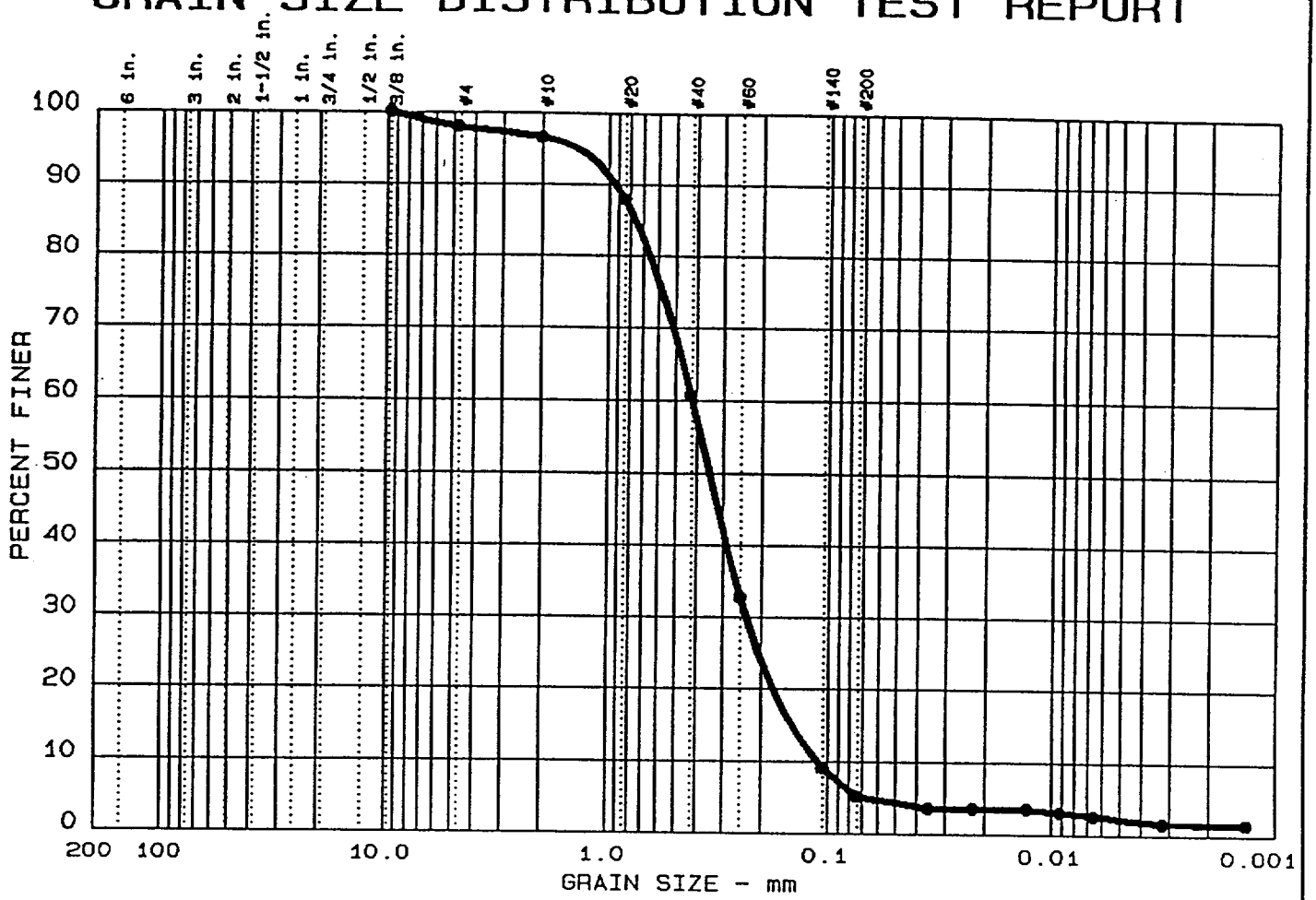
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	2.0	92.9	2.9	2.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.75	0.41	0.35	0.235	0.1432	0.1099	1.21	3.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-1 @ 7.0-8.5 Ft.

Date: July 5, 1998

Remarks:

Tested by: JTM+SC

Reviewed by: HB

Moisture Content = 16.9%

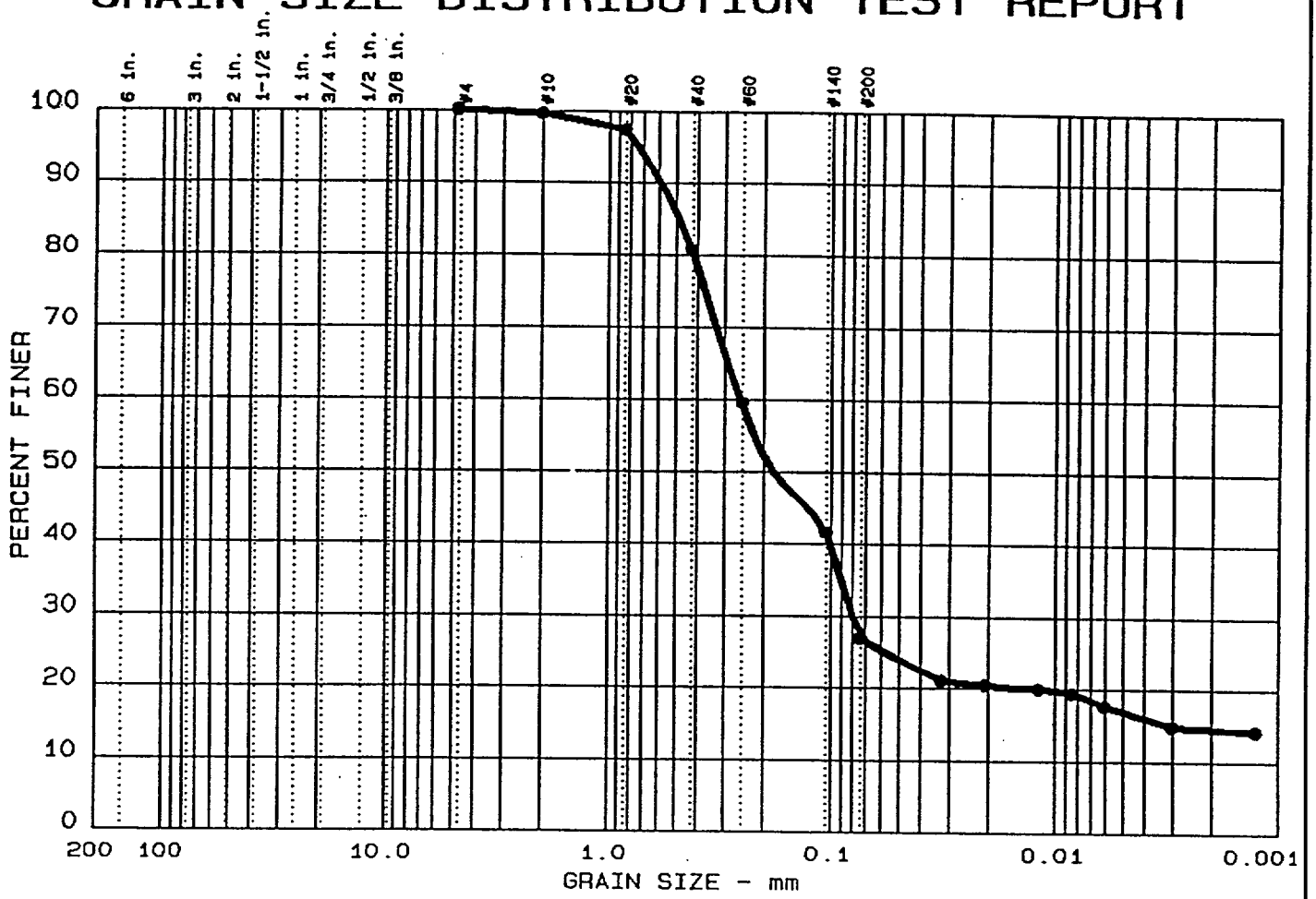
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	73.2	9.9	16.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	29	10	0.48	0.25	0.18	0.080	0.0031			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Red Brown Clayey Sand	SC	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-3 @ 10.0-11.5 Ft.

Date: July 5, 1998

Remarks:

Tested by: JTmtsc

Reviewed by: HJ

Moisture content = 17.4%

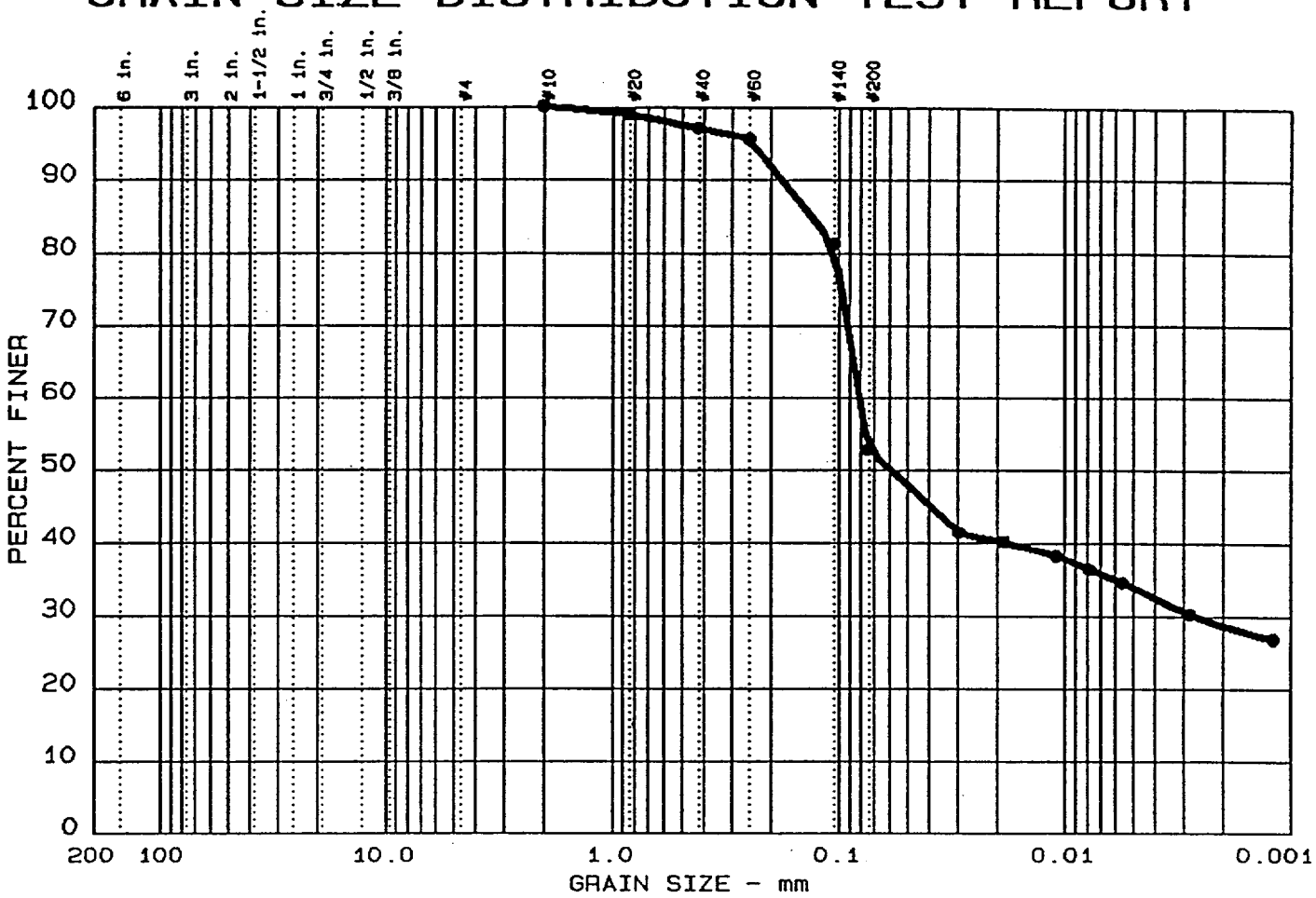
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	47.2	18.9	33.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	45	22	0.13	0.08	0.06	0.003				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Red Brown Sandy Lean Clay	CL	A-7-6 (8.6)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-4 @ 11.5-13.0 Ft.

Date: July 5, 1998

Remarks:

Tested by: JTM JSC

Reviewed by: [illegible]

Moisture Content = 20.9%

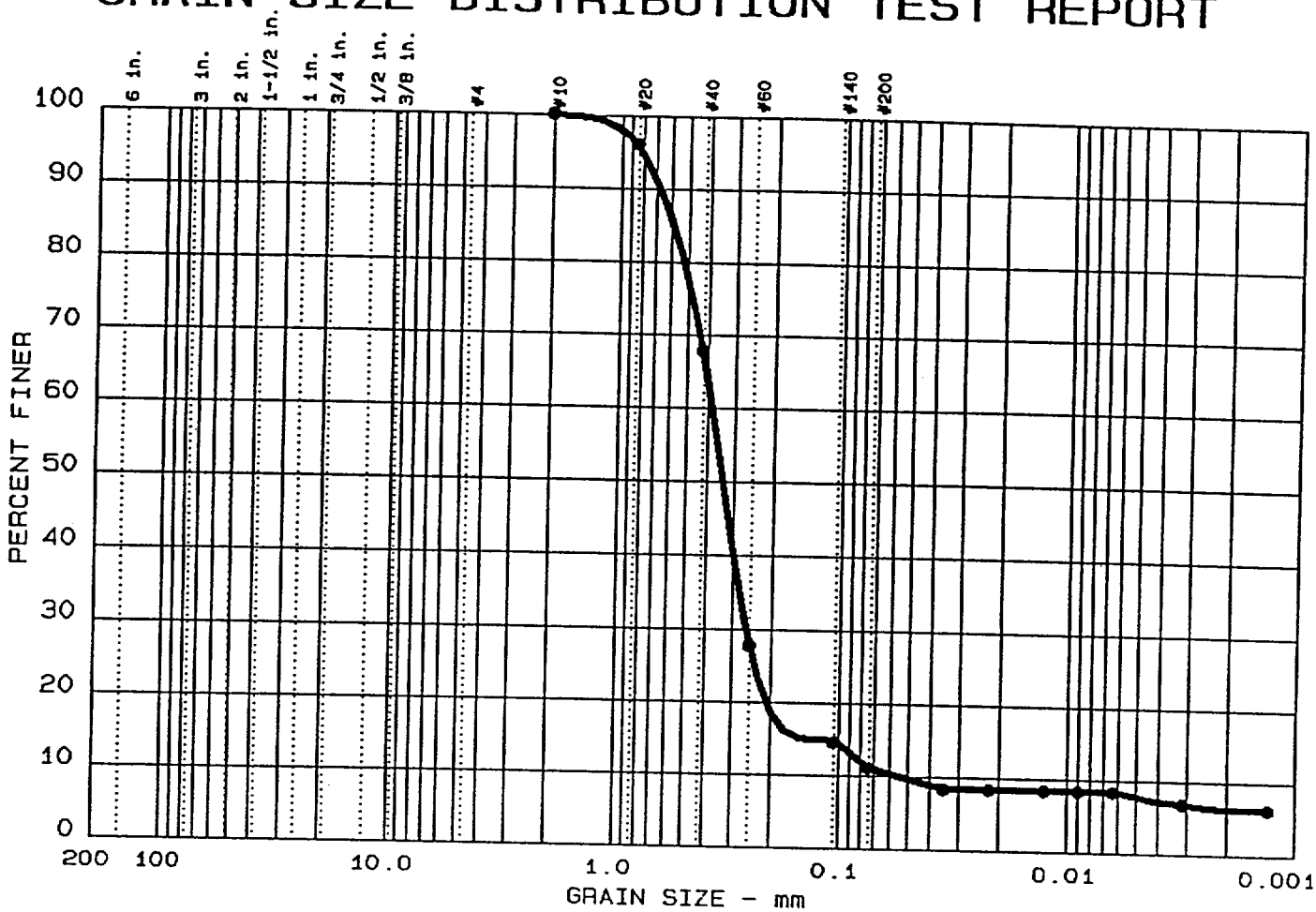
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	88.8	3.4	7.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.58	0.38	0.34	0.259	0.1242	0.0524	3.39	7.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Silt	SP-SM	A-2-4 (0.4)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-22 SS-6 @ 14.5-16.0 Ft.

Date: July 5, 1998

Remarks:

Tested by: JTm+SC

Reviewed by: HB

Moisture Content = 9.7%

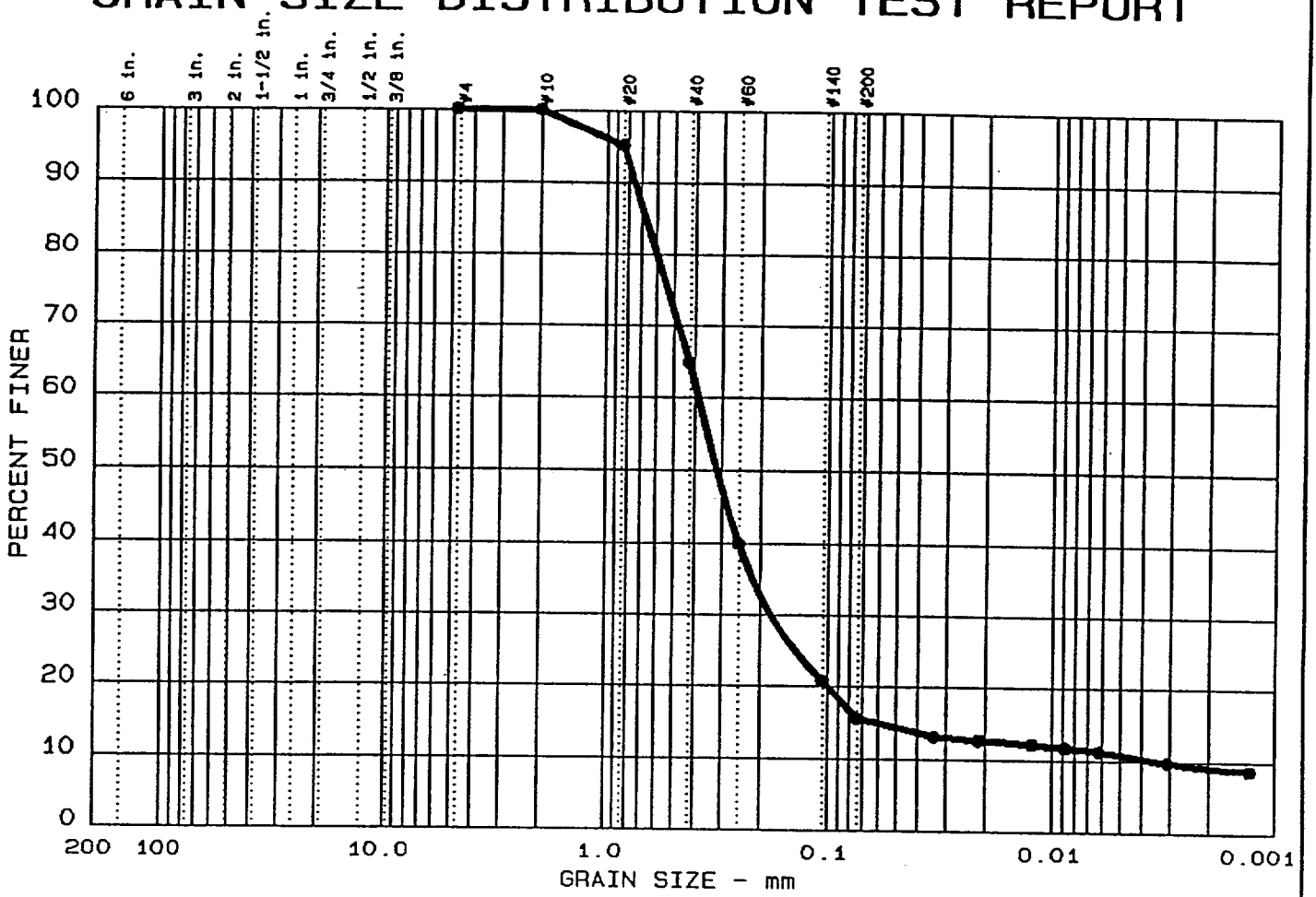
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	84.4	4.7	10.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	31	10	0.66	0.38	0.31	0.181	0.0584	0.0031	27.51	123.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Clayey Sand	SC	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-7 @ 16.0-17.5 Ft.

Date: July 5, 1998

Remarks:

Tested by: JTmtsc

Reviewed by: HD

Moisture Content = 11.8%

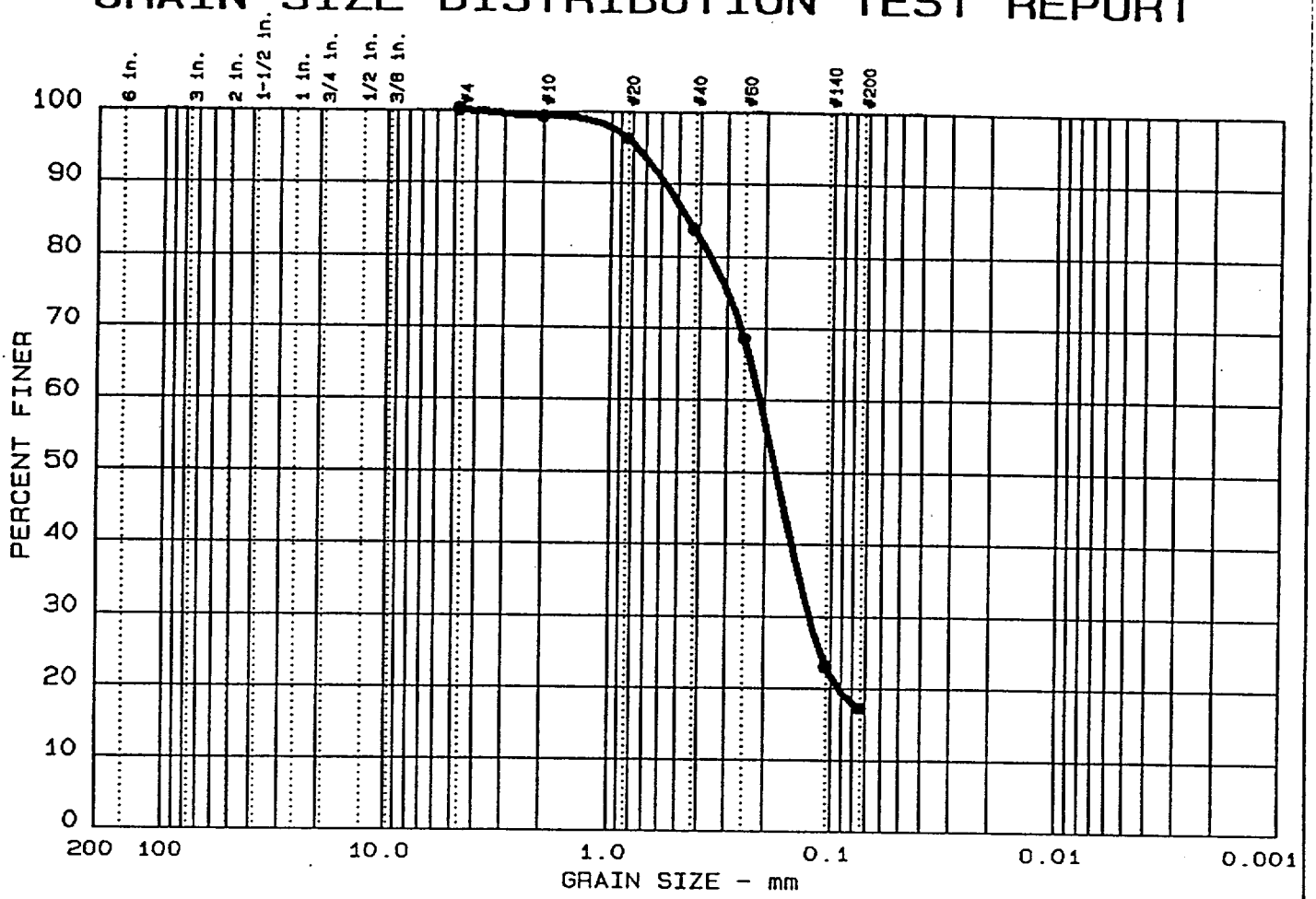
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	82.7	17.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.44	0.21	0.18	0.125				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan-Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Notheast Expansion
● Location: FB-22 SS-10 @ 20.5-22.0 Ft.

Date: June 30, 1998

Remarks:

Tested by: SC + CS

Reviewed by: HJ

Moisture Content = 16.5%

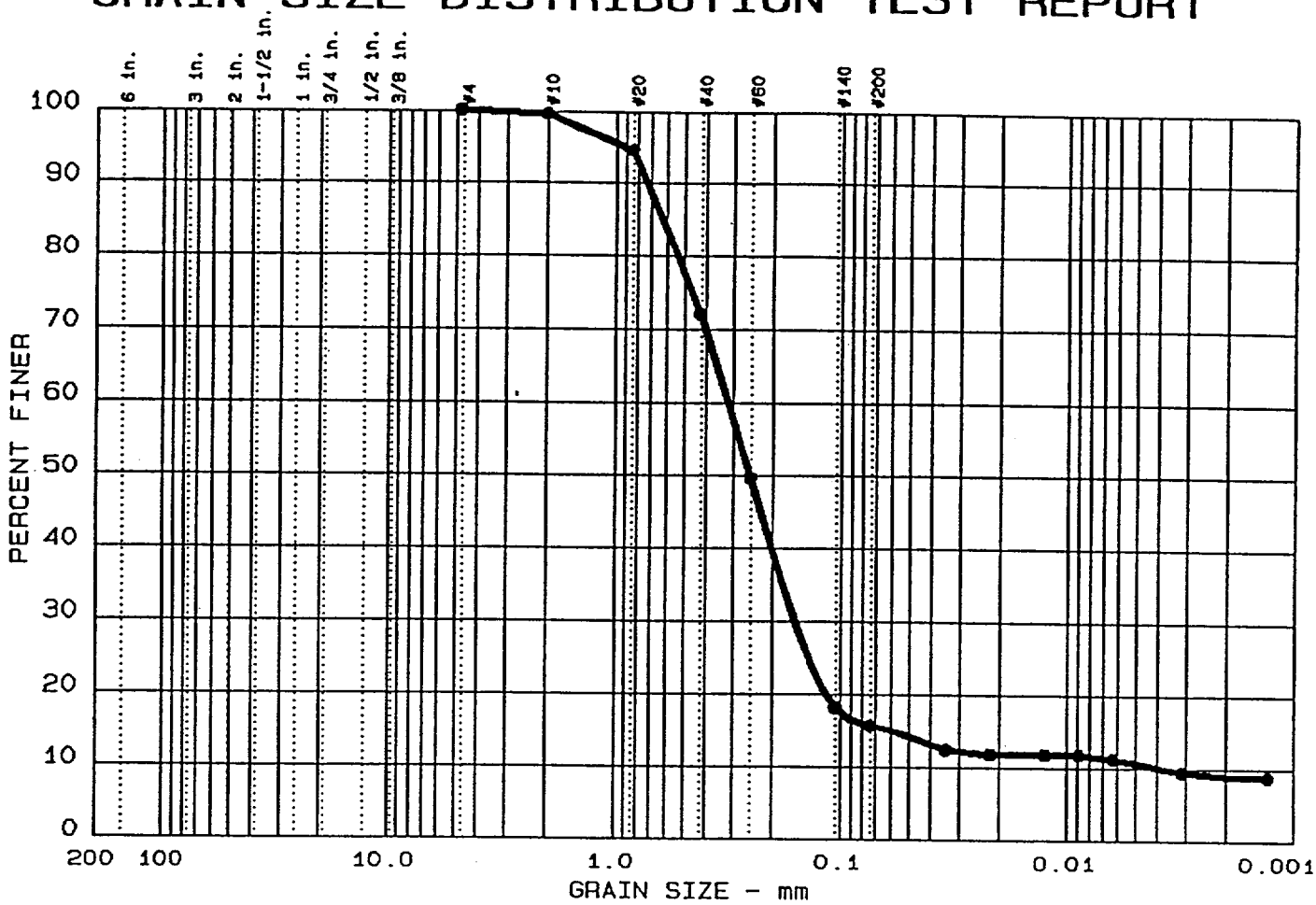
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	84.2	5.1	10.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	30	8	0.62	0.32	0.25	0.159	0.0583	0.0038	20.99	82.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Clayey Sand	SC	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-13 @ 25.0-26.5 Ft.

Date: July 5, 1998

Remarks:

Tested by: SCJ

Reviewed by: HD

Moisture Content = 18.6%

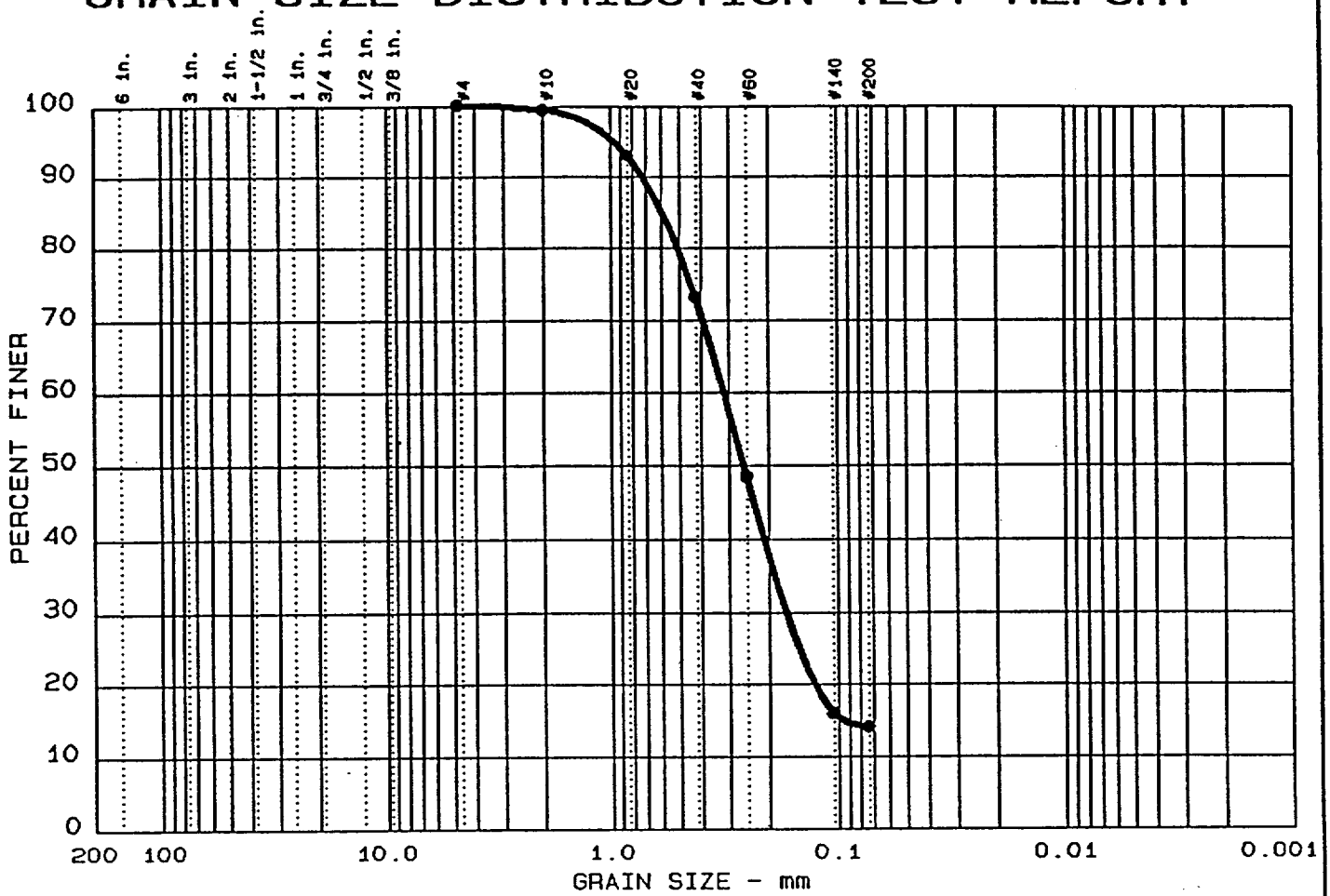
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	19	0.0	0.0	85.9	14.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.59	0.31	0.26	0.168	0.0934			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.1)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-16 @ 29.5-31.0 Ft.

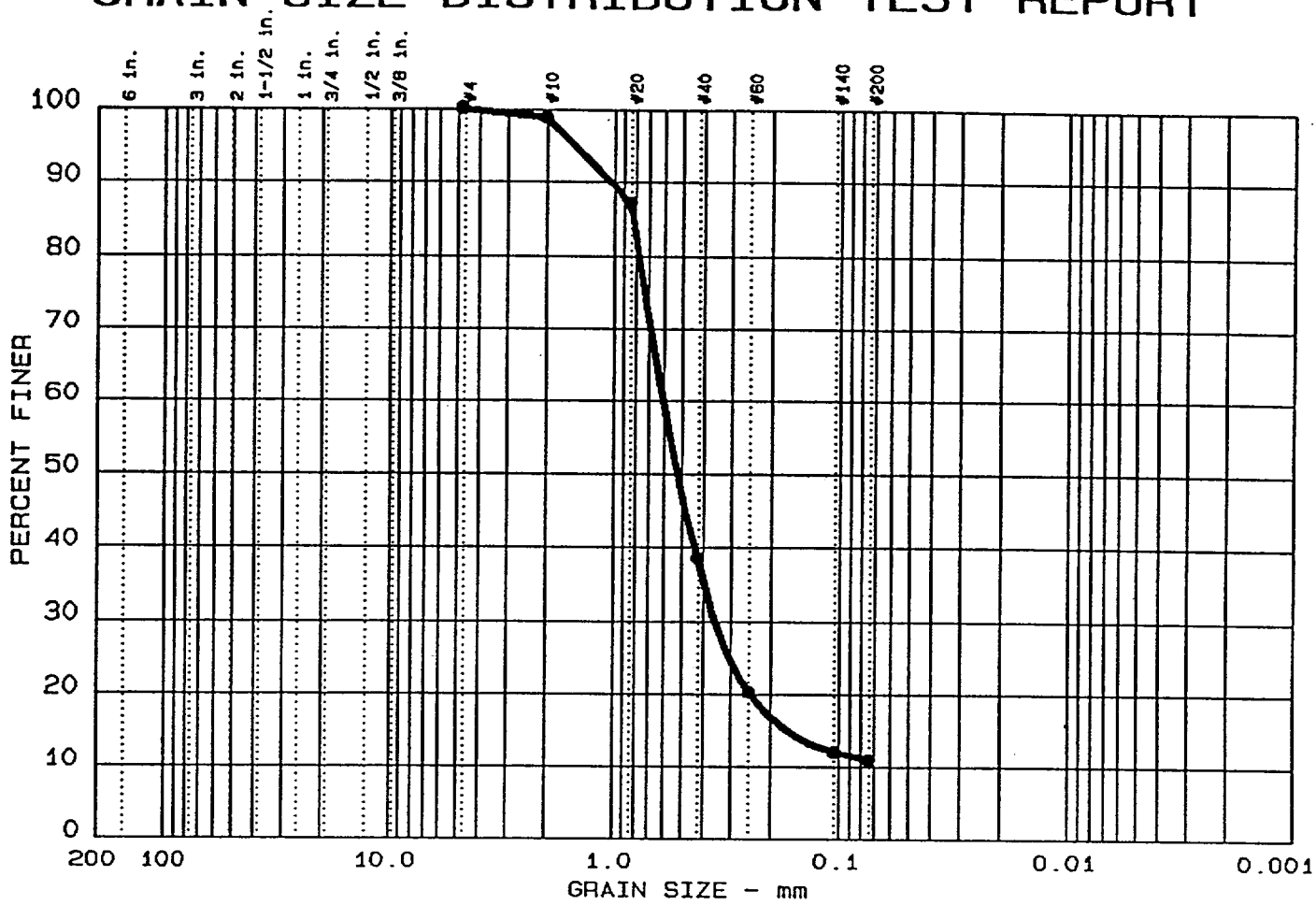
Date: June 23, 1998

Remarks:
Tested by: SC
Reviewed by: HJ
Moisture Content = 16.8%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	89.0	11.0	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.82	0.60	0.52	0.353	0.1688			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-19 @ 34-35.5 Ft.

Date: June 25, 1998

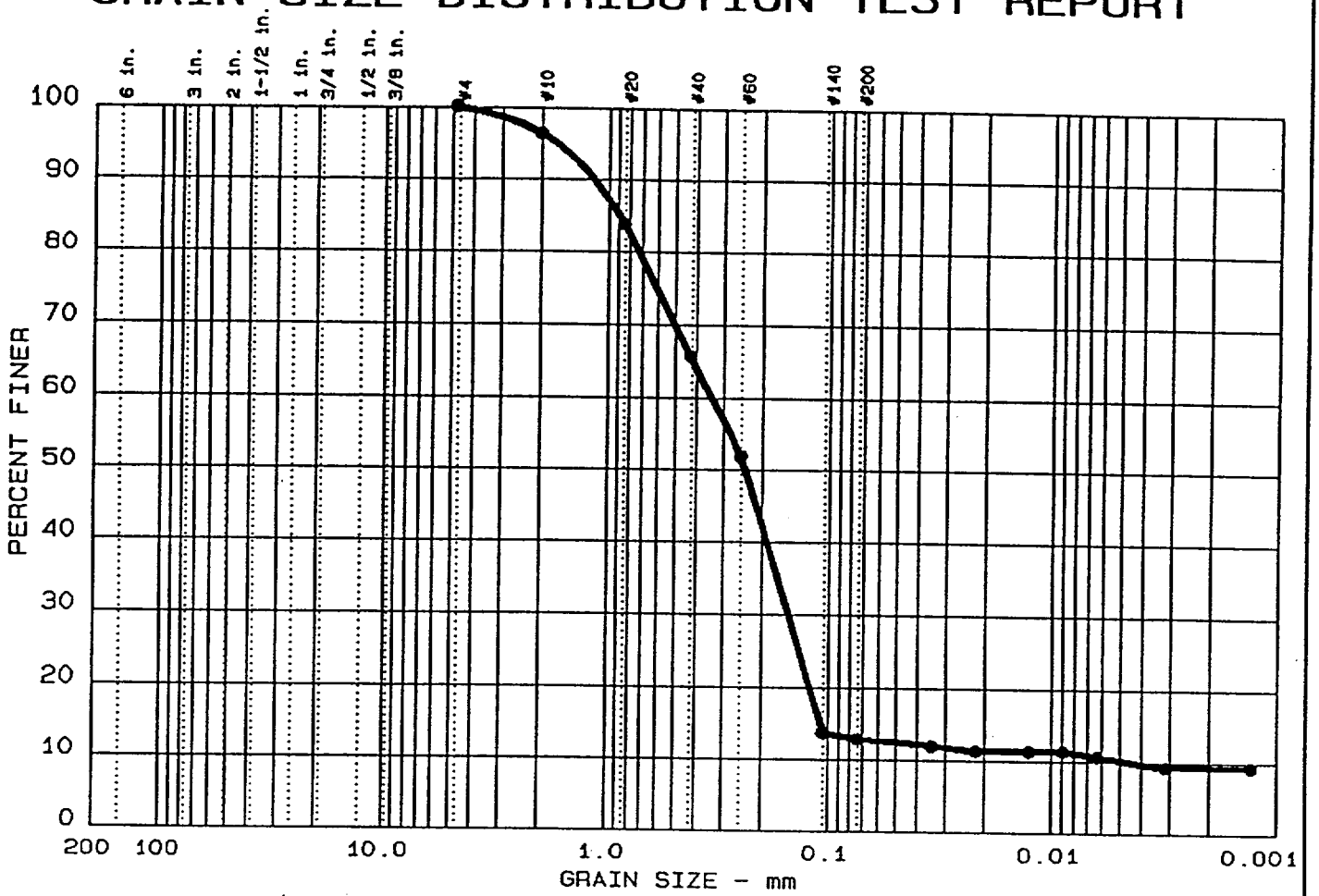
Remarks:
Tested by: SC & CS
Reviewed by: H
Moisture Content = 16.3%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	87.1	2.7	10.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	30	5	0.88	0.34	0.24	0.152	0.1080	0.0044	15.47	77.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-22 @ 38.5-40.0 Ft.

Date: July 5, 1998

Remarks:

Tested by: JTM & SC

Reviewed by: HD

Moisture Content = 19.0%

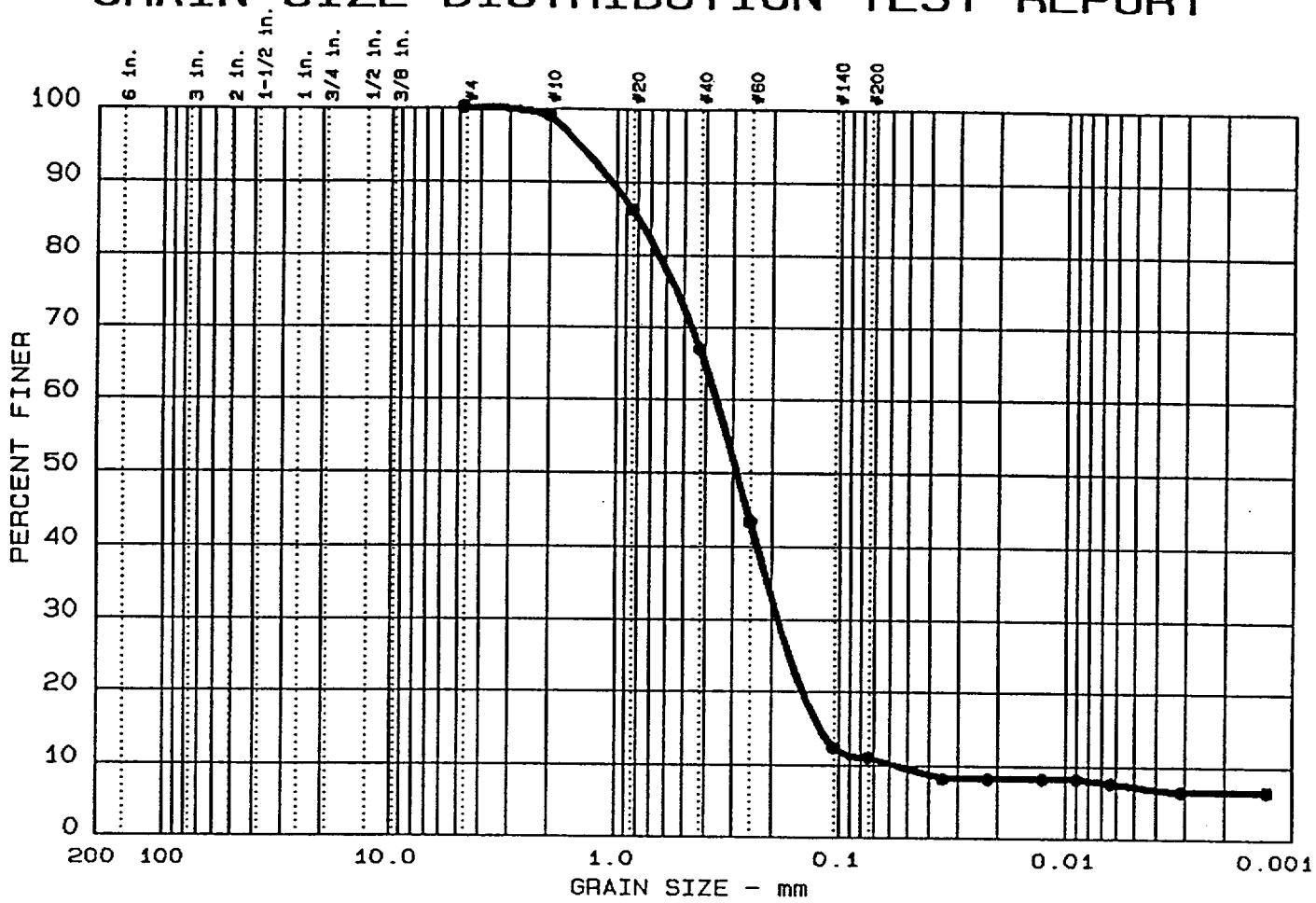
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	88.9	3.9	7.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	29	5	0.79	0.35	0.29	0.187	0.1208	0.0552	1.79	6.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Well Graded Sand with Silt	SW-SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-23 @ 40.0-41.5 Ft.

Date: July 5, 1998

Remarks:

Tested by: SC [illegible]

Reviewed by: [illegible]

Moisture Content = 20.1%

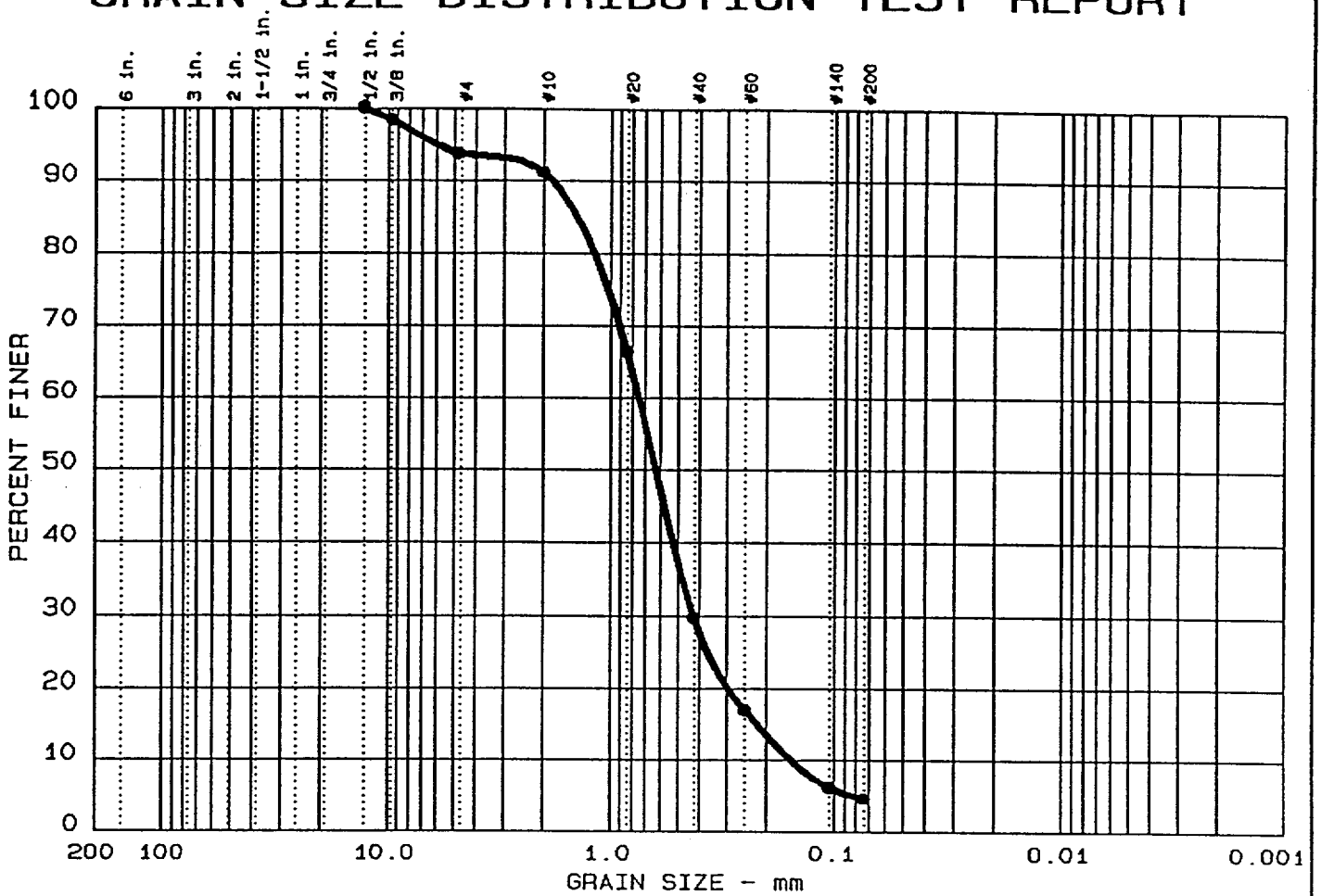
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	6.2	89.2	4.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.39	0.74	0.62	0.422	0.2188	0.1549	1.55	4.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand	SP	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-27 @ 46.0-47.5 Ft.

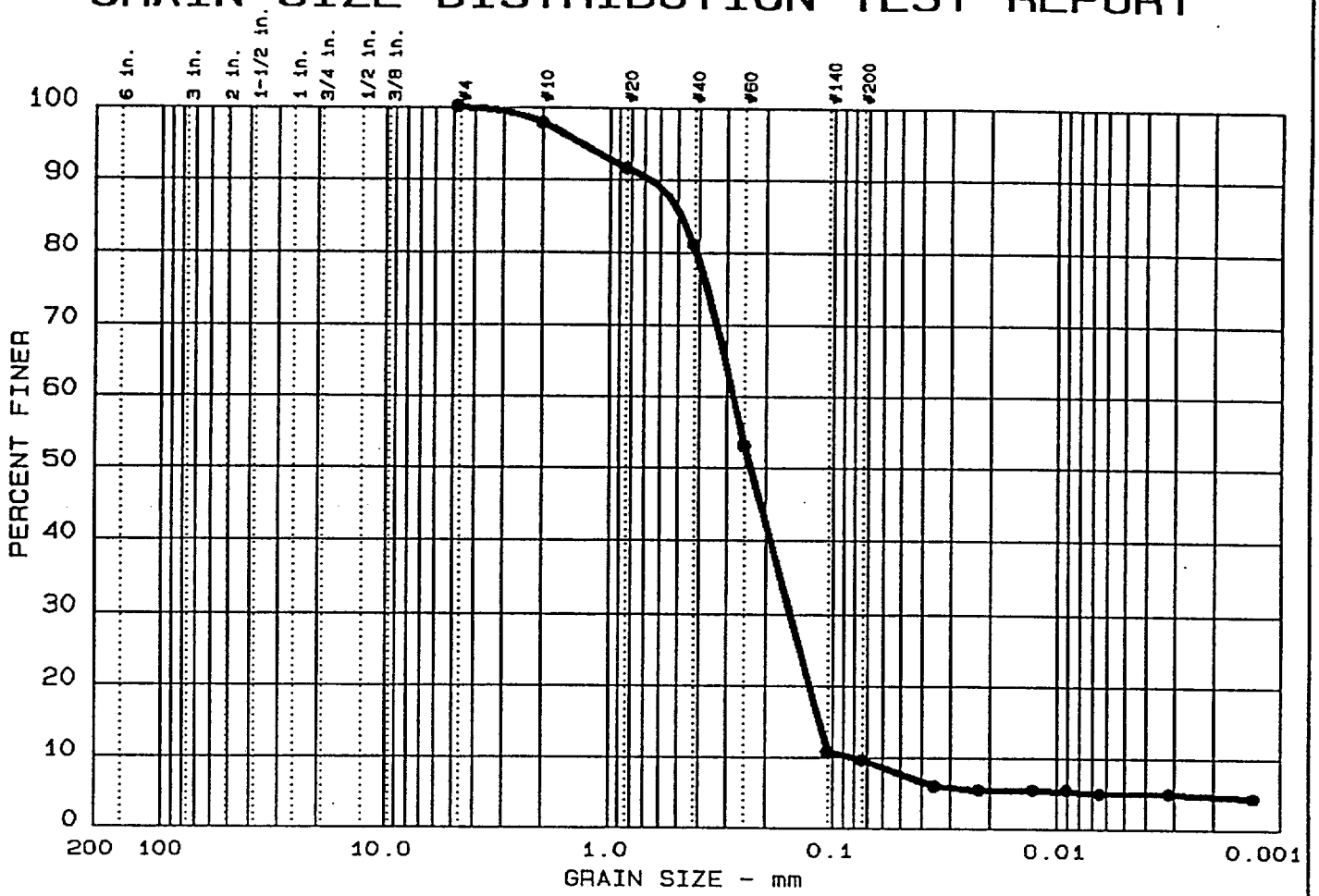
Date: June 25, 1998

Remarks:
Tested by: CSO-SG
Reviewed by: HD
Moisture Content = 15.2%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	90.3	4.6	5.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.47	0.28	0.23	0.155	0.1139	0.0816	1.06	3.4

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-32 @ 53.5-55.0 Ft.

Date: July 9, 1998

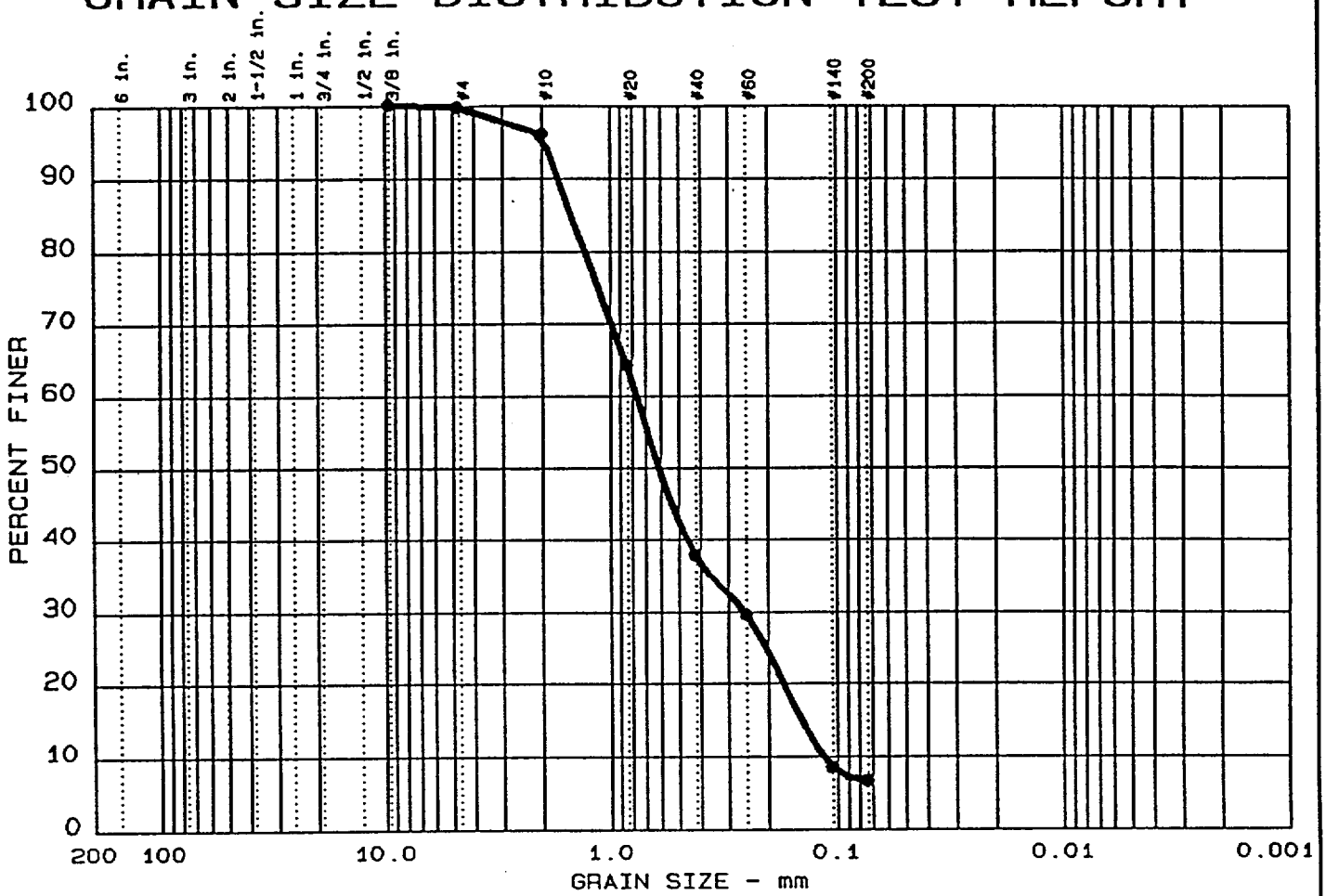
Remarks:
Tested by: JTM & SC
Reviewed by: HD
Moisture Content = 22.7%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	20	0.0	0.3	92.9	6.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.48	0.76	0.61	0.256	0.1422	0.1143	0.75	6.7

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-35 @ 58.0-59.5 Ft.

Date: June 23, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

Moisture Content = 12.5%

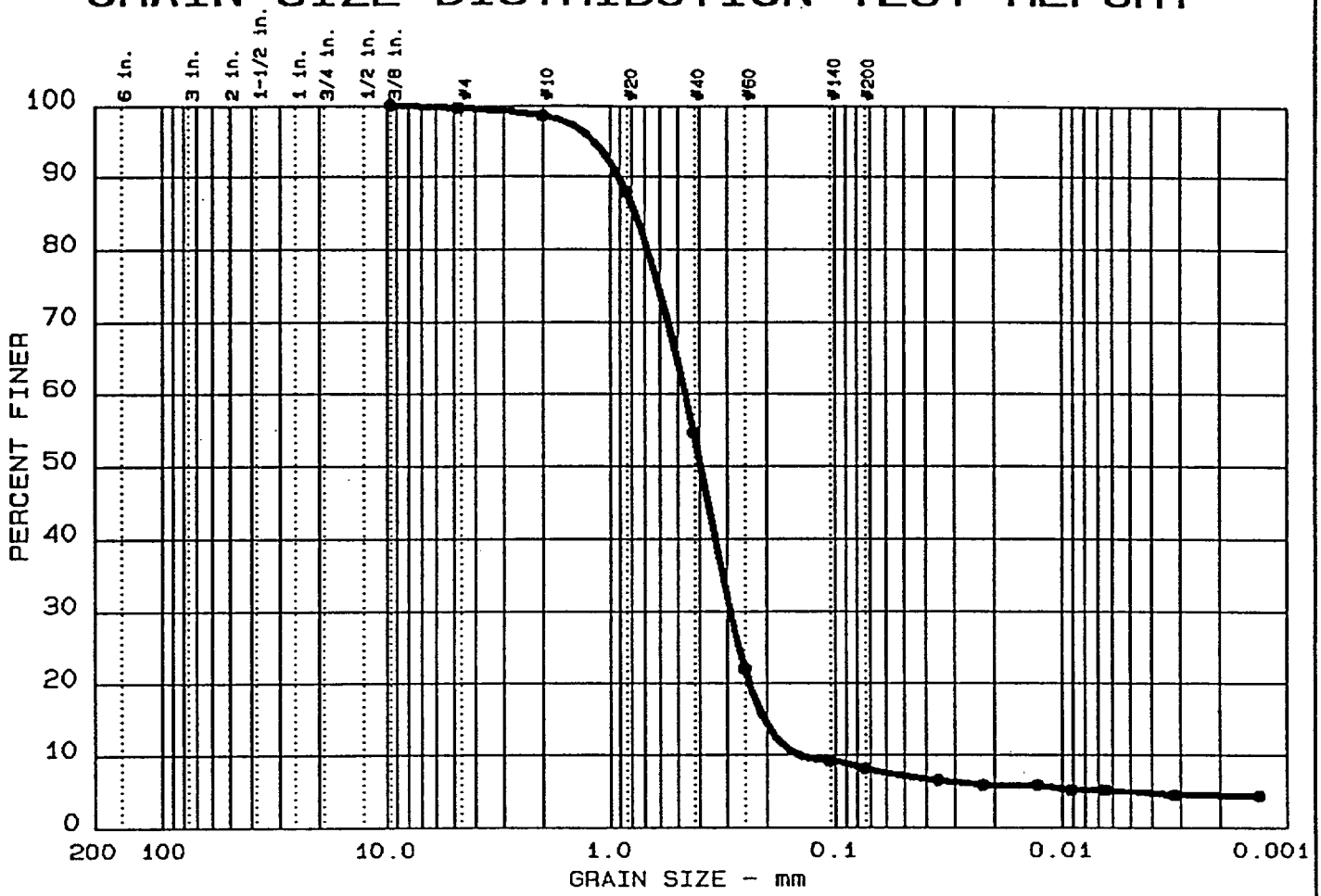
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	0.4	91.5	3.2	4.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_U
●	29	3	0.77	0.46	0.39	0.290	0.2054	0.1454	1.26	3.1

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-38 @ 62.9-64.4 Ft.

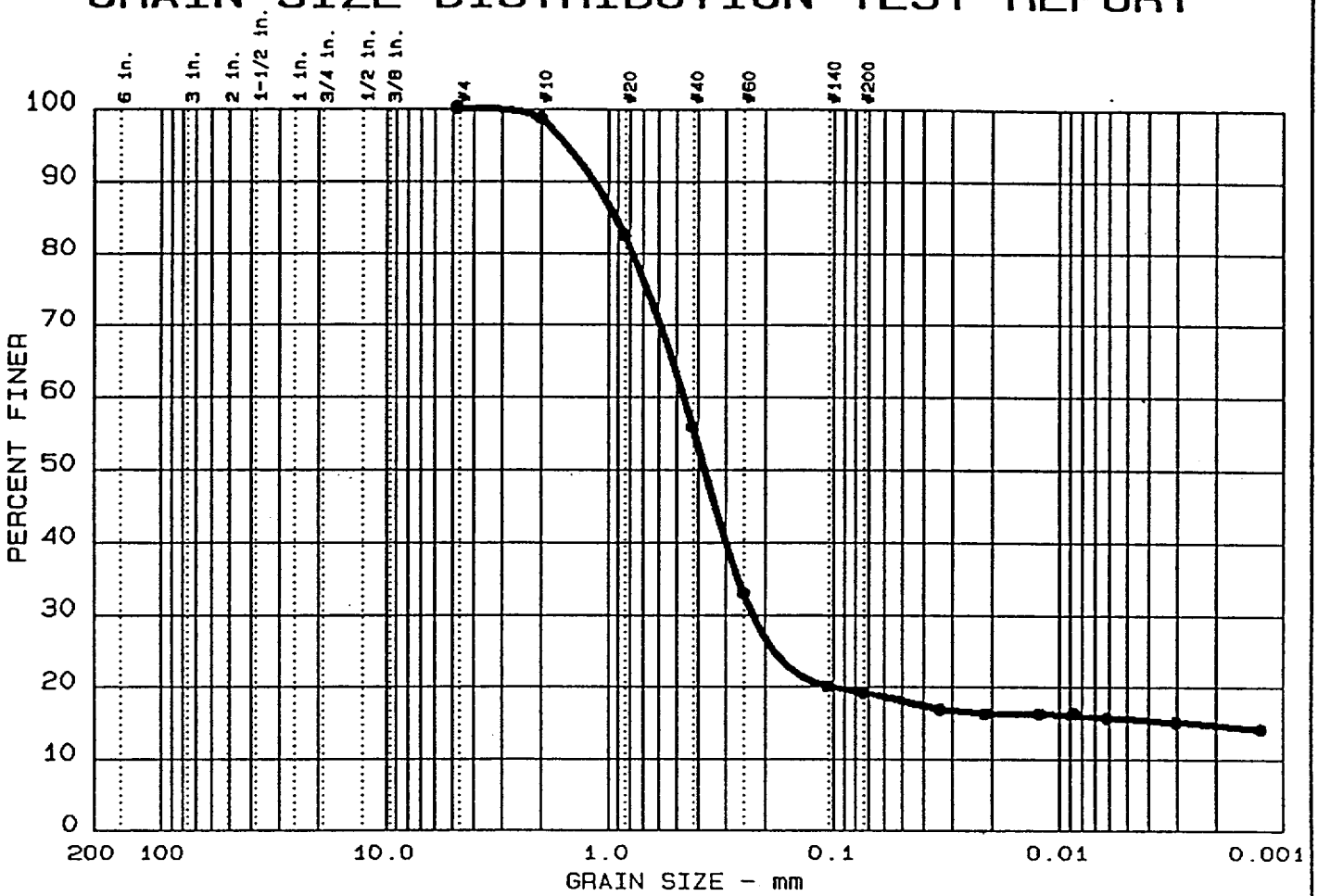
Date: July 9, 1998

Remarks:
Tested by: JTM & SC
Reviewed by: [illegible]
Moisture Content = 19.5%
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	0.0	80.8	3.6	15.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	44	18	0.92	0.46	0.37	0.228	0.0024			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-2-7 (0.3)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-40 @ 65.9-67.4 Ft.

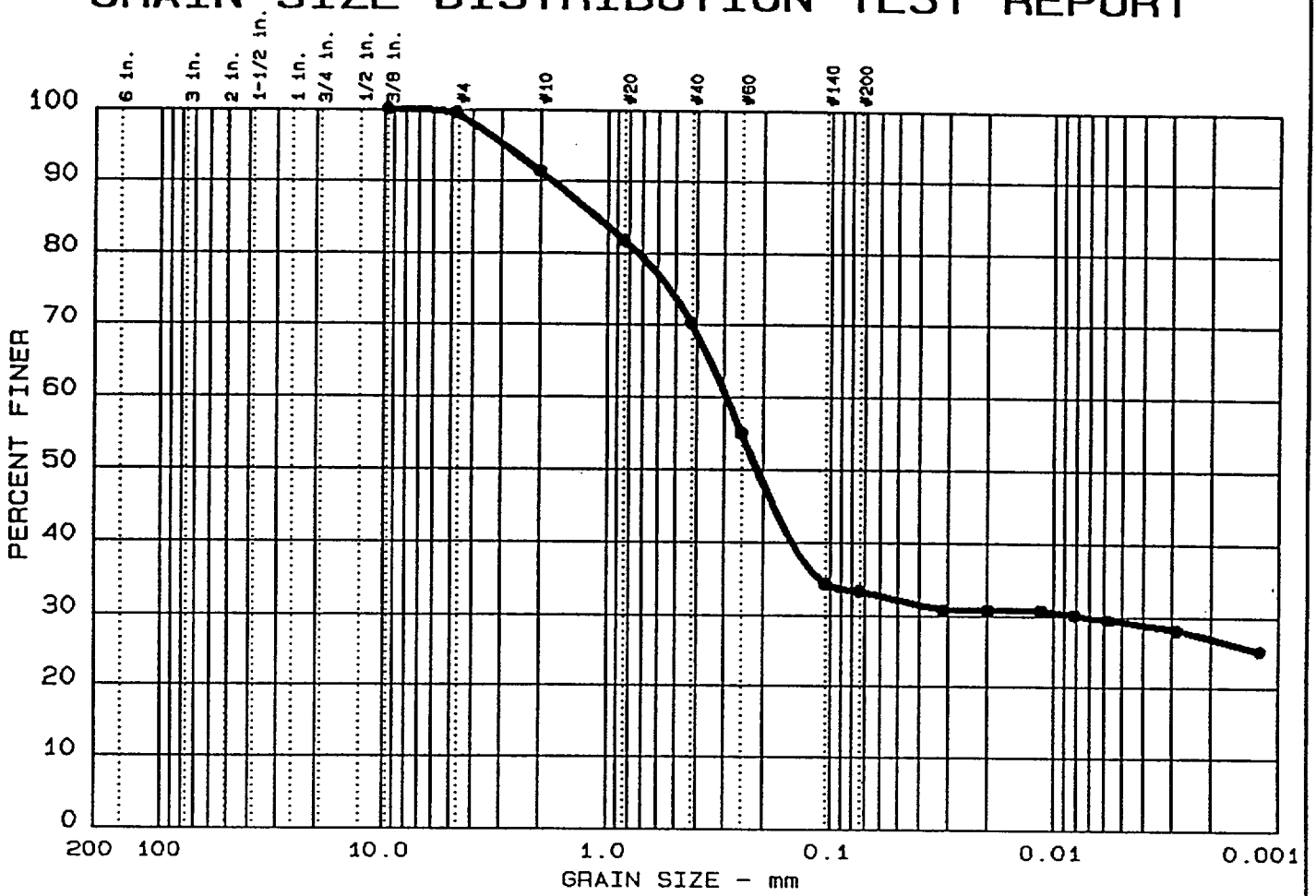
Date: July 9, 1998

Remarks:
Tested by: JTM & SC
Reviewed by: HD
Moisture Content = 28.4%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.5	66.2	4.1	29.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	50	22	1.10	0.29	0.21	0.007				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-2-7 (2.2)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-22 SS-42 @ 68.9-70.4 Ft.

Date: July 9, 1998

Remarks:

Tested by: SC [illegible]

Reviewed by: [illegible]

Moisture Content = 34.0%

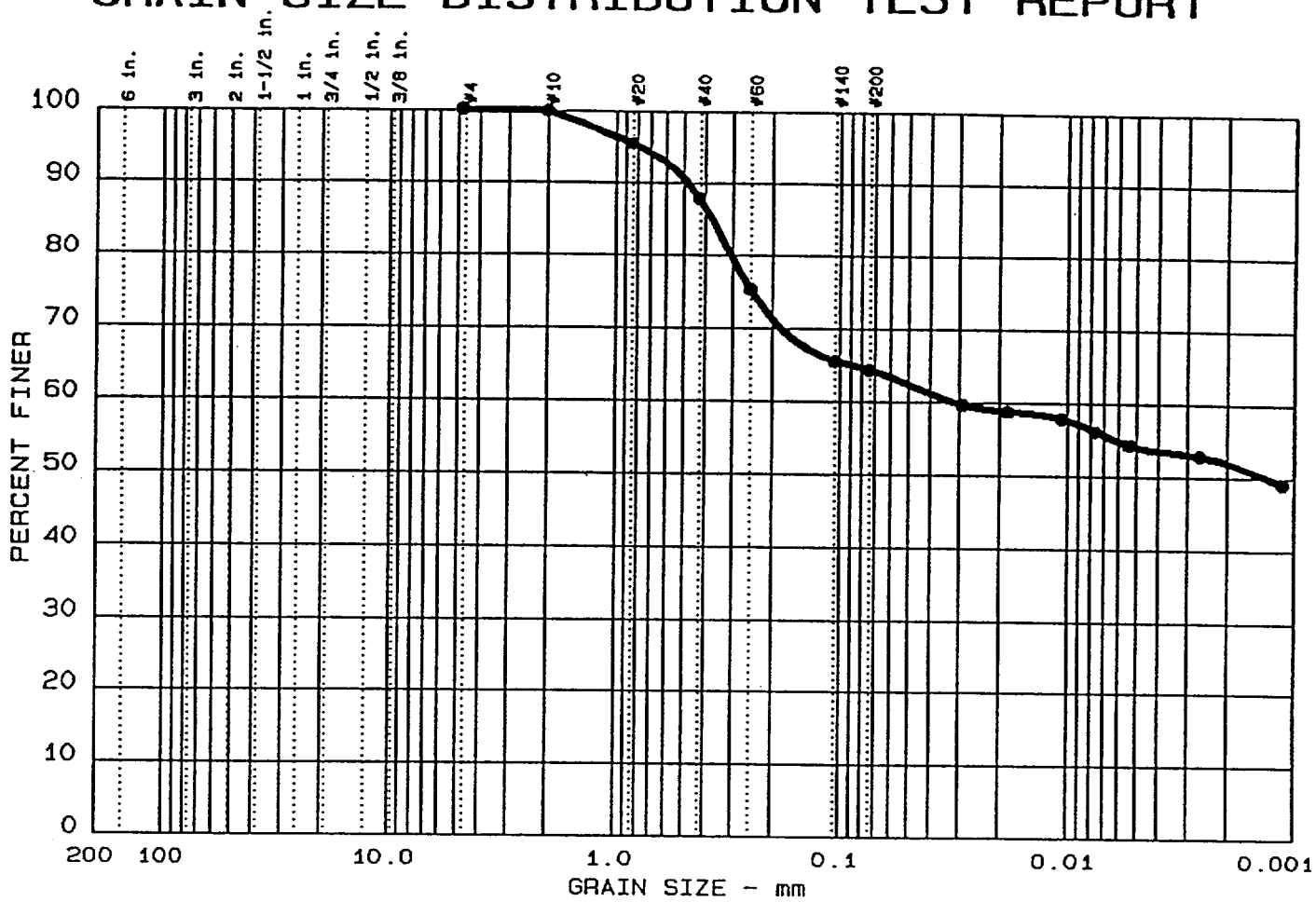
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	19	0.0	0.0	35.6	10.4	54.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	78	38	0.37		0.00					

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Sandy Elastic Silt	MH	A-7-5 (25.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-43 @ 70.4-71.9 Ft.

Date: July 9, 1998

Remarks:

Tested by: JTM & SC

Reviewed by: HJ

Moisture Content = 55.1%

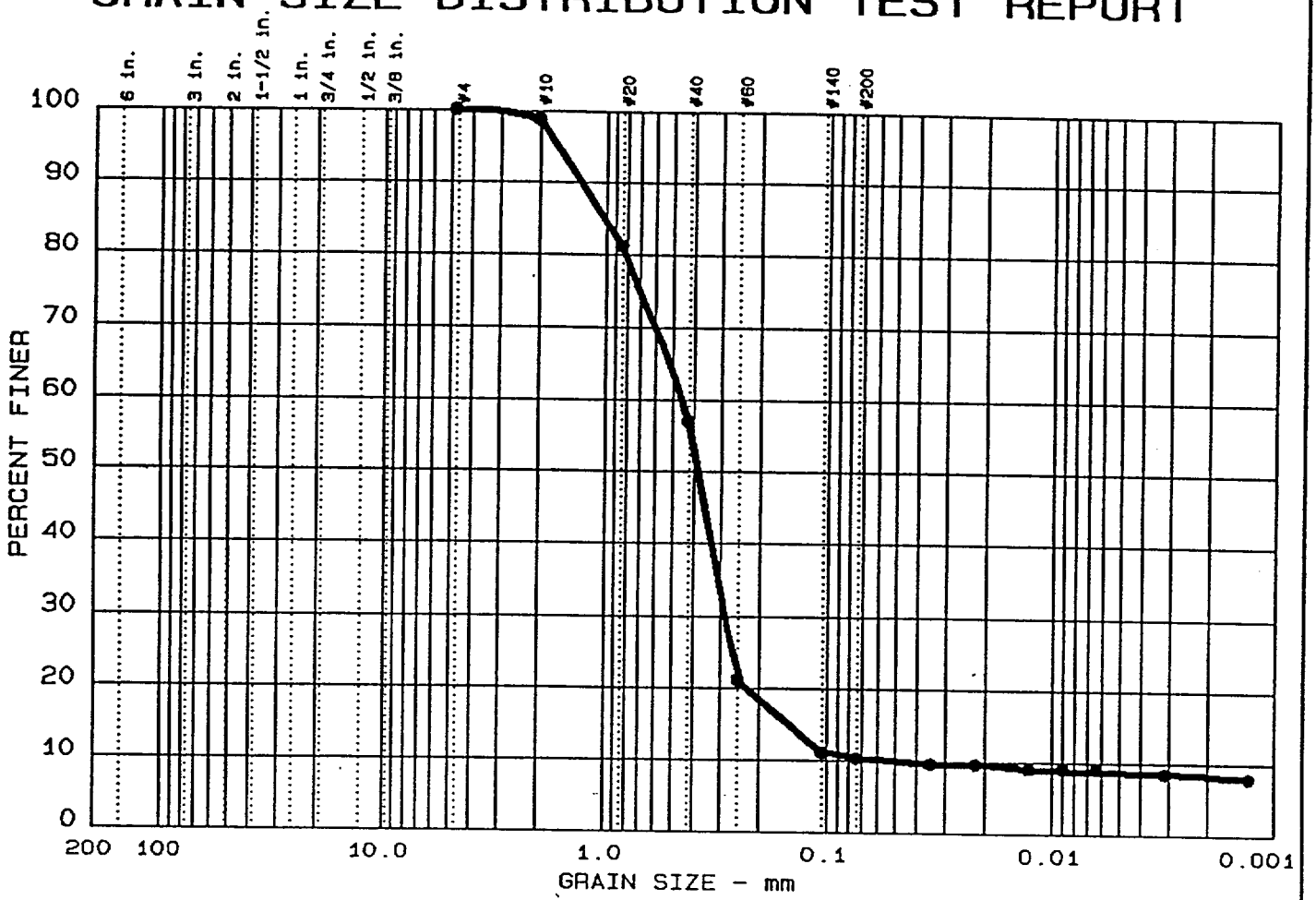
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	12	0.0	0.0	89.6	1.7	8.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	47	24	1.01	0.45	0.38	0.284	0.1457	0.0466	3.86	9.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Clay	SP-SC	A-2-7 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-44 @ 71.9-73.4 Ft.

Date: July 9, 1998

Remarks:

Tested by: JTM+SC

Reviewed by: HB

Moisture Content = 22.3%

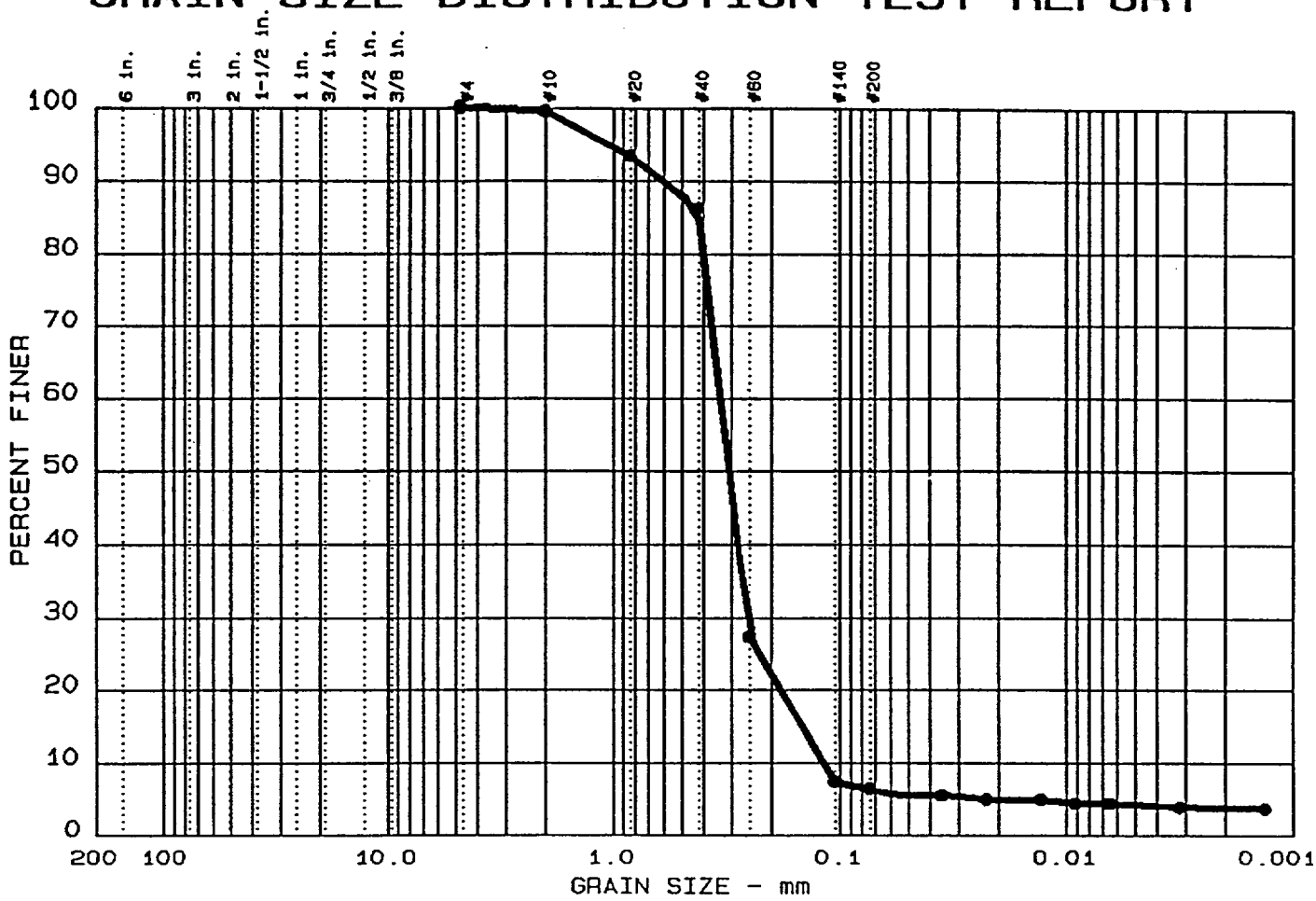
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	93.5	2.2	4.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.41	0.33	0.31	0.256	0.1455	0.1169	1.68	2.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-45 @ 73.4-74.9 Ft.

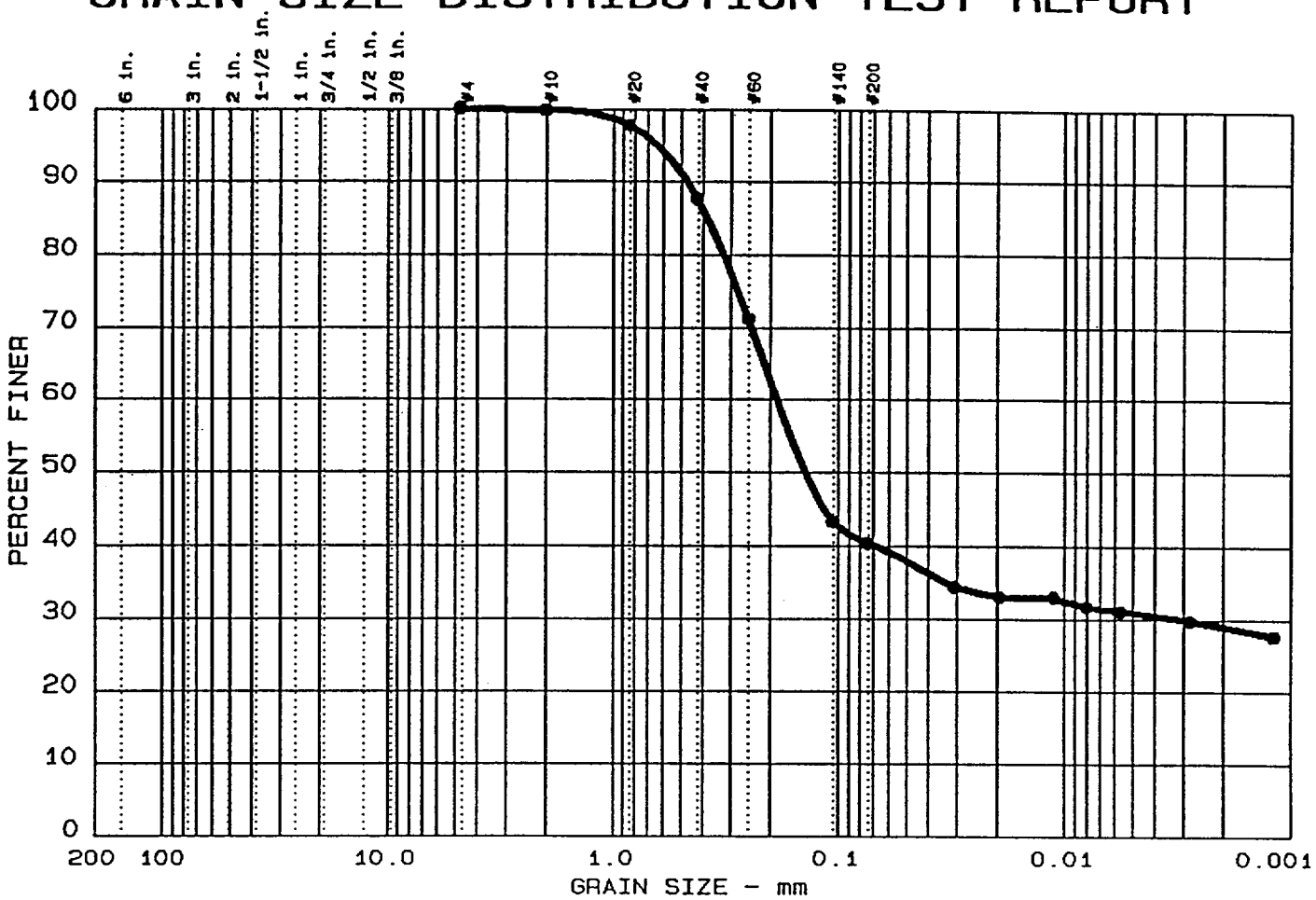
Date: July 9, 1998

Remarks:
Tested by: JTM 7-8-98
Reviewed by: HJ
Moisture Content = 21.5%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	17	0.0	0.0	59.7	9.4	30.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	37	14	0.38	0.19	0.14	0.003				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown & Black Clayey Sand	SC	A-6 (1.9)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-49 @ 79.4-80.9 Ft.

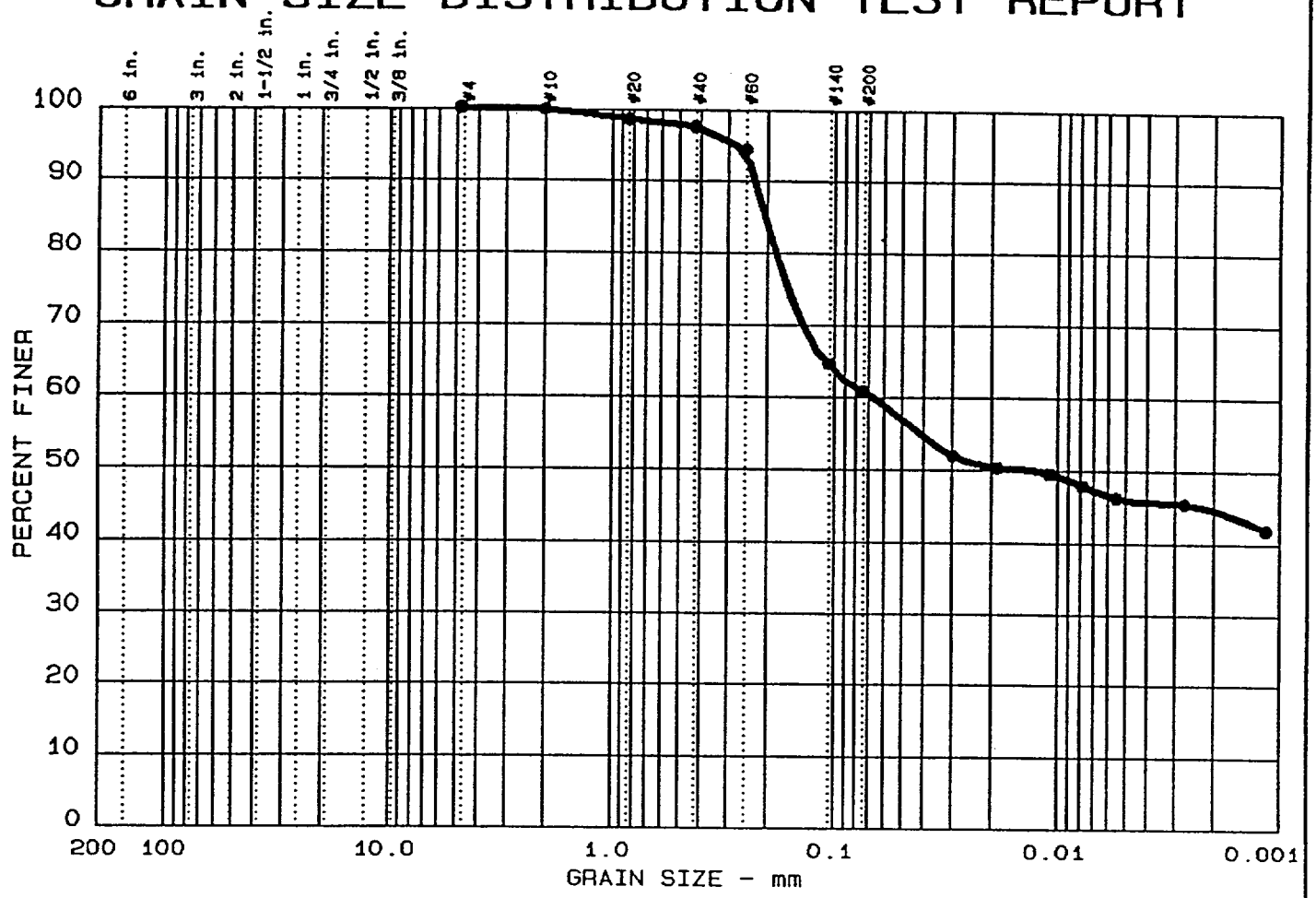
Date: July 9, 1998

Remarks:
Tested by: JTM & SS
Reviewed by: HD
Moisture Content = 38.4%
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	0.0	39.2	14.8	46.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	74	40	0.20		0.01					

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Sandy Fat Clay	CH	A-7-5 (23.4)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-50 @ 80.9-82.4 Ft.

Date: July 9, 1998

Remarks:

Tested by: SCHSTM

Reviewed by: KS

Moisture Content = 51.1%

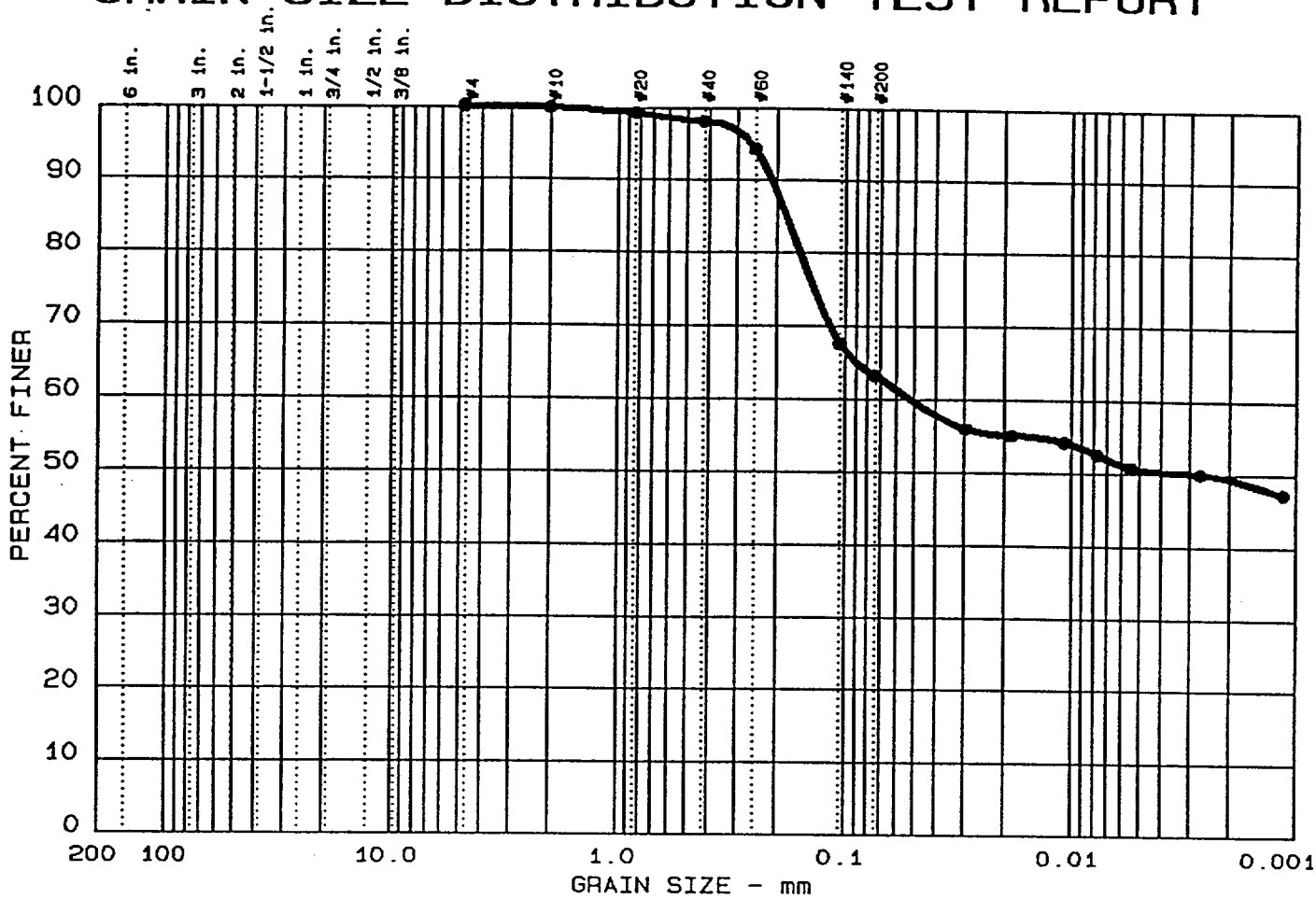
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	36.8	12.7	50.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	86	50	0.18		0.00					

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Sandy Fat Clay	CH	A-7-5 (31.2)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-51 @ 82.8-84.3 Ft.

Date: July 9, 1998

Remarks:

Tested by: JTmdsc

Reviewed by: HB

Moisture Content = 54.6%

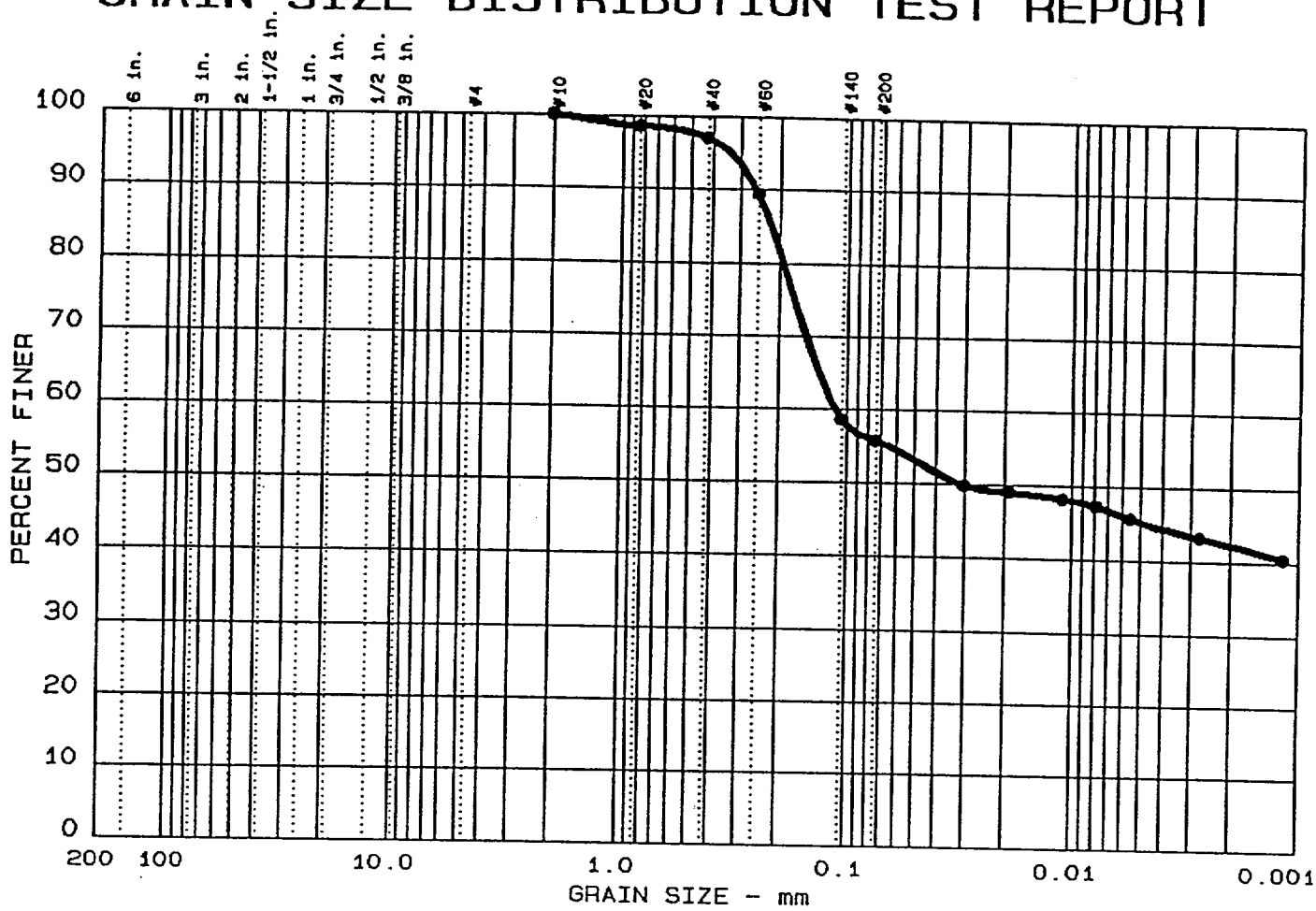
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	18	0.0	0.0	44.3	10.6	45.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	63	34	0.22	0.11	0.03					

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Sandy Fat Clay	CH	A-7-6 (16.5)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-52 @ 84.6-86.1 Ft.

Date: July 9, 1998

Remarks:

Tested by: SCA STM

Reviewed by: KD

Moisture Content = 54.2%

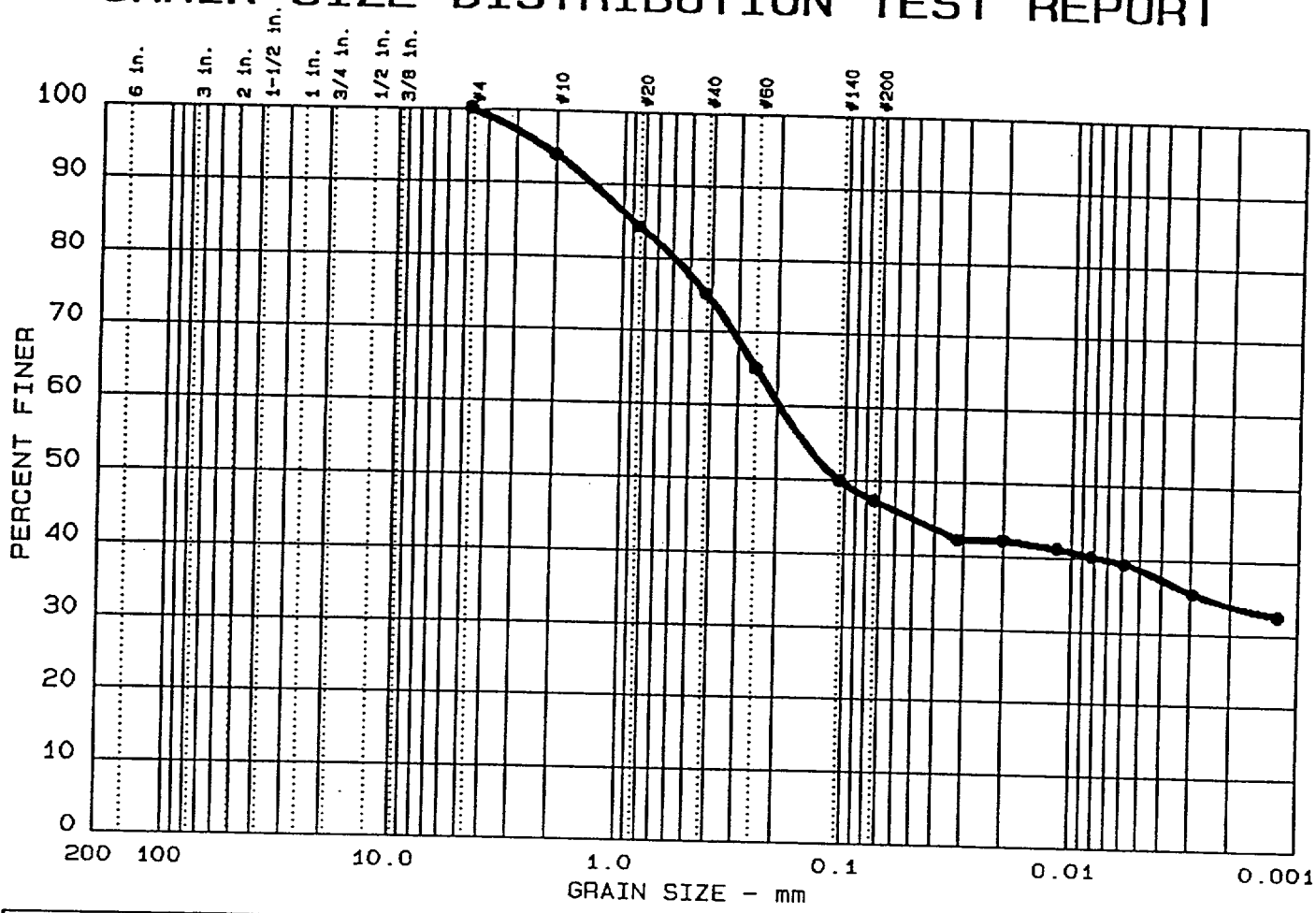
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	52.8	8.7	38.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	82	45	0.88	0.19	0.11					

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Silty Sand	SM	A-7-5 (16.1)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-22 SS-53 @ 86.1-87.6 Ft.

Date: July 5, 1998

Remarks:

Tested by: SC Adm

Reviewed by: [illegible]

Moisture Content = 67.7%

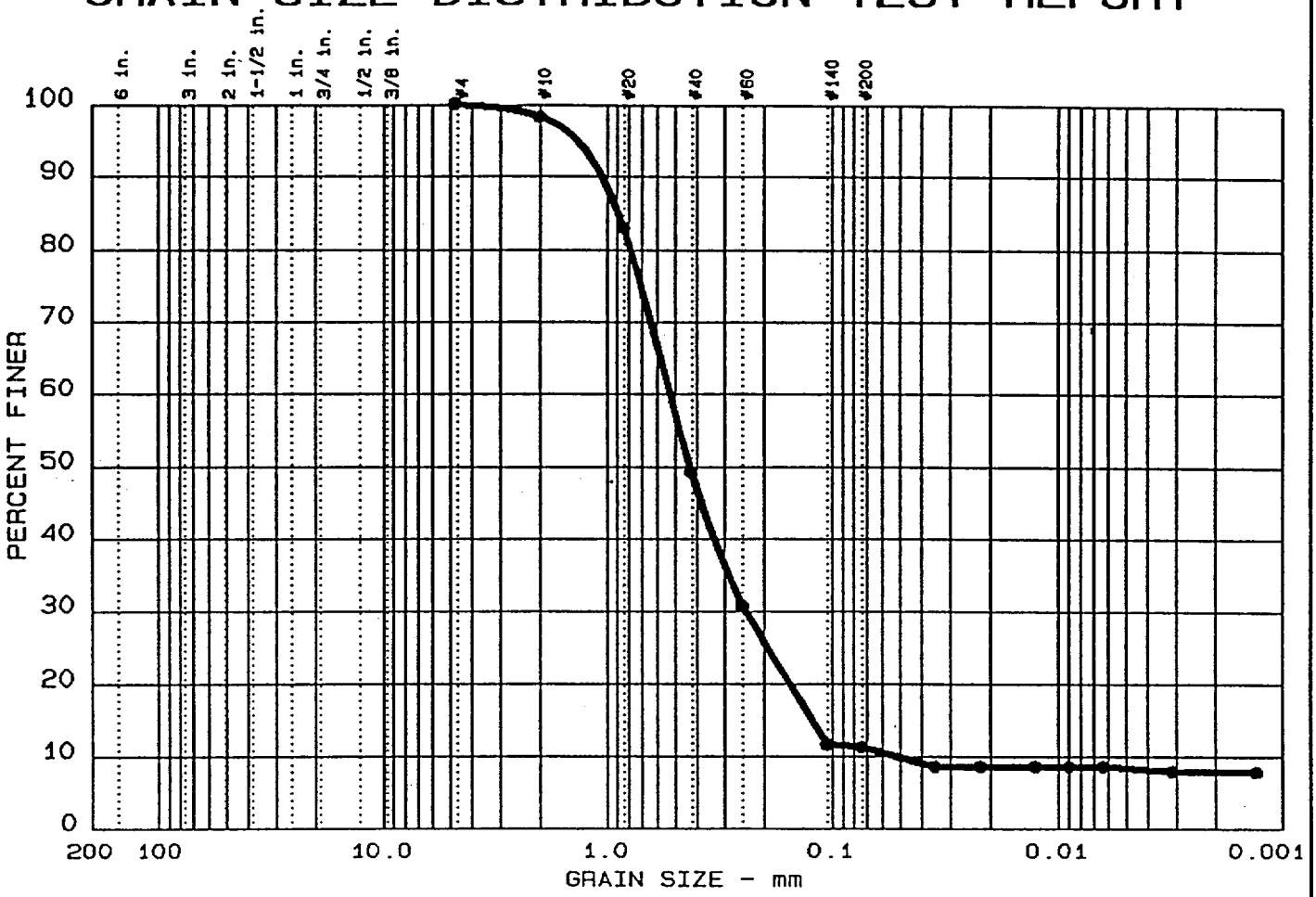
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	88.8	2.8	8.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.88	0.52	0.43	0.243	0.1216	0.0513	2.20	10.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Well Graded Sand with Silt	SW-SM	A-1-b

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-54 @ 88.0-89.5 Ft.

Date: July 5, 1998

Remarks:

Tested by: [illegible]

Reviewed by: [illegible]

Moisture Content = 30.1%

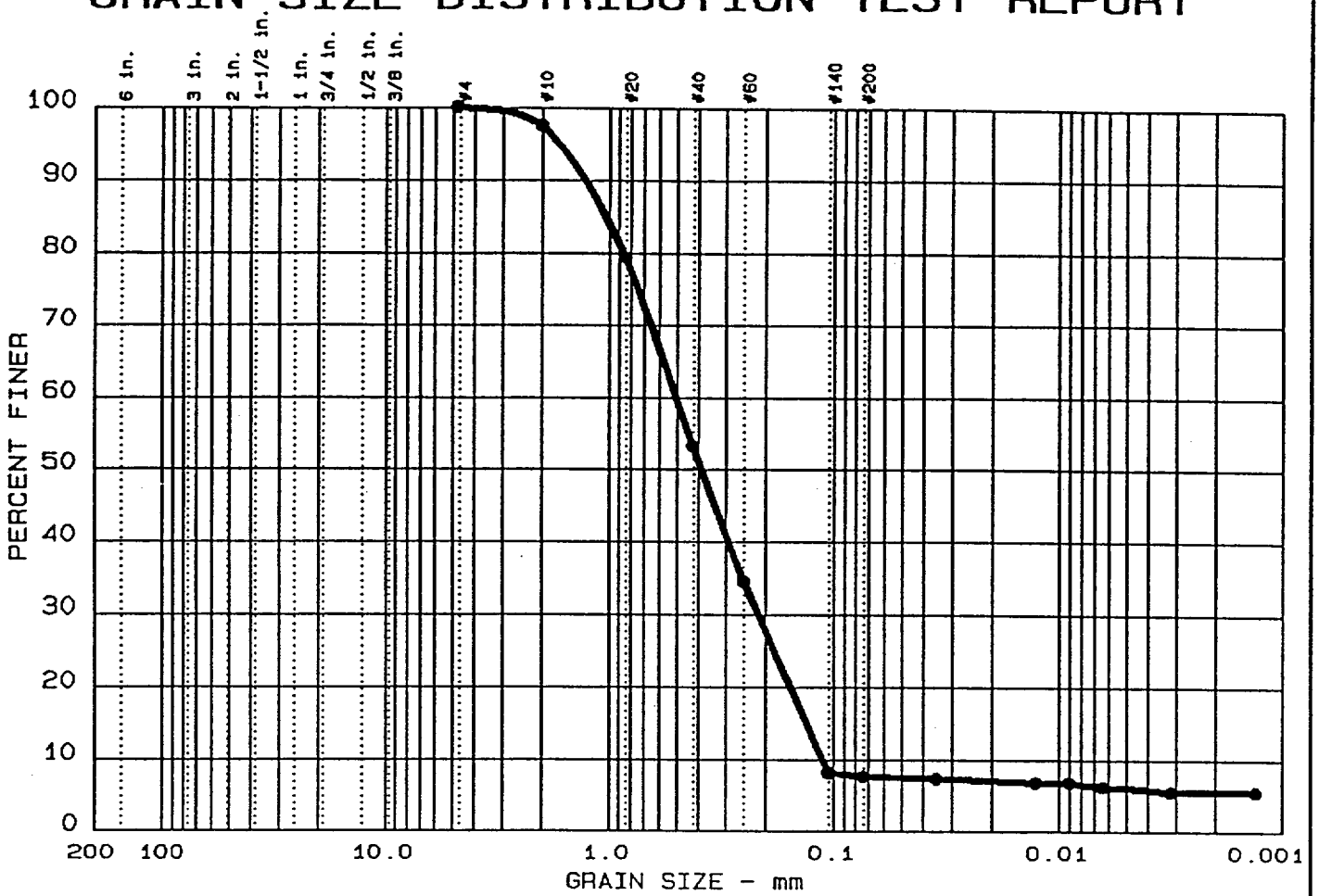
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	92.4	1.6	6.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	1.02	0.50	0.38	0.216	0.1314	0.1114	0.83	4.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-55 @ 89.5-91.0 Ft.

Date: July 5, 1998

Remarks:

Tested by: SCJTM

Reviewed by: HO

Moisture Content = 23.3%

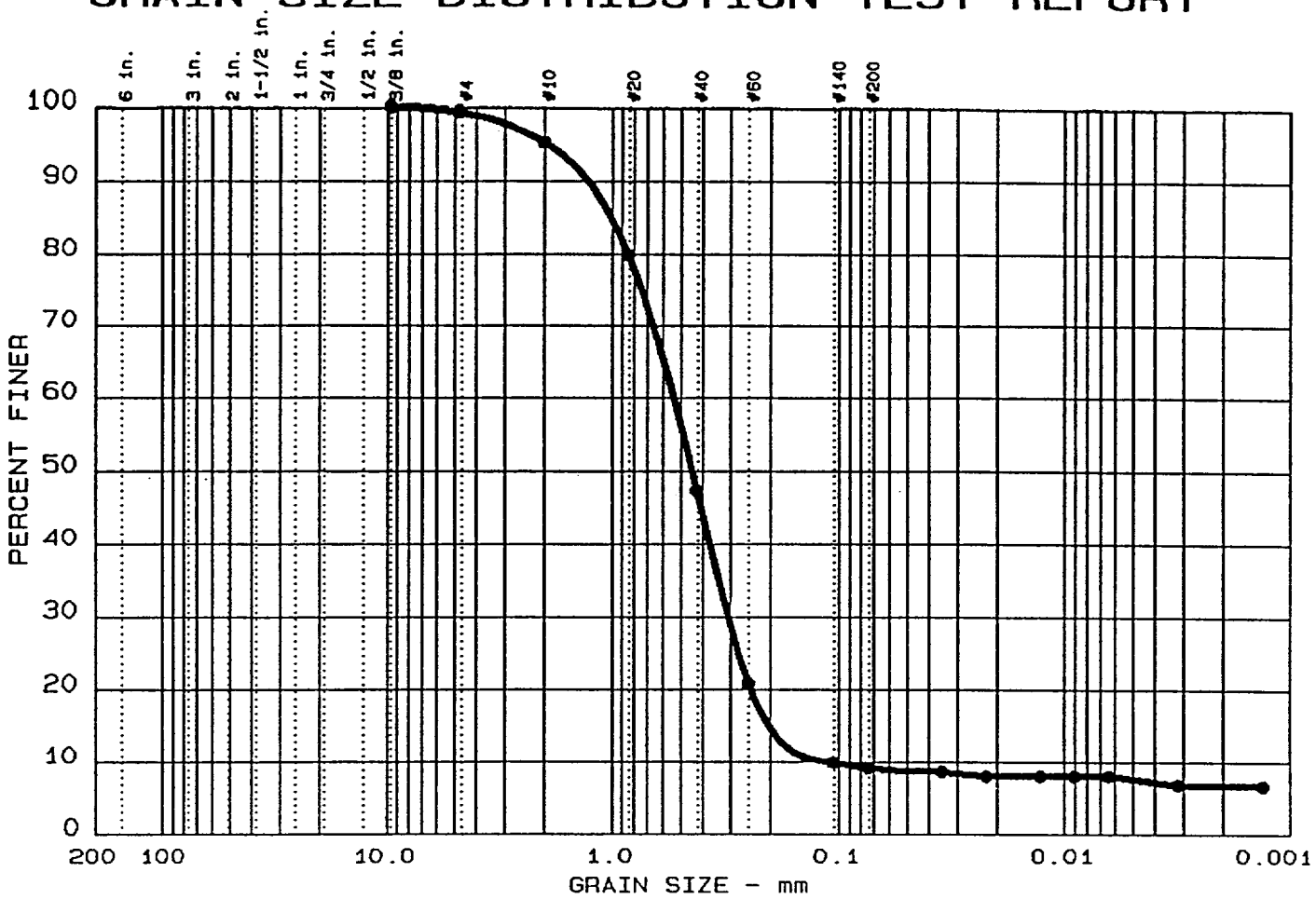
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.6	90.2	1.5	7.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	50	27	1.00	0.53	0.44	0.307	0.2028	0.1102	1.61	4.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Clay	SP-SC	A-2-7 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-58 @ 94.0-95.5 Ft.

Date: July 5, 1998

Remarks:

Tested by: SC+JTm

Reviewed by: H

Moisture Content = 30.1%

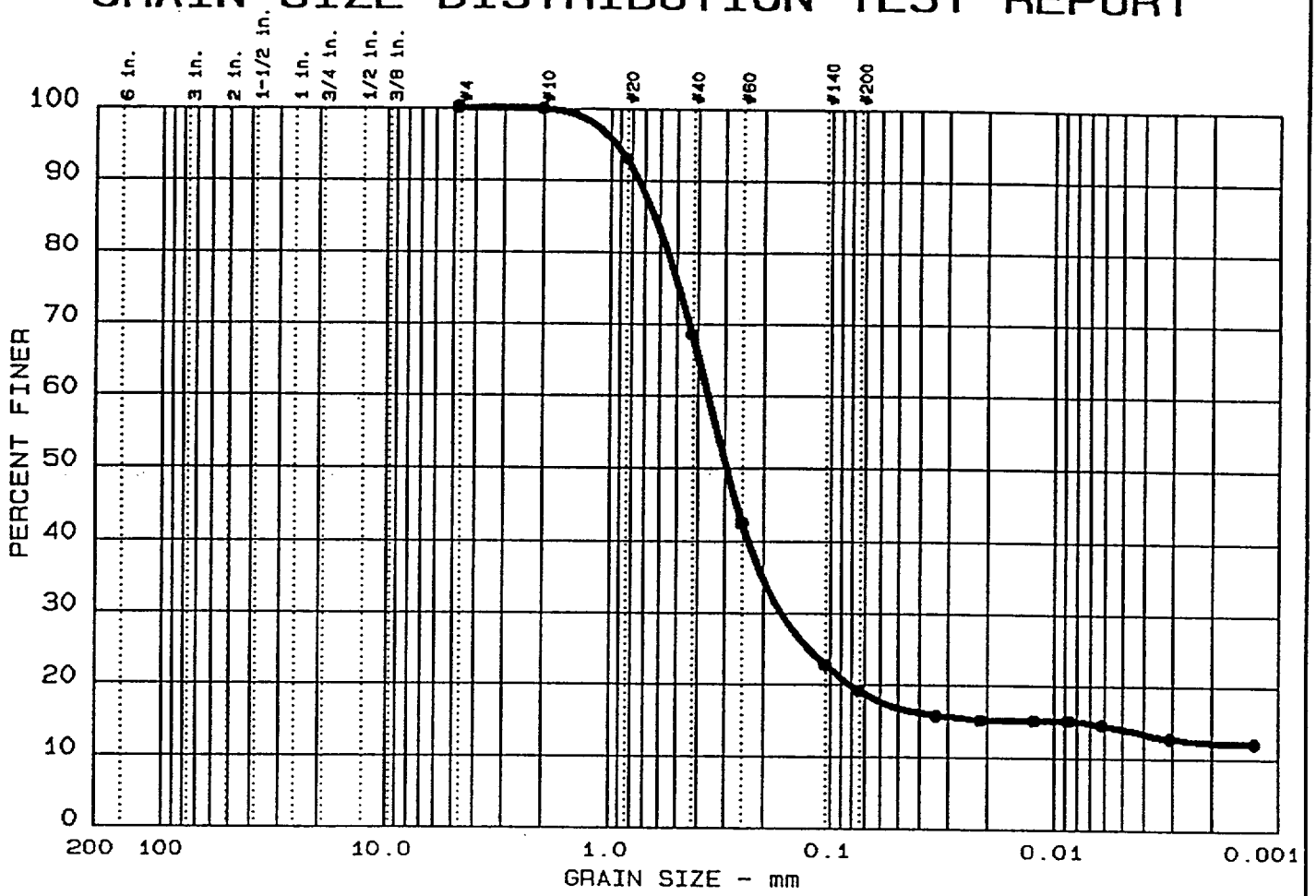
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	80.8	5.1	14.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	42	18	0.62	0.35	0.29	0.167	0.0077			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-2-7 (0.3)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-59 @ 95.5-97.0 Ft.

Date: July 5, 1998

Remarks:

Tested by: SCJ

Reviewed by: [illegible]

Moisture Content = 30.6%

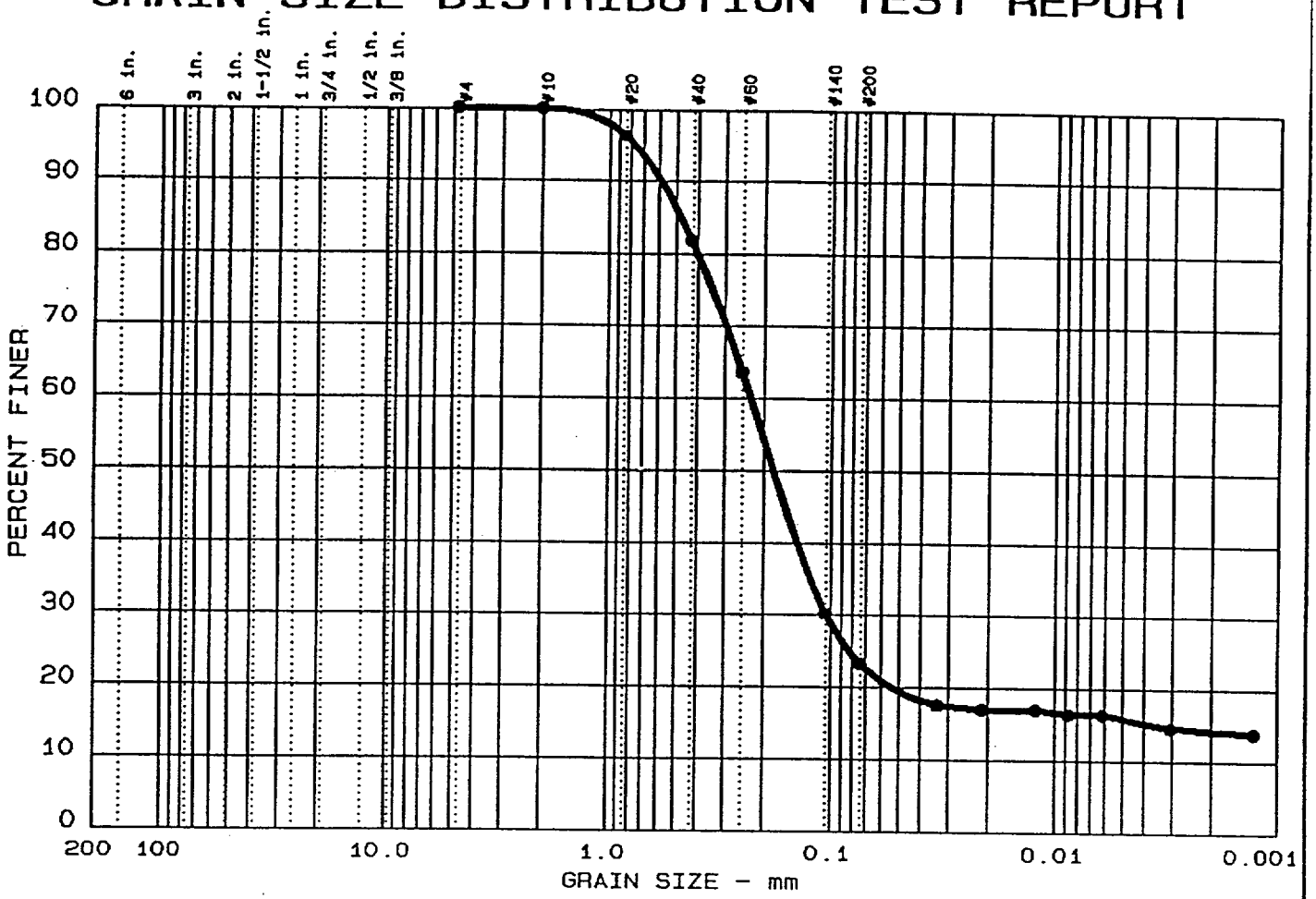
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	76.7	7.4	15.9

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	41	16	0.47	0.23	0.18	0.104	0.0034			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-2-7 (0.5)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-61 @ 98.5-100.0 Ft.

Date: July 5, 1998

Remarks:

Tested by: SCHOTM

Reviewed by: [illegible]

Moisture Content = 29.9%

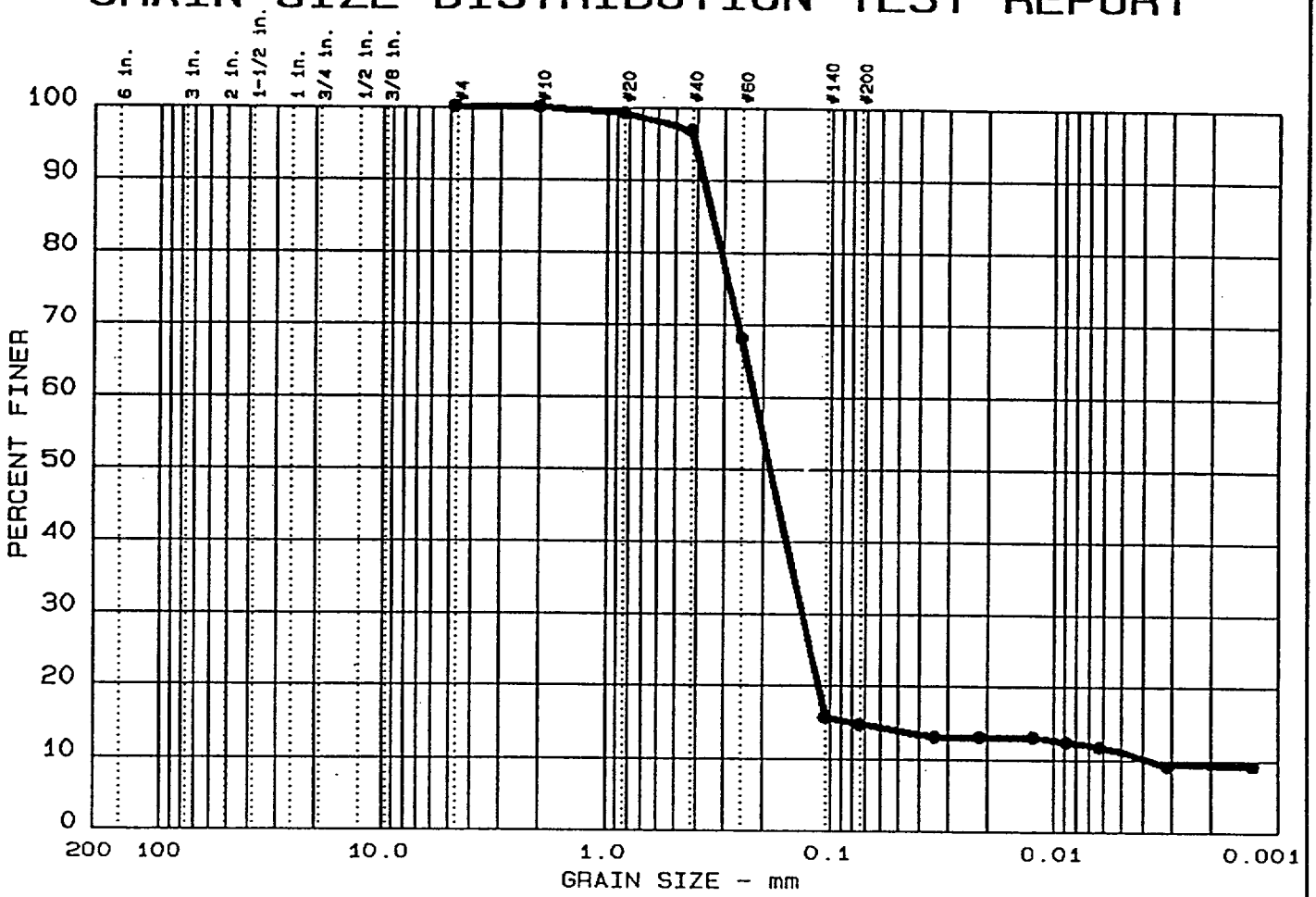
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	85.3	3.6	11.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.34	0.22	0.19	0.133	0.0811	0.0037	21.90	58.8

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-62 @ 100.0-101.5 Ft.

Date: July 5, 1998

Remarks:

Tested by: SC[illegible]

Reviewed by: [illegible]

Moisture Content = 34.9%

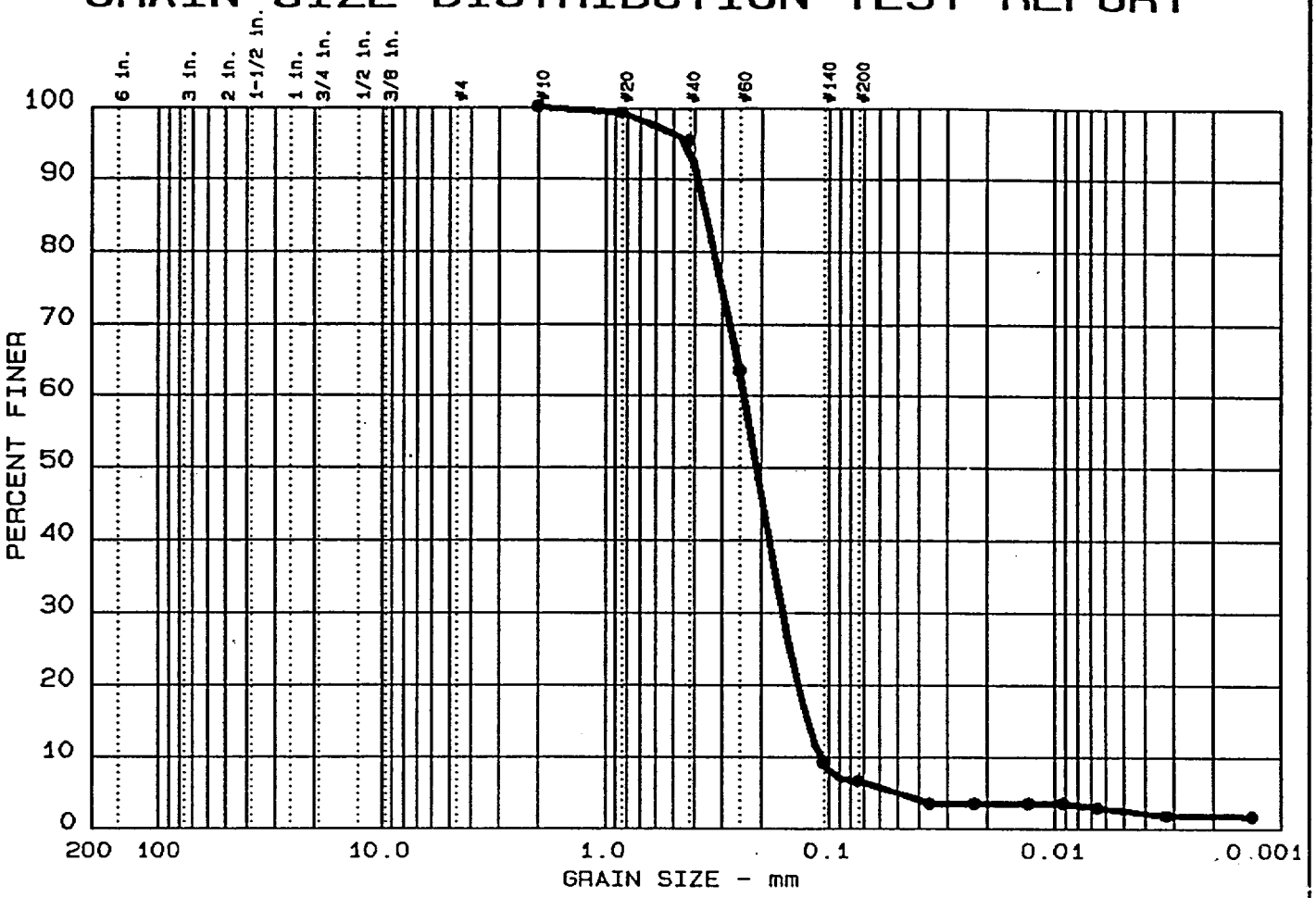
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	93.3	4.2	2.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.35	0.24	0.21	0.161	0.1237	0.1078	1.00	2.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-64 @ 103-104.5 Ft.

Date: July 5, 1998

Remarks:

Tested by: SCJ

Reviewed by: HD

Moisture Content = 23.9%

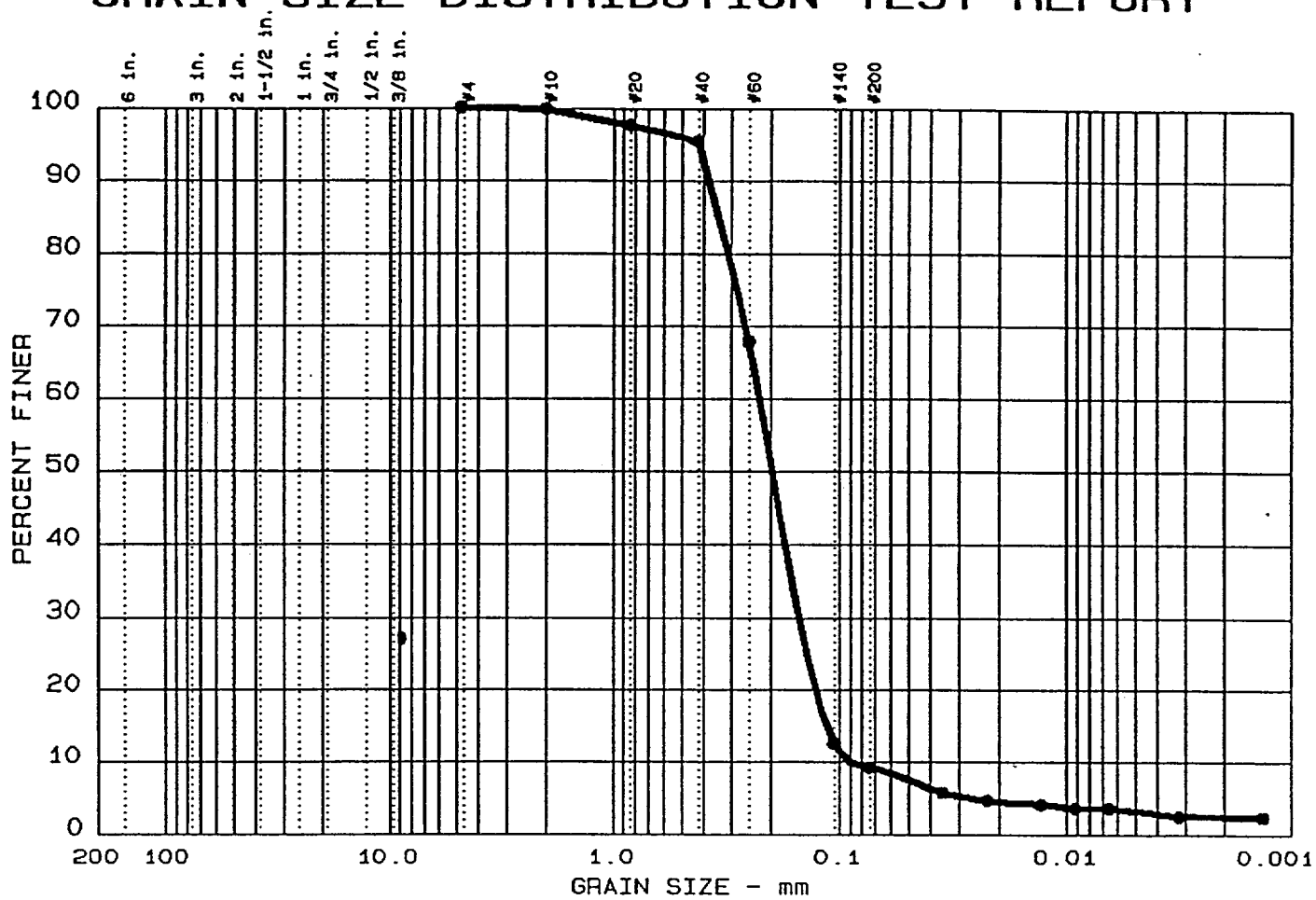
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.0	90.8	6.1	3.1

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.34	0.22	0.20	0.150	0.1132	0.0899	1.11	2.5

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-65 @ 104.5-105.83 Ft.

Date: July 5, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

Moisture Content = 21.0%

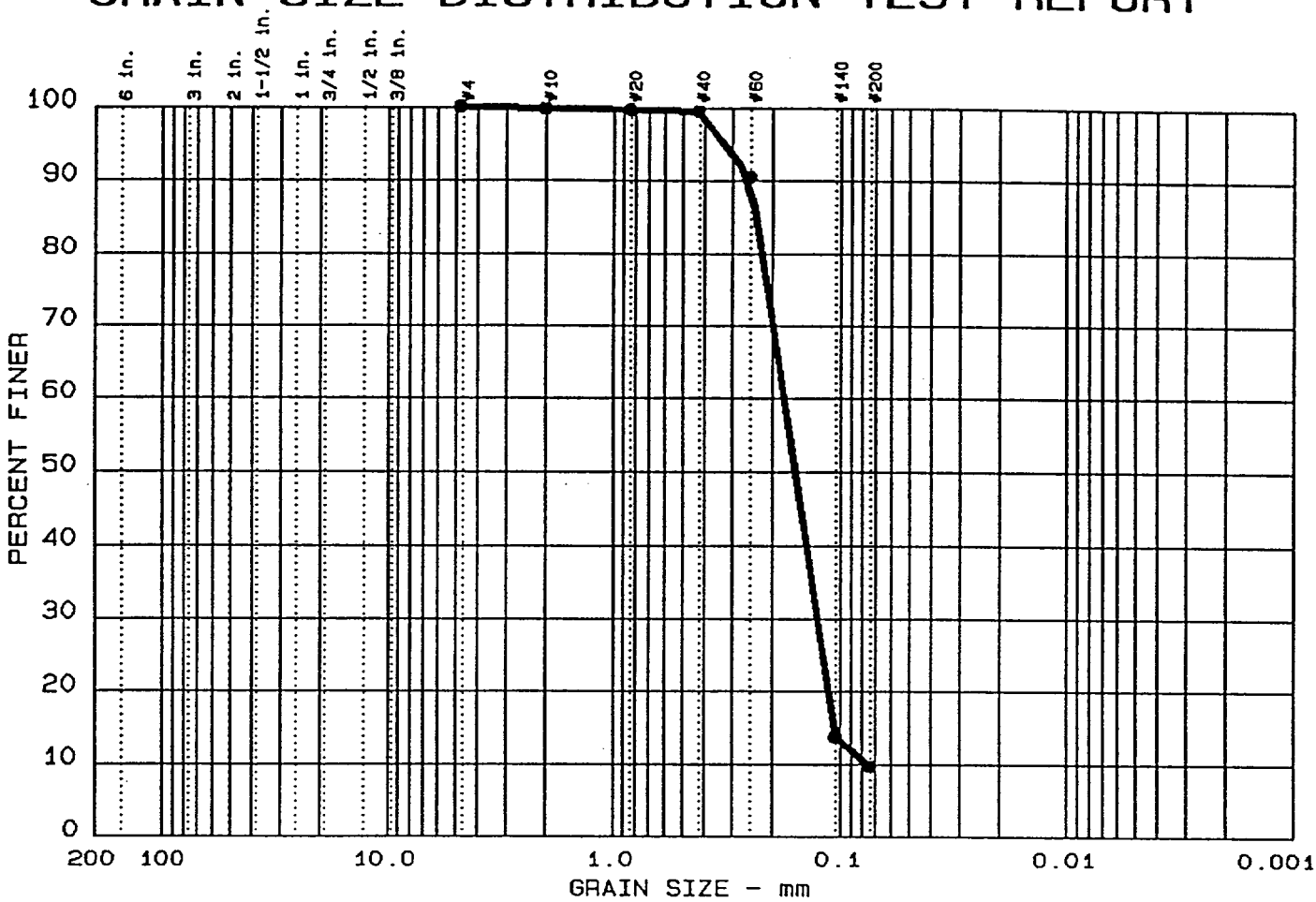
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	1	0.0	0.0	90.3	9.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.23	0.18	0.16	0.126	0.1064	0.0753	1.19	2.3

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-67 @ 107.5-109.0 Ft.

Date: June 25, 1998

Remarks:

Tested by: SC

Reviewed by: HD

Moisture Content = 24.9%

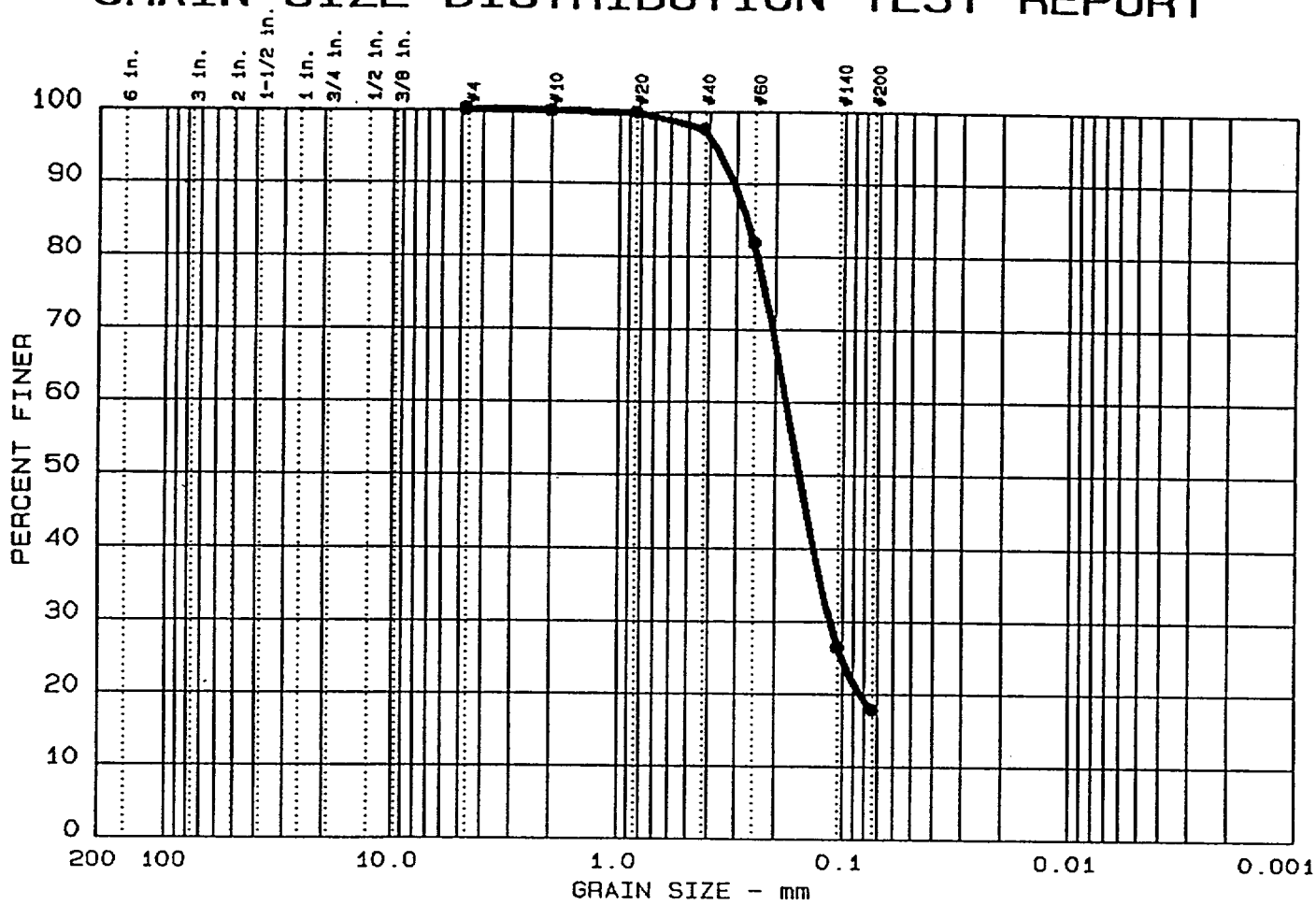
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	82.2	17.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.27	0.18	0.16	0.114				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-70 @ 112.0-113.5 Ft.

Date: June 25, 1998

Remarks:

Tested by: SC

Reviewed by: HD

Moisture Content = 34.1%

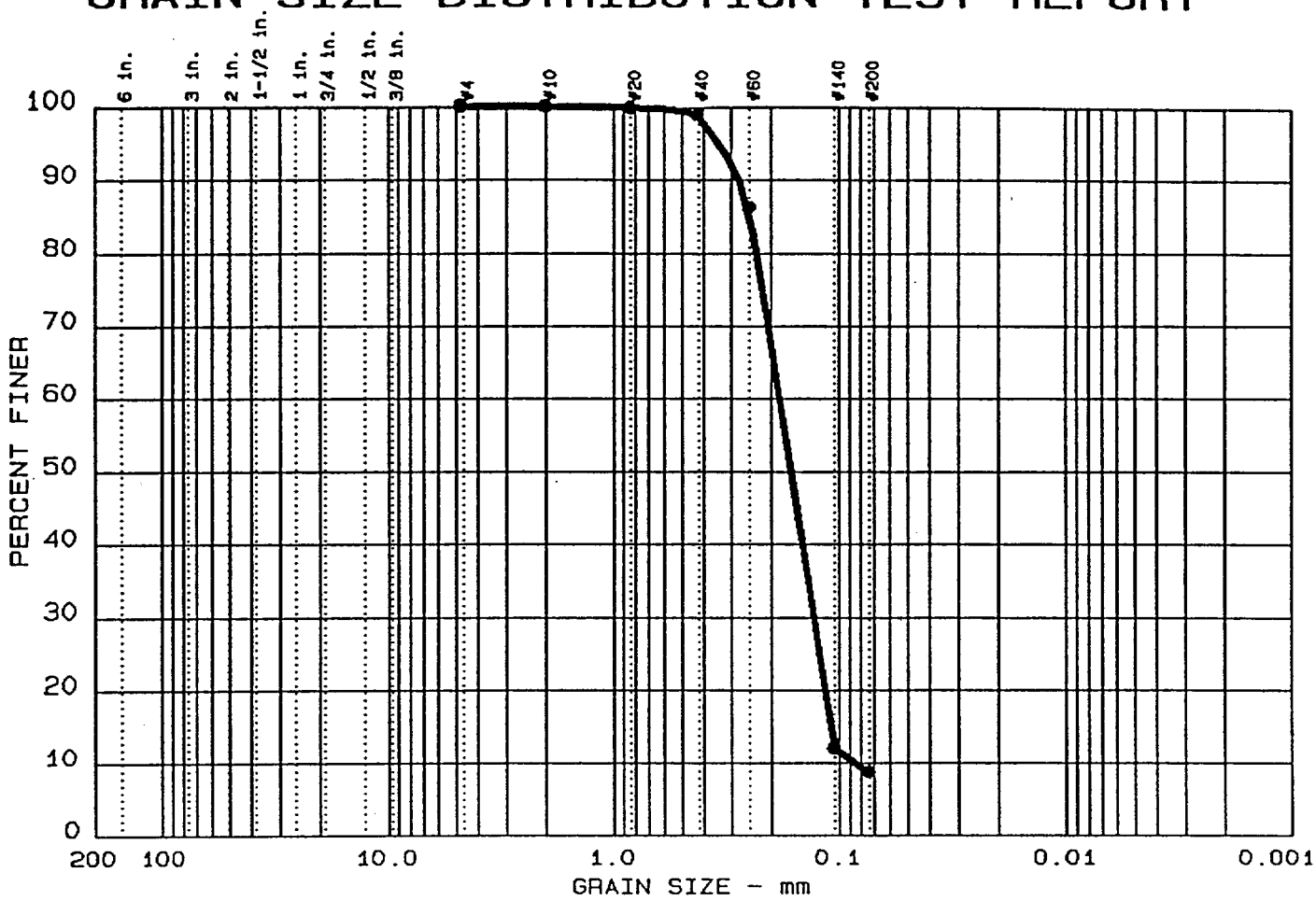
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	91.2	8.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.25	0.18	0.16	0.129	0.1085	0.0833	1.10	2.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-71 @ 113.5-115.0 Ft.

Date: June 25, 1998

Remarks:

Tested by: SC

Reviewed by: HJ

Moisture Content = 21.2%

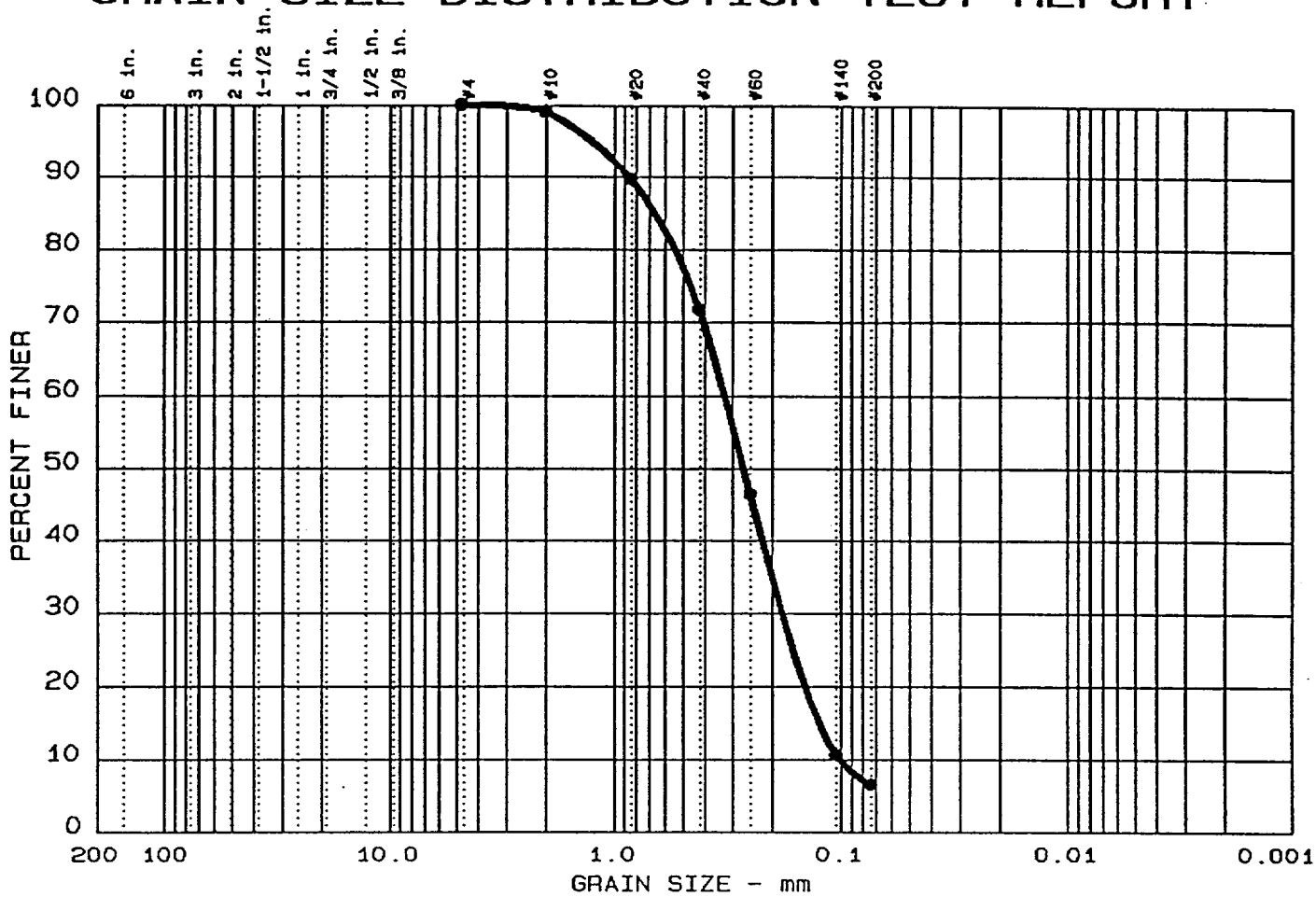
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	93.4	6.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.65	0.32	0.27	0.181	0.1236	0.1005	1.00	3.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-75 @ 119.5-121.0 Ft.

Date: June 25, 1998

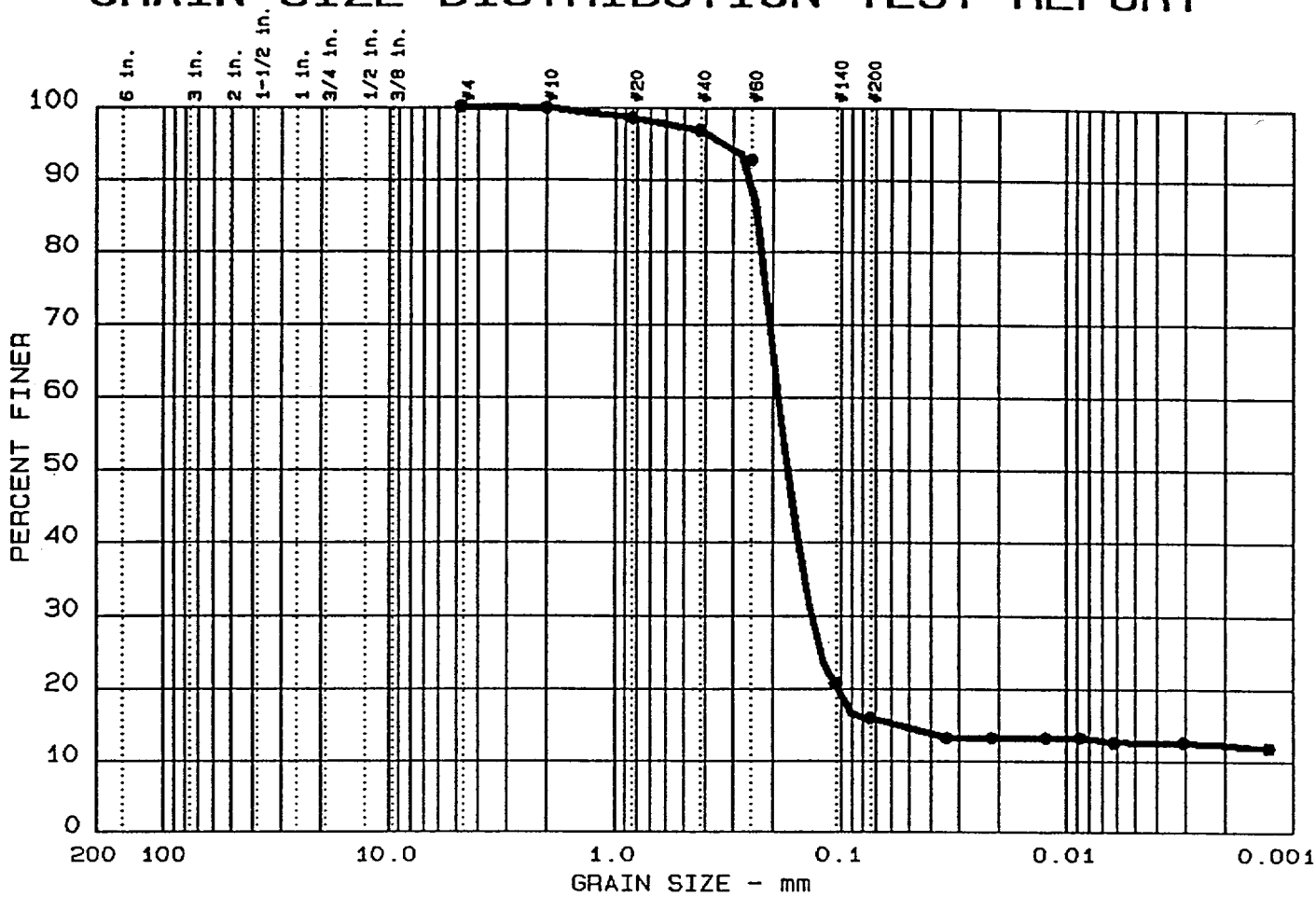
Remarks:
Tested by: SCJ-CS
Reviewed by: HB
Moisture Content = 17.4%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	0.0	83.9	3.5	12.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	35	8	0.23	0.19	0.17	0.135	0.0550			

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-77 @ 122.5-124.0 Ft.

Date: July 9, 1998

Remarks:

Tested by: SCHTM

Reviewed by: HD

Moisture Content = 33.6%

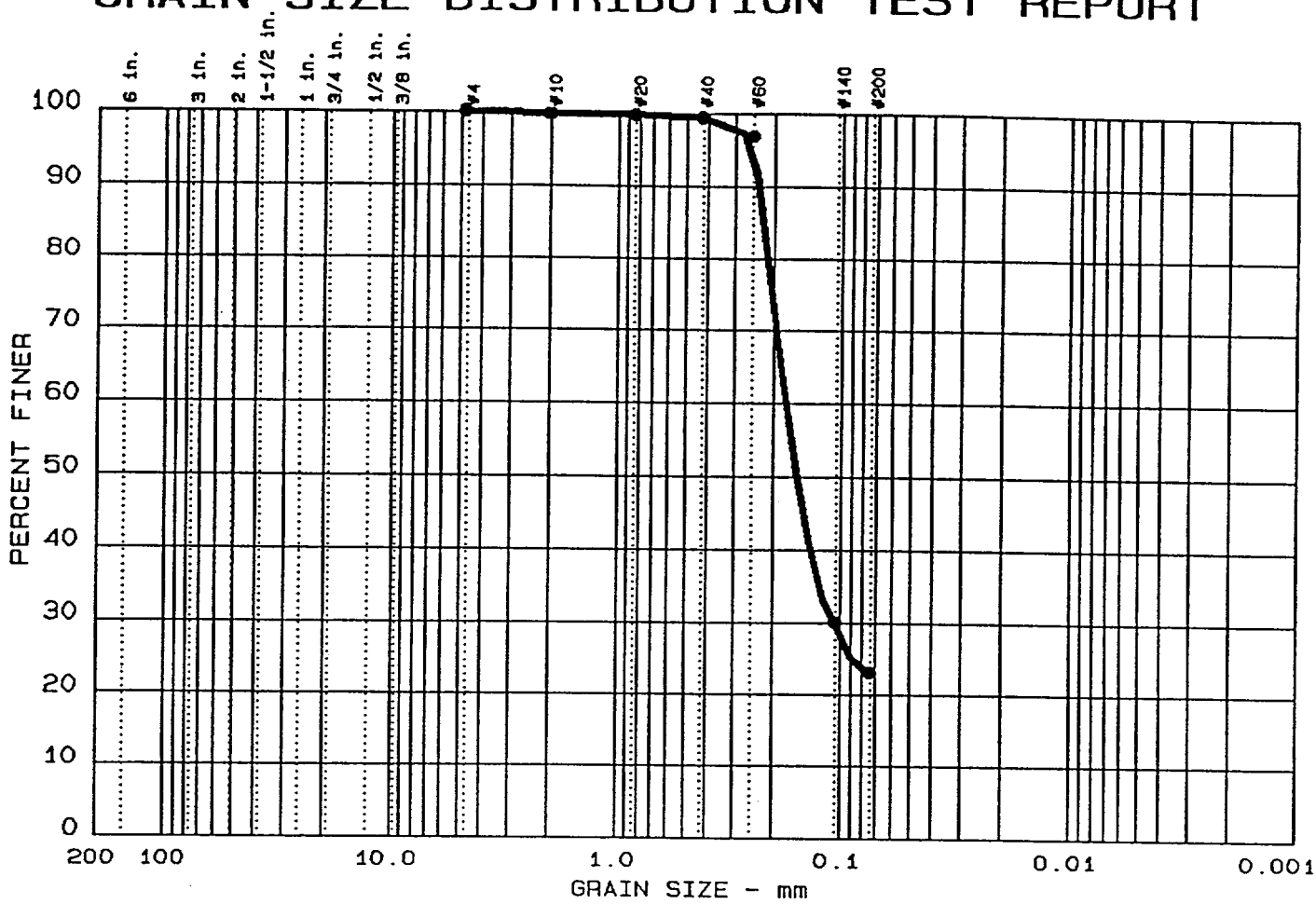
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	12	0.0	0.0	76.9	23.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.22	0.18	0.16	0.105				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Silty Sand	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-78 @ 124.0-125.5 Ft.

Date: June 25, 1998

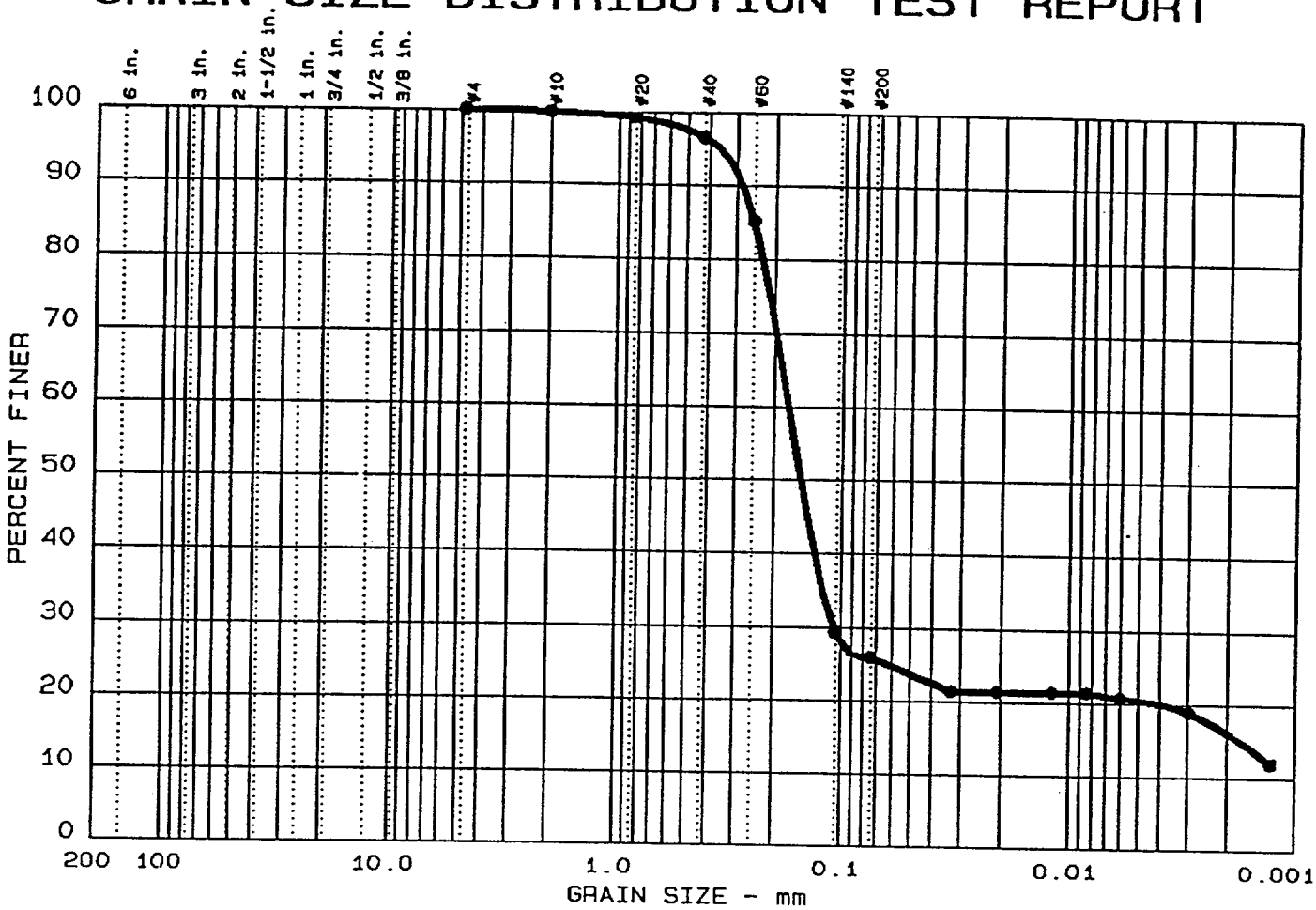
Remarks:
Tested by: CS & SC
Reviewed by: HJ
Moisture Content = 37.7%
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	0.0	74.1	5.4	20.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	39	16	0.25	0.17	0.15	0.107	0.0017			

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Clayey Sand	SC	A-2-6 (0.7)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-22 SS-81 @ 128.5-130.0 Ft.

Date: July 9, 1998

Remarks:

Tested by: JTM & SC

Reviewed by: HD

Moisture Content = 27.1%

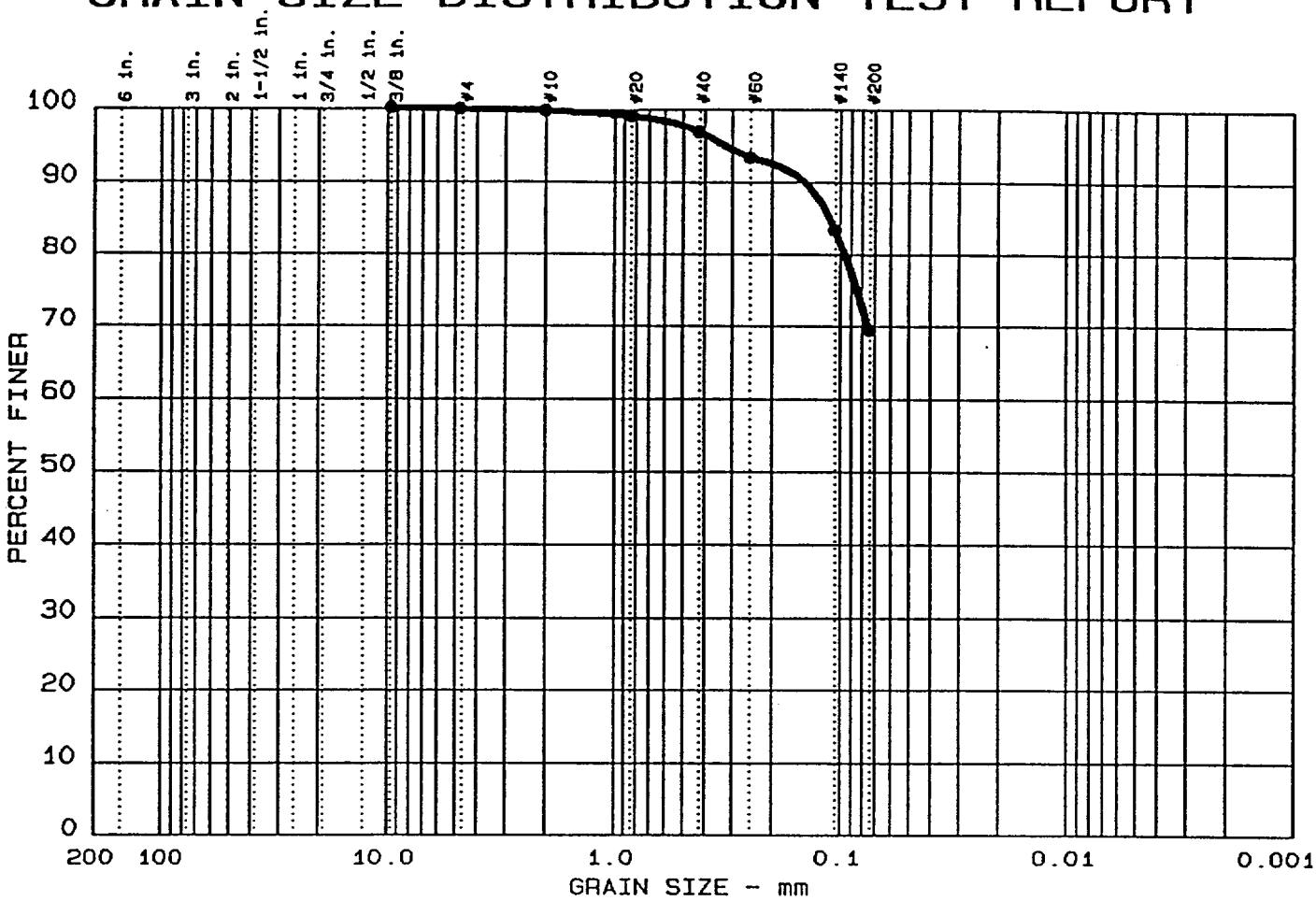
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.1	30.4	69.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.11							

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Sandy Silt	ML	A-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-84 @ 133.0-134.5 Ft.

Date: June 25, 1998

Remarks:

Tested by: SC + CS

Reviewed by: HD

Moisture Content = 34.0%

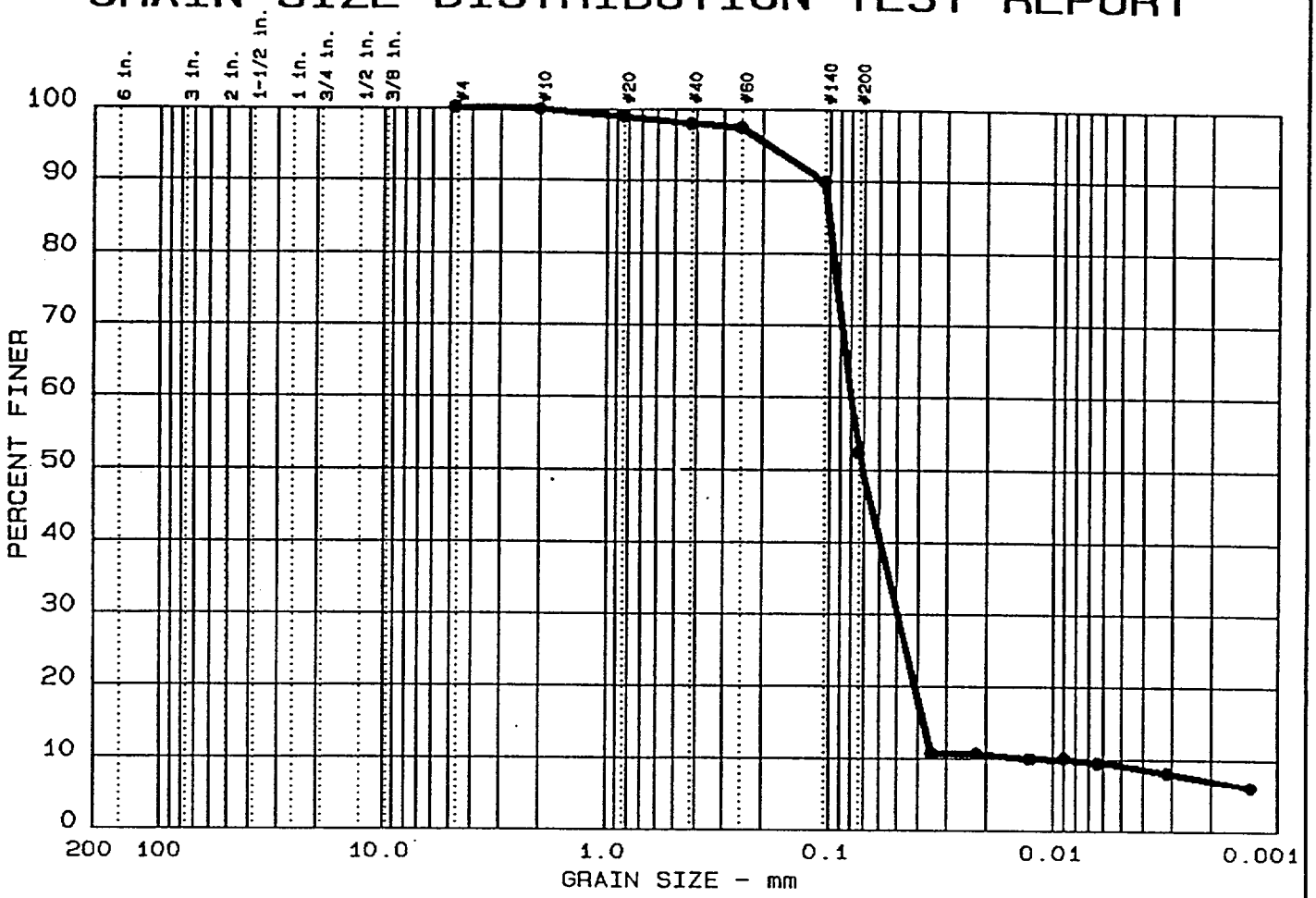
ASTM D422 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	20	0.0	0.0	47.6	43.2	9.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.10	0.08	0.07	0.049	0.0374	0.0100	3.03	8.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Sandy Silt	ML	A-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-85 @ 134.5-136.0 Ft.

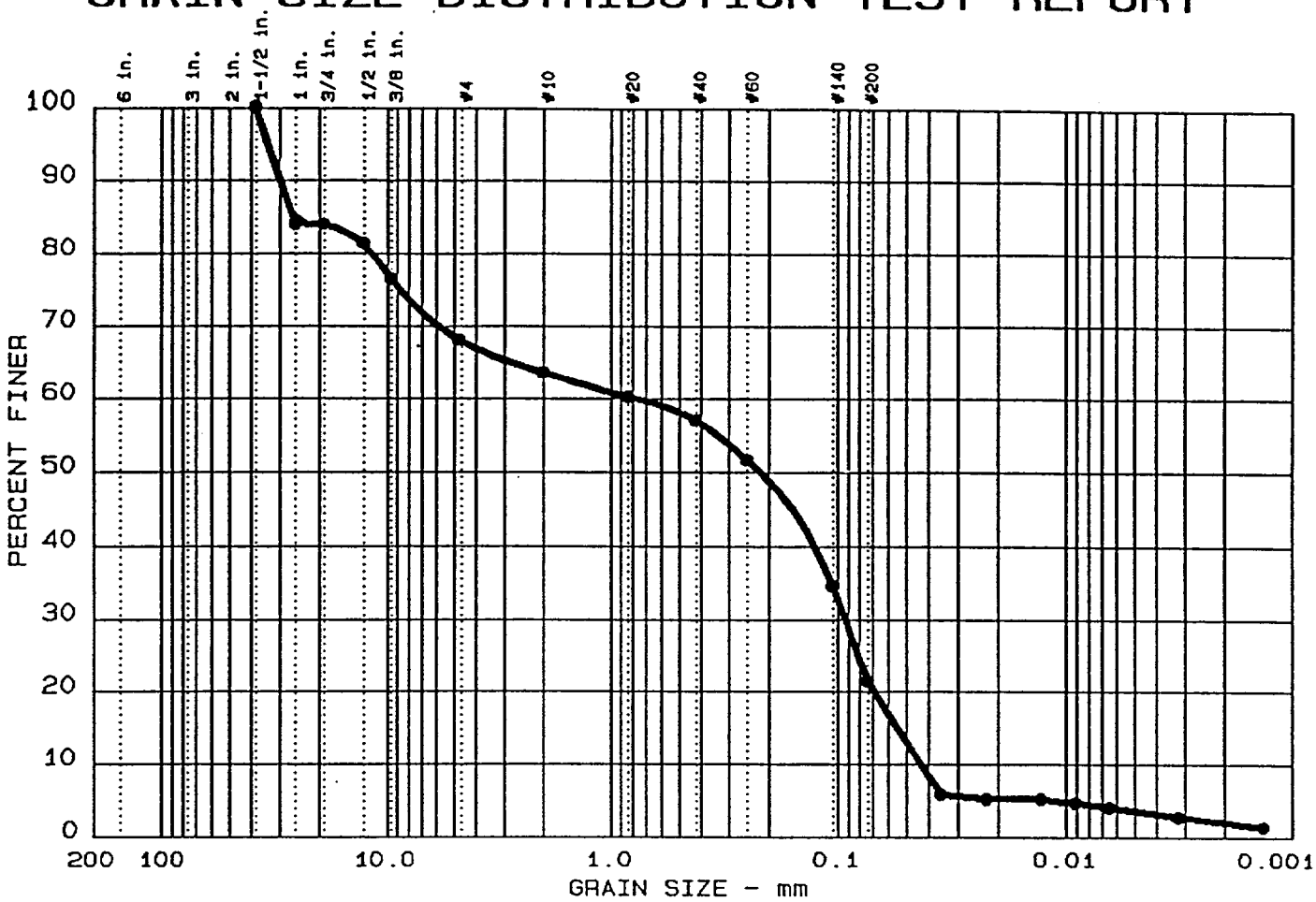
Date: July 9, 1998

Remarks:
Tested by: JTM/SC
Reviewed by: HJ
Moisture Content = 38.7%
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	31.9	46.6	17.9	3.6

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	26.00	0.74	0.22	0.092	0.0542	0.0430	0.27	17.3

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Silty Sand with Gravel	SM	A-2-4 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
◆ Location: FB-22 SS-86 @ 136-137.5 Ft.

Date: July 9, 1998

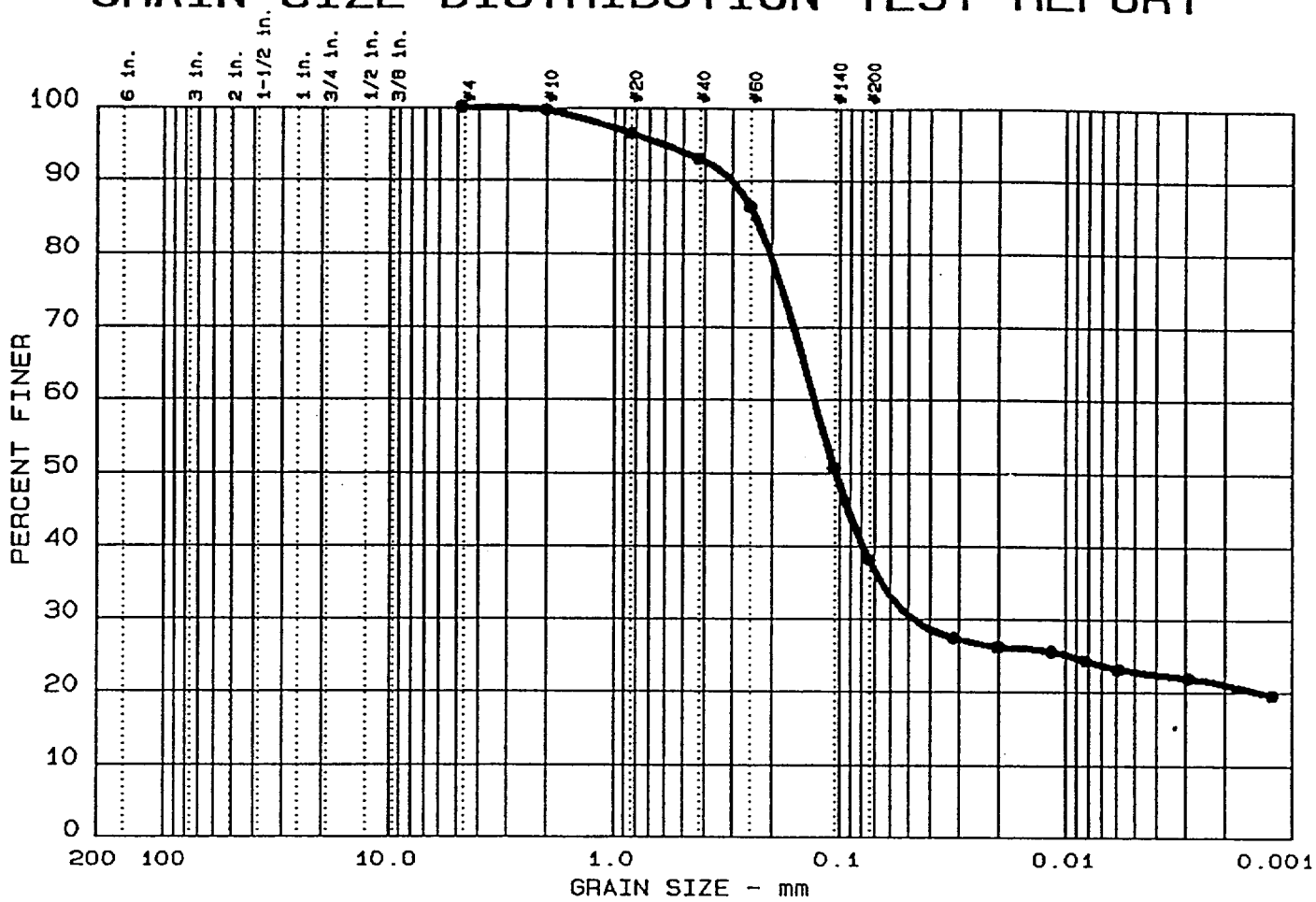
Remarks:
Tested by: JTM+SG
Reviewed by: [illegible]
Moisture Content = 34.7%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	0.0	62.0	15.2	22.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	41	19	0.24	0.13	0.10	0.047				

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown & Gray Clayey Sand	SC	A-7-6 (2.7)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-88 @ 139-140.5 Ft.

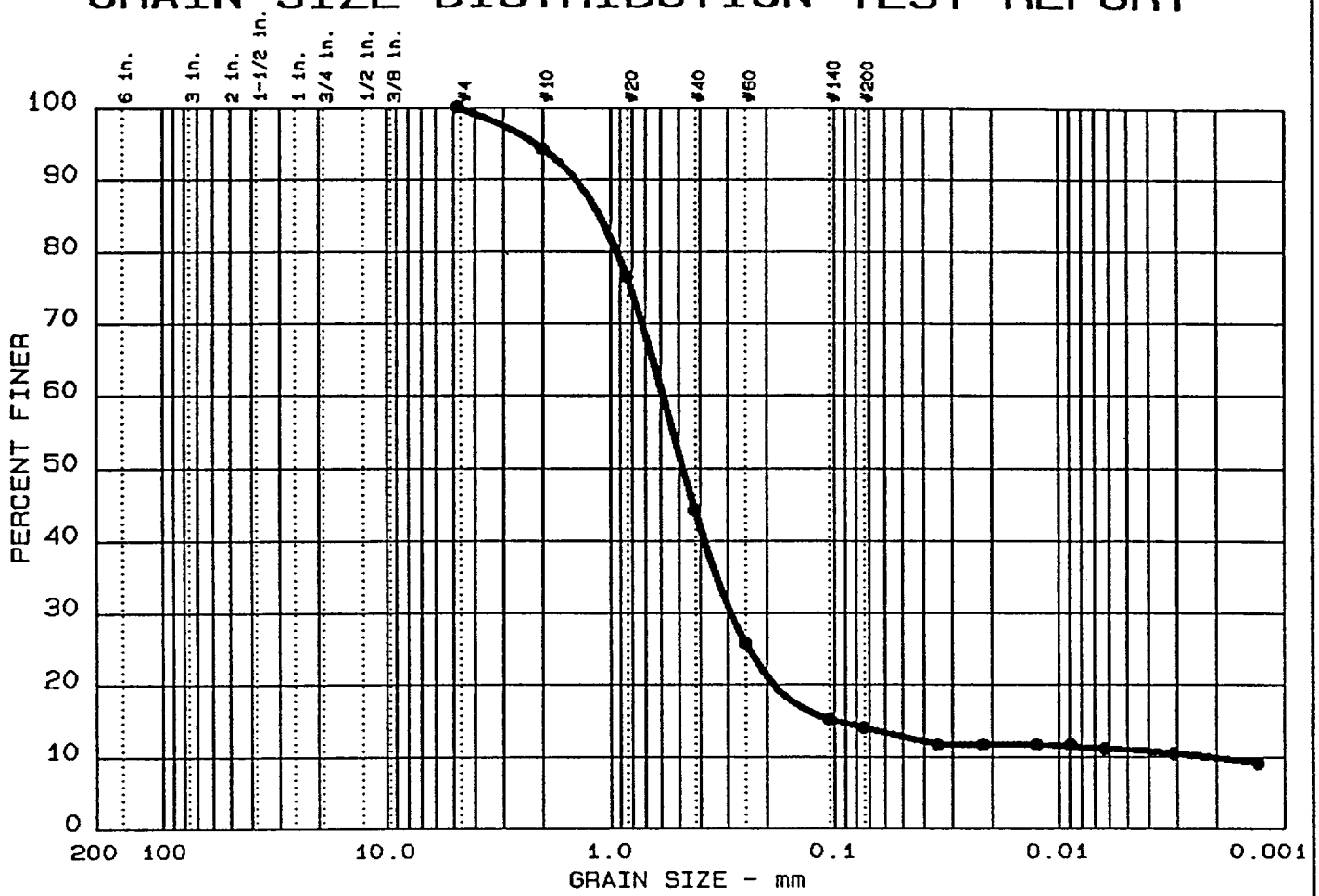
Date: July 9, 1998

Remarks:
Tested by: SC JS TM
Reviewed by: [illegible]
Moisture Content = 31.8%
ASTM D422 & D4318

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	85.9	3.1	11.0

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	41	20	1.10	0.58	0.47	0.289	0.0969	0.0019	74.39	301.0

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Brown Clayey Sand	SC	A-2-7 (0.0)

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-90 @ 142-143.25 Ft.

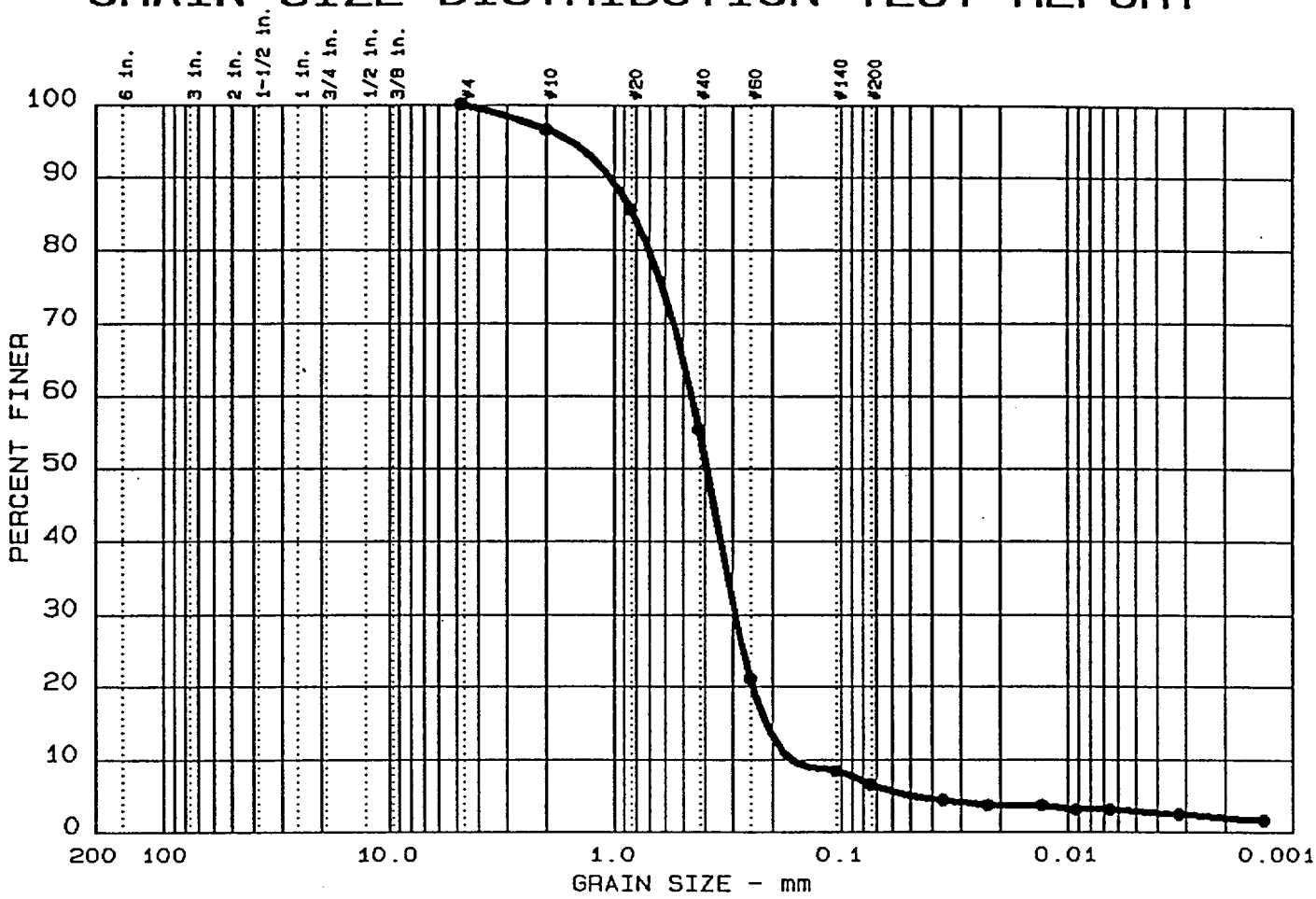
Date: July 9, 1998

Remarks:
Tested by: JTM & EC
Reviewed by: HB
Moisture Content = 21.2%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	93.5	3.7	2.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NL	NP	0.82	0.45	0.39	0.291	0.2133	0.1656	1.13	2.7

MATERIAL DESCRIPTION	USCS	AASHTO
● Brown Poorly Graded Sand with Silt	SP-SM	A-3

Project No.: 50161-7-0108 Task 21
Project: F-Area Northeast Expansion
● Location: FB-22 SS-91 @ 143.5-144.33 Ft.

Date: July 9, 1998

Remarks:
Tested by: JTM+SC
Reviewed by: HJ
Moisture Content = 19.8%
ASTM D422, D4318 & D2216

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENGINEERING, INC.

Figure No.