APPENDIX H

Foundation Properties

Appendix H. Foundation Properties

This section is dedicated to the properties of the materials beneath the concrete slab. Included here is all of the laboratory testing that was performed on base, subbase, and subgrade soil samples. This laboratory testing included loss on wash (ASTM C117-95) and sieve analysis (ASTM C136-95) for gradation.

For each DGBC section tested, a table showing the amount of material lost when washed on a #200 sieve is provided for the base, subbase and subgrade materials. In addition, tables showing the weight retained and percent passing the various sieves are provided for the sieve analysis. Plotted grain size distribution curves are found for each base, subbase and subgrade.

For OGDC sections, the same tables and plots are presented. Loss on wash was not conducted on the OGDC materials, though, because very small quantities of material finer than the #200 sieve were present.

Once gradation analyses were completed, filter criteria of the foundation layers and Hazen permeability values of the bases were determined. Tables summarizing these analyses for each test section are found at the end of this appendix.

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
11017-32516A	M2	885.91	0.00	101.38	301.57	304.58	148.80	13.09						16.16	885.58	0.04
Section A	M3	1023.92	0.00	40.05	359.97	324.08	228.07	44.37						26.77	1023.31	0.06
EB	M4	927.85	0.00	154.08	449.07	258.00	57.72	1.79						6.46	927.12	0.08
	M5	1018.49	0.00	53.39	411.86	302.89	191.20	39.48						19.20	1018.02	0.05
	M6	1015.25	0.00	93.69	396.01	299.47	184.85	29.12						11.71	1014.85	0.04
	J3	1021.00	0.00	87.20	422.58	316.77	162.51	16.04						15.93	1021.03	0.00
	C3	867.34	0.00	151.37	414.17	208.67	64.87	4.23						23.72	867.03	0.04

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
11017-32516A	M2	100.00	88.56	54.52	20.14	3.34	1.86					
Section A	M3	100.00	96.09	60.93	29.28	7.01	2.67					
EB	M4	100.00	83.39	34.99	7.19	0.97	0.77					
	M5	100.00	94.76	54.32	24.58	5.81	1.93					
	M6	100.00	90.77	51.77	22.27	4.06	1.19					
	J3	100.00	91.46	50.07	19.05	3.13	1.56					
	C3	100.00	82.55	34.80	10.74	3.26	2.77					

Loss on Wash - Subbase										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
11017-32516A	M2	73.72	1098.41	1024.69	73.72	1015.56	941.84	82.85	8.09	
Section A	M3	73.72	1083.10	1009.38	73.72	1013.05	939.33	70.05	6.94	
EB	M4	73.72	1141.32	1067.60	73.72	1091.63	1017.91	49.69	4.65	
	M5	73.72	1096.27	1022.55	73.72	1042.12	968.40	54.15	5.30	
	M6	73.72	1093.94	1020.22	73.72	1058.92	985.20	35.02	3.43	
	J3	73.72	1092.47	1018.75	73.72	997.32	923.60	95.15	9.34	
	C3	73.72	1079.16	1005.44	73.72	1021.70	947.98	57.46	5.71	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
11017-32516A	M2	1024.69	0.00	9.34	0.00	9.49	24.82	26.27	64.73	198.70	501.05	82.40	17.90	86.92	1021.62	0.30
Section A	M3	1009.38	0.00	0.00	11.88	9.16	36.83	34.58	64.34	224.02	458.81	75.81	17.56	75.11	1008.10	0.13
EB	M4	1067.6	0.00	0.00	0.00	6.93	15.25	17.70	57.06	153.18	641.58	109.48	14.86	51.11	1067.15	0.04
	M5	1022.55	0.00	0.00	0.00	1.96	23.73	28.86	80.55	133.89	586.49	95.85	14.15	55.34	1020.82	0.17
	M6	1020.22	0.00	0.00	7.88	17.20	13.22	8.73	17.23	51.88	670.96	171.39	22.77	36.68	1017.94	0.22
	J3	1018.75	0.00	0.00	0.00	21.20	21.23	16.11	31.47	159.25	537.66	107.13	24.24	98.60	1016.89	0.18
	C3	1005.44	0.00	0.00	12.78	8.76	16.22	21.34	35.95	169.26	552.59	108.90	17.24	60.74	1003.78	0.17

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
11017-32516A	M2	100.00	99.09	99.09	98.16	95.74	93.18	86.86	67.47	18.57	10.53	8.78
Section A	M3	100.00	100.00	98.82	97.92	94.27	90.84	84.47	62.27	16.82	9.31	7.57
EB	M4	100.00	100.00	100.00	99.35	97.92	96.26	90.92	76.57	16.48	6.22	4.83
	M5	100.00	100.00	100.00	99.81	97.49	94.67	86.79	73.69	16.34	6.96	5.58
	M6	100.00	100.00	99.23	97.54	96.25	95.39	93.70	88.62	22.85	6.05	3.82
	J3	100.00	100.00	100.00	97.92	95.84	94.25	91.16	75.53	22.76	12.24	9.86
	C3	100.00	100.00	98.73	97.86	96.24	94.12	90.55	73.71	18.75	7.92	6.21

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
11017-32516A	M1	1200.52	0.00	223.27	533.66	309.65	128.65	0.04	0.02	0.05	0.25	0.31		4.12	1200.02	0.04
Section C	M2	966.90	0.00	157.05	327.77	350.47	111.52	1.64						18.36	966.81	0.01
EB	M3	1031.10	0.00	192.53	451.09	254.95	103.00	1.97						28.07	1031.61	-0.05
	M4	1113.10	0.00	138.60	335.34	393.04	201.75	13.13						31.53	1113.39	-0.03
	M5	1092.83	0.00	167.70	262.95	226.15	270.03	102.71						63.26	1092.8	0.00
	M6	1103.58	0.00	151.50	377.48	305.04	225.03	14.23						30.66	1103.94	-0.03

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
11017-32516A	M1	100.00	81.40	36.95	11.16	0.44	0.44					
Section C	M2	100.00	83.76	49.86	13.61	2.08	1.91					
EB	M3	100.00	81.33	37.58	12.85	2.86	2.67					
	M4	100.00	87.55	57.42	22.11	3.99	2.81					
	M5	100.00	84.65	60.59	39.90	15.19	5.79					
	M6	100.00	86.27	52.07	24.43	4.04	2.75					

Loss on Wash - Subbase										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
11017-32516A Section C EB	M1	73.72	984.3	910.58	73.72	881.31	807.59	102.99	11.31	
	M2	73.72	1093.25	1019.53	73.72	988.64	914.92	104.61	10.26	
	M3	73.72	987.63	913.91	73.72	897.05	823.33	90.58	9.91	
	M4	73.72	1097.06	1023.34	73.72	991.72	918	105.34	10.29	
	M5	73.72	1084.14	1010.42	73.72	932.95	859.23	151.19	14.96	
	M6	73.72	1242.11	1168.39	73.72	1187.06	1113.3	55.05	4.71	
	Natural Soil	73.72	1208.87	1135.15	73.72	915.19	841.47	293.68	25.87	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
11017-32516A Section C EB	M1	807.59	0.00	0.00	0.00	5.17	3.95	3.13	6.67	23.39	235.44	363.68	154.22	11.93	807.58	0.00
	M2	914.92	0.00	0.00	0.00	1.43	8.17	4.26	6.35	27.48	418.95	321.24	120.01	6.95	914.84	0.01
	M3	823.33	0.00	0.00	11.14	3.62	7.60	5.05	8.10	30.25	371.80	279.78	99.06	6.30	822.70	0.08
	M4	918.00	0.00	0.00	2.91	1.00	4.09	2.70	4.45	13.43	317.38	438.61	118.00	14.55	917.12	0.10
	M5	859.23	0.00	0.00	6.47	6.13	6.51	2.68	4.72	15.29	192.90	455.13	153.51	15.32	858.66	0.07
	M6	1113.34	0.00	13.00	15.10	11.85	8.58	5.44	6.96	23.94	670.57	294.51	58.12	4.41	1112.48	0.08
	Natural Soil	1135.15	0.00	0.00	0.00	0.00	0.91	1.64	3.76	9.42	139.72	487.68	178.52	310.46	1132.11	0.27

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
11017-32516A Section C EB	M1	100.00	100.00	100.00	99.43	99.00	98.65	97.92	95.35	69.50	29.56	12.62
	M2	100.00	100.00	100.00	99.86	99.06	98.64	98.02	95.32	54.23	22.72	10.95
	M3	100.00	100.00	98.78	98.38	97.55	97.00	96.11	92.80	52.12	21.51	10.67
	M4	100.00	100.00	99.72	99.62	99.22	98.95	98.52	97.21	66.19	23.33	11.80
	M5	100.00	100.00	99.36	98.75	98.11	97.84	97.38	95.86	76.77	31.73	16.54
	M6	100.00	98.89	97.59	96.58	95.85	95.38	94.79	92.74	35.34	10.14	5.16
	Natural Soil	100.00	100.00	100.00	100.00	99.92	99.78	99.44	98.61	86.31	43.34	27.62

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
11017-32516A	M1	1157.30	0.00	201.45	603.20	283.85	43.28	0.38						25.17	1157.33	0.00
Section D	M3	1125.51	0.00	76.40	524.40	427.31	72.00	0.42						26.07	1126.60	-0.10
WB	M5	1154.68	0.00	34.70	546.60	434.05	115.62	0.81						22.80	1154.58	0.01
	M7	1180.60	0.00	179.21	698.63	249.87	32.04	0.29						20.47	1180.51	0.01
	M9	1169.20	0.00	146.53	579.36	376.74	43.21	0.33						22.72	1168.89	0.03
	M11	1146.78	0.00	128.07	613.61	322.93	50.78	2.02						29.18	1146.59	0.02
	M13	1181.07	0.00	123.55	625.93	337.8	67.86	0.47						25.17	1180.78	0.02

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
11017-32516A	M1	100.00	82.59	30.47	5.94	2.21	2.17					
Section D	M3	100.00	93.21	46.62	8.65	2.26	2.22					
WB	M5	100.00	96.99	49.66	12.07	2.05	1.98					
	M7	100.00	84.82	25.64	4.48	1.77	1.74					
	M9	100.00	87.47	37.92	5.69	2.00	1.97					
	M11	100.00	88.83	35.32	7.17	2.74	2.56					
	M13	100.00	89.54	36.54	7.94	2.20	2.16					

Loss on Wash - Subbase										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
11017-32516A	M1	73.72	1187.20	1113.48	73.72	1103.34	1029.62	83.86	7.53	
Section D	M3	73.72	1261.86	1188.14	73.72	1209.93	1136.21	51.93	4.37	
WB	M5	73.72	1168.75	1095.03	73.72	1098.25	1024.53	70.50	6.44	
	M7	73.72	1097.09	1023.37	73.72	1026.91	953.19	70.18	6.86	
	M9	73.72	1110.12	1036.40	73.72	1033.72	960.00	76.40	7.37	
	M11	73.72	1175.72	1102.00	73.72	1086.06	1012.34	89.66	8.14	
	M13	73.72	1108.36	1034.64	73.72	1060.04	986.32	48.32	4.67	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
11017-32516A	M1	1113.48	0.00	0.00	4.31	9.82	19.85	24.00	40.20	211.81	495.98	172.57	46.64	87.11	1112.29	0.11
Section D	M3	1188.14	0.00	0.00	15.88	16.37	31.24	32.05	53.96	319.44	555.92	93.38	16.76	53.55	1188.55	-0.03
WB	M5	1095.03	0.00	0.00	43.03	33.88	27.56	25.36	49.39	165.09	539.26	117.32	26.92	72.77	1100.58	-0.51
	M7	1023.37	0.00	0.00	8.38	0.88	17.98	23.21	56.02	165.71	553.02	103.24	20.25	72.46	1021.15	0.22
	M9	1036.40	0.00	0.00	7.20	2.56	16.11	24.30	55.70	154.44	548.01	121.87	24.71	79.27	1034.17	0.22
	M11	1102.00	0.00	0.00	11.75	9.13	28.87	23.08	39.17	191.39	545.17	123.88	37.33	91.41	1101.18	0.07
	M13	1034.64	0.00	0.00	21.78	3.30	19.16	17.08	37.42	227.93	546.55	96.21	14.88	49.60	1033.91	0.07

		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
11017-32516A	M1	100.00	100.00	99.61	98.73	96.95	94.79	91.18	72.16	27.62	12.12	7.93
Section D	M3	100.00	100.00	98.66	97.29	94.66	91.96	87.42	60.53	13.74	5.88	4.47
WB	M5	100.00	100.00	96.07	92.98	90.46	88.14	83.63	68.56	19.31	8.60	6.14
	M7	100.00	100.00	99.18	99.10	97.34	95.07	89.60	73.40	19.36	9.28	7.30
	M9	100.00	100.00	99.31	99.06	97.50	95.16	89.78	74.88	22.01	10.25	7.86
	M11	100.00	100.00	98.93	98.11	95.49	93.39	89.84	72.47	23.00	11.76	8.37
	M13	100.00	100.00	97.89	97.58	95.72	94.07	90.46	68.43	15.60	6.30	4.86

Loss on Wash - Subgrade										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
11017-32516A Section D WB	M1	73.72	375.95	302.23	73.72	330.43	256.71	45.52	15.06	
	M3	73.72	1154.22	1080.5	73.72	1142.53	1068.8	11.69	1.08	
	M5	73.72	874.01	800.29	73.72	615.85	542.13	258.16	32.26	
	M7	73.72	833.85	760.13	73.72	637.42	563.7	196.43	25.84	
	M9	73.72	1229.94	1156.22	73.72	823.25	749.53	406.69	35.17	
	M11	73.72	413.03	339.31	73.72	364.43	290.71	48.6	14.32	
	M13	73.72	1146.57	1072.85	73.72	894.07	820.35	252.5	23.54	

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
11017-32516A Section D WB	M1	302.23	0.00	0.00	0.00	3.20	17.26	13.31	15.66	22.98	61.80	71.31	38.10	57.78	301.40	0.27
	M3	1080.50	0.00	0.00	2.93	3.32	3.92	2.65	5.90	71.98	683.75	276.35	17.00	12.58	1080.38	0.01
	M5	800.29	0.00	0.00	28.74	19.54	34.70	22.19	28.17	49.87	160.03	137.82	55.54	261.27	797.87	0.30
	M7	760.13	56.55	20.99	9.28	18.86	27.33	26.19	27.55	36.26	158.01	128.99	51.13	199.45	760.59	-0.06
	M9	1156.22	0.00	0.00	9.38	13.51	30.03	34.21	47.78	56.43	209.88	219.51	119.14	415.05	1154.92	0.11
	M11	339.31	0.00	0.00	5.13	4.00	5.87	7.20	9.24	15.07	59.93	132.82	47.72	52.83	339.81	-0.15
	M13	820.35	0.00	0.00	36.07	11.96	27.75	23.79	35.05	67.29	55.75	214.96	90.56	256.99	820.17	0.02

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
11017-32516A Section D WB	M1	100.00	100.00	100.00	98.94	93.23	88.83	83.64	76.04	55.59	32.00	19.39
	M3	100.00	100.00	99.73	99.42	99.06	98.81	98.27	91.61	28.32	2.75	1.18
	M5	100.00	100.00	96.41	93.97	89.63	86.86	83.34	77.11	57.11	39.89	32.95
	M7	92.56	89.80	88.58	86.10	82.50	79.06	75.43	70.66	49.87	32.90	26.18
	M9	100.00	100.00	99.19	98.02	95.42	92.46	88.33	83.45	65.30	46.31	36.01
	M11	100.00	100.00	98.49	97.31	95.58	93.46	90.73	86.29	68.63	29.49	15.42
	M13	100.00	100.00	96.64	95.52	92.94	90.72	87.45	81.18	75.98	55.95	47.51

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19042-24680A	1M	1004.20	115.23	72.97	35.48	65.14	373.51	213.26	47.72	12.50	8.83	47.45	8.59	1.15	1001.83	0.24
Section B	2M	996.89	141.57	133.44	37.33	57.40	316.12	168.28	51.72	21.93	17.47	31.55	15.44	2.06	994.31	0.26
EB	3M	998.88	51.43	106.76	18.21	70.75	427.78	189.56	52.10	14,57				66.50	997.66	0.12
	4M	1115.56	164.47	111.03	21.51	54.68	362.59	254.63	62.72	12.26				68.14	1112.03	0.32
	5M	962.41	160.32	183.77	11.05	41.44	279.11	144.03	35.77	7.83				97.55	960.87	0.16
	6M	601.87	175.07	185.05	73.51	24.31	64.50	29.45	9.01	3.49				37.08	601.47	0.07
	7M	408.32	93.03	186.00	58.27	6.37	7.44	5.29	4.63	5.06				41.54	407.63	0.17
	8M	825.43	254.31	265.05	211.02	22.82	11.48	6.38	9.18	4.23				40.27	824.74	0.08
	9M	646.88	26.28	284.87	222.24	35.14	18.88	5.98	3.92	1.88				47.43	646.62	0.04
	10M	401.16	64.27	185.57	94.27	6.88	6.66	2.40	2.72	1.57				35.64	399.98	0.29

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19042-24680A	1M	88.53	81.26	77.73	71.24	34.04	12.81	8.06	6.81	5.93	1.21	0.35
Section B	2M	85.80	72.41	68.67	62.91	31.20	14.32	9.13	6.93	5.18	2.01	0.47
EB	3M	94.80	84.00	82.16	75.01	31.75	12.58	7.31	5.84			
	4M	85.26	75.30	73.38	68.47	35.97	13.15	7.52	6.42			
	5M	83.34	64.25	63.10	58.79	29.79	14.83	11.11	10.30			
	6M	70.91	40.17	27.95	23.91	13.20	8.30	6.81	6.23			
	7M	77.22	31.66	17.39	15.83	14.01	12.72	11.58	10.34			
	8M	69.19	37.08	11.52	8.75	7.36	6.59	5.47	4.96			
	9M	95.94	51.90	17.54	12.11	9.19	8.27	7.66	7.37			
	10M	83.98	37.72	14.22	12.51	10.85	10.25	9.57	9.18			

Loss on Wash - Subbase										
		Before Washing			After Washing			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
19042-24680A	1M	73.16	1077.19	1004.03	73.16	1004.23	931.07	72.96	7.27	
Section B	2M	73.16	1073.85	1000.69	73.16	1000.07	926.91	73.78	7.37	trace organic
EB	3M	73.16	1077.85	1004.69	73.16	1010.83	937.67	67.02	6.67	trace organic
	4M	73.16	1075.58	1002.42	73.16	1022.95	949.79	52.63	5.25	
	5M	73.16	993.99	920.83	73.16	937.4	864.24	56.59	6.15	
	6M	73.16	1078.92	1005.76	73.16	998.42	925.26	80.5	8.00	
	7M	73.16	1077.3	1004.14	73.16	1024.28	951.12	53.02	5.28	
	8M	73.16	1073.31	1000.15	73.16	1028.3	955.14	45.01	4.50	
	9M	73.16	1081.46	1008.3	73.16	933.19	860.03	148.27	14.70	
	10M	73.16	1075.32	1002.16	73.16	1033.18	960.02	42.14	4.20	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19042-24680A	1M	1004.03	110.01	0.00	23.54	24.25	52.25	41.87	36.39	44.46	294.51	252.38	44.98	76.98	1001.62	0.24
Section B	2M	1000.69	0.00	12.13	25.73	23.63	68.13	56.44	68.13	73.60	293.69	242.45	56.80	79.42	1000.15	0.05
EB	3M	1004.69	0.00	0.00	3.19	3.01	7.07	8.66	9.61	22.40	377.16	423.42	79.33	71.54	1005.39	-0.07
	4M	1002.42	0.00	16.82	8.95	2.66	6.55	7.44	8.33	17.31	243.18	527.13	102.48	61.44	1002.29	0.01
	5M	920.83	0.00	0.00	0.00	5.62	23.24	18.48	20.91	41.93	372.79	258.85	118.80	64.66	925.28	-0.48
	6M	1005.76	0.00	0.00	2.66	10.38	17.23	16.05	24.23	63.58	532.49	215.81	37.52	83.82	1003.77	0.20
	7M	1004.14	0.00	0.00	2.74	13.70	18.80	23.36	33.84	92.24	567.67	170.38	26.74	55.85	1005.32	-0.12
	8M	1000.15	0.00	0.00	0.00	10.50	13.19	12.71	19.31	89.67	630.23	157.33	19.52	47.12	999.58	0.06
	9M	1008.30	0.00	13.20	0.00	9.12	20.30	20.74	32.55	82.41	469.10	165.99	38.66	156.29	1008.36	-0.01
	10M	1002.16	0.00	13.64	23.53	10.54	23.12	25.22	41.86	53.70	342.73	367.56	53.71	44.35	999.96	0.22

		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19042-24680A	1M	89.04	89.04	86.70	84.28	79.08	74.91	71.28	66.86	37.52	12.39	7.91
Section B	2M	100.00	98.79	96.22	93.86	87.05	81.41	74.60	67.24	37.89	13.67	7.99
EB	3M	100.00	100.00	99.68	99.38	98.68	97.82	96.86	94.63	57.09	14.95	7.05
	4M	100.00	98.32	97.43	97.16	96.51	95.77	94.94	93.21	68.95	16.37	6.14
	5M	100.00	100.00	100.00	99.39	96.87	94.86	92.59	88.03	47.55	19.44	6.54
	6M	100.00	100.00	99.74	98.70	96.99	95.39	92.99	86.66	33.72	12.26	8.53
	7M	100.00	100.00	99.73	98.36	96.49	94.16	90.79	81.61	25.08	8.11	5.44
	8M	100.00	100.00	100.00	98.95	97.63	96.36	94.43	85.46	22.45	6.72	4.77
	9M	100.00	98.69	98.69	97.79	95.77	93.72	90.49	82.31	35.79	19.33	15.49
	10M	100.00	98.64	96.29	95.24	92.93	90.42	86.24	80.88	46.68	10.00	4.64

Loss on Wash - Subgrade										
		Before Washing			After washing			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
19042-24680A	1M	73.16	1076.59	1003.43	73.16	987.00	913.84	89.59	8.93	trace organic
Section B	2M	73.16	1077.00	1003.84	73.16	1017.31	944.15	59.69	5.95	
EB	3M	73.16	1070.07	996.91	73.16	1032.37	959.21	37.70	3.78	
	4M	73.16	1074.10	1000.94	73.16	994.03	920.87	80.07	8.00	dark brown color
	5M	73.16	1073.96	1000.80	73.16	1037.49	964.33	36.47	3.64	
	6M	73.16	1086.71	1013.55	73.16	965.86	892.70	120.85	11.92	
	7M	73.16	1074.21	1001.05	73.16	1044.71	971.55	29.50	2.95	
	8M	73.16	1075.17	1002.01	73.16	1037.88	964.72	37.29	3.72	
	9M #1	73.16	1074.81	1001.65	73.16	642.41	569.25	432.40	43.17	
	9M #2	73.16	1073.00	999.84	73.16	1014.66	941.50	58.34	5.83	
	10M	73.16	1073.51	1000.35	73.16	1017.99	944.83	55.52	5.55	

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19042-24680A	1M	1003.43	0.00	27.55	28.46	24.19	85.00	82.48	94.30	92.91	216.61	197.98	56.67	95.00	1001.15	0.23
Section B	2M	1003.84	0.00	58.34	36.84	28.71	93.45	86.04	106.23	107.59	211.42	163.34	45.18	63.86	1001.00	0.28
EB	3M	996.91	0.00	0.00	0.00	0.00	1.13	1.84	2.09	3.60	212.03	615.18	116.19	45.75	997.81	-0.09
	4M	1000.94	0.00	8.99	0.00	8.62	29.42	23.57	38.18	80.35	459.01	227.26	39.83	84.35	999.58	0.14
	5M	1000.80	0.00	0.00	0.00	0.00	10.37	9.01	9.47	29.09	448.77	391.63	63.70	39.09	1001.13	-0.03
	6M	1013.55	0.00	0.00	7.46	15.51	18.21	22.34	38.33	83.16	487.80	182.19	33.45	123.85	1012.30	0.12
	7M	1001.05	0.00	16.45	10.33	6.77	30.60	25.22	39.02	104.65	563.35	147.32	25.21	31.56	1000.48	0.06
	8M	1002.01	0.00	0.00	0.00	7.56	26.73	21.02	42.98	131.98	508.87	179.00	42.89	39.80	1000.83	0.12
	9M #1	1001.65	0.00	0.00	0.00	0.00	2.24	6.64	10.74	37.86	291.87	164.98	48.52	439.24	1002.09	-0.04
	9M #2	999.84	0.00	0.00	14.72	7.83	29.83	29.79	48.16	117.88	517.94	142.15	28.19	61.49	997.98	0.19
	10M	1000.35	28.04	0.00	12.68	2.63	36.17	45.60	67.42	98.07	324.51	261.90	63.69	57.78	998.49	0.19

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19042-24680A	1M	100.00	97.25	94.42	92.01	83.54	75.32	65.92	56.66	35.07	15.34	9.69
Section B	2M	100.00	94.19	90.52	87.66	78.35	69.78	59.20	48.48	27.42	11.15	6.64
EB	3M	100.00	100.00	100.00	100.00	99.89	99.70	99.49	99.13	77.86	16.15	4.50
	4M	100.00	99.10	99.10	98.24	95.30	92.95	89.13	81.10	35.25	12.54	8.56
	5M	100.00	100.00	100.00	100.00	98.96	98.06	97.12	94.21	49.37	10.24	3.87
	6M	100.00	100.00	99.26	97.73	95.94	93.73	89.95	81.75	33.62	15.64	12.34
	7M	100.00	98.36	97.32	96.65	93.59	91.07	87.17	76.72	20.44	5.73	3.21
	8M	100.00	100.00	100.00	99.25	96.58	94.48	90.19	77.02	26.23	8.37	4.09
	9M	100.00	100.00	100.00	100.00	99.78	99.11	98.04	94.26	65.12	48.65	43.81
	10M	97.20	97.20	95.93	95.67	92.05	87.49	80.75	70.95	38.51	12.33	5.96

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19042-02233A	1M	1226.88	83.13	298.62	313.02	171.95	174.71	61.23	34.91	11.80				73.27	1222.64	0.35
Section C	5M	1049.19	0.00	70.18	120.70	126.70	328.96	196.62	82.57	19.88				102.38	1047.99	0.11
EB	7M	577.28	69.88	74.73	56.08	42.02	153.05	86.52	24.86	5.31				63.49	575.94	0.23
	11M	1007.54	68.74	151.32	85.12	63.29	262.76	198.74	72.10	18.25				86.17	1006.49	0.10
	13M	737.36	114.58	48.16	56.76	58.98	199.34	137.83	55.00	15.61				47.14	733.40	0.54

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19042-02233A	1M	93.22	82.44	43.37	29.36	15.12	10.12	7.28	6.32			
Section C	5M	100.00	93.31	81.81	69.73	38.38	19.64	11.77	9.87			
EB	7M	87.89	74.95	65.24	57.96	31.44	16.46	12.15	11.23			
	11M	93.18	78.16	69.71	63.43	37.35	17.62	10.47	8.66			
	13M	84.46	77.93	70.23	62.23	35.20	16.51	9.05	6.93			

Loss on Wash - Subbase										
		Before Washing			After Washing			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
19042-02233A	1M	73.16	1081.59	1008.43	73.16	1010.98	937.82	70.61	7.00	
Section C	5M	73.16	1072.88	999.72	73.16	1004.71	931.55	68.17	6.82	
EB	7M	73.16	1078.74	1005.58	73.16	1015.13	941.97	63.61	6.33	
	11M	73.16	1076.17	1003.01	73.16	1014.66	941.50	61.51	6.13	
	13M	73.16	1078.72	1005.56	73.16	1024.58	951.42	54.14	5.38	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19042-02233A	1M	1008.43	0.00	0.00	9.38	18.46	32.30	28.37	38.34	53.64	270.08	362.69	113.67	80.66	1007.59	0.08
Section C	5M	999.72	0.00	0.00	10.24	17.42	45.76	35.53	38.43	53.03	250.49	354.43	113.10	80.68	999.11	0.06
EB	7M	1005.58	0.00	30.73	20.46	13.24	30.42	29.84	33.94	39.34	223.31	428.44	88.38	67.77	1005.87	-0.03
	11M	1003.01	48.58	31.67	3.58	5.25	38.89	43.26	48.82	52.23	201.48	373.70	84.00	70.43	1001.89	0.11
	13M	1005.56	26.20	9.42	26.32	23.23	61.16	52.48	60.08	57.34	213.54	343.64	73.05	61.01	1007.47	-0.19

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19042-02233A	1M	100.00	100.00	99.07	97.24	94.04	91.22	87.42	82.10	55.32	19.35	8.08
Section C	5M	100.00	100.00	98.98	97.23	92.66	89.10	85.26	79.95	54.90	19.44	8.13
EB	7M	100.00	96.94	94.91	93.59	90.57	87.60	84.23	80.31	58.11	15.50	6.71
	11M	95.16	92.00	91.64	91.12	87.24	82.93	78.06	72.85	52.77	15.51	7.13
	13M	97.39	96.46	93.84	91.53	85.45	80.23	74.25	68.55	47.32	13.14	5.88

Loss on Wash - Subgrade										
		Before Washing			After Washing			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
19042-02233A Section C EB	1M	73.16	1076.85	1003.69	73.16	1026.07	952.91	50.78	5.06	
	5M	73.16	1077.84	1004.68	73.16	1020.33	947.17	57.51	5.72	
	7M	73.16	361.88	288.72	73.16	237.73	164.57	124.15	43.00	
	11M	73.16	1072.48	999.32	73.16	991.37	918.21	81.11	8.12	
	13M	73.16	1071.92	998.76	73.16	1008.85	935.69	63.07	6.31	

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19042-02233A Section C EB	1M	1003.69	0.00	7.60	20.38	24.06	53.75	46.86	58.49	86.07	366.16	212.95	71.95	55.62	1003.89	-0.02
	5M	1004.68	0.00	0.00	6.09	22.84	61.65	59.62	57.65	74.37	285.33	281.34	87.23	66.94	1003.06	0.16
	7M	288.72	0.00	0.00	0.00	0.00	4.46	5.56	8.91	10.17	30.55	61.86	38.46	129.36	289.33	-0.21
	11M	999.32	0.00	0.00	28.42	13.29	23.84	23.21	30.53	40.33	256.05	377.29	115.59	90.38	998.93	0.04
	13M	998.76	0.00	0.00	17.11	0.00	14.19	17.72	21.58	34.09	392.02	324.70	102.21	73.87	997.49	0.13

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19042-02233A Section C EB	1M	100.00	99.24	97.21	94.82	89.46	84.79	78.96	70.39	33.91	12.69	5.52
	5M	100.00	100.00	99.39	97.12	90.98	85.05	79.31	71.91	43.51	15.51	6.82
	7M	100.00	100.00	100.00	100.00	98.46	96.53	93.44	89.92	79.34	57.91	44.59
	11M	100.00	100.00	97.16	95.83	93.44	91.12	88.06	84.03	58.40	20.65	9.08
	13M	100.00	100.00	98.29	98.29	96.87	95.09	92.93	89.52	50.27	17.76	7.52

Loss on Wash - Base										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
19043-02234A EB	1M	73.16	1071.99	998.83	73.16	1005.19	932.03	66.80	6.69	
	3M	73.16	1086.30	1013.14	73.16	1008.63	935.47	77.67	7.67	
	4M	73.16	1068.85	995.69	73.16	991.05	917.89	77.80	7.81	
	6M	73.16	1080.51	1007.35	73.16	1011.45	938.29	69.06	6.86	
	7M	73.16	1071.32	998.16	73.16	990.88	917.72	80.44	8.06	
	8M	73.16	1072.82	999.66	73.16	1000.54	927.38	72.28	7.23	
	9M	73.16	1071.74	998.58	73.16	1010.04	936.88	61.70	6.18	
	10M	73.16	1075.14	1001.98	73.16	1010.85	937.69	64.29	6.42	
	12M	73.16	1069.61	996.45	73.16	995.12	921.96	74.49	7.48	
	13M	73.16	1074.07	1000.91	73.16	1000.04	926.88	74.03	7.40	

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19043-02234A EB	1M	998.83	0	63.39	107.98	74.38	138.26	124.33	133.07	108.45	103.25	51.48	21.45	72.05	998.09	0.07
	3M	1013.14	0	62.73	139.08	58.4	155.76	119.54	122.98	102.33	95.4	44.38	22.61	85.7	1008.91	0.42
	4M	995.69	0	56.94	121.29	65.32	134.15	128.98	128.84	106.91	96.86	50.47	22.49	82.28	994.53	0.12
	6M	1007.35	0	0	175.64	101.64	182.61	117.15	106.15	90.75	87.42	45.34	21.55	78.99	1007.24	0.01
	7M	998.16	0	40.01	59.45	72.04	155.72	112	107.83	92.99	113.92	113.39	42.19	87.73	997.27	0.09
	8M	999.66	0	39.29	102.54	101.93	158.67	126.54	121.04	104.32	99.11	48.13	21.44	76.37	999.38	0.03
	9M	998.58	0	36.02	96.84	53.91	157.61	136.76	139.71	121.35	115.11	50.56	21.07	68.82	997.76	0.08
	10M	1001.98	0	29.54	89.24	77.28	171.84	143.89	139.53	116.74	100.71	44.14	18.49	70.93	1002.33	-0.03
	12M	996.45	0	11.02	99.17	75.07	164.7	134.67	135.18	111.09	104.64	55.75	24.58	81.33	997.2	-0.08
	13M	1000.91	0	15.24	136.92	83.44	140.48	126.6	125.36	106.02	101.25	61.01	24.44	78.96	999.72	0.12

		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19043-02234A EB	1M	100.00	93.65	82.84	75.40	61.55	49.11	35.78	24.93	14.59	9.44	7.29
	3M	100.00	93.81	80.08	74.32	58.94	47.14	35.01	24.90	15.49	11.11	8.88
	4M	100.00	94.28	82.10	75.54	62.07	49.11	36.17	25.44	15.71	10.64	8.38
	6M	100.00	100.00	82.56	72.47	54.35	42.72	32.18	23.17	14.49	9.99	7.85
	7M	100.00	95.99	90.04	82.82	67.22	56.00	45.19	35.88	24.47	13.11	8.88
	8M	100.00	96.07	85.81	75.62	59.74	47.09	34.98	24.54	14.63	9.81	7.67
	9M	100.00	96.39	86.70	81.30	65.51	51.82	37.83	25.67	14.15	9.08	6.97
	10M	100.00	97.05	88.15	80.43	63.28	48.92	35.00	23.35	13.29	8.89	7.04
	12M	100.00	98.89	88.94	81.41	64.88	51.36	37.80	26.65	16.15	10.55	8.09
	13M	100.00	98.48	84.80	76.46	62.43	49.78	37.25	26.66	16.54	10.45	8.01

Loss on Wash - Subbase										
		Before Washing			After Washing			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
19043-02234A EB	1M	73.16	1084.26	1011.10	73.16	984.06	910.90	100.20	9.91	
	3M	73.16	1076.90	1003.74	73.16	989.16	916.00	87.74	8.74	
	4M	73.16	1072.19	999.03	73.16	886.78	813.62	185.41	18.56	
	6M	73.16	1073.98	1000.82	73.16	906.11	832.95	167.87	16.77	
	7M	73.16	1073.06	999.90	73.16	1028.00	954.84	45.06	4.51	
	8M	73.16	1074.54	1001.38	73.16	1023.39	950.23	51.15	5.11	
	9M	73.16	1072.34	999.18	73.16	1037.22	964.06	35.12	3.51	
	10M	73.16	1076.37	1003.21	73.16	1020.77	947.61	55.60	5.54	
	12M	73.16	1076.42	1003.26	73.16	1016.32	943.16	60.10	5.99	
	13M	73.16	1067.98	994.82	73.16	1002.47	929.31	65.51	6.59	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19043-02234A EB	1M	1011.10	93.62	16.44	13.91	3.94	36.77	34.33	50.31	87.51	288.80	208.85	67.06	108.40	1009.94	0.11
	3M	1003.74	0.00	0.00	0.00	0.00	12.24	6.25	9.86	15.48	302.15	438.71	105.16	102.50	992.35	1.13
	4M	999.03	73.66	0.00	25.78	9.53	21.27	22.90	27.20	29.40	136.17	315.35	130.02	207.10	998.38	0.07
	6M	1000.82	0.00	65.71	7.68	16.31	35.85	37.05	39.90	37.01	152.39	262.91	156.98	188.86	1000.65	0.02
	7M	999.90	0.00	12.68	6.11	14.94	50.80	67.03	100.25	172.30	373.54	127.15	26.89	48.36	1000.05	-0.02
	8M	1001.38	0.00	0.00	38.79	5.79	53.39	64.68	98.21	184.34	329.71	137.24	32.07	53.07	997.29	0.41
	9M	999.18	65.58	26.37	16.34	24.34	56.61	64.56	110.89	192.76	304.83	85.08	14.70	36.93	998.99	0.02
	10M	1003.21	0.00	0.00	7.53	23.38	38.58	40.92	57.70	101.89	250.59	320.31	93.10	69.25	1003.25	0.00
	12M	1003.26	0.00	29.05	4.22	10.86	40.66	41.40	58.19	95.85	255.06	311.78	92.66	65.85	1005.58	-0.23
	13M	994.82	0.00	0.00	8.52	11.51	30.49	38.37	52.64	65.12	260.74	340.72	108.56	77.55	994.22	0.06

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19043-02234A EB	1M	90.74	89.11	87.74	87.35	83.71	80.32	75.34	66.69	38.12	17.47	10.84
	3M	100.00	100.00	100.00	100.00	98.78	98.16	97.18	95.63	65.53	21.82	11.35
	4M	92.63	92.63	90.05	89.09	86.96	84.67	81.95	79.01	65.38	33.81	20.80
	6M	100.00	93.43	92.67	91.04	87.46	83.75	79.77	76.07	60.84	34.57	18.89
	7M	100.00	98.73	98.12	96.63	91.55	84.84	74.82	57.58	20.23	7.51	4.82
	8M	100.00	100.00	96.13	95.55	90.22	83.76	73.95	55.54	22.62	8.91	5.71
	9M	93.44	90.80	89.16	86.73	81.06	74.60	63.50	44.21	13.70	5.19	3.72
	10M	100.00	100.00	99.25	96.92	93.07	88.99	83.24	73.09	48.11	16.18	6.90
	12M	100.00	97.10	96.68	95.60	91.55	87.42	81.62	72.07	46.64	15.57	6.33
	13M	100.00	100.00	99.14	97.99	94.92	91.06	85.77	79.23	53.02	18.77	7.86

Loss on Wash - Subgrade										
		Before Washing			After Washing			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
19043-02234A EB	1M	73.16	1074.64	1001.48	73.16	741.85	668.69	332.79	33.23	
	3M	73.16	1075.78	1002.62	73.16	1027.45	954.29	48.33	4.82	
	4M	73.16	1078.00	1004.84	73.16	914.50	841.34	163.50	16.27	
	6M	73.16	1086.45	1013.29	73.16	1001.72	928.56	84.73	8.36	
	7M	73.16	1071.22	998.06	73.16	1044.23	971.07	26.99	2.70	
	8M	73.16	1068.91	995.75	73.16	1030.93	957.77	37.98	3.81	
	9M	73.16	1075.90	1002.74	73.16	1008.46	935.30	67.44	6.73	
	10M	73.16	1075.40	1002.24	73.16	1038.11	964.95	37.29	3.72	
	12M	73.16	1070.92	997.76	73.16	1037.40	964.24	33.52	3.36	

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19043-02234A EB	1M	1001.48	0.00	18.55	6.04	10.91	20.77	17.29	26.03	28.94	97.97	280.84	147.48	346.01	1000.83	0.06
	3M	1002.62	0.00	30.33	20.60	10.04	45.54	33.91	33.96	39.59	216.80	380.32	102.46	67.40	980.95	2.16
	4M	1004.84	0.00	0.00	3.58	6.91	36.31	38.41	53.29	53.40	266.03	228.67	142.24	174.81	1003.65	0.12
	6M	1013.29	0.00	0.00	15.91	17.69	41.98	43.92	56.01	60.96	298.41	264.65	125.02	95.90	1020.45	-0.71
	7M	998.06	40.90	9.85	33.73	22.63	55.59	55.74	92.57	158.86	382.21	103.79	12.97	28.45	997.29	0.08
	8M	995.75	0.00	0.00	9.24	22.67	54.52	70.31	105.40	180.01	386.93	101.43	15.62	39.31	985.44	1.04
	9M	1002.74	48.68	0.00	24.73	24.10	59.72	65.02	94.10	163.01	310.40	105.61	31.42	74.27	1001.06	0.17
	10M	1002.24	0.00	9.87	20.01	19.39	48.49	61.66	90.66	168.58	298.36	195.08	49.11	41.11	1002.32	-0.01
	12M	997.76	0.00	28.02	0.00	8.99	24.15	23.02	31.91	48.91	357.47	333.87	101.64	38.51	996.49	0.13

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19043-02234A EB	1M	100.00	98.15	97.54	96.46	94.38	92.65	90.06	87.17	77.38	49.34	34.61
	3M	100.00	96.97	94.92	93.92	89.38	85.99	82.61	78.66	57.04	19.10	8.88
	4M	100.00	100.00	99.64	98.96	95.34	91.52	86.22	80.90	54.43	31.67	17.52
	6M	100.00	100.00	98.43	96.68	92.54	88.21	82.68	76.66	47.21	21.10	8.76
	7M	95.90	94.92	91.54	89.27	83.70	78.11	68.84	52.92	14.63	4.23	2.93
	8M	100.00	100.00	99.07	96.80	91.32	84.26	73.67	55.60	16.74	6.55	4.98
	9M	95.15	95.15	92.68	90.28	84.32	77.84	68.45	52.19	21.24	10.71	7.57
	10M	100.00	99.02	97.02	95.08	90.25	84.09	75.05	58.23	28.46	8.99	4.09
	12M	100.00	97.19	97.19	96.29	93.87	91.56	88.36	83.46	47.64	14.17	3.99

Loss on Wash - Base										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
19043-02234A WB	1M	73.16	1074.61	1001.45	73.16	992.75	919.59	81.86	8.17	
	2M	73.16	1073.38	1000.22	73.16	1001.05	927.89	72.33	7.23	
	4M	73.16	1079.07	1005.91	73.16	1012.53	939.37	66.54	6.61	
	5M	73.16	1083.42	1010.26	73.16	1009.47	936.31	73.95	7.32	
	6M	73.16	1080.64	1007.48	73.16	995.85	922.69	84.79	8.42	
	8M	73.16	1076.88	1003.72	73.16	1003.49	930.33	73.39	7.31	
	9M	73.16	1082.57	1009.41	73.16	999.47	926.31	83.10	8.23	
	10M	73.16	1082.16	1009.00	73.16	1004.95	931.79	77.21	7.65	
	11M	73.16	1074.44	1001.28	73.16	998.18	925.02	76.26	7.62	trace veg.
	13M	73.16	1079.24	1006.08	73.16	1009.96	936.80	69.28	6.89	

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19043-02234A WB	1M	1001.45	0.00	14.65	112.19	107.10	145.23	135.91	126.61	103.55	99.12	50.24	21.47	84.25	1000.32	0.11
	2M	1000.22	0.00	22.92	133.71	91.78	164.23	127.89	124.64	104.70	91.60	44.11	18.99	75.17	999.74	0.05
	4M	1005.91	0.00	36.41	104.59	84.56	161.58	130.21	132.68	113.96	103.84	47.54	18.75	70.19	1004.31	0.16
	5M	1010.26	0.00	9.28	102.24	91.20	191.48	141.36	125.83	99.42	96.64	53.70	22.05	76.61	1009.81	0.04
	6M	1007.48	0.00	0.00	102.12	61.93	183.03	138.86	132.02	111.95	107.85	57.33	23.36	86.69	1005.14	0.23
	8M	1003.72	0.00	31.12	82.29	77.37	172.93	141.33	137.77	109.62	105.09	51.02	18.99	75.27	1002.80	0.09
	9M	1009.41	0.00	20.49	104.84	88.70	194.09	139.99	117.53	87.98	91.63	54.52	23.54	86.16	1009.47	-0.01
	10M	1009.00	0.00	9.94	62.85	103.01	174.84	140.34	128.91	111.17	111.55	60.47	23.42	80.79	1007.29	0.17
	11M	1001.28	0.00	60.49	93.75	87.23	182.95	126.68	115.68	83.81	87.89	58.83	24.58	83.77	1005.66	-0.44
	13M	1006.08	0.00	36.00	179.23	115.58	185.53	111.03	92.86	72.30	78.69	45.36	16.74	72.44	1005.76	0.03

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19043-02234A WB	1M	100.00	98.54	87.33	76.64	62.14	48.57	35.92	25.58	15.69	10.67	8.53
	3M	100.00	97.71	84.34	75.16	58.75	45.96	33.50	23.03	13.87	9.46	7.56
	4M	100.00	96.38	85.98	77.58	61.51	48.57	35.38	24.05	13.73	9.00	7.14
	6M	100.00	99.08	88.96	79.93	60.98	46.99	34.53	24.69	15.13	9.81	7.63
	7M	100.00	100.00	89.86	83.72	65.55	51.77	38.66	27.55	16.85	11.16	8.84
	8M	100.00	96.90	88.70	80.99	63.76	49.68	35.96	25.04	14.57	9.48	7.59
	9M	100.00	97.97	87.58	78.80	59.57	45.70	34.06	25.34	16.26	10.86	8.53
	10M	100.00	99.01	92.79	82.58	65.25	51.34	38.56	27.55	16.49	10.50	8.18
	12M	100.00	93.96	84.60	75.88	57.61	44.96	33.41	25.04	16.26	10.38	7.93
	13M	100.00	96.42	78.61	67.12	48.68	37.64	28.41	21.23	13.40	8.90	7.23

Loss on Wash - Subgrade										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
19043-02234A	1M	73.16	1077.55	1004.39	73.16	995.05	921.89	82.50	8.21	
WB	2M	73.16	1079.15	1005.99	73.16	1036.81	963.65	42.34	4.21	
	4M	73.16	1074.17	1001.01	73.16	898.62	825.46	175.55	17.54	
	5M	73.16	1076.60	1003.44	73.16	997.05	923.89	79.55	7.93	
	6M	73.16	1078.75	1005.59	73.16	1010.48	937.32	68.27	6.79	
	8M	73.16	1079.38	1006.22	73.16	993.34	920.18	86.04	8.55	trace veg.
	9M	73.16	1085.14	1011.98	73.16	938.61	865.45	146.53	14.48	
	10M	73.16	1074.53	1001.37	73.16	1010.34	937.18	64.19	6.41	
	11M	73.16	1085.08	1011.92	73.16	1024.00	950.84	61.08	6.04	
	13M	73.16	1072.60	999.44	73.16	1006.58	933.42	66.02	6.61	

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
19043-02234A	1M	1004.39	0.00	0.00	0.00	1.13	1.44	6.43	13.35	35.05	251.43	444.04	141.86	108.81	1003.54	0.08
WB	2M	1005.99	0.00	0.00	0.00	4.99	16.72	17.99	41.39	129.50	476.39	192.43	78.50	47.18	1005.09	0.09
	4M	1001.01	0.00	15.14	0.00	9.30	10.82	14.74	25.98	47.73	236.51	352.66	100.41	185.72	999.01	0.20
	5M	1003.44	0.00	0.00	0.00	1.17	11.87	16.06	30.72	49.91	381.82	344.79	81.45	83.42	1001.21	0.22
	6M	1005.59	0.00	0.00	7.13	7.72	33.01	33.34	53.76	105.55	493.72	174.94	36.90	70.98	1017.05	-1.14
	8M	1006.22	0.00	0.00	0.00	6.42	11.53	14.92	20.92	48.86	523.54	236.55	52.62	90.20	1005.56	0.07
	9M	1011.98	0.00	0.00	0.00	11.67	15.27	11.44	19.97	43.97	414.14	263.41	78.18	153.48	1011.53	0.04
	10M	1001.37	0.00	0.00	0.00	1.13	13.96	11.24	20.65	72.66	519.83	249.07	44.46	67.46	1000.46	0.09
	11M	1011.92	0.00	0.00	0.00	12.71	32.96	24.11	20.06	32.91	499.39	266.64	45.24	64.76	998.78	1.30
	13M	999.44	0.00	0.00	11.32	11.17	19.08	17.50	30.25	71.71	537.74	192.26	40.54	68.38	999.95	-0.05

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
19043-02234A	1M	100.00	100.00	100.00	99.89	99.74	99.10	97.77	94.29	69.25	25.04	10.92
WB	3M	100.00	100.00	100.00	99.50	97.84	96.05	91.94	79.07	31.71	12.58	4.78
	4M	100.00	98.49	98.49	97.56	96.48	95.01	92.41	87.64	64.01	28.78	18.75
	6M	100.00	100.00	100.00	99.88	98.70	97.10	94.04	89.06	51.01	16.65	8.54
	7M	100.00	100.00	99.29	98.52	95.24	91.93	86.58	76.08	26.99	9.59	5.92
	8M	100.00	100.00	100.00	99.36	98.22	96.73	94.65	89.80	37.77	14.26	9.03
	9M	100.00	100.00	100.00	98.85	97.34	96.21	94.23	89.89	48.97	22.94	15.21
	10M	100.00	100.00	100.00	99.89	98.49	97.37	95.31	88.05	36.14	11.27	6.83
	12M	100.00	100.00	100.00	98.74	95.49	93.10	91.12	87.87	38.52	12.17	7.70
	13M	100.00	100.00	98.87	97.75	95.84	94.09	91.06	83.89	30.08	10.85	6.79

Loss on Wash - Base										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
25132-06582A SB	M1	73.72	1233.42	1159.70	73.72	1151.64	1077.92	81.78	7.05	
	M3	73.72	1240.34	1166.62	73.72	1170.33	1096.61	70.01	6.00	
	M4	73.72	1112.48	1038.76	73.72	1032.28	958.56	80.20	7.72	
	M5	73.72	1217.35	1143.63	73.72	1123.85	1050.13	93.50	8.18	
	M7	73.72	1232.51	1158.79	73.72	1153.62	1079.90	78.89	6.81	

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
25132-06582A SB	M1	1159.70	0.00	61.82	197.03	105.21	167.94	99.22	97.17	85.49	123.56	99.62	35.88	85.13	1158.07	0.14
	M3	1166.62	33.26	45.73	212.88	77.43	113.18	68.08	69.83	79.44	189.06	162.32	41.42	72.50	1165.13	0.13
	M4	1038.76	0.00	13.93	150.84	84.68	117.71	77.76	81.63	95.07	160.65	131.08	40.65	83.85	1037.85	0.09
	M5	1143.63	0.00	67.91	108.35	95.88	143.82	74.58	73.30	74.08	166.58	174.72	64.63	97.80	1141.65	0.17
	M7	1158.79	0.00	89.62	183.21	115.87	189.63	88.52	83.83	66.15	99.49	112.63	46.11	82.17	1157.23	0.13

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
25132-06582A SB	M1	100.00	94.67	77.68	68.61	54.13	45.57	37.19	29.82	19.17	10.58	7.48
	M3	97.15	93.23	74.98	68.34	58.64	52.81	46.82	40.01	23.81	9.89	6.34
	M4	100.00	98.66	84.14	75.99	64.65	57.17	49.31	40.16	24.69	12.07	8.16
	M5	100.00	94.06	84.59	76.20	63.63	57.11	50.70	44.22	29.65	14.38	8.72
	M7	100.00	92.27	76.46	66.46	50.09	42.45	35.22	29.51	20.92	11.20	7.23

Loss on Wash - Subbase										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
25132-06582A SB	M1	73.72	1255.51	1181.79	73.72	1181.66	1107.94	73.85	6.25	
	M3	73.72	1120.98	1047.26	73.72	1055.53	981.81	65.45	6.25	
	M4	73.72	1242.39	1168.67	73.72	1143.28	1069.56	99.11	8.48	
	M5	73.72	1172.42	1098.70	73.72	1077.57	1003.85	94.85	8.63	
	M7	73.72	1113.05	1039.33	73.72	1037.36	963.64	75.69	7.28	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
25132-06582A SB	M1	1181.79	0.00	0.00	20.52	9.79	35.81	31.98	42.62	106.73	507.47	266.89	79.24	79.16	1180.21	0.13
	M3	1047.26	0.00	20.51	10.93	6.05	21.46	28.85	53.00	118.96	383.90	257.70	73.51	71.57	1046.44	0.08
	M4	1168.67	0.00	0.00	16.72	19.58	27.56	30.67	55.20	132.85	463.13	238.05	76.21	105.32	1165.29	0.29
	M5	1098.70	0.00	0.00	8.49	21.35	30.11	19.77	29.09	104.53	374.44	299.70	105.32	103.74	1096.54	0.20
	M7	1039.33	0.00	11.89	40.43	24.33	39.57	30.75	56.76	122.88	347.80	212.58	70.18	80.37	1037.54	0.17

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
25132-06582A SB	M1	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	M3	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	M4	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	M5	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	M7	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Loss on Wash - Subgrade										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
25132-06582A SB	M3	73.72	1260.25	1186.53	73.72	666.88	593.16	593.37	50.01	
	M4	73.72	902.86	829.14	73.72	605.49	531.77	297.37	35.86	
	M5	73.72	1043.83	970.11	73.72	495.75	422.03	548.08	56.50	
	M7	73.72	1138.75	1065.03	73.72	577.21	503.49	561.54	52.73	

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
25132-06582A SB	M3	1186.53	51.79	18.87	0.00	1.00	5.68	6.97	11.84	23.36	84.45	235.22	114.12	629.99	1183.29	0.27
	M4	829.14	0.00	0.00	0.00	18.00	19.00	18.41	31.17	45.45	130.20	166.61	92.03	305.67	826.54	0.31
	M5	970.11	0.00	18.01	14.79	14.35	26.00	22.28	26.85	31.06	67.96	118.82	77.73	552.03	969.88	0.02
	M7	1065.03	0.00	0.00	3.39	9.88	15.18	15.73	20.73	43.40	141.13	191.71	63.25	563.74	1068.14	-0.29

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
25132-06582A SB	M3	95.64	94.04	94.04	93.96	93.48	92.89	91.90	89.93	82.81	62.99	53.37
	M4	100.00	100.00	100.00	97.83	95.54	93.32	89.56	84.08	68.37	48.28	37.18
	M5	98.14	96.62	95.14	92.46	90.16	87.40	84.19	77.19	64.94	56.93	56.93
	M7	100.00	100.00	99.68	98.75	97.33	95.85	93.91	89.83	76.58	58.58	52.64

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
44044-18804A WB	C2	1001.23	20.51	99.71	388.74	179.60	156.79	36.59	16.54	6.83	18.50	35.62	34.93	2.71	997.07	0.42
	C5	995.11	0.00	40.86	158.92	158.62	132.45	35.68	31.60	33.69	161.21	167.19	61.58	8.79	990.59	0.45
	C7	1004.18	0.00	63.61	237.18	235.53	185.13	32.94	22.11	20.90	65.14	85.74	46.04	6.95	1001.27	0.29
	C10	1002.80	0.00	90.93	429.87	245.65	117.30	18.70	11.45	8.34	14.88	27.68	35.46	2.31	1002.57	0.02
	C12	982.73	0.00	98.14	287.37	217.64	170.24	35.84	21.92	15.84	43.54	56.53	31.83	3.05	981.94	0.08

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
44044-18804A WB	C2	97.95	87.99	49.17	31.23	15.57	11.91	10.26	9.58	7.73	4.17	0.69
	C5	100.00	95.89	79.92	63.98	50.67	47.09	43.91	40.53	24.33	7.53	1.34
	C7	100.00	93.67	70.05	46.59	28.16	24.88	22.67	20.59	14.11	5.57	0.98
	C10	100.00	90.93	48.07	23.57	11.87	10.01	8.87	8.03	6.55	3.79	0.25
	C12	100.00	90.01	60.77	38.63	21.30	17.65	15.42	13.81	9.38	3.63	0.39

Loss on Wash - Subbase										
		Before Washing			After Washing			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
40444-18804A WB	C2	73.16	1077.81	1004.65	73.16	1022.07	948.91	55.74	5.55	
	C5	73.16	1079.24	1006.08	73.16	1007.84	934.68	.71.4	7.10	
	C7	73.16	1078.22	1005.06	73.16	971.08	897.92	107.14	10.66	
	C10	73.16	1081.27	1008.11	73.16	979.95	906.79	101.32	10.05	
	C12	73.16	1078.87	1005.71	73.16	991.44	918.28	87.43	8.69	small pieces of veg.

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
40444-18804A WB	C2	1004.65	0.00	38.62	64.12	56.68	84.36	42.26	60.00	59.67	180.40	251.22	87.94	75.93	1001.20	0.34
	C5	1006.08	0.00	0.00	50.73	49.09	55.42	34.31	37.95	42.37	255.98	307.59	92.80	79.17	1005.41	0.07
	C7	1005.06	0.00	0.00	13.91	28.49	54.87	57.90	78.67	83.37	235.34	231.23	100.88	118.46	1003.12	0.19
	C10	1008.11	0.00	0.00	35.75	32.00	64.41	60.97	78.73	70.46	213.84	235.54	96.71	118.50	1006.91	0.12
	C12	1005.71	0.00	32.20	12.12	16.73	42.15	30.92	32.33	48.24	375.66	240.12	73.85	99.36	1003.68	0.20

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
40444-18804A WB	C2	100.00	96.16	89.77	84.13	75.73	71.53	65.56	59.62	41.66	16.65	7.90
	C5	100.00	100.00	94.96	90.08	84.57	81.16	77.39	73.18	47.73	17.16	7.94
	C7	100.00	100.00	98.62	95.78	90.32	84.56	76.73	68.44	45.02	22.02	11.98
	C10	100.00	100.00	96.45	93.28	86.89	80.84	73.03	66.04	44.83	21.47	11.87
	C12	100.00	96.80	95.59	93.93	89.74	86.66	83.45	78.65	41.30	17.42	10.08

Loss on Wash - Subgrade										
		Before Washing			After Washing			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
40444-18804A WB	C2	73.16	1073.86	1000.70	73.16	1017.71	944.55	56.15	5.61	
	C7	73.16	756.55	683.39	73.16	671.10	597.94	85.45	12.50	
	C10	73.16	786.77	713.61	73.16	610.76	537.60	176.01	24.66	
	C12	73.16	1073.85	1000.69	73.16	860.57	787.41	213.28	21.31	vegetation

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
40444-18804A WB	C2	1000.70	0.00	35.40	116.21	71.11	192.11	151.36	129.65	70.36	60.89	59.03	24.45	58.41	968.98	3.17
	C7	683.39	0.00	21.30	8.09	15.12	19.49	15.45	21.77	28.75	111.92	262.22	86.61	93.72	684.44	-0.15
	C10	713.61	0.00	0.00	33.13	14.68	41.81	32.34	42.18	41.49	109.32	142.89	71.11	185.25	714.20	-0.08
	C12	1000.69	0.00	36.51	10.83	42.39	52.58	36.56	38.44	39.97	174.10	240.69	89.40	236.60	998.07	0.26

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
40444-18804A WB	C2	100.00	96.46	84.85	77.74	58.55	43.42	30.46	23.43	17.35	11.45	9.01
	C7	100.00	96.88	95.70	93.49	90.63	88.37	85.19	80.98	64.60	26.23	13.56
	C10	100.00	100.00	95.36	93.30	87.44	82.91	77.00	71.18	55.87	35.84	25.88
	C12	100.00	96.35	95.27	91.03	85.78	82.13	78.28	74.29	56.89	32.84	23.91

Sieve Analysis - Base																
Section	Core	Total Wt. Before	Weight Retained (g)												Total Wt. After	% Error
			1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan		
47065-28215A EB	C1	1063.79	0.00	243.66	279.80	268.28	217.09	4.99						49.05	1062.87	0.09
	C2	1197.02	0.00	175.66	415.82	306.47	177.55	19.09						102.64	1197.23	-0.02
	C3	1022.96	38.85	338.02	492.64	59.48	45.88	2.57						45.83	1023.27	-0.03
	C4	1198.33	0.00	168.36	400.50	249.98	286.99	24.47						68.36	1198.66	-0.03
	C5	1176.28	0.00	84.40	255.83	286.91	364.99	87.54						96.55	1176.22	0.01
	C6	1144.67	0.00	91.31	375.89	327.00	231.70	28.17						90.39	1144.46	0.02
	C7	1140.33	24.33	245.31	529.31	200.51	92.62	2.31						45.05	1139.44	0.08
	DL#3	1122.67	0.00	324.70	640.41	146.60	5.38	0.24						5.68	1123.01	-0.03

Sieve Analysis - Base												
Section	Core	% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
		1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
47065-28215A EB	C1	100.00	77.10	50.79	25.57	5.17	4.70					
	C2	100.00	85.33	50.59	24.98	10.15	8.56					
	C3	96.20	63.16	15.00	9.19	4.70	4.45					
	C4	100.00	85.95	52.53	31.67	7.72	5.68					
	C5	100.00	92.82	71.08	46.68	15.66	8.21					
	C6	100.00	92.02	59.18	30.62	10.38	7.91					
	C7	97.87	76.35	29.94	12.35	4.23	4.03					
	DL#3	100.00	71.08	14.03	0.98	0.50	0.48					

Loss on Wash - Subbase										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
47065-28215A EB	C1	73.72	1194.30	1120.58	73.72	1054.61	980.89	139.69	12.47	
	C2	73.72	1255.97	1182.25	73.72	1106.72	1033.00	149.25	12.62	
	C3	73.72	1229.34	1155.62	73.72	1071.04	997.32	158.30	13.70	
	C4	73.72	1235.02	1161.30	73.72	1069.57	995.85	165.45	14.25	
	C5	73.72	1270.99	1197.27	73.72	1191.34	1117.62	79.65	6.65	
	C6	73.72	1190.75	1117.03	73.72	1113.32	1039.60	77.43	6.93	
	C7	73.72	1180.72	1107.00	73.72	1114.12	1040.40	66.60	6.02	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
47065-28215A EB	C1	1120.58	0.00	8.01	3.76	18.50	53.70	85.52	102.17	155.28	363.61	153.49	29.51	140.40	1113.95	0.59
	C2	1182.25	0.00	0.00	44.74	31.55	68.75	115.86	108.42	143.42	359.45	124.35	18.65	164.37	1179.56	0.23
	C3	1155.62	0.00	10.37	39.57	42.85	134.34	203.59	163.63	126.99	166.87	80.86	25.30	158.80	1153.17	0.21
	C4	1161.30	0.00	0.00	0.00	10.26	107.45	204.44	173.78	137.14	208.48	108.10	45.32	167.26	1162.23	-0.08
	C5	1197.27	0.00	0.00	41.49	45.91	78.49	102.52	107.93	157.50	381.71	160.25	12.20	106.27	1194.27	0.25
	C6	1117.03	0.00	0.00	31.38	43.19	70.57	98.92	101.77	153.67	367.45	131.51	21.89	94.16	1114.51	0.23
	C7	1107.00	0.00	0.00	17.59	35.60	73.63	66.00	71.00	119.53	452.46	166.27	27.86	74.28	1104.22	0.25

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
47065-28215A EB	C1	100.00	99.29	98.95	97.30	92.51	84.87	75.76	61.90	29.45	15.75	13.12
	C2	100.00	100.00	96.22	93.55	87.73	77.93	68.76	56.63	26.23	15.71	14.13
	C3	100.00	99.10	95.68	91.97	80.35	62.73	48.57	37.58	23.14	16.14	13.95
	C4	100.00	100.00	100.00	99.12	89.86	72.26	57.30	45.49	27.53	18.23	14.32
	C5	100.00	100.00	96.53	92.70	86.14	77.58	68.57	55.41	23.53	10.15	9.13
	C6	100.00	100.00	97.19	93.32	87.01	78.15	69.04	55.28	22.39	10.61	8.66
	C7	100.00	100.00	98.41	95.20	88.54	82.58	76.17	65.37	24.50	9.48	6.96

Loss on Wash - Subgrade										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
47065-28215A	C1	73.72	1078.80	1005.08	73.72	796.01	722.29	282.79	28.14	
EB	C4	73.72	1162.60	1088.88	73.72	684.02	610.30	478.58	43.95	

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
47065-28215A	C1	1005.08	0.00	40.83	20.88	21.99	45.63	44.57	38.21	46.73	202.99	178.56	64.97	298.61	1003.97	0.11
EB	C4	1088.88	0.00	0.00	5.06	8.95	23.23	35.00	37.21	41.34	157.15	188.55	107.68	482.79	1086.96	0.18

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
47065-28215A	C1	100.00	95.94	93.86	91.67	87.13	82.70	78.90	74.25	54.05	36.28	29.82
EB	C4	100.00	100.00	99.54	98.71	96.58	93.37	89.95	86.15	71.72	54.40	44.51

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
77023-21586A EB	M1	1070.43	0.00	69.94	345.59	141.80	269.80	148.72	36.30	11.20	6.06	17.98	15.09	5.69	1068.17	0.21
	M4	1094.29	0.00	12.30	197.00	165.50	447.65	190.01	33.82	8.64	4.81	7.96	19.62	5.84	1093.15	0.10
	M6	1024.64	0.00	0.00	137.56	165.24	403.78	210.46	45.41	9.80	5.50	25.51	17.17	3.28	1023.71	0.09
	M8	1172.55	0.00	19.69	155.43	203.58	434.16	255.00	49.61	11.80	6.30	24.30	9.09	2.50	1171.46	0.09
	M11	1150.63	0.00	56.62	182.70	231.67	478.55	145.89	0.00	0.00	0.00	0.00	0.00	54.69	1150.12	0.04
	M13	1120.02	0.00	25.34	261.79	193.99	337.60	174.36	41.32	12.92	9.83	22.60	31.17	9.41	1120.33	-0.03

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
77023-21586A EB	M1	100.00	93.47	61.18	47.93	22.73	8.84	5.44	4.40	3.83	2.15	0.74
	M4	100.00	98.88	80.87	65.75	24.84	7.48	4.39	3.60	3.16	2.43	0.64
	M6	100.00	100.00	86.57	70.45	31.04	10.50	6.07	5.11	4.58	2.09	0.41
	M8	100.00	98.32	85.07	67.70	30.68	8.93					
	M11	100.00	95.08	79.20	59.07	17.48	4.80	4.80	4.80	4.80	4.80	4.80
	M13	100.00	97.74	74.36	57.04	26.90	11.33	7.64	6.49	5.61	3.60	0.81

Loss on Wash - Subbase										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
77023-21586A EB	M1	73.72	1123.44	1049.72	73.72	968.66	894.94	154.78	14.74	
	M4	73.72	1089.66	1015.94	73.72	967.45	893.73	122.21	12.03	
	M6	73.72	1091.50	1017.78	73.72	987.52	913.80	103.98	10.22	
	M8	73.72	1095.22	1021.50	73.72	941.32	867.60	153.90	15.07	
	M11	73.72	1095.20	1021.48	73.72	889.88	816.16	205.32	20.10	
	M13	73.72	1110.34	1036.62	74.72	1037.17	962.45	74.17	7.15	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
77023-21586A EB	M1	1049.72	0.00	0.00	0.00	2.30	3.85	9.26	8.89	13.25	50.13	359.80	415.40	185.76	1048.64	0.10
	M4	1015.94	0.00	0.00	0.00	6.35	4.50	5.20	5.06	6.54	67.55	494.91	287.51	137.37	1014.99	0.09
	M6	1017.78	0.00	0.00	0.00	4.26	9.67	12.57	12.87	18.80	149.28	449.55	231.64	127.69	1016.33	0.14
	M8	1021.50	0.00	0.00	0.00	11.49	13.52	12.91	9.59	13.17	60.53	439.47	291.45	168.85	1020.98	0.05
	M11	1021.48	0.00	0.00	0.00	7.54	13.72	11.32	11.46	5.09	77.91	411.43	261.83	220.47	1020.77	0.07
	M13	1036.62	0.00	0.00	10.60	11.36	14.38	9.69	20.00	36.01	319.68	380.57	148.82	84.25	1035.36	0.12

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
77023-21586A EB	M1	100.00	100.00	100.00	99.78	99.41	98.53	97.69	96.42	91.65	57.37	17.80
	M4	100.00	100.00	100.00	99.37	98.93	98.42	97.92	97.28	90.63	41.91	13.61
	M6	100.00	100.00	100.00	99.58	98.63	97.40	96.13	94.28	79.62	35.45	12.69
	M8	100.00	100.00	100.00	98.88	97.55	96.29	95.35	94.06	88.13	45.11	16.58
	M11	100.00	100.00	100.00	99.26	97.92	96.81	95.69	95.19	87.56	47.29	21.65
	M13	100.00	100.00	98.98	97.88	96.49	95.56	93.63	90.16	59.32	22.61	8.25

Loss on Wash - Subgrade										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
77023-21586A EB	M1	73.72	1126.72	1053	73.72	537.82	464.1	588.9	55.93	
	M4	73.72	1089.43	1015.7	73.72	415.1	341.38	674.33	66.39	
	M6	73.72	1100.2	1026.5	73.72	666.72	593	433.48	42.23	
	M8	73.72	1106.92	1033.2	73.72	601.48	527.76	505.44	48.92	
	M11	73.72	889.12	815.4	73.72	445.99	372.27	443.13	54.35	
	M13	73.72	1089.72	1016	74.72	593.72	519	497	48.92	

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
77023-21586A EB	M1	1053.00	36.87	19.11	3.68	4.4.15	17.58	21.83	20.21	13.72	43.80	182.99	96.07	590.96	1046.82	0.59
	M4	1015.71	0.00	10.65	5.71	3.71	24.71	25.41	22.00	18.54	54.72	121.25	51.39	675.63	1013.72	0.20
	M6	1026.50	0.00	5.28	18.05	19.65	52.13	55.06	70.49	49.68	53.09	171.34	88.59	437.48	1020.84	0.55
	M8	1033.20	0.00	0.00	3.50	2.87	12.62	10.49	13.79	13.16	45.92	287.24	131.43	511.06	1032.08	0.11
	M11	815.40	0.00	0.00	6.30	6.00	12.73	19.05	15.05	5.93	47.79	167.65	57.23	476.83	814.56	0.10
	M13	1016.00	0.00	15.43	4.30	16.29	25.28	19.00	24.45	20.23	50.51	193.77	139.92	505.94	1015.12	0.09

Sieve Analysis - Subgrade											
		% Passing									
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
77023-21586A EB	M1	96.50	94.68	94.33	94.33	92.66	90.59	88.67	87.37	83.21	65.83	56.71
	M4	100.00	98.95	98.39	98.02	95.59	93.09	90.92	89.10	83.71	71.77	66.71
	M6	100.00	99.49	97.73	95.81	90.73	85.37	78.50	73.66	68.49	51.80	43.17
	M8	100.00	100.00	99.66	99.38	98.16	97.15	95.81	94.54	90.09	62.29	49.57
	M11	100.00	100.00	99.23	98.49	96.93	94.59	92.75	92.02	86.16	65.60	58.58
	M13	100.00	98.48	98.06	96.45	93.97	92.10	89.69	87.70	82.73	63.66	49.88

Loss on Wash - Base										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
77024-20821A Section A EB	M0	73.16	1074.84	1001.68	73.16	1034.11	960.95	40.73	4.07	
	M1	73.16	1087.94	1014.78	73.16	1048.36	975.20	39.58	3.90	
	M2	73.16	1078.13	1004.97	73.16	1041.67	968.51	36.46	3.63	
	M3	73.16	1076.96	1003.80	73.16	1046.97	973.81	29.99	2.99	
	M4	73.16	1085.05	1011.89	73.16	1065.55	992.39	19.50	1.93	
	M5	73.16	1077.86	1004.70	73.16	1044.89	971.73	32.97	3.28	possible error
	M6	73.16	1089.56	1016.40	73.16	1075.89	1002.73	13.67	1.34	
	M7	73.16	1088.43	1015.27	73.16	1070.67	997.51	17.76	1.75	
	M9	73.16	1074.89	1001.73	73.16	1052.80	979.64	22.09	2.21	
	M10	73.16	1079.56	1006.40	73.16	1068.66	995.50	10.90	1.08	

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
77024-20821A Section A EB	M0	1001.68	0.00	12.84	306.25	240.86	262.46	29.58	22.14	15.63	25.22	28.21	12.84	43.46	999.49	0.22
	M1	1014.78	0.00	0.00	334.86	276.56	219.16	38.12	23.74	16.95	25.51	25.26	12.08	42.33	1014.57	0.02
	M2	1004.97	0.00	5.94	261.68	267.39	299.87	29.17	19.69	16.16	26.83	26.38	11.55	38.44	1003.10	0.19
	M3	1003.80	0.00	14.44	292.84	318.05	234.52	19.24	16.61	14.57	25.00	25.55	10.62	32.04	1003.48	0.03
	M4	1011.89	0.00	77.02	552.84	221.09	104.72	5.29	3.70	3.35	6.89	10.22	5.84	20.45	1011.41	0.05
	M5	1004.70	0.00	14.10	326.37	259.32	236.96	25.94	16.22	15.55	30.39	31.67	10.83	35.08	1002.43	0.23
	M6	1016.40	0.00	51.86	634.56	220.44	76.40	2.15	1.23	1.44	3.44	6.11	4.05	14.55	1016.23	0.02
	M7	1015.27	0.00	61.77	508.25	241.61	125.46	17.72	6.25	5.59	10.84	12.17	6.28	19.05	1014.99	0.03
	M9	1001.73	0.00	34.50	397.28	290.09	190.70	15.83	8.77	7.17	12.06	13.55	7.99	23.56	1001.50	0.02
	M10	1006.40	0.00	63.55	556.89	289.80	70.07	0.54	0.55	0.52	2.36	5.44	3.84	12.03	1005.59	0.08

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
77024-20821A Section A EB	M0	100.00	98.72	68.14	44.10	17.90	14.94	12.73	11.17	8.66	5.84	4.56
	M1	100.00	100.00	67.00	39.75	18.15	14.40	12.06	10.39	7.87	5.38	4.19
	M2	100.00	99.41	73.37	46.76	16.92	14.02	12.06	10.46	7.79	5.16	4.01
	M3	100.00	98.56	69.39	37.70	14.34	12.42	10.77	9.32	6.83	4.28	3.22
	M4	100.00	92.39	37.75	15.90	5.56	5.03	4.67	4.34	3.66	2.65	2.07
	M5	100.00	98.60	66.11	40.30	16.72	14.13	12.52	10.97	7.95	4.80	3.72
	M6	100.00	94.90	32.47	10.78	3.26	3.05	2.93	2.79	2.45	1.85	1.45
	M7	100.00	93.92	43.86	20.06	7.70	5.96	5.34	4.79	3.72	2.52	1.90
	M9	100.00	96.56	56.90	27.94	8.90	7.32	6.44	5.73	4.53	3.17	2.37
	M10	100.00	93.69	38.35	9.55	2.59	2.54	2.48	2.43	2.20	1.66	1.28

Loss on Wash - Subbase										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
77024-20821A Section A EB	M0	73.16	1070.85	997.69	73.16	1030.35	957.19	40.50	4.06	
	M1	73.16	1084.12	1010.96	73.16	1040.14	966.98	43.98	4.35	
	M2	73.16	1081.81	1008.65	73.16	1038.73	965.57	43.08	4.27	
	M3	73.16	1078.92	1005.76	73.16	1035.44	962.28	43.48	4.32	
	M4	73.16	1076.34	1003.18	73.16	987.91	914.75	88.43	8.81	
	M5	73.16	1078.21	1005.05	73.16	1039.24	966.08	38.97	3.88	
	M6	73.16	1078.91	1005.75	73.16	1035.46	962.30	43.45	4.32	
	M7	73.16	1084.71	1011.55	73.16	1044.91	971.75	39.80	3.93	
	M9	73.16	1076.54	1003.38	73.16	1029.93	956.77	46.61	4.65	
	M10	73.16	1079.75	1006.59	73.16	1044.90	971.74	34.85	3.46	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
77024-20821A Section A EB	M0	997.69	0.00	30.23	94.21	76.60	147.23	118.42	113.98	100.21	142.45	104.94	26.32	42.45	997.04	0.07
	M1	1010.96	0.00	80.44	118.66	81.34	180.15	103.59	97.74	77.76	111.01	88.29	25.07	46.52	1010.57	0.04
	M2	1008.65	0.00	13.98	109.64	102.07	157.62	112.00	98.45	81.34	132.92	124.15	31.13	46.08	1009.38	-0.07
	M3	1005.76	0.00	33.44	54.94	73.86	189.97	119.03	112.58	90.16	138.84	116.54	30.10	46.67	1006.13	-0.04
	M4	1003.18	0.00	26.40	62.63	73.66	151.78	114.35	107.99	80.73	130.50	127.99	36.00	91.07	1003.10	0.01
	M5	1005.05	69.09	63.00	88.03	40.34	141.11	117.22	100.44	76.05	119.41	115.81	30.69	42.70	1003.89	0.12
	M6	1005.75	107.68	32.07	81.80	64.26	138.54	97.39	96.19	72.06	123.87	112.67	30.76	46.98	1004.27	0.15
	M7	1011.55	0.00	52.50	112.54	91.96	156.11	120.34	104.33	78.33	122.11	102.51	27.11	42.61	1010.45	0.11
	M9	1003.38	0.00	31.63	53.83	86.34	179.26	124.84	110.57	82.86	132.91	114.13	34.67	49.36	1000.40	0.30
	M10	1006.59	0.00	13.96	40.91	93.50	198.48	135.97	125.50	95.18	136.39	103.40	26.91	37.22	1007.42	-0.08

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
77024-20821A Section A EB	M0	100.00	96.97	87.53	79.85	65.09	53.22	41.80	31.75	17.48	6.96	4.32
	M1	100.00	92.04	80.31	72.26	54.44	44.19	34.53	26.83	15.85	7.12	4.64
	M2	100.00	98.61	87.74	77.62	62.00	50.89	41.13	33.07	19.89	7.58	4.50
	M3	100.00	96.68	91.21	83.87	64.98	53.15	41.95	32.99	19.18	7.60	4.60
	M4	100.00	97.37	91.13	83.78	68.65	57.25	46.49	38.44	25.43	12.67	9.09
	M5	93.13	86.86	78.10	74.08	60.04	48.38	38.39	30.82	18.94	7.42	4.36
	M6	89.29	86.10	77.97	71.58	57.81	48.12	38.56	31.40	19.08	7.88	4.82
	M7	100.00	94.81	83.68	74.59	59.16	47.26	36.95	29.21	17.14	7.00	4.32
	M9	100.00	96.85	91.48	82.88	65.01	52.57	41.55	33.29	20.05	8.67	5.22
	M10	100.00	98.61	94.55	85.26	65.54	52.03	39.57	30.11	16.56	6.29	3.62

Loss on Wash - Subgrade										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
77024-20821A	M0	73.16	1074.85	1001.69	73.16	219.1	145.94	855.75	85.43	
Section A	M1	73.16	1071.36	998.2	73.16	222.73	149.57	848.63	85.02	roots
EB	M2	73.16	1077.42	1004.26	73.16	370.63	297.47	706.79	70.38	
	M3	73.16	1073.28	1000.12	73.16	280.3	207.14	792.98	79.29	
	M4	73.16	1079.2	1006.04	73.16	282.53	209.37	796.67	79.19	
	M5	73.16	1077.25	1004.09	73.16	240.43	167.27	836.82	83.34	
	M6	73.16	1079.1	1005.94	73.16	255.34	182.18	823.76	81.89	
	M7	73.16	1086.14	1012.98	73.16	298.57	225.41	787.57	77.75	
	M9	73.16	1082.03	1008.87	73.16	521.85	448.69	560.18	55.53	
	M10	73.16	1074.52	1001.36	73.16	475.03	401.87	599.49	59.87	roots

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
77024-20821A	M0	1001.69	0.00	0.00	4.87	0.99	7.85	9.86	14.61	13.27	22.95	37.21	26.97	861.25	999.83	0.19
Section A	M1	998.20	0.00	0.00	13.21	1.22	11.84	11.61	14.01	13.68	25.12	34.32	21.31	850.23	996.55	0.17
EB	M2	1004.26	0.00	15.47	10.51	2.71	11.62	10.60	15.78	16.83	37.88	95.73	70.50	716.03	1003.66	0.06
	M3	1000.12	0.00	0.00	8.40	8.43	18.84	12.24	18.50	16.54	30.86	53.22	37.79	795.34	1000.16	0.00
	M4	1006.04	0.00	0.00	13.90	12.94	18.76	10.78	12.59	11.83	24.28	56.98	43.16	800.24	1005.46	0.06
	M5	1004.09	0.00	0.00	0.00	5.91	19.23	15.15	16.32	14.89	25.74	41.11	26.46	838.35	1003.16	0.09
	M6	1005.94	0.00	0.00	14.41	6.15	15.36	9.94	16.41	16.59	28.20	43.60	31.26	826.96	1008.88	-0.29
	M7	1012.98	0.00	0.00	15.84	3.37	16.57	10.54	16.16	18.39	34.78	66.26	40.61	788.47	1010.99	0.20
	M9	1008.87	0.00	0.00	7.27	7.90	22.53	15.02	22.02	22.00	57.64	210.50	80.42	561.80	1007.10	0.18
	M10	1001.36	0.00	0.00	0.00	5.84	7.63	5.89	6.06	7.38	23.19	213.37	123.73	606.66	999.75	0.16

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
77024-20821A	M0	100.00	100.00	99.51	99.41	98.63	97.65	96.19	94.86	92.57	88.86	86.17
Section A	M1	100.00	100.00	98.68	98.55	97.37	96.21	94.80	93.43	90.91	87.48	85.34
EB	M2	100.00	98.46	97.41	97.14	95.99	94.93	93.36	91.68	87.91	78.38	71.36
	M3	100.00	100.00	99.16	98.32	96.43	95.21	93.36	91.71	88.62	83.30	79.52
	M4	100.00	100.00	98.62	97.33	95.47	94.40	93.14	91.97	89.56	83.89	79.60
	M5	100.00	100.00	100.00	99.41	97.50	95.99	94.36	92.88	90.32	86.22	83.59
	M6	100.00	100.00	98.57	97.96	96.43	95.44	93.81	92.16	89.36	85.02	81.92
	M7	100.00	100.00	98.44	98.10	96.47	95.43	93.83	92.02	88.58	82.04	78.03
	M9	100.00	100.00	99.28	98.50	96.26	94.77	92.59	90.41	84.70	63.83	55.86
	M10	100.00	100.00	100.00	99.42	98.65	98.07	97.46	96.72	94.41	73.10	60.74

Loss on Wash - Base										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
77024-17988A Section B EB	M1	73.16	1078.65	1005.49	73.16	1046.90	973.74	31.75	3.16	
	M3	73.16	1074.06	1000.90	73.16	1036.65	963.49	37.41	3.74	
	M4	73.16	1074.55	1001.39	73.16	1046.48	973.32	28.07	2.80	
	M6	73.16	1076.04	1002.88	73.16	1049.06	975.90	26.98	2.69	
	M7	73.16	1071.41	998.25	73.16	1049.67	976.51	21.74	2.18	
	M8	73.16	1075.25	1002.09	73.16	1038.80	965.64	36.45	3.64	
	M9	73.16	1074.36	1001.20	73.16	1049.14	975.98	25.22	2.52	
	M11	73.16	1075.74	1002.58	73.16	1050.32	977.16	25.42	2.54	
	M12	73.16	1077.06	1003.90	73.16	1056.35	983.19	20.71	2.06	
	M13	73.16	1075.95	1002.79	73.16	1049.15	975.99	26.80	2.67	

Sieve Analysis - Base																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
77024-17988A Section B EB	M1	1005.49	0.00	79.78	272.84	165.85	317.95	87.99	23.54	7.43	4.55	7.11	5.43	32.82	1005.29	0.02
	M3	1000.90	0.00	21.43	226.30	221.94	318.74	116.87	28.47	8.17	4.67	8.74	6.96	38.10	1000.39	0.05
	M4	1001.39	0.00	12.64	346.28	238.49	266.58	66.82	21.44	6.48	3.76	6.09	3.84	28.92	1001.34	0.00
	M6	1002.88	0.00	24.76	349.06	204.63	273.00	79.31	23.66	7.41	3.69	3.55	2.77	28.40	1000.24	0.26
	M7	998.25	0.00	124.61	340.53	202.43	231.15	47.07	15.46	5.85	3.15	2.43	2.00	22.79	997.47	0.08
	M8	1002.09	0.00	12.24	92.89	121.48	388.62	258.50	70.00	13.39	5.03	3.60	2.41	36.89	1005.05	-0.30
	M9	1001.20	0.00	7.04	218.97	179.10	342.93	167.67	34.02	8.19	6.23	6.17	3.47	26.93	1000.72	0.05
	M11	1002.58	0.00	69.66	297.02	215.77	288.63	66.62	17.74	8.05	4.27	3.90	2.94	26.94	1001.54	0.10
	M12	1003.90	0.00	153.48	541.08	227.84	44.21	1.84	2.95	2.71	2.06	3.24	3.13	21.71	1004.25	-0.03
	M13	1002.79	0.00	26.43	320.94	253.11	283.37	59.54	15.35	6.21	3.12	2.45	2.32	28.51	1001.35	0.14

Sieve Analysis - Base												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
77024 -17988A Section B EB	M1	100.00	92.07	64.93	48.44	16.81	8.06	5.72	4.98	4.53	3.82	3.28
	M3	100.00	97.86	75.25	53.08	21.23	9.55	6.71	5.89	5.43	4.55	3.86
	M4	100.00	98.74	64.16	40.34	13.72	7.05	4.91	4.26	3.88	3.28	2.89
	M6	100.00	97.53	62.73	42.32	15.10	7.19	4.83	4.09	3.73	3.37	3.10
	M7	100.00	87.52	53.40	33.13	9.97	5.26	3.71	3.12	2.80	2.56	2.36
	M8	100.00	98.78	89.51	77.39	38.61	12.81	5.82	4.49	3.99	3.63	3.39
	M9	100.00	99.30	77.43	59.54	25.29	8.54	5.14	4.32	3.70	3.08	2.74
	M11	100.00	93.05	63.43	41.90	13.12	6.47	4.70	3.90	3.47	3.08	2.79
	M12	100.00	84.71	30.81	8.12	3.71	3.53	3.24	2.97	2.76	2.44	2.13
	M13	100.00	97.36	65.36	40.12	11.86	5.92	4.39	3.77	3.46	3.22	2.99

Loss on Wash - Subbase										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
77024-17988A Section B EB	M1	73.16	1082.03	1008.87	73.16	938.25	865.09	143.78	14.252	
	M3	73.16	1071.09	997.93	73.16	764.08	690.92	307.01	30.765	
	M6	73.16	1078.71	1005.55	73.16	1006.34	933.18	72.37	7.1971	
	M7	73.16	1074.09	1000.93	73.16	1014.62	941.46	59.47	5.9415	
	M8	73.16	1073.78	1000.62	73.16	991.97	918.81	81.81	8.1759	
	M9	73.16	1077.4	1004.24	73.16	1004.6	931.44	72.8	7.2493	
	M11	73.16	1071.61	998.45	73.16	1024.11	950.95	47.5	4.7574	
	M12	73.16	1083.12	1009.96	73.16	1030.86	957.7	52.26	5.1745	
	M13	73.16	1079.9	1006.74	73.16	995.24	922.08	84.66	8.4093	

Sieve Analysis - Subbase																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
77024-17988A Section B EB	M1	1008.87	0.00	0.00	0.00	0.00	1.54	2.21	3.57	6.13	44.61	609.92	176.29	165.55	1009.82	-0.09
	M3	997.93	0.00	0.00	0.00	2.24	3.17	3.08	3.39	5.27	30.32	449.39	165.17	335.38	997.41	0.05
	M6	1005.55	0.00	0.00	0.00	2.39	5.58	4.77	5.76	10.57	97.76	656.50	137.95	84.85	1006.13	-0.06
	M7	1000.93	0.00	0.00	0.00	1.90	3.63	4.91	3.47	15.56	89.78	686.28	122.84	68.50	996.87	0.41
	M8	1000.62	0.00	0.00	0.00	0.00	2.82	6.41	9.45	14.96	96.98	636.84	133.41	99.41	1000.28	0.03
	M9	1004.24	0.00	0.00	0.00	6.00	2.75	5.57	6.43	10.95	68.16	688.07	125.84	89.57	1003.34	0.09
	M11	998.45	0.00	0.00	0.00	0.79	3.30	3.57	3.76	6.49	42.99	724.29	146.12	65.82	997.13	0.13
	M12	1009.96	0.00	0.00	4.51	10.32	11.96	4.40	4.95	8.63	49.93	724.29	126.14	63.79	1008.92	0.10
	M13	1006.74	0.00	0.00	0.00	2.19	4.86	4.54	4.78	8.63	80.32	699.58	134.49	96.93	1036.32	-2.94

Sieve Analysis - Subbase												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
77024-17988A Section B EB	M1	100.00	100.00	100.00	100.00	99.85	99.63	99.27	98.67	94.25	33.79	16.32
	M3	100.00	100.00	100.00	99.78	99.46	99.15	98.81	98.28	95.24	50.21	33.66
	M6	100.00	100.00	100.00	99.76	99.21	98.73	98.16	97.11	87.39	22.10	8.38
	M7	100.00	100.00	100.00	99.81	99.45	98.96	98.61	97.06	88.09	19.52	7.25
	M8	100.00	100.00	100.00	100.00	99.72	99.08	98.13	96.64	86.95	23.30	9.97
	M9	100.00	100.00	100.00	99.40	99.13	98.57	97.93	96.84	90.06	21.54	9.01
	M11	100.00	100.00	100.00	99.92	99.59	99.23	98.86	98.21	93.90	21.36	6.72
	M12	100.00	100.00	99.55	98.53	97.35	96.91	96.42	95.57	90.62	18.91	6.42
	M13	100.00	100.00	100.00	99.78	99.30	98.85	98.37	97.52	89.54	20.05	6.69

Loss on Wash - Subgrade										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
77024-17988A	M3	73.16	1071.14	997.98	73.16	986.29	913.13	84.85	8.50	Subgrade
Section B	M4	73.16	1075.79	1002.63	73.16	860.63	787.47	215.16	21.46	Subgrade
EB	M6	73.16	1078.60	1005.44	73.16	402.29	329.13	676.31	67.27	Subgrade
	M8	73.16	535.30	462.14	73.16	230.52	157.36	304.78	65.95	Subgrade
	M9	73.16	1046.39	973.23	73.16	417.29	344.13	629.10	64.64	Subgrade
	M11	73.16	1029.15	955.99	73.16	361.69	288.53	667.46	69.82	Subgrade
	M12	73.16	810.44	737.28	73.16	345.52	272.36	464.92	63.06	Subgrade
	M13	73.16	604.50	531.34	73.16	269.13	195.97	335.37	63.12	Subgrade
	M6	73.16	753.20	680.04	73.16	327.35	254.19	425.85	62.62	Embankment
	M8	73.16	1070.12	996.96	73.16	654.10	580.94	416.02	41.73	Embankment
	M9	73.16	965.11	891.95	73.16	469.45	396.29	495.66	55.57	Embankment
	A	73.16	1075.23	1002.07	73.16	402.29	329.13	672.94	67.15	Embankment
	B	73.16	1075.55	1002.39	73.16	405.26	332.10	670.29	66.87	Embankment

Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
77024-17988A	M3	997.98	0.00	0.00	14.75	21.97	50.46	50.37	58.71	38.36	222.24	388.36	60.16	90.00	995.38	0.26
Section B	M4	1002.63	0.00	0.00	0.00	2.10	5.74	8.19	10.07	13.06	65.08	541.46	129.38	226.38	1001.46	0.12
EB	M6	1005.44	0.00	0.00	0.00	5.61	18.60	18.99	24.08	21.53	40.22	114.38	68.78	680.80	992.99	1.24
	M8	462.14	0.00	0.00	0.00	2.03	9.21	10.90	9.78	8.40	15.34	53.17	43.83	309.56	462.22	-0.02
	M9	973.23	0.00	0.00	14.80	12.62	28.81	28.11	22.55	17.49	33.16	119.26	63.16	632.09	972.05	0.12
	M11	955.99	0.00	0.00	7.04	11.78	24.59	18.13	17.18	16.69	32.12	119.23	68.35	631.47	946.58	0.98
	M12	737.28	0.00	0.00	6.59	6.25	13.08	13.43	17.08	16.75	28.16	96.92	69.63	469.12	737.01	0.04
	M13	531.34	0.00	0.00	19.02	11.39	18.00	11.78	11.23	8.74	16.23	61.74	35.94	336.50	530.57	0.14
	M6	680.04	0.00	0.00	13.90	1.53	9.12	9.47	11.55	11.74	29.52	101.47	59.77	431.24	679.31	0.11
	M8	996.96	0.00	0.00	0.00	17.80	18.94	19.46	20.80	19.99	66.61	304.56	99.61	428.42	996.19	0.08
	M9	891.95	0.00	22.90	5.85	18.77	17.06	21.00	17.92	14.77	35.72	157.61	77.69	502.24	891.53	0.05
	A	1002.07	0.00	0.00	0.00	0.00	7.81	5.92	11.50	25.37	87.39	154.79	32.89	673.89	999.56	0.25
	B	1002.39	0.00	0.00	0.00	7.93	23.90	16.33	14.19	15.35	36.88	126.18	85.17	676.04	1001.97	0.04

Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
77024-17988A	M3	100.00	100.00	98.52	96.32	91.26	86.22	80.33	76.49	54.22	15.31	9.28
Section B	M4	100.00	100.00	100.00	99.79	99.22	98.40	97.40	96.09	89.60	35.60	22.70
EB	M6	100.00	100.00	100.00	99.44	97.59	95.70	93.31	91.17	87.17	75.79	68.95
	M8	100.00	100.00	100.00	99.56	97.57	95.21	93.09	91.28	87.96	76.45	66.97
	M9	100.00	100.00	98.48	97.18	94.22	91.33	89.02	87.22	83.81	71.56	65.07
	M11	100.00	100.00	99.26	98.03	95.46	93.56	91.77	90.02	86.66	74.19	67.04
	M12	100.00	100.00	99.11	98.26	96.48	94.66	92.35	90.07	86.25	73.11	63.67
	M13	100.00	100.00	96.42	94.28	90.89	88.67	86.56	84.91	81.86	70.24	63.48
	M6 EMB	100.00	100.00	97.96	97.73	96.39	95.00	93.30	91.57	87.23	72.31	63.52
	M8 EMB	100.00	100.00	100.00	98.21	96.31	94.36	92.28	90.27	83.59	53.04	43.05
	M9 EMB	100.00	97.43	96.78	94.67	92.76	90.41	88.40	86.74	82.74	65.07	56.36
	A EMB	100.00	100.00	100.00	100.00	99.22	98.63	97.48	94.95	86.23	70.78	67.50
	B EMB	100.00	100.00	100.00	99.21	96.82	95.20	93.78	92.25	88.57	75.98	67.48

Loss on Wash - Base										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
82291-37305A NB	350AA #1	73.16	1268.68	1195.5	73.16	1207.07	1133.9	61.61	5.15	
	350AA #2	73.16	1248.72	1175.6	73.16	1124.19	1051	124.53	10.59	High
	DL #2 350AA	73.16	1220.83	1147.7	73.16	1072.03	998.87	148.8	12.97	High

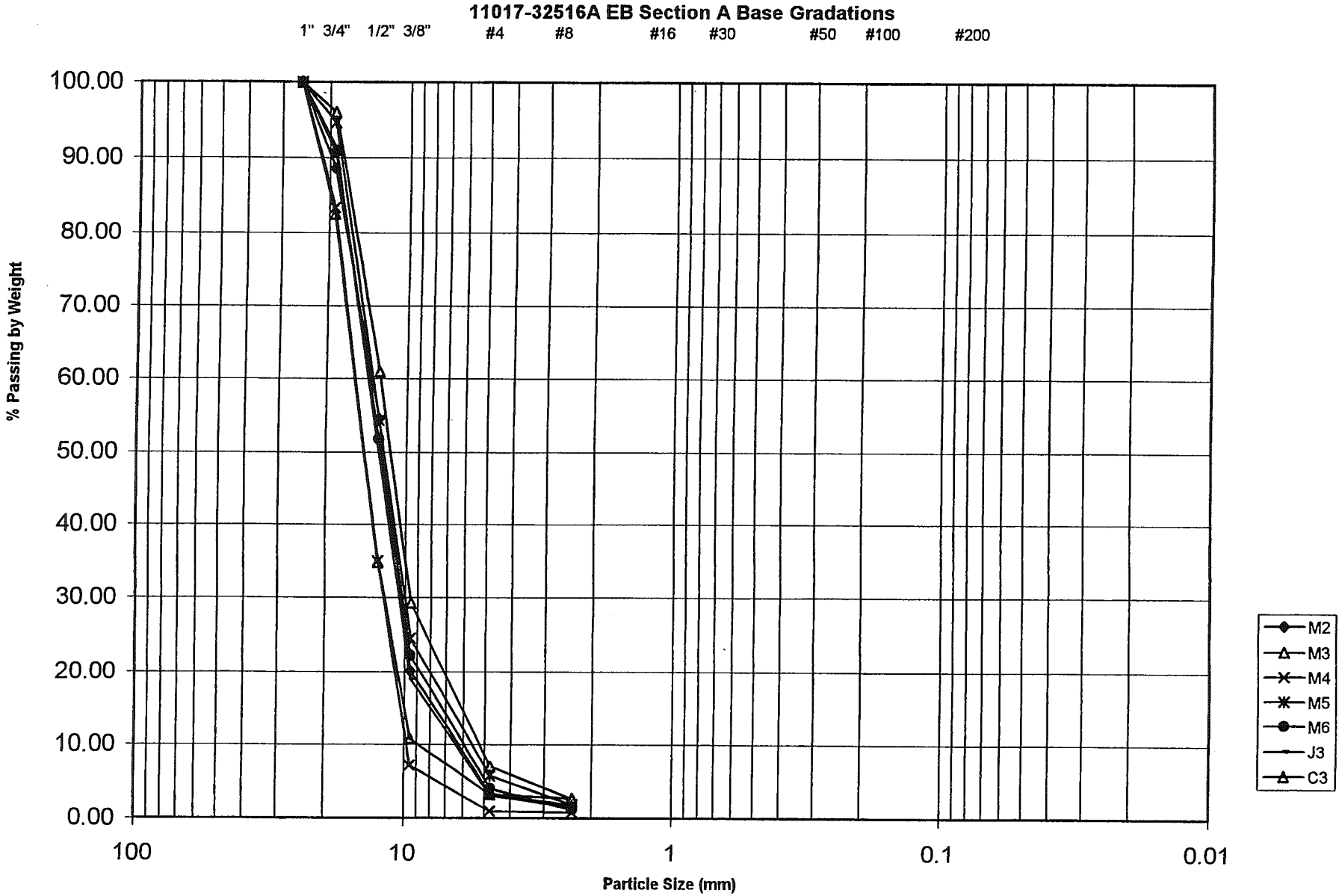
Sieve Analysis - Base																	
		Total Wt.	Weight Retained (g)													Total Wt.	%
Section	Core	Before	1 1/2	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
82291-37305A NB	350AA #1	1195.52	0.00	239.21	230.30	201.12	108.90	118.73	108.39	65.41	26.32	21.54	8.79	4.41	61.92	1195.04	0.04
	350AA #2	1175.56	0.00	107.20	103.44	128.19	90.61	183.88	232.91	119.61	39.79	32.08	9.36	3.00	125.80	1175.87	-0.03
	DL#2 350 AA	1147.67	0.00	67.03	105.07	188.42	102.87	154.77	166.65	98.14	54.41	36.18	17.00	5.63	149.47	1145.64	0.18

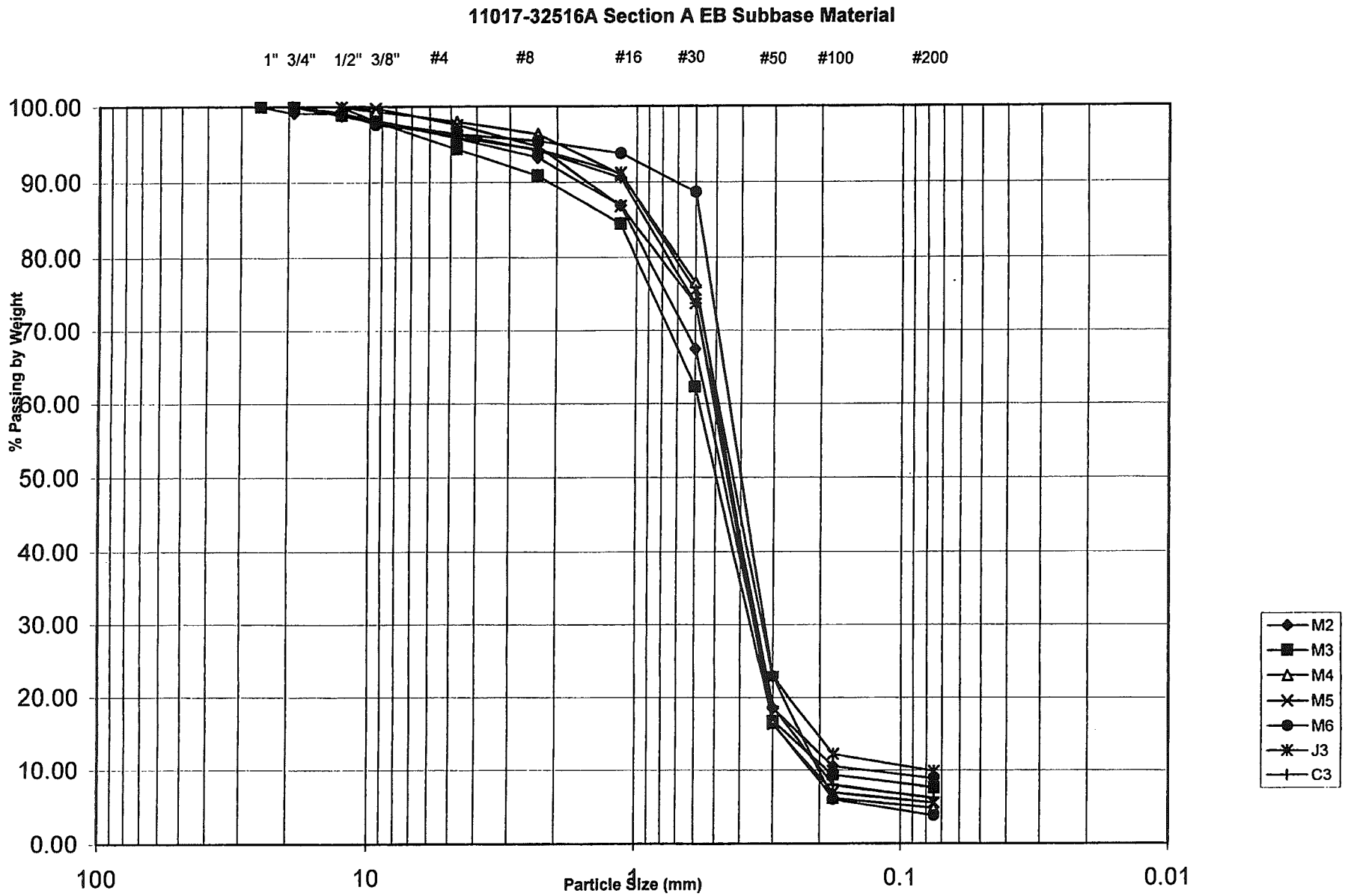
Sieve Analysis - Base													
		% Passing											
		37.5	25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1 1/2	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
82291-37305A NB	350AA#1	100.00	79.99	60.73	43.90	34.80	24.86	15.80	10.33	8.13	6.32	5.59	5.22
	350AA #2	100.00	90.88	82.08	71.18	63.47	47.83	28.01	17.84	14.46	11.73	10.93	10.67
	DL #2 350 AA	100.00	94.16	85.00	68.59	59.62	46.14	31.62	23.07	18.32	15.17	13.69	13.20

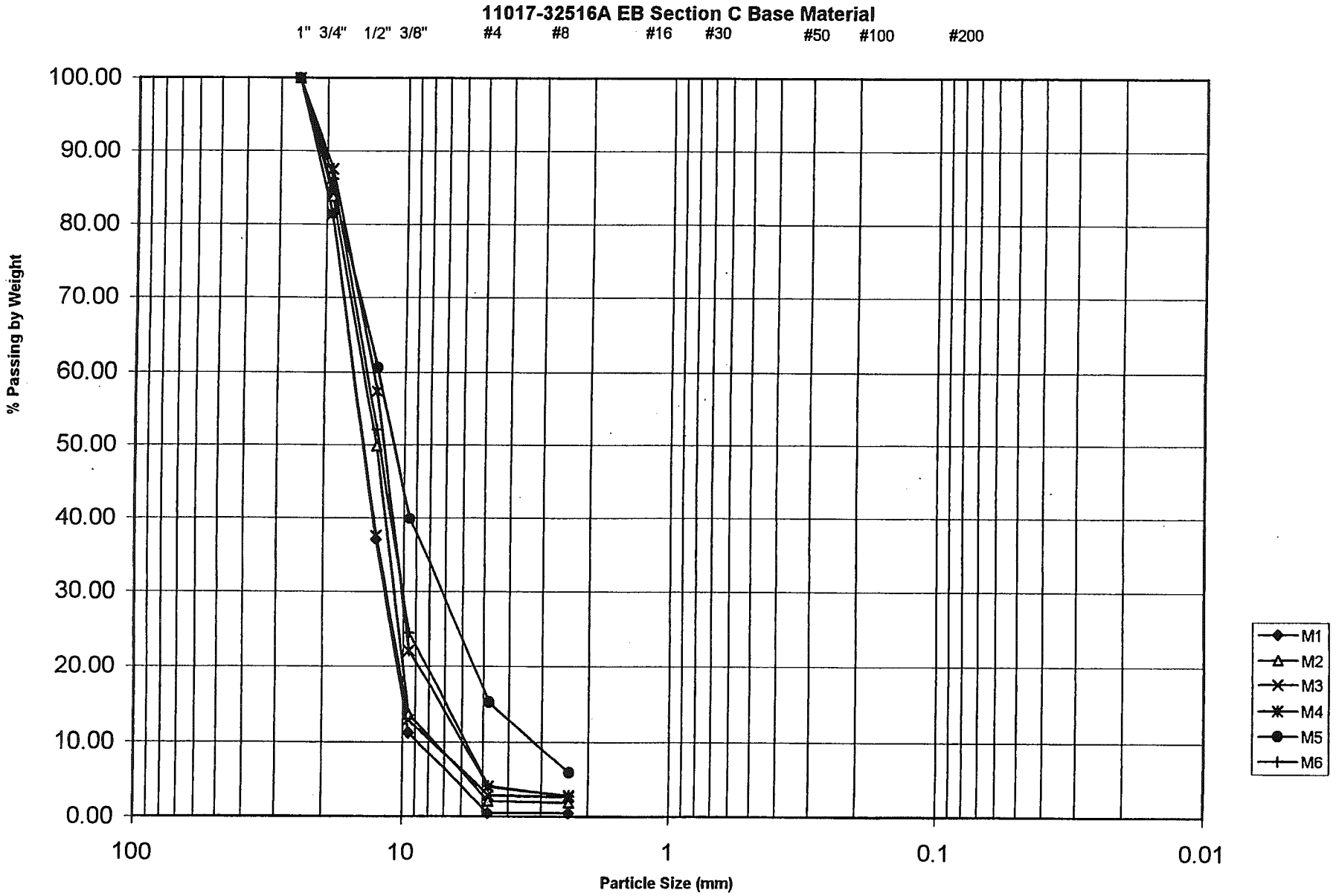
Loss on Wash - Subgrade										
		Before Washing (g)			After Washing (g)			Weight		
Section	Core	Pan	Pan + Sand	Sand	Pan	Pan + Sand	Sand	Loss (g)	Loss%	Comments
82291-37305 NB	#1	73.72	1091.78	1018.06	73.72	362.38	288.66	729.4	71.65	

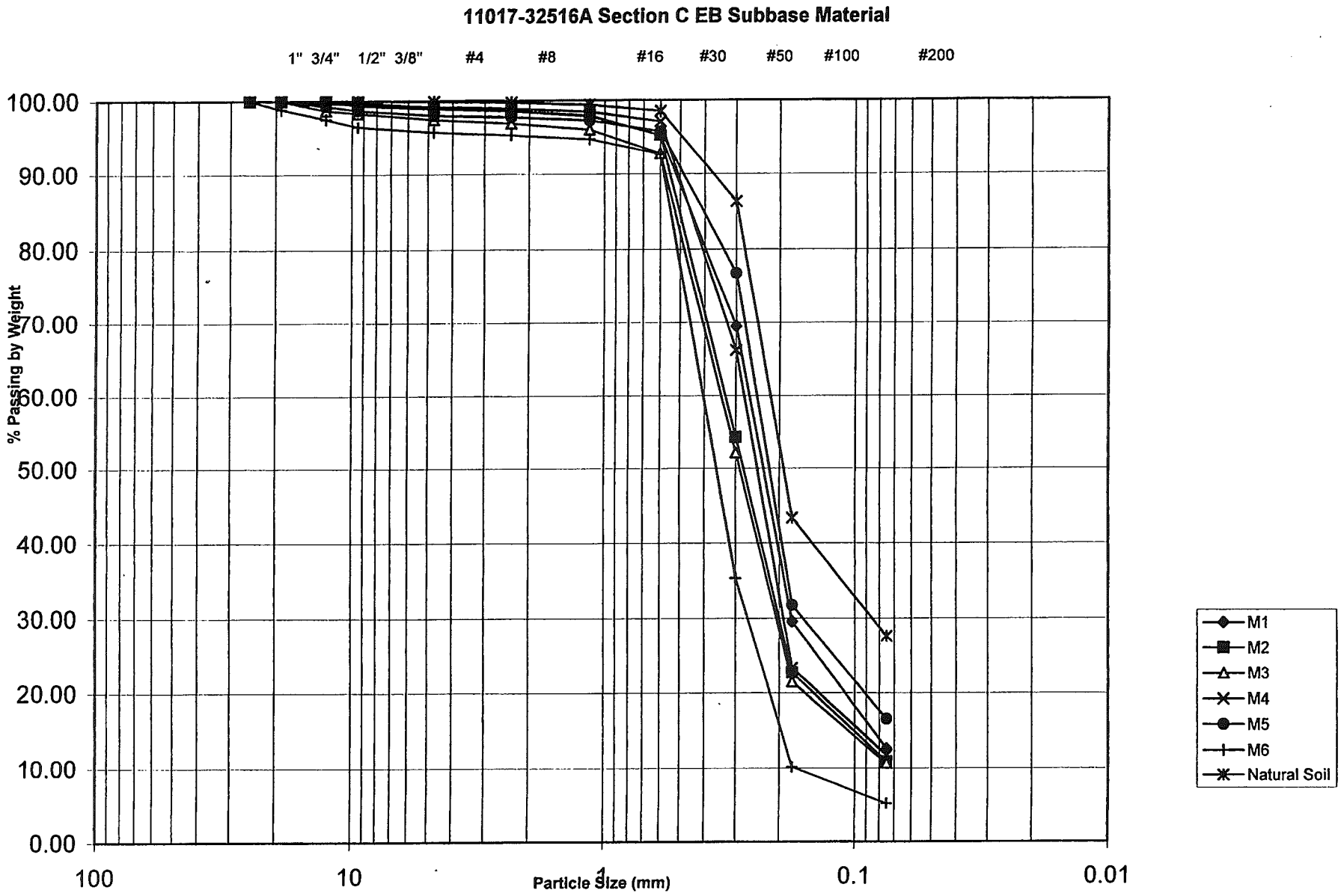
Sieve Analysis - Subgrade																
		Total Wt.	Weight Retained (g)												Total Wt.	%
Section	Core	Before	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200	Pan	After	Error
82291-37305 NB	#1	1018.06	0.00	0.00	0.00	0.00	31.05	23.72	25.10	17.94	55.99	64.54	66.64	731.61	1016.59	0.14

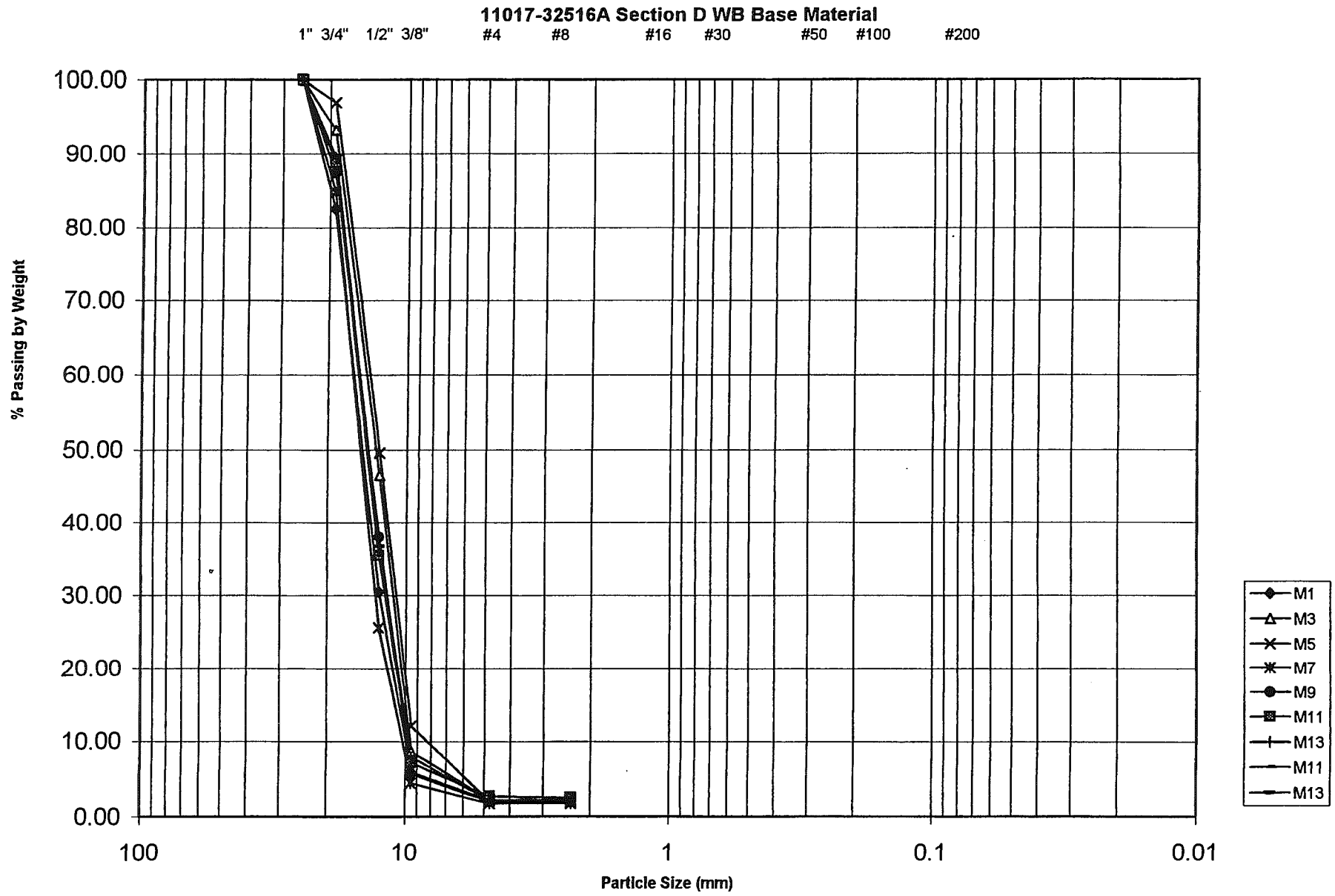
Sieve Analysis - Subgrade												
		% Passing										
		25.4	19.1	12.7	9.5	4.75	2.36	1.148	0.6	0.3	0.178	0.075
Section	Core	1	3/4	1/2	3/8	#4	#8	#16	#30	#50	#100	#200
82291-37305 NB	#1	100.00	100.00	100.00	100.00	96.95	94.62	92.15	90.39	84.89	78.55	72.01

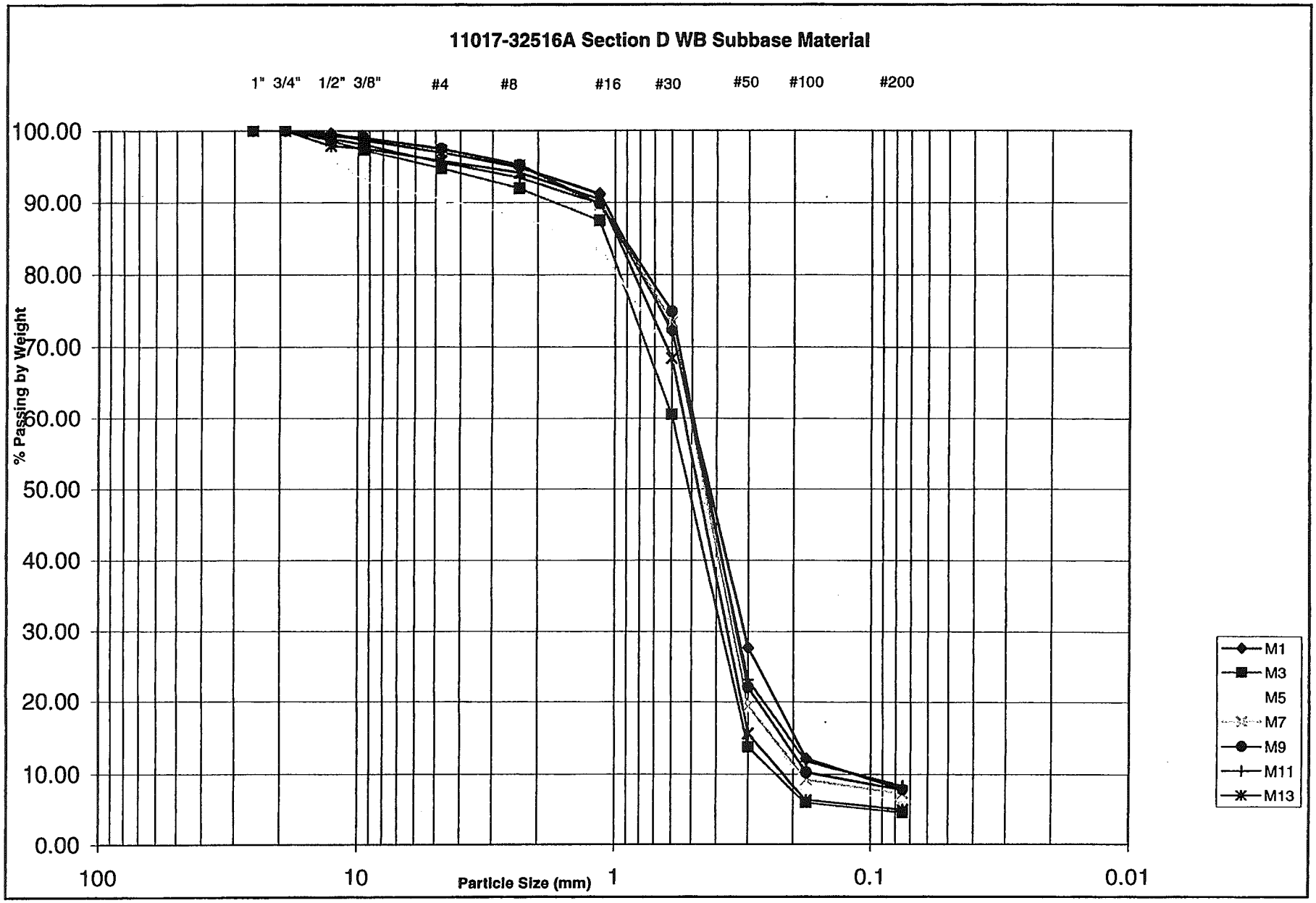

11017-32516A EB Section A Base Gradations
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M2
M3
M4
M5
M6
J3
C3

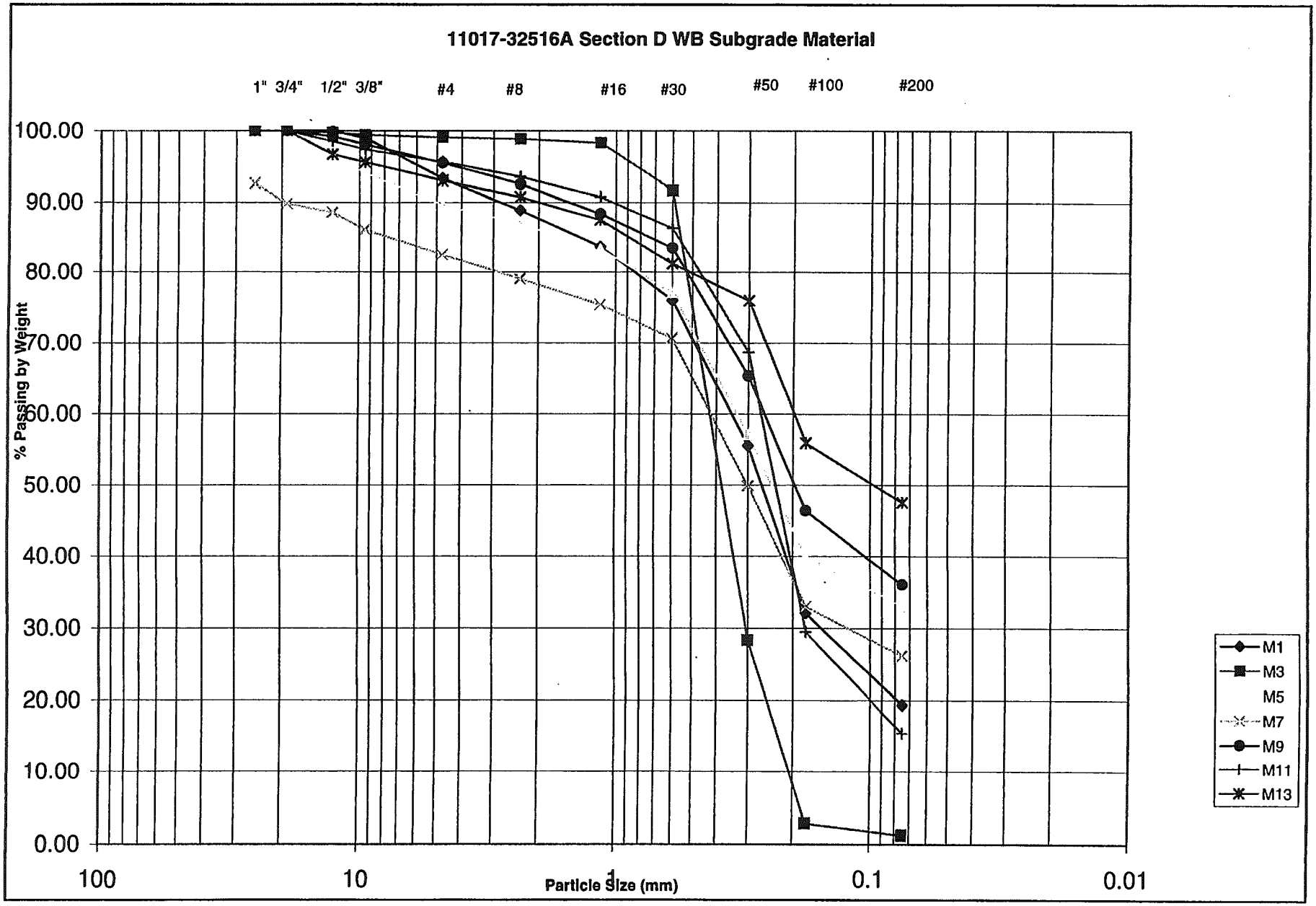

11017-32516A Section A EB Subbase Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M2
M3
M4
M5
M6
J3
C3

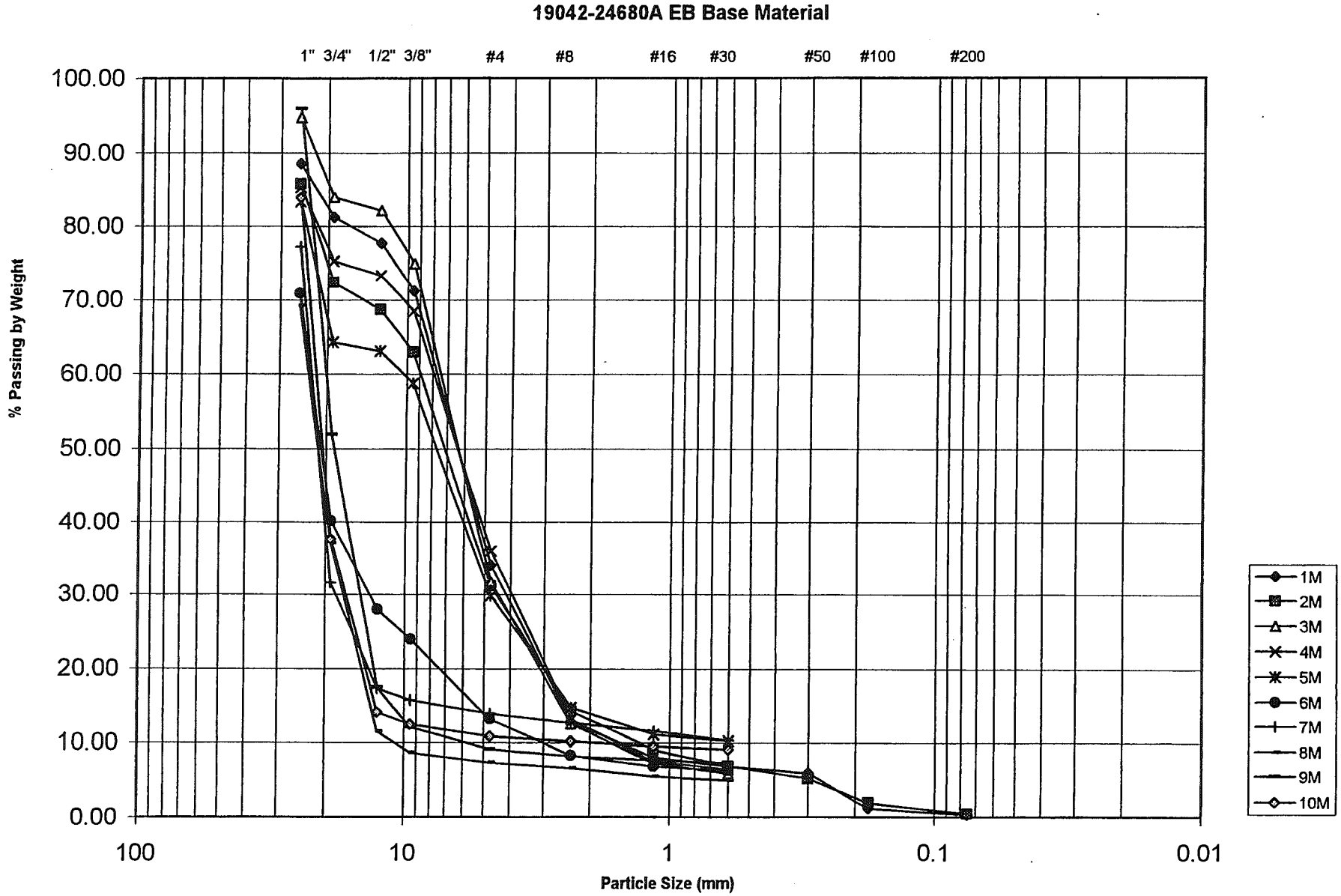

11017-32516A EB Section C Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M2
M3
M4
M5
M6

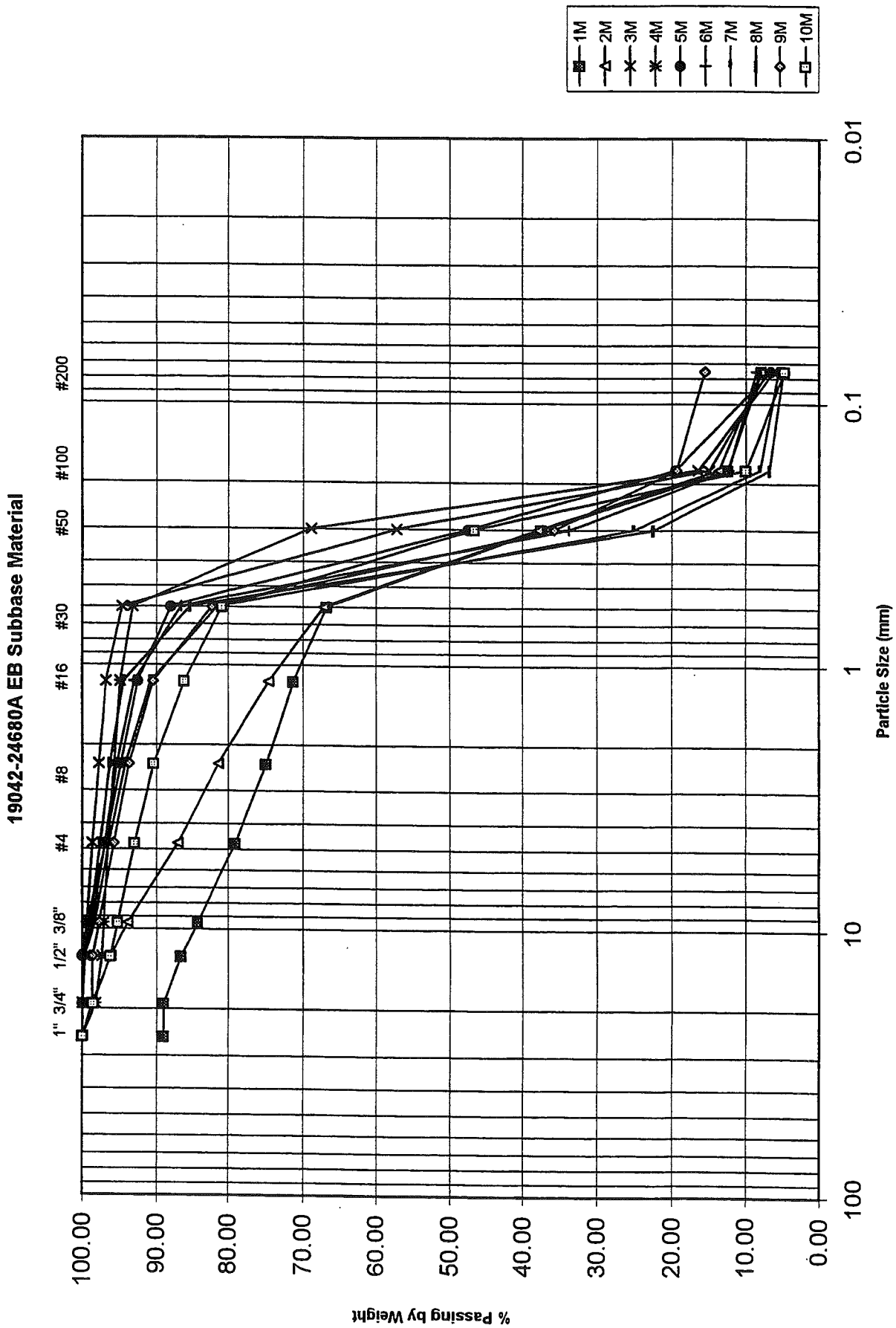

11017-32516A Section C EB Subbase Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M2
M3
M4
M5
M6
Natural Soil

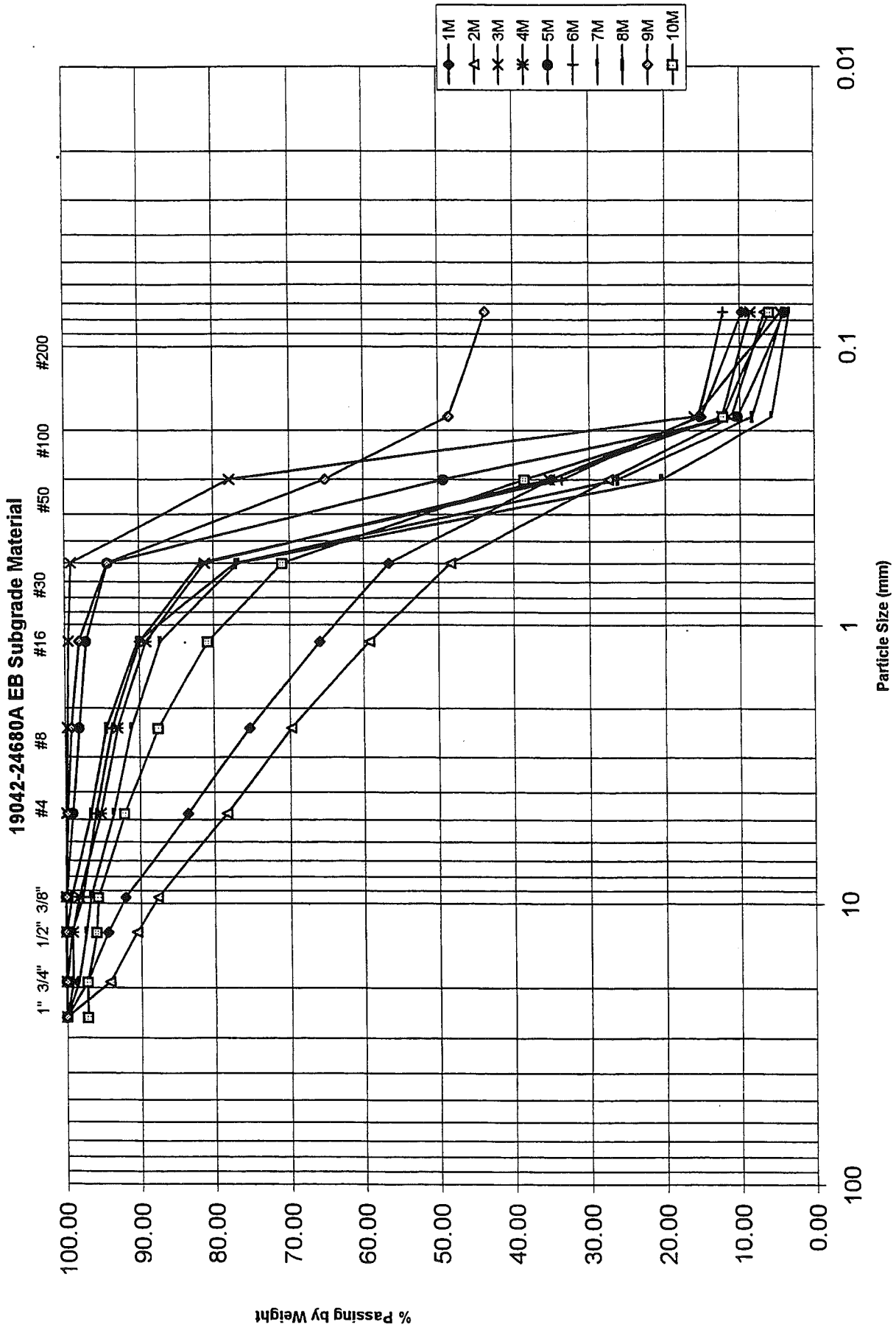

11017-32516A Section D WB Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M3
M5
M7
M9
M11
M13
M11
M13

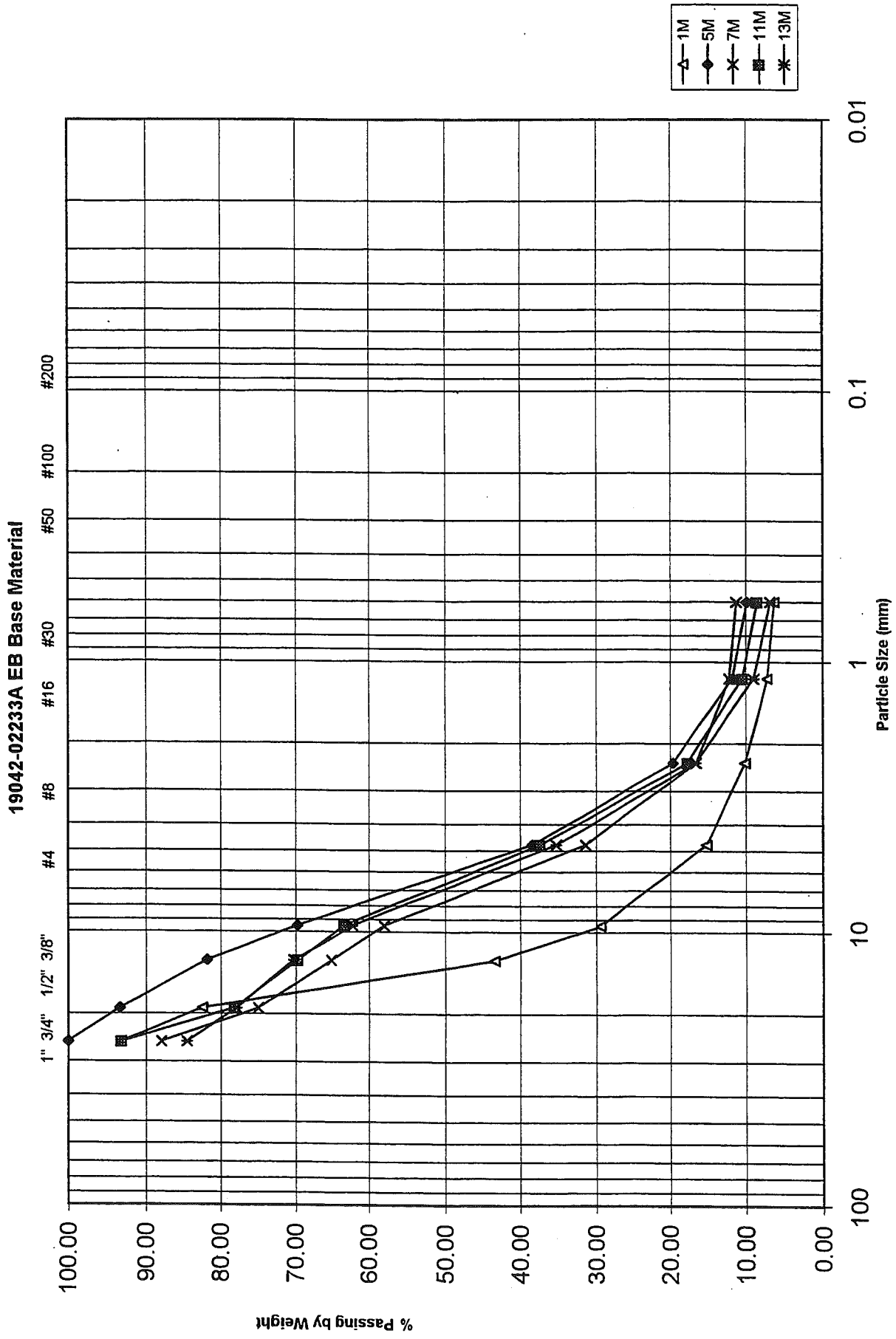

11017-32516A Section D WB Subbase Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M3
M5
M7
M9
M11
M13

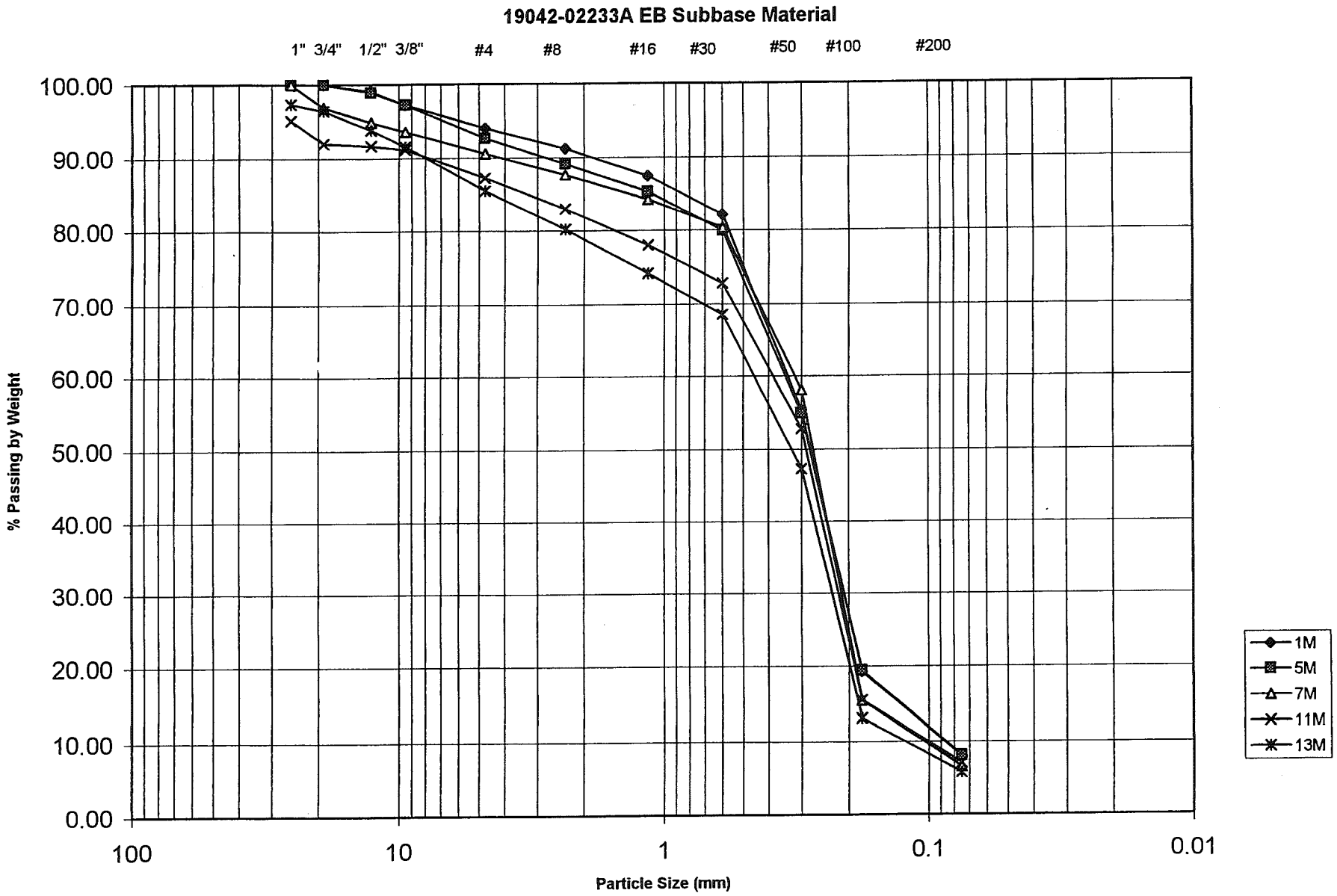

11017-32516A Section D WB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M3
M5
M7
M9
M11
M13

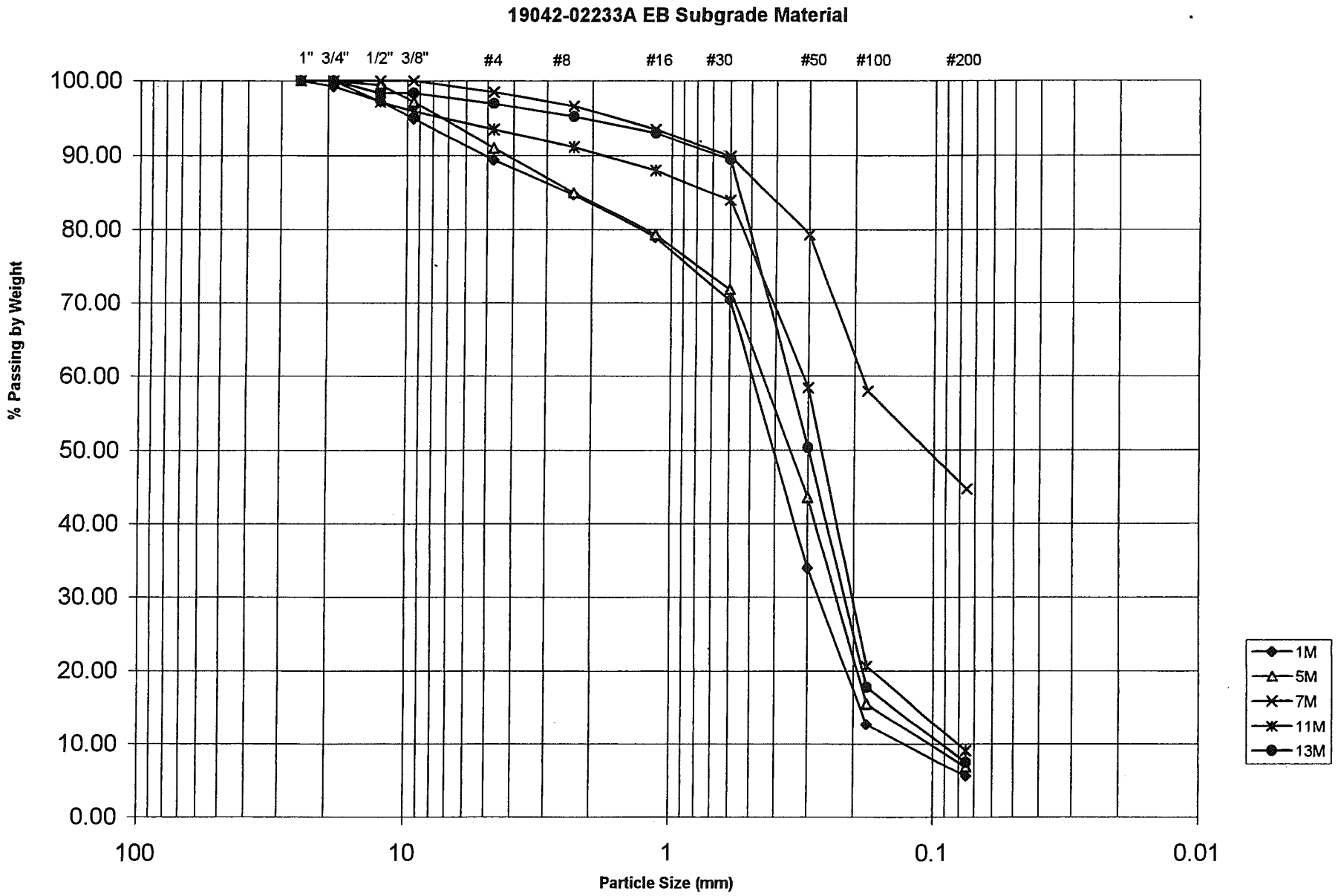

19042-24680A EB Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
1M
2M
3M
4M
5M
6M
7M
8M
9M
10M

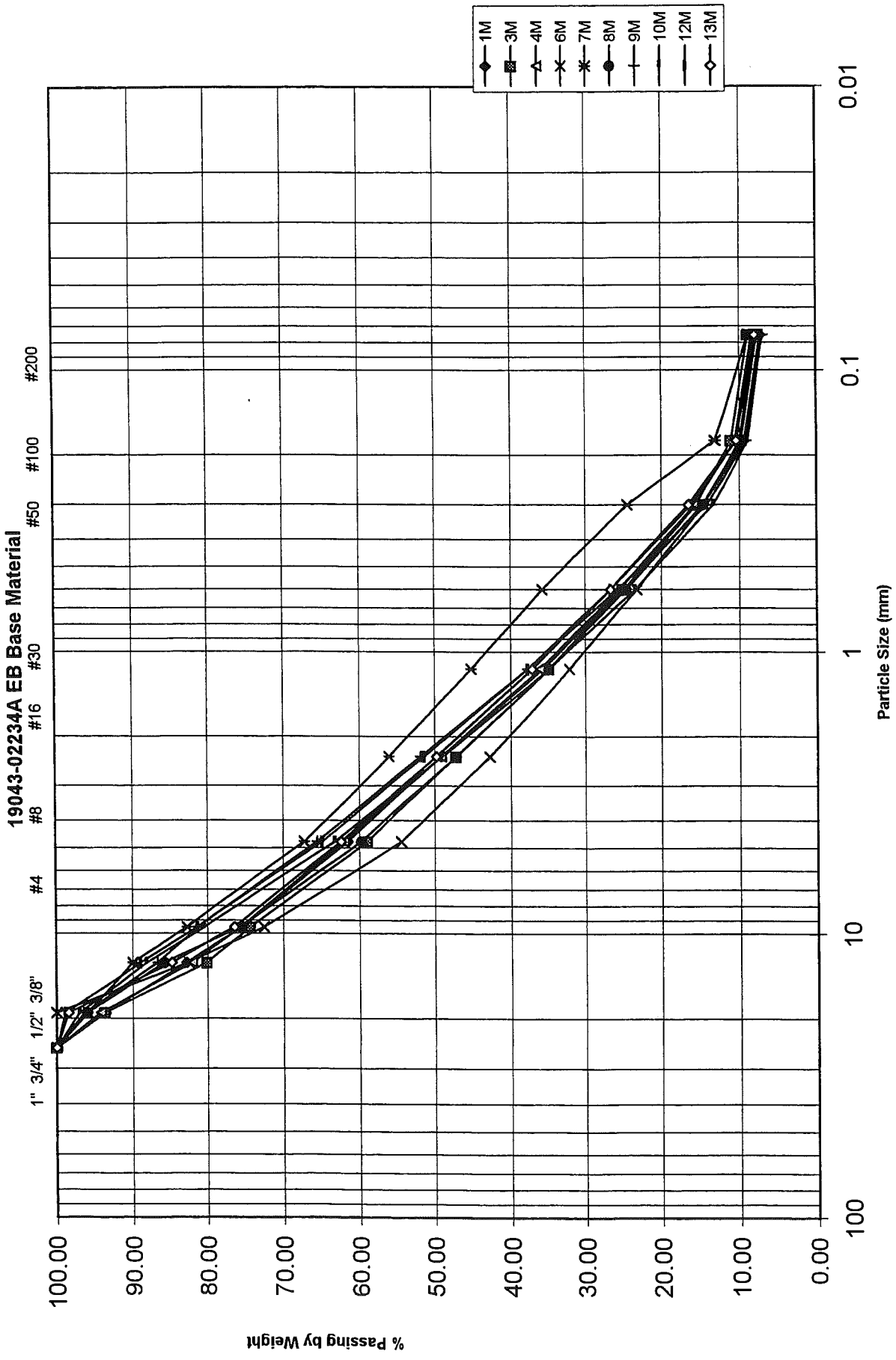

19042-24680A EB Subbase Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
1M
2M
3M
4M
5M
6M
7M
8M
9M
10M

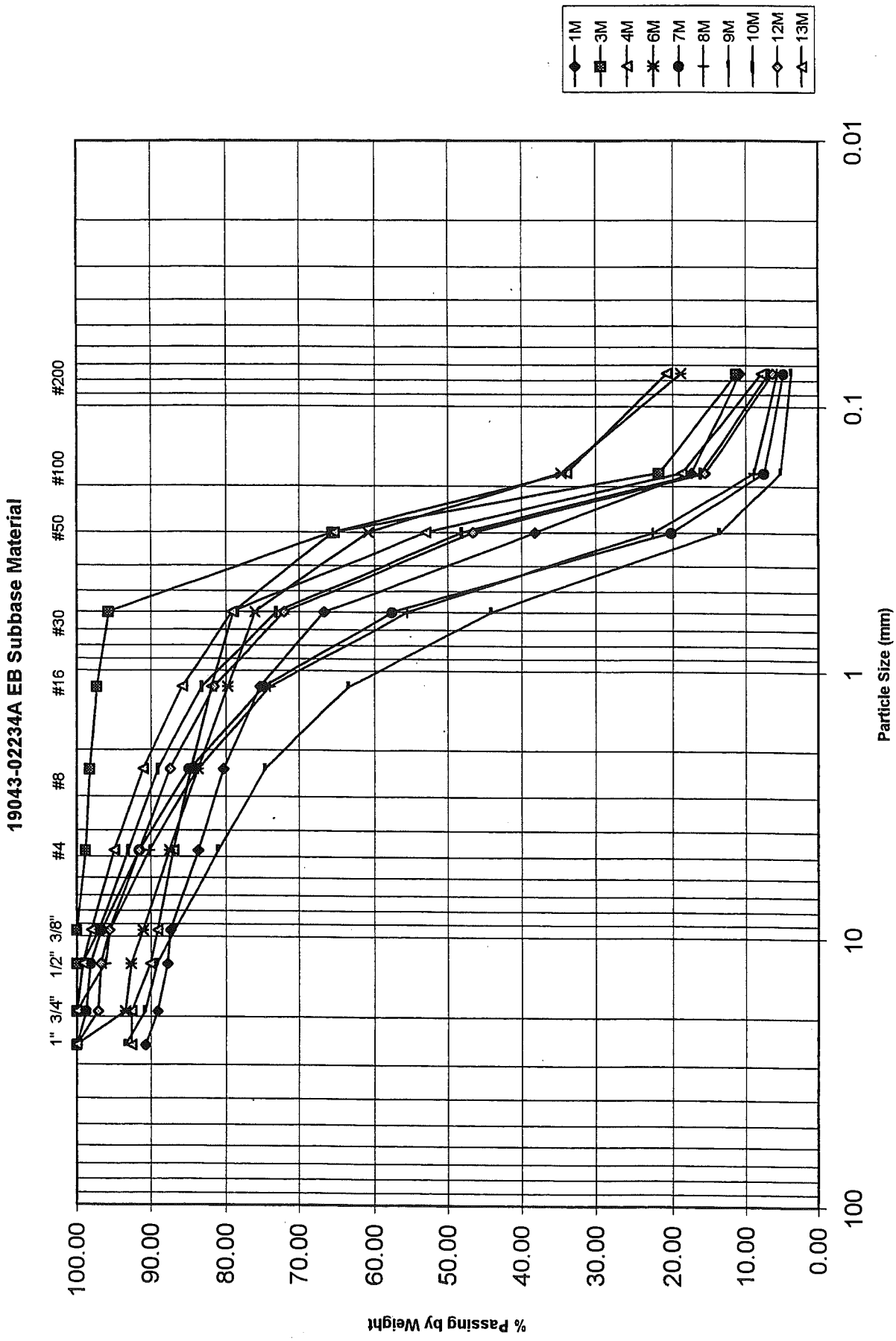

19042-24680A EB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00 90.00 80.00 70.00 60.00 50.00 40.00 30.00 20.00 10.00 0.00
% Passing by Weight
100 10 1 0.1 0.01
Particle Size (mm)
1M 2M 3M 4M 5M 6M 7M 8M 9M 10M

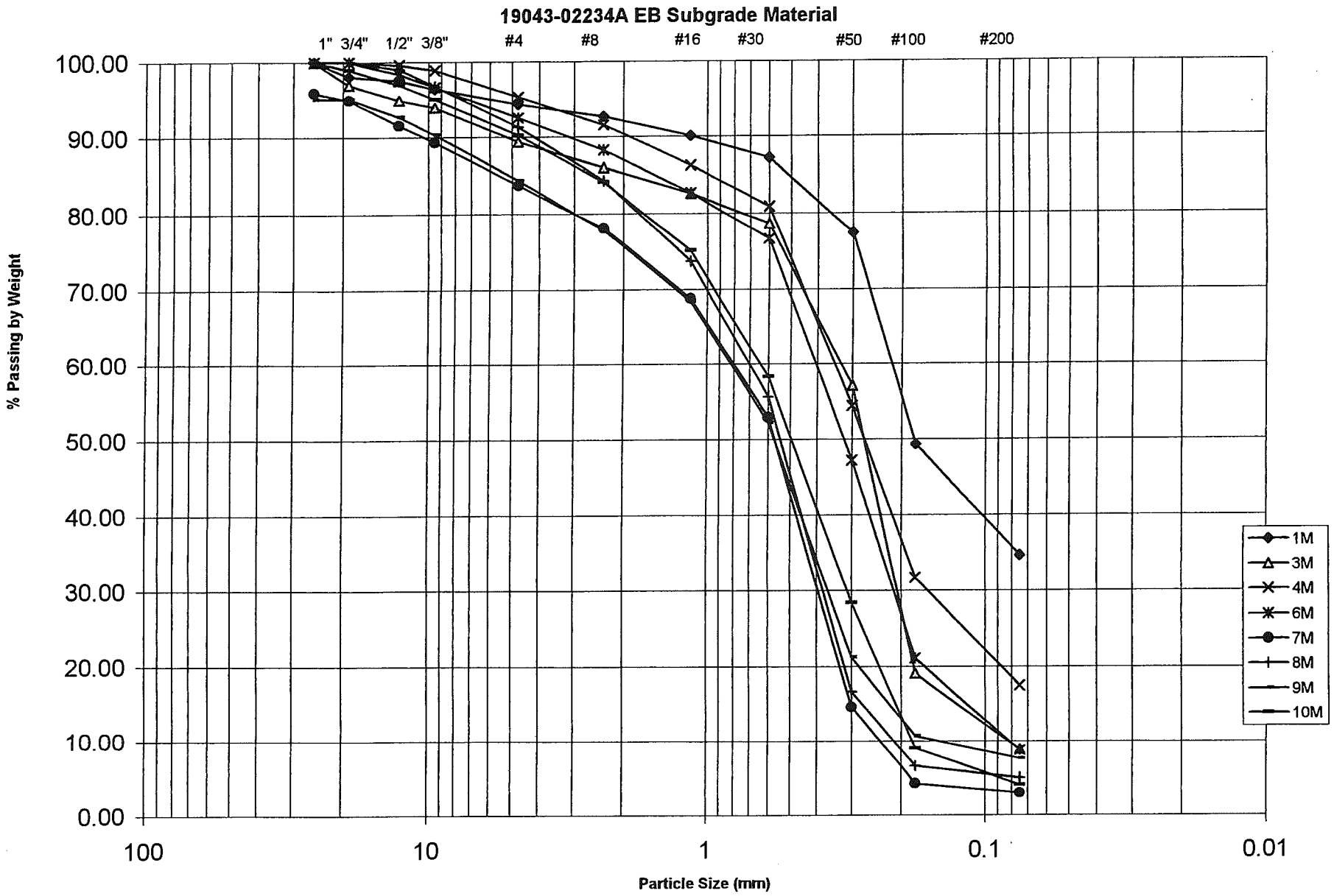

19042-02233A EB Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
1M
5M
7M
11M
13M

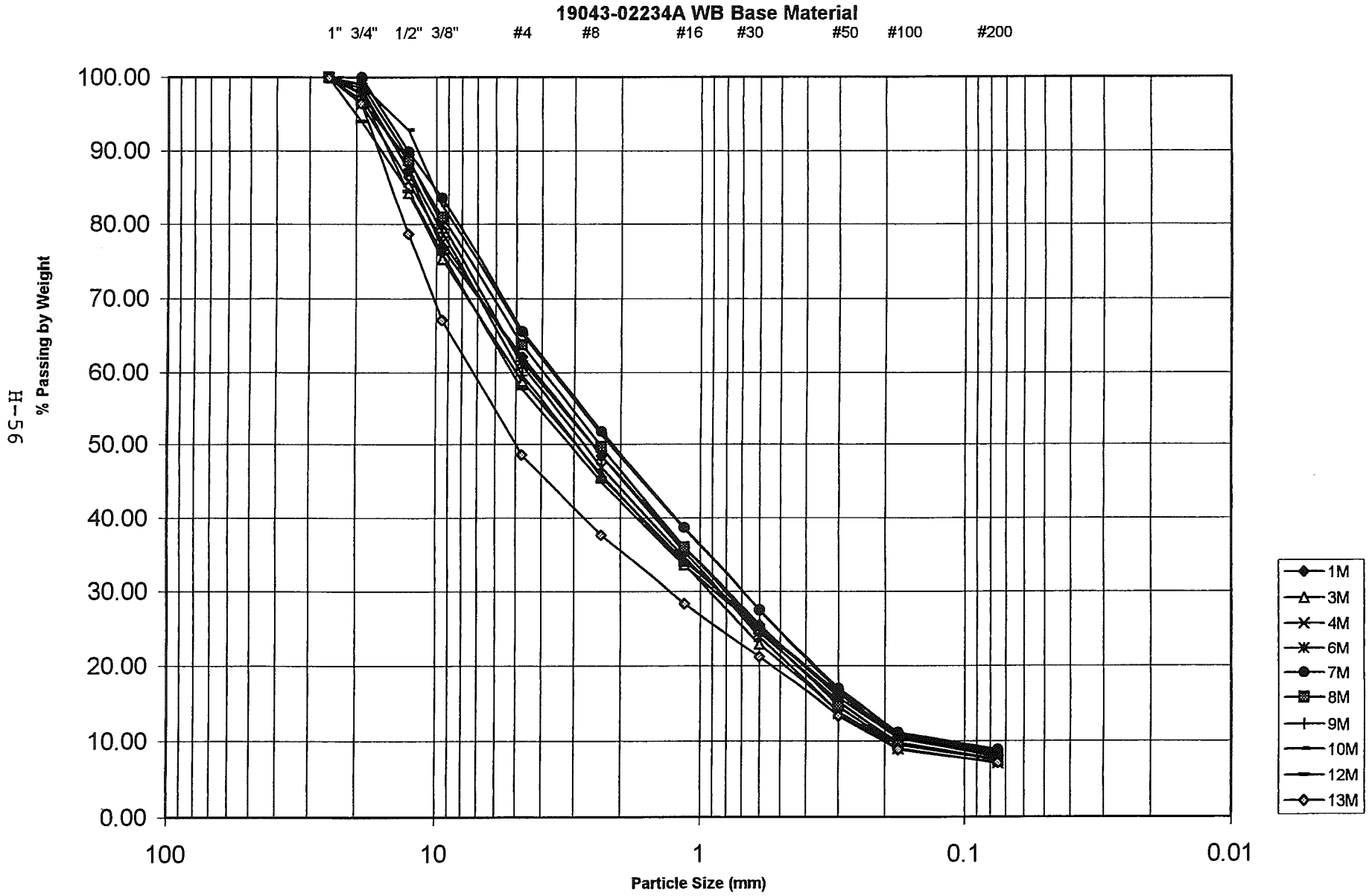

19042-02233A EB Subbase Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
1M
5M
7M
11M
13M

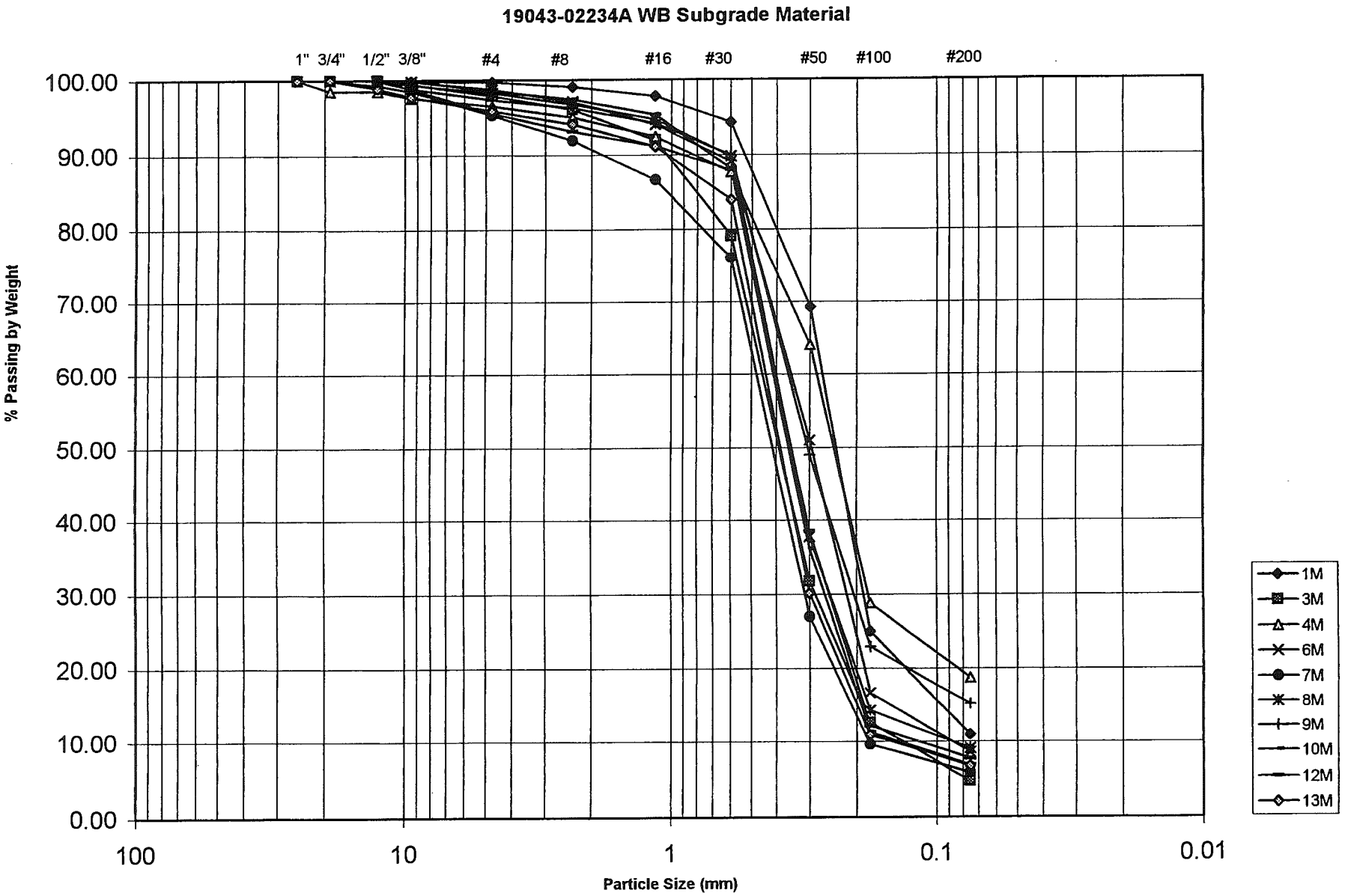

19042-02233A EB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
1M
5M
7M
11M
13M

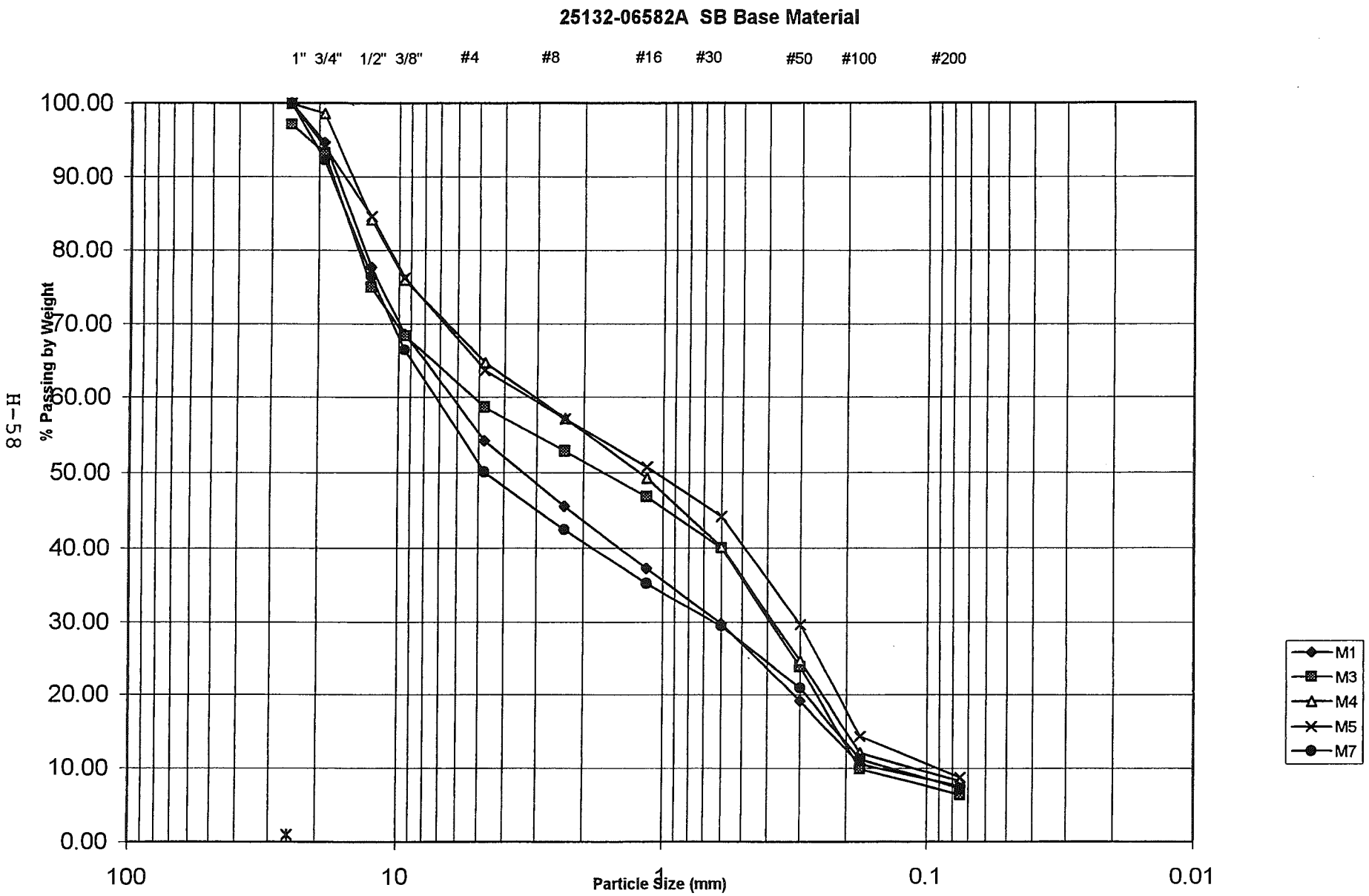

19043-02234A EB Base Material
% Passing by Weight
Particle Size (mm)
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100 10 1 0.1 0.01
1M 3M 4M 6M 7M 8M 9M 10M 12M 13M

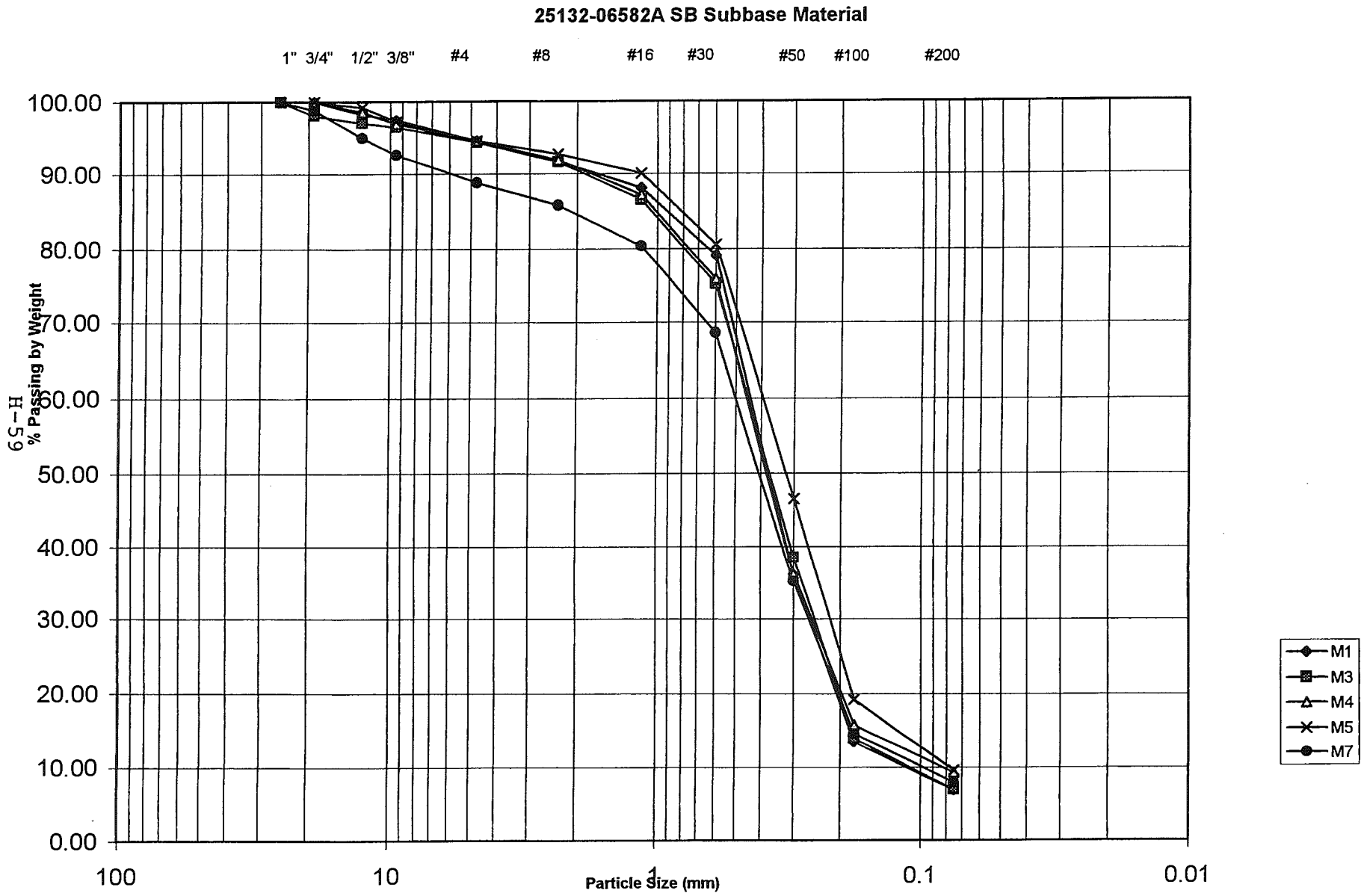

19043-02234A EB Subbase Material
% Passing by Weight
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100
10
1
0.1
0.01
Particle Size (mm)
1M
3M
4M
6M
7M
8M
9M
10M
12M
13M

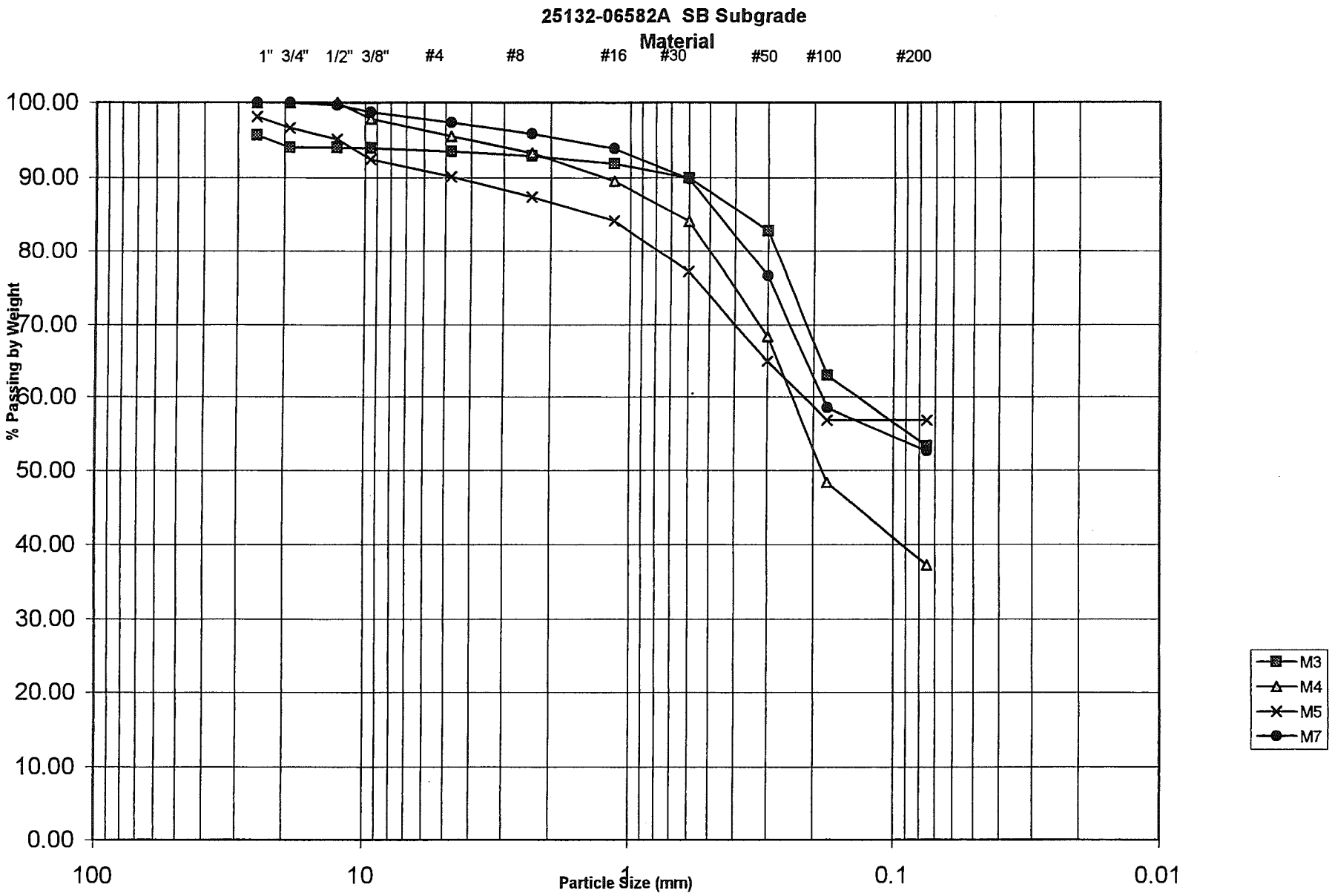

19043-02234A EB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
1M
3M
4M
6M
7M
8M
9M
10M

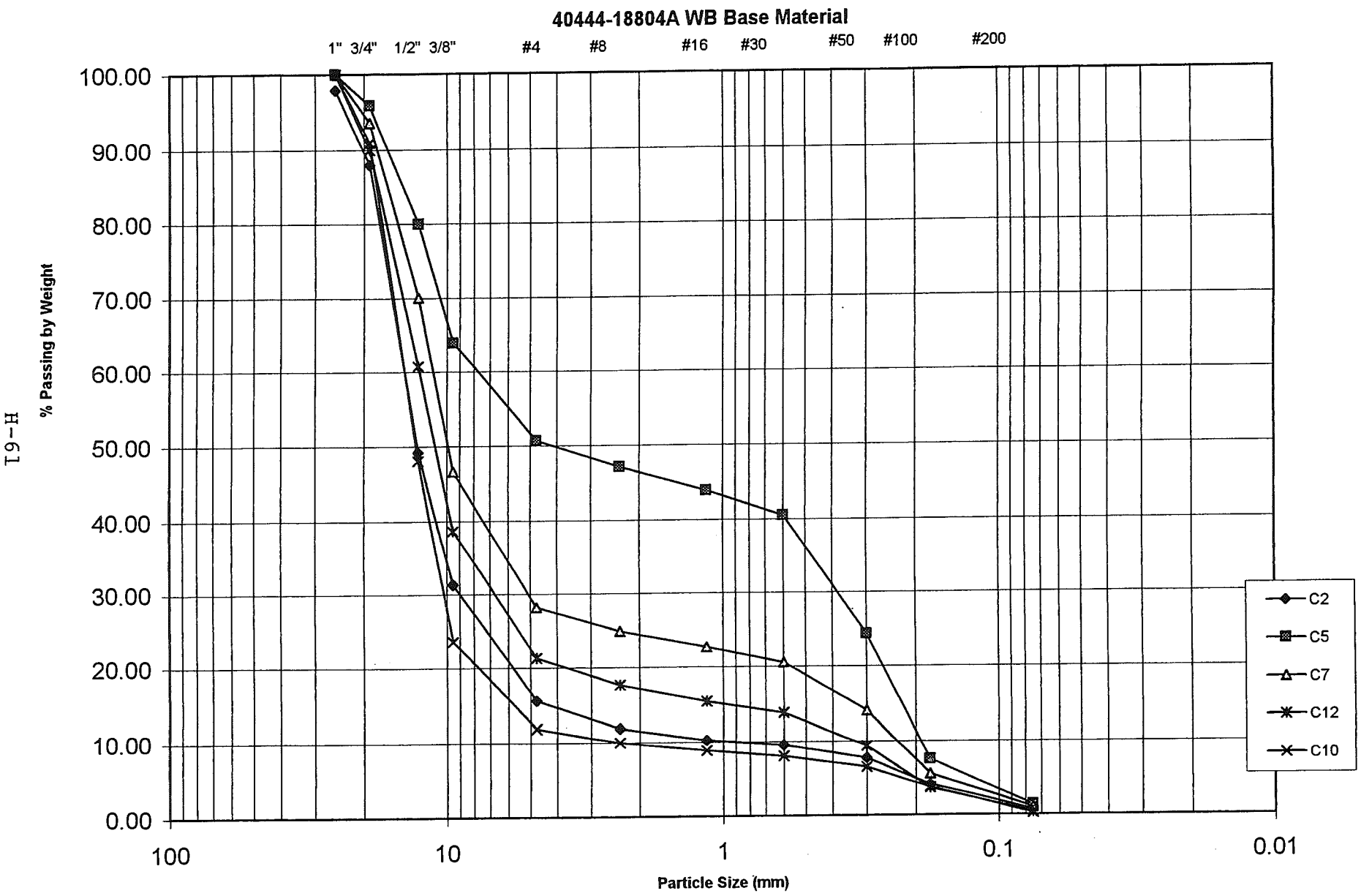

19043-02234A WB Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
1M
3M
4M
6M
7M
8M
9M
10M
12M
13M

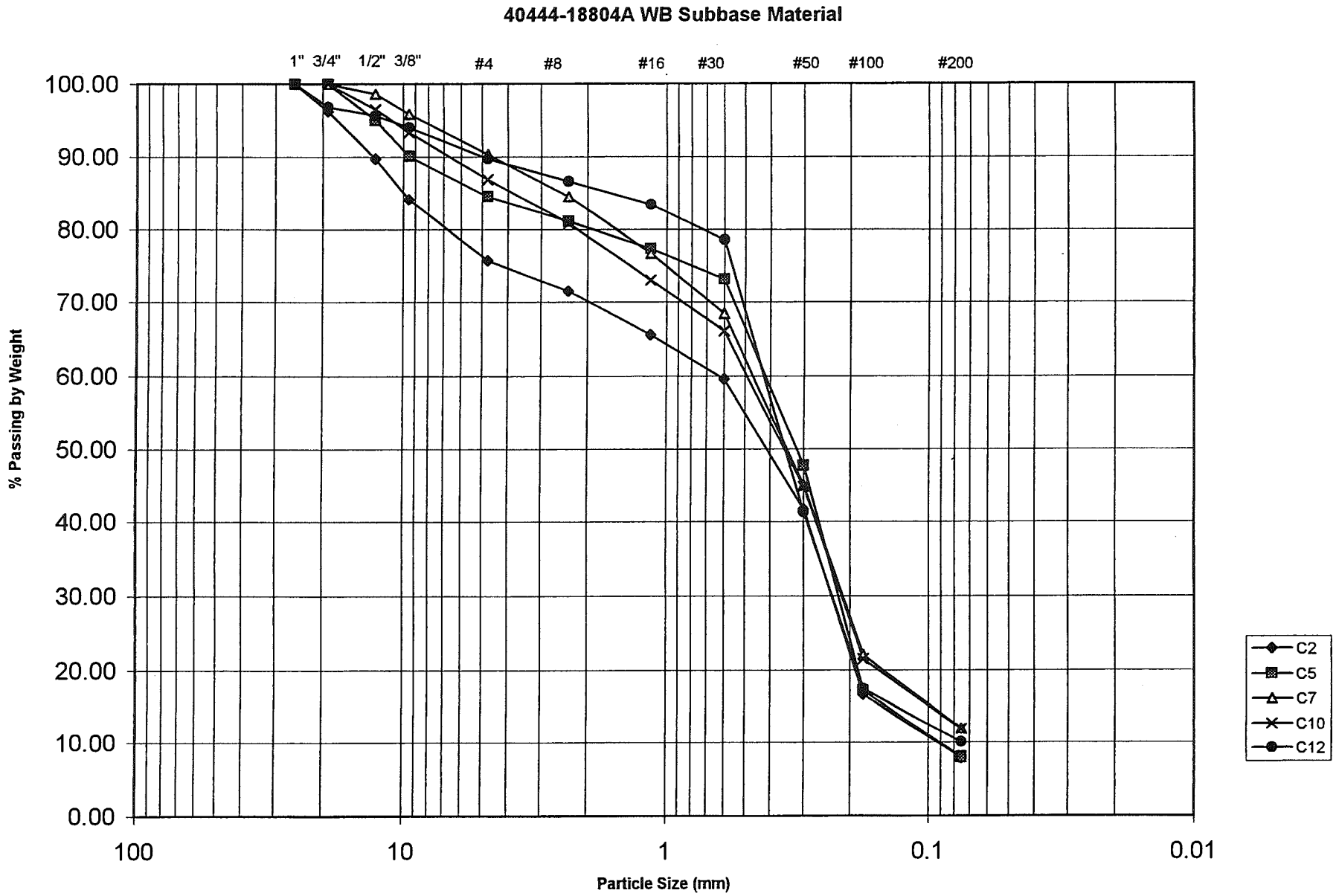

19043-02234A WB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
1M
3M
4M
6M
7M
8M
9M
10M
12M
13M

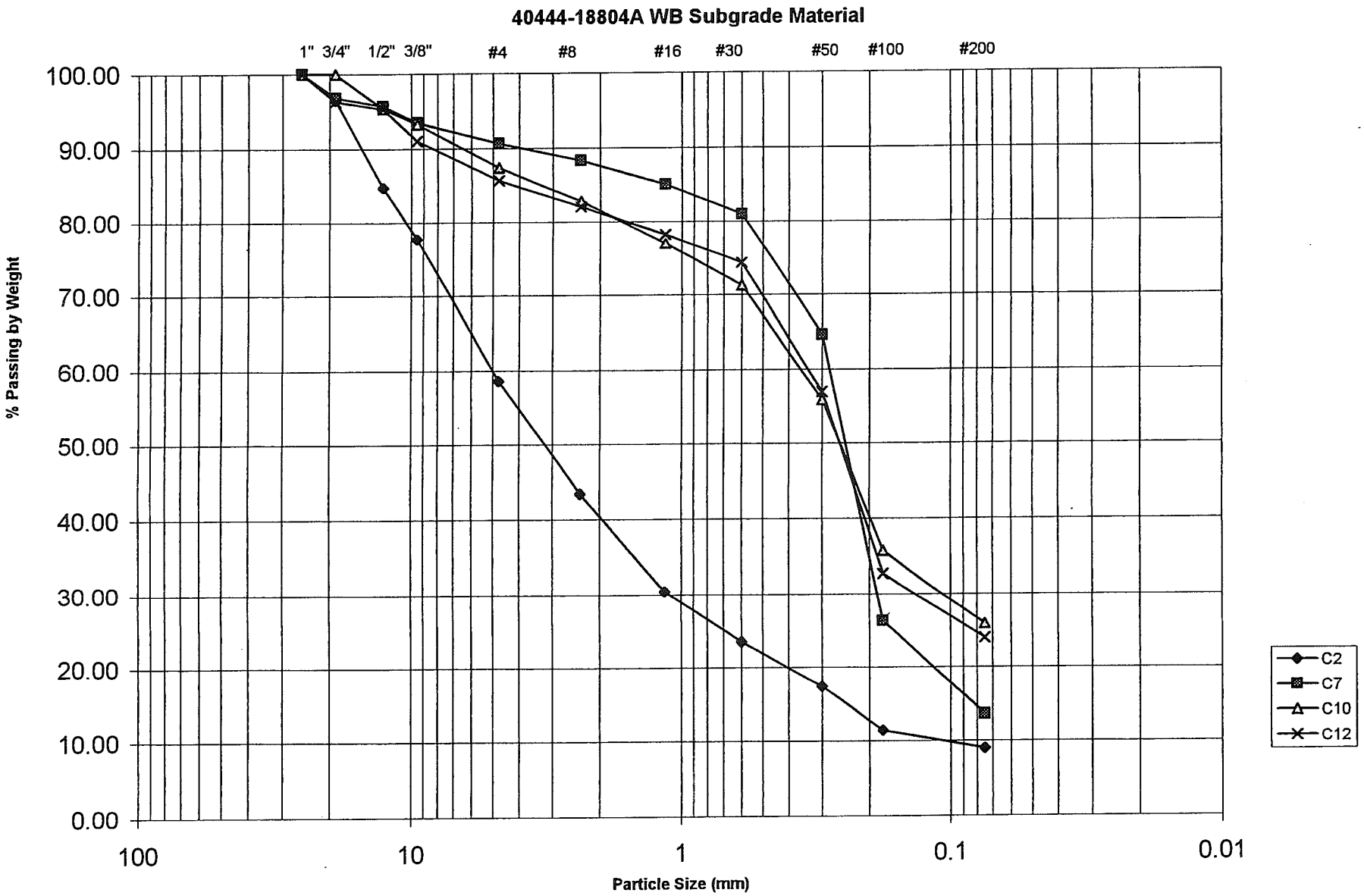

25132-06582A SB Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M3
M4
M5
M7

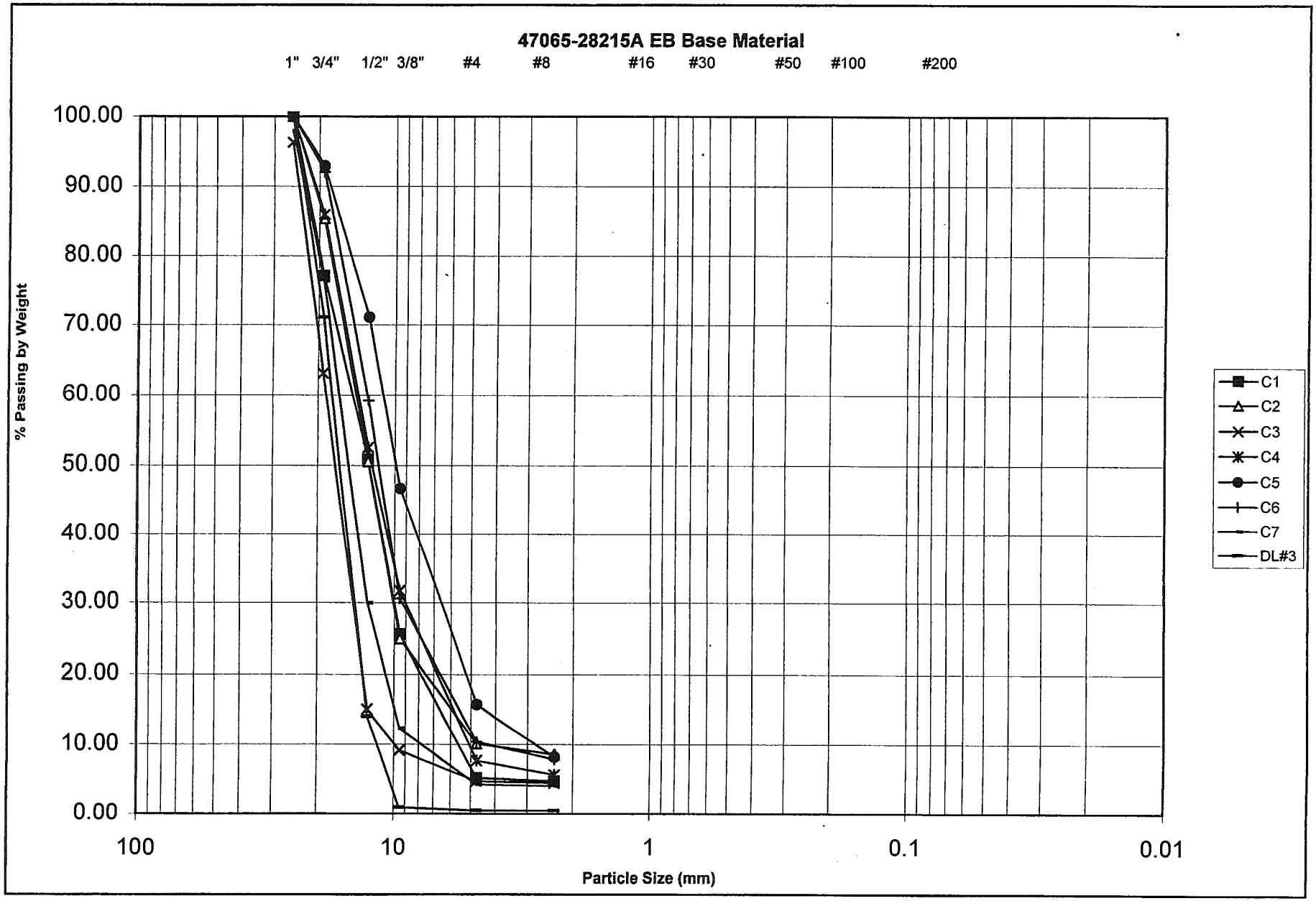

25132-06582A SB Subbase Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M3
M4
M5
M7

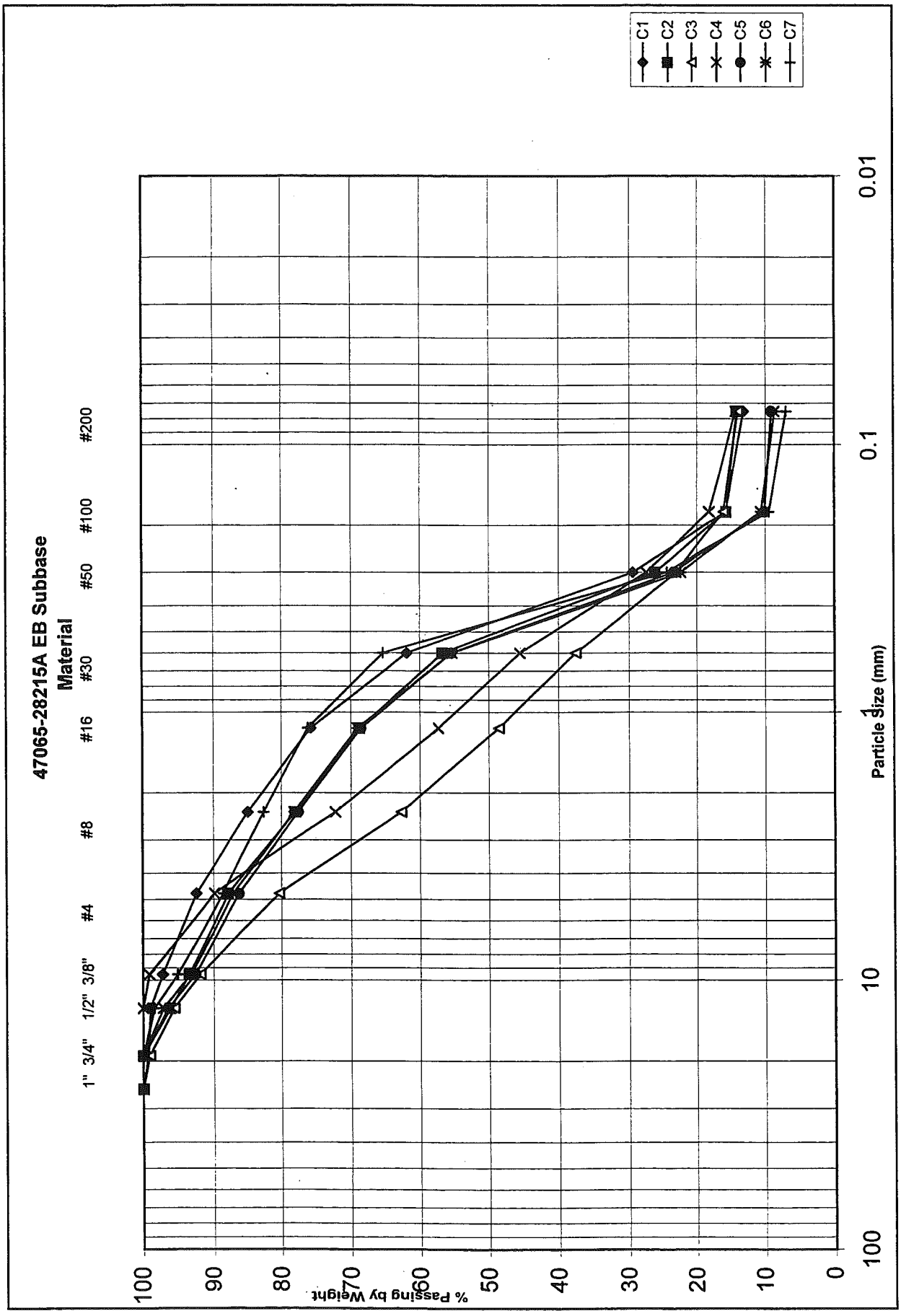

25132-06582A SB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M3
M4
M5
M7

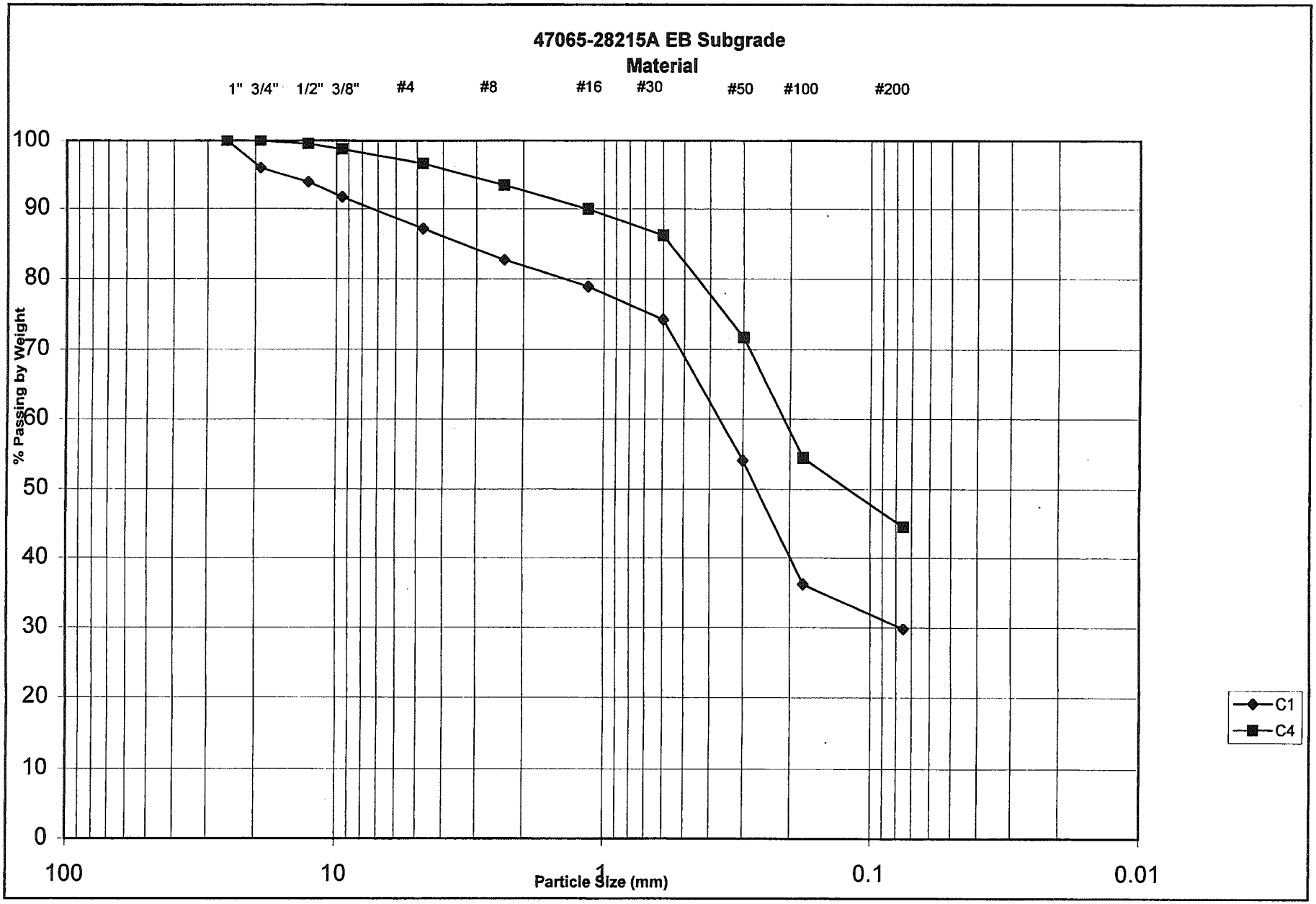

40444-18804A WB Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
C2
C5
C7
C12
C10

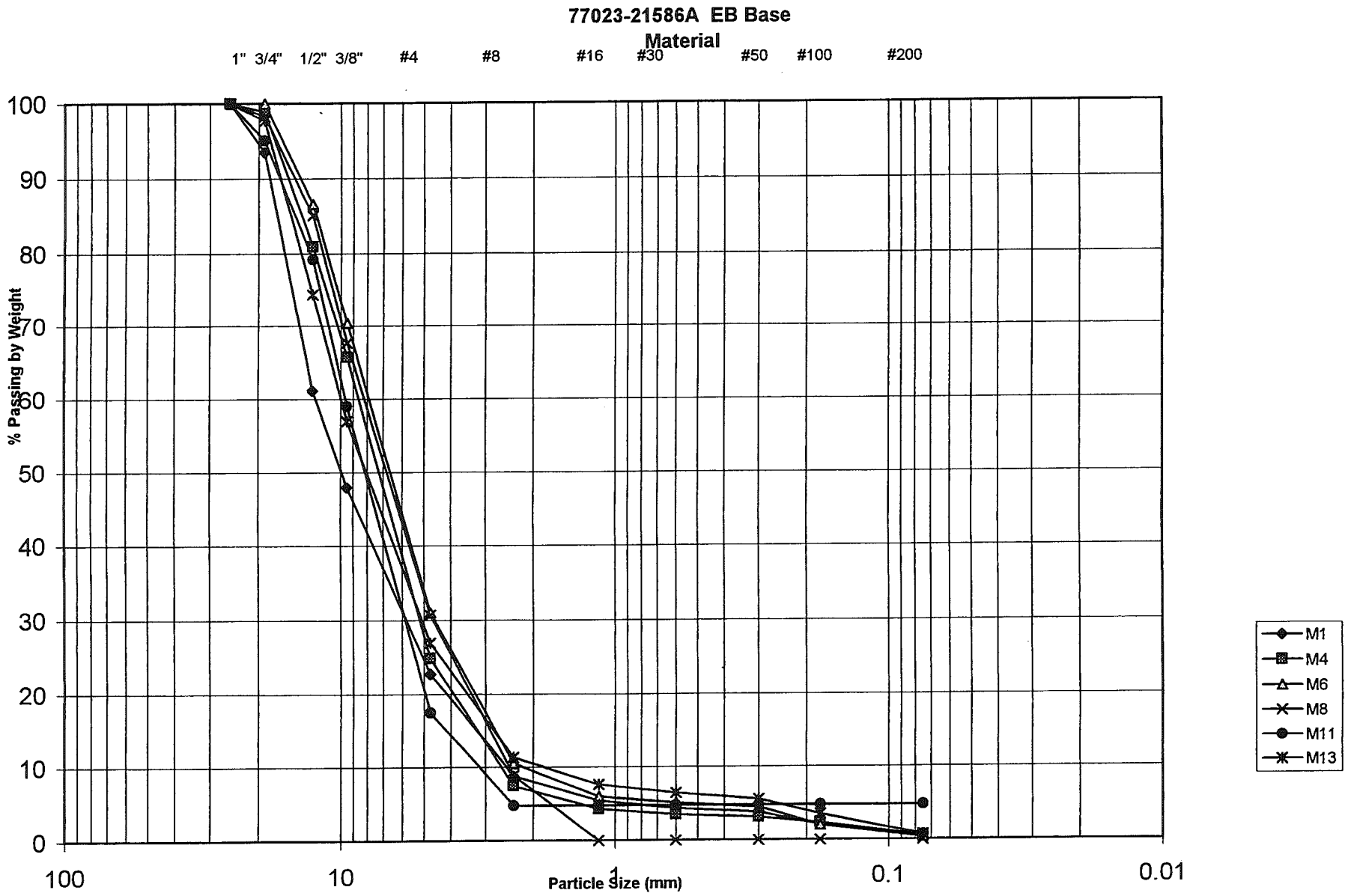

40444-18804A WB Subbase Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
C2
C5
C7
C10
C12

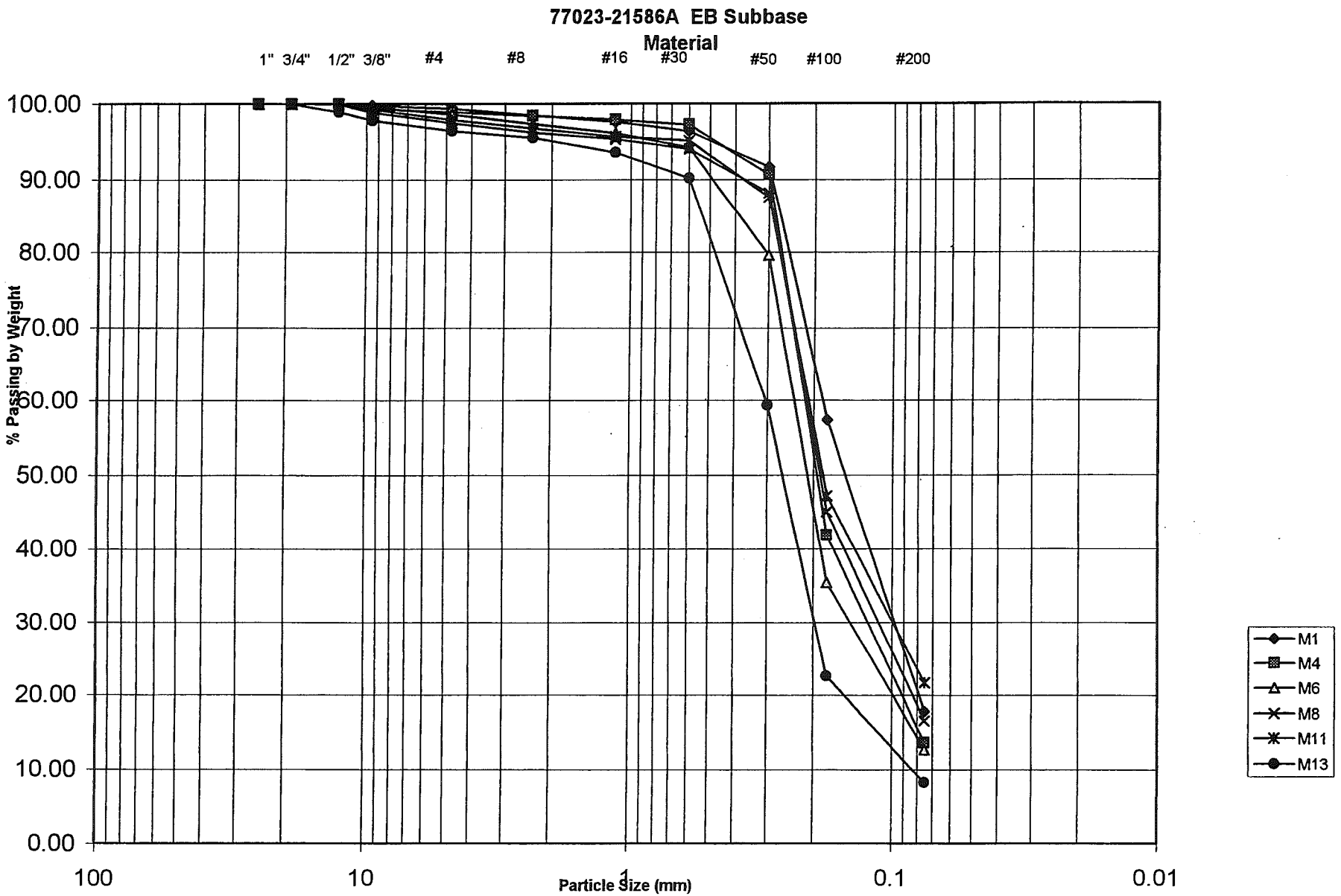

40444-18804A WB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
C2
C7
C10
C12

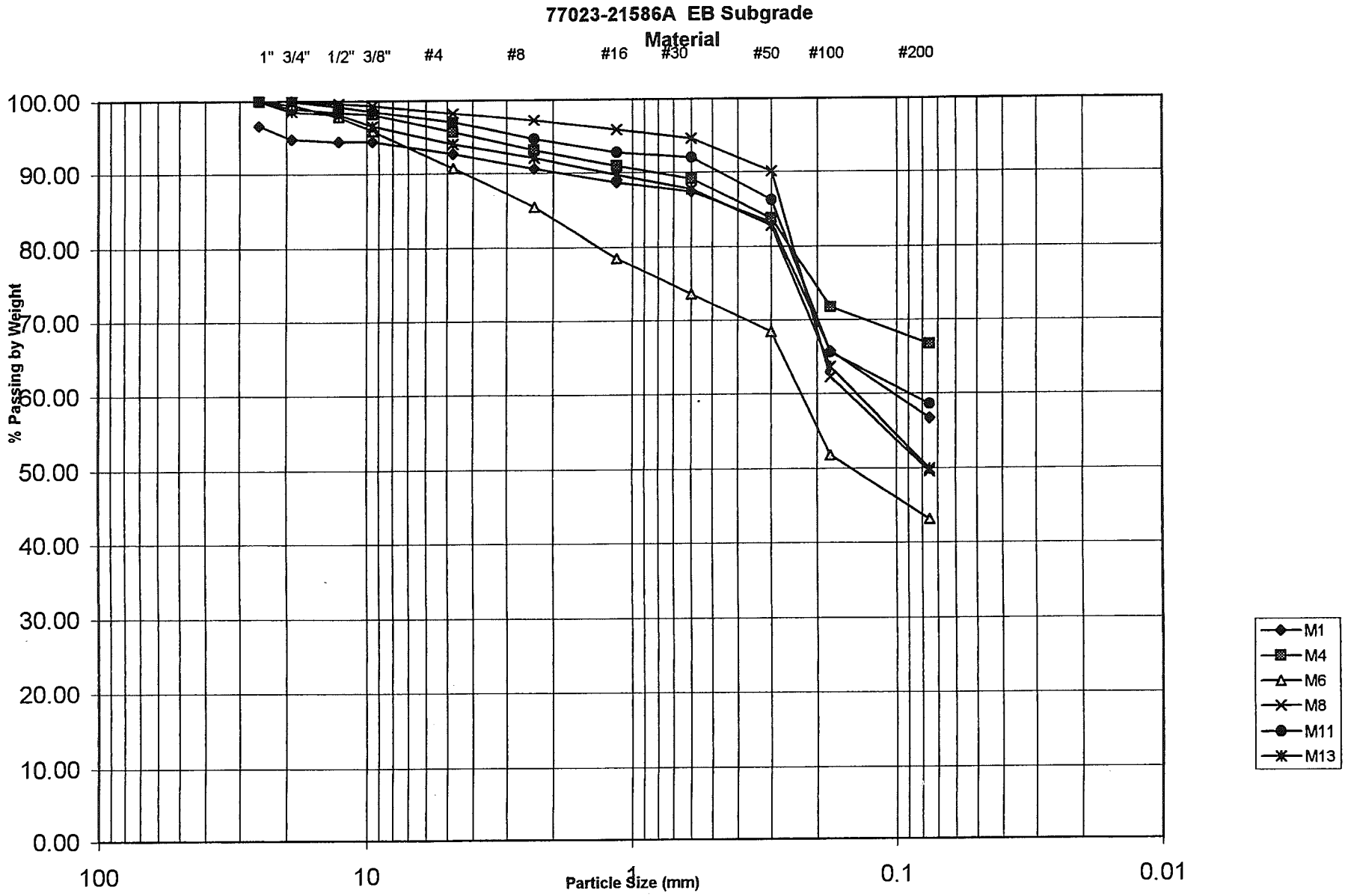

47065-28215A EB Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
C1
C2
C3
C4
C5
C6
C7
DL#3

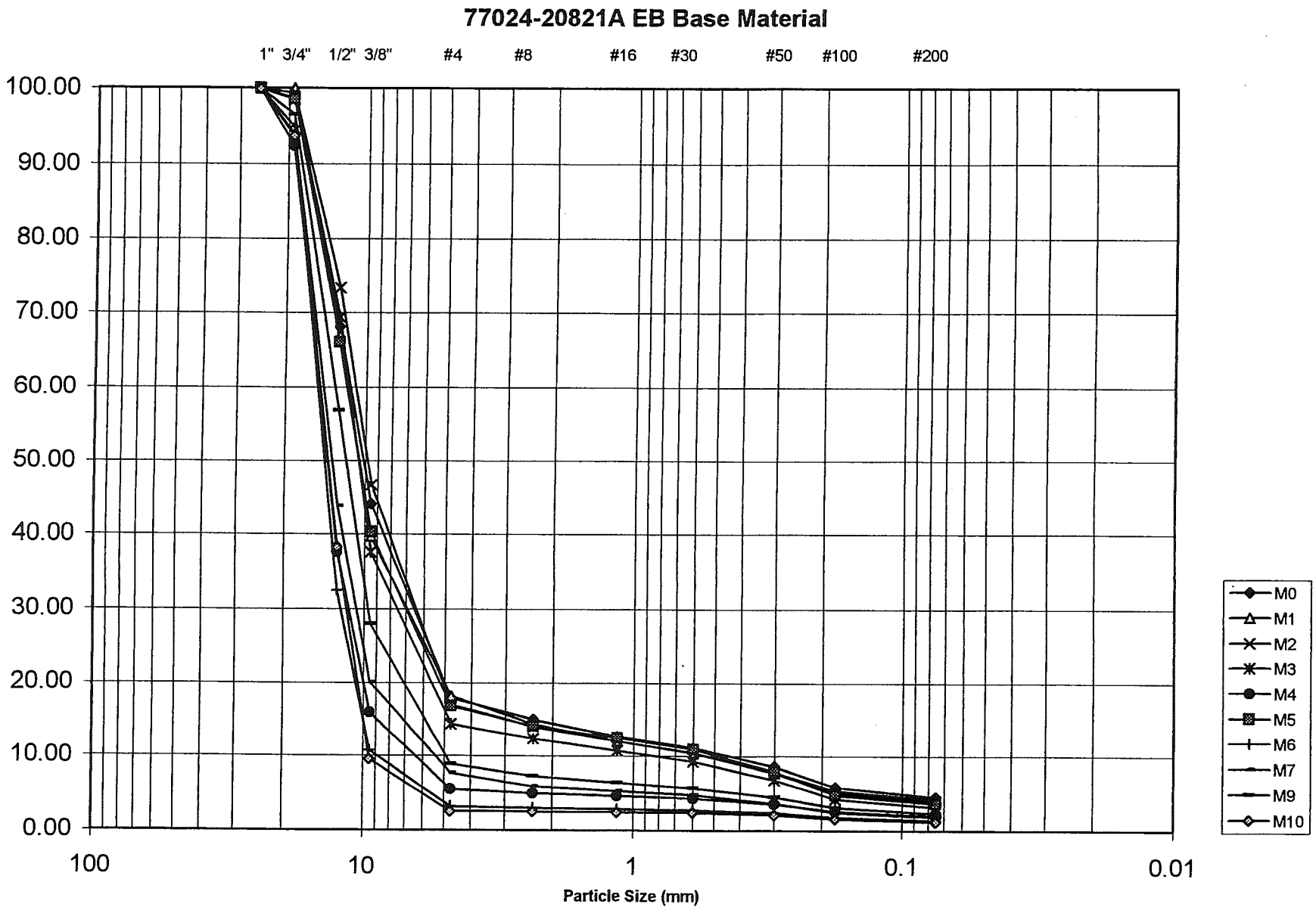

47065-28215A EB Subbase
Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100 90 80 70 60 50 40 30 20 10 0
% Passing by Weight
100 10 1 0.1 0.01
Particle Size (mm)
C1 C2 C3 C4 C5 C6 C7

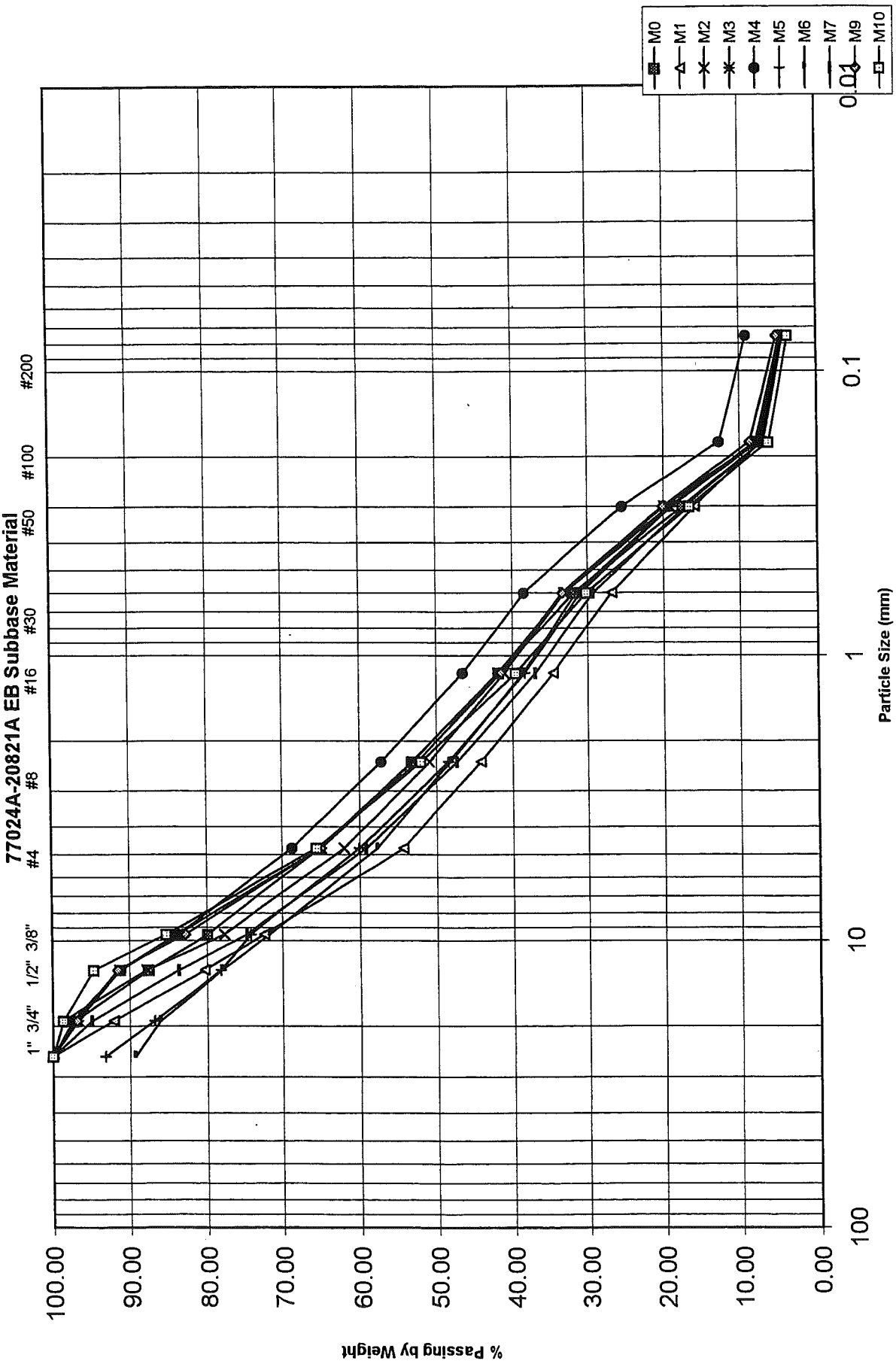

47065-28215A EB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100
90
80
70
60
50
40
30
20
10
0
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
C1
C4

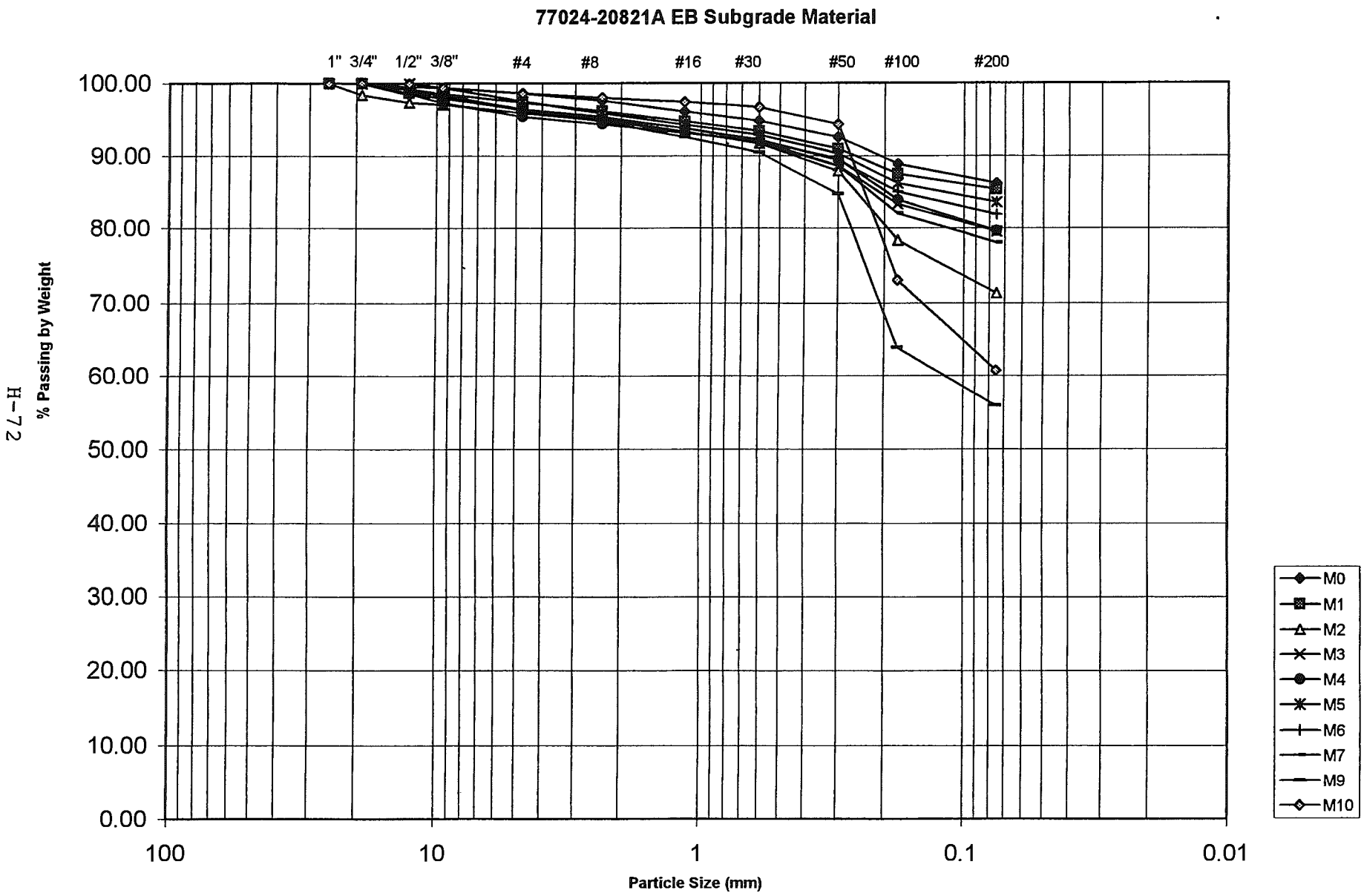

77023-21586A EB Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100
90
80
70
60
50
40
30
20
10
0
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M4
M6
M8
M11
M13

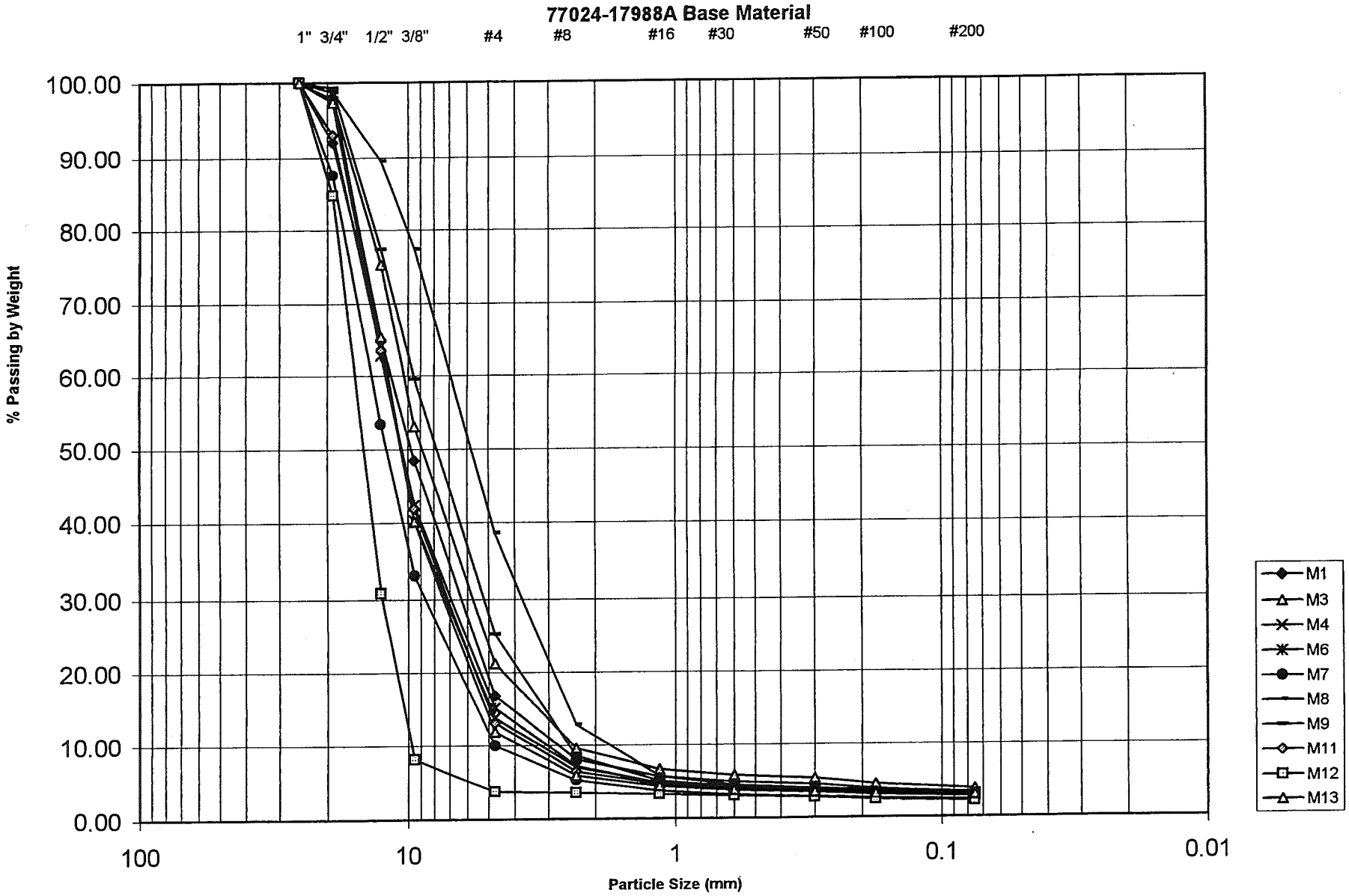

77023-21586A EB Subbase
Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M4
M6
M8
M11
M13

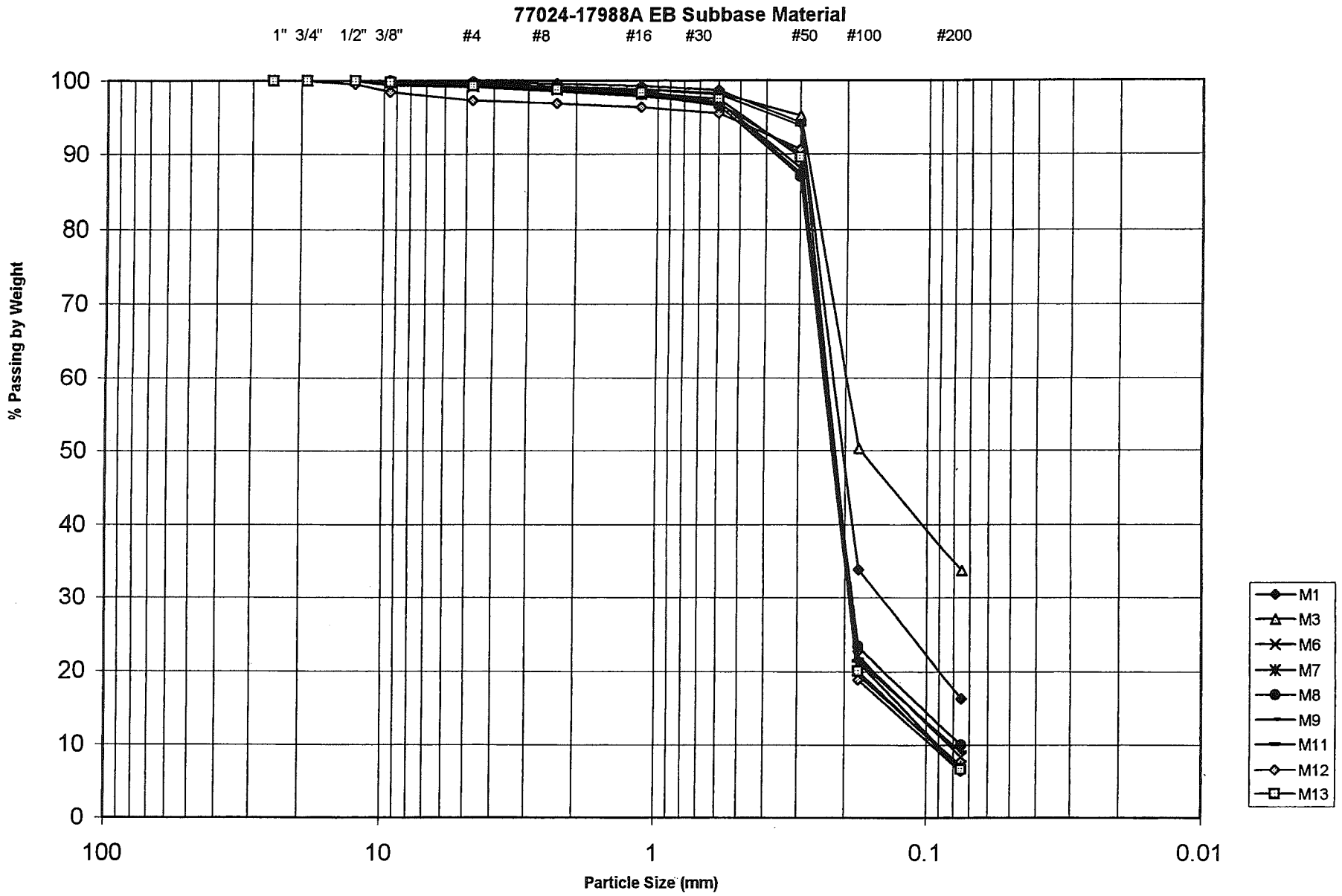

77023-21586A EB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M4
M6
M8
M11
M13

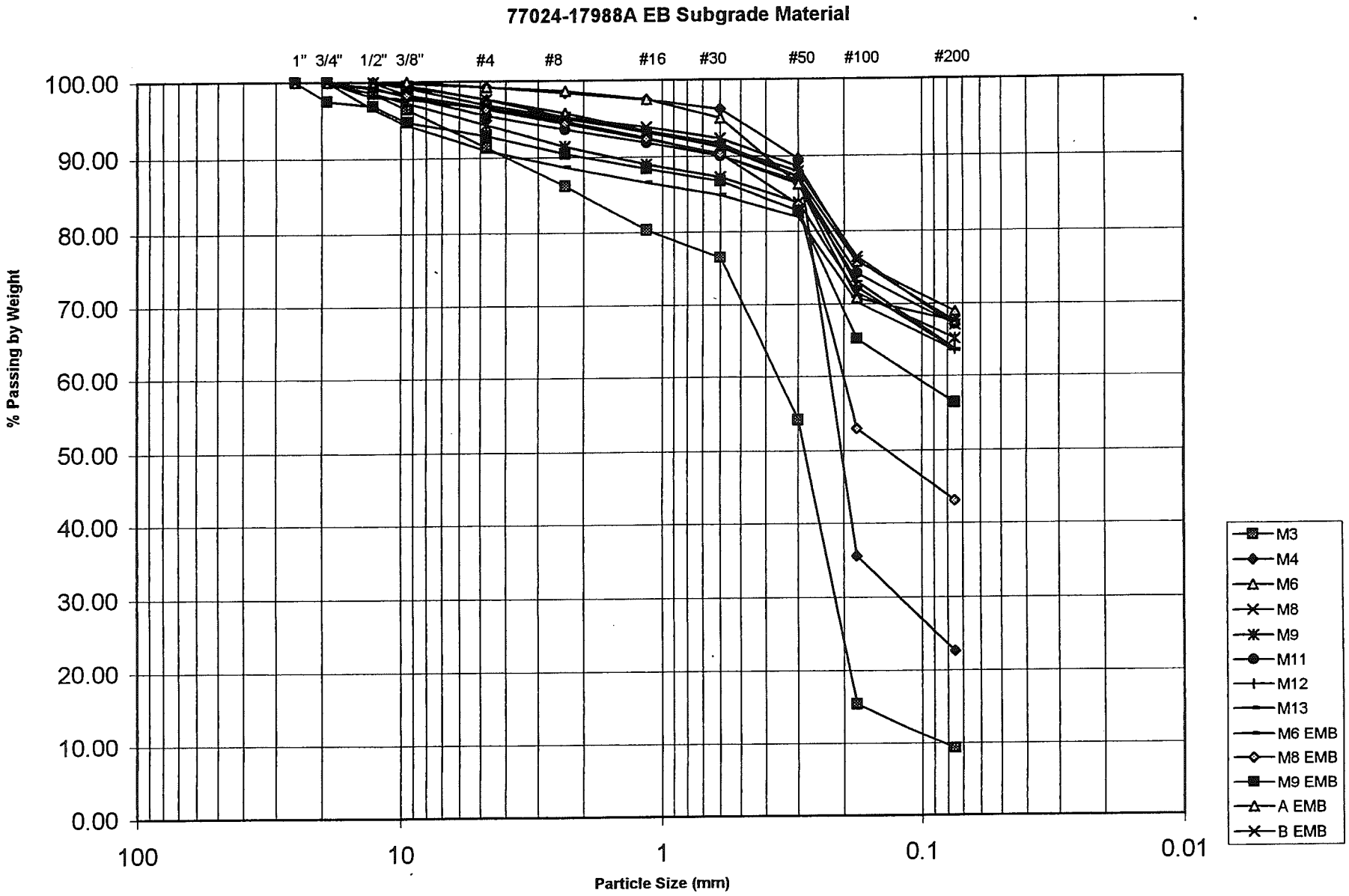

77024-20821A EB Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M0
M1
M2
M3
M4
M5
M6
M7
M9
M10

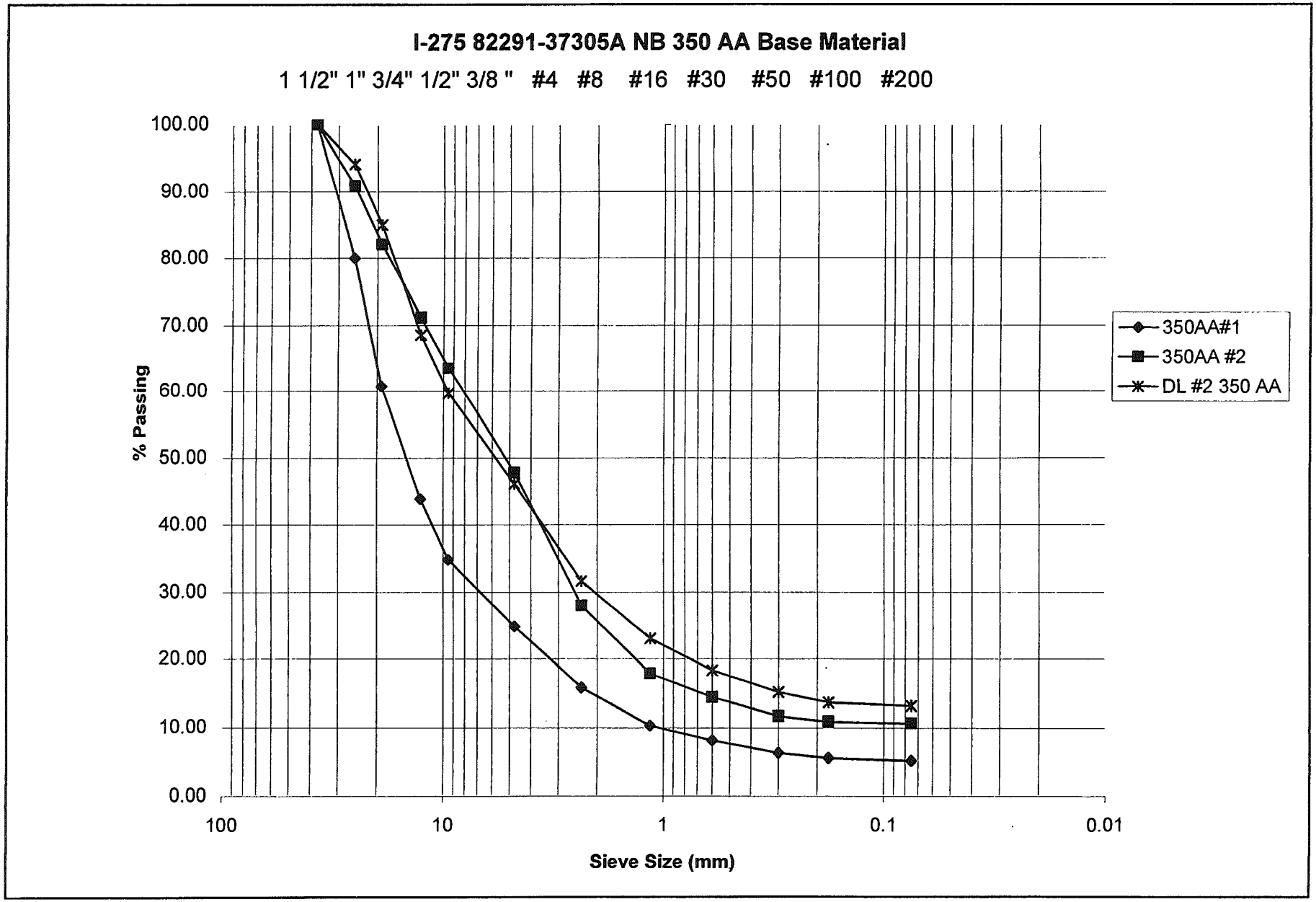

77024A-20821A EB Subbase Material
% Passing by Weight
Particle Size (mm)
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
1"
3/4"
1/2"
3/8"
#4
#8
#16
#30
#50
#100
#200
100
10
1
0.1
0.01
M0
M1
M2
M3
M4
M5
M6
M7
M9
M10

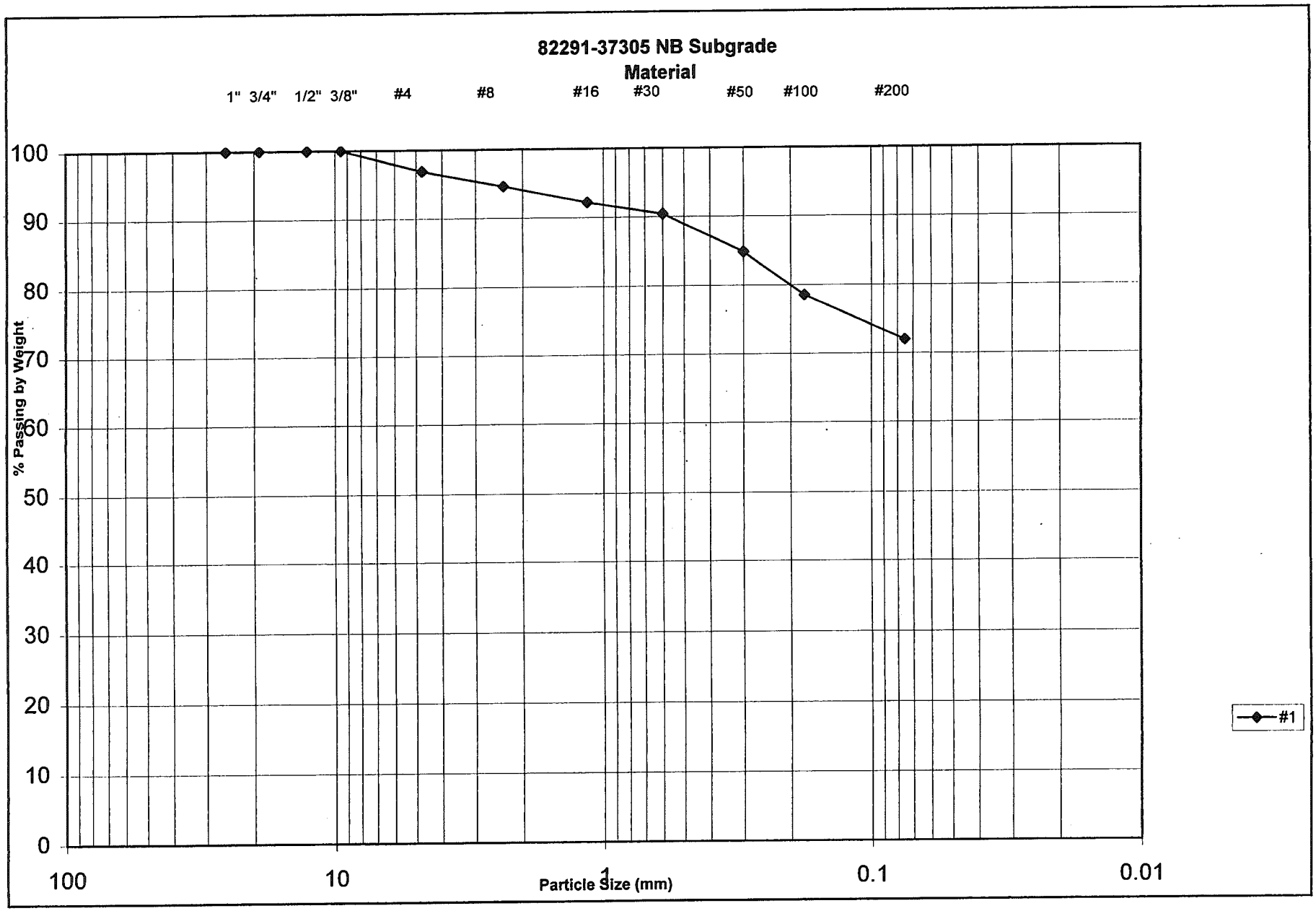

77024-20821A EB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M0
M1
M2
M3
M4
M5
M6
M7
M9
M10


77024-17988A Base Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M3
M4
M6
M7
M8
M9
M11
M12
M13


77024-17988A EB Subbase Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100
90
80
70
60
50
40
30
20
10
0
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M1
M3
M6
M7
M8
M9
M11
M12
M13


77024-17988A EB Subgrade Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
M3
M4
M6
M8
M9
M11
M12
M13
M6 EMB
M8 EMB
M9 EMB
A EMB
B EMB


I-275 82291-37305A NB 350 AA Base Material
1 1/2" 1" 3/4" 1/2" 3/8 " #4 #8 #16 #30 #50 #100 #200
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
% Passing
100
10
1
0.1
0.01
Sieve Size (mm)
350AA#1
350AA #2
DL #2 350 AA


82291-37305 NB Subgrade
Material
1" 3/4" 1/2" 3/8" #4 #8 #16 #30 #50 #100 #200
100
90
80
70
60
50
40
30
20
10
0
% Passing by Weight
100
10
1
0.1
0.01
Particle Size (mm)
#1

Job	Sample #	Uniformity (D60/D10) Base	Uniformity (D60/D10) Subbase	% Passing #200 Subbase	Infiltration D15(base)/D85(Subbase) <=5	Compatibility D50(base)/D50(Subbase) <=25	Infiltration D15(Subbase)/D85(Subgrade) <=5	Compatibility D50(Subbase)/D50 (subgrade) <=25	Drainage D15(Base)/D15(Subbase) >=5	Drainage D15(subbase)/D15(subgrade) >=5
77023-21586A	M1	4.2		17.8	12.96	62.50			47.30	
	M4	3.3		13.6	12.50	37.89	0.28		41.18	
	M6	3.2		12.7	10.74	29.55	0.03	1.3	76.47	no D15 on subgrade
	M8	3.3		16.6	11.11	37.22			40.54	to fine
	M11	3.0		21.7	16.00	44.44				
	M13	5.6	3.7	8.3	6.36	30.77	0.46	3.6	28.0	
25132-06582A	M1	34.4	3.6	6.8	0.22	8.97			1.06	
	M3	28.9	3.6	6.9	0.15	4.74	0.45	1.9	1.11	
	M4	24.0	6.0	9.3	0.18	3.68	0.23	2.2	1.29	no D15 on subgrade
	M5	33.3	5.3	9.6	0.24	3.79	0.12		1.20	too fine
	M7	40.0	5.0	7.9	0.14	13.16	0.4		1.3	
11017-32516A Sec A	M2	2.4	7.3	8.8	6.67	27.66			80.00	
	M3	2.7	3.2	7.6	5.00	24.00			54.55	
	M4	1.7	2.4	4.8	12.94	33.33	No Subgrade Samples	No Subgrade Samples		
	M5	2.3	2.3	5.6	5.83	28.89			94.59	No subgrade samples
	M6	2.3	2.1	3.8	1.36	32.50			37.50	
	J3	2.3	6.7	9.9	9.38	28.89				
	C3	1.6	2.4	6.2	12.50	35.56				

Job	Sample #	Uniformity (D60/D10) Base	Uniformity (D60/D10) Subbase	% Passing #200 Subbase	Infiltration D15(base)/D85(Subbase) <=5	Compatibility D50(base)/D50(Subbase) <=25	Infiltration D15(Subbase)/D85(Subgrade) <=5	Compatibility D50(Subbase)/D50 (subgrade) <=25	Drainage D15(Base)/D15(Subbase) >=5	Drainage D15(subbase)/D15(subgrade) >=5
11017-32516A Sec C	M1	1.8		12.6	22.2	50.0			100.00	
	M2	1.9		11.0	25.0	50.0			83.33	
	M3	2.3		10.7	13.6	50.0	No Subgrade Samples	No Subgrade Samples	68.18	No Subgrade Samples
	M4	1.9		11.8	22.2	52.0			no d15 on subbase	
	M5	4.5		16.5	12.5	50.0			67.57	
	M6	2.2	2.1	5.16	12.7	41.7			35.00	
11017-32516A Sec D	M1	1.5	5.0	7.93	11	33.3	0.17	1.5	55.00	to fine
	M3	1.6	4.0	4.47	8.3	28.0	0.55	1.4	33.33	1.30
	M5	1.75	3.1	6.14	9.2	31.1	0.20	2.0	44.00	to fine
	M7	1.6	4.0	7.3	11.1	35.6	0.42	1.5	40.00	to fine
	M9	1.5	2.8	7.86	12.2	33.3	0.29	2.3	55.00	to fine
	M11	1.5	2.8	8.37	12.2	32.6	0.42	2.0	44.00	3.38
	M13	1.5	2.3	4.86	13.3	34.1	0.50	4.5	40.00	to fine
44044-18804A	C2	12.5	6.7	5.54	0.45	37.5	0.01	0.13	33.33	0.60
	C5	42.1	4.7	7.09	0.04	16.1				to fine
	C7	44		10.66	0.12	28.6	0.08	1.4	3.00	1.35
	C10	6.0		10.05	1.20	40.0	0.03	1.4	60.00	to fine
	C12	46.7	5.6	8.69	0.60	31.4	0.03	1.4	8.00	to fine

Job	Sample #	Uniformity (D60/D10) Base	Uniformity (D60/D10) Subbase	% Passing #200 Subbase	Infiltration D15(base)/D85(Subbase) <=5	Compatibility D50(base)/D50(Subbase) <=25	Infiltration D15(Subbase)/D85(Subgrade) <=5	Compatibility D50(Subbase)/D50 (subgrade) <=25	Drainage D15(Base)/D15(Subbase) >=5	Drainage D15(subbase)/D15(subgrade) >=5
77024-20821A	M0	16.7	17.5	4.05	0.21	5.0	3.33		10.00	
	M1	21.7	27.3	4.35	0.17	4.0	4.00		8.33	
	M2	18.3	20.5	4.27	0.18	6.5	1.00		10.00	
	M3	13.3	15.9	4.32	0.50	5.0	1.39		20.00	no D15 on subgrade
	M4	16.7	28.0	8.81	1.00	10.0	1.05		45.24	
	M5	20.0	22.7	3.87	0.13	5.0	3.33		10.00	
	M6	1.8	22.7	4.32	0.53	5.0	1.67		40.00	
	M7	2.7	22.7	3.93	0.78	5.0	0.83		28.00	
	M9	2.8	19.4	4.64	0.55	5.0	0.80		25.00	
	M10	1.6	16.7	3.46	1.00	5.0	1.04		38.46	
77024-17988A	M1	4.3		14.25	14.3	50.0			54.05	1
	M3	4.2		30.76	13.0	50.0		0.64	to fine subbase	
	M6	4.3	3.1	7.19	17.1	47.8	0.5		27.50	
	M7	4.3	2.6	5.94	17.1	56.5			86.67	
	M8	3.9	3.3	8.17	9.6	25.7	0.40		20.83	no D15 on subgrade
	M9	3.8	2.6	7.24	9.3	34.8	0.43		16.67	
	M11	3.4	2.8	4.75	10.7	47.8	0.60		20.00	
	M12	1.6	2.8	5.17	39.3	88.9	0.60		73.33	
	M13	3.3	2.6	8.4	18.6	47.8	0.02		34.67	
19042-24680A Sec B	M1	4.7	4	7.26	0.26	15.8	0.03	0.80	13.89	
	M2	6	4.2	7.37	0.71	17.5	0.02	0.62	13.89	
	M3	5	3.2	6.67	30.00	23.2	0.45	1.17	83.33	
	M4	5.7	2.5	5.25	5.56	26.0	0.23	0.66	13.89	
	M5	16.7	4.2	6.14	4.21	25.0	0.29	1.07	16.00	
	M6	11.4	3.8	8	9.17	55.3	0.23	1.00	30.56	
	M7	15	2.5	5.28	7.50	52.5	0.24	0.95	25.00	
	M8	2.3	2.5	4.5	25.00	52.5	0.31	0.91	60.00	
	M9	3.3		14.7	15.00	48.6	0.15	0.74	160.00	
	M10	10	3.1	4.2	11.67	62.5	0.10	0.86	70.00	

Job	Sample #	Uniformity (D60/D10) Base	Uniformity (D60/D10) Subbase	% Passing #200 Subbase	Infiltration D15(base)/D85(Subbase) <=5	Compatibility D50(base)/D50(Subbase) <=25	Infiltration D15(Subbase)/D85(Subgrade) <=5	Compatibility D50(Subbase)/D50 (subgrade <=25	Drainage D15(Base)/D15(Subbase) >=5	Drainage D15(subbase)/D15(subgrade) >=5
19042-02233A Sec C	M1	6.4	3.8	7	6.13	83.3	0.06	0.70	32.67	
	M5	12.8	3.9	6.81	1.33	33.3	0.19	0.80	10.67	
	M7	16.7	1.7	6.32	1.67	43.3	0.30	2.80	11.11	
	M11	8.8	4.0	6.13	0.67	34.7	0.30	1.04	11.11	
	M13	6.9	3.2	5.38	0.42	21.9	0.33	1.10	11.11	
19043-02234A WB	M1	25.0		8.21	0.67	8.8			no subbase	3.33
	M4	22.2		17.54	0.55	10.0				
	M6	25.0	3.9	6.79	0.55	9.0				2.00
	M9	27.8		14.48	0.55	8.3				1.50
	M10	20.6	2.5	6.41	0.45	6.3				1.25
	M13	38.9	2.6	6.61	0.50	12.5				1.36
19043-02234A EB	M1	25.0		10.84	0.06	6.3	0.33	2.11	2.00	
	M3	22.2		11.35	0.64	12.5	0.04	0.89	2.40	0.89
	M4	25.0		20.8	0.12	8.9		1.04		
	M6	33.3		18.89	0.12	14.8		0.78		
	M7	33.3	3.3	4.82	0.08	3.2	0.04	0.91	0.80	0.83
	M8	27.8	3.9	5.71	0.12	5.0	0.10	0.95	1.20	1.00
	M9	23.9	4.0	3.72	0.04	3.6	0.06	1.33	0.94	1.45
	M10	20.0	3.8	6.9	0.25	7.8	0.06	0.64	2.00	0.68
	M12	21.1	4.2	6.33	0.15	7.8			1.88	
	M13	27.2	4.1	7.86	0.25	8.9			2.31	

APPENDIX I

Dynamic Cone Penetrometer (DCP) Data