

APPENDIX F
Pre-and Post-construction Geotechnical Sample Report

**EUSTIS ENGINEERING SERVICES, L.L.C.**

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12 March 2007

Weeks Marine, Inc.
304 Gaille Drive
Innwoods Business Park
Covington, Louisiana 70433
Attention Mr. Ronnie Rhoades

PRELIMINARY**INPLACE DENSITY TESTING - NUCLEAR METHOD (ASTM D 2922)**

Project Name:	State of Louisiana New Cut Dune/Marsh Restoration (Te-37) Terrebonne Parish, Louisiana Purchase Order No. 125146
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Job Number 19598	Report Number 1	Page 1
Test Date 3/6/07	Material Tan Sand	Proctor Method ASTM D 4253 and 4254
Compaction Requirement N/A	Maximum Dry Density *	Optimum Moisture *

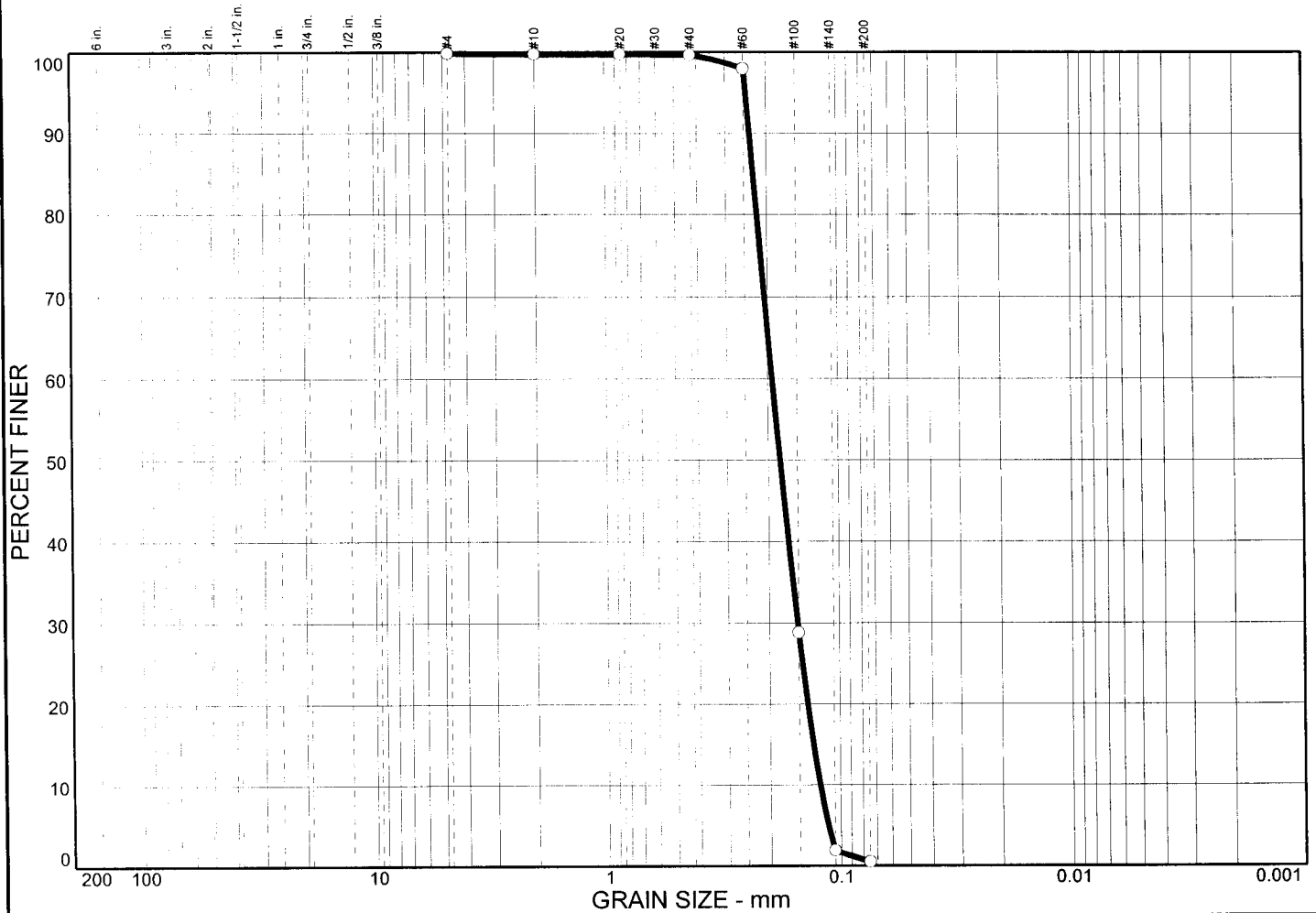
Test Number	1	2	3	4	5	6
Min Max dry Density/PCF	92.4/104.2	93.3/102.3	86.2/100.8	95.3/101.7	88.0/101.7	93.0/103.7
Lift Number						
Station	309+80	309+80	286+64	286+67	268+64	268+64
Lot						
Offset	DC-500	GB-900	GB-1030	DC-700	DC-400	GB-600
Depth of Test (Inches)	12	12	12	12	12	12
Depth of Fill (Inches)						
Wet Density (PCF)	106.5	108.0	105.6	102.1	99.9	94.6
Dry Density (PCF)	100.1	103.3	94.4	95.3	91.7	88.3
Water Content %	6.4	4.5	11.9	7.1	8.9	7.2
Compaction %	67.9	110.1	60.0	16.7	28.7	-51.8
Complies	N/A	N/A	N/A	N/A	N/A	N/A

Test Number	7	8	9	10		
Min Max dry Density/PCF	91.7/101.0	87.7/100.1	97.5/108.3	90.9/102.1		
Lift Number						
Station	250+64	250+64	232+64	232+64		
Lot						
Offset	GB-600	DC-300	GB-600	DC-300		
Depth of Test (Inches)	12					
Depth of Fill (Inches)						
Wet Density (PCF)	111.1	102.1	107.8	97.7		
Dry Density (PCF)	101.6	94.4	102.4	92.8		
Water Content %	9.3	8.2	5.3	4.7		
Compaction %	105.8	57.3	48.0	19.6		
Complies	N/A	N/A	N/A	N/A		

Remarks:

These density tests were performed on the existing sand grade. No compaction requirements were furnished. *Test and station numbers each have their own relative density curve.

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
			0.1	0.1	99.2	0.6				
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
			0.229	0.192	0.178	0.152	0.131	0.123	0.98	1.57
MATERIAL DESCRIPTION									USCS	AASHTO
○ Tan fine sand with shell fragments									SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 309+65

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Remarks:
 Sample MLW-960
 Moisture content = 27.3%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

Figure

Grain size distribution curve for a soil sample. The graph plots Percent Finer (0 to 100) against Grain Size in mm (logarithmic scale from 200 to 0.001). The curve shows a sharp drop between 0.6 mm and 0.075 mm, indicating a well-graded soil. Key sieve sizes are marked at the top: 6 in., 3 in., 2 in., 1-1/2 in., 1 in., 3/4 in., 1/2 in., 3/8 in., #4, #10, #20, #30, #40, #60, #100, #140, #200.

Sieve Size (mm)	Percent Finer (%)
6 in.	100
3 in.	100
2 in.	100
1-1/2 in.	100
1 in.	100
3/4 in.	100
1/2 in.	100
3/8 in.	100
#4	100
#10	100
#20	100
#30	100
#40	100
#60	98
#100	34
#140	1
#200	0

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 Location: 309+65	Remarks: ○ Sample Wadding-980 Moisture content = 24.0% Estimated Wentworth Classification: Tan fine to very fine sand with shell fragments
EUSTIS ENGINEERING COMPANY, INC. METAIRIE, LA	

Grain size distribution curve for a sample of sand. The graph plots Percent Finer (0 to 100) against Grain Size in mm (200 to 0.001) on a semi-logarithmic scale. The curve shows that approximately 96% of the material is finer than 0.075 mm (No. 20 sieve) and about 0% is finer than 0.075 mm (No. 200 sieve).

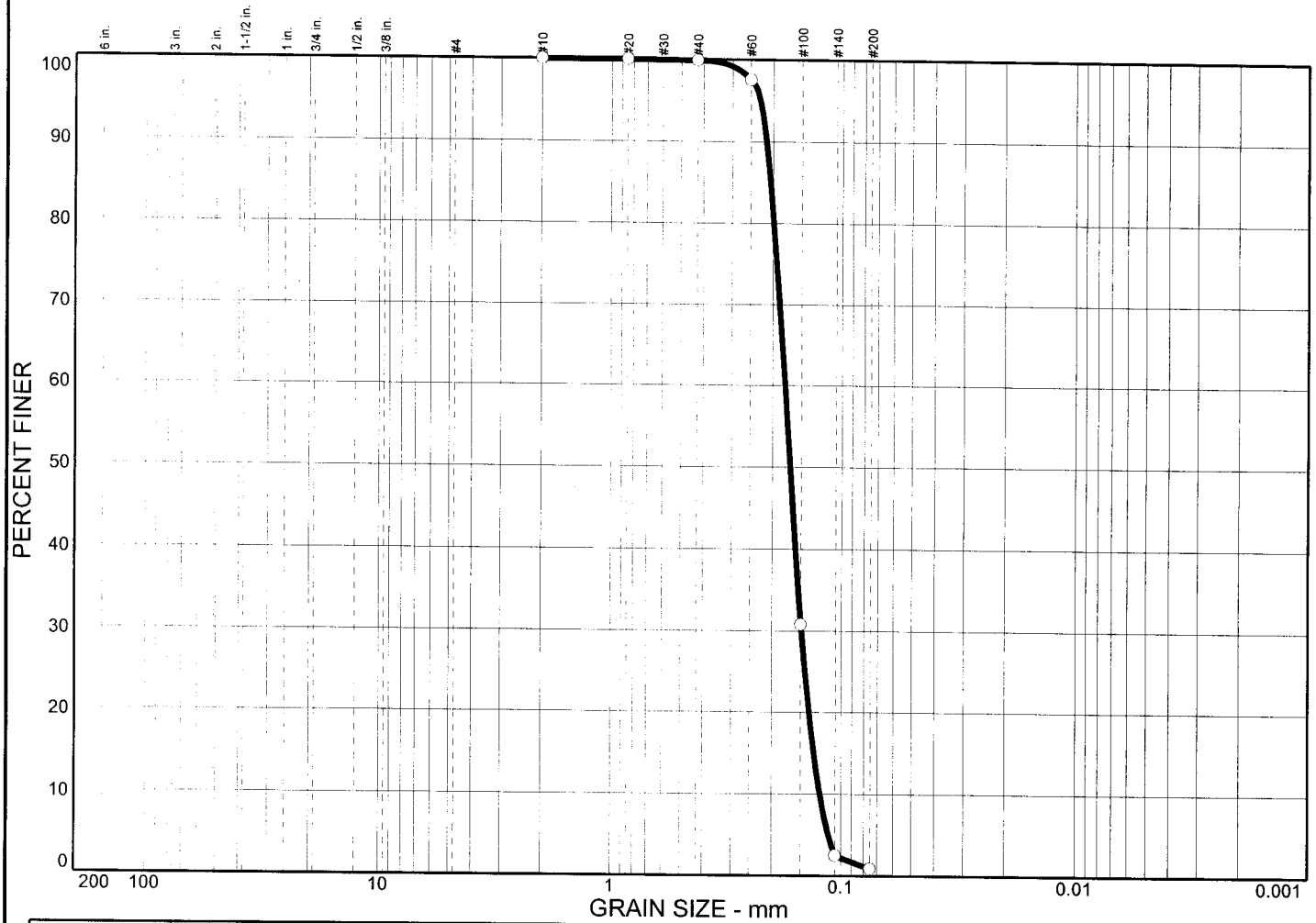
Grain Size (mm)	Sieve No.	Percent Finer (%)
200	-	100
100	-	100
60	-	100
40	-	100
30	-	100
20	-	96
15	-	96
10	-	96
7.5	No. 20	96
6	-	96
4.75	No. 40	96
3.75	-	96
3	-	96
2.5	-	96
2	-	96
1.5	-	96
1.18	-	96
0.85	-	96
0.75	-	96
0.6	-	96
0.425	No. 40	96
0.3	-	96
0.25	-	96
0.2	-	96
0.15	-	96
0.125	-	96
0.106	-	96
0.075	No. 200	0
0.06	-	0
0.05	-	0
0.0425	-	0
0.0375	-	0
0.03	-	0
0.025	-	0
0.02	-	0
0.015	-	0
0.0125	-	0
0.0106	-	0
0.0075	-	0
0.006	-	0
0.005	-	0
0.00425	-	0
0.00375	-	0
0.003	-	0
0.0025	-	0
0.002	-	0
0.0015	-	0
0.00125	-	0
0.00106	-	0
0.00075	-	0
0.0006	-	0
0.0005	-	0
0.000425	-	0
0.000375	-	0
0.0003	-	0
0.00025	-	0
0.0002	-	0
0.00015	-	0
0.000125	-	0
0.000106	-	0
0.000075	-	0
0.00006	-	0
0.00005	-	0
0.0000425	-	0
0.0000375	-	0
0.00003	-	0
0.000025	-	0
0.00002	-	0
0.000015	-	0
0.0000125	-	0
0.0000106	-	0
0.0000075	-	0
0.000006	-	0
0.000005	-	0
0.00000425	-	0
0.00000375	-	0
0.000003	-	0
0.0000025	-	0
0.000002	-	0
0.0000015	-	0
0.00000125	-	0
0.00000106	-	0
0.00000075	-	0
0.0000006	-	0
0.0000005	-	0
0.000000425	-	0
0.000000375	-	0
0.0000003	-	0
0.00000025	-	0
0.0000002	-	0
0.00000015	-	0
0.000000125	-	0
0.000000106	-	0
0.000000075	-	0
0.00000006	-	0
0.00000005	-	0
0.0000000425	-	0
0.0000000375	-	0
0.00000003	-	0
0.000000025	-	0
0.00000002	-	0
0.000000015	-	0
0.0000000125	-	0
0.0000000106	-	0
0.0000000075	-	0
0.000000006	-	0
0.000000005	-	0
0.00000000425	-	0
0.00000000375	-	0
0.000000003	-	0
0.0000000025	-	0
0.000000002	-	0
0.0000000015	-	0
0.00000000125	-	0

MATERIAL DESCRIPTION	USCS	AASHTO
0 Tan fine sand with shell fragments, roots	SP	

Remarks:
 ○ Sample BBB-0
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments, roots

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.1	99.0	0.9				
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
0.0			0.206	0.177	0.168	0.149	0.132	0.124	1.02	1.43
MATERIAL DESCRIPTION									USCS	AASHTO
Tan fine sand with shell fragments									SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 309+65

Remarks:

- Sample GB-900

Moisture content = 25.7%

Estimated Wentworth

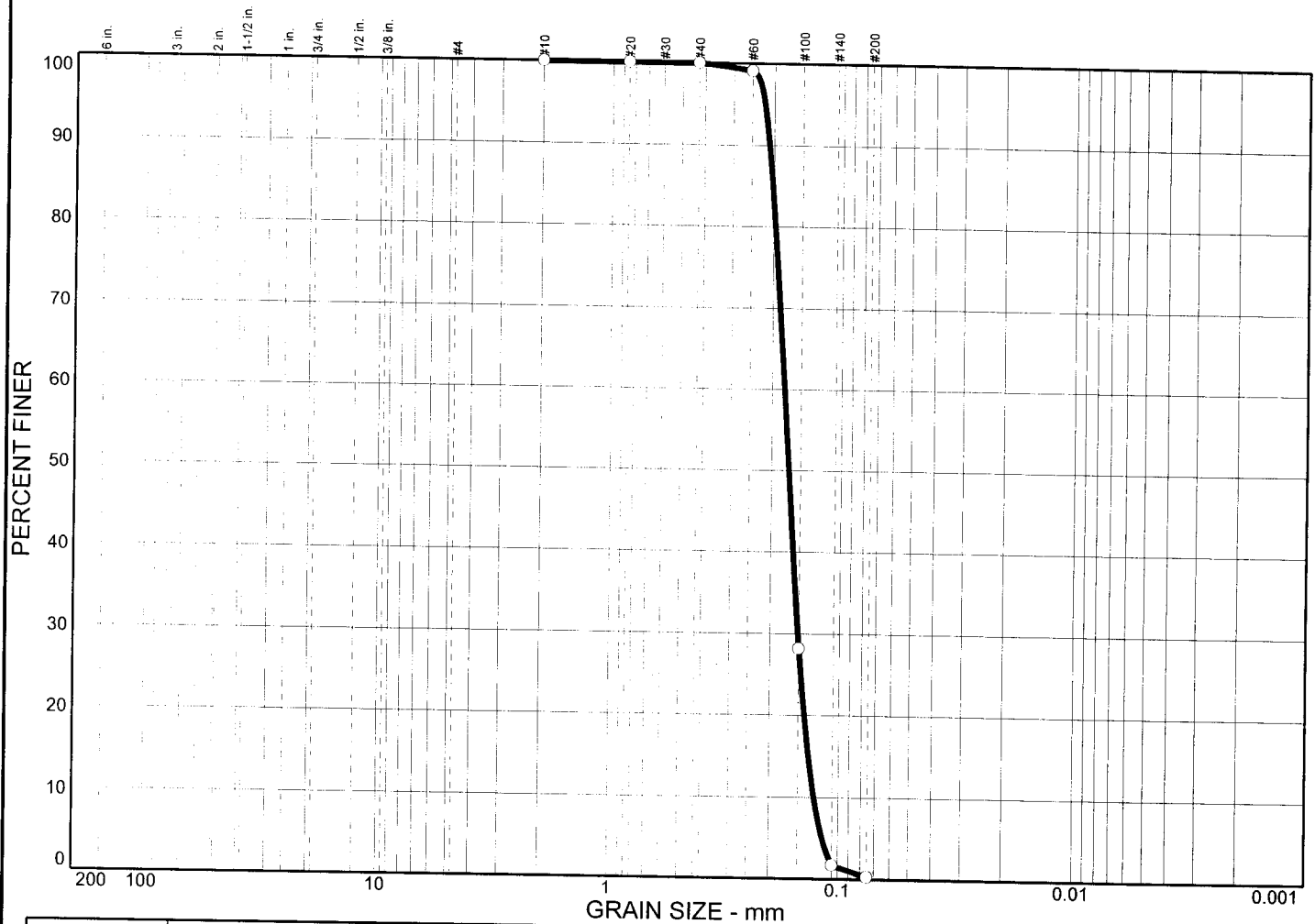
Classification:

Tan fine to very fine sand with shell fragments

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METAIRIE, LA

Figure

Particle Size Distribution Report



GRAVEL SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.0	99.7	0.3				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
0.0			0.203	0.177	0.169	0.152	0.135	0.128	1.02	1.39
MATERIAL DESCRIPTION								USCS	AASHTO	
0.0 Tan fine sand with shell fragments								SP		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 309+65

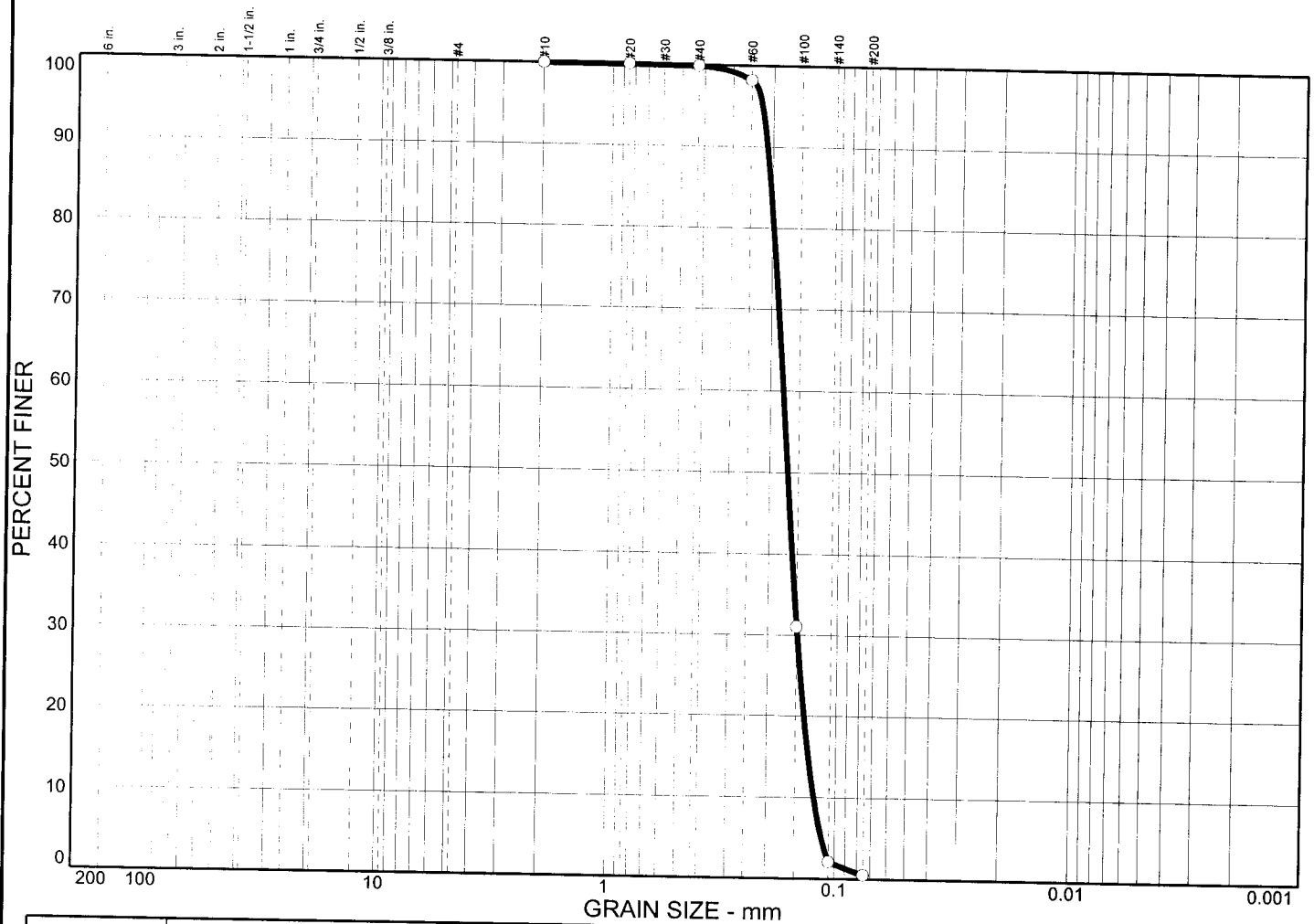
Remarks:

Sample MHW-880
 Moisture content = 23.3%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

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METAIRIE, LA

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY		
0.0	0.0	0.0	0.0	0.0	0.1	99.4	0.5			
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
0.0			0.204	0.176	0.167	0.149	0.132	0.124	1.01	1.42

MATERIAL DESCRIPTION							USCS	AASHTO
Tan fine sand with shell fragments, roots							SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 309+65

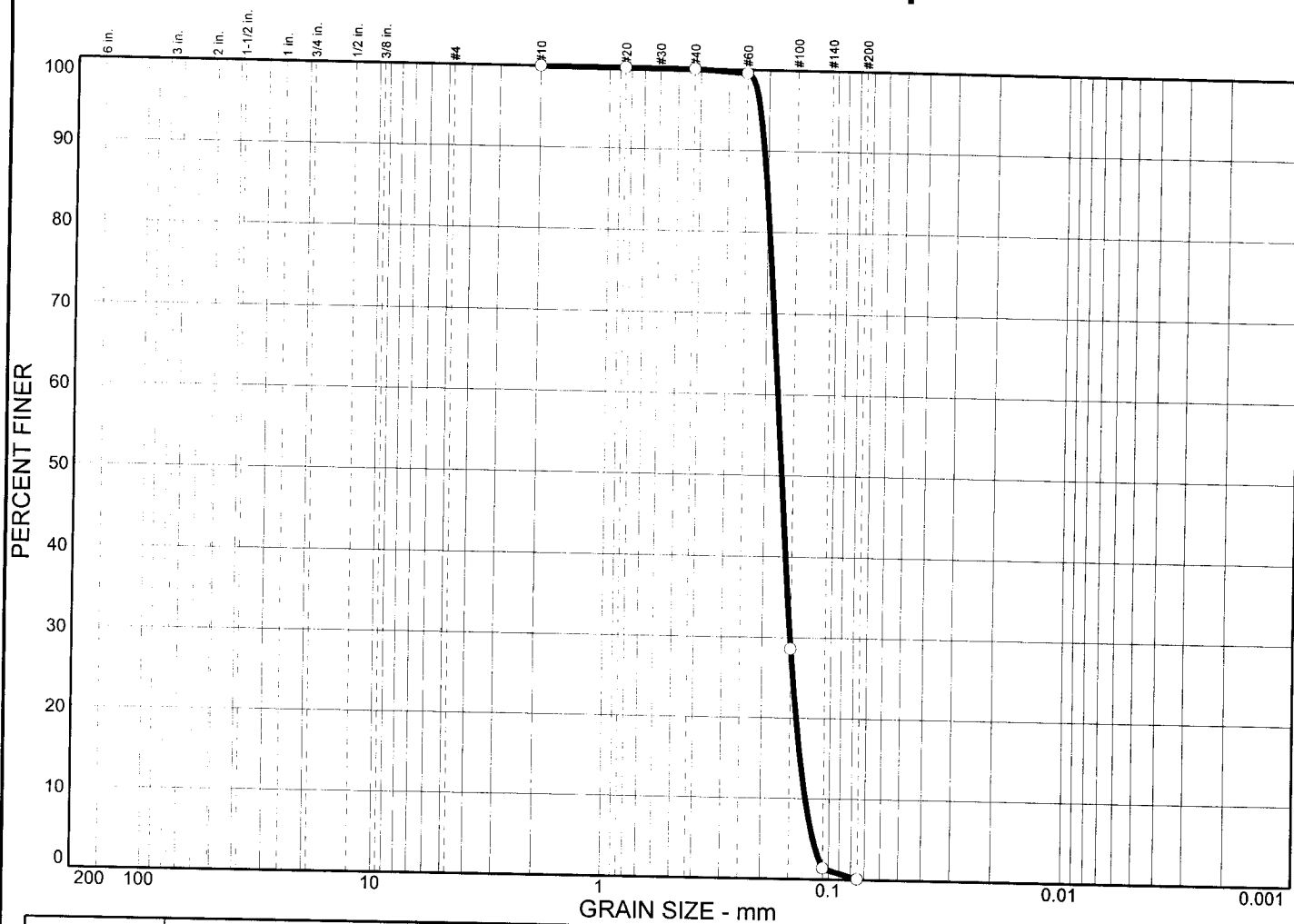
Remarks:

Sample DT-550
 Moisture content = 21.8%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments, roots

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METAIRIE, LA

Figure

Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION	USCS	AASHTO
○ Tan fine sand with shell fragments	SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 309+65

Remarks:

○ Sample DC-500

Moisture content = 22.2%

Estimated Wentworth

Classification:

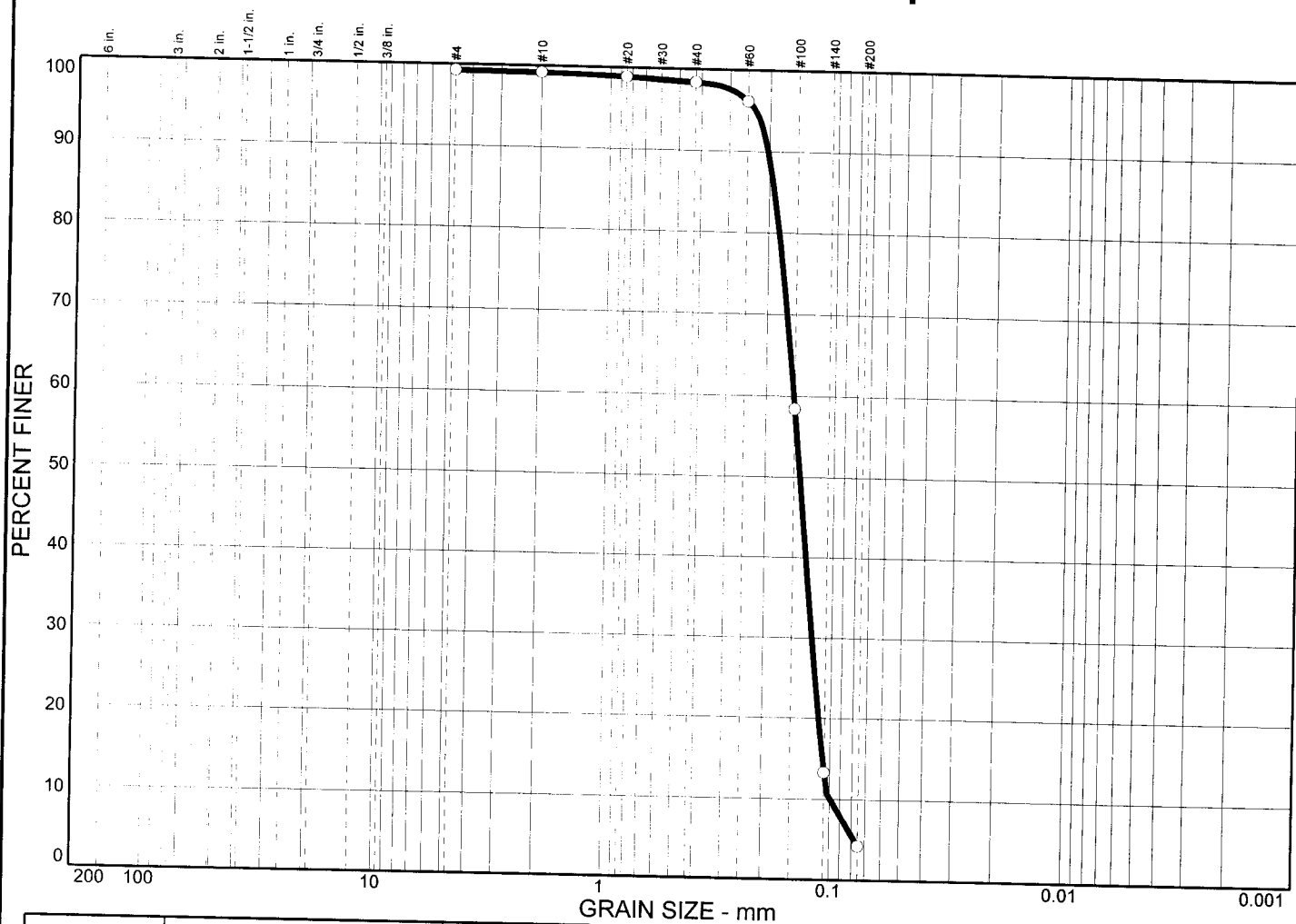
Tan fine to very fine sand with
shell fragments

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Figure

Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION		USCS	AASHTO
Tan fine sand with shell fragments		SP	
Project Name: 10520			

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Location:** 309+65

Remarks:

○ Sample MP-75

Moisture content = 26.0%

Estimated Wentworth

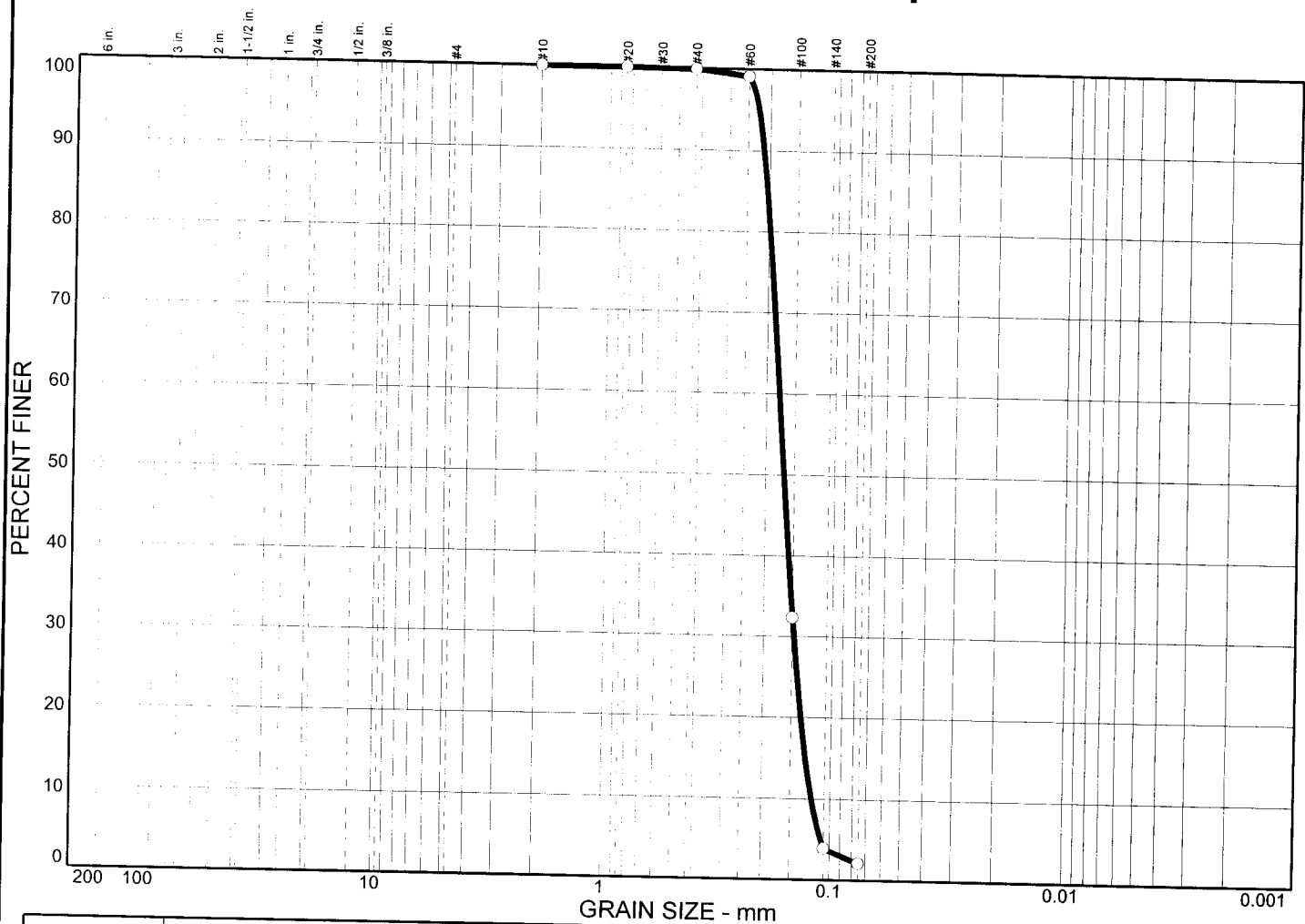
Classification:

Tan fine to very fine sand with shell fragments

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METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.1	97.8	2.1				
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
			0.205	0.176	0.167	0.148	0.129	0.121	1.02	1.46

MATERIAL DESCRIPTION							USCS	AASHTO
Tan fine sand with shell fragments							SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 286+64

Remarks:

Sample DC-700
 Moisture content = 24.1%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

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Figure

Grain size distribution curve for a soil sample. The graph plots Percent Finer (0 to 100) against Grain Size in mm (logarithmic scale from 200 to 0.001). The curve shows a sharp drop in percent finer between 0.425 mm and 0.075 mm, indicating a well-graded soil. Key data points are marked with circles and labeled with sieve numbers.

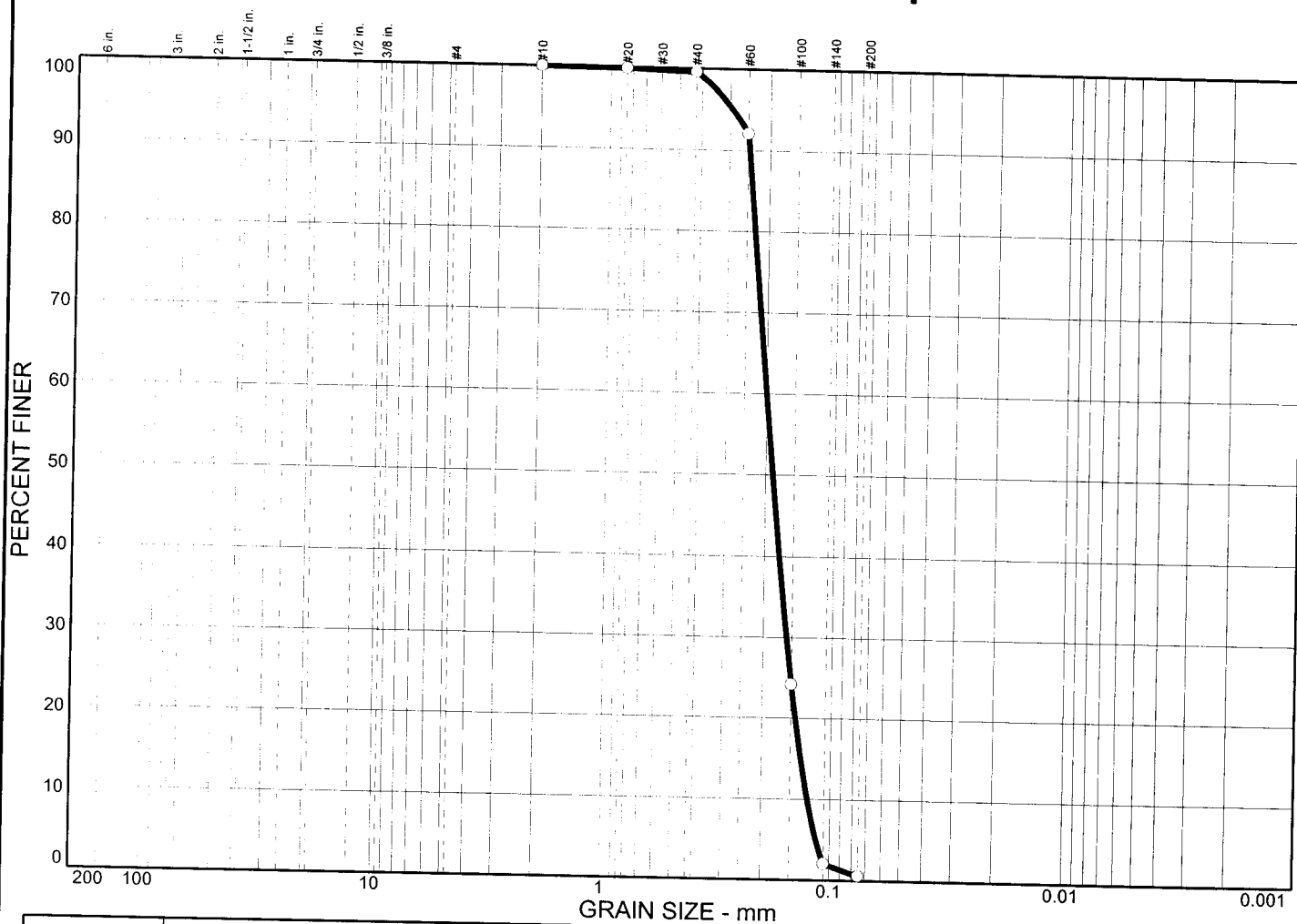
Grain Size (mm)	Sieve	Percent Finer (%)
200	#10	100
100	#20	100
60	#30	100
42.5	#40	100
30	#60	100
75	-	42
42.5	#100	2
30	#140	0
25	#200	0

MATERIAL DESCRIPTION		USCS	AASHTO
Tan fine sand with shell fragments, organic matter		SP	
Project No. 10500			

Figure

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Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION		USCS	AASHTO
Tan fine sand with shell fragments		SP	
Project No. 10500			

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 286+64

Remarks:

○ Sample Wadding-1340
Moisture content = 21.8%

Estimated Wentworth

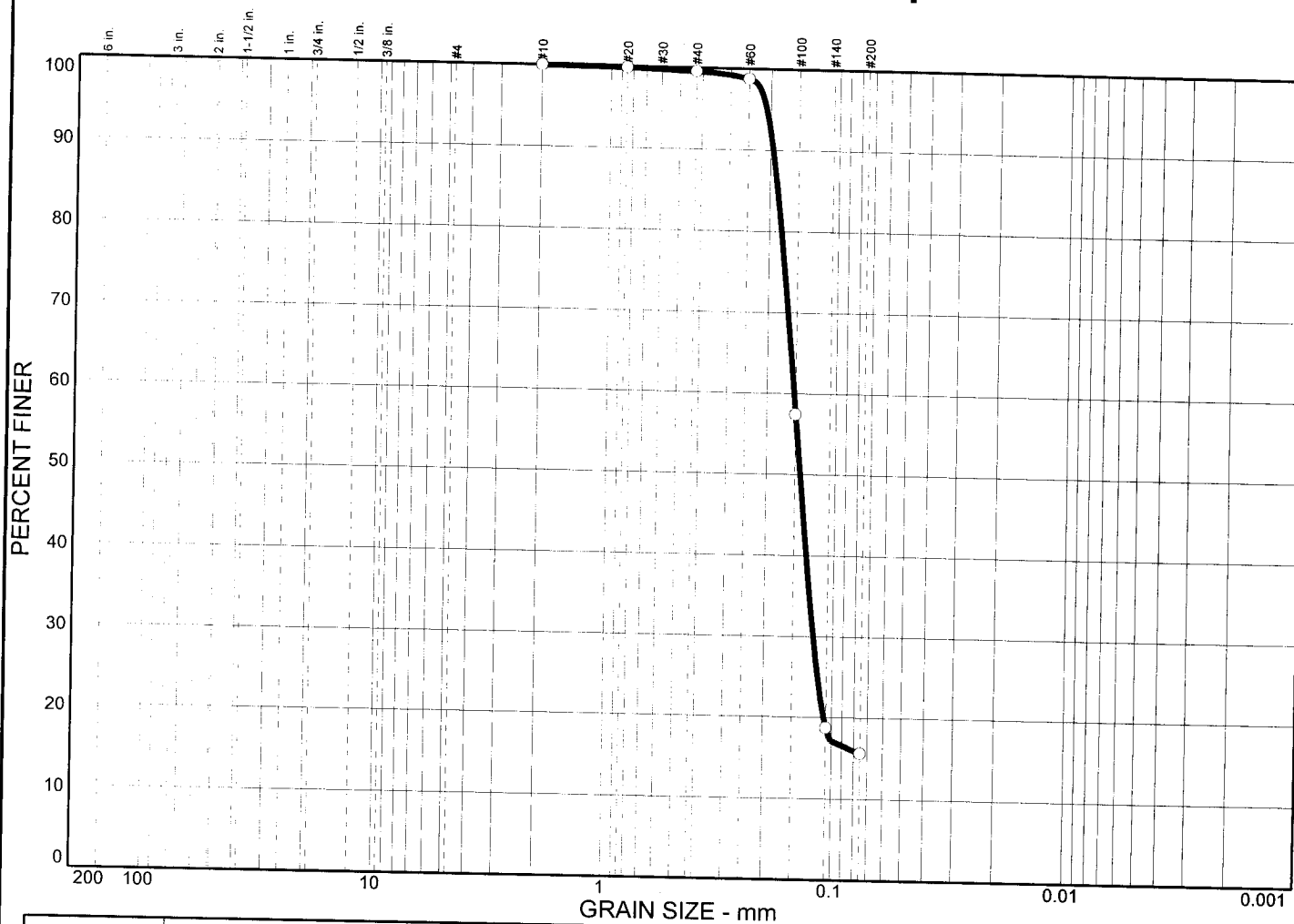
Classification:

Tan fine to very fine sand with shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.4	84.0	15.6				
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
			0.185	0.153	0.142	0.122				
MATERIAL DESCRIPTION								USCS	AASHTO	
Tan silty sand with shell fragments, roots, organic matter								SM		
Remarks										

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 286+64

Remarks:

○ Sample BBB-300

Moisture content = 25.9%

Estimated Wentworth

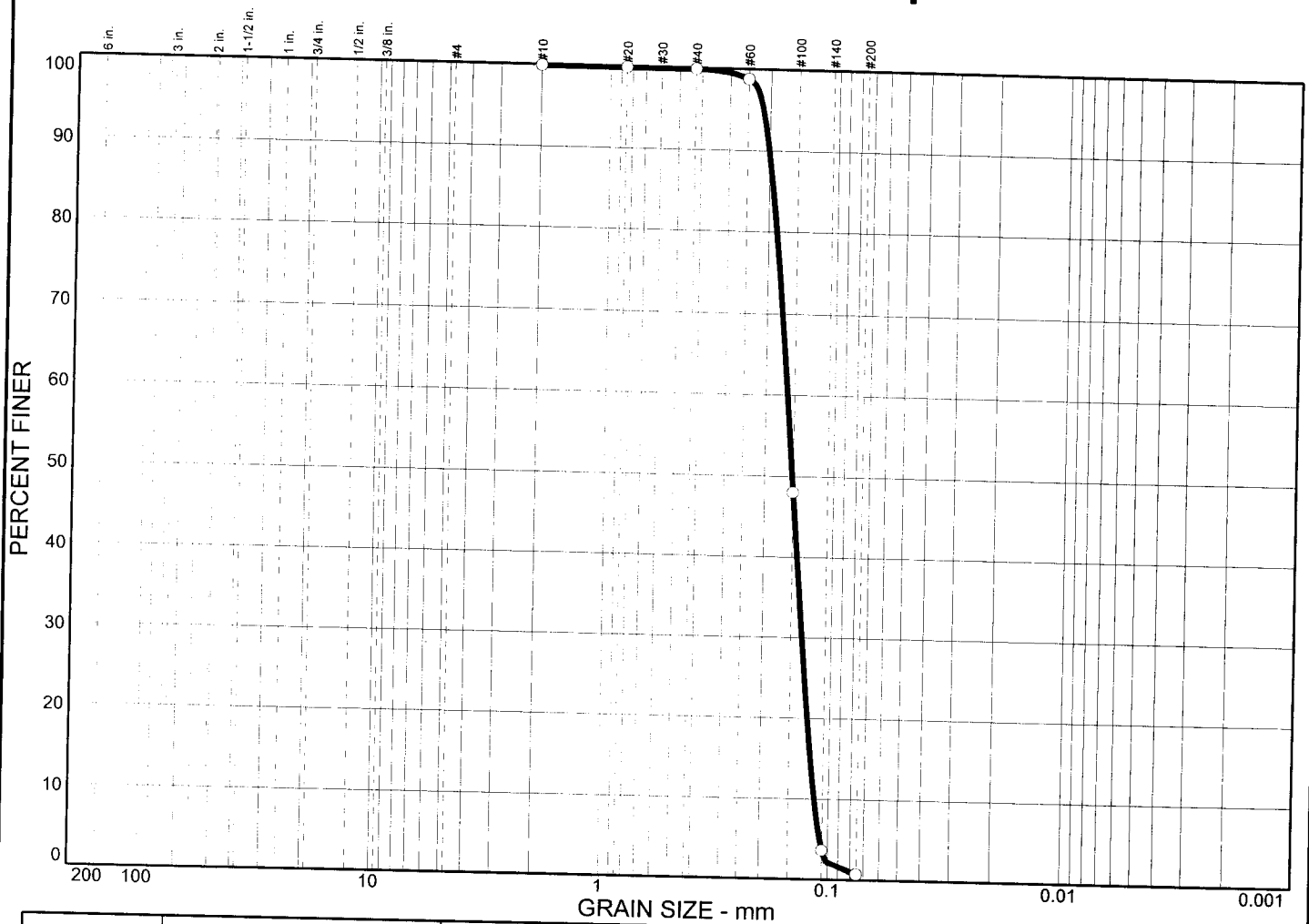
Classification: Tan fine to very fine sand with silt, shell fragments, roots, organic matter

Figure

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Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
				0.0	99.2	0.7				
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
			0.192	0.161	0.152	0.135	0.121	0.116	0.97	1.39
MATERIAL DESCRIPTION								USCS	AASHTO	
Tan fine sand with shell fragments								SP		
Project No. 10500 Date										

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 286+64

Remarks:

○ Sample LT-1306

Moisture content = 27.3%

Estimated Wentworth

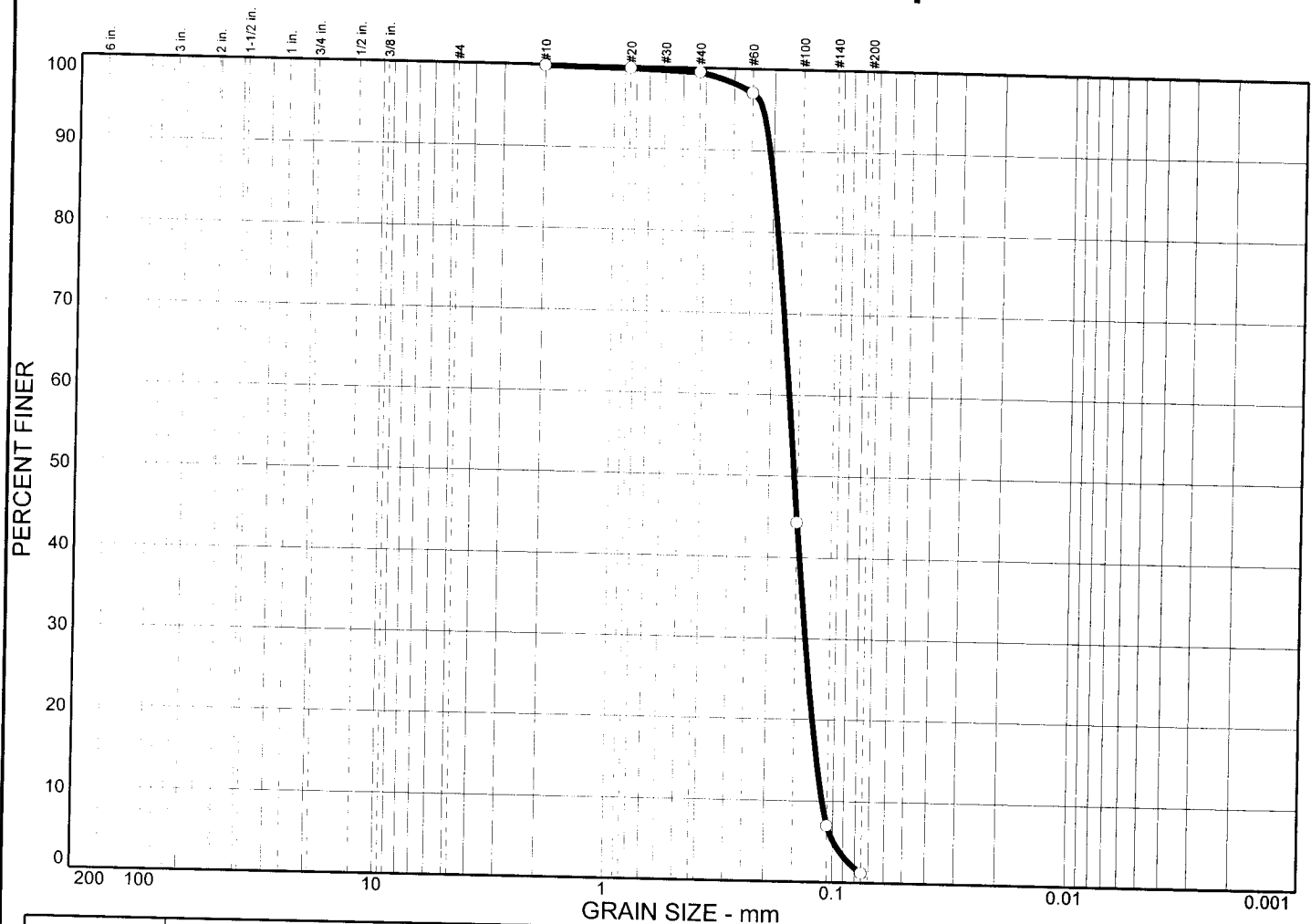
Classification:

Tan fine to very fine sand with
shell fragments

Figure

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METAIRIE, LA

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
				0.4	98.3	1.2				
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
			0.198	0.166	0.156	0.136	0.119	0.112	0.99	1.48
MATERIAL DESCRIPTION									USCS	AASHTO
Tan fine sand with shell fragments									SP	
Project No. 10500										

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 286+64

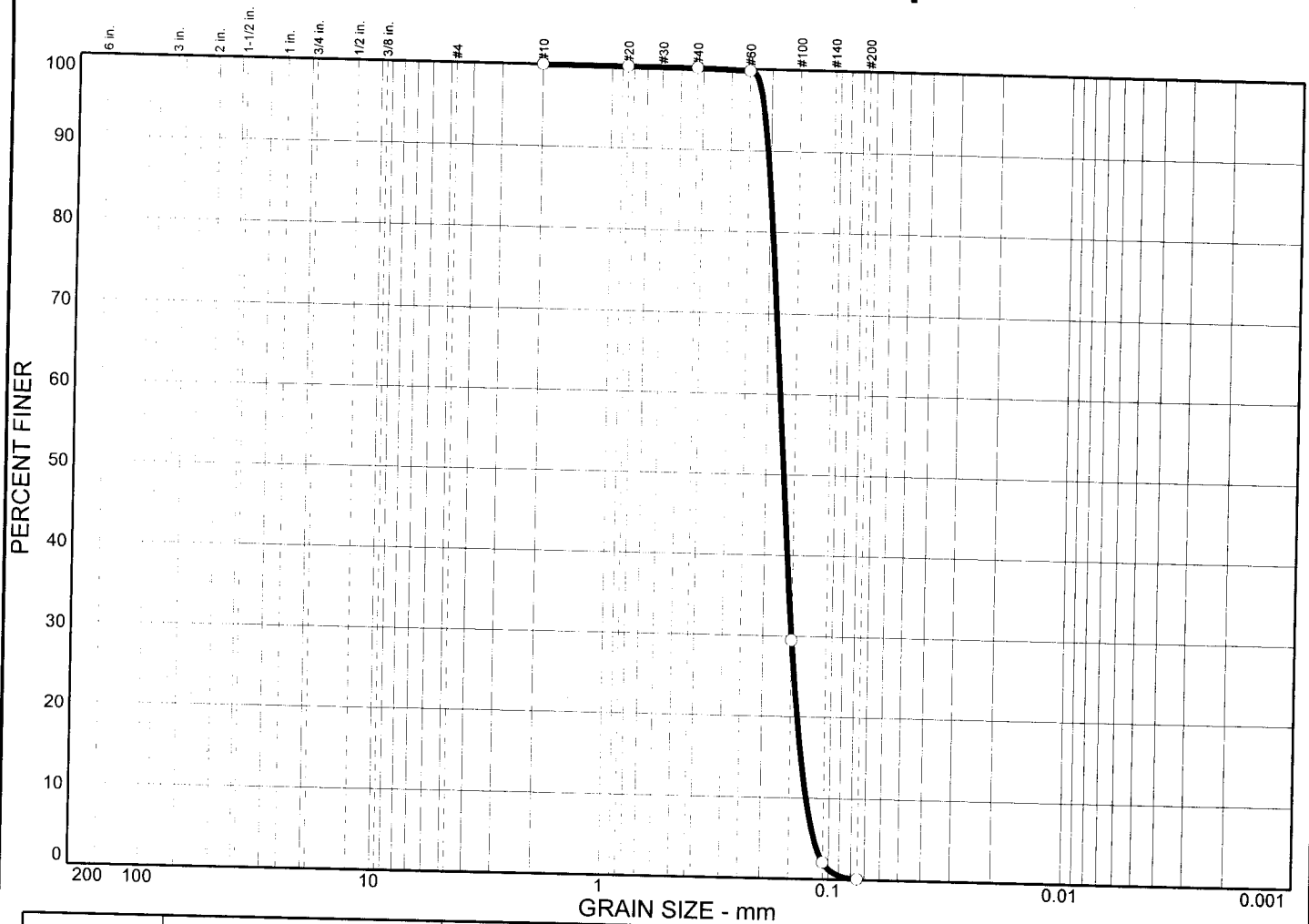
EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Remarks:

Sample MP-410
 Moisture content = 26.9%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.0	99.9	0.1				
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u	
		0.200	0.175	0.167	0.150	0.134	0.127	1.02	1.38	
MATERIAL DESCRIPTION								USCS		AASHTO
Tan fine sand with shell fragments								SP		
Project No. 10500 City										

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 286+64

Remarks:

○ Sample HT-1250

Moisture content = 21.2%

Estimated Wentworth

Classification:

Tan fine to very fine sand with
shell fragments

Figure

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

The graph displays the grain size distribution of a material. The vertical axis represents the percentage of material finer than a given grain size, ranging from 0 to 100. The horizontal axis represents the grain size in millimeters on a logarithmic scale, ranging from 200 mm down to 0.001 mm. The curve shows that approximately 97% of the material is finer than 0.075 mm (No. 20 sieve) and about 0.1% is finer than 0.075 mm (No. 20 sieve).

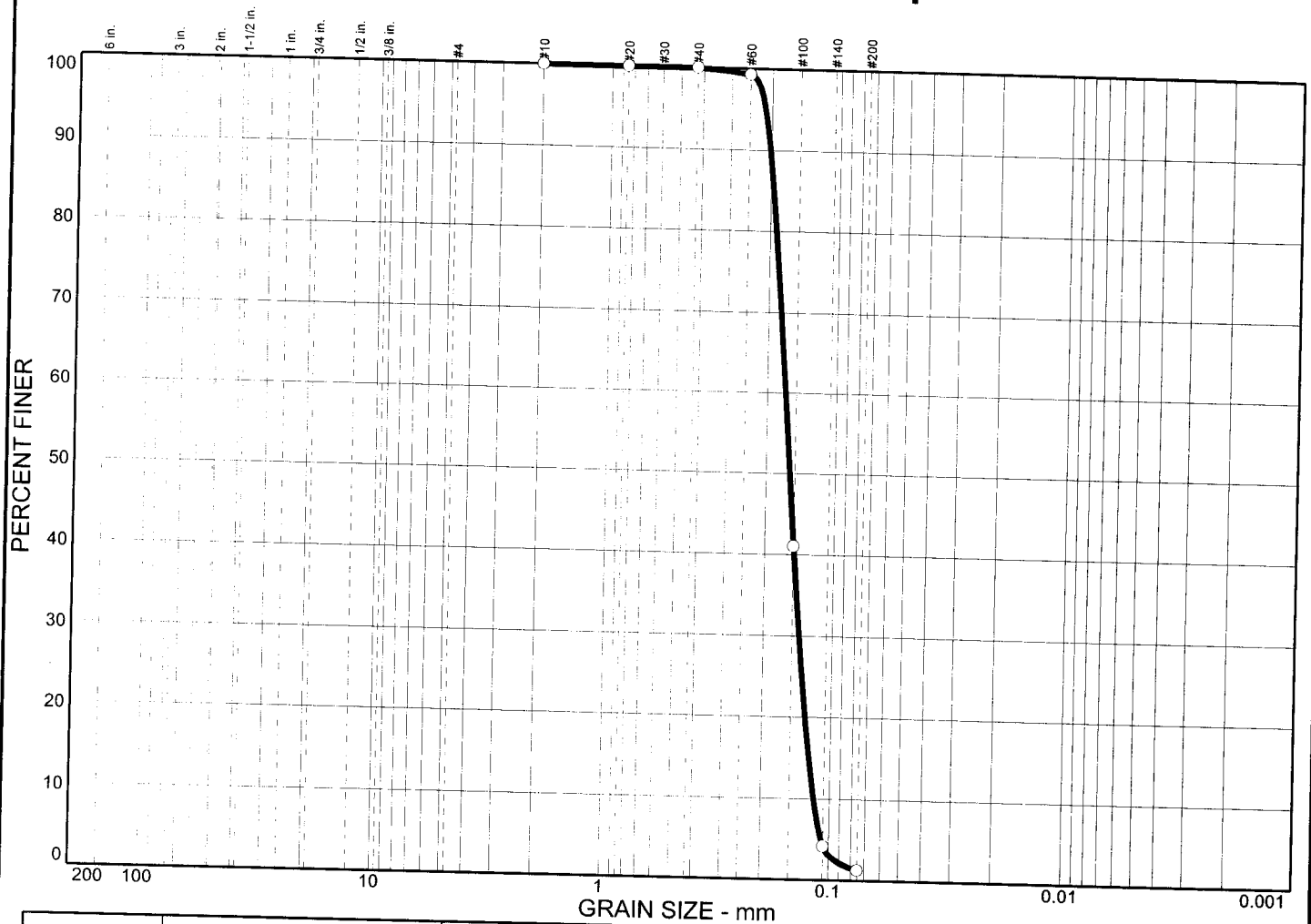
Grain Size (mm)	Percent Finer (%)
200	100
100	100
50	100
25	100
12.5	100
6.3	100
3.15	100
1.6	100
0.85	100
0.425	100
0.25	100
0.15	100
0.075	97
0.0425	23
0.025	0
0.015	0
0.0075	0

MATERIAL DESCRIPTION		USCS	AASHTO
Tan fine sand with shell fragments		SP	
Project No. 10500			

Remarks:
 ○ Sample GB-1030
 Moisture content = 27.8%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION		USCS	AASHTO
① Black fine sand with shell fragments, organic matter		SP	
Project No. 10508			

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 268+64

Remarks:

○ Sample DC-400

Moisture content = 25.6%

Estimated Wentworth

Classification:

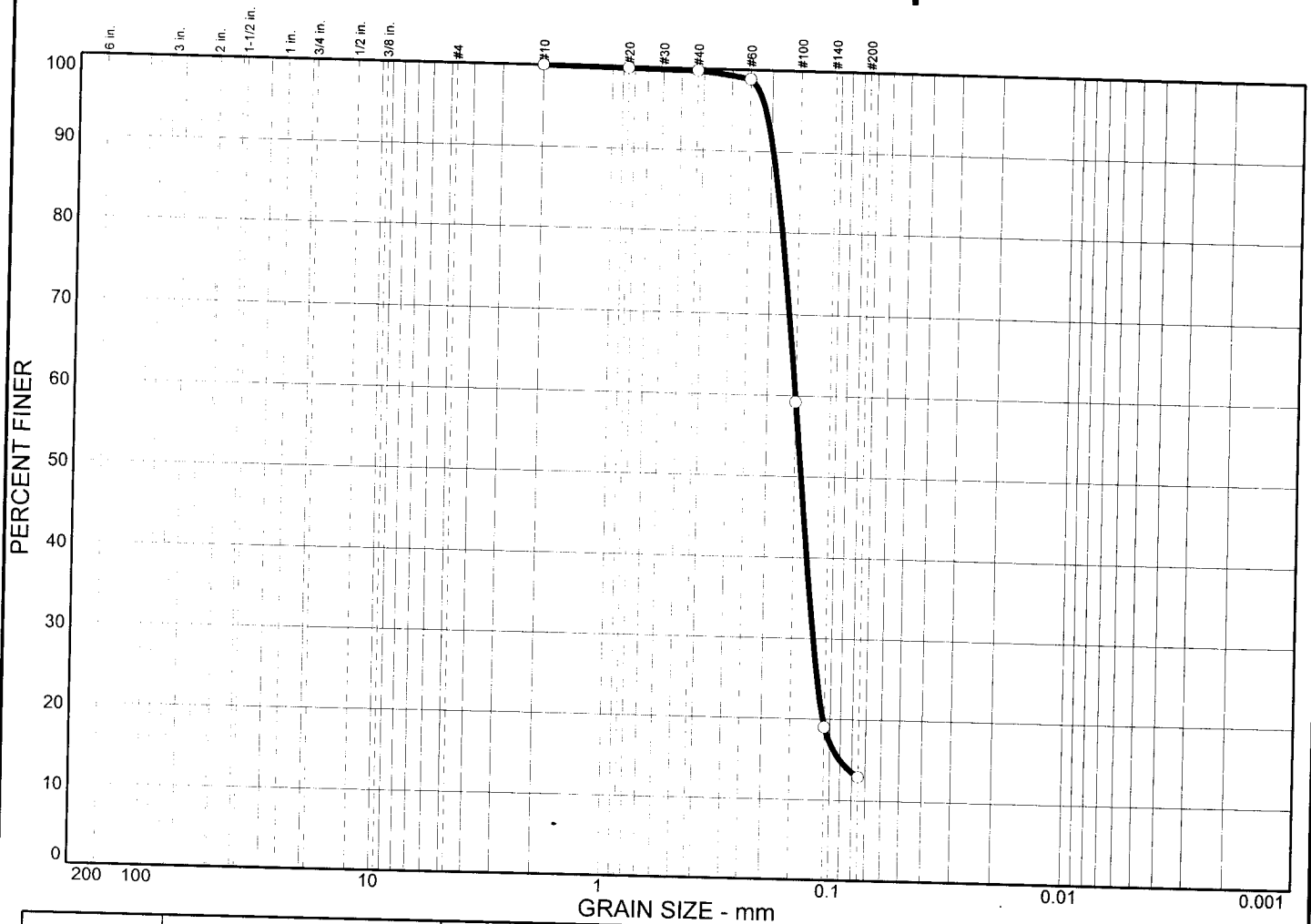
Black fine to very fine sand with
shell fragments, organic matter

EUSTIS ENGINEERING COMPANY, INC.

METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.2	86.9	12.9				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
			0.186	0.151	0.141	0.121	0.0905			
MATERIAL DESCRIPTION										

MATERIAL DESCRIPTION		USCS	AASHTO
Dark gray silty sand with shell fragments, roots		SM	
Project No.	10508		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 268+64

Remarks:

○ Sample MP-300

Moisture content = 28.7%

Estimated Wentworth

Classification:

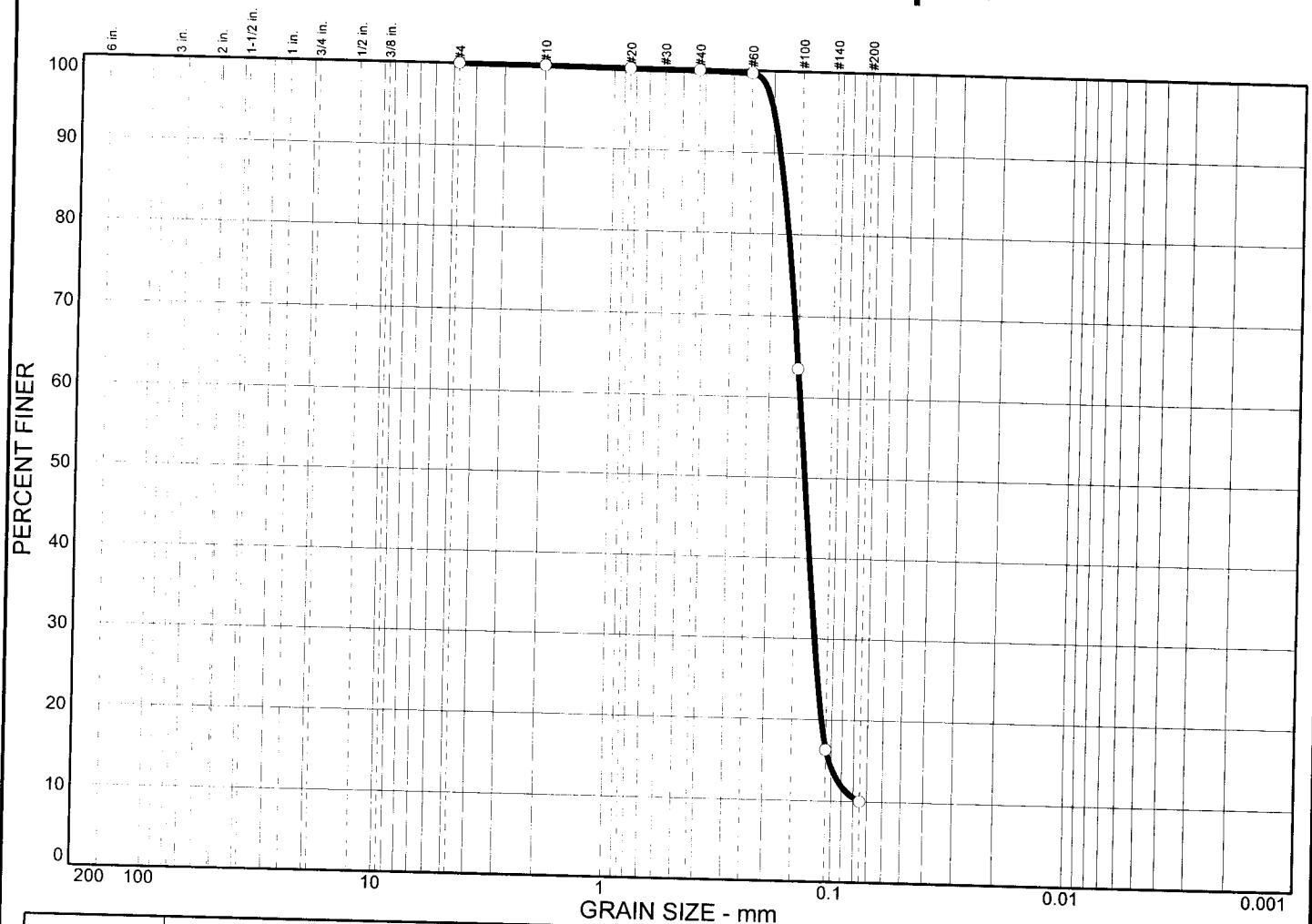
Dark gray fine to very fine sand
with silt, shell fragments, roots

EUSTIS ENGINEERING COMPANY, INC.

METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.1	89.9	10.0				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
			0.177	0.147	0.138	0.121	0.103	0.0750	1.34	1.96
MATERIAL DESCRIPTION										

MATERIAL DESCRIPTION						USCS	AASHTO
Tan fine sand with silt, shell fragments, roots						SP-SM	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 268+64

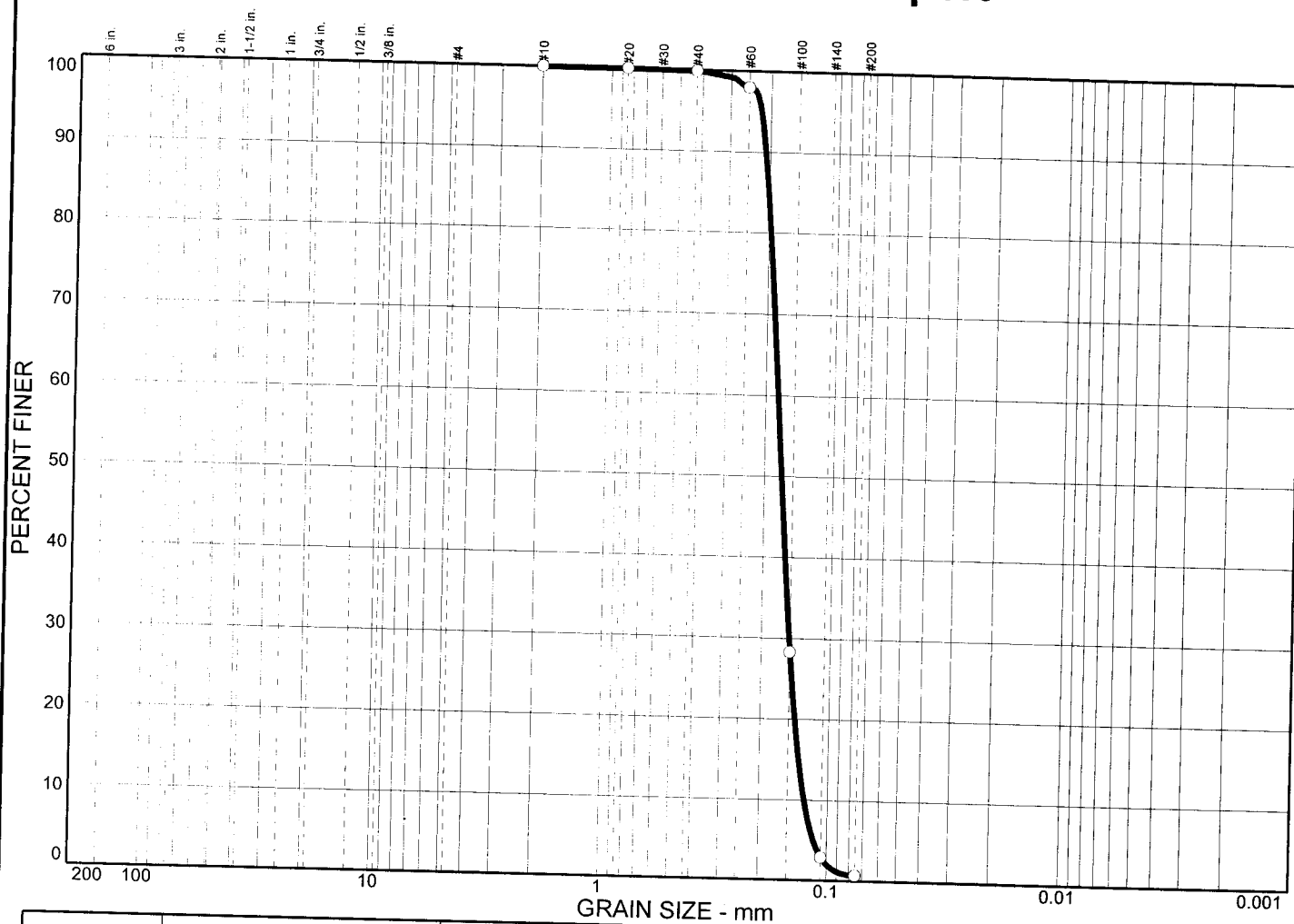
Remarks:

Sample BBB-0
 Moisture content = 30.2%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 trace silt, shell fragments, roots

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.1	99.2	0.7				
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
			0.202	0.177	0.169	0.152	0.135	0.127	1.02	1.39
MATERIAL DESCRIPTION										

MATERIAL DESCRIPTION		USCS	AASHTO
Tan fine sand with shell fragments, roots		SP	

Project No. 10508

Client: West Coast

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 268+64

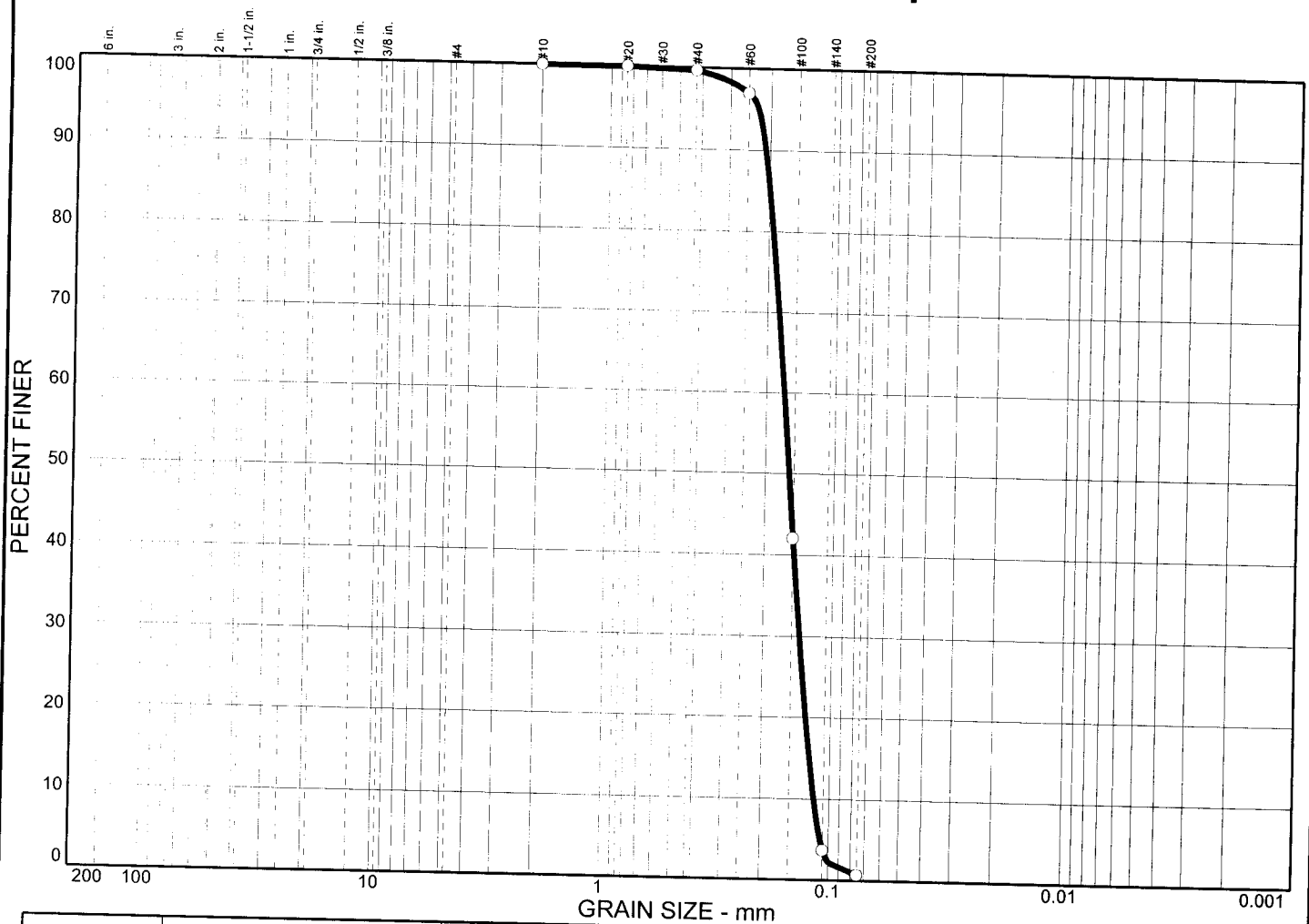
Remarks:

○ Sample GB-600
Estimated Wentworth
Classification:
Tan fine to very fine sand with
shell fragments, roots

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION		USCS	AASHTO
Tan fine sand with shell fragments		SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 • **Location:** 268+64

Remarks:

○ Sample Wadding-1060

Moisture content = 25.2%

Estimated Wentworth

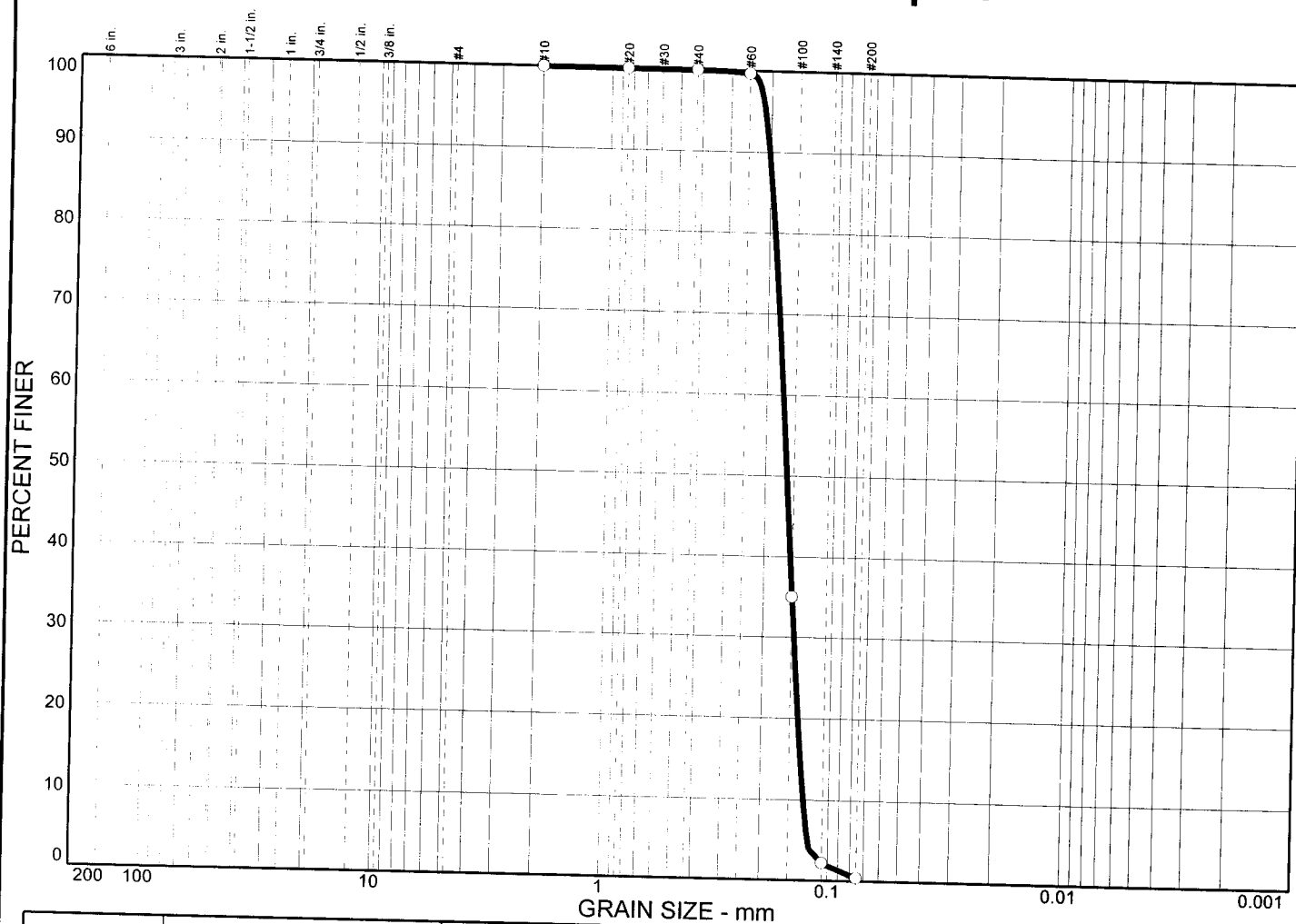
Classification:

Tan fine to very fine sand with shell fragments

Figure

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION		USCS	AASHTO
Tan fine sand with shell fragments, organic matter		SP	
Project No. 10500			

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 • **Location:** 268+64

Remarks:

○ Sample MHW-970

Moisture content = 26.0%

Estimated Wentworth

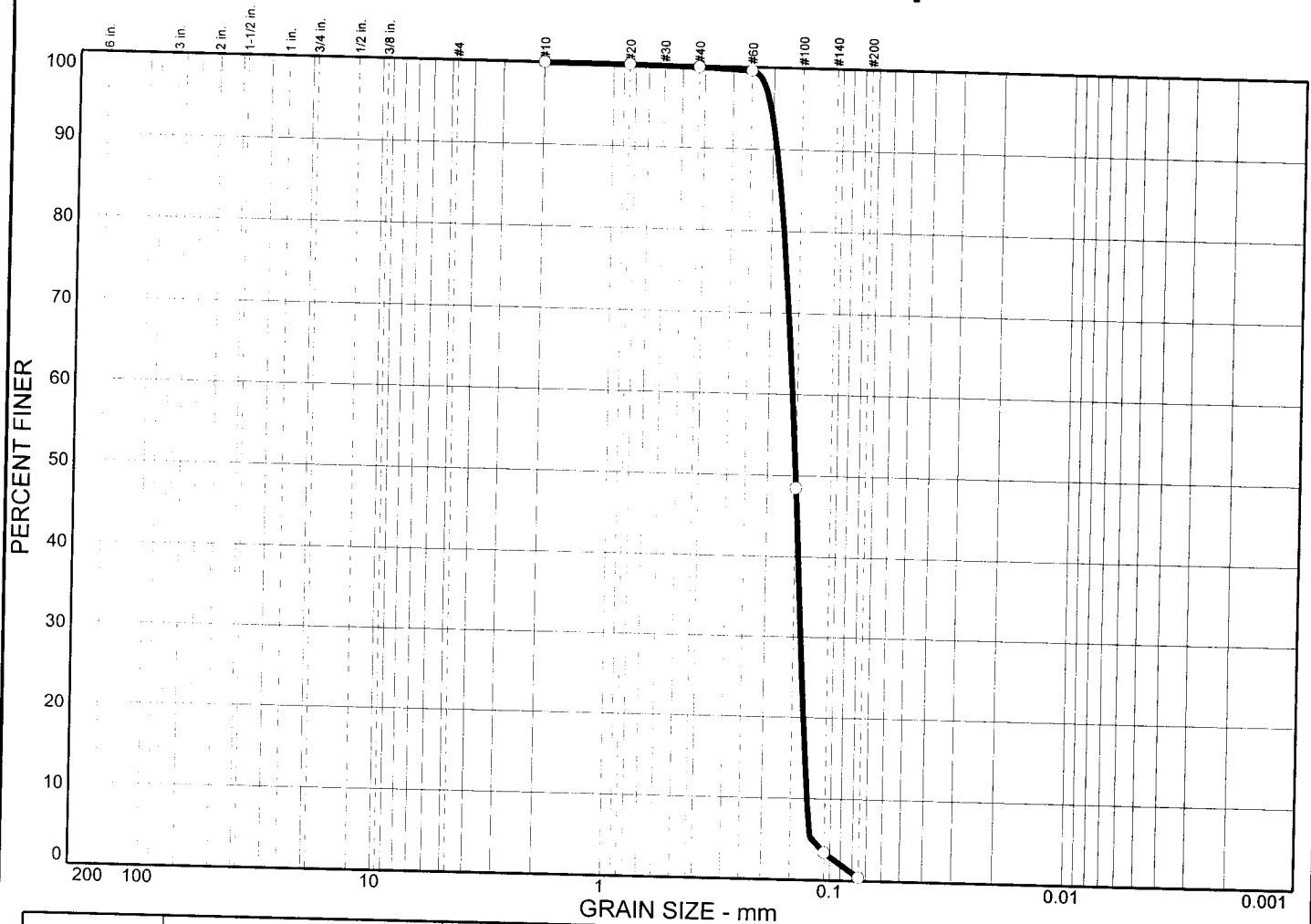
Classification:

Tan fine to very fine sand with shell fragments, organic matter

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm									
% COBBLES	% GRAVEL		% SAND			% FINES			
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
0.0	0.0	0.0	0.0	0.1	99.5	0.4			
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.184	0.158	0.151	0.139	0.131	0.127	0.97	1.24

MATERIAL DESCRIPTION						USCS	AASHTO
Tan fine sand with shell fragments						SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 268+64

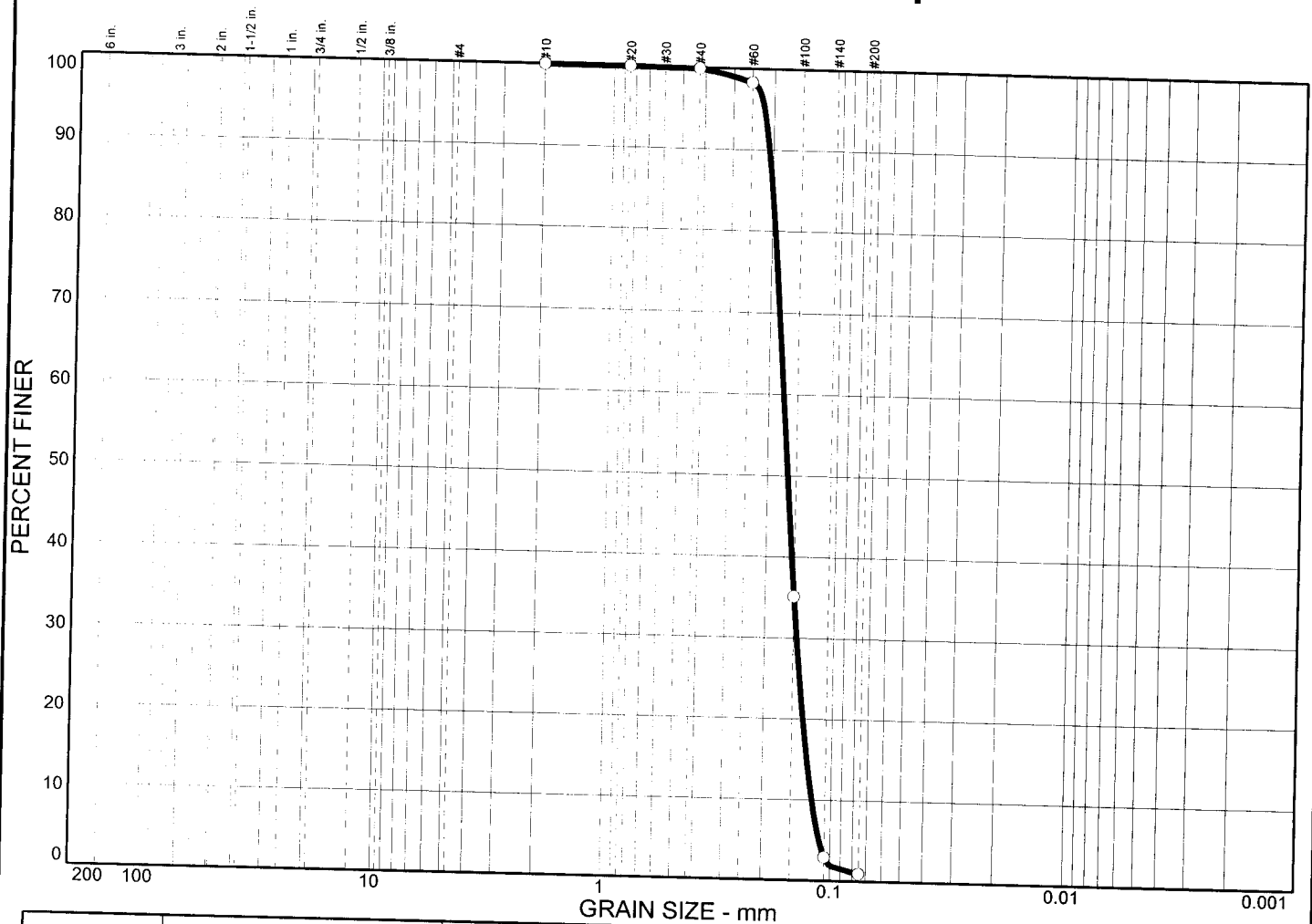
Remarks:

Sample DT-450
 Moisture content = 26.7%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.1	99.0	0.9				
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu	
		0.201	0.173	0.163	0.145	0.129	0.122	1.00	1.42	
MATERIAL DESCRIPTION										

MATERIAL DESCRIPTION							USCS	AASHTO
Tan fine sand with shell fragments							SP	

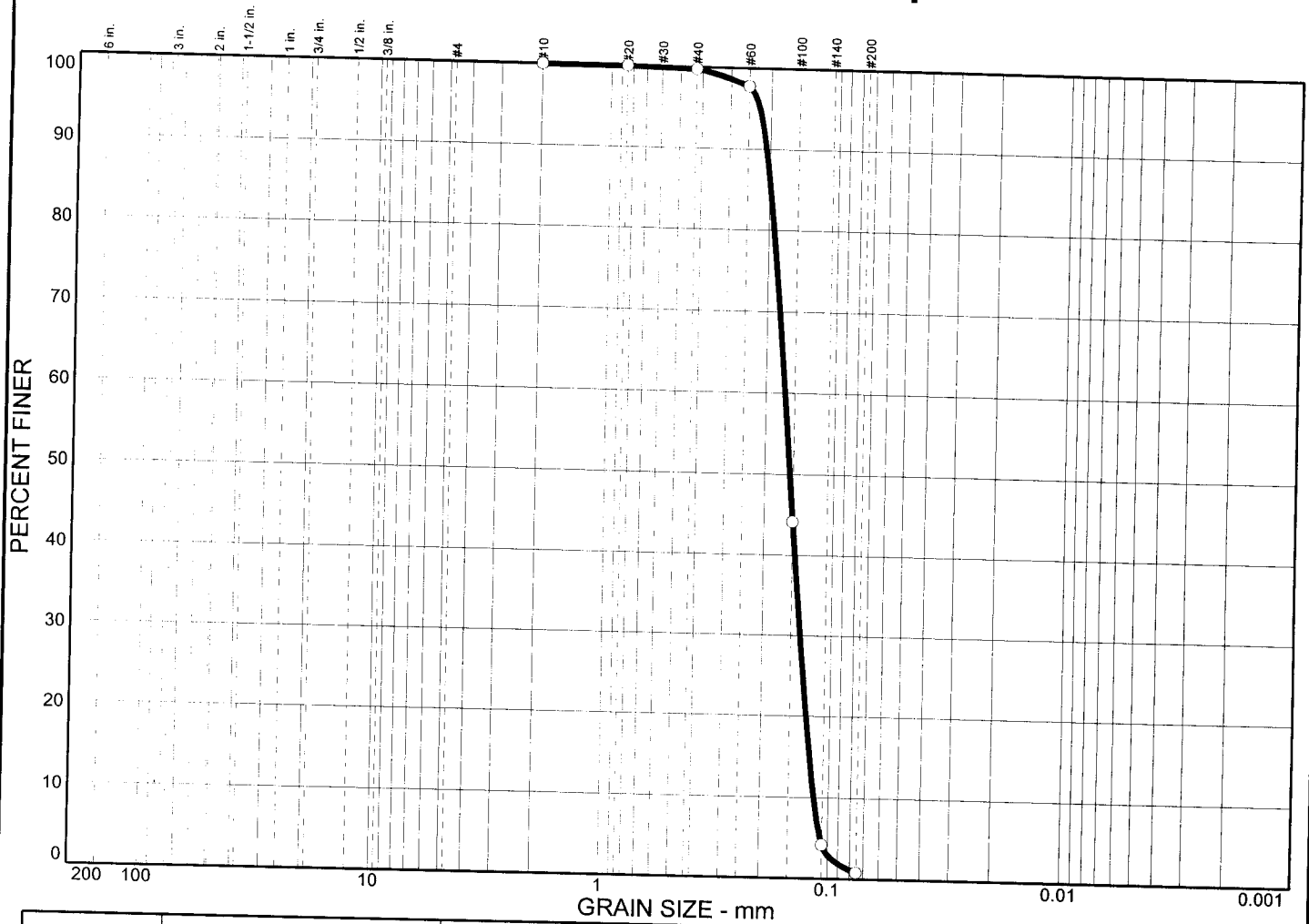
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 268+64

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Remarks:
 Sample MLW-1020
 Moisture content = 25.4%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

Figure

Particle Size Distribution Report



GRAIN SIZE - mm									
% COBBLES	% GRAVEL		% SAND			% FINES			
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
0.0	0.0	0.0	0.0	0.2	99.0	0.8			
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.198	0.166	0.156	0.137	0.122	0.116	0.97	1.43
MATERIAL DESCRIPTION								USCS	AASHTO
Tan fine sand with shell fragments								SP	
Project No. 10500									

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 250+64

Remarks:

○ Sample DC-300

Moisture content = 26.3%

Estimated Wentworth

Classification:

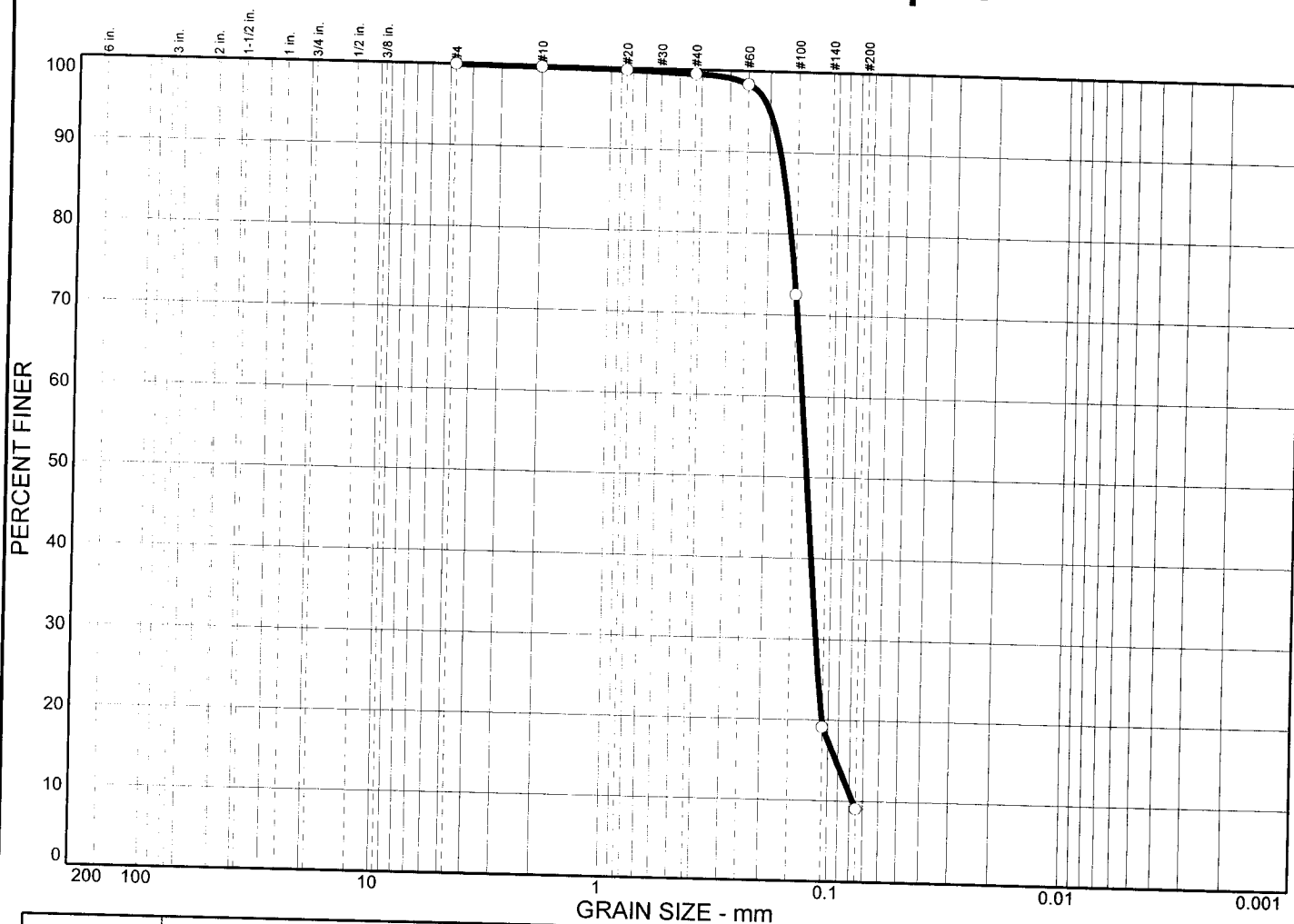
Tan fine to very fine sand with shell fragments

EUSTIS ENGINEERING COMPANY, INC.

METAIRIE, LA

Figure

Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION		USCS	AASHTO
① Black fine sand with silt, shell fragments, decayed wood & roots		SP-SM	
Project No. 10508			

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 250+64

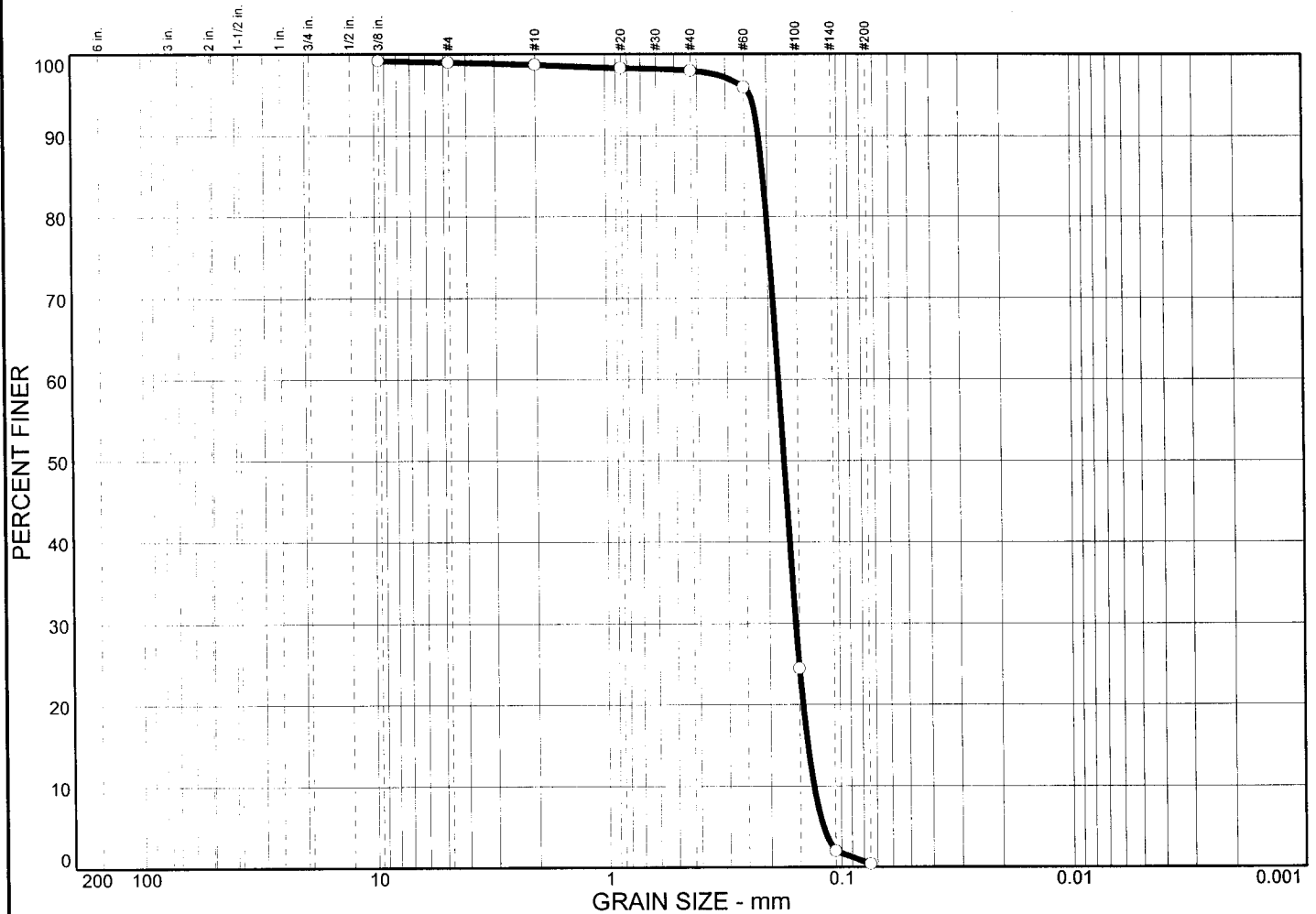
Remarks:

○ Sample MP-500; Moisture content = 28.3%; Estimated Wentworth Classification: Black fine to very fine sand with trace silt, shell fragments, decayed woods & roots

Figure

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Particle Size Distribution Report



%	COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○				0.3	0.7	97.6	0.4			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.209	0.181	0.173	0.155	0.139	0.131	1.01	1.38
MATERIAL DESCRIPTION								USCS	AASHTO	
○ Tan fine sand with shell fragments								SP		

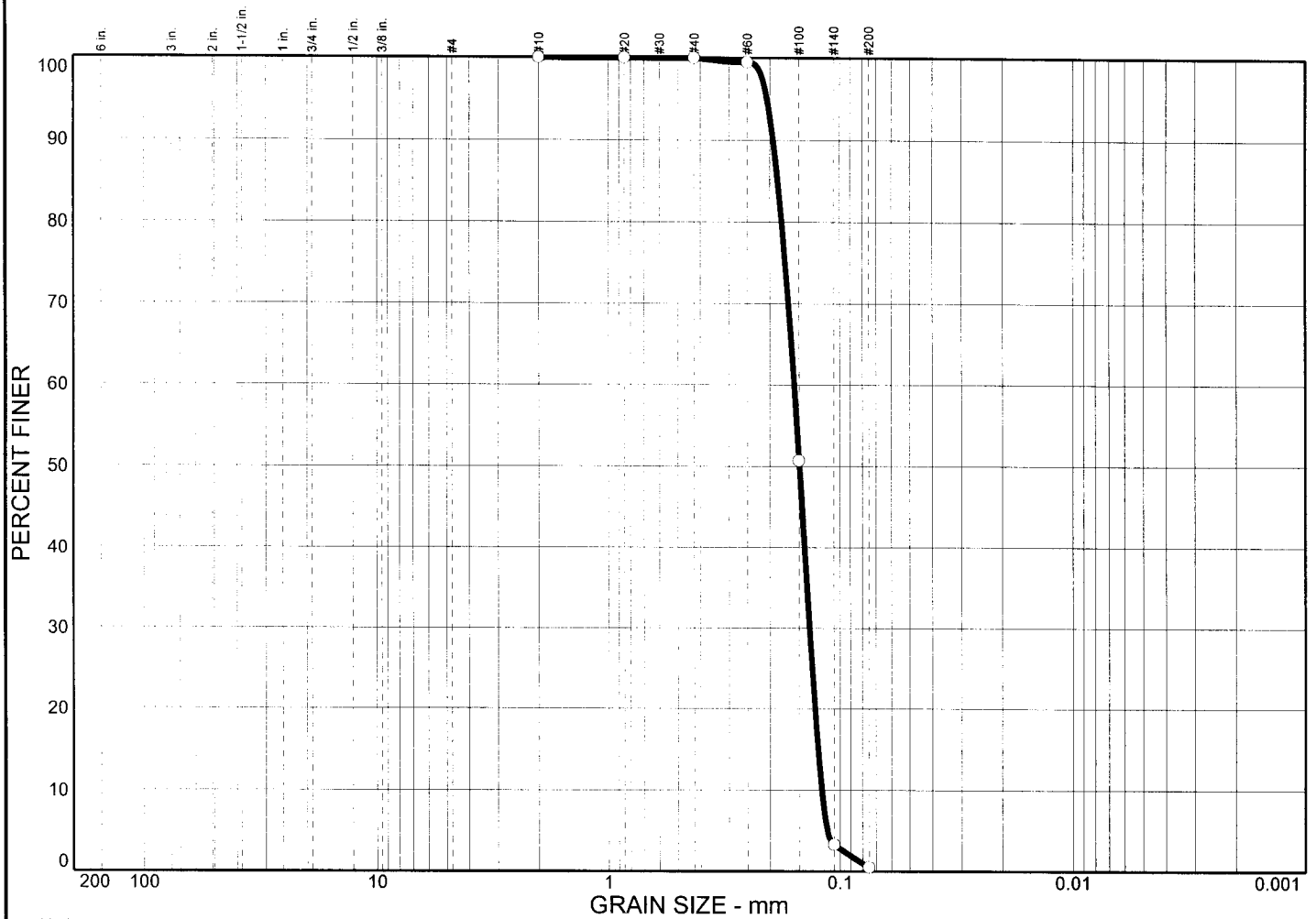
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Location:** 250+64

EUSTIS ENGINEERING COMPANY, INC.
 METAIRIE, LA

Remarks:
 ○ Sample BBB-150
 Moisture content = 25.9%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
()	0.0	0.0	0.0	0.0	0.0	99.5	0.5			
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
()			0.185	0.157	0.149	0.135	0.125	0.120	0.97	1.31
MATERIAL DESCRIPTION								USCS	AASHTO	
() Tan fine sand with shell fragments, roots								SP		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 250+64

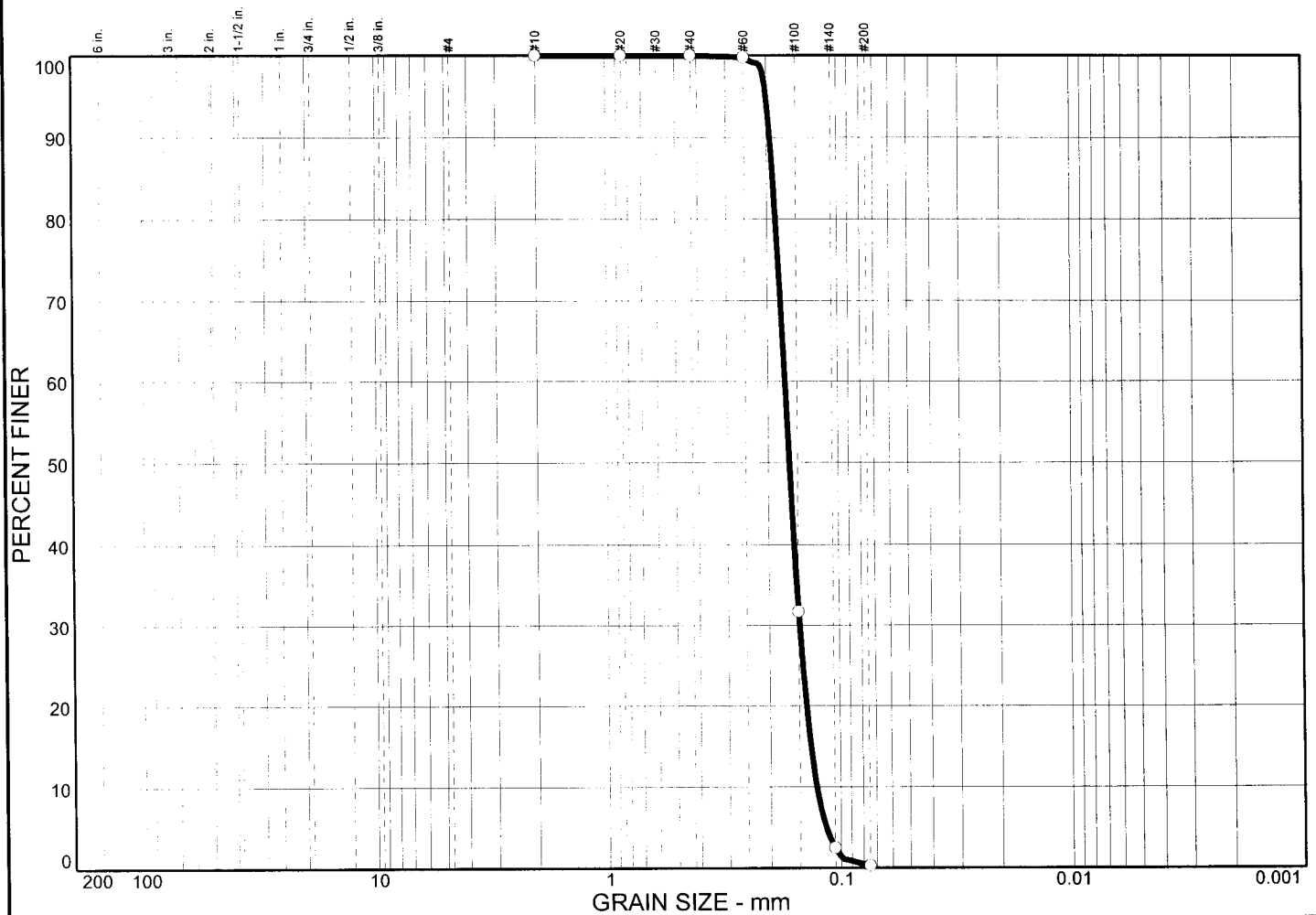
EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Remarks:

Sample GB-600
 Moisture content = 24.9%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell framgents, roots

Figure

Particle Size Distribution Report



NO.	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
1	0.0	0.0	0.0	0.0	0.0	99.7	0.3			
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
2			0.189	0.169	0.163	0.149	0.134	0.127	1.03	1.33
MATERIAL DESCRIPTION									USCS	AASHTO
3 Tan fine sand with shell fragments, roots									SP	

Project No. 19598	Client: Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)	
Terrebonne Parish, Louisiana, Purchase Order No. 125146	
o Location: 250+64	

Remarks:

- Sample HT-740

Moisture content = 23.2%

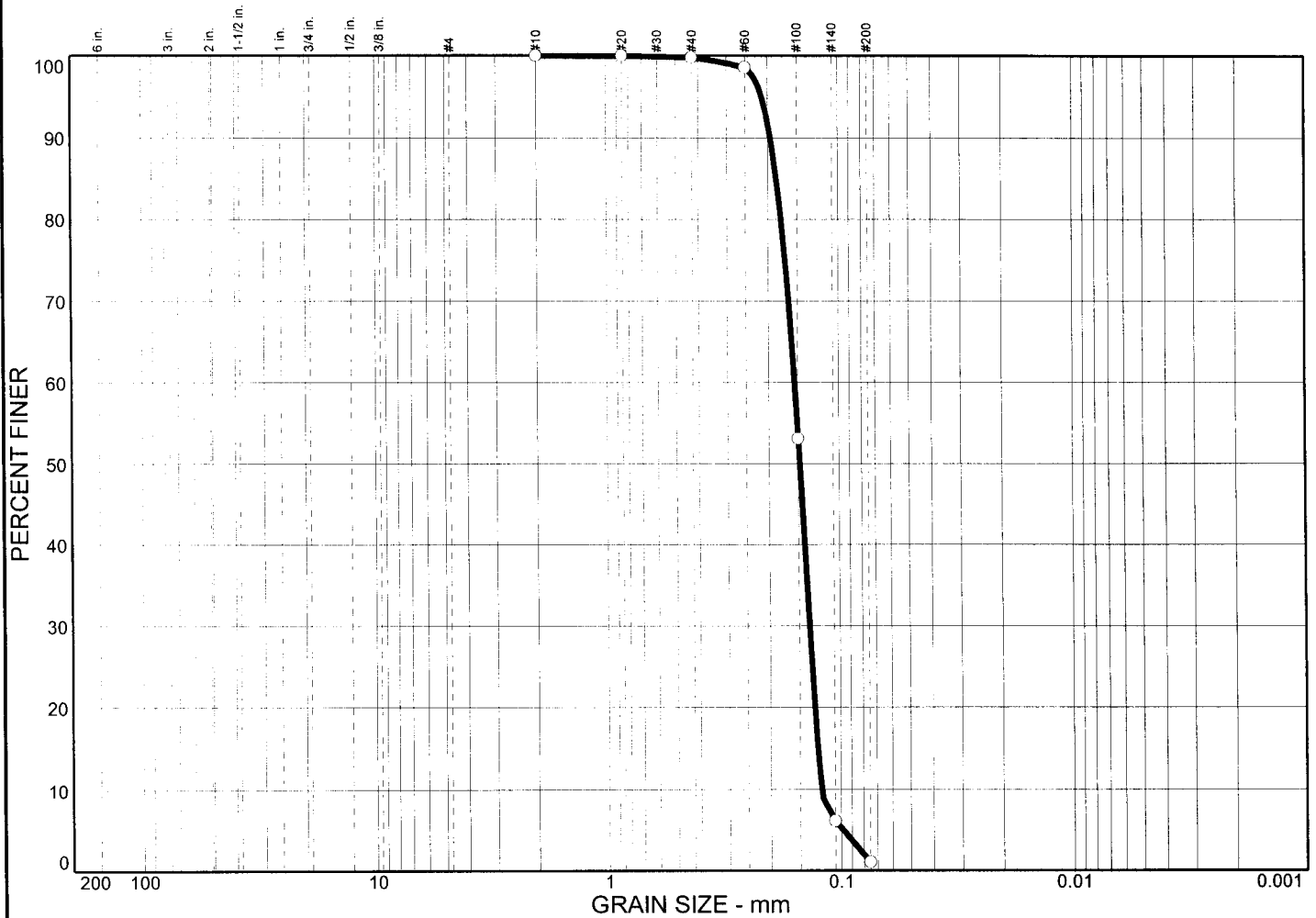
Estimated Wentworth Classification:

Tan fine to very fine sand with shell fragments, roots

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.2	98.8	1.0				
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
0.0			0.184	0.155	0.148	0.136	0.126	0.121	0.98	1.28
MATERIAL DESCRIPTION									USCS	AASHTO
0.0 Tan fine sand with shell fragments									SP	

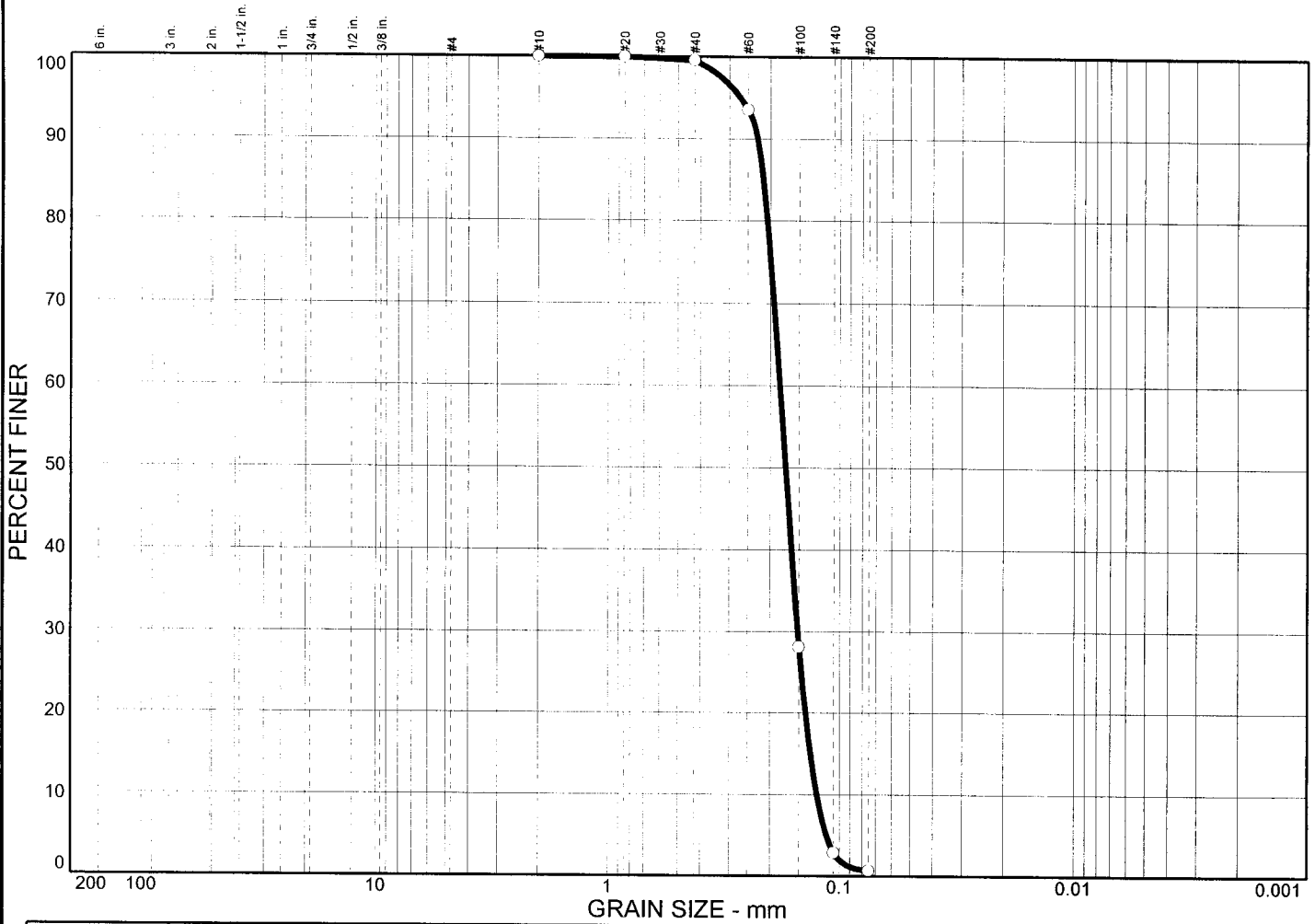
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 250+64

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Remarks:
 Sample DT-350
 Moisture content = 25.2%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

Figure

Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION	USCS	AASHTO
o Tan fine sand with shell fragments	SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 250+64

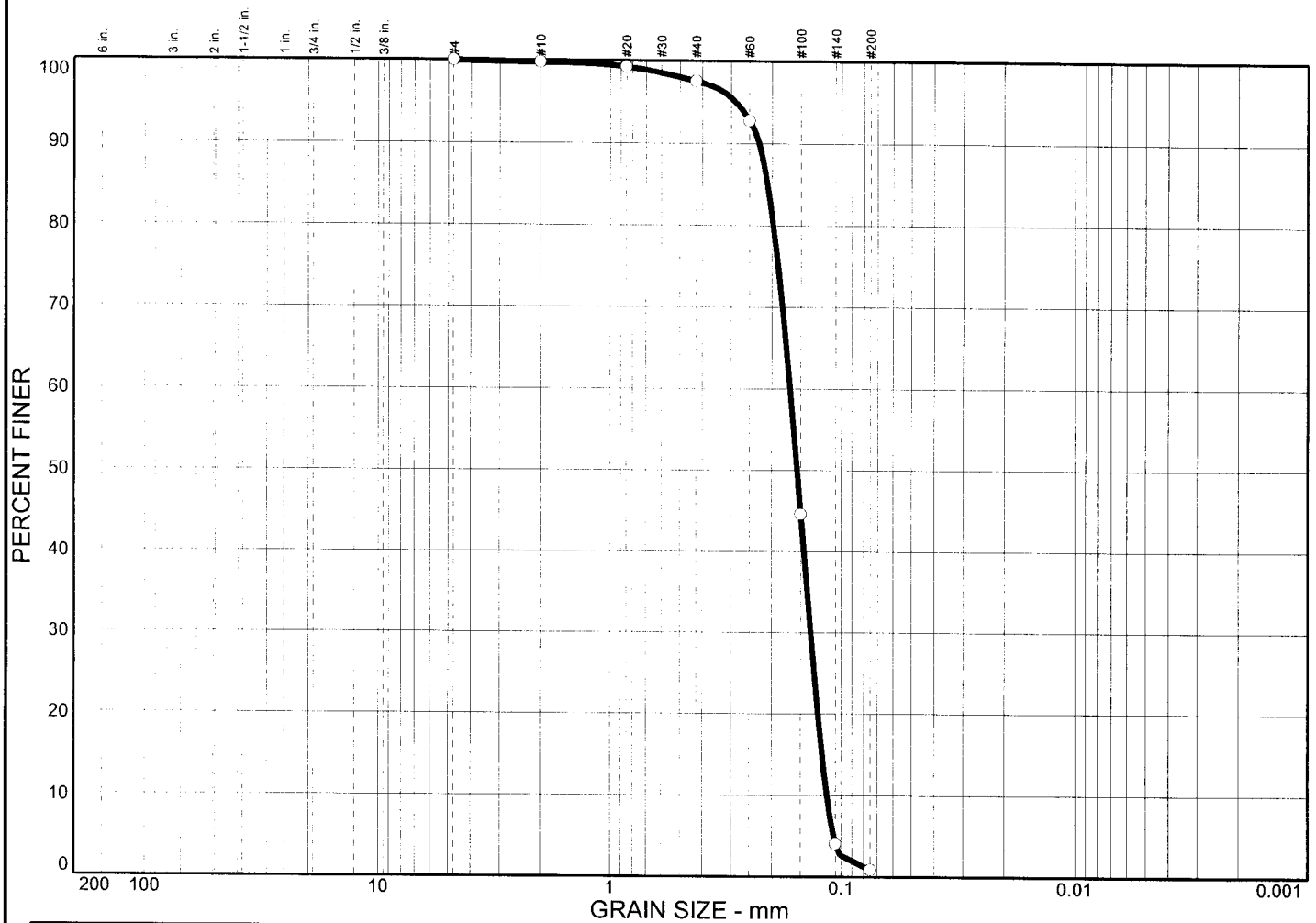
Remarks:

- Sample Wadding-830
- Moisture content = 23.9%
- Estimated Wentworth
- Classification:
- Tan fine to very fine sand with shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



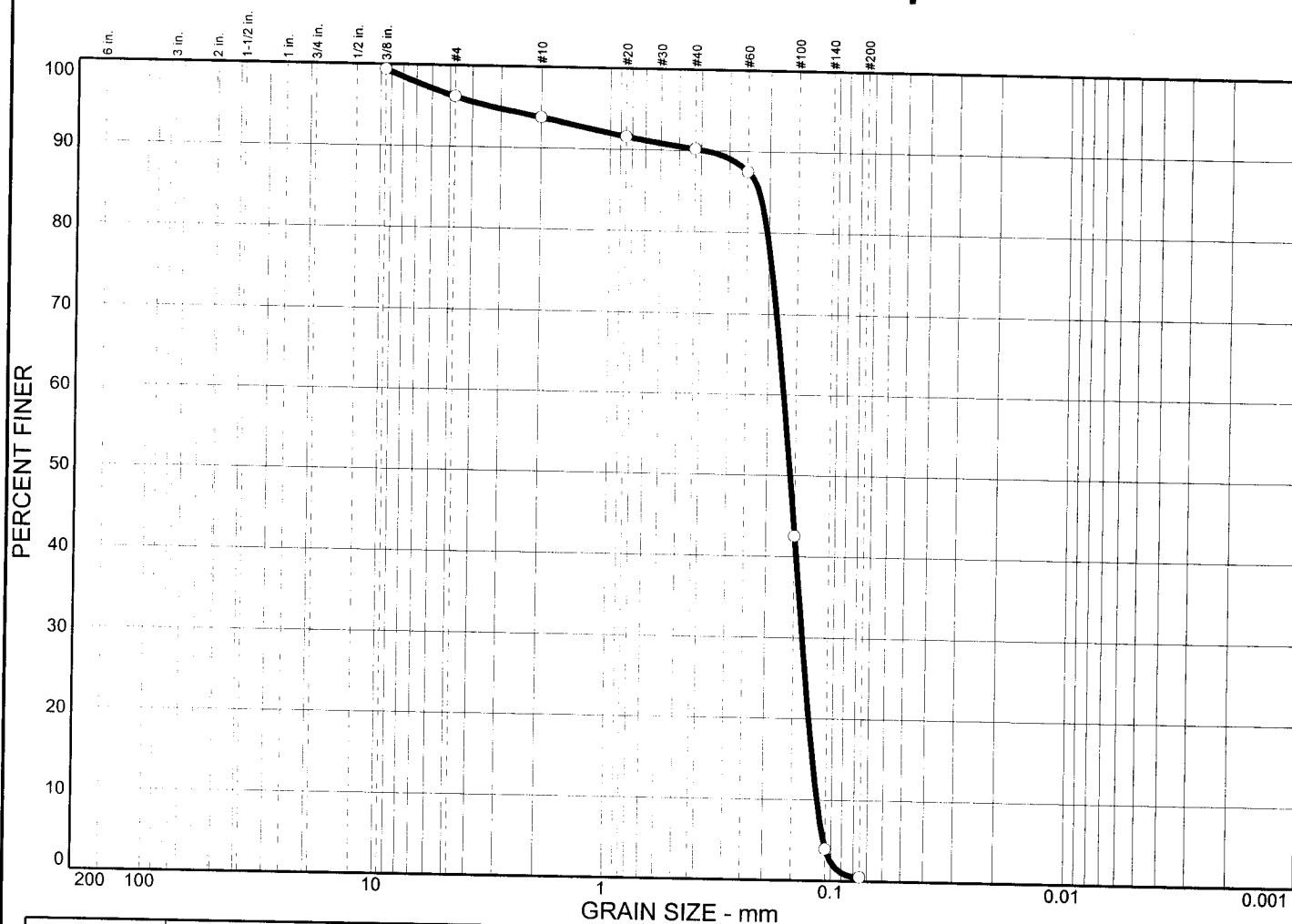
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
0.0	0.0	0.0	0.0	0.2	2.2	96.7	0.9			
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
0.0			0.210	0.167	0.156	0.136	0.121	0.116	0.96	1.45

MATERIAL DESCRIPTION	USCS	AASHTO
Tan fine sand with shell fragments	SP	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 Location: 250+64	Remarks: ○ Sample LT-790 Moisture content = 25.4% Estimated Wentworth Classification: Tan fine to very fine sand with shell fragments
EUSTIS ENGINEERING COMPANY, INC. METAIRIE, LA	

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
			2.4	3.6	89.7	0.5				

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 232+64

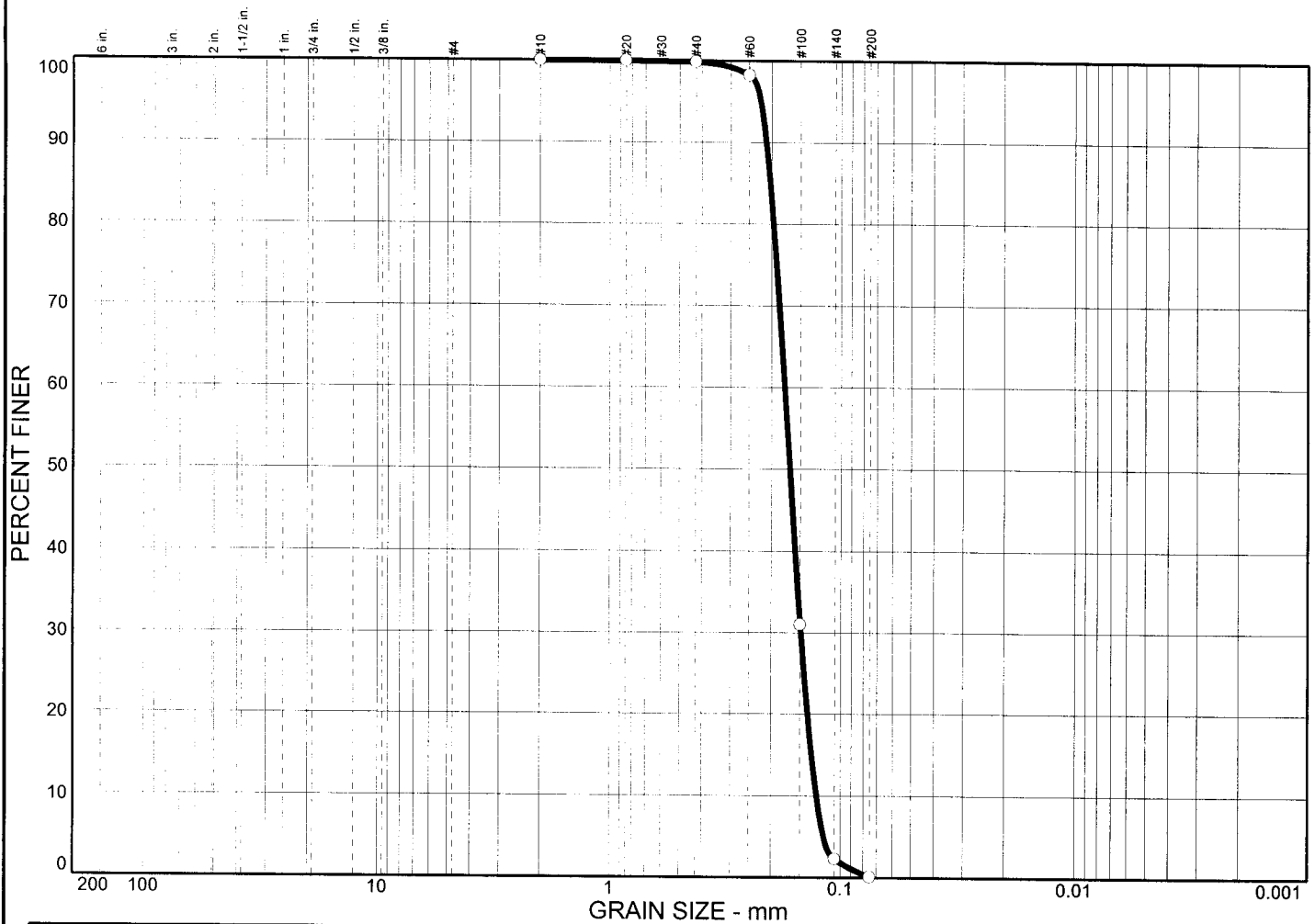
EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Remarks:

○ Sample DC-300
 Moisture content = 18.7%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments, roots

Figure

Particle Size Distribution Report



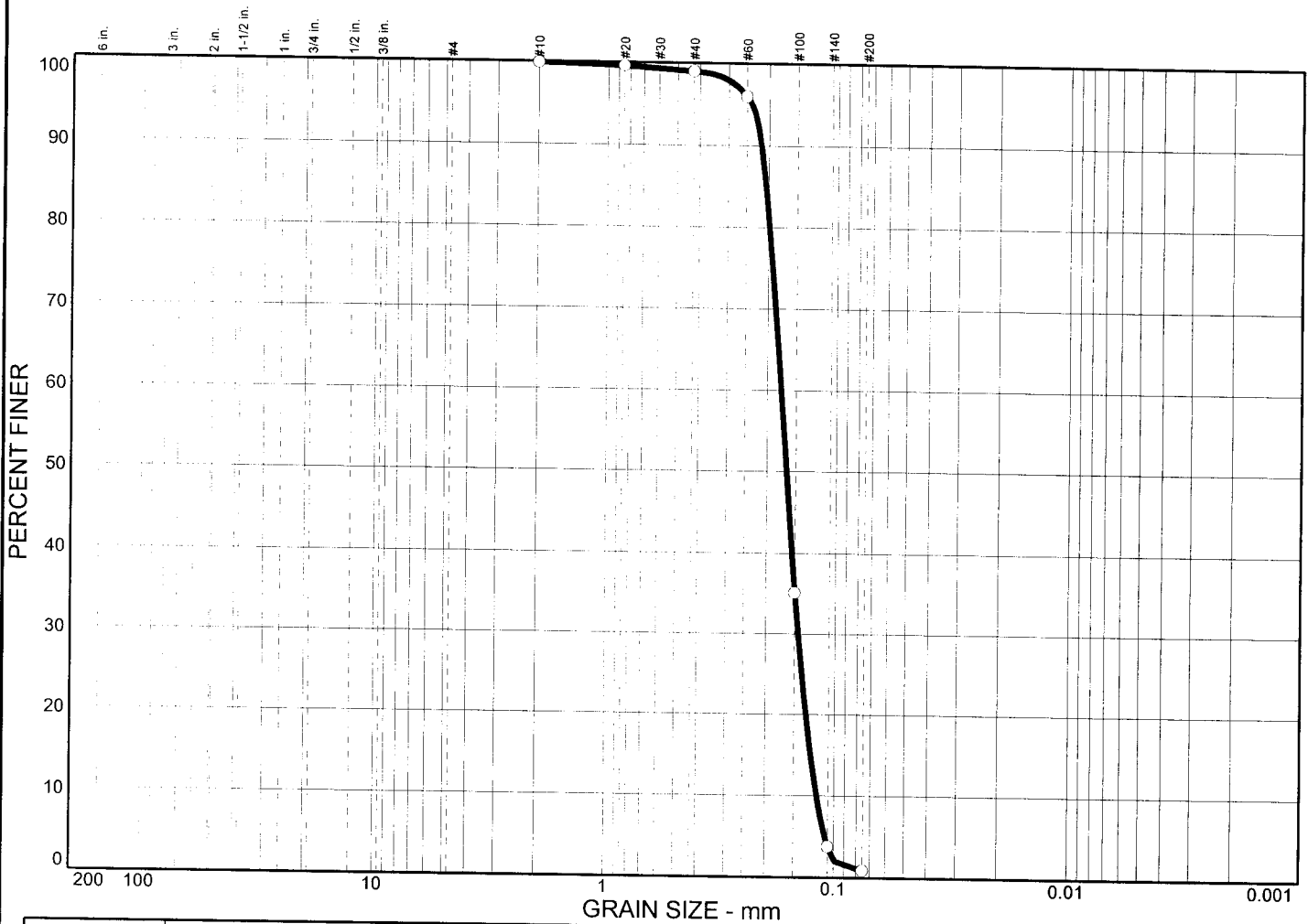
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY		
(3)	0.0	0.0	0.0	0.0	0.1	99.8	0.1			
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
(3)			0.203	0.176	0.167	0.149	0.134	0.127	0.99	1.38

MATERIAL DESCRIPTION							USCS	AASHTO
Tan fine sand with shell fragments, roots							SP	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 Location: 232+64	Remarks: Sample BBB-160 Moisture content = 26.5% Estimated Wentworth Classification: Tan fine to very fine sand with shell fragments, roots
EUSTIS ENGINEERING COMPANY, INC. METAIRIE, LA	

Figure

Particle Size Distribution Report



GRAVEL SIZE LIMIT										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
				0.9	98.1	0.9				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
			0.206	0.174	0.165	0.145	0.127	0.119	1.01	1.46
MATERIAL DESCRIPTION								USCS	AASHTO	
Tan fine sand with shell fragments, organic matter								SP		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 232+64

Remarks:

○ Sample MP-590

Moisture content = 26.1%

Estimated Wentworth

Classification:

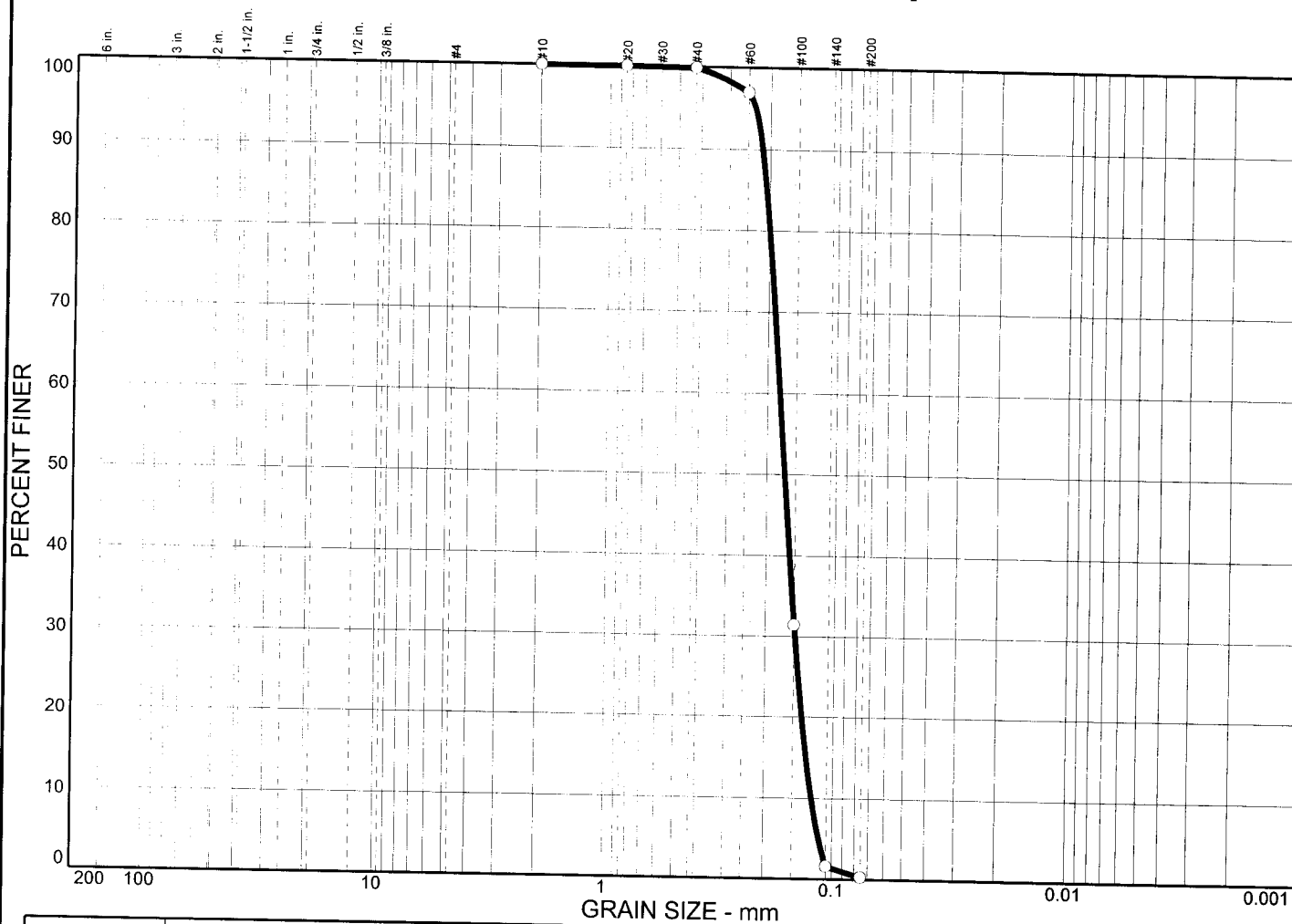
Tan fine to very fine sand with
shell fragments, organic matter

EUSTIS ENGINEERING COMPANY, INC.

METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.1	99.6	0.3				
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u	
		0.207	0.177	0.168	0.149	0.131	0.124	1.01	1.43	
MATERIAL DESCRIPTION								USCS	AASHTO	
Tan fine sand with shell fragments								SP		
Remarks										

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 232+64

Remarks:

- Sample GB-600

Moisture content = 25.3%

Estimated Wentworth

Classification:

Tan fine to very fine sand with shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

The graph displays the grain size distribution of a sample. The y-axis represents the percentage of material finer than a given grain size, ranging from 0 to 100. The x-axis represents the grain size in millimeters on a logarithmic scale, ranging from 200 mm down to 0.001 mm. The curve shows that 100% of the sample is finer than approximately 0.075 mm, and 0% is finer than approximately 0.075 mm.

Grain Size (mm)	Percent Finer (%)
200	100
100	100
50	100
25	100
12.5	100
6.25	100
3.15	100
1.6	100
0.85	100
0.425	100
0.25	100
0.15	100
0.075	100
0.06	40
0.045	0
0.03	0
0.02	0
0.01	0
0.0075	0
0.006	0
0.0045	0
0.003	0
0.002	0
0.0015	0
0.001	0

MATERIAL DESCRIPTION		USCS	AASHTO
Tan fine sand with shell fragments		SP	

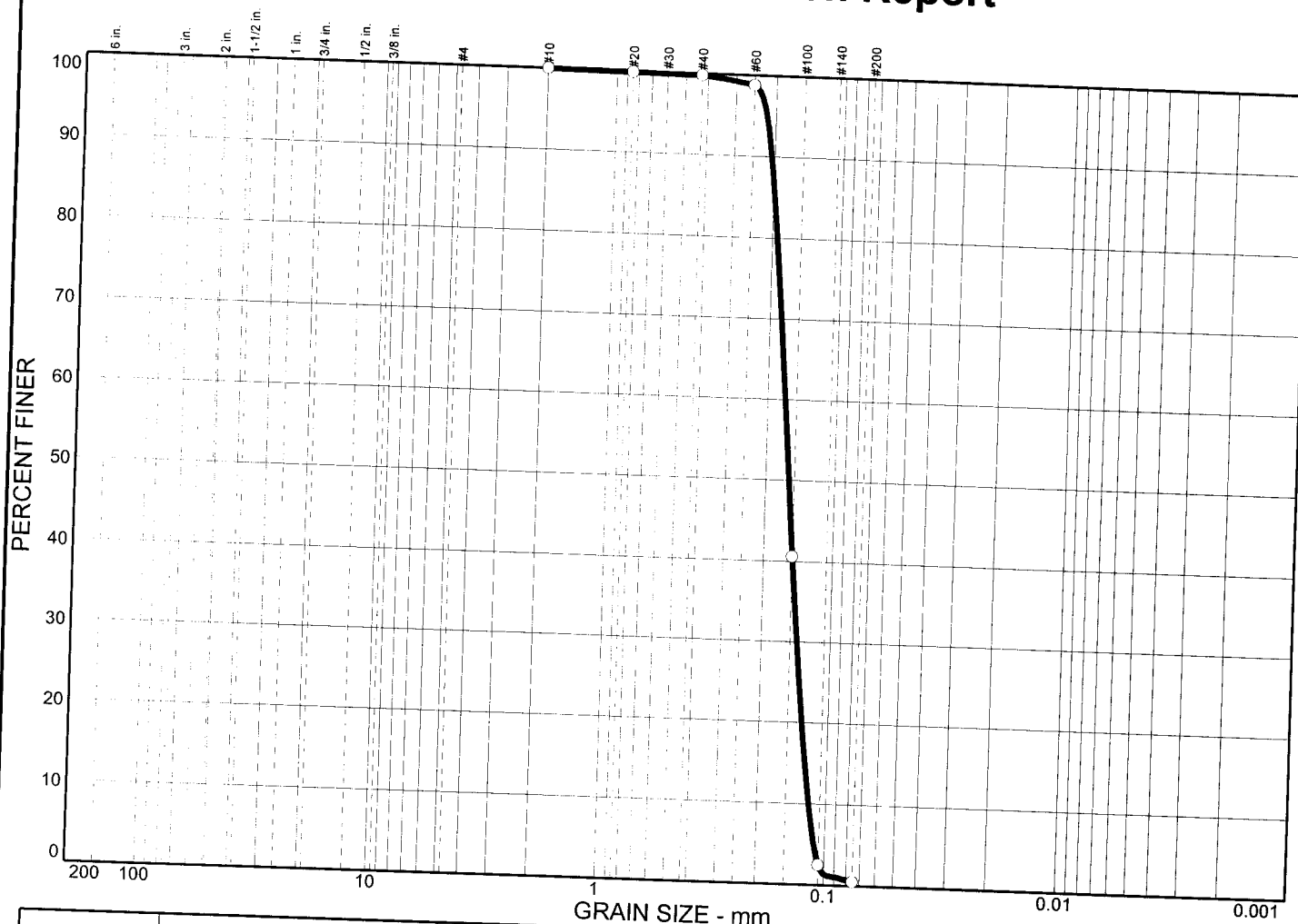
Project No 10508

Client: West Coast

Remarks:
 ○ Sample HT-590
 Moisture content = 26.0%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Particle Size Distribution Report



GRAIN SIZE - mm									
% COBBLES	% GRAVEL		% SAND			% FINES			
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
0.0	0.0	0.0	0.0	0.2	99.3	0.5			
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
		0.198	0.168	0.159	0.140	0.125	0.119	0.98	1.41
MATERIAL DESIGN									

MATERIAL DESCRIPTION

○ Tan fine sand with shell fragments, organic matter

USCS

SP

AASHTO

Project No. 19598

Client: Weeks Marine, INC., Covington, Louisiana

Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)

Terrebonne Parish, Louisiana, Purchase Order No. 125146

○ Location: 232+64

EUSTIS ENGINEERING COMPANY, INC.

METAIRIE, LA

Remarks:

○ Sample DT-350

Moisture content = 26.9%

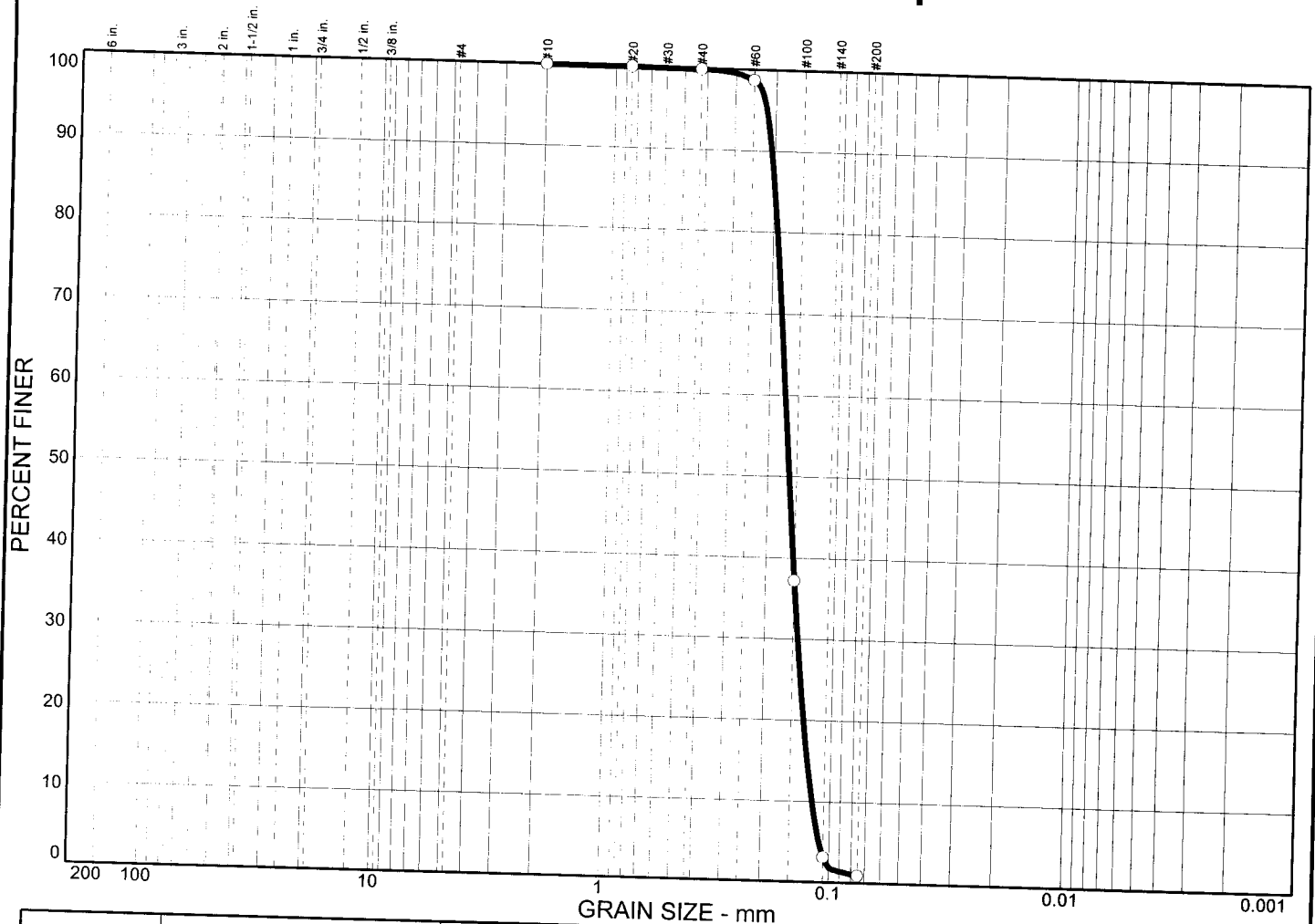
Estimated Wentworth

Classification:

Tan fine to very fine sand with shell fragments, organic matter

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.1	99.0	0.9				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
			0.199	0.171	0.162	0.143	0.127	0.120	1.00	1.42

MATERIAL DESCRIPTION								USCS	AASHTO
Tan fine sand with shell fragments, organic matter								SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 232+64

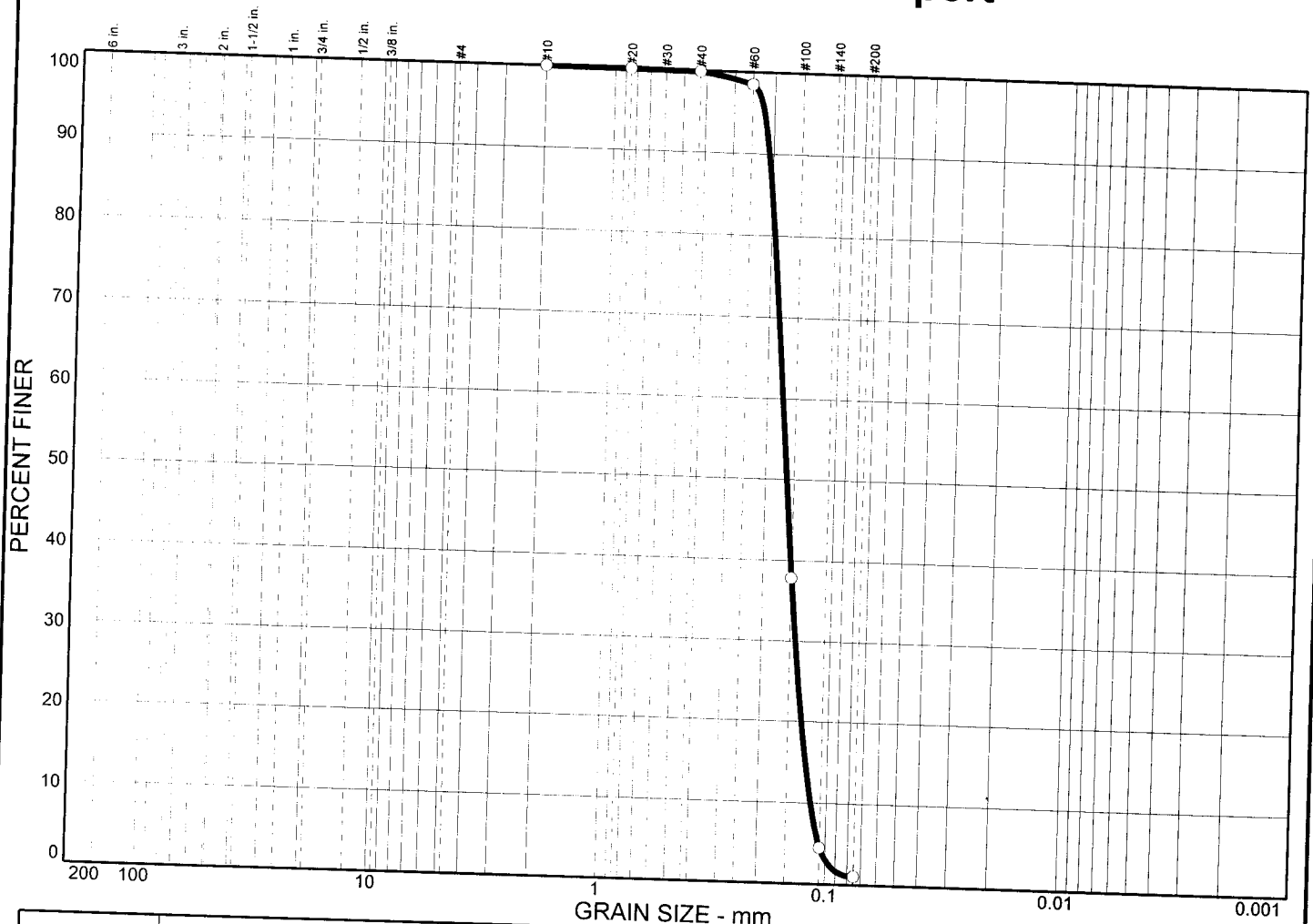
Remarks:

Sample Wadding-670
 Moisture content = 29.4%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments, organic matter

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.1	98.9	1.0				
LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu	
		0.200	0.171	0.162	0.142	0.125	0.118	1.01	1.46	
MATERIAL DESCRIPTION								USCS	AASHTO	
Tan fine sand with shell fragments								SP		
Project No.		Client: Waka-Matua District Council								

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 232+64

Remarks:

Sample LT-640
 Moisture content = 27.9%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

RELATIVE DENSITY

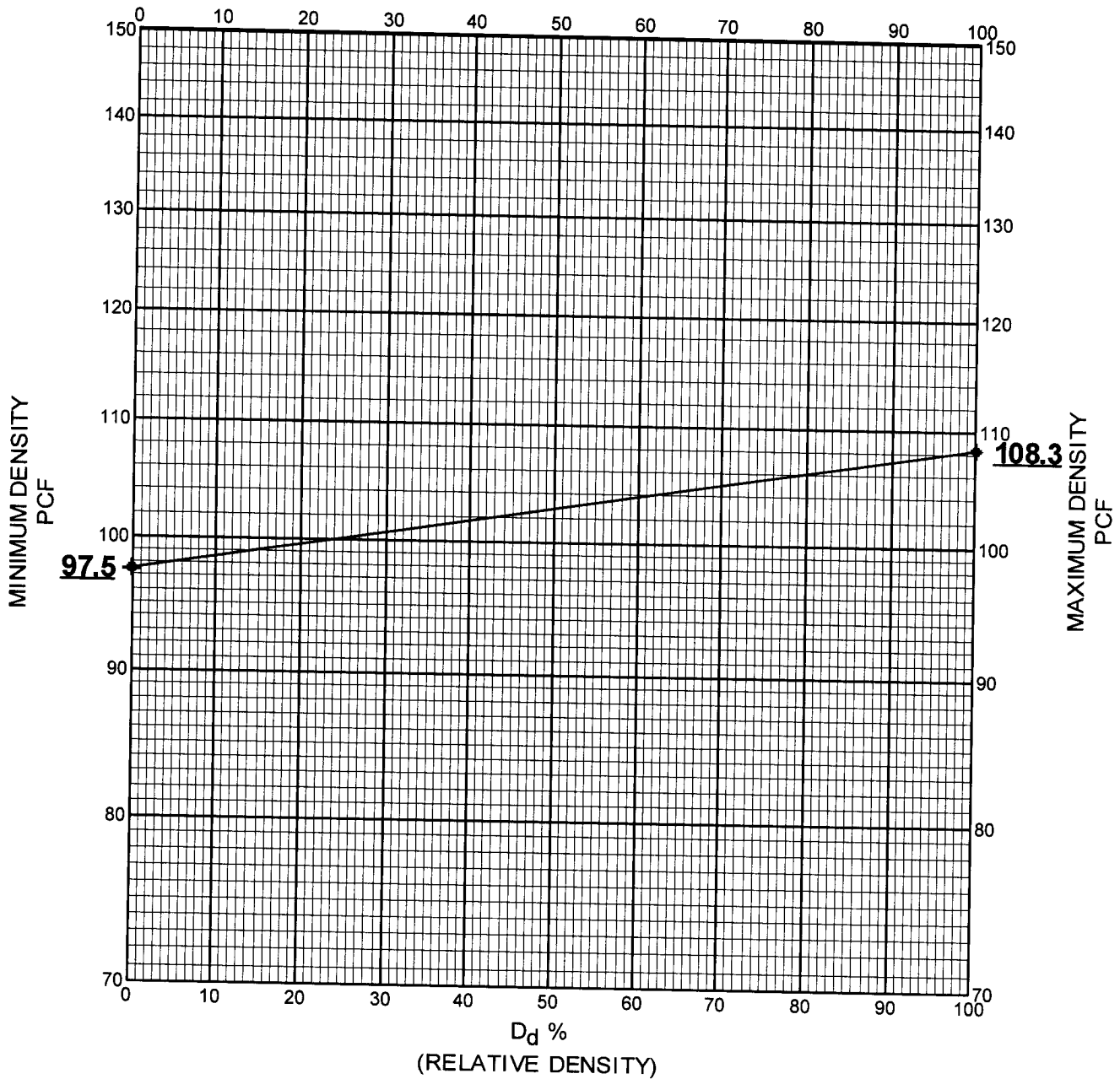
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
DC-300, 232+64	Tan fine sand with shell fragments, roots	97.5 pcf	108.3 pcf

RELATIVE DENSITY

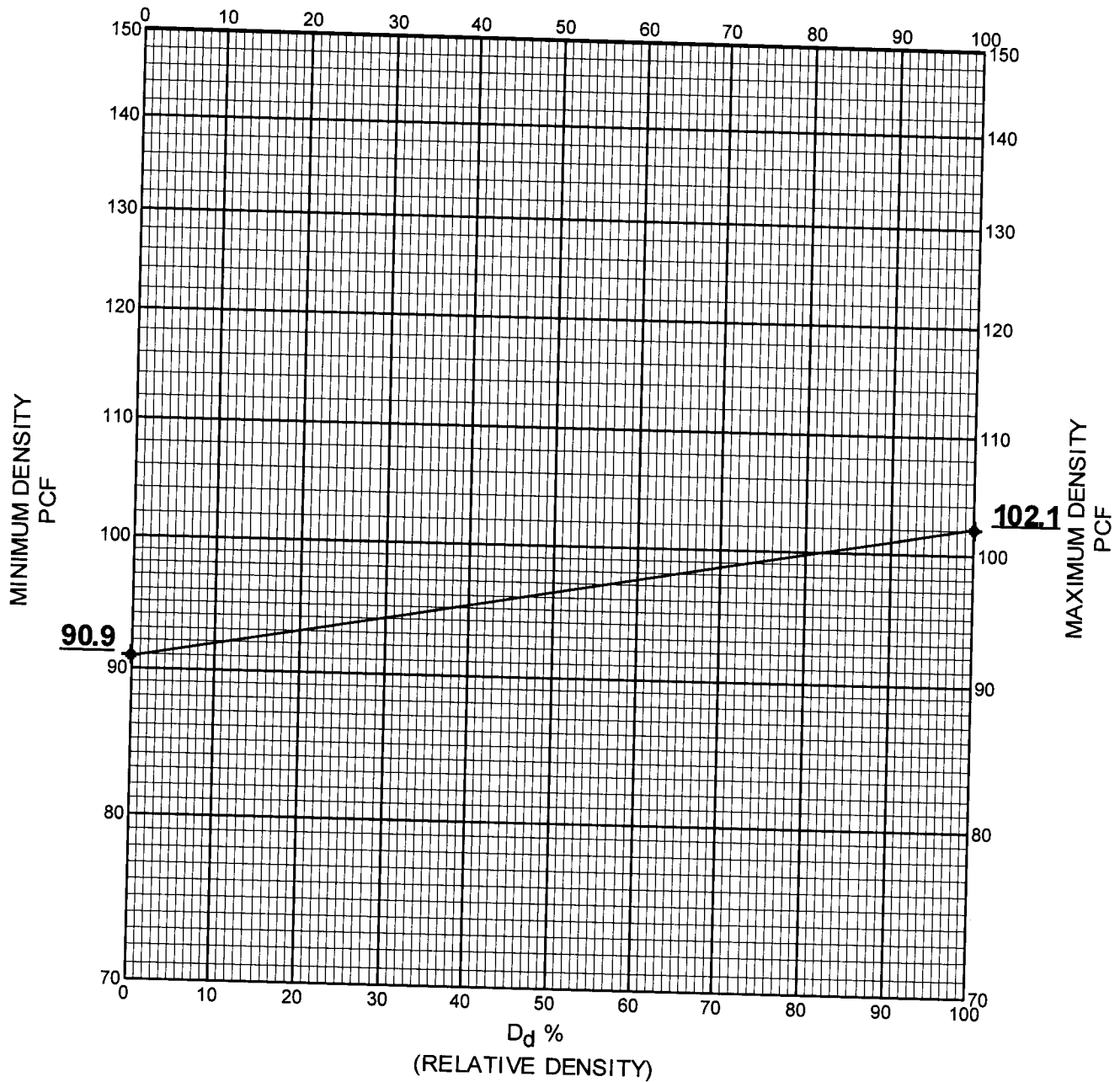
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
GB-600, 232+64	Tan fine sand with shell fragments	90.9 pcf	102.1 pcf

RELATIVE DENSITY

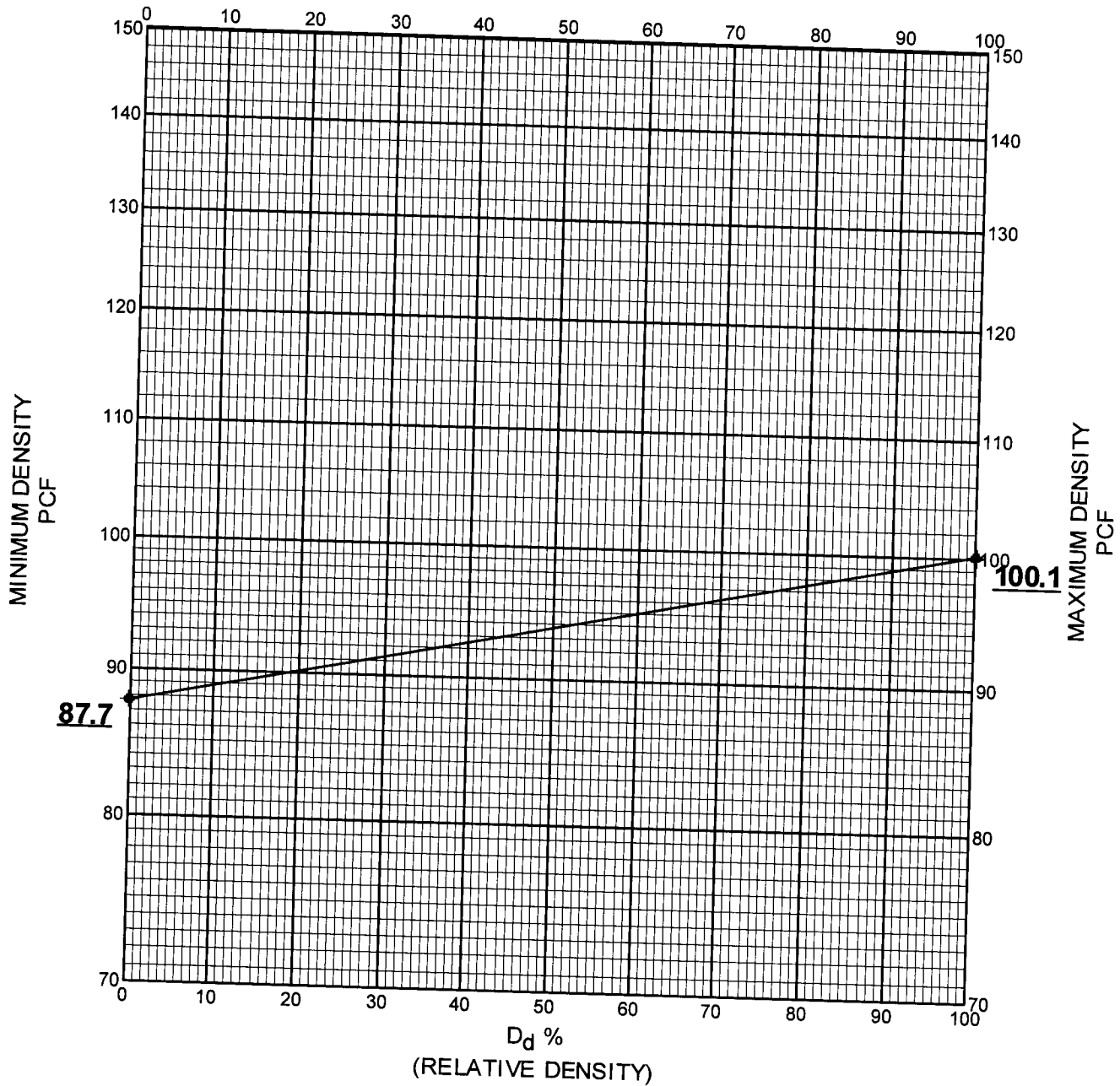
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
DC-300, 250+64	Tan fine sand with shell fragments	87.7 pcf	100.1 pcf

RELATIVE DENSITY

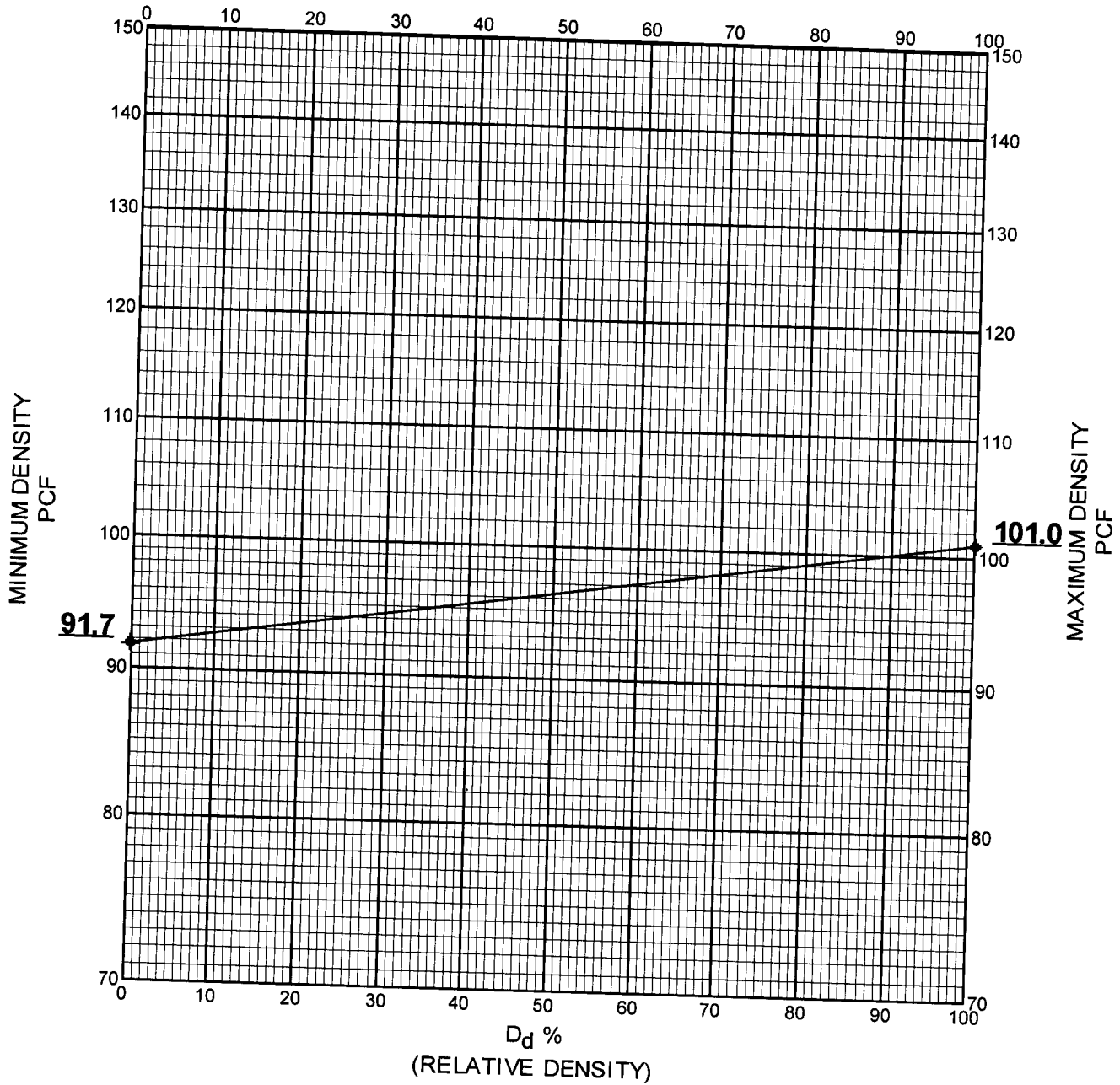
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
GB-600, 250+64	Tan fine sand with shell fragments, roots	91.7 pcf	101.0 pcf

RELATIVE DENSITY

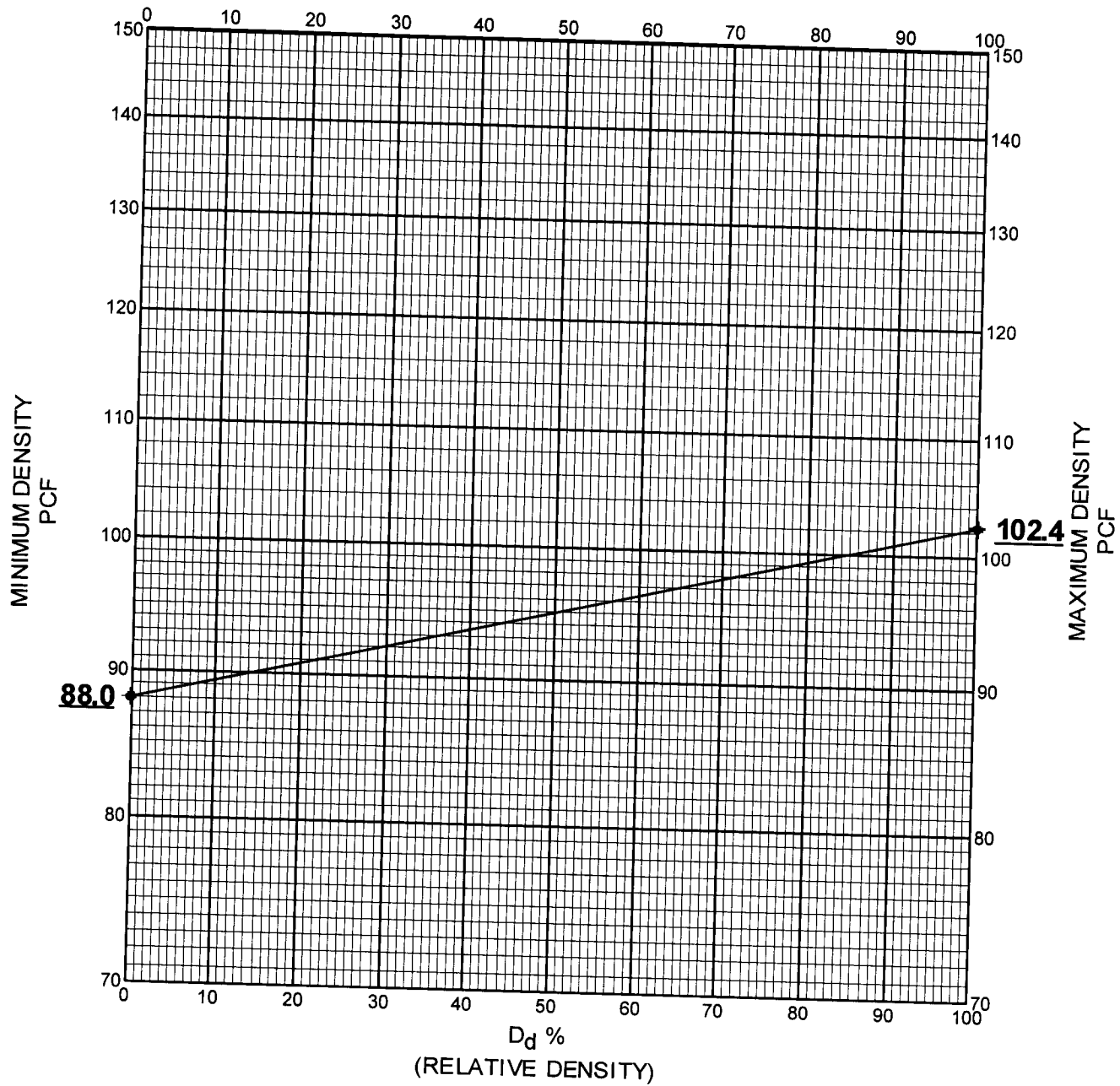
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
DC-400, 268+64	Black fine sand with shell fragments, organic matter	88.0 pcf	102.4 pcf

RELATIVE DENSITY

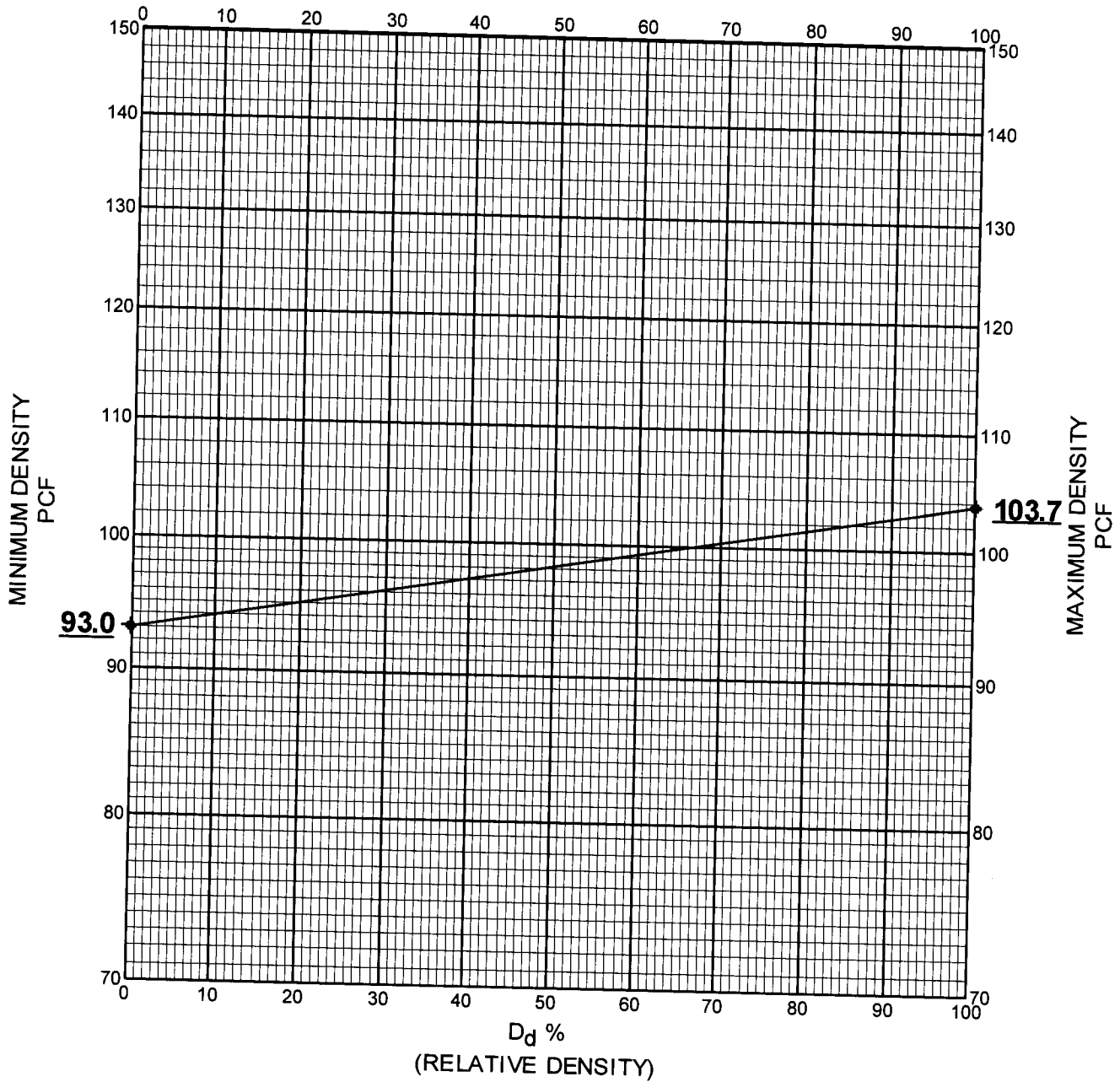
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
GB-600, 268+64	Tan fine sand with shell fragments, roots	93.0 pcf	103.7 pcf

RELATIVE DENSITY

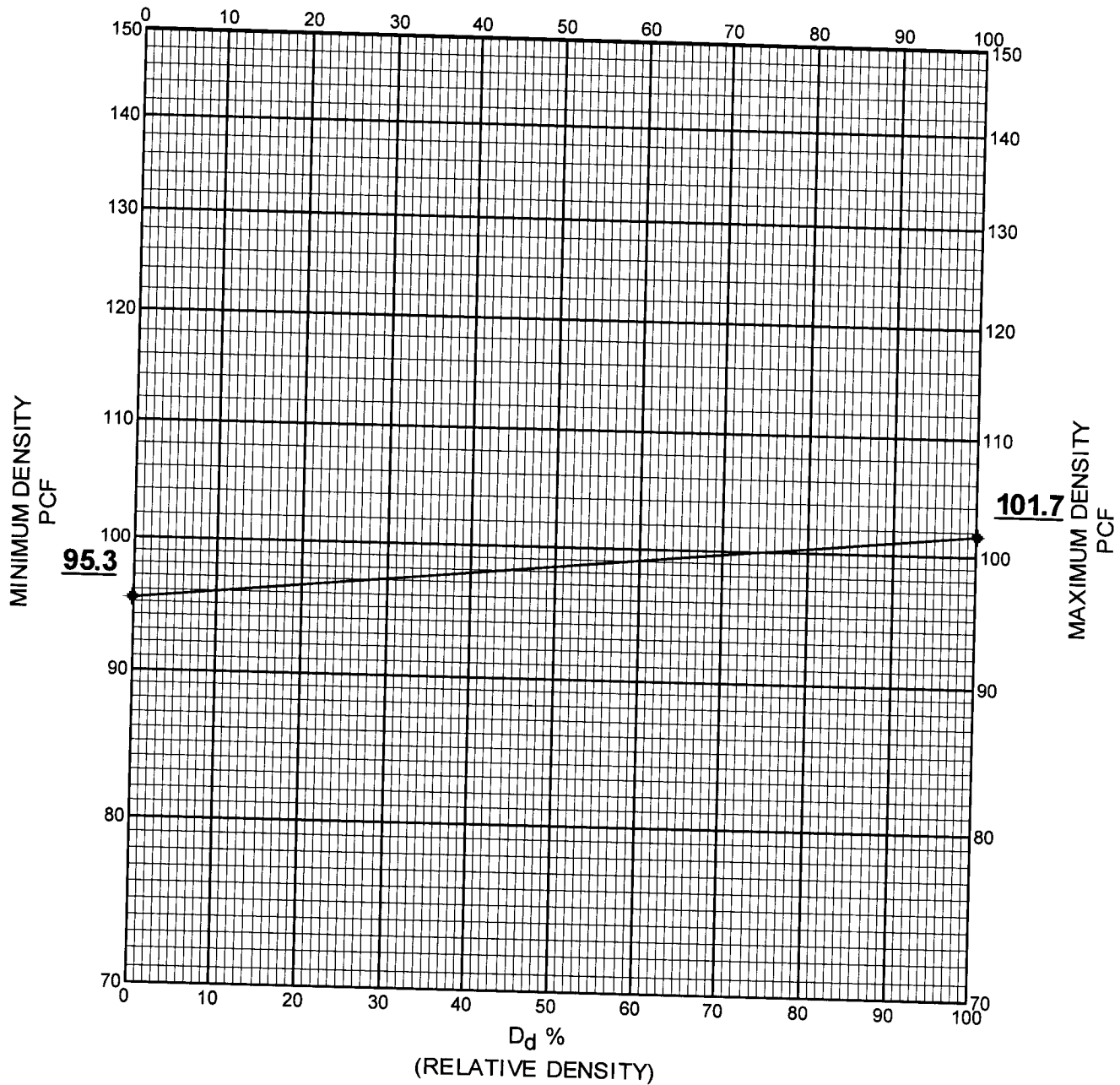
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
DC-700, 286+64	Tan fine sand with shell fragments	95.3 pcf	101.7 pcf

RELATIVE DENSITY

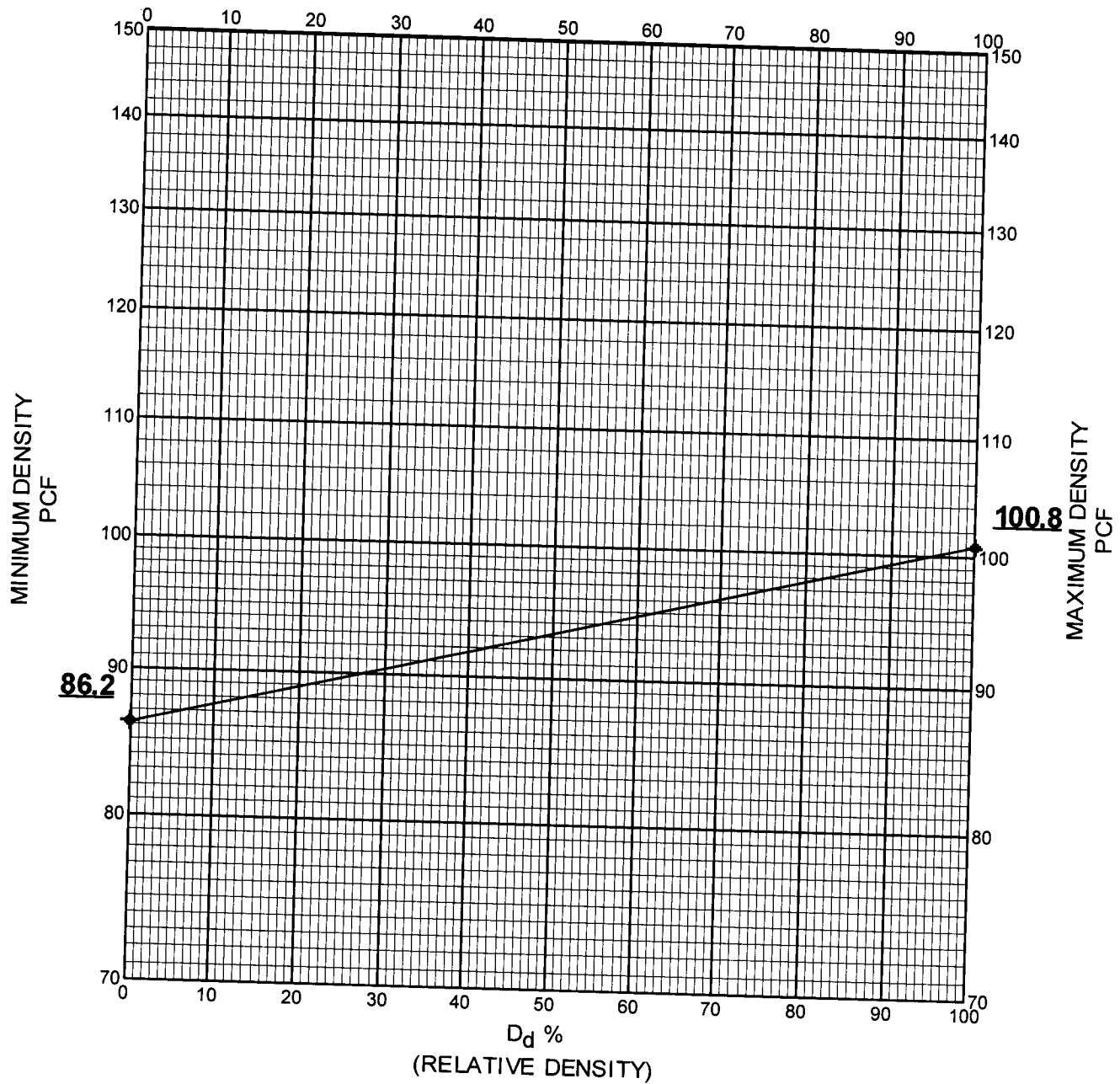
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
GB-1030, 286+64	Tan fine sand with shell fragments	86.2 pcf	100.8 pcf

RELATIVE DENSITY

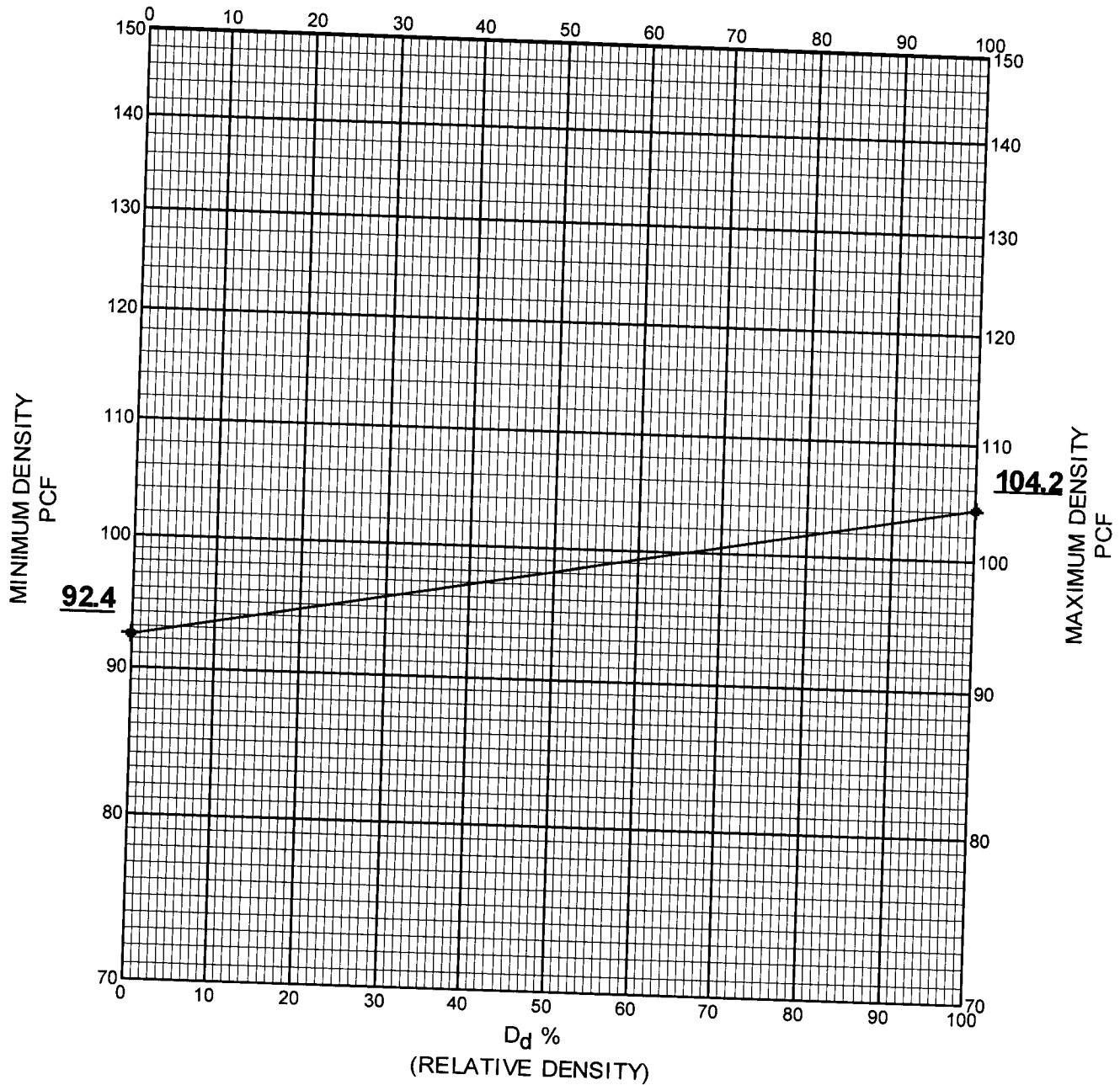
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
DC-500, 309+65	Tan fine sand with shell fragments	92.4 pcf	104.2 pcf

RELATIVE DENSITY

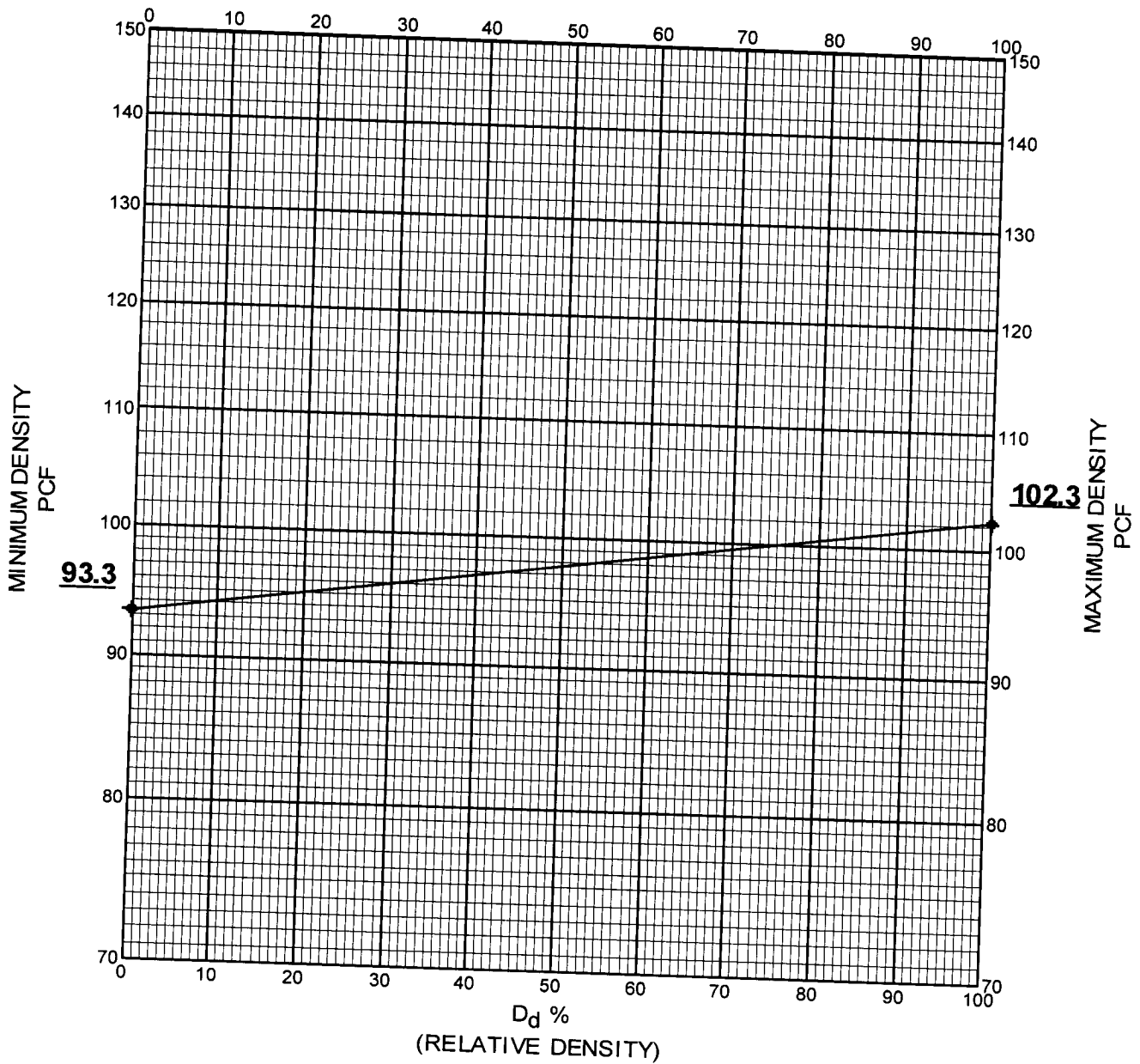
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 1-3-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
GB-900, 309+65	Tan fine sand with shell fragments	93.3 pcf	102.3 pcf

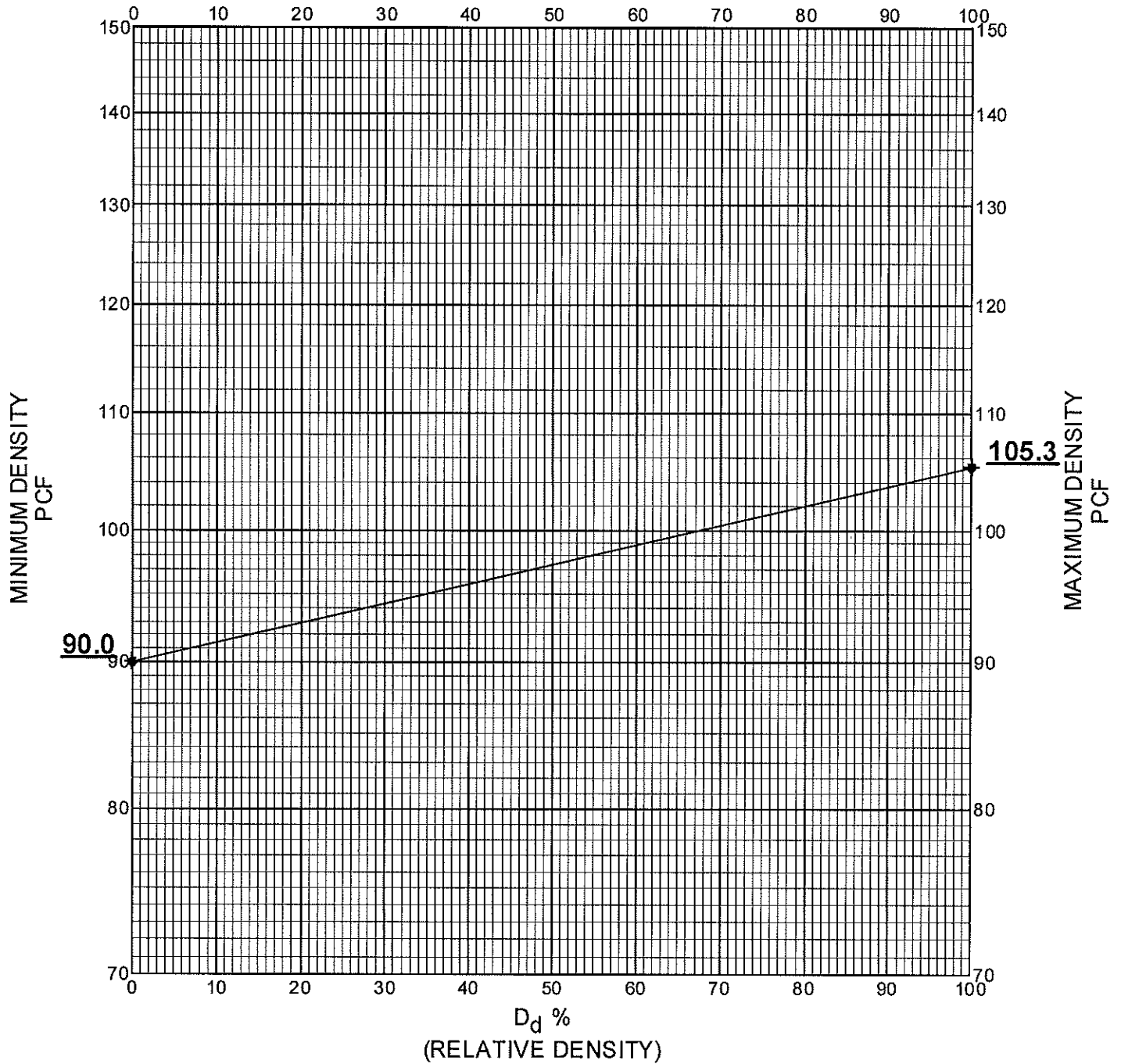
RELATIVE DENSITY
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Gulf Berm, 309+64	Light Gray Fine Sand with Organic Matter	90.0 pcf	105.3 pcf

RELATIVE DENSITY

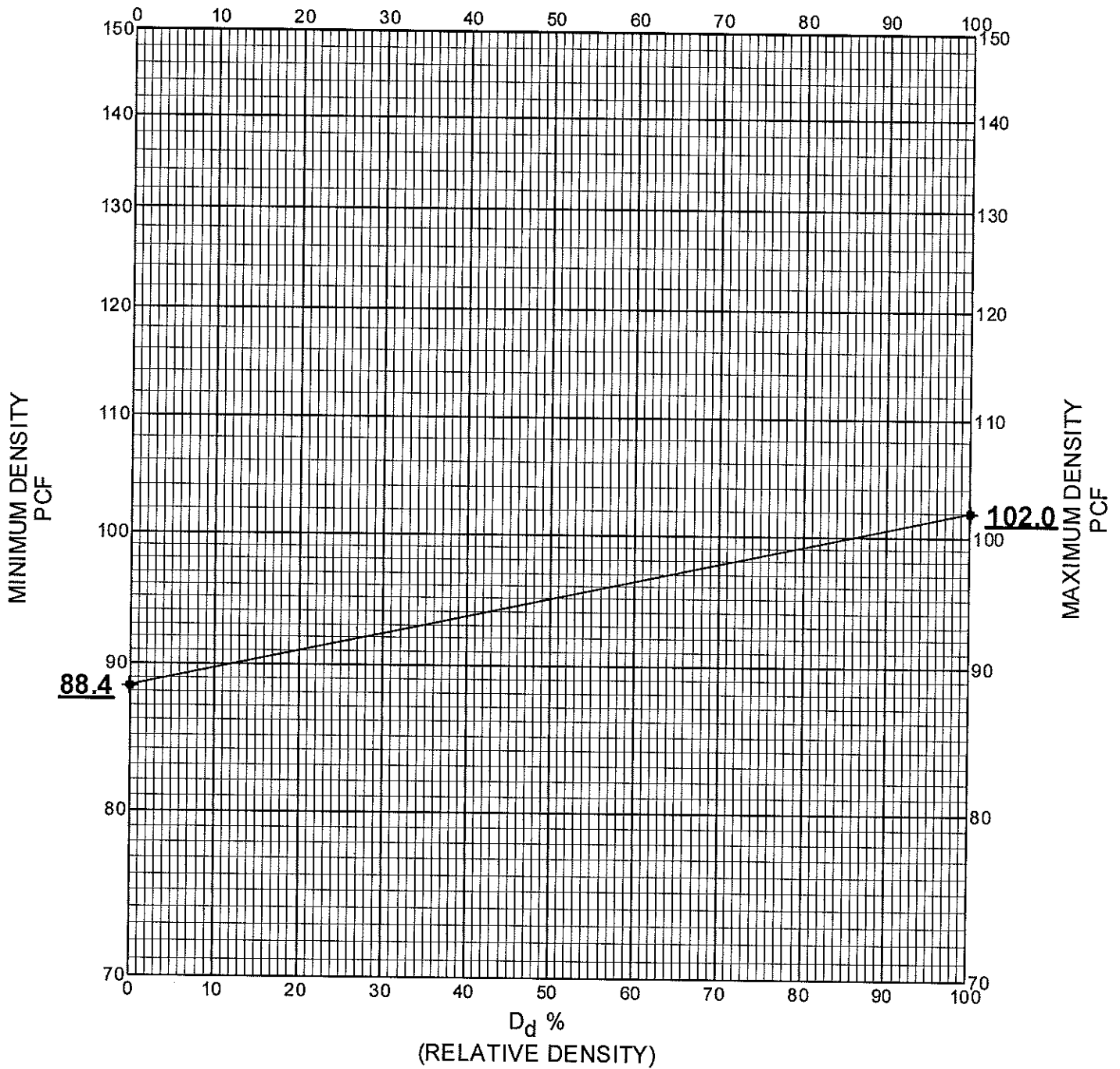
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Dune Crest, 309+64	Tan Fine Sand with Trace Silt, Roots	88.4 pcf	102.0 pcf

RELATIVE DENSITY

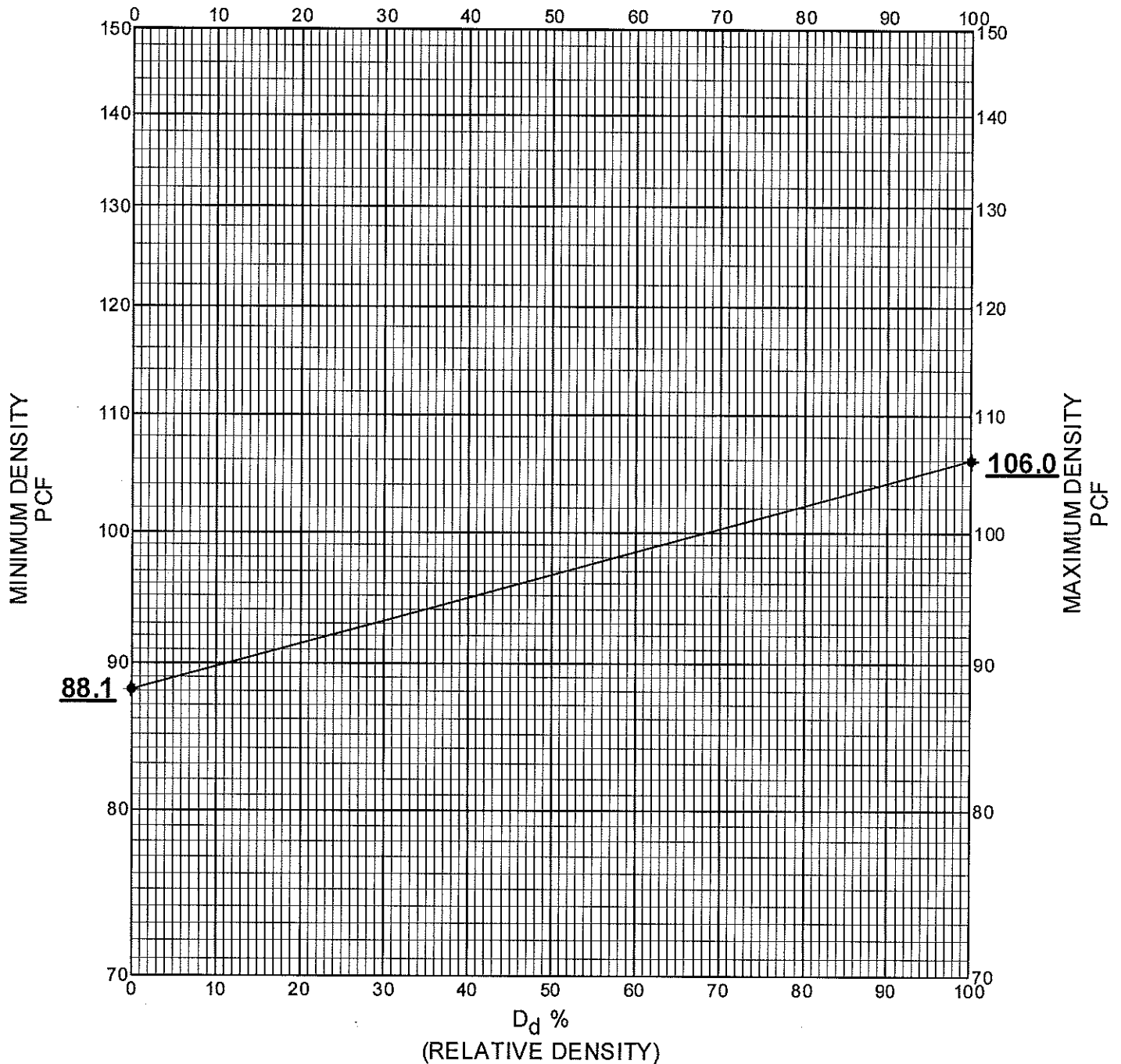
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Gulf Berm, 286+64	Tan Fine Sand with Trace Shell Fragments, Organic Matter	88.1 pcf	106.0 pcf

RELATIVE DENSITY

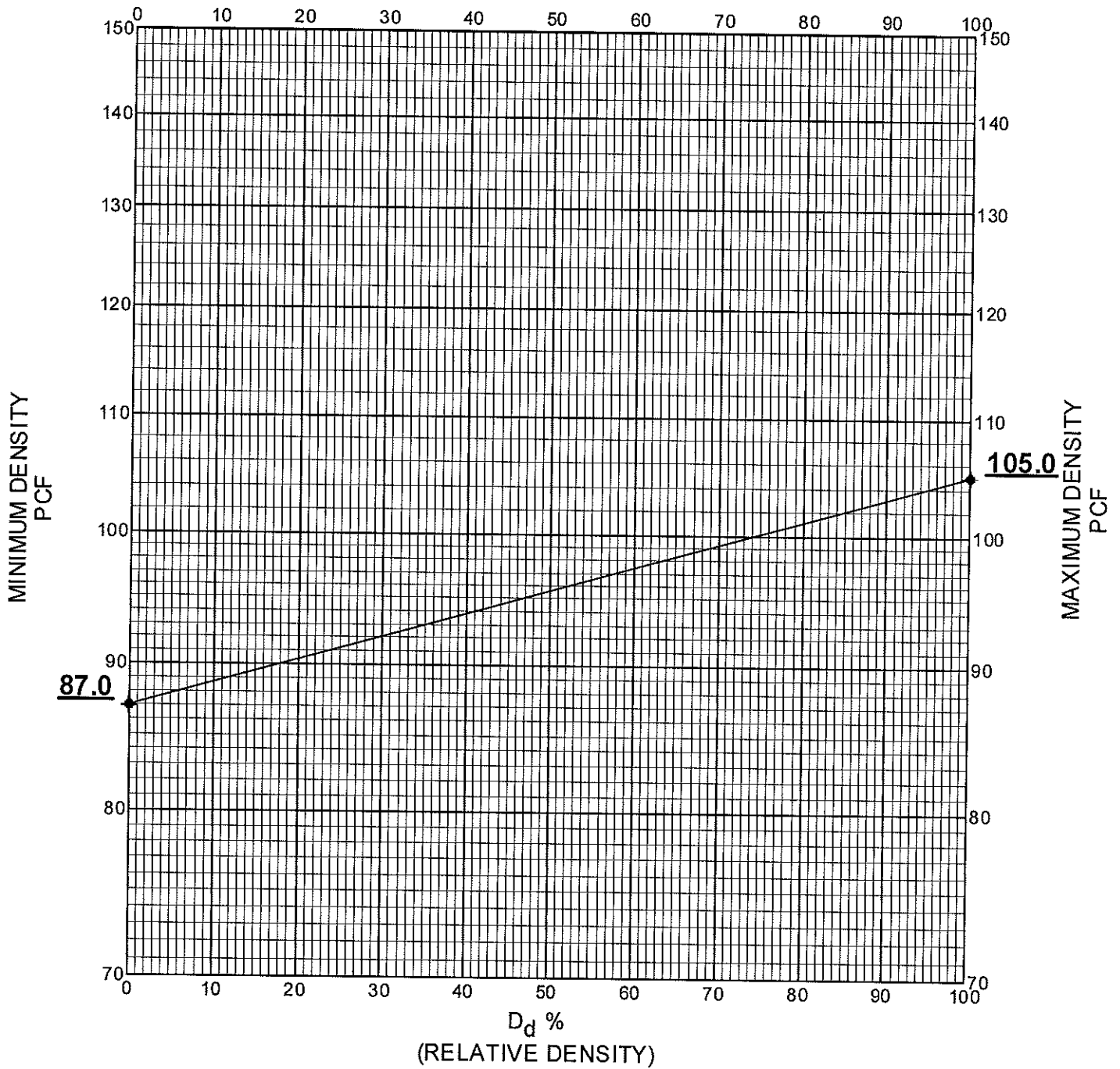
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Dune Crest, 286+64	Tan Fine Sand with Trace Silt, Shell Fragments, Roots	87.0 pcf	105.0 pcf

RELATIVE DENSITY

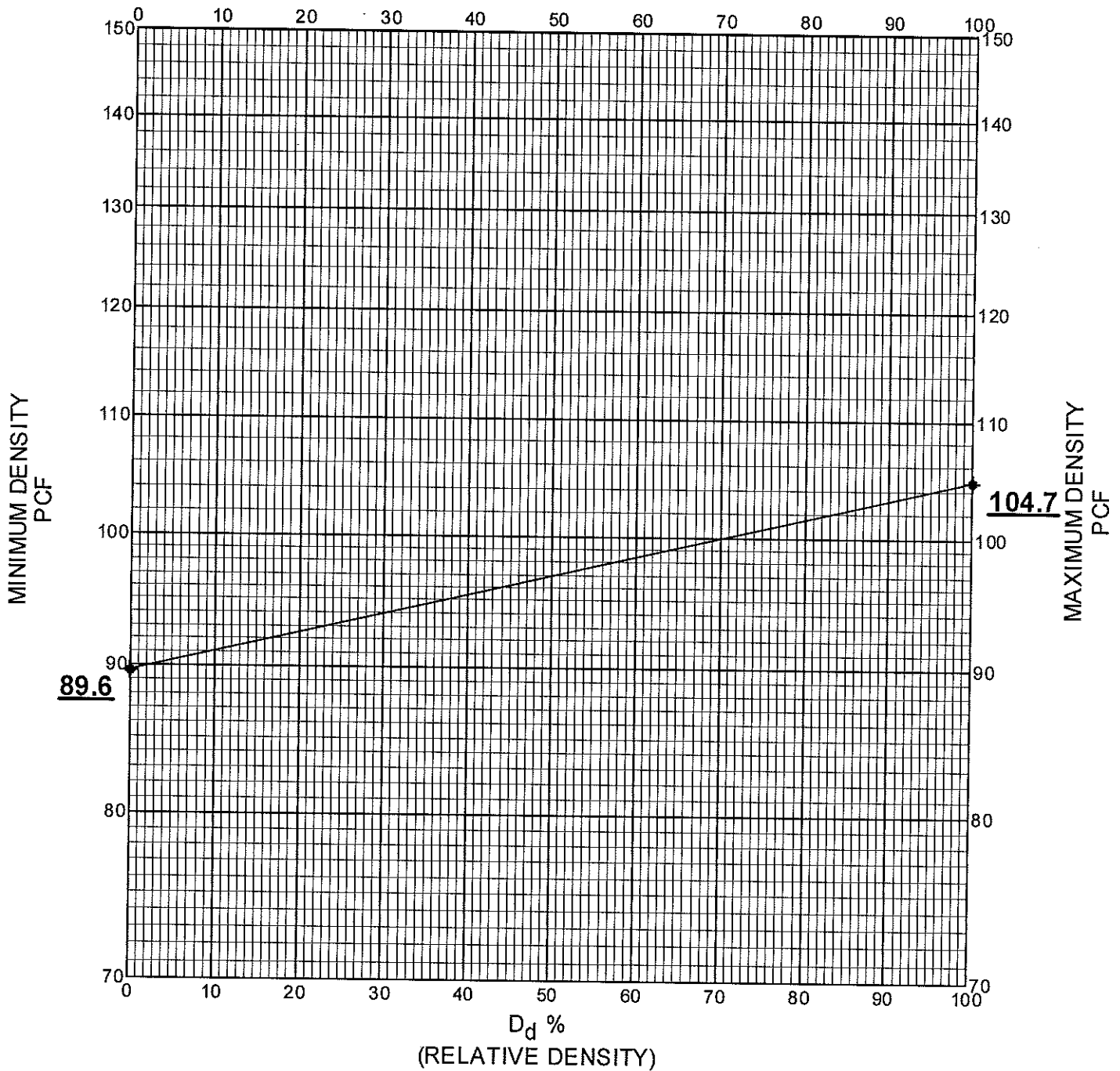
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Gulf Berm, 268+64	Tan Fine Sand	89.6 pcf	104.7 pcf

RELATIVE DENSITY

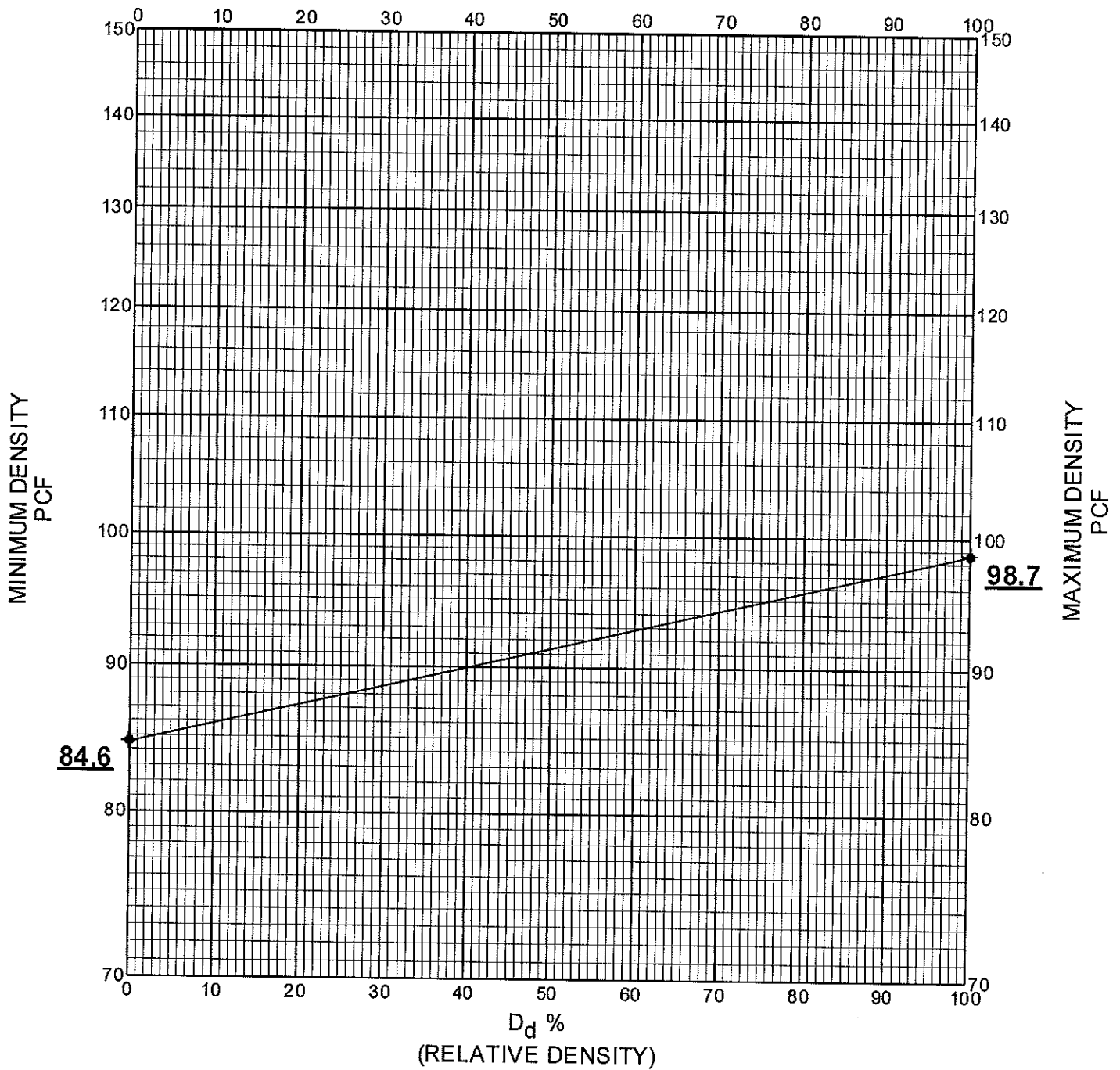
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
DuneCrest, 268+64	Tan Fine Sand with Silt, Trace Shell Fragments	84.6 pcf	98.7 pcf

RELATIVE DENSITY

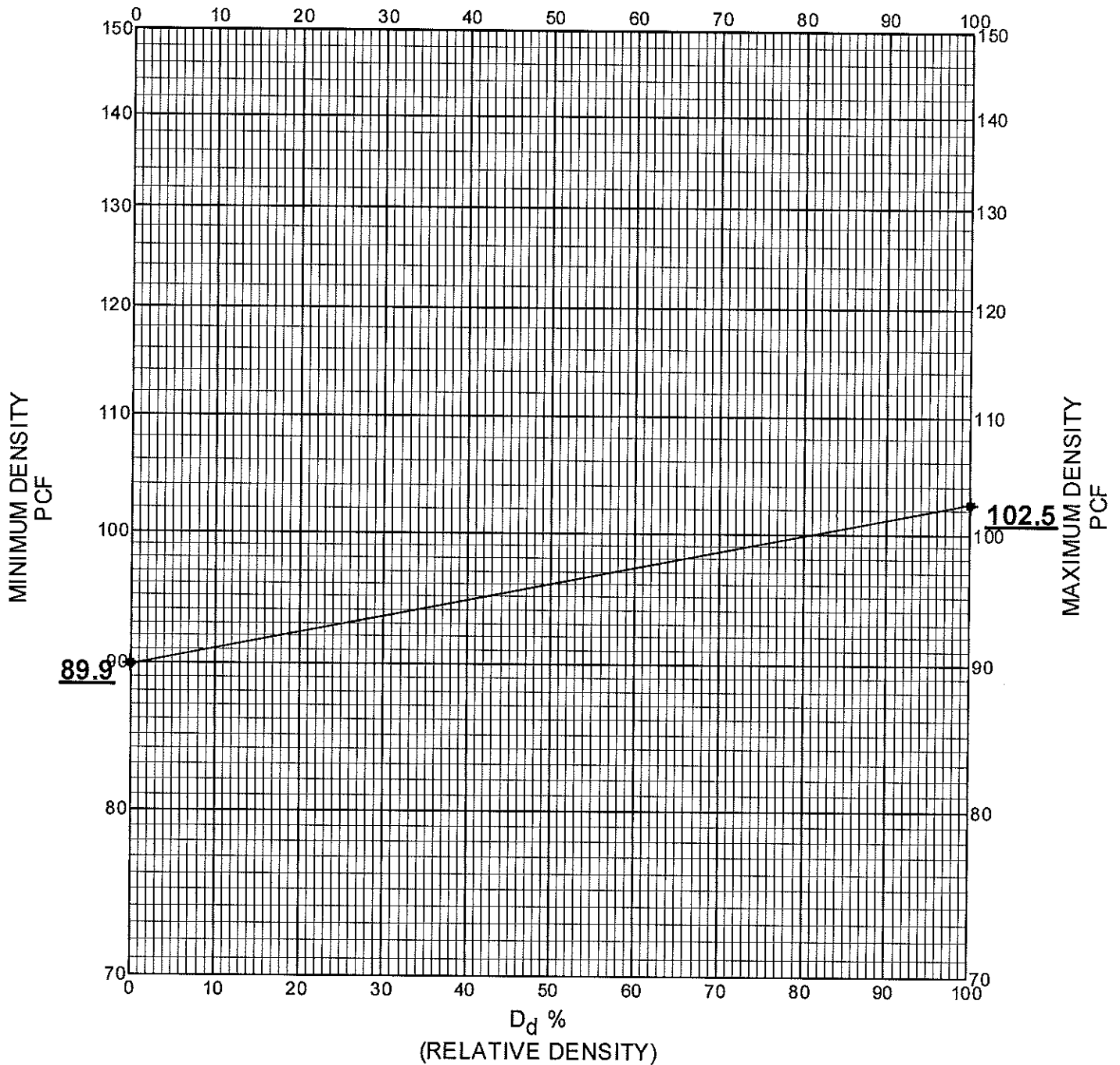
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Gulf Berm, 250+64	Gray Fine Sand with Trace Silt, Shell Fragments	89.9 pcf	102.5 pcf

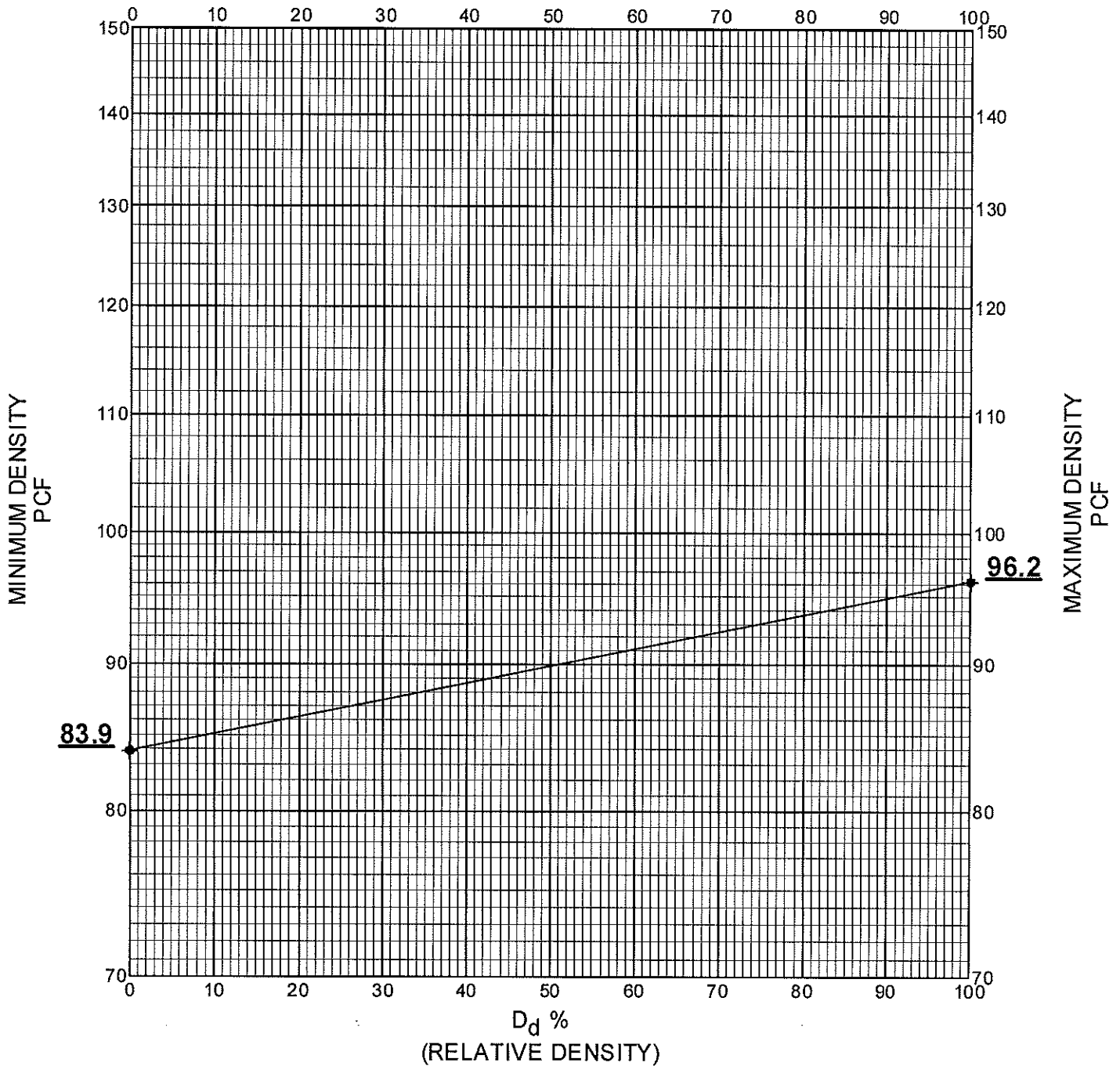
RELATIVE DENSITY
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Dune Crest, 250+64	Light Gray Fine Sand with Silt, Trace Shell Fragments	83.9 pcf	96.2 pcf

RELATIVE DENSITY

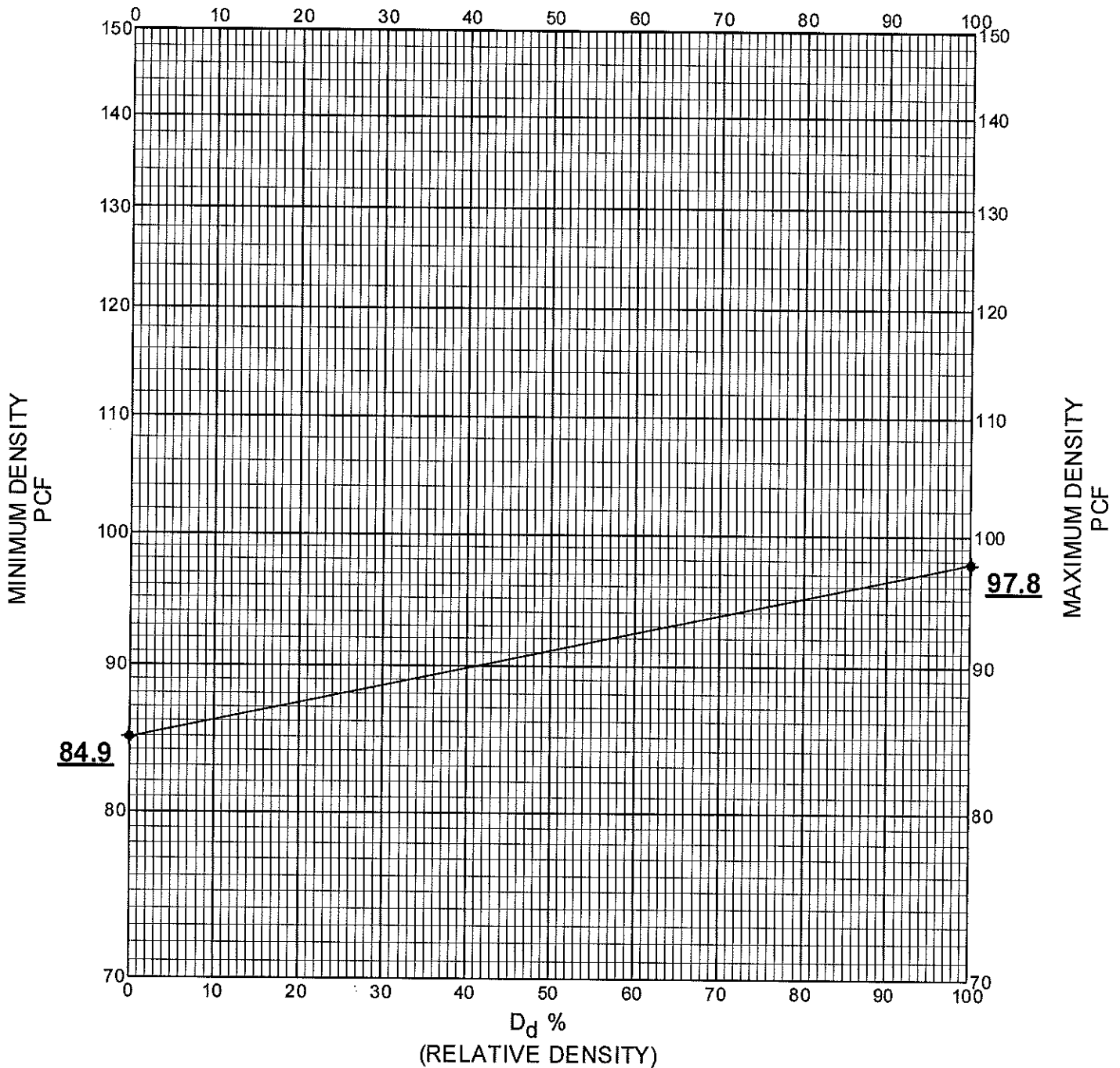
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Gulf Berm, 232+64	Gray Fine Sand with Silt	84.9 pcf	97.8 pcf

RELATIVE DENSITY

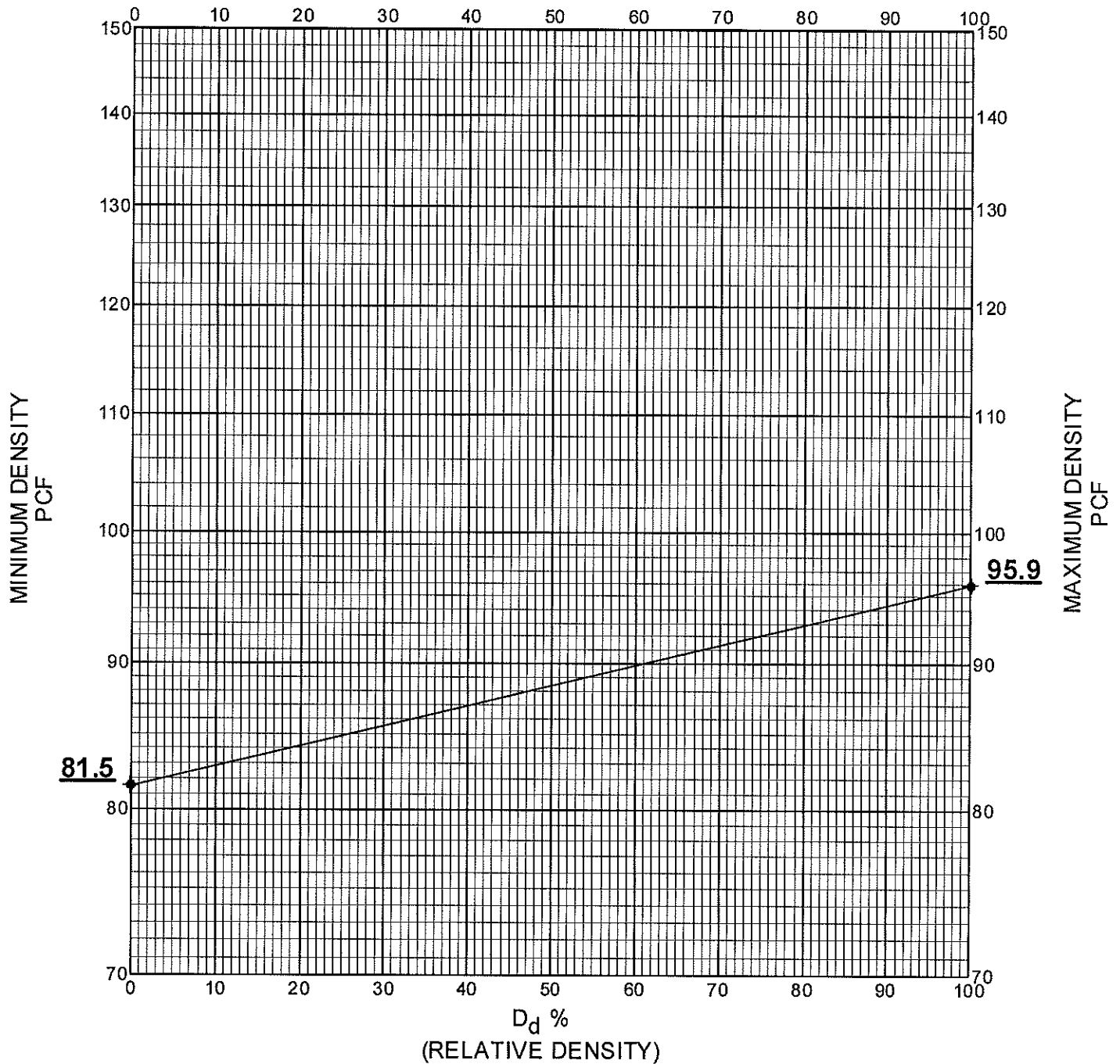
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

New Cut Dune/Marsh Restoration (TE-37), Terrebonne Parish, La

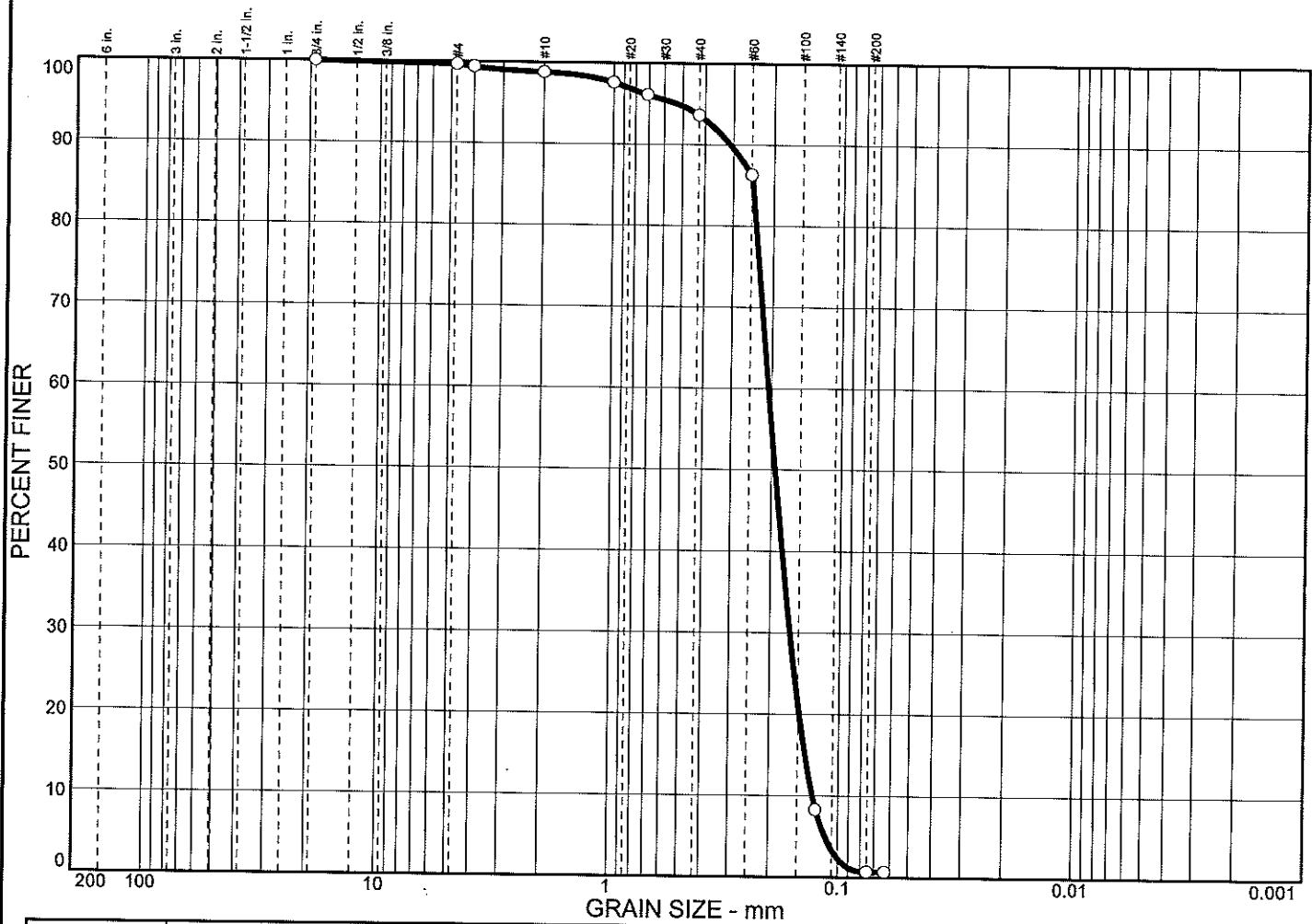
Date: 7-12-07

Job No. 19598



SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Dune Crest, 232+64	Light Gray Silty Sand	81.5 pcf	95.9 pcf

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.3	0.9	5.2	92.9	0.7				
X	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
0			0.248	0.208	0.193	0.164	0.140	0.129	1.00	1.61
MATERIAL DESCRIPTION								USCS	AASHTO	
0 Gray fine sand with shell fragments								SP		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Source: Station 309+64 **Sample No.:** MEAN HIGH WATER

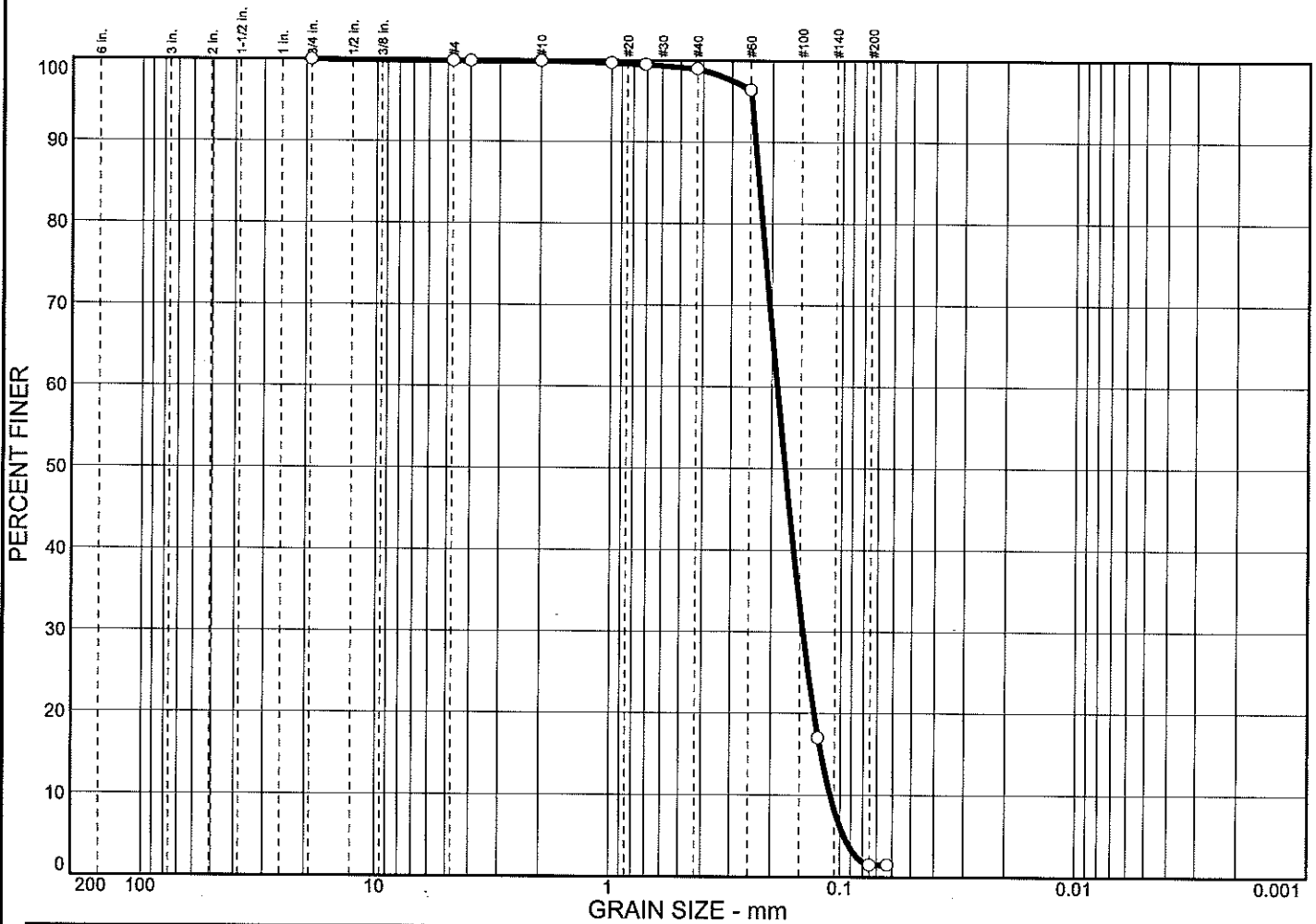
Remarks:
 Sample Mean High Water
 Moisture content = 22.8%
 Wentworth Classification:
 Gray fine to very fine sand with
 shell fragments



EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

Figure

Particle Size Distribution Report

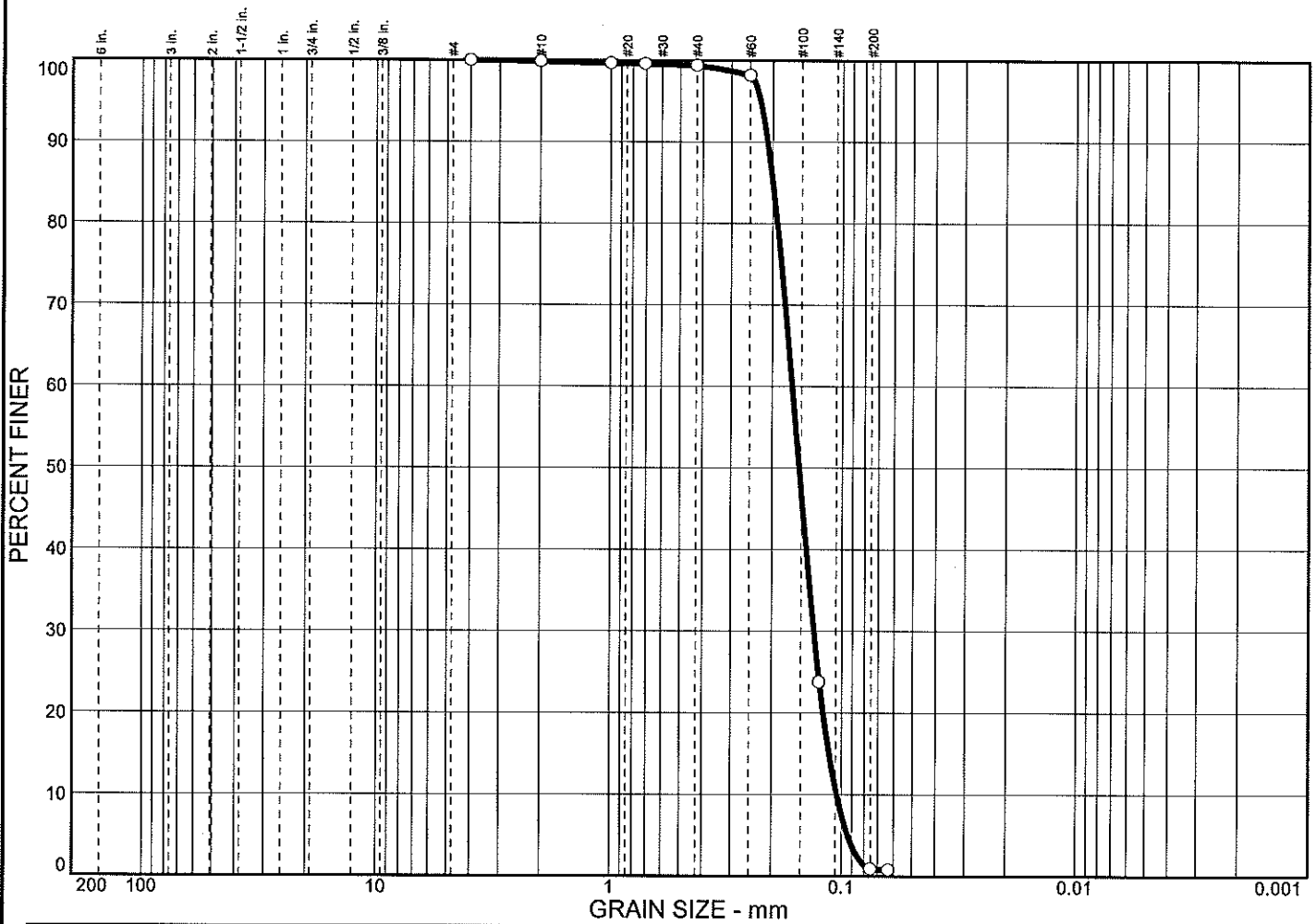


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.1	0.0	0.9	97.5	1.5			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.230	0.190	0.175	0.146	0.121	0.111	1.01	1.72
MATERIAL DESCRIPTION								USCS	AASHTO	
○ Gray fine sand with trace silt, shell fragments								SP		

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 309+64 Sample No.: MEAN LOW WATER	Remarks: ○ Sample Mean Low Water Water content = 20.5% Wentworth Classification: Gray fine to very fine sand with trace silt, shell fragments
EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi	

Figure

Particle Size Distribution Report

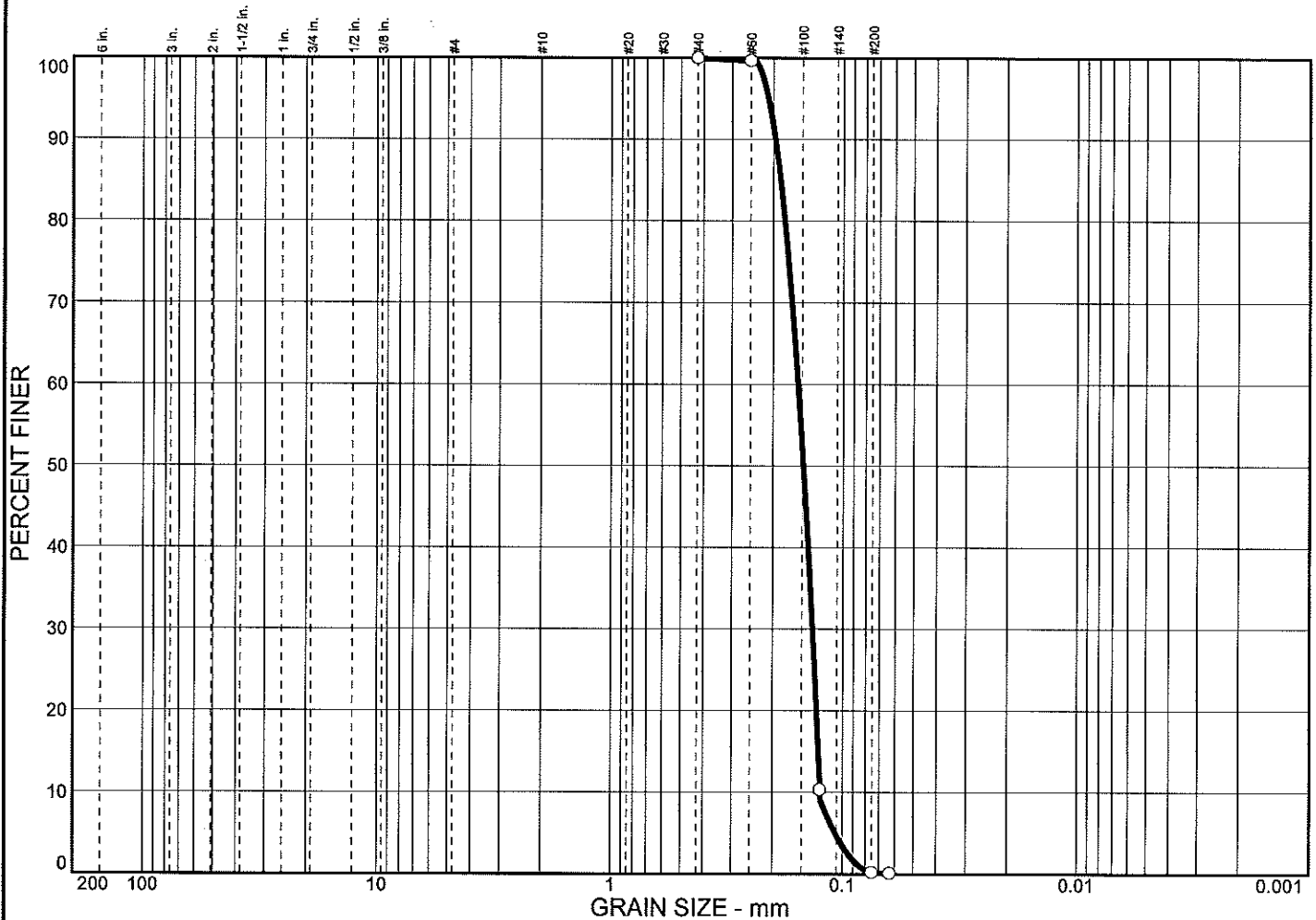


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.1	0.5	98.5	0.9			
×	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.200	0.165	0.153	0.132	0.113	0.105	1.01	1.57
MATERIAL DESCRIPTION									USCS	AASHTO
○ Gray fine sand with shell fragments									SP	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 309+64 Sample No.: WADING DEPTH	Remarks: ○ Sample Wading Depth Moisture content = 22.3% Wentworth Classification: Gray fine to very fine sand with shell fragments
EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi	

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.0	99.8	0.2			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.187	0.157	0.148	0.135	0.127	0.125	0.94	1.25
MATERIAL DESCRIPTION									USCS	AASHTO
○ Light gray fine sand with trace organic matter									SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 309+64 **Sample No.:** GULF BERM

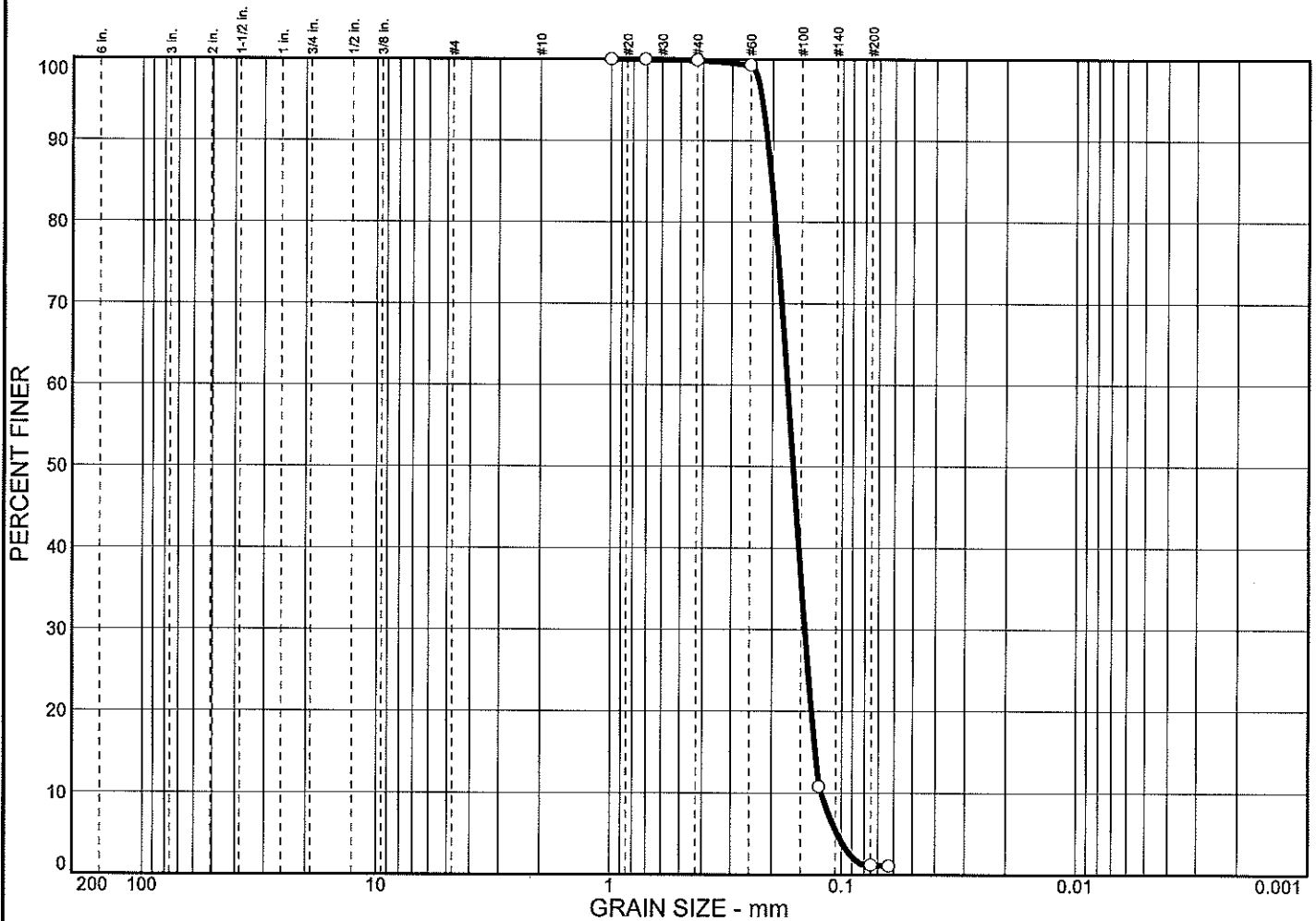
Remarks:
 ○ Sample Gulf Berm
 Moisture content = 7.1%
 Wentworth Classification:
 Light gray fine to very fine sand
 with trace organic matter



EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

Figure

Particle Size Distribution Report



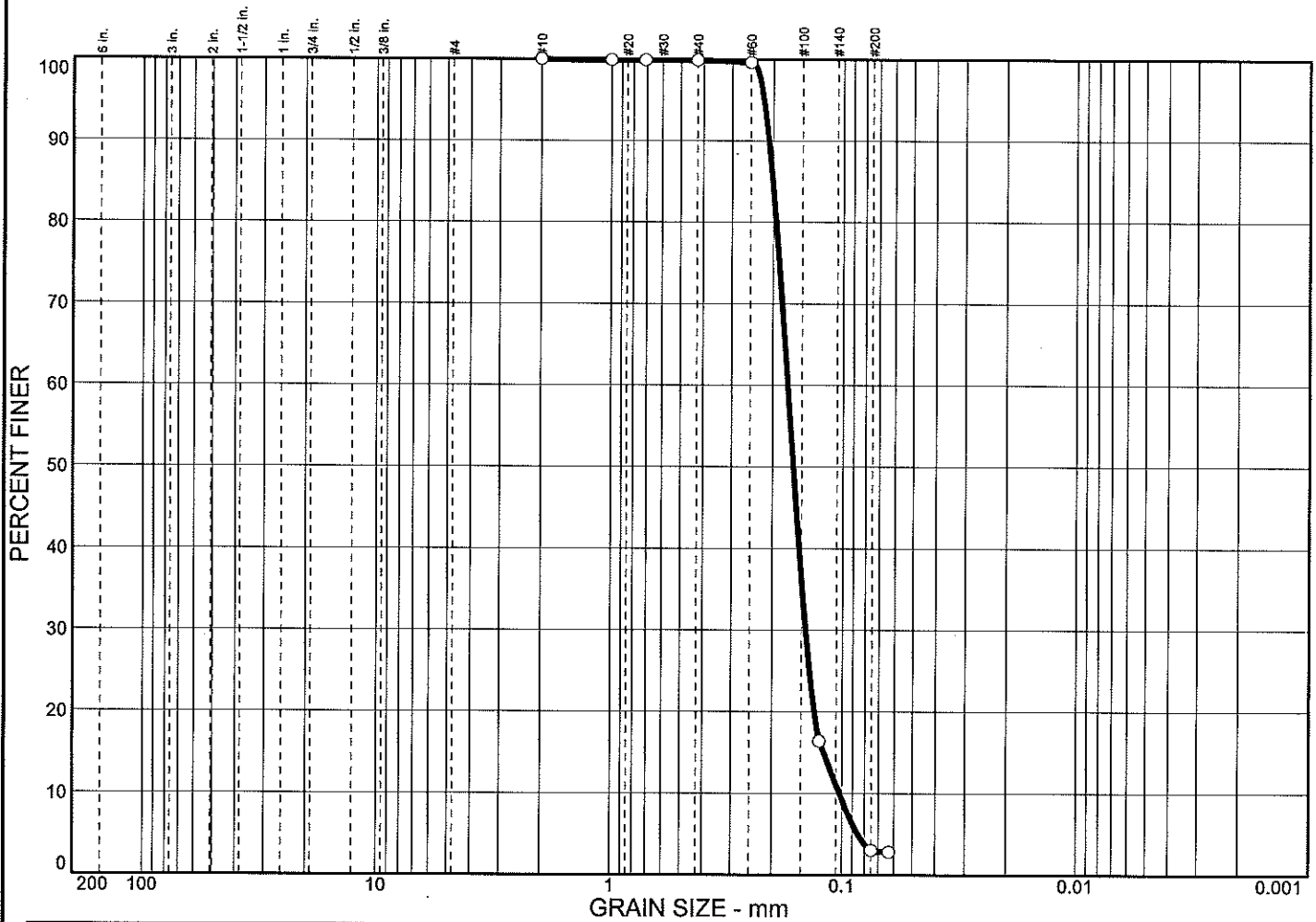
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.1	98.7	1.2			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.203	0.173	0.163	0.145	0.130	0.122	0.99	1.41
MATERIAL DESCRIPTION									USCS	AASHTO
○ Tan fine sand with trace shell fragments, roots									SP	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 309+64 Sample No.: DUNE TOE	Remarks: ○ Sample Dune Toe Moisture content = 18.6% Wentworth Classification: Tan fine to very fine sand with trace shell fragments, roots
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EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

Figure

Particle Size Distribution Report

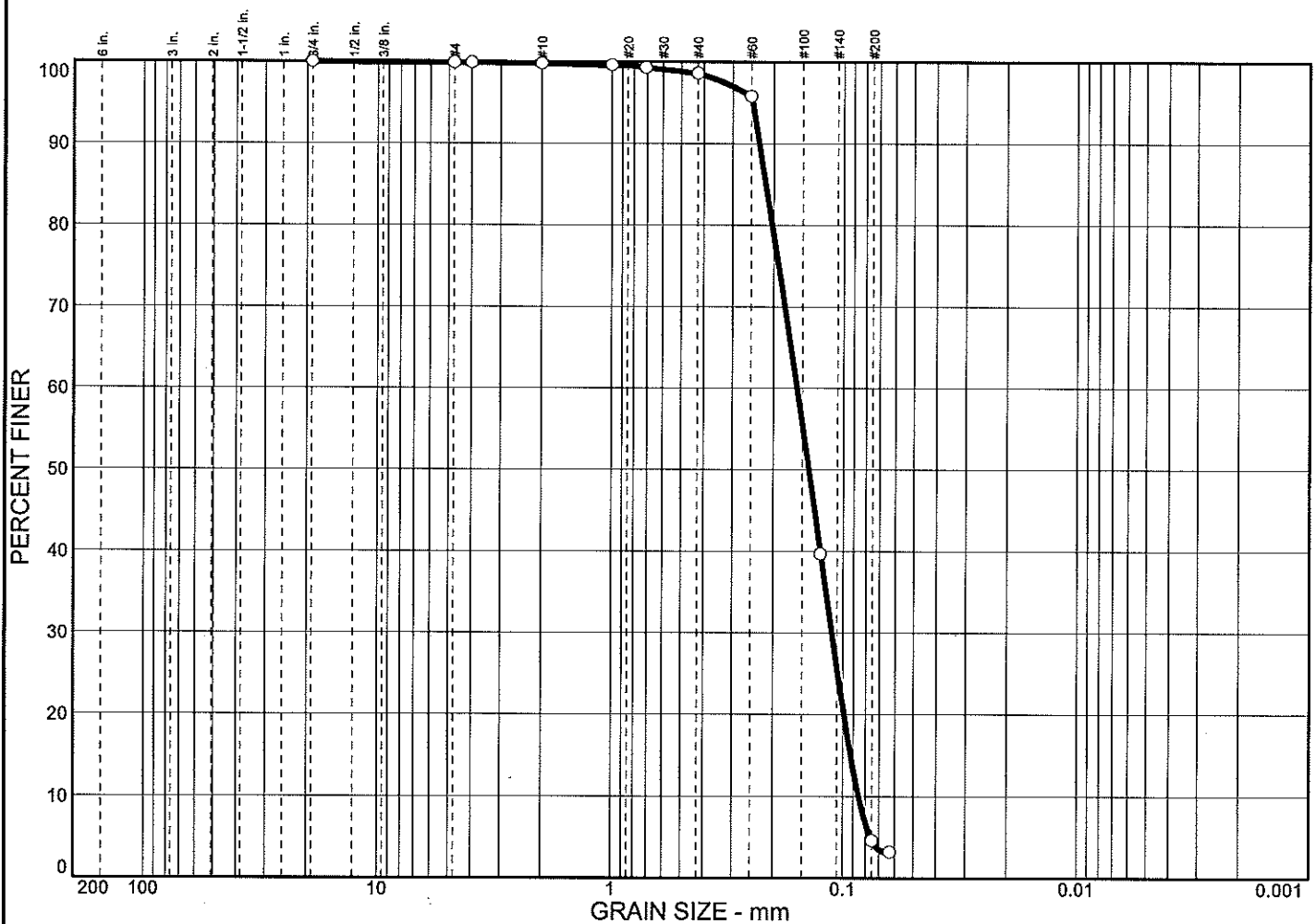


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.1	96.9	3.0			
×	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○			0.202	0.173	0.163	0.144	0.120	0.103	1.17	1.68
MATERIAL DESCRIPTION									USCS	AASHTO
○ Tan fine sand with trace silt, roots									SP	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 309+64 Sample No.: DUNE CREST	Remarks: ○ Sample Dune Crest Moisture content = 19.6% Wentworth Classification : Tan fine to very fine sand with trace silt, roots
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi	

Figure

Particle Size Distribution Report



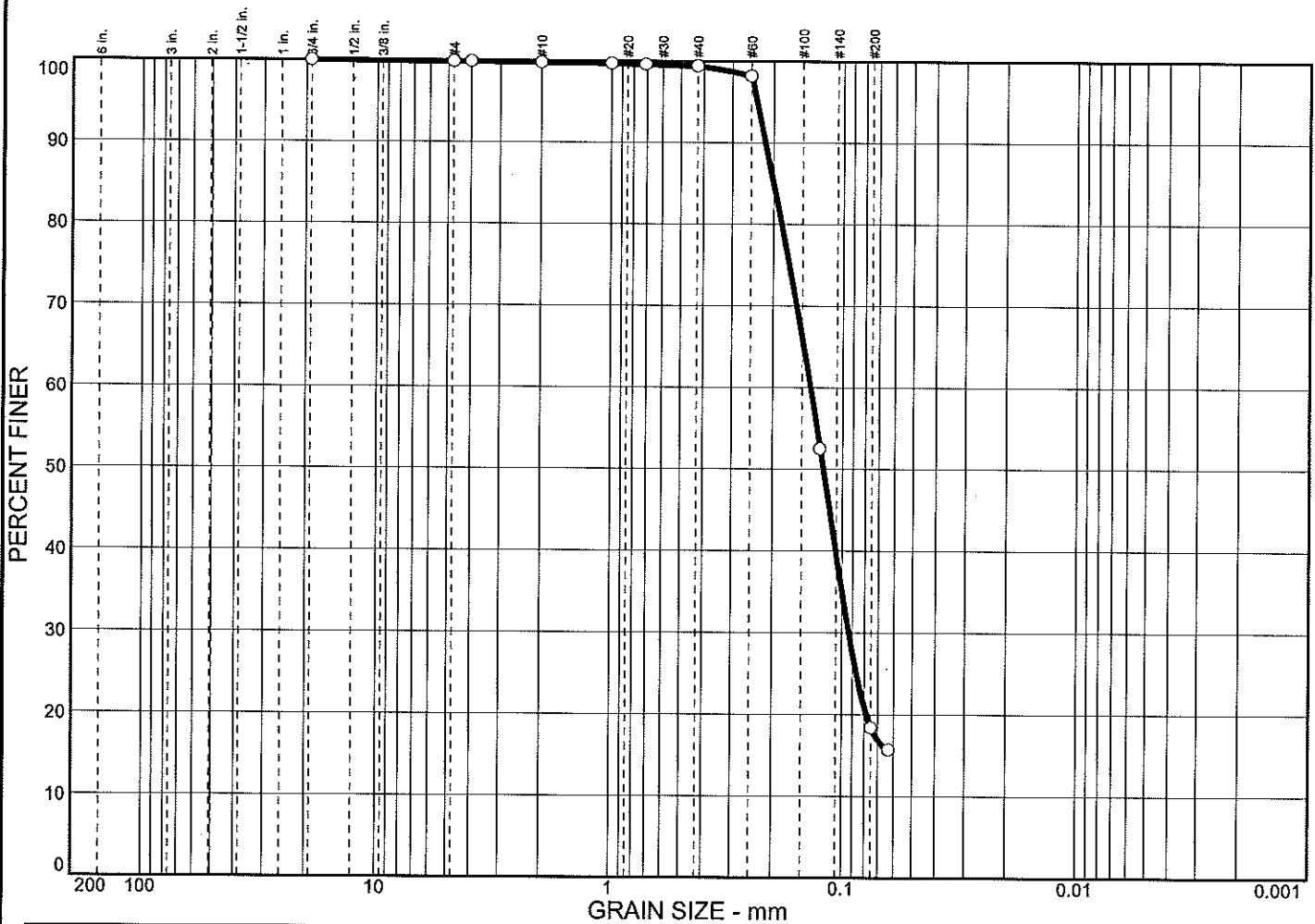
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.1	0.1	1.2	94.0	4.6			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.217	0.159	0.141	0.112	0.0928	0.0857	0.92	1.85
MATERIAL DESCRIPTION								USCS		AASHTO
○ Light gray fine sand with trace silt, shell fragments								SP		

Project No. 19598		Client: Weeks Marine, INC., Covington, Louisiana		Remarks: ○ Sample Back Bay Berm Moisture content = 24.1% Wentworth Classification: Light gray fine to very fine sand with trace silt, shell fragments
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)		Terrebonne Parish, Louisiana, Purchase Order No. 125146		
○ Source: Station 309+64		Sample No.: BACK BAY BERM		
EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi				

Figure

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.1	0.1	0.4	81.0	18.4			
×	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○			0.185	0.136	0.122	0.0947				
MATERIAL DESCRIPTION								USCS	AASHTO	
○ Gray clayey sand with trace shell fragments, clay pockets								SC		

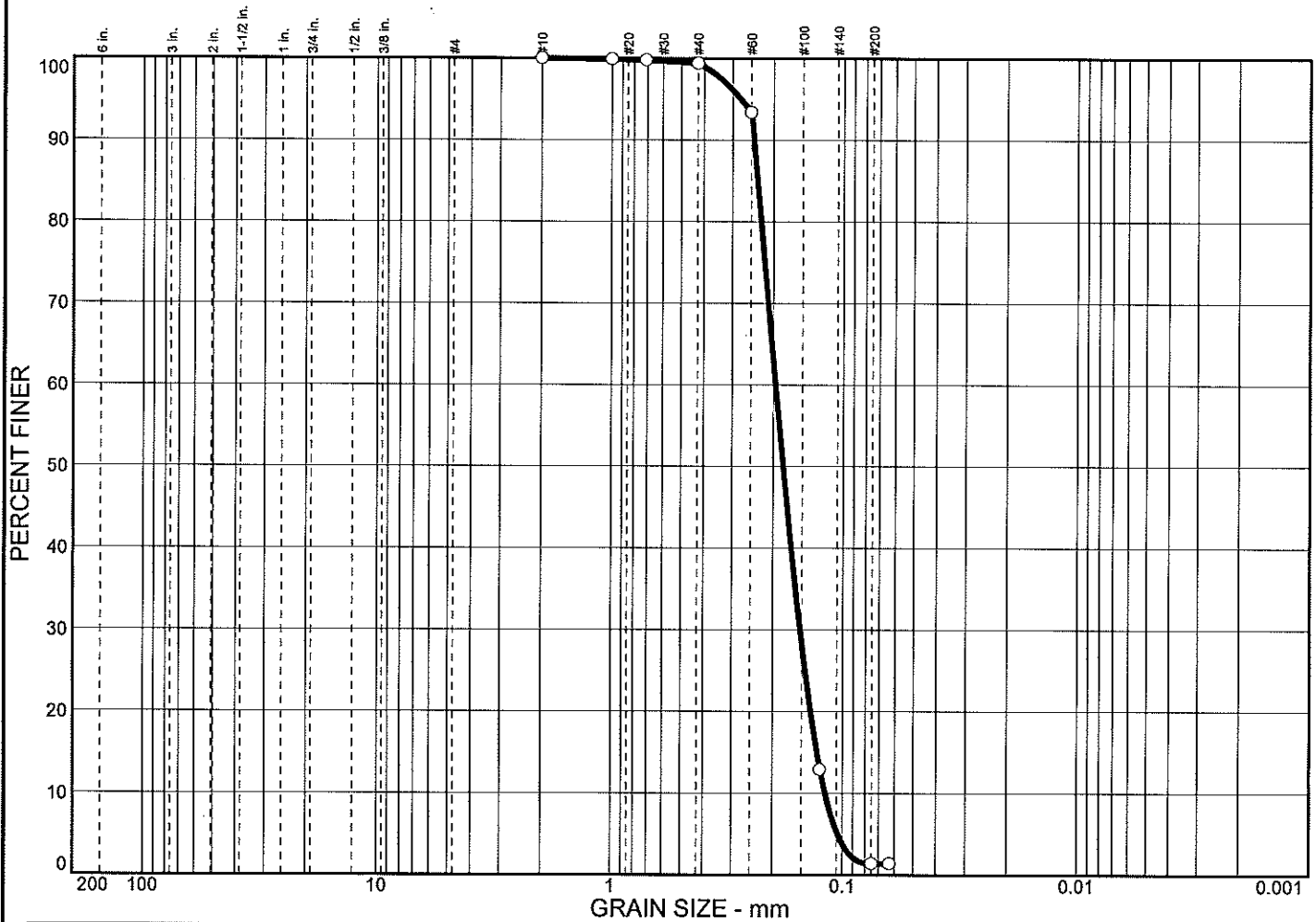
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 309+64 **Sample No.:** MARSH PLATFORM

Remarks:
 ○ Sample Marsh Platform
 Moisture content = 21.4%
 Wentworth Classification:
 Gray clayey sand with trace shell fragments, clay pockets



Figure

Particle Size Distribution Report

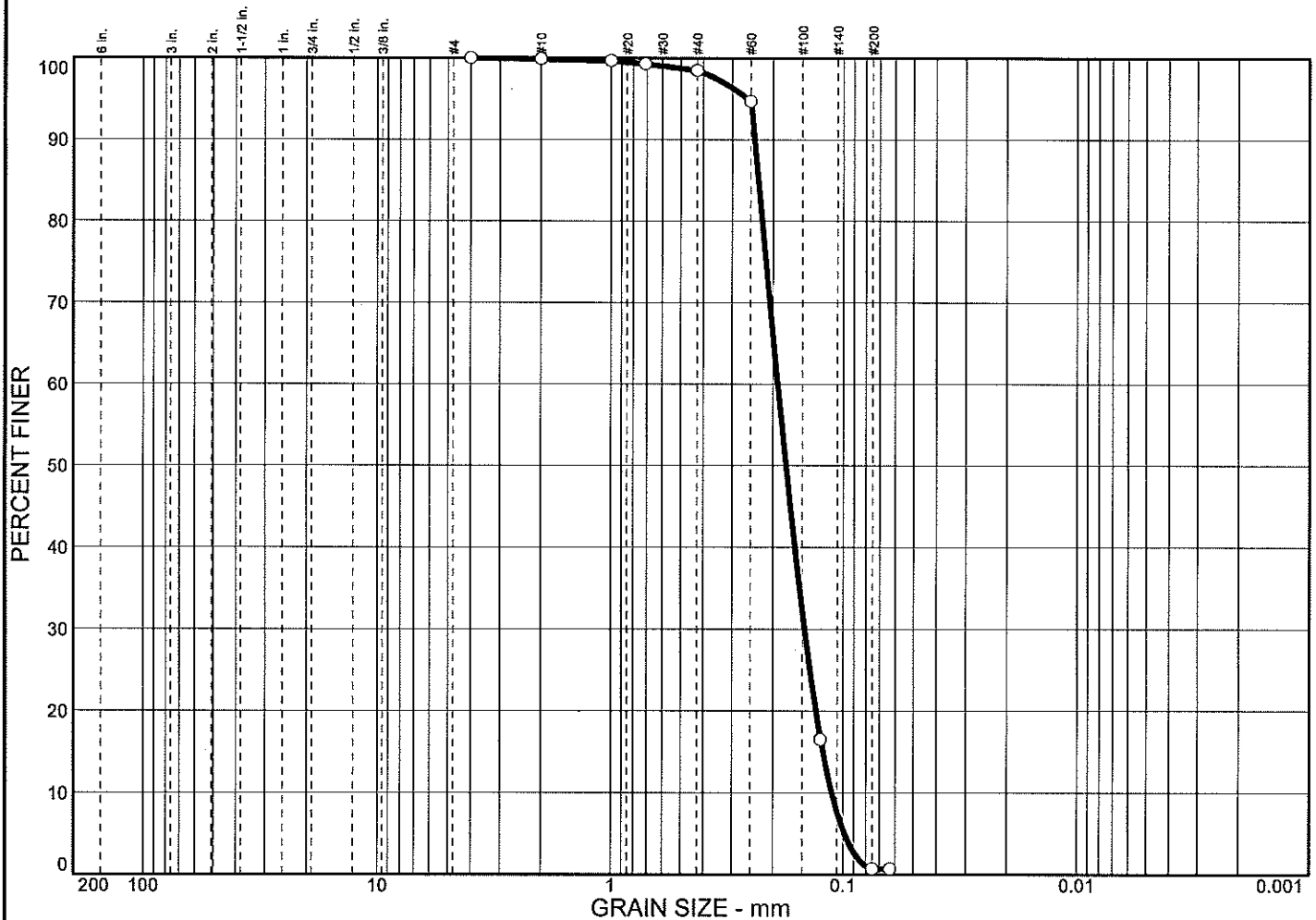


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.6	98.0	1.4			
×	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○			0.235	0.196	0.182	0.153	0.129	0.119	1.00	1.65
MATERIAL DESCRIPTION									USCS	AASHTO
○ Tan fine sand with trace silt, shell fragments									SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 286+64 **Sample No.:** MEAN HIGH WATER

Remarks:
 ○ Sample Mean High Water
 Moisture content = 21.5%
 Wentworth Classification:
 Tan fine to very fine sand with
 trace silt, shell fragments

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.1	1.4	97.8	0.7			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.232	0.192	0.177	0.147	0.122	0.112	1.01	1.71
MATERIAL DESCRIPTION									USCS	AASHTO
○ Gray fine sand with trace shell fragments									SP	

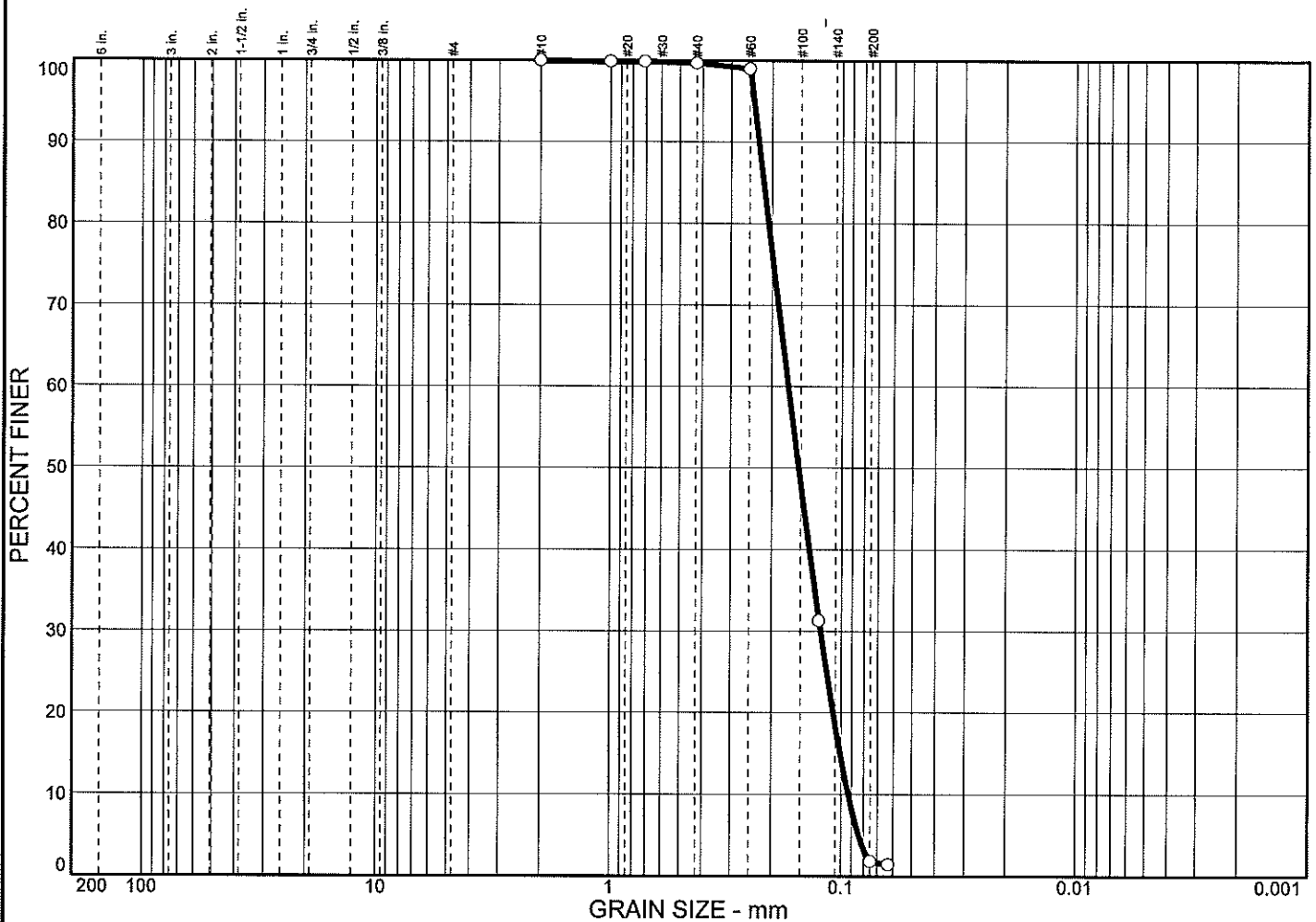
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 286+64 **Sample No.:** MEAN LOW WATER

Remarks:
 ○ Sample Mean Low Water
 Moisture content = 28.3%
 Wentworth Classification:
 Gray fine to very fine sand with
 trace shell fragments



Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.3	97.9	1.8			
×	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.208	0.166	0.151	0.123	0.102	0.0940	0.97	1.77
MATERIAL DESCRIPTION								USCS	AASHTO	
○ Brownish gray fine sand with trace silt, shell fragments, organic matter								SP		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 286+64 **Sample No.:** WADING DEPTH

Remarks:

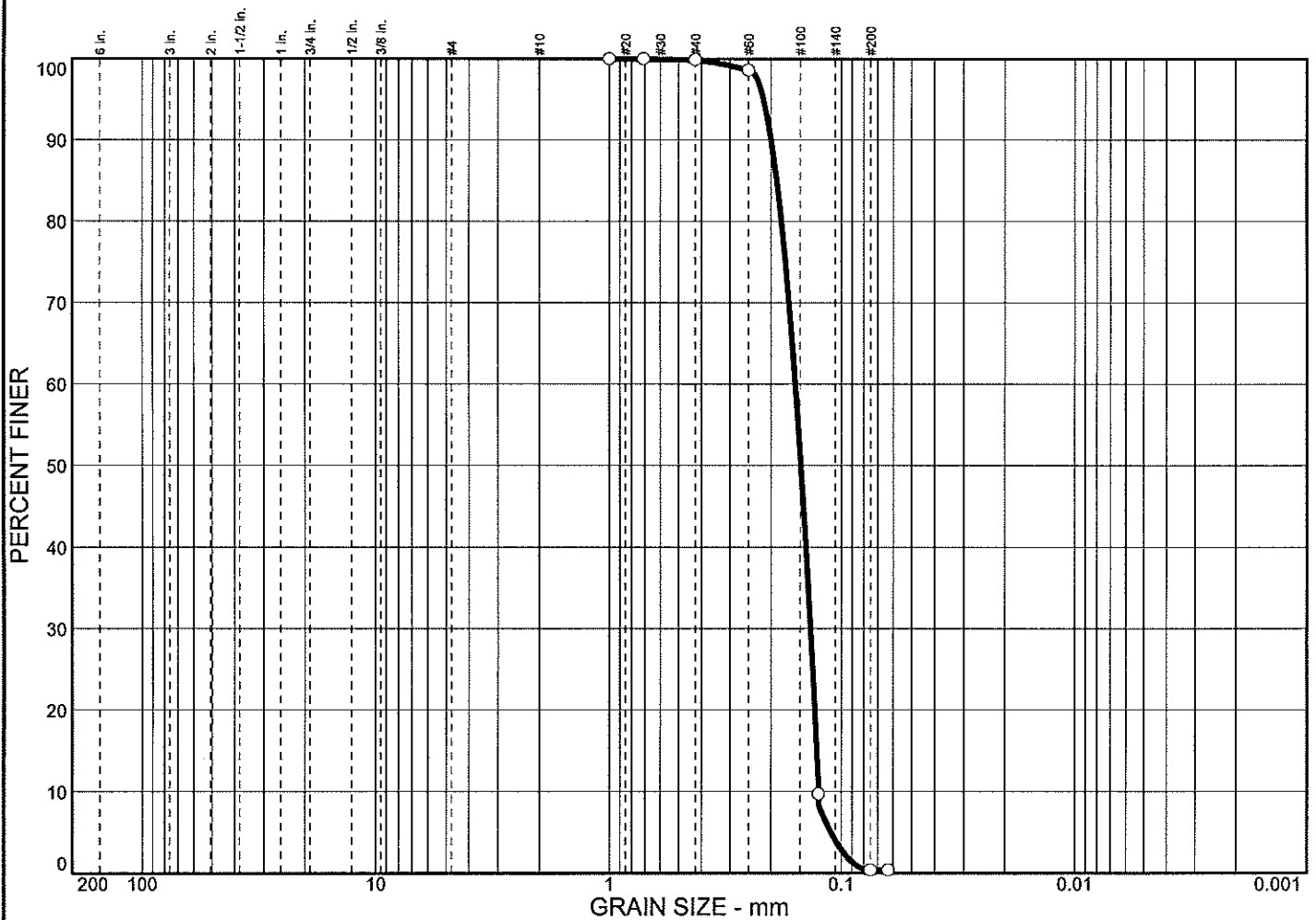
○ Sample Wading Depth
 Moisture content = 26.9%
 Wentworth Classification:
 Brownish gray fine to very fine sand with trace silt, shell fragments, organic matter



EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.1	99.5	0.4			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.190	0.158	0.149	0.136	0.128	0.125	0.93	1.26

MATERIAL DESCRIPTION								USCS	AASHTO
○ Tan fine sand with trace shell fragments, organic matter								SP	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 286+64 Sample No.: GULF BERM				Remarks: ○ Sample Gulf Berm Moisture content = 13.3% Wentworth Classification : Tan fine to very fine sand with trace of shell fragments, organic matter	
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi				Figure	

The graph displays the grain size distribution of a material. The vertical axis represents the percentage of material finer than a given grain size, ranging from 0 to 100. The horizontal axis represents the grain size in millimeters on a logarithmic scale, ranging from 200 mm to 0.001 mm. The curve shows that the material is 100% finer than 200 mm, 100% finer than 1 mm, and approximately 12% finer than 0.85 mm. The material is 0% finer than approximately 0.075 mm.

Grain Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
30	100
20	100
10	100
7.5	100
6	100
4.75	100
3.75	100
3.0	100
2.5	100
2.0	100
1.5	100
1.18	100
0.85	12
0.6	0
0.425	0
0.3	0
0.25	0
0.2	0
0.15	0
0.125	0
0.106	0
0.085	0
0.075	0
0.063	0
0.053	0
0.045	0
0.037	0
0.03	0
0.025	0
0.02	0
0.016	0
0.013	0
0.010	0
0.008	0
0.006	0
0.005	0
0.004	0
0.003	0
0.002	0
0.001	0

[illegible]

MATERIAL DESCRIPTION	USCS	AASHTO
○ Tan fine sand with trace shell fragments, organic matter	SP	

Sample No.: DUNE TOE

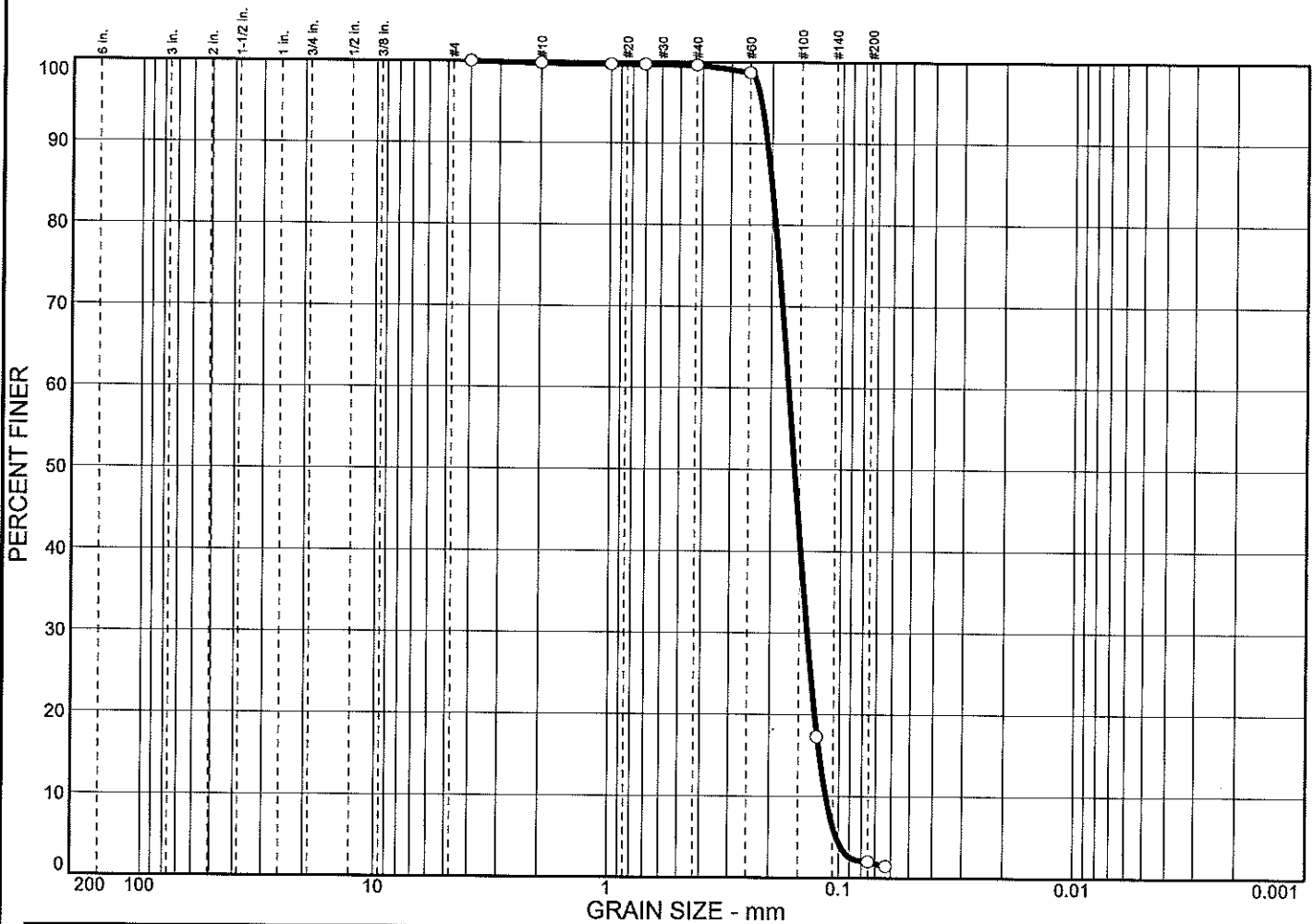


EUSTIS
Metalrie, Louisiana
Lafayette, Louisiana
Gulfport, Mississippi

Tan fine to very fine sand with trace shell fragments, organic matter

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY		
○	0.0	0.0	0.0	0.2	0.2	97.6	2.0			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.201	0.169	0.158	0.139	0.122	0.114	1.00	1.48

MATERIAL DESCRIPTION								USCS	AASHTO
○ Tan fine sand with trace silt, shell fragments, roots								SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 286+64 **Sample No.:** DUNE CREST

Remarks:
 ○ Sample Dune Crest
 Moisture content = 7.2%
 Wentworth Classification:
 Tan fine to very fine sand with
 trace silt, shell fragments, roots

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.2	0.4	98.1	1.3			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.199	0.162	0.151	0.129	0.109	0.101	1.01	1.61
MATERIAL DESCRIPTION									USCS	AASHTO
○ Tan fine sand with trace silt, shell fragments									SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 286+64 **Sample No.:** BACK BAY BERM

Remarks:
 ○ Sample Back Bay Berm
 Moisture content = 10.9%
 Wentworth Classification:
 Tan fine to very fine sand with
 trace silt, shell fragments



Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	3.4	1.3	4.9	89.9	0.5			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.309	0.217	0.201	0.171	0.146	0.136	0.99	1.60
MATERIAL DESCRIPTION								USCS	AASHTO	
○ Tan fine sand with shell fragments								SP		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Source: Station 286+64 **Sample No.:** MARSH PLATFORM

Remarks:
 ○ Sample Marsh Platform
 Moisture content = 3.7%
 Wentworth Classification:
 Tan fine to very fine sand with shell fragments



Figure

Particle Size Distribution Report



GRAVEL SIZE ANALYSIS										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
○	0.0	0.0	0.0	0.9	98.3	0.8				
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.229	0.186	0.170	0.139	0.114	0.104	1.00	1.78
MATERIAL DESCRIPTION									USCS	AASHTO
○ Gray fine sand with trace shell fragments									SP	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 268+64 Sample No.: MEAN HIGH WATER	Remarks: ○ Sample Mean High Water Moisture content = 21.1% Wentworth Classification: Gray fine to very fine sand with trace shell fragments
EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi	

Figure

The graph displays the grain size distribution of a soil sample. The y-axis represents the percentage of soil finer than a given grain size, ranging from 0 to 100. The x-axis represents the grain size in millimeters, on a logarithmic scale from 200 mm to 0.001 mm. The curve shows that 100% of the soil is finer than 2.0 mm, and approximately 100% is finer than 0.85 mm. The distribution is well-graded, with a significant portion of the soil falling between 0.6 mm and 0.075 mm.

Grain Size (mm)	Percent Finer (%)
2.0	100
0.85	100
0.6	100
0.425	100
0.3	100
0.25	100
0.2	100
0.15	98
0.106	95
0.075	22
0.06	10
0.05	5
0.0475	5

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 268+64 Sample No.: MEAN LOW WATER	Remarks: ○ Sample Mean Low Water Moisture content = 27.7% Wentworth Classification: Gray fine to very fine sand with trace silt, shell fragments
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi	Figure

Figure

Particle Size Distribution Report

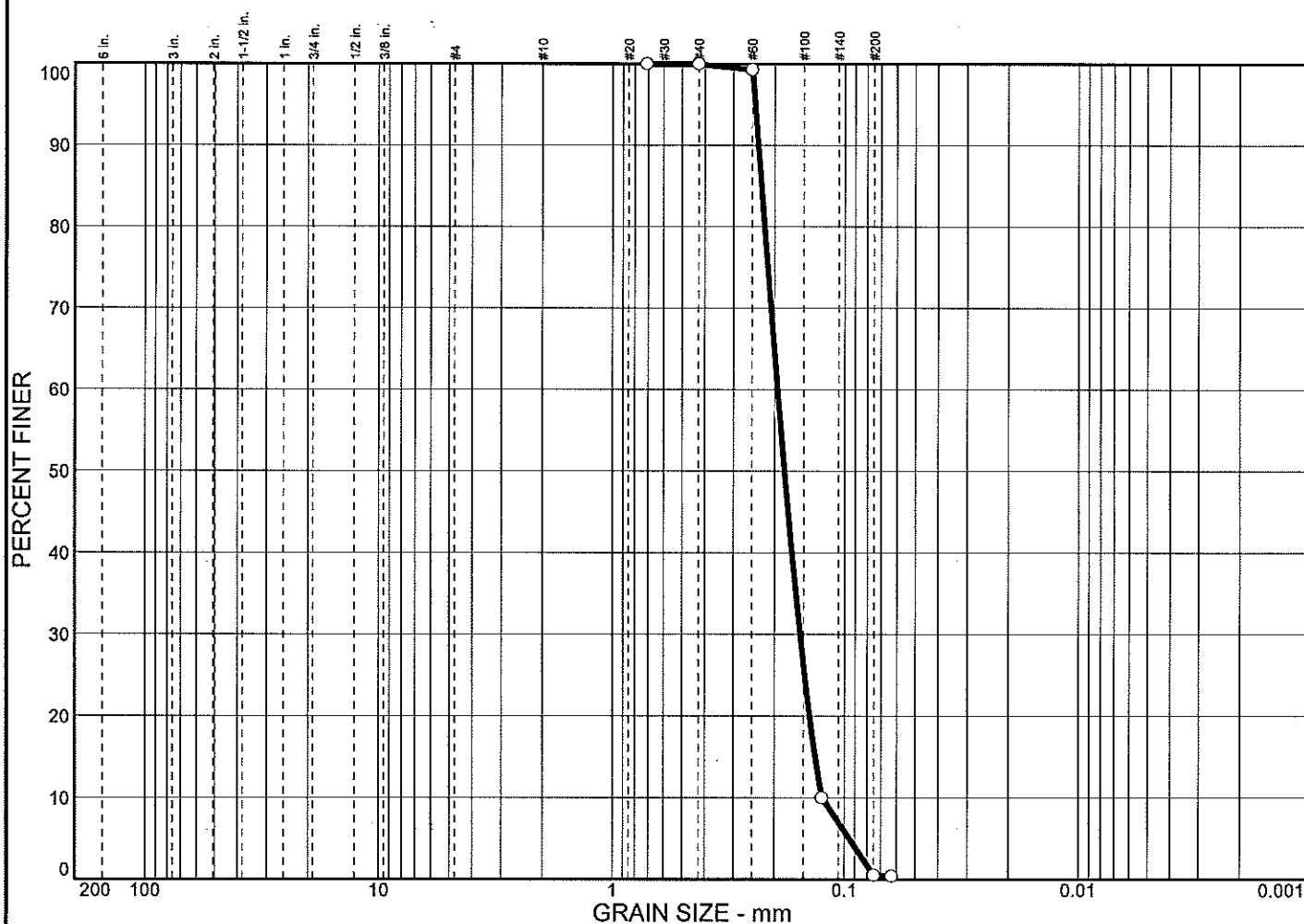


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.3	0.2	4.6	94.6	0.3			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.246	0.202	0.187	0.156	0.131	0.121	0.99	1.68
MATERIAL DESCRIPTION									USCS	AASHTO
○ Gray fine sand with shell fragments									SP	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 268+64 **Sample No.:** WADING DEPTH

Remarks:
 ○ Sample Wading Depth
 Moisture content = 27.7%
 Wentworth Classification:
 Gray fine to very fine sand with shell fragments

Particle Size Distribution Report

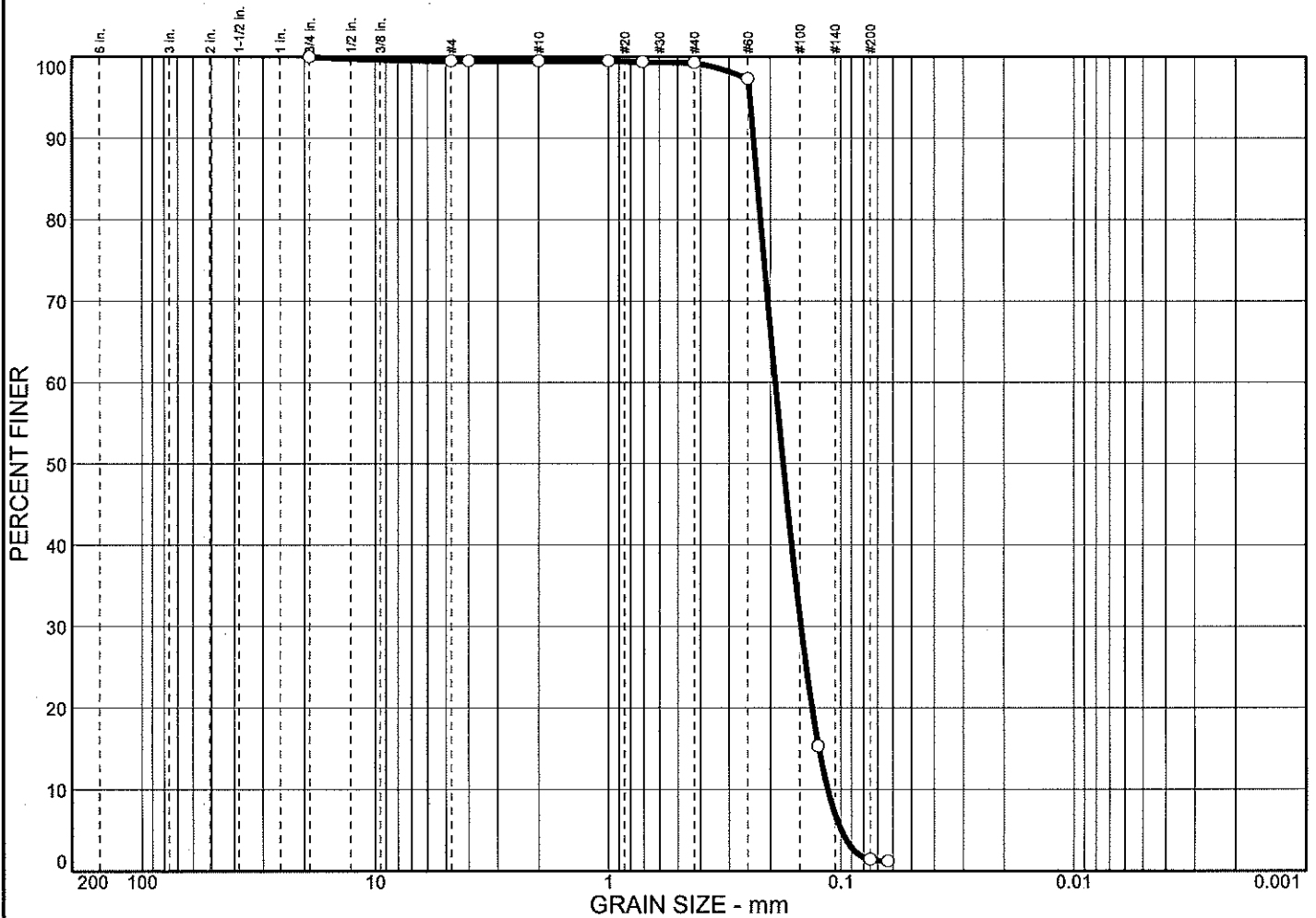


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.0	99.5	0.5			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.202	0.173	0.163	0.145	0.131	0.125	0.98	1.38
MATERIAL DESCRIPTION								USCS	AASHTO	
○ Tan fine sand								SP		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Source: Station 268+64 **Sample No.:** GULF BERM

Remarks:
 Sample Gulf Berm
 Moisture content = 7.7%
 Wentworth Classification:
 Tan fine to very fine sand

Particle Size Distribution Report

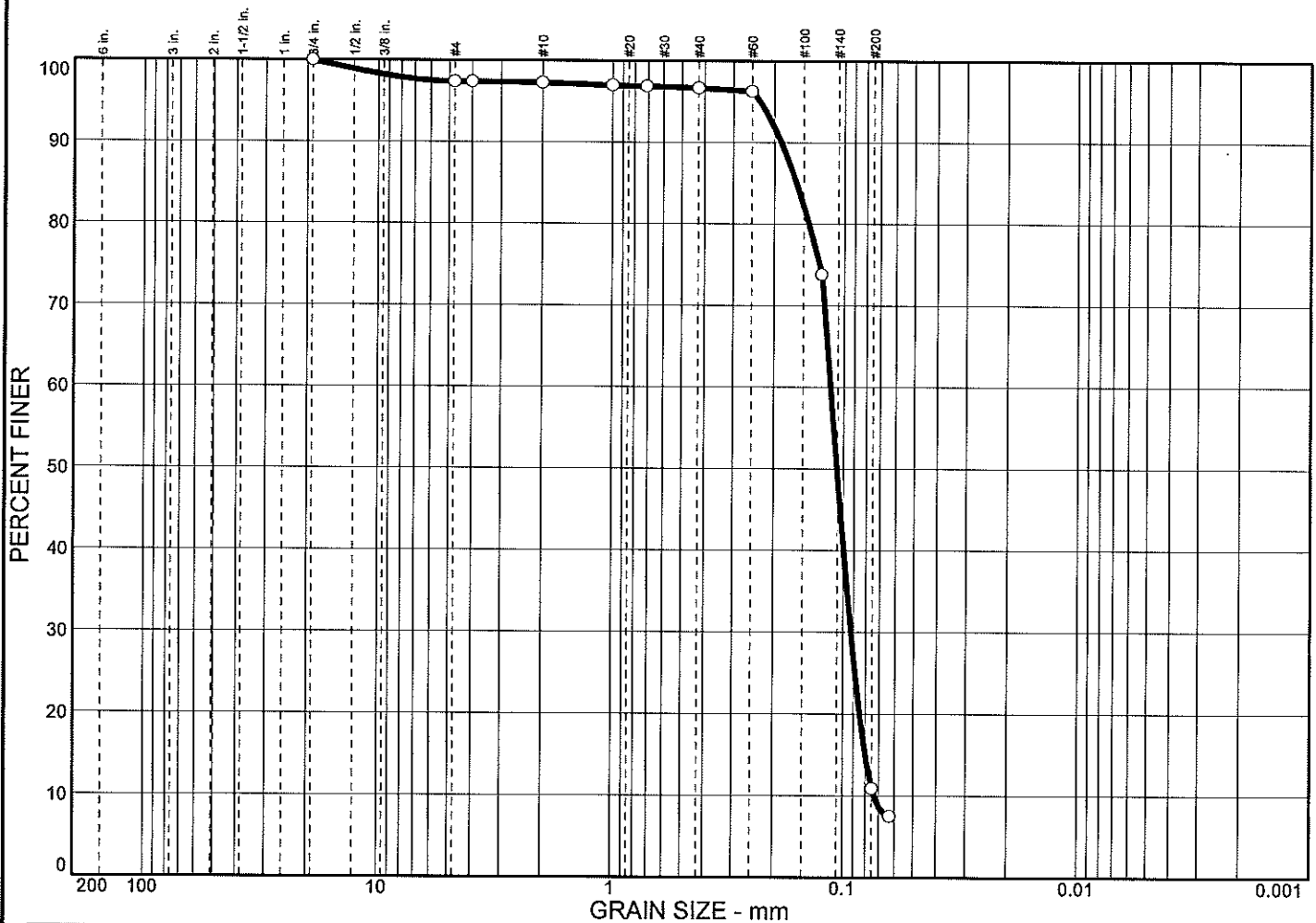


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.5	0.0	0.2	97.9	1.4			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.229	0.191	0.177	0.149	0.124	0.114	1.01	1.68

MATERIAL DESCRIPTION								USCS	AASHTO
○ Tan fine sand with trace silt, shell fragments								SP	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 268+64 Sample No.: DUNE TOE				Remarks: ○ Sample Dune Toe Moisture content = 10.3% Wentworth Classification: Tan fine to very fine sand with trace silt, shell fragments	
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi				Figure	

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY		
○	0.0	0.0	2.6	0.1	0.6	85.8	10.9			
×	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.142	0.112	0.105	0.0909	0.0795	0.0736	1.00	1.52
MATERIAL DESCRIPTION								USCS	AASHTO	
○ Tan fine sand with silt, trace shell fragments								SP-SM		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 268+64 **Sample No.:** DUNE CREST

Remarks:

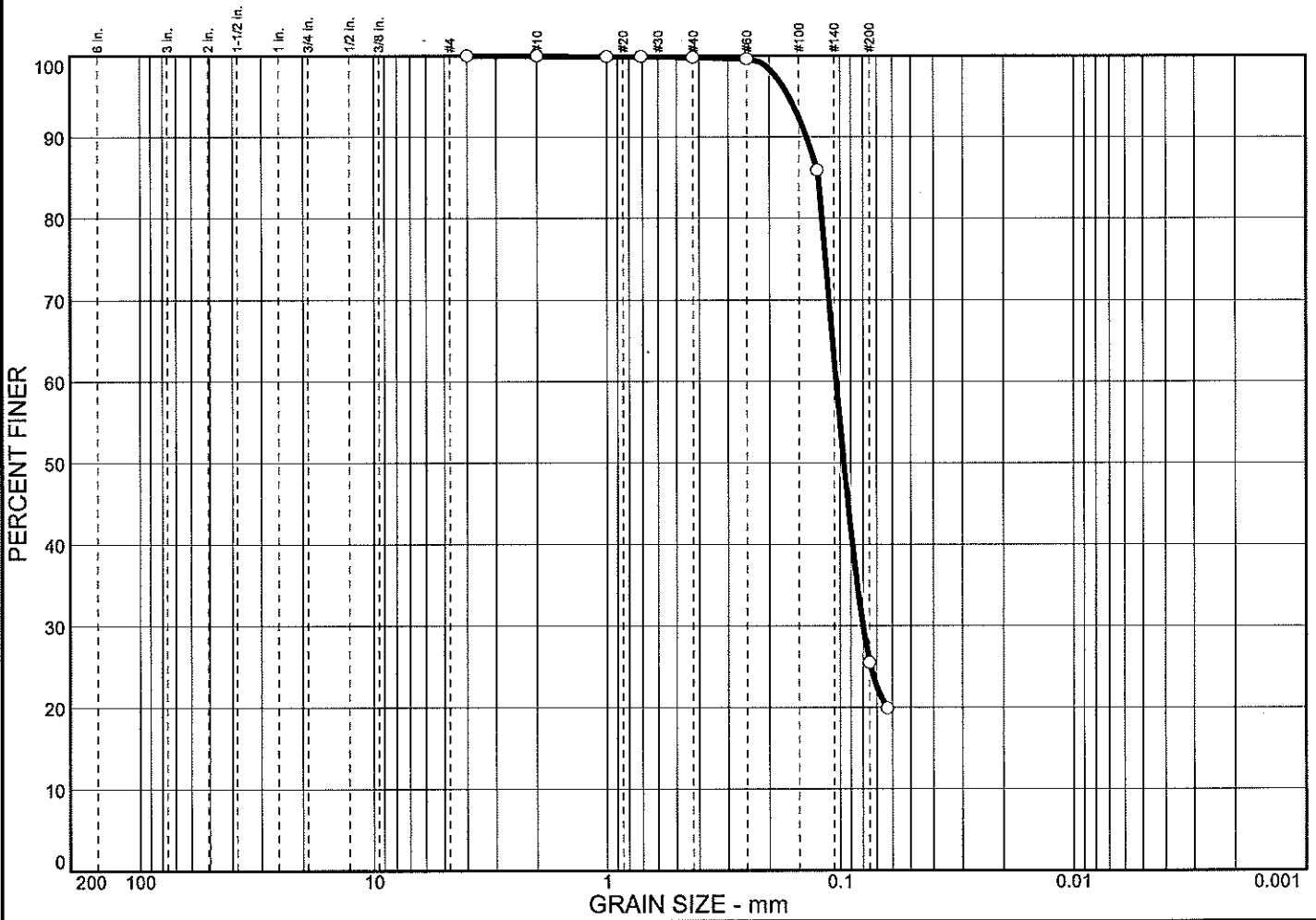
○ Sample Dune Crest
 Moisture content = 7.4%
 Wentworth Classification:
 Tan fine to very fine sand with
 silt, trace shell fragments



EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

Figure

Particle Size Distribution Report

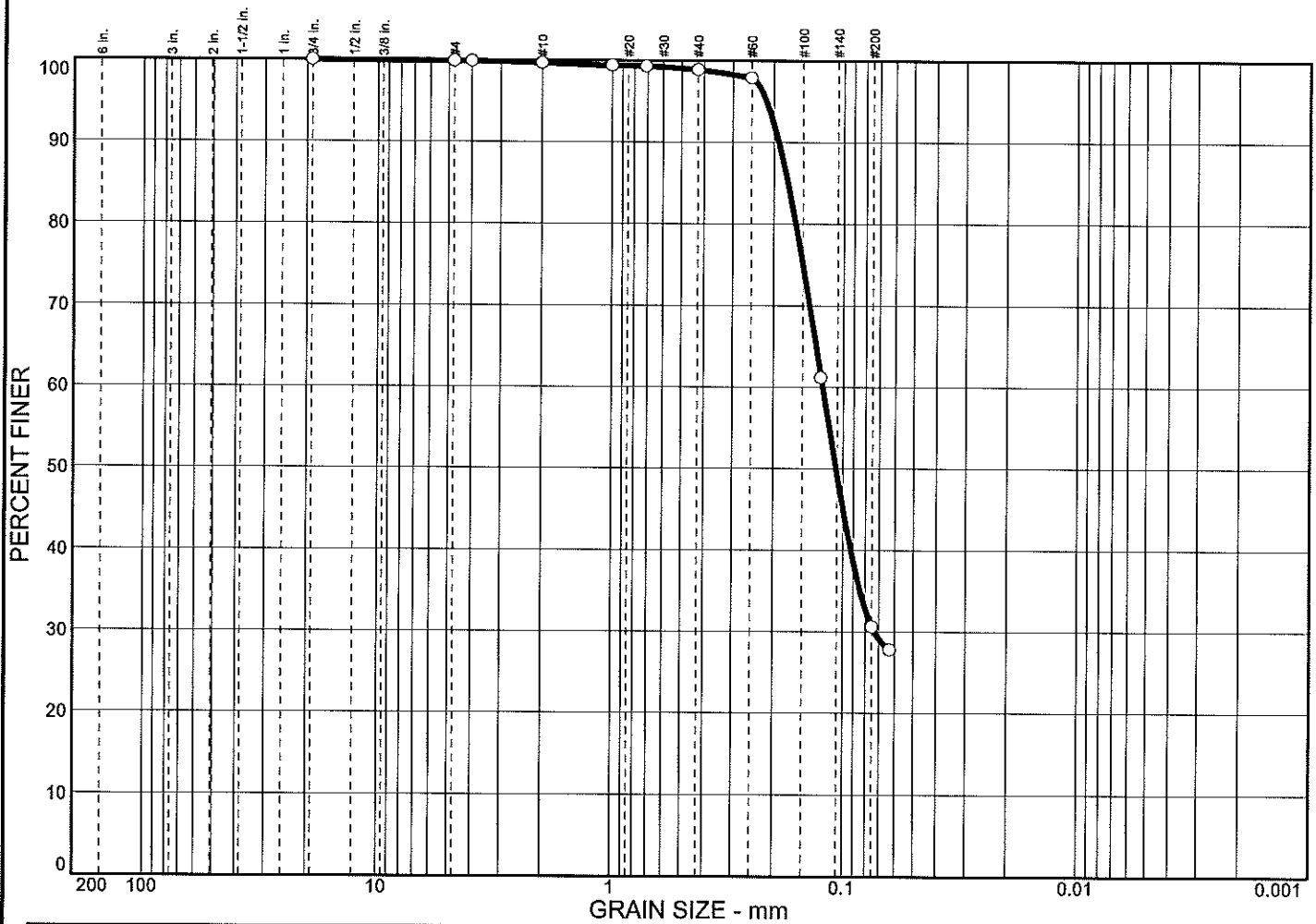


% COBBLES		% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.2	74.3	25.5			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.124	0.104	0.0967	0.0801				

MATERIAL DESCRIPTION								USCS	AASHTO
○ Gray silty sand with trace shell fragments, roots								SM	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 268+64 Sample No.: BACK BAY BERM				Remarks: ○ Sample Back Bay Berm Moisture content = 19.6% Wentworth Classification: Gray silty sand with trace shell fragments, roots	
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi				Figure	

Particle Size Distribution Report

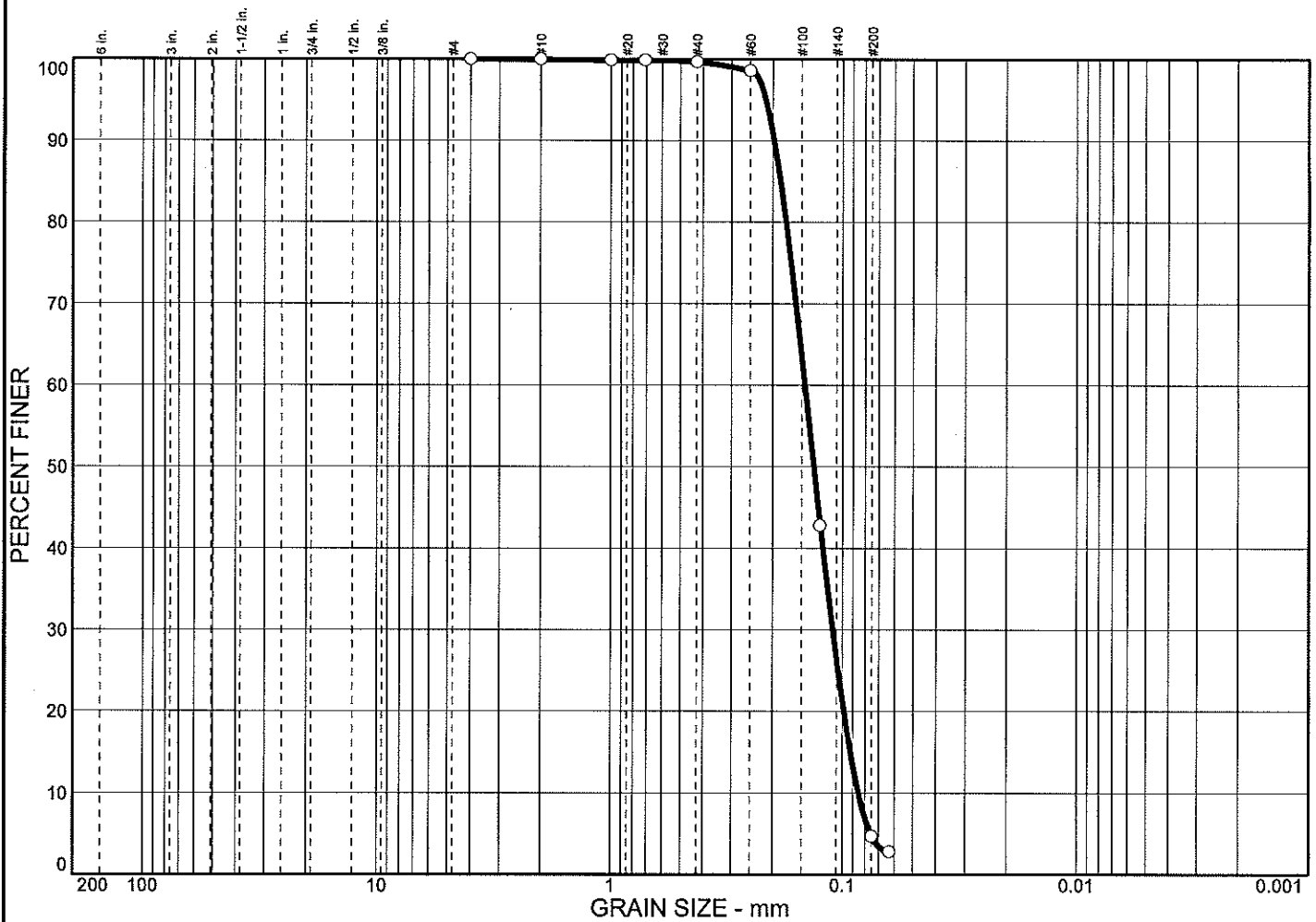


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.1	0.2	0.8	68.3	30.6			
×	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.175	0.123	0.108	0.0732				
MATERIAL DESCRIPTION									USCS	AASHTO
○ Dark Gray clayey sand with silt, trace shell fragments, roots									SC	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 268+64 Sample No.: MARSH PLATFORM	Remarks: ○ Sample Marsh Platform Moisture content = 48.1% Wentworth Classification: Dark gray clayey sand with silt, trace shell fragments, roots
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi	

Figure

Particle Size Distribution Report

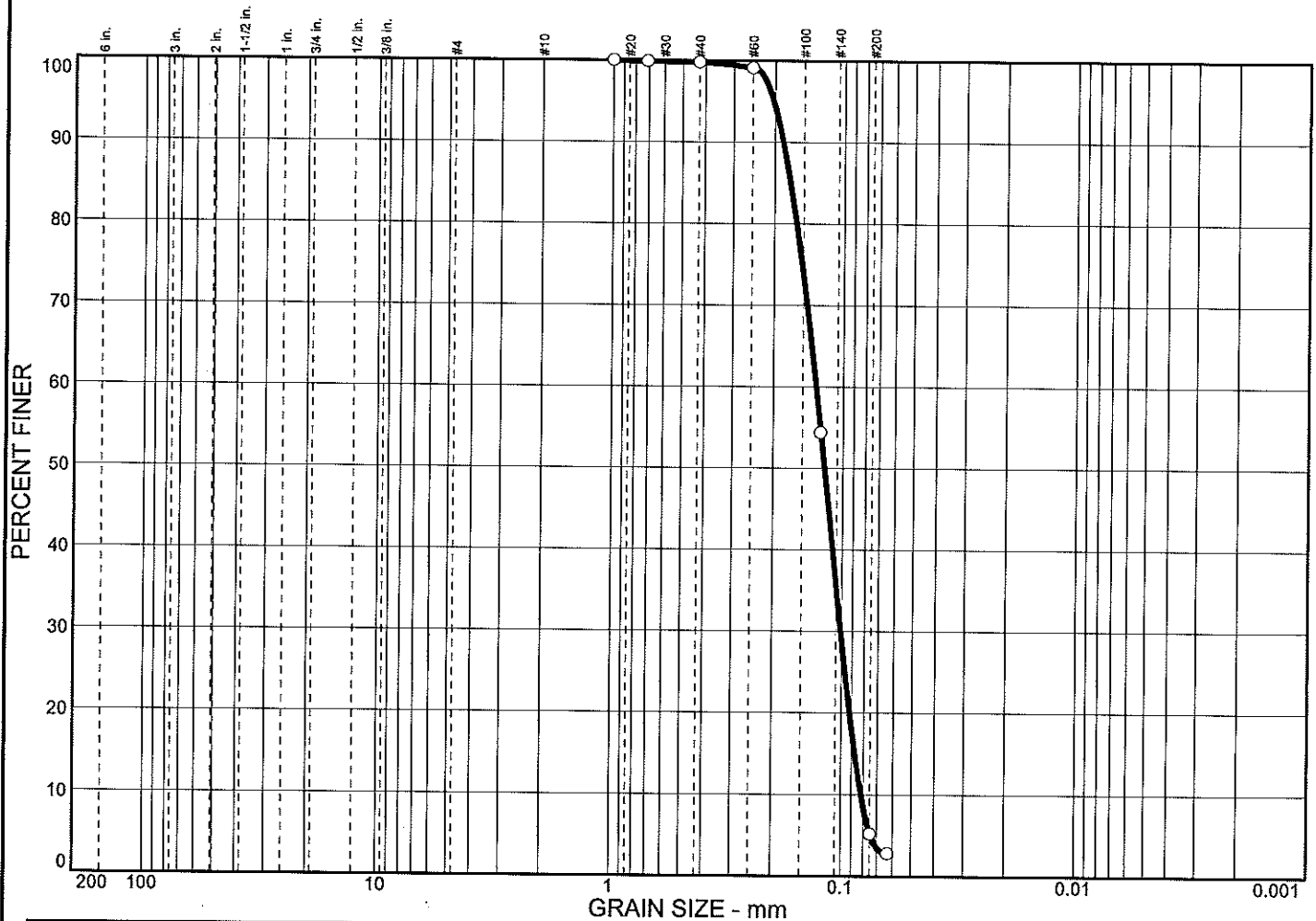


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.3	95.0	4.7			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.186	0.146	0.133	0.110	0.0925	0.0854	0.98	1.70
MATERIAL DESCRIPTION									USCS	AASHTO
○ Gray fine sand with trace silt, shell fragments									SP	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 250+64 Sample No.: MEAN HIGH WATER		Remarks: ○ Sample Mean High Water Moisture content = 24.5% Wentworth Classification: Gray fine to very fine sand with trace silt, shell fragments Figure
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi		

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY			
○ 0.0	0.0	0.0	0.0	0.2	94.6	5.2				
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.172	0.131	0.120	0.102	0.0875	0.0821	0.96	1.60
MATERIAL DESCRIPTION								USCS	AASHTO	
○ Gray fine sand with silt, shell fragments								SP-SM		

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 250+64 **Sample No.:** MEAN LOW WATER

Remarks:
 ○ Sample Mean Low Water
 Moisture content = 26.2%
 Wentworth Classification:
 Gray fine to very fine sand with
 trace silt, shell fragments



EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

Figure

Particle Size Distribution Report

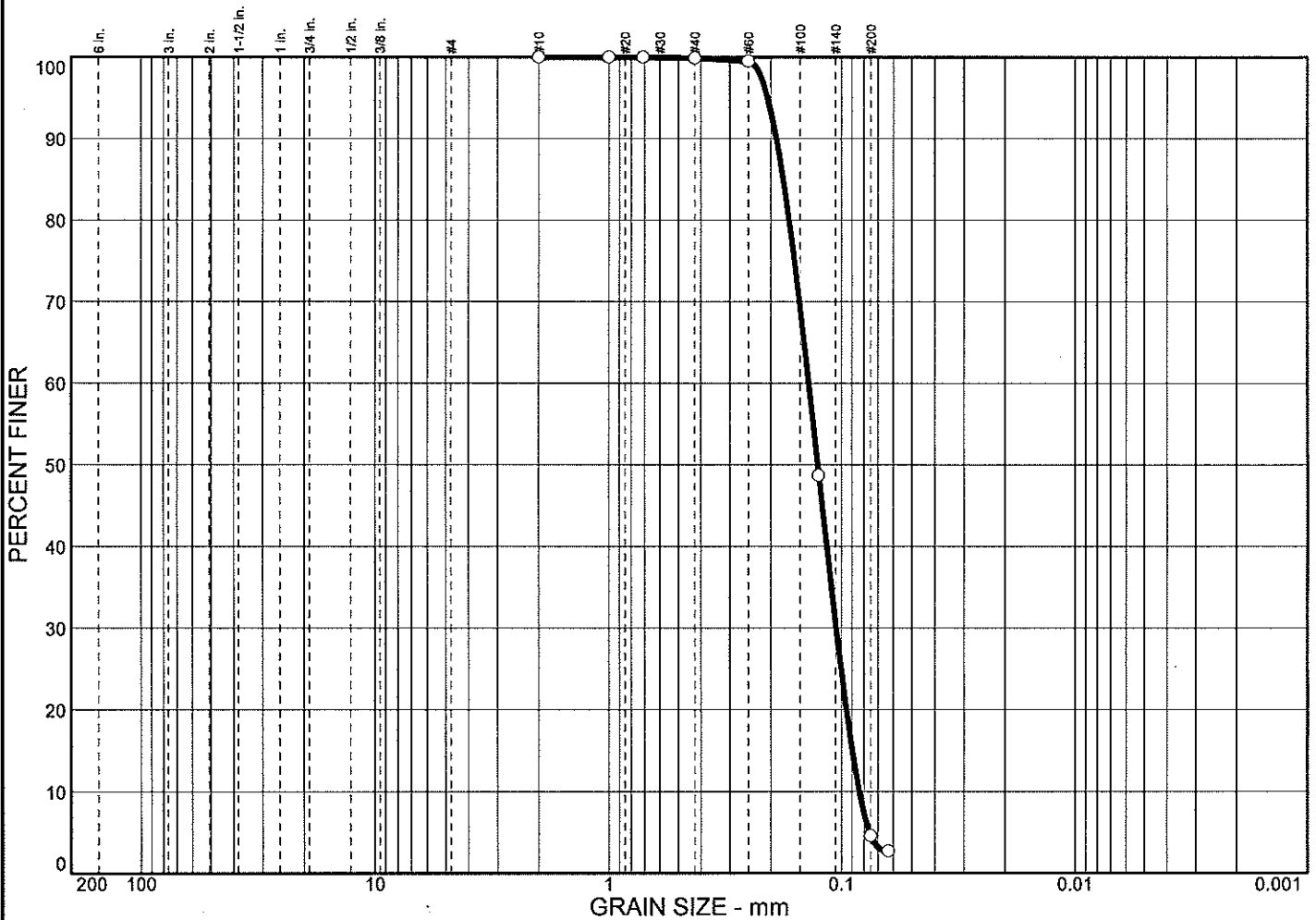


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.2	94.6	5.2			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.162	0.125	0.115	0.0984	0.0860	0.0812	0.96	1.54
MATERIAL DESCRIPTION									USCS	AASHTO
○ Gray fine sand with silt, trace shell fragments									SP-SM	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 250+64 **Sample No.:** WADING DEPTH

Remarks:
 ○ Sample Wading Depth
 Moisture content = 27.1%
 Wentworth Classification:
 Gray fine to very fine sand with
 trace silt, shell fragments

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES				
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
○	0.0	0.0	0.0	0.0	0.1	95.3	4.6				
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u	
○			0.178	0.138	0.126	0.106	0.0900	0.0840	0.96	1.65	
MATERIAL DESCRIPTION								USCS		AASHTO	
○ Gray fine sand with trace silt, shell fragments								SP			

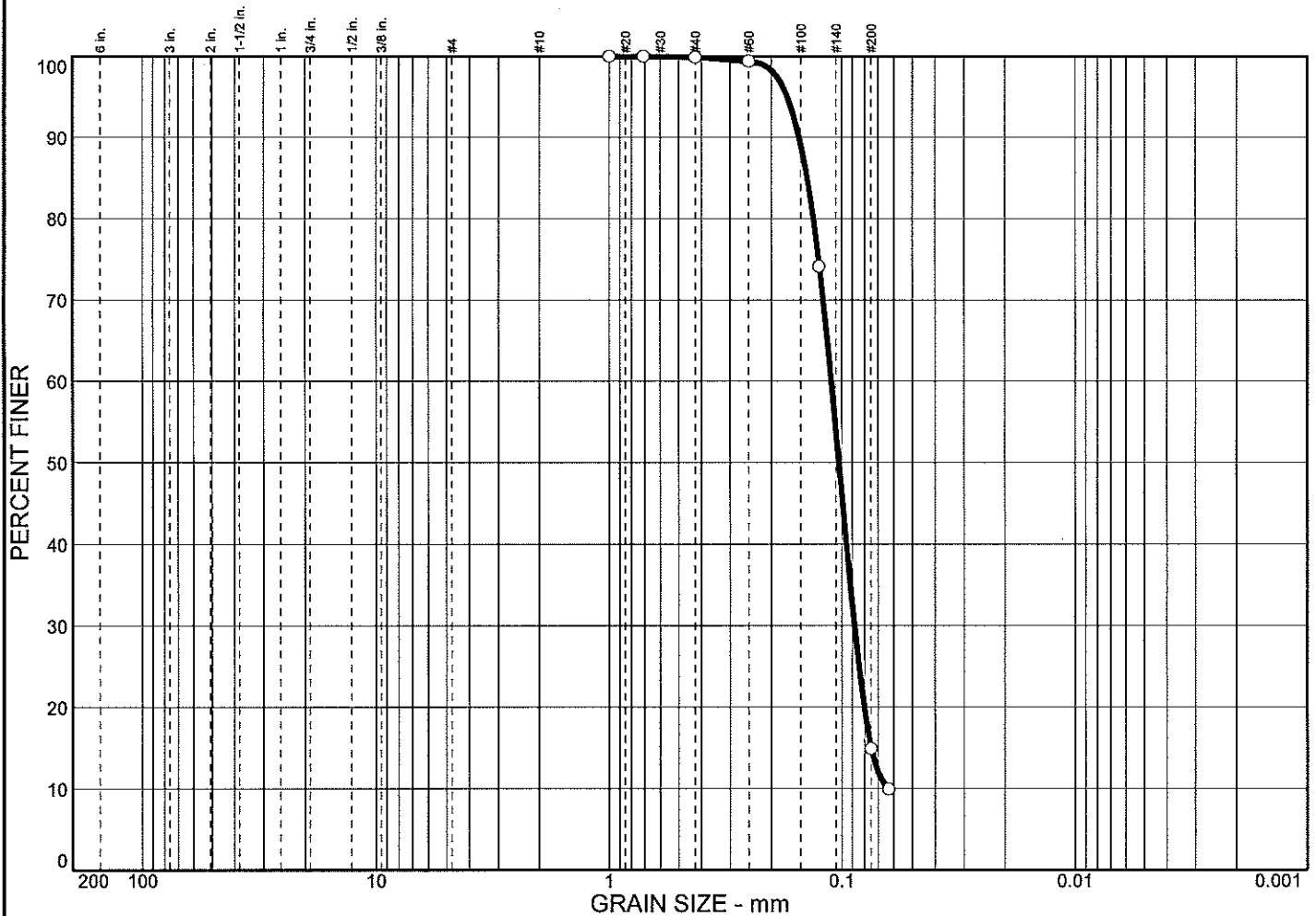
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 250+64 **Sample No.:** GULF BERM



Remarks:
 ○ Sample Gulf Berm
 Moisture content = 25.3%
 Wentworth Classification:
 Gray fine to very fine sand with
 trace silt, shell fragments

Figure

Particle Size Distribution Report

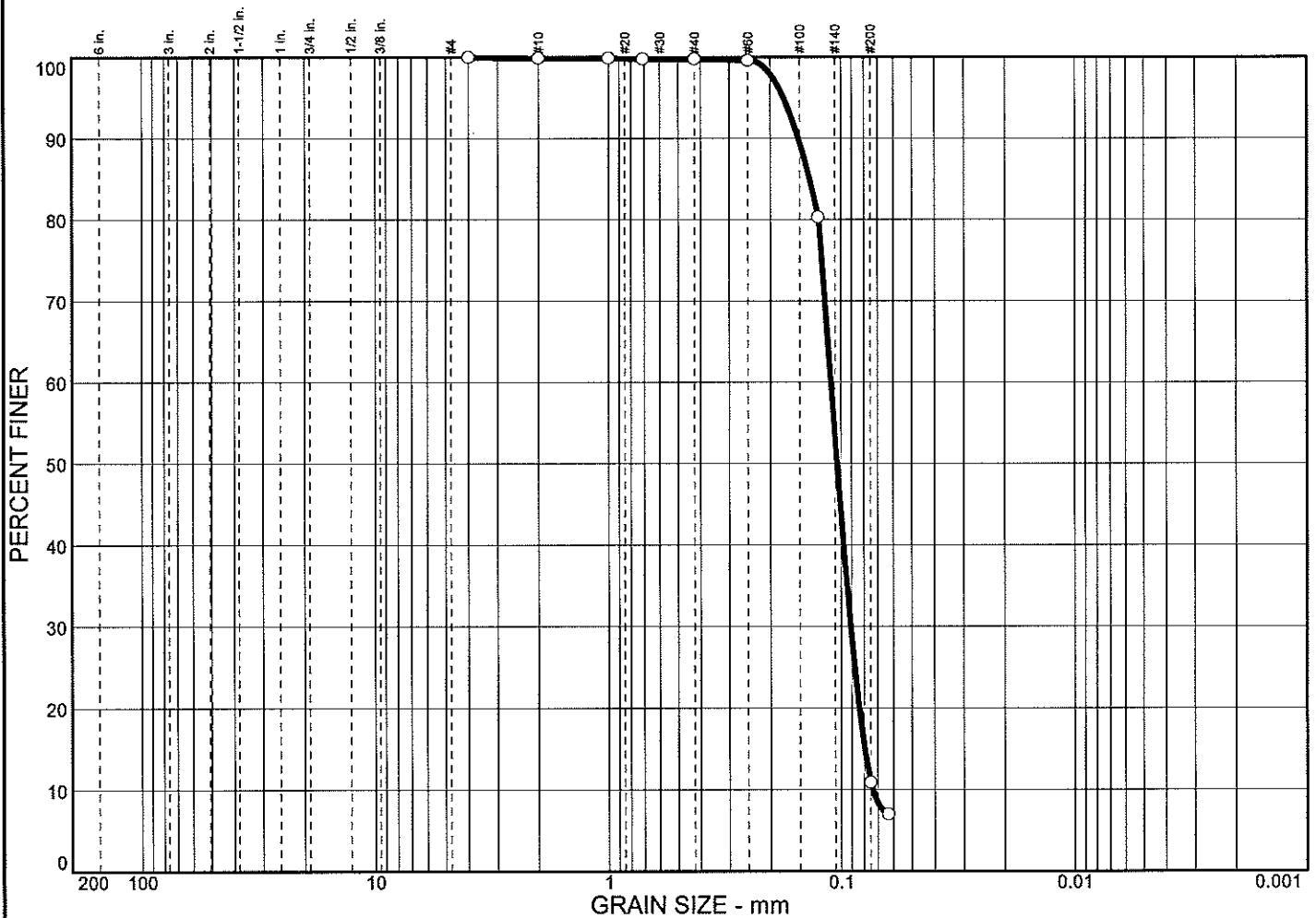


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.1	85.0	14.9			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.141	0.111	0.103	0.0885	0.0751	0.0634	1.11	1.75

MATERIAL DESCRIPTION								USCS	AASHTO
○ Gray silty sand with trace shell fragments								SM	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 250+64 Sample No.: DUNE TOE				Remarks: ○ Sample Dune Toe Moisture content = 24.0% Wentworth Classification: Gray silty sand with trace shell fragments	
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi				Figure	

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.1	0.1	88.9	10.9			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.136	0.111	0.104	0.0913	0.0796	0.0736	1.02	1.51

MATERIAL DESCRIPTION								USCS	AASHTO
○ Light gray fine sand with silt, trace shell fragments								SP-SM	

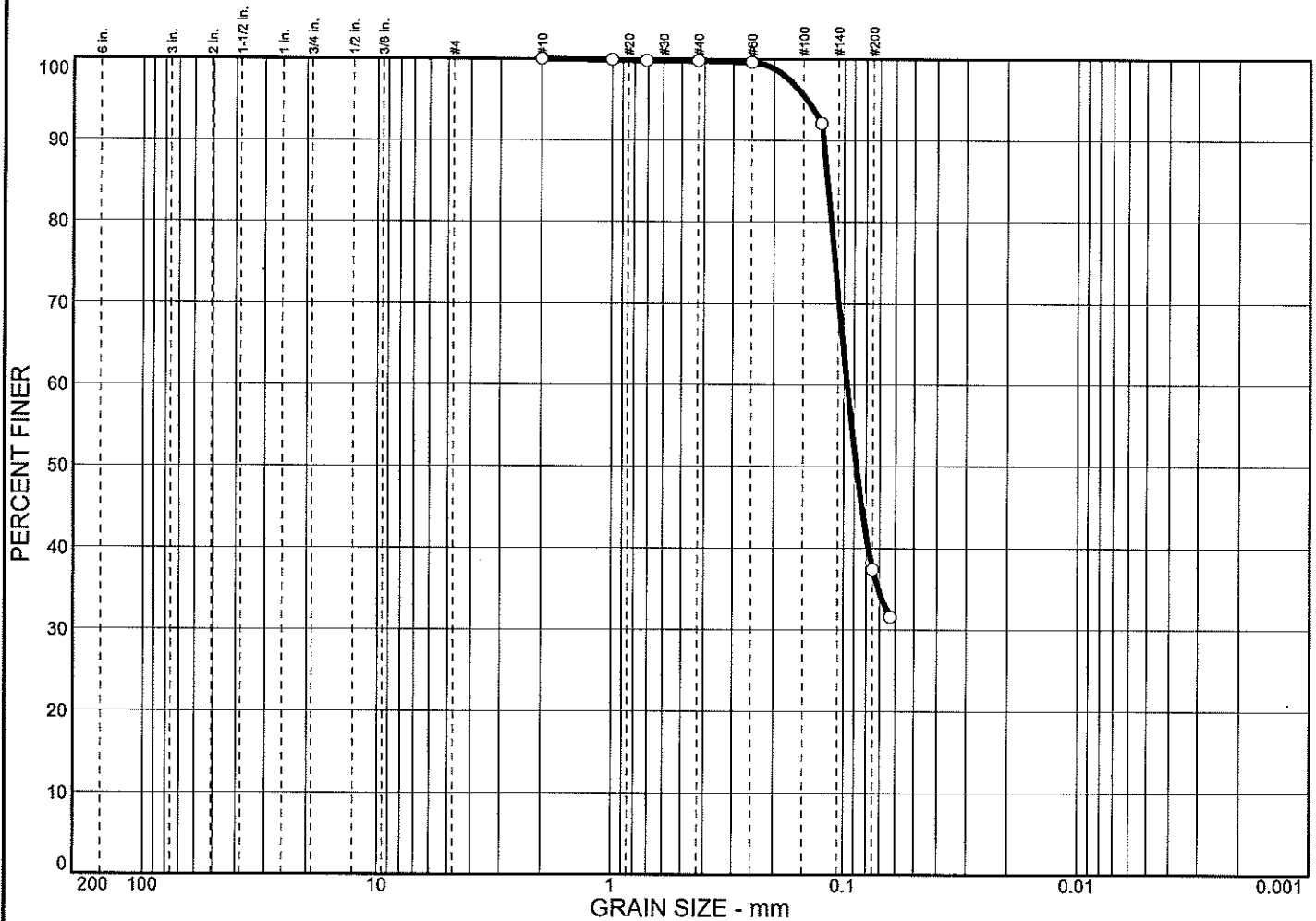
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 250+64 **Sample No.:** DUNE CREST

Remarks:
 ○ Sample Dune Crest
 Moisture content = 6.2%
 Wentworth Classification:
 Light gray fine to very fine sand
 with silt, trace shell fragments



Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.2	62.4	37.4			
×	LL	PL	D85	D60	D50	D30	D15	D10	C _c	C _u
○			0.118	0.0970	0.0883					
MATERIAL DESCRIPTION									USCS	AASHTO
○ Gray silty sand with clay, trace organic matter, shell fragments									SM	

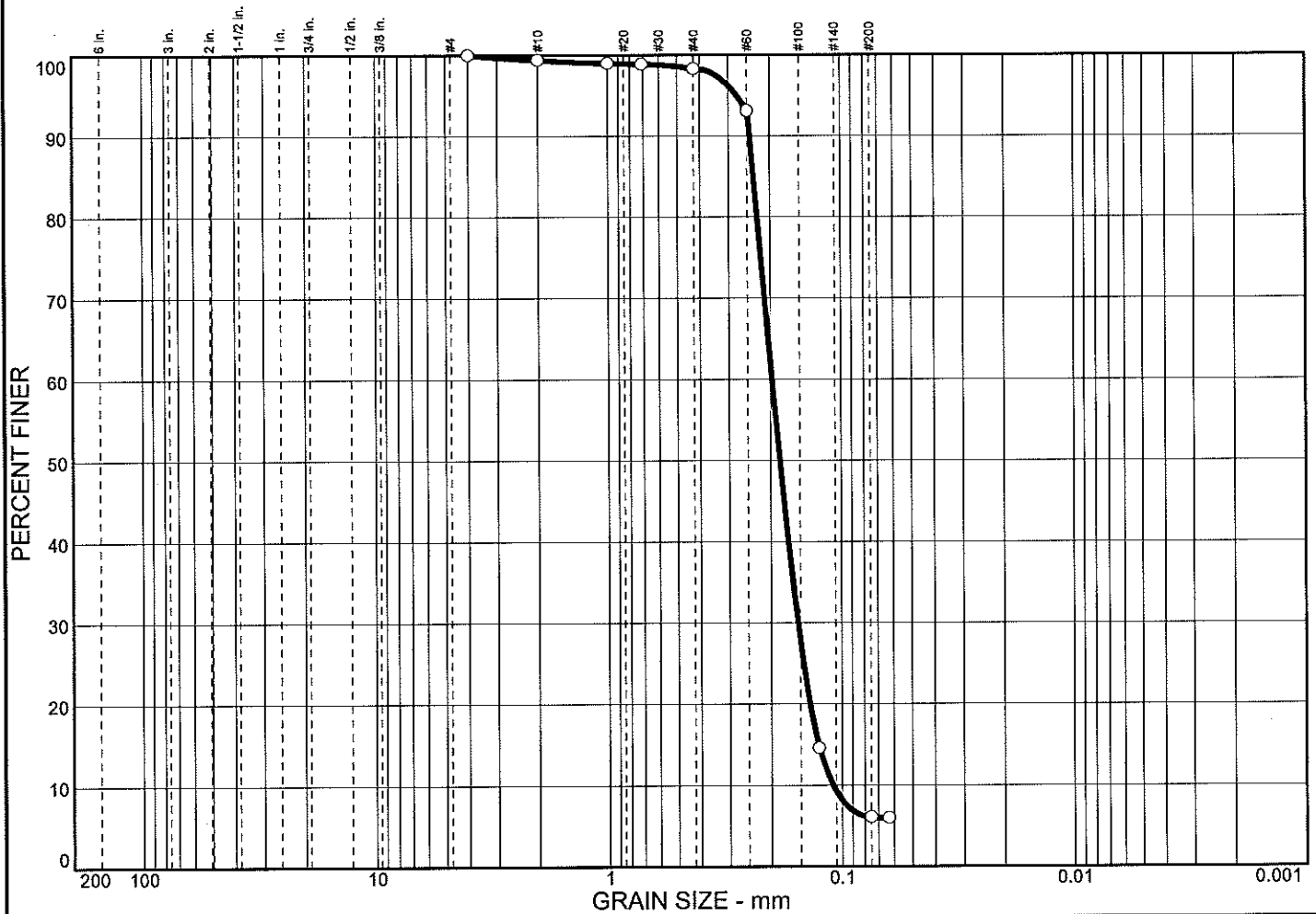
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 250+64 **Sample No.:** BACK BAY BERM

Remarks:
 ○ Sample Back Bay Berm
 Moisture content = 26.8%
 Wentworth Classification:
 Gray silty sand with clay, trace
 organic matter, shell fragments



Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.6	1.1	92.2	6.1			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.236	0.197	0.183	0.154	0.126	0.109	1.10	1.81

MATERIAL DESCRIPTION

○ Tan fine sand with silt, trace cemented sand, shell fragments

USCS

SP-SM

AASHTO

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana

Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)

Terrebonne Parish, Louisiana, Purchase Order No. 125146

○ **Source:** Station 250+64

Sample No.: MARSH PLATFORM

Remarks:

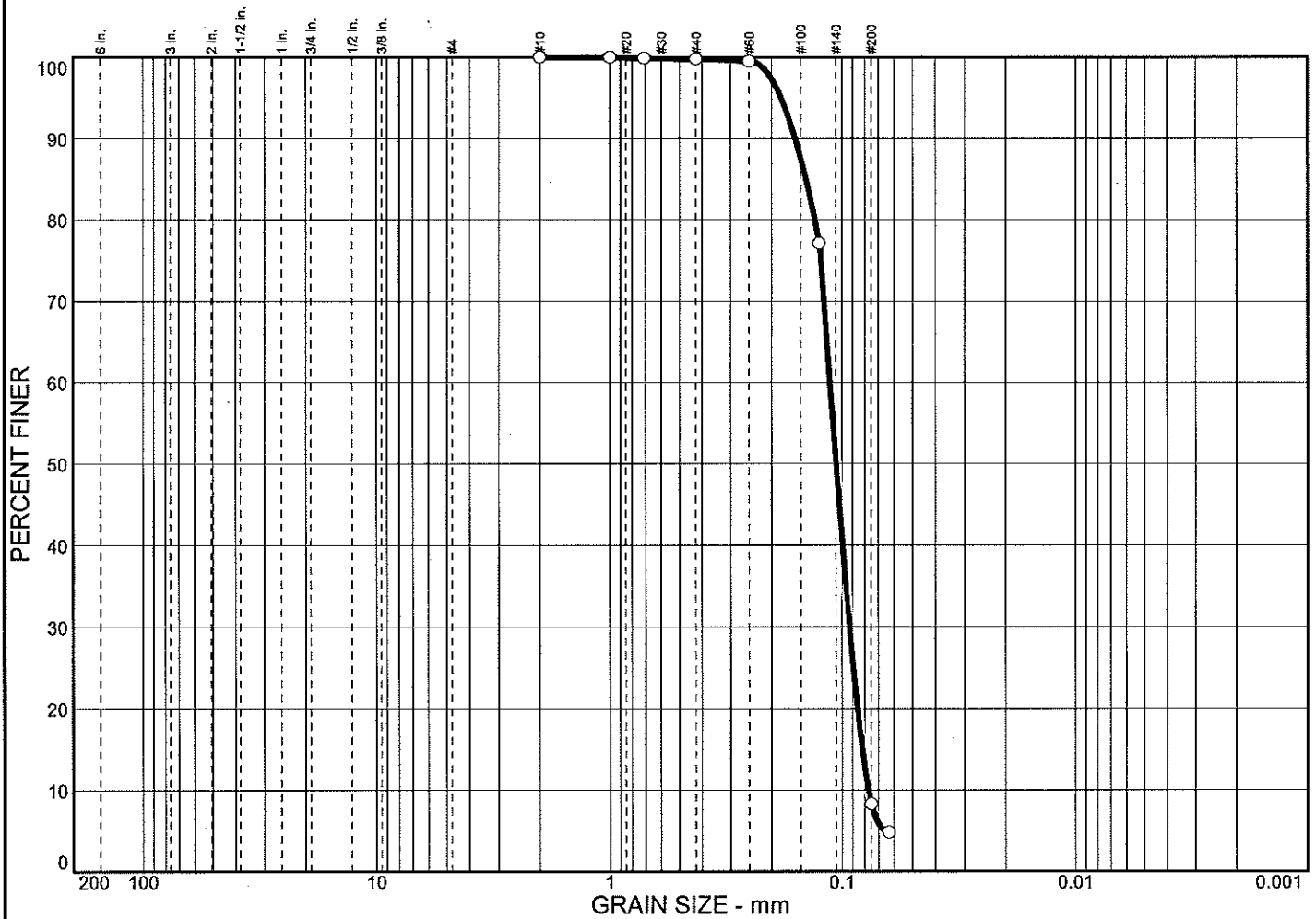
○ Sample Marsh Platform
 Moisture content = 23.0%
 Wentworth Classification:
 Tan fine to very fine sand with
 silt, trace cemented sand, shell
 fragments



EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.2	91.5	8.3			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.143	0.113	0.106	0.0932	0.0821	0.0772	1.00	1.46

MATERIAL DESCRIPTION								USCS	AASHTO
○ Gray fine sand with silt, trace shell fragments								SP-SM	

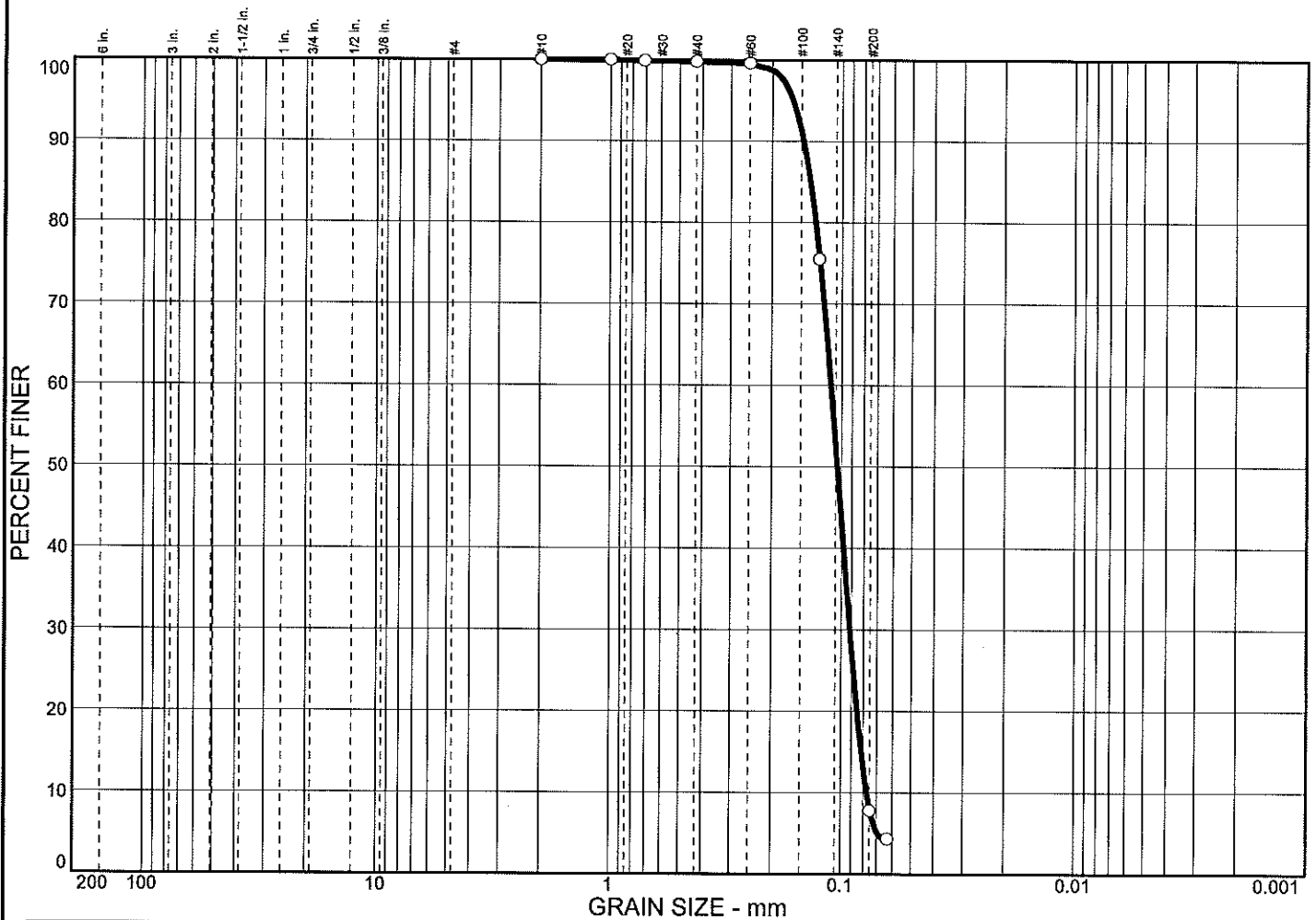
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Source: Station 232+64 **Sample No.:** MEAN HIGH WATER

Remarks:
 ○ Sample Mean High Water
 Moisture content = 22.5%
 Wentworth Classification:
 Gray fine to very fine sand with
 trace silt, shell fragments



Figure

Particle Size Distribution Report



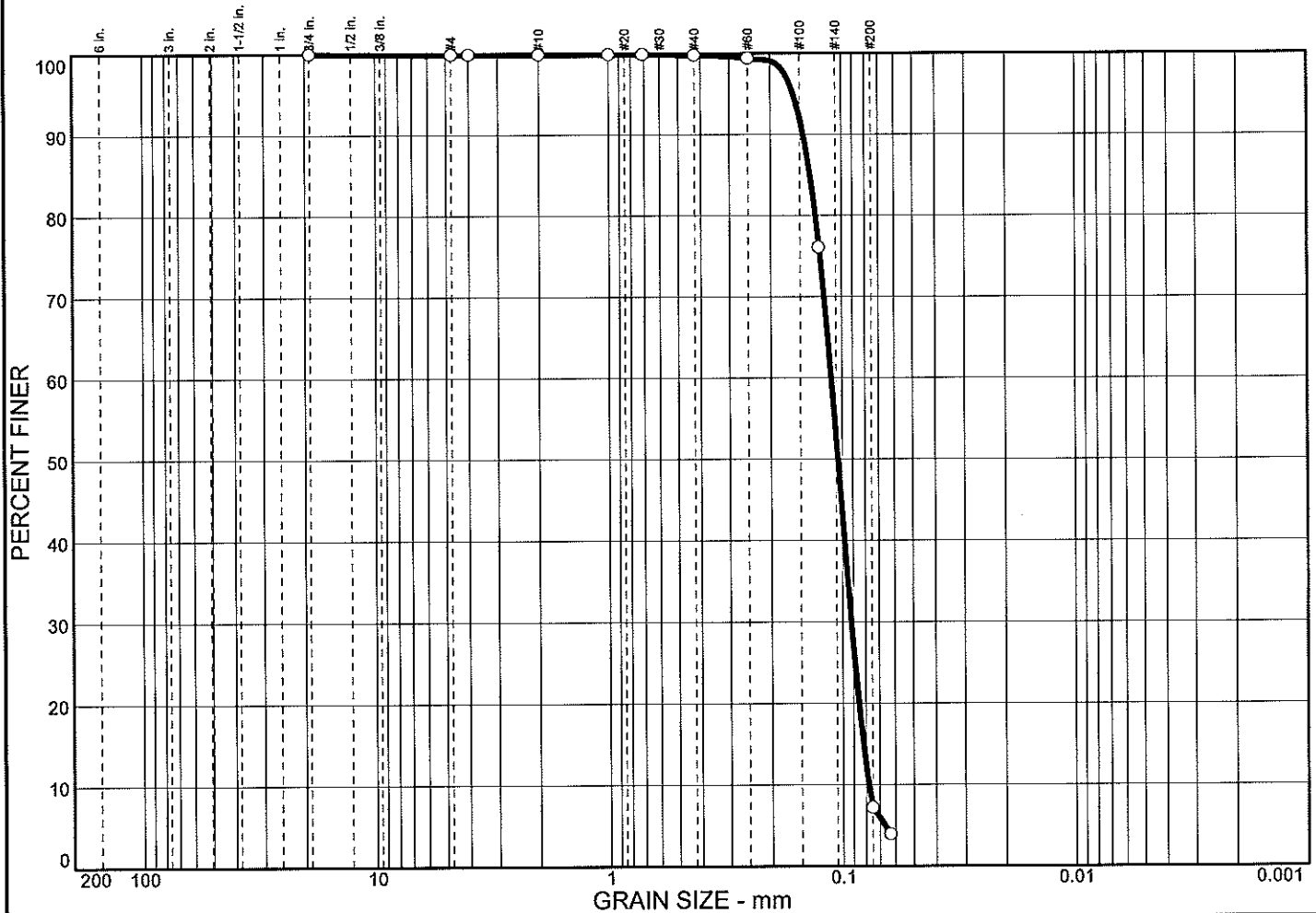
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.2	92.0	7.8			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.137	0.112	0.105	0.0920	0.0818	0.0775	0.98	1.44

MATERIAL DESCRIPTION								USCS	AASHTO
○ Gray fine sand with silt, trace shell fragments								SP-SM	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 232+64 Sample No.: MEAN LOW WATER		Remarks: ○ Sample Mean Low Water Moisture content = 30.4 Wentworth Classification: Gray fine to very fine sand with trace silt, shell fragments Figure
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi		

Figure

Particle Size Distribution Report



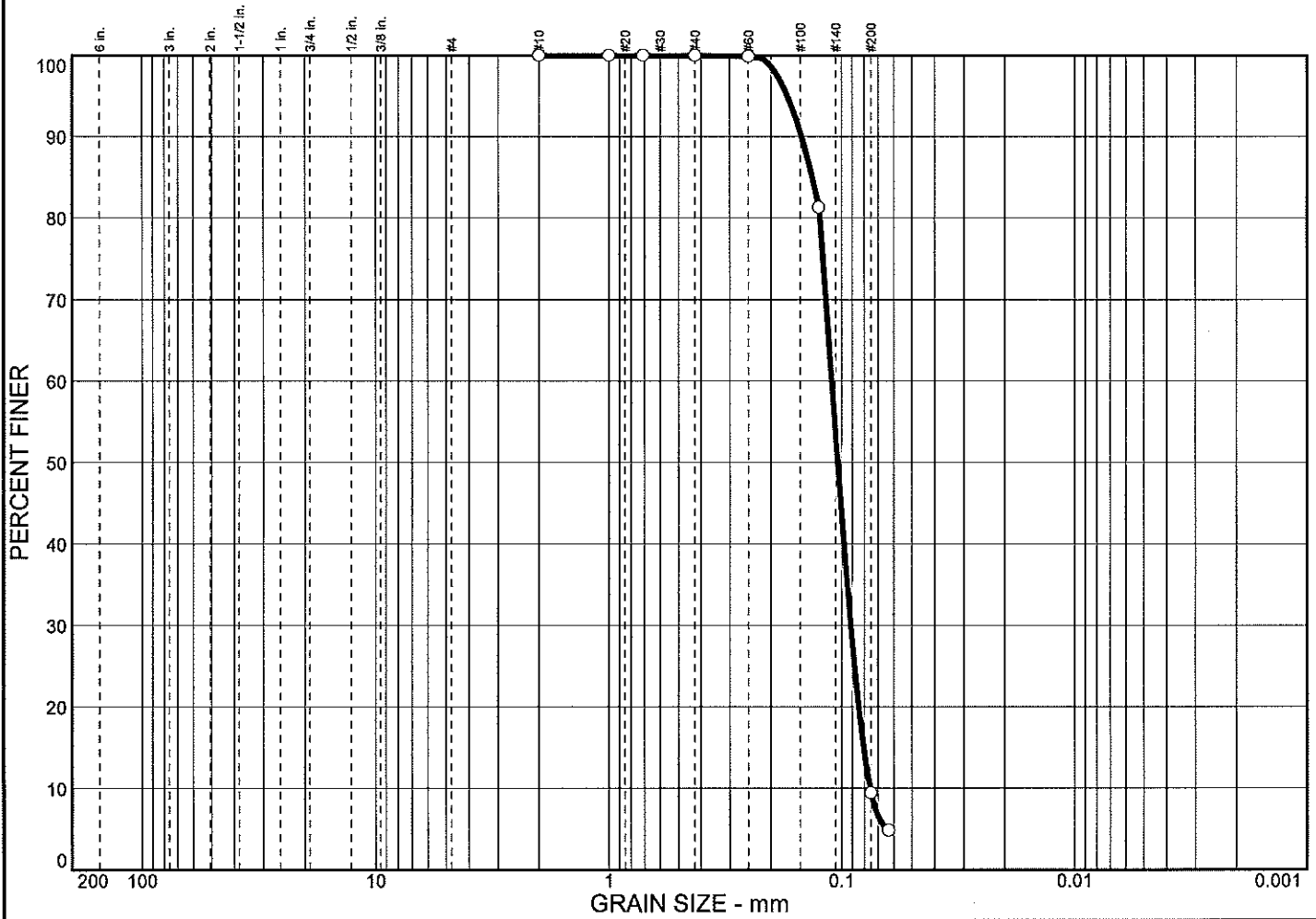
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.1	0.0	0.1	92.6	7.2			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.136	0.111	0.105	0.0921	0.0822	0.0781	0.98	1.43

MATERIAL DESCRIPTION	USCS	AASHTO
Gray fine sand with silt, trace shell fragments	SP-SM	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 Source: Station 232+64 Sample No.: WADING DEPTH	Remarks: ○ Sample Wading Depth Moisture content = 27.7% Wentworth Classification: Gray fine to very fine sand with trace silt, shell fragments
 EUSTIS Metaline, Louisiana Lafayette, Louisiana Gulfport, Mississippi	

Figure

Particle Size Distribution Report



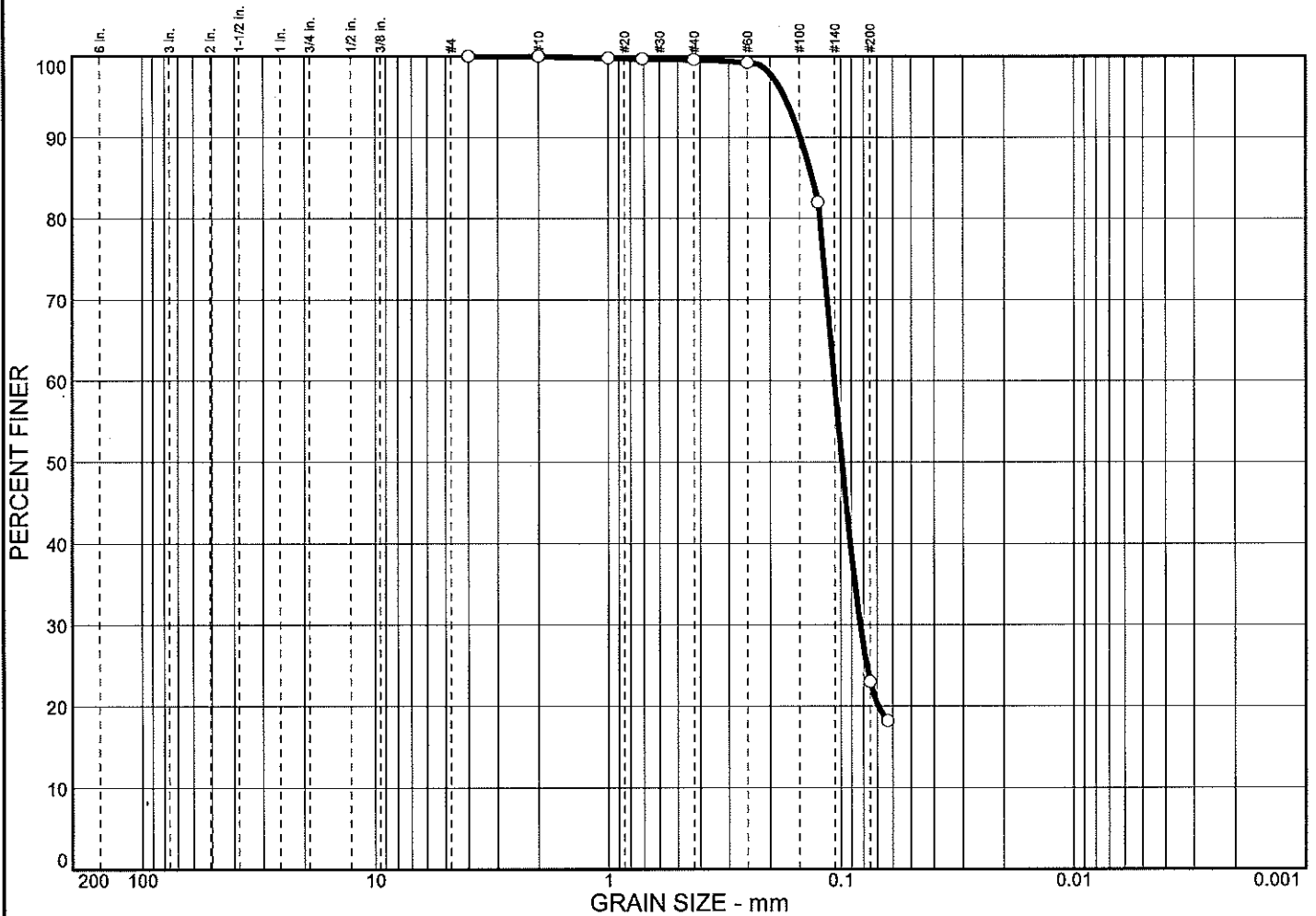
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.0	90.6	9.4			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.134	0.111	0.104	0.0916	0.0807	0.0758	1.00	1.46

MATERIAL DESCRIPTION								USCS	AASHTO
○ Gray fine sand with silt								SP-SM	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 232+64 Sample No.: GULF BERM	Remarks: ○ Sample Gulf Berm Moisture content = 24.4% Wentworth Classification: Tan fine to very fine sand with trace silt
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi	Figure

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.4	76.6	23.0			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.133	0.107	0.0991	0.0828				

MATERIAL DESCRIPTION	USCS	AASHTO
Gray silty sand with trace shell fragments, organic matter	SM	

Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Source: Station 232+64 **Sample No.:** DUNE TOE

Remarks:
 ○ Sample Dune Toe
 Moisture content = 25.1
 Wentworth Classification:
 Gray silty sand with trace shell fragments, organic matter



EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.1	86.1	13.8			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.124	0.108	0.101	0.0887	0.0764	0.0675	1.08	1.60
MATERIAL DESCRIPTION								USCS		AASHTO
○ Light gray silty sand								SM		

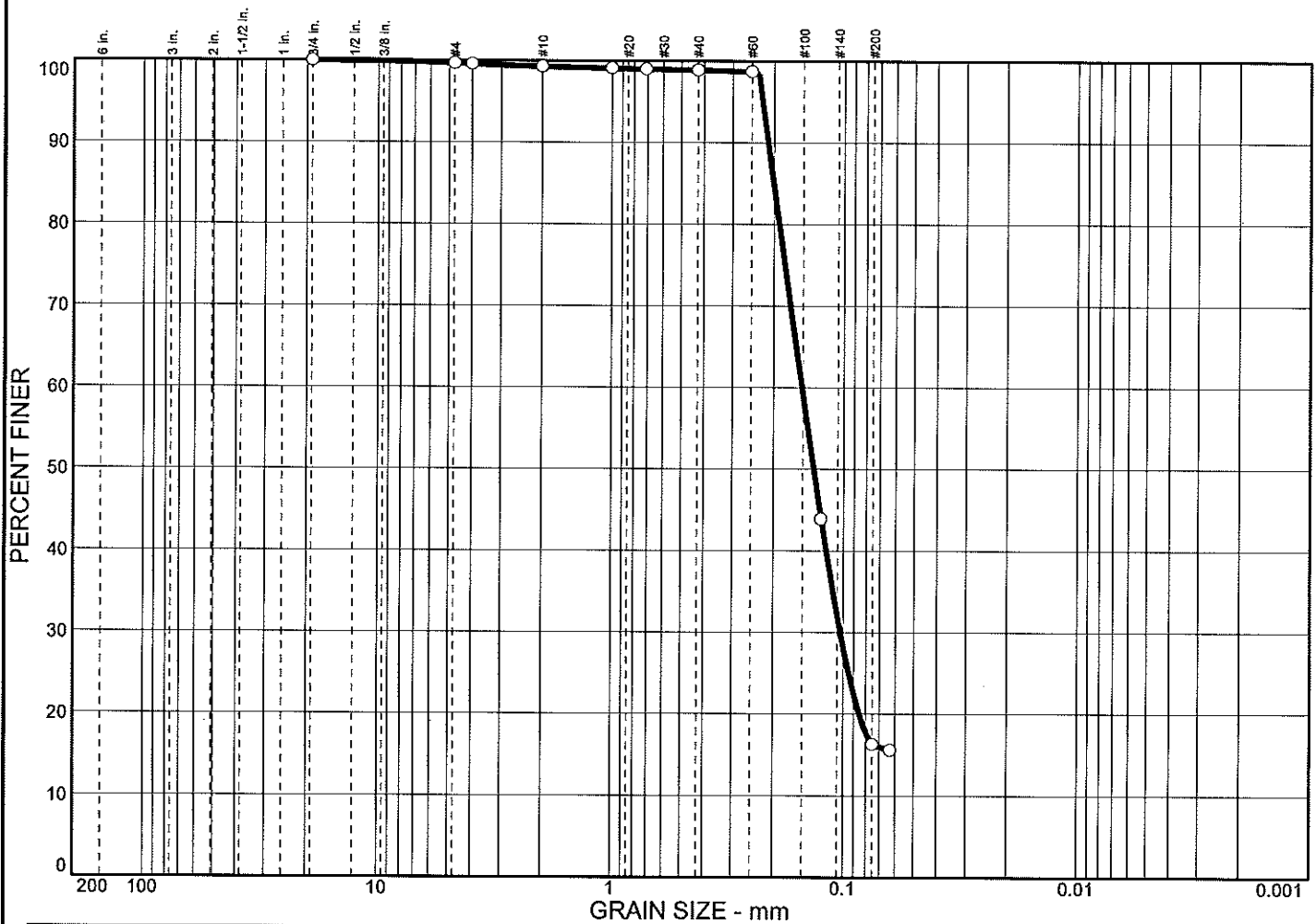
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 232+64 **Sample No.:** DUNE CREST

Remarks:
 ○ Sample Dune Crest
 Moisture content = 12.5%
 Wentworth Classification:
 Light gray fine to very fine sand
 with silt



Figure

Particle Size Distribution Report

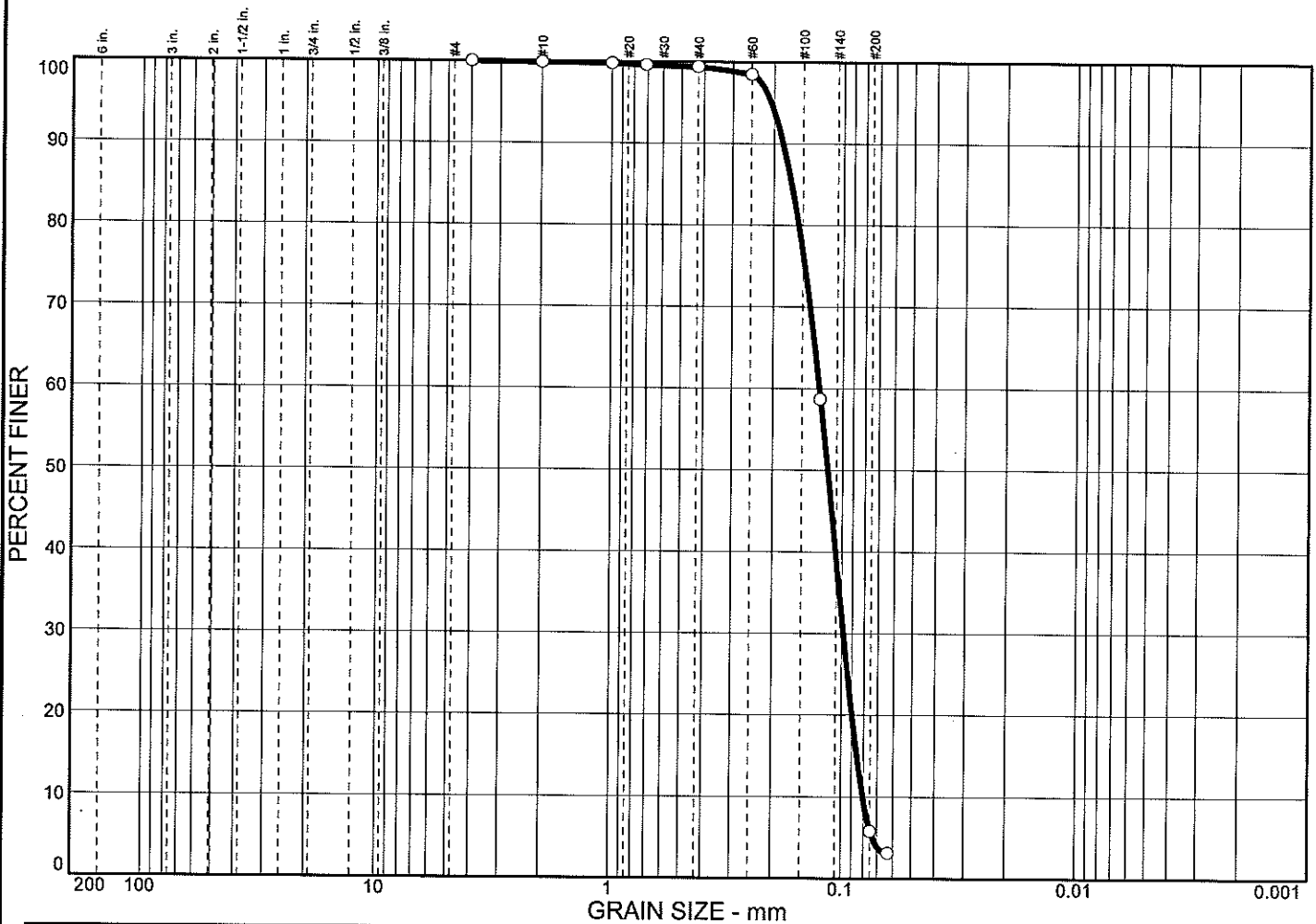


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.3	0.4	0.4	82.6	16.3			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.201	0.152	0.135	0.103				
MATERIAL DESCRIPTION									USCS	AASHTO
○ Tan silty sand with trace cemented sand, roots									SM	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 232+64 Sample No.: BACK BAY BERM	Remarks: ○ Sample Back Bay Berm Moisture content = 23.2% Wentworth Classification: Tan silty sand with trace cemented sand, roots
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi	

Figure

Particle Size Distribution Report



	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.1	0.5	93.6	5.8			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.168	0.126	0.116	0.0988	0.0858	0.0807	0.96	1.57

MATERIAL DESCRIPTION								USCS	AASHTO
○ Gray fine sand with silt, trace shell fragments, roots								SP-SM	

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Source: Station 232+64 Sample No.: MARSH PLATFORM	Remarks: ○ Sample Marsh Platform Moisture content = 13.0% Wentworth Classification: Gray fine to very fine sand with trace silt, shell fragments, roots
 EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi	Figure

Figure