

APPENDIX F
Pre-and Post-construction Geotechnical Sample Report

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

3011 28TH STREET
METAIRIE, LOUISIANA 70002-6019
PN 504-834-0157 / FN 504-834-0354
EMAIL: INFO@EUSTISENG.COM / SITE: WWW.EUSTISENG.COM

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
----------------------	---

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 *

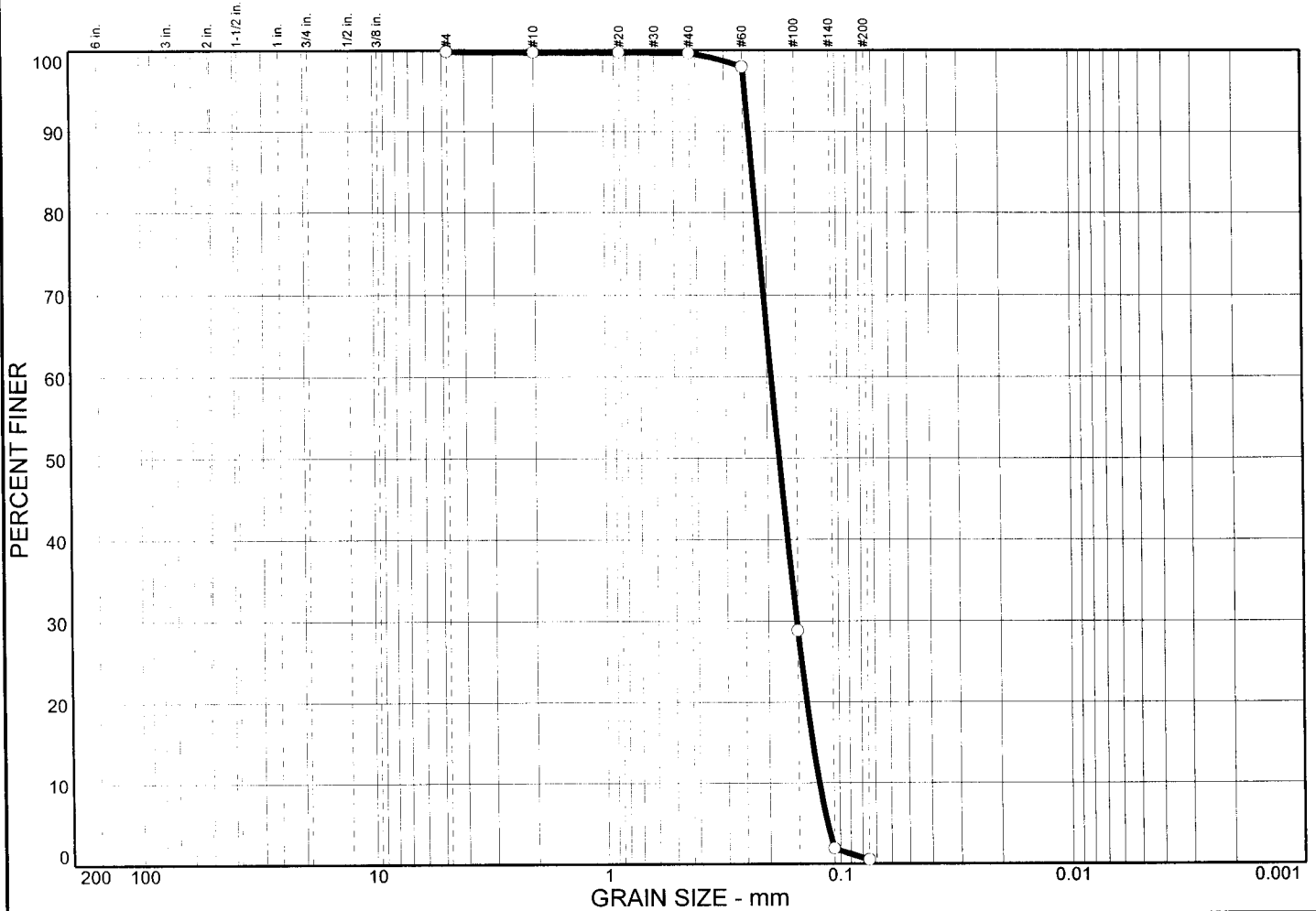
Test Number	1	2	3	4	5	6
Min Max dry Density/PCF	92.4/104.2	93.3/102.3	86.2/100.8	95.3/101.7	88.0/101.7	93.0/103.7
Lift Number						
Station	309+80	309+80	286+64	286+67	268+64	268+64
Lot						
Offset	DC-500	GB-900	GB-1030	DC-700	DC-400	GB-600
Depth of Test (Inches)	12	12	12	12	12	12
Depth of Fill (Inches)						
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			
×	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

Remarks:

- Sample MLW-960

Moisture content = 27.3%

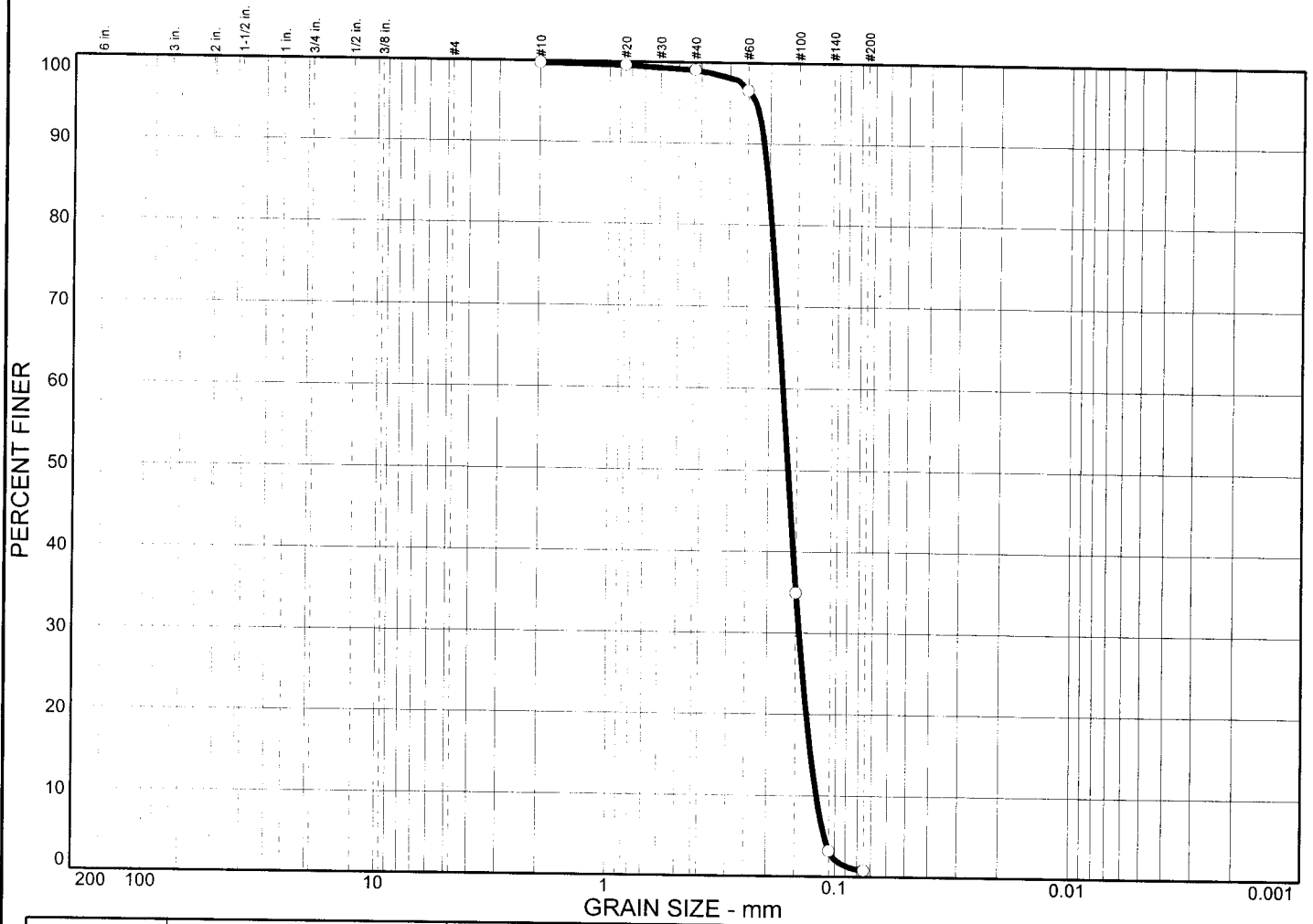
Estimated Wentworth Classification:

Tan fine to very fine sand with shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



GRAVEL SIZE UNIT										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
				0.7	98.3	0.8				

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 Wadding-980
 Moisture content = 24.0%
 Estimated Wentworth
 Classification:
 Tan fine to very fine sand with
 shell fragments

Figure

Grain size distribution curve showing Percent Finer versus Grain Size (mm). The curve is plotted on a semi-logarithmic scale. The x-axis (Grain Size) ranges from 200 mm to 0.001 mm. The y-axis (Percent Finer) ranges from 0 to 100. The curve shows a sharp drop in percent finer between 0.6 mm and 0.075 mm.

Grain Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
30	100
20	100
10	100
6	100
4.75	100
3.0	100
2.0	100
1.5	100
1.18	100
0.85	100
0.6	100
0.425	100
0.3	100
0.25	100
0.2	100
0.15	100
0.106	100
0.075	96
0.05	43
0.0375	5
0.025	0
0.015	0
0.0075	0
0.00425	0
0.0025	0
0.0015	0
0.00075	0
0.000425	0
0.00025	0
0.00015	0
0.000075	0

[illegible]

MATERIAL DESCRIPTION	USCS	AASHTO
① 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

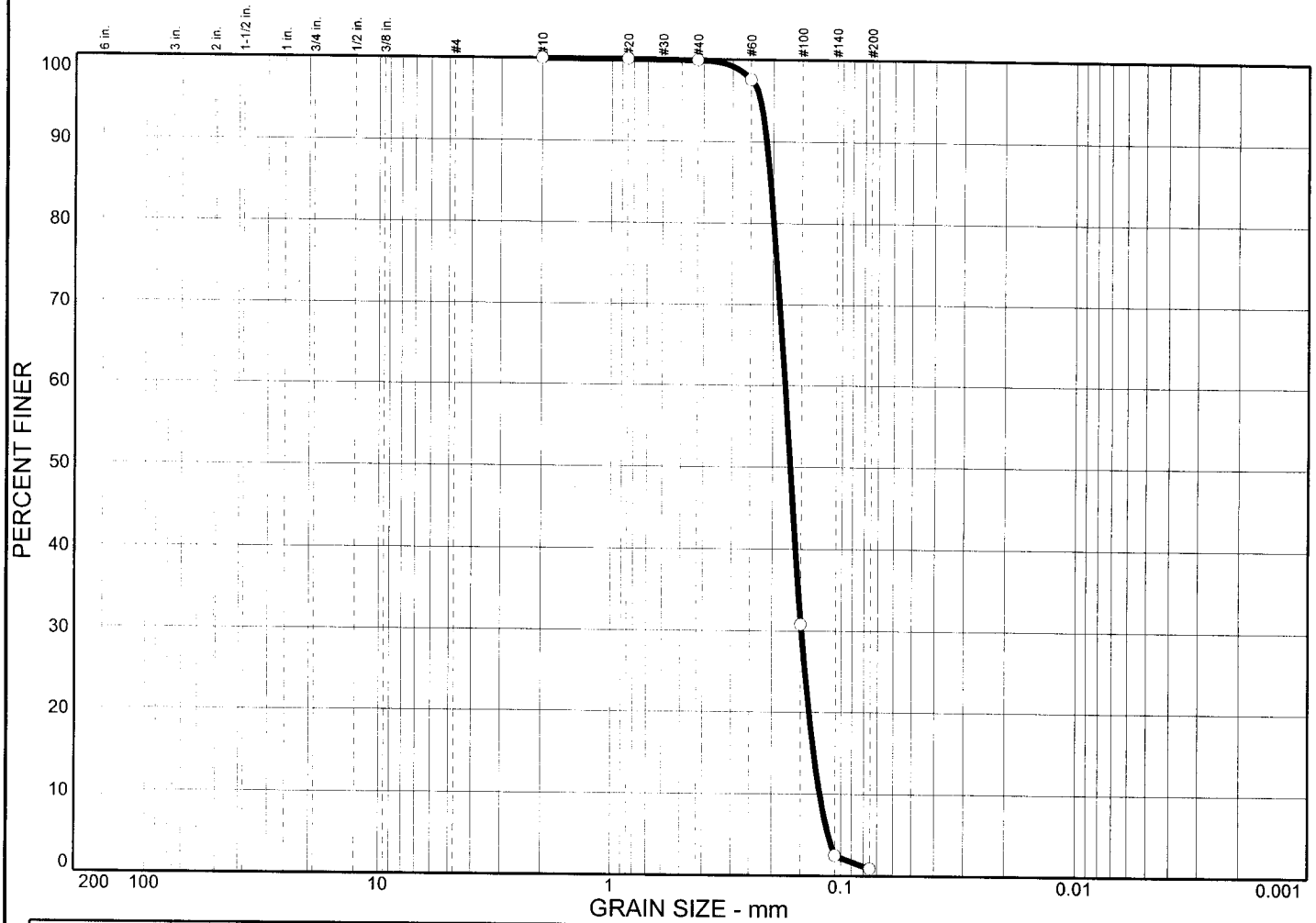
- Sample BBB-0

Estimated Wentworth
Classification:
Tan fine to very fine sand with
shell fragments, roots

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



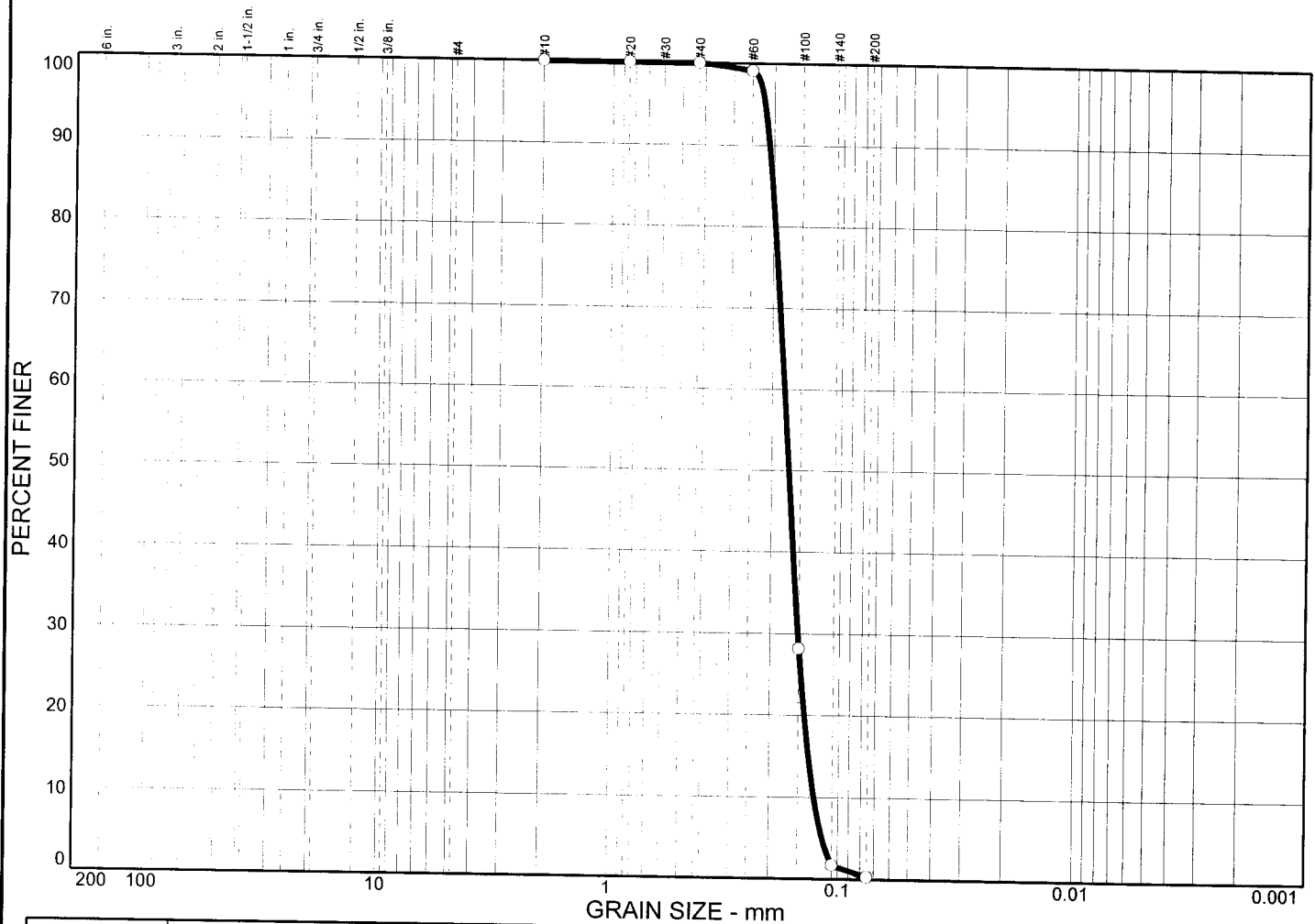
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.1	99.0	0.9				
LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u	
		0.206	0.177	0.168	0.149	0.132	0.124	1.02	1.43	

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
EUSTIS ENGINEERING COMPANY, INC. METAIRIE, LA	

Figure

Particle Size Distribution Report



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 0.425 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.

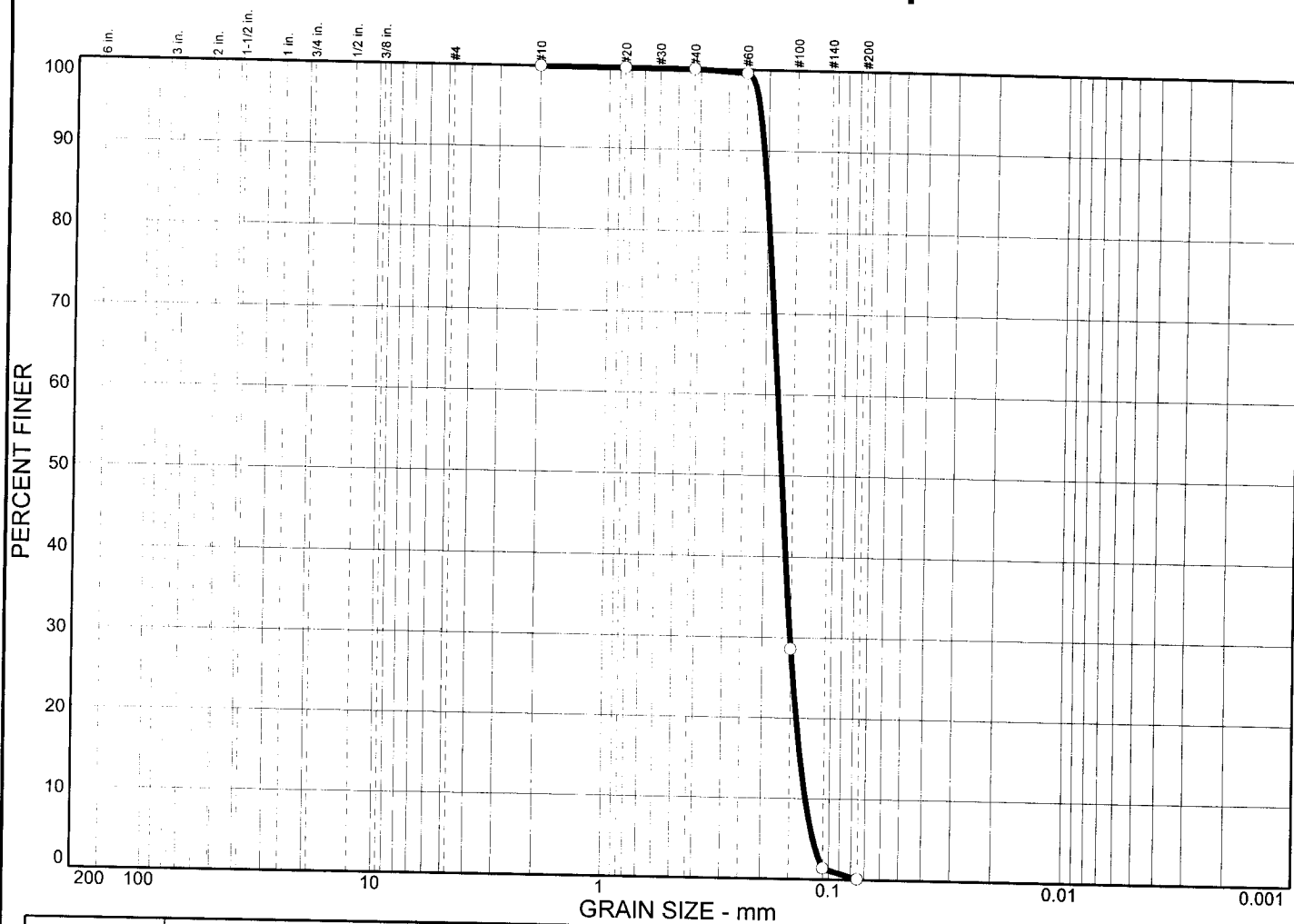
Grain Size (mm)	Percent Finer (%)
2.0	100
0.85	100
0.425	100
0.25	98
0.15	30
0.075	0
0.06	0

MATERIAL DESCRIPTION		USCS	AASHTO
①	Tan fine sand with shell fragments, roots	SP	
Paving Material			

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

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION	USCS	AASHTO
○ Tan fine sand with shell fragments	SP	
○ Reddish-brown silty clay	CL	

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

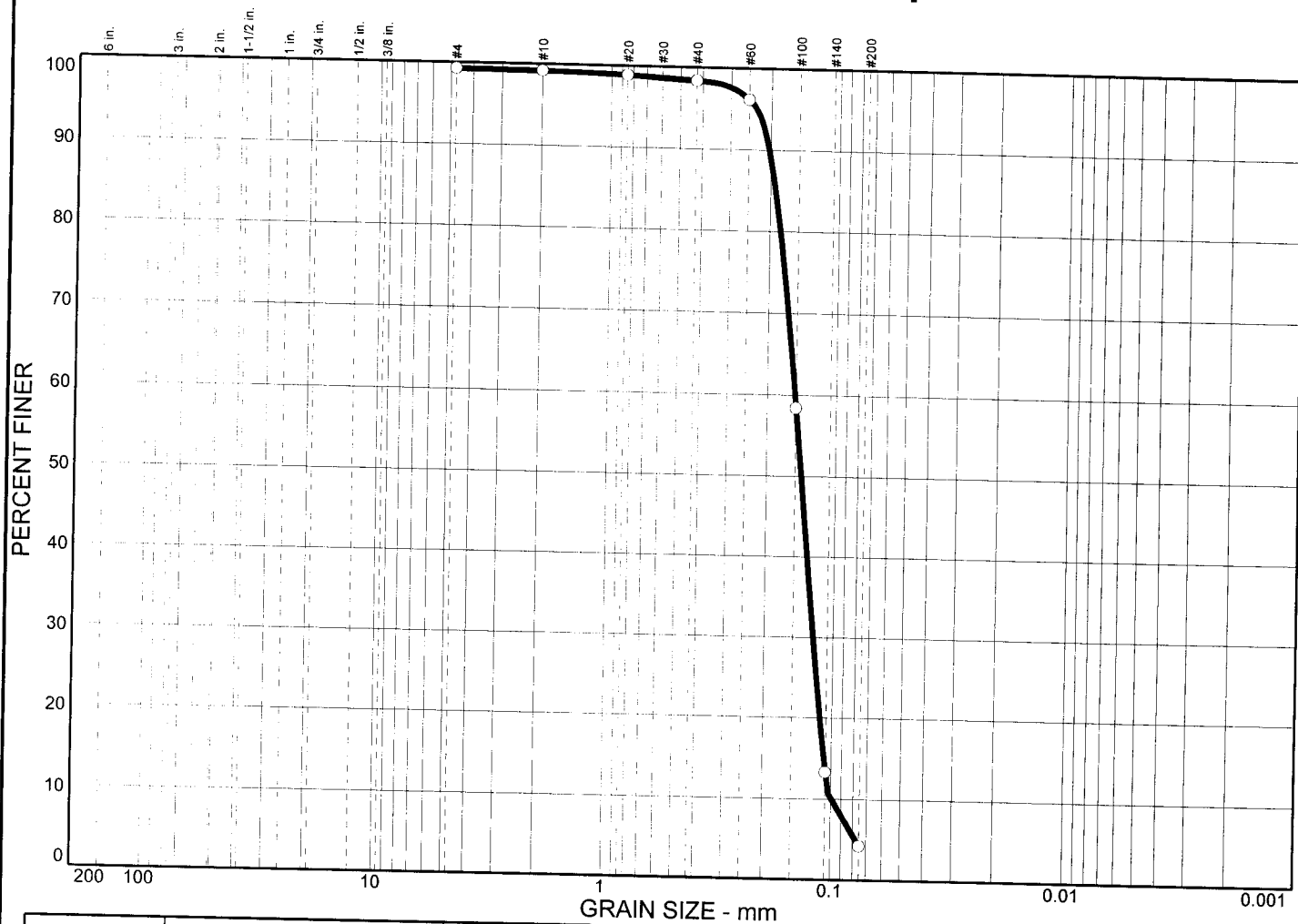
Classification:

Tan fine to very fine sand with shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report

[illegible]

MATERIAL DESCRIPTION	USCS	AASHTO
0 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

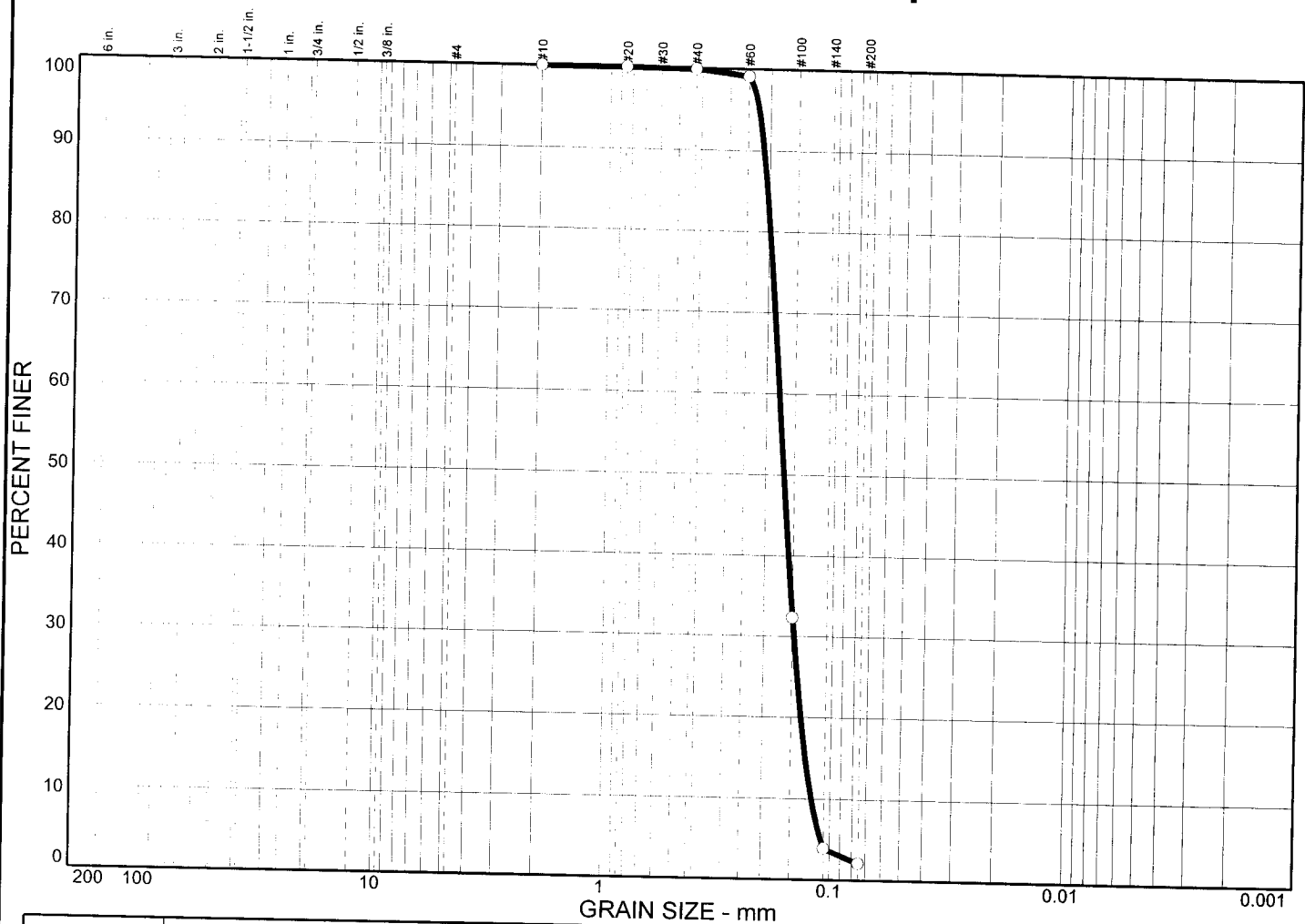
Classification:

Tan fine to very fine sand with shell fragments

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	97.8	2.1				
X	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

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Grain size distribution curve showing Percent Finer versus Grain Size (mm). The curve is plotted on a semi-logarithmic scale. The Y-axis represents Percent Finer (0 to 100), and the X-axis represents Grain Size in mm (logarithmic scale from 200 to 0.001). The curve shows a sharp drop in percent finer between 0.25 mm and 0.075 mm, indicating a well-graded material.

Grain Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
30	100
20	100
10	100
7.5	100
6.0	100
4.75	100
3.0	100
2.5	100
2.0	100
1.5	100
1.18	100
0.85	100
0.75	100
0.60	100
0.425	100
0.30	100
0.25	100
0.20	100
0.15	100
0.125	100
0.106	100
0.075	42
0.060	1
0.0425	0
0.030	0
0.025	0
0.020	0
0.015	0
0.0118	0
0.0085	0
0.0075	0
0.0060	0
0.00425	0
0.0030	0
0.0025	0
0.0020	0
0.0015	0
0.00118	0
0.00085	0
0.00075	0
0.00060	0
0.000425	0
0.00030	0
0.00025	0
0.00020	0
0.00015	0
0.000118	0
0.000085	0
0.000075	0
0.000060	0
0.0000425	0
0.000030	0
0.000025	0
0.000020	0
0.000015	0
0.0000118	0
0.0000085	0
0.0000075	0
0.0000060	0
0.00000425	0
0.0000030	0
0.0000025	0
0.0000020	0
0.0000015	0
0.00000118	0
0.00000085	0
0.00000075	0
0.00000060	0
0.000000425	0
0.00000030	0
0.00000025	0
0.00000020	0
0.00000015	0
0.000000118	0
0.000000085	0
0.000000075	0
0.000000060	0
0.0000000425	0
0.000000030	0
0.000000025	0
0.000000020	0
0.000000015	0
0.0000000118	0
0.0000000085	0
0.0000000075	0
0.0000000060	0
0.00000000425	0
0.0000000030	0
0.0000000025	0
0.0000000020	0
0.0000000015	0
0.00000000118	0
0.00000000085	0
0.00000000075	0
0.00000000060	0
0.000000000425	0
0.00000000030	0
0.00000000025	0
0.00000000020	0
0.00000000015	0
0.000000000118	0
0.000000000085	0
0.000000000075	0
0.000000000060	0
0.0000000000425	0
0.000000000030	0
0.000000000025	0
0.000000000020	0
0.000000000015	0
0.0000000000118	0
0.0000000000085	0
0.0000000000075	0
0.0000000000060	0
0.00000000000425	0
0.0000000000030	0
0.0000000000025	0
0.0000000000020	0
0.0000000000015	0
0.00000000000118	0
0.00000000000085	0
0.00000000000075	0
0.00000000000060	0
0.000000000000425	0
0.00000000000030	0
0.00000000000025	0
0.00000000000020	0
0.00	

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

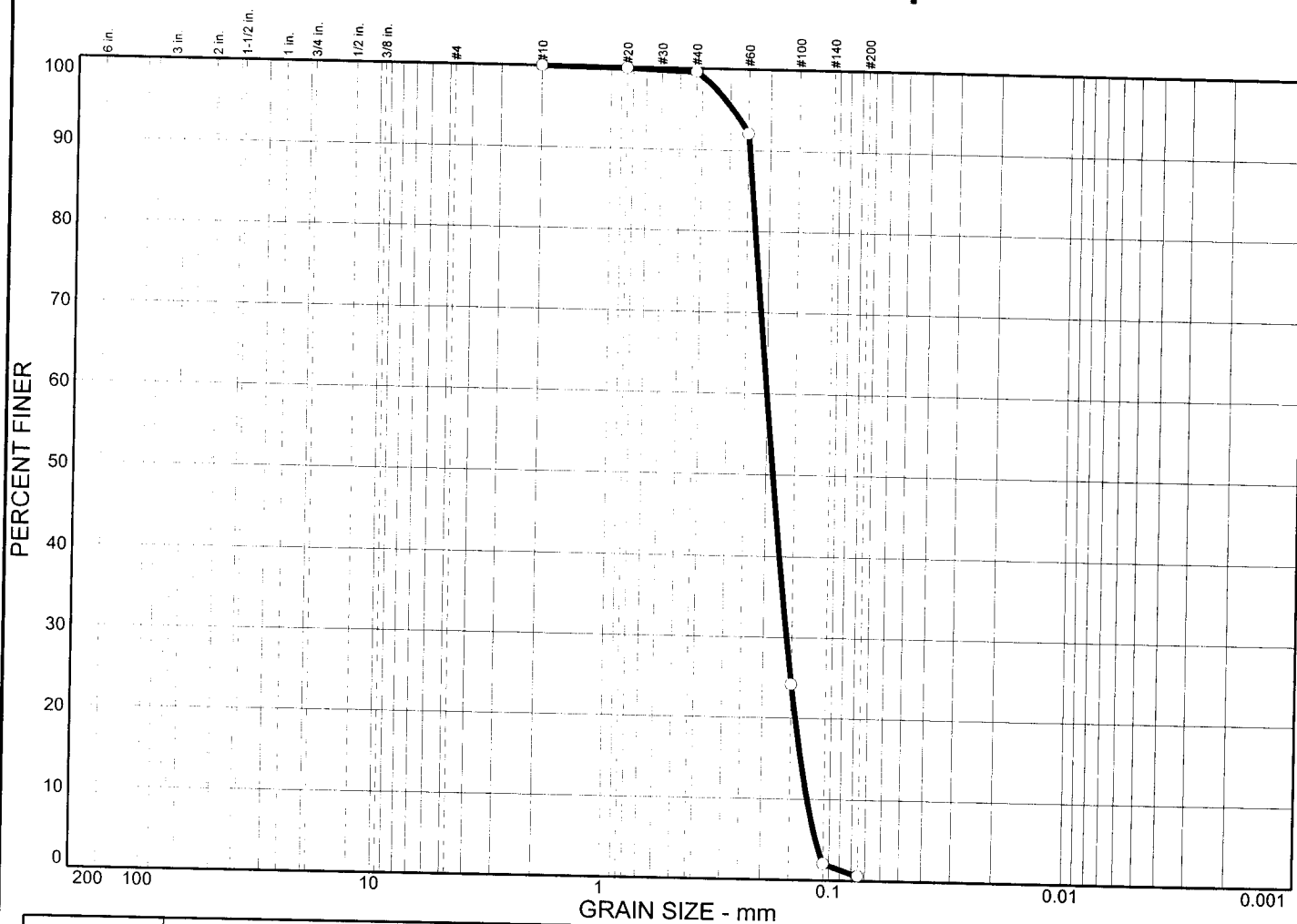
Remarks:

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

Figure

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

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

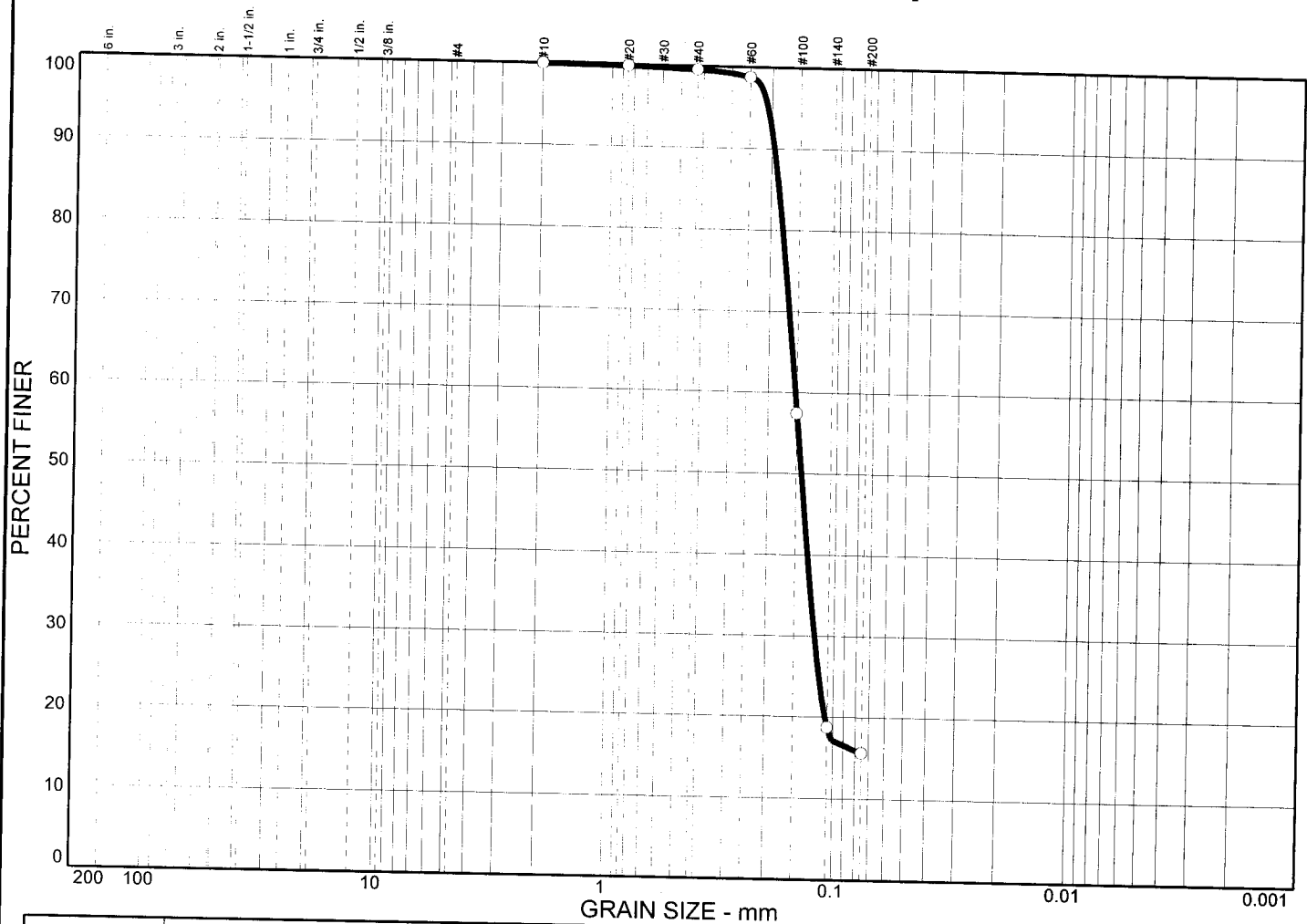
Classification:

Tan fine to very fine sand with shell fragments

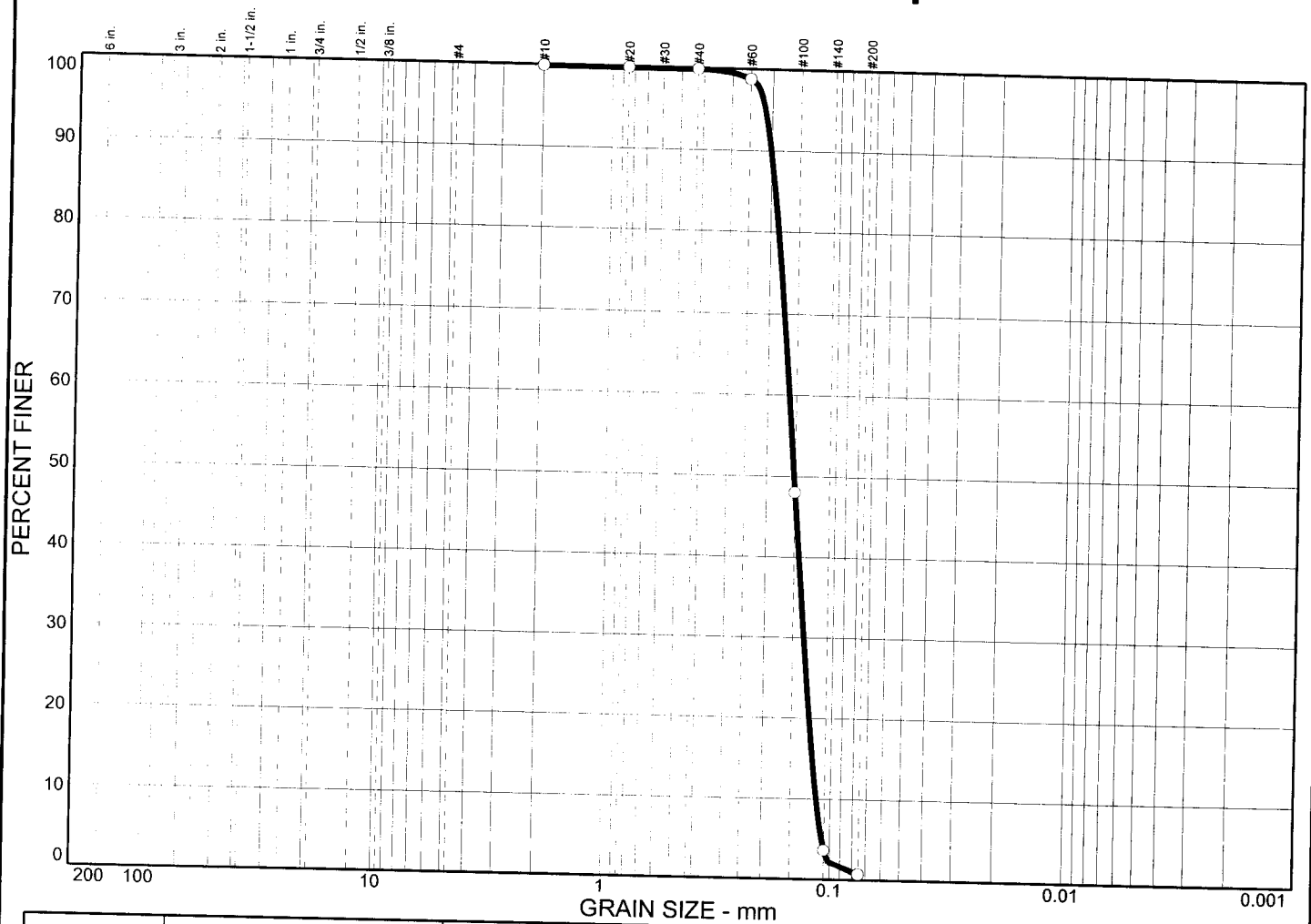
Figure

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Particle Size Distribution Report



Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
				0.0	99.2	0.7				

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

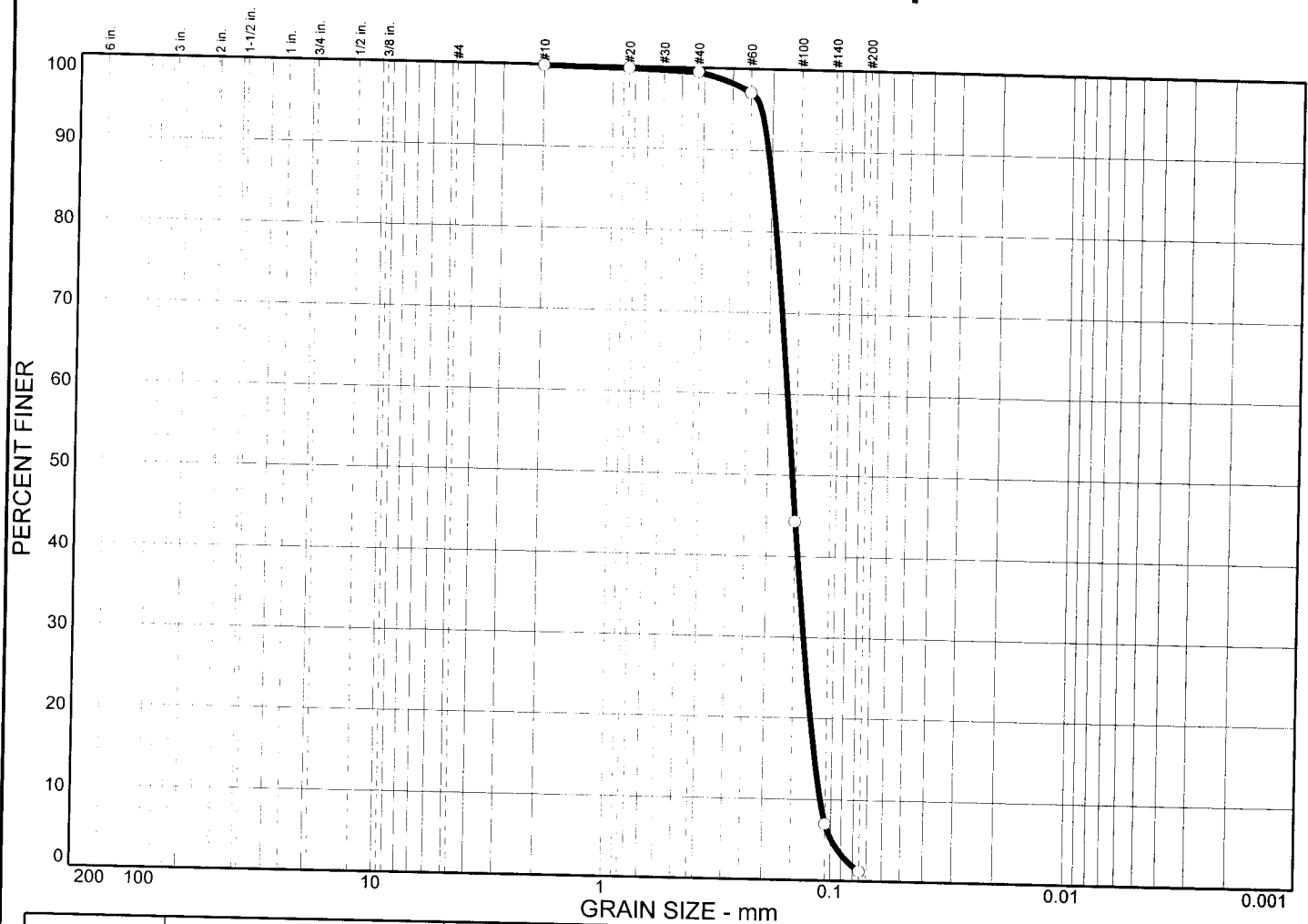
Classification:

Tan fine to very fine sand with
shell fragments

Figure

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Particle Size Distribution Report



GRAIN SIZE - mm									
% COBBLES	% GRAVEL		% SAND			% FINES			
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
				0.4	98.3	1.2			

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

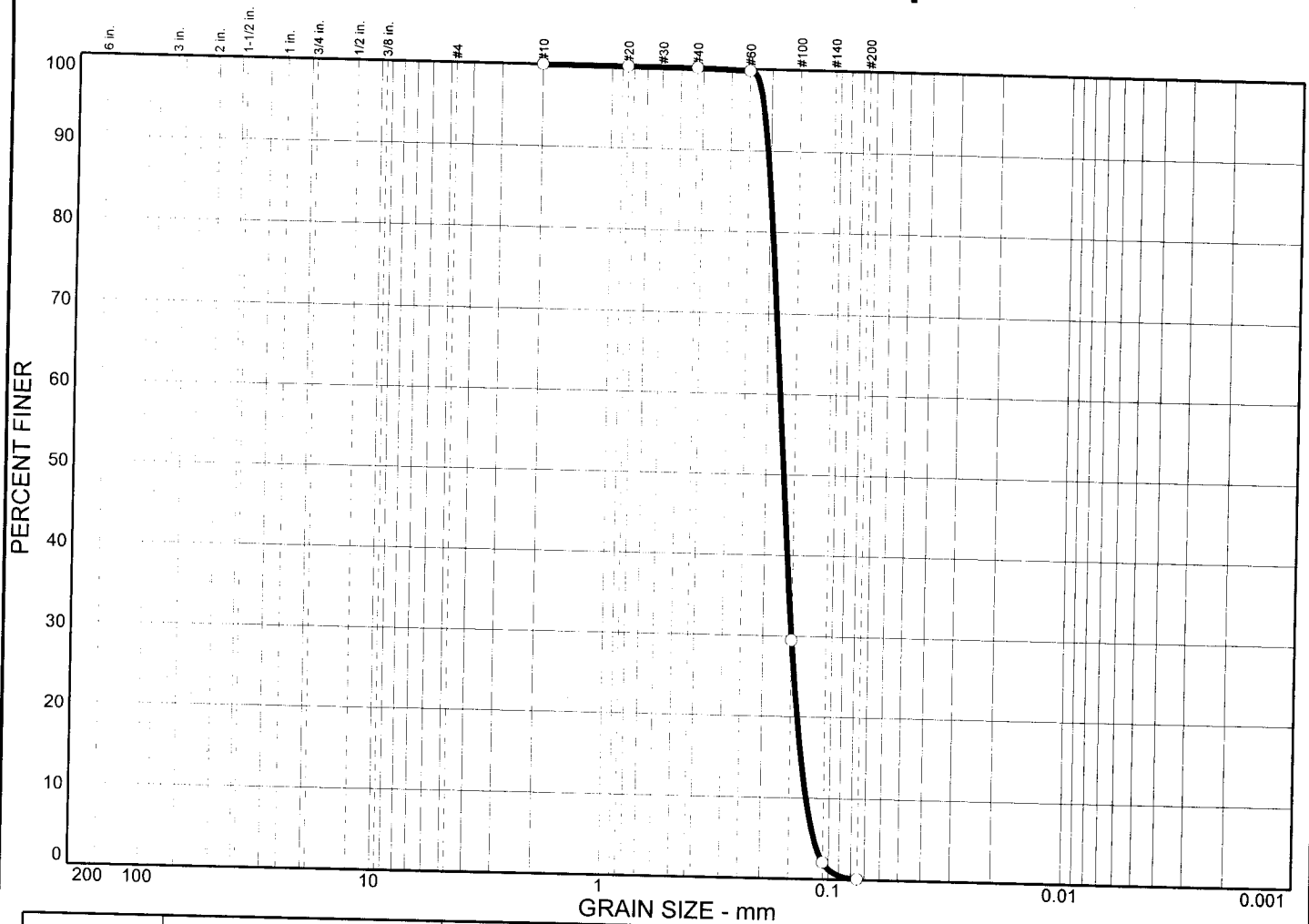
Remarks:

Sample MP-410
 Moisture content = 26.9%
 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	0.0	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 to 0.001 mm. The curve shows that approximately 98% of the material is finer than 0.075 mm (No. 20 sieve) and about 0.5% is finer than 0.075 mm (No. 200 sieve).

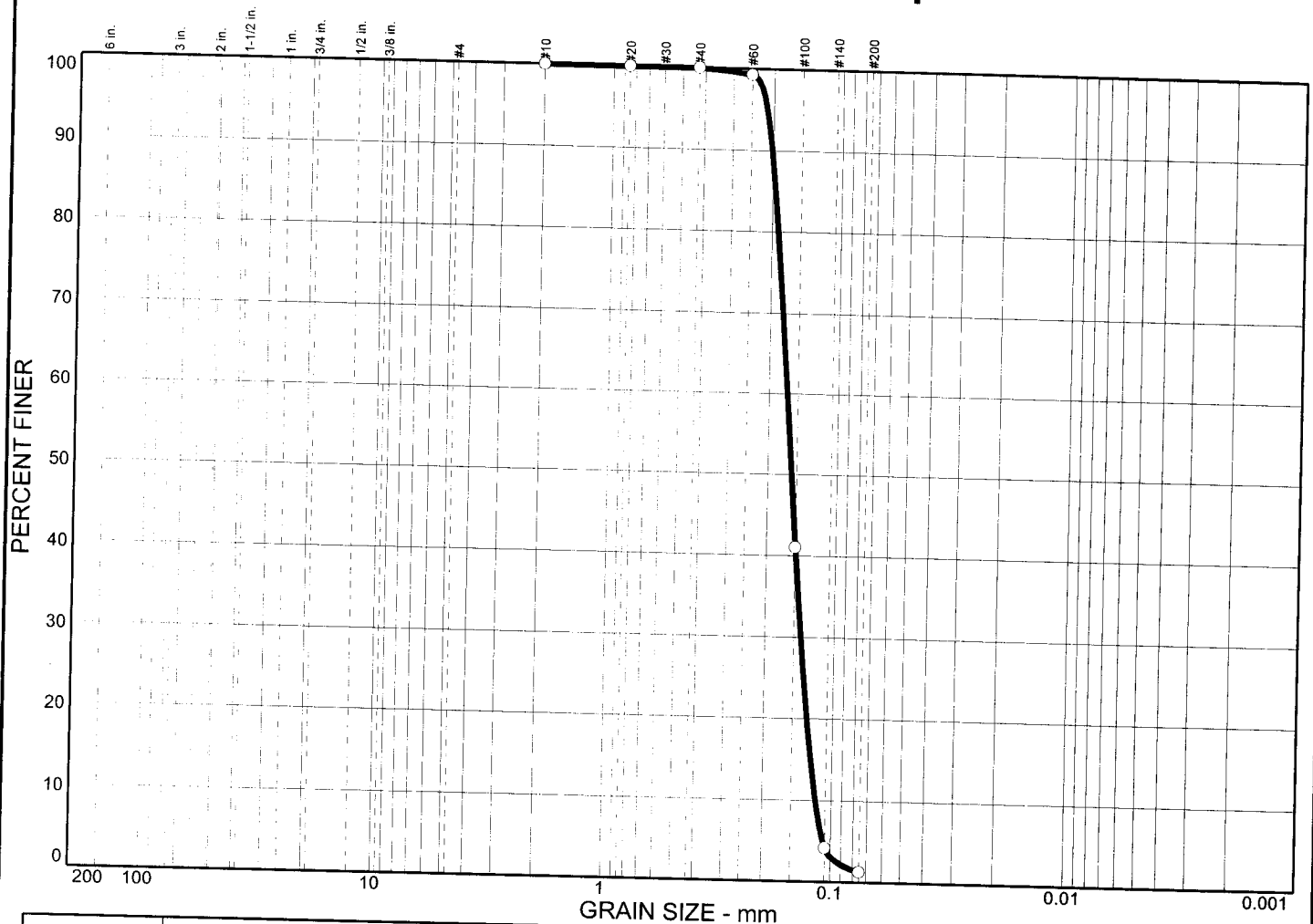
Grain Size (mm)	Percent Finer (%)
200	100
100	100
50	100
25	100
12.5	100
6.3	100
3.15	100
1.6	100
0.85	100
0.425	100
0.25	100
0.15	100
0.075	98
0.0475	23
0.025	0.5
0.015	0
0.0075	0

MATERIAL DESCRIPTION		USCS	AASHTO
Tan fine sand with shell fragments		SP	

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



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.0	98.7	1.3				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
			0.195	0.167	0.158	0.140	0.124	0.118	1.00	1.42
MATERIAL DESIGN										

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

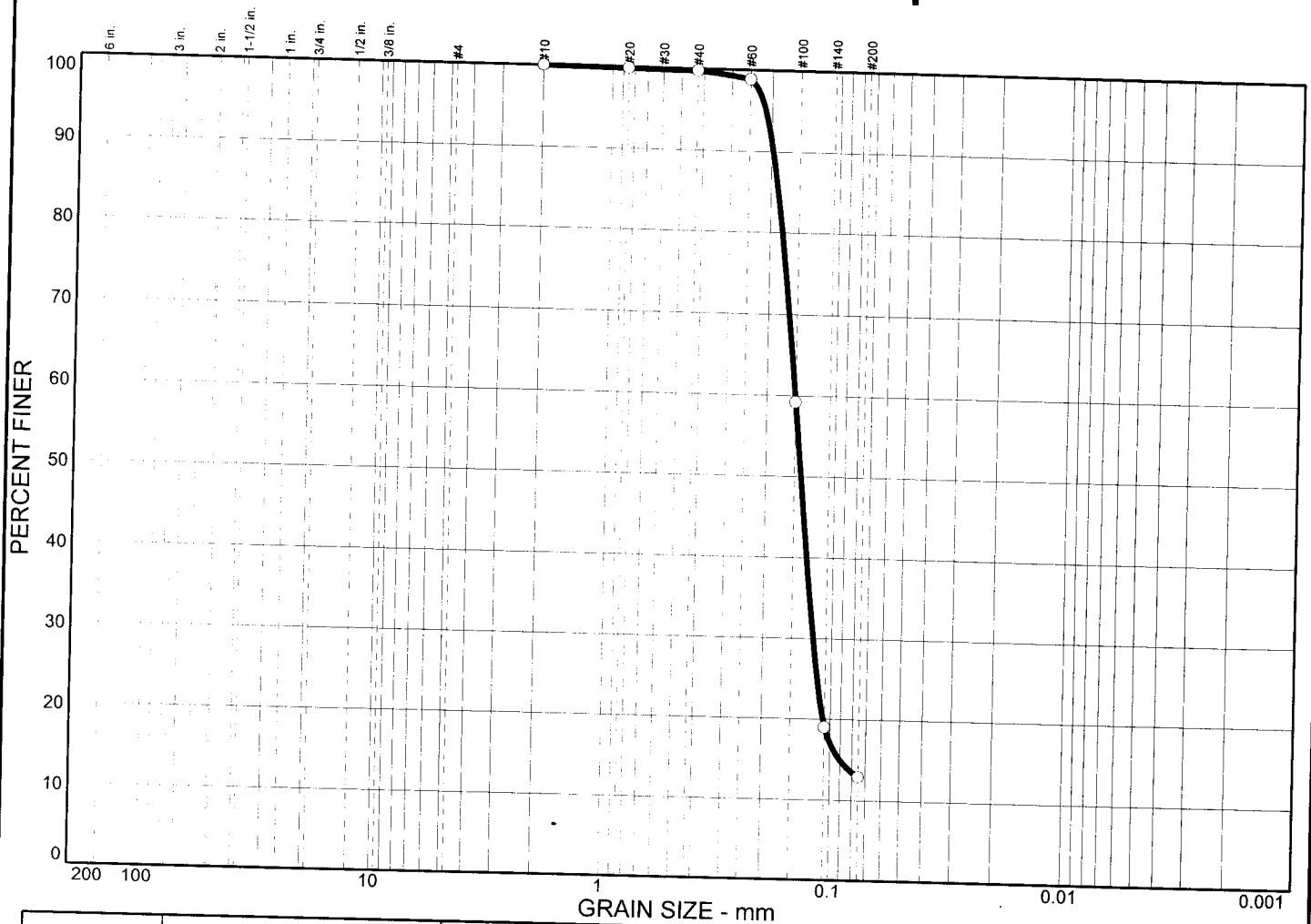
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 268+64

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:

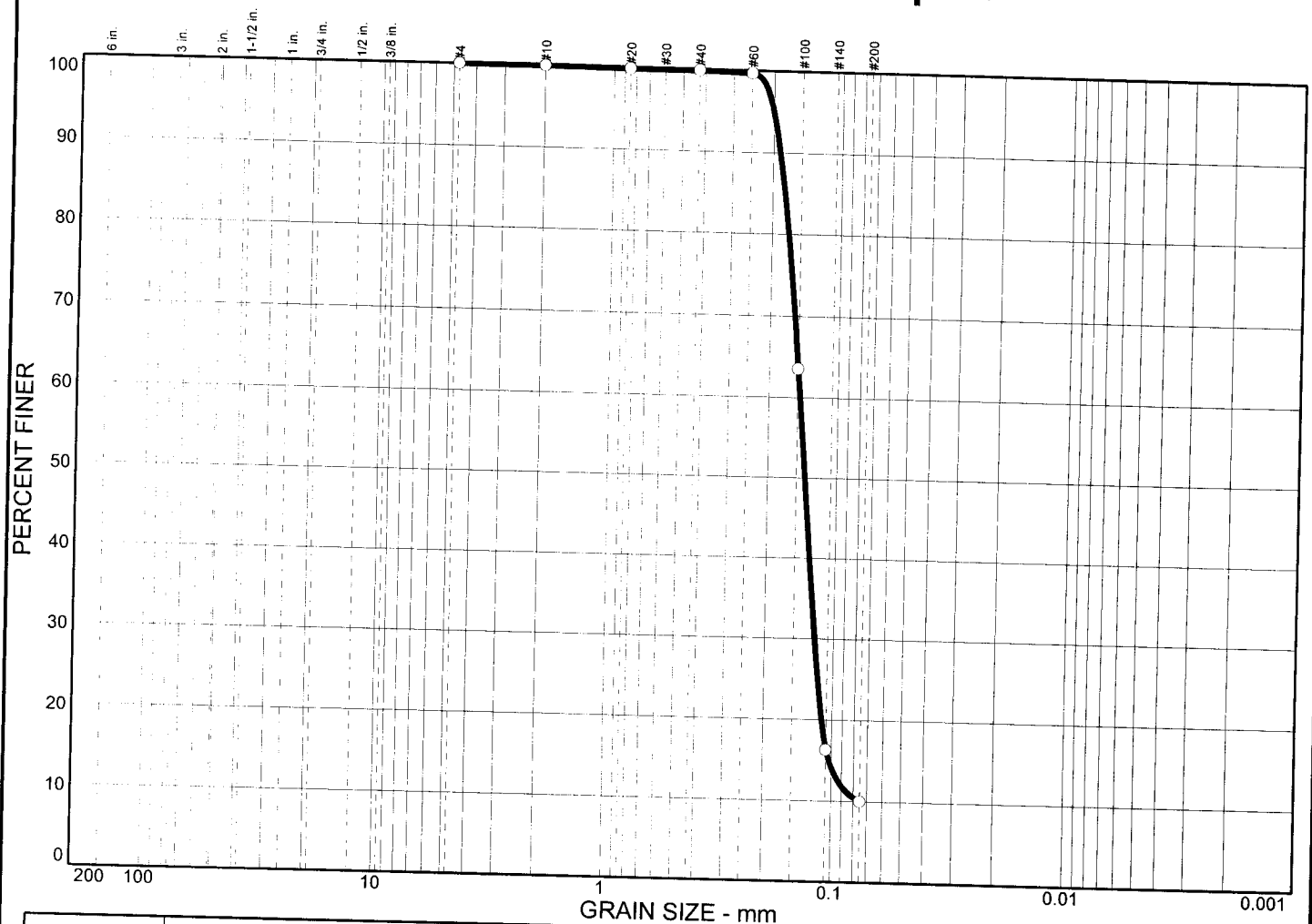
Dark gray fine to very fine sand
with silt, shell fragments, roots

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

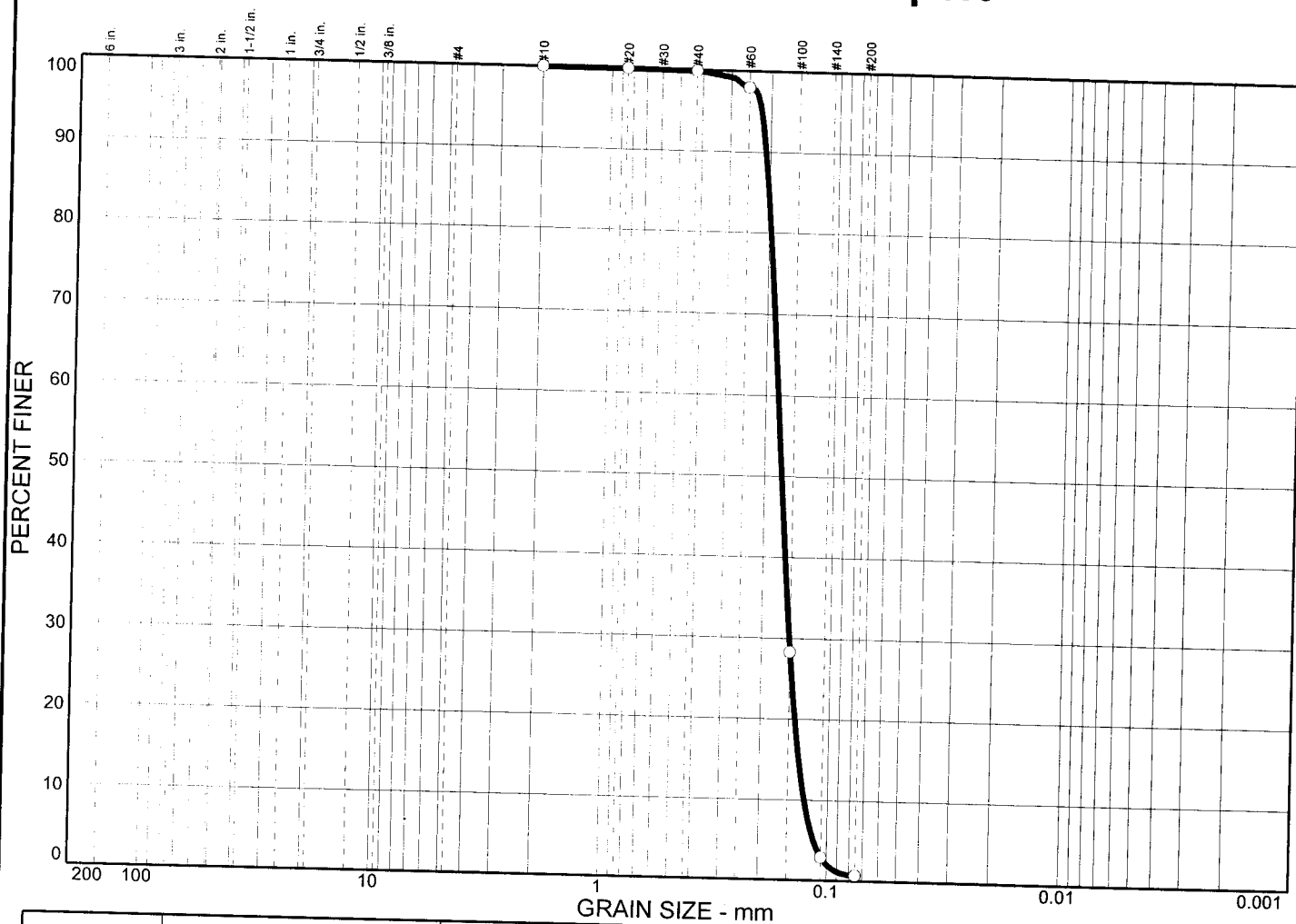
Remarks:

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

[illegible]

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

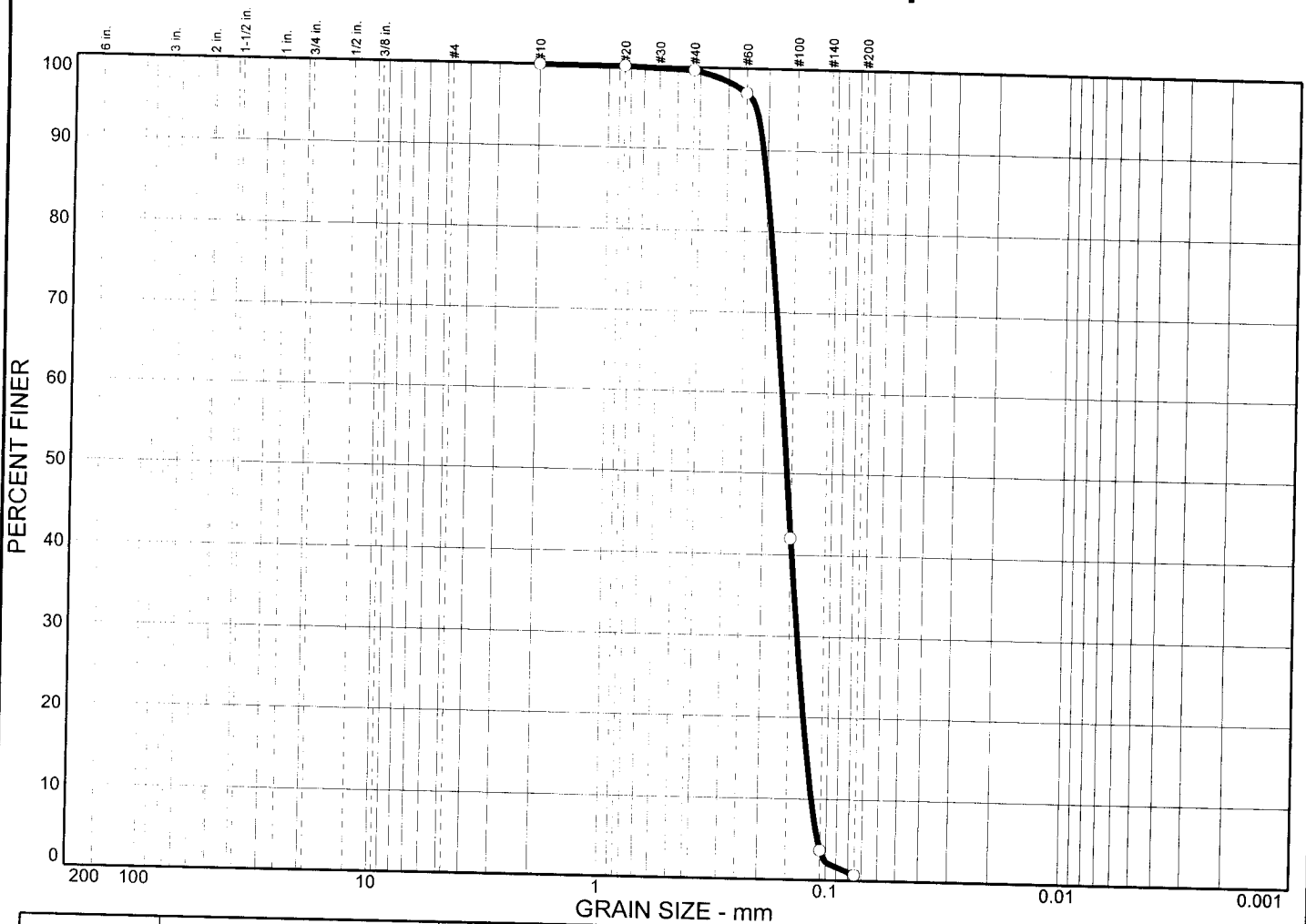
Remarks:

○ 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
1	Tan fine sand with shell fragments	SP	
2	Dark gray silty clay		

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

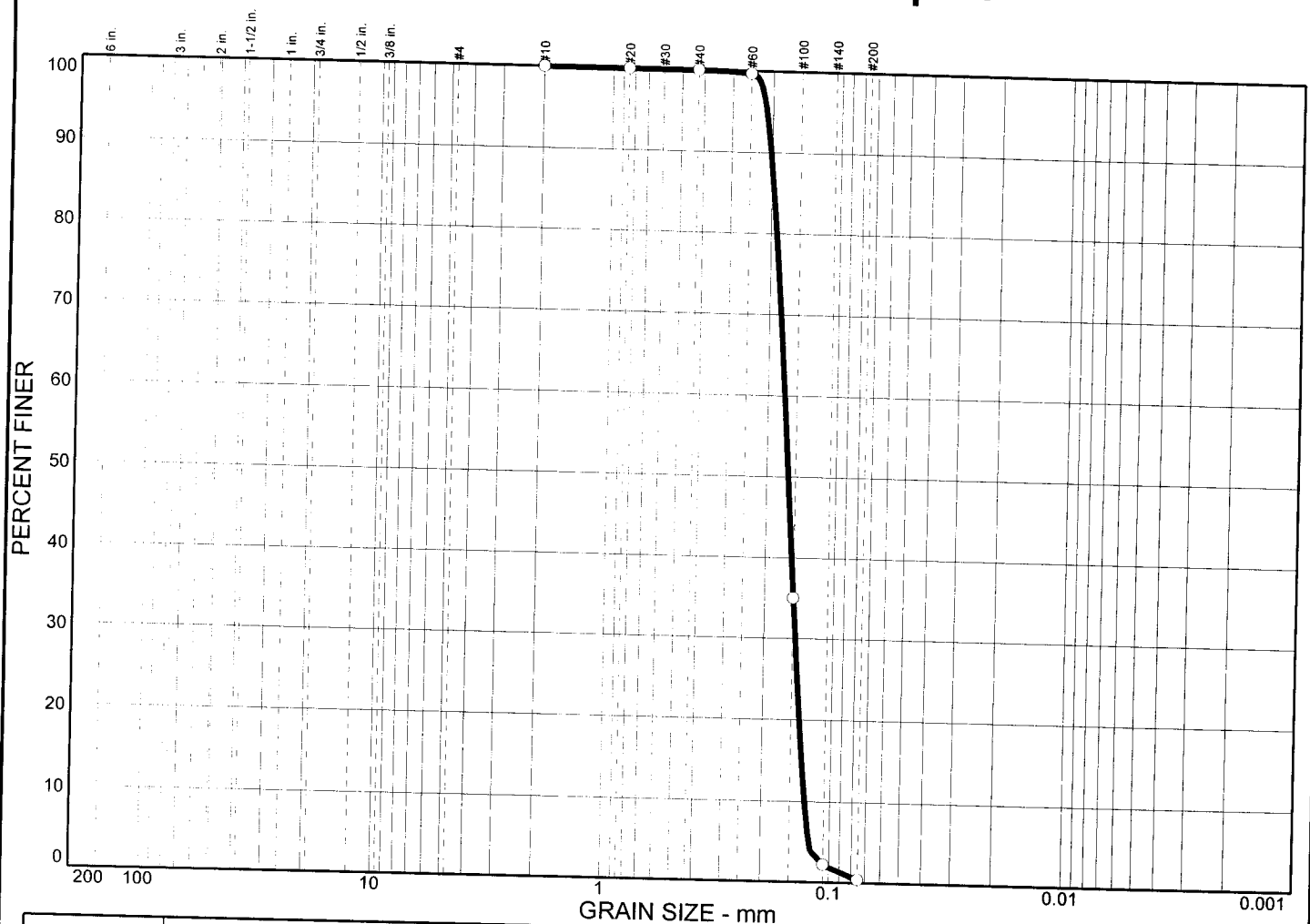
Classification:

Tan fine to very fine sand with shell fragments

Figure

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.0	0.0	99.6	0.4				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
			0.196	0.170	0.162	0.146	0.134	0.129	0.97	1.31

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: 268+64

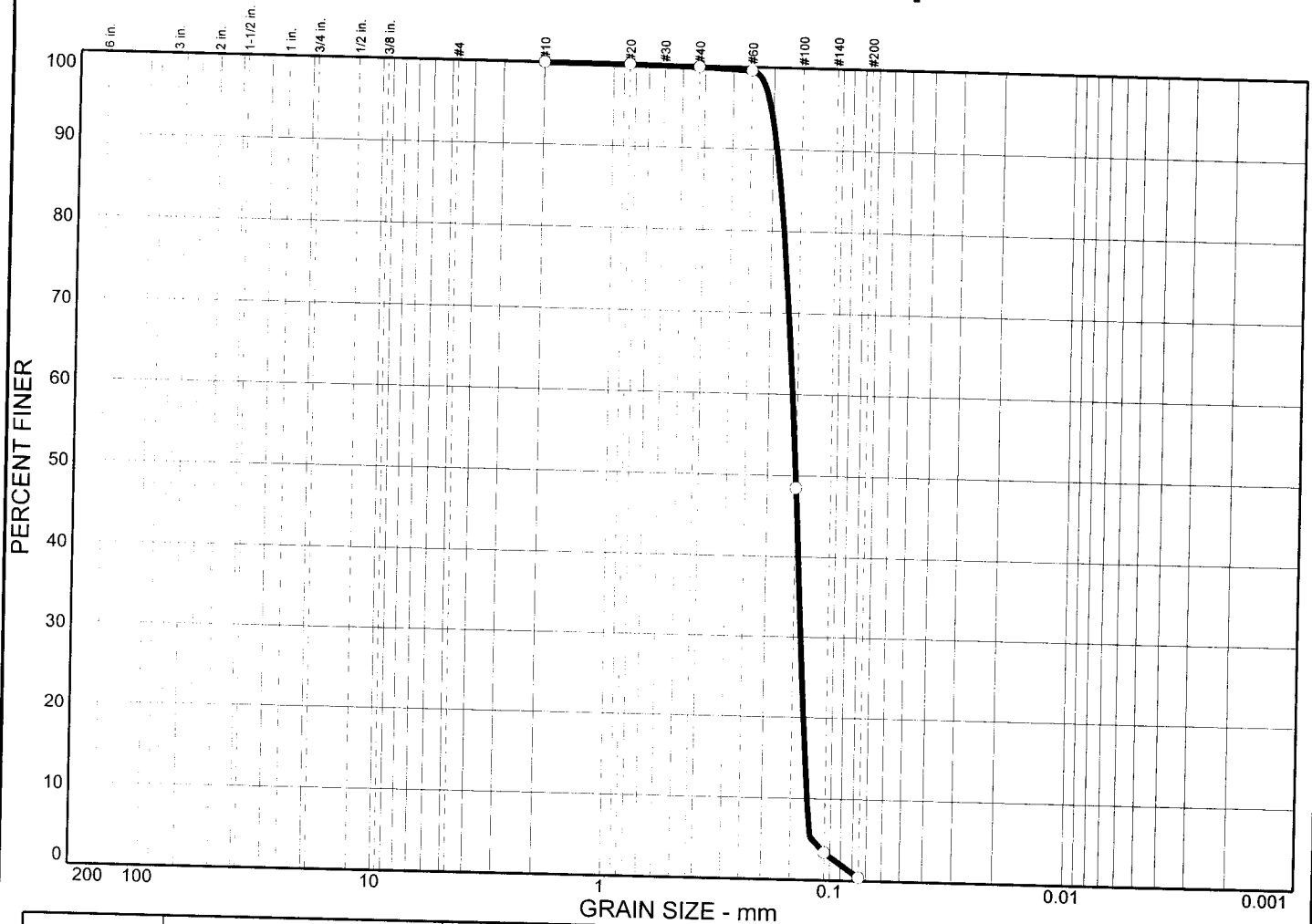
Remarks:

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

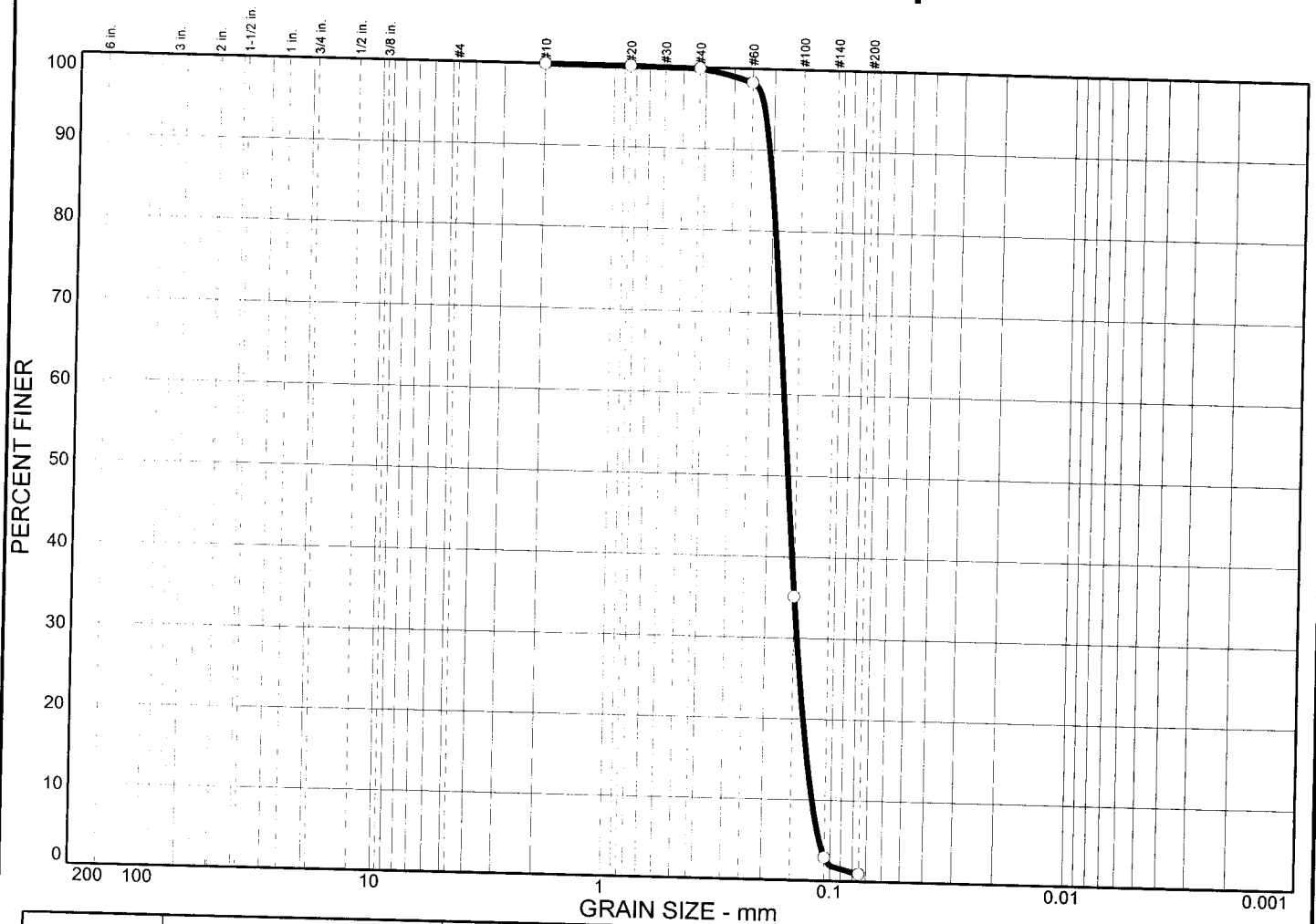
Remarks:

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				
X	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	

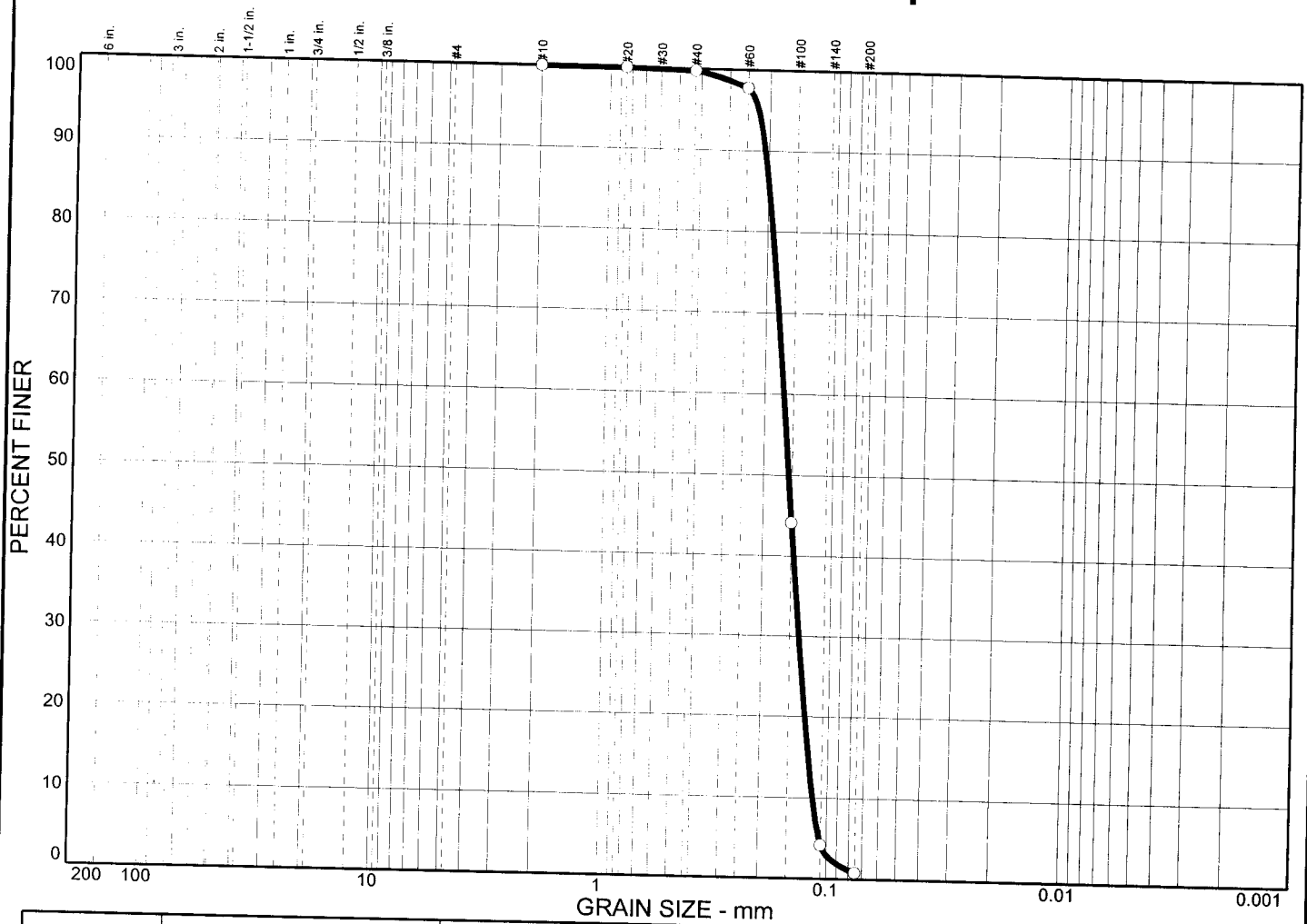
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 268+64

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:

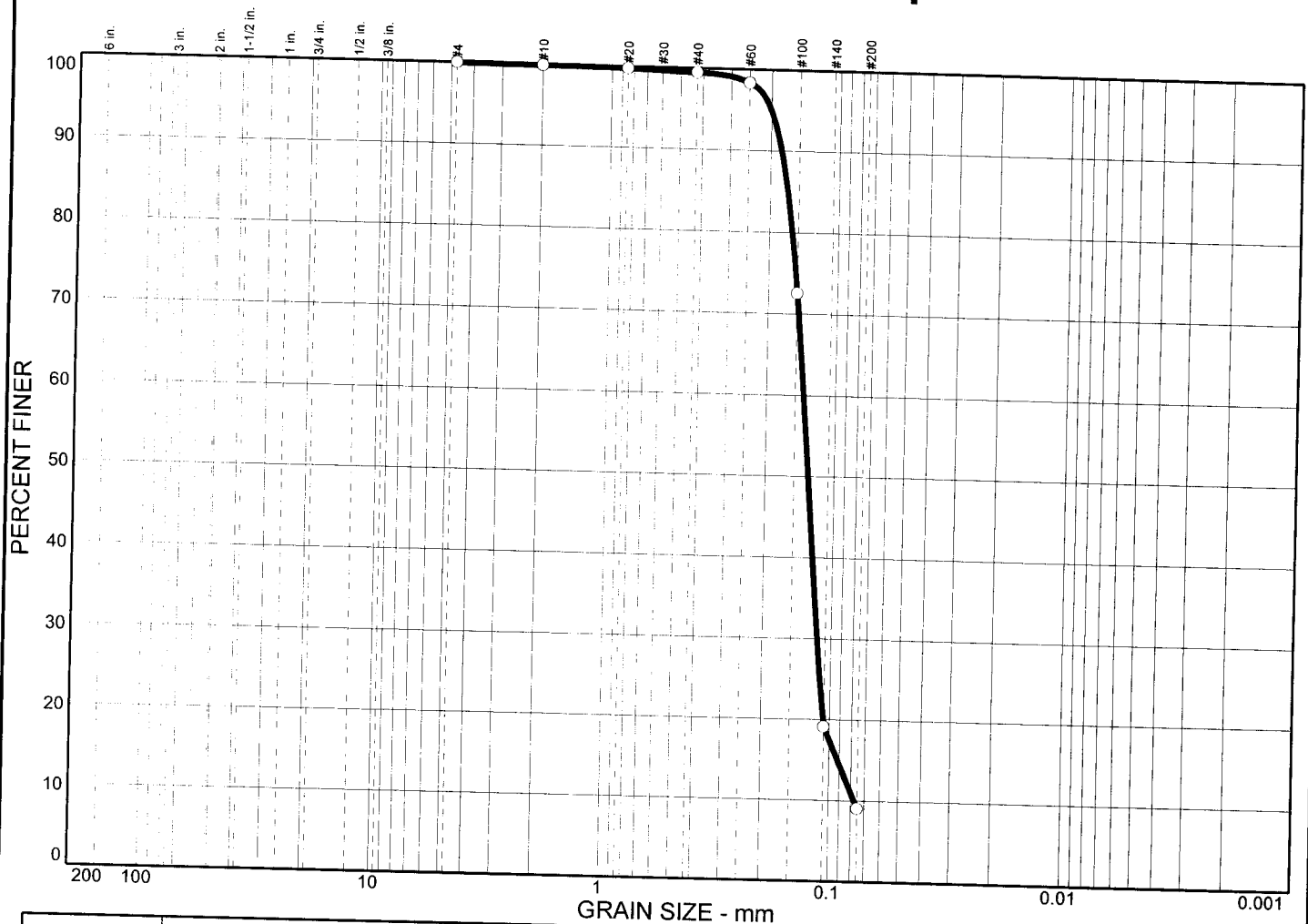
Tan fine to very fine sand with
shell fragments

EUSTIS ENGINEERING COMPANY, INC.

METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
0.0	0.0	0.0	0.1	0.4	90.5	9.0				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
0			0.168	0.138	0.130	0.115	0.0921	0.0776	1.24	1.78
MATERIAL DESCRIPTION										

MATERIAL DESCRIPTION						USCS	AASHTO
Black fine sand with silt, shell fragments, decayed wood & 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: 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

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

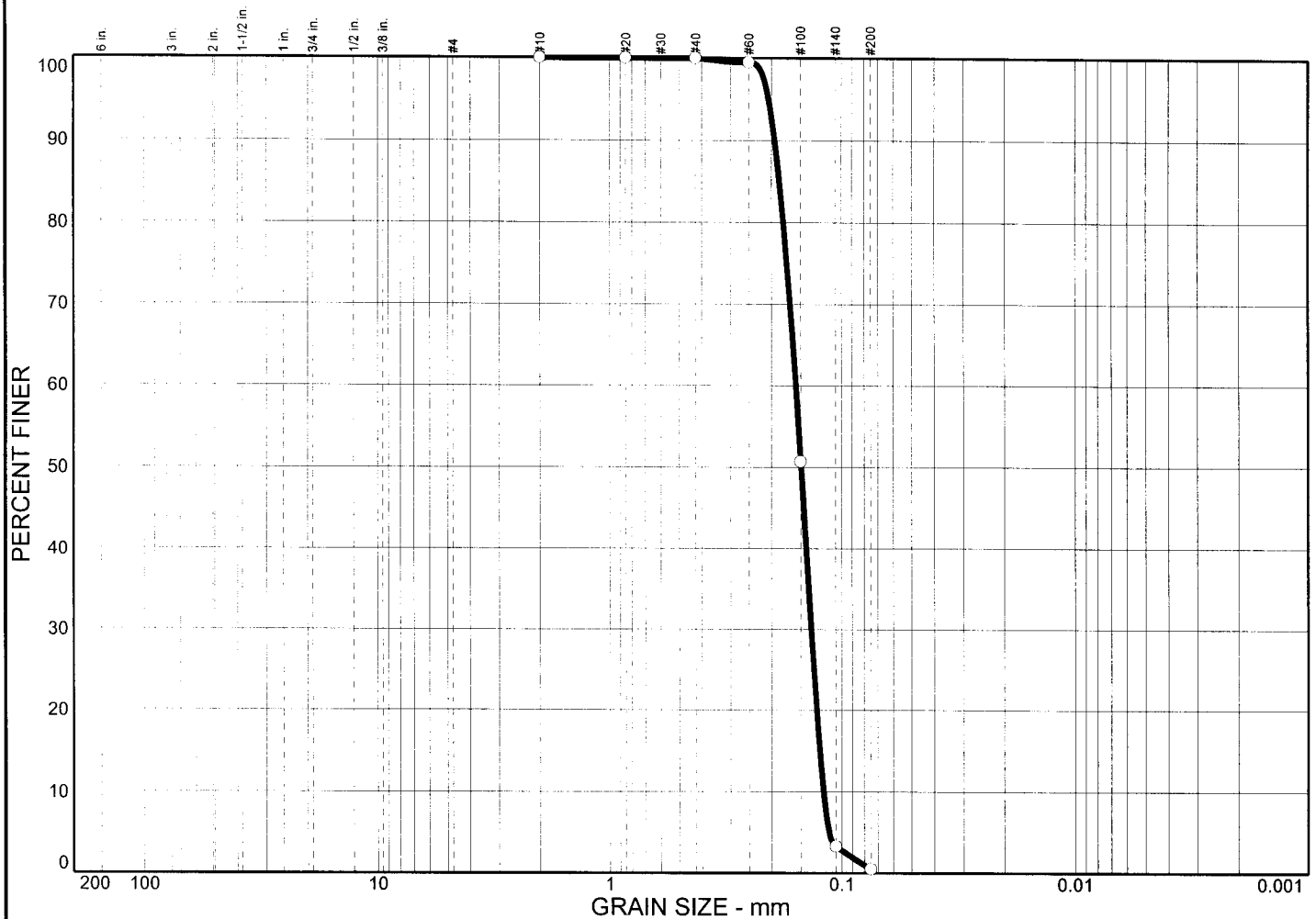
Figure

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 0.6 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 / Note	Percent Finer (%)
200		100
10	#10	100
4.75	#40	100
2.0	#100	100
0.85	#20	100
0.6	#30	100
0.425	#40	100
0.25	#60	98
0.15	#100	25
0.075	#200	1
0.06		0

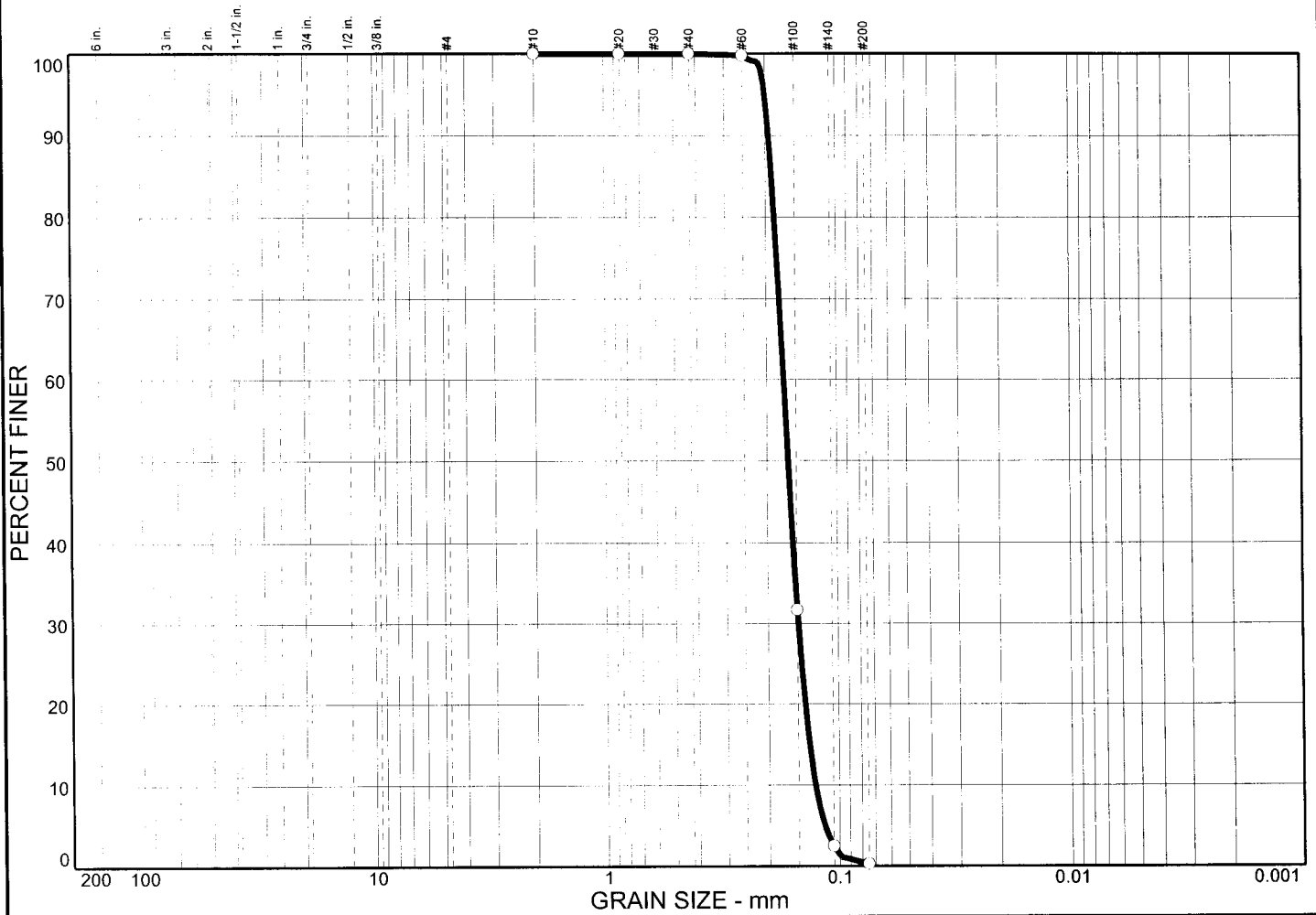
Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37) Terrebonne Parish, Louisiana, Purchase Order No. 125146 ○ Location: 250+64	Remarks: ○ Sample BBB-150 Moisture content = 25.9% Estimated Wentworth Classification: Tan fine to very fine sand with shell fragments
<p align="center">EUSTIS ENGINEERING COMPANY, INC.</p> <p align="center">METAIRIE, LA</p>	

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	99.5	0.5			
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
0			0.185	0.157	0.149	0.135	0.125	0.120	0.97	1.31
MATERIAL DESCRIPTION								USCS		AASHTO
0 Tan fine sand with shell fragments, roots								SP		

Particle Size Distribution Report



	% 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
2 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

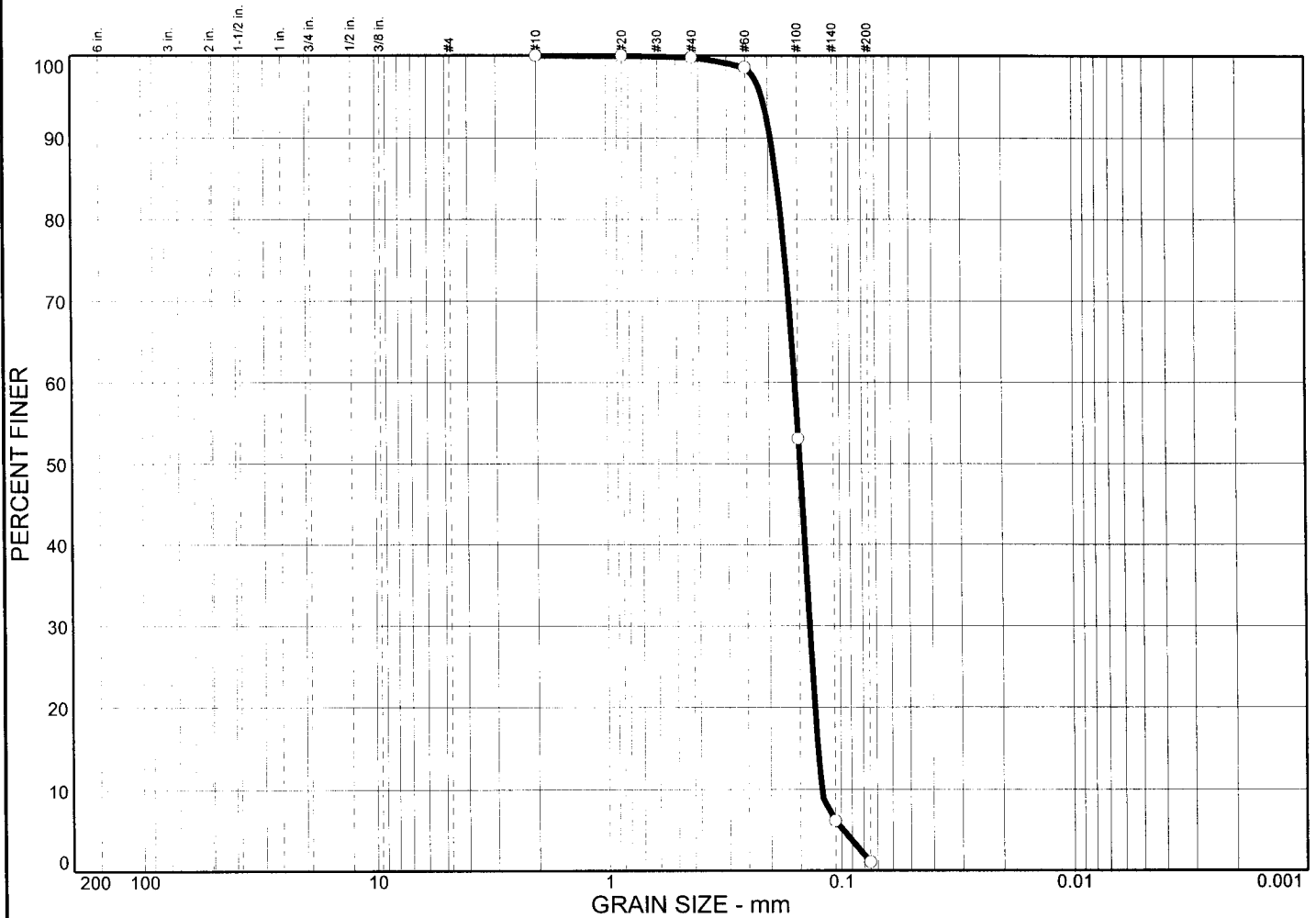
Classification:

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
0.184			0.155	0.148	0.136	0.126	0.121	0.98	1.28	
MATERIAL DESCRIPTION								USCS	AASHTO	
Tan fine sand with shell fragments								SP		

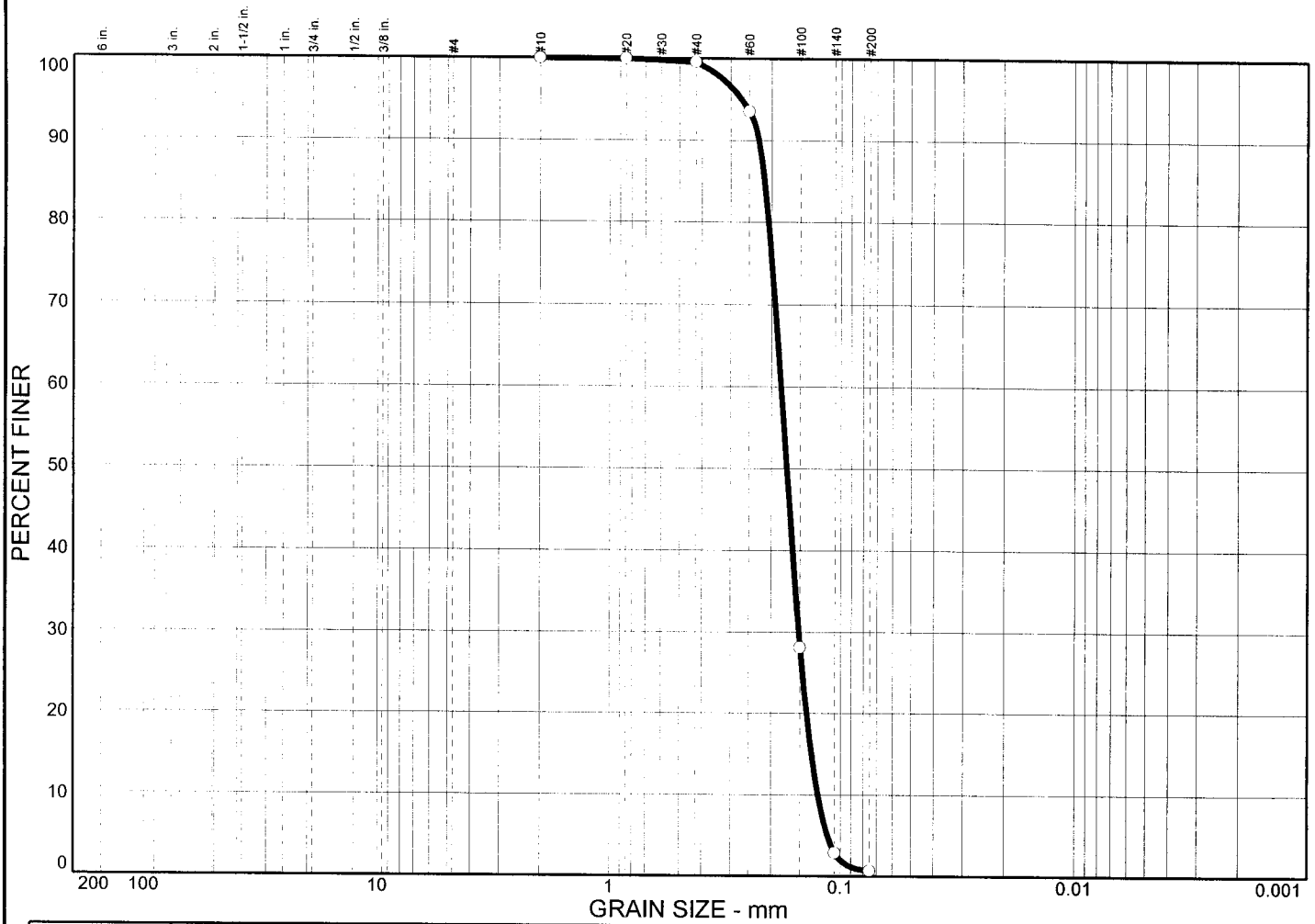
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
Location: 250+64

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

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

Figure

Particle Size Distribution Report



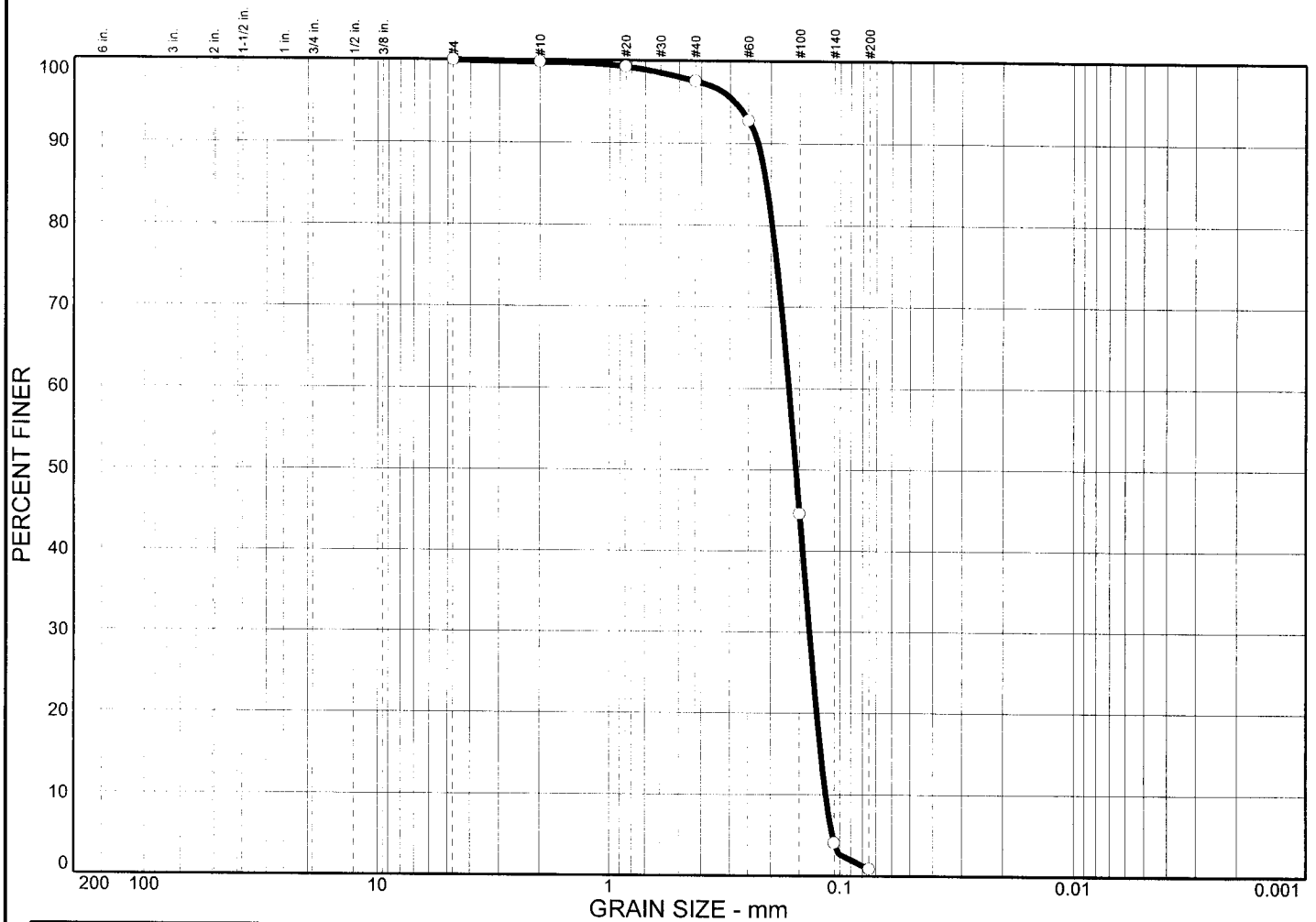
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY			
0.0	0.0	0.0	0.0	0.4	98.9	0.7				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
0.0			0.215	0.182	0.172	0.152	0.134	0.125	1.01	1.45

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 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



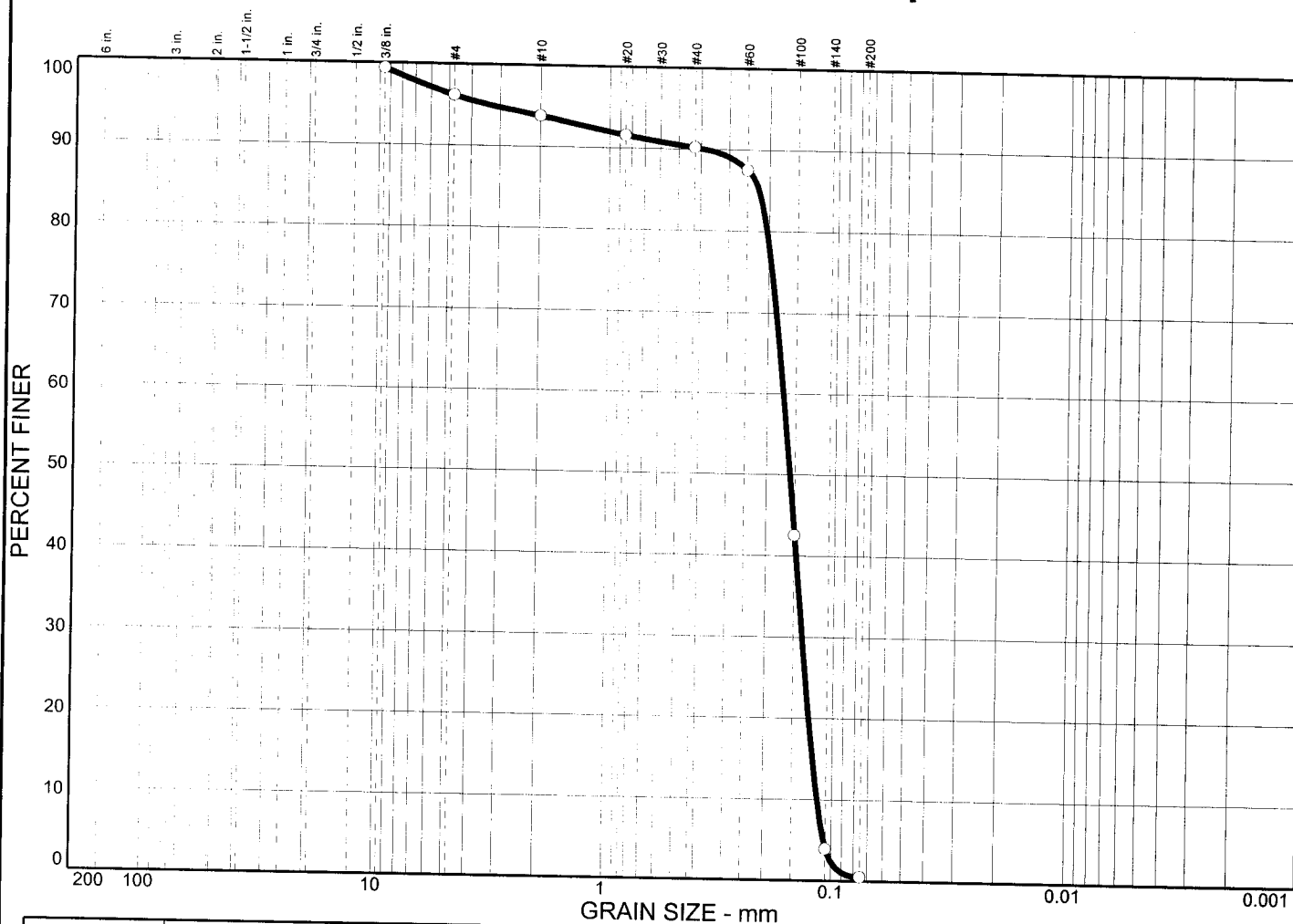
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
0.0	0.0	0.0	0.0	0.2	2.2	96.7	0.9			
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
0.0			0.210	0.167	0.156	0.136	0.121	0.116	0.96	1.45

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

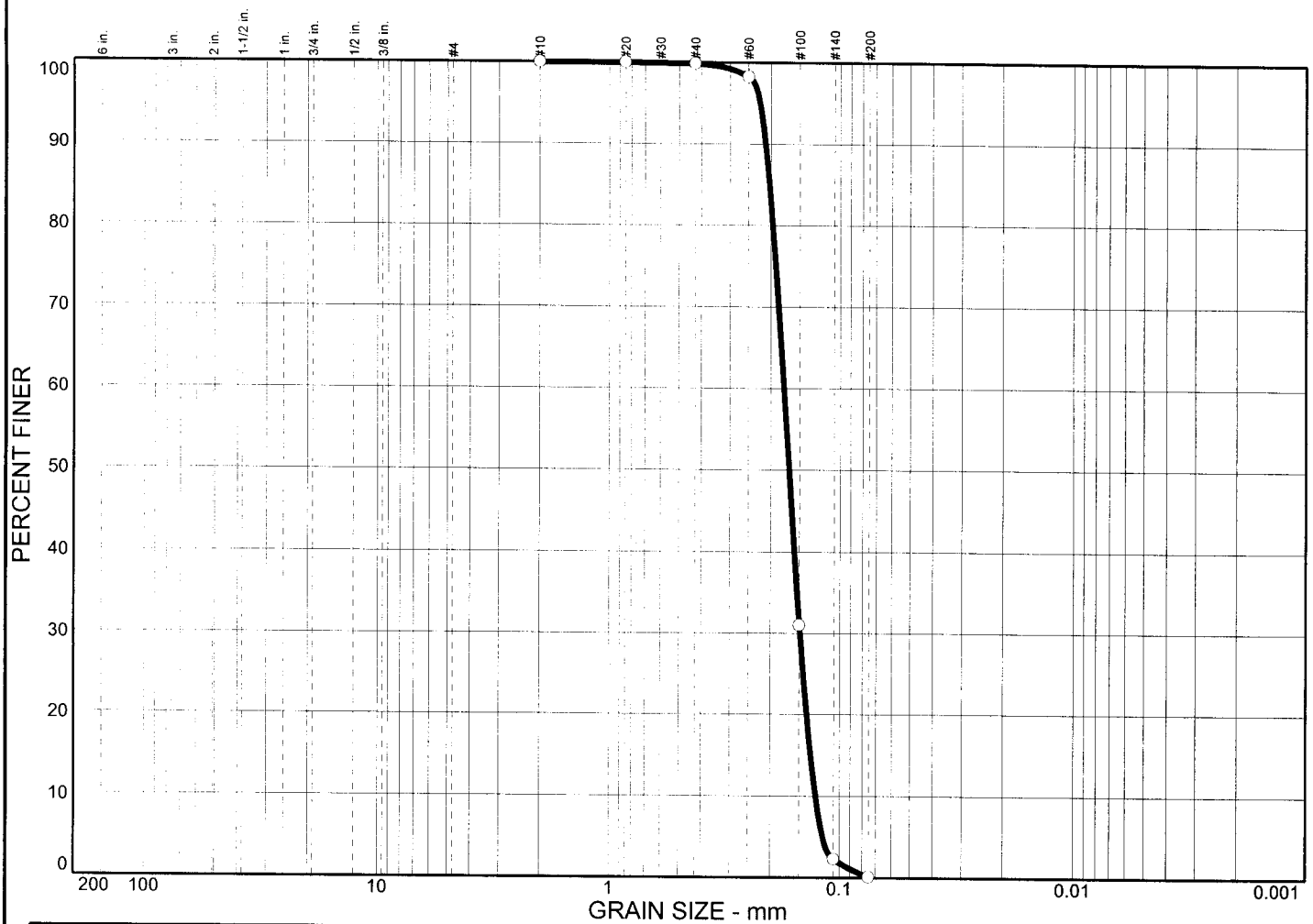
EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

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	
0.0	0.0	0.0	0.0	0.0	0.1	99.8	0.1			
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
0.0			0.203	0.176	0.167	0.149	0.134	0.127	0.99	1.38
MATERIAL DESCRIPTION									USCS	AASHTO
0.0 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

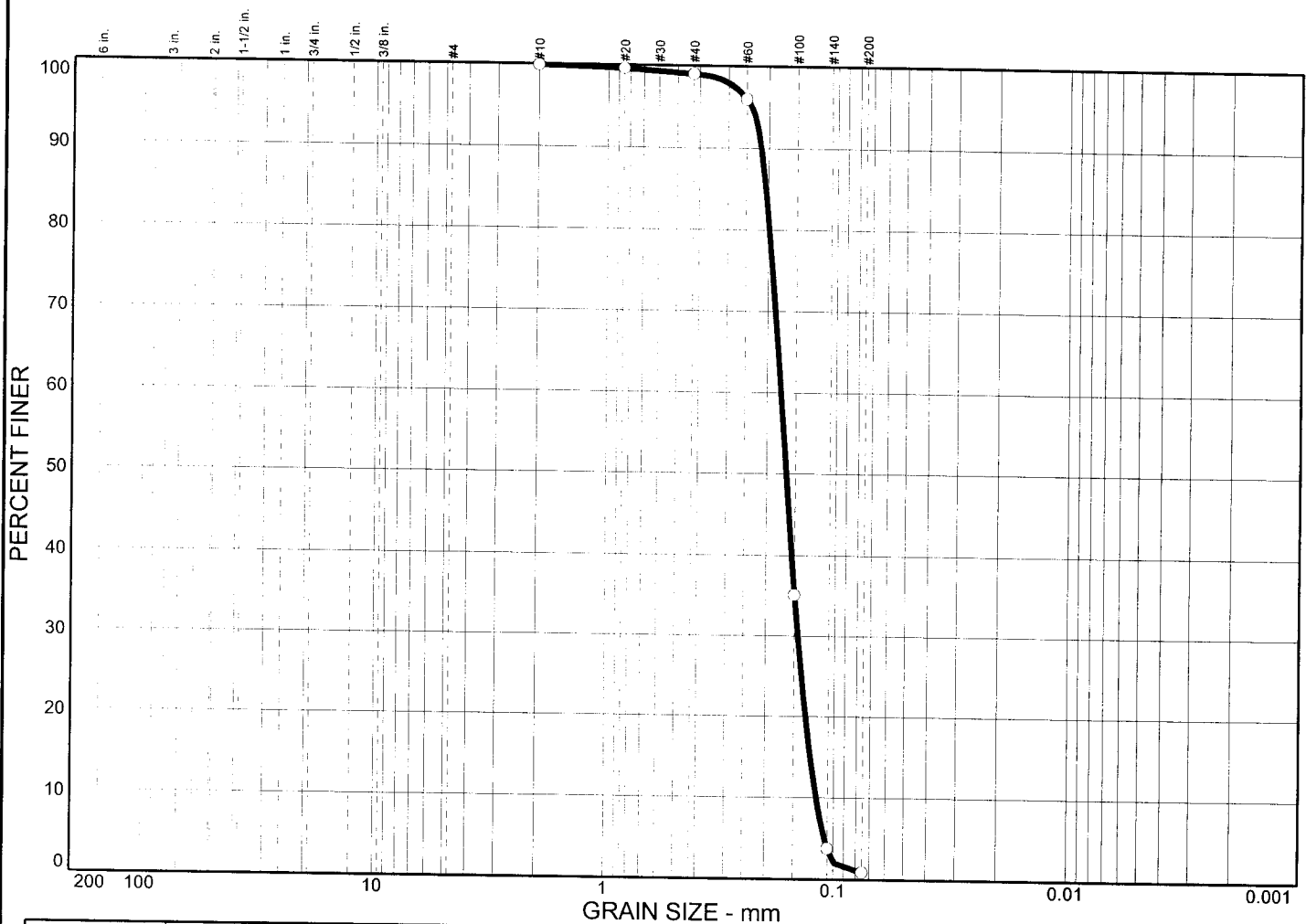
Classification:

Tan fine to very fine sand with shell fragments, roots

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

Particle Size Distribution Report



GRAIN SIZE - mm										
% COBBLES	% GRAVEL		% SAND			% FINES				
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY		
				0.9	98.1	0.9				
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
			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:

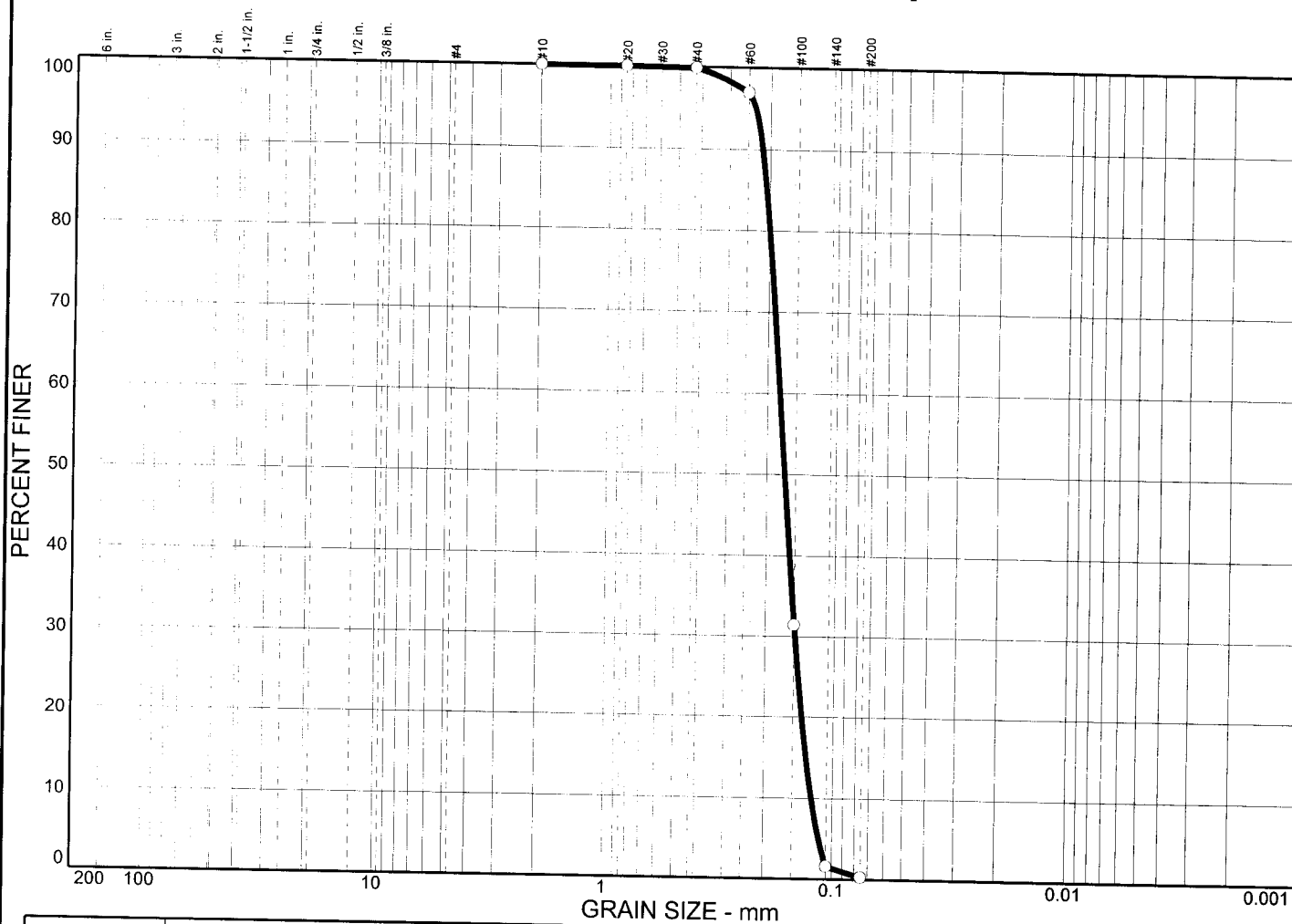
Tan fine to very fine sand with
shell fragments, organic matter

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

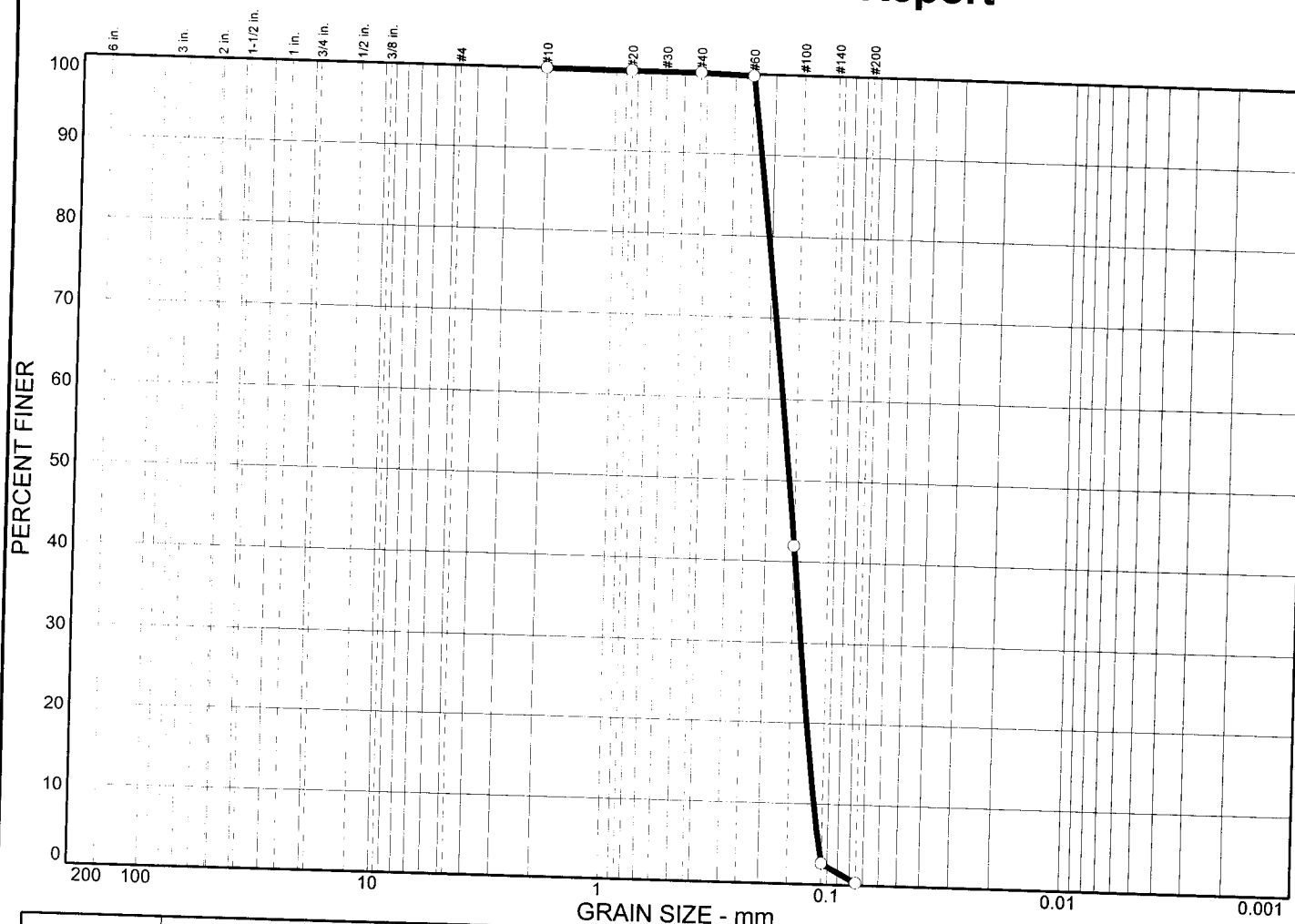
Classification:

Tan fine to very fine sand with shell fragments

EUSTIS ENGINEERING COMPANY, INC.
METAIRIE, LA

Figure

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	99.7	0.3				
X	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
			0.199	0.169	0.158	0.139	0.124	0.118	0.96	1.43
MATERIAL DESIGNATION										

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: 232+64

Remarks:

○ Sample HT-590

Moisture content = 26.0%

Estimated Wentworth

Classification:

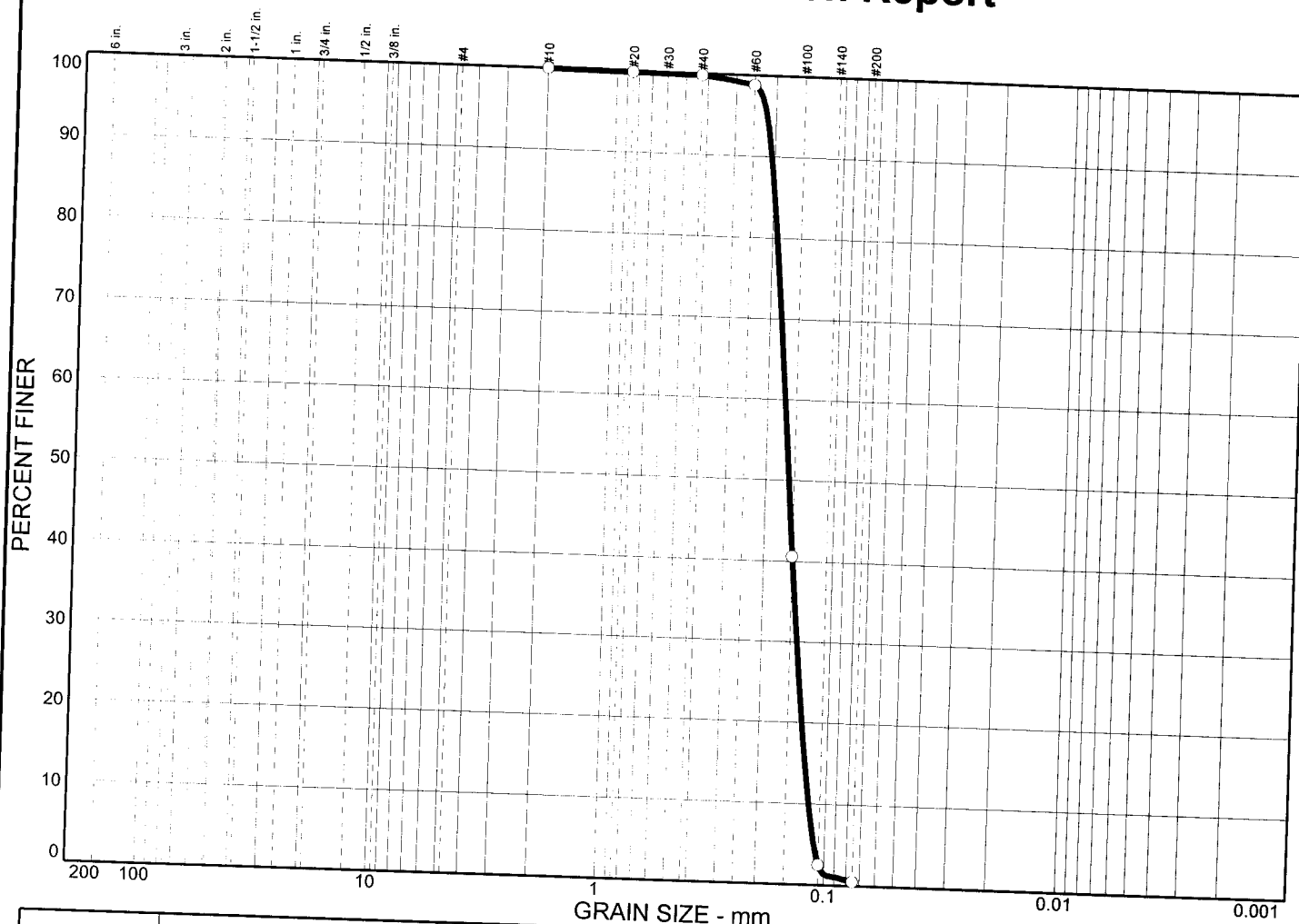
Tan fine to very fine sand with
shell fragments

Figure

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 DESCRIPTION									

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%

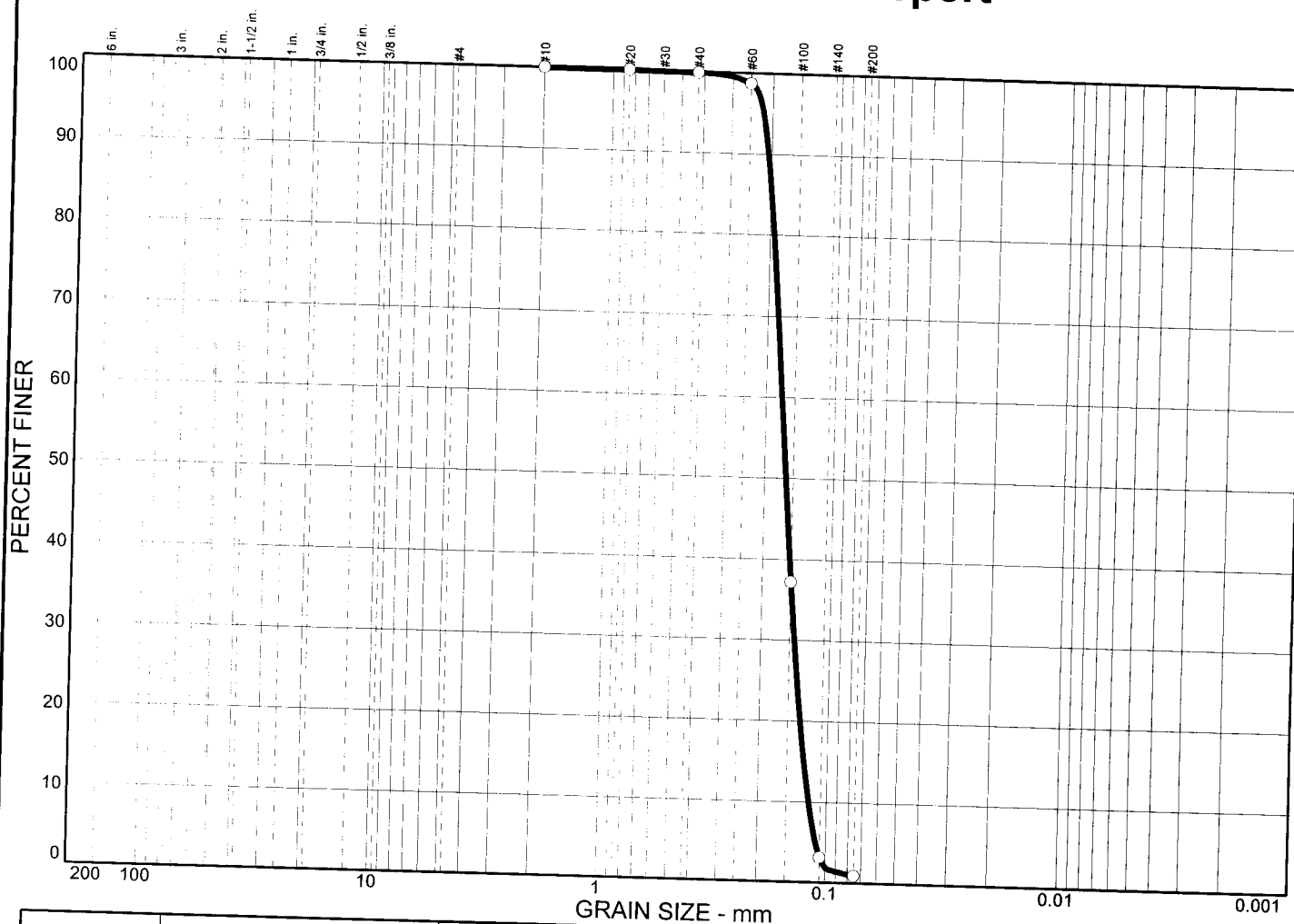
Estimated Wentworth

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	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
()		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: West Midlands Police							

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:

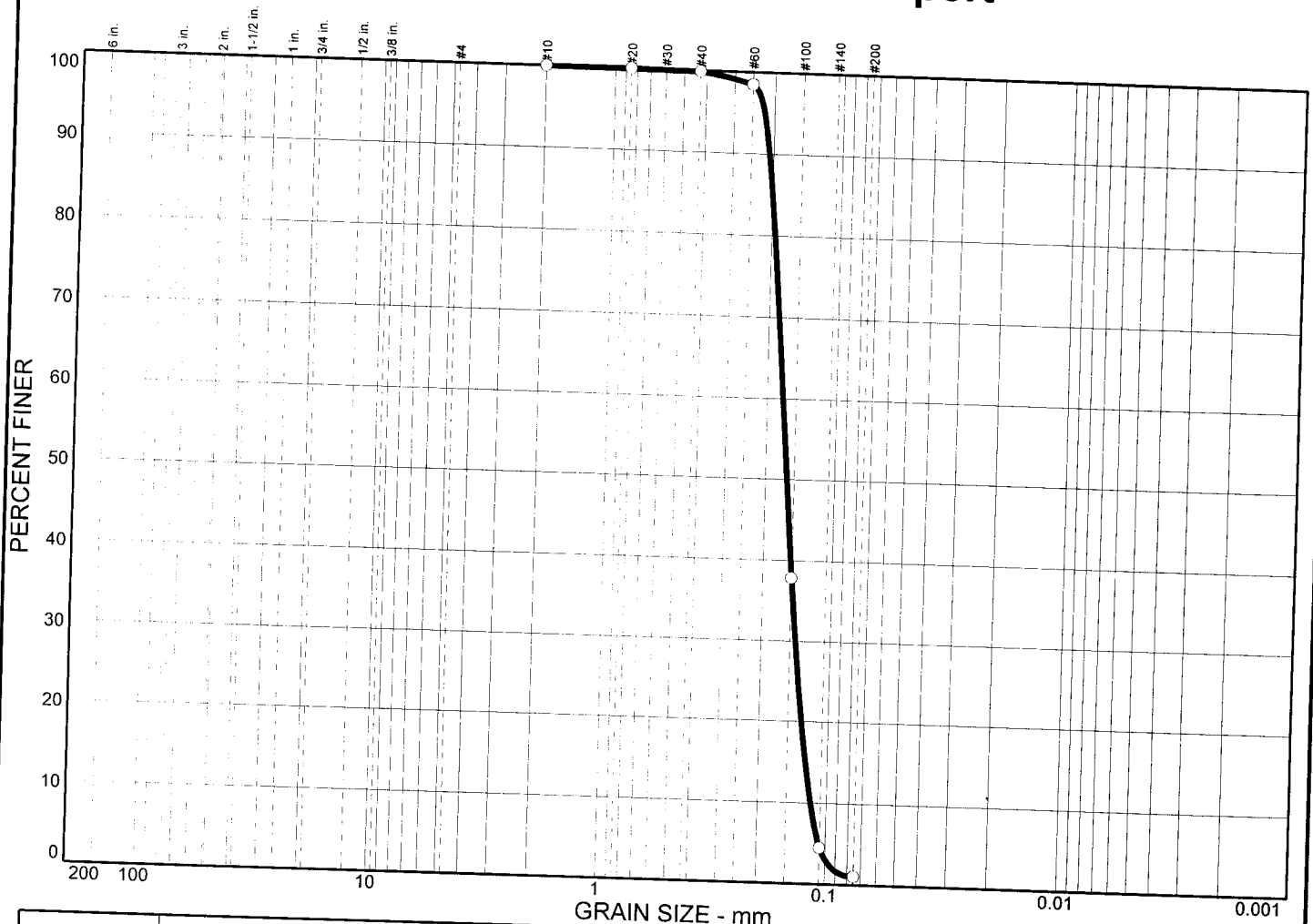
Tan fine to very fine sand with shell fragments, organic matter

Figure

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	0.1	98.9	1.0				
X	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
0.0			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

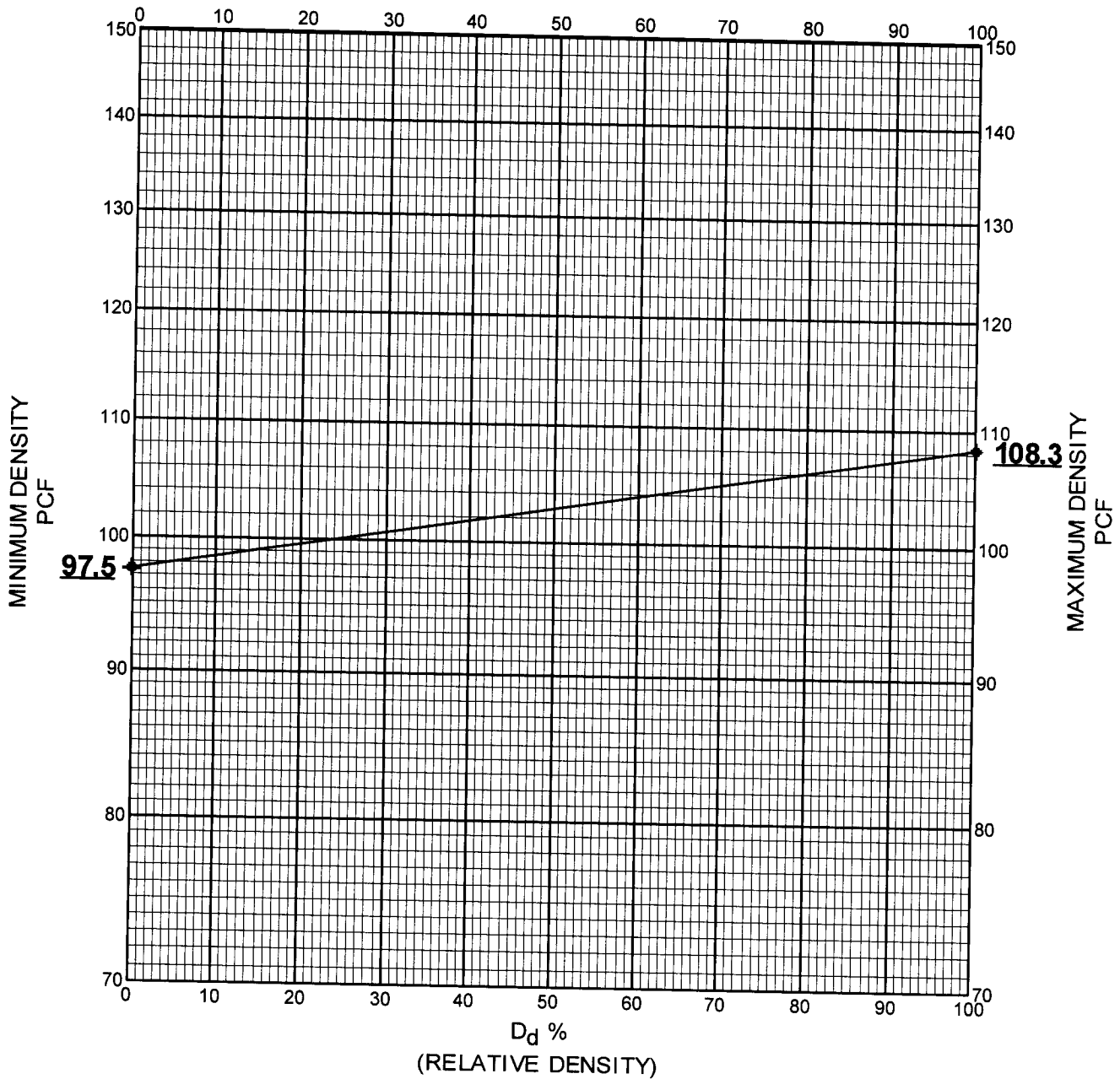
ASTM D4253 & D4254

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

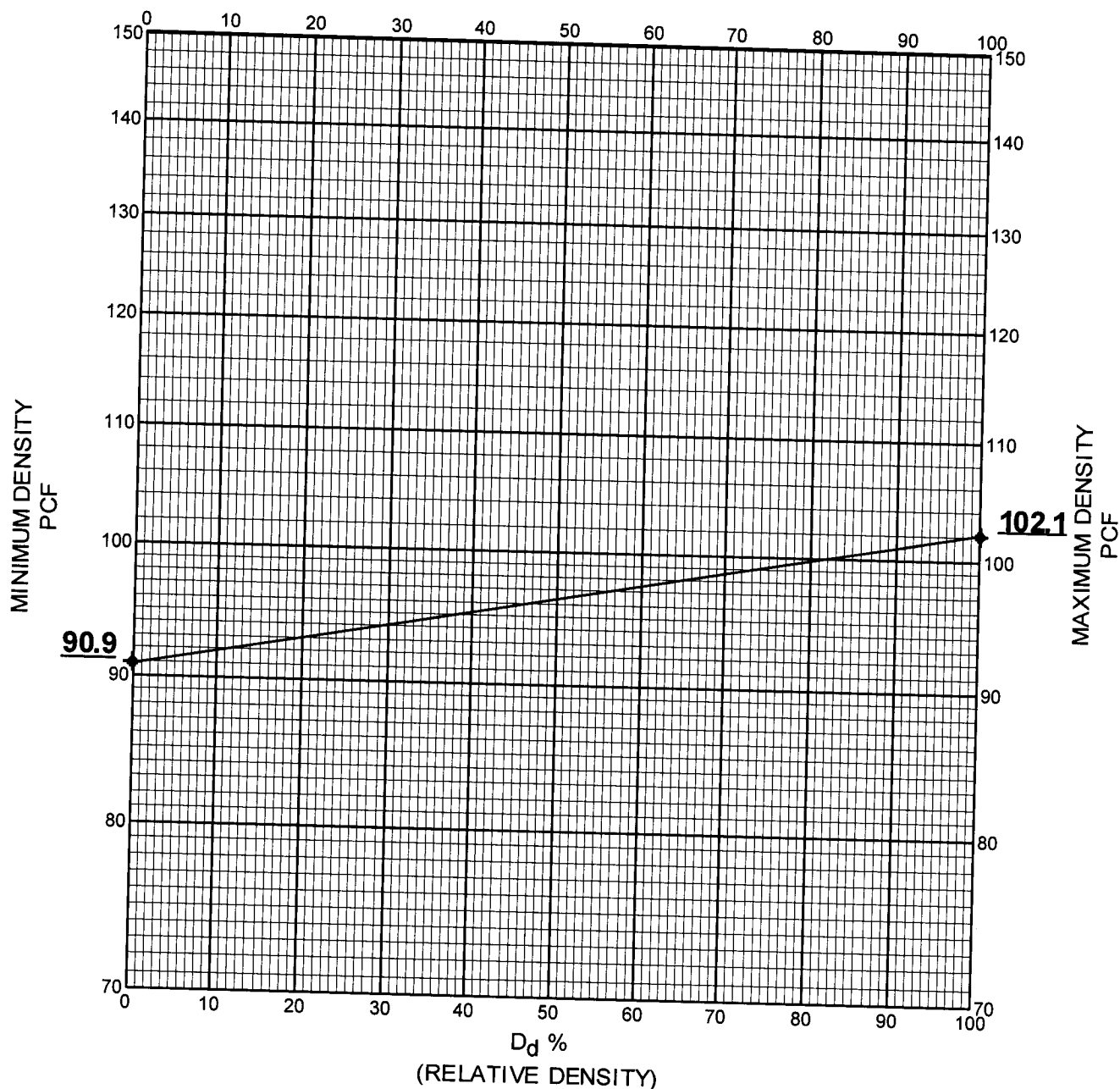
ASTM D4253 & D4254

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

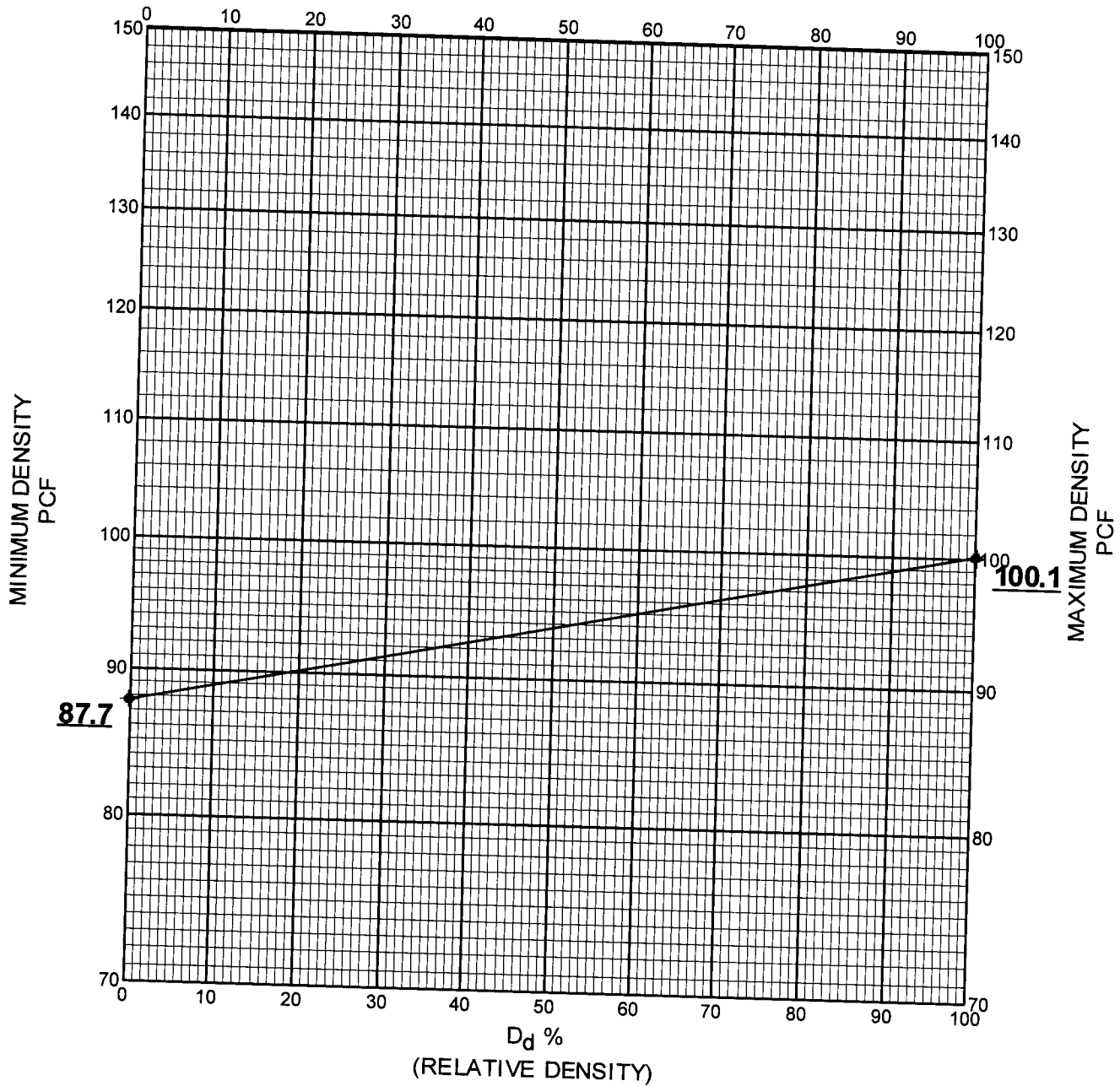
ASTM D4253 & D4254

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

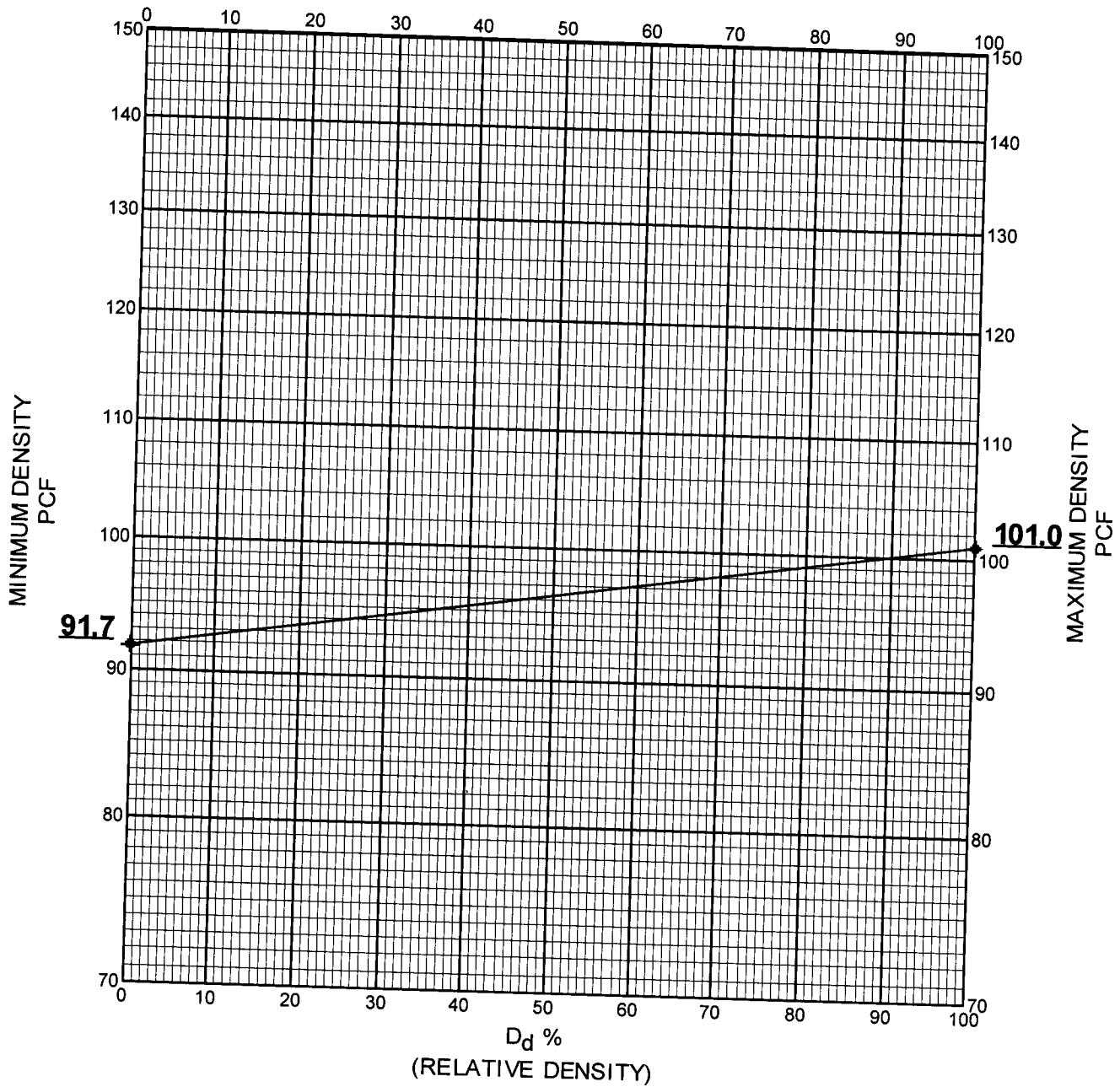
ASTM D4253 & D4254

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

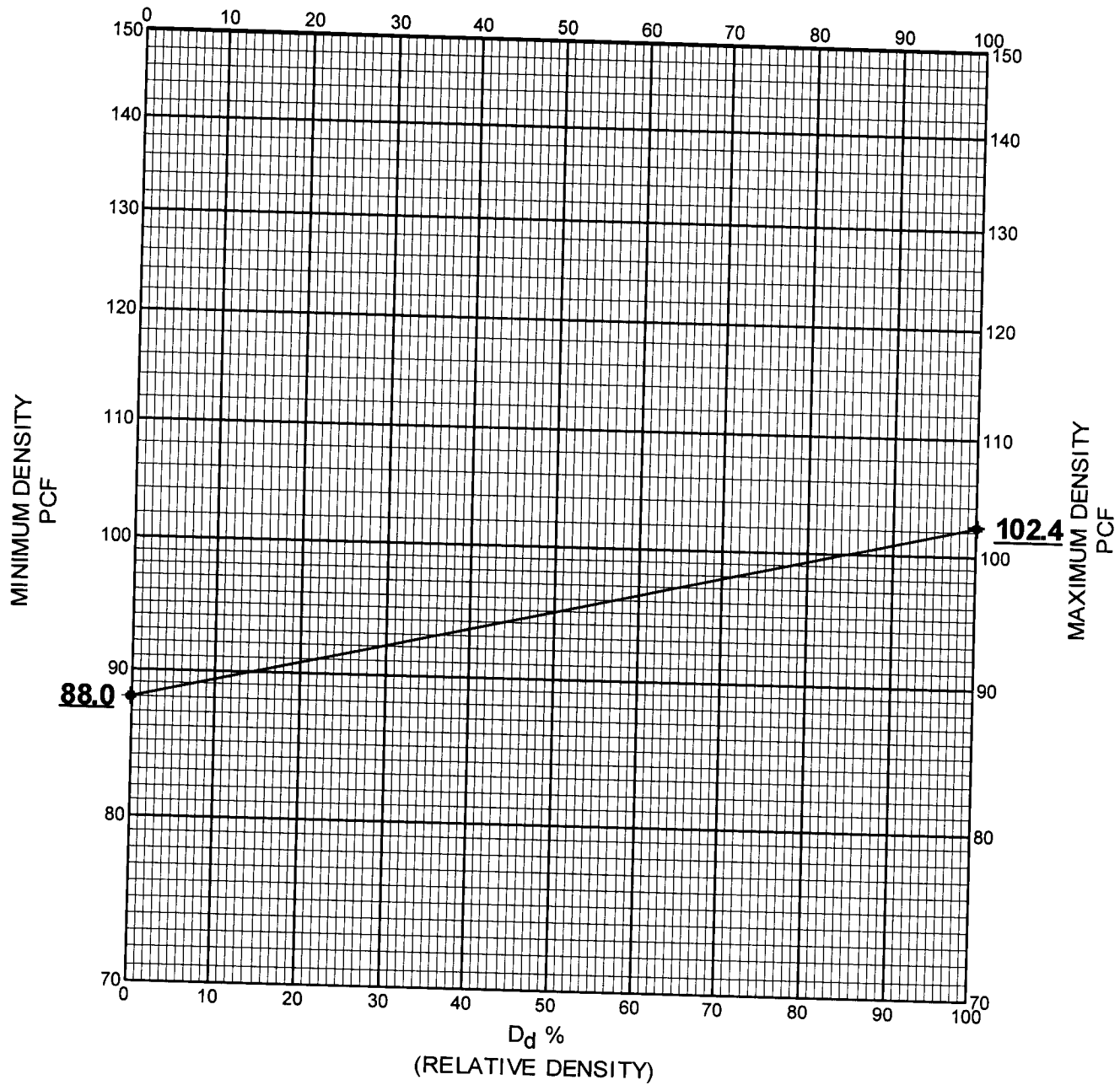
ASTM D4253 & D4254

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

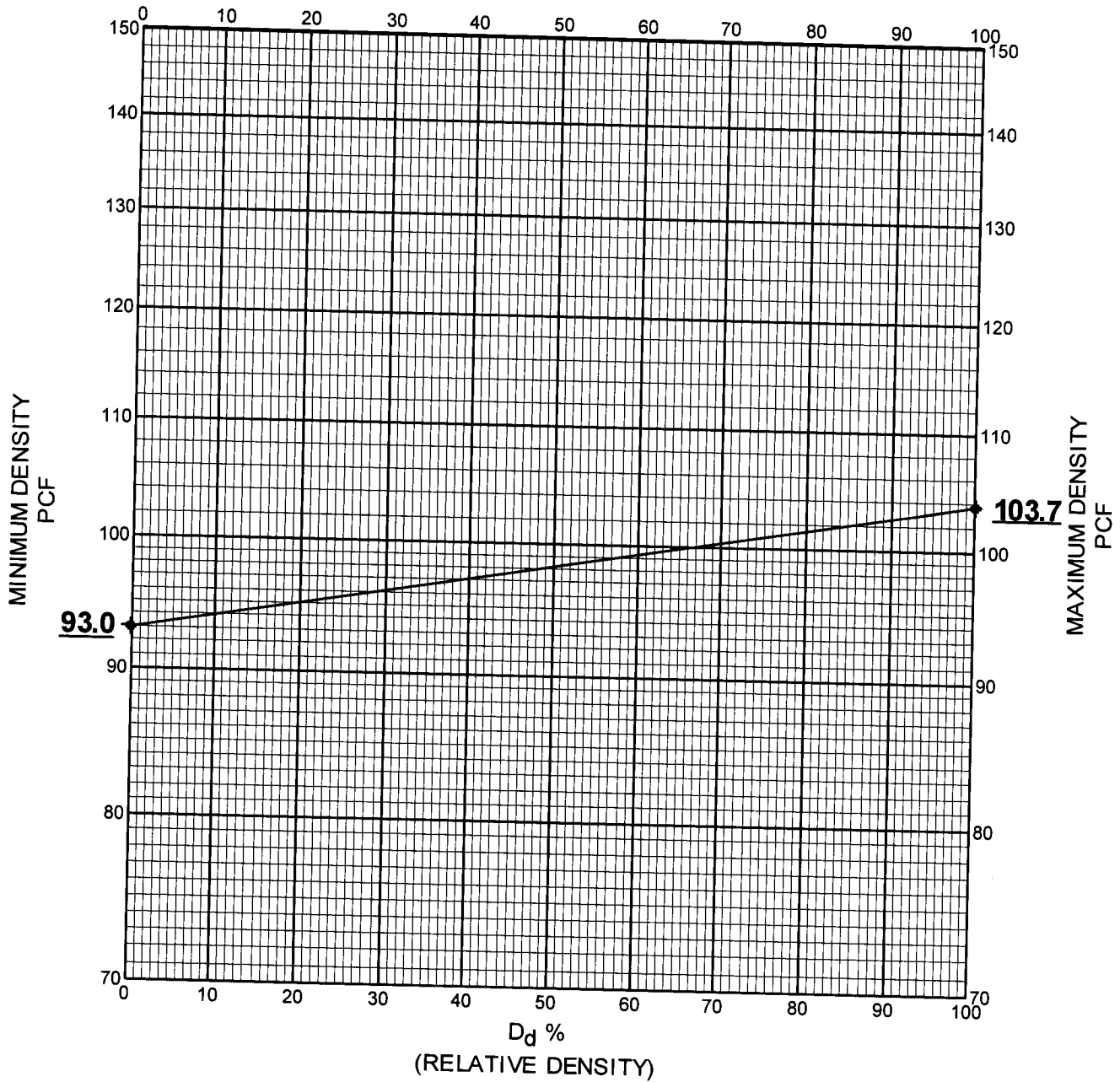
ASTM D4253 & D4254

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

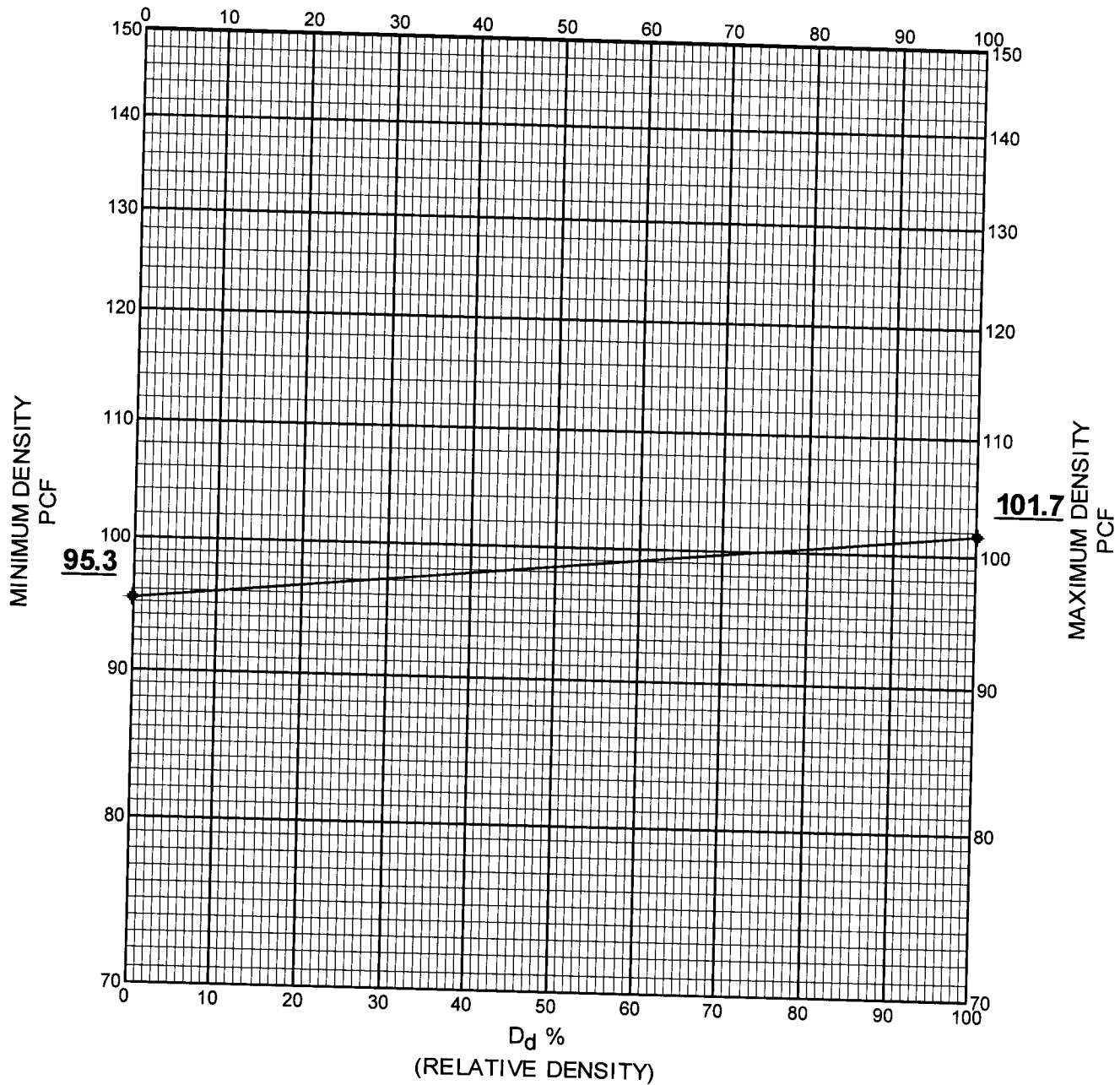
ASTM D4253 & D4254

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

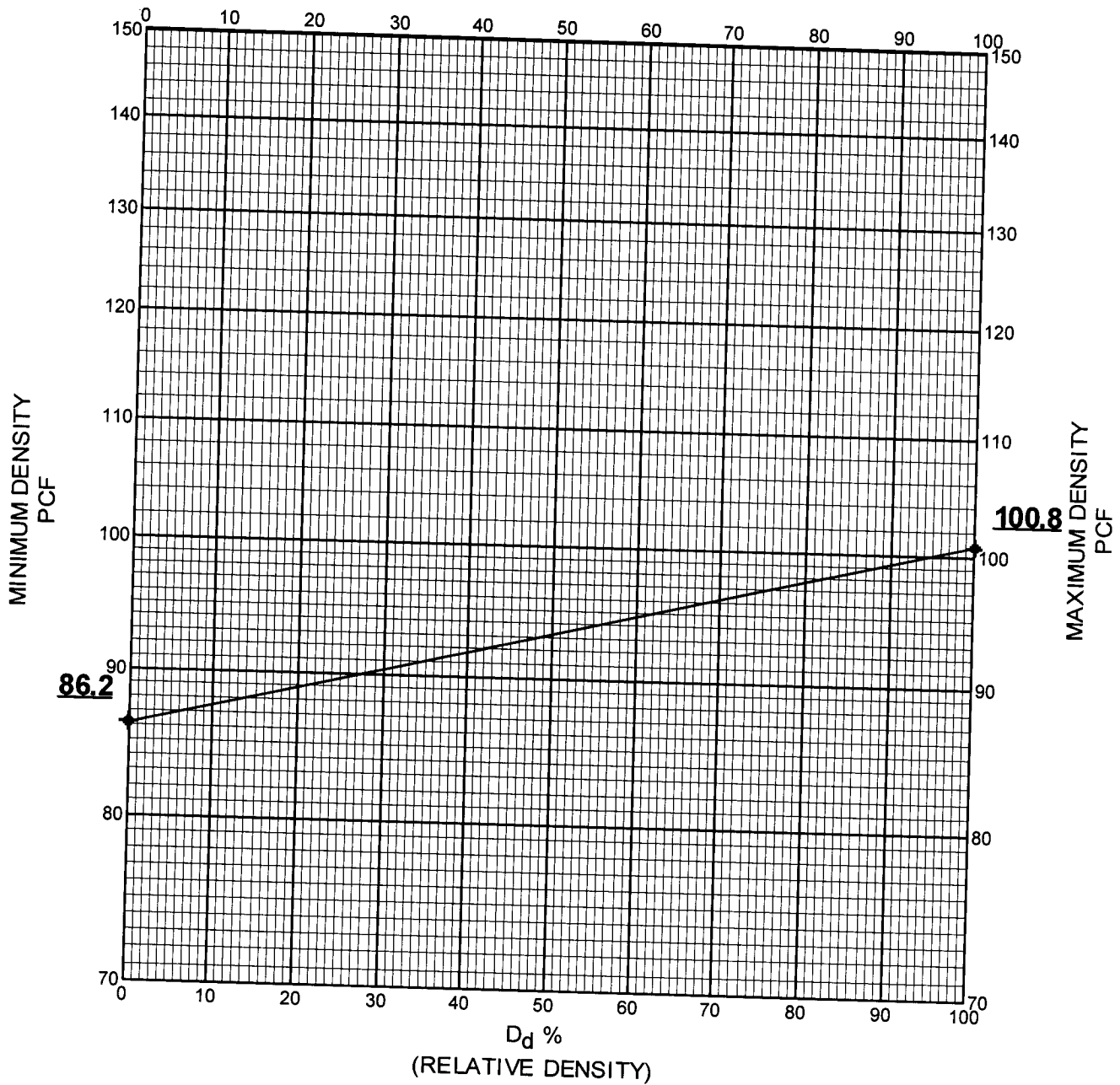
ASTM D4253 & D4254

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

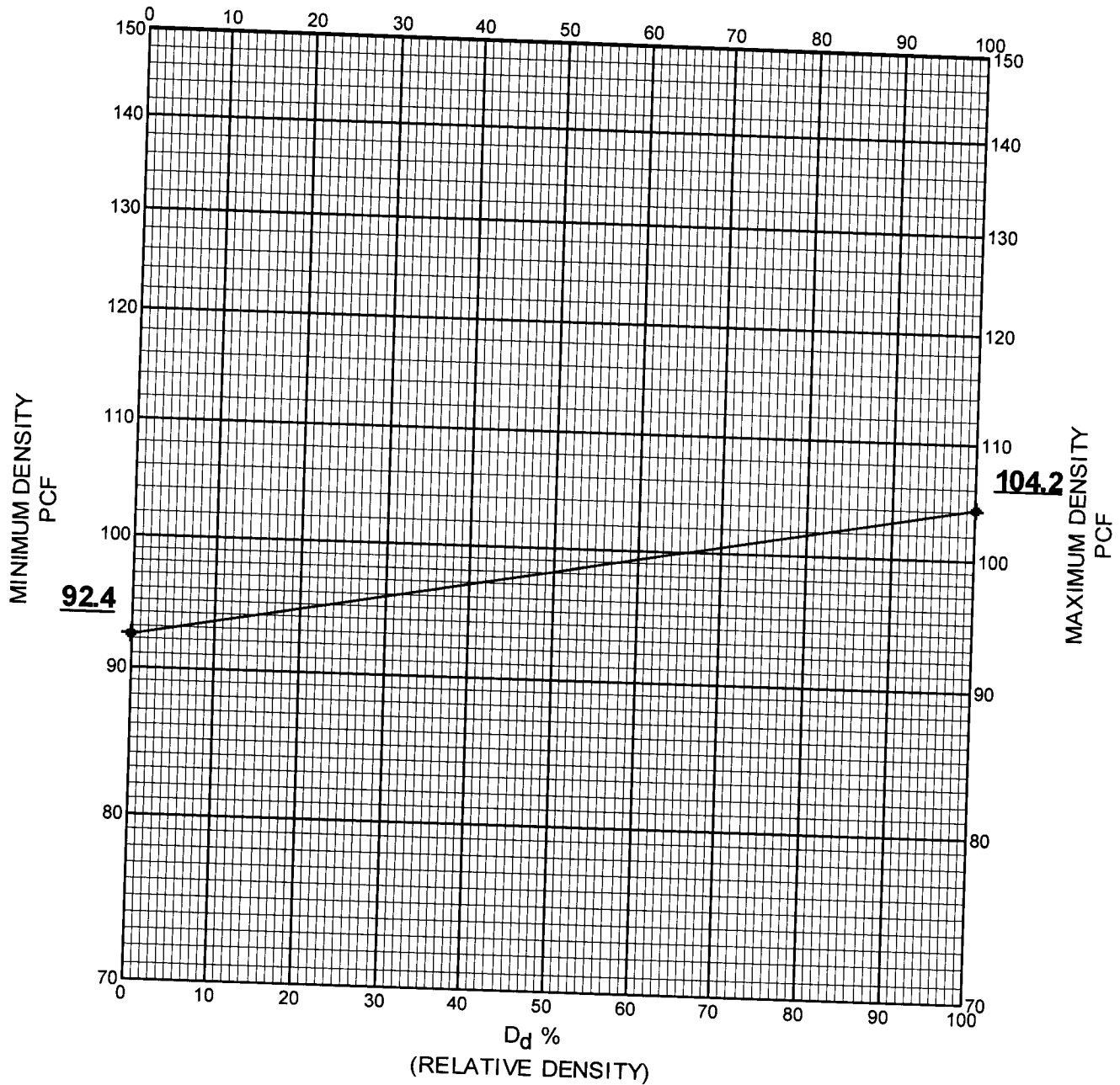
ASTM D4253 & D4254

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

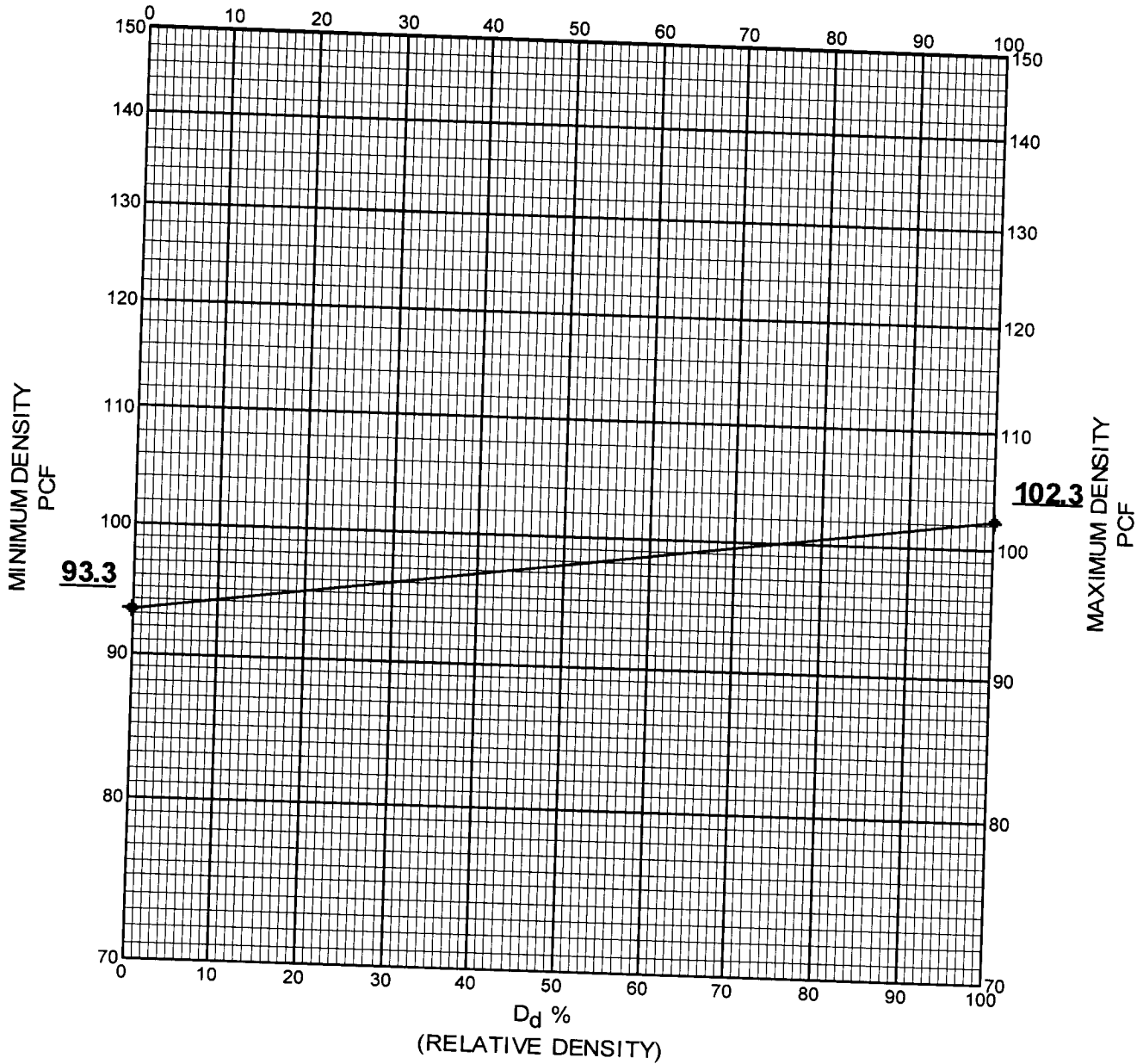
ASTM D4253 & D4254

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

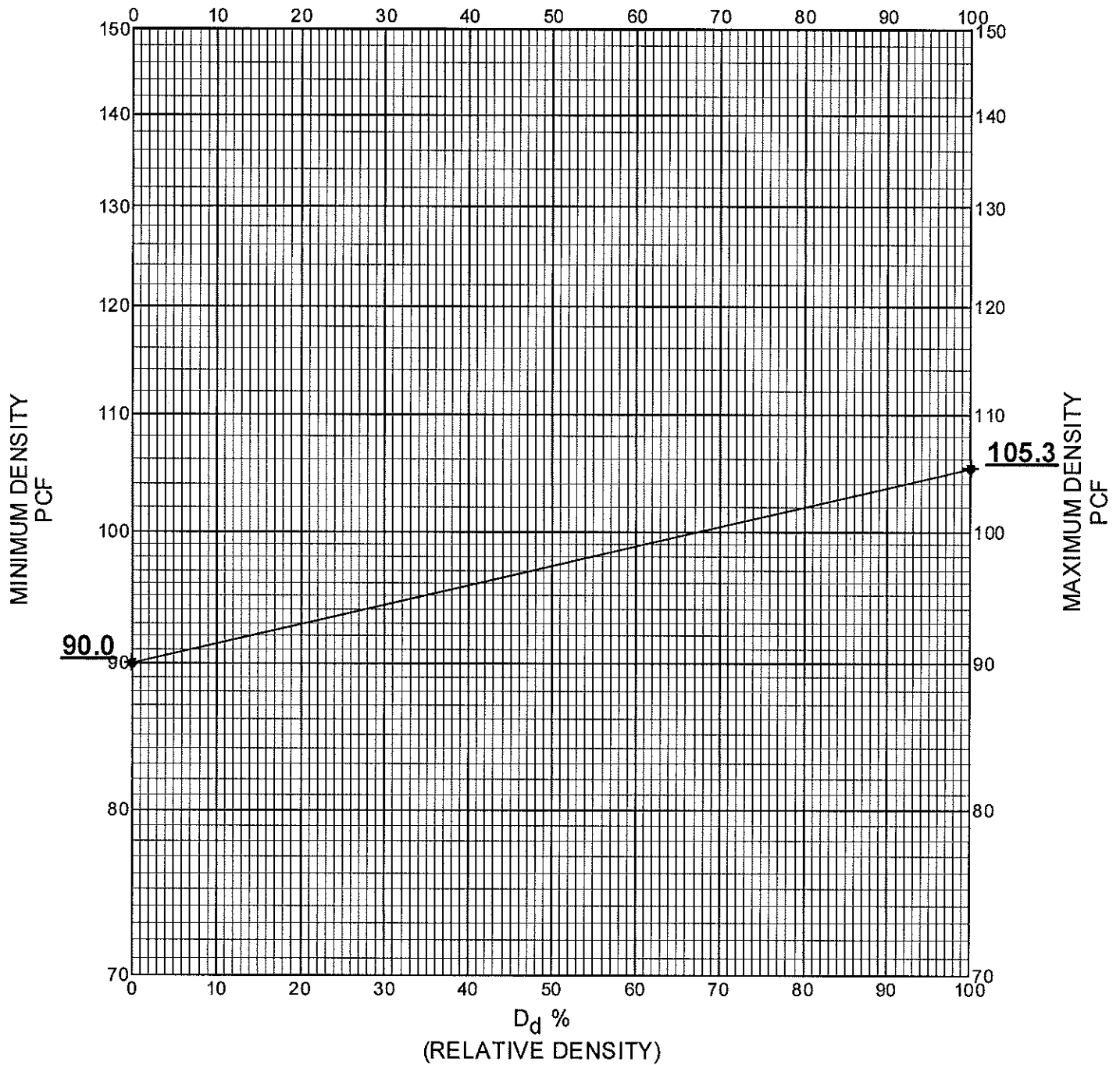
RELATIVE DENSITY
ASTM D4253 & D4254

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

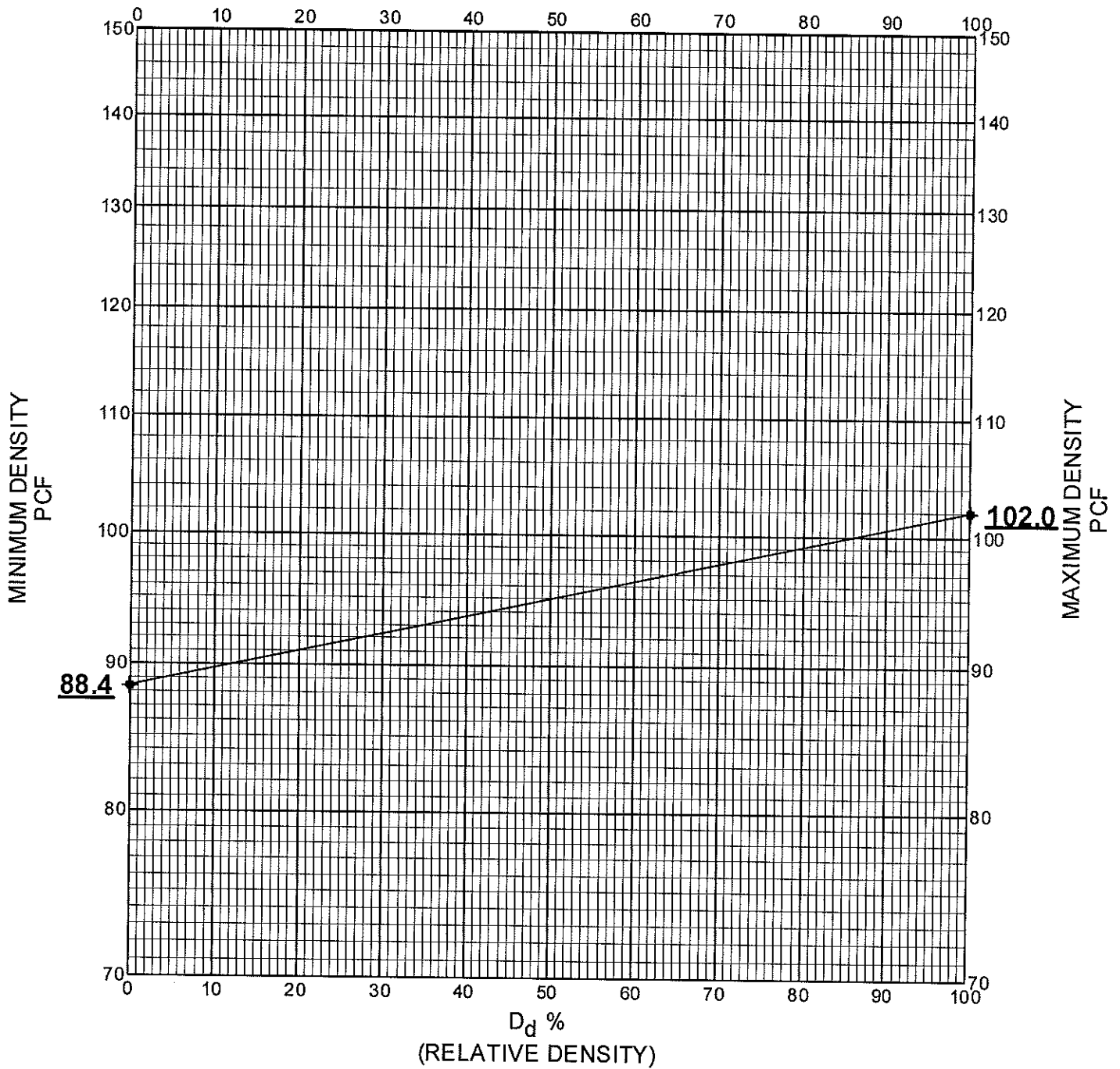
ASTM D4253 & D4254

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

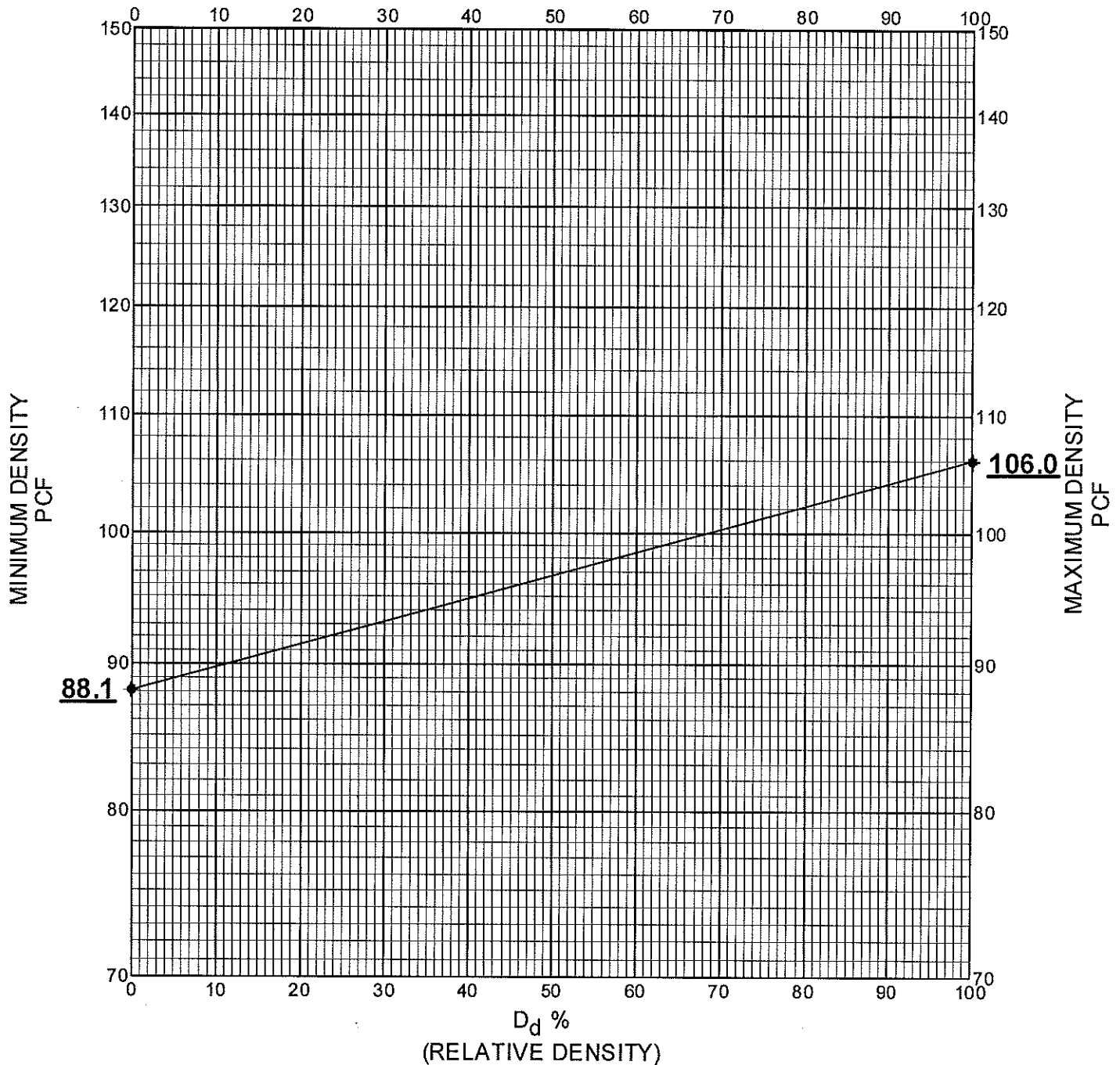
ASTM D4253 & D4254

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

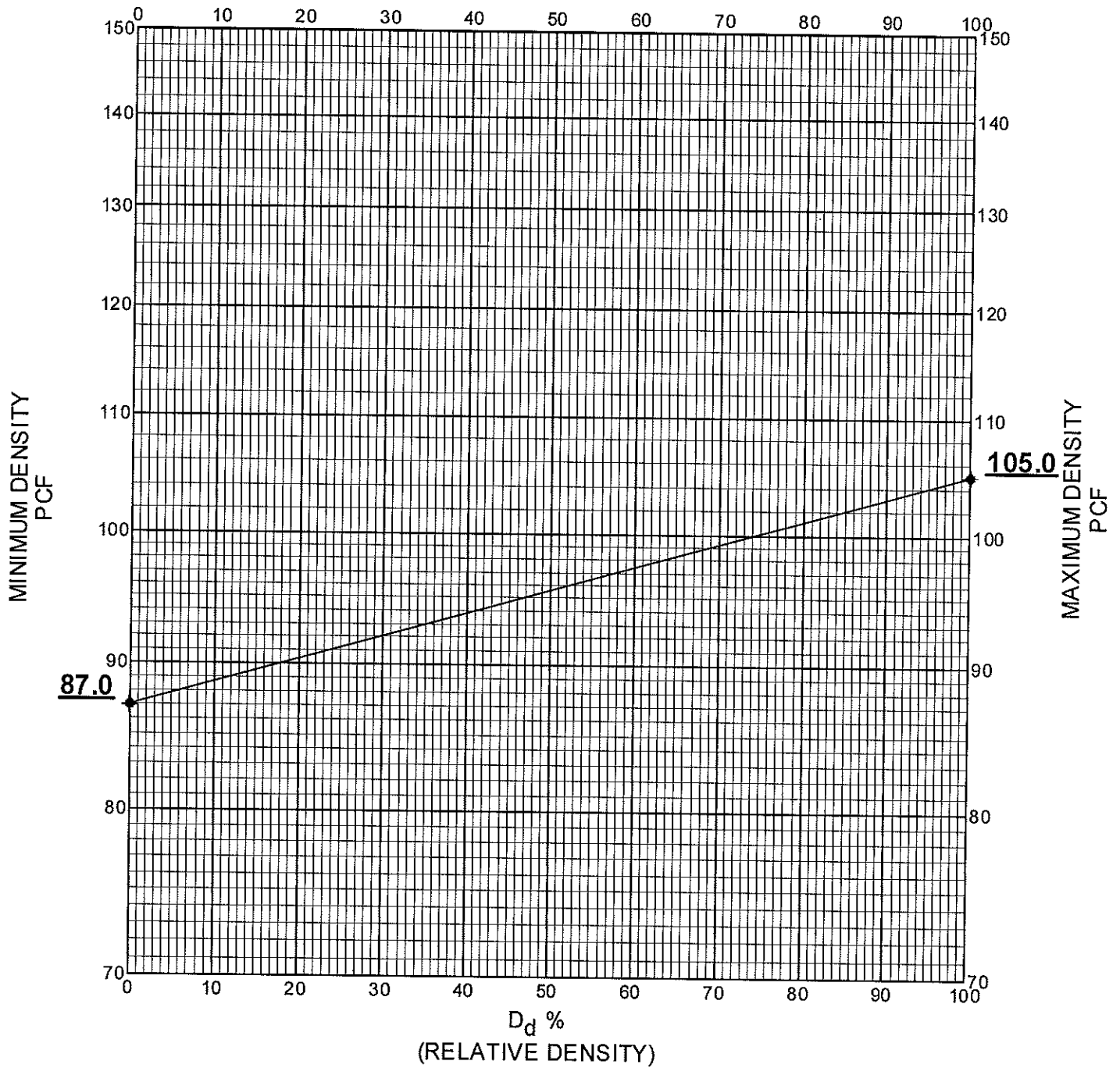
ASTM D4253 & D4254

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

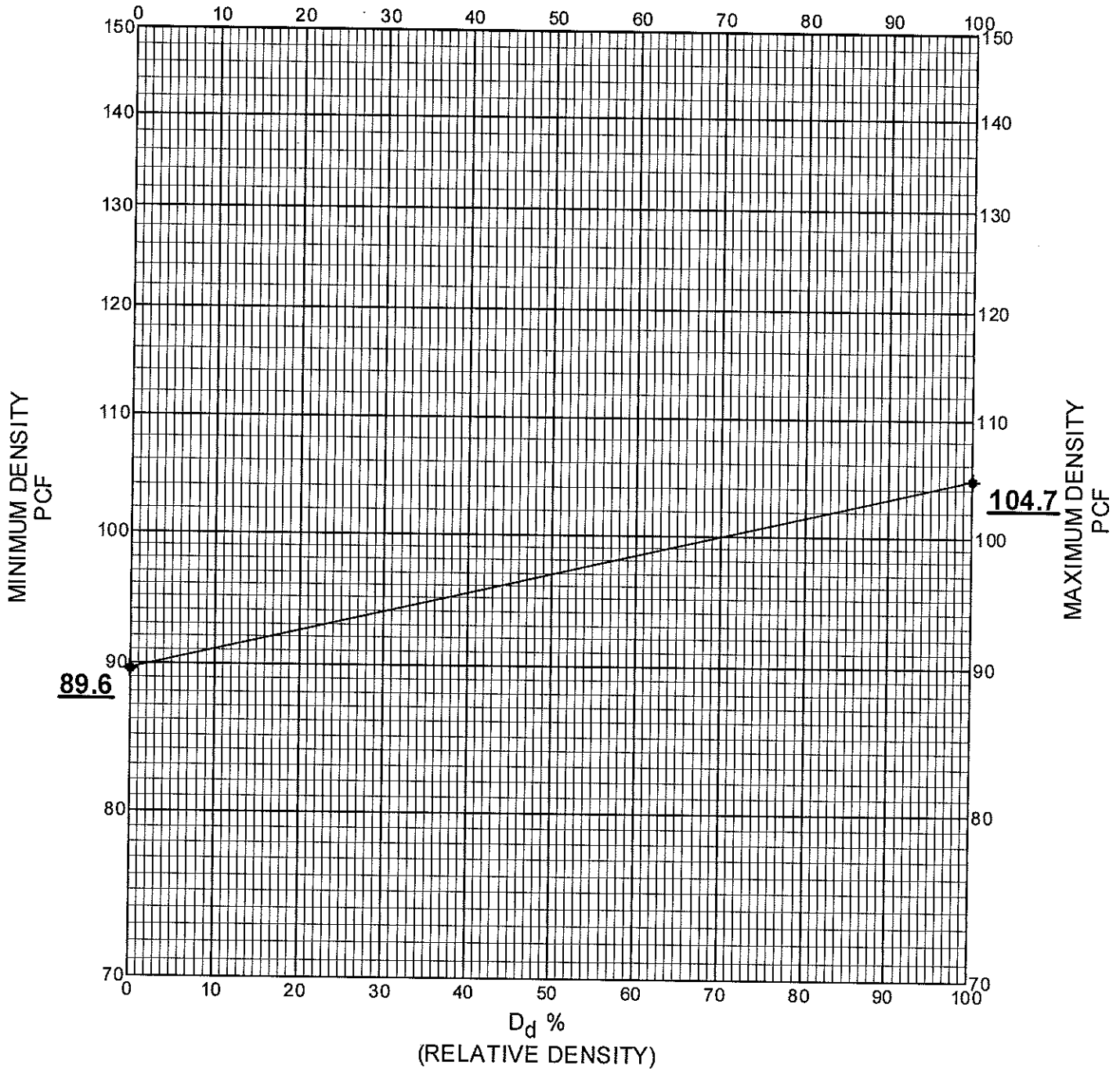
ASTM D4253 & D4254

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

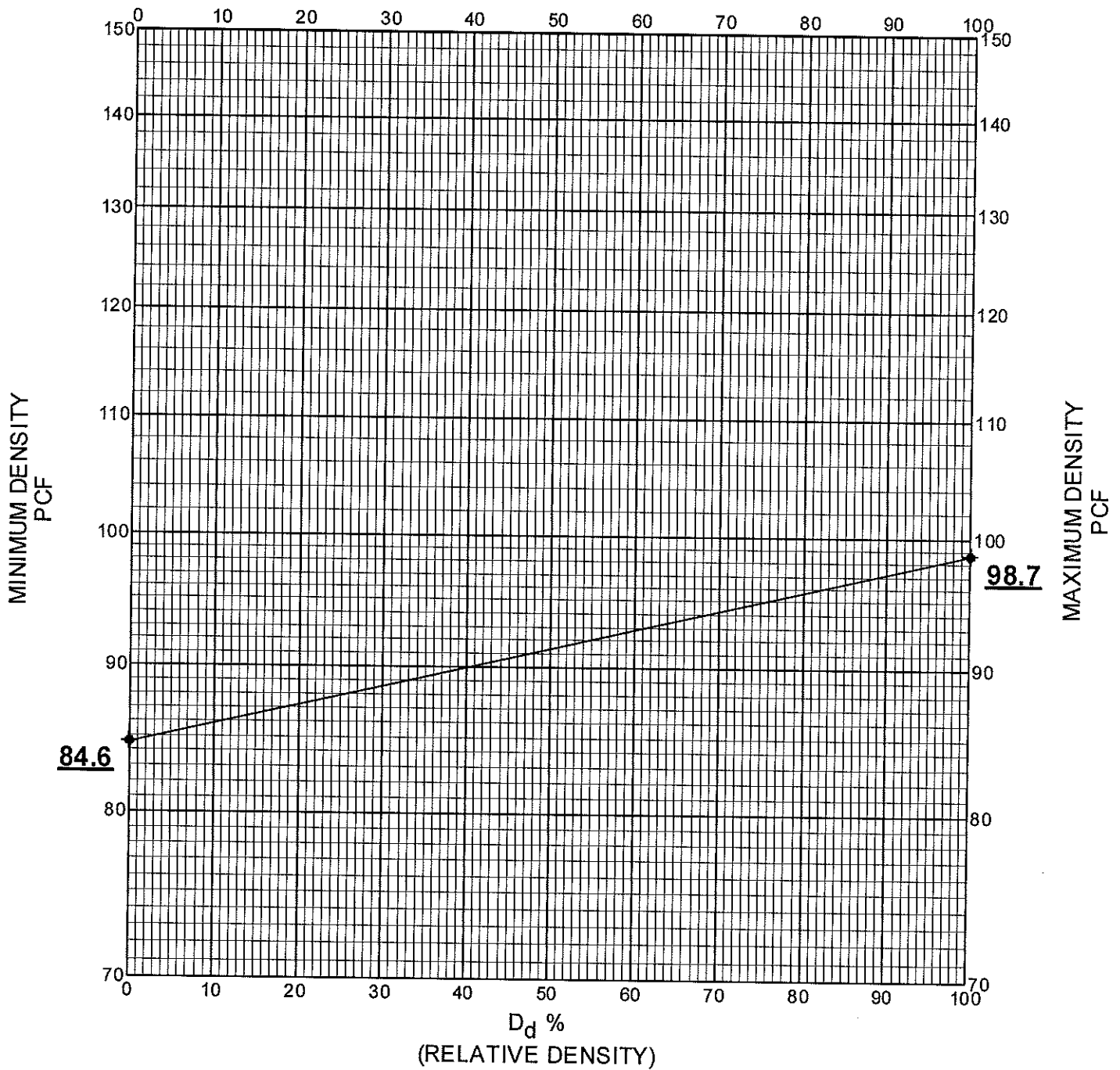
ASTM D4253 & D4254

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

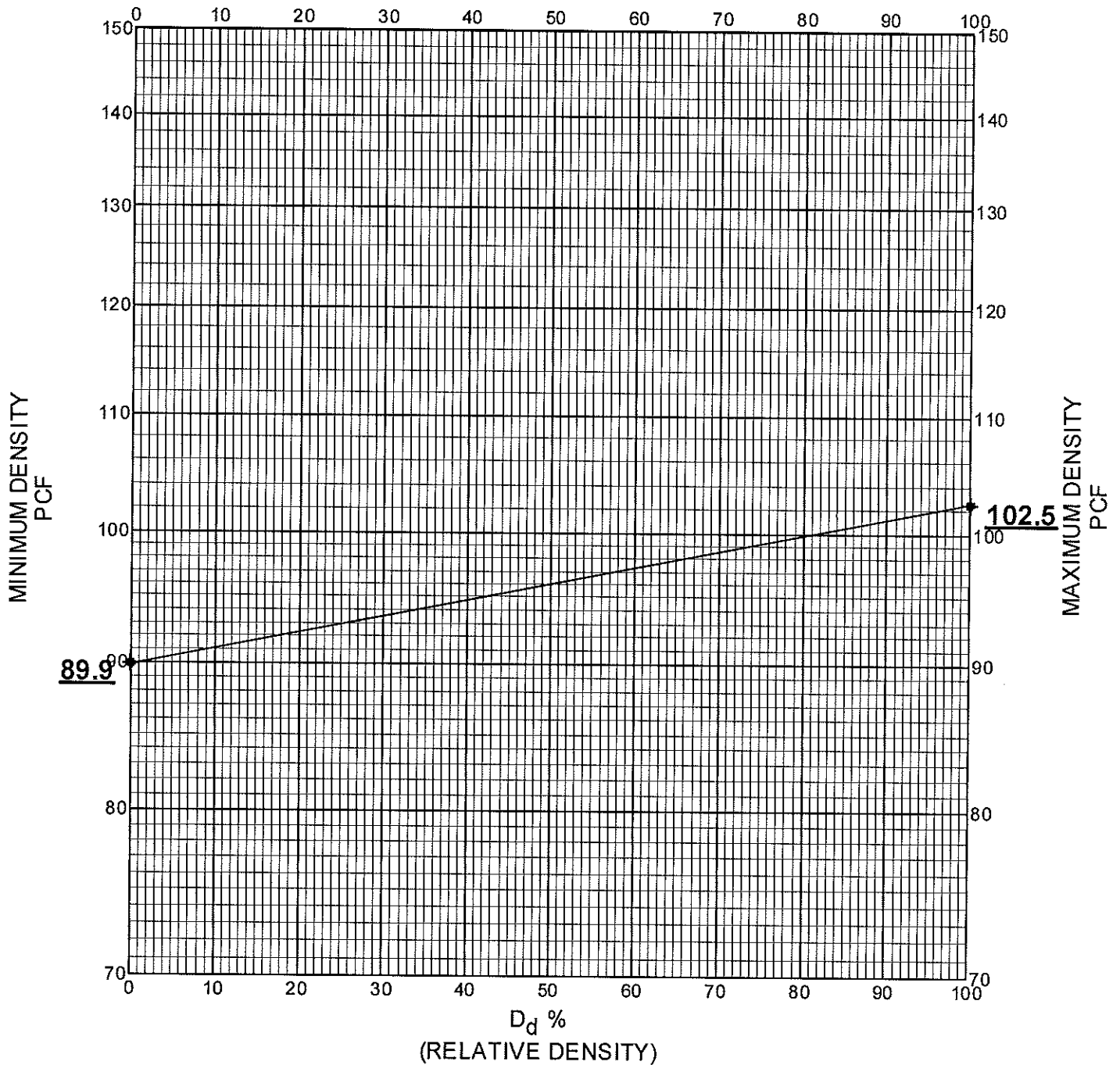
ASTM D4253 & D4254

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

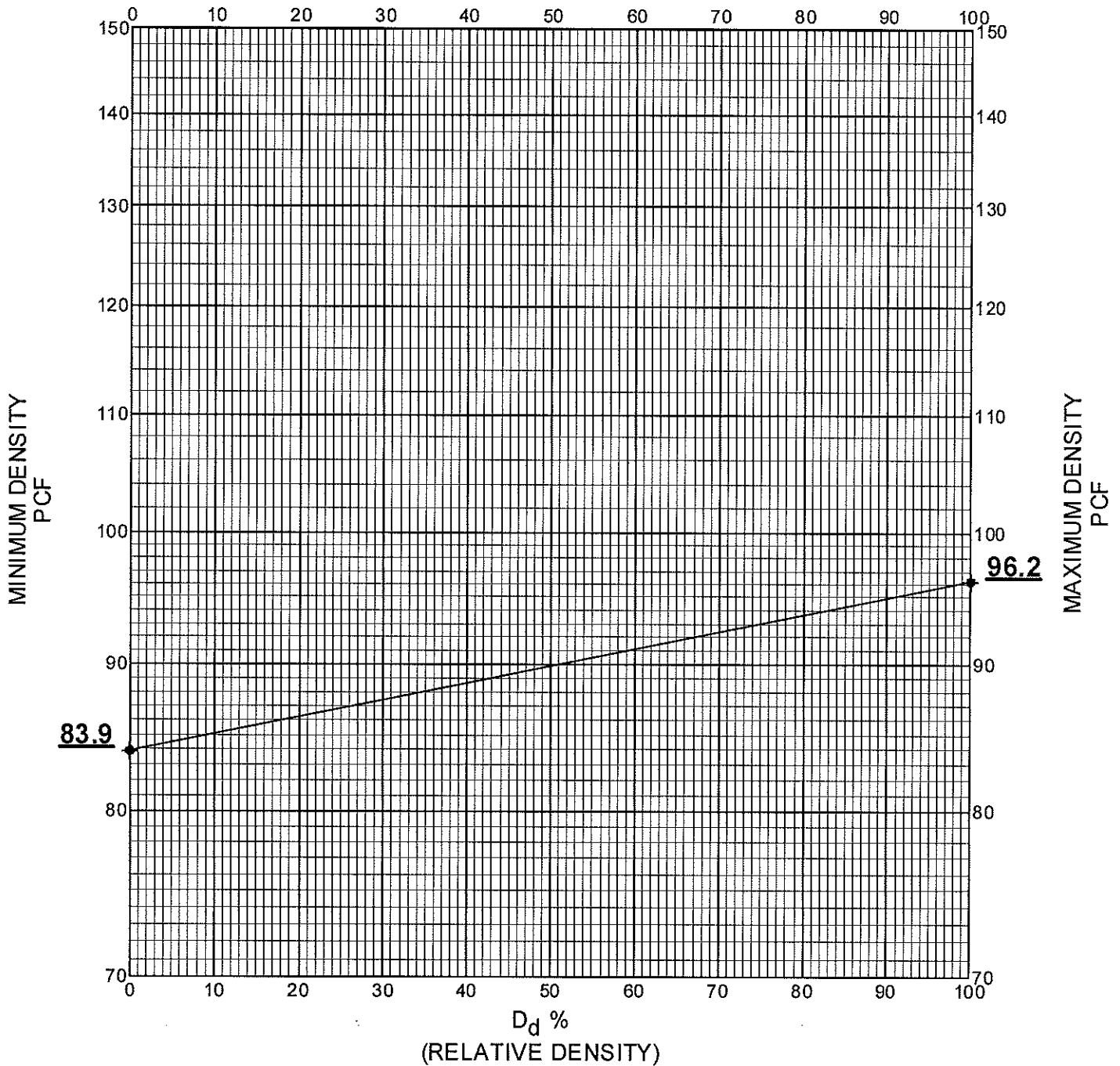
RELATIVE DENSITY
ASTM D4253 & D4254

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

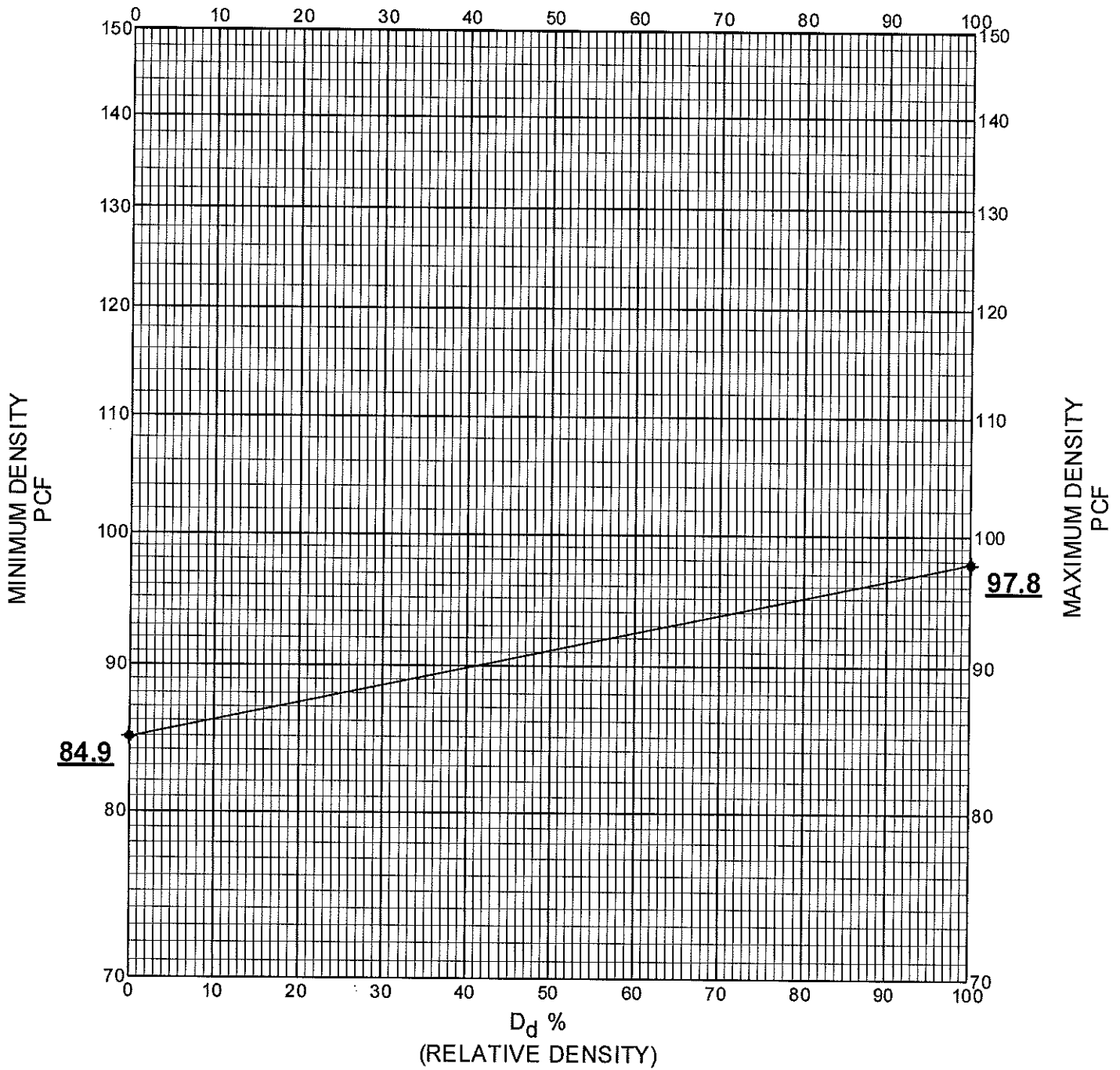
ASTM D4253 & D4254

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

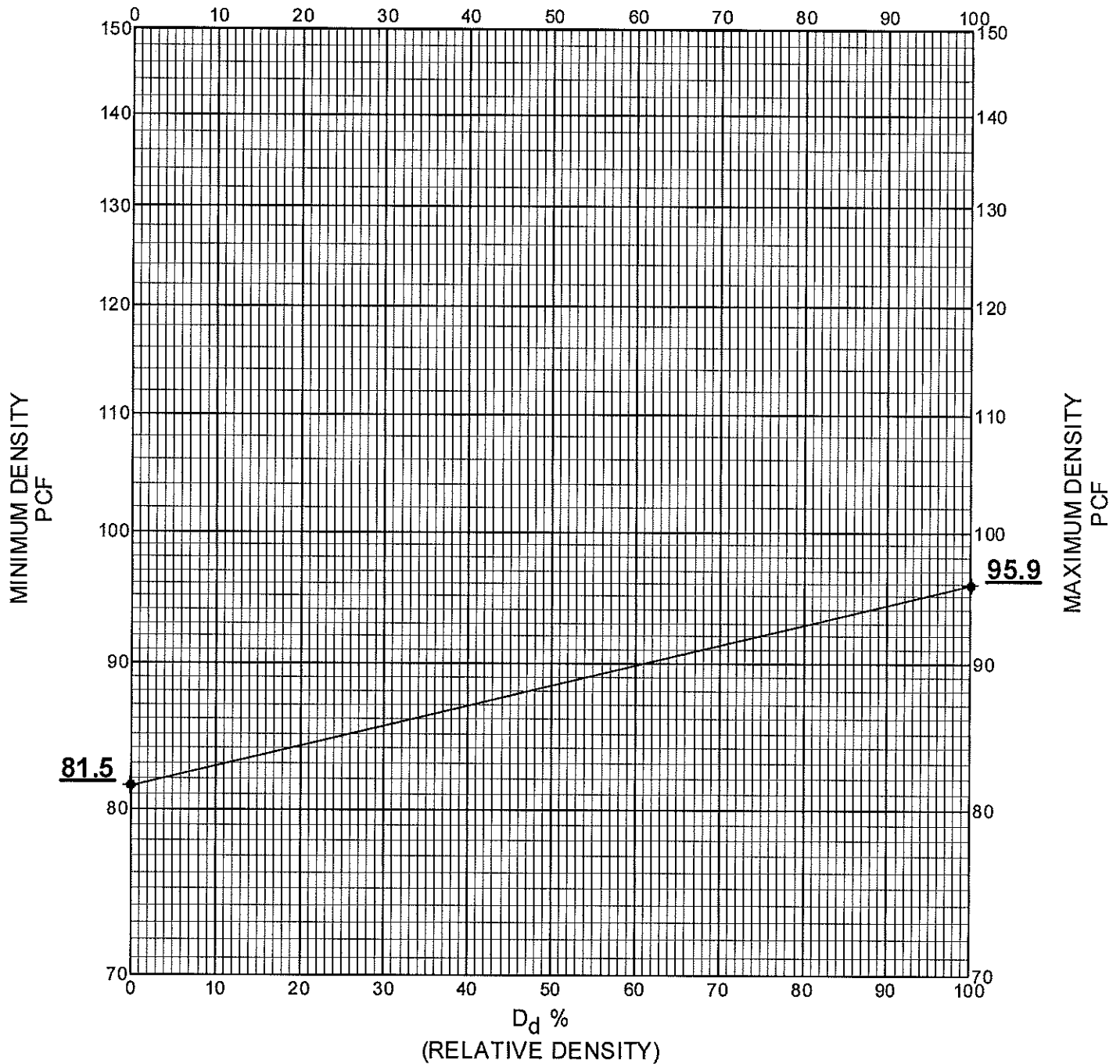
ASTM D4253 & D4254

Client / Project: Weeks Marine, Inc.

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

Date: 7-12-07


Job No. 19598



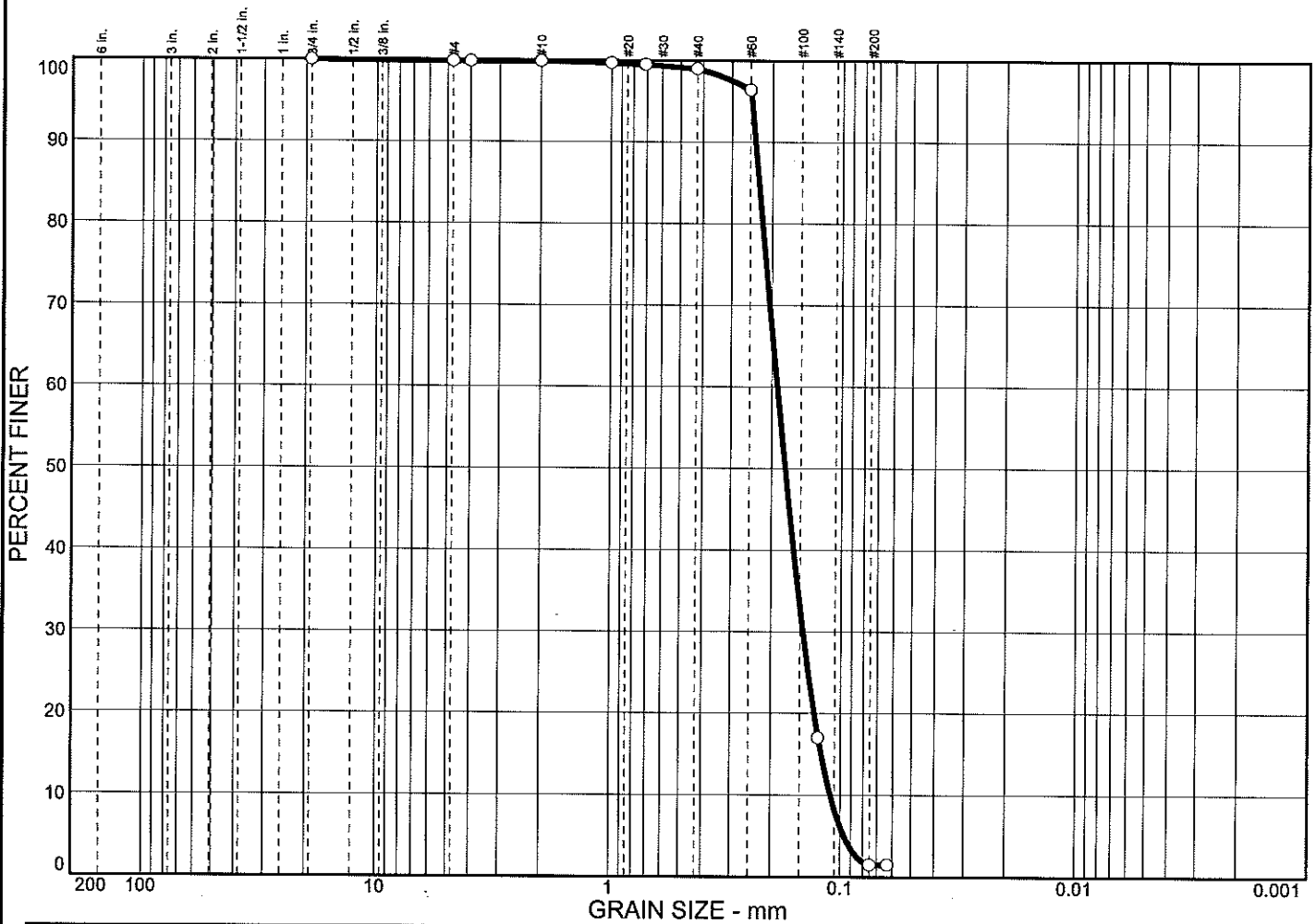
SAMPLE	CLASSIFICATION ASTM D2487 / D2488	MINIMUM DENSITY	MAXIMUM DENSITY
Dune Crest, 232+64	Light Gray Silty Sand	81.5 pcf	95.9 pcf

The graph illustrates 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, ranging from 200 mm to 0.001 mm. The curve shows that the soil is predominantly composed of fine-grained particles, with a sharp drop in the percentage finer between 0.6 mm and 0.075 mm.

Grain Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
20	100
10	100
4.75	100
2.5	100
1.18	100
0.85	100
0.6	100
0.425	99
0.3	98
0.25	96
0.2	94
0.15	92
0.106	85
0.075	7
0.06	0
0.0475	0
0.03	0
0.025	0
0.02	0
0.015	0
0.0106	0
0.0075	0
0.006	0
0.00475	0
0.003	0
0.0025	0
0.002	0
0.0015	0
0.00106	0
0.00075	0
0.0006	0
0.000475	0
0.0003	0
0.00025	0
0.0002	0
0.00015	0
0.000106	0
0.000075	0
0.00006	0
0.0000475	0
0.00003	0
0.000025	0
0.00002	0
0.000015	0
0.0000106	0
0.0000075	0
0.000006	0
0.00000475	0
0.000003	0
0.0000025	0
0.000002	0
0.0000015	0
0.00000106	0
0.00000075	0
0.0000006	0
0.000000475	0
0.0000003	0
0.00000025	0
0.0000002	0
0.00000015	0
0.000000106	0
0.000000075	0
0.00000006	0
0.0000000475	0
0.00000003	0
0.000000025	0
0.00000002	0
0.000000015	0
0.0000000106	0
0.0000000075	0
0.000000006	0
0.00000000475	0
0.000000003	0
0.0000000025	0
0.000000002	0
0.0000000015	0
0.00000000106	0
0.00000000075	0
0.0000000006	0
0.000000000475	0
0.0000000003	0
0.00000000025	0
0.0000000002	0
0.00000000015	0
0.000000000106	0
0.000000000075	0
0.00000000006	0
0.0000000000475	0
0.00000000003	0
0.000000000025	0
0.00000000002	0
0.000000000015	0
0.0000000000106	0
0.0000000000075	0
0.000000000006	0
0.00000000000475	0
0.000000000003	0
0.0000000000025	0
0.000000000002	0
0.0000000000015	0
0.00000000000106	0
0.00000000000075	0
0.0000000000006	0
0.000000000000475	0
0.0000000000003	0
0.00000000000025	0
0.0000000000002	0
0.00000000000015	0
0.000000000000106	0
0.000000000000075	0
0.00000000000006	0
0.0000000000000475	0
0.00000000000003	0
0.000000000000025	0
0.00000000000002	0
0.000000000000015	0
0.0000000000000106	0
0.0000000000000075	0
0.000000000000006	0
0.00000000000000475	0
0.000000000000003	0

<p>Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana</p> <p>Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)</p> <p>Terrebonne Parish, Louisiana, Purchase Order No. 125146</p> <p>○ Source: Station 309+64 Sample No.: MEAN HIGH WATER</p>	<p>Remarks:</p> <p>○ Sample Mean High Water</p> <p>Moisture content = 22.8%</p> <p>Wentworth Classification:</p> <p>Gray fine to very fine sand with shell fragments</p>
<div data-bbox="516 1887 740 1967">  <p>EUSTIS Metalrie, Louisiana Lafayette, Louisiana Gulfport, Mississippi</p> </div>	<p align="right">Figure</p>

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	D85	D60	D50	D30	D15	D10	Cc	Cu
○			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	

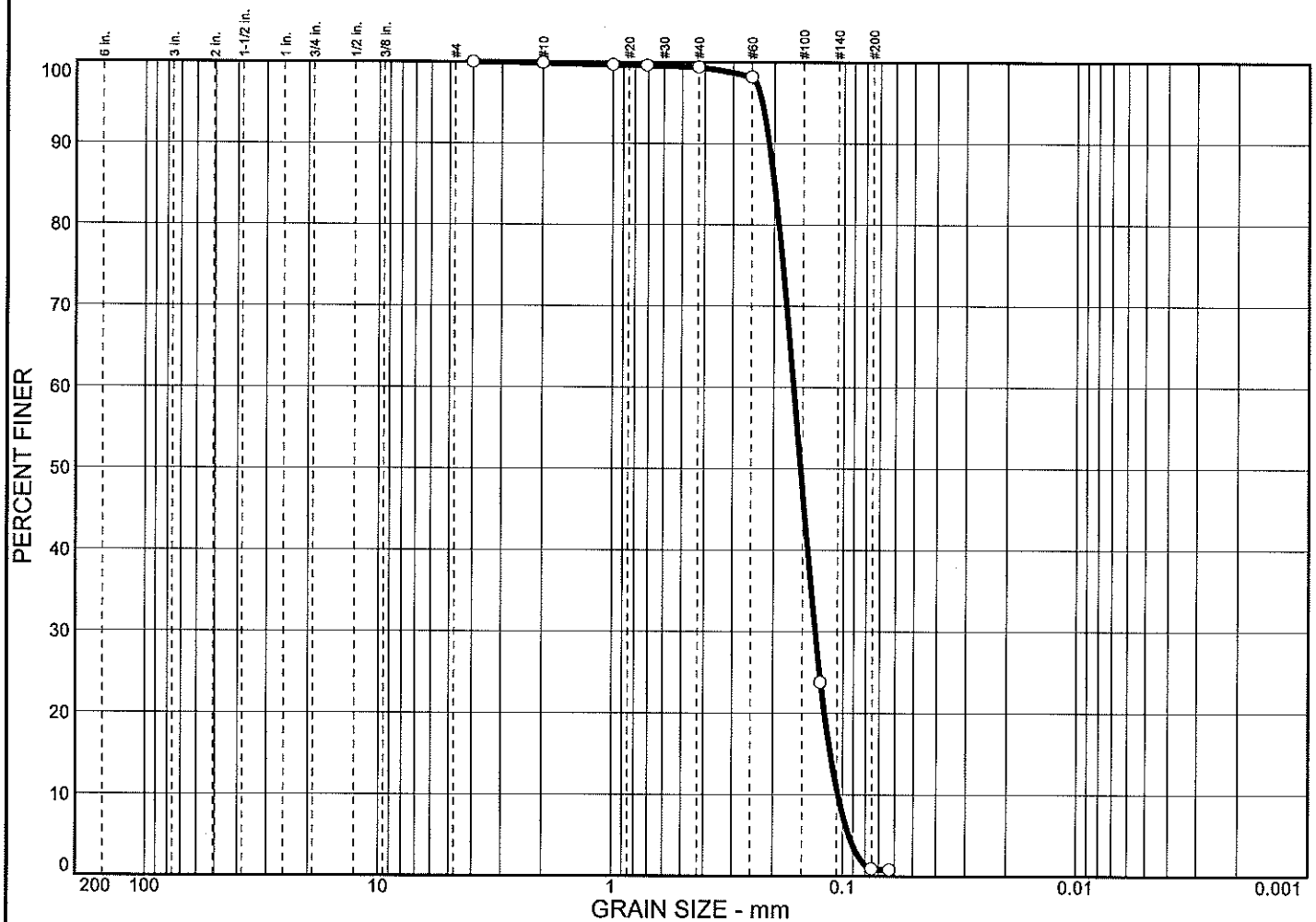
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 309+64 **Sample No.:** MEAN LOW WATER



Remarks:
 ○ Sample Mean Low Water
 Water content = 20.5%
 Wentworth Classification:
 Gray fine to very fine sand with
 trace silt, shell fragments

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	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			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:

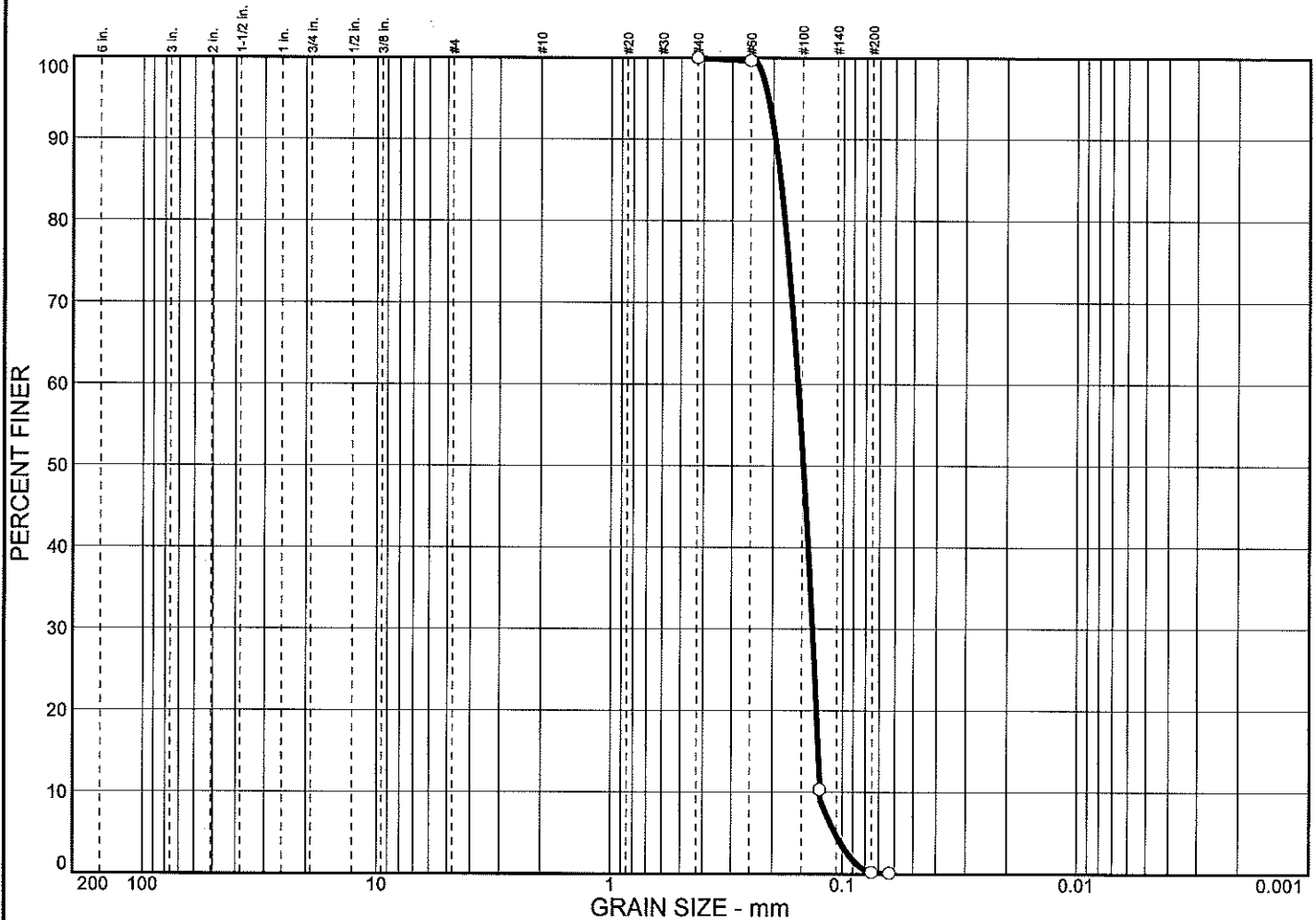
○ Sample Wading Depth
 Moisture content = 22.3%
 Wentworth Classification:
 Gray fine to very fine sand with
 shell fragments



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

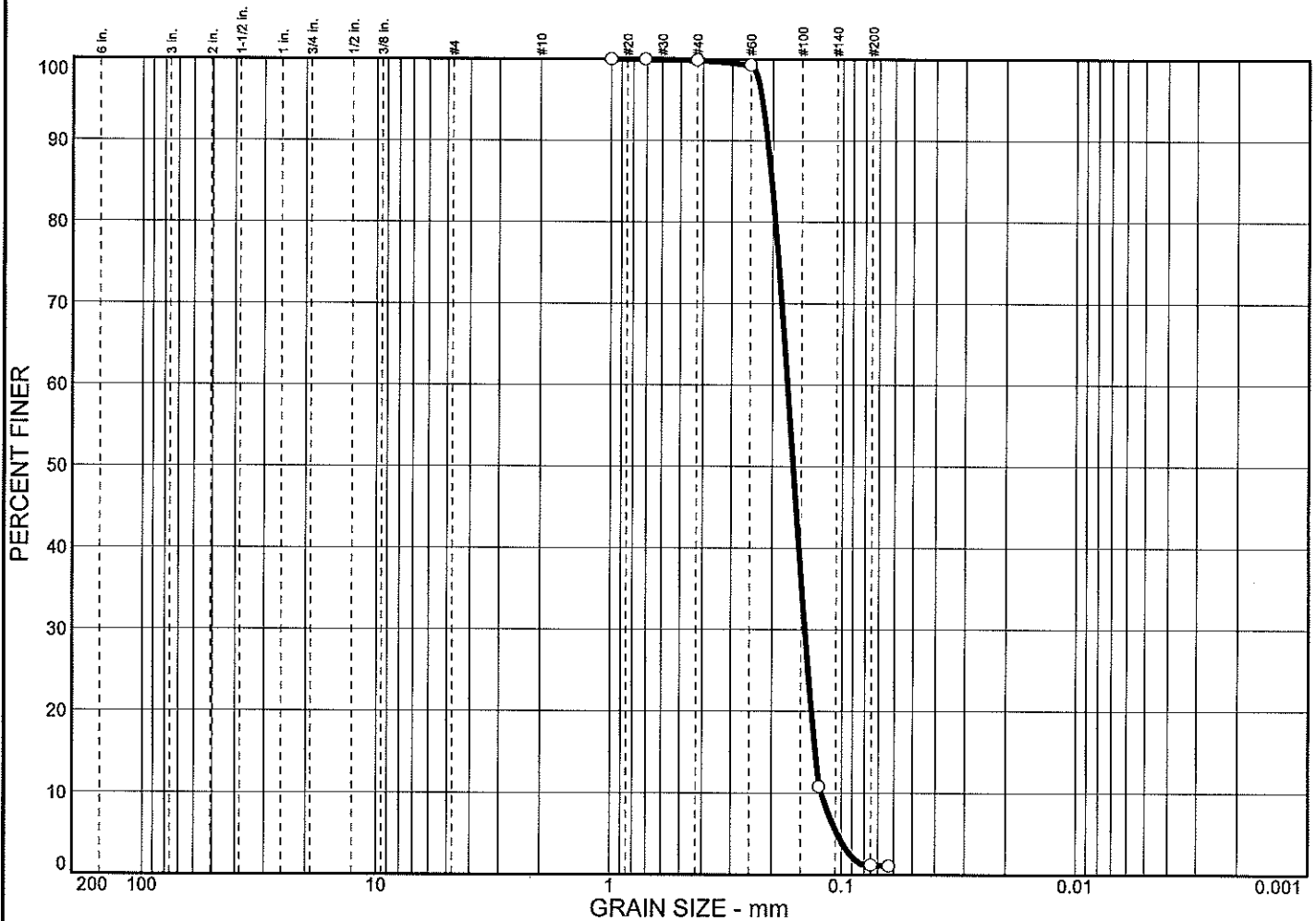
Remarks:
 ○ Sample Gulf Berm
 Moisture content = 7.1%
 Wentworth Classification:
 Light gray fine to very fine sand
 with trace organic matter




EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

Figure

Particle Size Distribution Report

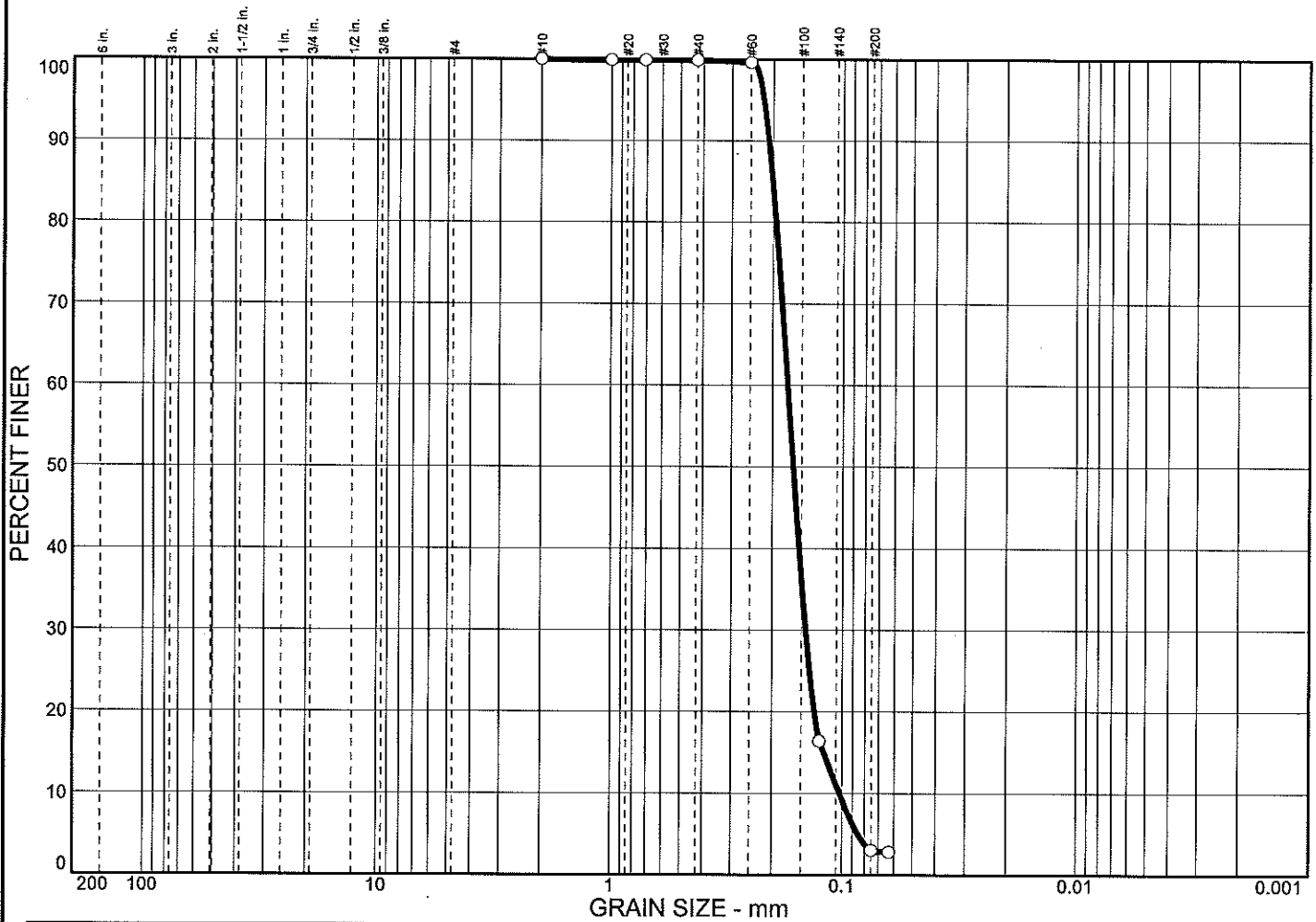


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.1	98.7	1.2			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.203	0.173	0.163	0.145	0.130	0.122	0.99	1.41
MATERIAL DESCRIPTION									USCS	AASHTO
○ Tan fine sand with trace shell fragments, roots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

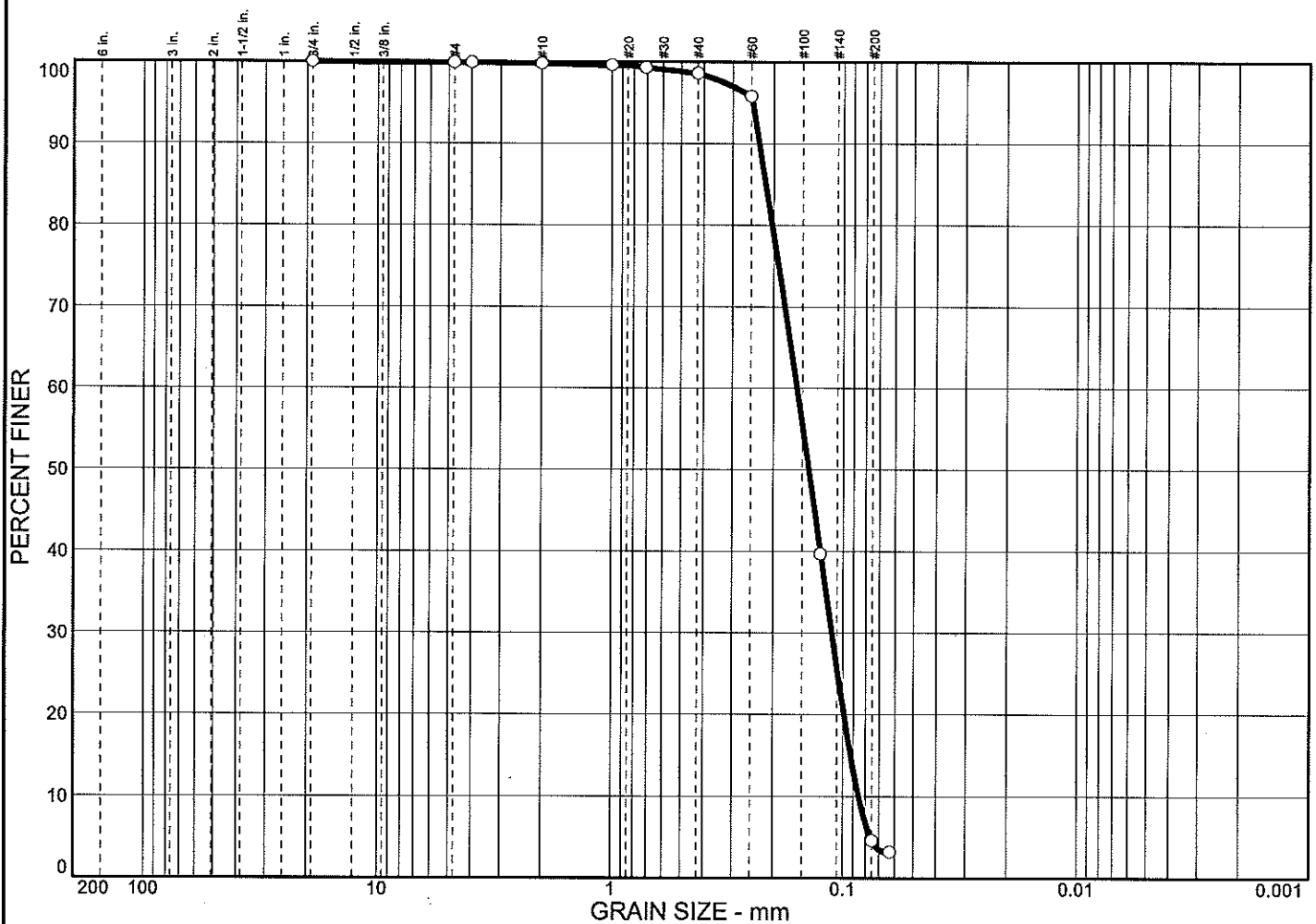
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 309+64 **Sample No.:** DUNE CREST


EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi


Remarks:
 ○ Sample Dune Crest
 Moisture content = 19.6%
 Wentworth Classification :
 Tan fine to very fine sand with
 trace silt, roots

Figure

Particle Size Distribution Report

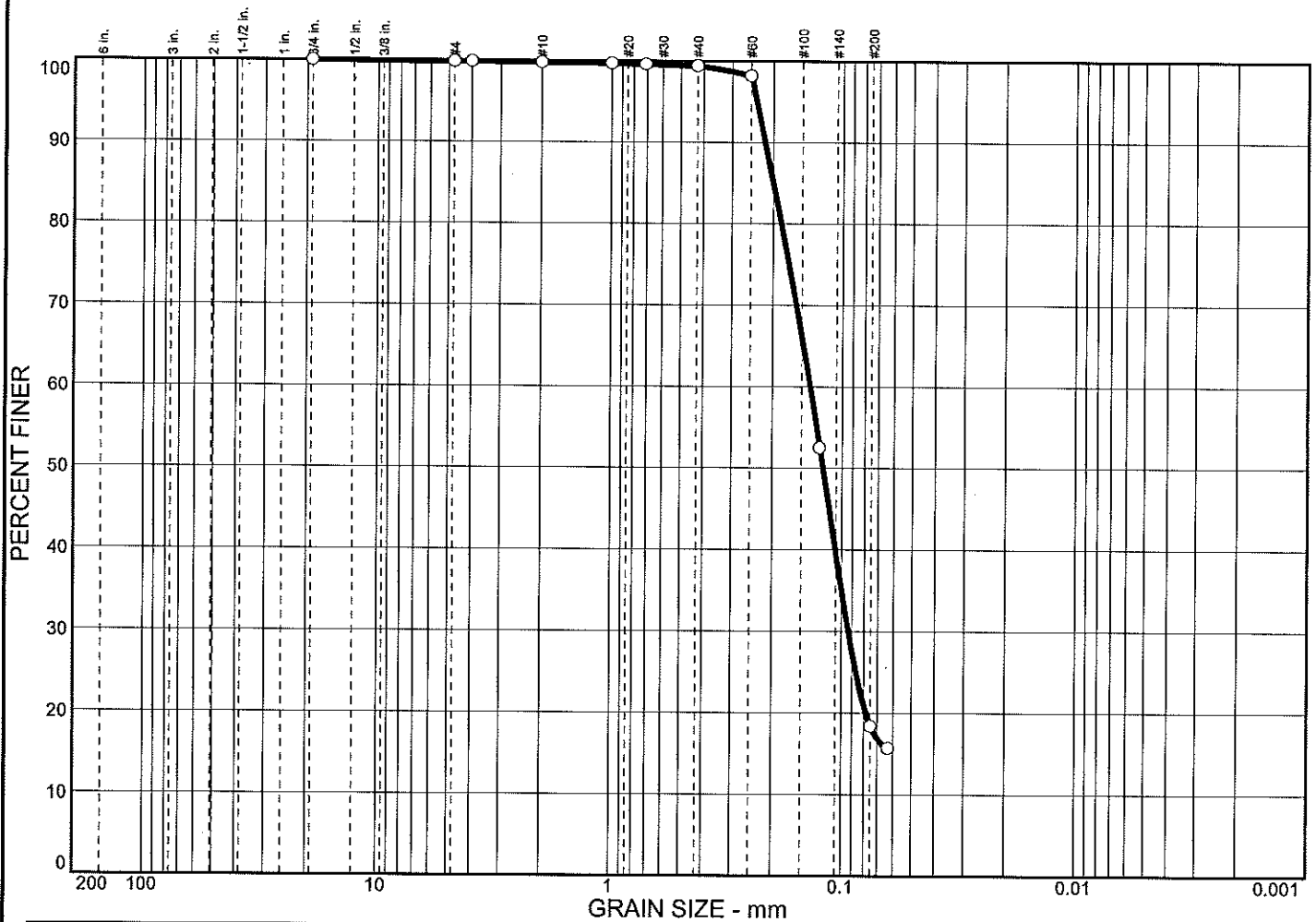


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.1	0.1	1.2	94.0	4.6			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.217	0.159	0.141	0.112	0.0928	0.0857	0.92	1.85
MATERIAL DESCRIPTION								USCS		AASHTO
○ Light gray fine sand with trace silt, shell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

Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana 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	Remarks: ○ Sample Back Bay Berm Moisture content = 24.1% Wentworth Classification: Light gray fine to very fine sand with trace silt, shell fragments
 EUSTIS Metalrie, 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	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

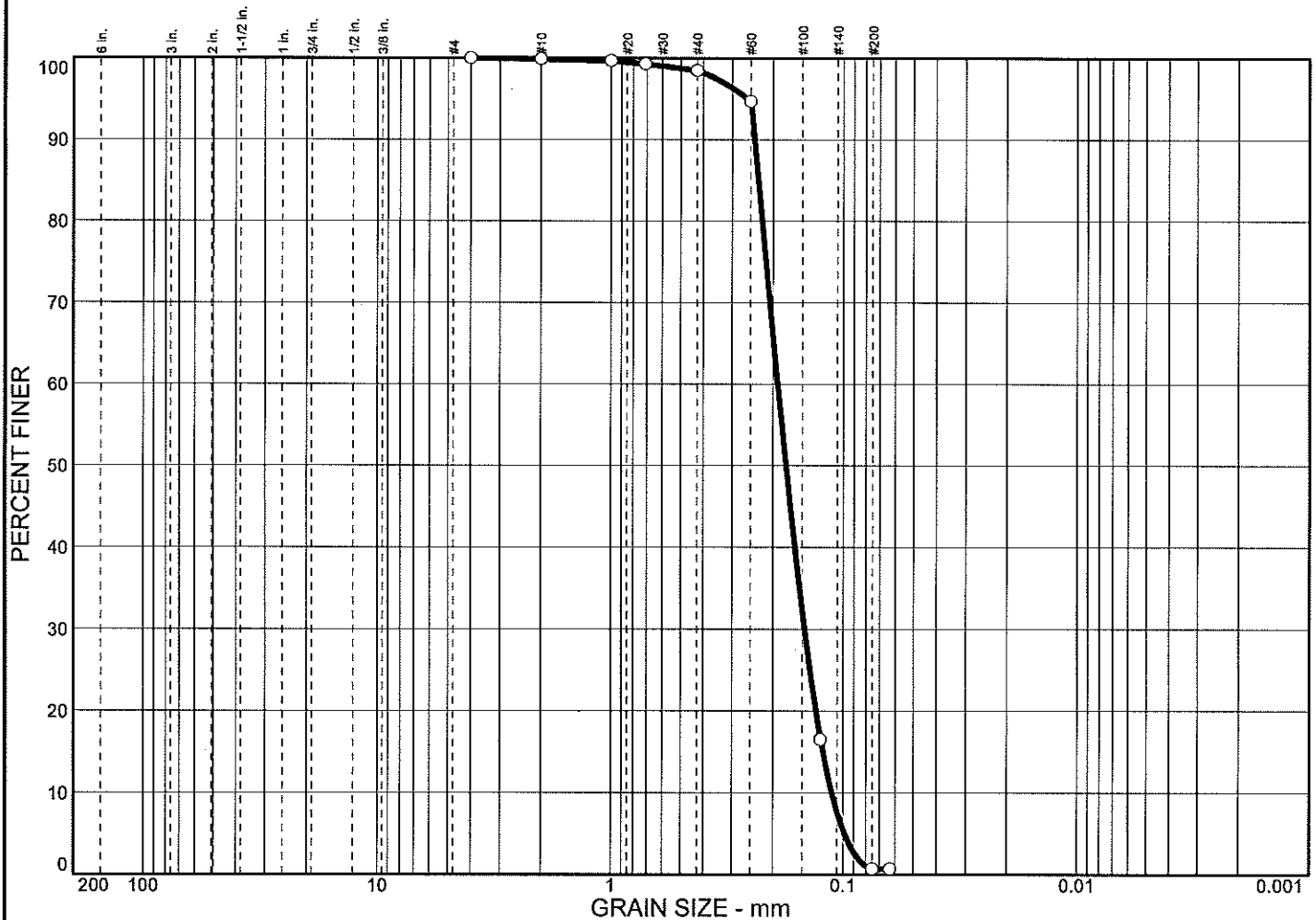
Grain size distribution curve showing Percent Finer versus Grain Size (mm). The curve is plotted on a semi-logarithmic scale. The Y-axis represents Percent Finer (0 to 100), and the X-axis represents Grain Size in mm (logarithmic scale from 200 to 0.001). The curve shows a sharp drop in percent finer between 0.6 mm and 0.075 mm, indicating a well-graded material.

Grain Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
30	100
20	100
10	100
6	100
4.75	100
2.5	100
1.5	100
0.85	100
0.6	94
0.425	10
0.25	2
0.15	1
0.075	0

<p>Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana</p> <p>Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)</p> <p>Terrebonne Parish, Louisiana, Purchase Order No. 125146</p> <p>○ Source: Station 286+64 Sample No.: MEAN HIGH WATER</p>	<p>Remarks:</p> <p>○ Sample Mean High Water</p> <p>Moisture content = 21.5%</p> <p>Wentworth Classification:</p> <p>Tan fine to very fine sand with trace silt, shell fragments</p>
<div data-bbox="519 1879 734 1963">  <p>EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi</p> </div>	<p>Figure</p>

Figure

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	

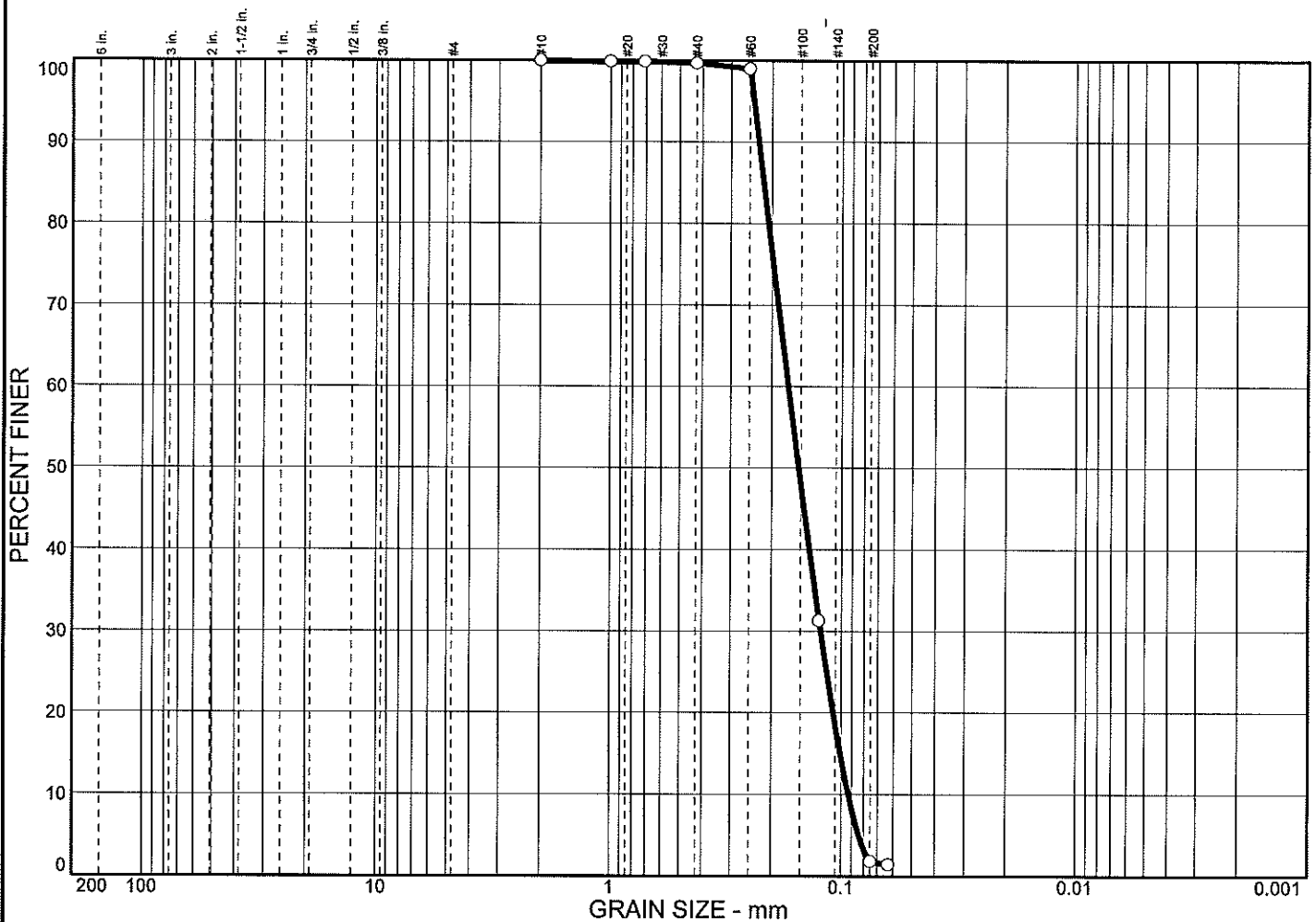
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 286+64 **Sample No.:** MEAN LOW WATER

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

The graph displays the grain size distribution of a material. 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 from 200 to 0.001. The curve shows that approximately 100% of the material is finer than 1 mm, and about 10% is finer than 0.075 mm. The curve is smooth and continuous, indicating a well-sorted material.

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	10
0.0475	1
0.025	0
0.015	0
0.0075	0
0.00475	0
0.0025	0
0.0015	0
0.00075	0

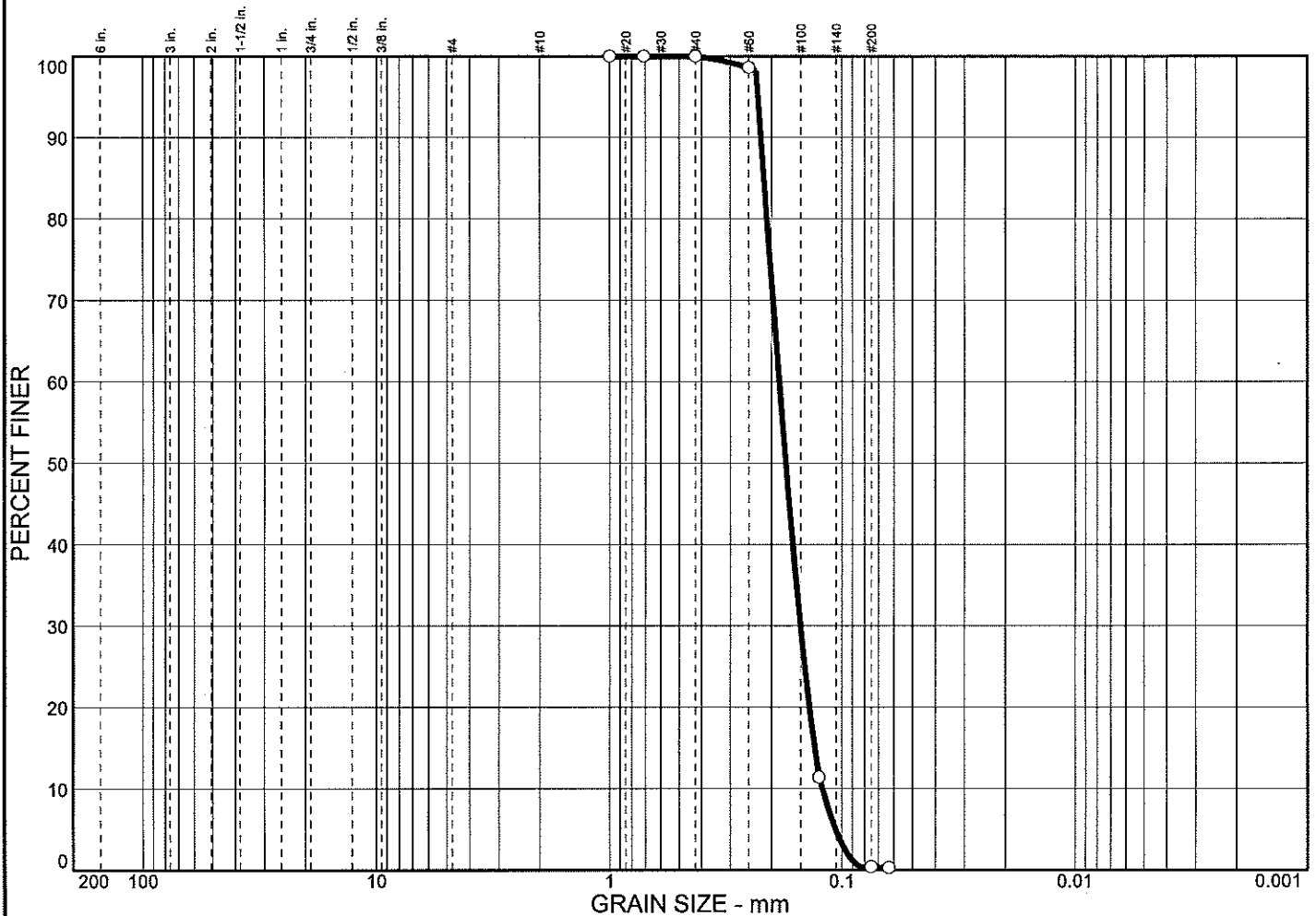
MATERIAL DESCRIPTION	USCS	AASHTO
○ Tan fine sand with trace shell fragments, organic matter	SP	

Remarks:
○ Sample Gulf Berm
Moisture content = 13.3%
Wentworth Classification :
Tan fine to very fine sand with
trace of shell fragments, organic
matter




Figure

Particle Size Distribution Report



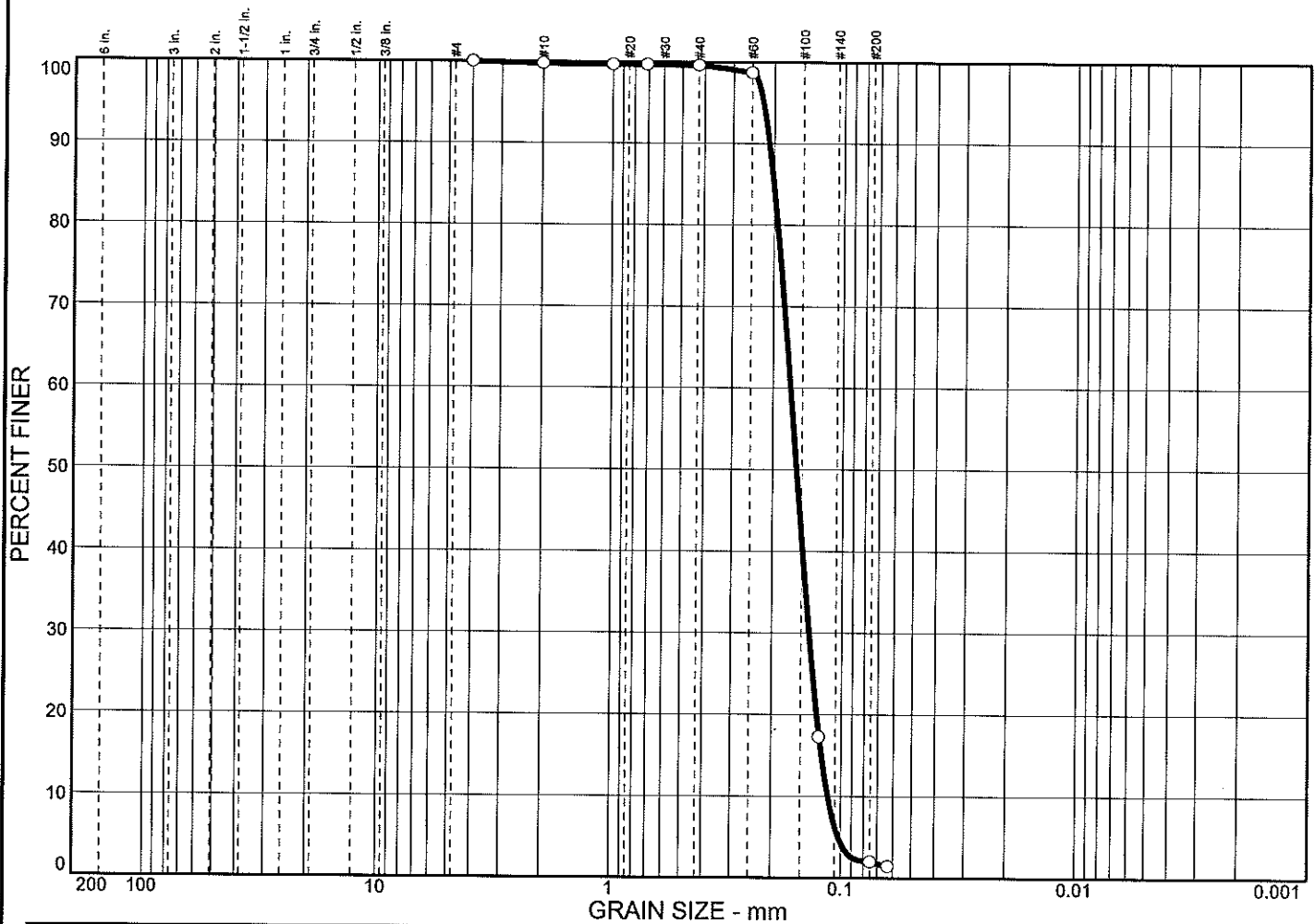
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.0	99.6	0.4			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.216	0.186	0.174	0.151	0.131	0.121	1.01	1.53

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.: DUNE TOE	Remarks: ○ Sample Dune Toe Moisture content = 7.7% Wentworth Classification: Tan fine to very fine sand with trace shell fragments,organic matter
 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	0.2	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

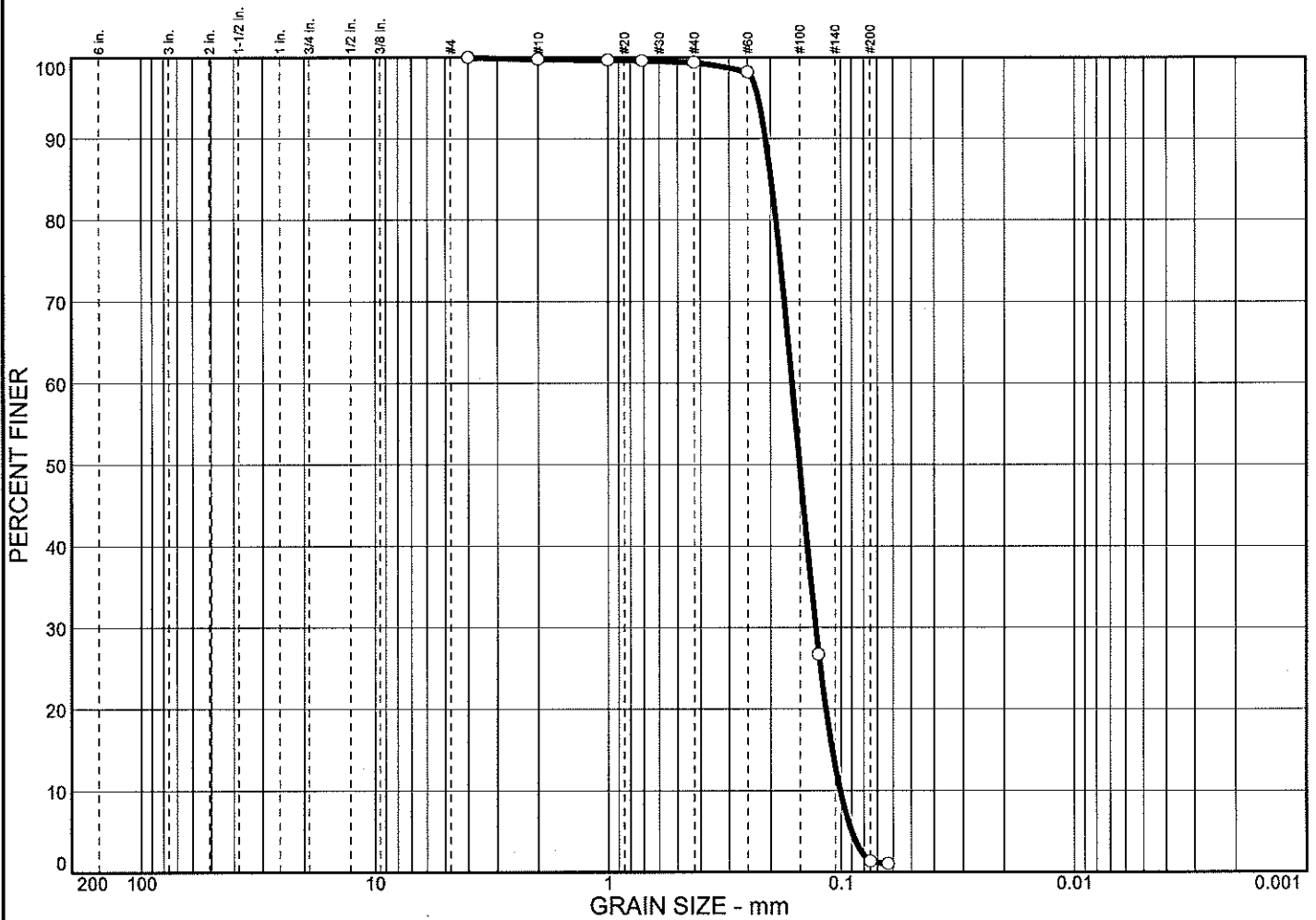
MATERIAL DESCRIPTION								USCS	AASHTO
○ Tan fine sand with trace silt, shell fragments, roots								SP	

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
 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	0.2	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



Particle Size Distribution Report




STANDARD										
% 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
<div style="display: flex; align-items: center;"> <div> EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi </div> </div>	

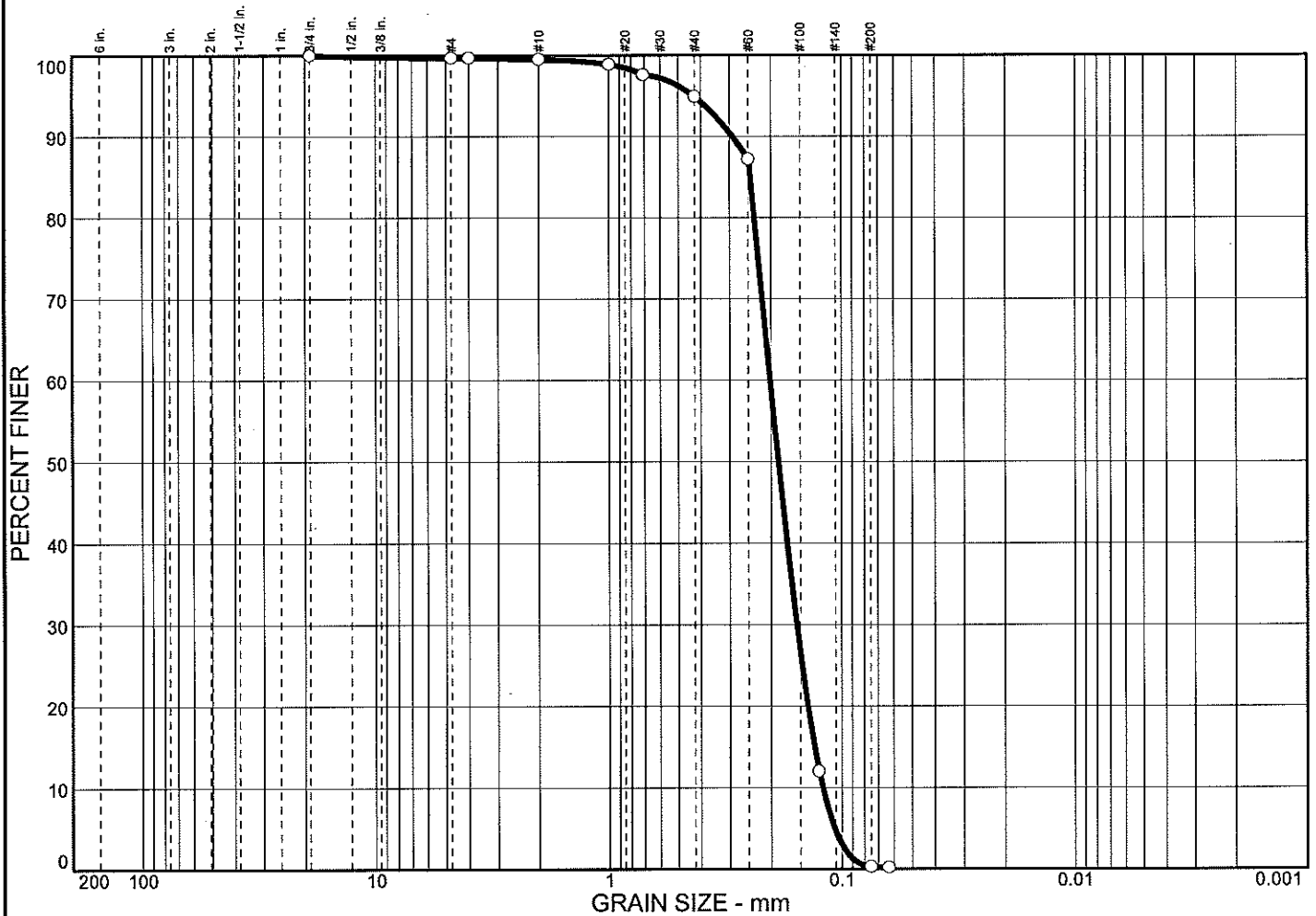
Figure

Grain size distribution curve for a sample. The graph plots Percent Finer (Y-axis, 0 to 100) against Grain Size in mm (X-axis, logarithmic scale from 200 to 0.001). The curve shows a sharp drop in percent finer between 0.075 mm and 0.075 mm, indicating a well-graded material. The curve passes through points corresponding to sieve sizes #10, #20, #30, #40, #60, #100, #140, and #200.

<p>Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana</p> <p>Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)</p> <p>Terrebonne Parish, Louisiana, Purchase Order No. 125146</p> <p>○ Source: Station 268+64 Sample No.: MEAN LOW WATER</p>	<p>Remarks:</p> <p>○ Sample Mean Low Water</p> <p>Moisture content = 27.7%</p> <p>Wentworth Classification:</p> <p>Gray fine to very fine sand with trace silt, shell fragments</p>
<div data-bbox="537 1892 768 1969">  <p>EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi</p> </div>	<p>Figure</p>

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

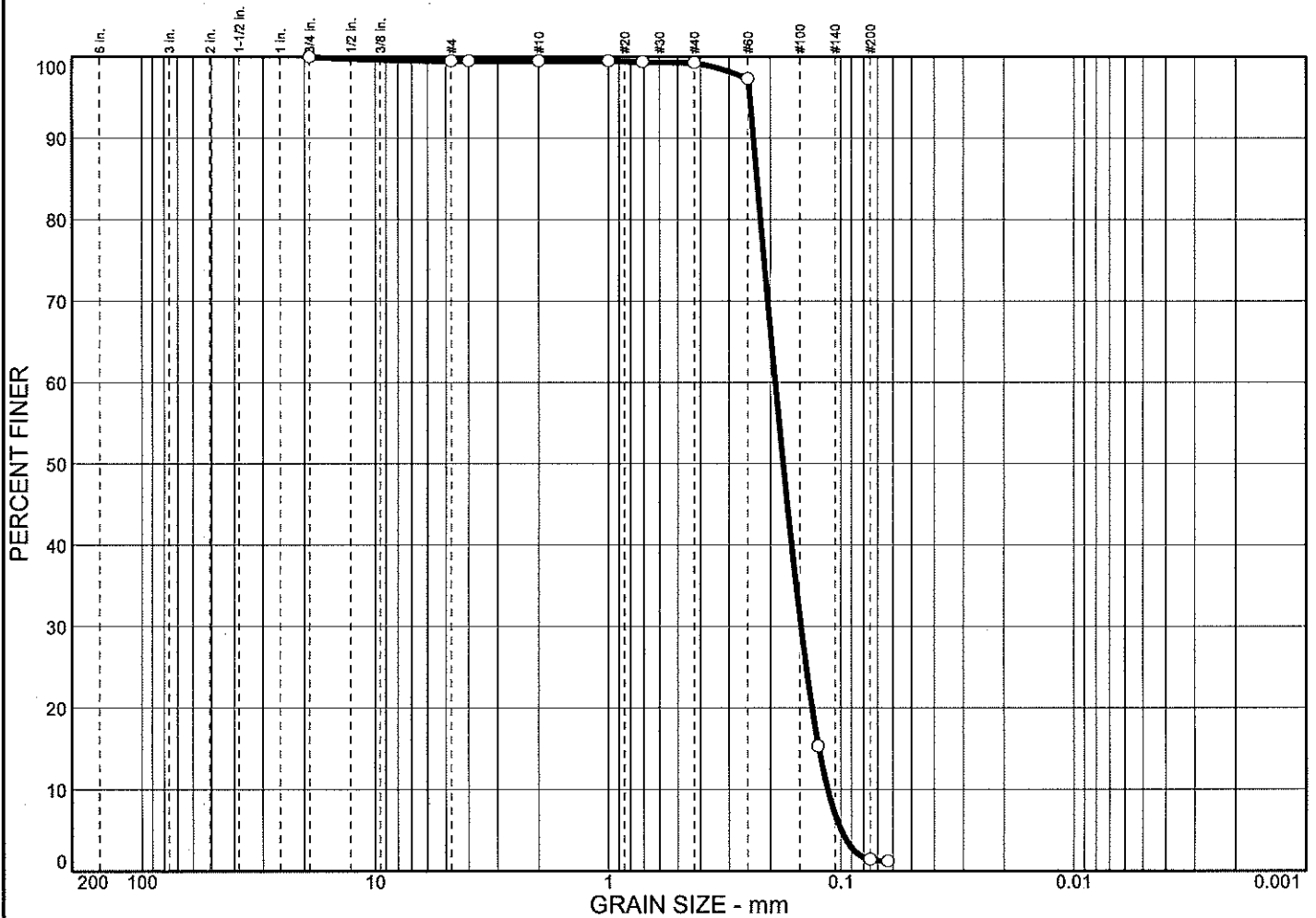
Remarks:
 ○ Sample Wading Depth
 Moisture content = 27.7%
 Wentworth Classification:
 Gray fine to very fine sand with shell fragments

Grain size distribution curve showing Percent Finer versus Grain Size (mm). The curve indicates a fine-grained soil with a sharp drop in percent finer between 0.075 mm and 0.06 mm.

Grain Size (mm)	Percent Finer (%)
0.075	10
0.06	100
0.0425	100

<p>Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana</p> <p>Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)</p> <p>Terrebonne Parish, Louisiana, Purchase Order No. 125146</p> <p>○ Source: Station 268+64 Sample No.: GULF BERM</p>	<p>Remarks:</p> <p>○ Sample Gulf Berm</p> <p>Moisture content = 7.7%</p> <p>Wentworth Classification:</p> <p>Tan fine to very fine sand</p>
<div data-bbox="531 1887 755 1963">  <p>EUSTIS Metaline, Louisiana Lafayette, Louisiana Gulfport, Mississippi</p> </div>	<p>Figure</p>

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	

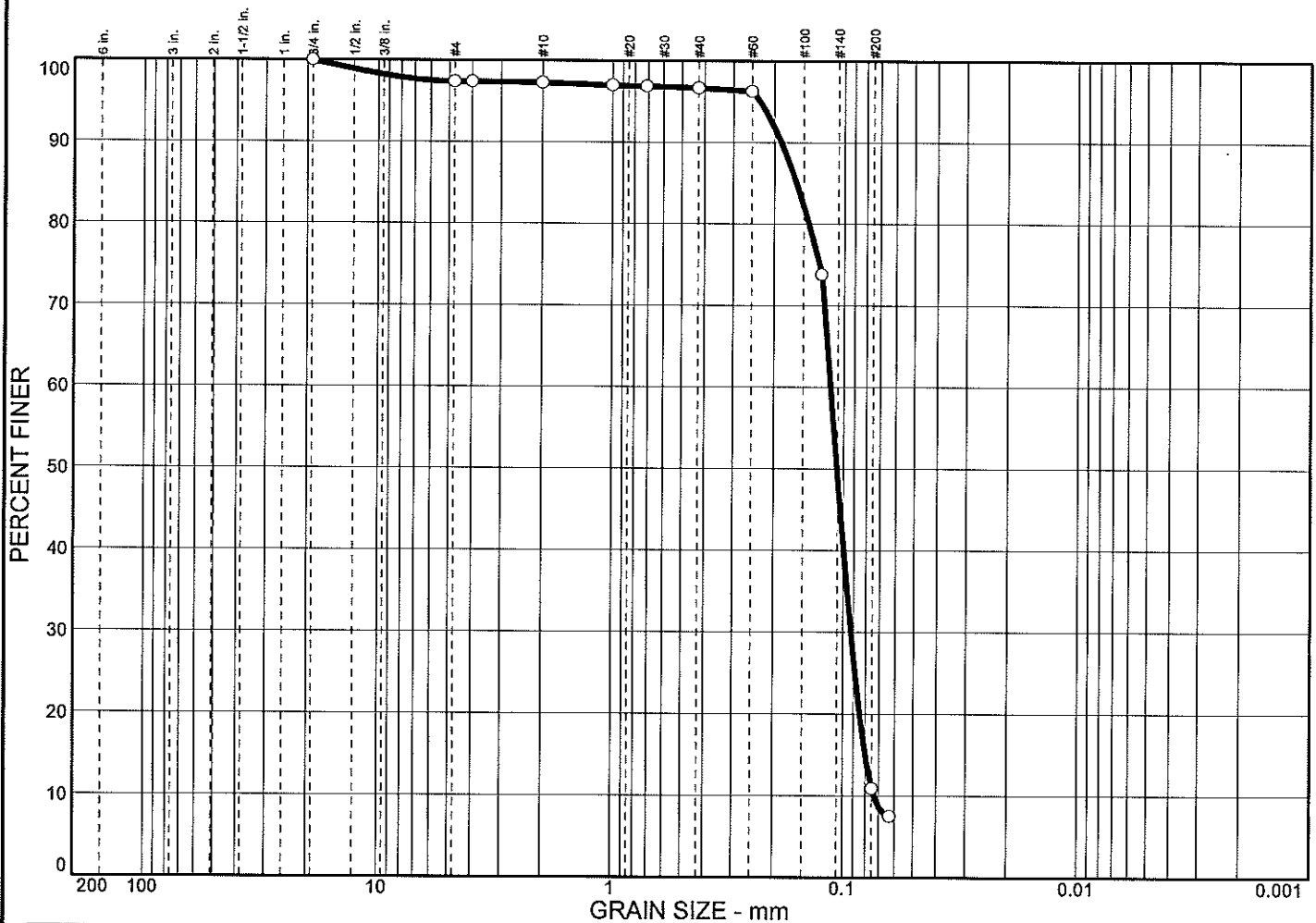
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 268+64 **Sample No.:** DUNE TOE

Remarks:
 ○ Sample Dune Toe
 Moisture content = 10.3%
 Wentworth Classification:
 Tan fine to very fine sand with
 trace silt, shell fragments



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:

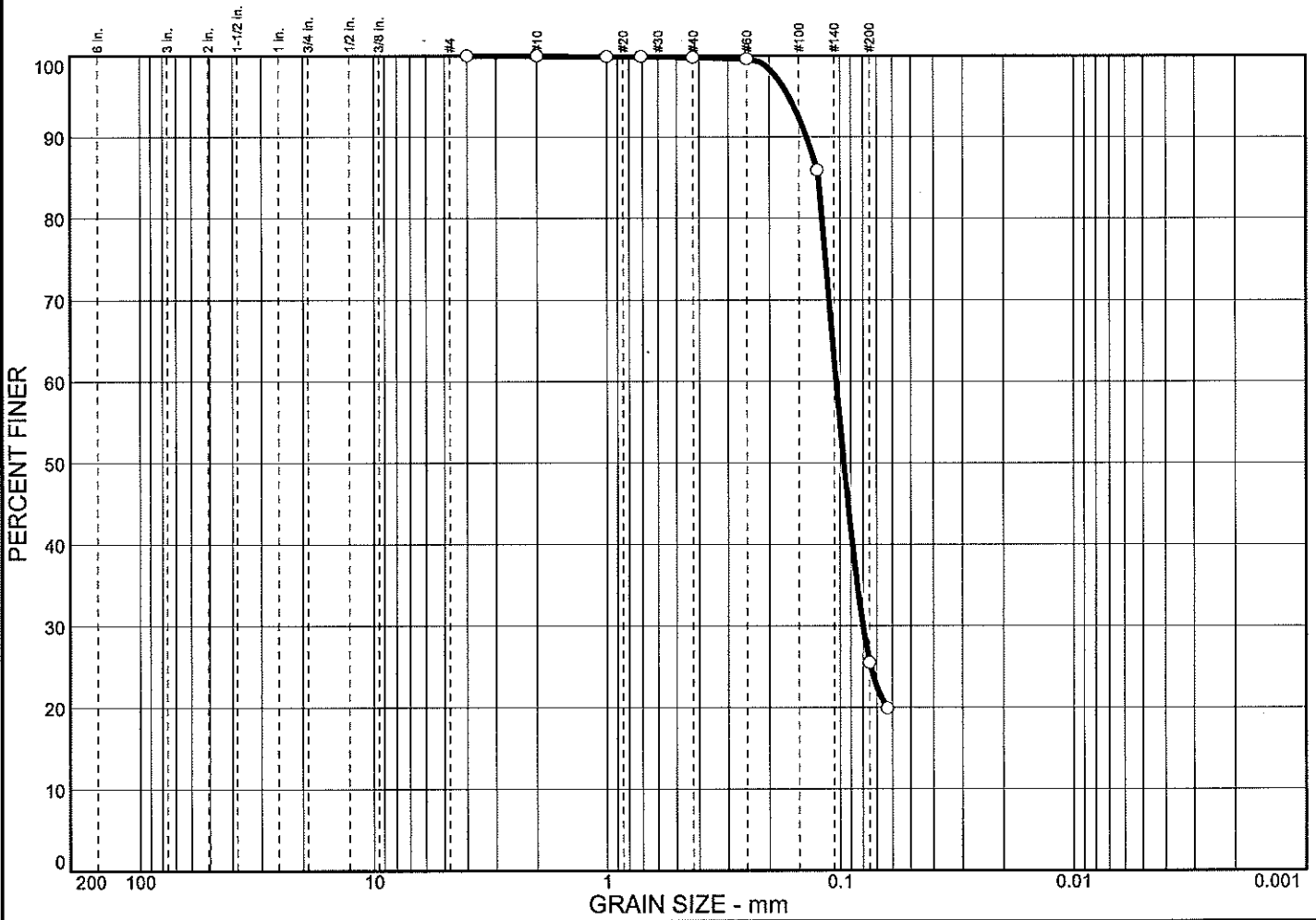
○ Sample Dune Crest
 Moisture content = 7.4%
 Wentworth Classification:
 Tan fine to very fine sand with
 silt, trace shell fragments



EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi


Figure

Particle Size Distribution Report

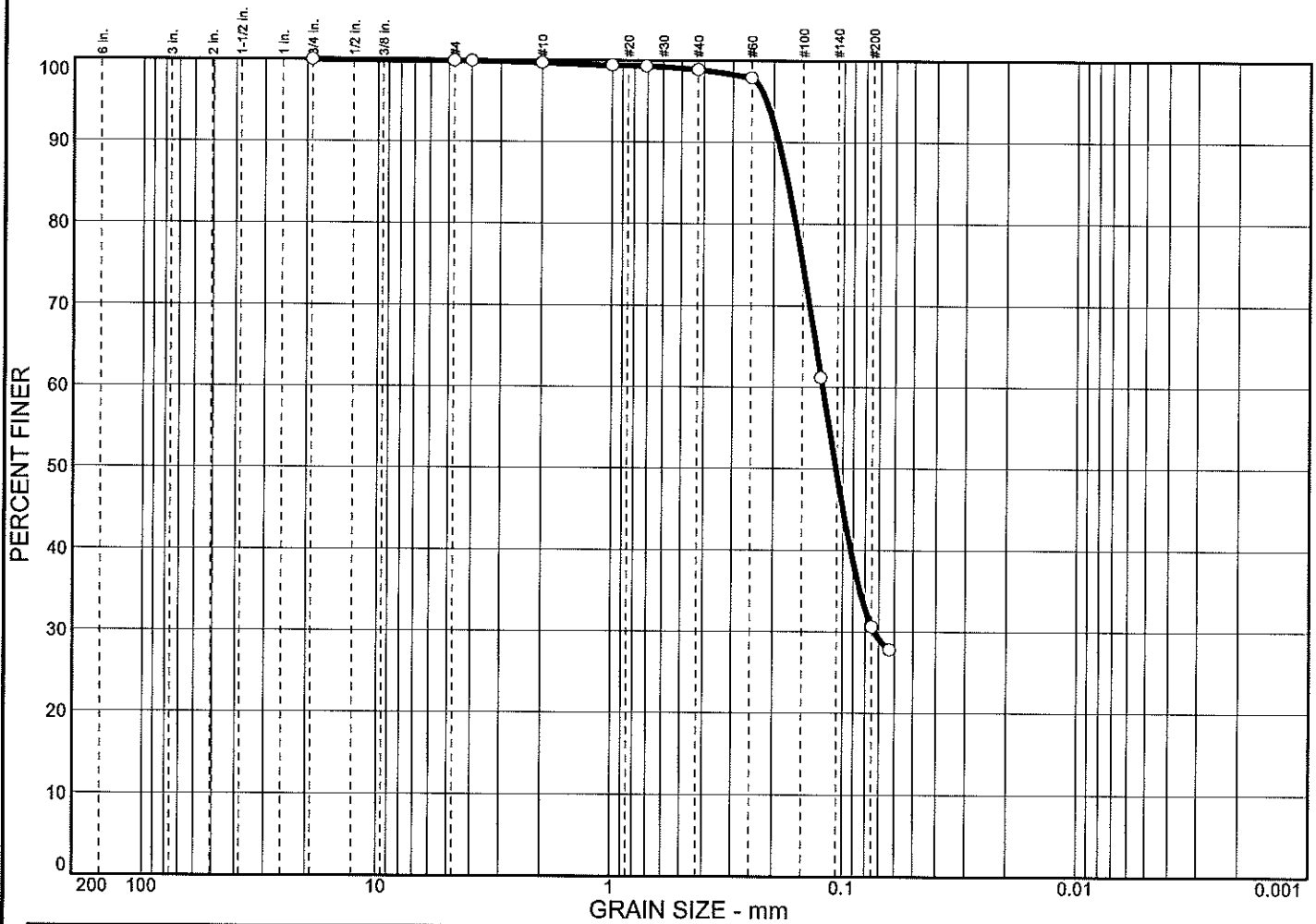


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.2	74.3	25.5			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.124	0.104	0.0967	0.0801				


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	

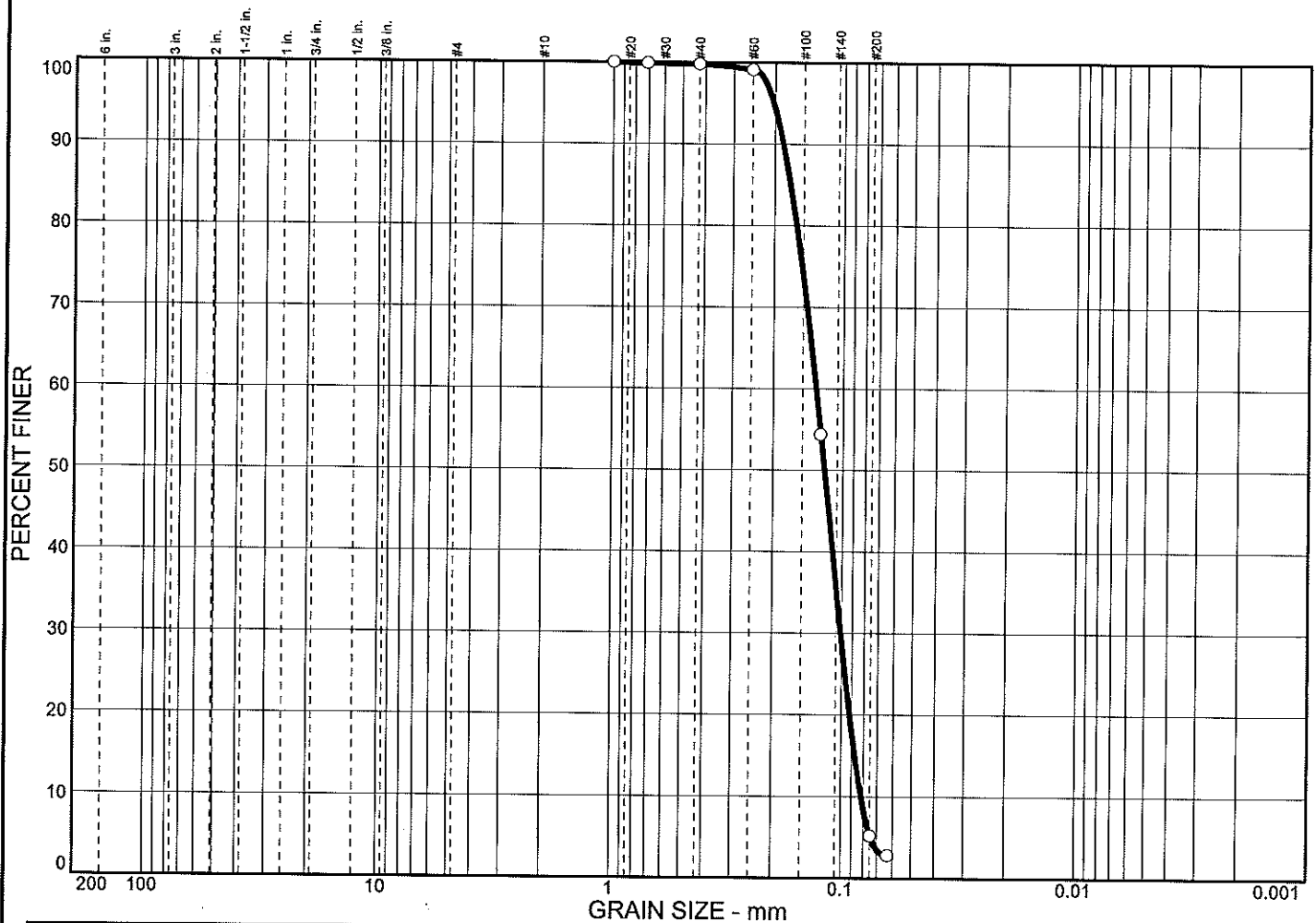
Figure

Grain size distribution curve for a soil sample. The Y-axis represents Percent Finer (0 to 100), and the X-axis represents Grain Size in mm (logarithmic scale from 200 to 0.075). 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: #4, #10, #20, #30, #40, #60, #100, #140, and #200.

Sieve Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
30	100
20	100
10	100
4	100
0.85	100
0.425	100
0.25	100
0.15	100
0.106	100
0.075	43
0.0475	5
0.025	2

<p>Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana</p> <p>Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)</p> <p>Terrebonne Parish, Louisiana, Purchase Order No. 125146</p> <p>○ Source: Station 250+64 Sample No.: MEAN HIGH WATER</p>	<p>Remarks:</p> <p>○ Sample Mean High Water</p> <p>Moisture content = 24.5%</p> <p>Wentworth Classification:</p> <p>Gray fine to very fine sand with trace silt, shell fragments</p>
<div data-bbox="529 1892 769 1969">  <p>EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi</p> </div>	<p>Figure</p>

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		

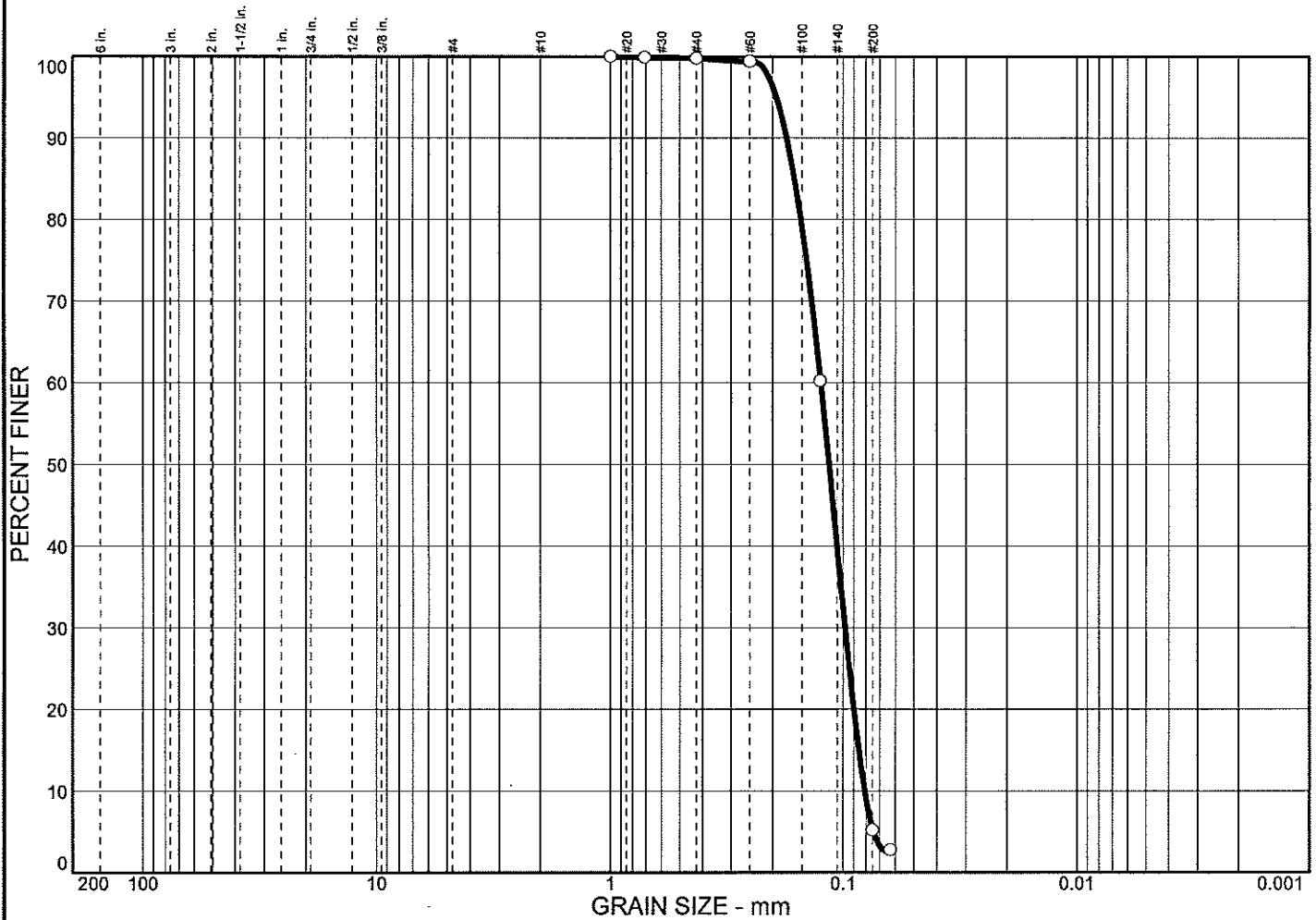
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 250+64 **Sample No.:** MEAN LOW WATER

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



Figure

Particle Size Distribution Report

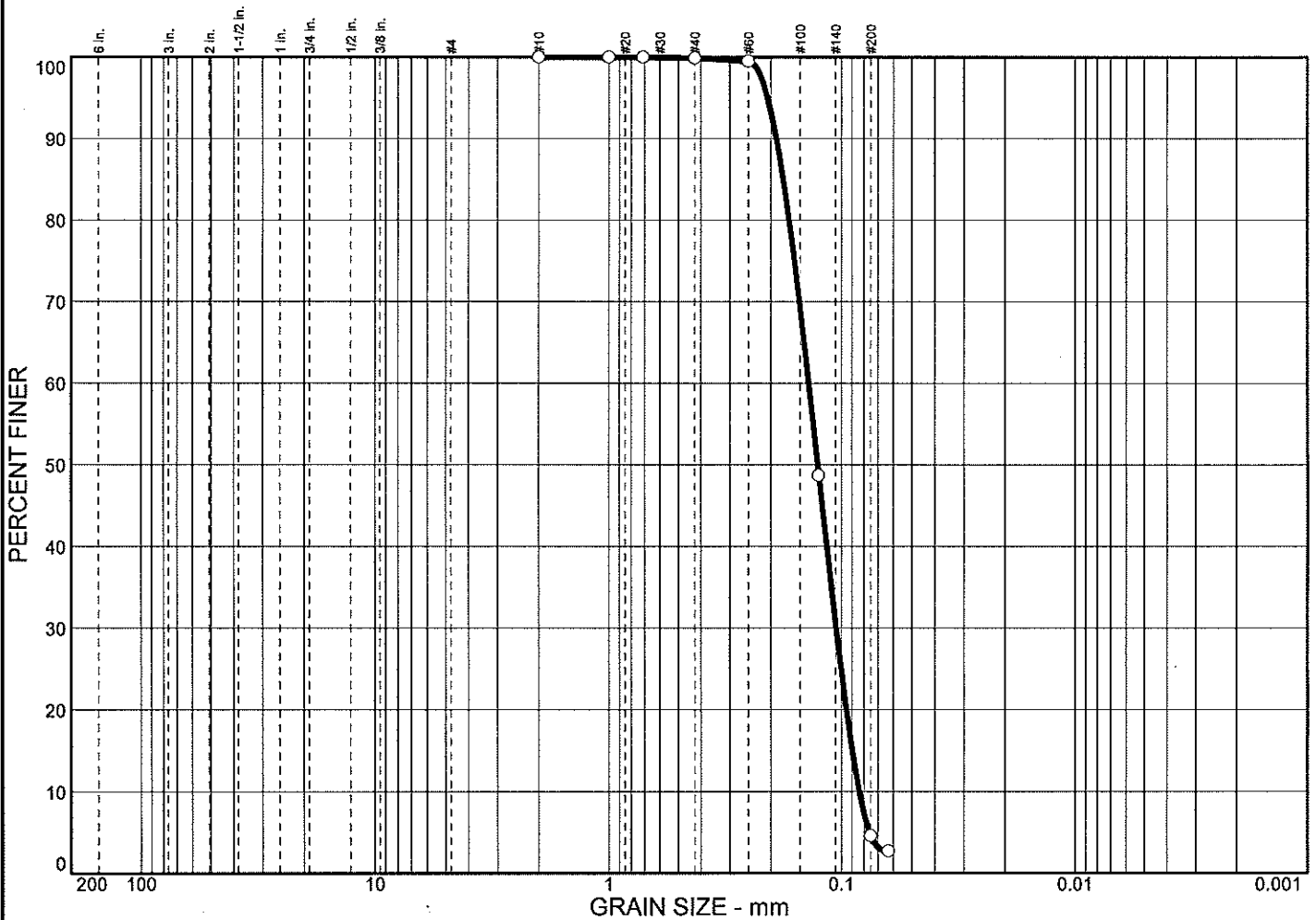


	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.0	0.0	0.2	94.6	5.2			
×	LL	PL	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
○			0.162	0.125	0.115	0.0984	0.0860	0.0812	0.96	1.54
MATERIAL DESCRIPTION									USCS	AASHTO
○ Gray fine sand with silt, trace shell fragments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

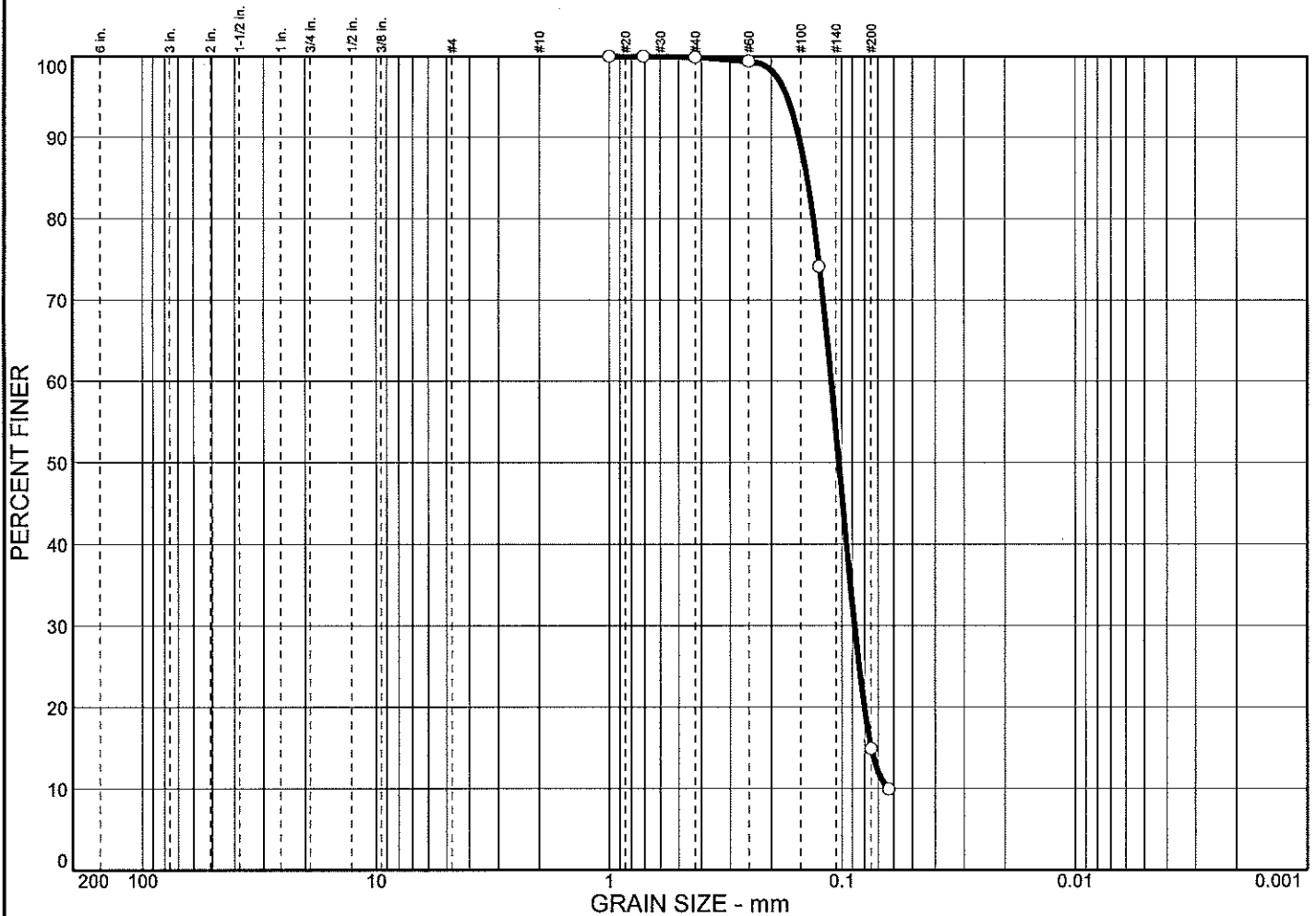


EUSTIS
 Metairie, Louisiana
 Lafayette, Louisiana
 Gulfport, Mississippi

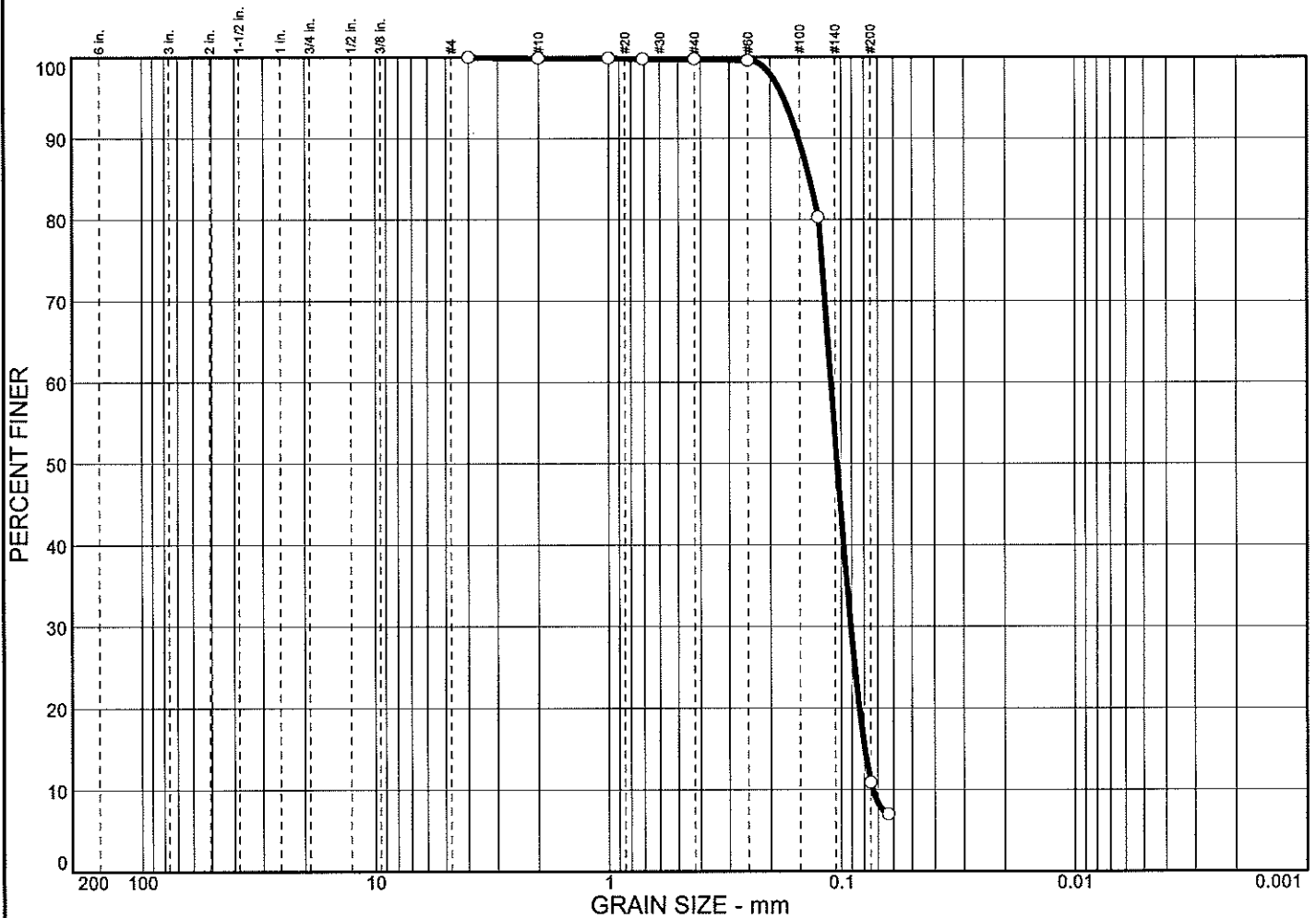
Remarks:
 ○ Sample Gulf Berm
 Moisture content = 25.3%
 Wentworth Classification:
 Gray fine to very fine sand with
 trace silt, shell fragments

Figure

Particle Size Distribution Report



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	

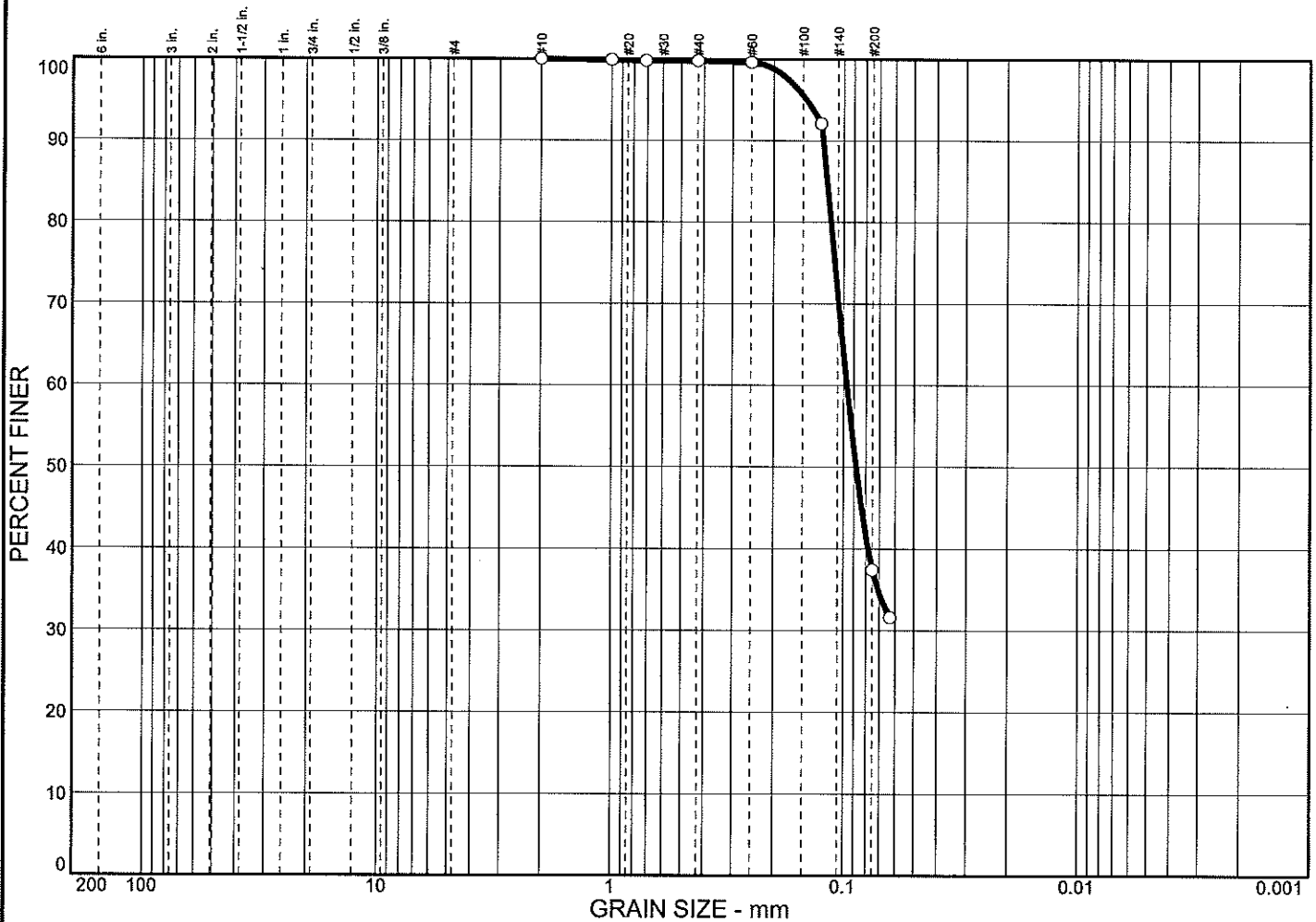
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 250+64 **Sample No.:** DUNE CREST

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	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	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	

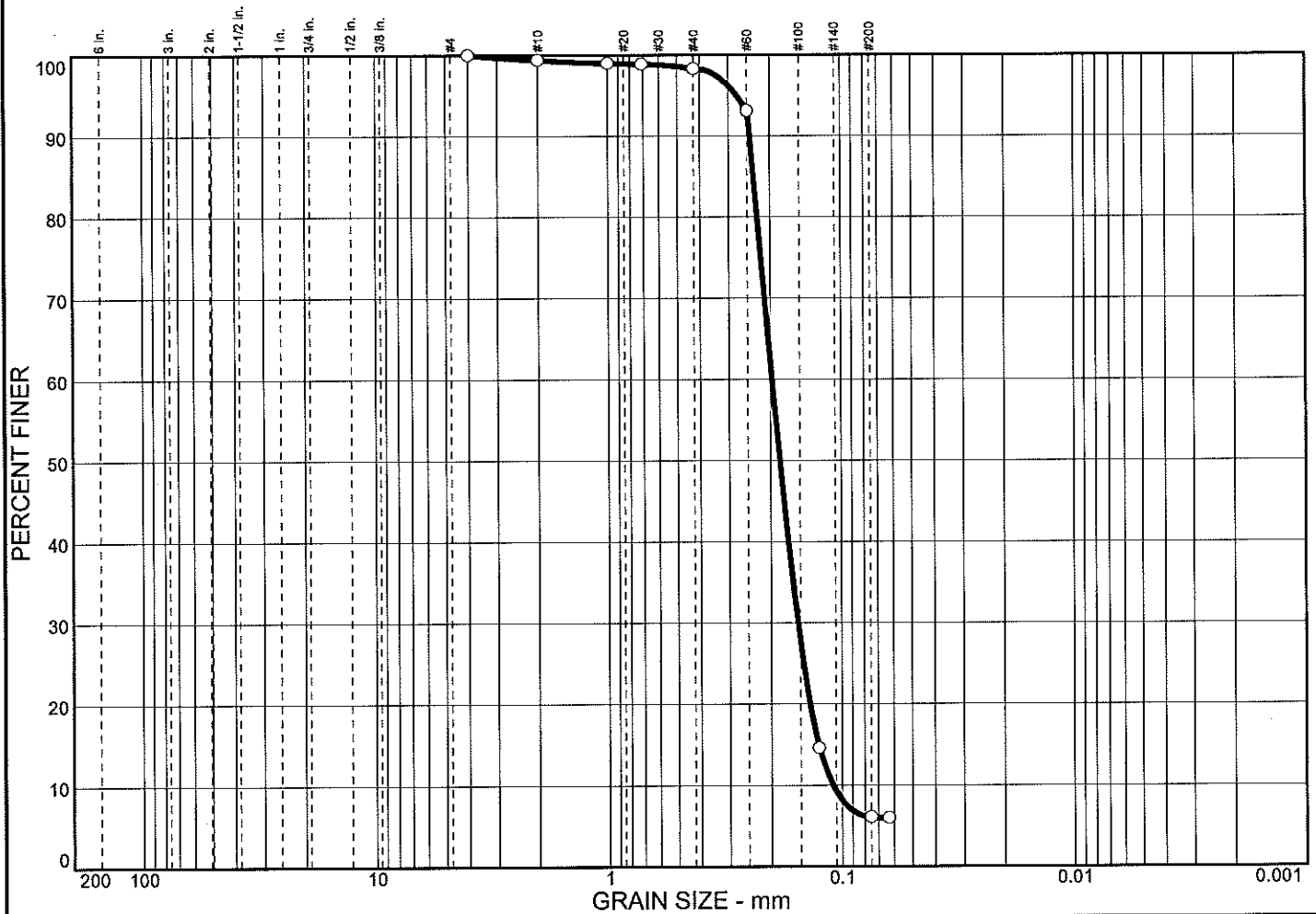
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 250+64 **Sample No.:** BACK BAY BERM

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:

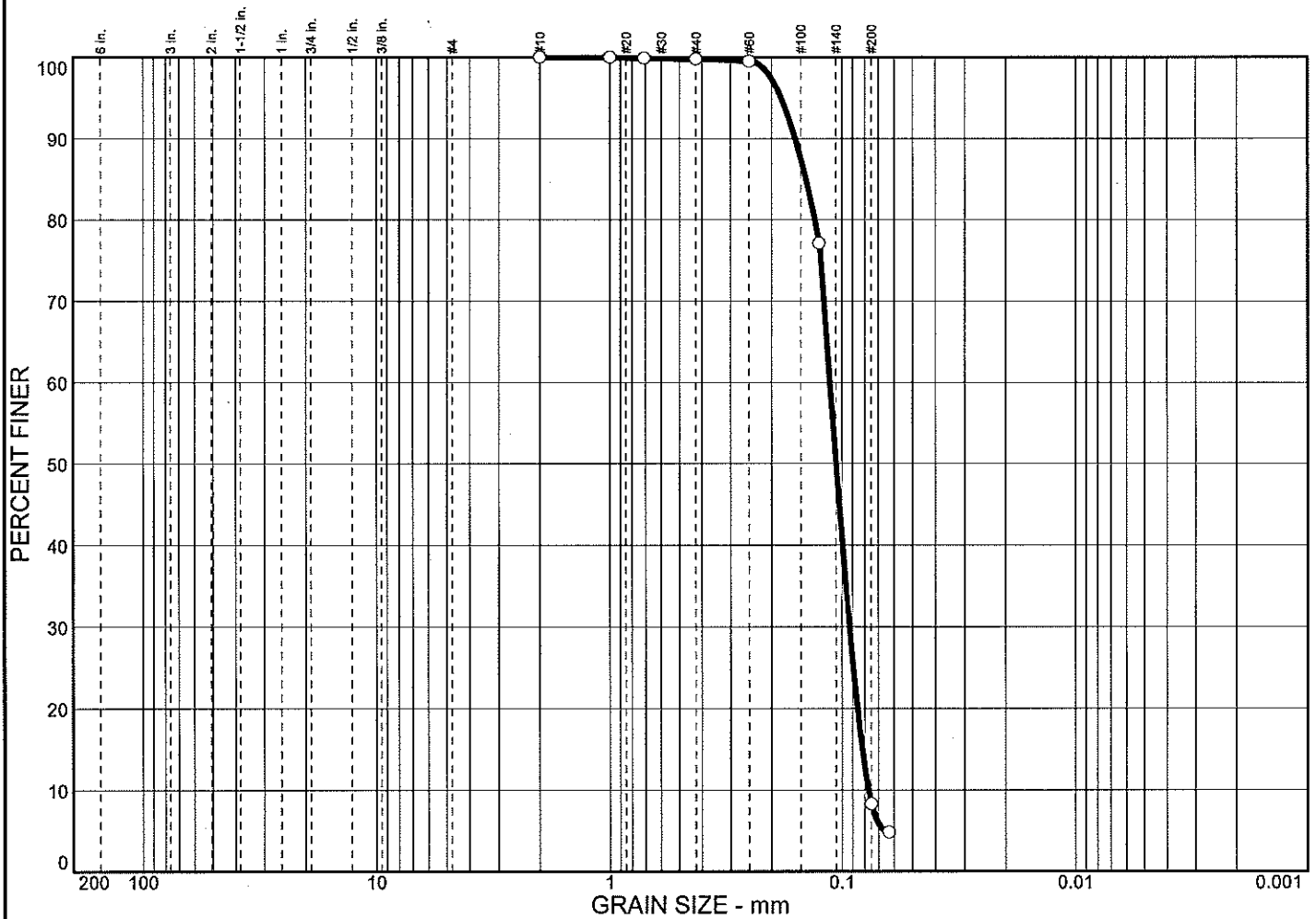
○ Sample Marsh Platform
 Moisture content = 23.0%
 Wentworth Classification:
 Tan fine to very fine sand with
 silt, trace cemented sand, shell
 fragments



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

Grain size distribution curve showing Percent Finer versus Grain Size (mm). The curve is plotted on a semi-logarithmic scale. The Y-axis represents Percent Finer (0 to 100), and the X-axis represents 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 material.


Grain Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
30	100
20	100
10	100
7.5	100
4.75	100
2.5	100
1.5	100
0.85	100
0.425	100
0.25	75
0.15	10
0.075	5
0.0425	3
0.025	2
0.015	1
0.0075	1
0.00425	1
0.0025	1
0.0015	1
0.00075	1

<p>Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana</p> <p>Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)</p> <p>Terrebonne Parish, Louisiana, Purchase Order No. 125146</p> <p>○ Source: Station 232+64 Sample No.: MEAN LOW WATER</p>	<p>Remarks:</p> <p>○ Sample Mean Low Water</p> <p>Moisture content = 30.4</p> <p>Wentworth Classification:</p> <p>Gray fine to very fine sand with trace silt, shell fragments</p>
<div data-bbox="514 1879 735 1963">  <p>EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi</p> </div>	<p>Figure</p>

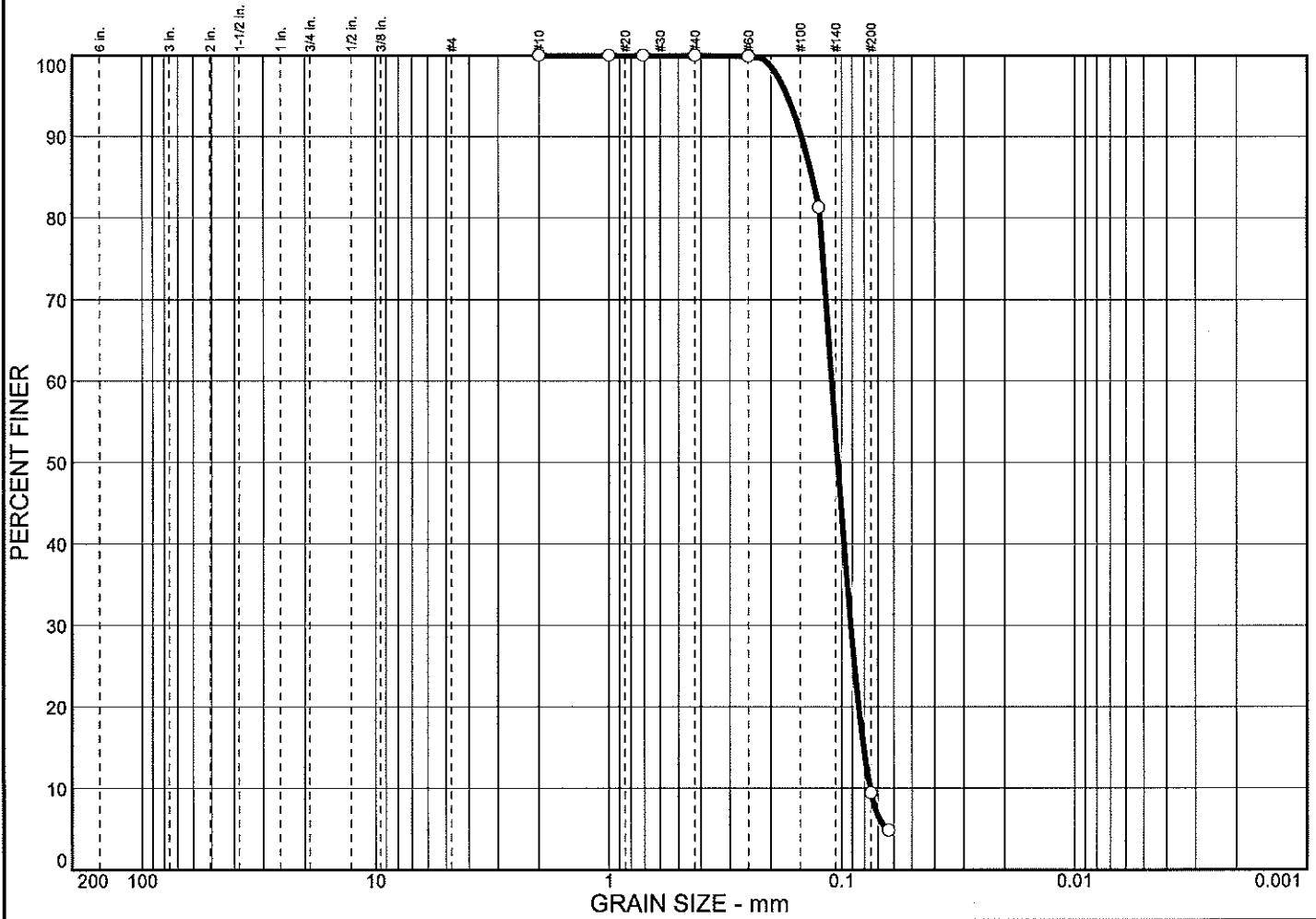
Figure

Grain size distribution curve for a sample of fine sand. The graph plots Percent Finer (0 to 100) against Grain Size in mm (logarithmic scale from 200 to 0.001). The curve shows that approximately 100% of the sample is finer than 0.425 mm, and about 5% is finer than 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	100
0.75	100
0.60	100
0.425	100
0.30	100
0.25	100
0.20	100
0.15	100
0.10	100
0.075	77
0.060	50
0.050	30
0.0425	10
0.0375	8
0.030	5
0.025	4
0.020	3
0.015	2
0.010	1
0.0075	1
0.0060	1
0.00425	1
0.0030	1
0.0025	1
0.0020	1
0.0015	1
0.0010	1
0.00075	1
0.00060	1
0.000425	1
0.00030	1
0.00025	1
0.00020	1
0.00015	1
0.00010	1
0.000075	1
0.000060	1
0.0000425	1
0.000030	1
0.000025	1
0.000020	1
0.000015	1
0.000010	1
0.0000075	1
0.0000060	1
0.00000425	1
0.0000030	1
0.0000025	1
0.0000020	1
0.0000015	1
0.0000010	1
0.00000075	1
0.00000060	1
0.000000425	1
0.00000030	1
0.00000025	1
0.00000020	1
0.00000015	1
0.00000010	1
0.000000075	1
0.000000060	1
0.0000000425	1
0.000000030	1
0.000000025	1
0.000000020	1
0.000000015	1
0.000000010	1
0.0000000075	1
0.0000000060	1
0.00000000425	1
0.0000000030	1
0.0000000025	1
0.0000000020	1
0.0000000015	1
0.0000000010	1
0.00000000075	1
0.00000000060	1
0.000000000425	1
0.00000000030	1
0.00000000025	1
0.00000000020	1
0.00000000015	1
0.00000000010	1
0.000000000075	1
0.000000000060	1
0.0000000000425	1
0.000000000030	1
0.000000000025	1
0.000000000020	1
0.000000000015	1
0.000000000010	1
0.0000000000075	1
0.0000000000060	1
0.00000000000425	1
0.0000000000030	1
0.0000000000025	1
0.0000000000020	1
0.0000000000015	1
0.0000000000010	1
0.00000000000075	1
0.00000000000060	1
0.000000000000425	1
0.00000000000030	1
0.00000000000025	1
0.00000000000020	1
0.00000000000015	1
0.00000000000010	1
0.000000000000075	1
0.000000000000060	1
0.0000000000000425	1
0.000000000000030	1
0.000000000000025	1
0.000000000000020	1
0.00000000	

<p>Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana</p> <p>Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)</p> <p>Terrebonne Parish, Louisiana, Purchase Order No. 125146</p> <p>○ Source: Station 232+64 Sample No.: WADING DEPTH</p>	<p>Remarks:</p> <p>○ Sample Wading Depth</p> <p>Moisture content = 27.7%</p> <p>Wentworth Classification:</p> <p>Gray fine to very fine sand with trace silt, shell fragments</p>
<div data-bbox="545 1892 776 1969">  <p>EUSTIS Metalrie, Louisiana Lafayette, Louisiana Gulfport, Mississippi</p> </div>	<p>Figure</p>

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
--	------------------------------	--



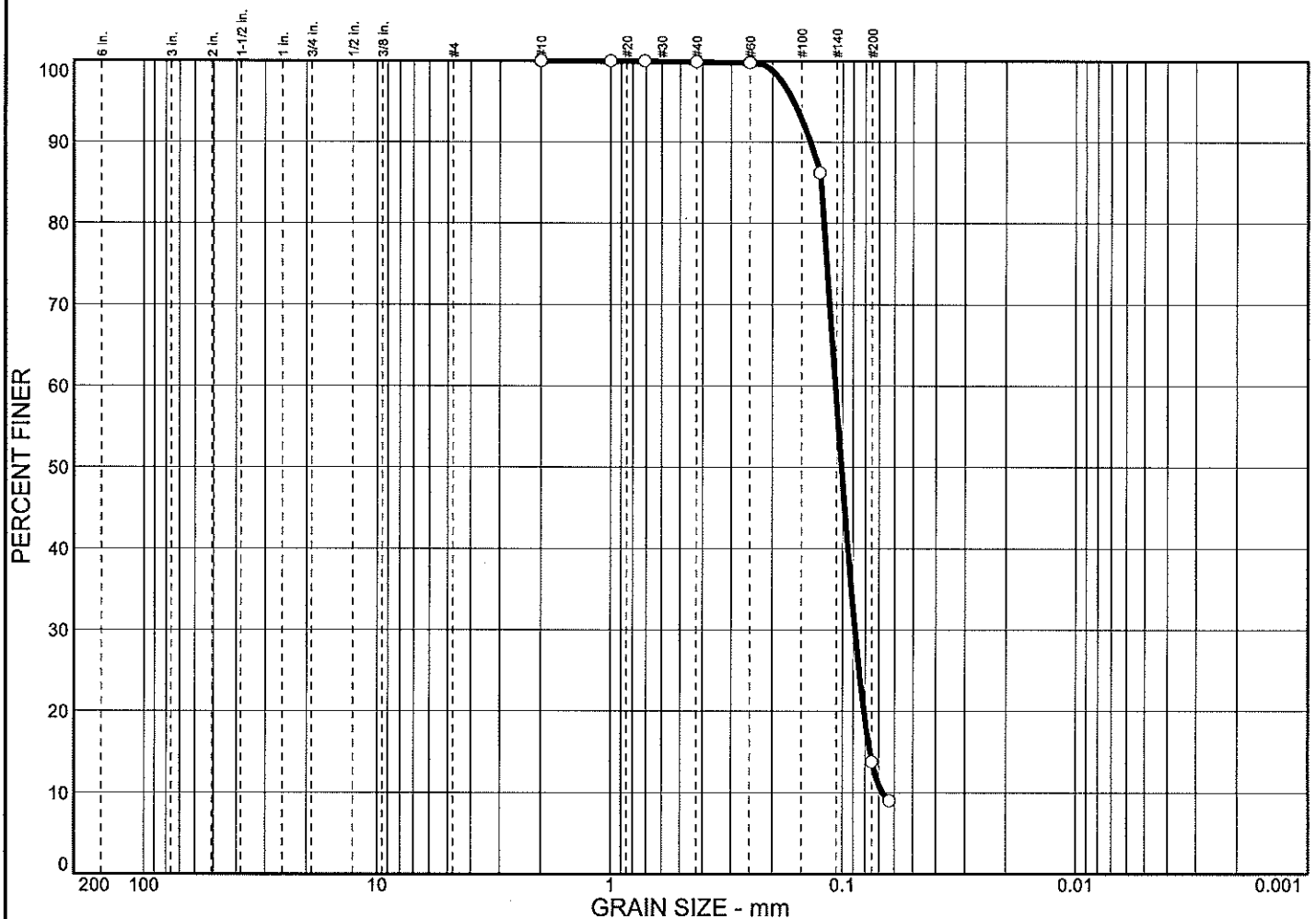
Figure

The graph displays the grain size distribution of a material. 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, ranging from 200 mm to 0.001 mm. The curve shows that approximately 100% of the material is finer than 4.75 mm, and about 18% is finer than 0.075 mm.

Grain Size (mm)	Percent Finer (%)
200	100
100	100
75	100
60	100
47.5	100
37.5	100
30	100
25	100
20	100
15	100
12.5	100
10	100
7.5	100
6.0	100
4.75	100
3.75	100
3.0	100
2.5	100
2.0	100
1.5	100
1.25	100
1.0	100
0.85	100
0.75	100
0.60	100
0.50	100
0.425	100
0.375	100
0.30	100
0.25	100
0.20	100
0.15	100
0.125	100
0.10	100
0.085	100
0.075	82
0.060	35
0.050	23
0.0425	18
0.0375	18
0.030	18
0.025	18
0.020	18
0.015	18
0.0125	18
0.010	18
0.0085	18
0.0075	18
0.0060	18
0.0050	18
0.00425	18
0.00375	18
0.0030	18
0.0025	18
0.0020	18
0.0015	18
0.00125	18
0.0010	18

<p>Project No. 19598 Client: Weeks Marine, INC., Covington, Louisiana</p> <p>Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)</p> <p>Terrebonne Parish, Louisiana, Purchase Order No. 125146</p> <p>○ Source: Station 232+64 Sample No.: DUNE TOE</p>	<p>Remarks:</p> <p>○ Sample Dune Toe</p> <p>Moisture content = 25.1</p> <p>Wentworth Classification:</p> <p>Gray silty sand with trace shell fragments, organic matter</p>
<div data-bbox="542 1890 776 1974">  <p>EUSTIS Metairie, Louisiana Lafayette, Louisiana Gulfport, Mississippi</p> </div>	<p>Figure</p>

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	

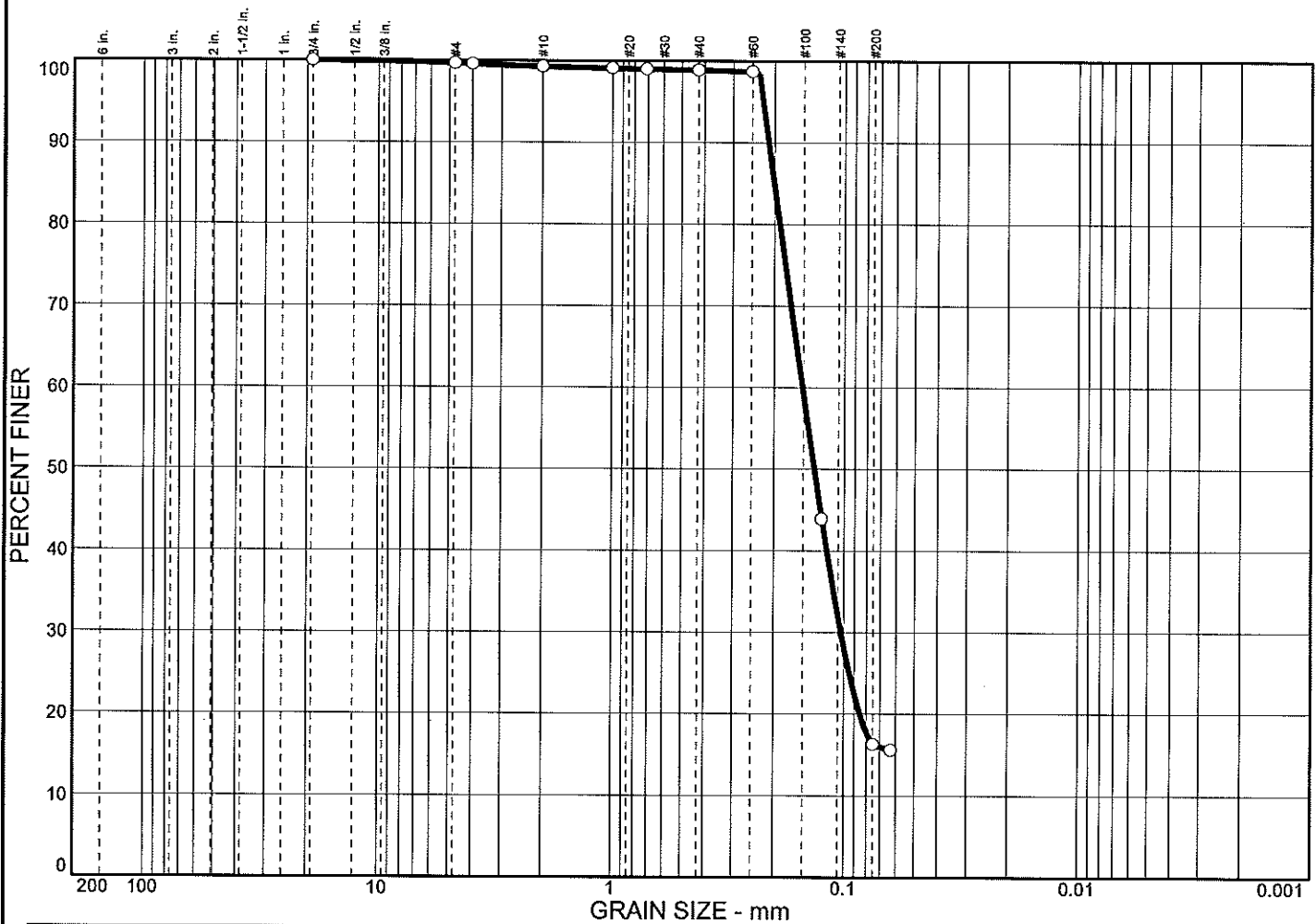
Project No. 19598 **Client:** Weeks Marine, INC., Covington, Louisiana
Project: State of Louisiana - New Cut Dune/Marsh Restoration (TE-37)
 Terrebonne Parish, Louisiana, Purchase Order No. 125146
 ○ **Source:** Station 232+64 **Sample No.:** DUNE CREST

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




Figure

Particle Size Distribution Report



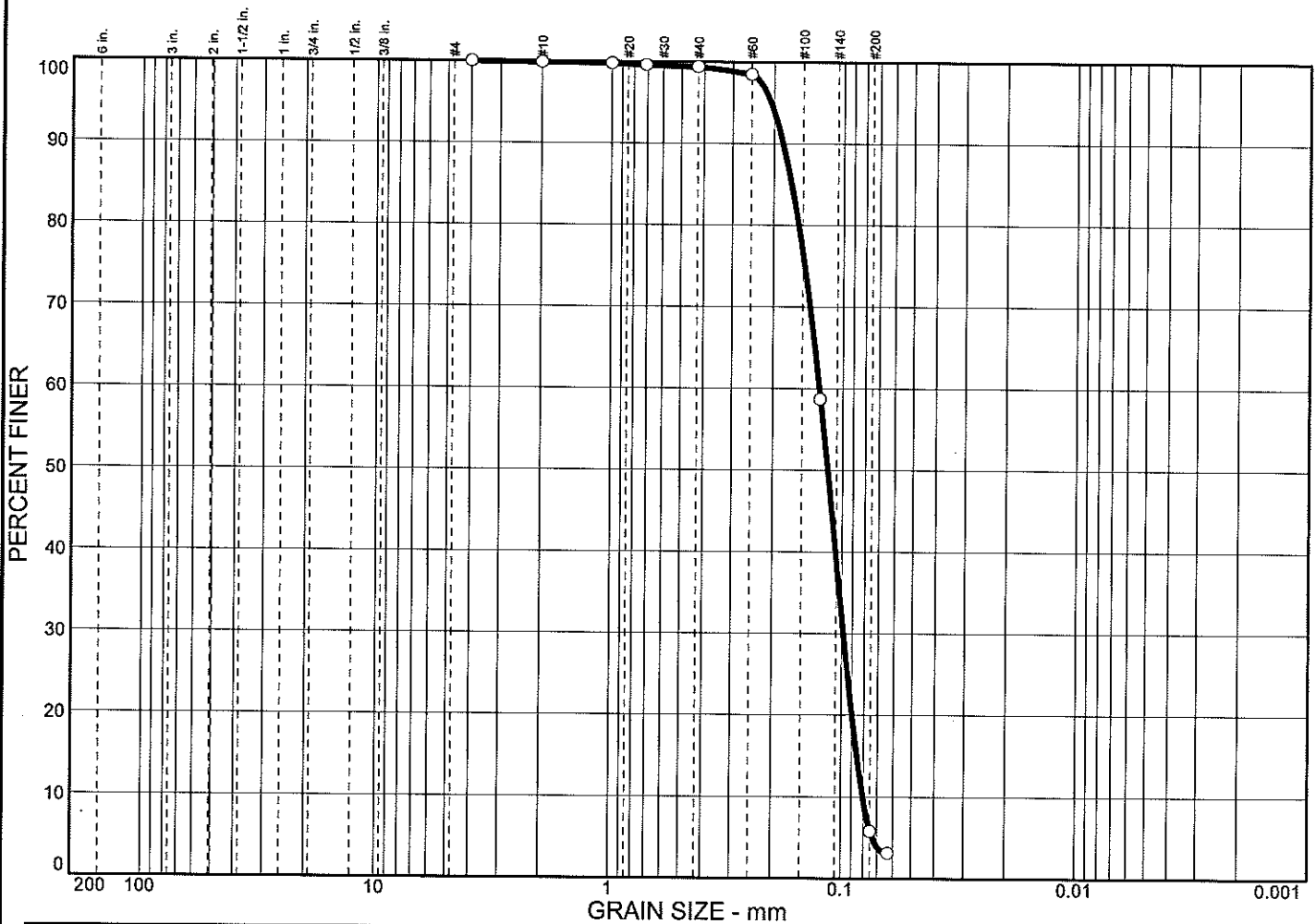
	% COBBLES	% GRAVEL		% SAND			% FINES			
		CRS.	FINE	CRS.	MEDIUM	FINE	SILT		CLAY	
○	0.0	0.0	0.3	0.4	0.4	82.6	16.3			
×	LL	PL	D85	D60	D50	D30	D15	D10	Cc	Cu
○			0.201	0.152	0.135	0.103				

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 Metalrie, 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