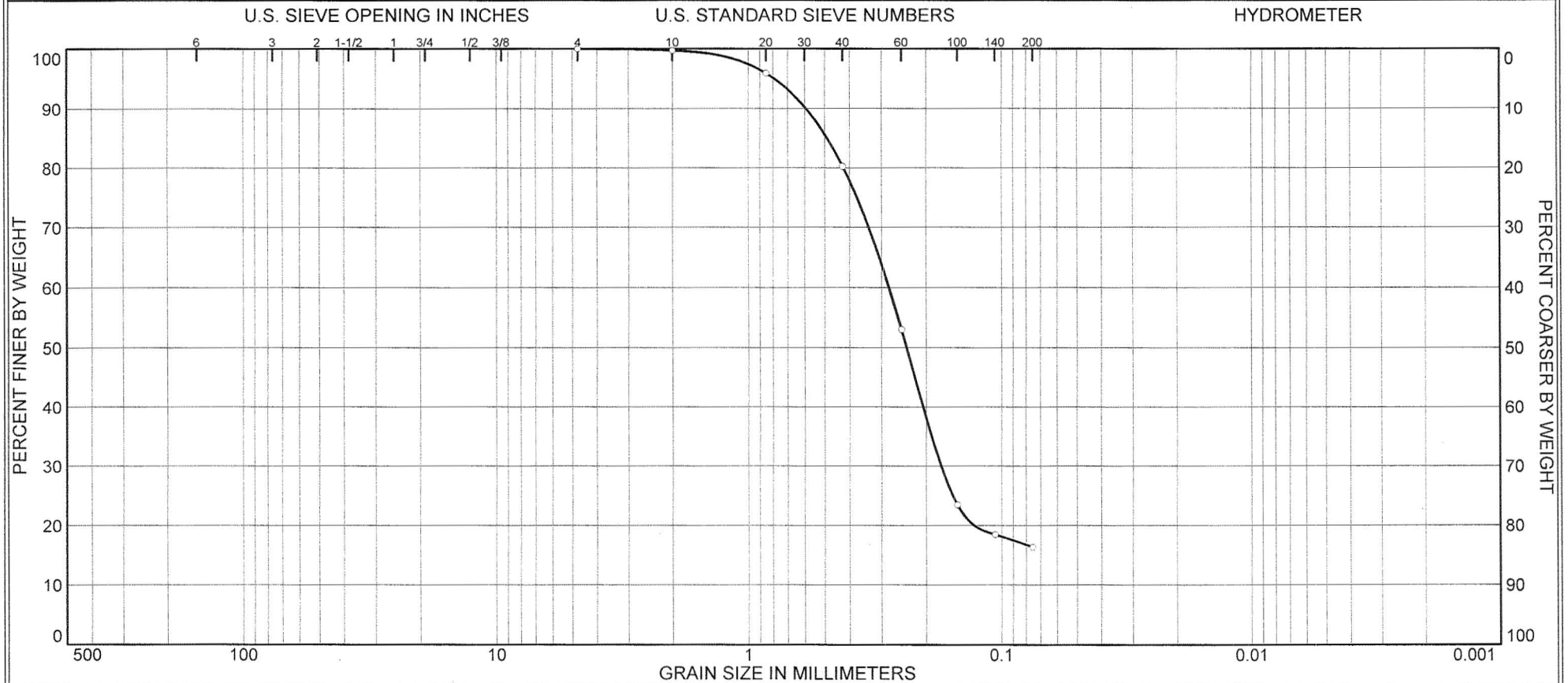


Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.3	19.5	64.0	16.2	

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-22A	P-22A	235.97'	N/A	SM	Red Silty sand	8.4	NV	NP

Client GPC c/o SNOC		MACTEC ENGINEERING AND CONSULTING, INC.	○ Tested by: MD/SW Reviewed by: HJ
Project Vogtle Units 3 & 4 Test Pad Project			
Project No. 6141-06-0286.54			

GRAIN SIZE DISTRIBUTION TEST DATA

Client: GPC c/o SNOC
Project: Vogtle Units 3 & 4 Test Pad Project
Project Number: 6141-06-0286.54

Sample Data

Source: Test Pad Backfill P-22A
Sample No.: P-22A
Elev. or Depth: 235.97' **Sample Length(in./cm.):** N/A
Location: P-22A
Description: Red Silty sand
Date: N/A **Natural Moisture:** 8.4
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** SM
Testing Remarks: Tested by: MD/SW Reviewed by: HJ

Mechanical Analysis Data

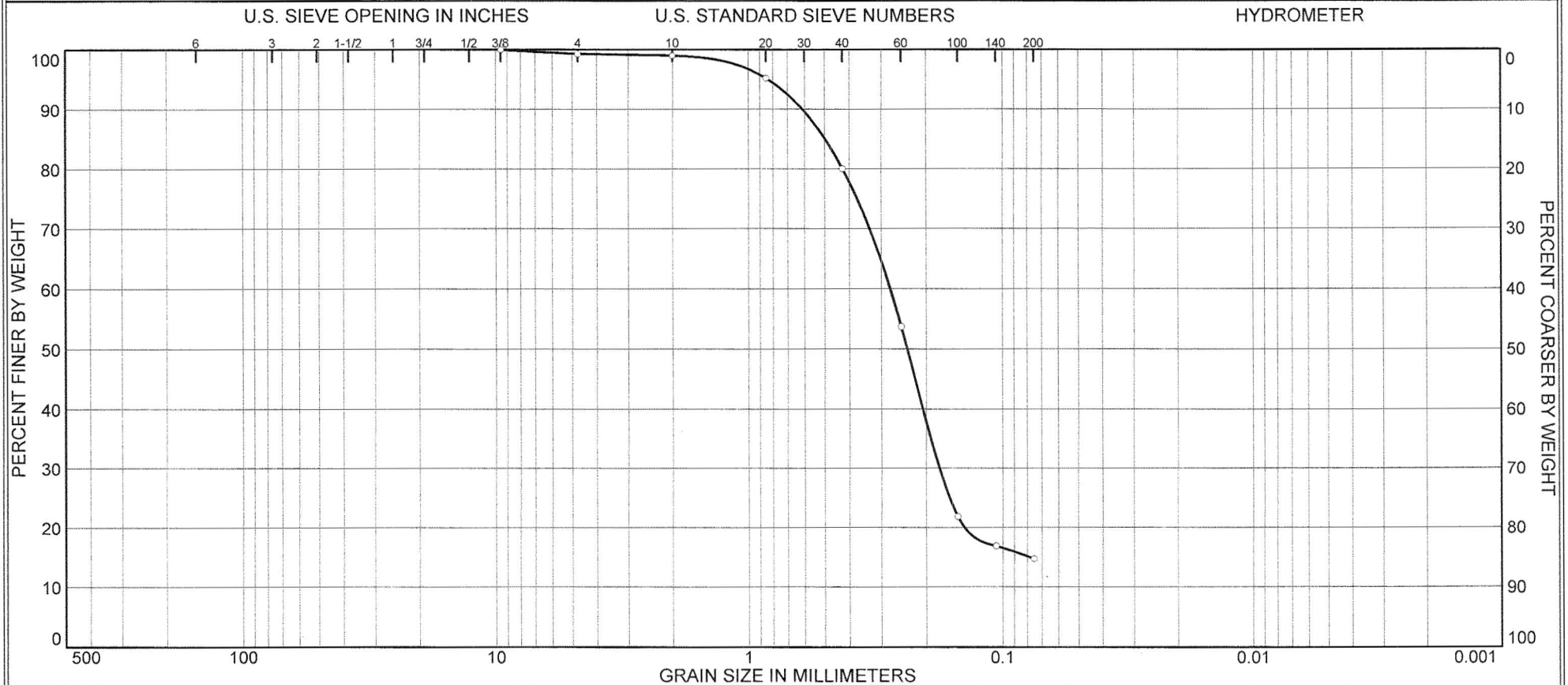
	Initial	
Dry sample and tare=	204.35	
Tare =	64.35	
Dry sample weight =	140.00	
Tare for cumulative weight retained=	.00	
Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.37	99.7
# 20	5.75	95.9
# 40	27.66	80.2
# 60	65.84	53.0
# 100	107.30	23.4
# 140	114.23	18.4
# 200	117.32	16.2

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =**
% SAND = 83.8 (**% coarse = 0.3** **% medium = 19.5** **% fine = 64.0**)
% FINES = 16.2

D₈₅ = 0.49 **D₆₀ = 0.28** **D₅₀ = 0.24**
D₃₀ = 0.17

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.7	0.3	19.0	65.3	14.7	

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-26	P-26	237.95'	N/A	SM	Red Silty sand	9.3	NV	NP

Client GPC c/o SNOC	MACTEC ENGINEERING AND CONSULTING, INC.	Tested by: MD/SW Reviewed by: MC
Project Vogtle Units 3 & 4 Test Pad Project		
Project No. 6141-06-0286.54		

GRAIN SIZE DISTRIBUTION TEST DATA

Client: GPC c/o SNOC
Project: Vogtle Units 3 & 4 Test Pad Project
Project Number: 6141-06-0286.54

Sample Data

Source: Test Pad Backfill P-26
Sample No.: P-26
Elev. or Depth: 237.95' **Sample Length(in./cm.):** N/A
Location: P-26
Description: Red Silty sand
Date: N/A **Natural Moisture:** 9.3
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** SM
Testing Remarks: Tested by: MD/SW Reviewed by: MC

Mechanical Analysis Data

	Initial	
Dry sample and tare=	201.75	
Tare =	64.33	
Dry sample weight =	137.42	
Tare for cumulative weight retained=	.00	
Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.90	99.3
# 10	1.32	99.0
# 20	6.62	95.2
# 40	27.54	80.0
# 60	63.60	53.7
# 100	107.41	21.8
# 140	114.33	16.8
# 200	117.20	14.7

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL = 0.7** (**% coarse =** **% fine = 0.7**)
% SAND = 84.6 (**% coarse = 0.3** **% medium = 19.0** **% fine = 65.3**)
% FINES = 14.7

D85= 0.50 D60= 0.28 D50= 0.24
D30= 0.18 D15= 0.08

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.2	22.0	67.8	10.0	

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-31	P-31	240.42'	N/A	SP-SM	Tan Poorly graded sand with silt	7.8	NV	NP

Client GPC c/o SNOG	MACTEC ENGINEERING AND CONSULTING, INC.	Tested by: SW/MD Reviewed by: MC
Project Vogtle Units 3 & 4 Test Pad Project		
Project No. 6141-06-0286.54		

GRAIN SIZE DISTRIBUTION TEST DATA

Client: GPC c/o SNOC
Project: Vogtle Units 3 & 4 Test Pad Project
Project Number: 6141-06-0286.54

Sample Data

Source: Test Pad Backfill P-31
Sample No.: P-31
Elev. or Depth: 240.42' **Sample Length(in./cm.):** N/A
Location: P-31
Description: Tan Poorly graded sand with silt
Date: N/A **Natural Moisture:** 7.8
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** SP-SM
Testing Remarks: Tested by: SW/MD Reviewed by: MC

Mechanical Analysis Data

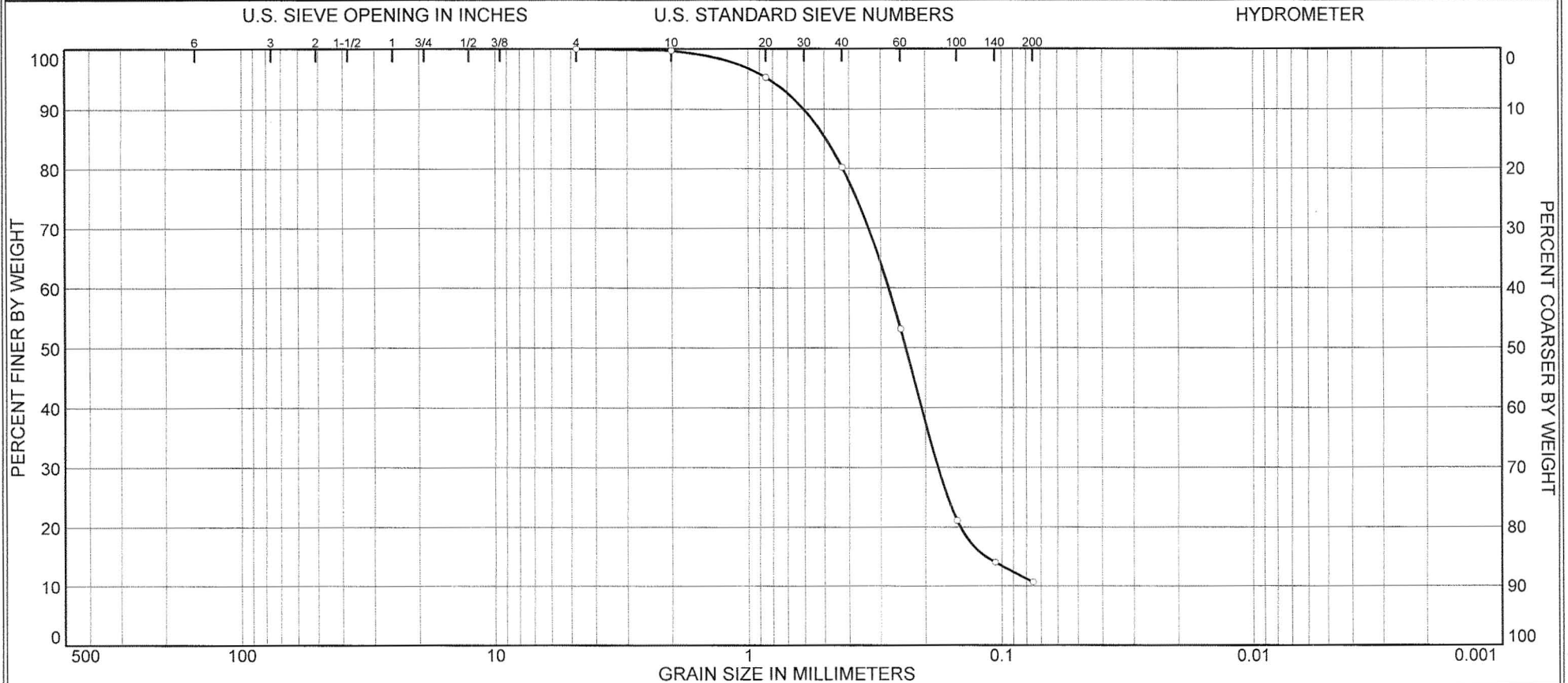
Sieve	Cumul. Wt. retained	Percent finer
Initial		
Dry sample and tare=	200.43	
Tare =	64.30	
Dry sample weight =	136.13	
Tare for cumulative weight retained= .00		
# 4	0.00	100.0
# 10	0.31	99.8
# 20	7.13	94.8
# 40	30.20	77.8
# 60	67.09	50.7
# 100	108.50	20.3
# 140	117.66	13.6
# 200	122.47	10.0

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =**
% SAND = 90.0 (**% coarse = 0.2** **% medium = 22.0** **% fine = 67.8**)
% FINES = 10.0

D₈₅ = 0.53 **D₆₀ = 0.29** **D₅₀ = 0.25**
D₃₀ = 0.18 **D₁₅ = 0.12** **D₁₀ = 0.08**
C_c = 1.5172 **C_u = 3.8893**

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.3	19.5	69.6	10.6	

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-35	P-35	242.44'	N/A	SP-SM	Brown Poorly graded sand with silt	6.7	NV	NP

Client GPC c/o SNOG		MACTEC ENGINEERING AND CONSULTING, INC.	○ Tested by: SW Reviewed by: MC
Project Vogtle Units 3 & 4 Test Pad Project			
Project No. 6141-06-0286.54			

GRAIN SIZE DISTRIBUTION TEST DATA

Client: GPC c/o SNOG
Project: Vogtle Units 3 & 4 Test Pad Project
Project Number: 6141-06-0286.54

Sample Data

Source: Test Pad Backfill P-35
Sample No.: P-35
Elev. or Depth: 242.44' **Sample Length(in./cm.):** N/A
Location: P-35
Description: Brown Poorly graded sand with silt
Date: N/A **Natural Moisture:** 6.7
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** SP-SM
Testing Remarks: Tested by: SW Reviewed by: MC

Mechanical Analysis Data

	Initial	
Dry sample and tare=	201.30	
Tare =	64.34	
Dry sample weight =	136.96	
Tare for cumulative weight retained=	.00	
Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.38	99.7
# 20	6.40	95.3
# 40	27.11	80.2
# 60	64.23	53.1
# 100	108.11	21.1
# 140	117.76	14.0
# 200	122.38	10.6

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =**
% SAND = 89.4 (% coarse = 0.3 % medium = 19.5 % fine = 69.6)
% FINES = 10.6

D85= 0.49 D60= 0.28 D50= 0.24
D30= 0.18 D15= 0.12

GRAIN SIZE DISTRIBUTION TEST DATA

Client: GPC c/o SNOC
Project: Vogtle Units 3 & 4 Test Pad Project
Project Number: 6141-06-0286.54

Sample Data

Source: Test Pad Backfill P-39
Sample No.: P-39
Elev. or Depth: 244.48' **Sample Length(in./cm.):** N/A
Location: P-39
Description: Light Brown Poorly graded sand with silt
Date: N/A **Natural Moisture:** 7.8
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** SP-SM
Testing Remarks: Tested by: MD Reviewed by: MC

Mechanical Analysis Data

	Initial	
Dry sample and tare=	203.61	
Tare =	70.10	
Dry sample weight =	133.51	
Tare for cumulative weight retained=	.00	
Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.38	99.7
# 10	0.93	99.3
# 20	8.22	93.8
# 40	33.28	75.1
# 60	70.81	47.0
# 100	106.99	19.9
# 140	114.54	14.2
# 200	117.57	11.9

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL = 0.3 (% coarse = % fine = 0.3)
% SAND = 87.8 (% coarse = 0.4 % medium = 24.2 % fine = 63.2)
% FINES = 11.9

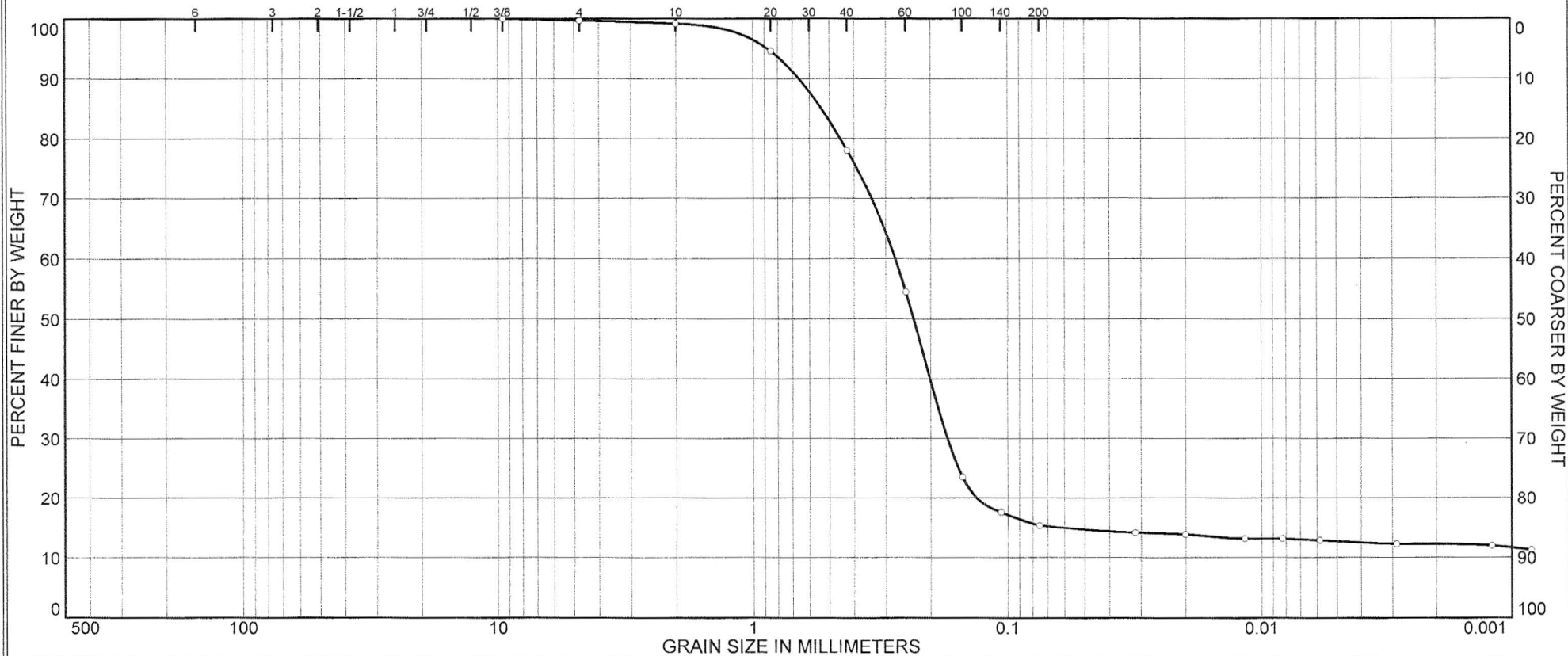
D₈₅= 0.56 D₆₀= 0.31 D₅₀= 0.26
D₃₀= 0.19 D₁₅= 0.12

Particle Size Distribution Report

U.S. SIEVE OPENING IN INCHES

U.S. STANDARD SIEVE NUMBERS

HYDROMETER



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.3	0.5	21.2	62.7	2.7	12.6

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-1	P-1 Jar	225.42'	N/A	SM	Reddish Brown Silty sand		NV	NP

Client GPC c/o SNOC		MACTEC ENGINEERING AND CONSULTING, INC.	☐ Tested by: EH Reviewed by: HJ
Project Vogtle Units 3 & 4 Test Pad Project			
Project No. 6141-06-0286.54	8148		

GRAIN SIZE DISTRIBUTION TEST DATA

Client: GPC c/o SNOG
Project: Vogtle Units 3 & 4 Test Pad Project
Project Number: 6141-06-0286.54

Sample Data

Source: Test Pad Backfill P-1
Sample No.: P-1 Jar
Elev. or Depth: 225.42' **Sample Length(in./cm.):** 8148
Location: P-1
Description: Reddish Brown Silty sand
Date: N/A **Natural Moisture:**
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** SM
Testing Remarks: Tested by: EH Reviewed by: HJ

Mechanical Analysis Data

Initial
Dry sample and tare= 298.43
Tare = 141.67
Dry sample weight = 156.76
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.49	99.7
# 10	1.19	99.2
# 20	8.48	94.6
# 40	34.42	78.0
# 60	71.32	54.5
# 100	119.86	23.5
# 140	129.25	17.5
# 200	132.81	15.3

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 15.3
Weight of hydrometer sample: 23.95
Calculated biased weight= 156.54
Automatic temperature correction
Composite correction at 20 deg C = -5.4
Meniscus correction only= 0
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H
Effective depth L= $16.294964 - 0.164 \times R_m$

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.00	23.0	27.0	22.3	0.0130	27.0	11.9	0.0316	14.1
5.00	23.0	26.5	21.8	0.0130	26.5	11.9	0.0200	13.8
15.00	23.0	25.5	20.8	0.0130	25.5	12.1	0.0116	13.1
30.00	23.0	25.5	20.8	0.0130	25.5	12.1	0.0082	13.1
60.00	23.0	25.0	20.3	0.0130	25.0	12.2	0.0058	12.8

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
250.00	23.0	24.0	19.3	0.0130	24.0	12.4	0.0029	12.2
1440.00	23.3	23.5	18.8	0.0129	23.5	12.4	0.0012	11.9
3041.00	22.8	22.5	17.7	0.0130	22.5	12.6	0.0008	11.2

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

% COBBLES = % GRAVEL = 0.3 (% coarse = % fine = 0.3)

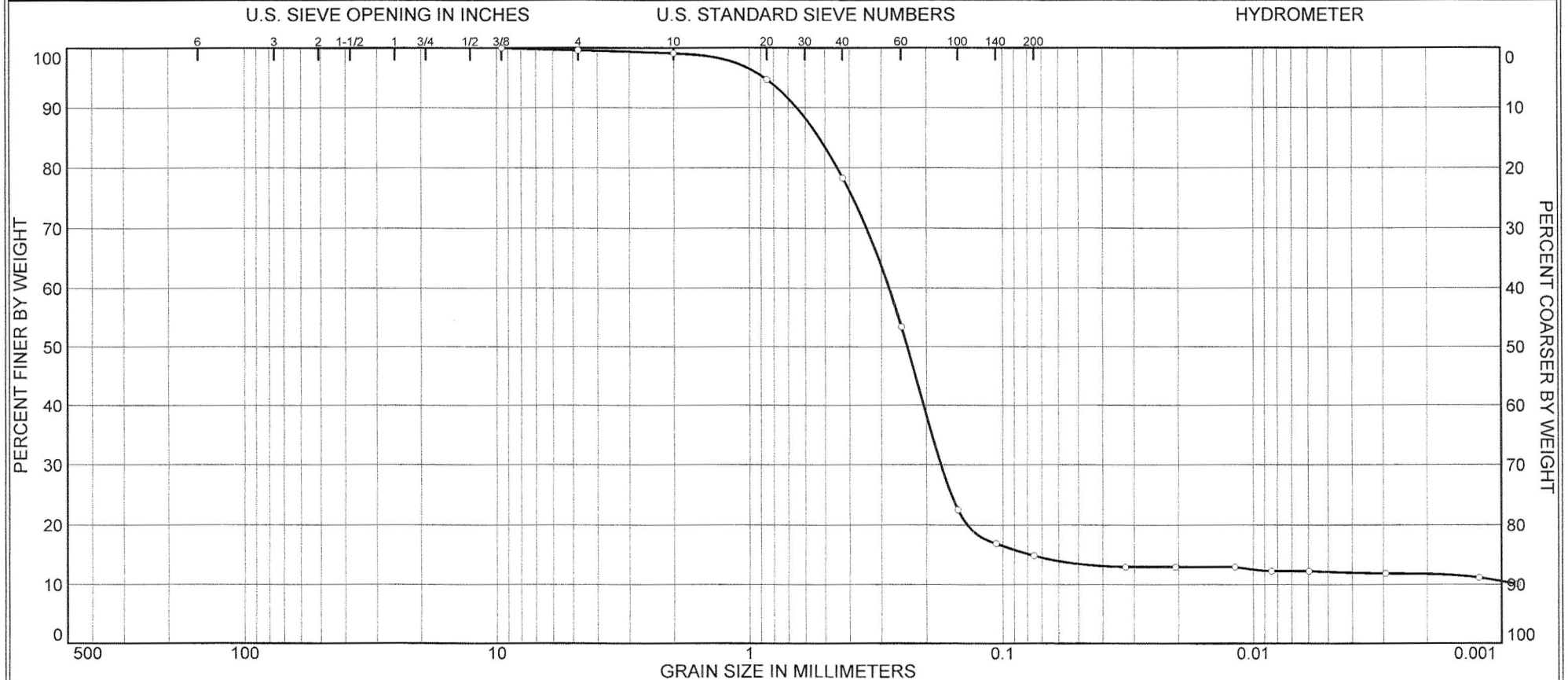
% SAND = 84.4 (% coarse = 0.5 % medium = 21.2 % fine = 62.7)

% SILT = 2.7 % CLAY = 12.6 (% CLAY COLLOIDS = 11.6)

D85= 0.54 D60= 0.28 D50= 0.23

D30= 0.17 D15= 0.06

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.4	0.5	20.8	63.5	2.7	12.1

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-2	P-2 Jar	225.99'	N/A		Reddish Brown Silty sand			

Client GPC c/o SNOC		MACTEC ENGINEERING AND CONSULTING, INC.	○ Tested by: EH Reviewed by: HJ
Project Vogtle Units 3 & 4 Test Pad Project			
Project No. 6141-06-0286.54	8149		

GRAIN SIZE DISTRIBUTION TEST DATA

Client: GPC c/o SNOC
Project: Vogtle Units 3 & 4 Test Pad Project
Project Number: 6141-06-0286.54

Sample Data

Source: Test Pad Backfill P-2
Sample No.: P-2 Jar
Elev. or Depth: 225.99' **Sample Length(in./cm.):** 8149
Location: P-2
Description: Reddish Brown Silty sand
Date: N/A **Natural Moisture:**
Liquid Limit: **Plastic Limit:** **USCS Class.:**
Testing Remarks: Tested by: EH Reviewed by: HJ

Mechanical Analysis Data

Initial
Dry sample and tare= 283.70
Tare = 143.05
Dry sample weight = 140.65
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.51	99.6
# 10	1.20	99.1
# 20	7.52	94.7
# 40	30.49	78.3
# 60	65.55	53.4
# 100	109.05	22.5
# 140	117.03	16.8
# 200	119.90	14.8

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 14.8
Weight of hydrometer sample: 20.75
Calculated biased weight= 140.20
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.00	23.0	23.0	18.3	0.0130	23.0	12.5	0.0324	12.9
5.00	23.0	23.0	18.3	0.0130	23.0	12.5	0.0205	12.9
15.00	23.0	23.0	18.3	0.0130	23.0	12.5	0.0118	12.9
30.00	23.0	22.0	17.3	0.0130	22.0	12.7	0.0084	12.2
60.00	23.0	22.0	17.3	0.0130	22.0	12.7	0.0060	12.2

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
250.00	23.0	21.5	16.8	0.0130	21.5	12.8	0.0029	11.8
1440.00	22.8	20.5	15.7	0.0130	20.5	12.9	0.0012	11.1
3000.00	22.8	19.0	14.2	0.0130	19.0	13.2	0.0009	10.0

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

% COBBLES = % GRAVEL = 0.4 (% coarse = % fine = 0.4)

% SAND = 84.8 (% coarse = 0.5 % medium = 20.8 % fine = 63.5)

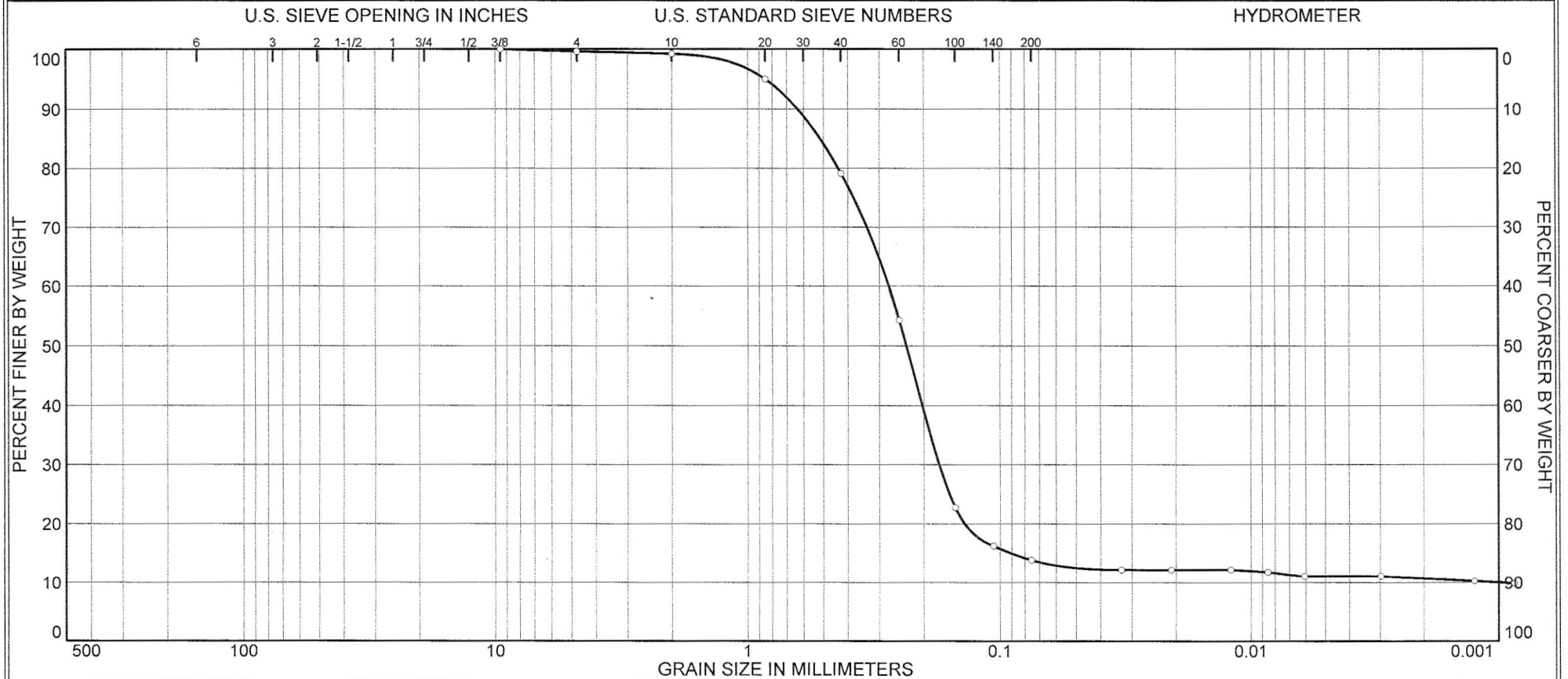
% SILT = 2.7 % CLAY = 12.1 (% CLAY COLLOIDS = 10.5)

D₈₅= 0.53 D₆₀= 0.28 D₅₀= 0.24

D₃₀= 0.18 D₁₅= 0.08 D₁₀= 0.00

C_c= 127.3884 C_u= 324.8506

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.4	0.4	20.1	65.3	2.8	11.0

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-4	P-4 Jar	227.05'	N/A		Reddish Brown Silty sand			

Client GPC c/o SNOC

Project Vogtle Units 3 & 4 Test Pad Project

Project No. 6141-06-0286.54

8150

**MACTEC ENGINEERING
AND
CONSULTING, INC.**

Tested by: EH

Reviewed by: HJ

GRAIN SIZE DISTRIBUTION TEST DATA

Client: GPC c/o SNOC
Project: Vogtle Units 3 & 4 Test Pad Project
Project Number: 6141-06-0286.54

Sample Data

Source: Test Pad Backfill P-4
Sample No.: P-4 Jar
Elev. or Depth: 227.05' **Sample Length(in./cm.):** 8150
Location: P-4
Description: Reddish Brown Silty sand
Date: N/A **Natural Moisture:**
Liquid Limit: **Plastic Limit:** **USCS Class.:**
Testing Remarks: Tested by: EH Reviewed by: HJ

Mechanical Analysis Data

Initial
Dry sample and tare= 226.10
Tare = 97.14
Dry sample weight = 128.96
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.57	99.6
# 10	1.09	99.2
# 20	6.45	95.0
# 40	26.93	79.1
# 60	58.94	54.3
# 100	99.74	22.7
# 140	108.08	16.2
# 200	111.21	13.8

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 13.8
Weight of hydrometer sample: 17.75
Calculated biased weight= 128.62
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.00	23.0	20.5	15.8	0.0130	20.5	12.9	0.0330	12.1
5.00	23.0	20.5	15.8	0.0130	20.5	12.9	0.0208	12.1
15.00	23.0	20.5	15.8	0.0130	20.5	12.9	0.0120	12.1
30.00	23.0	20.0	15.3	0.0130	20.0	13.0	0.0085	11.7
60.00	23.0	19.0	14.3	0.0130	19.0	13.2	0.0061	11.0

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
250.00	23.0	19.0	14.3	0.0130	19.0	13.2	0.0030	11.0
1440.00	22.8	18.0	13.2	0.0130	18.0	13.3	0.0013	10.2
3025.00	22.8	17.5	12.7	0.0130	17.5	13.4	0.0009	9.8

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

% COBBLES = % GRAVEL = 0.4 (% coarse = % fine = 0.4)

% SAND = 85.8 (% coarse = 0.4 % medium = 20.1 % fine = 65.3)

% SILT = 2.8 % CLAY = 11.0 (% CLAY COLLOIDS = 10.0)

D₈₅= 0.52 D₆₀= 0.27 D₅₀= 0.23

D₃₀= 0.17 D₁₅= 0.09 D₁₀= 0.00

C_c= 105.7179 C_u= 265.1591

Particle Size Distribution Report

