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-6
Sample No.: P-6 Jar
Elev. or Depth: 228.02' **Sample Length(in./cm.):** 8151
Location: P-6
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=	272.85
Tare =	141.93
Dry sample weight =	130.92

Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.25	99.8
# 20	6.26	95.2
# 40	27.85	78.7
# 60	60.51	53.8
# 100	101.34	22.6
# 140	109.82	16.1
# 200	112.98	13.7

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 13.7
Weight of hydrometer sample: 17.94
Calculated biased weight= 130.95
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	21.0	16.3	0.0130	21.0	12.9	0.0328	12.3
5.00	23.0	21.0	16.3	0.0130	21.0	12.9	0.0208	12.3
15.00	23.0	21.0	16.3	0.0130	21.0	12.9	0.0120	12.3
30.00	23.0	20.5	15.8	0.0130	20.5	12.9	0.0085	11.9
60.00	23.0	20.0	15.3	0.0130	20.0	13.0	0.0060	11.5
250.00	23.0	20.0	15.3	0.0130	20.0	13.0	0.0030	11.5

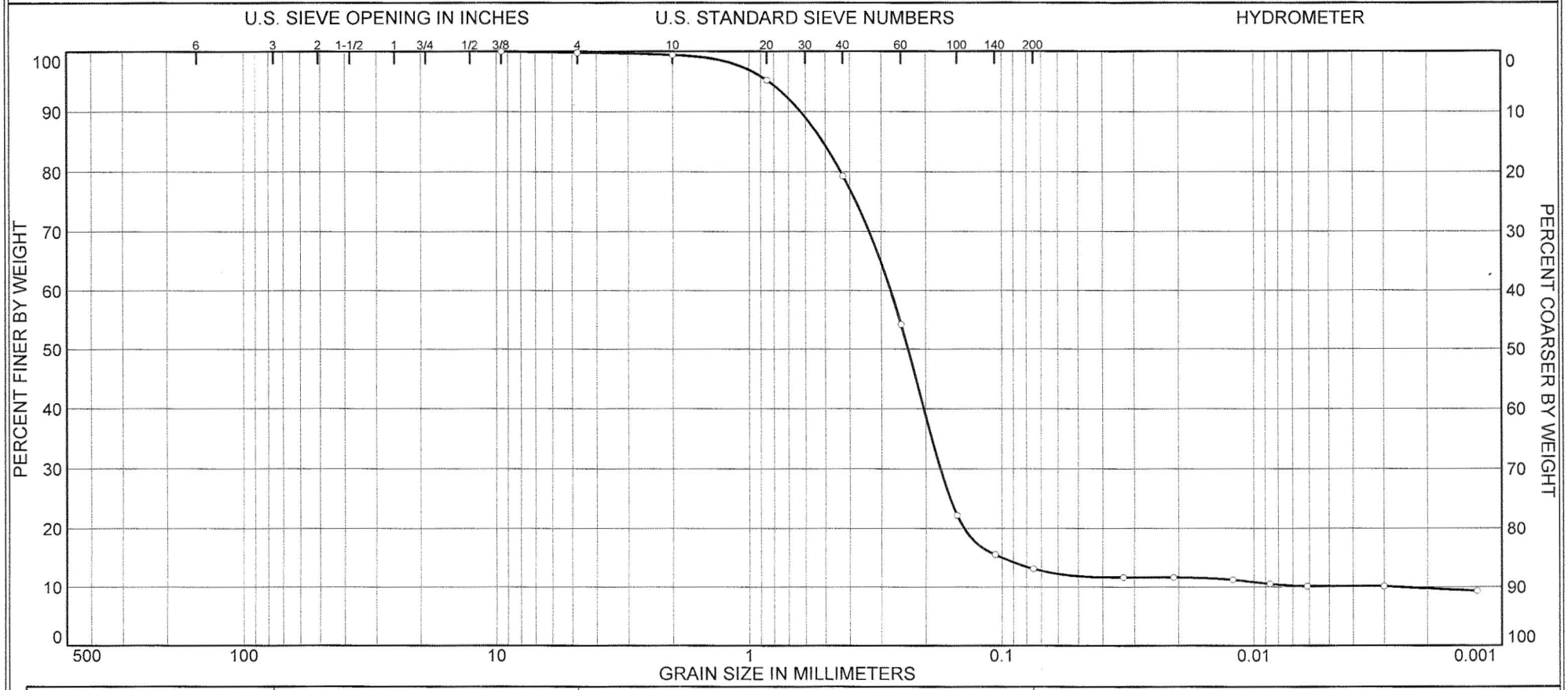
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
1440.00	22.8	19.0	14.2	0.0130	19.0	13.2	0.0012	10.7
2975.00	22.8	17.5	12.7	0.0130	17.5	13.4	0.0009	9.6

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL =
% SAND = 86.3 (% coarse = 0.2 % medium = 21.1 % fine = 65.0)
% SILT = 2.2 % CLAY = 11.5 (% CLAY COLLOIDS = 10.1)

D_{85}= 0.52 D_{60}= 0.28 D_{50}= 0.24
D_{30}= 0.17 D_{15}= 0.09 D_{10}= 0.00
C_c= 111.3385 C_u= 282.7735

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.2	0.4	20.1	66.2	3.0	10.1

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-8	P-8 Jar	229.00'	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 | 8152

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-8
Sample No.: P-8 Jar
Elev. or Depth: 229.00' **Sample Length(in./cm.):** 8152
Location: P-8
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=	274.29
Tare =	144.70
Dry sample weight =	129.59

Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.32	99.8
# 10	0.78	99.4
# 20	6.20	95.2
# 40	26.88	79.3
# 60	59.37	54.2
# 100	100.80	22.2
# 140	109.47	15.5
# 200	112.56	13.1

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 13.1
Weight of hydrometer sample: 17.03
Calculated biased weight= 130.00
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	20.0	15.3	0.0130	20.0	13.0	0.0331	11.6
5.00	23.0	20.0	15.3	0.0130	20.0	13.0	0.0209	11.6
15.00	23.0	19.5	14.8	0.0130	19.5	13.1	0.0121	11.2
30.00	23.0	18.5	13.8	0.0130	18.5	13.3	0.0086	10.5
60.00	23.0	18.0	13.3	0.0130	18.0	13.3	0.0061	10.1

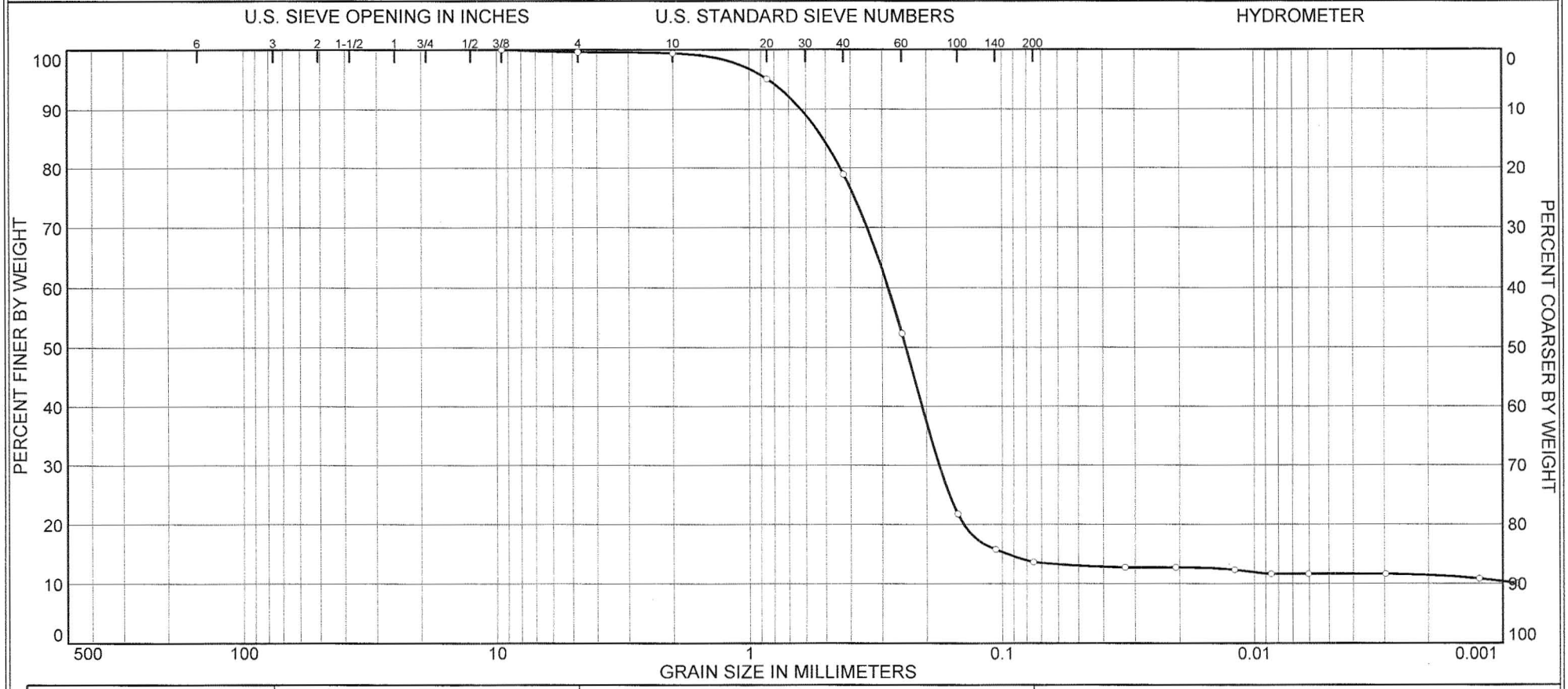
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
250.00	23.0	18.0	13.3	0.0130	18.0	13.3	0.0030	10.1
1440.00	22.8	17.0	12.2	0.0130	17.0	13.5	0.0013	9.3

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL = 0.2 (% coarse = % fine = 0.2)
% SAND = 86.7 (% coarse = 0.4 % medium = 20.1 % fine = 66.2)
% SILT = 3.0 % CLAY = 10.1

D_{85}= 0.51 D_{60}= 0.28 D_{50}= 0.23
D_{30}= 0.17 D_{15}= 0.10 D_{10}= 0.00
C_c= 41.3177 C_u= 102.4163

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.4	0.2	20.5	65.3	2.0	11.6

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-10	P-10 Jar	230.01'	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 | 8153

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-10
Sample No.: P-10 Jar
Elev. or Depth: 230.01' **Sample Length(in./cm.):** 8153
Location: P-10
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=	227.43
Tare =	96.48
Dry sample weight =	130.95

Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.46	99.6
# 10	0.74	99.4
# 20	6.42	95.1
# 40	27.66	78.9
# 60	62.51	52.3
# 100	102.57	21.7
# 140	110.36	15.7
# 200	113.20	13.6

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 13.6
Weight of hydrometer sample: 17.75
Calculated biased weight= 130.51
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	21.5	16.8	0.0130	21.5	12.8	0.0327	12.7
5.00	23.0	21.5	16.8	0.0130	21.5	12.8	0.0207	12.7
15.00	23.0	21.0	16.3	0.0130	21.0	12.9	0.0120	12.3
30.00	23.0	20.0	15.3	0.0130	20.0	13.0	0.0085	11.6
60.00	23.0	20.0	15.3	0.0130	20.0	13.0	0.0060	11.6

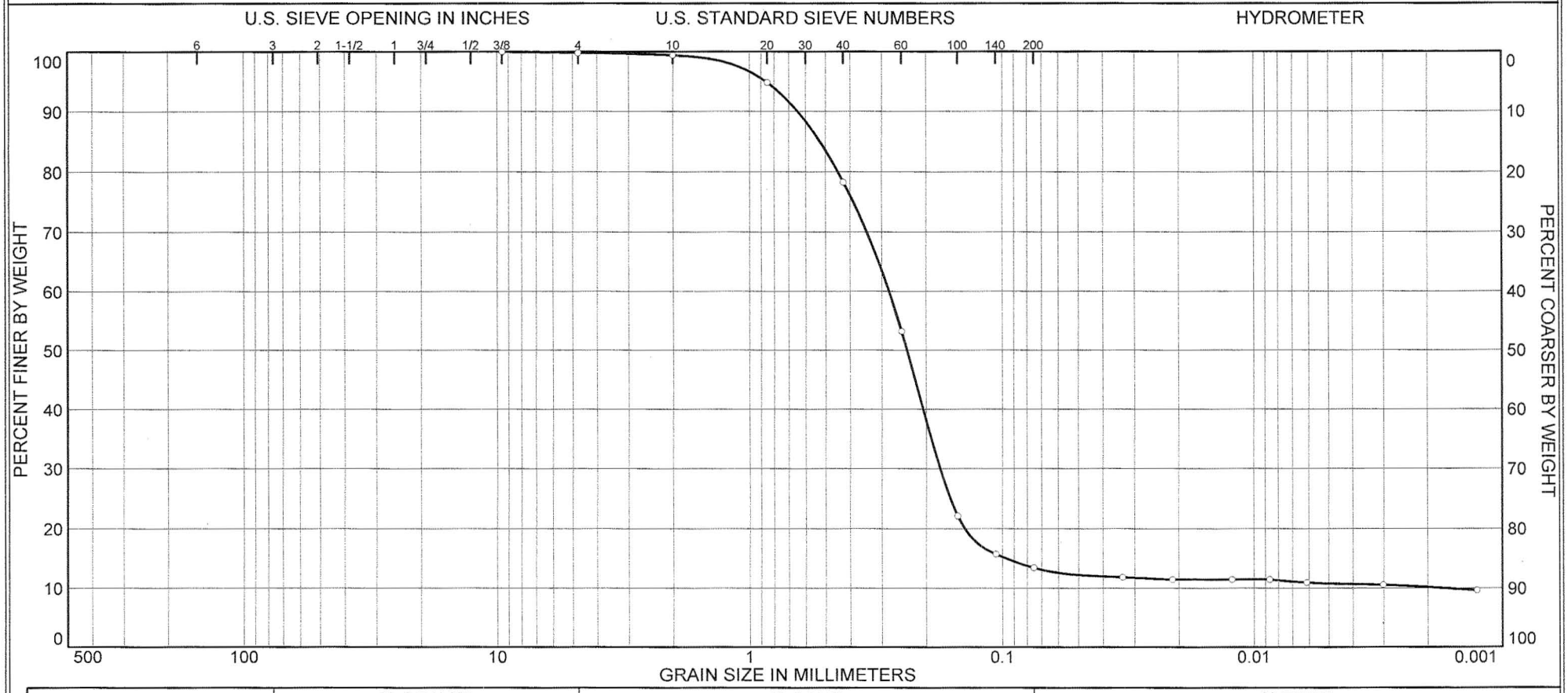
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
250.00	23.0	20.0	15.3	0.0130	20.0	13.0	0.0030	11.6
1440.00	22.8	19.0	14.2	0.0130	19.0	13.2	0.0012	10.8
2953.00	22.8	18.0	13.2	0.0130	18.0	13.3	0.0009	10.0

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL = 0.4 (% coarse = % fine = 0.4)
% SAND = 86.0 (% coarse = 0.2 % medium = 20.5 % fine = 65.3)
% SILT = 2.0 % CLAY = 11.6 (% CLAY COLLOIDS = 10.3)

D_{85}= 0.51 D_{60}= 0.28 D_{50}= 0.24
D_{30}= 0.18 D_{15}= 0.10 D_{10}= 0.00
C_c= 127.7559 C_u= 325.0099

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.2	0.4	21.1	64.9	2.7	10.7

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-12	P-12 Jar	230.97'	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 | 8154

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-12
Sample No.: P-12 Jar
Elev. or Depth: 230.97' **Sample Length(in./cm.):** 8154
Location: P-12
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=	260.22
Tare =	144.78
Dry sample weight =	115.44

Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.27	99.8
# 10	0.72	99.4
# 20	6.02	94.8
# 40	25.01	78.3
# 60	54.01	53.2
# 100	89.94	22.1
# 140	97.27	15.7
# 200	99.98	13.4

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 13.4
Weight of hydrometer sample: 15.46
Calculated biased weight= 115.37
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	18.5	13.8	0.0130	18.5	13.3	0.0334	11.8
5.00	23.0	18.0	13.3	0.0130	18.0	13.3	0.0212	11.4
15.00	23.0	18.0	13.3	0.0130	18.0	13.3	0.0122	11.4
30.00	23.0	18.0	13.3	0.0130	18.0	13.3	0.0086	11.4
60.00	23.0	17.5	12.8	0.0130	17.5	13.4	0.0061	10.9

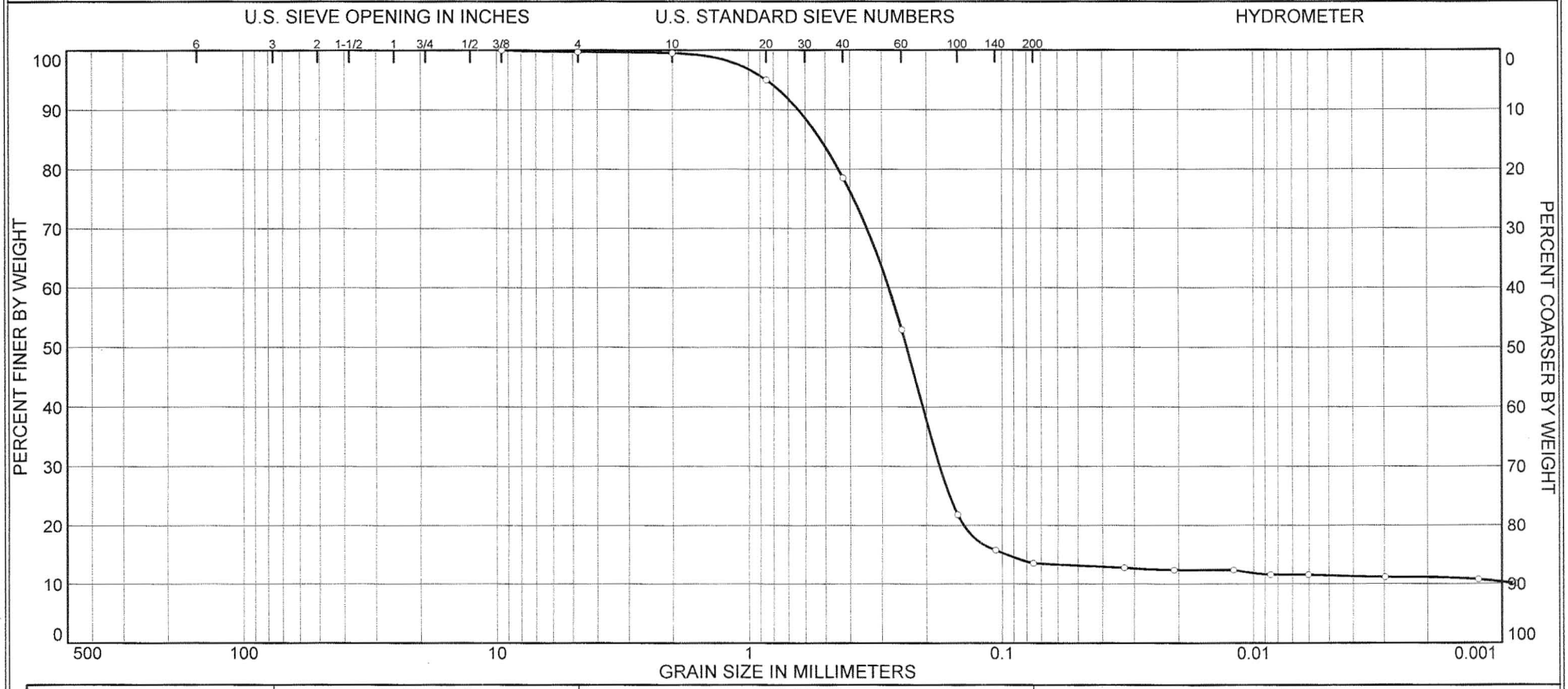
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
250.00	23.0	17.0	12.3	0.0130	17.0	13.5	0.0030	10.5
1440.00	22.8	16.0	11.2	0.0130	16.0	13.7	0.0013	9.6

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL = 0.2 (% coarse = % fine = 0.2)
% SAND = 86.4 (% coarse = 0.4 % medium = 21.1 % fine = 64.9)
% SILT = 2.7 % CLAY = 10.7

D_{85}= 0.53 D_{60}= 0.28 D_{50}= 0.24
D_{30}= 0.18 D_{15}= 0.10 D_{10}= 0.00
C_c= 63.0213 C_u= 160.3804

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.3	0.2	21.0	65.0	2.1	11.4

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-15	P-15 Jar	232.43'	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 | 8155

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-15
Sample No.: P-15 Jar
Elev. or Depth: 232.43' **Sample Length(in./cm.):** 8155
Location: P-15
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=	274.22
Tare =	143.33
Dry sample weight =	130.89

Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.41	99.7
# 10	0.65	99.5
# 20	6.50	95.0
# 40	28.09	78.5
# 60	61.70	52.9
# 100	102.30	21.8
# 140	110.31	15.7
# 200	113.21	13.5

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 13.5
Weight of hydrometer sample: 17.68
Calculated biased weight= 130.96
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	21.5	16.8	0.0130	21.5	12.8	0.0327	12.7
5.00	23.0	21.0	16.3	0.0130	21.0	12.9	0.0208	12.3
15.00	23.0	21.0	16.3	0.0130	21.0	12.9	0.0120	12.3
30.00	23.0	20.0	15.3	0.0130	20.0	13.0	0.0085	11.5
60.00	23.0	20.0	15.3	0.0130	20.0	13.0	0.0060	11.5

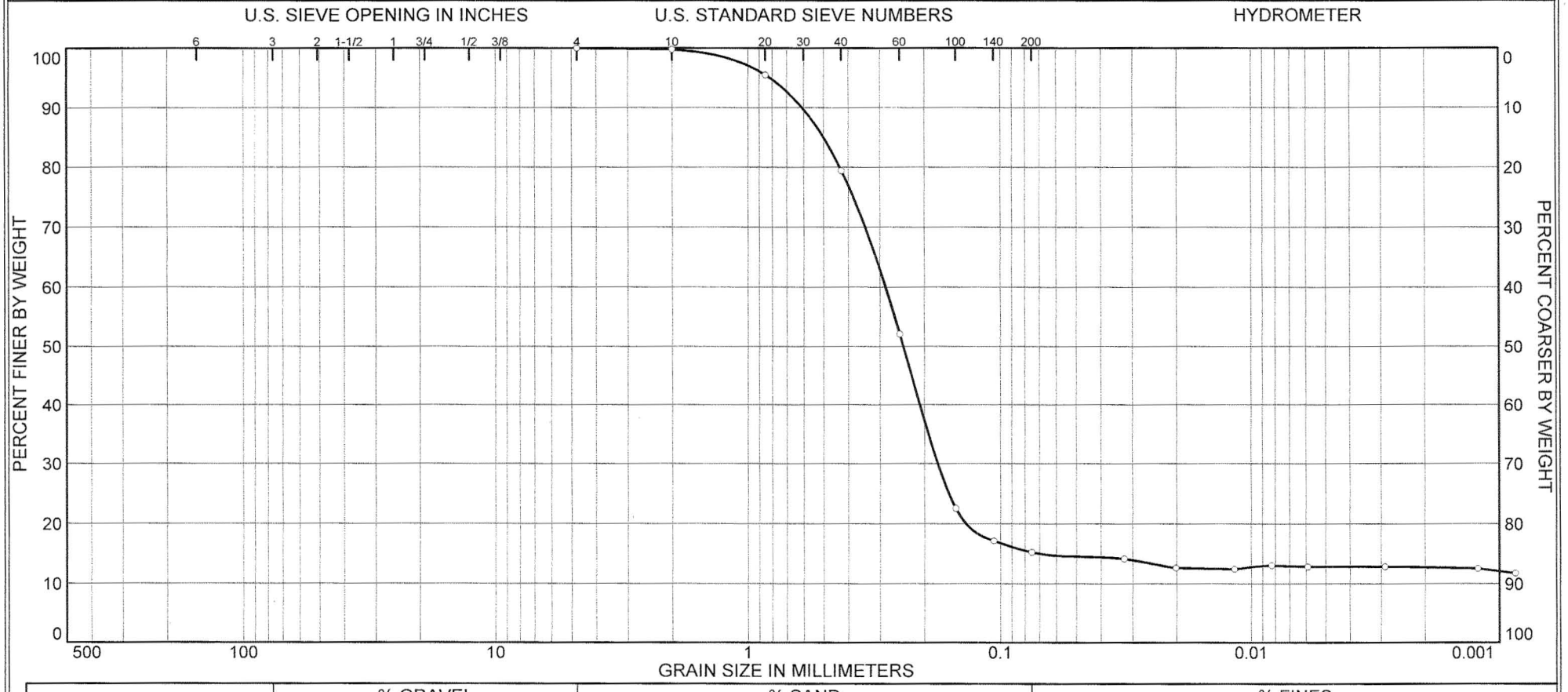
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
250.00	23.0	19.5	14.8	0.0130	19.5	13.1	0.0030	11.1
1440.00	22.7	19.0	14.2	0.0130	19.0	13.2	0.0012	10.7
2905.00	22.7	18.0	13.2	0.0130	18.0	13.3	0.0009	10.0

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL = 0.3 (% coarse = % fine = 0.3)
% SAND = 86.2 (% coarse = 0.2 % medium = 21.0 % fine = 65.0)
% SILT = 2.1 % CLAY = 11.4 (% CLAY COLLOIDS = 10.3)

D_{85}= 0.52 D_{60}= 0.28 D_{50}= 0.24
D_{30}= 0.18 D_{15}= 0.10 D_{10}= 0.00
C_c= 126.2276 C_u= 319.3904

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.2	20.4	64.2	2.4	12.8

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
Test Pad Backfill P-16	P-16	232.92'	N/A	SM	Red Brown Silty sand	7.5	NV	NP

Client GPC c/o SNOC

Project Vogtle Units 3 & 4 Test Pad Project

Project No. 6141-06-0286.54 | 8156

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-16
Sample No.: P-16
Elev. or Depth: 232.92' **Sample Length(in./cm.):** 8156
Location: P-16
Description: Red Brown Silty sand
Date: N/A **Natural Moisture:** 7.5
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=	284.61
Tare =	144.41
Dry sample weight =	140.20

Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.34	99.8
# 20	6.35	95.5
# 40	28.90	79.4
# 60	67.09	52.1
# 100	108.68	22.5
# 140	116.20	17.1
# 200	118.85	15.2

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 15.2
Weight of hydrometer sample: 21.35
Calculated biased weight= 140.46
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.711
Specific gravity correction factor= 0.987
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	22.0	25.0	20.0	0.0131	25.0	12.2	0.0323	14.1
5.00	25.0	22.0	17.9	0.0126	22.0	12.7	0.0201	12.6
15.00	24.5	22.0	17.7	0.0127	22.0	12.7	0.0117	12.4
30.00	24.0	23.0	18.6	0.0128	23.0	12.5	0.0082	13.0
60.00	23.0	23.0	18.3	0.0129	23.0	12.5	0.0059	12.8
250.00	23.0	23.0	18.3	0.0129	23.0	12.5	0.0029	12.8