

LIQUID AND PLASTIC LIMIT TEST DATA

1/25/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 150.4-151.9'

Sample Number: SS-28

Material Description: Light Gray Fat CLAY with sand

USCS: CH

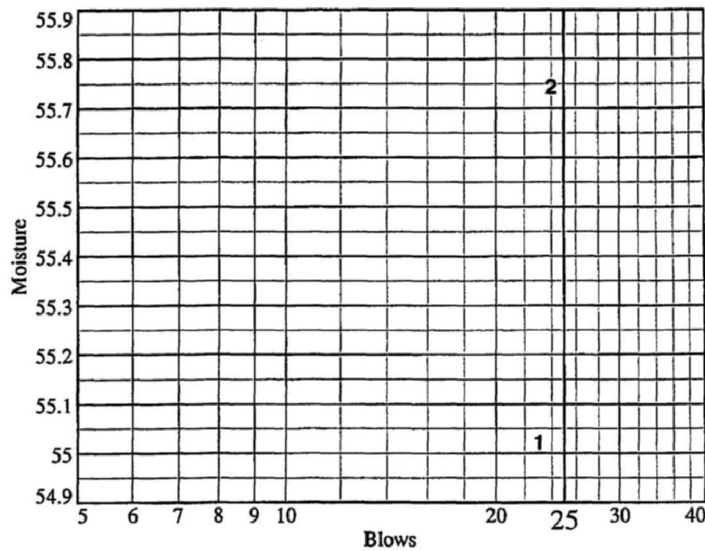
AASHTO: A-7-6(29)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	29.07	25.50				
Dry+Tare	24.25	21.91				
Tare	15.49	15.47				
# Blows	23	24				
Moisture	55.0	55.7				



Liquid Limit= 55
 Plastic Limit= 17
 Plasticity Index= 38
 Natural Moisture= 23.1
 Liquidity Index= 0.2

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.30	23.70			
Dry+Tare	21.32	22.50			
Tare	15.50	15.40			
Moisture	16.8	16.9			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
119.70	98.49	6.60	23.1

MACTEC, Inc.

MACTEC ENGINEERING AND CONSULTING, INC.
RALEIGH, NORTH CAROLINA

REPORT OF THE STANDARD TEST METHOD FOR SPECIFIC GRAVITY OF SOILS
Performed in General Accordance with ASTM D 854-06 (Method B)

PROJECT NAME: EXELON COL PROJECT [VICTORIA]

PROJECT NUMBER: 6468071777

DATE: 3/12/08

SAMPLE IDENTIFICATION: B-2269 SS-28

(A) Mass of oven-dried soil, grams:	49.10
(B) Mass of pycnometer filled with water at test temperature (T), grams:	654.83
(C) Mass of pycnometer, water and soil, grams:	685.90
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.0
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.723
(F) Correction factor:	0.99933
(G x F) SPECIFIC GRAVITY @ 20°C:	2.721

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100%

Fat CLAY with sand (CH)

EQUIPMENT USED

SCALES : 3.1.19

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNOMETER : P-5

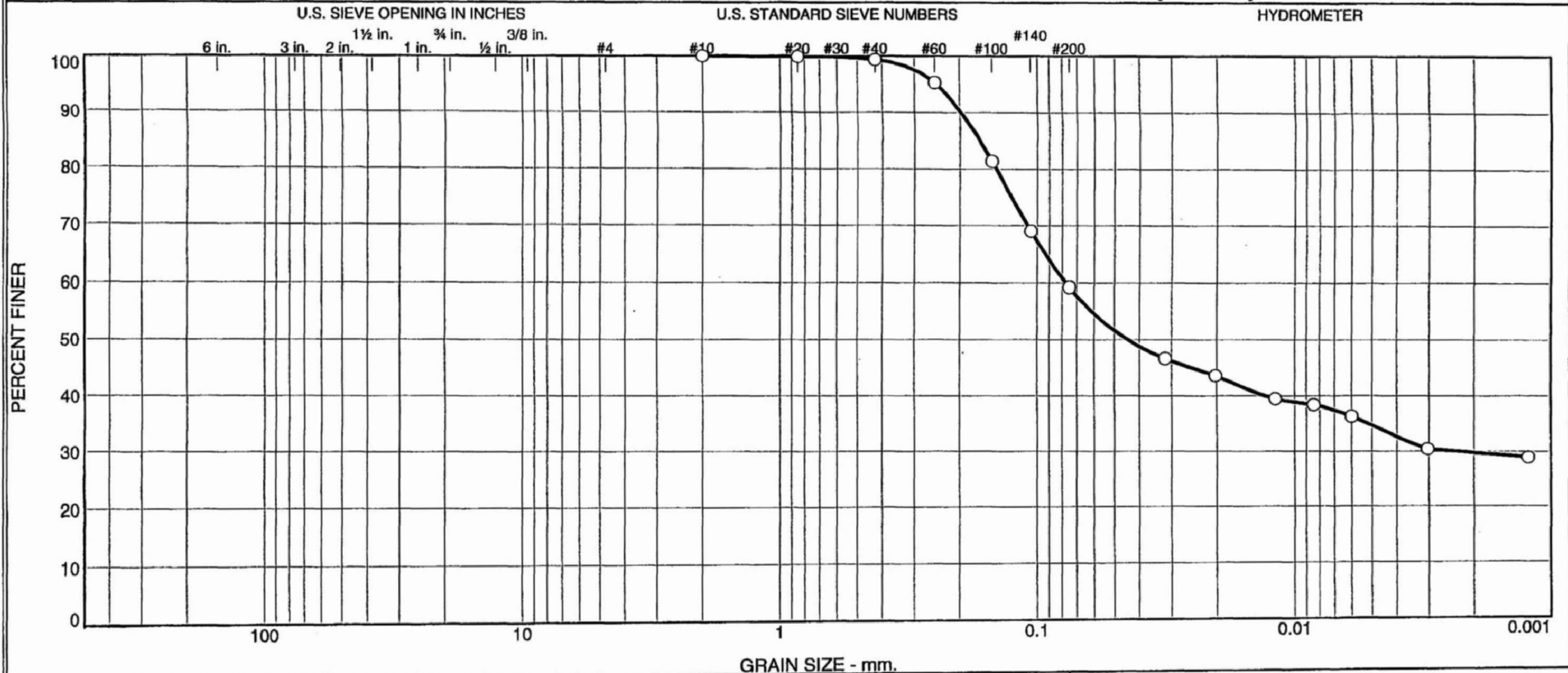
TESTED BY: CS

\\Test Reports\\Soils\\SPECIFIC GRAVITY(ref).xls

REVIEWED BY: Brian Johnson

DSC 3-13-08

Particle Size Distribution Report / ASTM D-422-63(2002)e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.6	40.1	24.6	34.7

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2269	SS-29	161.7-163.2'	11/10/07	CL	Light Gray Sandy Lean CLAY	23.2	41	15

Client Bechtel	MACTEC, Inc. Raleigh, North Carolina	○ Specific gravity is assumed. Organic content = 4.2% (ASTM D 2974-07)
Project Exelon Texas COL (Victoria)		
Project No. 6468071777		
Figure NA		

Tested By: CS

Checked By: LBJ

DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 161.7-163.2'

Sample Number: SS-29

Material Description: Light Gray Sandy Lean CLAY

Date: 11/10/07

Natural Moisture: 23.2

Liquid Limit: 41

Plastic Limit: 15

USCS Class.: CL

Testing Remarks: Specific gravity is assumed.

Organic content = 4.2% (ASTM D 2974-07)

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
253.77	0.00	0.00	#10	0.00	100.0
49.30	0.00	0.00	#20	0.04	99.9
			#40	0.32	99.4
			#60	2.38	95.2
			#100	9.17	81.4
			#140	15.26	69.0
			#200	20.07	59.3

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 49.3

Hygroscopic moisture correction:

Moist weight and tare = 30.23

Dry weight and tare = 29.81

Tare weight = 15.60

Hygroscopic moisture = 3.0%

Table of composite correction values:

Temp., deg. C: 10.5 29.5

Comp. corr.: -8.0 -3.5

Meniscus correction only = 1.0

Specific gravity of solids = 2.700

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.4	28.0	22.6	0.0132	29.0	11.5	0.0317	46.6
5.00	21.5	26.5	21.1	0.0132	27.5	11.8	0.0203	43.6
15.00	21.5	24.5	19.1	0.0132	25.5	12.1	0.0119	39.5
30.00	21.4	24.0	18.6	0.0132	25.0	12.2	0.0084	38.4
60.00	21.4	23.0	17.6	0.0132	24.0	12.4	0.0060	36.3
240.00	22.1	20.0	14.7	0.0131	21.0	12.9	0.0030	30.5
1440.00	23.3	19.0	14.0	0.0129	20.0	13.0	0.0012	29.0

MACTEC, Inc.

Fractional Components

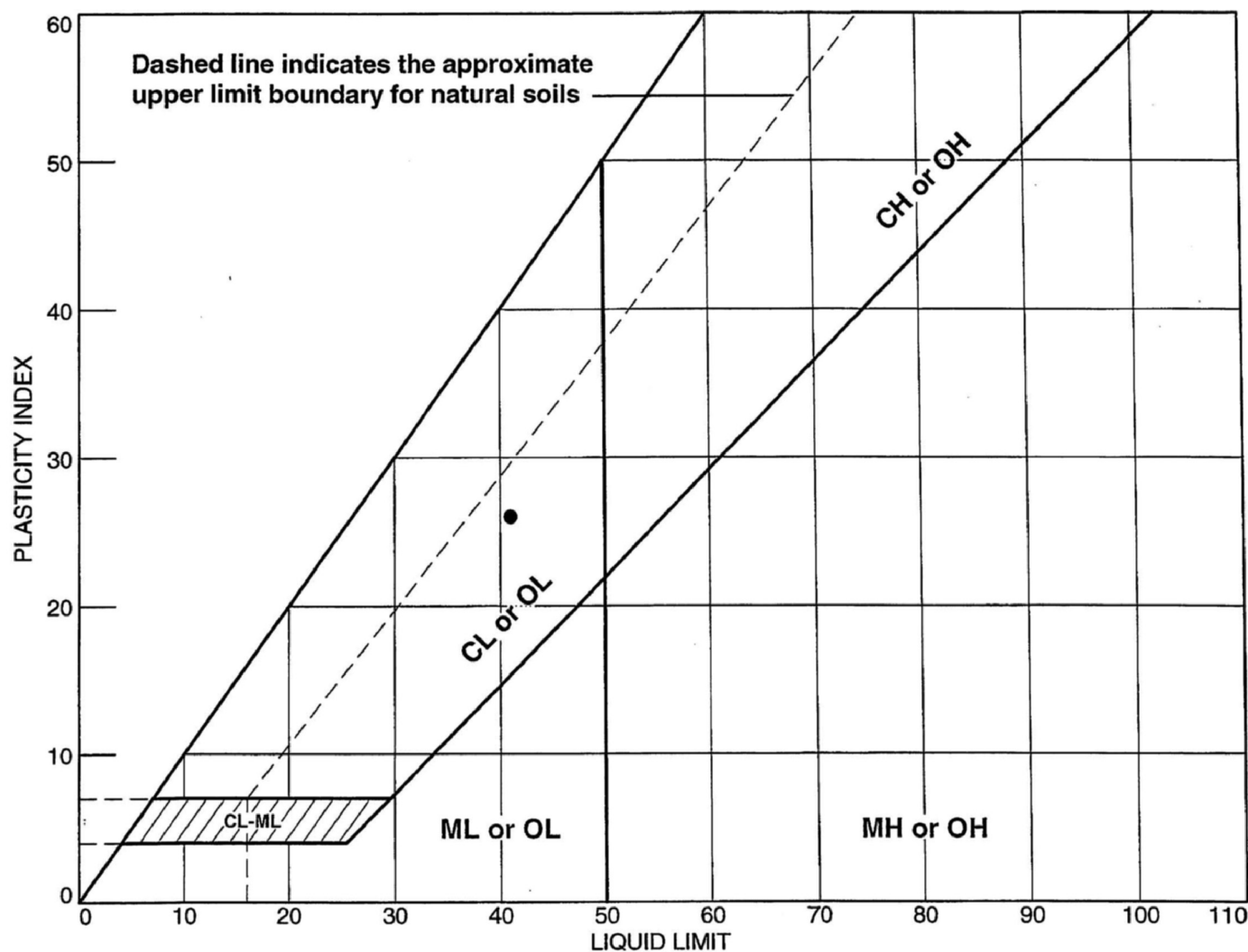
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.6	40.1	40.7	24.6	34.7	59.3

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0023	0.0444	0.0773	0.1442	0.1670	0.1978	0.2475

Fineness Modulus
0.21

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
•	Boring B-2269	SS-29	161.7-163.2'	23.2	15	41	26	CL

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project No.: 6468071777

Figure **NA**

Tested By: CS

Checked By: LBJ

DSC 1-25-08

LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 161.7-163.2'

Sample Number: SS-29

Material Description: Light Gray Sandy Lean CLAY

USCS: CL

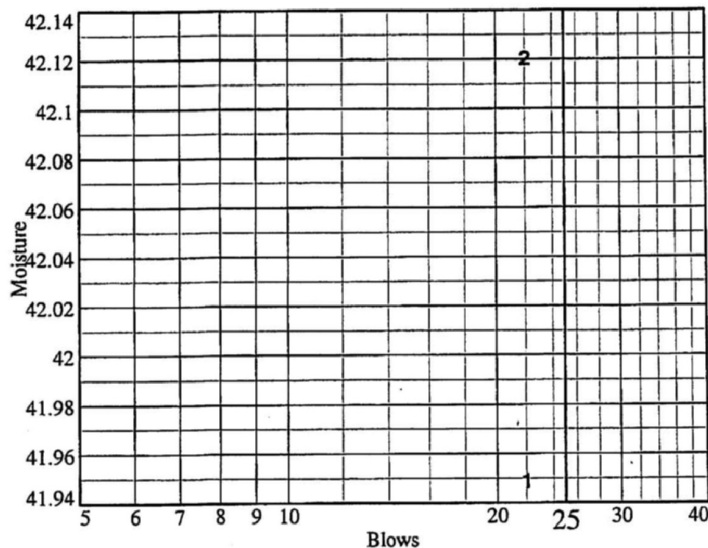
AASHTO: A-7-6(12)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	28.90	34.80				
Dry+Tare	24.94	29.08				
Tare	15.50	15.50				
# Blows	22	22				
Moisture	41.9	42.1				



Liquid Limit= 41
 Plastic Limit= 15
 Plasticity Index= 26
 Natural Moisture= 23.2
 Liquidity Index= 0.3

Plastic Limit Data

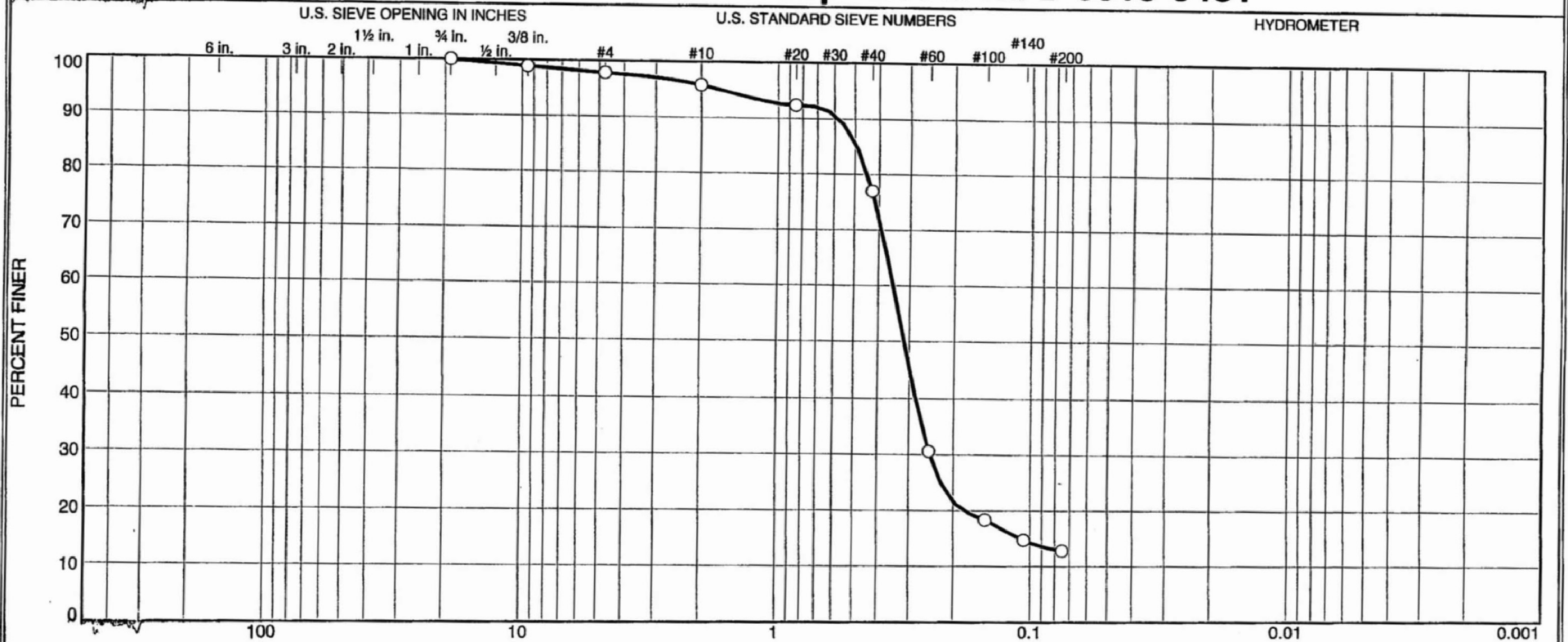
Run No.	1	2	3	4
Wet+Tare	23.26	24.48		
Dry+Tare	22.30	23.30		
Tare	15.51	15.44		
Moisture	14.1	15.0		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
120.00	98.71	6.80	23.2

MACTEC, Inc.

Particle Size Distribution Report / ASTM D 6913-04e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.2	1.9	18.9	64.2	12.8	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2269	SS-30	171.7-173.2'	11/10/07	SM	Pale Yellow Silty SAND (Visual)	ND	ND	ND

Client Bechtel		MACTEC, Inc.	○ SIEVE ANALYSIS ONLY. ND = Not determined.
Project Exelon Texas COL (Victoria)			
Project No. 6468071777	Figure NA	Raleigh, North Carolina	

Tested By: CS

Checked By: LBJ DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/25/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 171.7-173.2'

Sample Number: SS-30

Material Description: Pale Yellow Silty SAND (Visual)

Date: 11/10/07

Natural Moisture: ND

Liquid Limit: ND

Plastic Limit: ND

USCS Class.: SM

Testing Remarks: SIEVE ANALYSIS ONLY.

ND = Not determined.

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
294.29	0.00	0.00	3/4	0.00	100.0
			3/8"	3.18	98.9
			#4	6.33	97.8
			#10	12.18	95.9
104.22	0.00	0.00	#20	3.76	92.4
			#40	20.54	77.0
			#60	70.87	30.7
			#100	84.27	18.3
			#140	88.23	14.7
			#200	90.31	12.8

Fractional Components

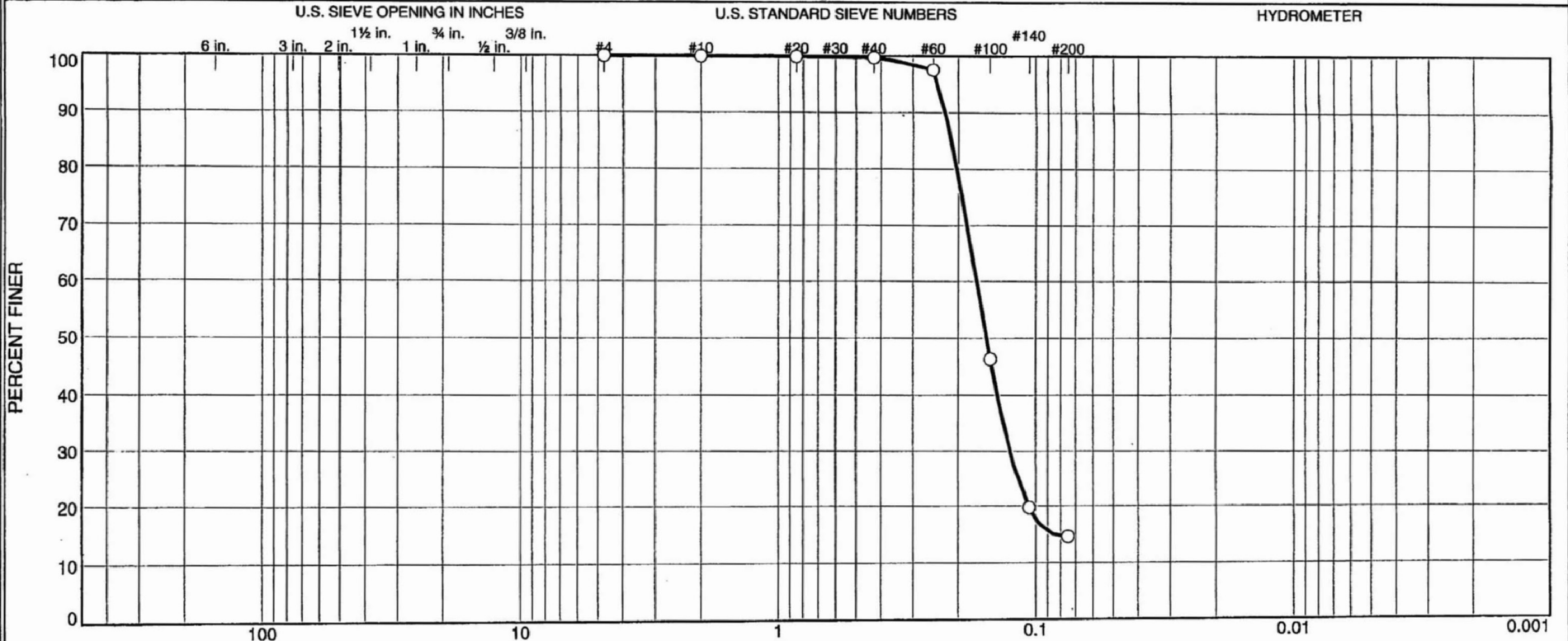
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	2.2	2.2	1.9	18.9	64.2	85.0			12.8

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
	0.1094	0.1808	0.2473	0.3150	0.3491	0.4451	0.4902	0.5766	1.6658

Fineness Modulus
1.59

MACTEC, Inc.

Particle Size Distribution Report / ASTM D 6913-04e1



GRAIN SIZE - mm.

% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.3	85.1	14.6	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2269	SS-31	181.7-183.2'	11/10/07	SM	Brownish Yellow Silty SAND (Visual)	ND	ND	ND

Client Bechtel		MACTEC, Inc. Raleigh, North Carolina	○ SIEVE ANALYSIS ONLY ND= Not determined.
Project Exelon Texas COL (Victoria)			
Project No. 6468071777	Figure NA		

Tested By: CS

Checked By: LBJ

DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/25/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 181.7-183.2'

Sample Number: SS-31

Material Description: Brownish Yellow Silty SAND (Visual)

Date: 11/10/07

Natural Moisture: ND

Liquid Limit: ND

Plastic Limit: ND

USCS Class.: SM

Testing Remarks: SIEVE ANALYSIS ONLY

ND= Not determined.

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
284.50	0.00	0.00	#4	0.00	100.0
			#10	0.10	100.0
106.85	0.00	0.00	#20	0.08	99.9
			#40	0.25	99.7
			#60	2.60	97.5
			#100	57.39	46.3
			#140	85.80	19.7
			#200	91.25	14.6

Fractional Components

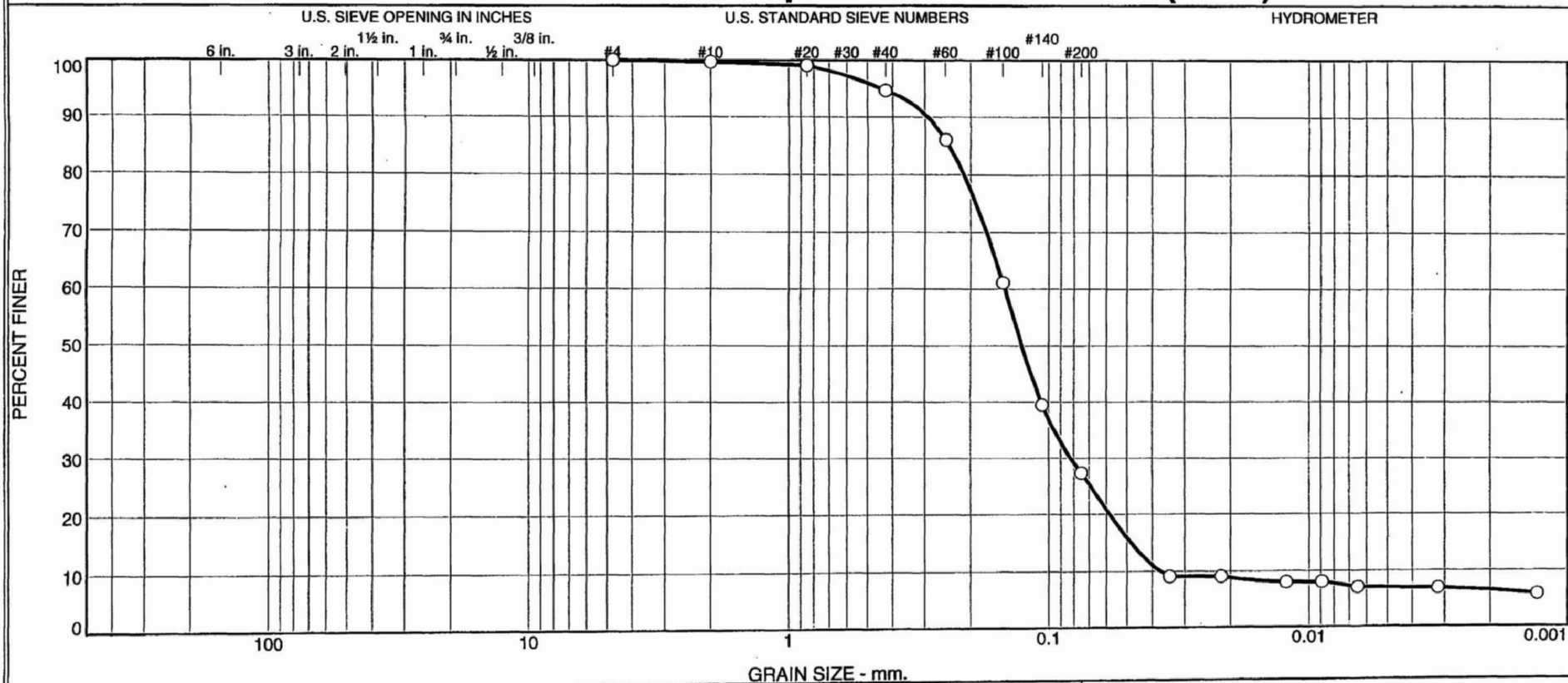
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.3	85.1	85.4			14.6

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
	0.0854	0.1068	0.1257	0.1553	0.1697	0.2028	0.2130	0.2250	0.2401

Fineness Modulus
0.56

MACTEC, Inc.

Particle Size Distribution Report / ASTM D-422-63(2002)e1



GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 201.7-203.2'

Sample Number: SS-33

Material Description: Pale Yellow Silty, Clayey SAND

Date: 11/10/07

Natural Moisture: 27.6

Liquid Limit: 18

Plastic Limit: 12

USCS Class.: SC-SM

Testing Remarks: Specific gravity is assumed.

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
246.71	0.00	0.00	#4	0.00	100.0
			#10	0.70	99.7
97.27	0.00	0.00	#20	0.58	99.1
			#40	4.94	94.7
			#60	13.22	86.2
			#100	37.64	61.1
			#140	58.78	39.5
			#200	70.60	27.3

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 99.7

Weight of hydrometer sample = 97.27

Hygroscopic moisture correction:

Moist weight and tare = 26.97

Dry weight and tare = 26.76

Tare weight = 15.49

Hygroscopic moisture = 1.9%

Table of composite correction values:

Temp., deg. C: 10.5 29.5

Comp. corr.: -8.0 -3.5

Meniscus correction only = 1.0

Specific gravity of solids = 2.700

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.5	14.0	8.8	0.0130	15.0	13.8	0.0343	9.1
5.00	22.4	14.0	8.8	0.0131	15.0	13.8	0.0217	9.1
16.00	22.4	13.0	7.8	0.0131	14.0	14.0	0.0122	8.1
30.00	22.5	13.0	7.8	0.0130	14.0	14.0	0.0089	8.1
57.00	22.7	12.0	6.9	0.0130	13.0	14.2	0.0065	7.1
240.00	22.1	12.0	6.7	0.0131	13.0	14.2	0.0032	7.0
1440.00	21.8	11.0	5.7	0.0131	12.0	14.3	0.0013	5.9

MACTEC, Inc.

Fractional Components

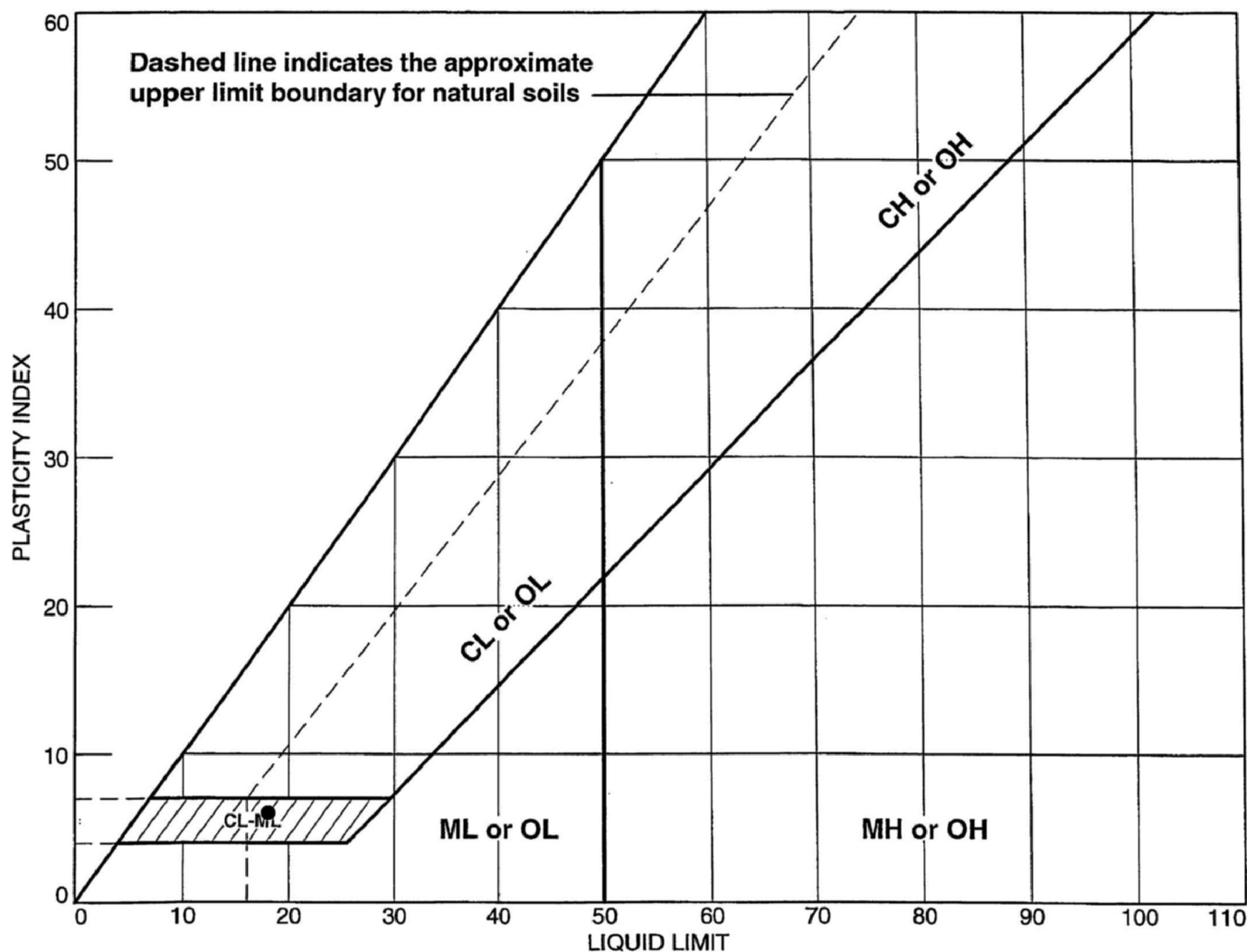
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.3	5.0	67.4	72.7	20.2	7.1	27.3

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.0372	0.0483	0.0583	0.0823	0.1268	0.1474	0.2119	0.2411	0.2914	0.4433

Fineness Modulus	C _u	C _c
0.52	3.96	1.23

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring B-2269	SS-33	201.7-203.2'	27.6	12	18	6	SC-SM

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project No.: 6468071777

Figure NA

Tested By: CS

Checked By: LBJ DSC 1-25-08

LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 201.7-203.2'

Sample Number: SS-33

Material Description: Pale Yellow Silty, Clayey SAND

USCS: SC-SM

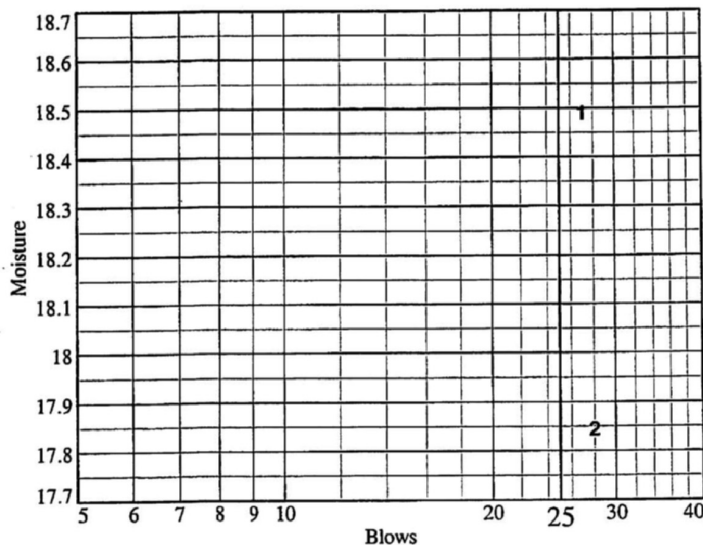
AASHTO: A-2-4(0)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	34.34	31.07				
Dry+Tare	31.40	28.70				
Tare	15.50	15.42				
# Blows	27	28				
Moisture	18.5	17.8				



Liquid Limit= 18
 Plastic Limit= 12
 Plasticity Index= 6
 Natural Moisture= 27.6
 Liquidity Index= 2.6

Plastic Limit Data

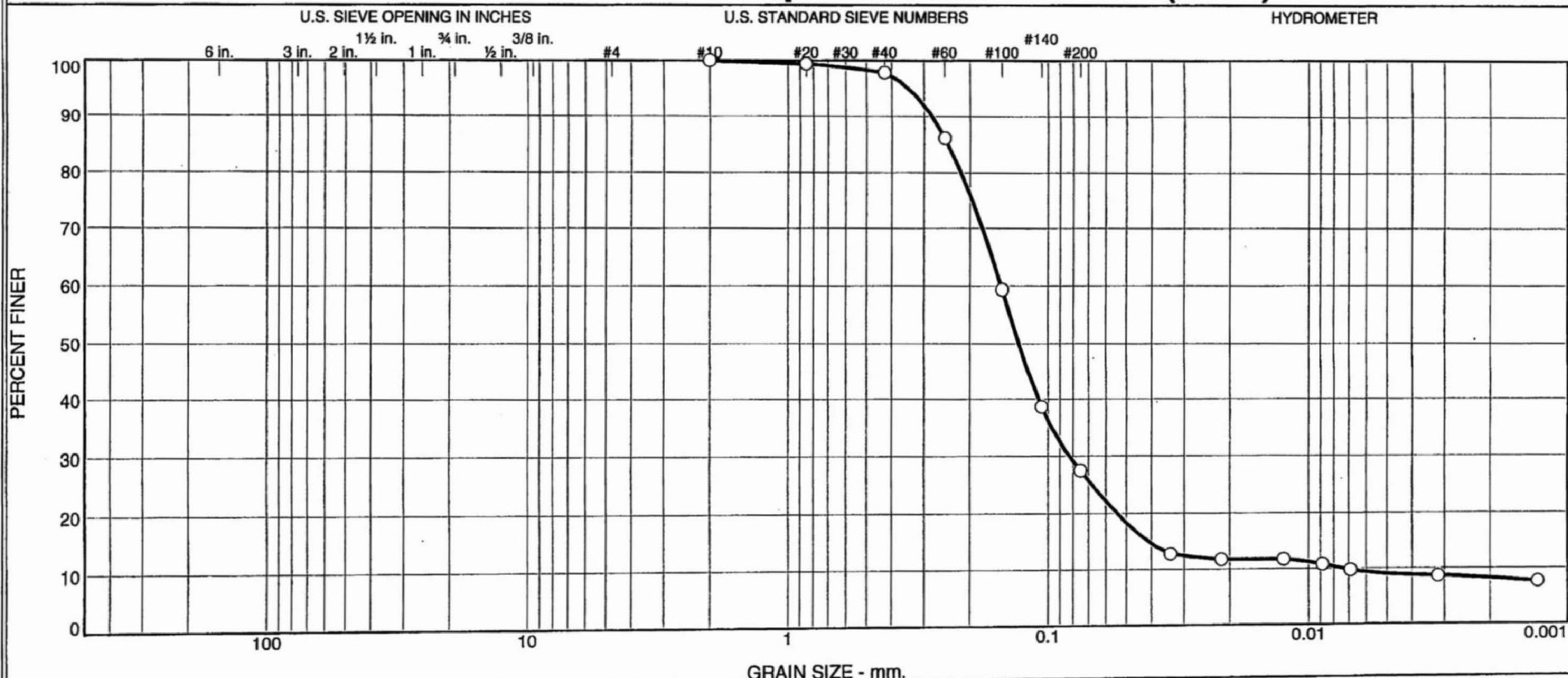
Run No.	1	2	3	4
Wet+Tare	29.36	24.72		
Dry+Tare	27.90	23.75		
Tare	15.25	15.57		
Moisture	11.5	11.9		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
126.71	100.80	6.87	27.6

MACTEC, Inc.

Particle Size Distribution Report / ASTM D-422-63(2002)e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.2	70.2	18.5	9.1

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2269	SS-34	221.7-223.2'	1/10/07	SC	Light Gray Clayey SAND	21.1	25	14

Client Bechtel		MACTEC, Inc.	○ Specific gravity = 2.664 (ASTM D 854-06)
Project Exelon Texas COL (Victoria)			
Project No. 6468071777	Figure NA	Raleigh, North Carolina	

Tested By: CS

Checked By: LBJ

DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 221.7-223.2'

Sample Number: SS-34

Material Description: Light Gray Clayey SAND

Date: 1/10/07

Natural Moisture: 21.1

Liquid Limit: 25

Plastic Limit: 14

USCS Class.: SC

Testing Remarks: Specific gravity = 2.664 (ASTM D 854-06)

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
248.95	0.00	0.00	#10	0.00	100.0
102.34	0.00	0.00	#20	0.61	99.4
			#40	2.21	97.8
			#60	14.10	86.2
			#100	41.56	59.4
			#140	62.78	38.7
			#200	74.13	27.6

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 102.34

Hygroscopic moisture correction:

Moist weight and tare = 26.71

Dry weight and tare = 26.50

Tare weight = 15.54

Hygroscopic moisture = 1.9%

Table of composite correction values:

Temp., deg. C: 10.5 29.5

Comp. corr.: -8.0 -3.5

Meniscus correction only = 1.0

Specific gravity of solids = 2.664

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.5	18.0	12.8	0.0132	19.0	13.2	0.0338	12.7
5.00	22.4	17.0	11.8	0.0132	18.0	13.3	0.0216	11.7
15.00	22.3	17.0	11.8	0.0132	18.0	13.3	0.0125	11.7
30.00	22.6	16.0	10.9	0.0132	17.0	13.5	0.0088	10.8
50.00	22.6	15.0	9.9	0.0132	16.0	13.7	0.0069	9.8
240.00	22.3	14.0	8.8	0.0132	15.0	13.8	0.0032	8.7
1440.00	22.1	13.0	7.7	0.0132	14.0	14.0	0.0013	7.7

MACTEC, Inc.

Fractonal Components

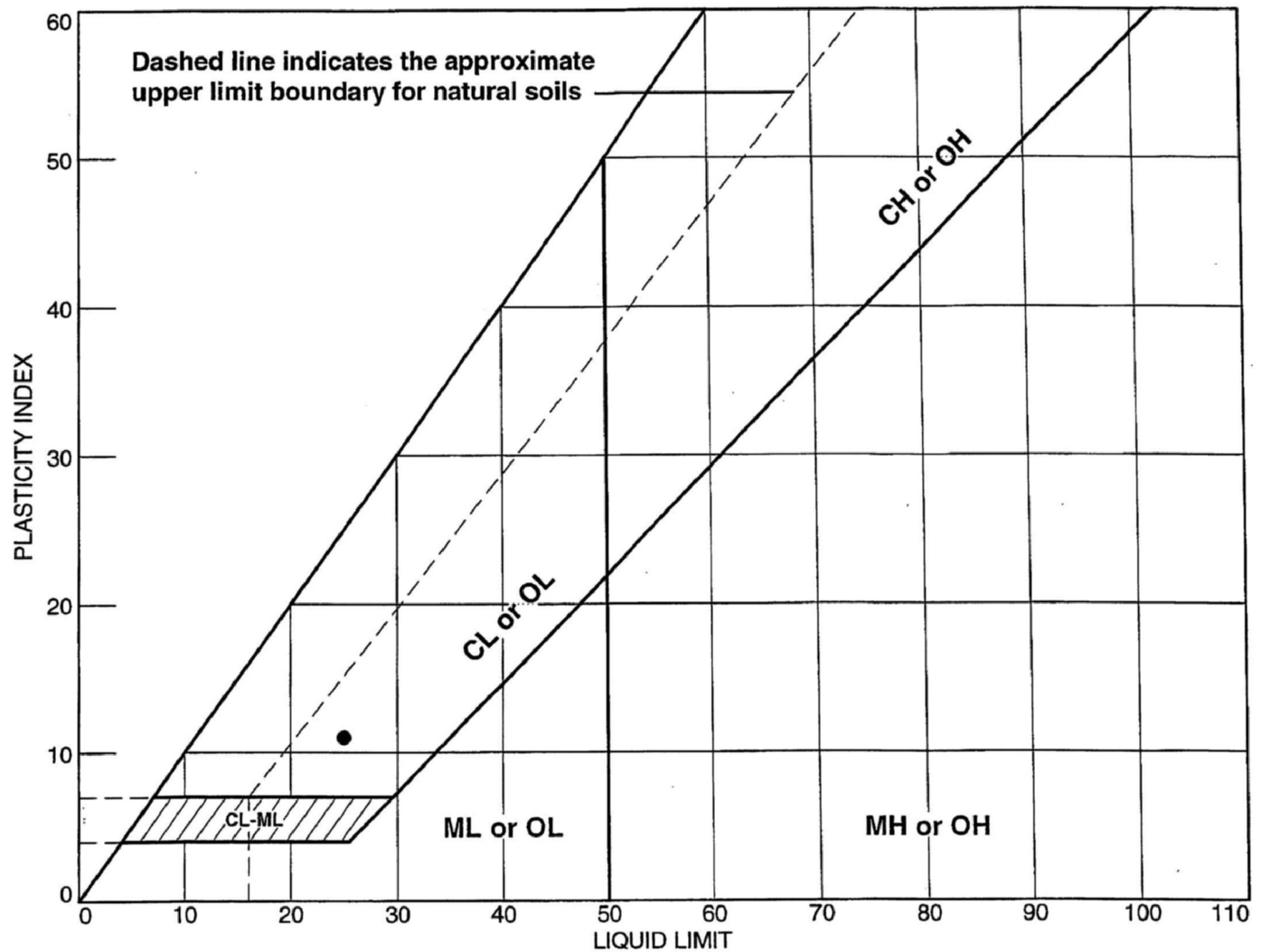
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	2.2	70.2	72.4	18.5	9.1	27.6

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.0073	0.0411	0.0541	0.0826	0.1296	0.1514	0.2161	0.2423	0.2796	0.3448

Fineness Modulus	C _u	C _c
0.50	20.82	6.20

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
•	Boring B-2269	SS-34	221.7-223.2'	21.1	14	25	11	SC

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project No.: 6468071777

Figure **NA**

Tested By: CS

Checked By: LBJ DSC 1-25-08

LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 221.7-223.2'

Sample Number: SS-34

Material Description: Light Gray Clayey SAND

USCS: SC

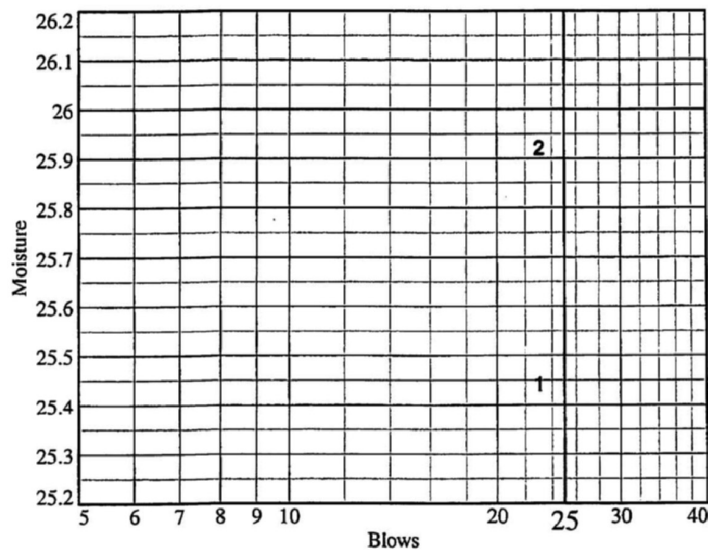
AASHTO: A-2-6(0)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	26.80	31.87				
Dry+Tare	24.50	28.50				
Tare	15.46	15.50				
# Blows	23	23				
Moisture	25.4	25.9				



Liquid Limit= 25
 Plastic Limit= 14
 Plasticity Index= 11
 Natural Moisture= 21.1
 Liquidity Index= 0.6

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	22.55	24.43		
Dry+Tare	21.70	23.36		
Tare	15.58	15.51		
Moisture	13.9	13.6		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
140.84	117.90	9.20	21.1

MACTEC, Inc.

MACTEC ENGINEERING AND CONSULTING, INC.
RALEIGH, NORTH CAROLINA

REPORT OF THE STANDARD TEST METHOD FOR SPECIFIC GRAVITY OF SOILS
Performed in General Accordance with ASTM D 854-06 (Method B)

PROJECT NAME: EXELON COL PROJECT [VICTORIA]

PROJECT NUMBER: 6468071777

DATE: 11/23/07

SAMPLE IDENTIFICATION: B-2269 SS-34

(A) Mass of oven-dried soil, grams:	52.50
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.70
(C) Mass of pycnometer, water and soil, grams:	689.50
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	22.2
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.665
(F) <i>Correction factor:</i>	0.99952
(G x F) SPECIFIC GRAVITY @ 20°C:	2.664

MATERIAL TESTED:

☒ X
- # 4

☐
- # 10

PREPARATION METHOD:

☒ X
DRY

☐
WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100%
Clayey SAND (SC)

EQUIPMENT USED

SCALES : 3.1.19

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNOMETER : P-6

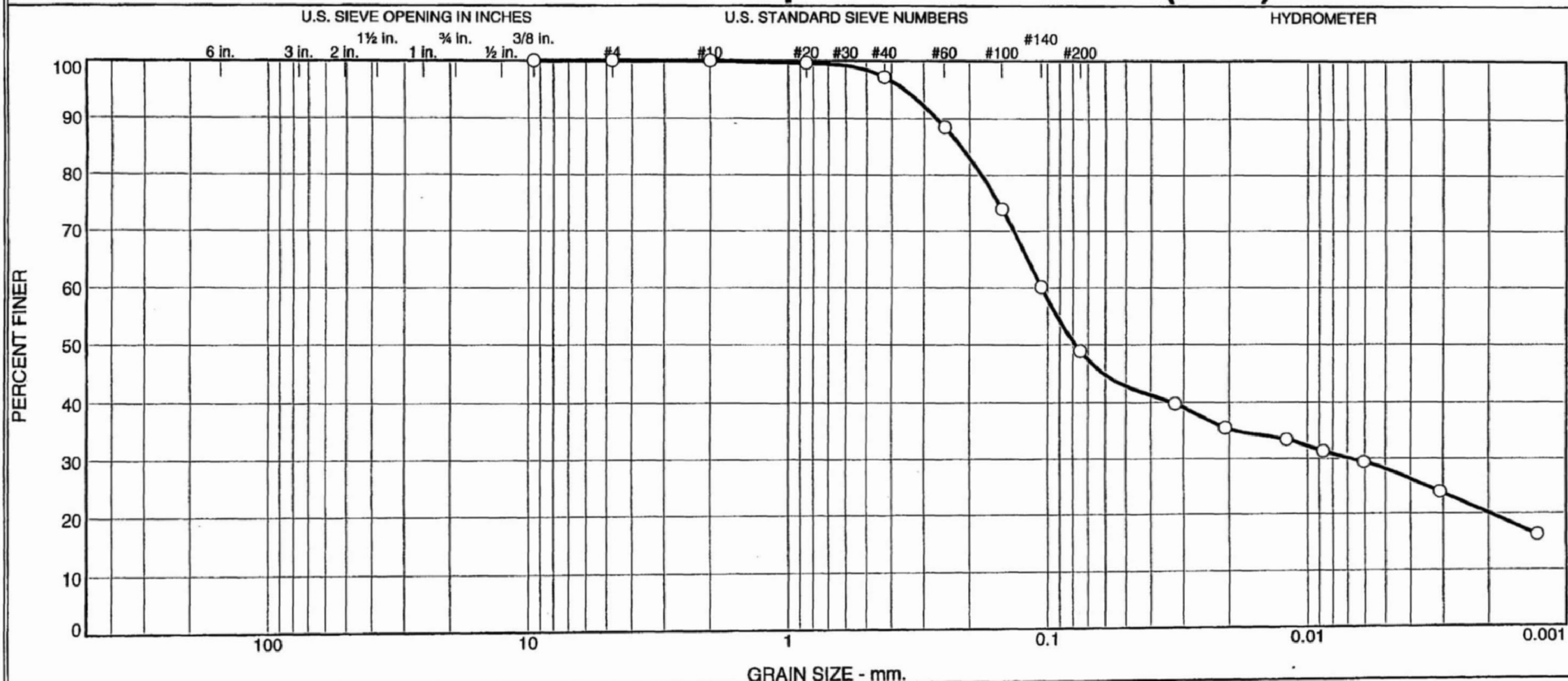
TESTED BY: CS

\\Test Reports\\Soils\\SPECIFIC GRAVITY(ref).xls

REVIEWED BY: Brian Johnson

DSC 1-25-08

Particle Size Distribution Report / ASTM D-422-63(2002)e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.8	48.3	20.8	28.1

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2269	SS-35	241.8-243'	11/11/07	SC	Light Gray Clayey SAND	15.9	28	12

Client Bechtel		MACTEC, Inc.	○ Specific gravity is assumed.
Project Exelon Texas COL (Victoria)			
Project No. 6468071777	Figure NA	Raleigh, North Carolina	

Tested By: CS

Checked By: LBJ

DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2269

Depth: 241.8-243'

Sample Number: SS-35

Material Description: Light Gray Clayey SAND

Date: 11/11/07

Natural Moisture: 15.9

Liquid Limit: 28

Plastic Limit: 12

USCS Class.: SC

Testing Remarks: Specific gravity is assumed.

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
236.79	0.00	0.00	3/8"	0.00	100.0
			#4	0.00	100.0
			#10	0.00	100.0
47.79	0.00	0.00	#20	0.19	99.6
			#40	1.36	97.2
			#60	5.48	88.5
			#100	12.45	73.9
			#140	19.07	60.1
			#200	24.43	48.9

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 47.79

Hygroscopic moisture correction:

Moist weight and tare = 26.51

Dry weight and tare = 26.27

Tare weight = 15.61

Hygroscopic moisture = 2.3%

Table of composite correction values:

Temp., deg. C: 10.5 29.5

Comp. corr.: -8.0 -3.5

Meniscus correction only = 1.0

Specific gravity of solids = 2.700

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.3	24.0	18.8	0.0131	25.0	12.2	0.0323	39.8
5.00	22.3	22.0	16.8	0.0131	23.0	12.5	0.0207	35.5
15.00	22.3	21.0	15.8	0.0131	22.0	12.7	0.0120	33.4
29.00	22.4	20.0	14.8	0.0131	21.0	12.9	0.0087	31.4
60.00	22.7	19.0	13.9	0.0130	20.0	13.0	0.0061	29.4
240.00	22.4	16.5	11.3	0.0131	17.5	13.4	0.0031	23.9
1440.00	21.9	13.0	7.7	0.0131	14.0	14.0	0.0013	16.3

MACTEC, Inc.