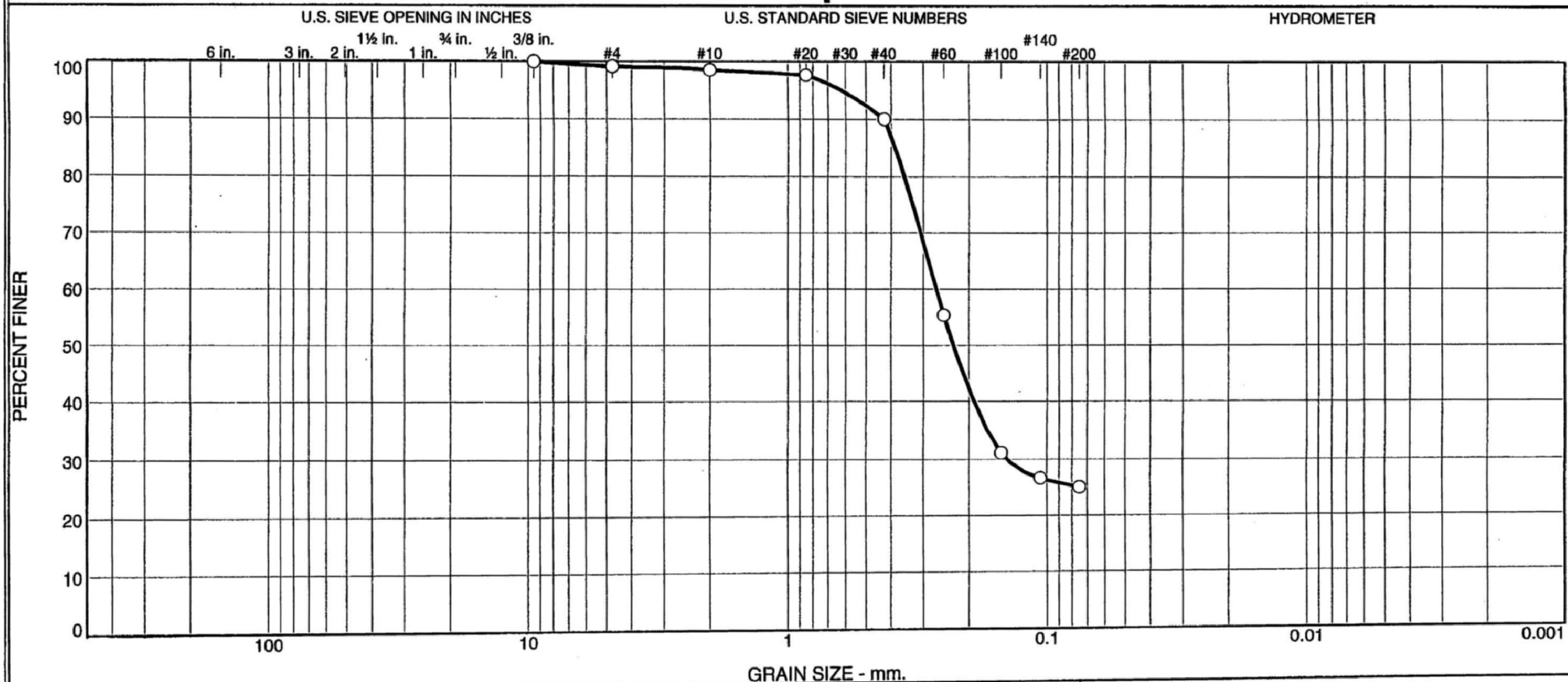


Particle Size Distribution Report / ASTM D- 6913-04e1



GRAIN SIZE - mm.

% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	0.6	8.5	65.0	25.1	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2251	SS-24	108.5-110'	12-03-07	SC	Light Brownish Gray Clayey SAND (Visual)	ND	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777

Figure NA

MACTEC, Inc.
Raleigh, North Carolina

○ Specific Gravity = 2.685 (ASTM D854-06)
 SIEVE ANALYSIS ONLY
 ND = Not Determined

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-2251

Depth: 108.5-110'

Sample Number: SS-24

Material Description: Light Brownish Gray Clayey SAND (Visual)

Date: 12-03-07

Natural Moisture: ND

Liquid Limit: ND

Plastic Limit: ND

USCS Class.: SC

Testing Remarks: Specific Gravity = 2.685 (ASTM D854-06)

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
177.81	0.00	0.00	3/8"	0.00	100.0
			#4	1.46	99.2
			#10	2.53	98.6
93.22	0.00	0.00	#20	0.85	97.7
			#40	8.05	90.1
			#60	40.82	55.4
			#100	63.75	31.2
			#140	67.94	26.7
			#200	69.47	25.1

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.8	0.8	0.6	8.5	65.0	74.1			25.1

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.1424	0.2298	0.2672	0.3548	0.3849	0.4244	0.6214

Fineness Modulus
1.10

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: 1/8/08

SAMPLE IDENTIFICATION: B-2251 SS-24

(A) Mass of oven-dried soil, grams:	76.93
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.56
(C) Mass of pycnometer, water and soil, grams:	704.86
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.4
(G) Specific Gravity at observed temperature:	$A / [A + (B - C)]$ 2.687
(F) Correction factor:	0.99924
(G x F) SPECIFIC GRAVITY @ 20°C:	2.685

MATERIAL TESTED:

☒ X

- # 4

☐

- # 10

PREPARATION METHOD:

☒ X

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100%

Clayey SAND (SC) - visual

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNOMETER : P-6

TESTED BY: CS

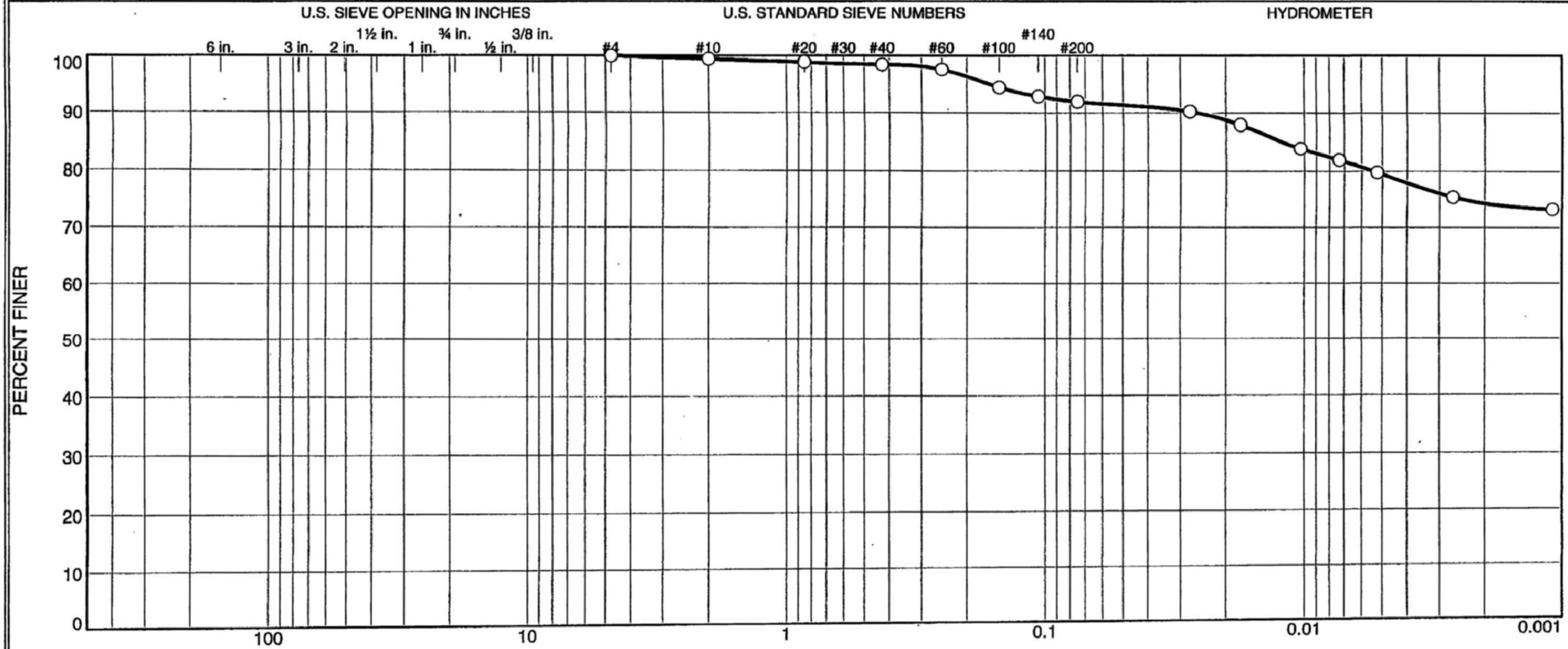
\\Test Reports\\Soils\\SPECIFIC GRAVITY(ref).xls

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	0.6	0.9	6.6	12.5	79.4

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2251	SS-25	118.5-120'	12-03-07	CH	Greenish Gray Fat CLAY	33.3	69	23

Client Bechtel		MACTEC, Inc. Raleigh, North Carolina	Specific Gravity = 2.711 (ASTM D854-06) Organic content = 2.9% (ASTM D2794-07)
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-2251

Depth: 118.5-120'

Sample Number: SS-25

Material Description: Greenish Gray Fat CLAY

Date: 12-03-07

Natural Moisture: 33.3

Liquid Limit: 69

Plastic Limit: 23

USCS Class.: CH

Testing Remarks: Specific Gravity = 2.711 (ASTM D854-06)

Organic content = 2.9% (ASTM D2794-07)

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
155.13	0.00	0.00	#4	0.00	100.0
			#10	0.87	99.4
47.32	0.00	0.00	#20	0.27	98.9
			#40	0.46	98.5
			#60	0.87	97.6
			#100	2.41	94.4
			#140	3.15	92.8
			#200	3.58	91.9

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 99.4

Weight of hydrometer sample = 47.32

Hygroscopic moisture correction:

Moist weight and tare = 27.34

Dry weight and tare = 26.70

Tare weight = 15.42

Hygroscopic moisture = 5.7%

Table of composite correction values:

Temp., deg. C: 12.3 27.3

Comp. corr.: -7.0 -3.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.711

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	20.5	46.0	41.2	0.0133	47.0	8.6	0.0276	90.2
5.00	20.5	45.0	40.2	0.0133	46.0	8.8	0.0176	88.0
15.00	20.9	43.0	38.3	0.0133	44.0	9.1	0.0103	83.9
30.00	21.3	42.0	37.4	0.0132	43.0	9.2	0.0073	81.9
60.00	21.3	41.0	36.4	0.0132	42.0	9.4	0.0052	79.7
240.00	21.3	39.0	34.4	0.0132	40.0	9.7	0.0027	75.4
1440.00	21.4	38.0	33.4	0.0132	39.0	9.9	0.0011	73.2

MACTEC, Inc.

Fractional Components

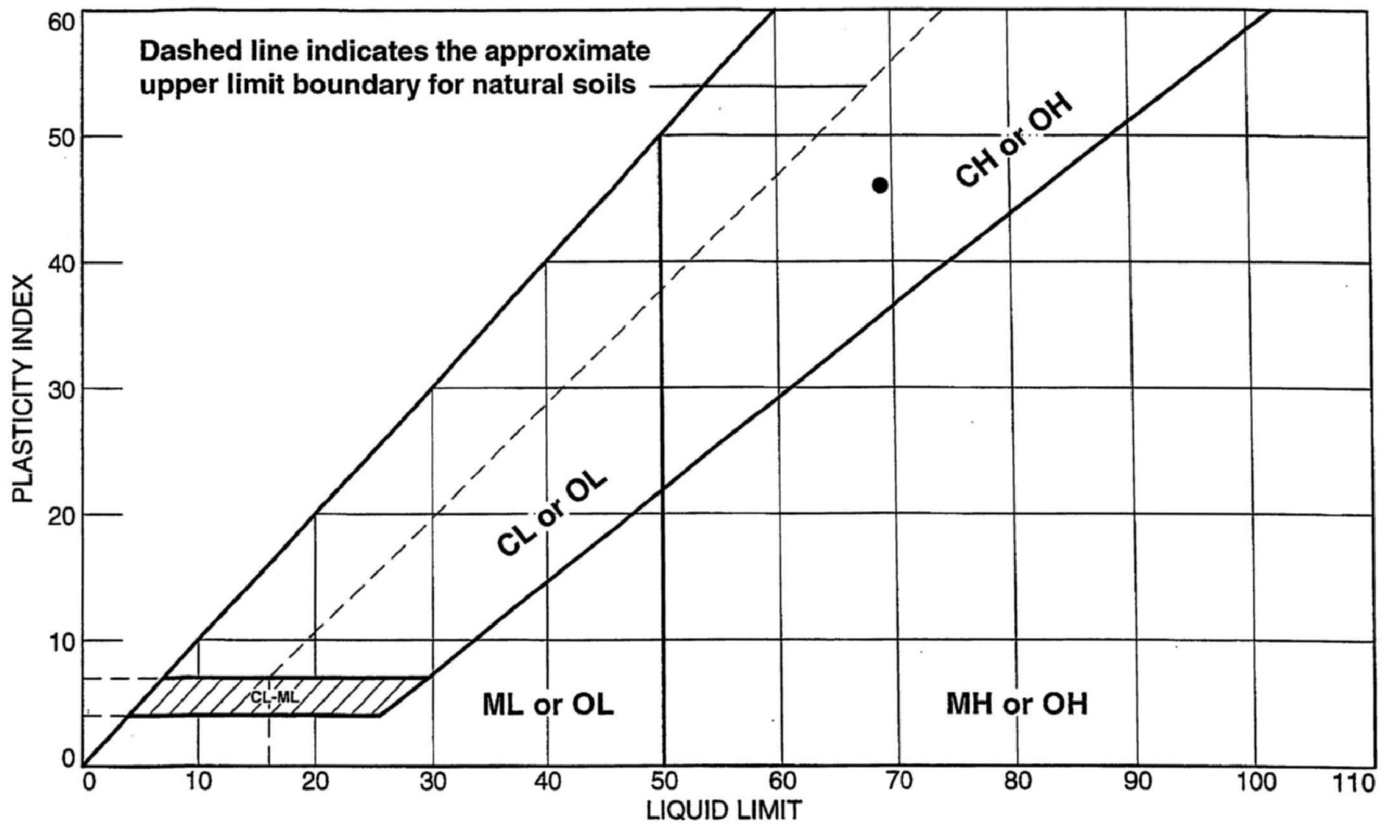
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.6	0.9	6.6	8.1	12.5	79.4	91.9

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
						0.0054	0.0120	0.0258	0.1654

Fineness Modulus
0.10

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
•	Boring B-2251	SS-25	118.5-120'	33.3	23	69	46	CH

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-2251

Depth: 118.5-120'

Sample Number: SS-25

Material Description: Greenish Gray Fat CLAY

USCS: CH

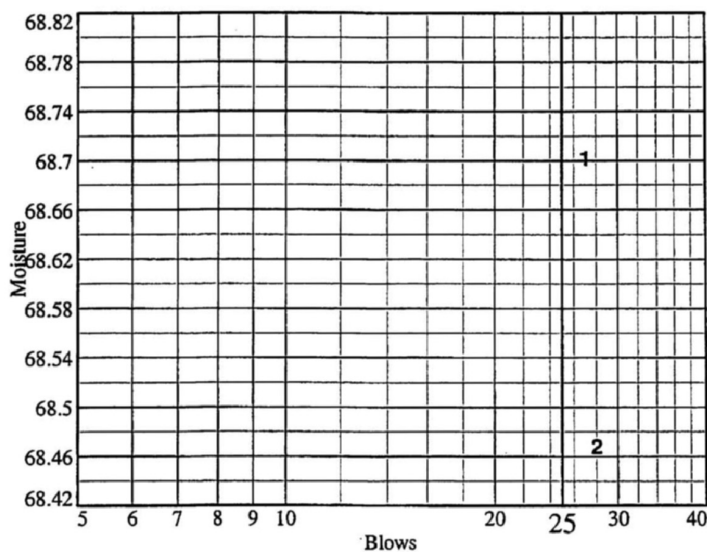
AASHTO: A-7-6(47)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	22.12	22.98				
Dry+Tare	19.42	19.94				
Tare	15.49	15.50				
# Blows	27	28				
Moisture	68.7	68.5				



Liquid Limit= 69
 Plastic Limit= 23
 Plasticity Index= 46
 Natural Moisture= 33.3
 Liquidity Index= 0.2

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	24.44	25.55		
Dry+Tare	22.72	23.66		
Tare	15.43	15.55		
Moisture	23.6	23.3		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
145.04	110.50	6.85	33.3

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: 1/8/08

SAMPLE IDENTIFICATION: B-2251 SS-25

(A) Mass of oven-dried soil, grams:	51.32
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.47
(C) Mass of pycnometer, water and soil, grams:	688.88
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	24.1
(G) Specific Gravity at observed temperature: $A / [A + (B - C)]$	2.714
(F) <i>Correction factor:</i>	0.99907
(G x F) SPECIFIC GRAVITY @ 20°C:	2.711

MATERIAL TESTED:

☒ X

- # 4

☐

- # 10

PREPARATION METHOD:

☒ X

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100%

Fat CLAY (CH)

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNOMETER : P-6

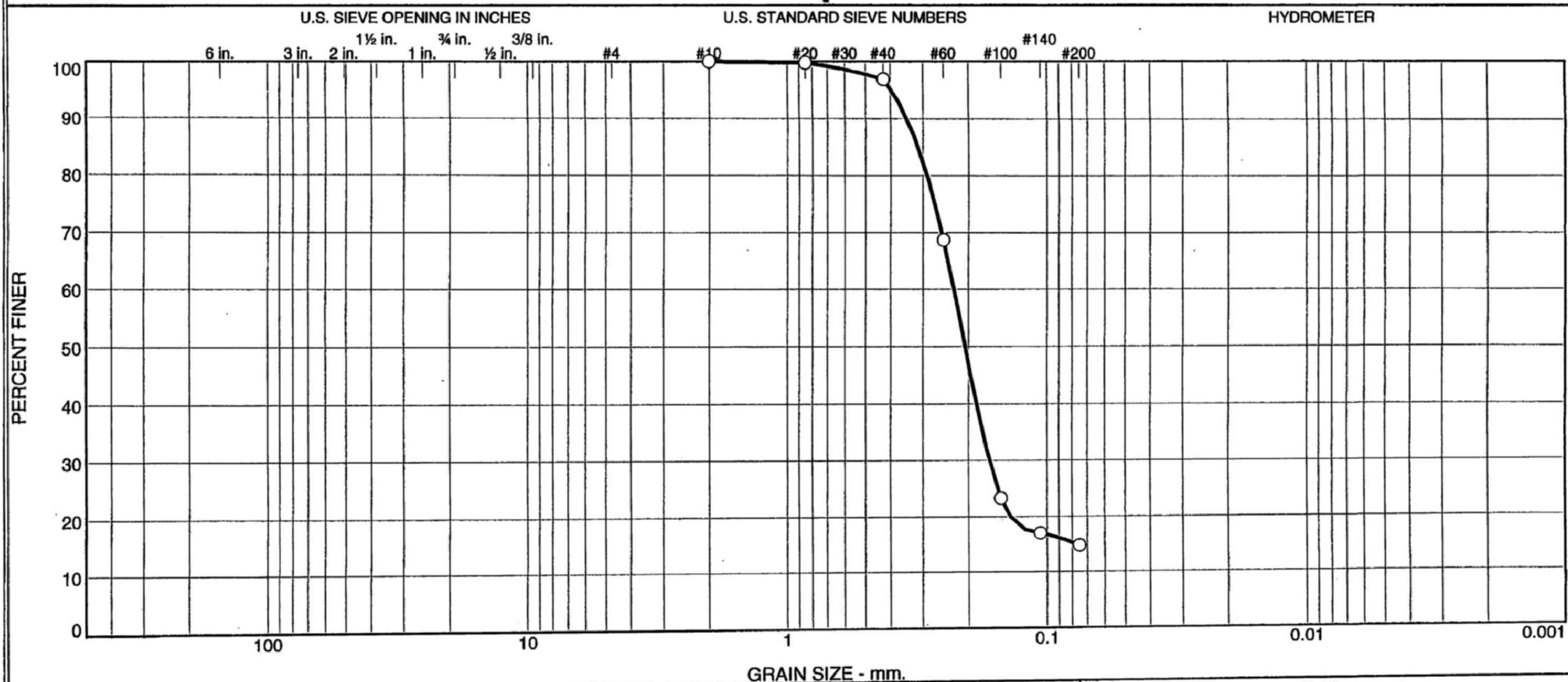
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

DSC 1-25-08

Particle Size Distribution Report / ASTM D- 6913-04e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.1	82.1	14.8	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2251	SS-27	138.5-140'	12-03-07	SC	Brown Clayey SAND (Visual)	ND	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777

Figure **NA****MACTEC, Inc.****Raleigh, North Carolina**

○ Specific gravity = 2.654 (ASTM D854-06)
 SIEVE ANALYSIS ONLY
 ND = Not Determined

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2251

Depth: 138.5-140'

Sample Number: SS-27

Material Description: Brown Clayey SAND (Visual)

Date: 12-03-07

Natural Moisture: ND

Liquid Limit: ND

Plastic Limit: ND

USCS Class.: SC

Testing Remarks: Specific gravity = 2.654 (ASTM D854-06)

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
144.64	0.00	0.00	#10	0.00	100.0
101.43	0.00	0.00	#20	0.22	99.8
			#40	3.16	96.9
			#60	31.69	68.8
			#100	77.79	23.3
			#140	84.14	17.0
			#200	86.43	14.8

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	3.1	82.1	85.2			14.8

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
	0.0770	0.1381	0.1663	0.2063	0.2278	0.2891	0.3135	0.3462	0.3961

Fineness Modulus
0.96

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: 1/9/08

SAMPLE IDENTIFICATION: B-2251 SS-27

(A) Mass of oven-dried soil, grams:	75.95
(B) Mass of pycnometer filled with water at test temperature (T), grams:	654.72
(C) Mass of pycnometer, water and soil, grams:	702.07
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.9
(G) Specific Gravity at observed temperature:	$A / [A + (B - C)]$ 2.656
(F)	Correction factor: 0.99912
(G x F)	SPECIFIC GRAVITY @ 20°C: 2.654

MATERIAL TESTED:

☒ X

- # 4

☐

- # 10

PREPARATION METHOD:

☒ X

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100%

Clayey SAND (SC) - visual

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNOMETER : P-5

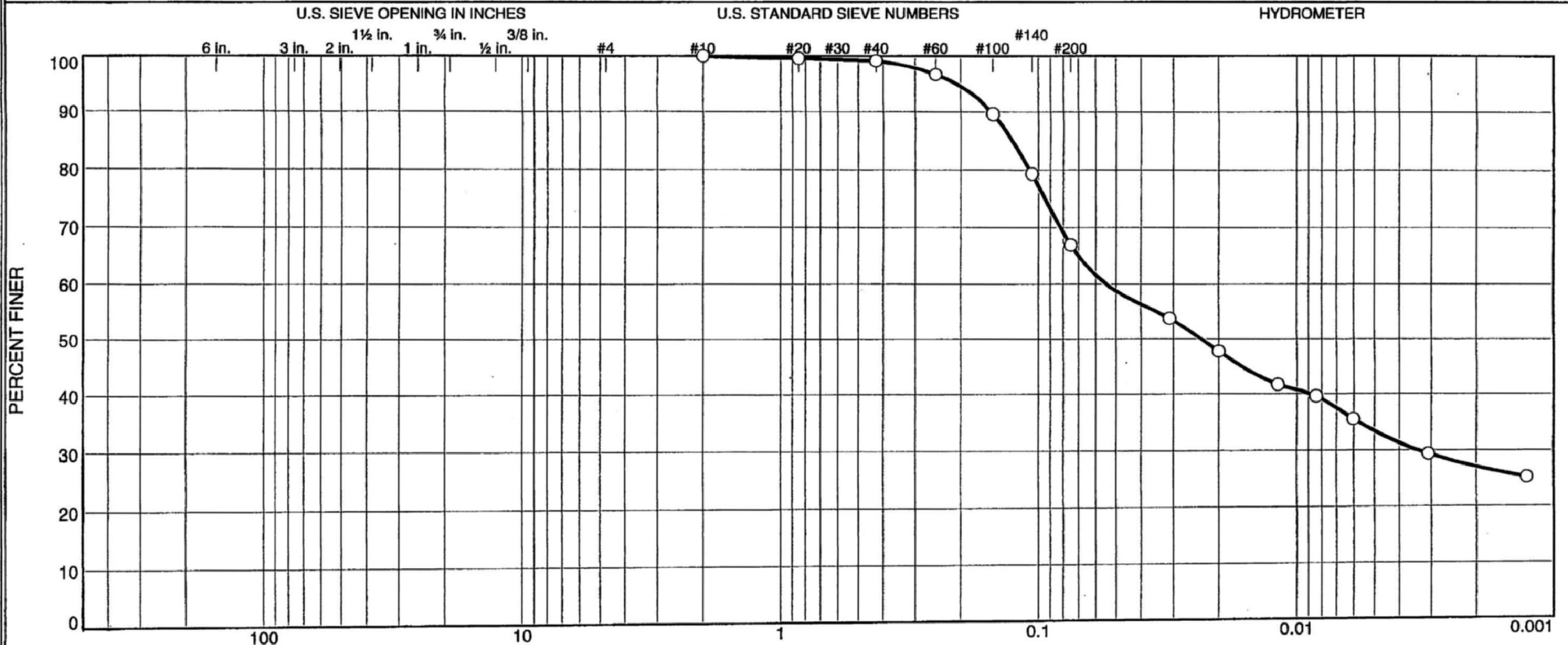
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

psc 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	0.9	32.1	33.6	33.4

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2251	SS-28	148.5-150'	12-03-07	CL	Brown Sandy Lean CLAY	21.9	36	15

Client Bechtel		MACTEC, Inc. Raleigh, North Carolina	○ Specific Gravity = 2.698 (ASTM D854-06) Organic content = 3.3% (ASTM 2794-07)
Project Exelon Texas COL (Victoria)			
Project No. 6468071777	Figure <u>NA</u>		

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2251

Depth: 148.5-150'

Sample Number: SS-28

Material Description: Brown Sandy Lean CLAY

Date: 12-03-07

Natural Moisture: 21.9

Liquid Limit: 36

Plastic Limit: 15

USCS Class.: CL

Testing Remarks: Specific Gravity = 2.698 (ASTM D854-06)

Organic content = 3.3% (ASTM 2794-07)

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
196.58	0.00	0.00	#10	0.00	100.0
49.89	0.00	0.00	#20	0.21	99.6
			#40	0.43	99.1
			#60	1.68	96.6
			#100	5.16	89.7
			#140	10.30	79.4
			#200	16.46	67.0

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 49.89

Hygroscopic moisture correction:

Moist weight and tare = 28.67

Dry weight and tare = 28.36

Tare weight = 15.92

Hygroscopic moisture = 2.5%

Table of composite correction values:

Temp., deg. C: 12.3 27.3

Comp. corr.: -7.0 -3.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.698

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	21.6	31.0	26.5	0.0132	32.0	11.0	0.0310	53.8
5.00	21.6	28.0	23.5	0.0132	29.0	11.5	0.0200	47.7
15.00	21.6	25.0	20.5	0.0132	26.0	12.0	0.0118	41.6
30.00	21.6	24.0	19.5	0.0132	25.0	12.2	0.0084	39.6
60.00	21.6	22.0	17.5	0.0132	23.0	12.5	0.0060	35.5
240.00	21.5	19.0	14.5	0.0132	20.0	13.0	0.0031	29.4
1440.00	21.4	17.0	12.4	0.0132	18.0	13.3	0.0013	25.3

MACTEC, Inc.

Fractional Components

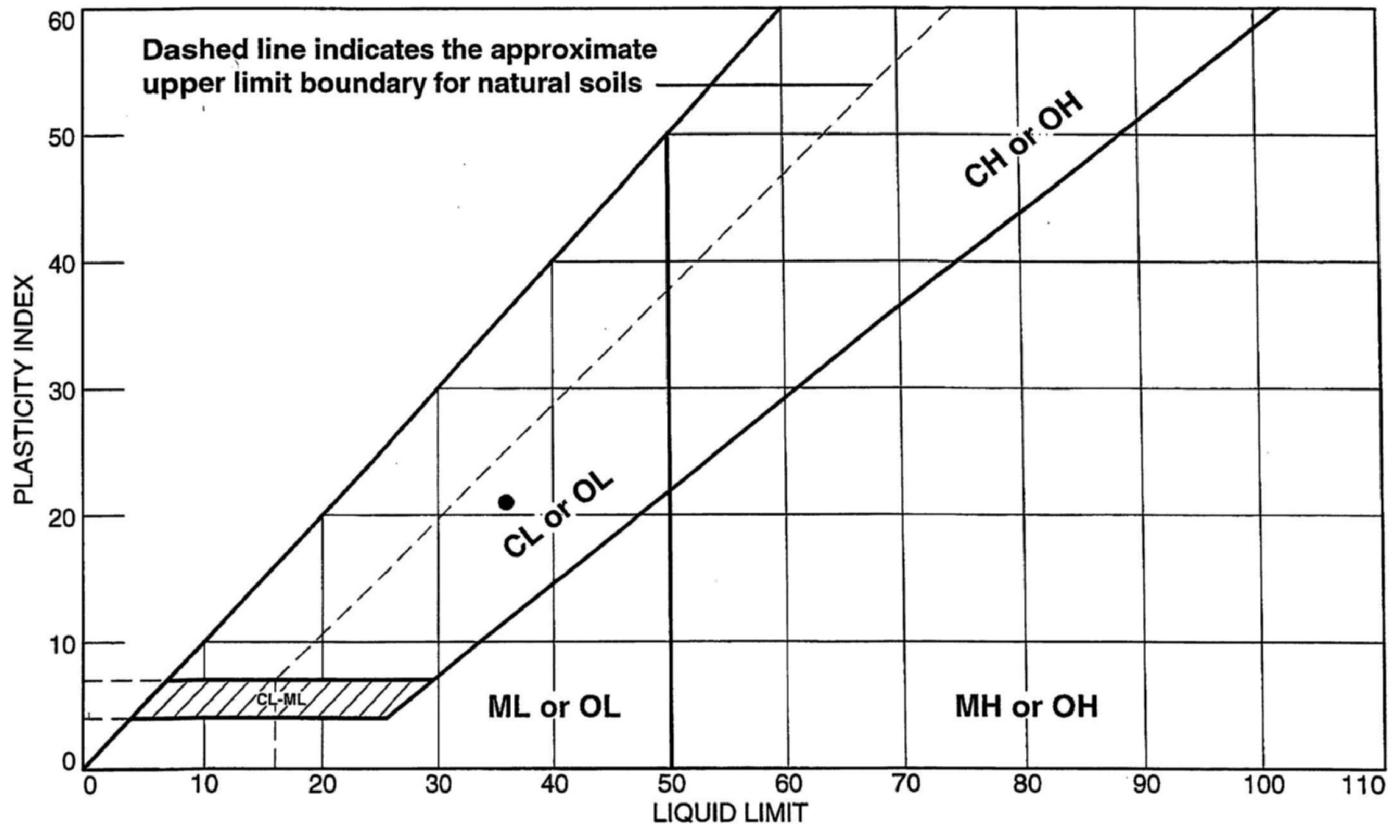
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.9	32.1	33.0	33.6	33.4	67.0

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0034	0.0234	0.0545	0.1079	0.1258	0.1523	0.2088

Fineness Modulus
0.13

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
•	Boring B-2251	SS-28	148.5-150'	21.9	15	36	21	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