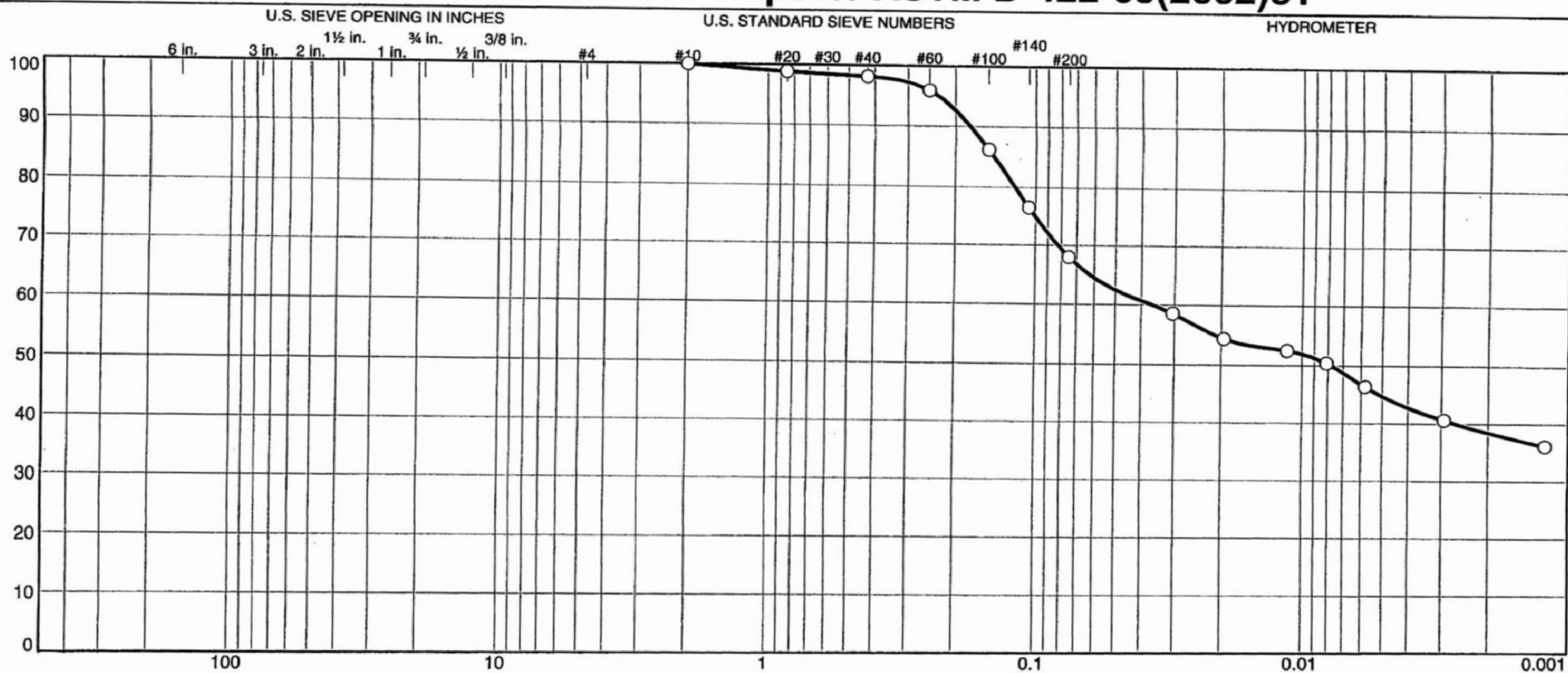


Particle Size Distribution Report / ASTM D-422-63(2002)e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.9	30.1	23.3	44.7

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2160	SS-5	11-12.5	11-11-07	CL	Pale Brown Sandy Lean CLAY	13.3	40	13

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

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DCN# EXE805

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2160

Depth: 11-12.5

Sample Number: SS-5

Material Description: Pale Brown Sandy Lean CLAY

Date: 11-11-07

Natural Moisture: 13.3

Liquid Limit: 40

Plastic Limit: 13

USCS Class.: CL

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
262.81	0.00	0.00	#10	0.00	100.0
48.62	0.00	0.00	#20	0.57	98.8
			#40	0.92	98.1
			#60	2.05	95.8
			#100	6.66	86.3
			#140	11.37	76.6
			#200	15.55	68.0

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 48.62

Hygroscopic moisture correction:

Moist weight and tare = 28.85

Dry weight and tare = 28.70

Tare weight = 15.40

Hygroscopic moisture = 1.1%

Table of composite correction values:

Temp., deg. C: 12.8 27.3

Comp. corr.: -7.0 -3.0

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	21.8	33.0	28.5	0.0131	34.0	10.7	0.0304	58.6
5.00	21.7	31.0	26.5	0.0132	32.0	11.0	0.0196	54.4
15.00	21.9	30.0	25.5	0.0131	31.0	11.2	0.0114	52.5
30.00	21.9	29.0	24.5	0.0131	30.0	11.4	0.0081	50.4
60.00	22.0	27.0	22.5	0.0131	28.0	11.7	0.0058	46.4
240.00	22.7	24.0	19.7	0.0130	25.0	12.2	0.0029	40.6
1440.00	22.1	22.0	17.6	0.0131	23.0	12.5	0.0012	36.1

MACTEC, Inc.

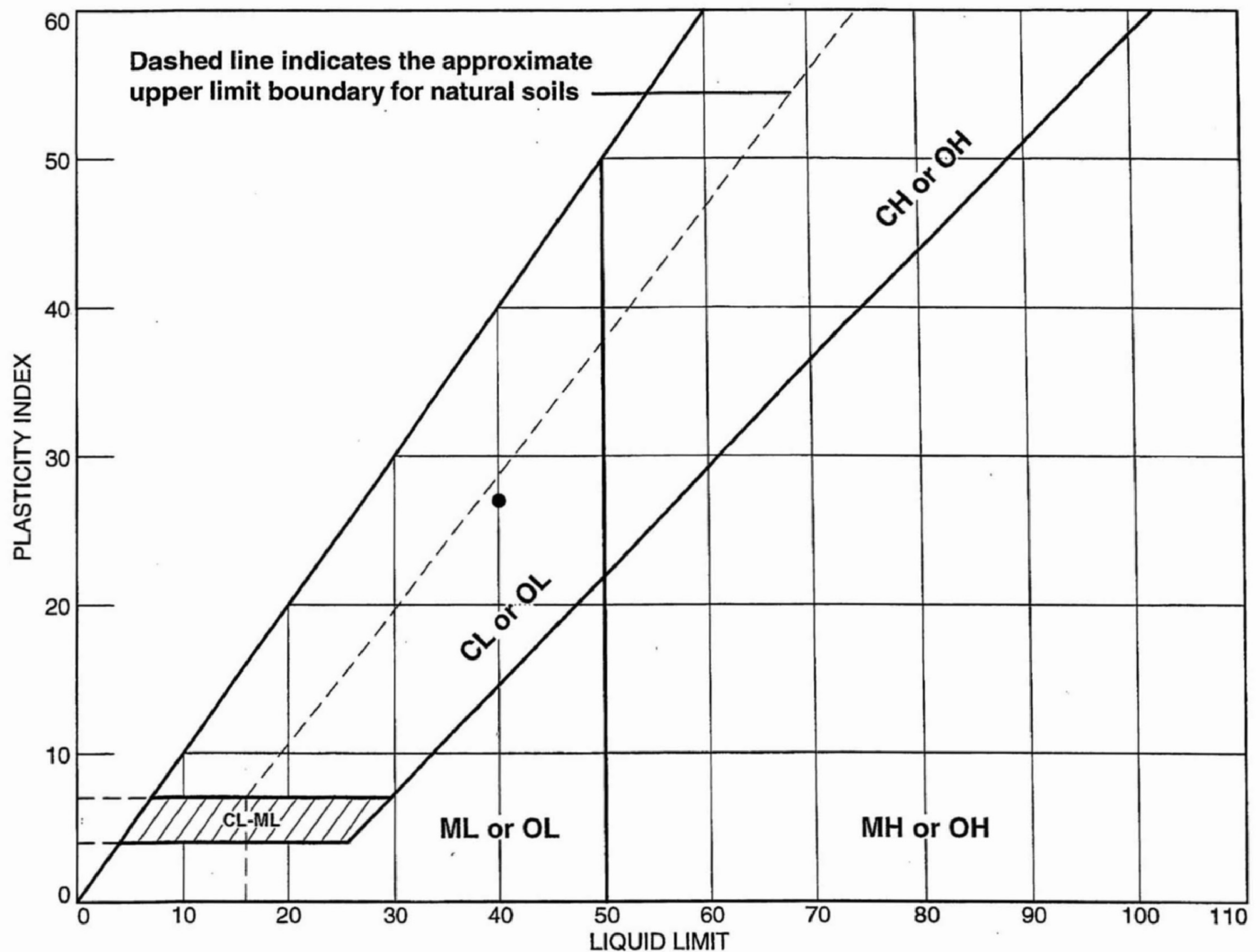
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.9	30.1	32.0	23.3	44.7	68.0

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0078	0.0363	0.1194	0.1427	0.1754	0.2338

Fineness Modulus
0.19

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-2160	SS-5	11-12.5	13.3	13	40	27	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-2160

Depth: 11-12.5

Sample Number: SS-5

Material Description: Pale Brown Sandy Lean CLAY

USCS: CL

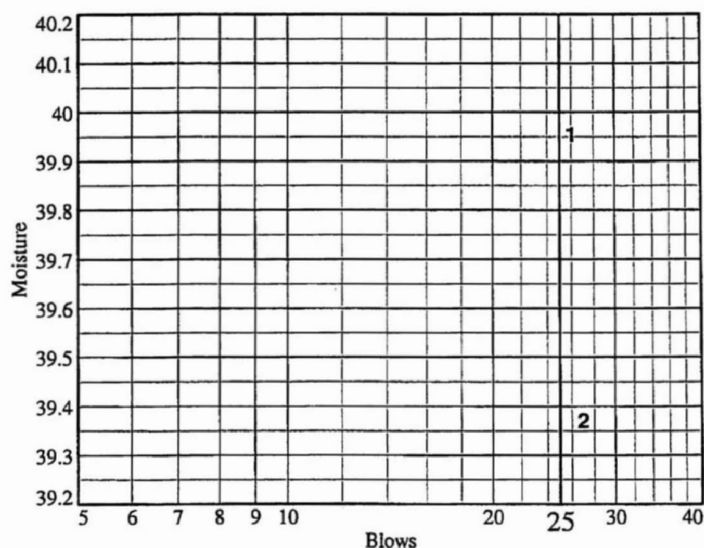
AASHTO: A-6(16)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	28.22	31.00				
Dry+Tare	24.62	26.61				
Tare	15.61	15.46				
# Blows	26	27				
Moisture	40.0	39.4				



Liquid Limit= 40
 Plastic Limit= 13
 Plasticity Index= 27
 Natural Moisture= 13.3
 Liquidity Index= 0.0

Plastic Limit Data

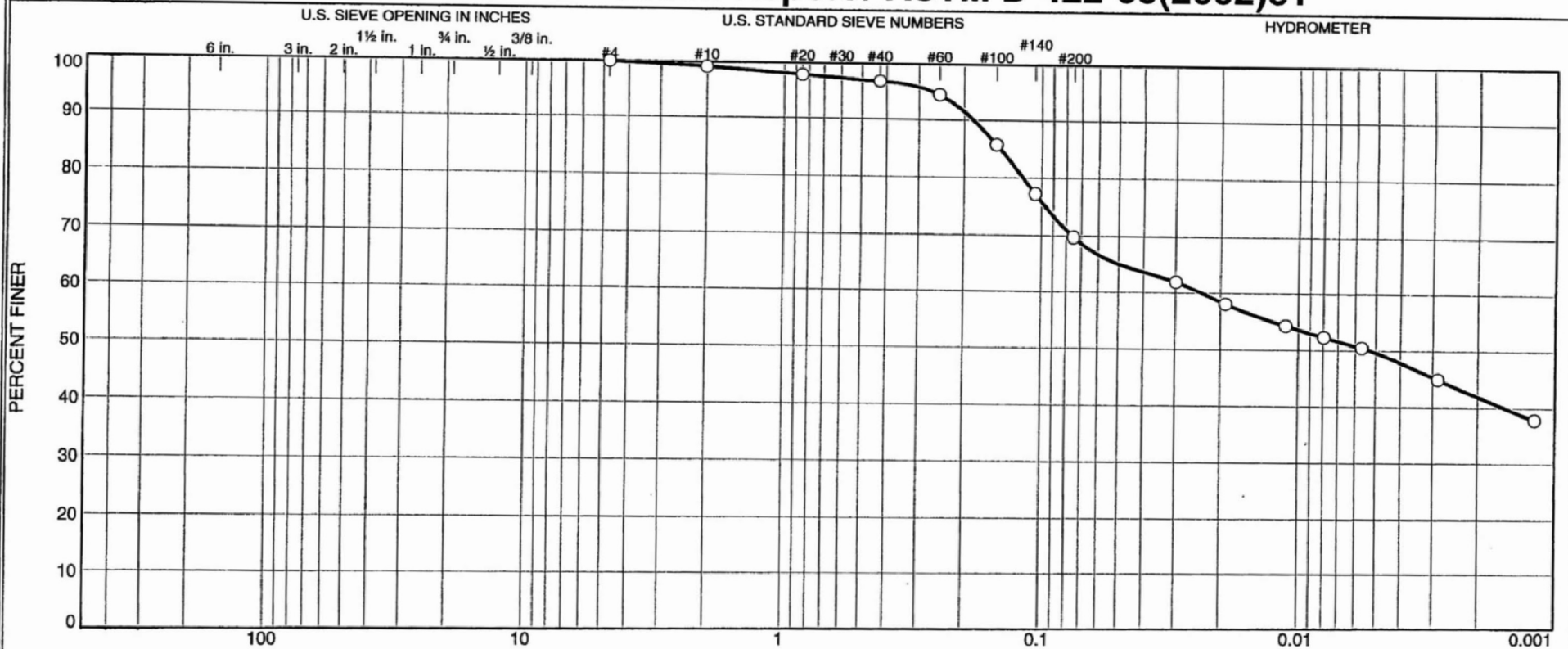
Run No.	1	2	3	4	
Wet+Tare	23.39	22.74			
Dry+Tare	22.47	21.89			
Tare	15.61	15.49			
Moisture	13.4	13.3			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
150.42	133.57	6.83	13.3

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-2160

Depth: 13.5-15

Sample Number: SS-6

Material Description: Pale Brown Sandy Lean CLAY

Date: 11-11-07

Natural Moisture: 16.4

Liquid Limit: 49

Plastic Limit: 15

USCS Class.: CL

Testing Remarks: Specific Gravity = 2.730 ASTM D854-06)

Organic content = 3.9% (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
255.74	0.00	0.00	#4	0.00	100.0
			#10	2.16	99.2
50.30	0.00	0.00	#20	0.65	97.9
			#40	1.22	96.8
			#60	2.41	94.4
			#100	6.79	85.8
			#140	11.09	77.3
			#200	14.91	69.8

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 99.2

Weight of hydrometer sample = 50.30

Hygroscopic moisture correction:

Moist weight and tare = 26.37

Dry weight and tare = 26.10

Tare weight = 15.56

Hygroscopic moisture = 2.6%

Table of composite correction values:

Temp., deg. C: 12.8 27.3

Comp. corr.: -7.0 -3.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.730

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	20.8	36.0	31.2	0.0132	37.0	10.2	0.0298	62.0
5.00	20.9	34.0	29.2	0.0132	35.0	10.6	0.0191	58.1
15.00	21.2	32.0	27.3	0.0131	33.0	10.9	0.0112	54.3
30.00	21.2	31.0	26.3	0.0131	32.0	11.0	0.0080	52.3
60.00	21.5	30.0	25.4	0.0131	31.0	11.2	0.0057	50.5
240.00	22.3	27.0	22.6	0.0130	28.0	11.7	0.0029	44.9
1440.00	22.1	23.5	19.1	0.0130	24.5	12.3	0.0012	37.9

MACTEC, Inc.

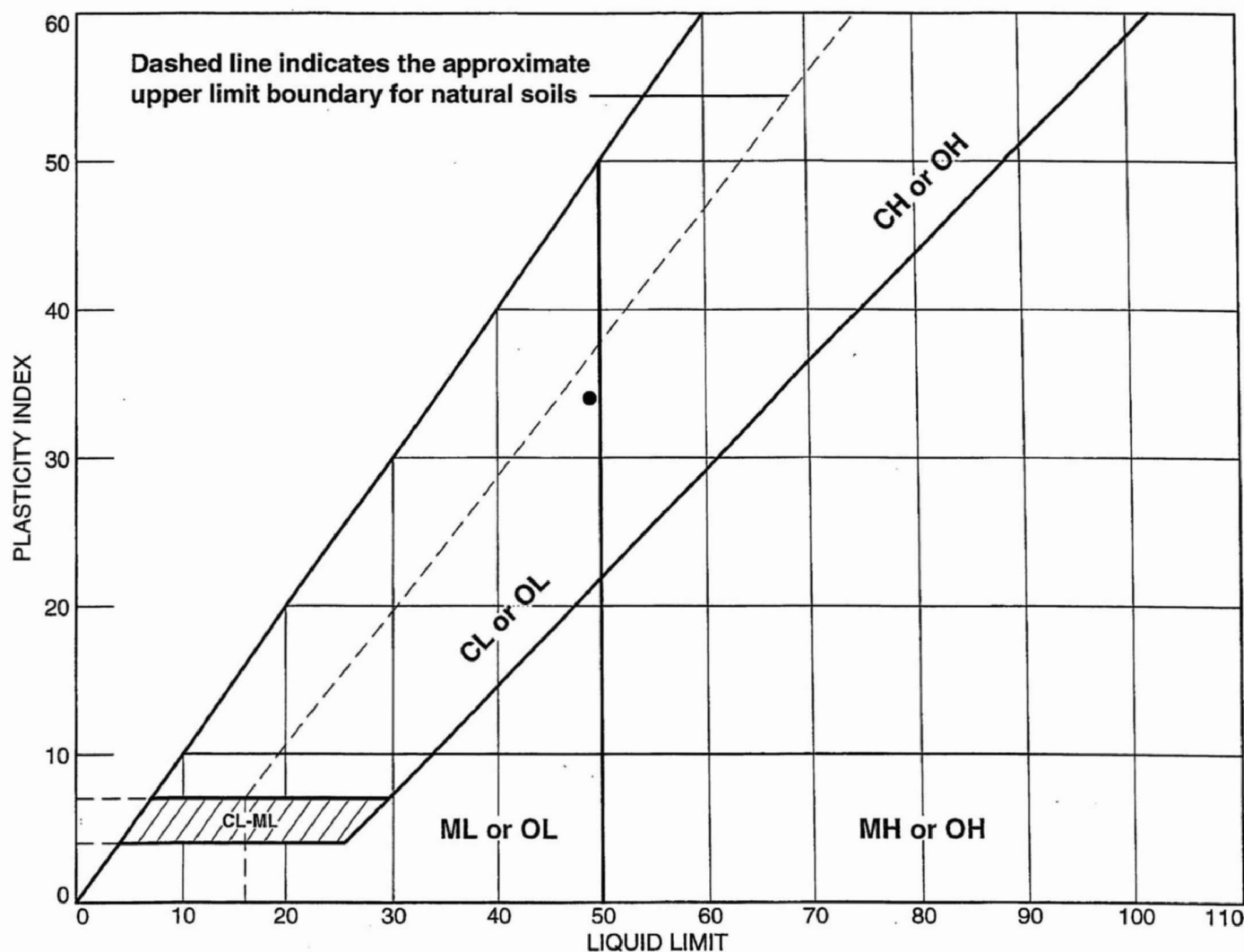
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.8	2.4	27.0	30.2	20.2	49.6	69.8

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0053	0.0236	0.1182	0.1451	0.1841	0.2671

Fineness Modulus
0.23

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-2160	SS-6	13.5-15	16.4	15	49	34	CL

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project No.: 6468071777

Figure NA

Tested By: CS

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Checked By: LBJ

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DSC 1-25-08

DCN# EXE805

LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2160

Depth: 13.5-15

Sample Number: SS-6

Material Description: Pale Brown Sandy Lean CLAY

USCS: CL

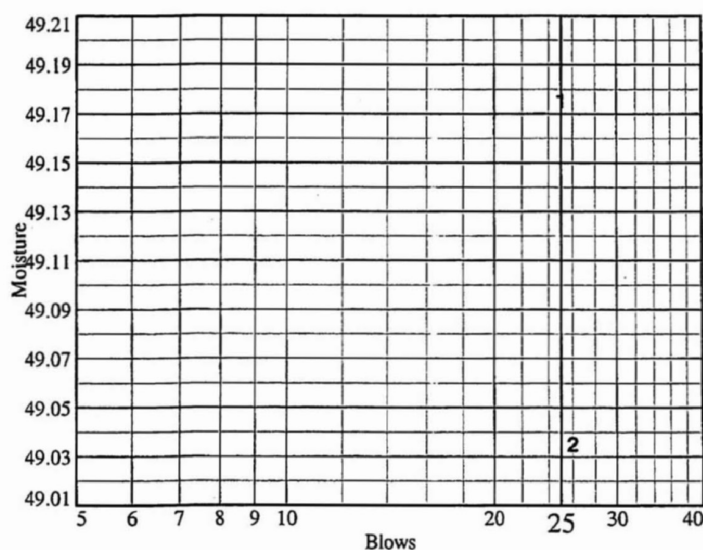
AASHTO: A-7-6(22)

Tested by: CS

Checked by: LB

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	25.36	24.81				
Dry+Tare	22.08	21.76				
Tare	15.41	15.54				
# Blows	25	26				
Moisture	49.2	49.0				



Liquid Limit= 49
 Plastic Limit= 15
 Plasticity Index= 34
 Natural Moisture= 16.4
 Liquidity Index= 0.0

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	22.75	21.13		
Dry+Tare	21.82	20.42		
Tare	15.46	15.51		
Moisture	14.6	14.5		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
188.8	163.11	6.79	16.4

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: 1/16/08

SAMPLE IDENTIFICATION: B-2160 SS-6

(A) Mass of oven-dried soil, grams:	51.68
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.61
(C) Mass of pycnometer, water and soil, grams:	689.37
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.1
(G) Specific Gravity at observed temperature: $A / [B - (C - A)]$	2.732
(F) <i>Correction factor:</i>	0.99931
(G x F) SPECIFIC GRAVITY @ 20°C:	2.730

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100%

Sandy Lean CLAY (CL)

EQUIPMENT USED

SCALES : 3.1.19

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNO METER : P-5

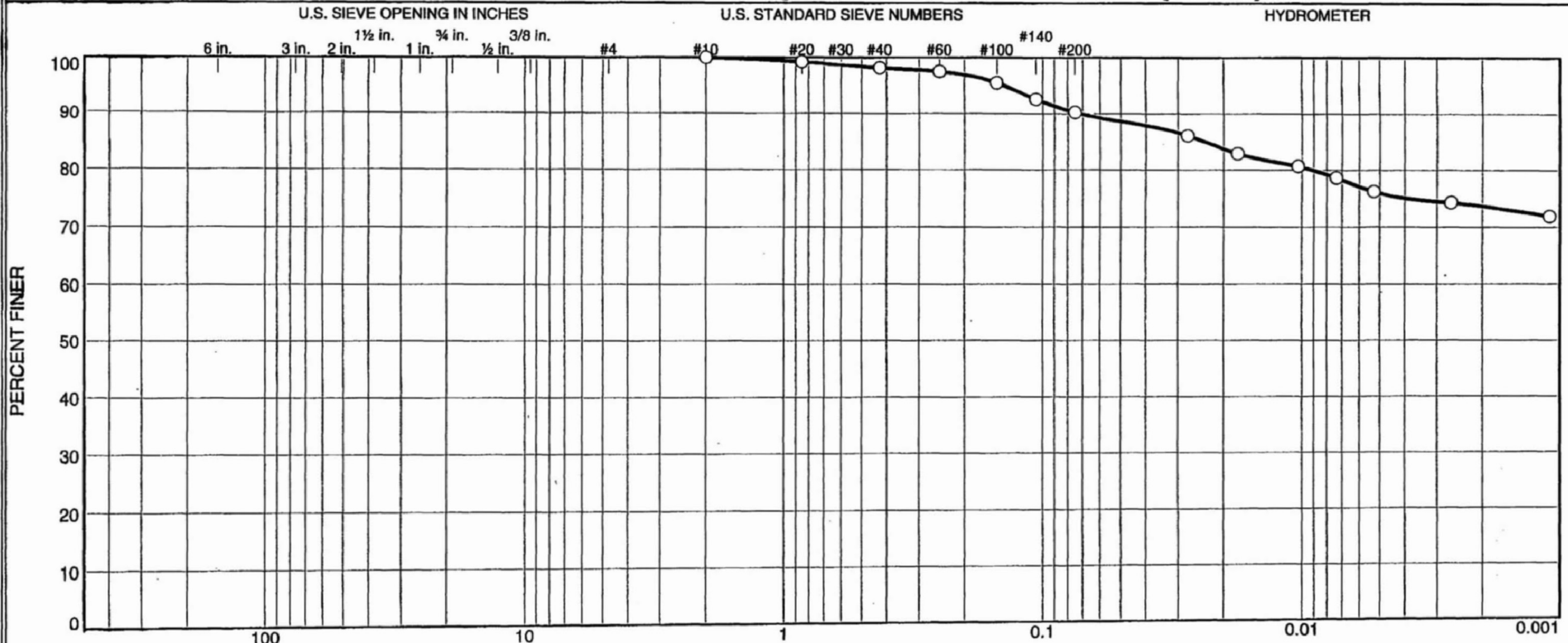
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

DJC 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	1.8	8.0	14.2	76.0

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2160	SS-7	18.5-20	11-11-07	CH	Pale Brown Fat Clay	25.9	84	23

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

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 DCN# EXE805

GRAIN SIZE DISTRIBUTION TEST DATA

1/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2160

Depth: 18.5-20

Sample Number: SS-7

Material Description: Pale Brown Fat Clay

Date: 11-11-07

Natural Moisture: 25.9

Liquid Limit: 84

Plastic Limit: 23

USCS Class.: CH

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
201.56	0.00	0.00	#10	0.00	100.0
48.19	0.00	0.00	#20	0.38	99.2
			#40	0.88	98.2
			#60	1.20	97.5
			#100	2.17	95.5
			#140	3.58	92.6
			#200	4.71	90.2

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 48.19

Hygroscopic moisture correction:

Moist weight and tare = 27.79

Dry weight and tare = 27.22

Tare weight = 15.51

Hygroscopic moisture = 4.9%

Table of composite correction values:

Temp., deg. C: 12.8 27.3

Comp. corr.: -7.0 -3.0

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	21.9	44.5	40.0	0.0131	45.5	8.8	0.0276	86.1
5.00	21.9	43.0	38.5	0.0131	44.0	9.1	0.0177	82.9
15.00	21.8	42.0	37.5	0.0131	43.0	9.2	0.0103	80.7
30.00	22.0	41.0	36.5	0.0131	42.0	9.4	0.0073	78.6
60.00	21.6	40.0	35.4	0.0132	41.0	9.6	0.0053	76.2
240.00	22.0	39.0	34.5	0.0131	40.0	9.7	0.0026	74.3
1440.00	21.6	38.0	33.4	0.0132	39.0	9.9	0.0011	71.9

MACTEC, Inc.

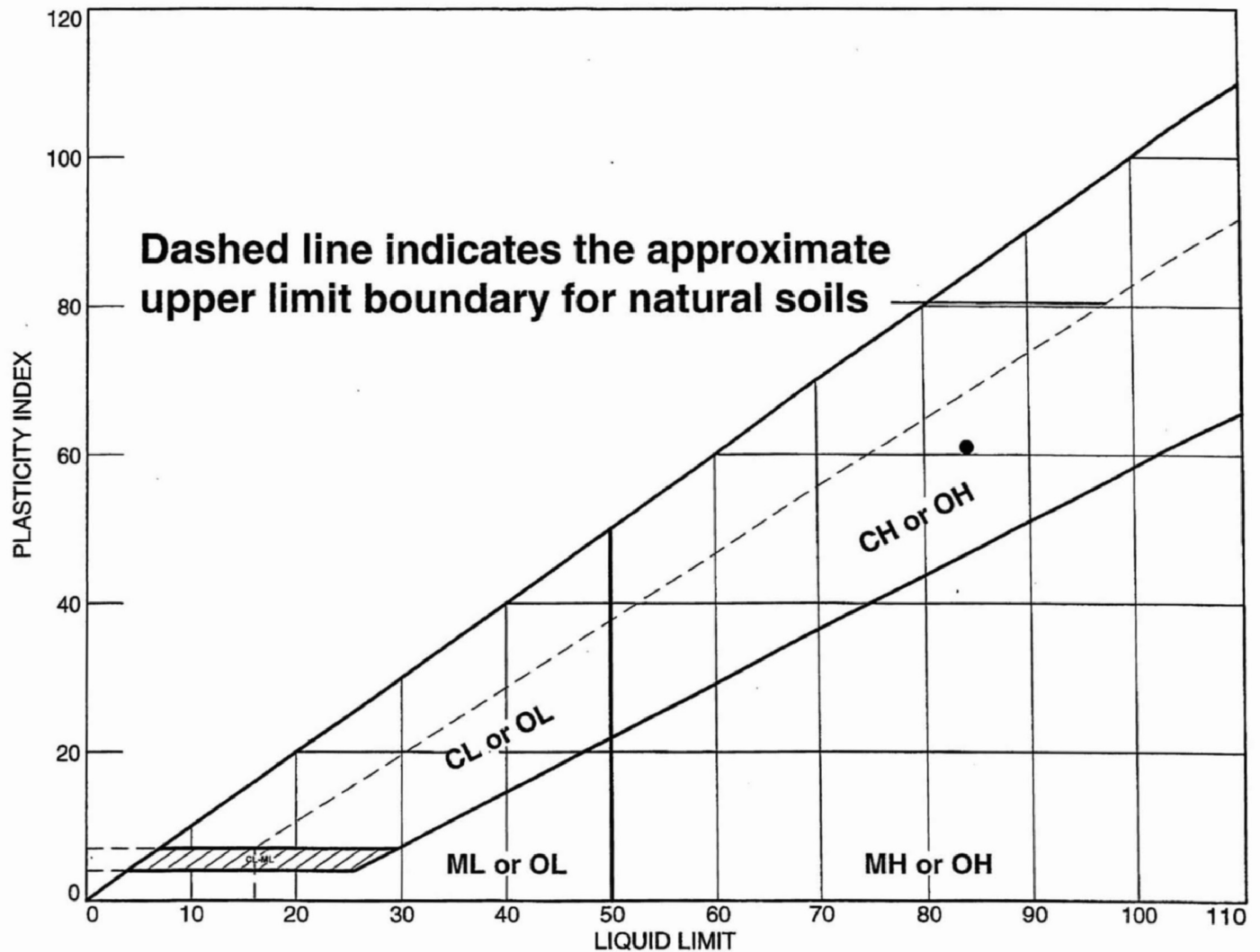
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.8	8.0	9.8	14.2	76.0	90.2

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
						0.0091	0.0237	0.0717	0.1404

Fineness Modulus
0.08

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-2160	SS-7	18.5-20	25.9	23	84	61	CH

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project No.: 6468071777

Figure NA

Tested By: CS

Checked By: LBJ

KAW 1/24/08

LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2160

Depth: 18.5-20

Sample Number: SS-7

Material Description: Pale Brown Fat Clay

USCS: CH

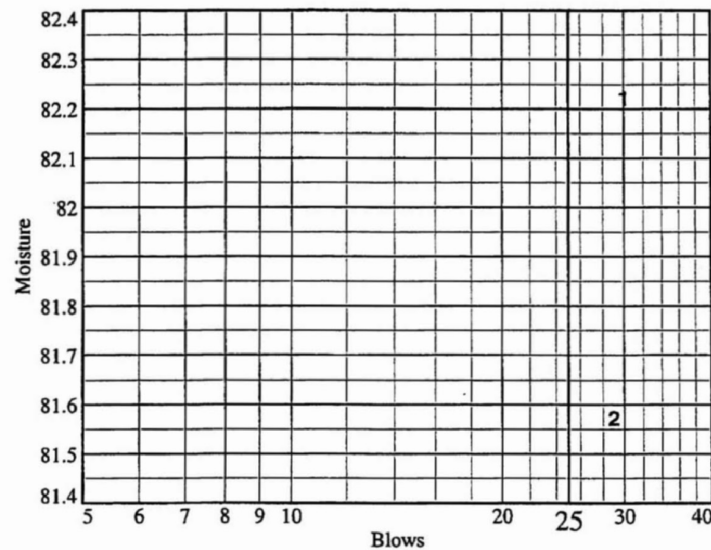
AASHTO: A-7-6(61)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	22.93	23.55				
Dry+Tare	19.60	19.92				
Tare	15.55	15.47				
# Blows	30	29				
Moisture	82.2	81.6				



Liquid Limit= 84
 Plastic Limit= 23
 Plasticity Index= 61
 Natural Moisture= 25.9
 Liquidity Index= 0.0

Plastic Limit Data

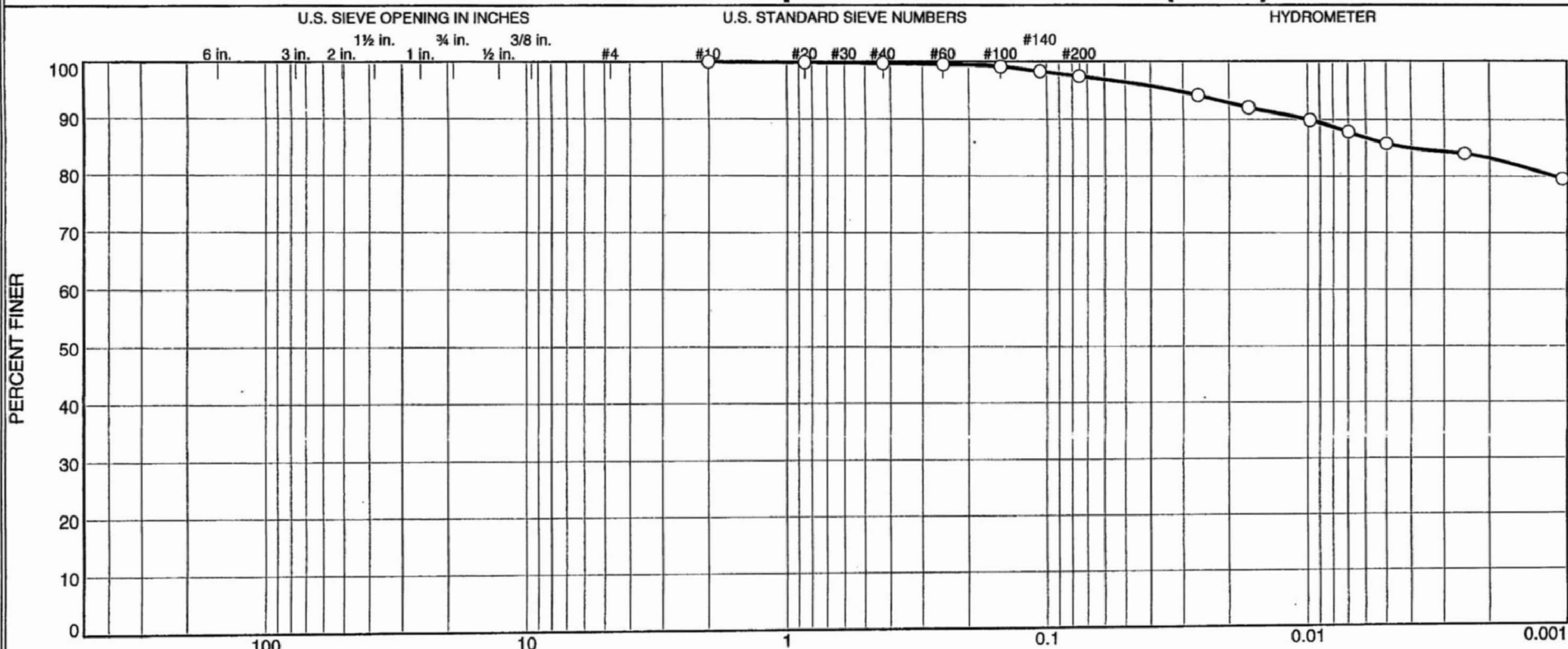
Run No.	1	2	3	4
Wet+Tare	22.12	22.56		
Dry+Tare	20.90	21.30		
Tare	15.64	15.65		
Moisture	23.2	22.3		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
171.52	137.61	6.56	25.9

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	0.3	2.3	11.6	85.8

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2160	SS-8	23.5-25	11-11-07	CH	Brownish Yellow Fat CLAY	26.1	81	22

Client Bechtel		MACTEC, Inc. Raleigh, North Carolina	Specific Gravity is assumed Organic content = 5.9 % (ASTM D2794-07)
Project Exelon Texas COL (Victoria)			
Project No. 6468071777	Figure NA		

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2160

Depth: 23.5-25

Sample Number: SS-8

Material Description: Brownish Yellow Fat CLAY

Date: 11-11-07

Natural Moisture: 26.1

Liquid Limit: 81

Plastic Limit: 22

USCS Class.: CH

Testing Remarks: Specific Gravity is assumed

Organic content = 5.9 % (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
203.02	0.00	0.00	#10	0.00	100.0
49.66	0.00	0.00	#20	0.08	99.8
			#40	0.15	99.7
			#60	0.23	99.5
			#100	0.43	99.1
			#140	0.85	98.3
			#200	1.27	97.4

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 49.66

Hygroscopic moisture correction:

Moist weight and tare = 22.60

Dry weight and tare = 22.15

Tare weight = 11.20

Hygroscopic moisture = 4.1%

Table of composite correction values:

Temp., deg. C: 12.8 27.3

Comp. corr.: -7.0 -3.0

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	21.5	50.0	45.4	0.0132	51.0	7.9	0.0263	94.1
5.00	21.5	49.0	44.4	0.0132	50.0	8.1	0.0168	92.0
15.00	21.5	48.0	43.4	0.0132	49.0	8.3	0.0098	90.0
30.00	21.6	47.0	42.4	0.0132	48.0	8.4	0.0070	88.0
60.00	21.5	46.0	41.4	0.0132	47.0	8.6	0.0050	85.8
240.00	22.0	45.0	40.5	0.0131	46.0	8.8	0.0025	84.0
1440.00	21.5	43.0	38.4	0.0132	44.0	9.1	0.0010	79.6

MACTEC, Inc.

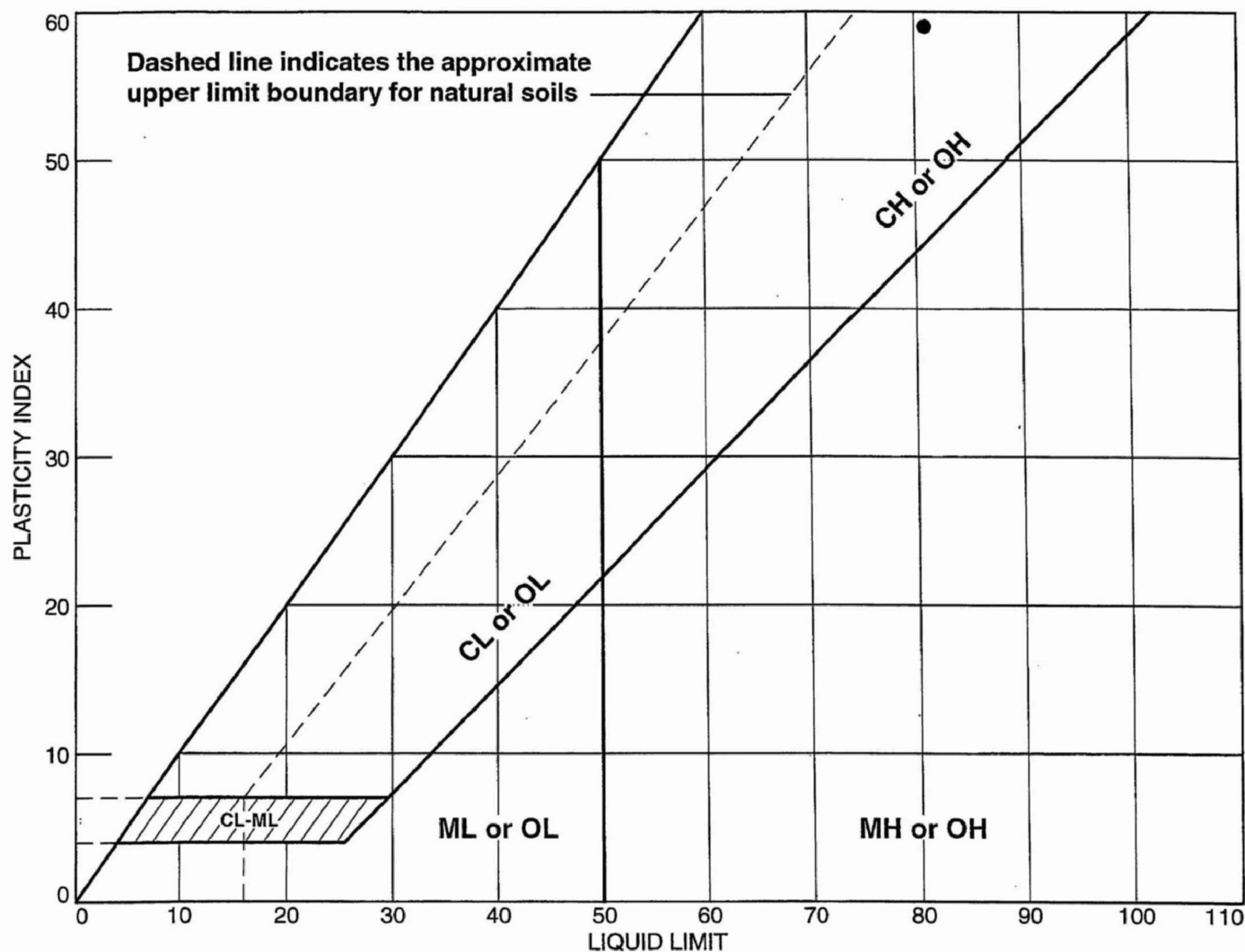
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.3	2.3	2.6	11.6	85.8	97.4

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
						0.0011	0.0040	0.0098	0.0325

Fineness Modulus
0.02

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-2160	SS-8	23.5-25	26.1	22	81	59	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-2160

Depth: 23.5-25

Sample Number: SS-8

Material Description: Brownish Yellow Fat CLAY

USCS: CH

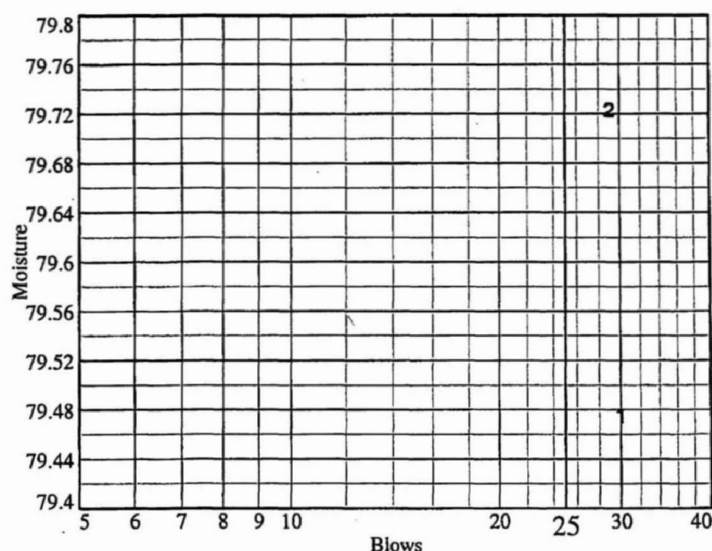
AASHTO: A-7-6(65)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	23.18	23.28				
Dry+Tare	19.85	19.82				
Tare	15.66	15.48				
# Blows	30	29				
Moisture	79.5	79.7				



Liquid Limit= 81
 Plastic Limit= 22
 Plasticity Index= 59
 Natural Moisture= 26.1
 Liquidity Index= 0.1

Plastic Limit Data

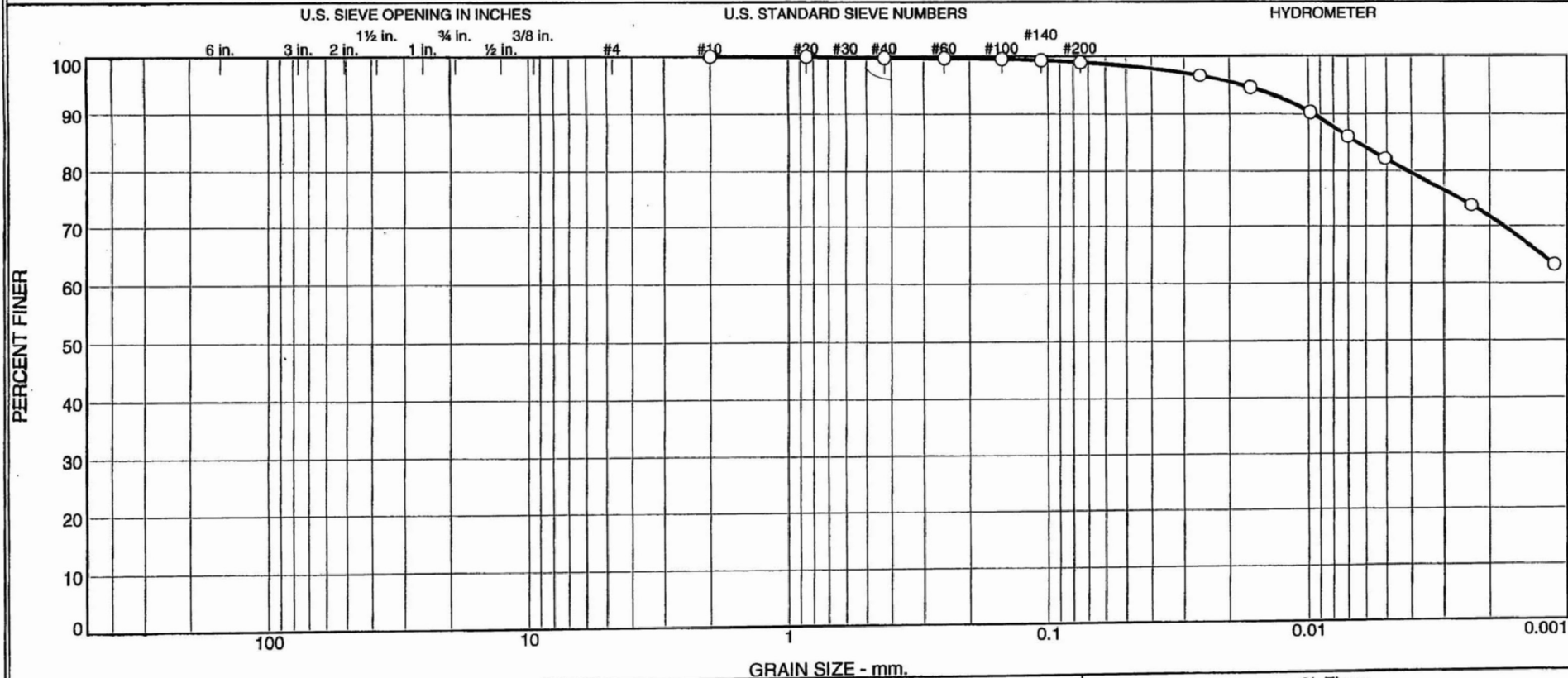
Run No.	1	2	3	4
Wet+Tare	22.75	23.66		
Dry+Tare	21.45	22.13		
Tare	15.53	15.45		
Moisture	22.0	22.9		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
133.99	107.72	7.00	26.1

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	0.3	0.8	16.9	82.0

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2160	SS-9	28.5-30	11-11-07	CH	Brownish Yellow Fat CLAY	23.6	74	21

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

Tested By: CS

Checked By: LBJ

DSC 1-26-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/25/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2160

Depth: 28.5-30

Sample Number: SS-9

Material Description: Brownish Yellow Fat CLAY

Date: 11-11-07

Natural Moisture: 23.6

Liquid Limit: 74

Plastic Limit: 21

USCS Class.: CH

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
214.69	0.00	0.00	#10	0.00	100.0
49.37	0.00	0.00	#20	0.03	99.9
			#40	0.13	99.7
			#60	0.16	99.7
			#100	0.23	99.5
			#140	0.34	99.3
			#200	0.52	98.9

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 49.37

Hygroscopic moisture correction:

Moist weight and tare = 28.60

Dry weight and tare = 28.11

Tare weight = 15.60

Hygroscopic moisture = 3.9%

Table of composite correction values:

Temp., deg. C: 12.8 27.3

Comp. corr.: -7.0 -3.0

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	21.5	51.0	46.4	0.0132	52.0	7.8	0.0260	96.6
5.00	21.5	50.0	45.4	0.0132	51.0	7.9	0.0166	94.5
15.00	21.5	48.0	43.4	0.0132	49.0	8.3	0.0098	90.3
30.00	21.6	46.0	41.4	0.0132	47.0	8.6	0.0071	86.2
60.00	21.8	44.0	39.5	0.0131	45.0	8.9	0.0051	82.2
300.00	21.6	40.0	35.4	0.0132	41.0	9.6	0.0024	73.7
1440.00	21.6	35.0	30.4	0.0132	36.0	10.4	0.0011	63.3

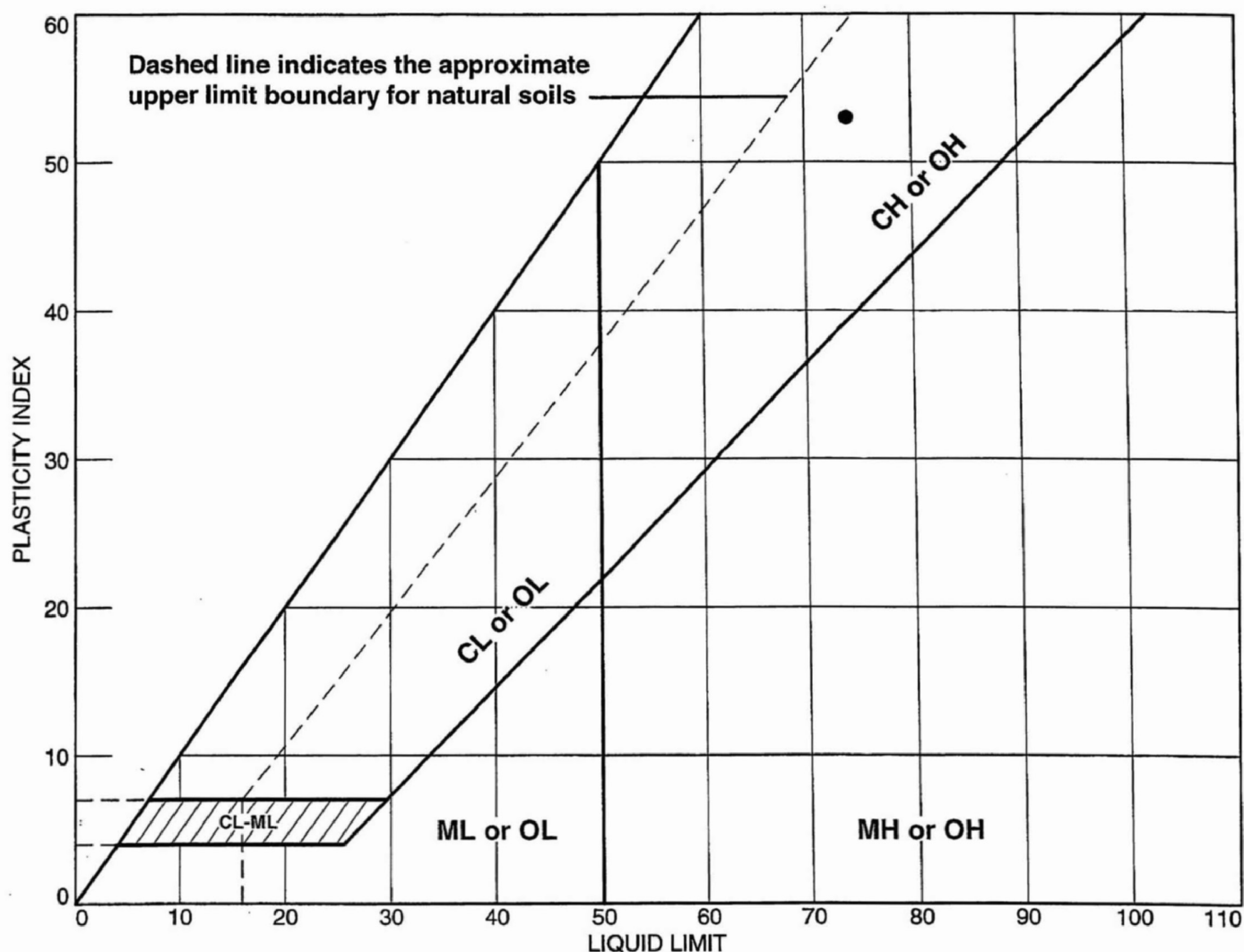
Fractional Components

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	0.8	1.1	16.9	82.0	98.9

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
						0.0042	0.0064	0.0095	0.0182

Fineness Modulus
0.01

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-2160	SS-9	28.5-30	23.6	21	74	53	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 1-26-08

LIQUID AND PLASTIC LIMIT TEST DATA

1/25/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2160

Depth: 28.5-30

Sample Number: SS-9

Material Description: Brownish Yellow Fat CLAY

USCS: CH

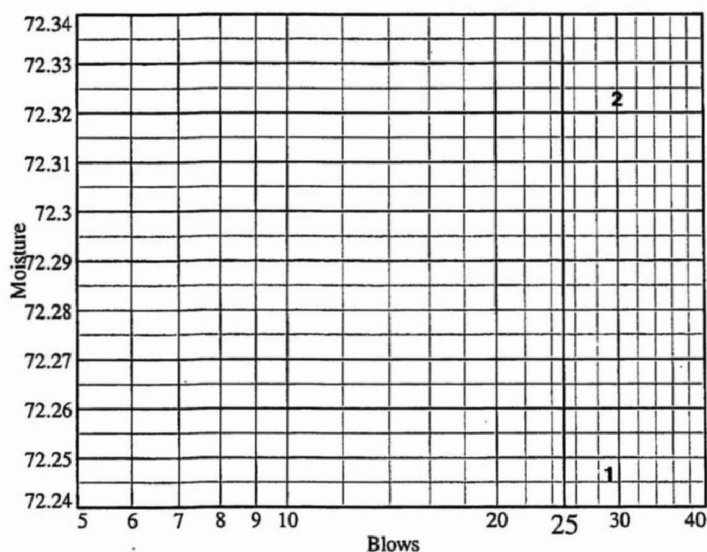
AASHTO: A-7-6(60)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	23.25	26.07				
Dry+Tare	19.97	21.68				
Tare	15.43	15.61				
# Blows	29	30				
Moisture	72.2	72.3				



Liquid Limit= 74
 Plastic Limit= 21
 Plasticity Index= 53
 Natural Moisture= 23.6
 Liquidity Index= 0.0

Plastic Limit Data

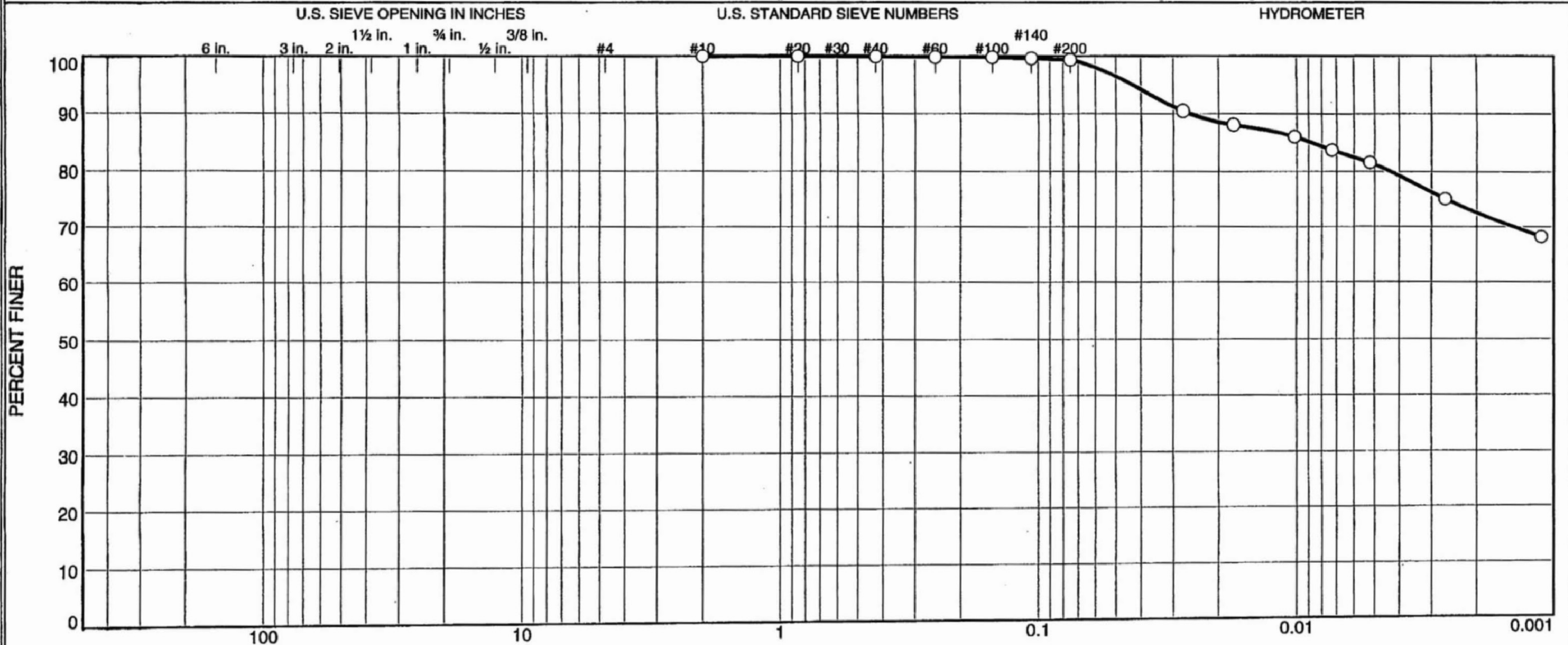
Run No.	1	2	3	4
Wet+Tare	24.83	23.01		
Dry+Tare	23.19	21.73		
Tare	15.46	15.52		
Moisture	21.2	20.6		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
178.24	145.54	6.82	23.6

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	0.1	0.6	18.0	81.3

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2160	SS-10	32.5-35	11-11-07	CH	Brownish Yellow Fat CLAY	24.1	73	21

Client Bechtel		MACTEC, Inc.	○ Specific Gravity = 2.690 (ASTM D854-06) Organic content = 5.1% (ASTM D2794-07)
Project Exelon Texas COL (Victoria)			
Project No. 6468071777	Figure NA	Raleigh, North Carolina	

GRAIN SIZE DISTRIBUTION TEST DATA

1/25/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2160

Depth: 32.5-35

Sample Number: SS-10

Material Description: Brownish Yellow Fat CLAY

Date: 11-11-07

Natural Moisture: 24.1

Liquid Limit: 73

Plastic Limit: 21

USCS Class.: CH

Testing Remarks: Specific Gravity = 2.690 (ASTM D854-06)

Organic content = 5.1% (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
264.09	0.00	0.00	#10	0.00	100.0
45.31	0.00	0.00	#20	0.00	100.0
			#40	0.03	99.9
			#60	0.06	99.9
			#100	0.08	99.8
			#140	0.17	99.6
			#200	0.30	99.3

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 45.31

Hygroscopic moisture correction:

Moist weight and tare = 27.13

Dry weight and tare = 26.90

Tare weight = 15.46

Hygroscopic moisture = 2.0%

Table of composite correction values:

Temp., deg. C: 12.8 27.3

Comp. corr.: -7.0 -3.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.690

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	22.0	45.0	40.5	0.0132	46.0	8.8	0.0275	90.5
5.00	22.0	44.0	39.5	0.0132	45.0	8.9	0.0176	88.2
15.00	22.3	43.0	38.6	0.0131	44.0	9.1	0.0102	86.2
30.00	22.1	42.0	37.6	0.0131	43.0	9.2	0.0073	83.8
60.00	22.1	41.0	36.6	0.0131	42.0	9.4	0.0052	81.6
240.00	22.5	38.0	33.7	0.0131	39.0	9.9	0.0027	75.1
1440.00	22.1	35.0	30.6	0.0131	36.0	10.4	0.0011	68.2

MACTEC, Inc.

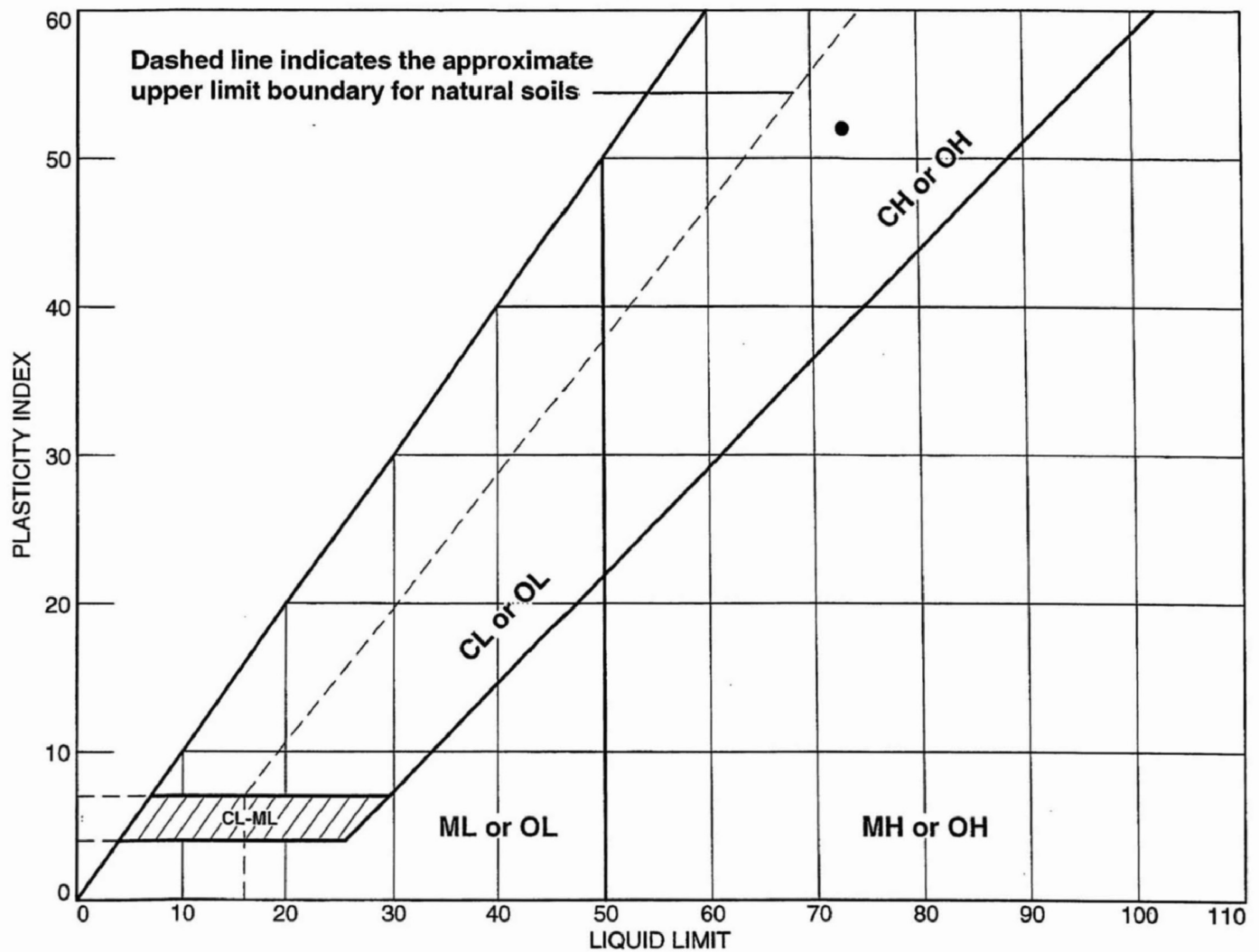
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.7	18.0	81.3	99.3

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
						0.0043	0.0086	0.0258	0.0436

Fineness Modulus
0.00

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-2160	SS-10	32.5-35	24.1	21	73	52	CH

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project No.: 6468071777

Figure ~~NA~~

Tested By: CS

Volume 3, Rev. 0 - 7/10/08

Checked By: LBJ

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DSC 1-25-08

DCN# EXE805

LIQUID AND PLASTIC LIMIT TEST DATA

1/25/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2160

Depth: 32.5-35

Sample Number: SS-10

Material Description: Brownish Yellow Fat CLAY

USCS: CH

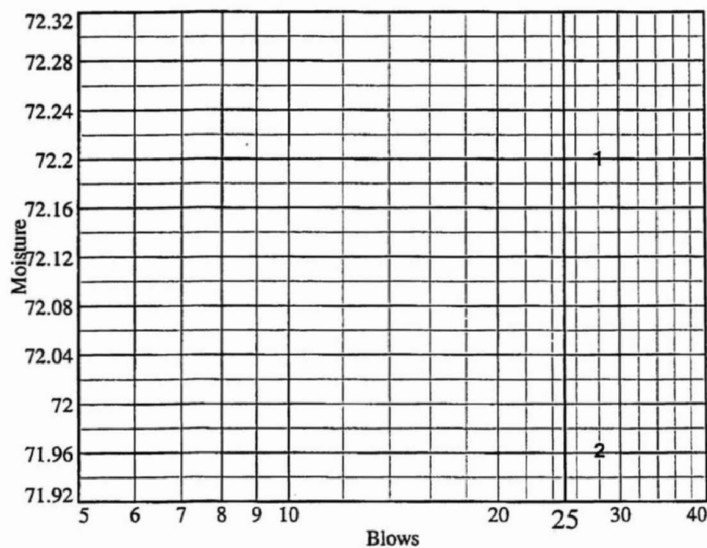
AASHTO: A-7-6(59)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	24.38	26.47				
Dry+Tare	20.64	21.85				
Tare	15.46	15.43				
# Blows	28	28				
Moisture	72.2	72.0				



Liquid Limit= 73
 Plastic Limit= 21
 Plasticity Index= 52
 Natural Moisture= 24.1
 Liquidity Index= 0.1

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	17.56	20.93		
Dry+Tare	16.46	20.05		
Tare	11.20	15.69		
Moisture	20.9	20.2		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
160.08	130.34	6.70	24.1

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: 1/15/08

SAMPLE IDENTIFICATION: B-2160 SS-10

(A) Mass of oven-dried soil, grams:	51.89
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.51
(C) Mass of pycnometer, water and soil, grams:	689.13
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.9
(G) Specific Gravity at observed temperature: $A / [B - (C - A)]$	2.693
(F) <i>Correction factor:</i>	0.99912
(G x F) SPECIFIC GRAVITY @ 20°C:	2.690

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100%

Fat CLAY (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 1-25-08