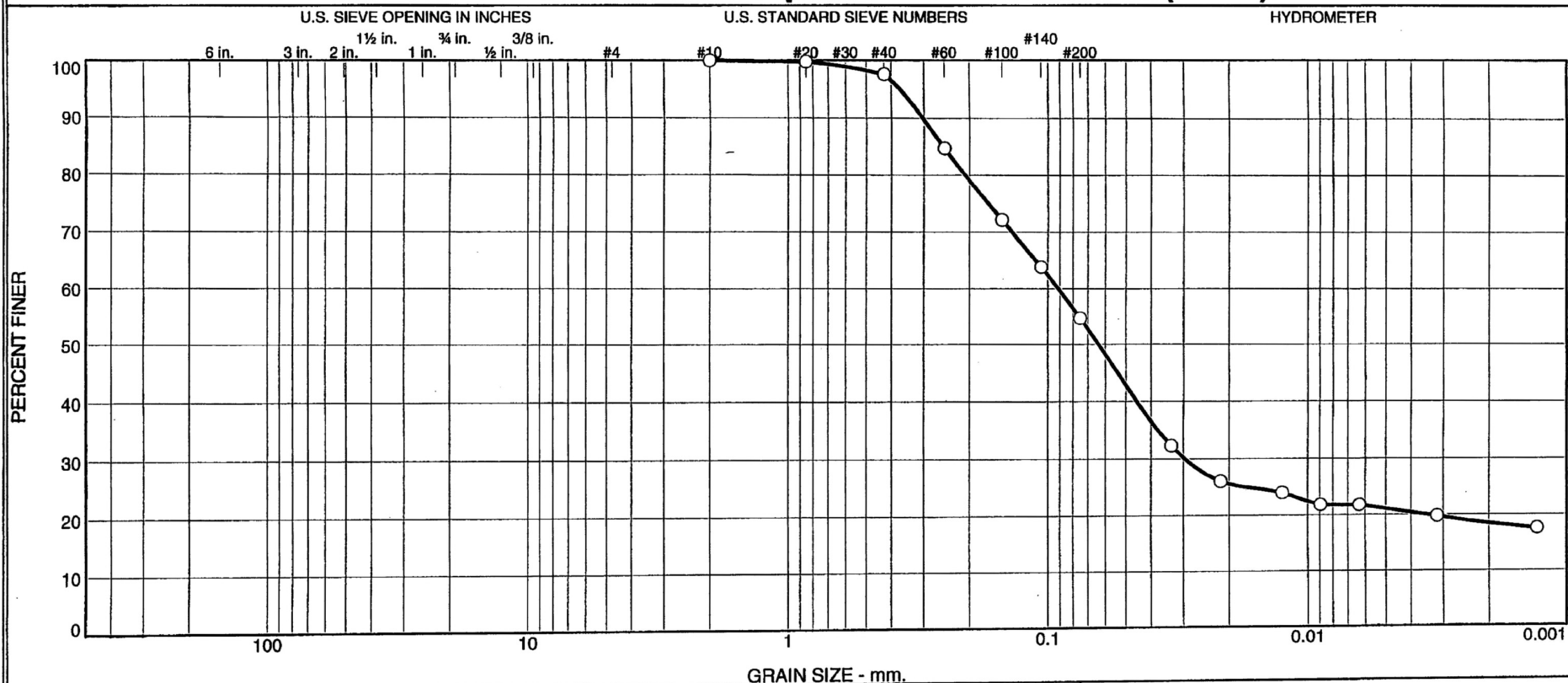


Particle Size Distribution Report / ASTM D 422-63(2002)e1



GRAIN SIZE DISTRIBUTION TEST DATA

1/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2170R

Depth: 268.5-270.0

Sample Number: SS-37

Material Description: Light Gray Sandy Lean CLAY

Date: 1/6/08

Natural Moisture: 21.1

Liquid Limit: 38

Plastic Limit: 15

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
255.84	0.00	0.00	#10	0.00	100.0
48.37	0.00	0.00	#20	0.11	99.8
			#40	1.16	97.6
			#60	7.36	84.8
			#100	13.49	72.1
			#140	17.46	63.9
			#200	21.88	54.8

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 48.37

Hygroscopic moisture correction:

Moist weight and tare = 34.08

Dry weight and tare = 33.74

Tare weight = 21.05

Hygroscopic moisture = 2.7%

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	20.0	15.4	0.0132	21.0	12.9	0.0335	32.3
5.00	21.5	17.0	12.4	0.0132	18.0	13.3	0.0216	26.0
15.00	21.6	16.0	11.4	0.0132	17.0	13.5	0.0125	24.0
30.00	21.5	15.0	10.4	0.0132	16.0	13.7	0.0089	21.8
60.00	21.4	15.0	10.4	0.0132	16.0	13.7	0.0063	21.8
240.00	21.6	14.0	9.4	0.0132	15.0	13.8	0.0032	19.8
1440.00	21.5	13.0	8.4	0.0132	14.0	14.0	0.0013	17.6

MACTEC, Inc.

Fractional Components

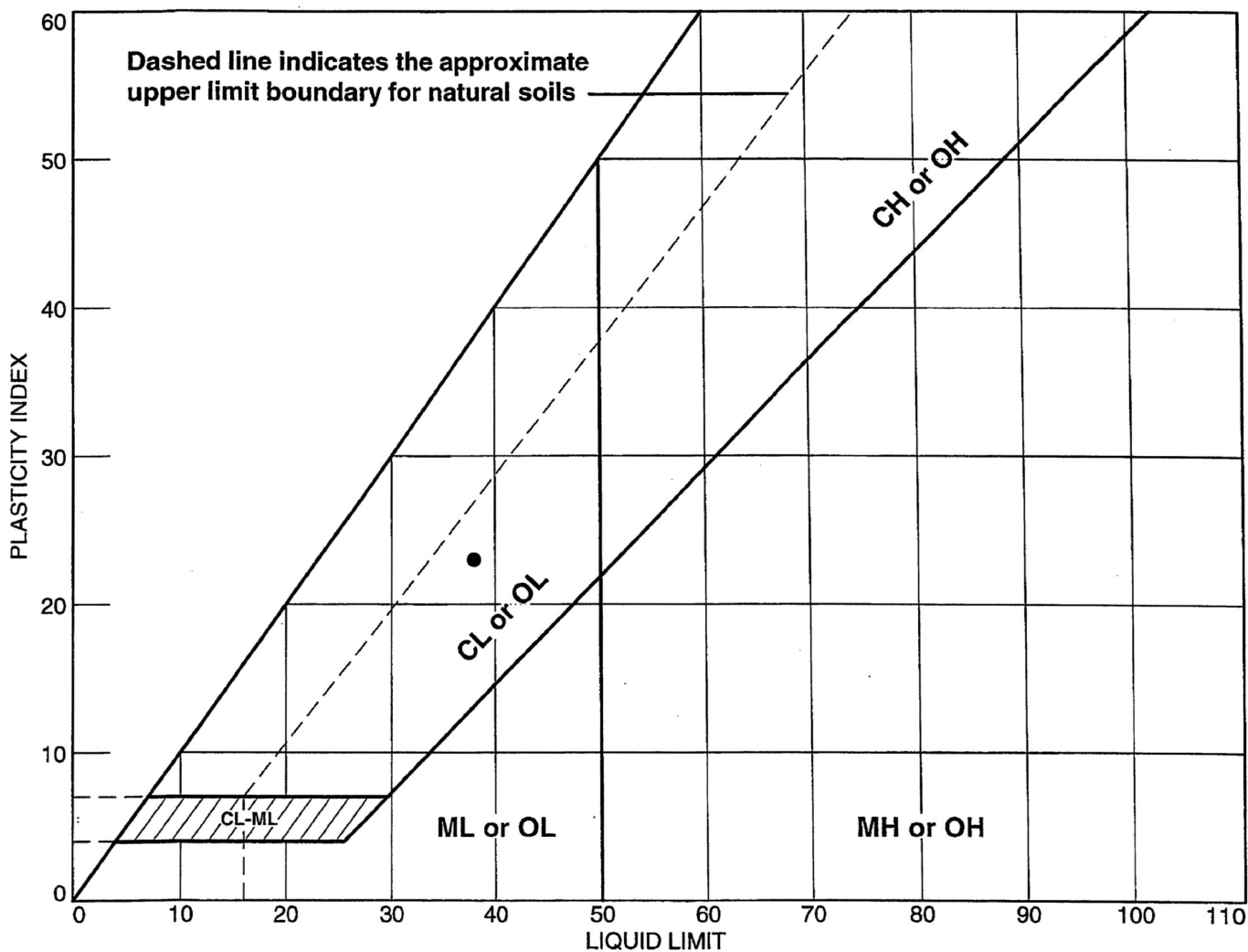
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	2.4	42.8	45.2	33.7	21.1	54.8

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
		0.0034	0.0297	0.0637	0.0909	0.2081	0.2520	0.3025	0.3700

Fineness Modulus
0.39

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-2170R	SS-37	268.5-270.0	21.1	15	38	23	CL

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project No.: 6468071777

Figure NA

Tested By: CS

Checked By: LBJ

KAW 1/26/08

LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2170R

Depth: 268.5-270.0

Sample Number: SS-37

Material Description: Light Gray Sandy Lean CLAY

USCS: CL

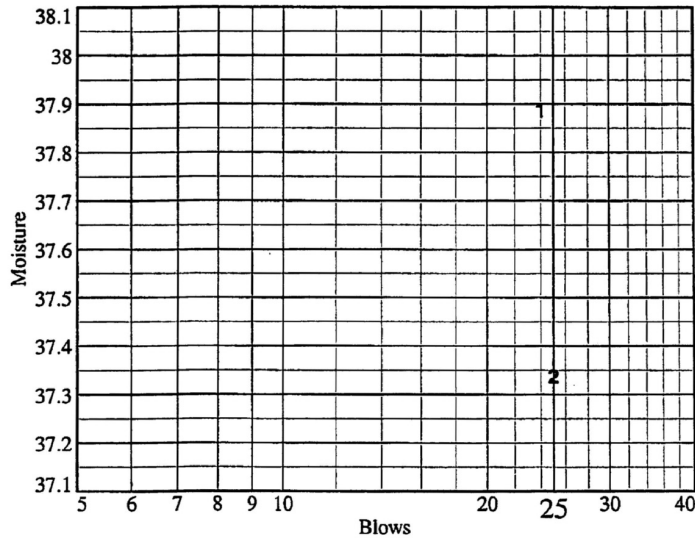
AASHTO: A-6(9)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	25.29	25.08				
Dry+Tare	22.60	22.47				
Tare	15.50	15.48				
# Blows	24	25				
Moisture	37.9	37.3				



Liquid Limit= 38
 Plastic Limit= 15
 Plasticity Index= 23
 Natural Moisture= 21.1
 Liquidity Index= 0.3

Plastic Limit Data

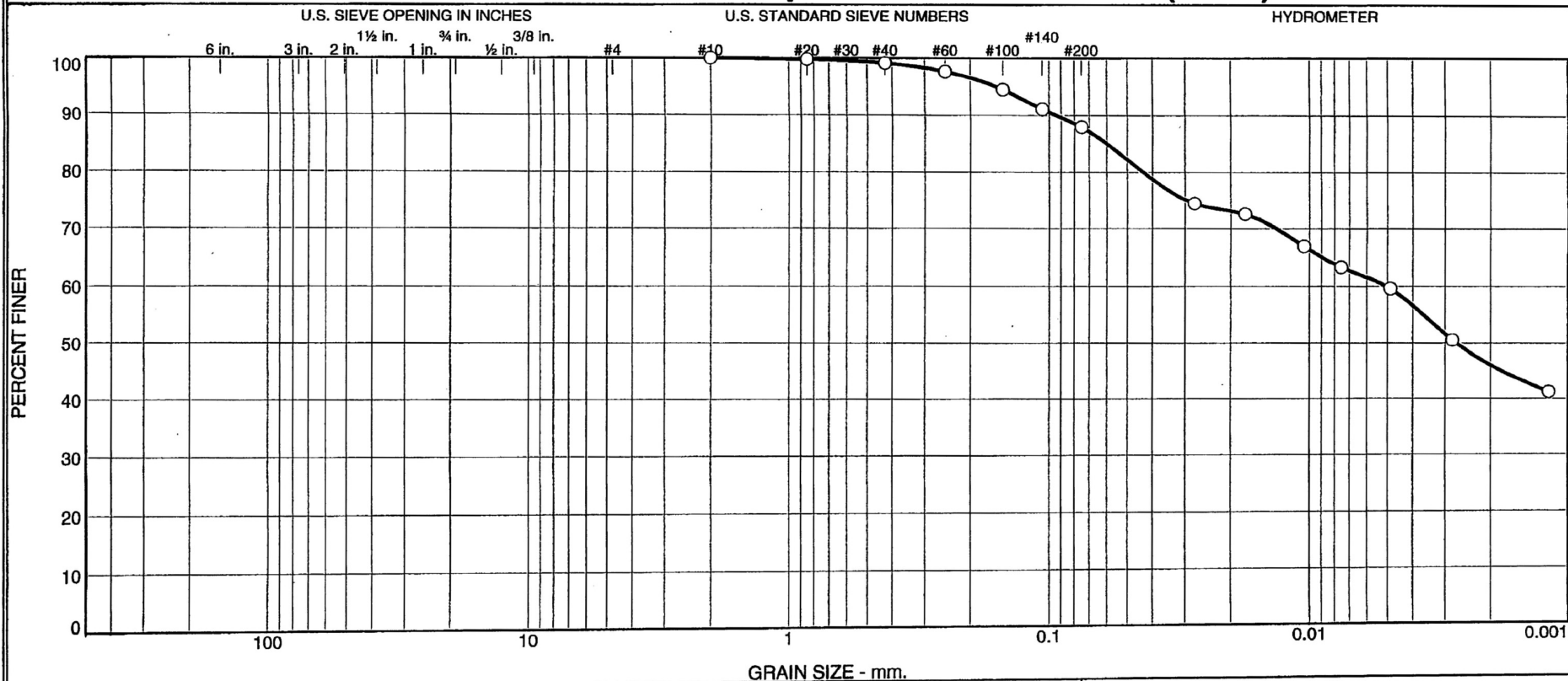
Run No.	1	2	3	4
Wet+Tare	23.15	26.85		
Dry+Tare	22.16	25.39		
Tare	15.45	15.55		
Moisture	14.8	14.8		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
120.50	101.87	13.70	21.1

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	0.9	11.1	28.1	59.9

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2170R	SS-38	288.5-290	1/7/08	CH	Very Pale Fat CLAY	23.1	64	13

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 KAW 1/26/08

GRAIN SIZE DISTRIBUTION TEST DATA

1/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2170R

Depth: 288.5-290

Sample Number: SS-38

Material Description: Very Pale Fat CLAY

Date: 1/7/08

Natural Moisture: 23.1

Liquid Limit: 64

Plastic Limit: 13

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
264.72	0.00	0.00	#10	0.00	100.0
54.16	0.00	0.00	#20	0.12	99.8
			#40	0.47	99.1
			#60	1.28	97.6
			#100	2.97	94.5
			#140	4.84	91.1
			#200	6.49	88.0

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 54.16

Hygroscopic moisture correction:

Moist weight and tare = 29.04

Dry weight and tare = 28.92

Tare weight = 15.59

Hygroscopic moisture = 0.9%

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	45.0	40.4	0.0132	46.0	8.8	0.0276	74.4
5.00	21.4	44.0	39.4	0.0132	45.0	8.9	0.0176	72.5
15.00	21.4	41.0	36.4	0.0132	42.0	9.4	0.0105	67.0
30.00	21.4	39.0	34.4	0.0132	40.0	9.7	0.0075	63.3
74.00	21.4	37.0	32.4	0.0132	38.0	10.1	0.0049	59.6
240.00	21.6	32.0	27.4	0.0132	33.0	10.9	0.0028	50.5
1440.00	21.4	27.0	22.4	0.0132	28.0	11.7	0.0012	41.2

MACTEC, Inc.

Fractional Components

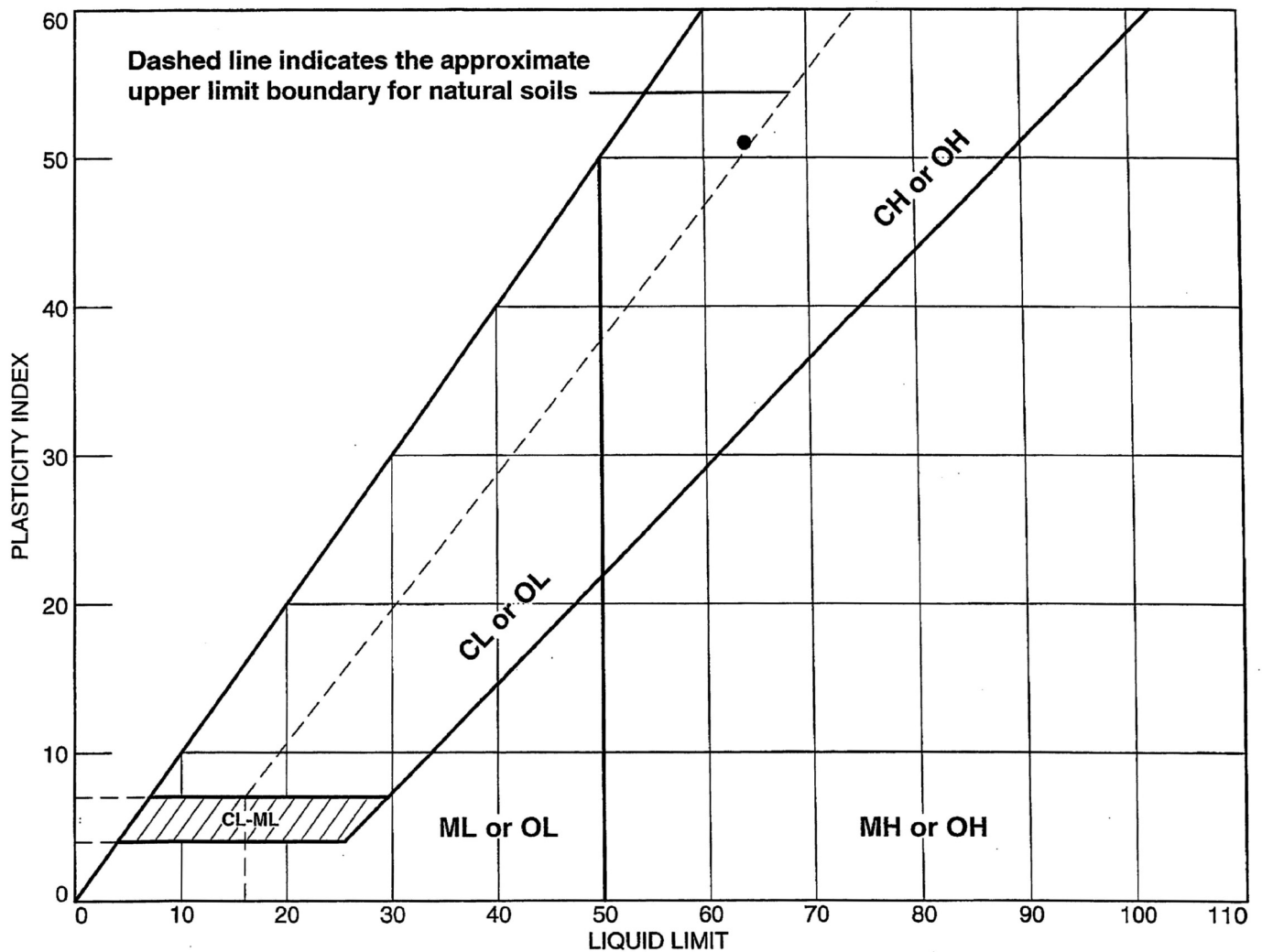
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.9	11.1	12.0	28.1	59.9	88.0

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0027	0.0050	0.0434	0.0596	0.0935	0.1586

Fineness Modulus
0.08

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-2170R	SS-38	288.5-290	23.1	13	64	51	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 1/26/08

LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2170R

Depth: 288.5-290

Sample Number: SS-38

Material Description: Very Pale Fat CLAY

USCS: CH

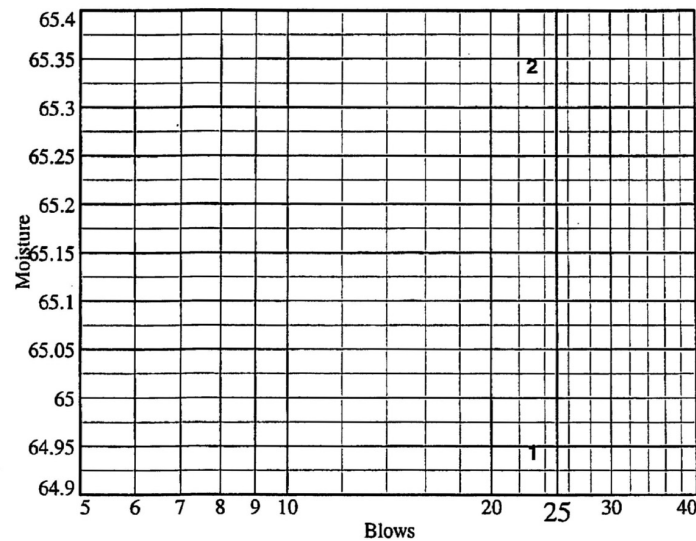
AASHTO: A-7-6(47)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	24.44	24.63				
Dry+Tare	20.92	21.01				
Tare	15.50	15.47				
# Blows	23	23				
Moisture	64.9	65.3				



Liquid Limit=	64
Plastic Limit=	13
Plasticity Index=	51
Natural Moisture=	23.1
Liquidity Index=	0.2

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	25.71	25.21		
Dry+Tare	24.50	24.07		
Tare	15.50	15.47		
Moisture	13.4	13.3		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
118.30	98.70	13.80	23.1

MACTEC, Inc.