GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 0-1.5 **Sample Number:** SS-1
Material Description: Black Lean CLAY
Date: 11-9-07 **Natural Moisture:** 17.0
Liquid Limit: 35 **Plastic Limit:** 13 **USCS Class.:** CL
Testing Remarks: Specific Gravity is assumed
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
216.97	0.00	0.00	#10	0.00	100.0
47.44	0.00	0.00	#20	0.49	99.0
			#40	0.85	98.2
			#60	1.70	96.4
			#100	3.21	93.2
			#140	4.17	91.2
			#200	4.92	89.6

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =47.44
Hygroscopic moisture correction:
Moist weight and tare = 28.36
Dry weight and tare = 28.11
Tare weight = 15.56
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 = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: 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	22.2	25.0	20.6	0.0131	26.0	12.0	0.0321	43.8
5.00	22.2	23.0	18.6	0.0131	24.0	12.4	0.0206	39.5
15.00	22.1	22.0	17.6	0.0131	23.0	12.5	0.0120	37.3
30.00	22.1	21.0	16.6	0.0131	22.0	12.7	0.0085	35.2
60.00	22.1	20.0	15.6	0.0131	21.0	12.9	0.0061	33.1
240.00	22.1	19.0	14.6	0.0131	20.0	13.0	0.0031	31.0
1440.00	21.5	18.0	13.4	0.0132	19.0	13.2	0.0013	28.5

MACTEC, Inc.

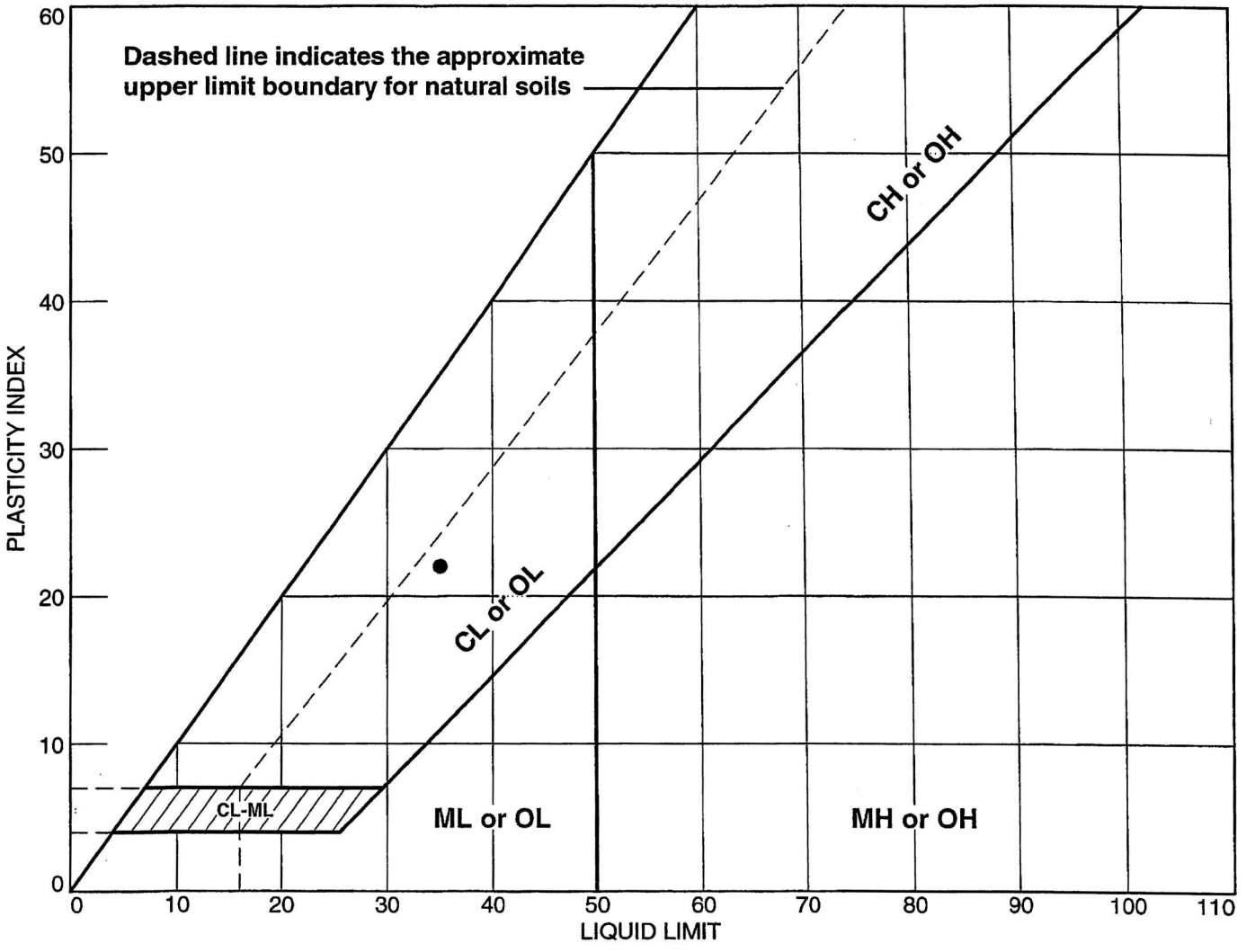
Fractional Components

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	8.6	10.4	57.3	32.3	89.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0021	0.0370	0.0437	0.0596	0.0657	0.0821	0.1923

Fineness Modulus
0.12

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-2265	SS-1	0-1.5	17.0	13	35	22	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 3-13-08

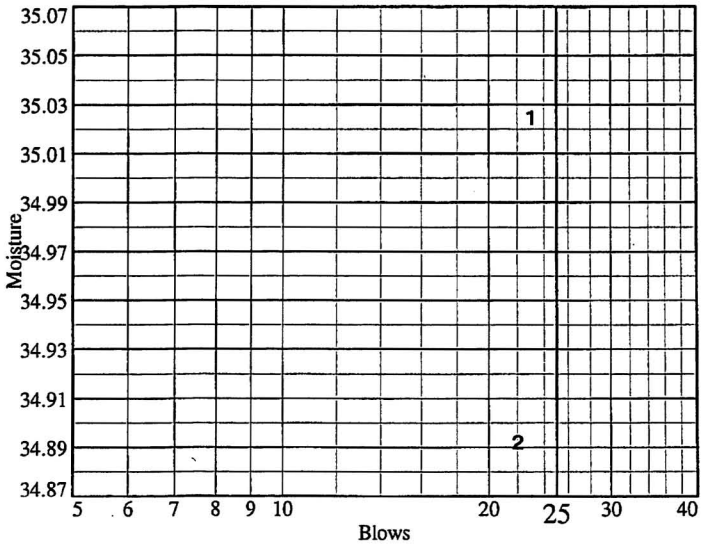
LIQUID AND PLASTIC LIMIT TEST DATA

1/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 0-1.5 **Sample Number:** SS-1
Material Description: Black Lean CLAY
USCS: CL **AASHTO:** A-6(19)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.85	33.89				
Dry+Tare	27.64	29.19				
Tare	15.62	15.72				
# Blows	23	22				
Moisture	35.0	34.9				



Liquid Limit= 35
Plastic Limit= 13
Plasticity Index= 22
Natural Moisture= 17.0
Liquidity Index= 0.2

Plastic Limit Data

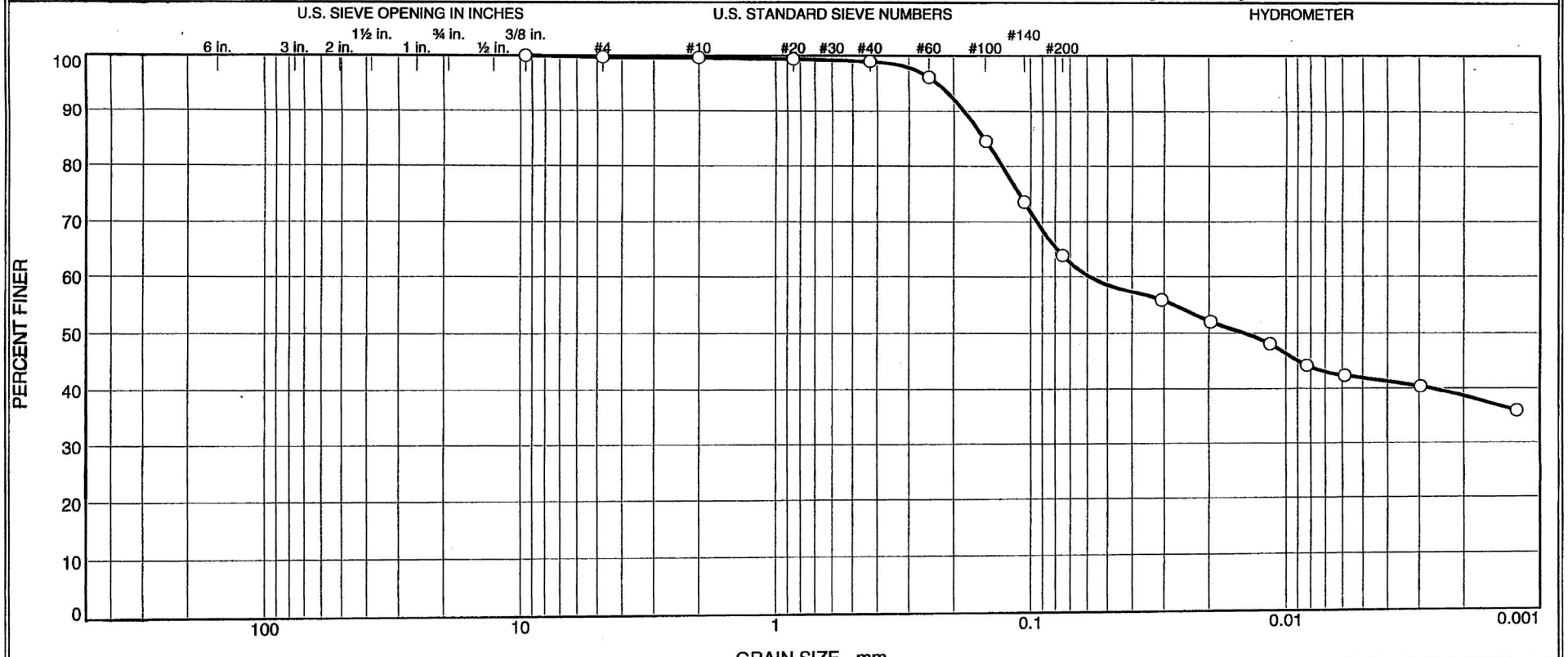
Run No.	1	2	3	4	
Wet+Tare	24.59	26.43			
Dry+Tare	23.55	25.20			
Tare	15.47	15.63			
Moisture	12.9	12.9			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
124.22	107.21	7.04	17.0

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	0.3	0.1	0.7	35.0	22.0	41.9

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-2	3.5-5.0	11-9-07	CL	Light Greenish Gray Sandy Lean CLAY	16.8	43	13

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.665 (ASTM D854-06)
Organic content = 3.2% (ASTM D2794-07)

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-2265
Depth: 3.5-5.0 **Sample Number:** SS-2
Material Description: Light Greenish Gray Sandy Lean CLAY
Date: 11-9-07 **Natural Moisture:** 16.8
Liquid Limit: 43 **Plastic Limit:** 13 **USCS Class.:** CL
Testing Remarks: Specific Gravity = 2.665 (ASTM D854-06)
Organic content = 3.2% (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
172.16	0.00	0.00	3/8"	0.00	100.0
			#4	0.51	99.7
			#10	0.66	99.6
52.22	0.00	0.00	#20	0.14	99.3
			#40	0.37	98.9
			#60	1.86	96.1
			#100	7.86	84.6
			#140	13.65	73.6
			#200	18.73	63.9

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.6
Weight of hydrometer sample =52.22
Hygroscopic moisture correction:
Moist weight and tare = 29.86
Dry weight and tare = 29.45
Tare weight = 15.68
Hygroscopic moisture = 3.0%
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 = 2.665
Hydrometer type = 152H
Hydrometer effective depth equation: 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	22.1	33.0	28.6	0.0132	34.0	10.7	0.0306	55.9
5.00	22.1	31.0	26.6	0.0132	32.0	11.0	0.0197	52.0
15.00	22.1	29.0	24.6	0.0132	30.0	11.4	0.0115	48.1
30.00	22.1	27.0	22.6	0.0132	28.0	11.7	0.0083	44.2
60.00	22.3	26.0	21.6	0.0132	27.0	11.9	0.0059	42.3
240.00	22.3	25.0	20.6	0.0132	26.0	12.0	0.0030	40.4
1440.00	21.4	23.0	18.4	0.0134	24.0	12.4	0.0012	36.0

MACTEC, Inc.

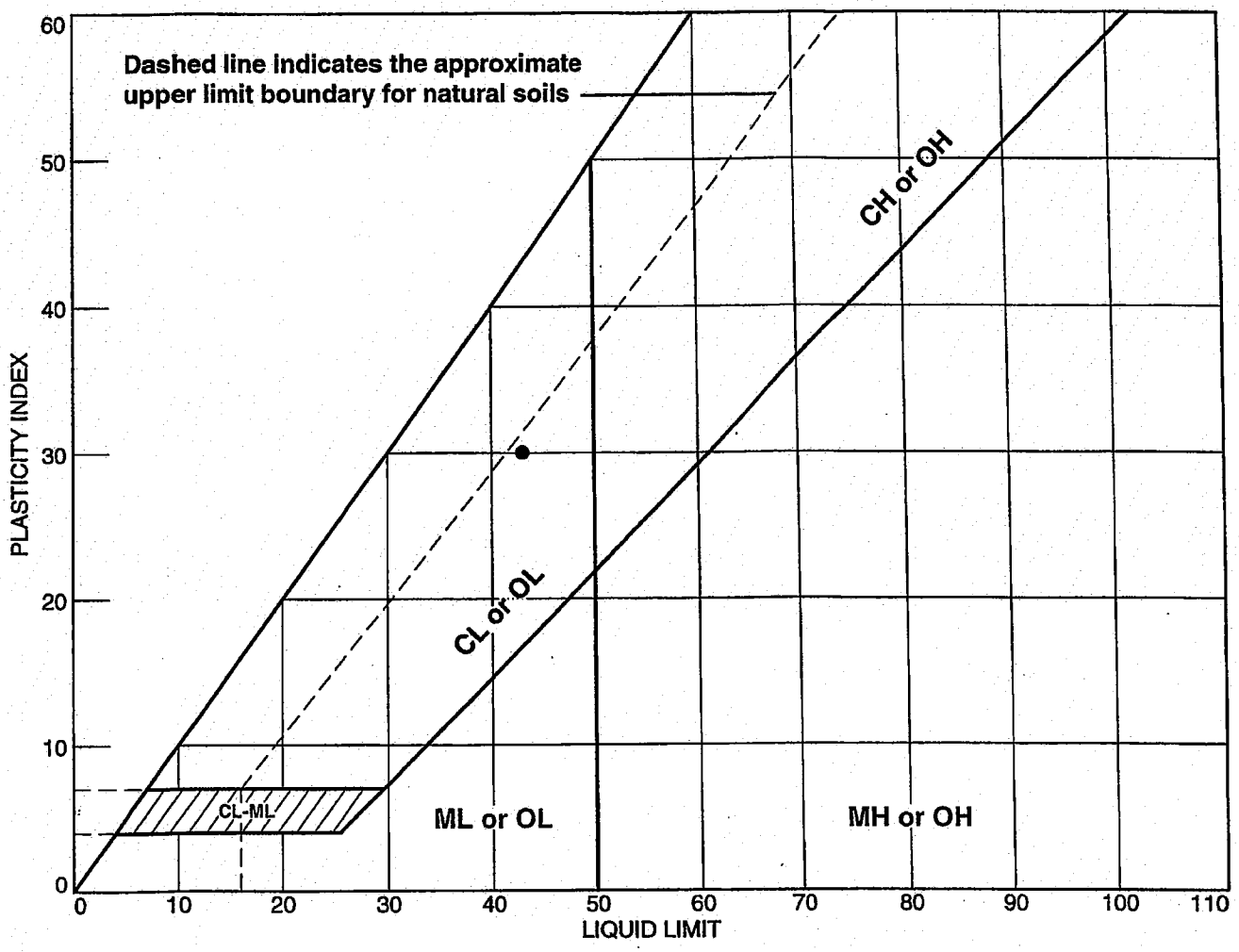
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.3	0.3	0.1	0.7	35.0	35.8	22.0	41.9	63.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0145	0.0587	0.1293	0.1519	0.1825	0.2325

Fineness Modulus
0.20

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-2265	SS-2	3.5-5.0	16.8	13	43	30	CL

MACTEC, Inc. **Raleigh, North Carolina**	**Client:** Bechtel **Project:** Exelon Texas COL (Victoria) **Project No.:** 6468071777 **Figure** N/A

Tested By: CS **Checked By:** LBJ KAW 1/26/08

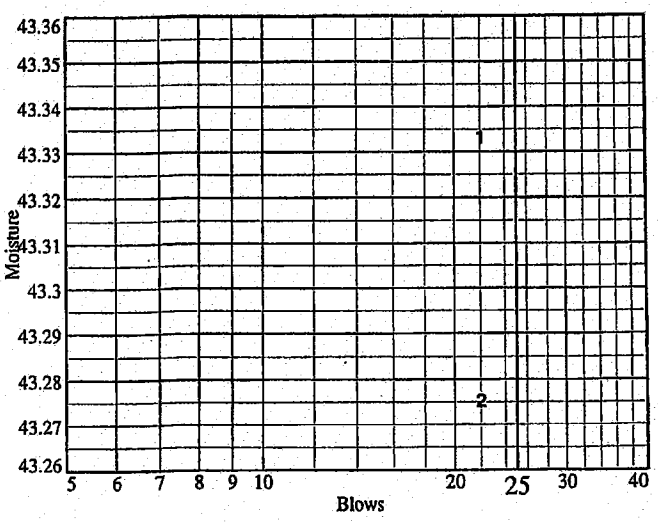
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 3.5-5.0 **Sample Number:** SS-2
Material Description: Light Greenish Gray Sandy Lean CLAY
USCS: CL **AASHTO:** A-7-6(16)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.82	31.16				
Dry+Tare	26.27	26.43				
Tare	15.77	15.50				
# Blows	22	22				
Moisture	43.3	43.3				



Liquid Limit= 43
Plastic Limit= 13
Plasticity Index= 30
Natural Moisture= 16.8
Liquidity Index= 0.1

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	23.20	25.52			
Dry+Tare	22.30	24.42			
Tare	15.27	15.64			
Moisture	12.8	12.5			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
145.18	125.51	8.24	16.8

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-2265 SS-2

(A) Mass of oven-dried soil, grams:		51.03
(B) Mass of pycnometer filled with water at test temperature (T), grams:		654.91
(C) Mass of pycnometer, water and soil, grams:		686.80
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		22.3
(G) Specific Gravity at observed temperature:	A / [C - (C - A)]	2.666
(F)	***Correction factor:***	0.99950
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.665

MATERIAL TESTED: [X] **- # 4** [ ] **- # 10**

PREPARATION METHOD: [X] **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
PYCNOMETER : P-5

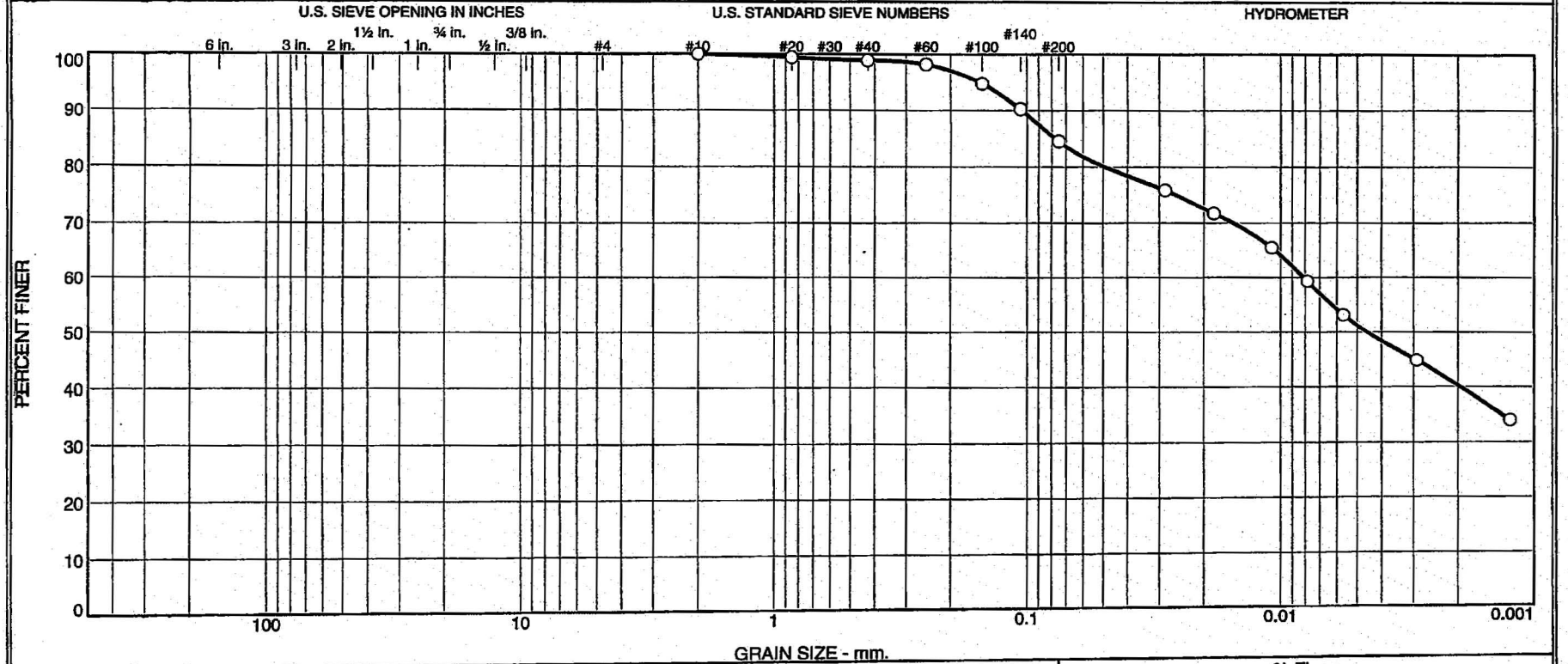
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

KAW 1/26/08

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	1.1	14.3	33.4	51.2

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-3	6-7.5	11-9-07	CL	Light Greenish Gray Lean CLAY with sand	16.5	46	13

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed

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-2265
Depth: 6-7.5 **Sample Number:** SS-3
Material Description: Light Greenish Gray Lean CLAY with sand
Date: 11-9-07 **Natural Moisture:** 16.5
Liquid Limit: 46 **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
181.57	0.00	0.00	#10	0.00	100.0
48.69	0.00	0.00	#20	0.29	99.4
			#40	0.55	98.9
			#60	0.88	98.2
			#100	2.59	94.7
			#140	4.76	90.2
			#200	7.49	84.6

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =48.69
Hygroscopic moisture correction:
Moist weight and tare = 28.80
Dry weight and tare = 28.51
Tare weight = 15.47
Hygroscopic moisture = 2.2%
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 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.1	41.0	36.6	0.0131	42.0	9.4	0.0284	75.9
5.00	22.1	39.0	34.6	0.0131	40.0	9.7	0.0183	71.8
15.00	22.1	36.0	31.6	0.0131	37.0	10.2	0.0108	65.5
30.00	22.1	33.0	28.6	0.0131	34.0	10.7	0.0078	59.3
60.00	22.2	30.0	25.6	0.0131	31.0	11.2	0.0057	53.1
240.00	22.2	26.0	21.6	0.0131	27.0	11.9	0.0029	44.8
1440.00	21.4	21.0	16.4	0.0132	22.0	12.7	0.0012	34.0

MACTEC, Inc.

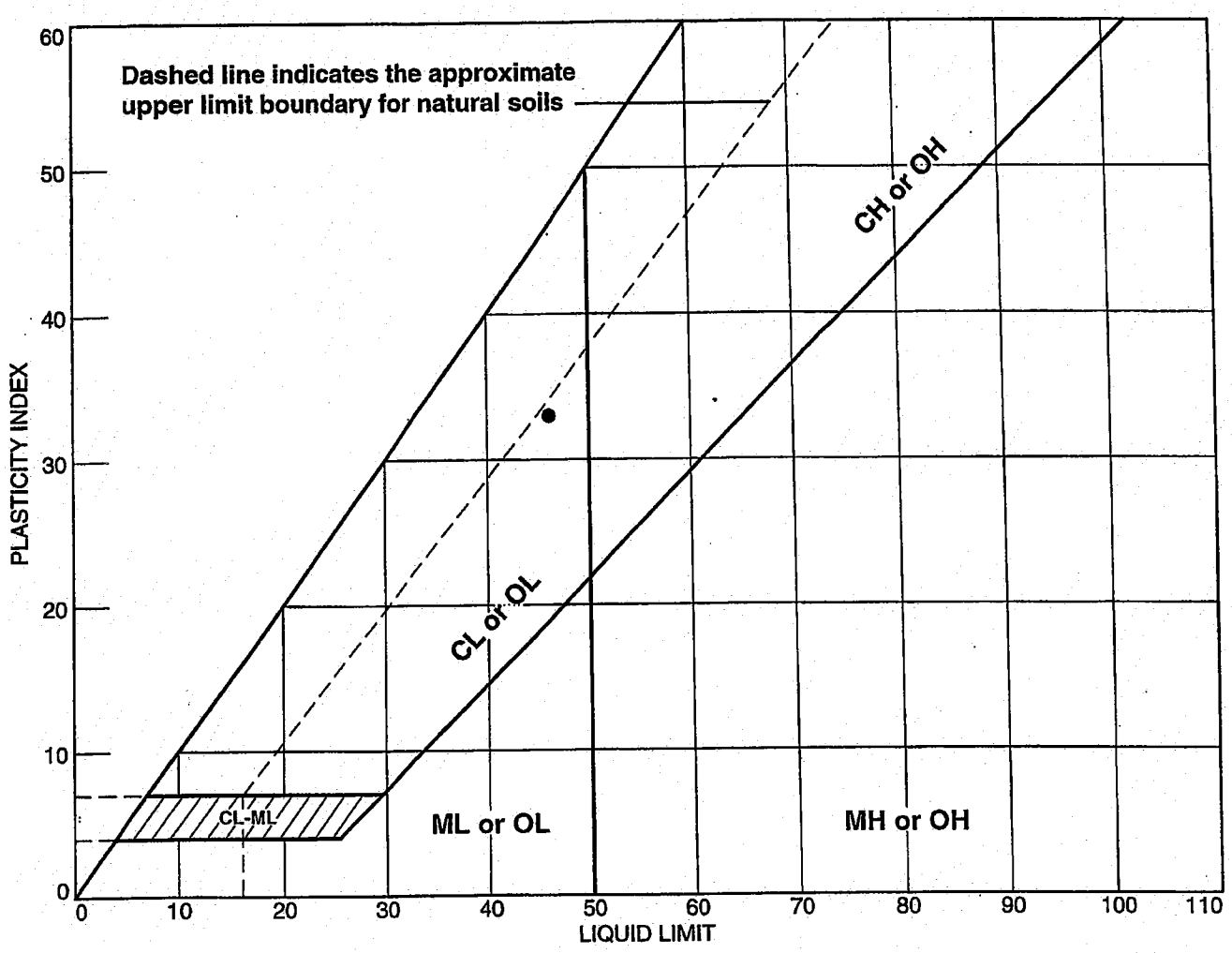
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.1	14.3	15.4	33.4	51.2	84.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0046	0.0081	0.0492	0.0770	0.1045	0.1548

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-2265	SS-3	6-7.5	16.5	13	46	33	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

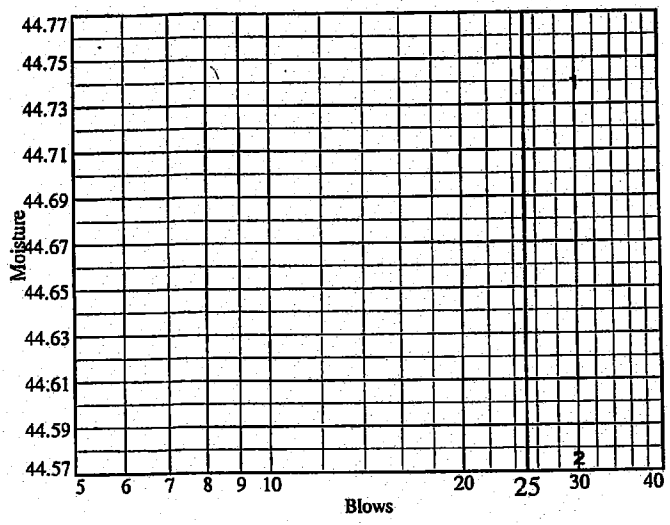
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 6-7.5 **Sample Number:** SS-3
Material Description: Light Greenish Gray Lean CLAY with sand
USCS: CL **AASHTO:** A-7-6(28)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.63	33.87				
Dry+Tare	26.57	28.20				
Tare	15.26	15.48				
# Blows	30	30				
Moisture	44.7	44.6				



Liquid Limit= 46
Plastic Limit= 13
Plasticity Index= 33
Natural Moisture= 16.5
Liquidity Index= 0.1

Plastic Limit Data

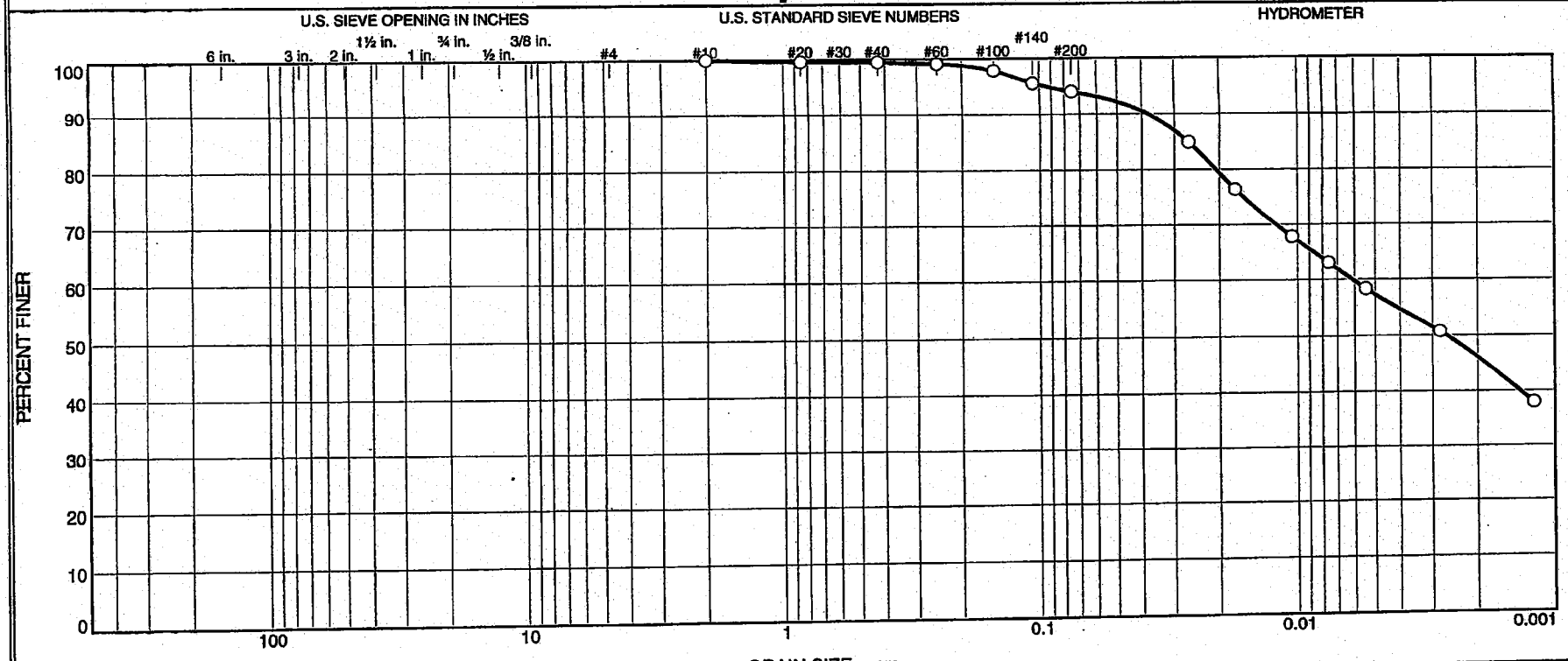
Run No.	1	2	3	4	
Wet+Tare	22.58	24.46			
Dry+Tare	21.77	23.40			
Tare	15.55	15.54			
Moisture	13.0	13.5			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
108.60	94.22	6.86	16.5

MACTEC, Inc.

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	0.0	0.0	0.5	5.5	36.7	57.3

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2265	SS-4	8.5-10.0	11-9-07	CL	Light Greenish Gray Lean CLAY	18.4	48	15

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

O Specific Gravity is assumed
Organic content = 2.7% (ASTM D2794-07)

Tested By: CS **Checked By:** LBi 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-2265
Depth: 8.5-10.0 **Sample Number:** SS-4
Material Description: Light Greenish Gray Lean CLAY
Date: 11-9-07 **Natural Moisture:** 18.4
Liquid Limit: 48 **Plastic Limit:** 15 **USCS Class.:** CL
Testing Remarks: Specific Gravity is assumed
Organic content = 2.7% (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
194.62	0.00	0.00	#10	0.00	100.0
53.26	0.00	0.00	#20	0.20	99.6
			#40	0.28	99.5
			#60	0.48	99.1
			#100	1.17	97.8
			#140	2.38	95.5
			#200	3.20	94.0

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =53.26
Hygroscopic moisture correction:
Moist weight and tare = 28.49
Dry weight and tare = 28.15
Tare weight = 15.56
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 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.1	49.0	44.6	0.0131	50.0	8.1	0.0264	85.0
5.00	22.1	44.5	40.1	0.0131	45.5	8.8	0.0174	76.4
15.00	22.1	40.0	35.6	0.0131	41.0	9.6	0.0105	67.8
30.00	22.1	37.5	33.1	0.0131	38.5	10.0	0.0076	63.1
60.00	22.3	35.0	30.6	0.0131	36.0	10.4	0.0054	58.4
240.00	22.3	31.0	26.6	0.0131	32.0	11.0	0.0028	50.8
1440.00	21.5	24.5	19.9	0.0132	25.5	12.1	0.0012	37.9

MACTEC, Inc.

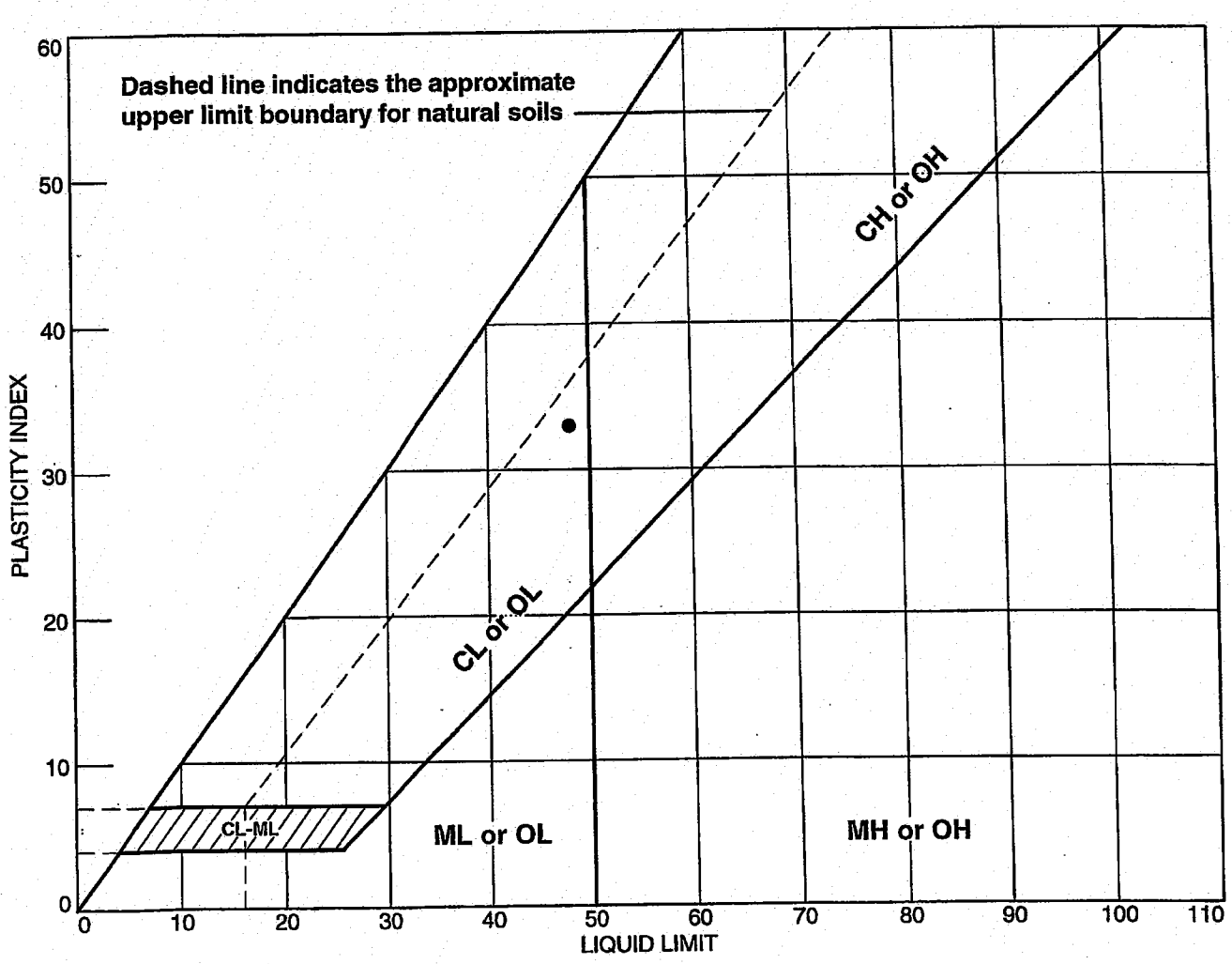
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.5	5.5	6.0	36.7	57.3	94.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0026	0.0061	0.0206	0.0264	0.0379	0.0960

Fineness Modulus
0.04

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-2265	SS-4	8.5-10.0	18.4	15	48	33	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

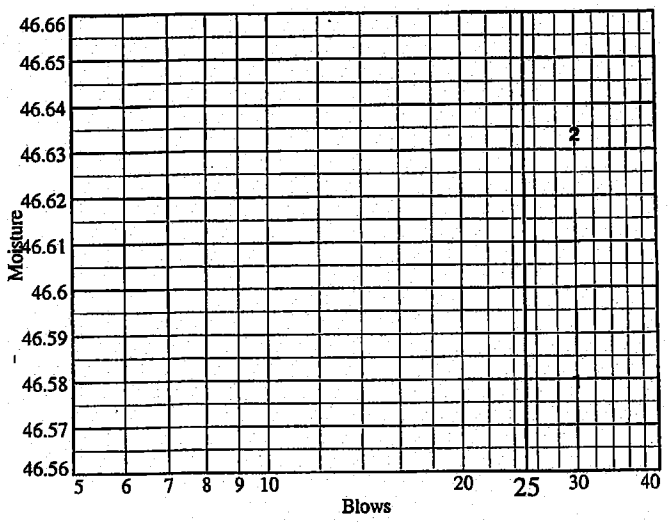
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 8.5-10.0
Sample Number: SS-4
Material Description: Light Greenish Gray Lean CLAY
USCS: CL
AASHTO: A-7-6(32)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.08	33.08				
Dry+Tare	25.45	27.47				
Tare	15.51	15.44				
# Blows	30	30				
Moisture	46.6	46.6				



Liquid Limit= 48
Plastic Limit= 15
Plasticity Index= 33
Natural Moisture= 18.4
Liquidity Index= 0.1

Plastic Limit Data

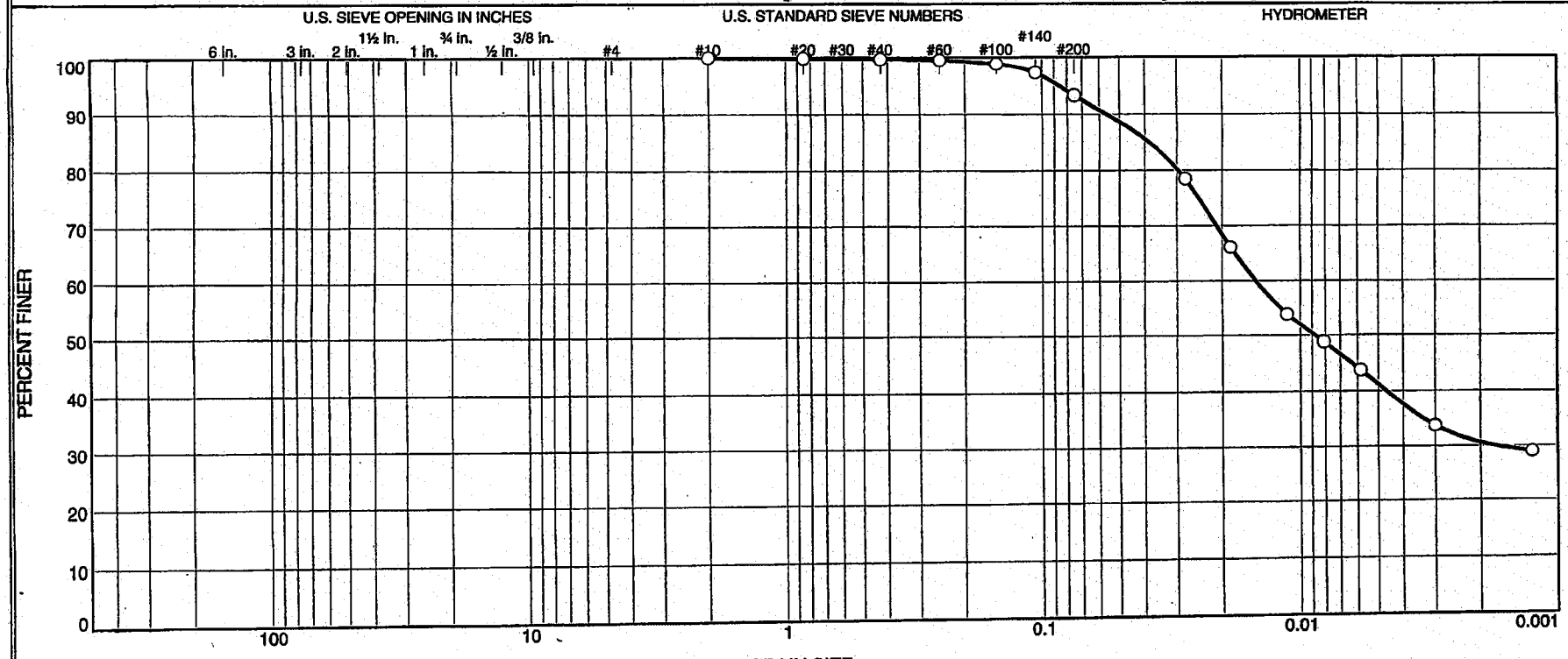
Run No.	1	2	3	4	
Wet+Tare	26.32	26.31			
Dry+Tare	24.88	24.94			
Tare	15.48	15.61			
Moisture	15.3	14.7			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
125.45	107.42	9.18	18.4

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	6.5	51.9	41.3

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-5	11.0-12.5	11-9-07	CL	Light Greenish Gray Lean CLAY	22.6	40	14

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure N/A

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed

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-2265
Depth: 11.0-12.5 **Sample Number:** SS-5
Material Description: Light Greenish Gray Lean CLAY
Date: 11-9-07 **Natural Moisture:** 22.6
Liquid Limit: 40 **Plastic Limit:** 14 **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
180.40	0.00	0.00	#10	0.00	100.0
49.62	0.00	0.00	#20	0.10	99.8
			#40	0.16	99.7
			#60	0.26	99.5
			#100	0.60	98.8
			#140	1.36	97.3
			#200	3.35	93.2

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =49.62
Hygroscopic moisture correction:
Moist weight and tare = 24.36
Dry weight and tare = 24.12
Tare weight = 11.20
Hygroscopic moisture = 1.9%
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 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.4	43.0	38.6	0.0131	44.0	9.1	0.0278	78.5
5.00	22.2	37.0	32.6	0.0131	38.0	10.1	0.0186	66.2
15.00	22.2	31.0	26.6	0.0131	32.0	11.0	0.0112	54.0
30.00	22.1	28.5	24.1	0.0131	29.5	11.5	0.0081	48.9
60.00	22.1	26.0	21.6	0.0131	27.0	11.9	0.0058	43.8
240.00	22.4	21.0	16.6	0.0131	22.0	12.7	0.0030	33.8
1440.00	21.2	19.0	14.3	0.0132	20.0	13.0	0.0013	29.1

MACTEC, Inc.

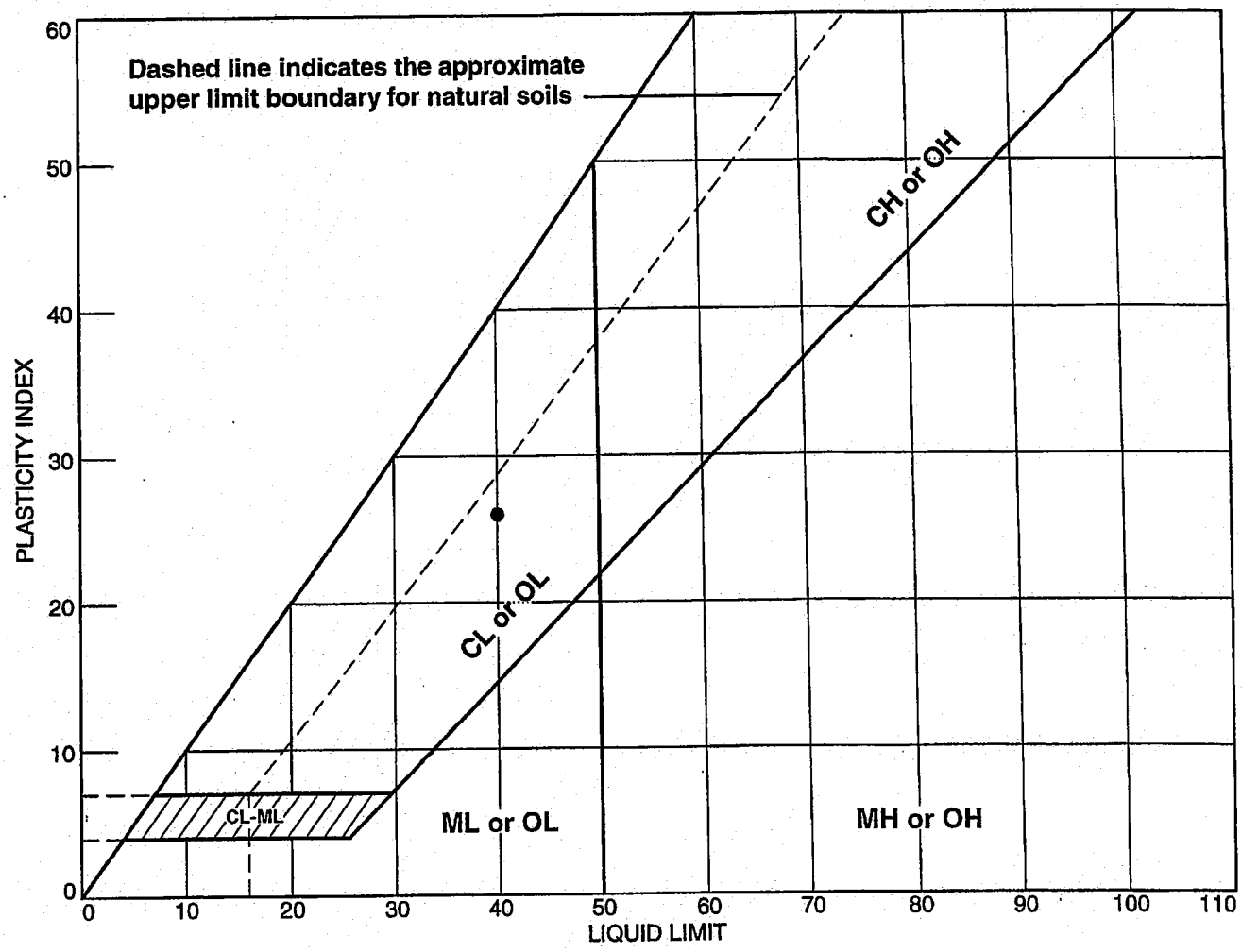
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.3	6.5	6.8	51.9	41.3	93.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0017	0.0088	0.0148	0.0296	0.0380	0.0560	0.0862

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-2265	SS-5	11.0-12.5	22.6	14	40	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 KAW 1/26/08

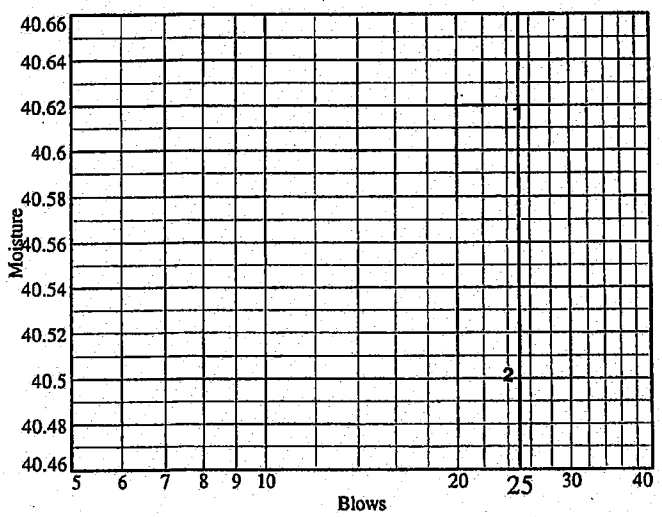
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 11.0-12.5 **Sample Number:** SS-5
Material Description: Light Greenish Gray Lean CLAY
USCS: CL **AASHTO:** A-6(24)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	26.58	31.28				
Dry+Tare	22.10	26.76				
Tare	11.07	15.60				
# Blows	25	24				
Moisture	40.6	40.5				



Liquid Limit= 40
Plastic Limit= 14
Plasticity Index= 26
Natural Moisture= 22.6
Liquidity Index= 0.3

Plastic Limit Data

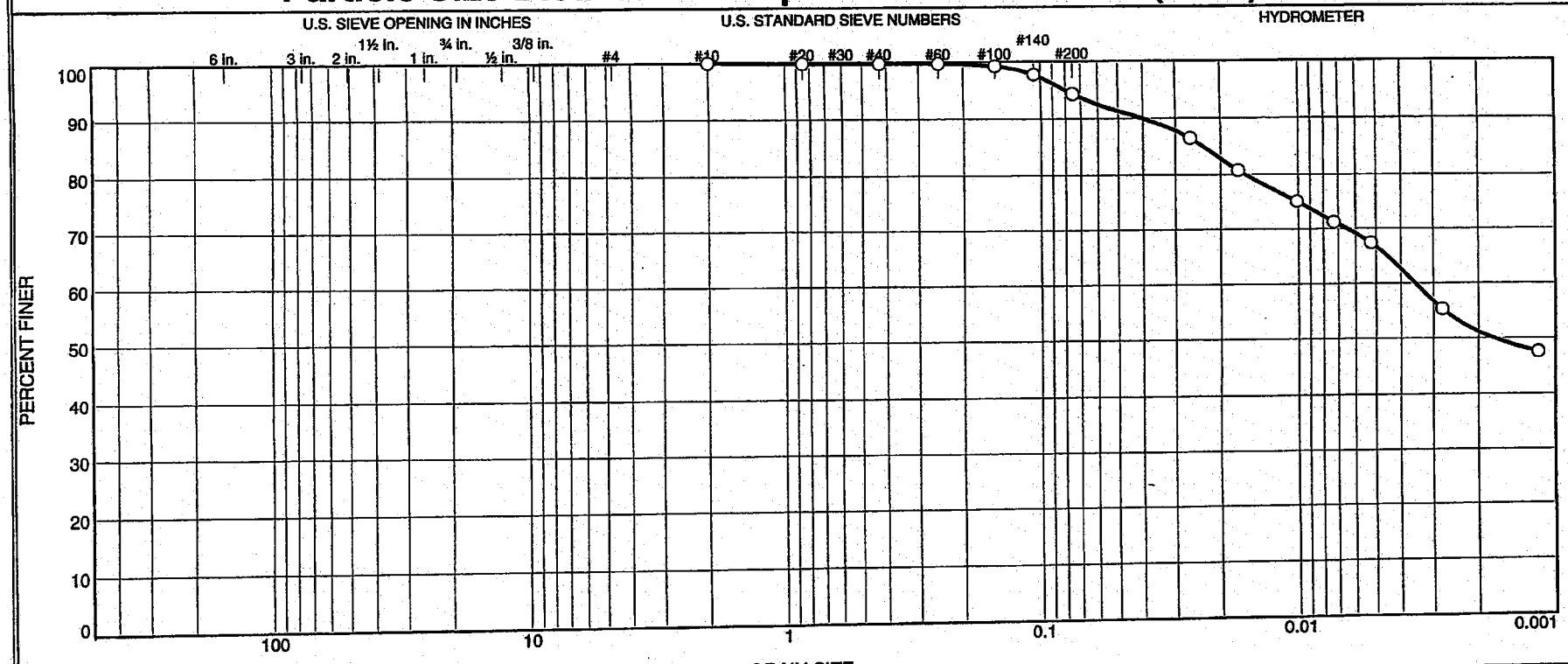
Run No.	1	2	3	4	
Wet+Tare	25.33	24.39			
Dry+Tare	24.14	23.28			
Tare	15.50	15.51			
Moisture	13.8	14.3			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
107.03	88.96	9.12	22.6

MACTEC, Inc.

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	0.0	0.0	0.2	5.6	27.4	66.8

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2265	SS-6	13.5-15.0	11-9-07	CH	Light Greenish Gray Fat CLAY	21.9	64	16

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 | Figure NA

MACTEC, Inc.

Raleigh, North Carolina

O Specific Gravity = 2.676 (ASTM D854-06)
Organic content = 3.0% (ASTM D2794-07)

Tested By: CS Checked By: LBL 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-2265
Depth: 13.5-15.0 **Sample Number:** SS-6
Material Description: Light Greenish Gray Fat CLAY
Date: 11-9-07 **Natural Moisture:** 21.9
Liquid Limit: 64 **Plastic Limit:** 16 **USCS Class.:** CH
Testing Remarks: Specific Gravity = 2.676 (ASTM D854-06)
Organic content = 3.0% (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
182.05	0.00	0.00	#10	0.00	100.0
52.12	0.00	0.00	#20	0.09	99.8
			#40	0.12	99.8
			#60	0.14	99.7
			#100	0.41	99.2
			#140	1.21	97.7
			#200	3.03	94.2

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =52.12
Hygroscopic moisture correction:
Moist weight and tare = 29.06
Dry weight and tare = 28.90
Tare weight = 15.42
Hygroscopic moisture = 1.2%
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 = 2.676
Hydrometer type = 152H
Hydrometer effective depth equation: 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	49.0	44.8	0.0131	50.0	8.1	0.0263	86.5
5.00	23.1	46.0	41.8	0.0130	47.0	8.6	0.0171	80.8
15.00	23.4	43.0	38.9	0.0130	44.0	9.1	0.0101	75.1
30.00	23.4	41.0	36.9	0.0130	42.0	9.4	0.0073	71.3
60.00	23.5	39.0	35.0	0.0130	40.0	9.7	0.0052	67.5
240.00	22.6	33.0	28.7	0.0131	34.0	10.7	0.0028	55.4
1440.00	22.5	29.0	24.7	0.0131	30.0	11.4	0.0012	47.6

MACTEC, Inc.

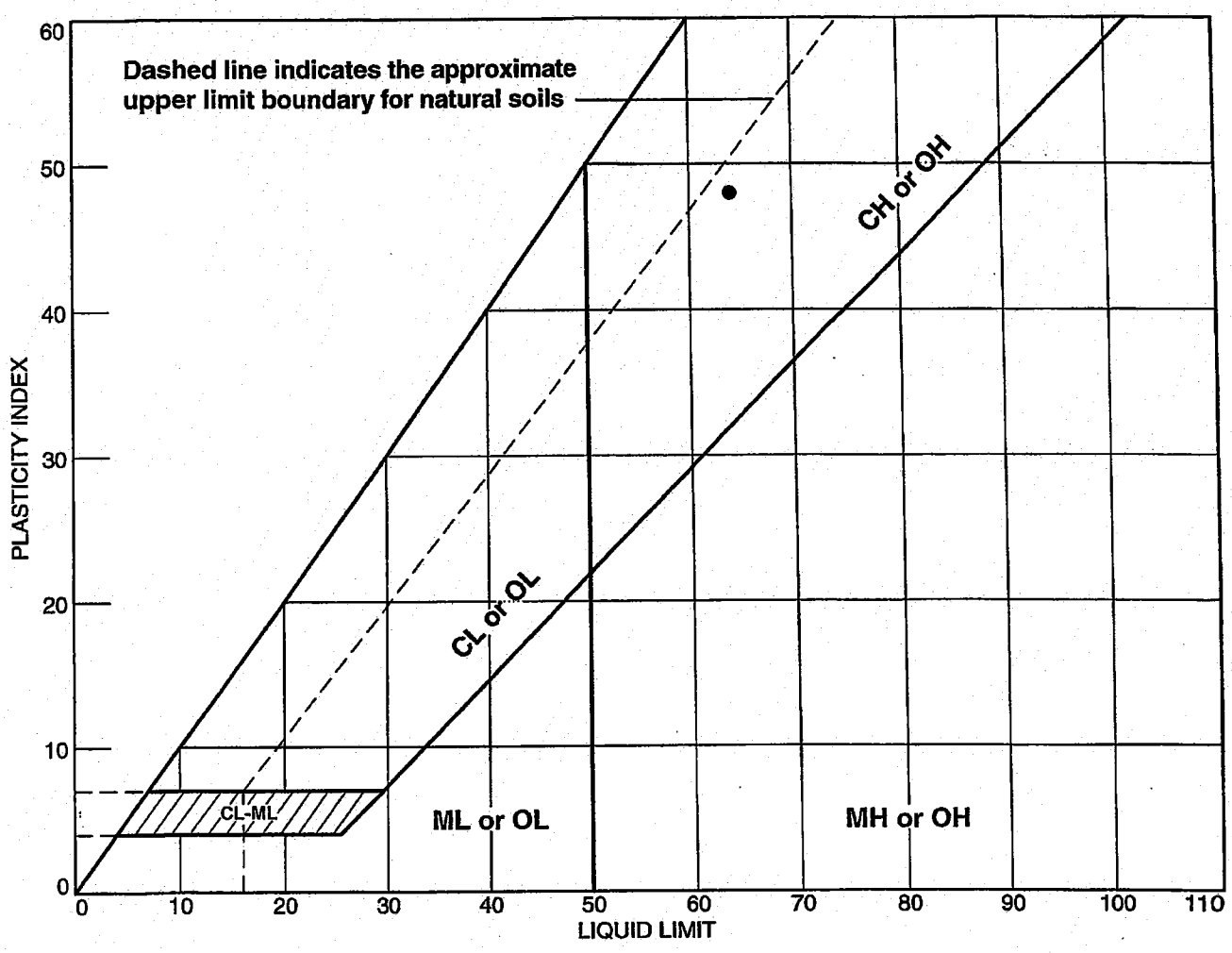
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.2	5.6	5.8	27.4	66.8	94.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0017	0.0035	0.0160	0.0233	0.0402	0.0812

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-2265	SS-6	13.5-15.0	21.9	16	64	48	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

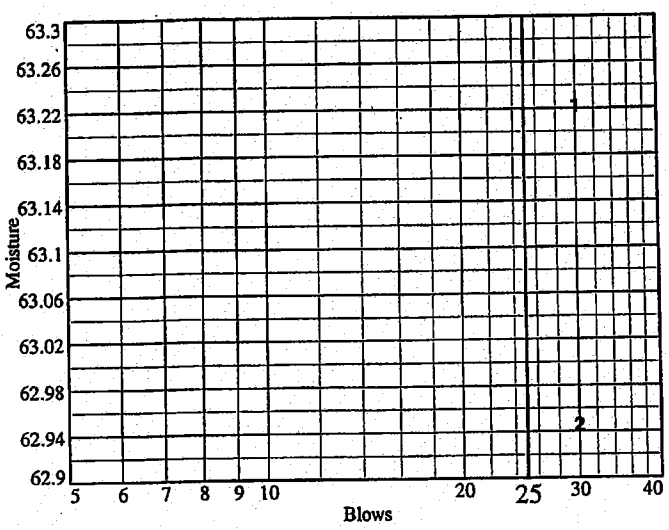
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 13.5-15.0
Sample Number: SS-6
Material Description: Light Greenish Gray Fat CLAY
USCS: CH
AASHTO: A-7-6(49)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	28.75	30.08				
Dry+Tare	23.61	24.44				
Tare	15.48	15.48				
# Blows	30	30				
Moisture	63.2	62.9				



Liquid Limit= 64
Plastic Limit= 16
Plasticity Index= 48
Natural Moisture= 21.9
Liquidity Index= 0.1

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	21.40	24.10			
Dry+Tare	20.56	22.89			
Tare	15.45	15.51			
Moisture	16.4	16.4			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
169.23	140.06	6.87	21.9

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-2265 SS-6

(A) Mass of oven-dried soil, grams:		49.63
(B) Mass of pycnometer filled with water at test temperature (T), grams:		655.03
(C) Mass of pycnometer, water and soil, grams:		686.12
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		22.0
(G) Specific Gravity at observed temperature:	A / [C - (C - A)]	2.677
(F)	***Correction factor:***	0.99957
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.676

MATERIAL TESTED: [X] **- # 4** [ ] **- # 10**

PREPARATION METHOD: [X] **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

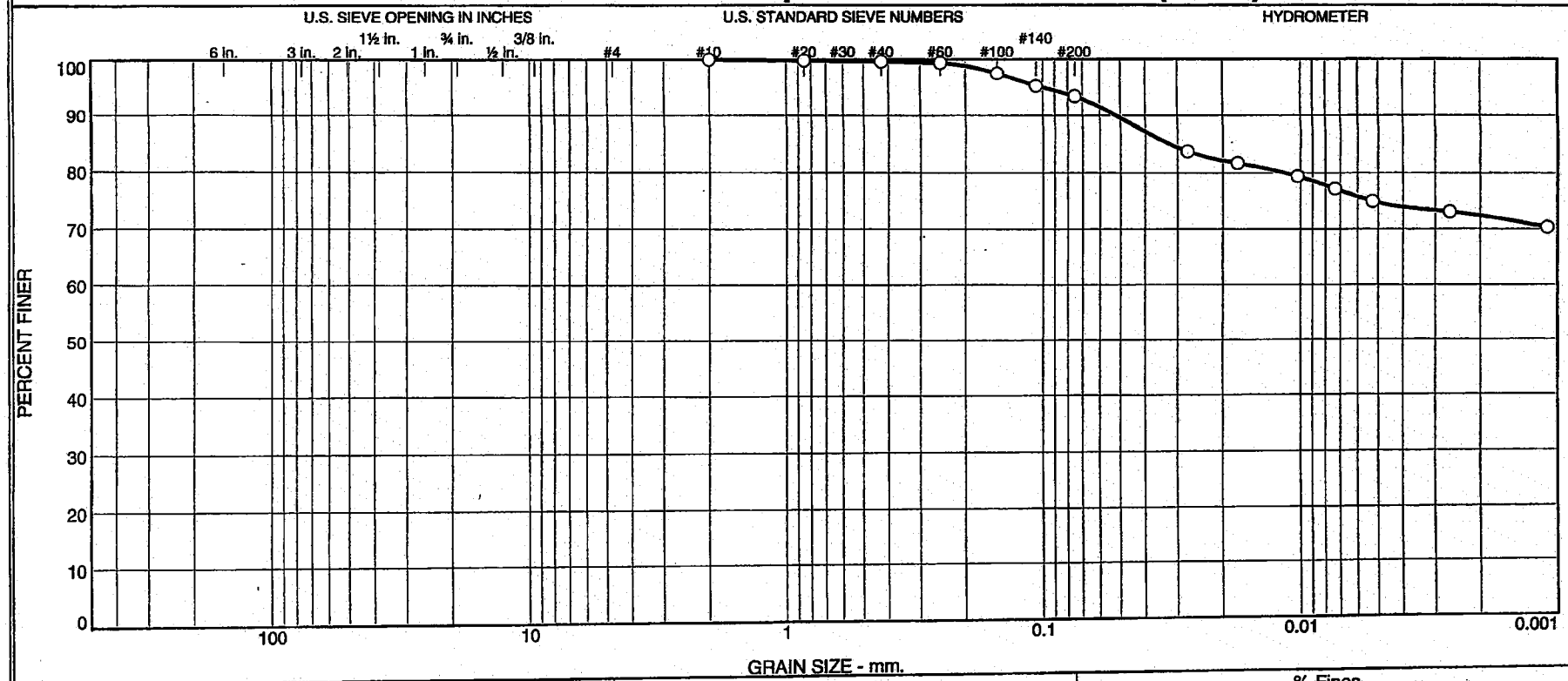
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

KAW 1/26/08

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	0.0	0.0	0.4	6.3	18.7	74.6

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2265	SS-7	18.5-20.0	11-9-07	CH	Light Yellowish Brown Fat CLAY	29.8	80	22

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

O Specific Gravity is assumed

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-2265
Depth: 18.5-20.0 **Sample Number:** SS-7
Material Description: Light Yellowish Brown Fat CLAY
Date: 11-9-07 **Natural Moisture:** 29.8
Liquid Limit: 80 **Plastic Limit:** 22 **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
159.90	0.00	0.00	#10	0.00	100.0
48.40	0.00	0.00	#20	0.10	99.8
			#40	0.19	99.6
			#60	0.29	99.4
			#100	1.20	97.5
			#140	2.32	95.2
			#200	3.23	93.3

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =48.4
Hygroscopic moisture correction:
Moist weight and tare = 29.04
Dry weight and tare = 28.62
Tare weight = 15.52
Hygroscopic moisture = 3.2%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.7	44.0	39.7	0.0130	45.0	8.9	0.0275	83.8
5.00	22.7	43.0	38.7	0.0130	44.0	9.1	0.0175	81.7
15.00	22.4	42.0	37.6	0.0131	43.0	9.2	0.0102	79.4
30.00	22.1	41.0	36.6	0.0131	42.0	9.4	0.0073	77.1
60.00	21.9	40.0	35.5	0.0131	41.0	9.6	0.0052	74.9
240.00	22.4	39.0	34.6	0.0131	40.0	9.7	0.0026	73.1
1440.00	21.3	38.0	33.3	0.0132	39.0	9.9	0.0011	70.3

MACTEC, Inc.

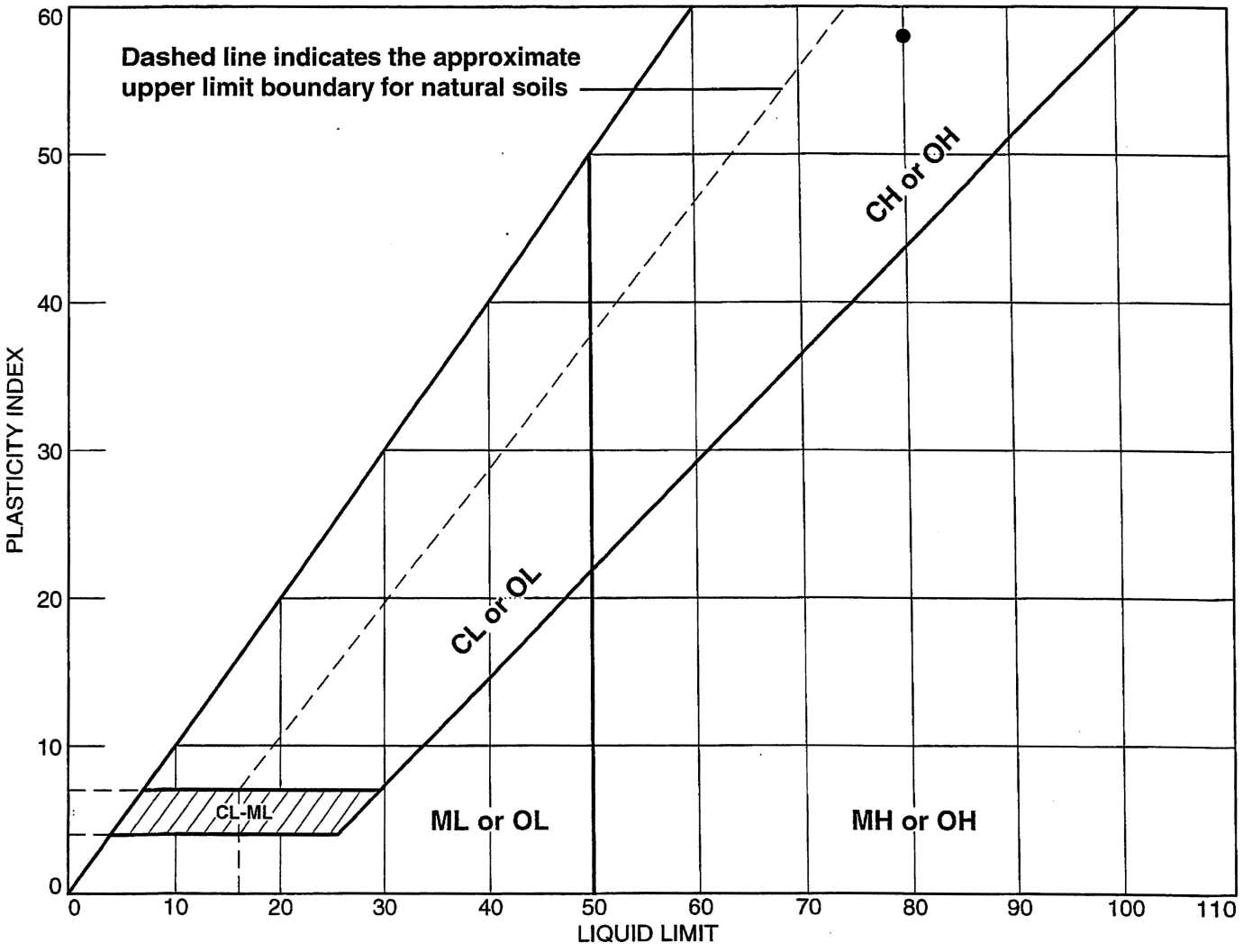
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.4	6.3	6.7	18.7	74.6	93.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.0115	0.0319	0.0517	0.1022

Fineness Modulus
0.03

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-2265	SS-7	18.5-20.0	29.8	22	80	58	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

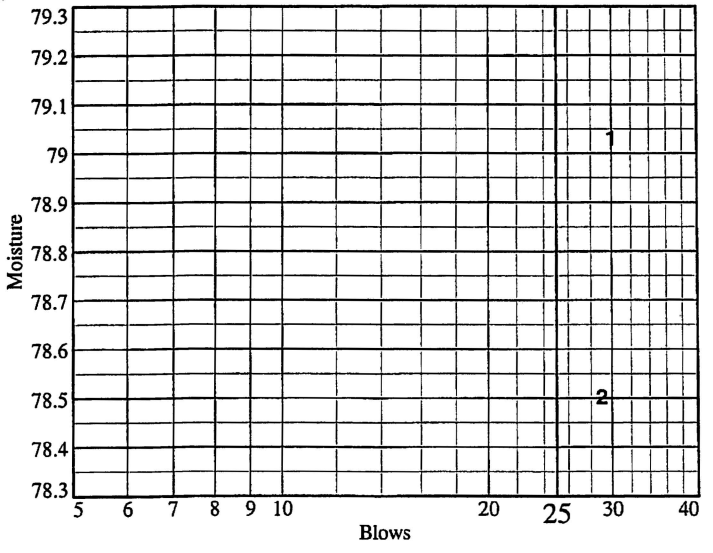
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 18.5-20.0 **Sample Number:** SS-7
Material Description: Light Yellowish 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	28.83	30.62				
Dry+Tare	22.95	24.01				
Tare	15.51	15.59				
# Blows	30	29				
Moisture	79.0	78.5				



Liquid Limit= 80
Plastic Limit= 22
Plasticity Index= 58
Natural Moisture= 29.8
Liquidity Index= 0.1

Plastic Limit Data

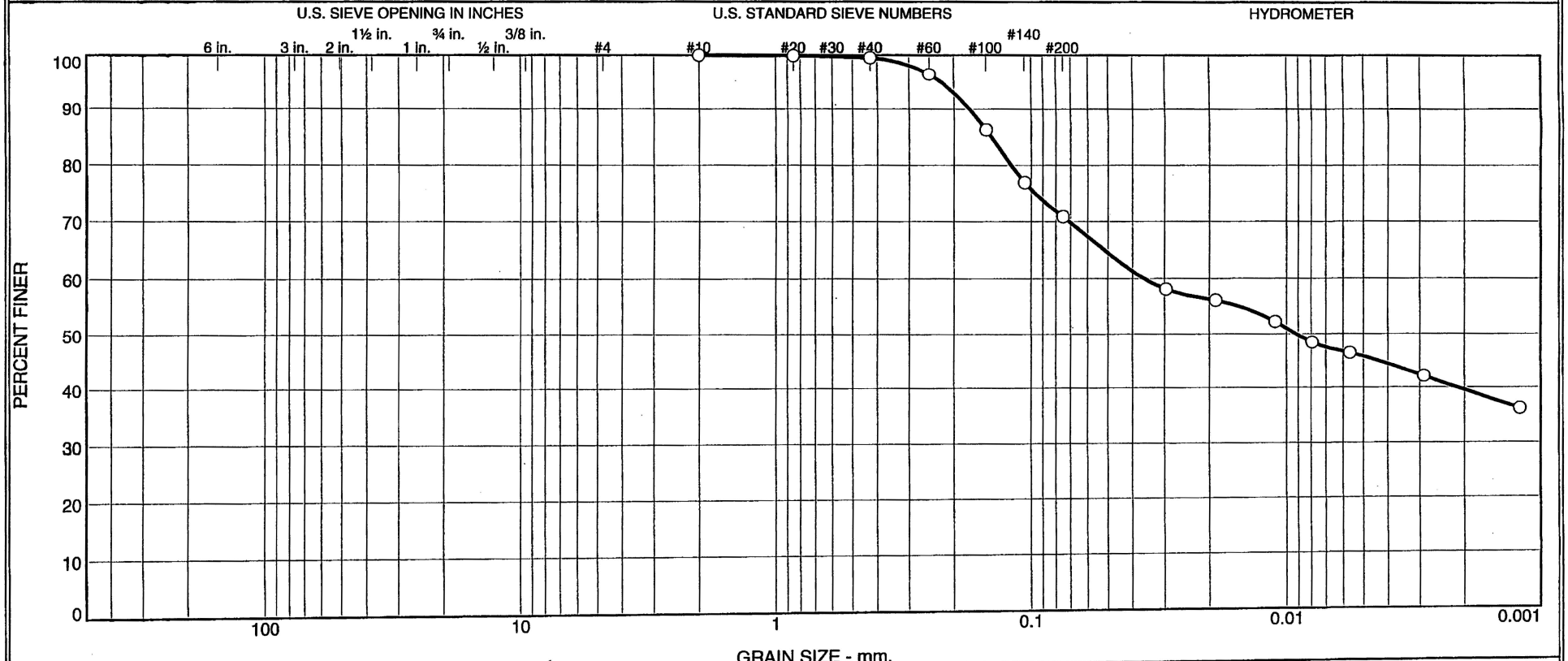
Run No.	1	2	3	4	
Wet+Tare	21.37	23.38			
Dry+Tare	20.29	21.94			
Tare	15.46	15.48			
Moisture	22.4	22.3			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
114.42	89.69	6.60	29.8

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	0.4	28.7	25.1	45.8

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-8	23.5-25.0	11-9-07	CL	Greenish Gray Lean CLAY with sand	15.9	34	13

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed

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-2265
Depth: 23.5-25.0 **Sample Number:** SS-8
Material Description: Greenish Gray Lean CLAY with sand
Date: 11-9-07 **Natural Moisture:** 15.9
Liquid Limit: 34 **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
204.50	0.00	0.00	#10	0.00	100.0
51.40	0.00	0.00	#20	0.04	99.9
			#40	0.23	99.6
			#60	1.83	96.4
			#100	7.04	86.3
			#140	11.86	76.9
			#200	14.96	70.9

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =51.40
Hygroscopic moisture correction:
Moist weight and tare = 29.14
Dry weight and tare = 29.04
Tare weight = 15.49
Hygroscopic moisture = 0.7%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	23.6	34.0	30.0	0.0129	35.0	10.6	0.0296	58.1
5.00	23.5	33.0	29.0	0.0129	34.0	10.7	0.0189	56.1
15.00	23.5	31.0	27.0	0.0129	32.0	11.0	0.0111	52.2
30.00	23.6	29.0	25.0	0.0129	30.0	11.4	0.0079	48.4
60.00	23.6	28.0	24.0	0.0129	29.0	11.5	0.0056	46.5
240.00	22.7	26.0	21.7	0.0130	27.0	11.9	0.0029	42.1
1440.00	22.5	23.0	18.7	0.0130	24.0	12.4	0.0012	36.2

MACTEC, Inc.

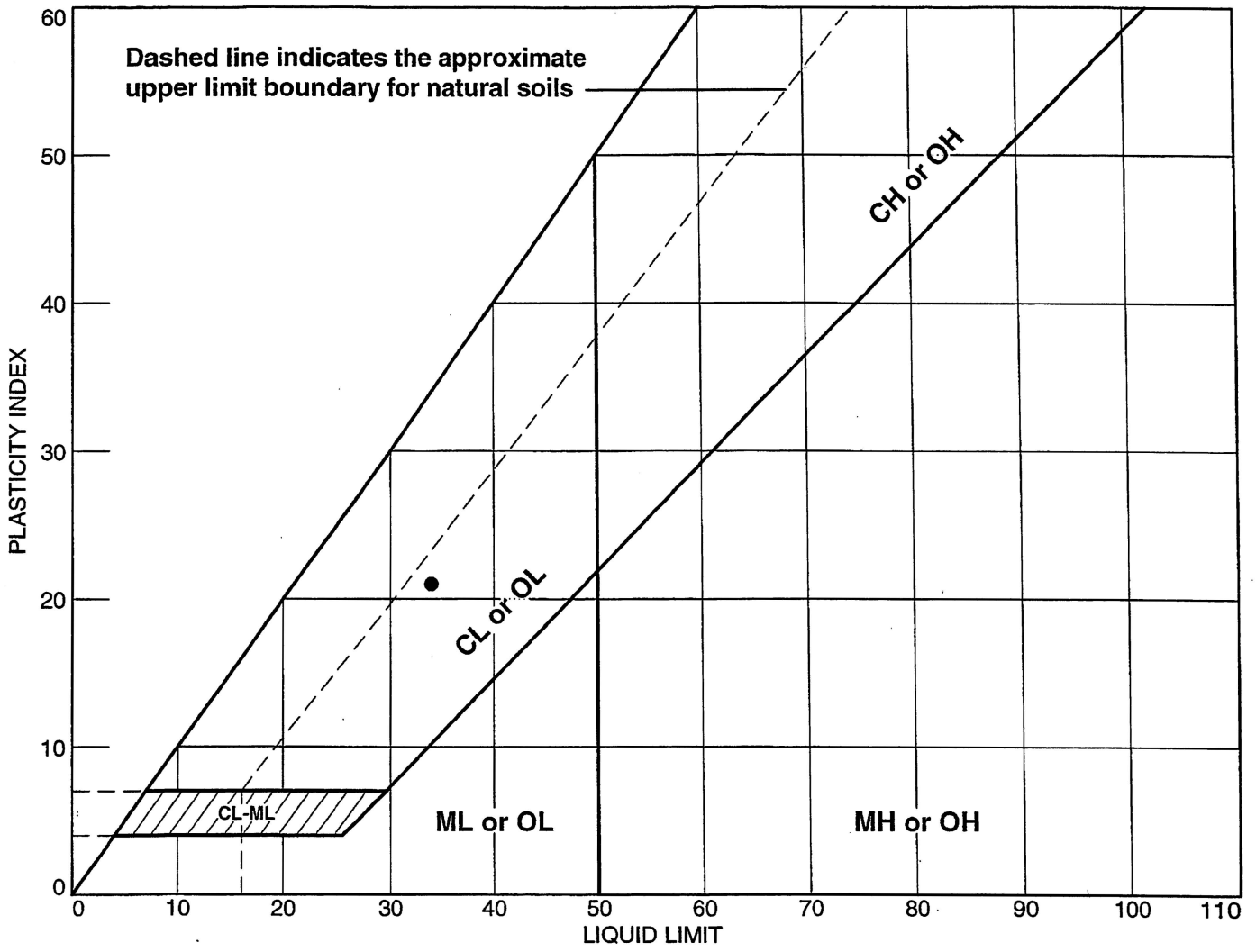
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.4	28.7	29.1	25.1	45.8	70.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0092	0.0361	0.1197	0.1430	0.1739	0.2253

Fineness Modulus
0.16

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-2265	SS-8	23.5-25.0	15.9	13	34	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 8/KAW 1/26/08

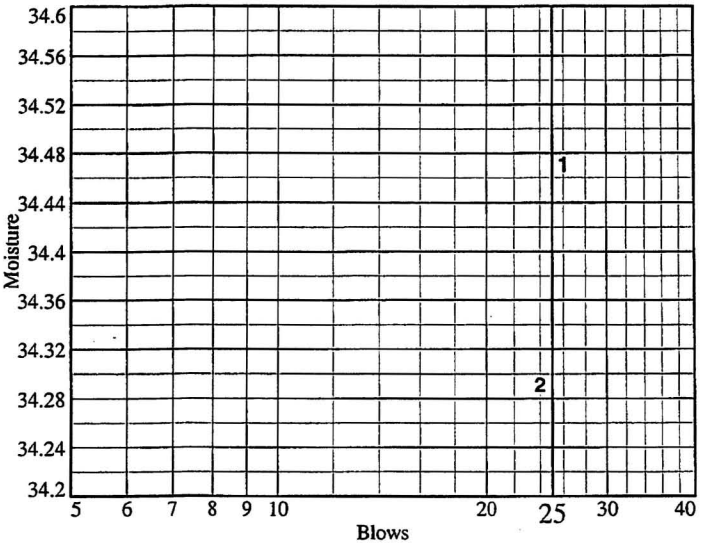
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 23.5-25.0 **Sample Number:** SS-8
Material Description: Greenish Gray Lean CLAY with sand
USCS: CL **AASHTO:** A-6(12)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.78	34.63				
Dry+Tare	27.64	29.74				
Tare	15.63	15.48				
# Blows	26	24				
Moisture	34.5	34.3				



Liquid Limit= 34
Plastic Limit= 13
Plasticity Index= 21
Natural Moisture= 15.9
Liquidity Index= 0.1

Plastic Limit Data

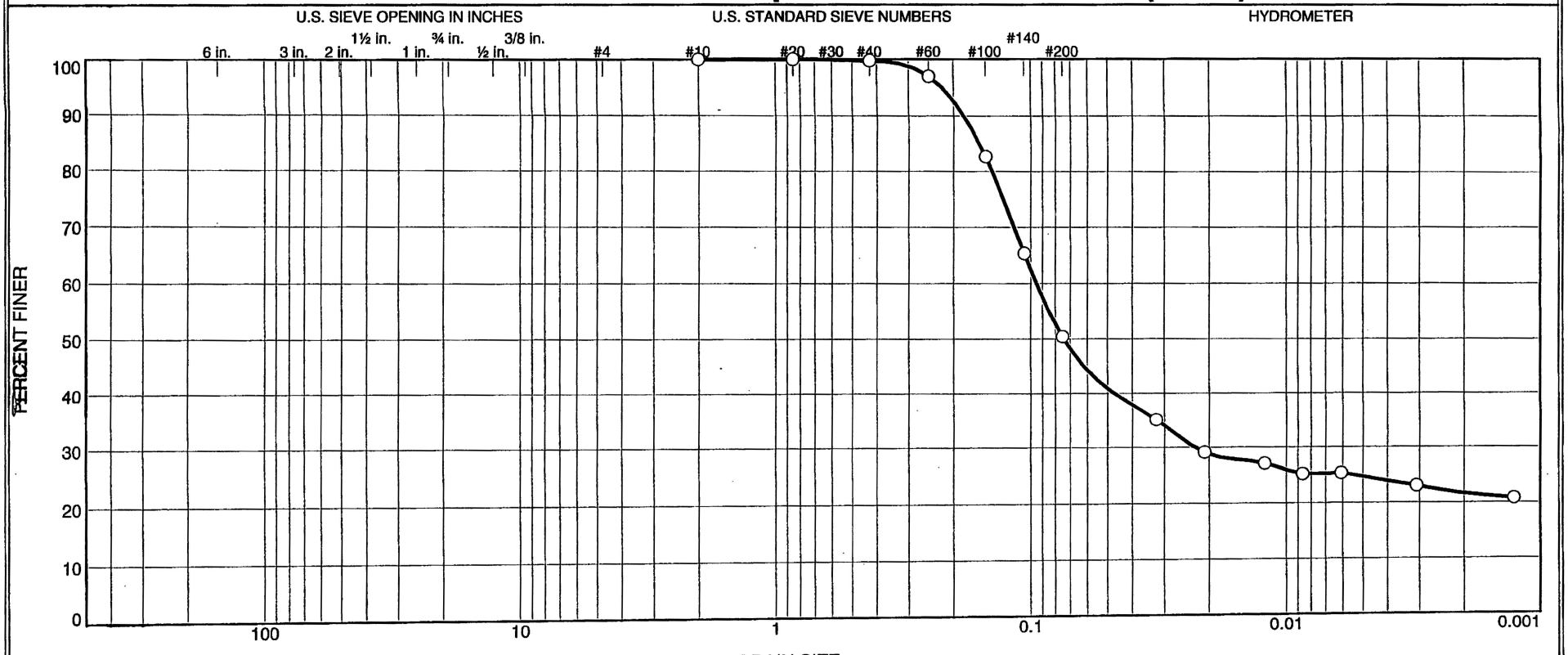
Run No.	1	2	3	4	
Wet+Tare	22.43	26.38			
Dry+Tare	21.63	25.12			
Tare	15.48	15.61			
Moisture	13.0	13.2			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
123.67	107.89	8.72	15.9

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	49.2	25.9	24.6

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-9	28.5-30	11-9-07	CL	Greenish Gray Sandy Lean CLAY	14.1	28	12

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed

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-2265
Depth: 28.5-30 **Sample Number:** SS-9
Material Description: Greenish Gray Sandy Lean CLAY
Date: 11-9-07 **Natural Moisture:** 14.1
Liquid Limit: 28 **Plastic Limit:** 12 **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
205.14	0.00	0.00	#10	0.00	100.0
50.90	0.00	0.00	#20	0.00	100.0
			#40	0.13	99.7
			#60	1.53	97.0
			#100	8.81	82.7
			#140	17.65	65.3
			#200	25.22	50.5

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =50.90
Hygroscopic moisture correction:
Moist weight and tare = 29.47
Dry weight and tare = 29.38
Tare weight = 15.58
Hygroscopic moisture = 0.7%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	23.4	22.0	17.9	0.0129	23.0	12.5	0.0323	35.1
5.00	23.3	19.0	14.9	0.0129	20.0	13.0	0.0208	29.1
15.00	23.2	18.0	13.9	0.0129	19.0	13.2	0.0121	27.1
30.00	23.2	17.0	12.9	0.0129	18.0	13.3	0.0086	25.2
60.00	23.5	17.0	13.0	0.0129	18.0	13.3	0.0061	25.3
240.00	22.9	16.0	11.8	0.0130	17.0	13.5	0.0031	23.0
1440.00	22.4	15.0	10.6	0.0131	16.0	13.7	0.0013	20.8

MACTEC, Inc.

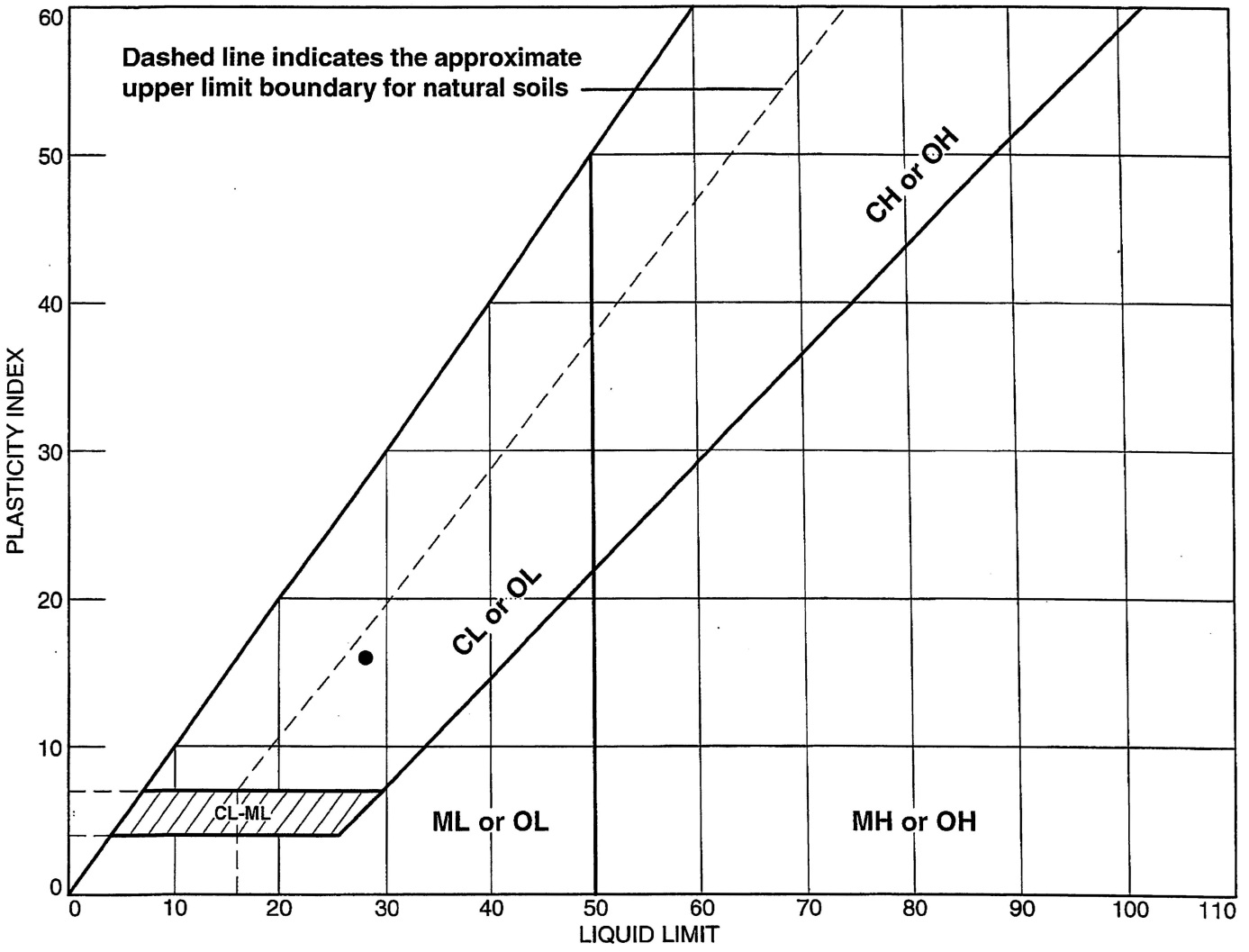
Fractional Components

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	49.2	49.5	25.9	24.6	50.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0227	0.0740	0.0950	0.1414	0.1585	0.1824	0.2221

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-2265	SS-9	28.5-30	14.1	12	28	16	CL

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project No.: 6468071777 **Figure** Nk

Tested By: CS **Checked By:** LBJ KAW 1/26/08

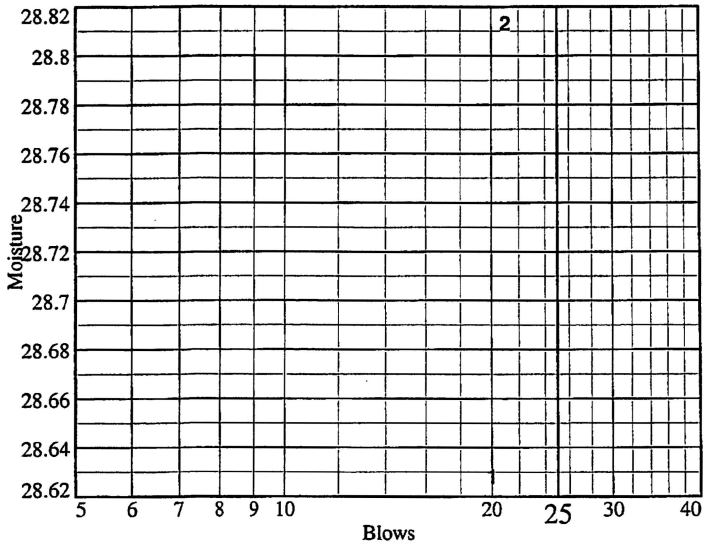
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 28.5-30 **Sample Number:** SS-9
Material Description: Greenish Gray Sandy Lean CLAY
USCS: CL **AASHTO:** A-6(4)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.75	31.52				
Dry+Tare	28.16	27.95				
Tare	15.62	15.56				
# Blows	20	21				
Moisture	28.6	28.8				



Liquid Limit= 28
Plastic Limit= 12
Plasticity Index= 16
Natural Moisture= 14.1
Liquidity Index= 0.1

Plastic Limit Data

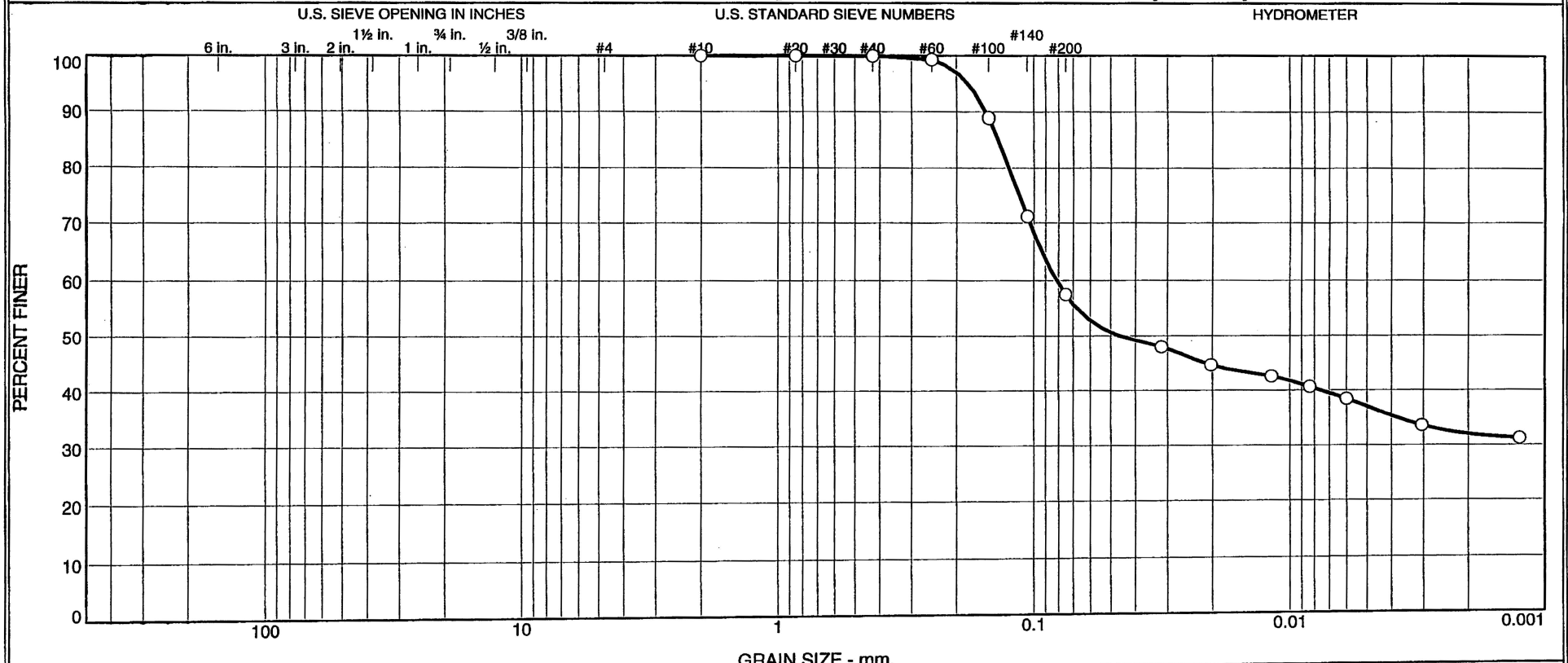
Run No.	1	2	3	4	
Wet+Tare	23.08	21.76			
Dry+Tare	22.23	21.06			
Tare	15.45	15.44			
Moisture	12.5	12.5			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
116.25	102.73	7.07	14.1

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	0.0	42.5	20.4	37.1

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-10	33.5-35.0	11-9-07	CL	Greenish Gray Sandy Lean CLAY	16.7	43	14

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure N/A

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.671 (ASTM D854-06)
Organic content = 5.5% (ASTM D2794-07)

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-2265
Depth: 33.5-35.0 **Sample Number:** SS-10
Material Description: Greenish Gray Sandy Lean CLAY
Date: 11-9-07 **Natural Moisture:** 16.7
Liquid Limit: 43 **Plastic Limit:** 14 **USCS Class.:** CL
Testing Remarks: Specific Gravity = 2.671 (ASTM D854-06)
Organic content = 5.5% (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
212.14	0.00	0.00	#10	0.00	100.0
47.34	0.00	0.00	#20	0.01	100.0
			#40	0.02	100.0
			#60	0.34	99.3
			#100	5.22	89.0
			#140	13.66	71.1
			#200	20.11	57.5

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =47.34
Hygroscopic moisture correction:
Moist weight and tare = 29.34
Dry weight and tare = 29.07
Tare weight = 15.48
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 = 2.671
Hydrometer type = 152H
Hydrometer effective depth equation: 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	23.2	26.5	22.4	0.0130	27.5	11.8	0.0317	48.0
5.00	23.0	25.0	20.8	0.0131	26.0	12.0	0.0203	44.6
15.00	23.1	24.0	19.8	0.0131	25.0	12.2	0.0118	42.5
30.00	23.5	23.0	19.0	0.0130	24.0	12.4	0.0083	40.6
59.00	23.4	22.0	17.9	0.0130	23.0	12.5	0.0060	38.4
240.00	22.5	20.0	15.7	0.0131	21.0	12.9	0.0030	33.6
1440.00	22.2	19.0	14.6	0.0132	20.0	13.0	0.0013	31.3

MACTEC, Inc.

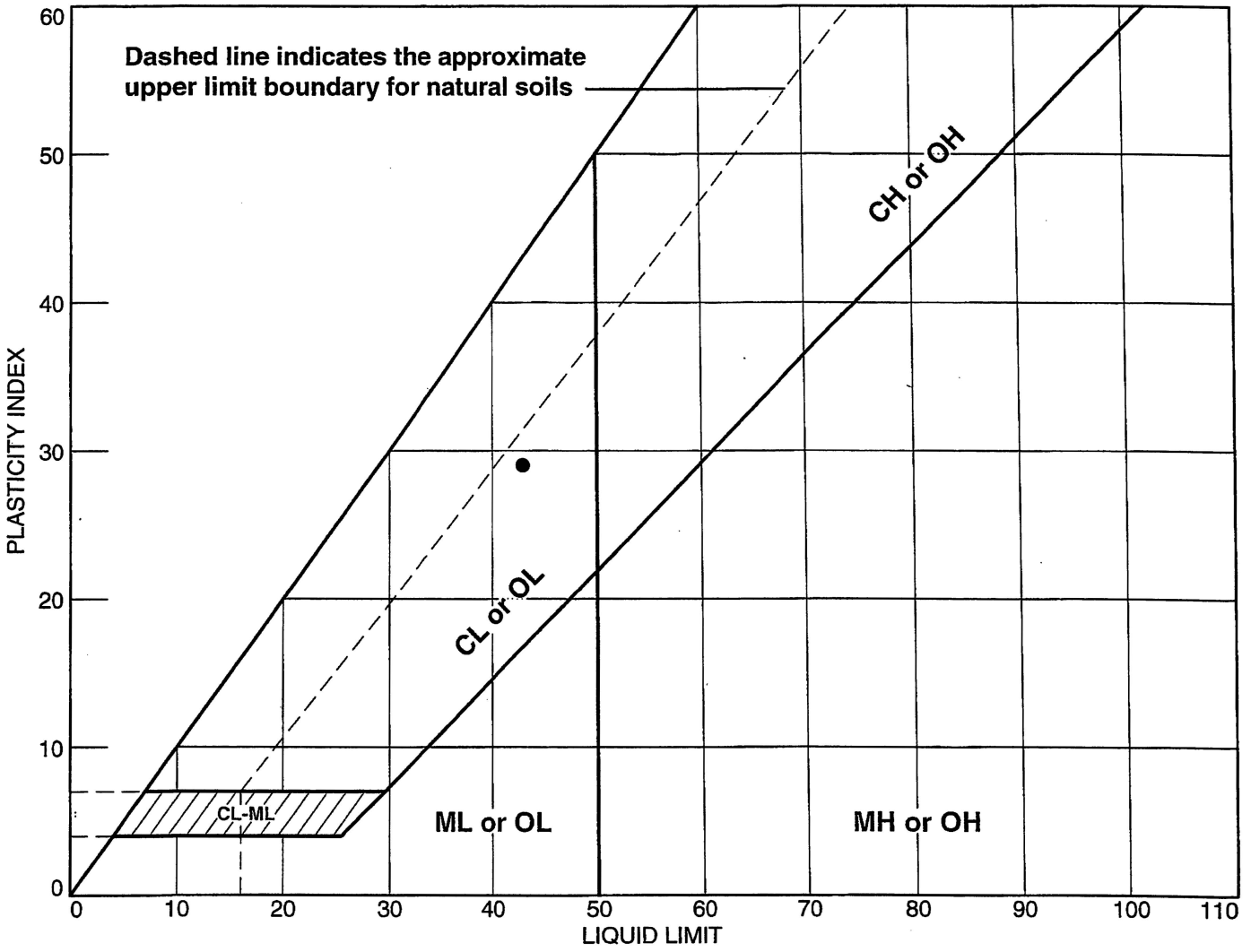
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.0	42.5	42.5	20.4	37.1	57.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0461	0.0813	0.1251	0.1376	0.1539	0.1809

Fineness Modulus
0.11

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-2265	SS-10	33.5-35.0	16.7	14	43	29	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

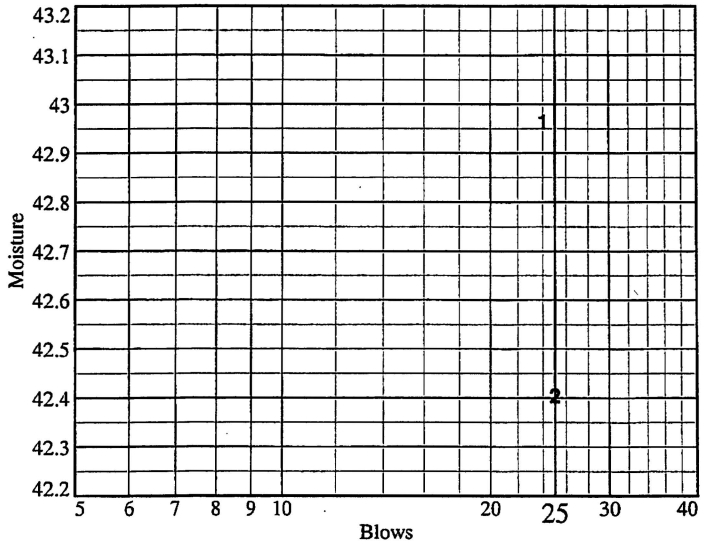
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 33.5-35.0 **Sample Number:** SS-10
Material Description: Greenish Gray Sandy Lean CLAY
USCS: CL **AASHTO:** A-7-6(13)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.65	29.39				
Dry+Tare	26.10	25.23				
Tare	15.51	15.42				
# Blows	24	25				
Moisture	43.0	42.4				



Liquid Limit= 43
Plastic Limit= 14
Plasticity Index= 29
Natural Moisture= 16.7
Liquidity Index= 0.1

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.38	19.15			
Dry+Tare	21.57	18.17			
Tare	15.78	11.15			
Moisture	14.0	14.0			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
163.52	141.16	6.90	16.7

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-2265 SS-10

(A) Mass of oven-dried soil, grams:		51.69
(B) Mass of pycnometer filled with water at test temperature (T), grams:		656.79
(C) Mass of pycnometer, water and soil, grams:		689.13
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		21.4
(G) Specific Gravity at observed temperature:	A / [C - (C - A)]	2.671
(F)	***Correction factor:***	0.99970
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.671

MATERIAL TESTED: [X] **- # 4** [ ] **- # 10**

PREPARATION METHOD: [X] **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

PYCNOMETER : P-5

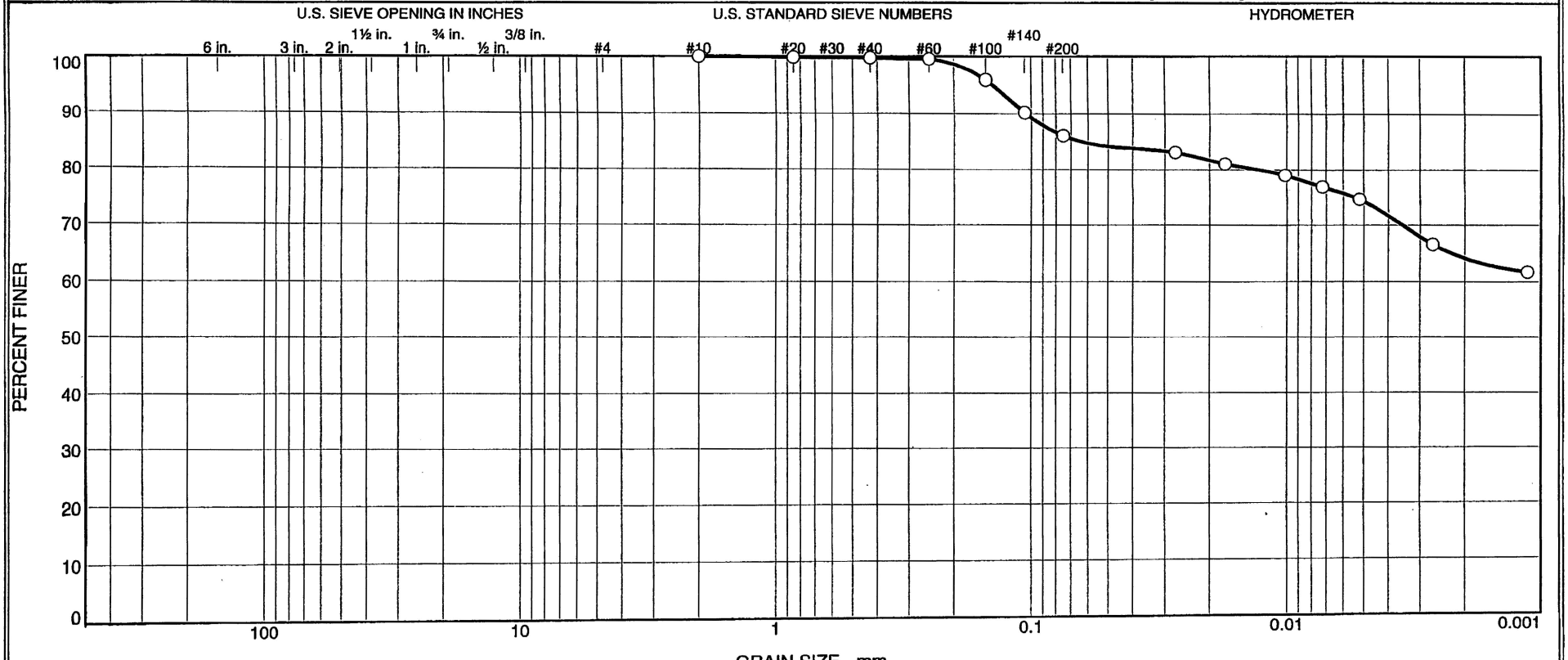
TESTED BY: CS

\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	0.3	13.6	11.8	74.3

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-11	38.5-40.0	11-9-07	CH	Greenish Gray Fat CLAY	24.6	74	23

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure N/A

MACTEC, Inc.

Raleigh, North Carolina

○ Specfic Gravity is assumed

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-2265
Depth: 38.5-40.0 **Sample Number:** SS-11
Material Description: Greenish Gray Fat CLAY
Date: 11-9-07 **Natural Moisture:** 24.6
Liquid Limit: 74 **Plastic Limit:** 23 **USCS Class.:** CH
Testing Remarks: Specfic 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
212.86	0.00	0.00	#10	0.00	100.0
50.39	0.00	0.00	#20	0.09	99.8
			#40	0.14	99.7
			#60	0.24	99.5
			#100	2.11	95.8
			#140	4.94	90.2
			#200	7.00	86.1

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =50.39
Hygroscopic moisture correction:
Moist weight and tare = 27.40
Dry weight and tare = 26.93
Tare weight = 15.28
Hygroscopic moisture = 4.0%
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 = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: 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	22.6	45.0	40.7	0.0130	46.0	8.8	0.0272	83.1
5.00	22.6	44.0	39.7	0.0130	45.0	8.9	0.0174	81.1
15.00	22.6	43.0	38.7	0.0130	44.0	9.1	0.0101	79.0
30.00	22.5	42.0	37.7	0.0130	43.0	9.2	0.0072	76.9
60.00	22.1	41.0	36.6	0.0131	42.0	9.4	0.0052	74.7
240.00	22.3	37.0	32.6	0.0131	38.0	10.1	0.0027	66.6
1440.00	20.9	35.0	30.2	0.0133	36.0	10.4	0.0011	61.7

MACTEC, Inc.

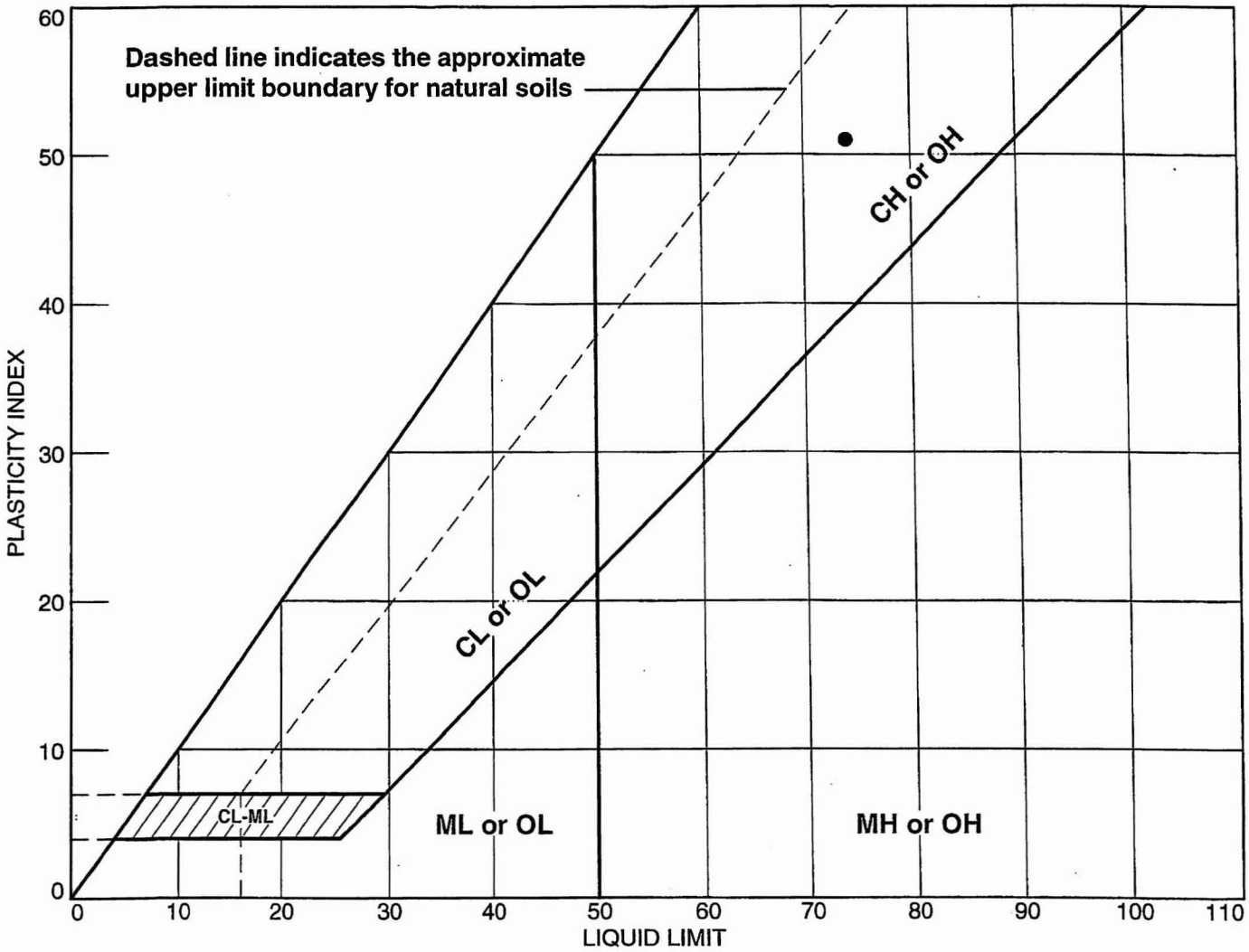
Fractional Components

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	13.6	13.9	11.8	74.3	86.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.0128	0.0632	0.1047	0.1419

Fineness Modulus
0.05

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-2265	SS-11	38.5-40.0	24.6	23	74	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

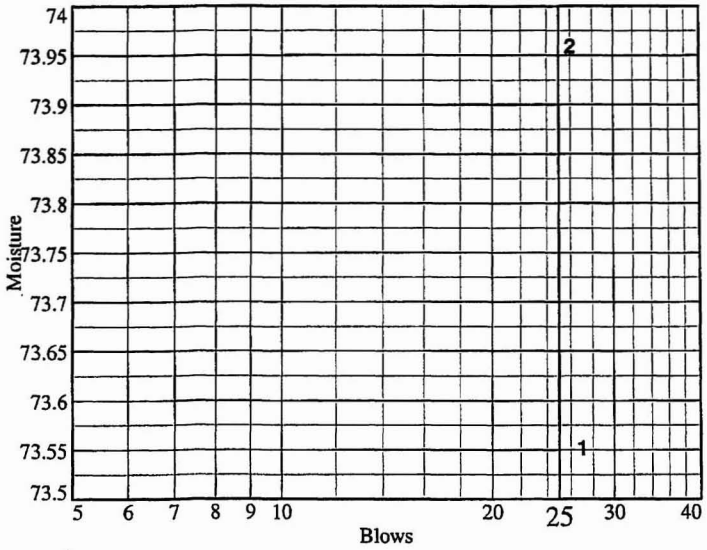
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 38.5-40.0 **Sample Number:** SS-11
Material Description: Greenish Gray Fat CLAY
USCS: CH **AASHTO:** A-7-6(48)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	26.59	28.49				
Dry+Tare	21.89	22.98				
Tare	15.50	15.53				
# Blows	27	26				
Moisture	73.6	74.0				



Liquid Limit= 74
Plastic Limit= 23
Plasticity Index= 51
Natural Moisture= 24.6
Liquidity Index= 0.0

Plastic Limit Data

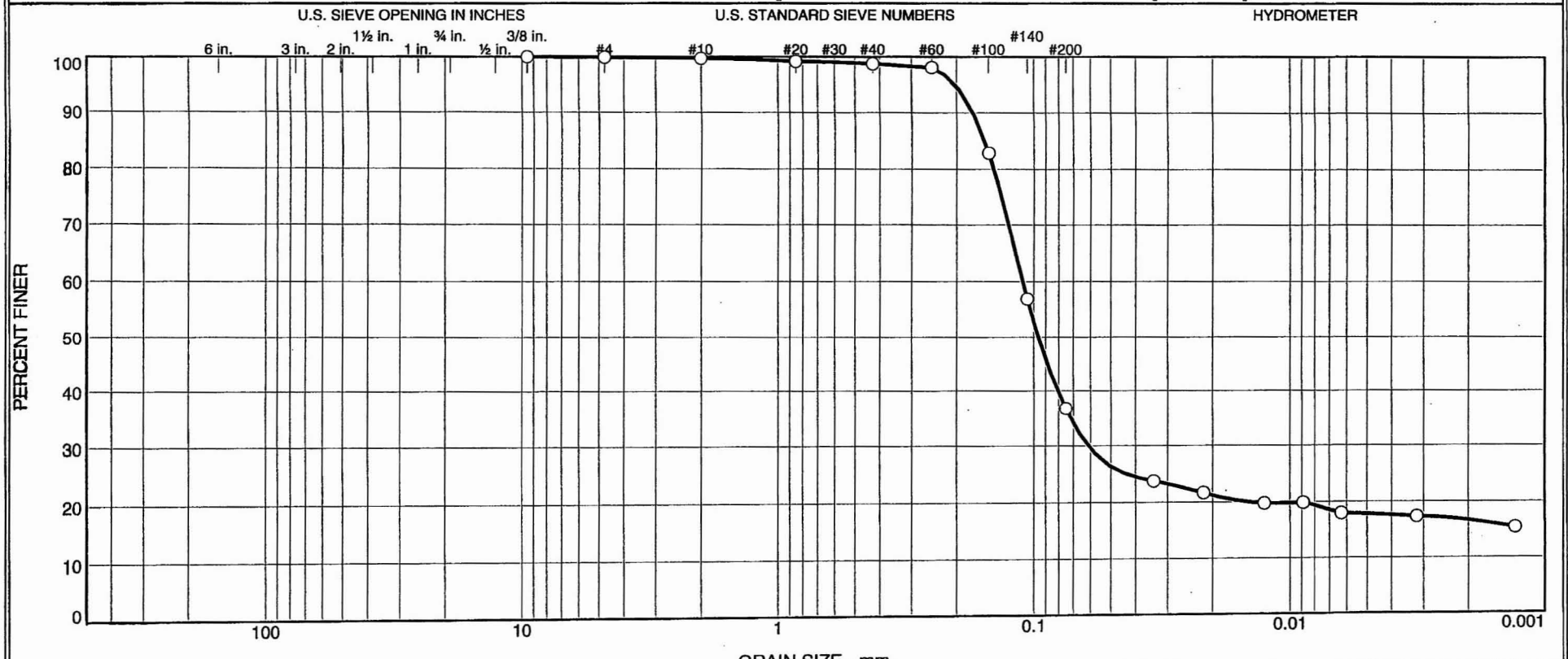
Run No.	1	2	3	4	
Wet+Tare	22.74	22.57			
Dry+Tare	21.47	21.26			
Tare	15.79	15.48			
Moisture	22.4	22.7			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
120.57	98.63	9.44	24.6

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	0.1	0.2	1.0	62.0	18.9	17.8

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-12	43.5-45.0	11-9-07	SC	Gray and Brownish Yellow Clayey SAND	16.5	24	15

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure N/A

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.663 (ASTM D2794-07)

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-2265
Depth: 43.5-45.0 **Sample Number:** SS-12
Material Description: Gray and Brownish Yellow Clayey SAND
Date: 11-9-07 **Natural Moisture:** 16.5
Liquid Limit: 24 **Plastic Limit:** 15 **USCS Class.:** SC
Testing Remarks: Specific Gravity = 2.663 (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
174.15	0.00	0.00	3/8"	0.00	100.0
			#4	0.15	99.9
			#10	0.48	99.7
49.89	0.00	0.00	#20	0.28	99.2
			#40	0.49	98.7
			#60	0.84	98.0
			#100	8.44	82.9
			#140	21.42	56.9
			#200	31.51	36.7

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.7
Weight of hydrometer sample =49.89
Hygroscopic moisture correction:
Moist weight and tare = 27.90
Dry weight and tare = 27.82
Tare weight = 15.64
Hygroscopic moisture = 0.7%
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 = 2.663
Hydrometer type = 152H
Hydrometer effective depth equation: 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	23.1	16.0	11.8	0.0131	17.0	13.5	0.0340	23.8
5.00	22.9	15.0	10.8	0.0131	16.0	13.7	0.0217	21.6
15.00	23.1	14.0	9.8	0.0131	15.0	13.8	0.0126	19.7
30.00	23.3	14.0	9.9	0.0131	15.0	13.8	0.0089	19.9
60.00	23.5	13.0	9.0	0.0130	14.0	14.0	0.0063	18.0
240.00	22.4	13.0	8.6	0.0132	14.0	14.0	0.0032	17.3
1440.00	22.5	12.0	7.7	0.0132	13.0	14.2	0.0013	15.4

MACTEC, Inc.

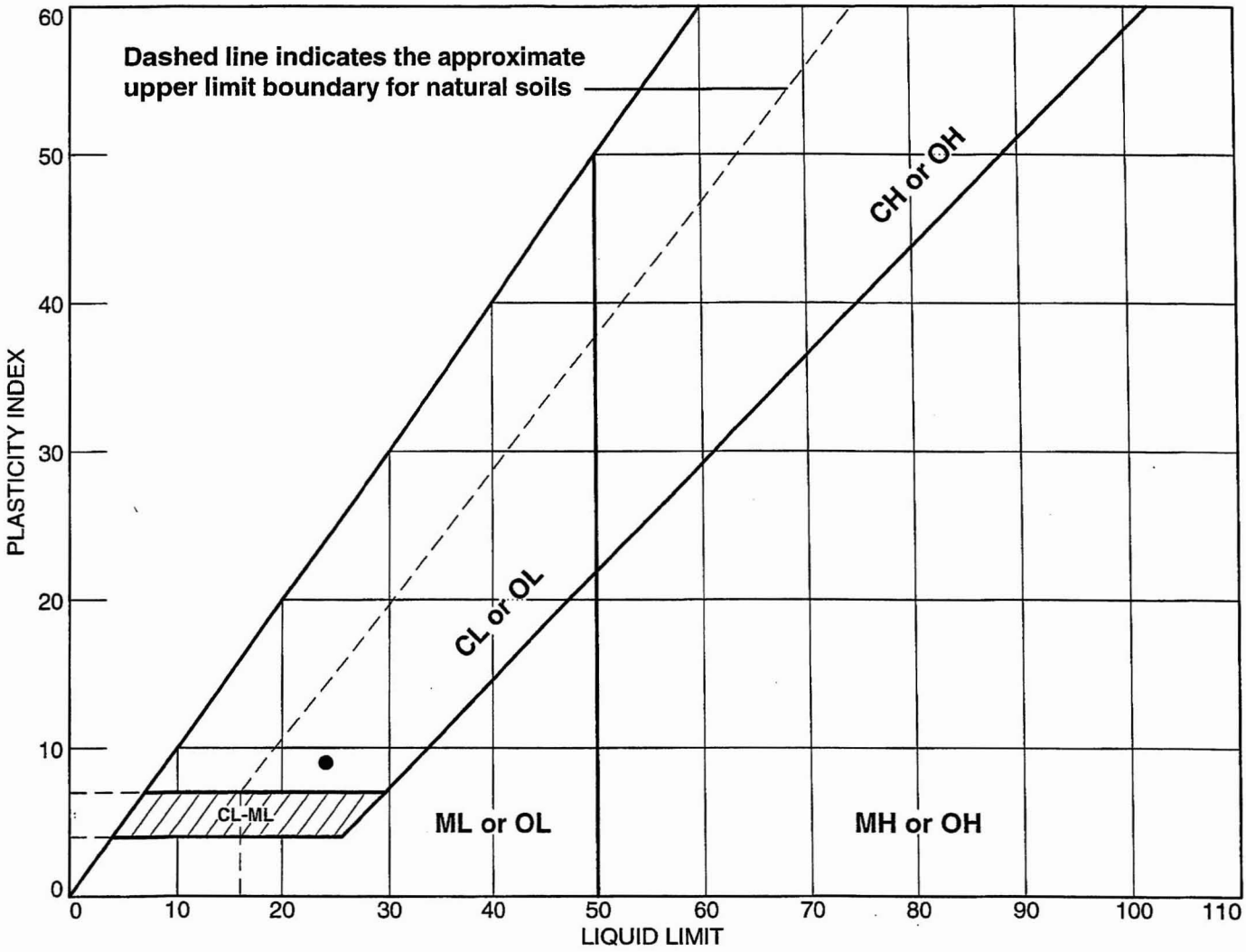
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.1	0.1	0.2	1.0	62.0	63.2	18.9	17.8	36.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0145	0.0610	0.0960	0.1104	0.1435	0.1556	0.1729	0.2031

Fineness Modulus
0.21

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-2265	SS-12	43.5-45.0	16.5	15	24	9	SC

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

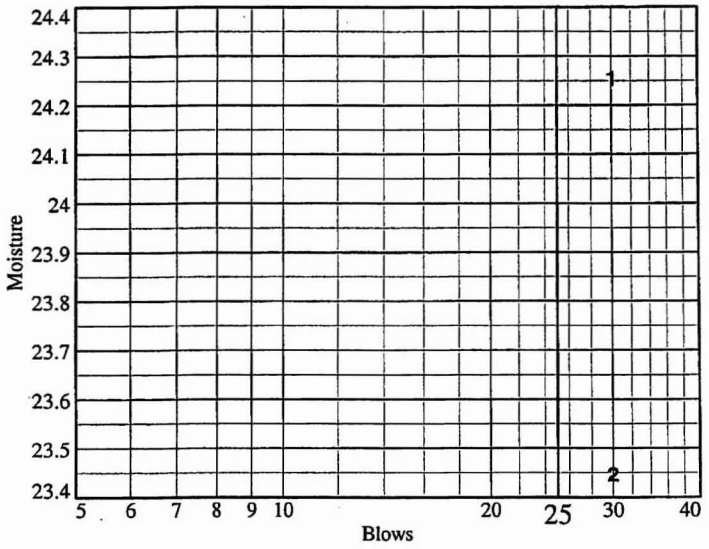
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 43.5-45.0 **Sample Number:** SS-12
Material Description: Gray and Brownish Yellow Clayey SAND
USCS: SC **AASHTO:** A-4(0)
Tested by: CS **Checked by:** LBj

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	26.23	32.48				
Dry+Tare	23.30	29.27				
Tare	11.22	15.58				
# Blows	30	30				
Moisture	24.3	23.4				



Liquid Limit= 24
Plastic Limit= 15
Plasticity Index= 9
Natural Moisture= 16.5
Liquidity Index= 0.2

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	24.71	27.81			
Dry+Tare	23.59	26.27			
Tare	15.72	15.91			
Moisture	14.2	14.9			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
162.61	140.94	9.43	16.5

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: 1/14/08

SAMPLE IDENTIFICATION: B-2265 SS-12

(A) Mass of oven-dried soil, grams:		50.00
(B) Mass of pycnometer filled with water at test temperature (T), grams:		656.75
(C) Mass of pycnometer, water and soil, grams:		687.98
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		21.8
(G) Specific Gravity at observed temperature:	A / [C - (C - A)]	2.664
(F)	***Correction factor:***	0.99961
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.663

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-5

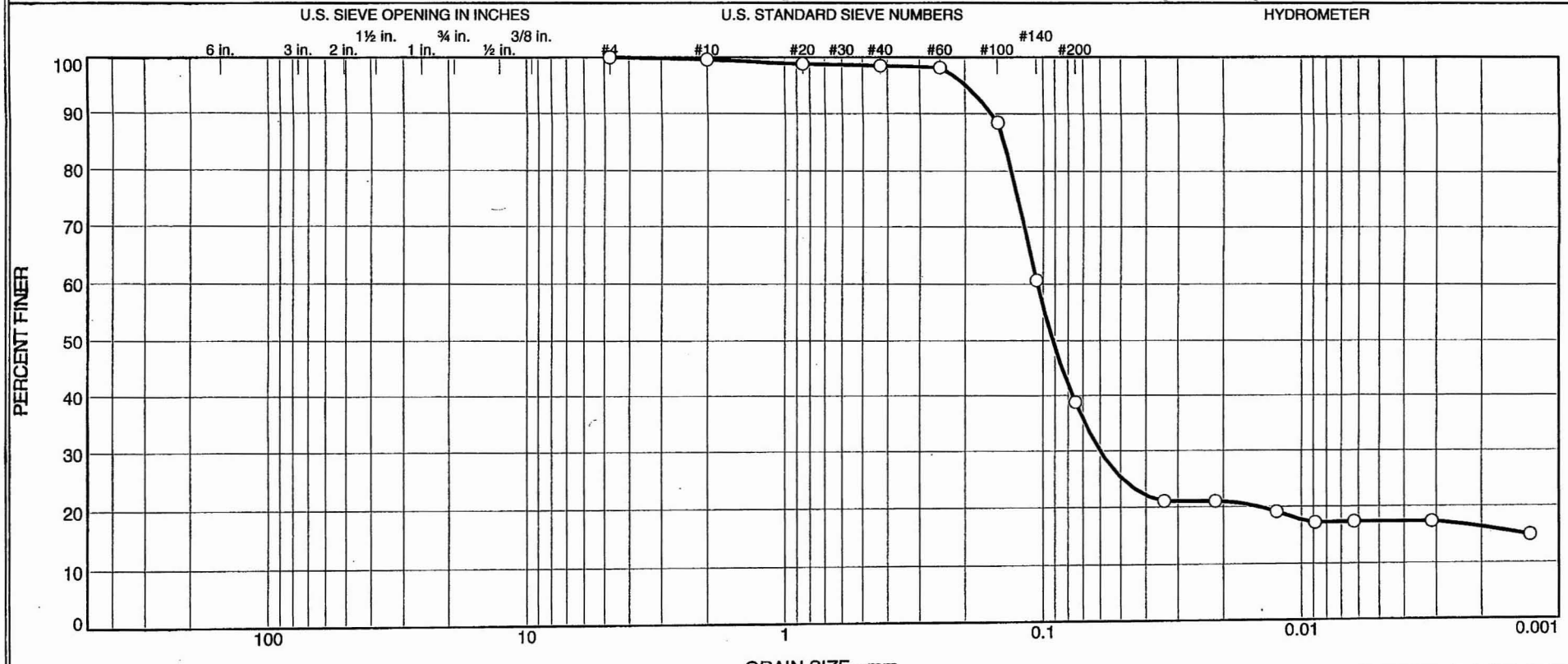
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

KAW 1/26/08

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	0.4	1.1	59.7	21.5	17.3

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-13	48.5-50.0	11-9-07	SC	Gray Clayey SAND	21.1	25	16

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure N/A

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed

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-2265
Depth: 48.5-50.0 **Sample Number:** SS-13
Material Description: Gray Clayey SAND
Date: 11-9-07 **Natural Moisture:** 21.1
Liquid Limit: 25 **Plastic Limit:** 16 **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
189.06	0.00	0.00	#4	0.00	100.0
			#10	0.67	99.6
50.76	0.00	0.00	#20	0.40	98.9
			#40	0.57	98.5
			#60	0.74	98.2
			#100	5.67	88.5
			#140	19.84	60.7
			#200	31.00	38.8

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.6
Weight of hydrometer sample =50.76
Hygroscopic moisture correction:
Moist weight and tare = 28.44
Dry weight and tare = 28.41
Tare weight = 15.50
Hygroscopic moisture = 0.2%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	23.0	15.0	10.8	0.0130	16.0	13.7	0.0339	21.0
5.00	22.9	15.0	10.8	0.0130	16.0	13.7	0.0215	21.0
15.00	23.0	14.0	9.8	0.0130	15.0	13.8	0.0124	19.1
30.00	23.0	13.0	8.8	0.0130	14.0	14.0	0.0089	17.1
60.00	23.3	13.0	8.9	0.0129	14.0	14.0	0.0062	17.3
240.00	23.3	13.0	8.9	0.0129	14.0	14.0	0.0031	17.3
1440.00	22.5	12.0	7.7	0.0130	13.0	14.2	0.0013	14.9

MACTEC, Inc.

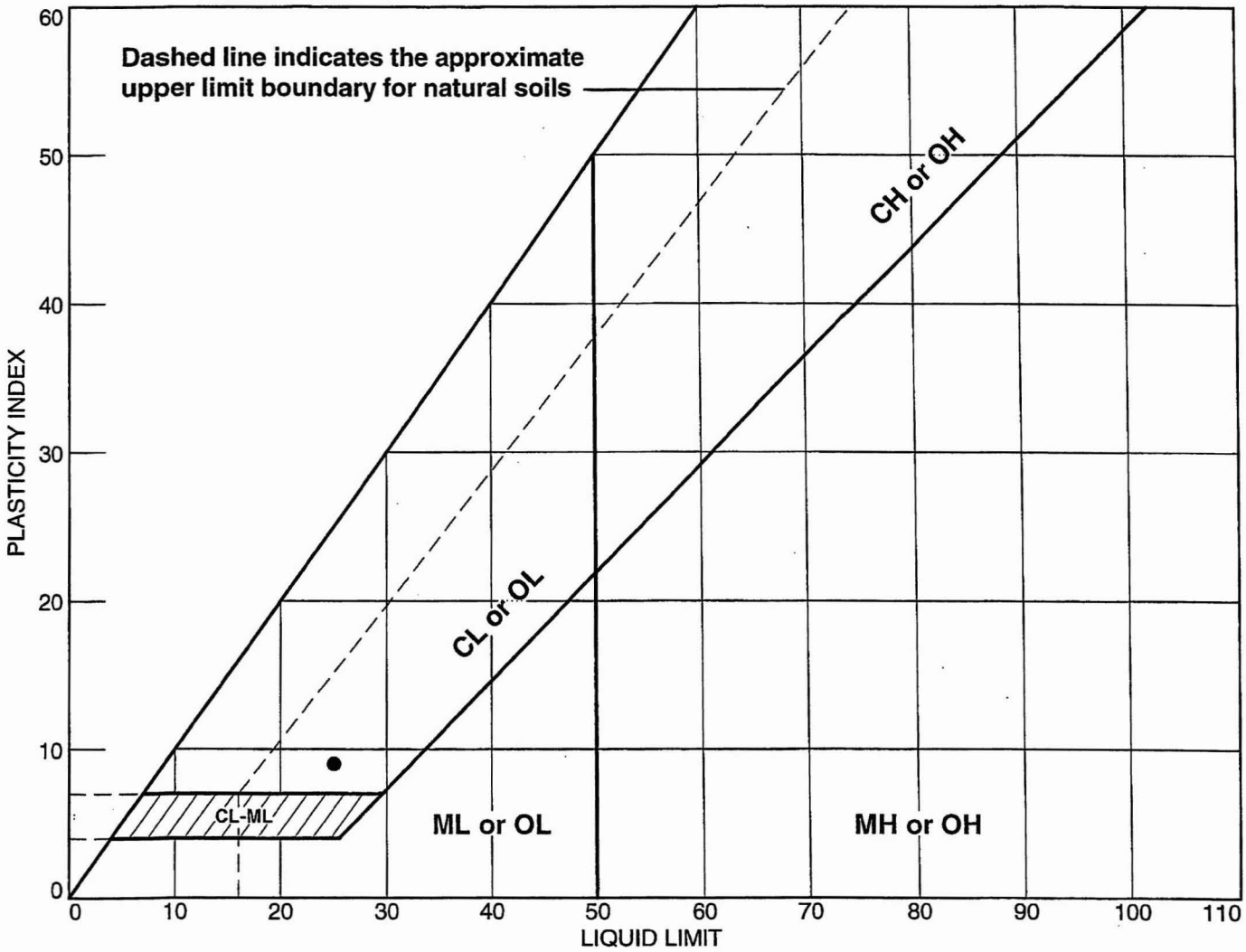
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.4	1.1	59.7	61.2	21.5	17.3	38.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0013	0.0146	0.0599	0.0916	0.1051	0.1330	0.1421	0.1585	0.1989

Fineness Modulus
0.16

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-2265	SS-13	48.5-50.0	21.1	16	25	9	SC

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

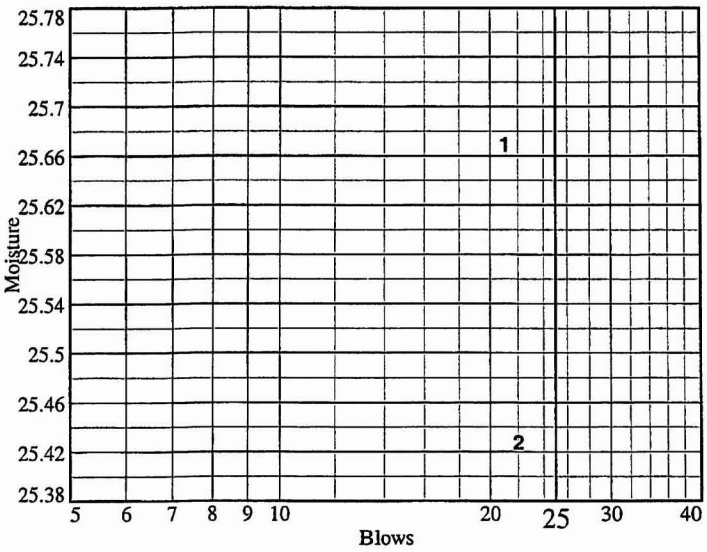
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 48.5-50.0 **Sample Number:** SS-13
Material Description: Gray Clayey SAND
USCS: SC **AASHTO:** A-4(0)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	32.38	35.26				
Dry+Tare	28.93	31.25				
Tare	15.49	15.48				
# Blows	21	22				
Moisture	25.7	25.4				



Liquid Limit= 25
Plastic Limit= 16
Plasticity Index= 9
Natural Moisture= 21.1
Liquidity Index= 0.6

Plastic Limit Data

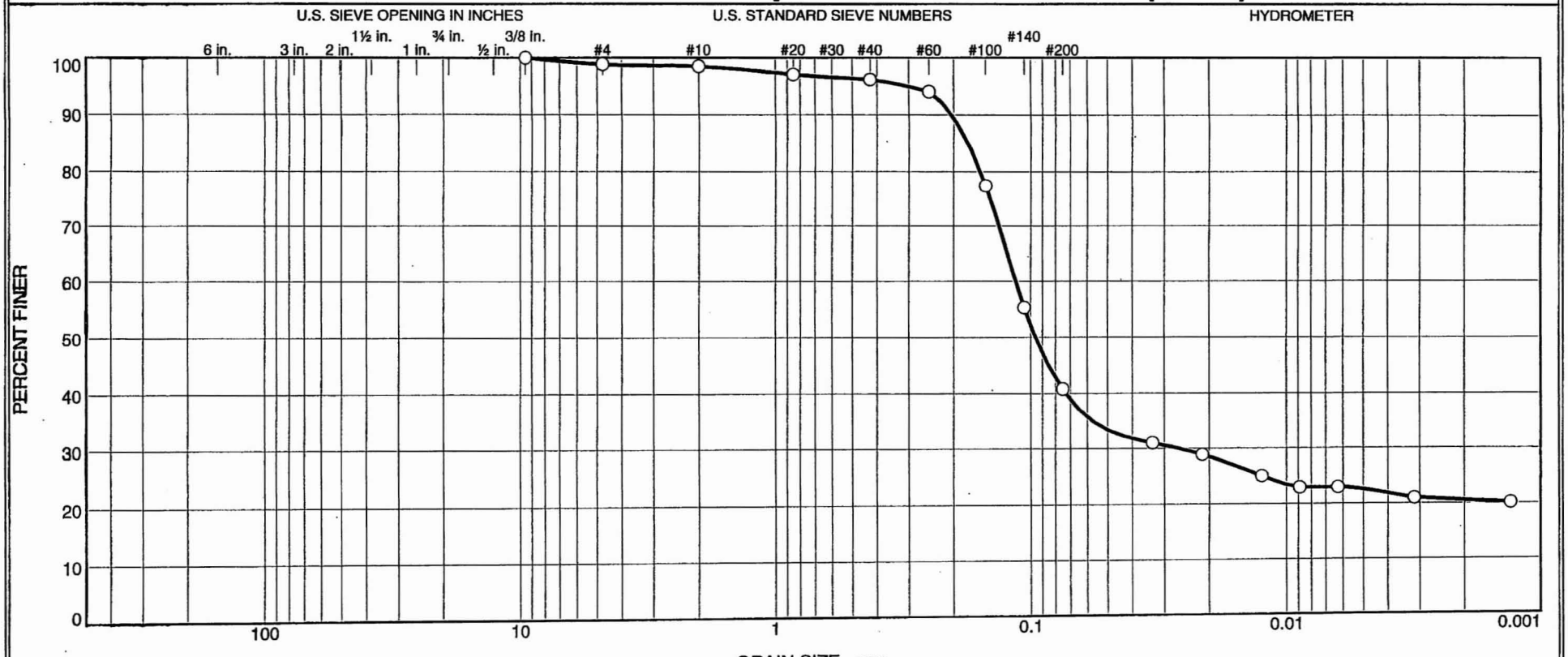
Run No.	1	2	3	4	
Wet+Tare	22.29	23.75			
Dry+Tare	21.35	22.61			
Tare	15.49	15.61			
Moisture	16.0	16.3			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
114.07	95.80	9.27	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	1.1	0.4	2.3	55.4	18.2	22.6

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-14	53.5-55.0	11-9-07	SC	Gray Clayey SAND	17.9	27	16

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.656 (ASTM D854-06)

Tested By: CS Checked By: LBJ KAW 1/24/08

GRAIN SIZE DISTRIBUTION TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 53.5-55.0 **Sample Number:** SS-14
Material Description: Gray Clayey SAND
Date: 11-9-07 **Natural Moisture:** 17.9
Liquid Limit: 27 **Plastic Limit:** 16 **USCS Class.:** SC
Testing Remarks: Specific Gravity = 2.656 (ASTM D854-06)
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
153.05	0.00	0.00	3/8	0.00	100.0
			#4	1.73	98.9
			#10	2.29	98.5
50.98	0.00	0.00	#20	0.74	97.1
			#40	1.19	96.2
			#60	2.28	94.1
			#100	10.90	77.4
			#140	22.33	55.4
			#200	29.86	40.8

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 98.5
Weight of hydrometer sample =50.98
Hygroscopic moisture correction:
Moist weight and tare = 24.29
Dry weight and tare = 24.05
Tare weight = 11.07
Hygroscopic moisture = 1.8%
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 = 2.656
Hydrometer type = 152H
Hydrometer effective depth equation: 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	22.9	20.0	15.8	0.0131	21.0	12.9	0.0333	31.0
5.00	22.6	19.0	14.7	0.0132	20.0	13.0	0.0213	28.9
15.00	22.6	17.0	12.7	0.0132	18.0	13.3	0.0124	25.0
30.00	22.4	16.0	11.6	0.0132	17.0	13.5	0.0089	22.9
60.00	22.4	16.0	11.7	0.0132	17.0	13.5	0.0063	22.9
240.00	22.5	15.0	10.7	0.0132	16.0	13.7	0.0032	21.0
1440.00	20.9	15.0	10.2	0.0135	16.0	13.7	0.0013	20.1

MACTEC, Inc.

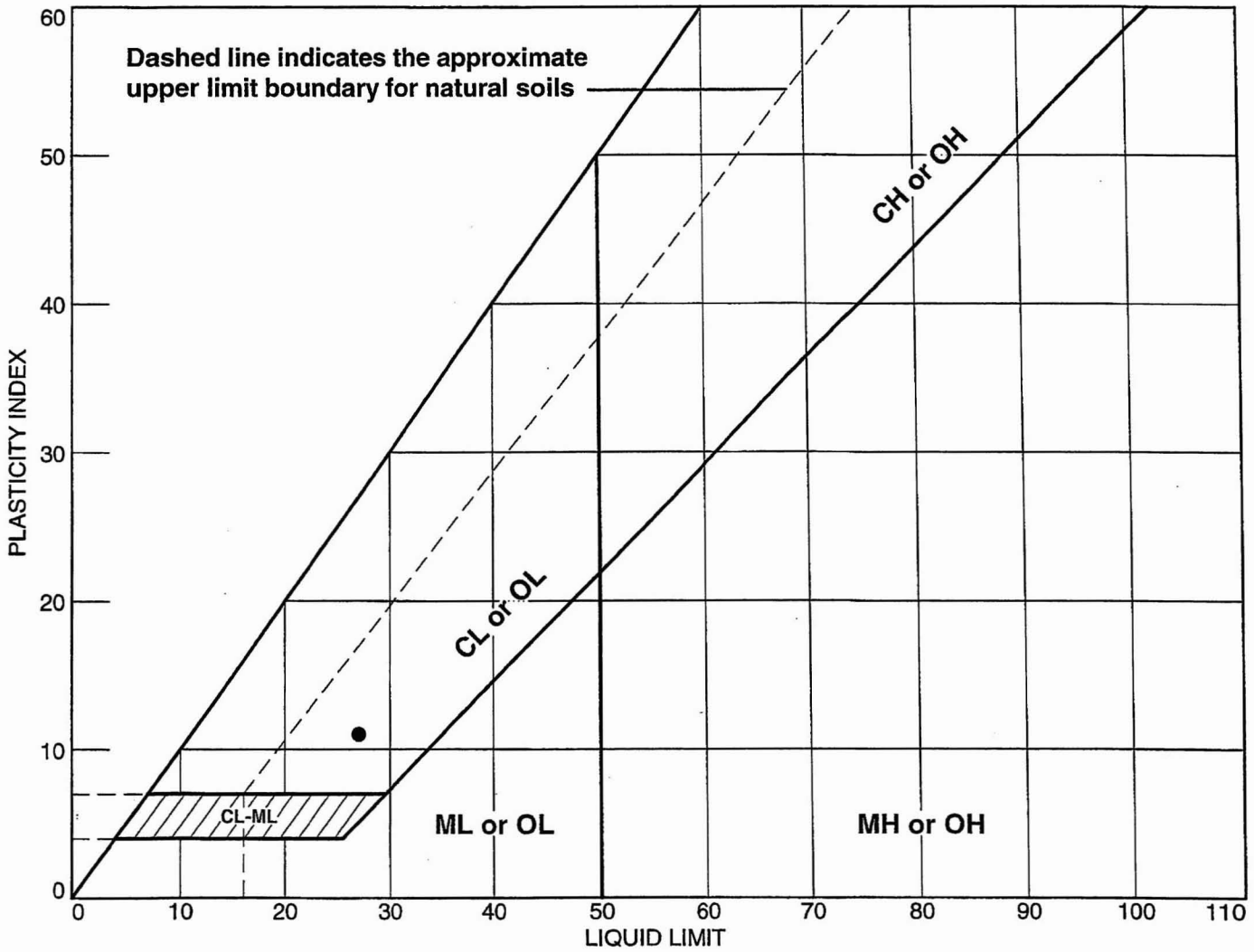
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	1.1	1.1	0.4	2.3	55.4	58.1	18.2	22.6	40.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0262	0.0958	0.1143	0.1573	0.1754	0.2036	0.3026

Fineness Modulus
0.36

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-2265	SS-14	53.5-55.0	17.9	16	27	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 KAW 1/26/08

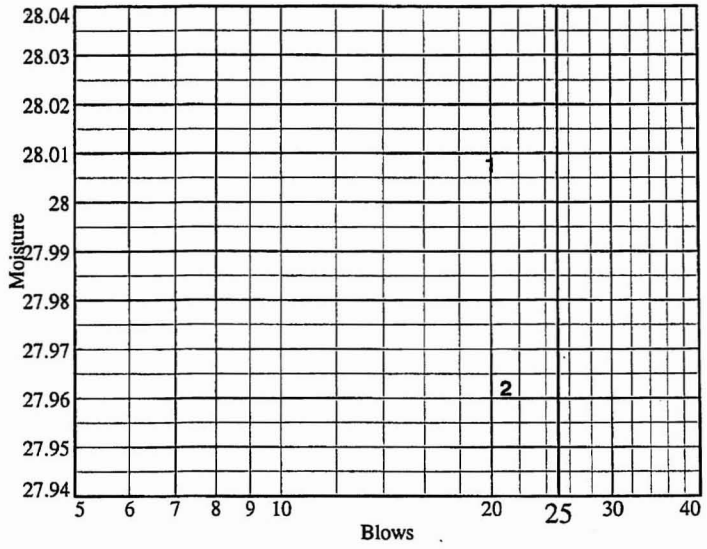
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 53.5-55.0 **Sample Number:** SS-14
Material Description: Gray Clayey SAND
USCS: SC **AASHTO:** A-6(1)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	29.04	31.65				
Dry+Tare	26.13	28.11				
Tare	15.74	15.45				
# Blows	20	21				
Moisture	28.0	28.0				



Liquid Limit= 27
Plastic Limit= 16
Plasticity Index= 11
Natural Moisture= 17.9
Liquidity Index= 0.2

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	23.84	25.35			
Dry+Tare	22.64	23.98			
Tare	15.42	15.52			
Moisture	16.6	16.2			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
68.10	58.80	6.85	17.9

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: 1/14/08

SAMPLE IDENTIFICATION: B-2265 SS-14

(A) Mass of oven-dried soil, grams:		49.97
(B) Mass of pycnometer filled with water at test temperature (T), grams:		654.72
(C) Mass of pycnometer, water and soil, grams:		685.89
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		22.9
(G) Specific Gravity at observed temperature:	A / [C - (C - A)]	2.658
(F)	***Correction factor:***	0.99936
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.656

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-5

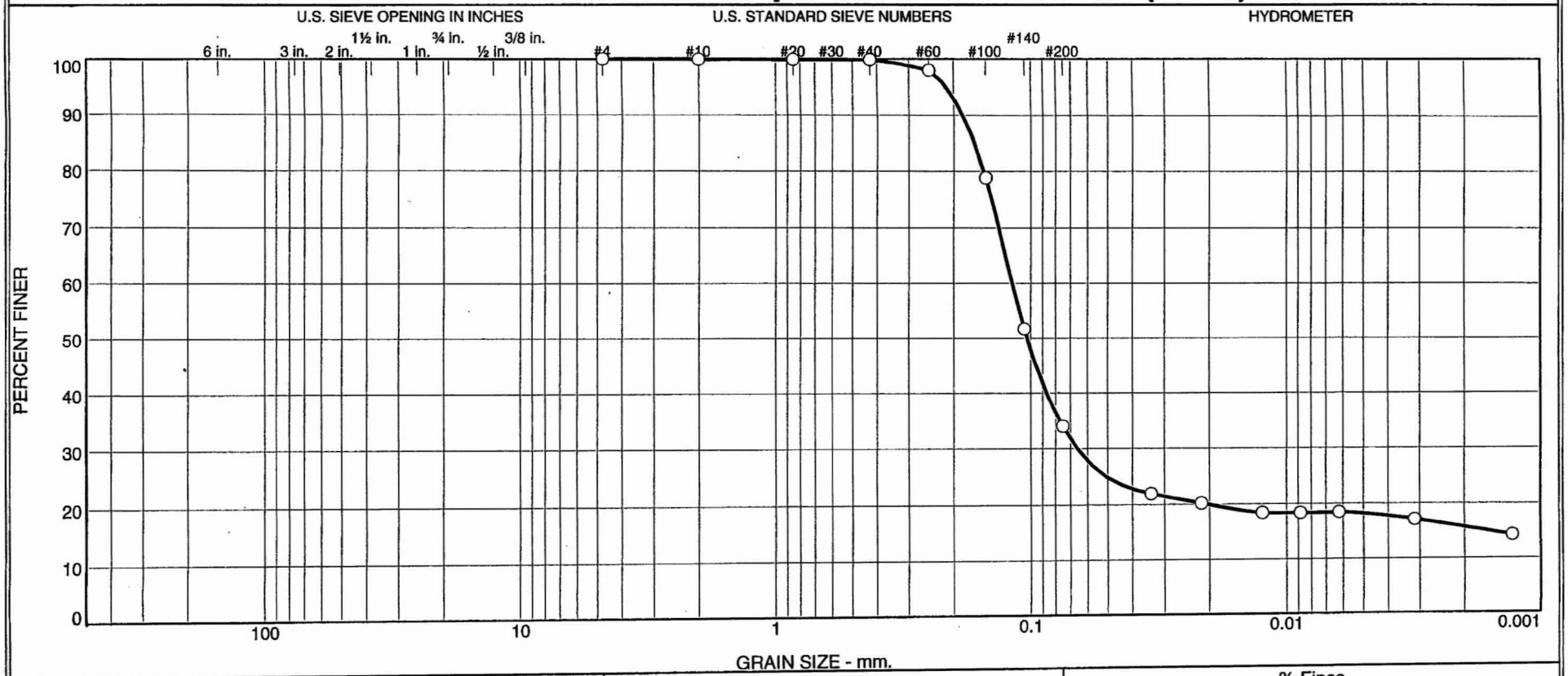
TESTED BY: CS

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

REVIEWED BY: **Brian Johnson**

KAW 1/26/08

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	0.1	65.8	15.8	18.3

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-15	58.5-60.0	11-9-07	SC	Gray Clayey SAND	19.9	24	13

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed

Tested By: CS **Checked By:** JBJ 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-2265
Depth: 58.5-60.0 **Sample Number:** SS-15
Material Description: Gray Clayey SAND
Date: 11-9-07 **Natural Moisture:** 19.9
Liquid Limit: 24 **Plastic Limit:** 13 **USCS Class.:** SC
Testing Remarks: Specific Gravity is assumed
Tested by: CS **Checked by:** IBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
205.56	0.00	0.00	#4	0.00	100.0
			#10	0.06	100.0
53.21	0.00	0.00	#20	0.03	99.9
			#40	0.06	99.9
			#60	1.07	98.0
			#100	11.25	78.8
			#140	25.70	51.7
			#200	35.08	34.1

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =53.21
Hygroscopic moisture correction:
Moist weight and tare = 29.05
Dry weight and tare = 28.93
Tare weight = 15.64
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.6	16.0	11.7	0.0130	17.0	13.5	0.0338	21.9
5.00	22.9	15.0	10.8	0.0130	16.0	13.7	0.0215	20.2
15.00	23.1	14.0	9.8	0.0129	15.0	13.8	0.0124	18.4
30.00	23.0	14.0	9.8	0.0130	15.0	13.8	0.0088	18.4
60.00	23.2	14.0	9.9	0.0129	15.0	13.8	0.0062	18.5
240.00	22.4	13.5	9.1	0.0131	14.5	13.9	0.0031	17.2
1440.00	22.3	12.0	7.6	0.0131	13.0	14.2	0.0013	14.3

MACTEC, Inc.

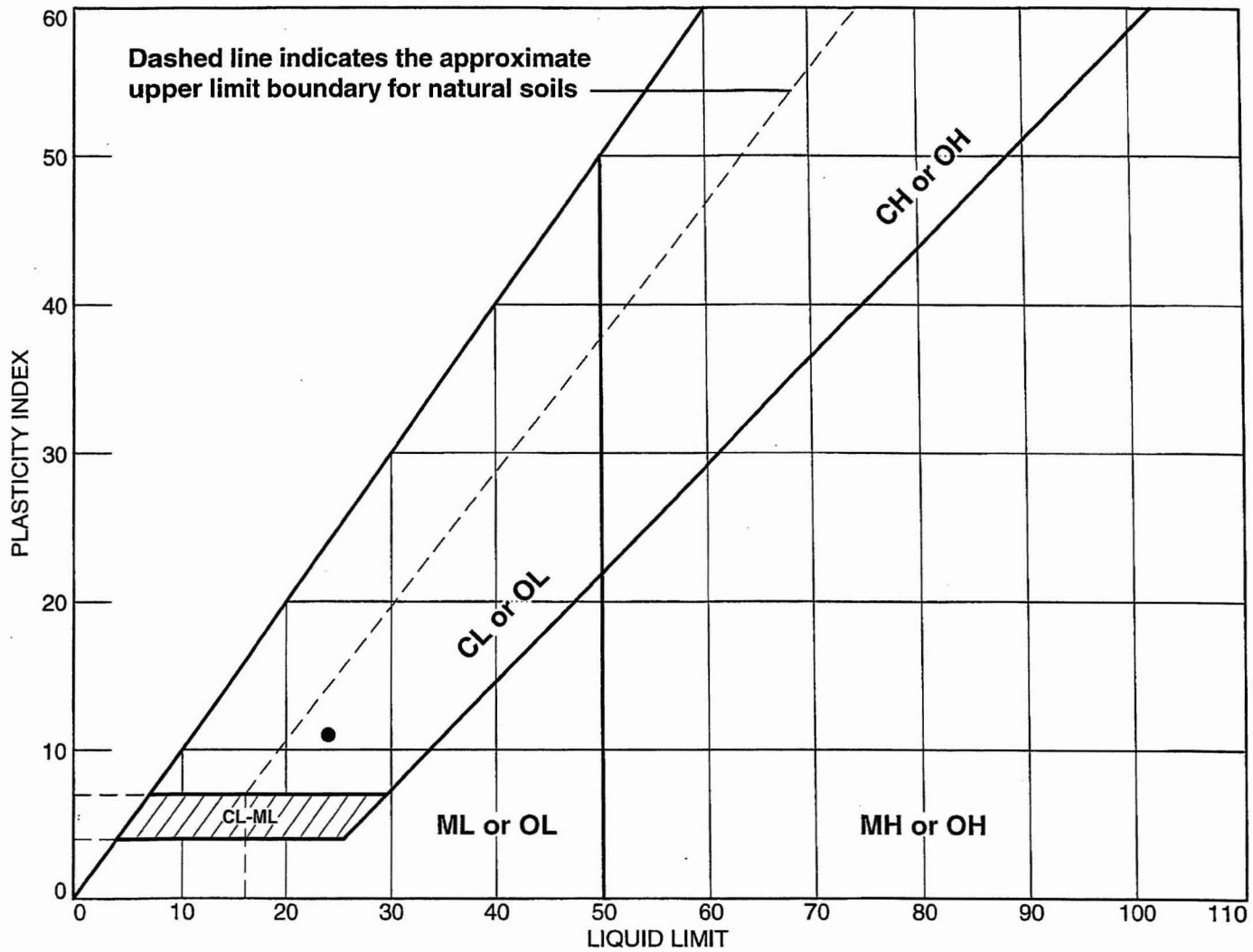
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.1	65.8	65.9	15.8	18.3	34.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0016	0.0203	0.0656	0.1035	0.1181	0.1526	0.1659	0.1843	0.2146

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-2265	SS-15	58.5-60.0	19.9	13	24	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 KAW 1126/08

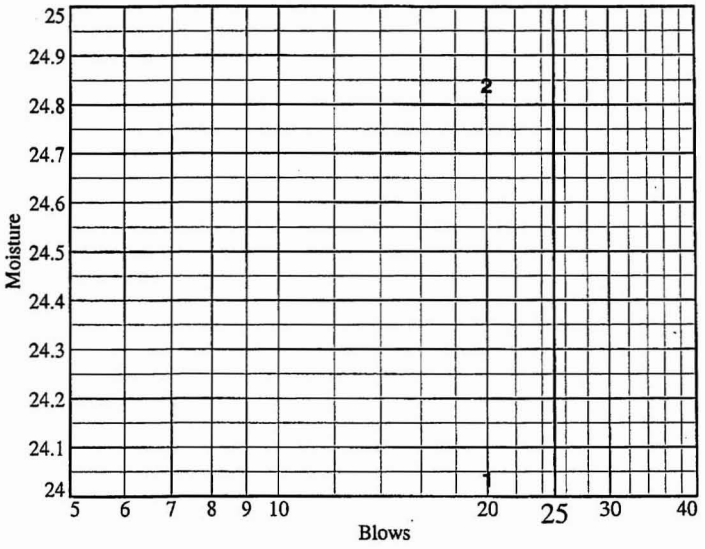
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 58.5-60.0 **Sample Number:** SS-15
Material Description: 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	31.35	33.02				
Dry+Tare	28.30	29.54				
Tare	15.61	15.53				
# Blows	20	20				
Moisture	24.0	24.8				



Liquid Limit= 24
Plastic Limit= 13
Plasticity Index= 11
Natural Moisture= 19.9
Liquidity Index= 0.6

Plastic Limit Data

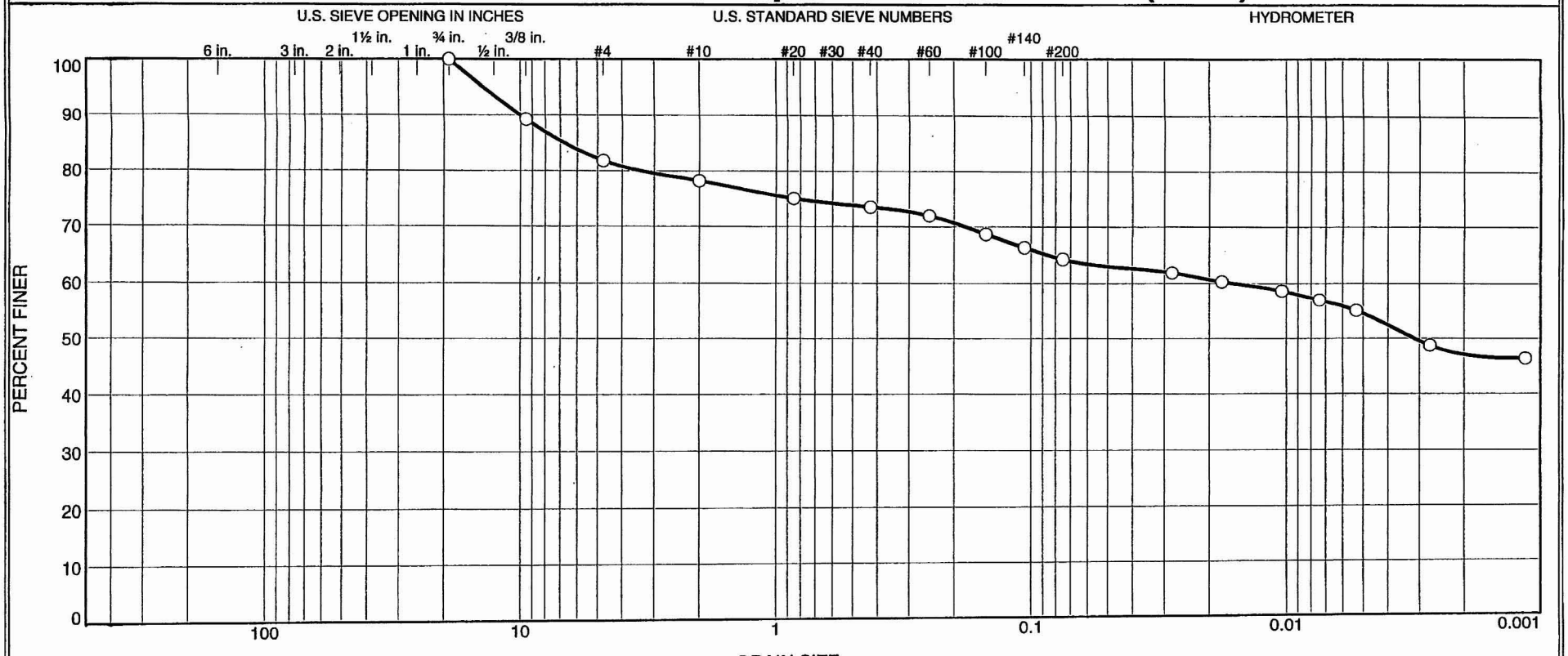
Run No.	1	2	3	4	
Wet+Tare	23.71	23.89			
Dry+Tare	22.76	22.90			
Tare	15.54	15.48			
Moisture	13.2	13.3			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
86.20	72.99	6.70	19.9

MACTEC, Inc.

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	18.2	3.6	4.7	9.1	9.7	54.7

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2265	SS-16	63.5-65.0	11-9-07	CH	Gray Gravelly Fat CLAY with sand	31.2	87	22

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

O Specific Gravity is assumed

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-2265
Depth: 63.5-65.0 **Sample Number:** SS-16
Material Description: Gray Gravelly Fat CLAY with sand
Date: 11-9-07 **Natural Moisture:** 31.2
Liquid Limit: 87 **Plastic Limit:** 22 **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
124.07	0.00	0.00	3/4	0.00	100.0
			3/8"	13.32	89.3
			#4	22.53	81.8
			#10	27.00	78.2
47.71	0.00	0.00	#20	1.95	75.0
			#40	2.87	73.5
			#60	3.80	72.0
			#100	5.82	68.7
			#140	7.22	66.4
			#200	8.46	64.4

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 78.2
Weight of hydrometer sample =47.71
Hygroscopic moisture correction:
Moist weight and tare = 23.67
Dry weight and tare = 23.51
Tare weight = 11.07
Hygroscopic moisture = 1.3%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.7	42.0	37.7	0.0130	43.0	9.2	0.0280	62.0
5.00	22.7	41.0	36.7	0.0130	42.0	9.4	0.0178	60.3
15.00	22.7	40.0	35.7	0.0130	41.0	9.6	0.0104	58.7
30.00	22.7	39.0	34.7	0.0130	40.0	9.7	0.0074	57.0
60.00	22.2	38.0	33.6	0.0131	39.0	9.9	0.0053	55.2
240.00	22.5	34.0	29.7	0.0130	35.0	10.6	0.0027	48.7
1440.00	20.9	33.0	28.2	0.0133	34.0	10.7	0.0011	46.4

MACTEC, Inc.

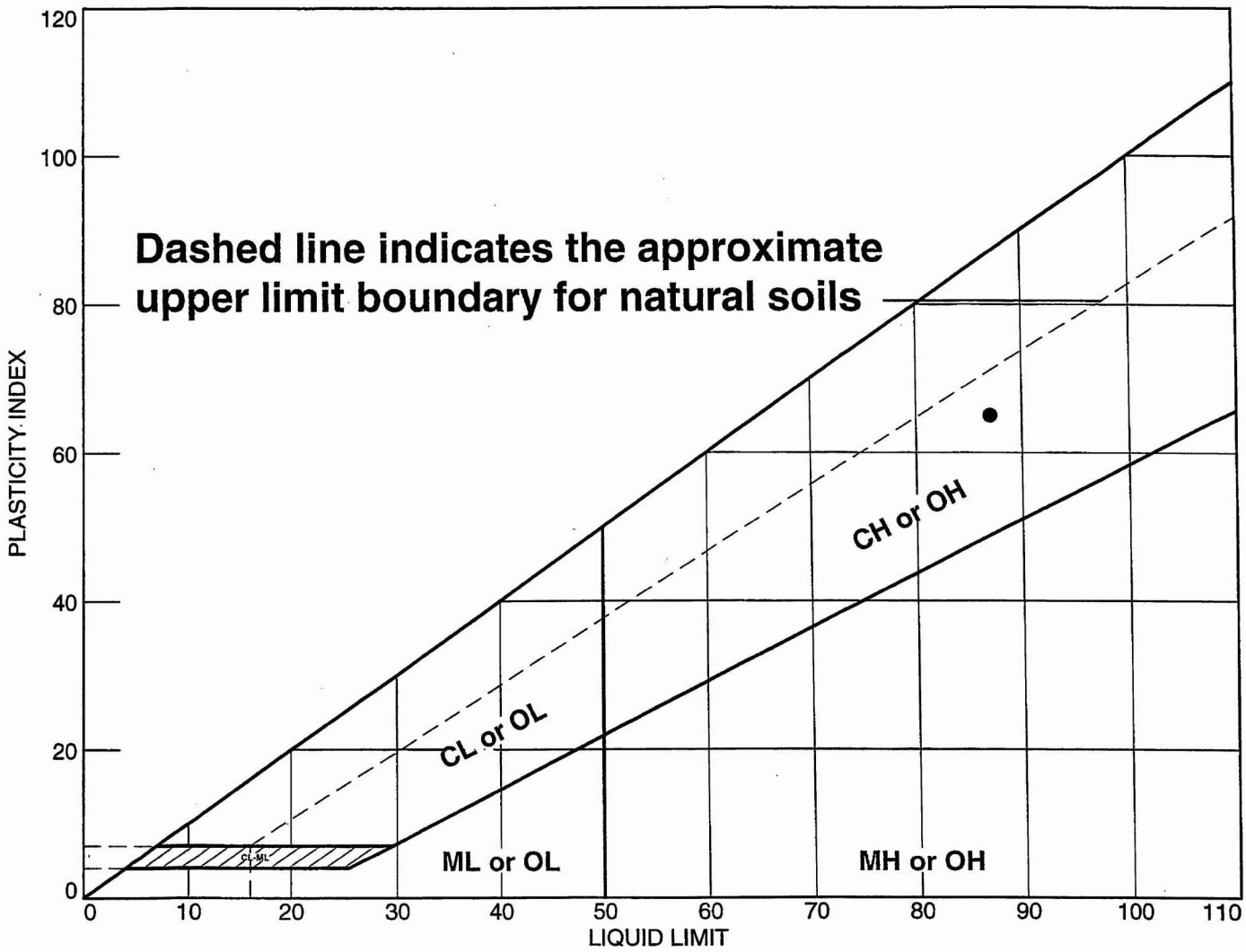
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	18.2	18.2	3.6	4.7	9.1	17.4	9.7	54.7	64.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0031	0.0160	3.3835	6.7440	10.0408	13.9859

Fineness Modulus
1.58

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-2265	SS-16	63.5-65.0	31.2	22	87	65	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

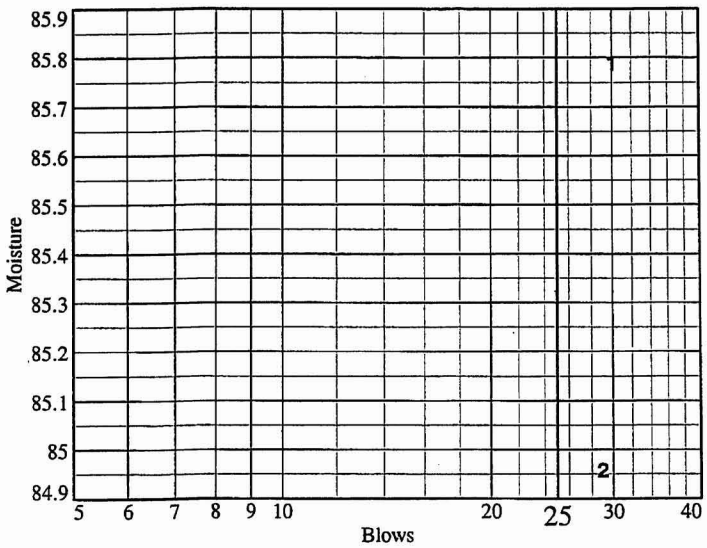
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 63.5-65.0 **Sample Number:** SS-16
Material Description: Gray Gravelly Fat CLAY with sand
USCS: CH **AASHTO:** A-7-6(40)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	26.23	29.08				
Dry+Tare	21.34	22.81				
Tare	15.64	15.43				
# Blows	30	29				
Moisture	85.8	85.0				



Liquid Limit= 87
Plastic Limit= 22
Plasticity Index= 65
Natural Moisture= 31.2
Liquidity Index= 0.1

Plastic Limit Data

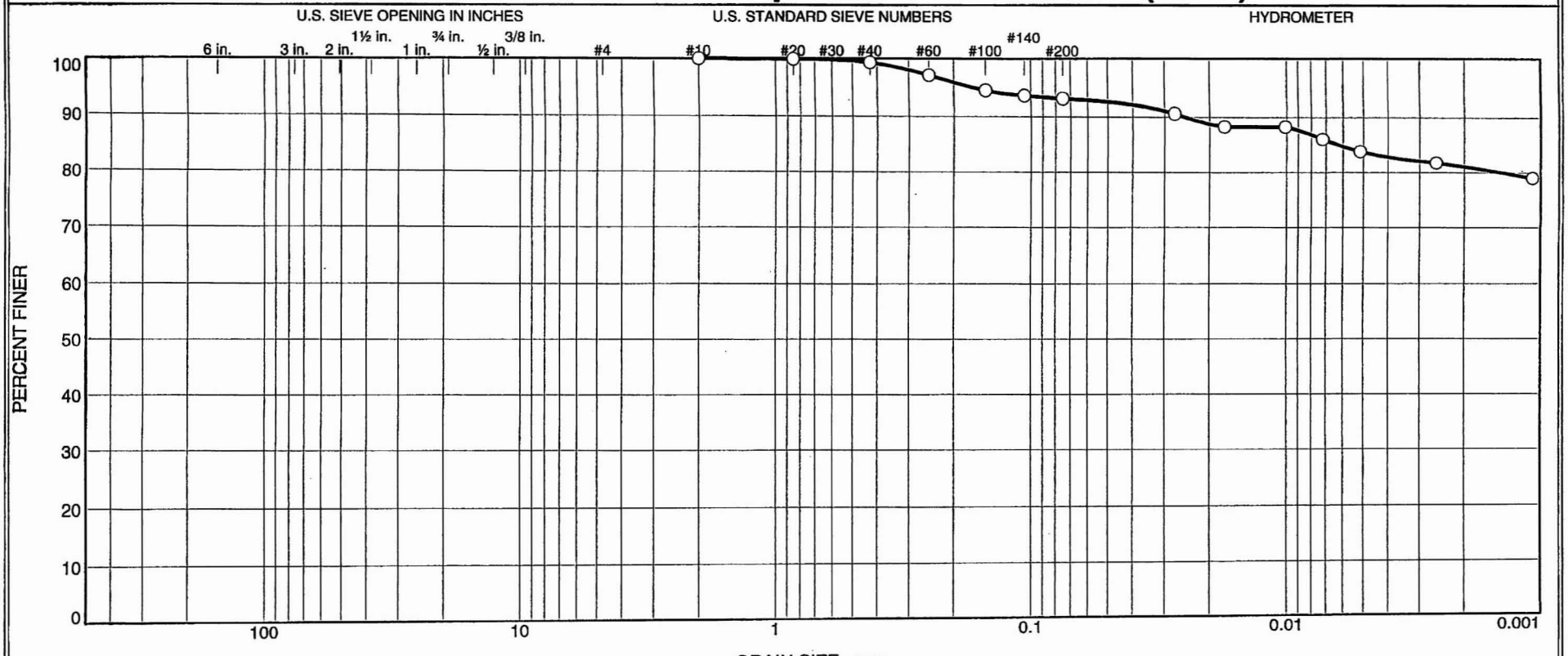
Run No.	1	2	3	4	
Wet+Tare	22.74	20.85			
Dry+Tare	21.42	19.88			
Tare	15.50	15.56			
Moisture	22.3	22.5			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
76.10	60.20	9.20	31.2

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	0.7	6.2	9.4	83.7

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-17	68.5-70.0	11-9-07	CH	Gray Fat CLAY	31.1	96	39

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed

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-2265
Depth: 68.5-70.0 **Sample Number:** SS-17
Material Description: Gray Fat CLAY
Date: 11-9-07 **Natural Moisture:** 31.1
Liquid Limit: 96 **Plastic Limit:** 39 **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
103.29	0.00	0.00	#10	0.00	100.0
46.64	0.00	0.00	#20	0.04	99.9
			#40	0.32	99.3
			#60	1.36	97.1
			#100	2.60	94.4
			#140	3.00	93.6
			#200	3.23	93.1

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =46.64
Hygroscopic moisture correction:
Moist weight and tare = 28.61
Dry weight and tare = 27.94
Tare weight = 15.26
Hygroscopic moisture = 5.3%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.1	45.0	40.6	0.0131	46.0	8.8	0.0274	90.6
5.00	22.1	44.0	39.6	0.0131	45.0	8.9	0.0175	88.3
15.00	22.1	44.0	39.6	0.0131	45.0	8.9	0.0101	88.3
30.00	22.1	43.0	38.6	0.0131	44.0	9.1	0.0072	86.1
60.00	22.1	42.0	37.6	0.0131	43.0	9.2	0.0051	83.9
240.00	22.4	41.0	36.6	0.0131	42.0	9.4	0.0026	81.8
1440.00	21.5	40.0	35.4	0.0132	41.0	9.6	0.0011	79.0

MACTEC, Inc.

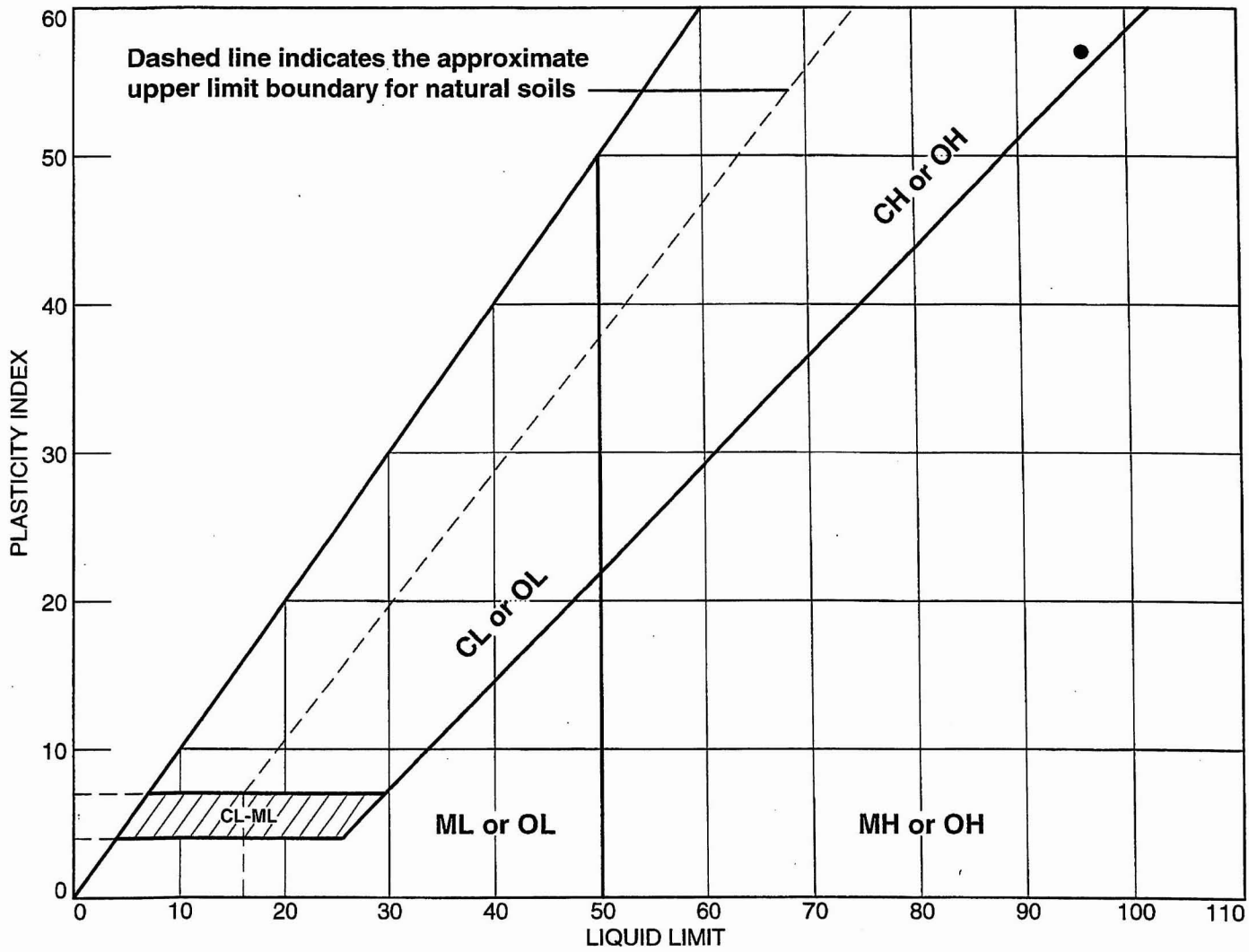
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.7	6.2	6.9	9.4	83.7	93.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.0014	0.0062	0.0249	0.1712

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-2265	SS-17	68.5-70.0	31.1	39	96	57	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

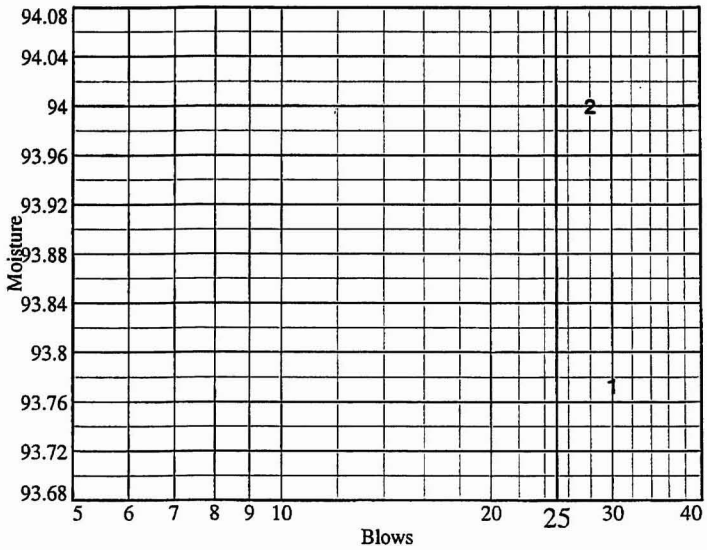
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 68.5-70.0 **Sample Number:** SS-17
Material Description: Gray Fat CLAY
USCS: CH **AASHTO:** A-7-5(64)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	26.15	26.11				
Dry+Tare	21.03	20.94				
Tare	15.57	15.44				
# Blows	30	28				
Moisture	93.8	94.0				



Liquid Limit= 96
Plastic Limit= 39
Plasticity Index= 57
Natural Moisture= 31.1
Liquidity Index= -0.1

Plastic Limit Data

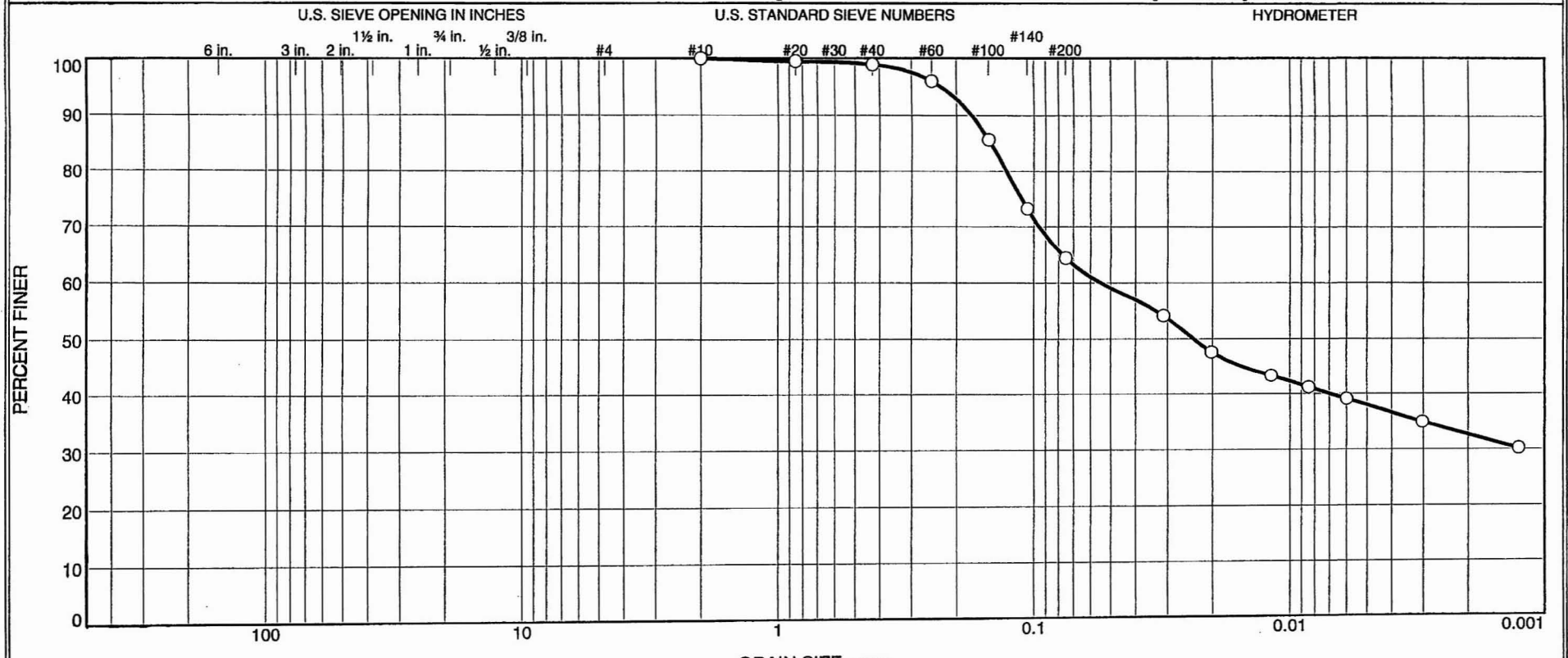
Run No.	1	2	3	4	
Wet+Tare	18.77	19.49			
Dry+Tare	17.82	18.39			
Tare	15.40	15.60			
Moisture	39.3	39.4			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
49.80	39.58	6.70	31.1

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	1.1	34.5	26.4	38.0

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-18	73.5-75.0	11-10-07	CL	Gray Sandy Lean CLAY	18.5	35	11

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.700 (ASTM D854-06)
Organic content = 1.6% (ASTM D-2794-07)

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-2265
Depth: 73.5-75.0 **Sample Number:** SS-18
Material Description: Gray Sandy Lean CLAY
Date: 11-10-07 **Natural Moisture:** 18.5
Liquid Limit: 35 **Plastic Limit:** 11 **USCS Class.:** CL
Testing Remarks: Specific Gravity = 2.700 (ASTM D854-06)
Organic content = 1.6% (ASTM D-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
232.87	0.00	0.00	#10	0.00	100.0
48.53	0.00	0.00	#20	0.26	99.5
			#40	0.51	98.9
			#60	1.94	96.0
			#100	6.90	85.8
			#140	12.99	73.2
			#200	17.27	64.4

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =48.53
Hygroscopic moisture correction:
Moist weight and tare = 28.90
Dry weight and tare = 28.36
Tare weight = 15.62
Hygroscopic moisture = 4.2%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.9	30.0	25.5	0.0131	31.0	11.2	0.0311	54.2
5.00	21.6	27.0	22.4	0.0132	28.0	11.7	0.0202	47.6
15.00	21.6	25.0	20.4	0.0132	26.0	12.0	0.0118	43.4
30.00	21.5	24.0	19.4	0.0132	25.0	12.2	0.0084	41.2
60.00	21.5	23.0	18.4	0.0132	24.0	12.4	0.0060	39.1
240.00	21.6	21.0	16.4	0.0132	22.0	12.7	0.0030	34.9
1440.00	20.9	19.0	14.2	0.0133	20.0	13.0	0.0013	30.2

MACTEC, Inc.

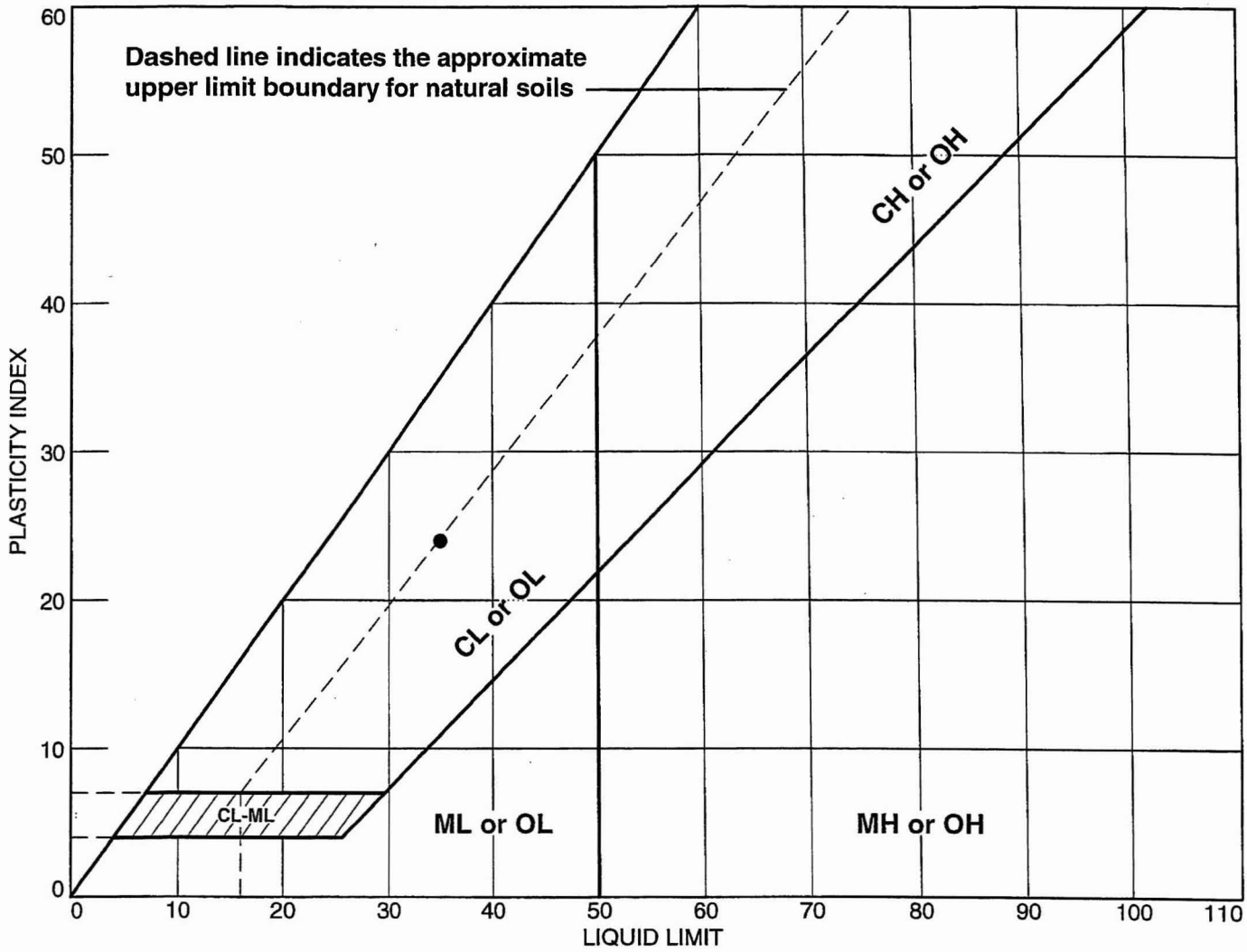
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.1	34.5	35.6	26.4	38.0	64.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0237	0.0546	0.1276	0.1465	0.1743	0.2296

Fineness Modulus
0.18

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-2265	SS-18	73.5-75.0	18.5	11	35	24	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

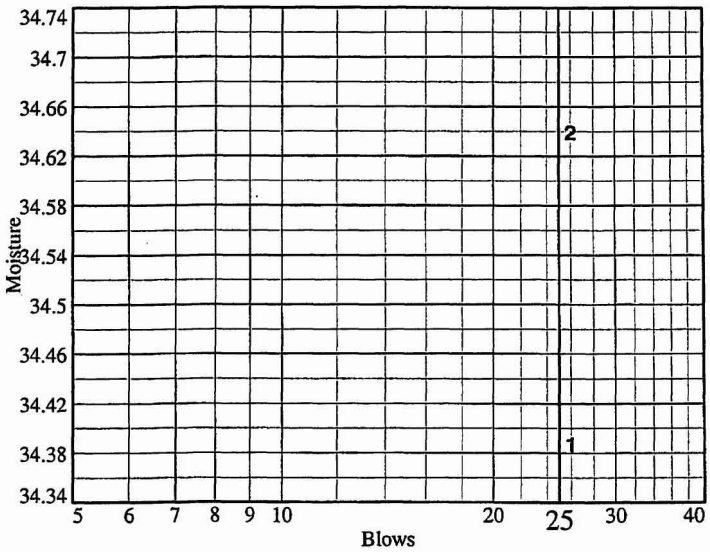
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 73.5-75.0 **Sample Number:** SS-18
Material Description: Gray Sandy Lean CLAY
USCS: CL **AASHTO:** A-6(12)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	25.69	24.09				
Dry+Tare	23.08	21.88				
Tare	15.49	15.50				
# Blows	26	26				
Moisture	34.4	34.6				



Liquid Limit= 35
Plastic Limit= 11
Plasticity Index= 24
Natural Moisture= 18.5
Liquidity Index= 0.3

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.88	21.71			
Dry+Tare	22.14	21.08			
Tare	15.46	15.53			
Moisture	11.1	11.4			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
176.96	150.84	9.31	18.5

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: 3/17/08

SAMPLE IDENTIFICATION: B-2265 SS-18

(A) Mass of oven-dried soil, grams:		50.00
(B) Mass of pycnometer filled with water at test temperature (T), grams:		655.31
(C) Mass of pycnometer, water and soil, grams:		686.79
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		19.4
(G) Specific Gravity at observed temperature:	A / [C - (C - A)]	2.700
(F)	***Correction factor:***	1.00012
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.700

MATERIAL TESTED: [X] **- # 4** [ ] **- # 10**

PREPARATION METHOD: [X] **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

PYCNOMETER : P-5

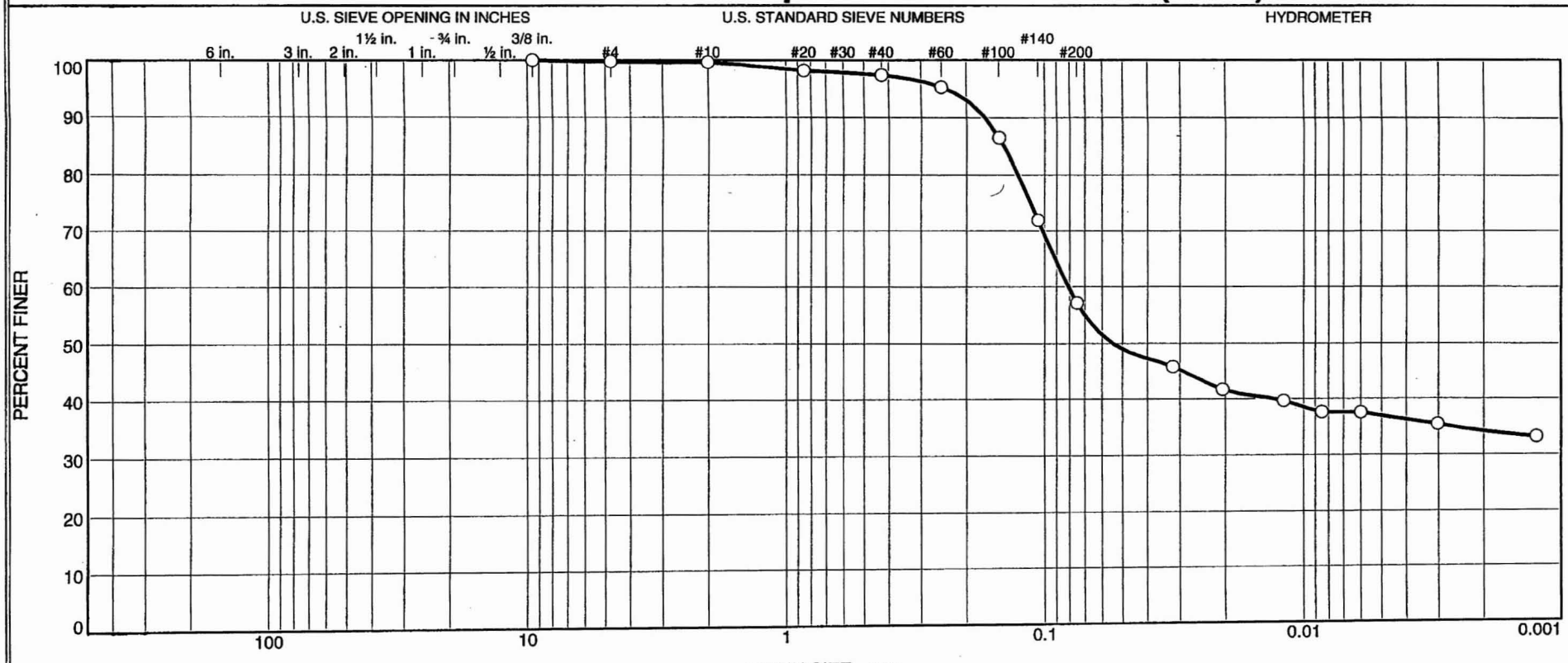
TESTED BY: CS

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

REVIEWED BY: **Brian Johnson**

DSC 3-17-08

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	0.3	0.1	2.3	40.1	20.3	36.9

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2265	SS-19	78.5-80	11-10-07	CL	Gray Sandy Lean CLAY	18.4	44	15

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

O Specific Gravity is assumed

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-2265
Depth: 78.5-80 **Sample Number:** SS-19
Material Description: Gray Sandy Lean CLAY
Date: 11-10-07 **Natural Moisture:** 18.4
Liquid Limit: 44 **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
242.36	0.00	0.00	3/8"	0.00	100.0
			#4	0.62	99.7
			#10	0.95	99.6
49.35	0.00	0.00	#20	0.72	98.2
			#40	1.14	97.3
			#60	2.19	95.2
			#100	6.47	86.5
			#140	13.71	71.9
			#200	21.01	57.2

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.6
Weight of hydrometer sample =49.35
Hygroscopic moisture correction:
Moist weight and tare = 27.80
Dry weight and tare = 27.52
Tare weight = 15.50
Hygroscopic moisture = 2.3%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.6	27.0	22.4	0.0132	28.0	11.7	0.0319	45.8
5.00	21.5	25.0	20.4	0.0132	26.0	12.0	0.0205	41.7
15.00	21.5	24.0	19.4	0.0132	25.0	12.2	0.0119	39.6
30.00	21.5	23.0	18.4	0.0132	24.0	12.4	0.0085	37.6
60.00	21.4	23.0	18.4	0.0132	24.0	12.4	0.0060	37.5
240.00	21.3	22.0	17.3	0.0132	23.0	12.5	0.0030	35.4
1440.00	20.9	21.0	16.2	0.0133	22.0	12.7	0.0012	33.2

MACTEC, Inc.

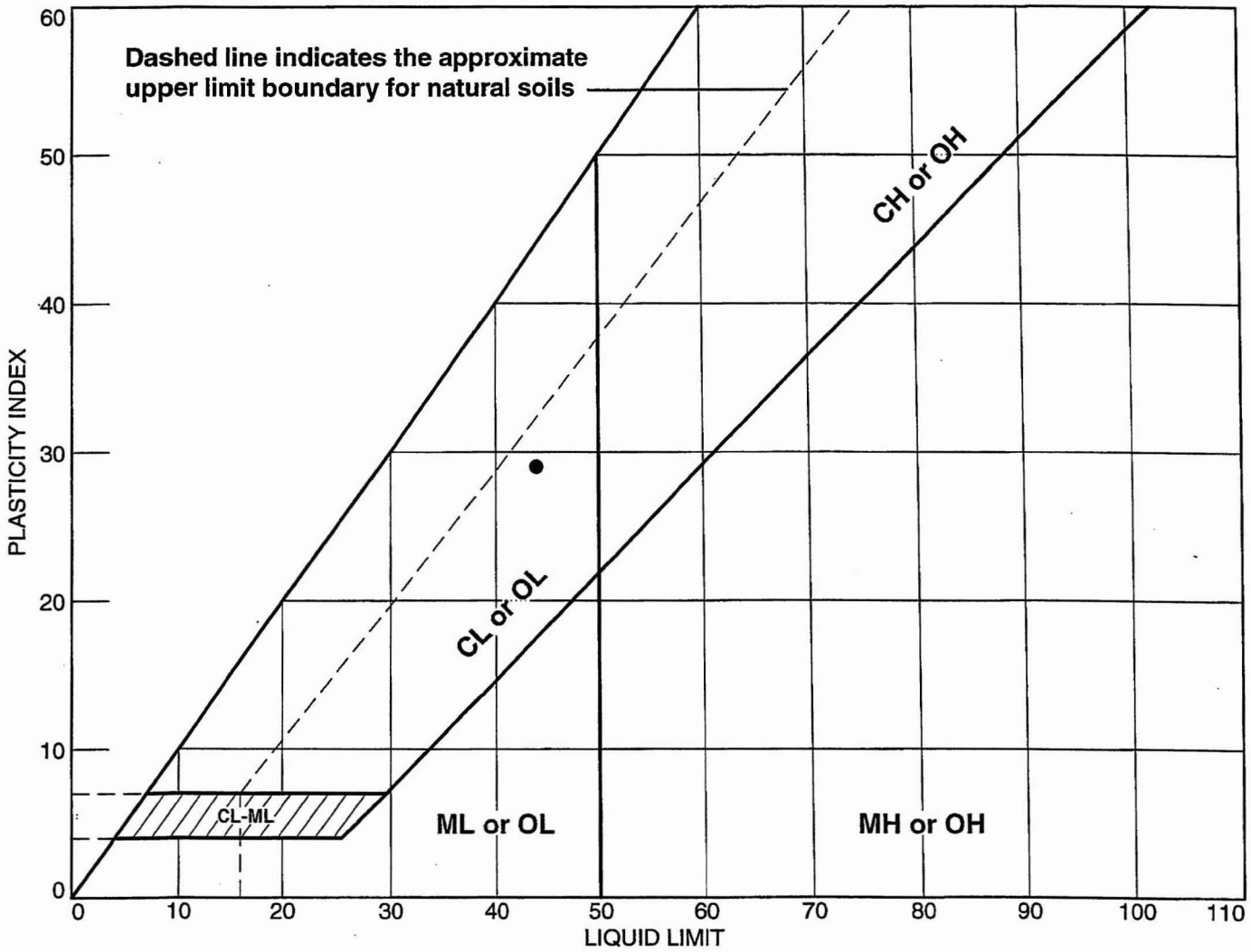
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.3	0.3	0.1	2.3	40.1	42.5	20.3	36.9	57.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0543	0.0810	0.1264	0.1434	0.1700	0.2437

Fineness Modulus
0.21

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-2265	SS-19	78.5-80	18.4	15	44	29	CL

MACTEC, Inc. **Raleigh, North Carolina**	**Client:** Bechtel **Project:** Exelon Texas COL (Victoria) **Project No.:** 6468071777 **Figure** NA

Tested By: CS **Checked By:** LBJ 1/29/08

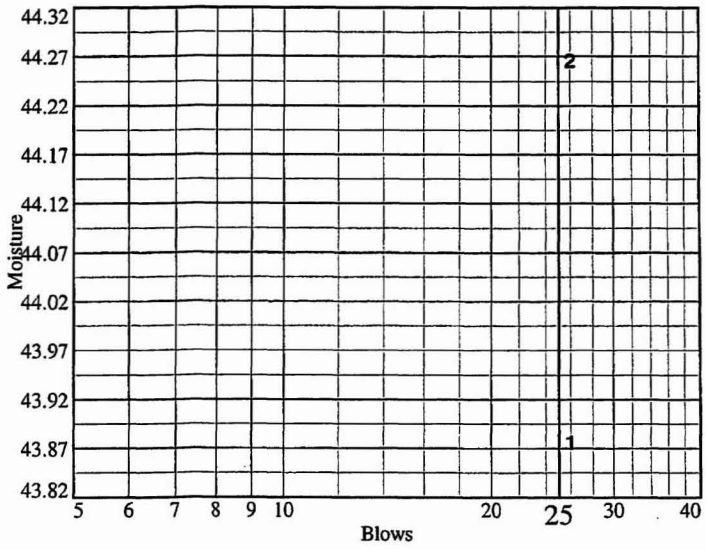
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 78.5-80 **Sample Number:** SS-19
Material Description: Gray Sandy Lean CLAY
USCS: CL **AASHTO:** A-7-6(13)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.78	32.77				
Dry+Tare	26.80	27.52				
Tare	15.45	15.66				
# Blows	26	26				
Moisture	43.9	44.3				



Liquid Limit= 44
Plastic Limit= 15
Plasticity Index= 29
Natural Moisture= 18.4
Liquidity Index= 0.1

Plastic Limit Data

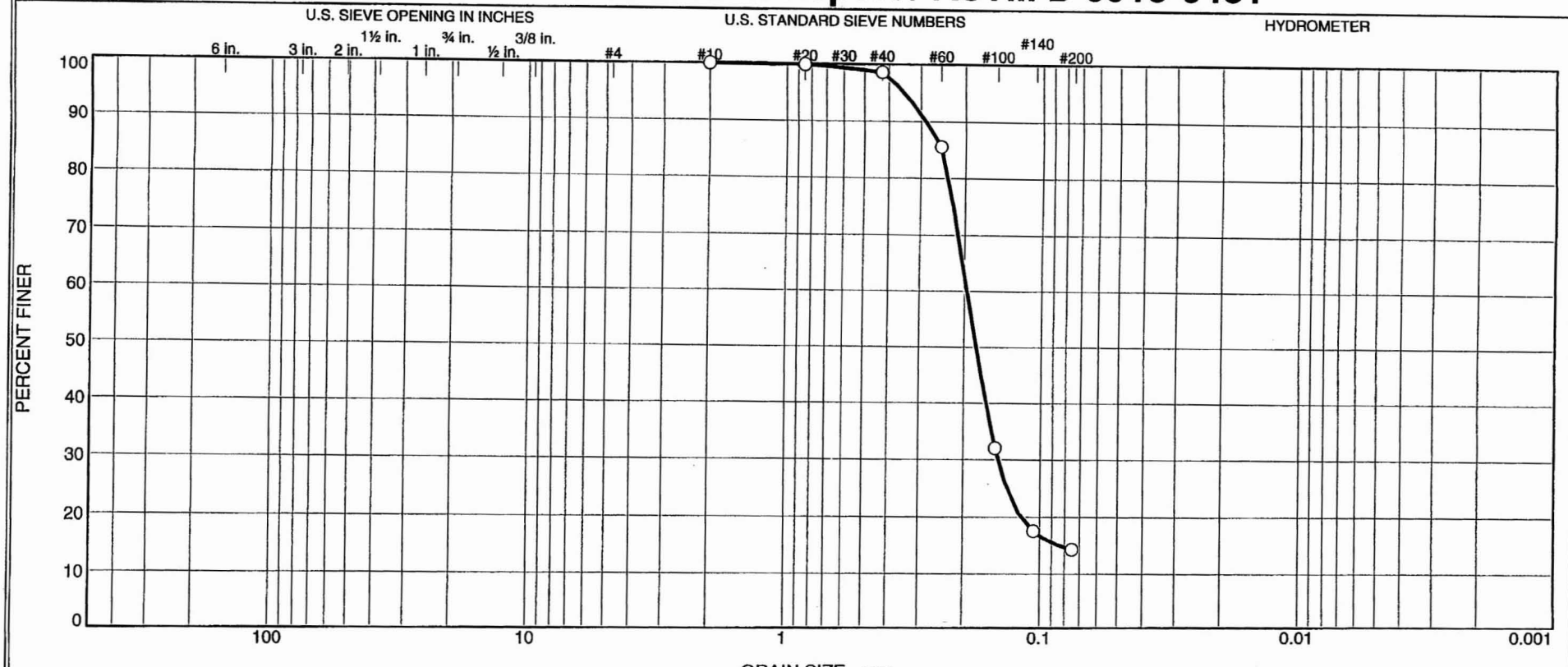
Run No.	1	2	3	4	
Wet+Tare	27.85	21.61			
Dry+Tare	26.19	20.19			
Tare	15.40	11.07			
Moisture	15.4	15.6			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
105.40	90.06	6.65	18.4

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	0.0	0.0	1.4	84.2	14.4	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-20	83.5-85.0	11-10-08	SC	Gray Clayey SAND (Visual)	ND	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ SIEVE ANALYSIS ONLY.
Specific Gravity = 2.656 (ASTM D854-06)
ND = Not determined

Tested By: CS **Checked By:** LBJ DSC 3-13-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/12/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 83.5-85.0 **Sample Number:** SS-20
Material Description: Gray Clayey SAND (Visual)
Date: 11-10-08 **Natural Moisture:** ND
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** SC
Testing Remarks: SIEVE ANALYSIS ONLY.
Specific Gravity = 2.656 (ASTM D854-06)
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
240.81	0.00	0.00	#10	0.00	100.0
94.59	0.00	0.00	#20	0.13	99.9
			#40	1.32	98.6
			#60	13.59	85.6
			#100	64.26	32.1
			#140	77.91	17.6
			#200	80.98	14.4

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	1.4	84.2	85.6			14.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0830	0.1183	0.1460	0.1793	0.1953	0.2343	0.2480	0.2869	0.3489

Fineness Modulus
0.77

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: 1/14/08

SAMPLE IDENTIFICATION: B-2265 SS-20

(A) Mass of oven-dried soil, grams:		50.00
(B) Mass of pycnometer filled with water at test temperature (T), grams:		655.11
(C) Mass of pycnometer, water and soil, grams:		686.29
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		21.3
(G) Specific Gravity at observed temperature:	A / [C - (C - A)]	2.657
(F)	***Correction factor:***	0.99972
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.656

MATERIAL TESTED: [X] **- # 4** [ ] **- # 10**

PREPARATION METHOD: [X] **DRY** [ ] **WET (dispersed)**

REMARKS: Estimated % Passing # 4 : 100%

Clayey SAND (SC) - visual

EQUIPMENT USED

SCALES : 3.1.19

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNOMETER : P-5

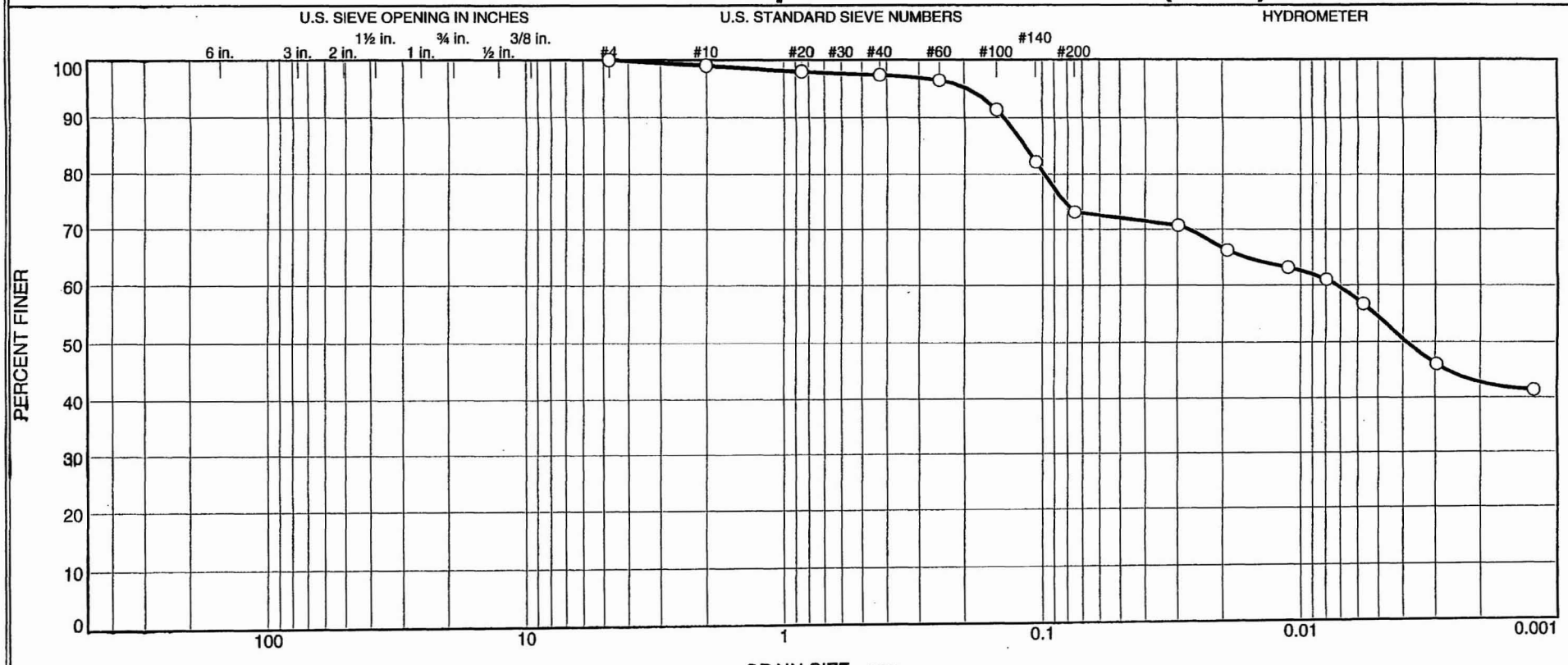
TESTED BY: CS

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

REVIEWED BY: **Brian Johnson**

KAW 1/26/08

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	0.9	1.7	24.3	18.6	54.5

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2265	SS-21	88.5-90.0	11-10-07	CH	Light Greenish Gray Fat CLAY with sand	21.4	56	15

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.677 (ASTM D854-06)
Organic content = 1.4% (ASTM D2794-07)

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-2265
Depth: 88.5-90.0 **Sample Number:** SS-21
Material Description: Light Greenish Gray Fat CLAY with sand
Date: 11-10-07 **Natural Moisture:** 21.4
Liquid Limit: 56 **Plastic Limit:** 15 **USCS Class.:** CH
Testing Remarks: Specific Gravity = 2.677 (ASTM D854-06)
Organic content = 1.4% (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
171.97	0.00	0.00	#4	0.00	100.0
			#10	1.62	99.1
47.42	0.00	0.00	#20	0.48	98.1
			#40	0.77	97.4
			#60	1.24	96.5
			#100	3.67	91.4
			#140	8.06	82.2
			#200	12.42	73.1

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.1
Weight of hydrometer sample =47.42
Hygroscopic moisture correction:
Moist weight and tare = 28.12
Dry weight and tare = 27.69
Tare weight = 15.55
Hygroscopic moisture = 3.5%
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 = 2.677
Hydrometer type = 152H
Hydrometer effective depth equation: 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	21.4	37.5	32.9	0.0133	38.5	10.0	0.0297	70.7
5.00	21.3	35.5	30.8	0.0133	36.5	10.3	0.0191	66.3
15.00	21.5	34.0	29.4	0.0133	35.0	10.6	0.0111	63.2
30.00	21.5	33.0	28.4	0.0133	34.0	10.7	0.0079	61.1
60.00	21.4	31.0	26.4	0.0133	32.0	11.0	0.0057	56.7
240.00	21.4	26.0	21.4	0.0133	27.0	11.9	0.0030	45.9
1440.00	20.9	24.0	19.2	0.0134	25.0	12.2	0.0012	41.4

MACTEC, Inc.

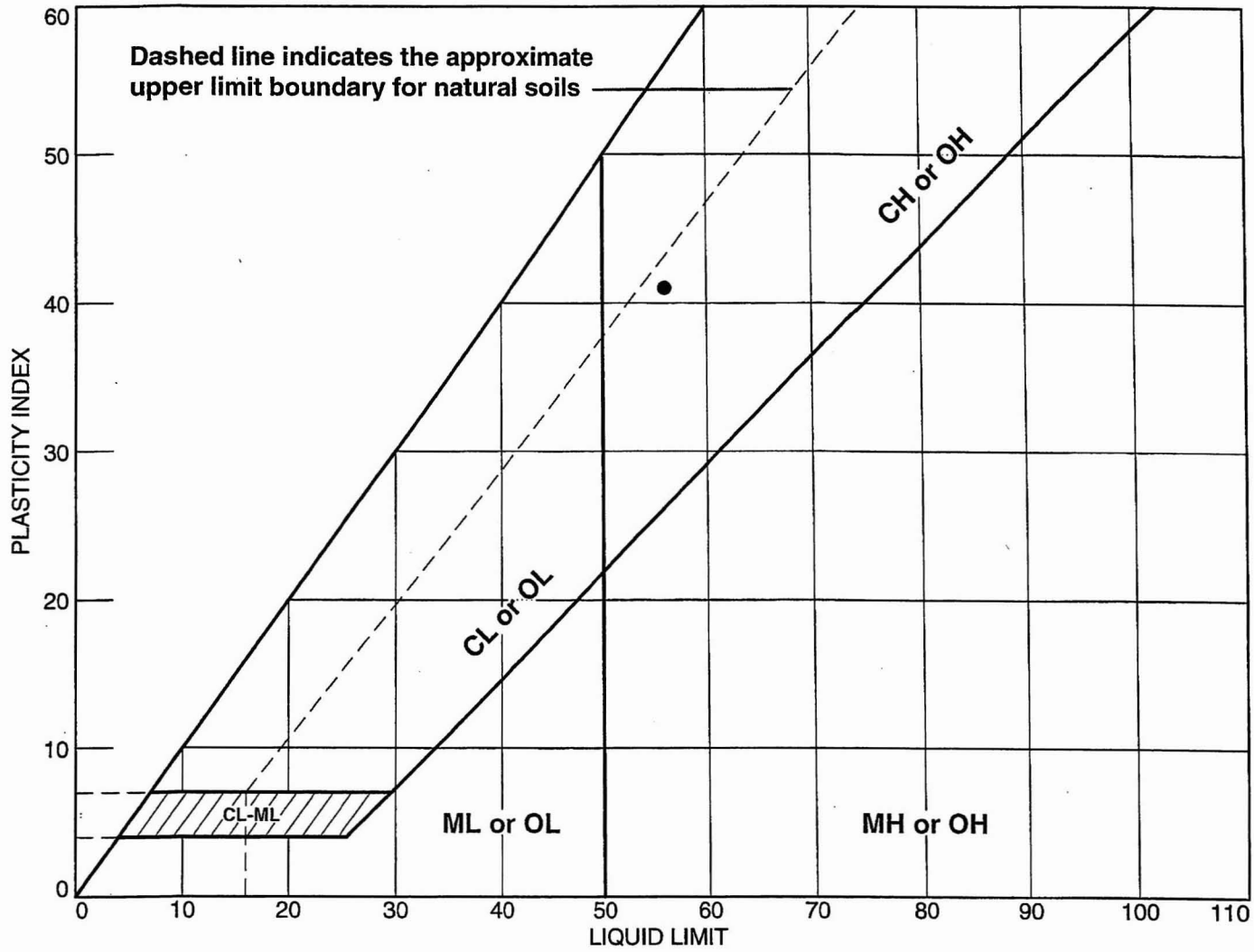
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.9	1.7	24.3	26.9	18.6	54.5	73.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0039	0.0072	0.0984	0.1164	0.1406	0.1943

Fineness Modulus
0.16

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-2265	SS-21	88.5-90.0	21.4	15	56	41	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

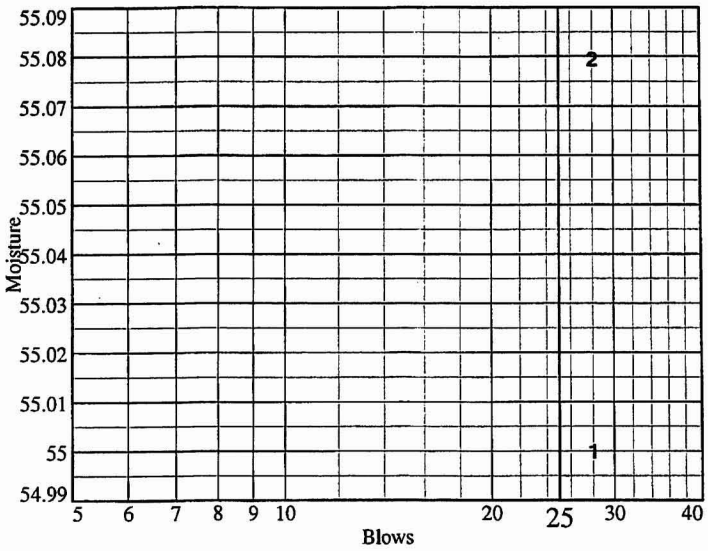
LIQUID AND PLASTIC LIMIT TEST DATA

1/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2265
Depth: 88.5-90.0 **Sample Number:** SS-21
Material Description: Light Greenish 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	29.81	28.19				
Dry+Tare	24.75	23.69				
Tare	15.55	15.52				
# Blows	28	28				
Moisture	55.0	55.1				



Liquid Limit= 56
Plastic Limit= 15
Plasticity Index= 41
Natural Moisture= 21.4
Liquidity Index= 0.2

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.91	25.28			
Dry+Tare	21.92	23.99			
Tare	15.49	15.55			
Moisture	15.4	15.3			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
170.58	142.12	9.10	21.4

MACTEC, Inc.