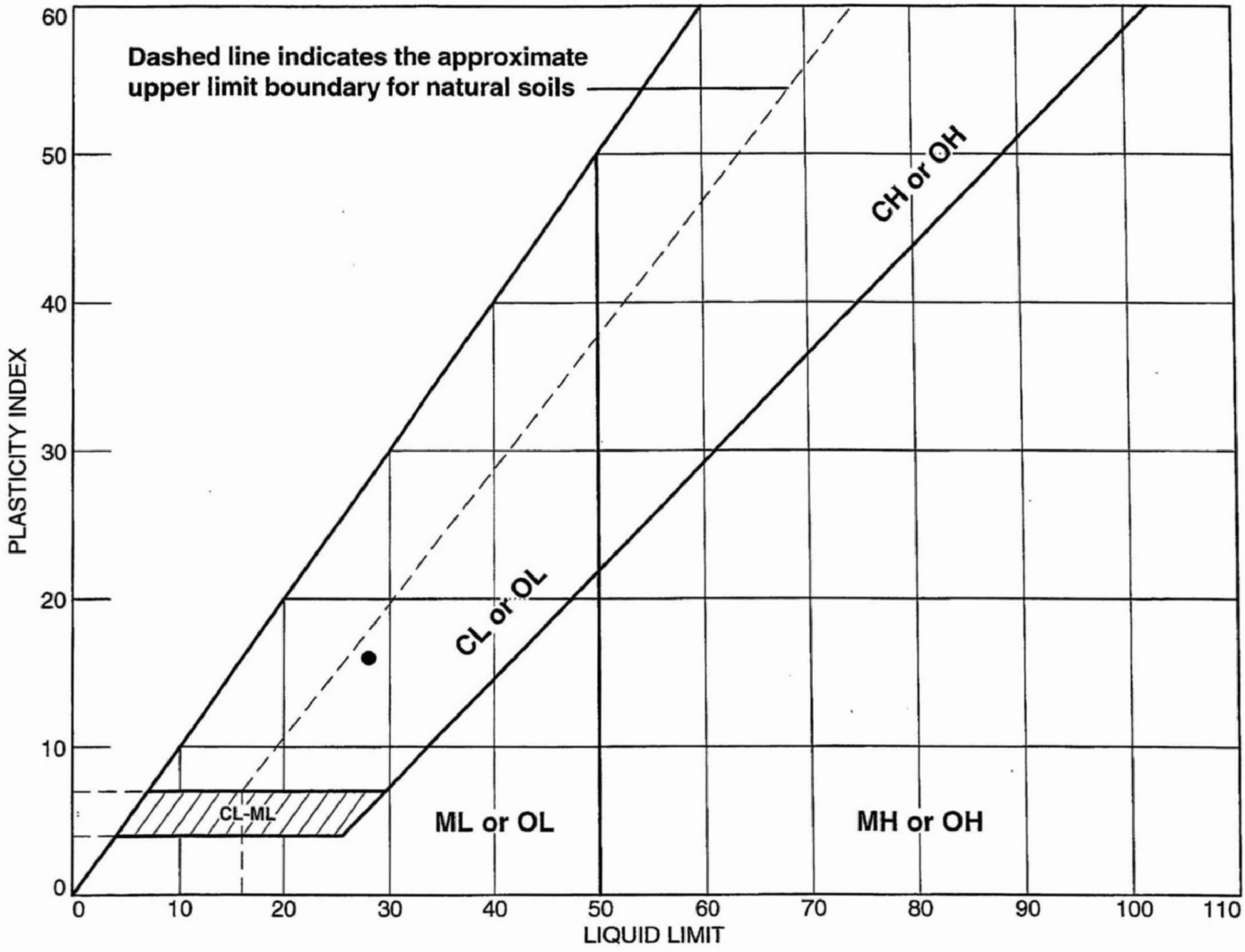
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	2.8	48.3	51.1	20.8	28.1	48.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0020	0.0068	0.0784	0.1057	0.1796	0.2152	0.2678	0.3557

Fineness Modulus
0.35

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring B-2269	SS-35	241.8-243'	15.9	12	28	16	SC

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

Tested By: CS **Checked By:** LBJ DSC 1-25-08

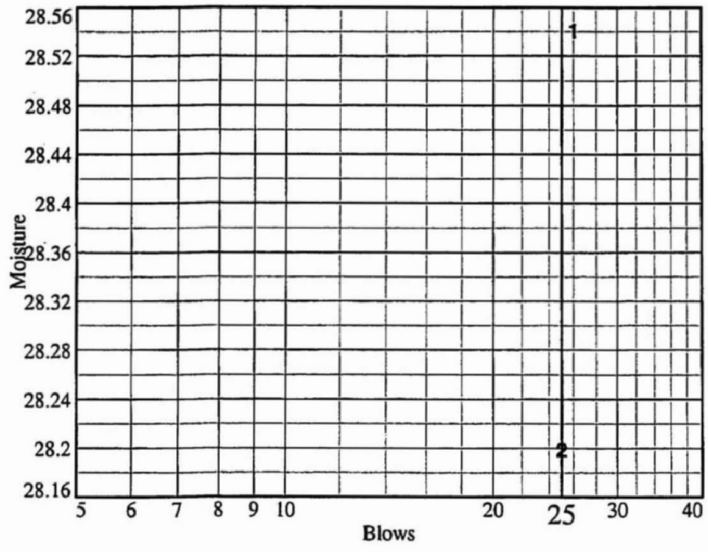
LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 241.8-243'
Sample Number: SS-35
Material Description: Light Gray Clayey SAND
USCS: SC
AASHTO: A-6(4)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	27.70	31.67				
Dry+Tare	25.00	28.10				
Tare	15.54	15.44				
# Blows	26	25				
Moisture	28.5	28.2				



Liquid Limit= 28
Plastic Limit= 12
Plasticity Index= 16
Natural Moisture= 15.9
Liquidity Index= 0.2

Plastic Limit Data

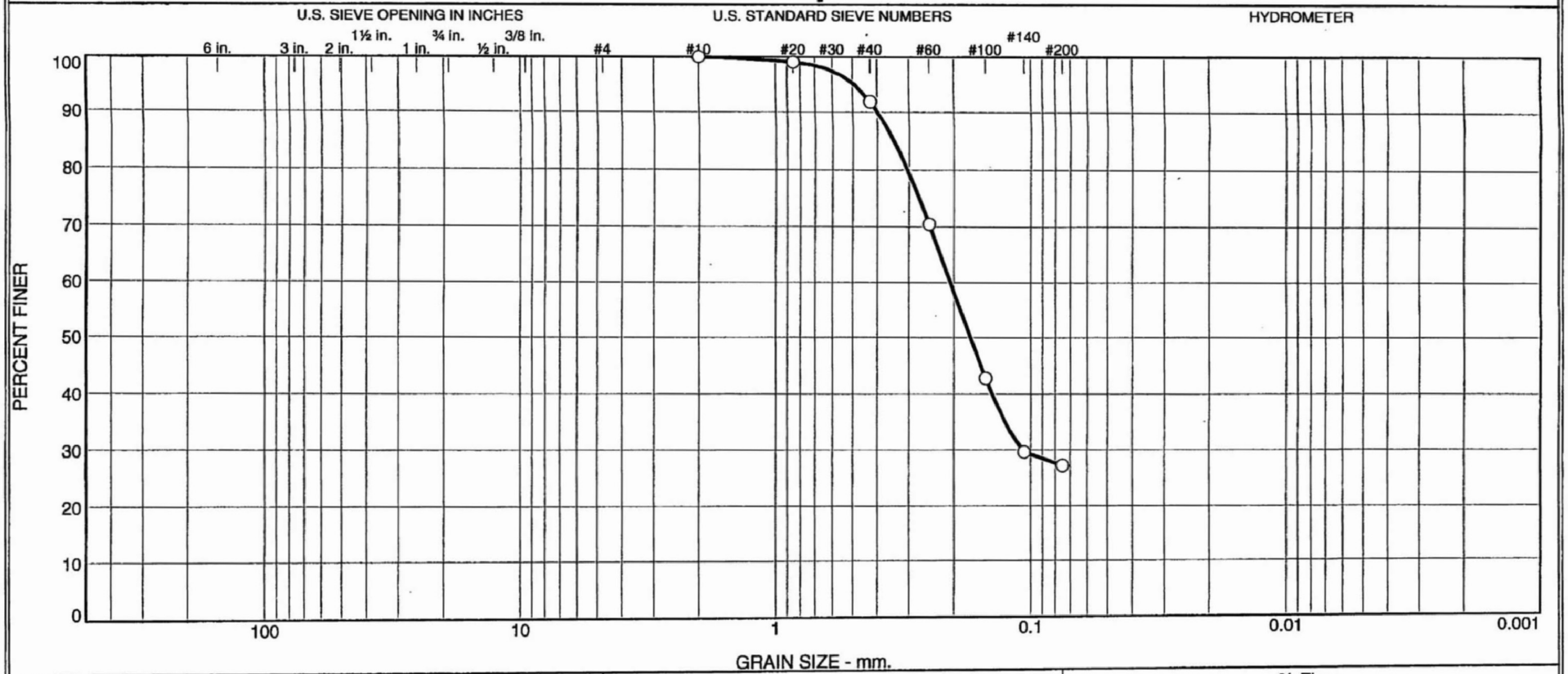
Run No.	1	2	3	4	
Wet+Tare	23.92	24.36			
Dry+Tare	23.00	23.40			
Tare	15.63	15.52			
Moisture	12.5	12.2			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
129.15	112.30	6.61	15.9

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	8.1	64.6	27.3	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2269	SS-36	261.8-263.3'	11/11/07	SC	Light 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
ND = Not determined.
Organic content = 0.8% (ASTM D 2974-07)

Tested By: CS **Checked By:** LBJ DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 261.8-263.3' **Sample Number:** SS-36
Material Description: Light Gray Clayey SAND (Visual)
Date: 11/11/07 **Natural Moisture:** ND
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** SC
Testing Remarks: SIEVE ANALYSIS ONLY
ND = Not determined.
Organic content = 0.8% (ASTM D 2974-07)
Tested by: CS **Checked by:** LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
274.06	0.00	0.00	#10	0.00	100.0
53.07	0.00	0.00	#20	0.53	99.0
			#40	4.32	91.9
			#60	15.64	70.5
			#100	30.38	42.8
			#140	37.33	29.7
			#200	38.60	27.3

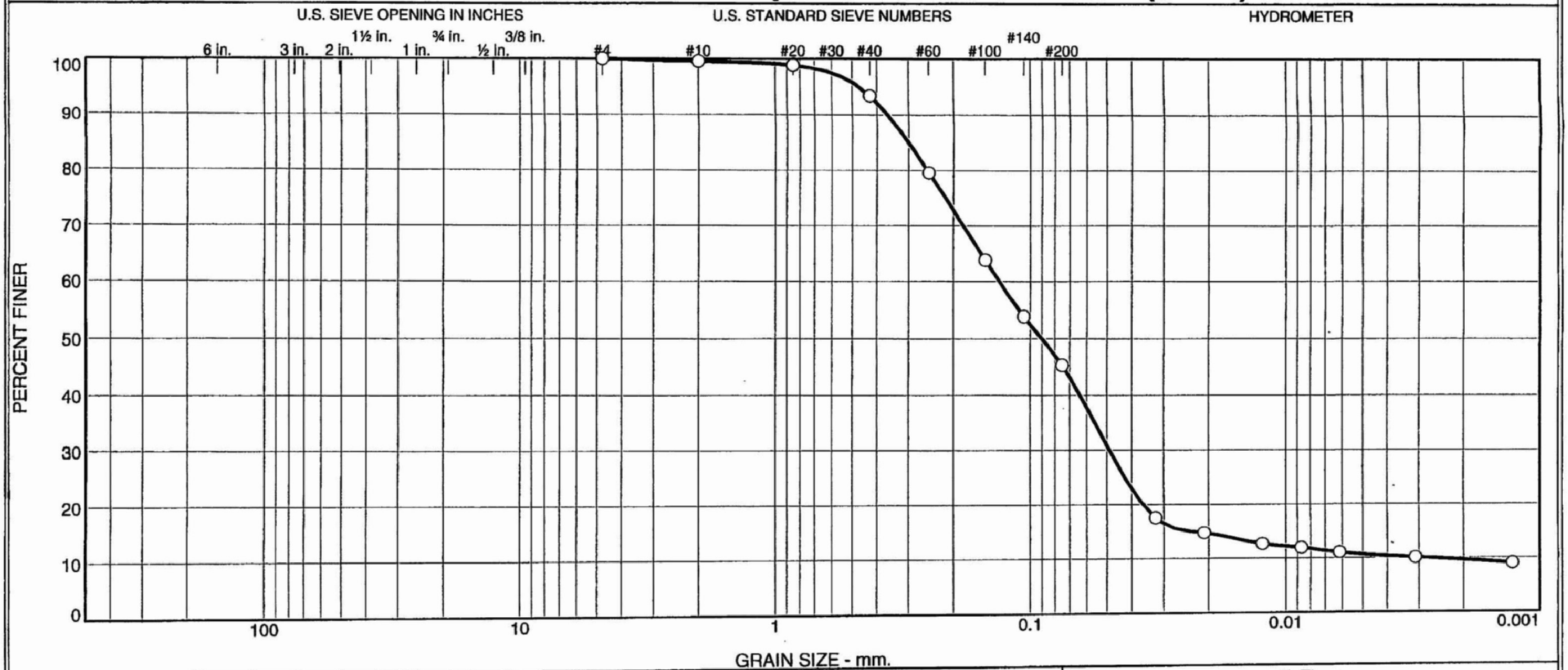
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	8.1	64.6	72.7			27.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.1077	0.1722	0.2061	0.3041	0.3433	0.3975	0.4930

Fineness Modulus
0.81

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	0.4	6.2	48.1	34.6	10.7

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2269	SS-37	281.8-283.3'	11/11/07	SC	Light Gray Clayey SAND	21.7	29	14

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 DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 281.8-283.3' **Sample Number:** SS-37
Material Description: Light Gray Clayey SAND
Date: 11/11/07 **Natural Moisture:** 21.7
Liquid Limit: 29 **Plastic Limit:** 14 **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
221.14	0.00	0.00	#4	0.00	100.0
			#10	0.98	99.6
108.10	0.00	0.00	#20	0.80	98.8
			#40	6.72	93.4
			#60	21.70	79.6
			#100	38.76	63.9
			#140	49.58	53.9
			#200	58.86	45.3

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.6
Weight of hydrometer sample =108.1
Hygroscopic moisture correction:
Moist weight and tare = 32.51
Dry weight and tare = 32.20
Tare weight = 21.06
Hygroscopic moisture = 2.8%
Table of composite correction values:

Temp., deg. C:	10.5	29.5
Comp. corr.:	-8.0	-3.5

Meniscus correction only = 1.0
Specific gravity of solids = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.3	24.0	18.8	0.0131	25.0	12.2	0.0323	17.6
5.00	22.2	21.0	15.8	0.0131	22.0	12.7	0.0208	14.8
15.00	21.2	19.0	13.5	0.0132	20.0	13.0	0.0123	12.7
30.00	22.2	18.0	12.8	0.0131	19.0	13.2	0.0087	12.0
60.00	22.4	17.0	11.8	0.0131	18.0	13.3	0.0062	11.1
240.00	22.3	16.0	10.8	0.0131	17.0	13.5	0.0031	10.1
1440.00	21.8	15.0	9.7	0.0131	16.0	13.7	0.0013	9.1

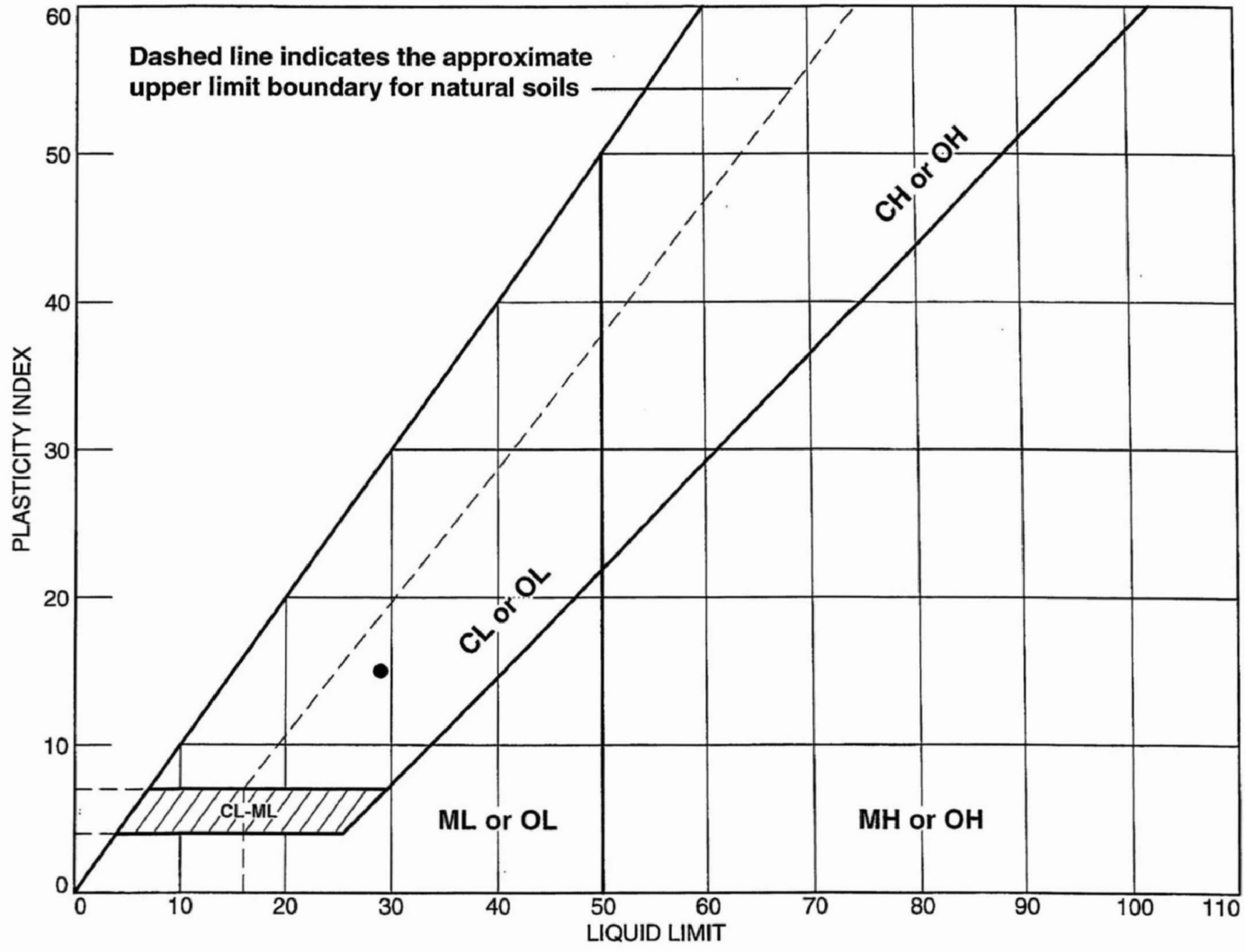
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.4	6.2	48.1	54.7	34.6	10.7	45.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0028	0.0232	0.0361	0.0489	0.0899	0.1321	0.2536	0.3003	0.3627	0.4703

Fineness Modulus	C_u	C_c
0.55	47.20	6.47

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring B-2269	SS-37	281.8-283.3'	21.7	14	29	15	SC

MACTEC, Inc.

Raleigh, North Carolina

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

Tested By: CS **Checked By:** LBJ DSC 1-25-08

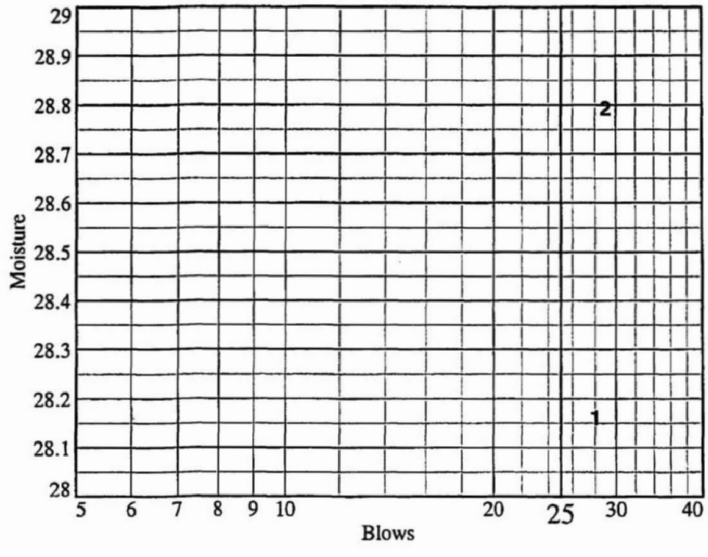
LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 281.8-283.3'
Sample Number: SS-37
Material Description: Light Gray Clayey SAND
USCS: SC
AASHTO: A-6(3)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	29.44	26.97				
Dry+Tare	26.39	24.39				
Tare	15.56	15.43				
# Blows	28	29				
Moisture	28.2	28.8				



Liquid Limit= 29
Plastic Limit= 14
Plasticity Index= 15
Natural Moisture= 21.7
Liquidity Index= 0.5

Plastic Limit Data

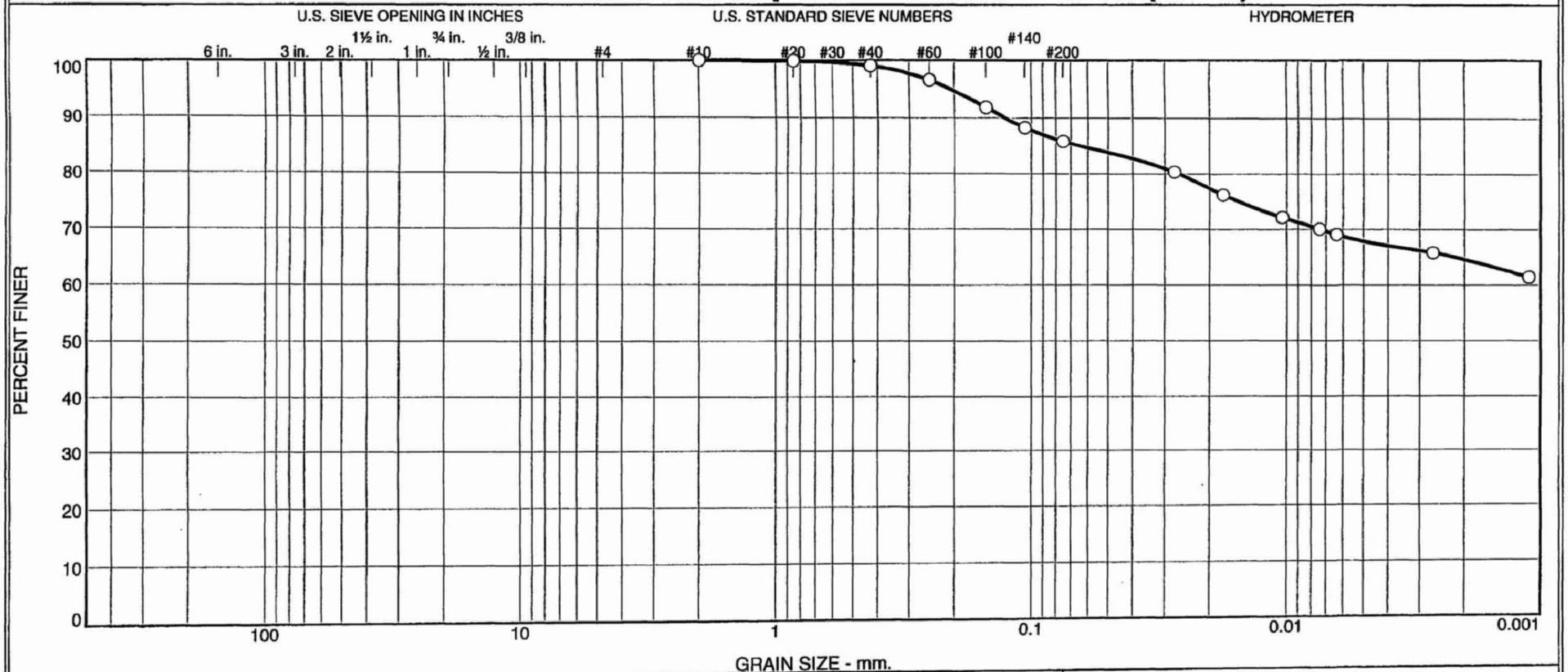
Run No.	1	2	3	4	
Wet+Tare	23.23	23.98			
Dry+Tare	22.30	22.90			
Tare	15.51	15.47			
Moisture	13.7	14.5			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
125.80	105.10	9.50	21.7

MACTEC, Inc.

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.9	13.2	18.0	67.9

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2269	SS-38	301.8-303.3'	11/11/07	CH	Light Gray Fat CLAY	29.1	72	23

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific gravity = 2.714 (ASTM D 854-06)

Tested By: CS **Checked By:** LBJ DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 301.8-303.3' **Sample Number:** SS-38
Material Description: Light Gray Fat CLAY
Date: 11/11/07 **Natural Moisture:** 29.1
Liquid Limit: 72 **Plastic Limit:** 23 **USCS Class.:** CH
Testing Remarks: Specific gravity = 2.714 (ASTM D 854-06)
Tested by: CS **Checked by:** LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
207.99	0.00	0.00	#10	0.00	100.0
50.41	0.00	0.00	#20	0.06	99.9
			#40	0.47	99.1
			#60	1.71	96.6
			#100	4.13	91.8
			#140	5.89	88.3
			#200	7.13	85.9

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =50.41
Hygroscopic moisture correction:
Moist weight and tare = 28.53
Dry weight and tare = 27.81
Tare weight = 15.44
Hygroscopic moisture = 5.8%
Table of composite correction values:

Temp., deg. C:	10.5	29.5
Comp. corr.:	-8.0	-3.5

Meniscus correction only = 1.0
Specific gravity of solids = 2.714
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	44.0	38.8	0.0130	45.0	8.9	0.0274	80.3
5.00	22.4	42.0	36.8	0.0130	43.0	9.2	0.0177	76.2
15.00	22.5	40.0	34.8	0.0130	41.0	9.6	0.0104	72.1
30.00	22.5	39.0	33.8	0.0130	40.0	9.7	0.0074	70.0
41.00	22.6	38.5	33.4	0.0130	39.5	9.8	0.0063	69.1
240.00	22.3	37.0	31.8	0.0130	38.0	10.1	0.0027	65.8
1440.00	21.9	35.0	29.7	0.0131	36.0	10.4	0.0011	61.5

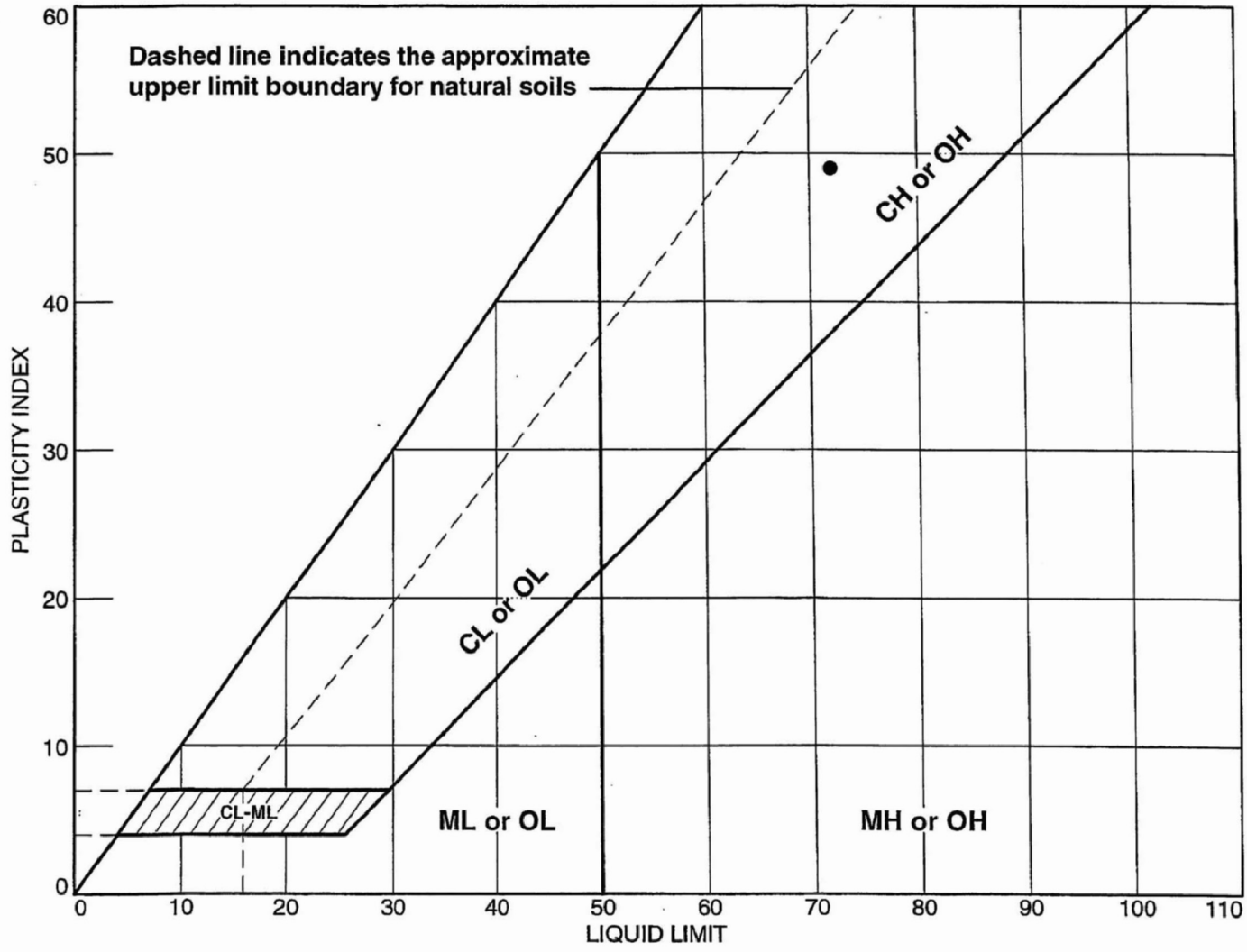
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.9	13.2	14.1	18.0	67.9	85.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.0264	0.0638	0.1263	0.2059

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-2269	SS-38	301.8-303.3'	29.1	23	72	49	CH

MACTEC, Inc.

Raleigh, North Carolina

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

Tested By: CS **Checked By:** LBJ DSC 1-25-08

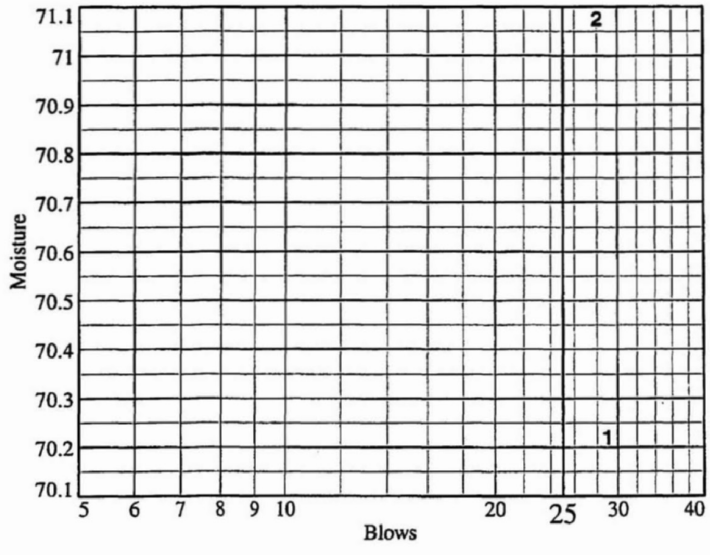
LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 301.8-303.3'
Sample Number: SS-38
Material Description: Light Gray Fat CLAY
USCS: CH
AASHTO: A-7-6(46)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	32.38	28.67				
Dry+Tare	25.40	23.19				
Tare	15.46	15.48				
# Blows	29	28				
Moisture	70.2	71.1				



Liquid Limit= 72
Plastic Limit= 23
Plasticity Index= 49
Natural Moisture= 29.1
Liquidity Index= 0.1

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.97	23.46			
Dry+Tare	21.60	22.03			
Tare	15.63	15.57			
Moisture	22.9	22.1			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
121.10	95.90	9.40	29.1

MACTEC, Inc.

MACTEC ENGINEERING AND CONSULTING, INC.
RALEIGH, NORTH CAROLINA

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

PROJECT NAME:EXELON COL PROJECT [VICTORIA]

PROJECT NUMBER: 6468071777

DATE: 11/23/07

SAMPLE IDENTIFICATION: B-2269 SS-38

(A) Mass of oven-dried soil, grams:	49.23
(B) Mass of pycnometer filled with water at test temperature (T), grams:	654.93
(C) Mass of pycnometer, water and soil, grams:	686.03
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	22.1
(G) Specific Gravity at observed temperature: A / [B - (C - A)]	2.715
(F) ***Correction factor:***	0.99954
(G x F) **SPECIFIC GRAVITY @ 20°C:**	2.714

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

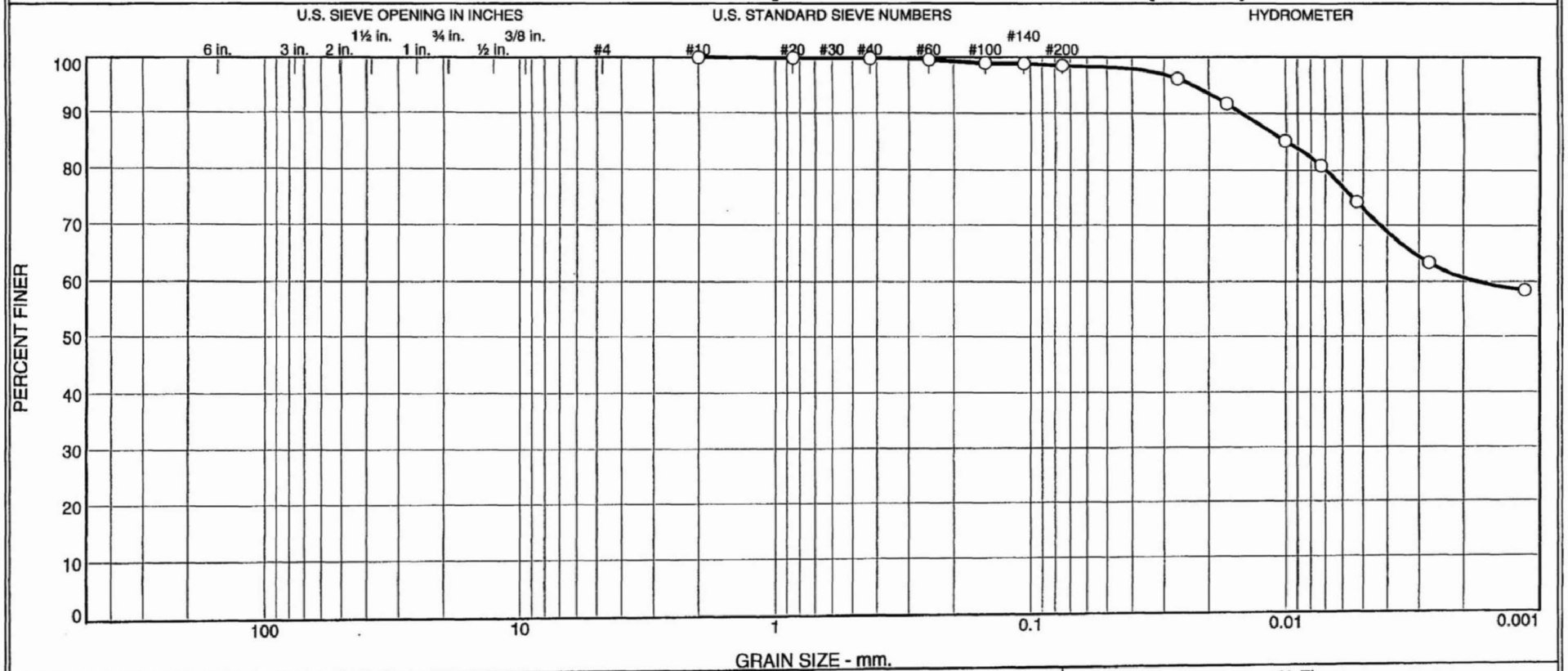
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

DSC 1-25-08

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	0.0	0.0	0.2	1.3	25.4	73.1

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2269	SS-39A	321.8-322.6'	11/12/07	CH	Light Gray Fat CLAY	25.6	73	23

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 DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 321.8-322.6'
Sample Number: SS-39A
Material Description: Light Gray Fat CLAY
Date: 11/12/07
Natural Moisture: 25.6
Liquid Limit: 73
Plastic Limit: 23
USCS Class.: CH
Testing Remarks: Specific gravity is assumed.
Tested by: CS
Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
173.03	0.00	0.00	#10	0.00	100.0
47.29	0.00	0.00	#20	0.05	99.9
			#40	0.08	99.8
			#60	0.19	99.6
			#100	0.49	99.0
			#140	0.52	98.9
			#200	0.71	98.5

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =47.29
Hygroscopic moisture correction:
Moist weight and tare = 32.56
Dry weight and tare = 31.94
Tare weight = 20.11
Hygroscopic moisture = 5.2%
Table of composite correction values:

Temp., deg. C:	10.5	29.5
Comp. corr.:	-8.0	-3.5

Meniscus correction only = 1.0
Specific gravity of solids = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.9	49.0	43.7	0.0131	50.0	8.1	0.0264	96.2
5.00	21.9	47.0	41.7	0.0131	48.0	8.4	0.0170	91.8
15.00	22.0	44.0	38.7	0.0131	45.0	8.9	0.0101	85.2
30.00	22.0	42.0	36.7	0.0131	43.0	9.2	0.0073	80.8
60.00	22.1	39.0	33.7	0.0131	40.0	9.7	0.0053	74.3
240.00	22.3	34.0	28.8	0.0131	35.0	10.6	0.0027	63.4
1440.00	21.5	32.0	26.6	0.0132	33.0	10.9	0.0011	58.6

MACTEC, Inc.

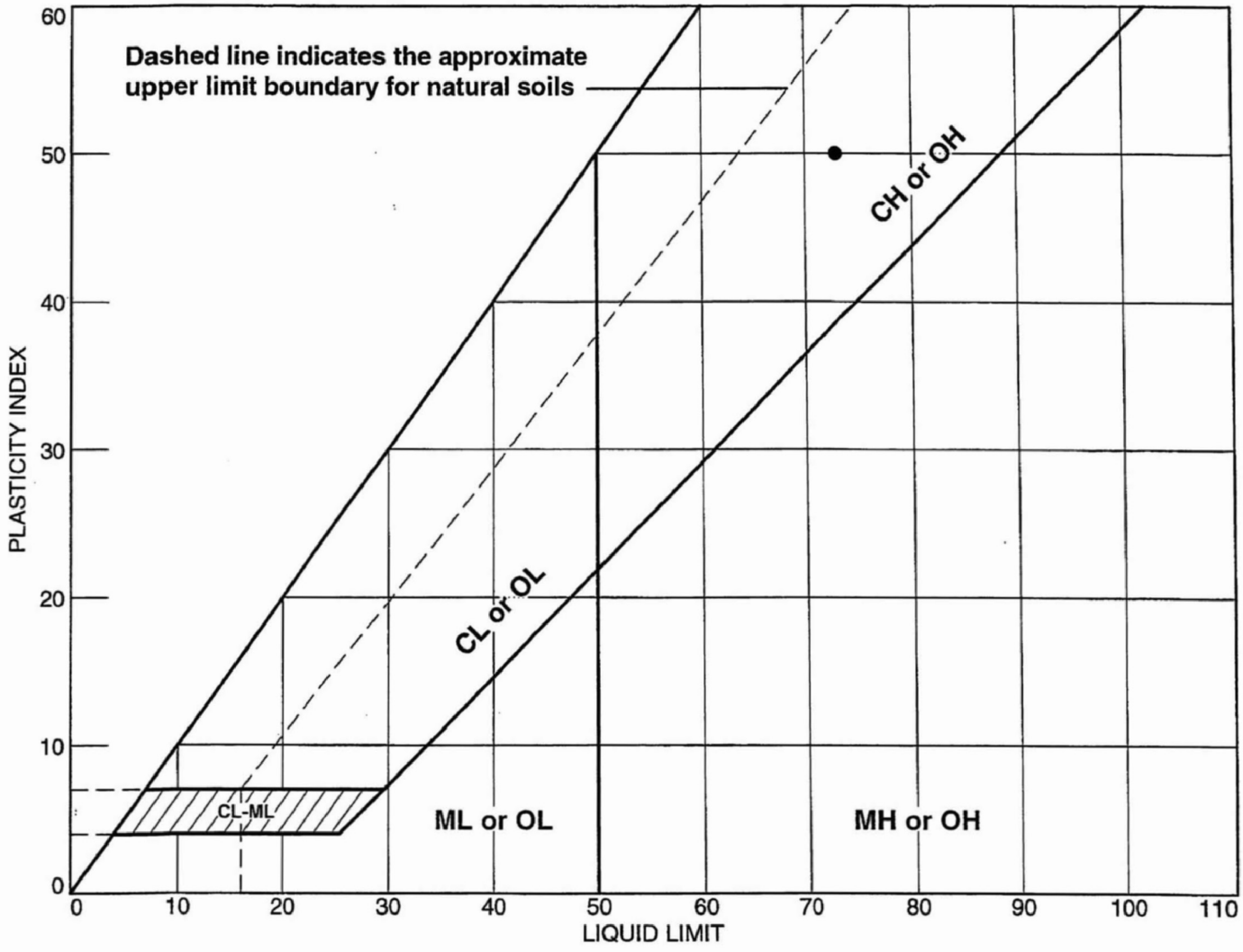
Fractional Components

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	1.3	1.5	25.4	73.1	98.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
					0.0018	0.0070	0.0099	0.0148	0.0229

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-2269	SS-39A	321.8-322.6'	25.6	23	73	50	CH

MACTEC, Inc.

Raleigh, North Carolina

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

Tested By: CS **Checked By:** LBJ DSC 1-25-08

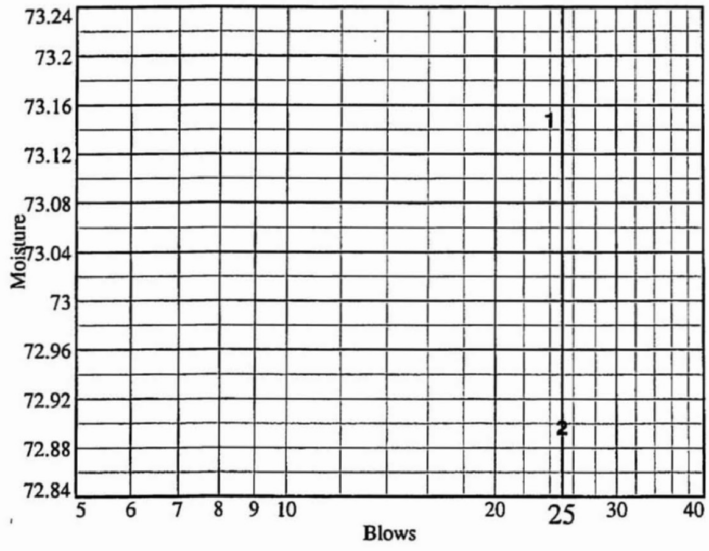
LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 321.8-322.6'
Sample Number: SS-39A
Material Description: Light Gray Fat CLAY
USCS: CH
AASHTO: A-7-6(56)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	24.84	26.59				
Dry+Tare	20.89	21.91				
Tare	15.49	15.49				
# Blows	24	25				
Moisture	73.1	72.9				



Liquid Limit= 73
Plastic Limit= 23
Plasticity Index= 50
Natural Moisture= 25.6
Liquidity Index= 0.1

Plastic Limit Data

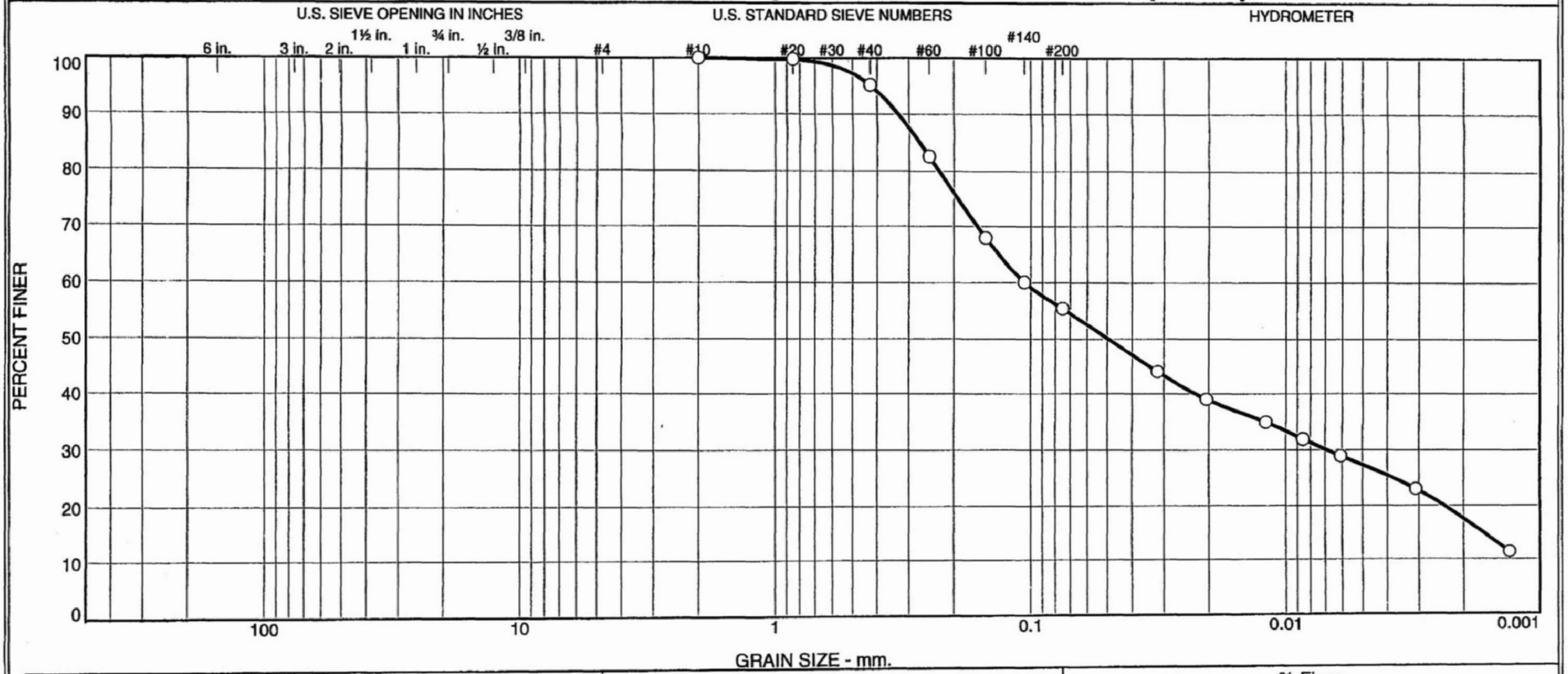
Run No.	1	2	3	4	
Wet+Tare	23.6	22.42			
Dry+Tare	22.10	21.20			
Tare	15.53	15.74			
Moisture	22.8	22.3			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
82.80	67.30	6.70	25.6

MACTEC, Inc.

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	4.8	39.8	28.0	27.4

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2269	SS-39B	322.6-323.3'	11/12/07	CL	Light Gray Sandy Lean CLAY	18.2	31	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 DSL 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 322.6-323.3' **Sample Number:** SS-39B
Material Description: Light Gray Sandy Lean CLAY
Date: 11/12/07 **Natural Moisture:** 18.2
Liquid Limit: 31 **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
167.30	0.00	0.00	#10	0.00	100.0
50.07	0.00	0.00	#20	0.13	99.7
			#40	2.42	95.2
			#60	8.71	82.6
			#100	16.03	68.0
			#140	19.97	60.1
			#200	22.34	55.4

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =50.07
Hygroscopic moisture correction:
Moist weight and tare = 28.40
Dry weight and tare = 28.06
Tare weight = 15.96
Hygroscopic moisture = 2.8%
Table of composite correction values:

Temp., deg. C:	10.5	29.5
Comp. corr.:	-8.0	-3.5

Meniscus correction only = 1.0
Specific gravity of solids = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.9	27.0	21.7	0.0131	28.0	11.7	0.0318	44.1
5.00	21.9	24.5	19.2	0.0131	25.5	12.1	0.0204	39.0
15.00	21.8	22.5	17.2	0.0131	23.5	12.4	0.0120	34.9
30.00	22.0	21.0	15.7	0.0131	22.0	12.7	0.0085	31.9
60.00	22.2	19.5	14.3	0.0131	20.5	12.9	0.0061	29.0
240.00	22.5	16.5	11.3	0.0130	17.5	13.4	0.0031	23.0
1440.00	21.5	11.0	5.6	0.0132	12.0	14.3	0.0013	11.4

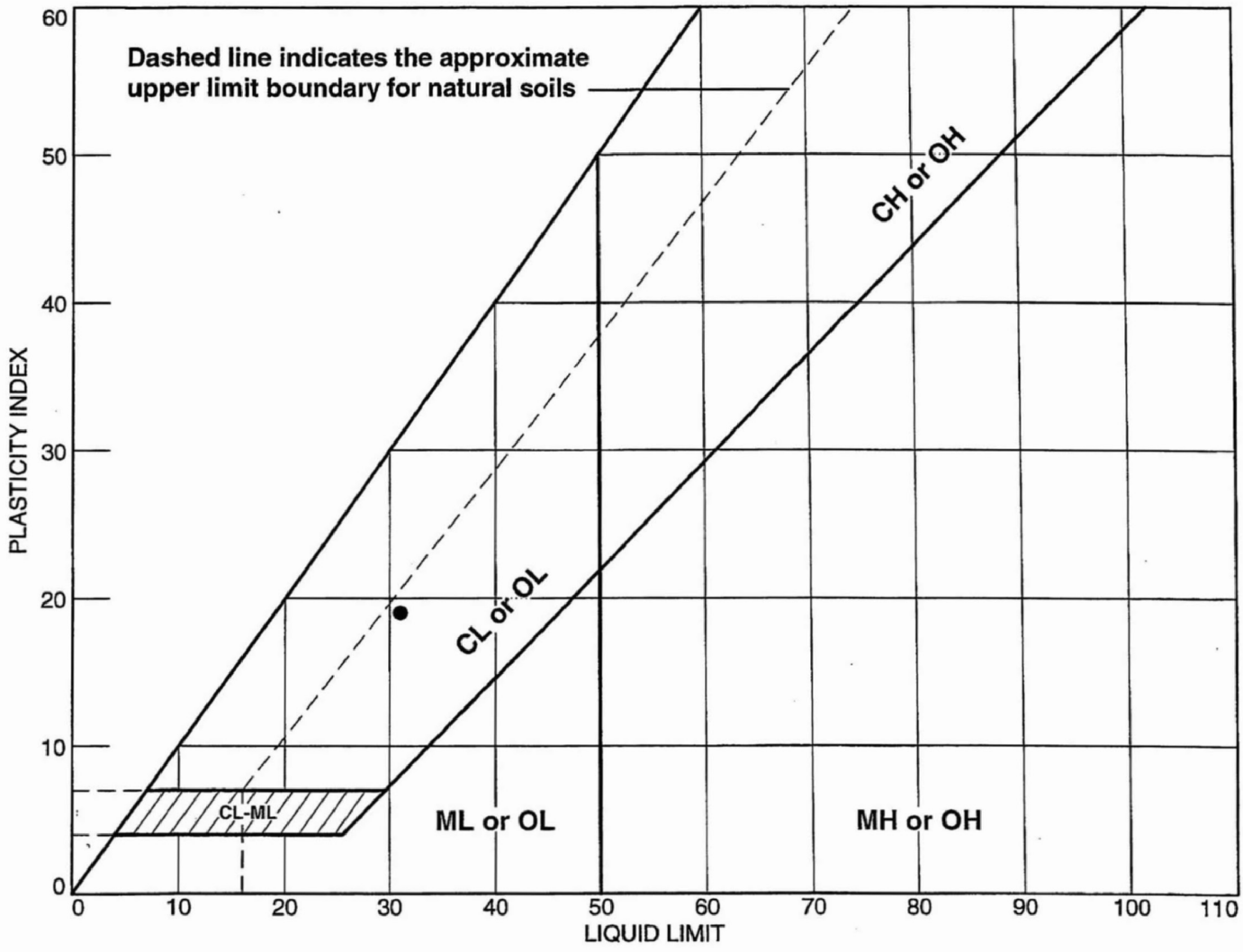
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	4.8	39.8	44.6	28.0	27.4	55.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0017	0.0024	0.0069	0.0495	0.1053	0.2284	0.2722	0.3298	0.4207

Fineness Modulus
0.46

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring B-2269	SS-39B	322.6-323.3'	18.2	12	31	19	CL

MACTEC, Inc.

Raleigh, North Carolina

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

Tested By: CS **Checked By:** LBJ DSC 1-25-08

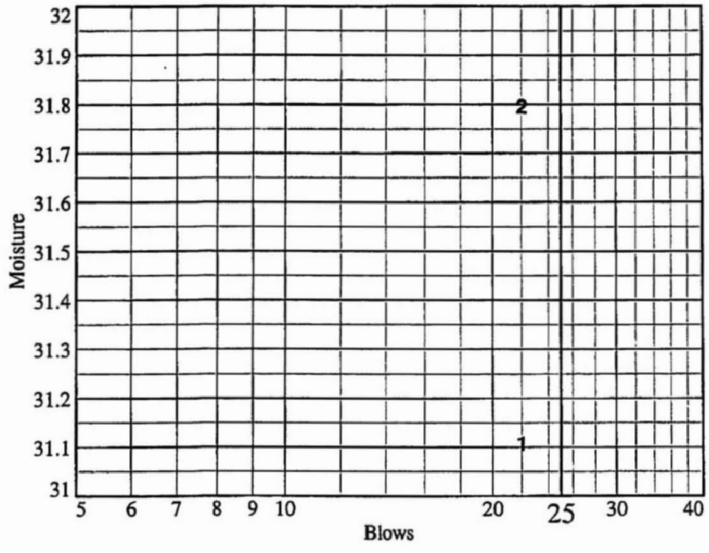
LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 322.6-323.3'
Sample Number: SS-39B
Material Description: Light Gray Sandy Lean CLAY
USCS: CL
AASHTO: A-6(7)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	28.49	29.74				
Dry+Tare	25.46	26.29				
Tare	15.72	15.44				
# Blows	22	22				
Moisture	31.1	31.8				



Liquid Limit= 31
Plastic Limit= 12
Plasticity Index= 19
Natural Moisture= 18.2
Liquidity Index= 0.3

Plastic Limit Data

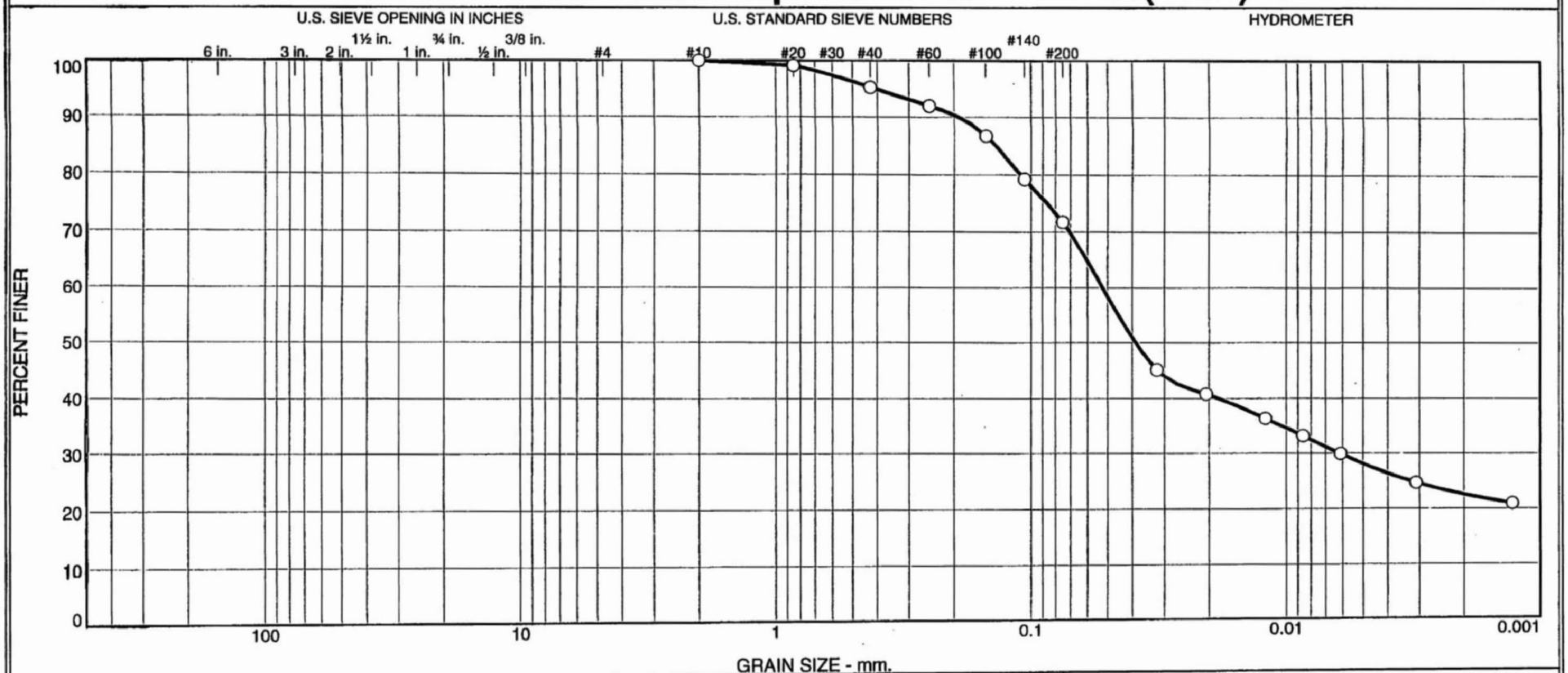
Run No.	1	2	3	4	
Wet+Tare	24.37	24.83			
Dry+Tare	23.40	23.80			
Tare	15.49	15.71			
Moisture	12.3	12.7			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
48.20	41.80	6.70	18.2

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	4.8	23.4	43.6	28.2

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2269	SS-40	341.8-343.3	11/12/07	CL	Brownish Yellow Lean CLAY with sand	22.3	36	13

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 SJC 1/28/08

GRAIN SIZE DISTRIBUTION TEST DATA

1/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 341.8-343.3 **Sample Number:** SS-40
Material Description: Brownish Yellow Lean CLAY with sand
Date: 11/12/07 **Natural Moisture:** 22.3
Liquid Limit: 36 **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
115.58	0.00	0.00	#10	0.00	100.0
46.39	0.00	0.00	#20	0.42	99.1
			#40	2.23	95.2
			#60	3.75	91.9
			#100	6.12	86.8
			#140	9.62	79.3
			#200	13.10	71.8

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =46.39
Hygroscopic moisture correction:
Moist weight and tare = 28.86
Dry weight and tare = 28.52
Tare weight = 15.51
Hygroscopic moisture = 2.6%
Table of composite correction values:

Temp., deg. C:	10.5	29.5
Comp. corr.:	-8.0	-3.5

Meniscus correction only = 1.0
Specific gravity of solids = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x** Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.7	26.0	20.7	0.0132	27.0	11.9	0.0321	45.2
5.00	21.7	24.0	18.7	0.0132	25.0	12.2	0.0206	40.8
15.00	21.6	22.0	16.6	0.0132	23.0	12.5	0.0120	36.4
30.00	21.8	20.5	15.2	0.0131	21.5	12.8	0.0086	33.2
60.00	21.9	19.0	13.7	0.0131	20.0	13.0	0.0061	30.0
240.00	22.3	16.5	11.3	0.0131	17.5	13.4	0.0031	24.7
1440.00	21.4	15.0	9.6	0.0132	16.0	13.7	0.0013	21.0

MACTEC, Inc.

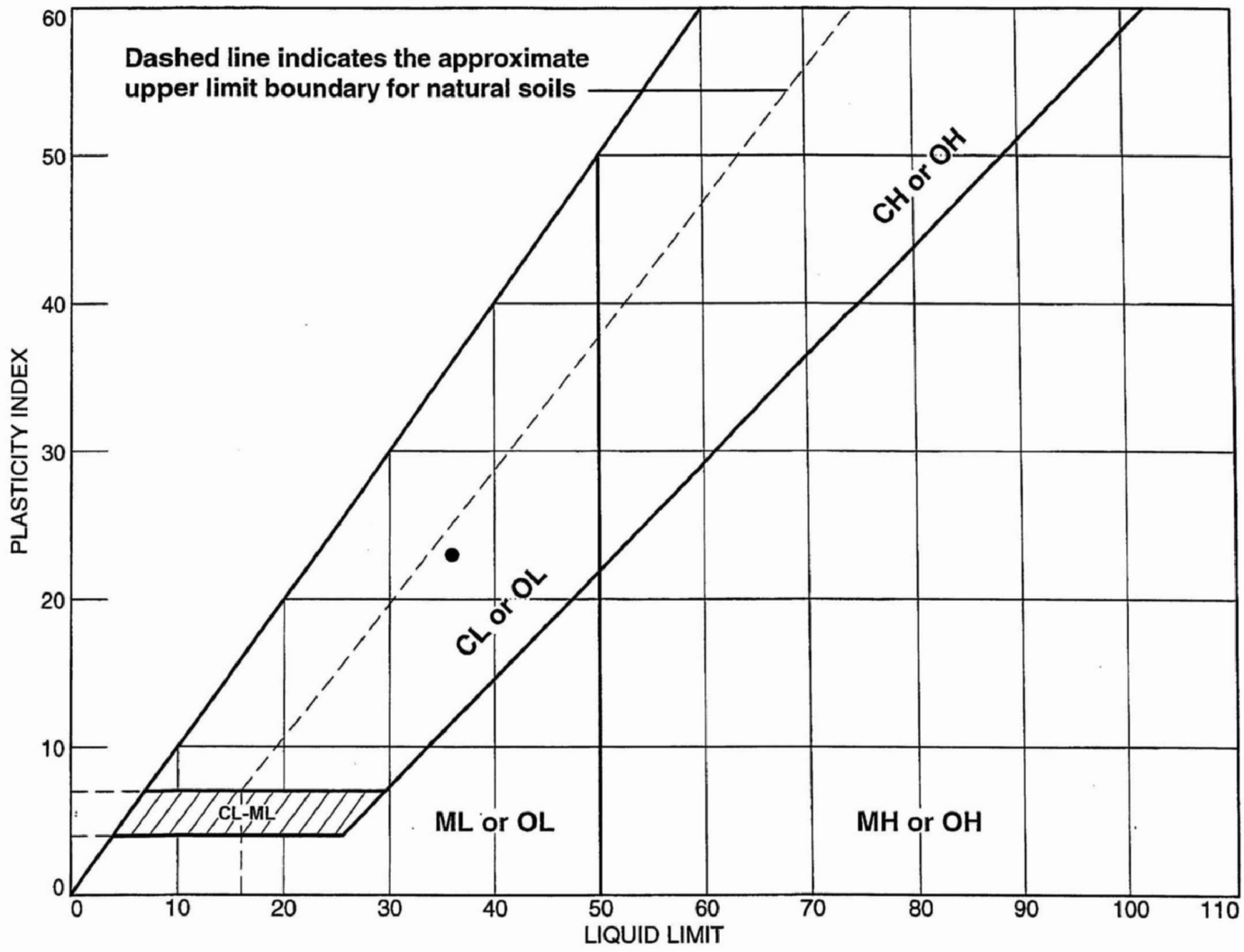
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	4.8	23.4	28.2	43.6	28.2	71.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0061	0.0389	0.0523	0.1096	0.1368	0.1913	0.4123

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-2269	SS-40	341.8-343.3	22.3	13	36	23	CL

MACTEC, Inc.

Raleigh, North Carolina

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

Tested By: CS **Checked By:** LBJ

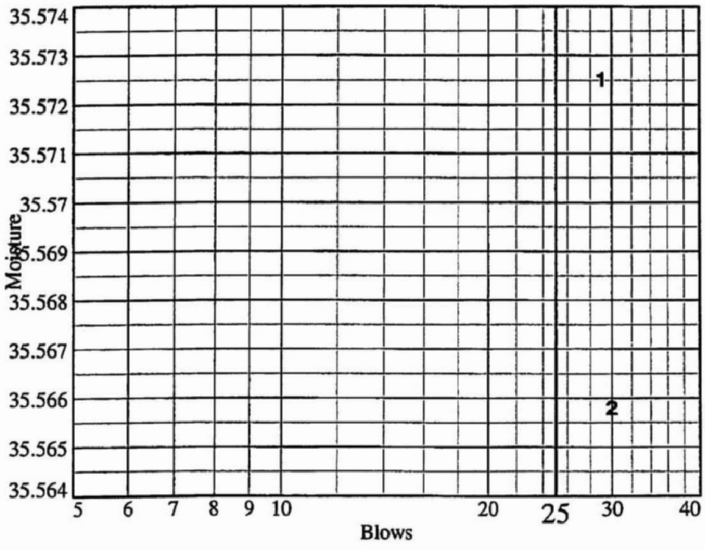
LIQUID AND PLASTIC LIMIT TEST DATA

1/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 341.8-343.3 **Sample Number:** SS-40
Material Description: Brownish Yellow Lean CLAY with sand
USCS: CL **AASHTO:** A-6(14)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	24.41	27.02				
Dry+Tare	22.08	23.94				
Tare	15.53	15.28				
# Blows	29	30				
Moisture	35.6	35.6				



Liquid Limit= 36
Plastic Limit= 13
Plasticity Index= 23
Natural Moisture= 22.3
Liquidity Index= 0.4

Plastic Limit Data

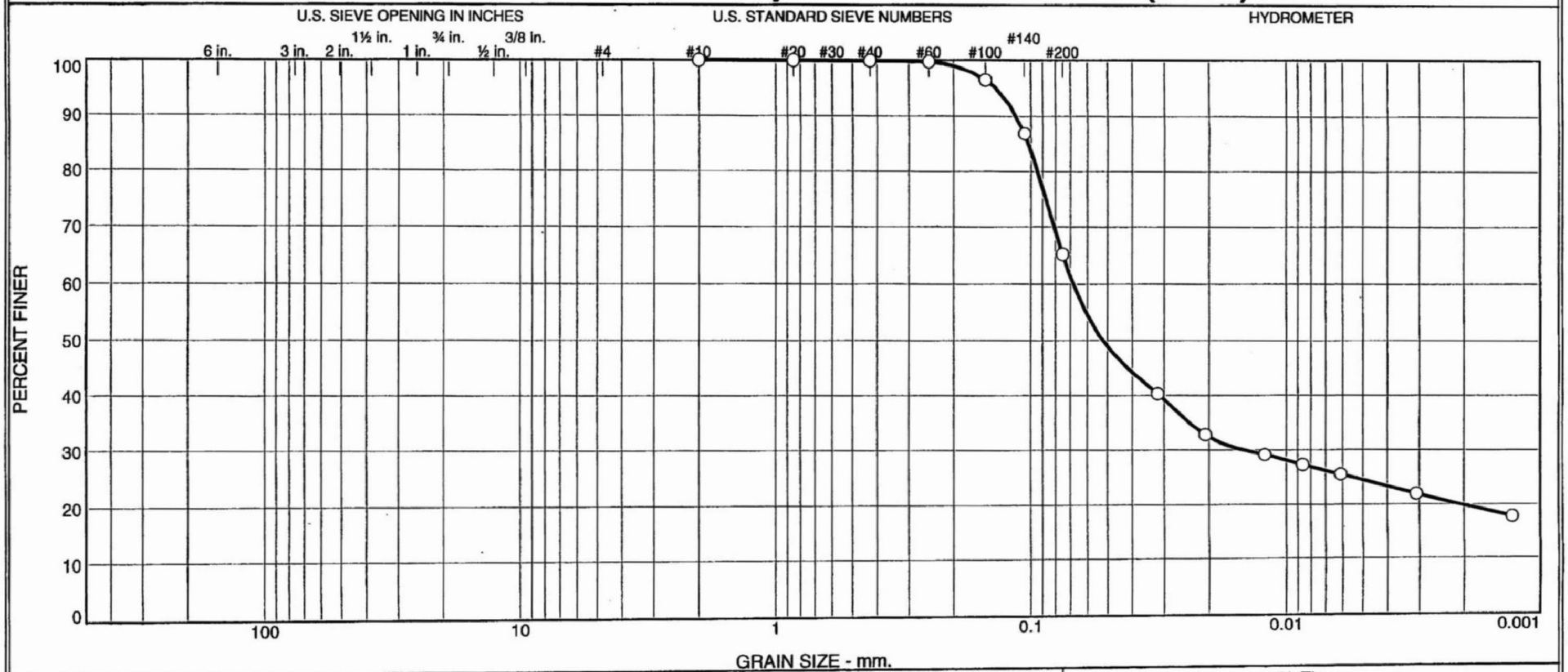
Run No.	1	2	3	4	
Wet+Tare	23.24	23.69			
Dry+Tare	22.30	22.76			
Tare	15.29	15.55			
Moisture	13.4	12.9			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
53.20	45.20	9.30	22.3

MACTEC, Inc.

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.1	34.7	40.7	24.5

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2269	SS-41	361.8-363.3'	11/12/07	CL	Pale Brown Sandy Lean CLAY	26.7	31	15

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 DSC 1-25-08

GRAIN SIZE DISTRIBUTION TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 361.8-363.3'
Sample Number: SS-41
Material Description: Pale Brown Sandy Lean CLAY
Date: 11/12/07
Natural Moisture: 26.7
Liquid Limit: 31
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
209.74	0.00	0.00	#10	0.00	100.0
54.44	0.00	0.00	#20	0.04	99.9
			#40	0.06	99.9
			#60	0.13	99.8
			#100	1.91	96.5
			#140	7.15	86.9
			#200	18.92	65.2

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =54.44
Hygroscopic moisture correction:
Moist weight and tare = 26.11
Dry weight and tare = 25.84
Tare weight = 15.27
Hygroscopic moisture = 2.6%
Table of composite correction values:

Temp., deg. C:	10.8	29.5
Comp. corr.:	-8.0	-3.5

Meniscus correction only = 1.0
Specific gravity of solids = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.8	27.0	21.6	0.0131	28.0	11.7	0.0318	40.3
5.00	21.7	23.0	17.6	0.0132	24.0	12.4	0.0207	32.8
15.00	21.8	21.0	15.6	0.0131	22.0	12.7	0.0121	29.1
30.00	21.8	20.0	14.6	0.0131	21.0	12.9	0.0086	27.3
60.00	22.1	19.0	13.7	0.0131	20.0	13.0	0.0061	25.6
240.00	22.4	17.0	11.8	0.0131	18.0	13.3	0.0031	22.0
1440.00	21.4	15.0	9.6	0.0132	16.0	13.7	0.0013	17.8