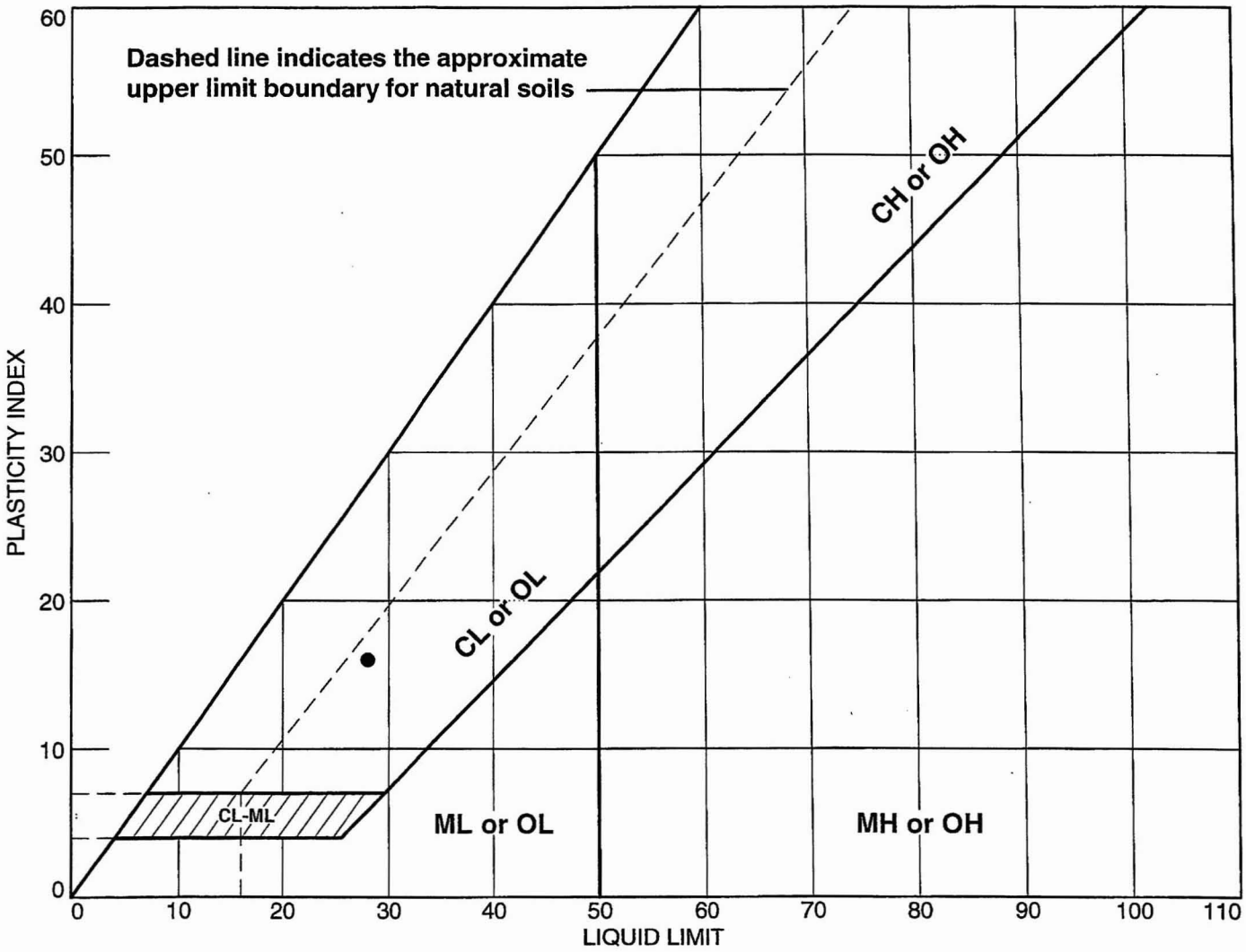
Fractional Components

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

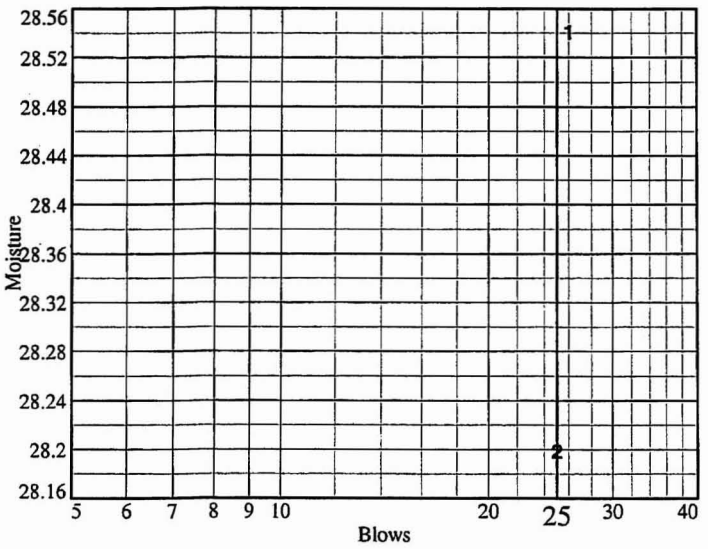
LIQUID AND PLASTIC LIMIT TEST DATA

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

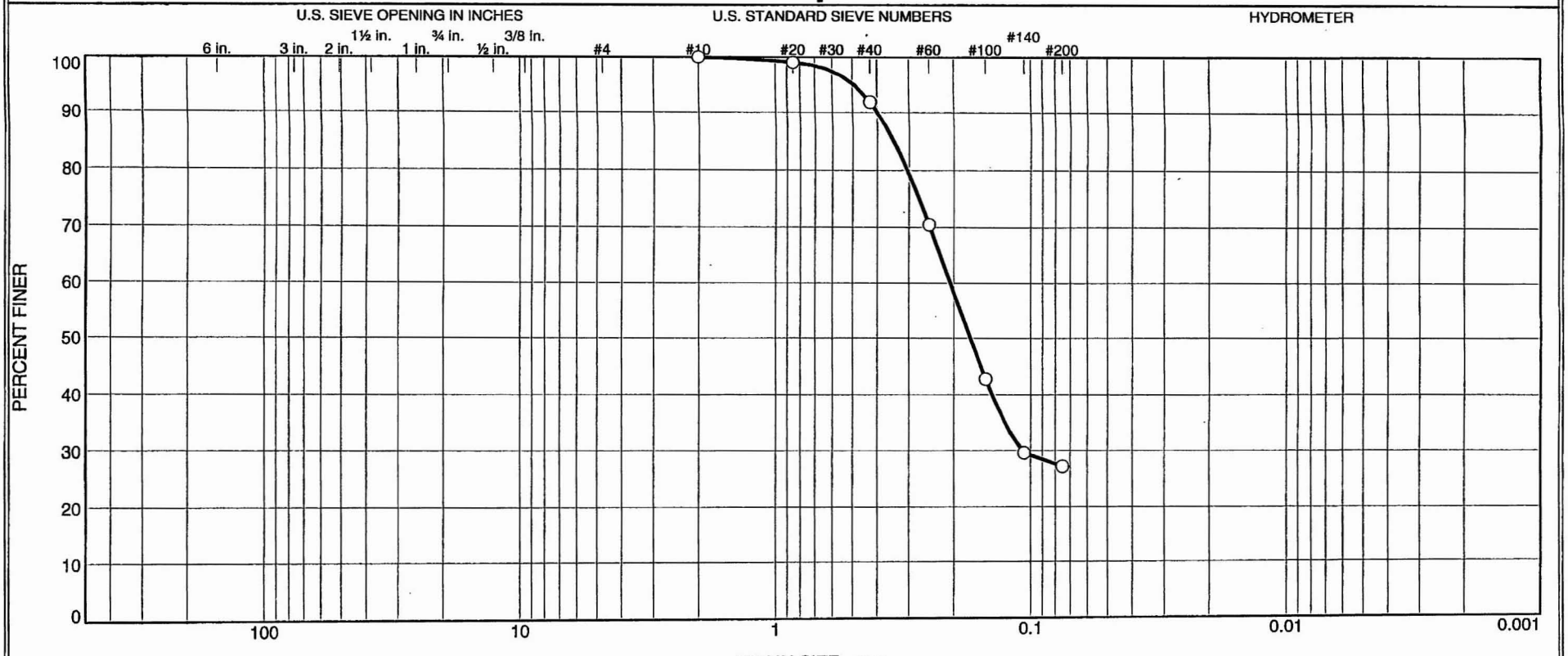
Run No.	1	2	3	4	
Wet+Tare	23.92	24.36			
Dry+Tare	23.00	23.40			
Tare	15.63	15.52			
Moisture	12.5	12.2			

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

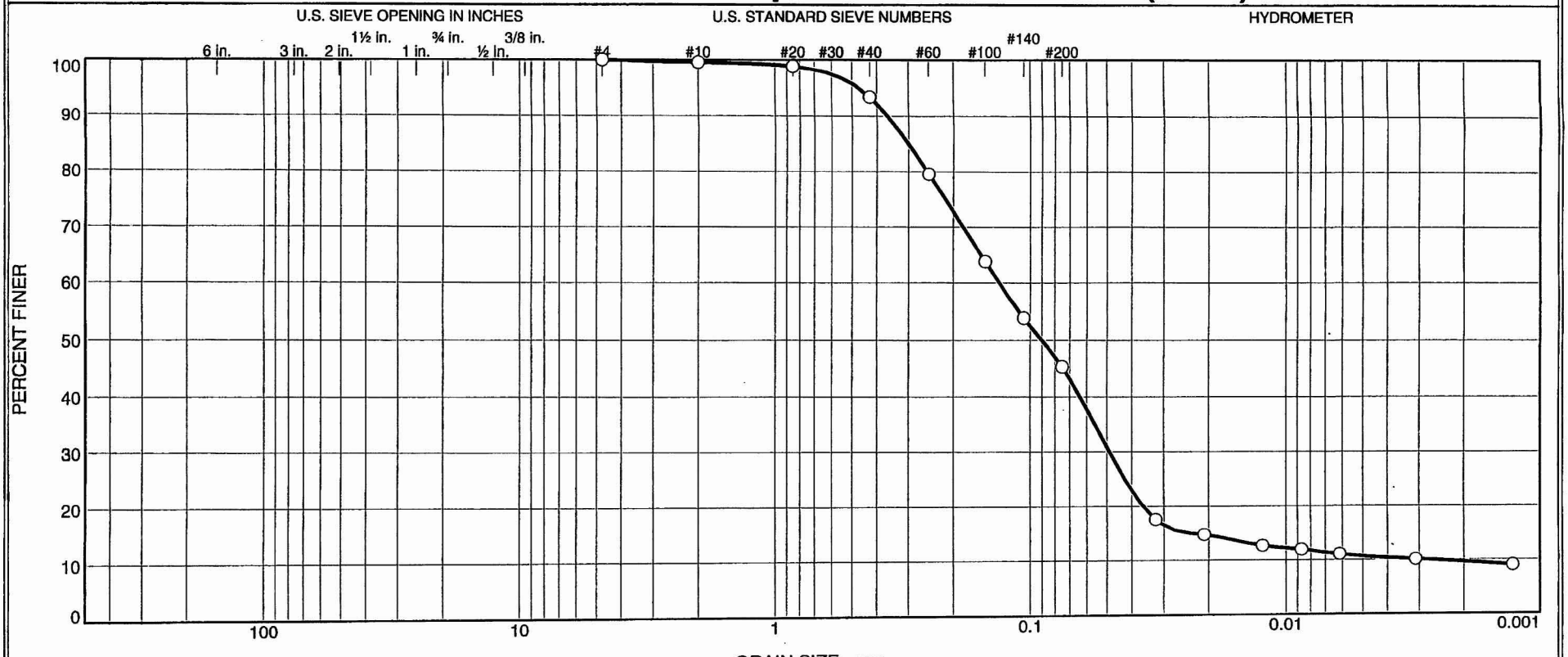
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	8.1	64.6	72.7			27.3

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

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	0.4	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

MACTEC, Inc.

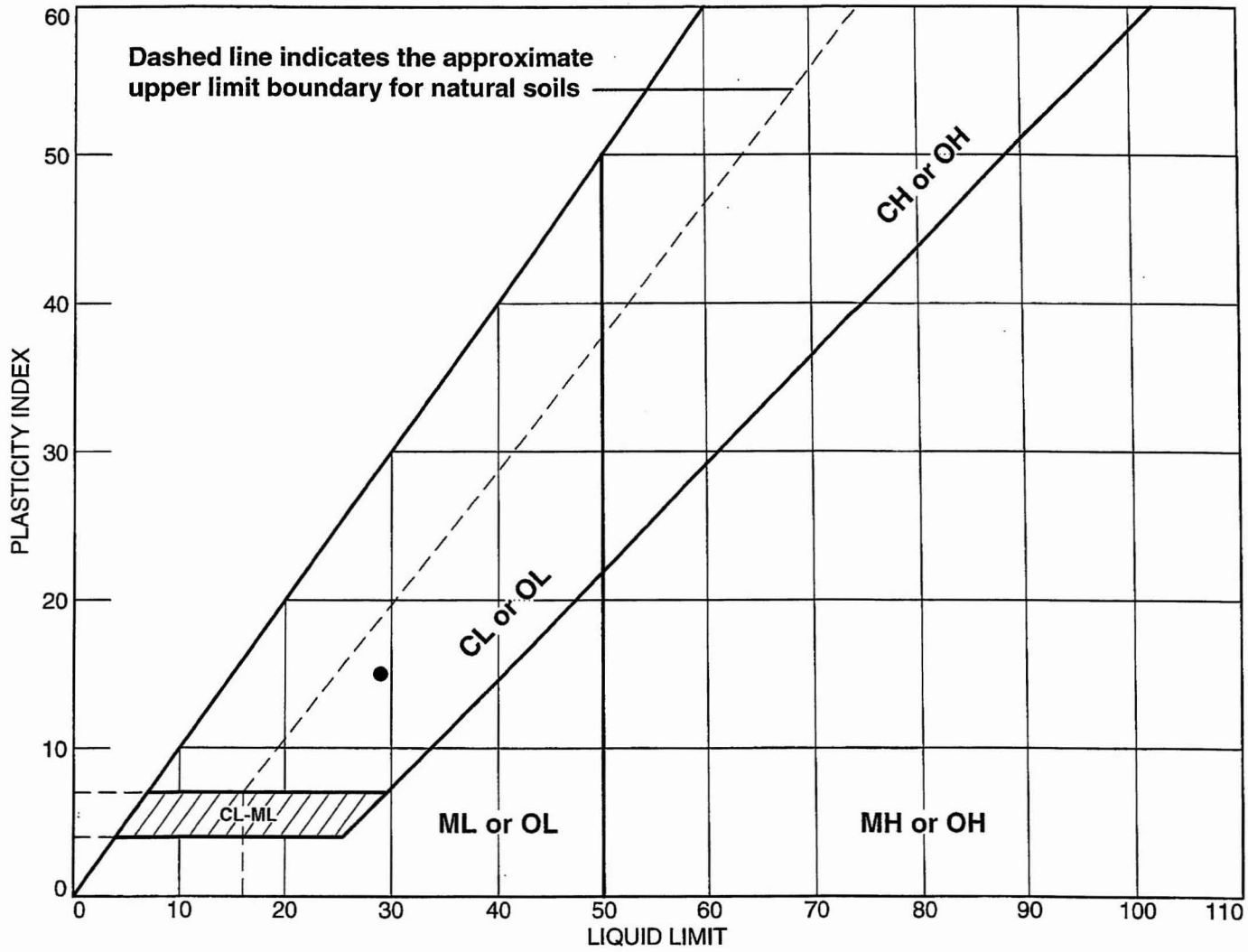
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.4	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

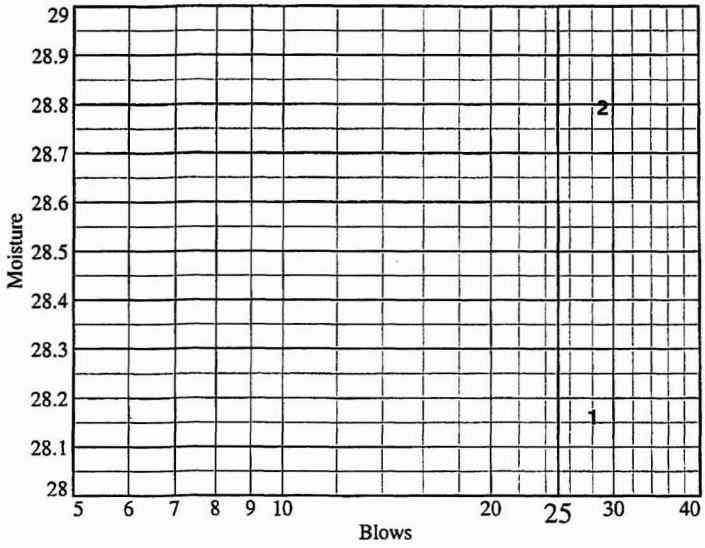
LIQUID AND PLASTIC LIMIT TEST DATA

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

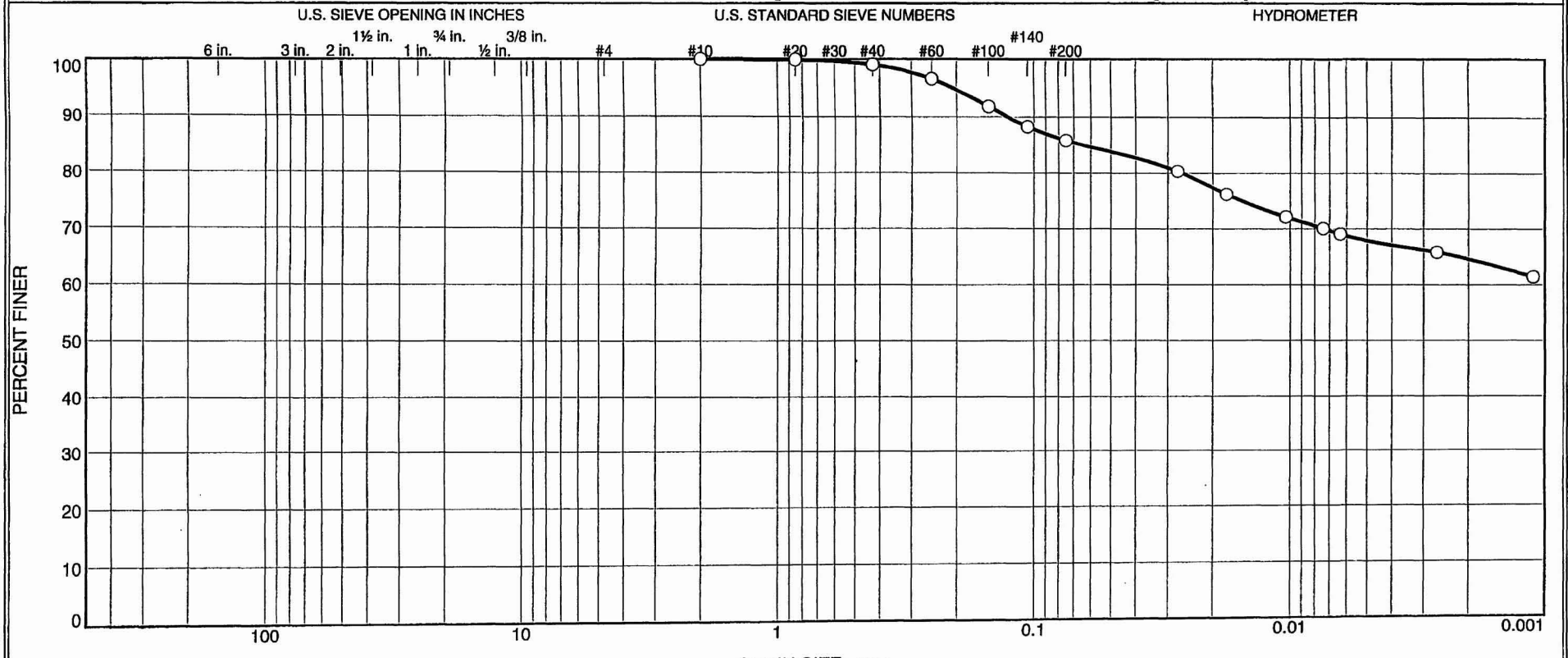
Run No.	1	2	3	4	
Wet+Tare	23.23	23.98			
Dry+Tare	22.30	22.90			
Tare	15.51	15.47			
Moisture	13.7	14.5			

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
O	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
O	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

O 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

MACTEC, Inc.

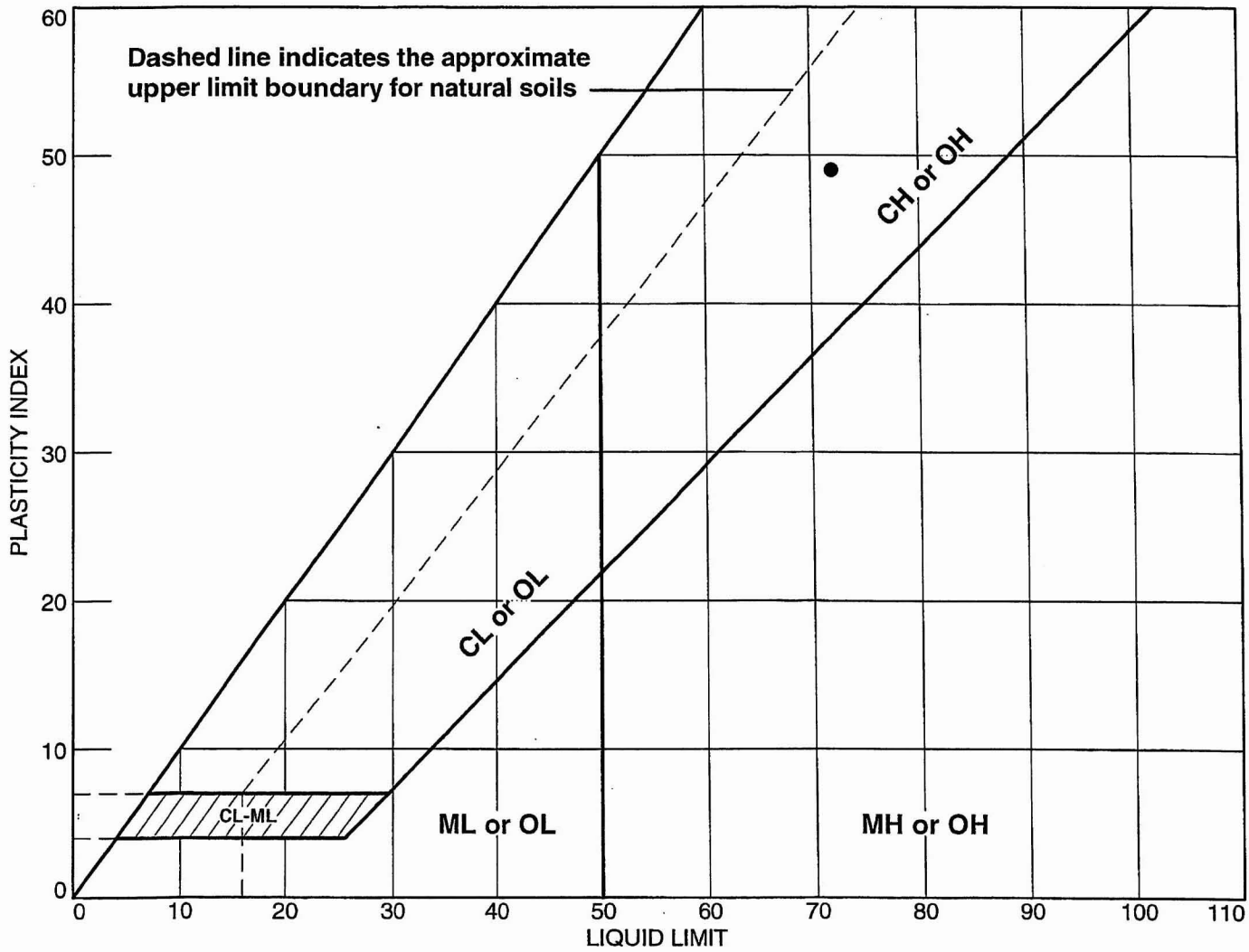
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.9	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

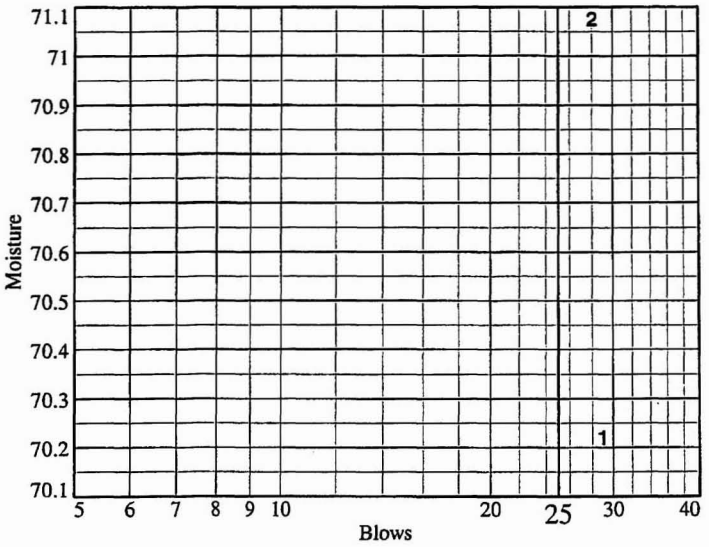
LIQUID AND PLASTIC LIMIT TEST DATA

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

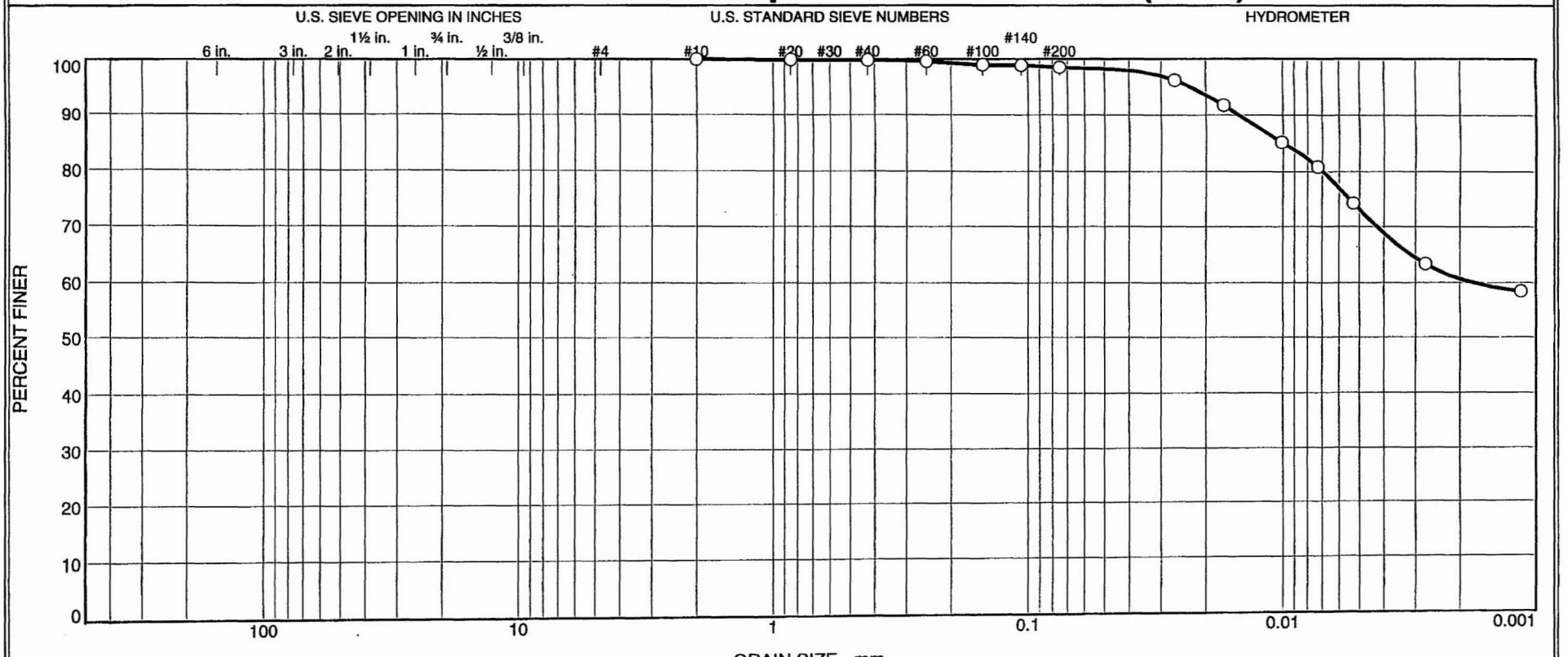
TESTED BY: CS

\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
○	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
○	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

○ 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.

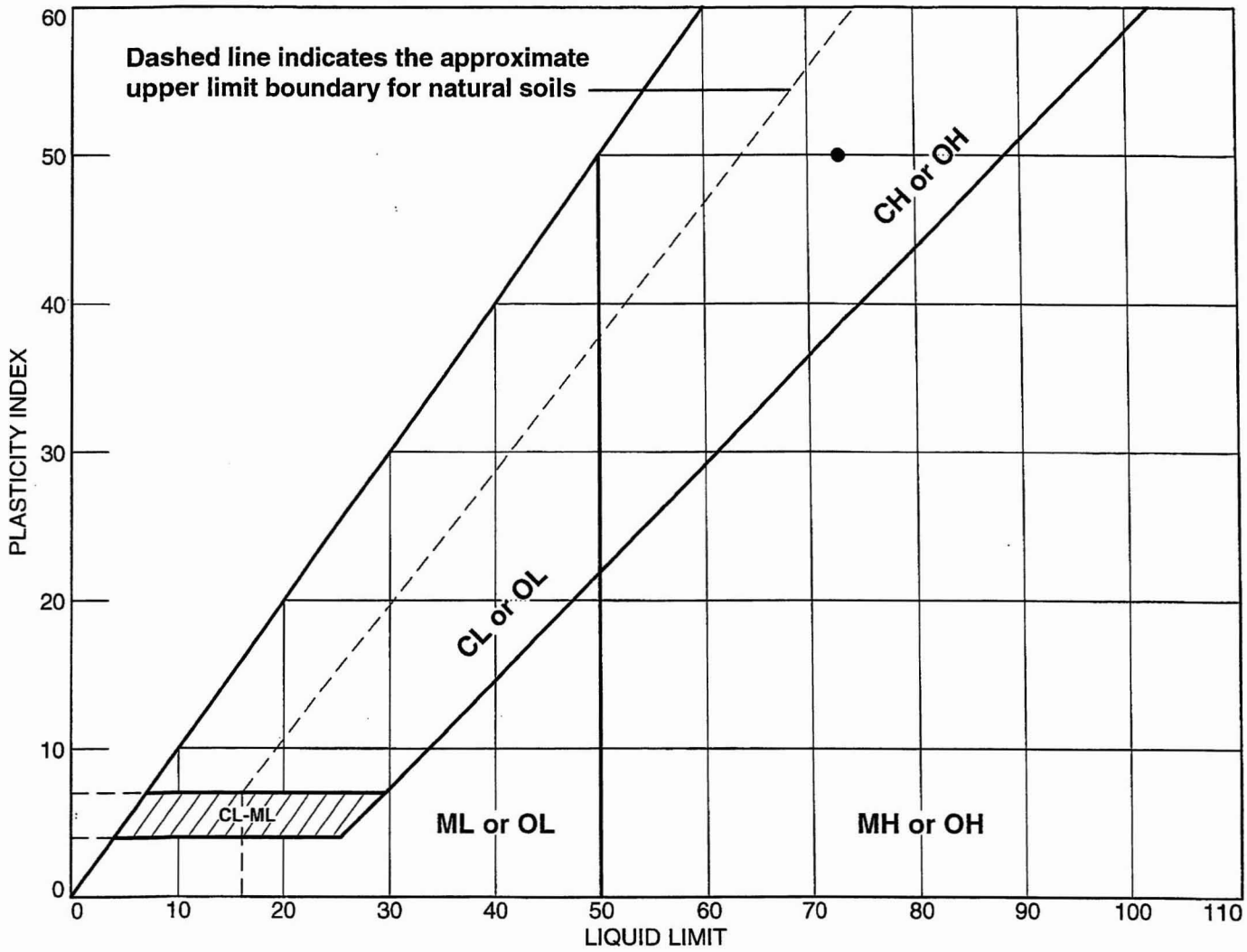
Fractional Components

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

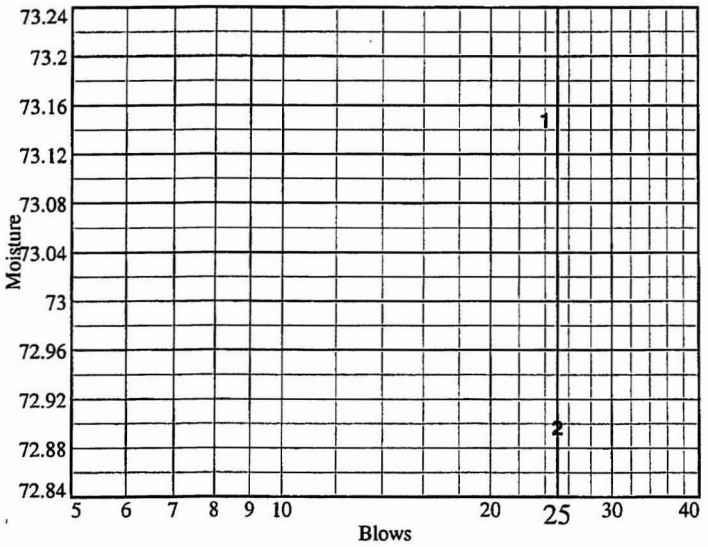
LIQUID AND PLASTIC LIMIT TEST DATA

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

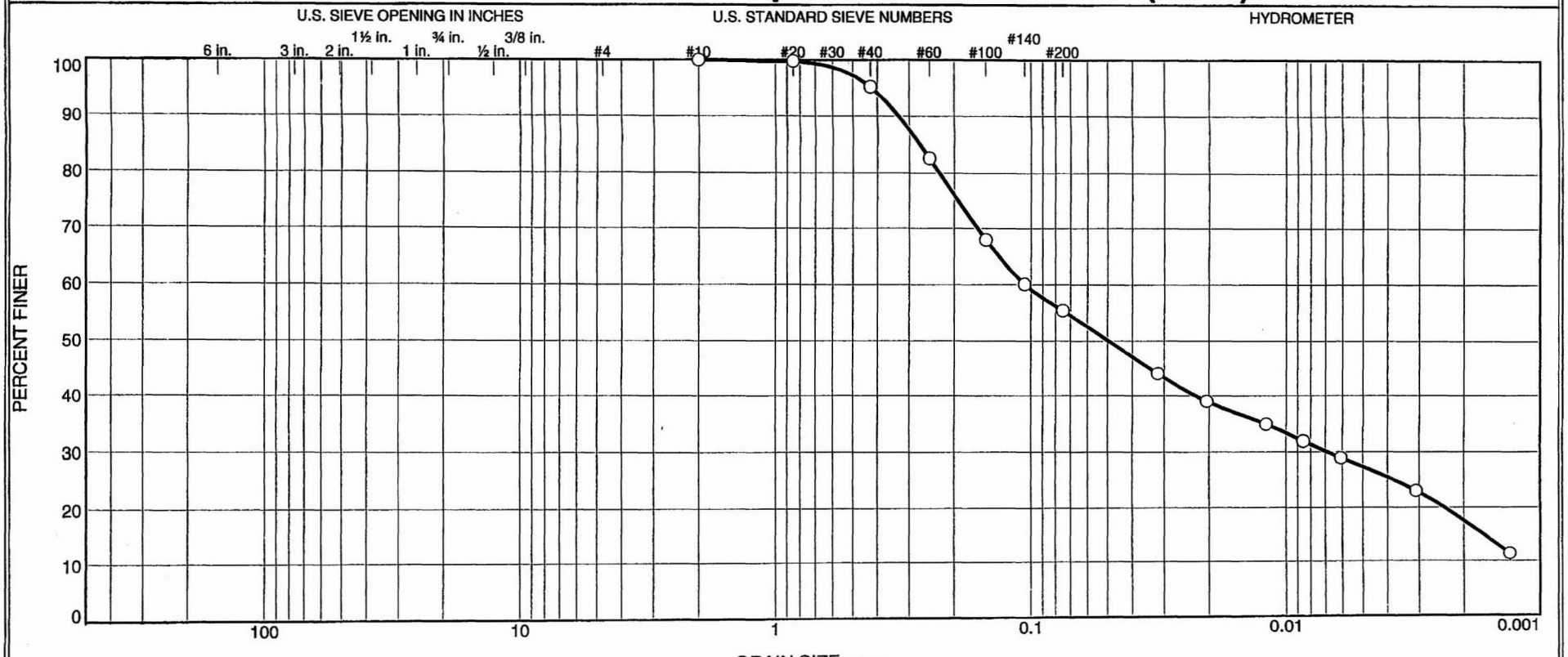
Run No.	1	2	3	4	
Wet+Tare	23.6	22.42			
Dry+Tare	22.10	21.20			
Tare	15.53	15.74			
Moisture	22.8	22.3			

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 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: 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

MACTEC, Inc.

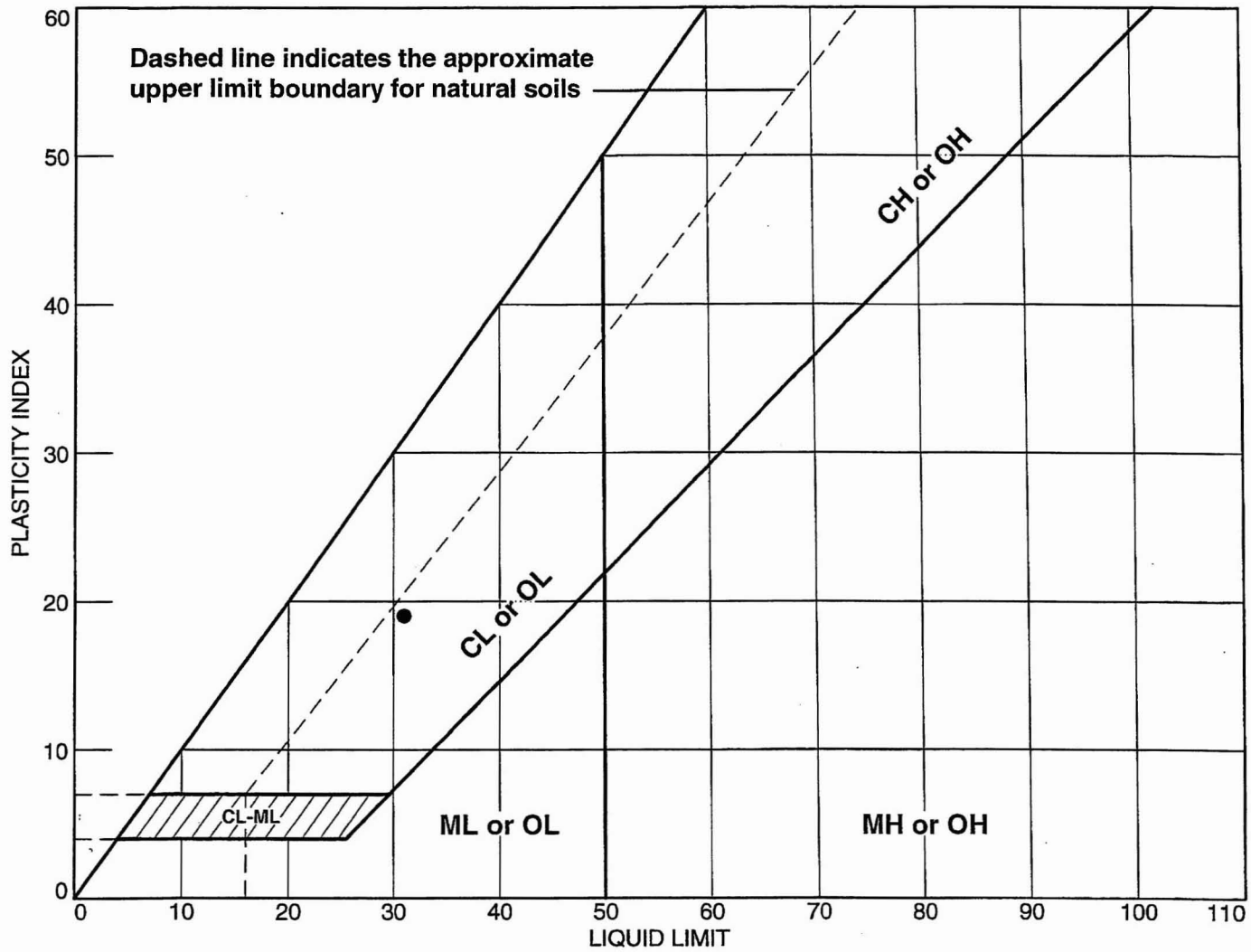
Fractional Components

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	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

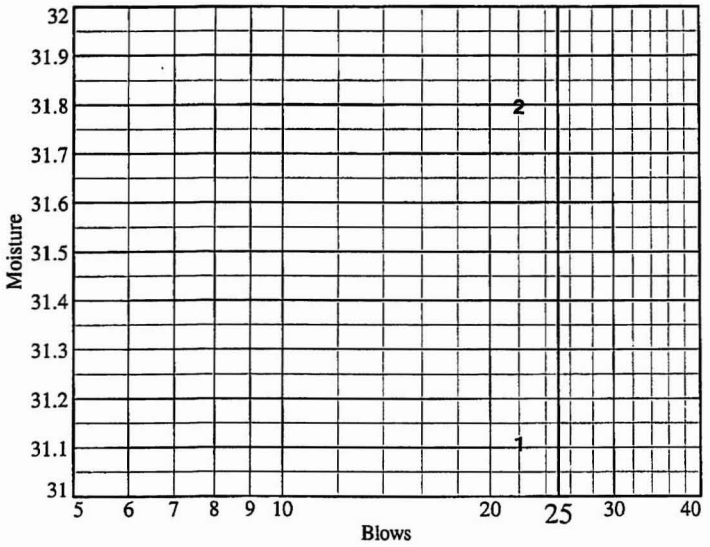
LIQUID AND PLASTIC LIMIT TEST DATA

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

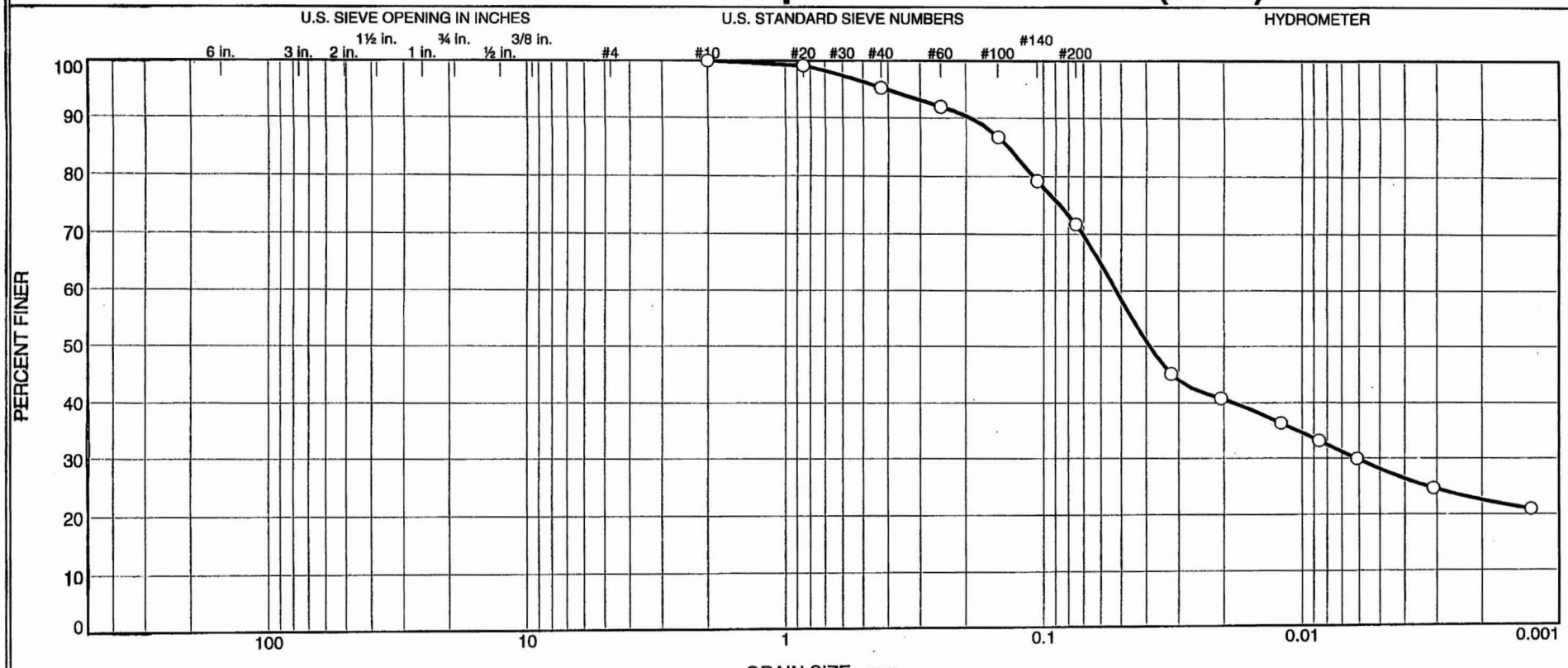
Run No.	1	2	3	4	
Wet+Tare	24.37	24.83			
Dry+Tare	23.40	23.80			
Tare	15.49	15.71			
Moisture	12.3	12.7			

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 NA

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.

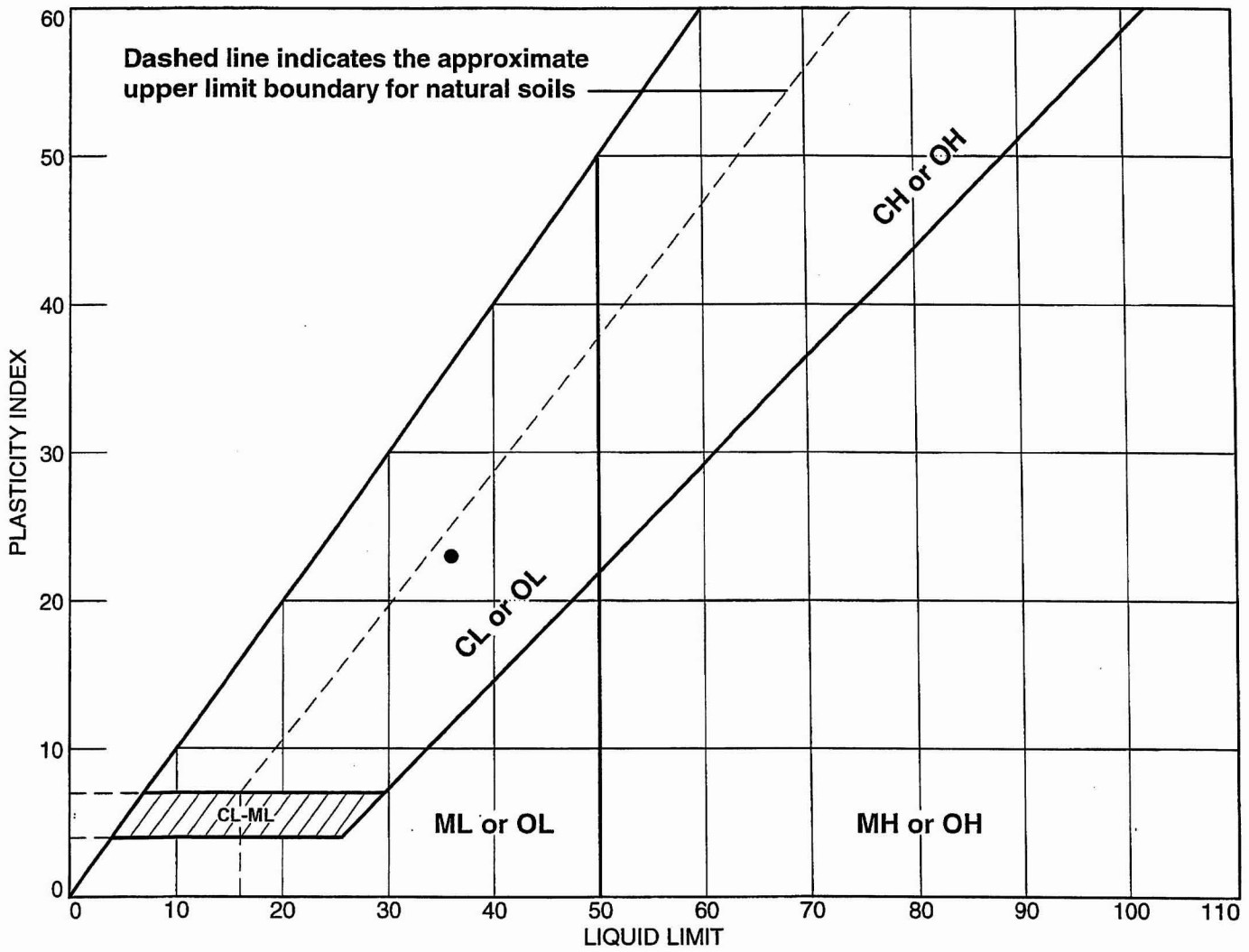
Fractional Components

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

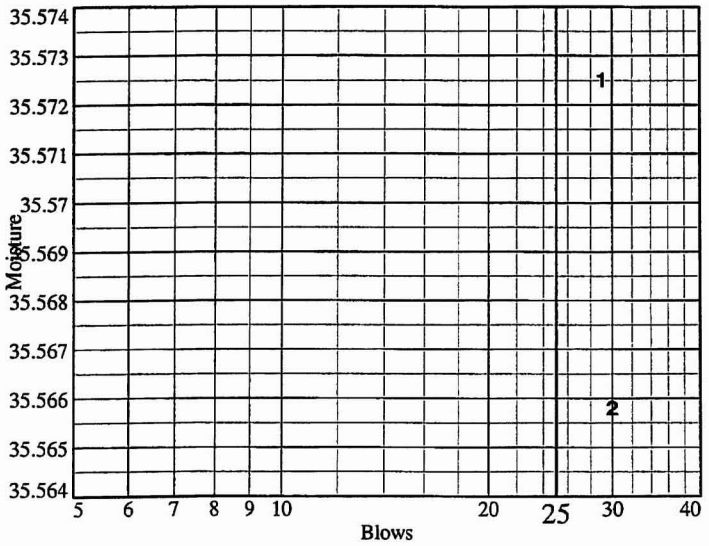
LIQUID AND PLASTIC LIMIT TEST DATA

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

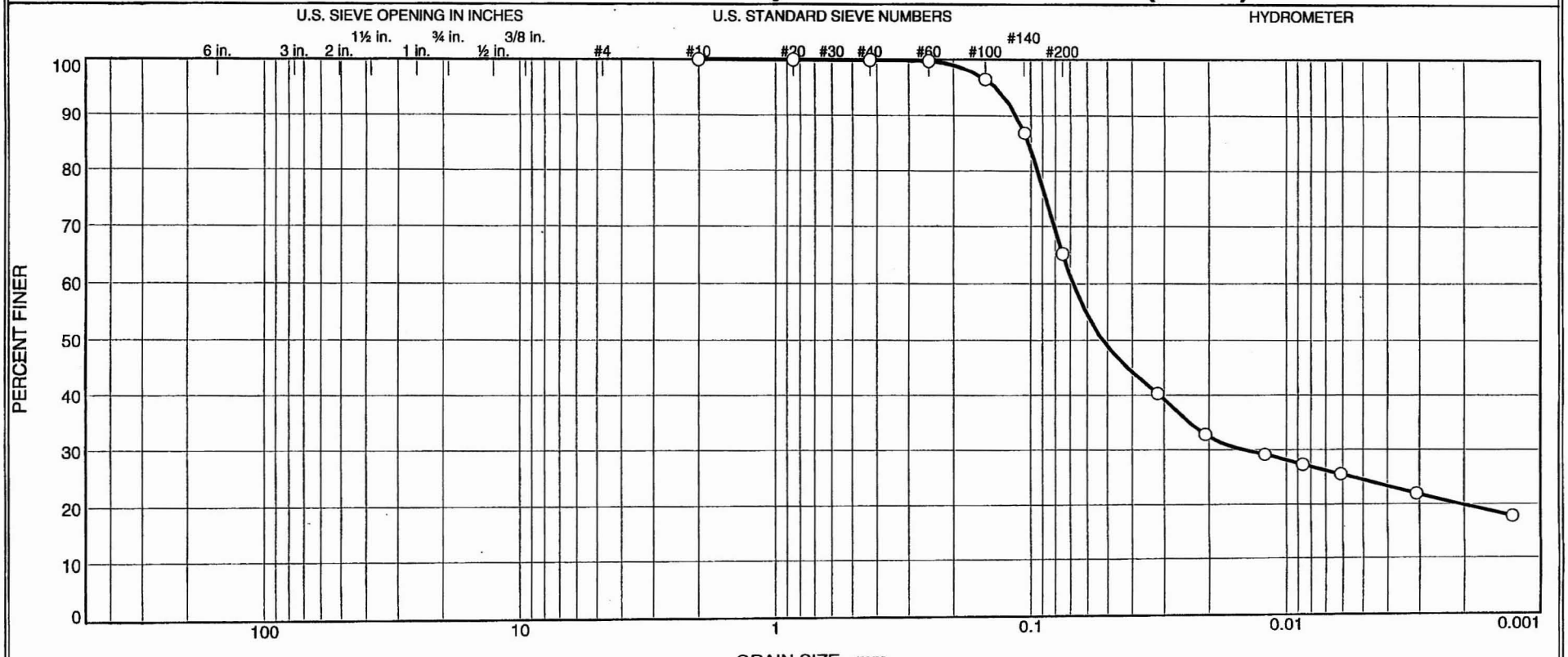
Run No.	1	2	3	4	
Wet+Tare	23.24	23.69			
Dry+Tare	22.30	22.76			
Tare	15.29	15.55			
Moisture	13.4	12.9			

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
O	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
O	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 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: 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

MACTEC, Inc.

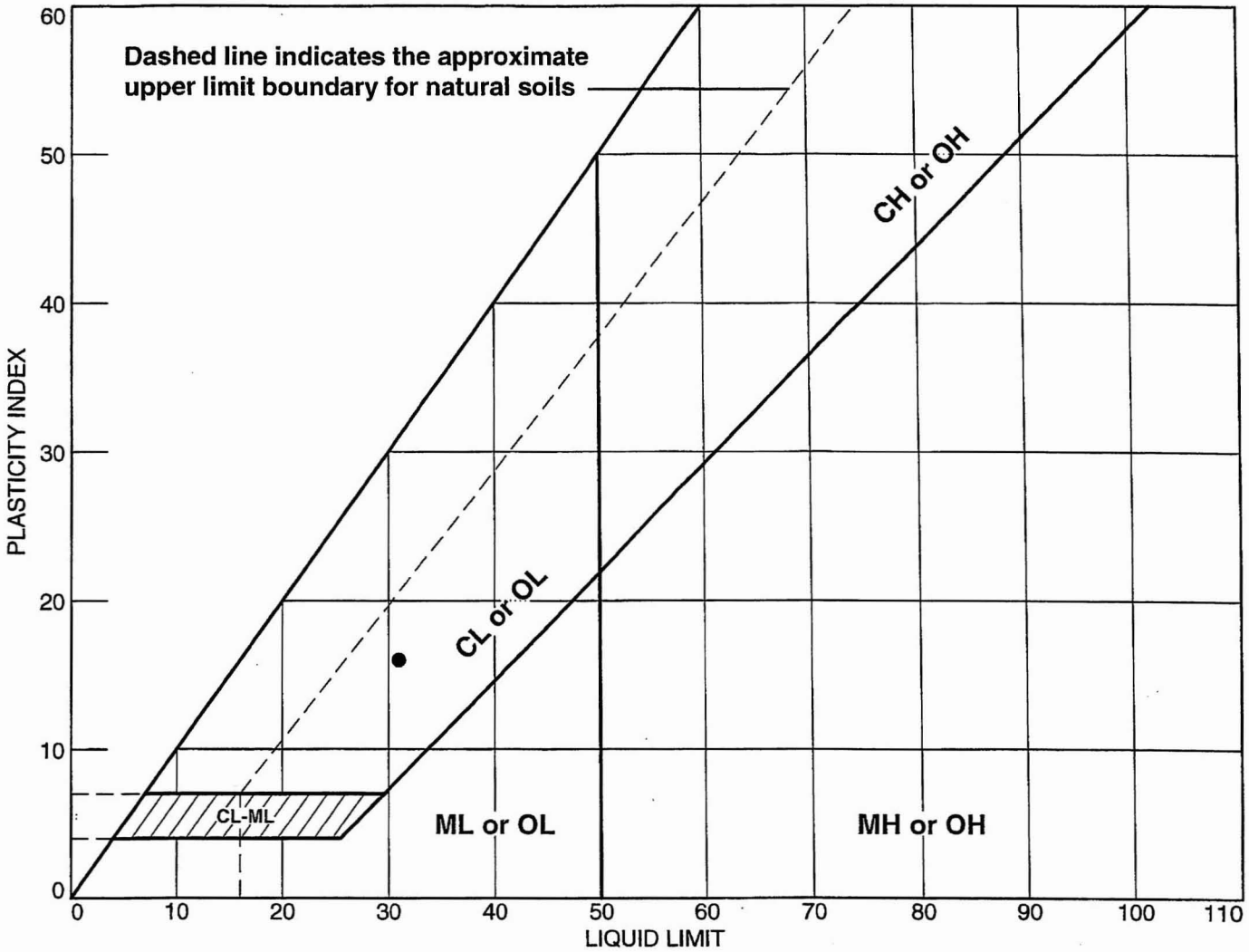
Fractional Components

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	34.7	34.8	40.7	24.5	65.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0021	0.0146	0.0520	0.0680	0.0941	0.1023	0.1139	0.1366

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-2269	SS-41	361.8-363.3'	26.7	15	31	16	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

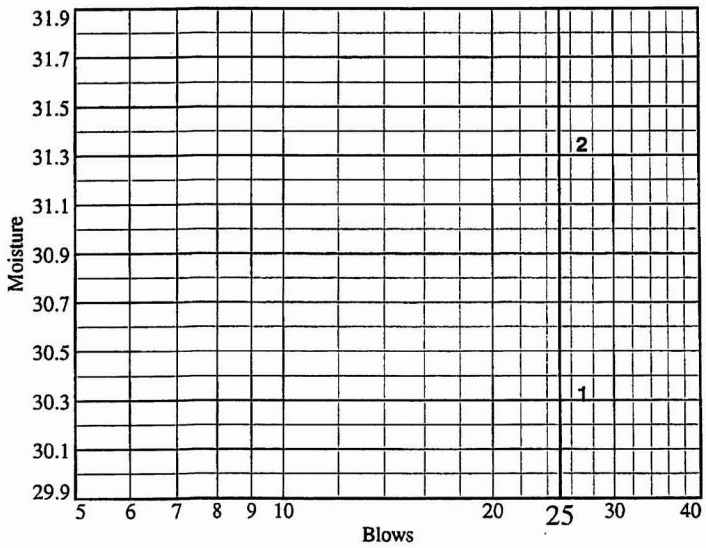
LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 361.8-363.3'
Sample Number: SS-41
Material Description: Pale Brown Sandy Lean CLAY
USCS: CL
AASHTO: A-6(8)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	27.49	27.84				
Dry+Tare	24.70	25.00				
Tare	15.50	15.94				
# Blows	27	27				
Moisture	30.3	31.3				



Liquid Limit= 31
Plastic Limit= 15
Plasticity Index= 16
Natural Moisture= 26.7
Liquidity Index= 0.7

Plastic Limit Data

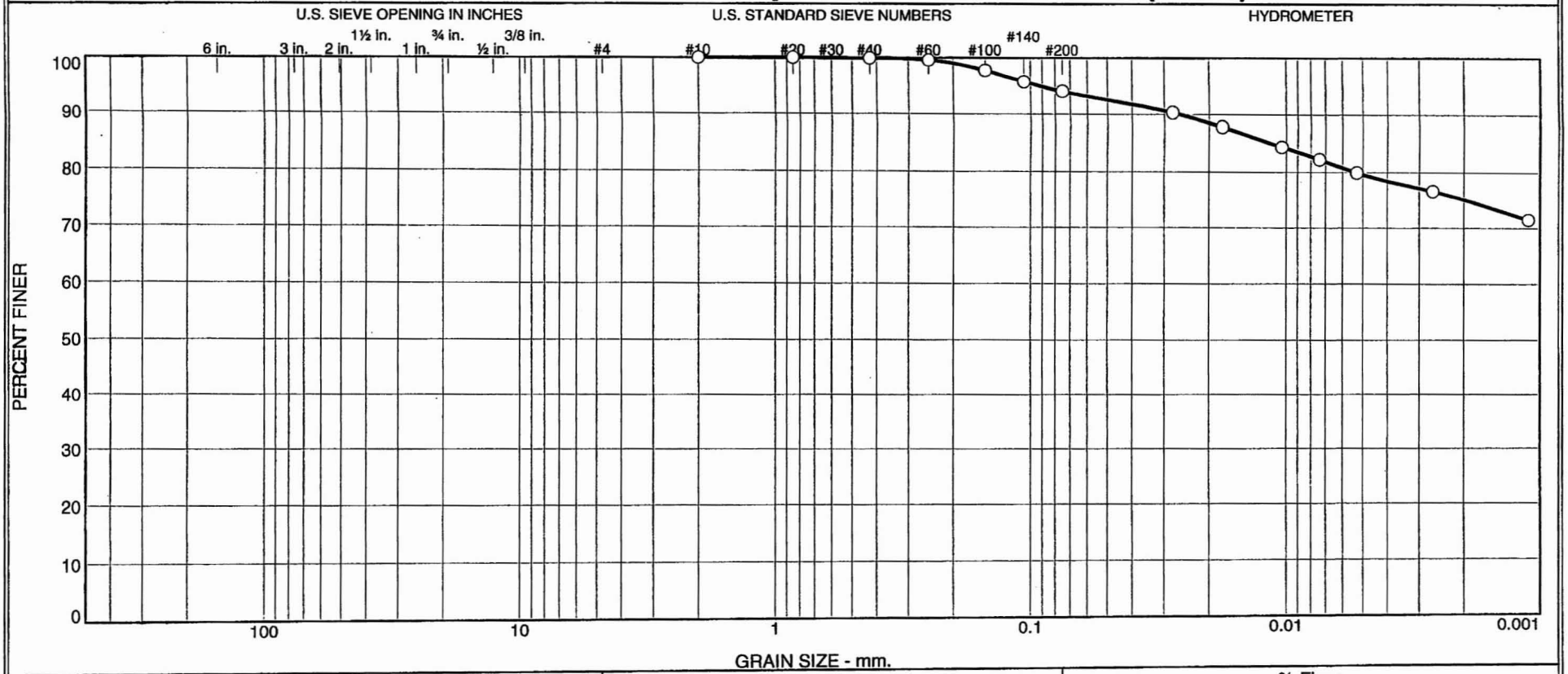
Run No.	1	2	3	4	
Wet+Tare	22.64	25.57			
Dry+Tare	21.70	24.30			
Tare	15.52	15.47			
Moisture	15.2	14.4			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
154.3	123.7	9.20	26.7

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	0.1	5.9	14.4	79.6

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2269	SS-42	381.8-383.3'	11/13/07	CH	Light Gray Fat CLAY	34.2	95	29

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure N A

MACTEC, Inc.

Raleigh, North Carolina

○ Specific gravity is assumed.
Organic content = 6.6%. (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: 381.8-383.3' **Sample Number:** SS-42
Material Description: Light Gray Fat CLAY
Date: 11/13/07 **Natural Moisture:** 34.2
Liquid Limit: 95 **Plastic Limit:** 29 **USCS Class.:** CH
Testing Remarks: Specific gravity is assumed.
Organic content = 6.6%. (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
169.21	0.00	0.00	#10	0.00	100.0
44.99	0.00	0.00	#20	0.00	100.0
			#40	0.04	99.9
			#60	0.18	99.6
			#100	1.02	97.7
			#140	1.93	95.7
			#200	2.71	94.0

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =44.99
Hygroscopic moisture correction:
Moist weight and tare = 29.32
Dry weight and tare = 28.50
Tare weight = 15.52
Hygroscopic moisture = 6.3%
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	44.0	38.7	0.0132	45.0	8.9	0.0278	90.3
5.00	21.6	43.0	37.6	0.0132	44.0	9.1	0.0178	87.9
15.00	21.6	41.5	36.1	0.0132	42.5	9.3	0.0104	84.4
30.00	21.9	40.5	35.2	0.0131	41.5	9.5	0.0074	82.3
60.00	21.9	39.5	34.2	0.0131	40.5	9.7	0.0053	79.9
240.00	22.4	38.0	32.8	0.0131	39.0	9.9	0.0027	76.7
1440.00	21.5	36.0	30.6	0.0132	37.0	10.2	0.0011	71.5

MACTEC, Inc.

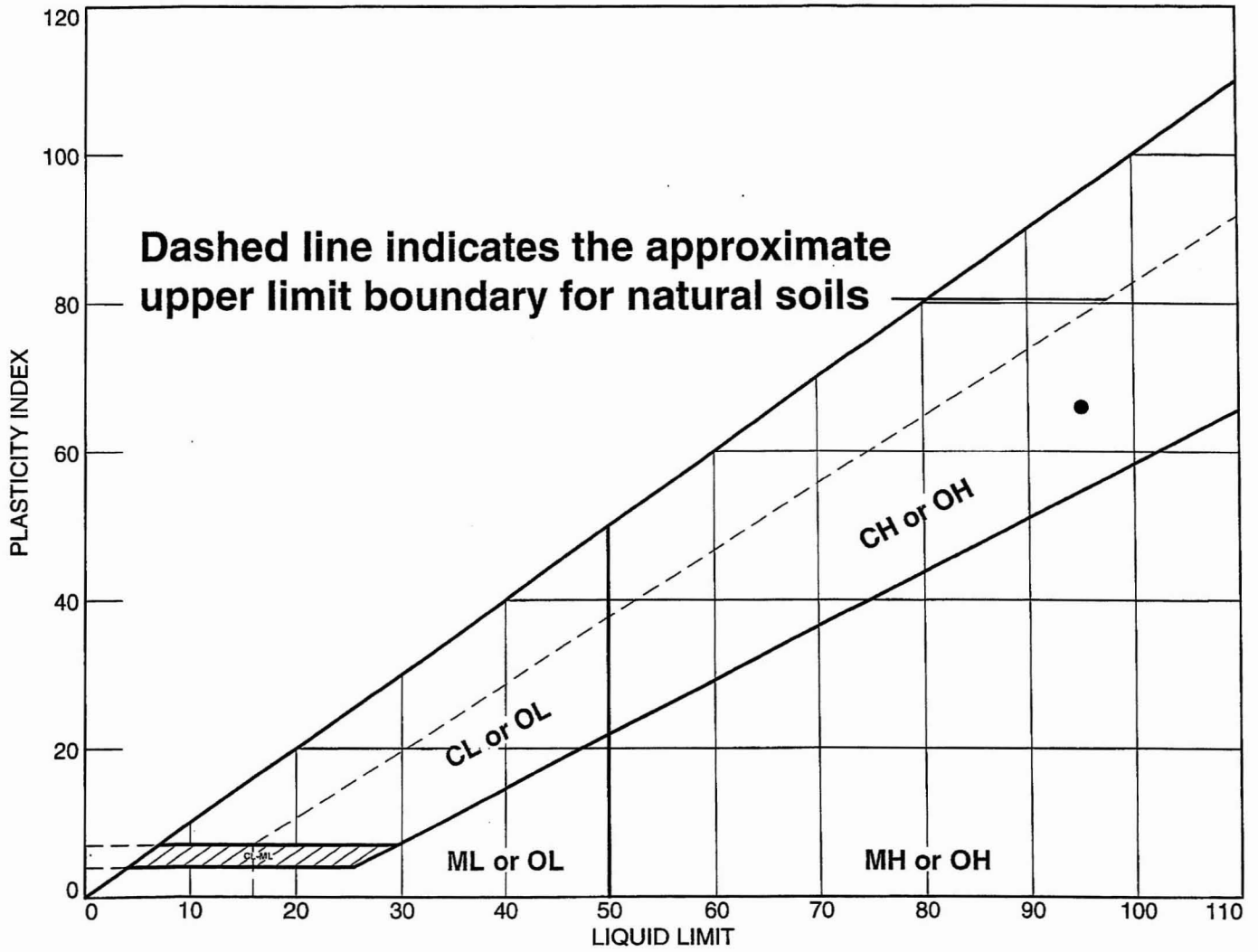
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.1	5.9	6.0	14.4	79.6	94.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.0053	0.0114	0.0259	0.0930

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-2269	SS-42	381.8-383.3'	34.2	29	95	66	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

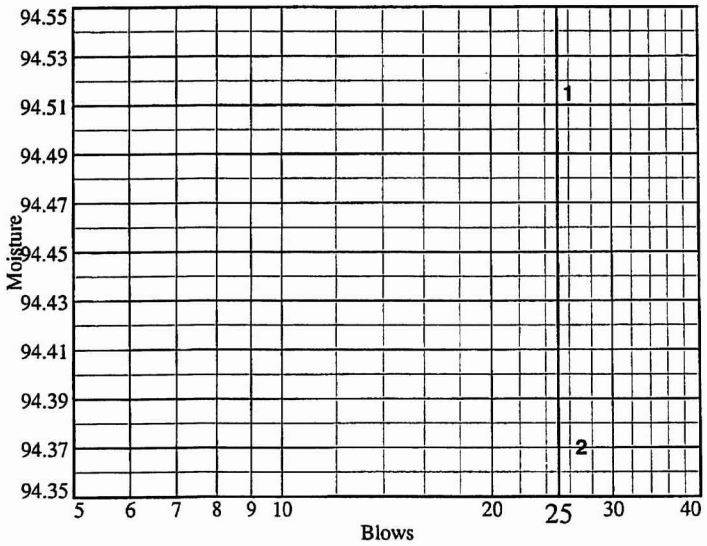
LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 381.8-383.3'
Sample Number: SS-42
Material Description: Light Gray Fat CLAY
USCS: CH
AASHTO: A-7-6(72)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	24.73	28.62				
Dry+Tare	20.25	22.25				
Tare	15.51	15.50				
# Blows	26	27				
Moisture	94.5	94.4				



Liquid Limit= 95
Plastic Limit= 29
Plasticity Index= 66
Natural Moisture= 34.2
Liquidity Index= 0.1

Plastic Limit Data

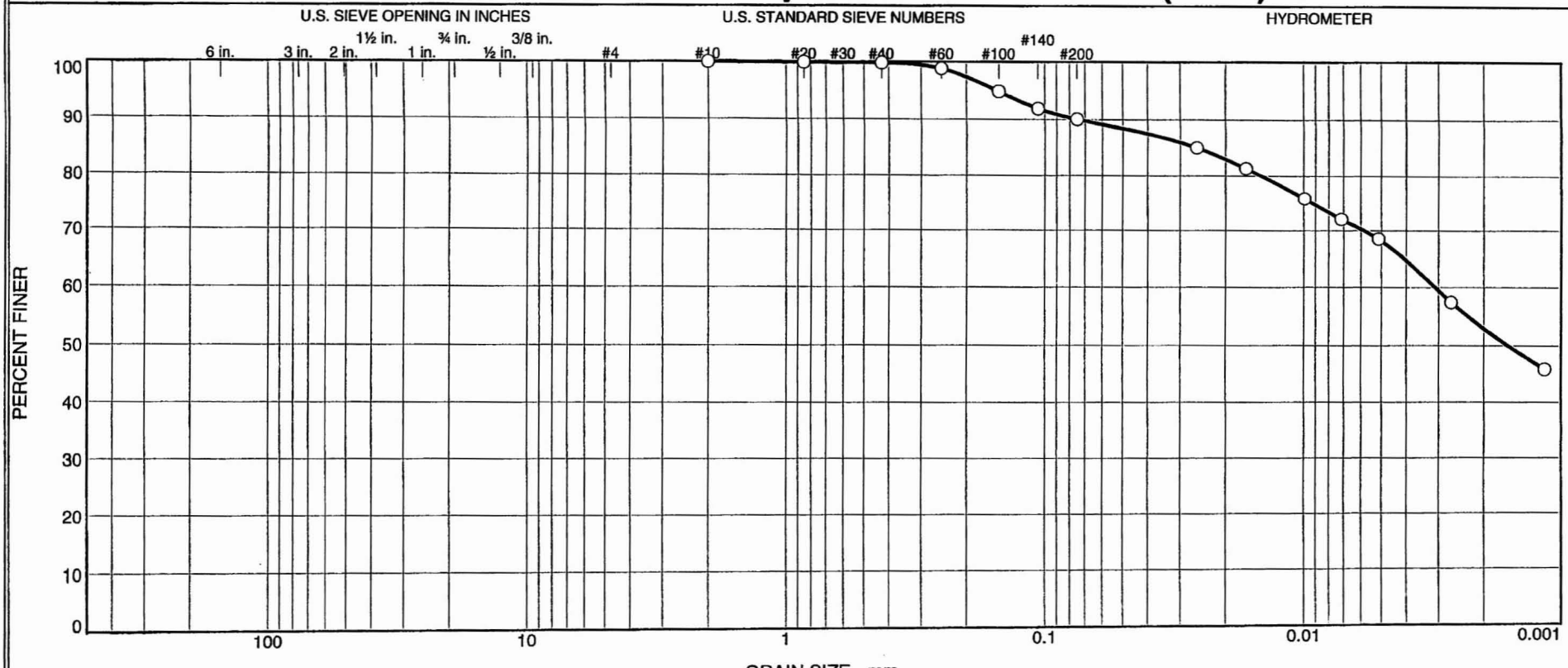
Run No.	1	2	3	4	
Wet+Tare	22.34	23.76			
Dry+Tare	20.80	21.86			
Tare	15.50	15.44			
Moisture	29.1	29.6			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
119.60	91.50	9.30	34.2

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	0.2	9.7	21.9	68.2

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2269	SS-43	401.8-403.3'	11/13/07	CH	Light Gray Fat CLAY	26.5	63	22

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.718 (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: 401.8-403.3' **Sample Number:** SS-43
Material Description: Light Gray Fat CLAY
Date: 11/13/07 **Natural Moisture:** 26.5
Liquid Limit: 63 **Plastic Limit:** 22 **USCS Class.:** CH
Testing Remarks: Specific Gravity = 2.718 (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
207.61	0.00	0.00	#10	0.00	100.0
54.82	0.00	0.00	#20	0.05	99.9
			#40	0.10	99.8
			#60	0.63	98.9
			#100	2.85	94.8
			#140	4.45	91.9
			#200	5.44	90.1

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =54.82
Hygroscopic moisture correction:
Moist weight and tare = 25.54
Dry weight and tare = 25.17
Tare weight = 15.44
Hygroscopic moisture = 3.8%
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 = 2.718
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	51.0	45.6	0.0131	52.0	7.8	0.0258	85.1
5.00	21.6	49.0	43.6	0.0131	50.0	8.1	0.0167	81.4
15.00	21.8	46.0	40.7	0.0131	47.0	8.6	0.0099	75.9
30.00	21.8	44.0	38.7	0.0131	45.0	8.9	0.0071	72.1
60.00	22.0	42.0	36.7	0.0130	43.0	9.2	0.0051	68.5
240.00	22.4	36.0	30.8	0.0130	37.0	10.2	0.0027	57.5
1440.00	21.4	30.0	24.6	0.0131	31.0	11.2	0.0012	45.9

MACTEC, Inc.

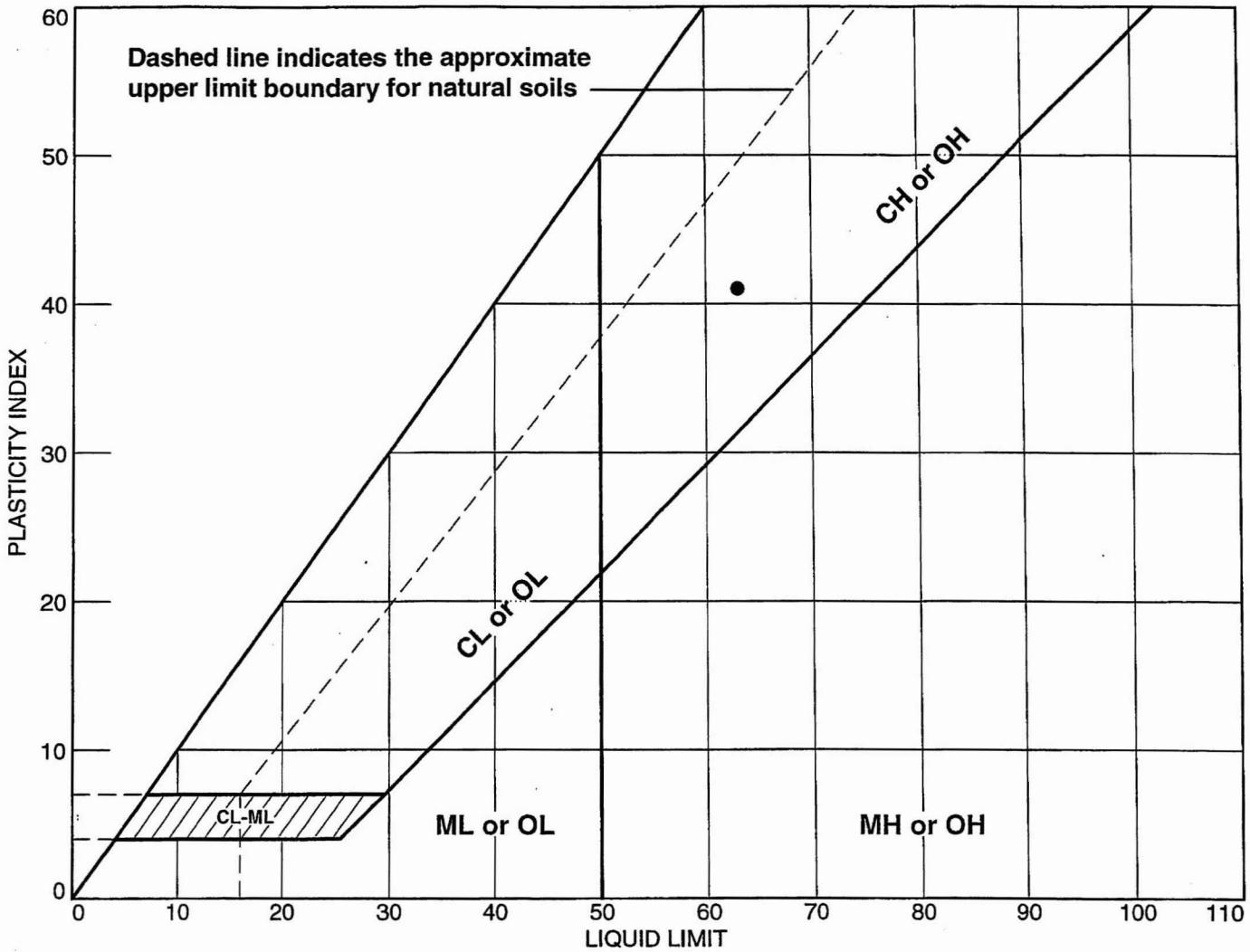
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.2	9.7	9.9	21.9	68.2	90.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0016	0.0031	0.0145	0.0254	0.0736	0.1533

Fineness Modulus
0.06

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-43	401.8-403.3'	26.5	22	63	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 DSC 1-25-08

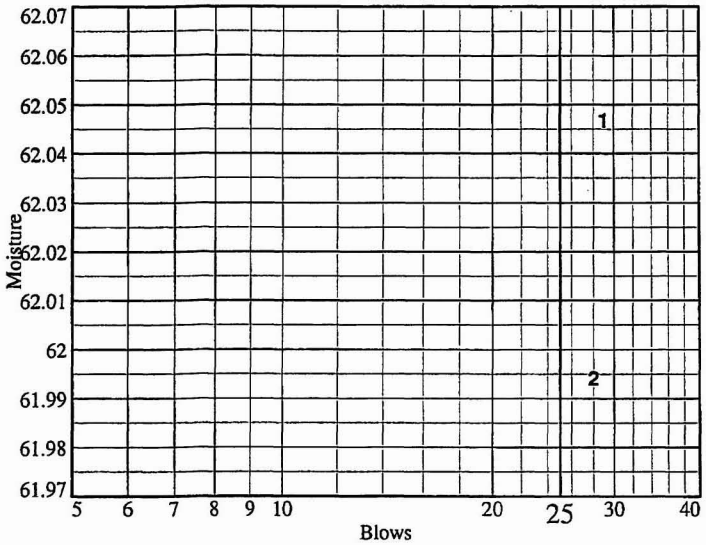
LIQUID AND PLASTIC LIMIT TEST DATA

1/24/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2269
Depth: 401.8-403.3'
Sample Number: SS-43
Material Description: Light Gray Fat CLAY
USCS: CH
AASHTO: A-7-6(41)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.72	27.02				
Dry+Tare	24.90	22.73				
Tare	15.52	15.81				
# Blows	29	28				
Moisture	62.0	62.0				



Liquid Limit= 63
Plastic Limit= 22
Plasticity Index= 41
Natural Moisture= 26.5
Liquidity Index= 0.1

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.71	22.82			
Dry+Tare	21.40	21.50			
Tare	15.52	15.44			
Moisture	22.3	21.8			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
122.26	98.10	6.80	26.5

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: 3/12/08

SAMPLE IDENTIFICATION: B-2269 SS-43

(A) Mass of oven-dried soil, grams:		51.51
(B) Mass of pycnometer filled with water at test temperature (T), grams:		656.69
(C) Mass of pycnometer, water and soil, grams:		689.26
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		22.3
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.720
(F)	***Correction factor:***	0.99950
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.718

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-6

TESTED BY: CS

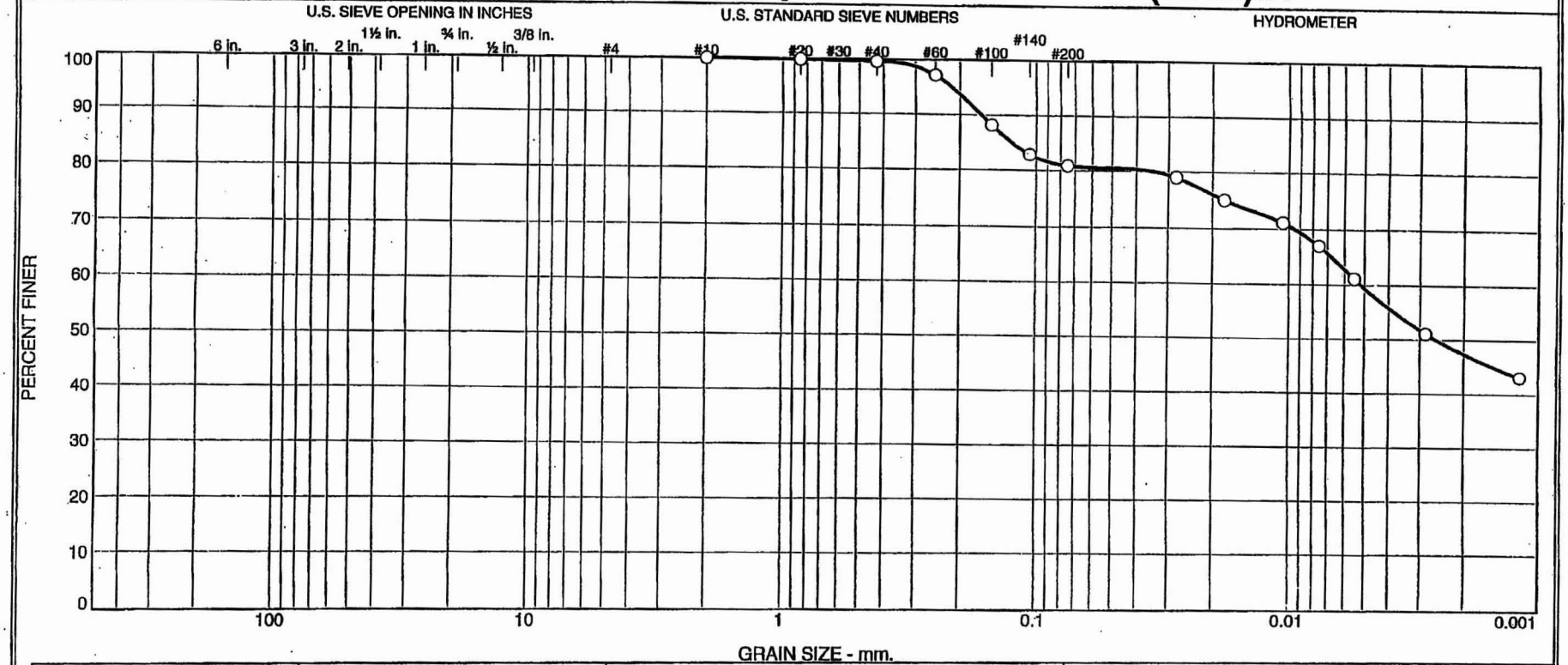
\Test Reports\Soils\SPECIFIC GRAVITY(ref).xls

REVIEWED BY: **Brian Johnson**

DSC 3-13-08

Boring B-2274A

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	18.7	21.4	59.5

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2274A	SS-45	408.4-409.9	12-8-07	CL	Light Gray Lean CLAY with sand	14.4	48	18

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 3-31-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 408.4-409.9 **Sample Number:** SS-45
Material Description: Light Gray Lean CLAY with sand
Date: 12-8-07 **Natural Moisture:** 14.4
Liquid Limit: 48 **Plastic Limit:** 18 **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
163.18	0.00	0.00	#10	0.00	100.0
50.19	0.00	0.00	#20	0.08	99.8
			#40	0.18	99.6
			#60	1.36	97.3
			#100	5.95	88.1
			#140	8.62	82.8
			#200	9.61	80.9

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =50.19
Hygroscopic moisture correction:
Moist weight and tare = 28.72
Dry weight and tare = 28.42
Tare weight = 15.61
Hygroscopic moisture = 2.3%
Table of composite correction values:

Temp., deg. C:	11.2	28.4
Comp. corr.:	-8.0	-4.0

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	20.6	45.0	39.2	0.0133	46.0	8.8	0.0279	79.0
5.00	20.7	43.0	37.2	0.0133	44.0	9.1	0.0180	75.0
15.00	20.9	41.0	35.3	0.0133	42.0	9.4	0.0105	71.1
30.00	20.9	39.0	33.3	0.0133	40.0	9.7	0.0076	67.1
60.00	21.1	36.0	30.3	0.0133	37.0	10.2	0.0055	61.1
240.00	21.2	31.0	25.3	0.0132	32.0	11.0	0.0028	51.1
1440.00	21.4	27.0	21.4	0.0132	28.0	11.7	0.0012	43.1

MACTEC, Inc.

Fractional Components

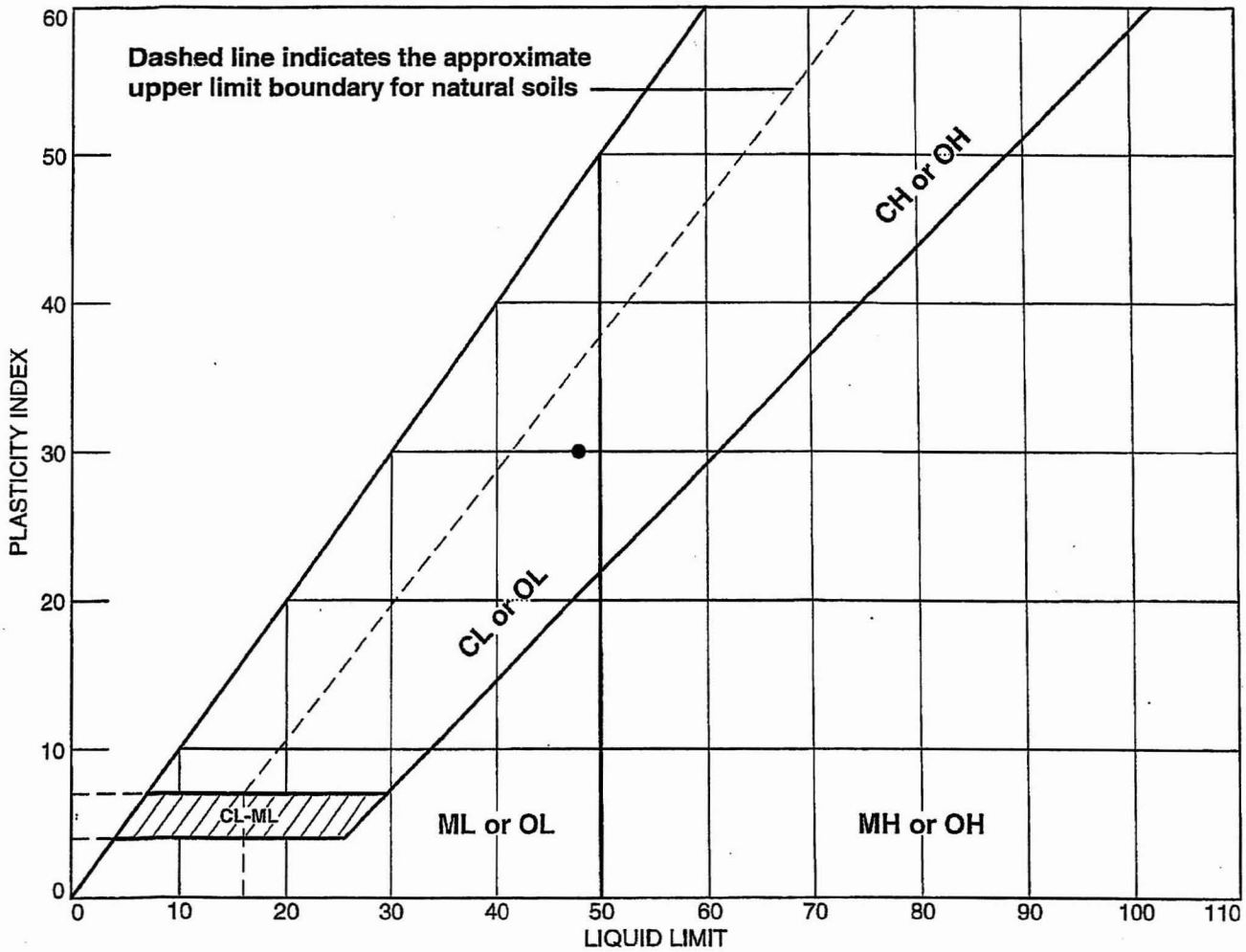
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.4	18.7	19.1	21.4	59.5	80.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0026	0.0052	0.0339	0.1252	0.1649	0.2141

Fineness Modulus
0.13

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring B-2274A	SS-45	408.4-409.9	14.4	18	48	30	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 3-31-08

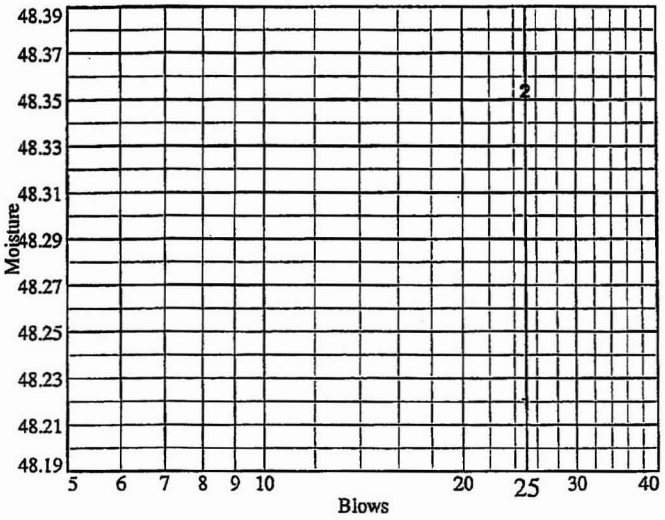
LIQUID AND PLASTIC LIMIT TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 408.4-409.9 **Sample Number:** SS-45
Material Description: Light Gray Lean CLAY with sand
USCS: CL **AASHTO:** A-7-6(24)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.80	29.98				
Dry+Tare	25.79	25.28				
Tare	15.40	15.56				
# Blows	25	25				
Moisture	48.2	48.4				



Liquid Limit= 48
Plastic Limit= 18
Plasticity Index= 30
Natural Moisture= 14.4
Liquidity Index= -0.1

Plastic Limit Data

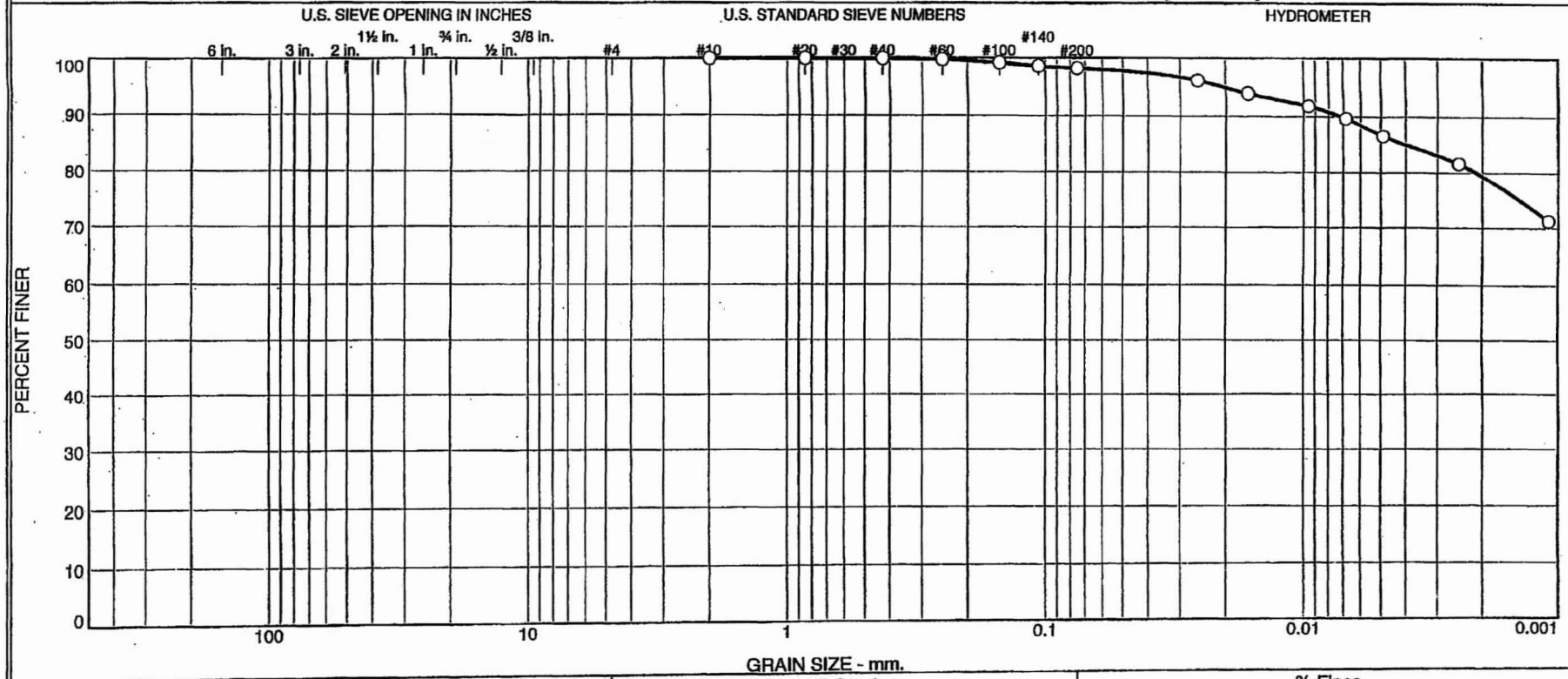
Run No.	1	2	3	4	
Wet+Tare	23.03	25.16			
Dry+Tare	21.91	23.70			
Tare	15.50	15.49			
Moisture	17.5	17.8			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
152.68	134.30	6.84	14.4

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	0.1	1.6	11.5	86.8

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2274A	SS-46	428.3-429.8	12-18-07	CH	Light Yellowish Brown Fat CLAY	28.7	74	29

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 3-31-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 428.3-429.8 **Sample Number:** SS-46
Material Description: Light Yellowish Brown Fat CLAY
Date: 12-18-07 **Natural Moisture:** 28.7
Liquid Limit: 74 **Plastic Limit:** 29 **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
189.65	0.00	0.00	#10	0.00	100.0
48.19	0.00	0.00	#20	0.01	100.0
			#40	0.03	99.9
			#60	0.11	99.8
			#100	0.39	99.2
			#140	0.64	98.7
			#200	0.82	98.3

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =48.19
Hygroscopic moisture correction:
Moist weight and tare = 28.60
Dry weight and tare = 28.05
Tare weight = 15.48
Hygroscopic moisture = 4.4%
Table of composite correction values:

Temp., deg. C:	11.2	28.4
Comp. corr.:	-8.0	-4.0

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	50.0	44.9	0.0129	51.0	7.9	0.0256	96.1
5.00	23.6	49.0	43.9	0.0129	50.0	8.1	0.0164	94.0
15.00	23.6	48.0	42.9	0.0129	49.0	8.3	0.0095	91.9
30.00	23.6	47.0	41.9	0.0129	48.0	8.4	0.0068	89.7
60.00	23.7	45.5	40.4	0.0129	46.5	8.7	0.0049	86.5
240.00	24.5	43.0	38.1	0.0127	44.0	9.1	0.0025	81.6
1440.00	20.9	39.0	33.3	0.0133	40.0	9.7	0.0011	71.2

MACTEC, Inc.

Fractional Components

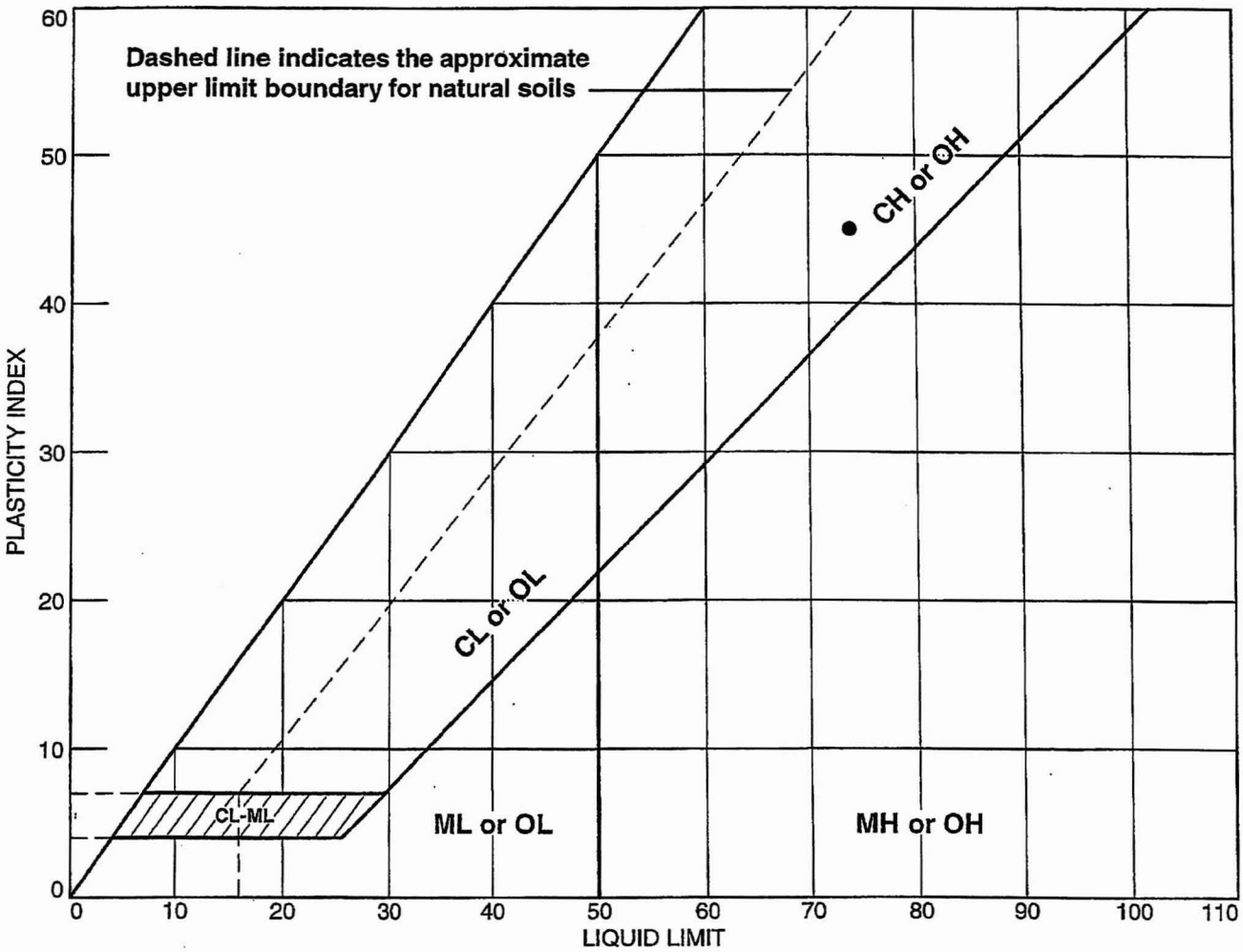
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.1	1.6	1.7	11.5	86.8	98.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.0021	0.0040	0.0071	0.0202

Fineness Modulus
0.01

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring B-2274A	SS-46	428.3-429.8	28.7	29	74	45	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 3-31-08

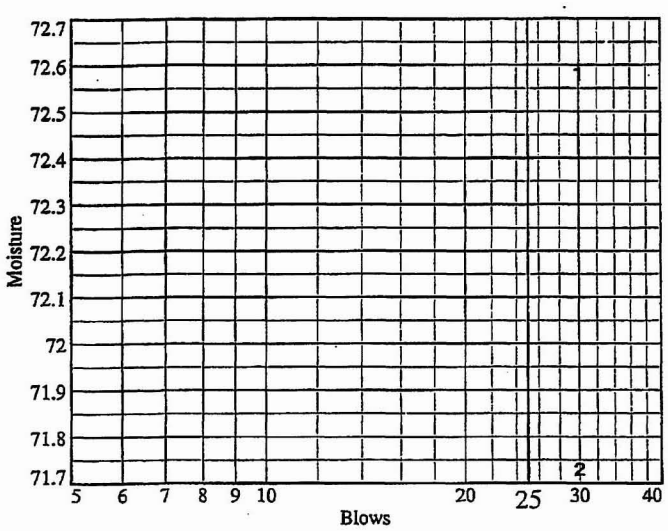
LIQUID AND PLASTIC LIMIT TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 428.3-429.8 **Sample Number:** SS-46
Material Description: Light Yellowish Brown Fat CLAY
USCS: CH **AASHTO:** A-7-6(52)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	33.98	34.09				
Dry+Tare	26.25	26.30				
Tare	15.60	15.44				
# Blows	30	30				
Moisture	72.6	71.7				



Liquid Limit= 74
Plastic Limit= 29
Plasticity Index= 45
Natural Moisture= 28.7
Liquidity Index= 0.0

Plastic Limit Data

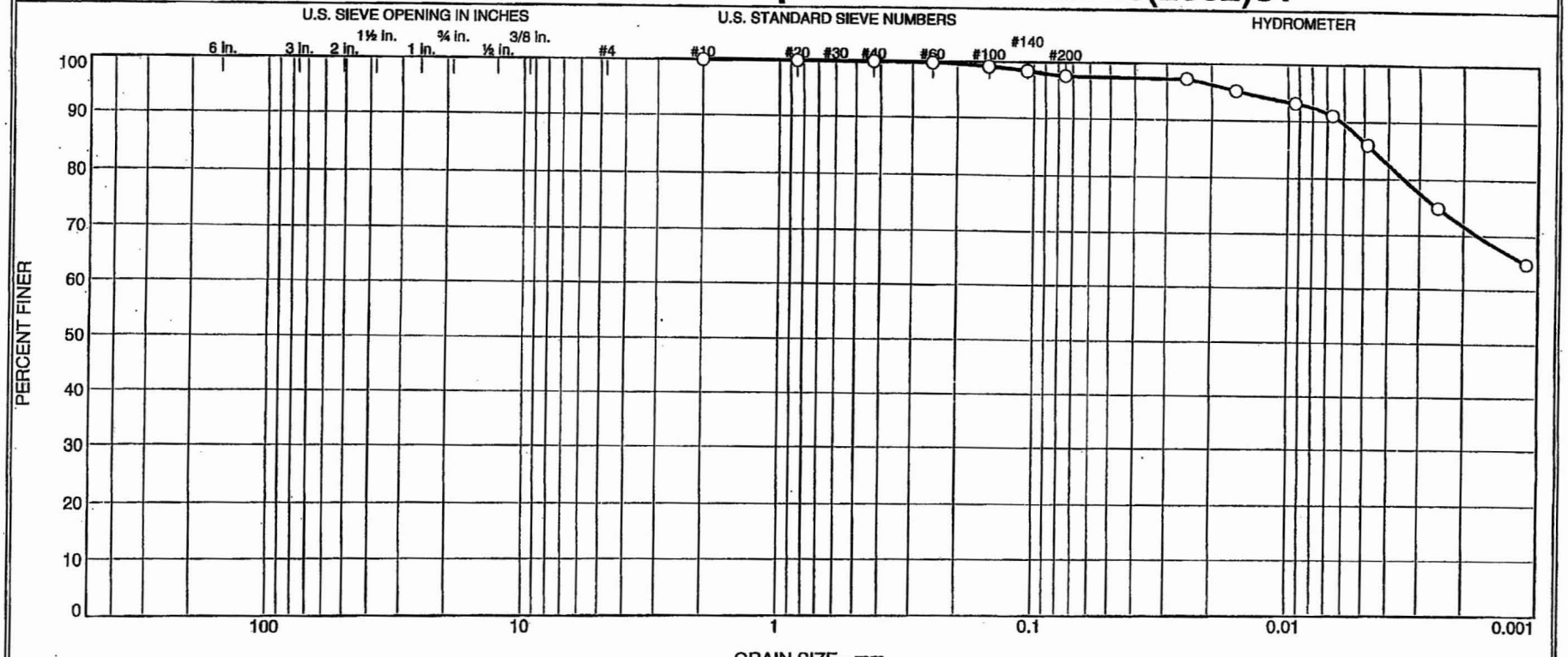
Run No.	1	2	3	4	
Wet+Tare	23.62	23.72			
Dry+Tare	21.80	21.87			
Tare	15.63	15.42			
Moisture	29.5	28.7			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
135.60	107.47	9.50	28.7

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	0.1	2.2	11.2	86.5

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2274A	SS-47	448.3-449.8	12-18-07	CH	Light Yellowish Brown Fat CLAY	26.7	74	24

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 3-31-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 448.3-449.8 **Sample Number:** SS-47
Material Description: Light Yellowish Brown Fat CLAY
Date: 12-18-07 **Natural Moisture:** 26.7
Liquid Limit: 74 **Plastic Limit:** 24 **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
211.84	0.00	0.00	#10	0.00	100.0
49.51	0.00	0.00	#20	0.02	100.0
			#40	0.05	99.9
			#60	0.11	99.8
			#100	0.41	99.2
			#140	0.75	98.5
			#200	1.16	97.7

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =49.51
Hygroscopic moisture correction:
Moist weight and tare = 28.67
Dry weight and tare = 28.18
Tare weight = 15.60
Hygroscopic moisture = 3.9%
Table of composite correction values:

Temp., deg. C:	11.2	28.4
Comp. corr.:	-8.0	-4.0

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	23.7	52.0	46.9	0.0129	53.0	7.6	0.0251	97.3
5.00	23.7	51.0	45.9	0.0129	52.0	7.8	0.0160	95.3
15.00	23.7	50.0	44.9	0.0129	51.0	7.9	0.0093	93.2
30.00	23.6	49.0	43.9	0.0129	50.0	8.1	0.0067	91.1
60.00	23.7	46.5	41.4	0.0129	47.5	8.5	0.0048	85.9
240.00	24.5	41.0	36.1	0.0127	42.0	9.4	0.0025	74.9
1440.00	20.7	37.0	31.2	0.0133	38.0	10.1	0.0011	64.8

MACTEC, Inc.

Fractional Components

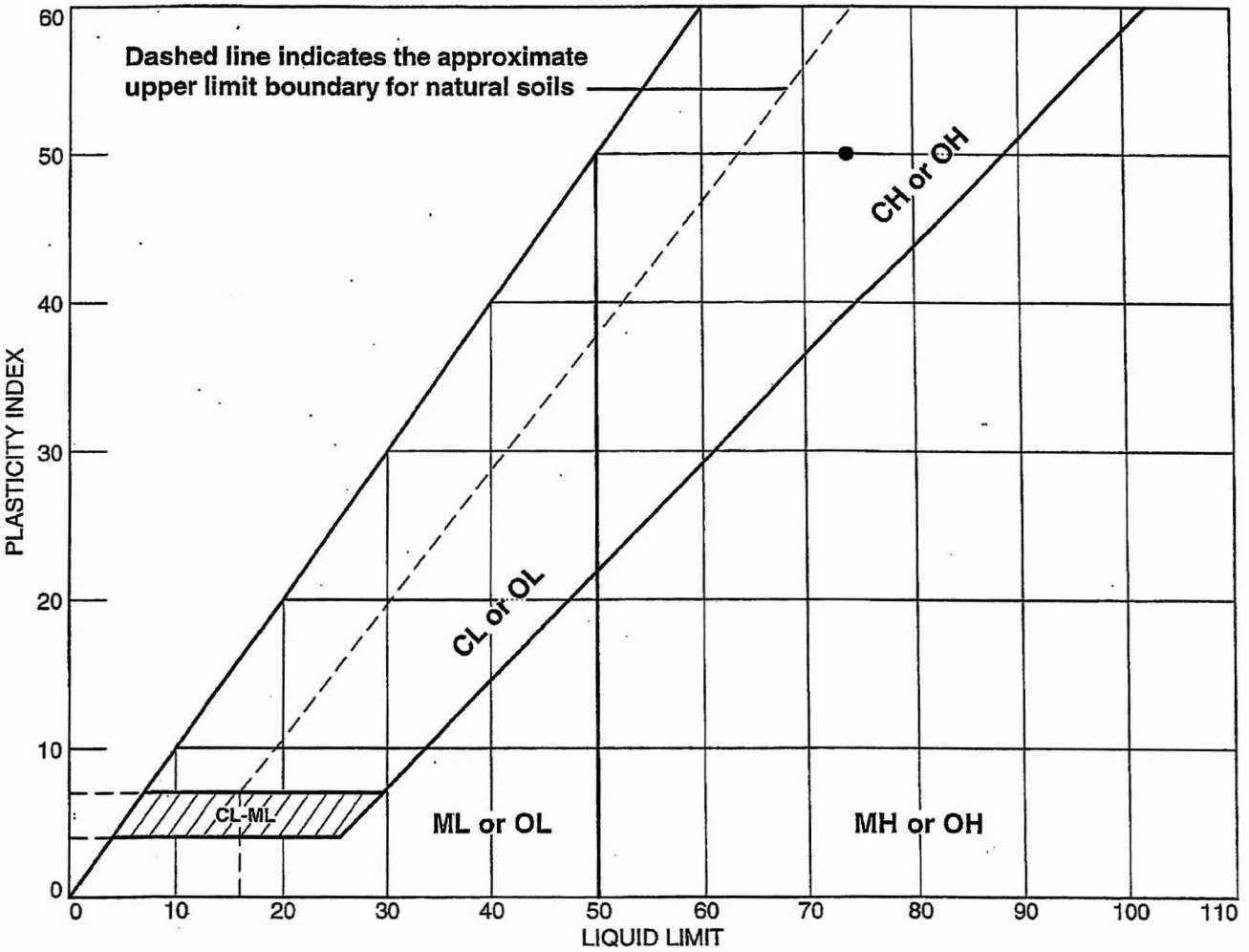
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.1	2.2	2.3	11.2	86.5	97.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.0035	0.0046	0.0062	0.0151

Fineness Modulus
0.01

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring B-2274A	SS-47	448.3-449.8	26.7	24	74	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 3-31-08

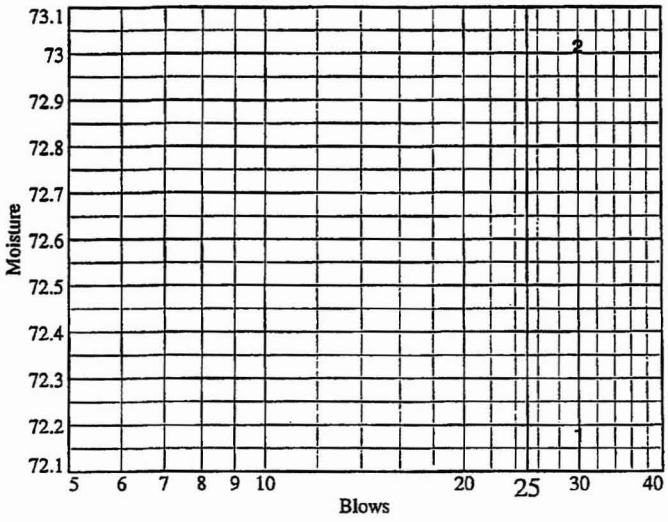
LIQUID AND PLASTIC LIMIT TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 448.3-449.8 **Sample Number:** SS-47
Material Description: Light Yellowish Brown Fat CLAY
USCS: CH **AASHTO:** A-7-6(57)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	28.60	30.94				
Dry+Tare	23.10	24.50				
Tare	15.48	15.68				
# Blows	30	30				
Moisture	72.2	73.0				



Liquid Limit= 74
Plastic Limit= 24
Plasticity Index= 50
Natural Moisture= 26.7
Liquidity Index= 0.1

Plastic Limit Data

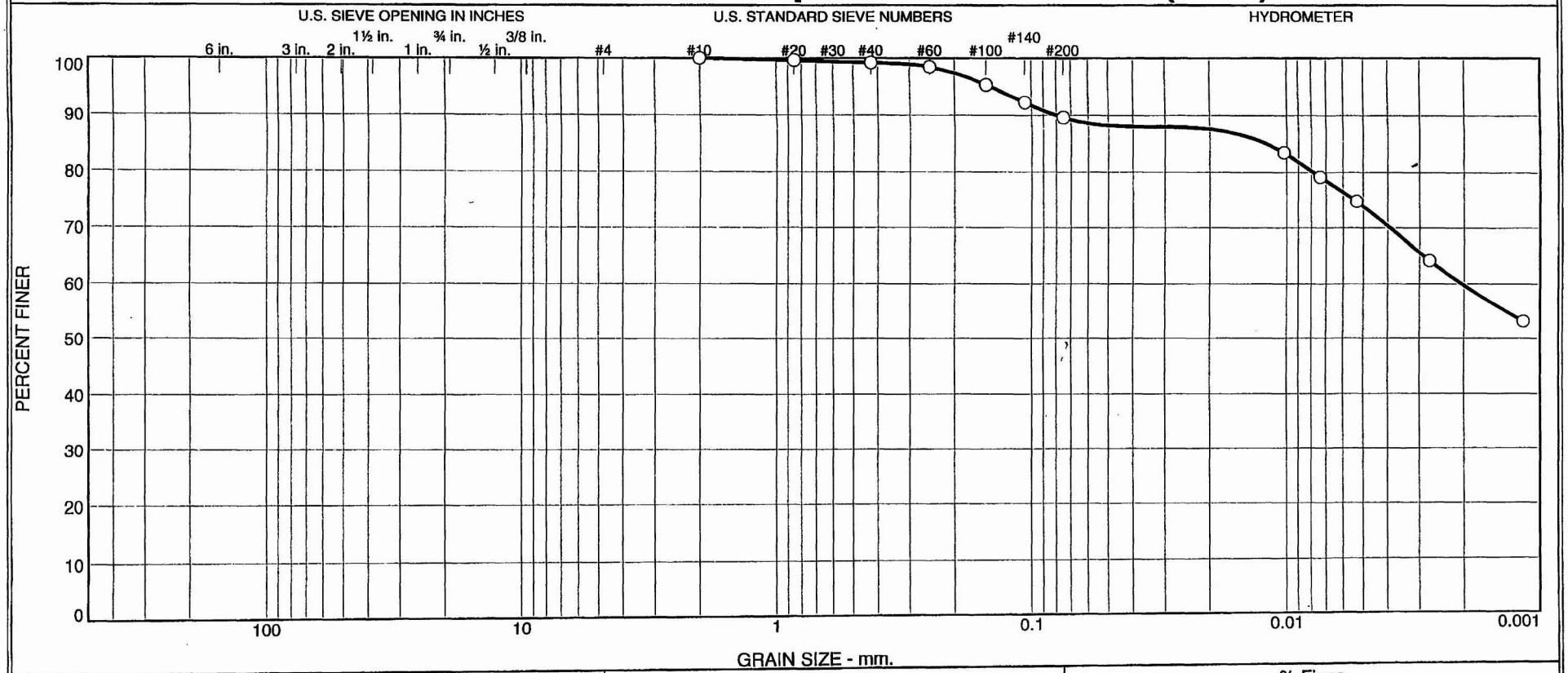
Run No.	1	2	3	4	
Wet+Tare	23.70	23.55			
Dry+Tare	22.10	22.00			
Tare	15.48	15.50			
Moisture	24.2	23.8			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
119.89	96.54	9.08	26.7

MACTEC, Inc.

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.8	9.6	15.7	73.9

	Source.	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2274A	SS-48	468.3-469.8	12-18-07	CH	Light Gray Fat CLAY	32.0	63	21

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed
To preserve continuity, the first 2 hydrometer data points with % finer=92.2 & 87. 9 have been neglected.

Tested By: CS **Checked By:** LBJ ZHU 4-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/25/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 468.3-469.8 **Sample Number:** SS-48
Material Description: Light Gray Fat CLAY
Date: 12-18-07 **Natural Moisture:** 32.0
Liquid Limit: 63 **Plastic Limit:** 21 **USCS Class.:** CH
Testing Remarks: Specific Gravity is assumed
To preserve continuity, the first 2 hydrometer data points with % finer=92.2 & 87. 9 have been neglected.
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
182.01	0.00	0.00	#10	0.00	100.0
47.23	0.00	0.00	#20	0.18	99.6
			#40	0.38	99.2
			#60	0.73	98.5
			#100	2.22	95.3
			#140	3.68	92.2
			#200	4.90	89.6

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =47.23
Hygroscopic moisture correction:
Moist weight and tare = 28.88
Dry weight and tare = 28.34
Tare weight = 15.50
Hygroscopic moisture = 4.2%
Table of composite correction values:

Temp., deg. C:	11.2	28.4
Comp. corr.:	-8.0	-4.0

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
15.00	21.0	44.0	38.3	0.0133	45.0	8.9	0.0102	83.5
30.00	21.0	42.0	36.3	0.0133	43.0	9.2	0.0074	79.2
60.00	21.0	40.0	34.3	0.0133	41.0	9.6	0.0053	74.8
240.00	21.7	35.0	29.4	0.0132	36.0	10.4	0.0027	64.2
1440.00	21.4	30.0	24.4	0.0132	31.0	11.2	0.0012	53.2

MACTEC, Inc.

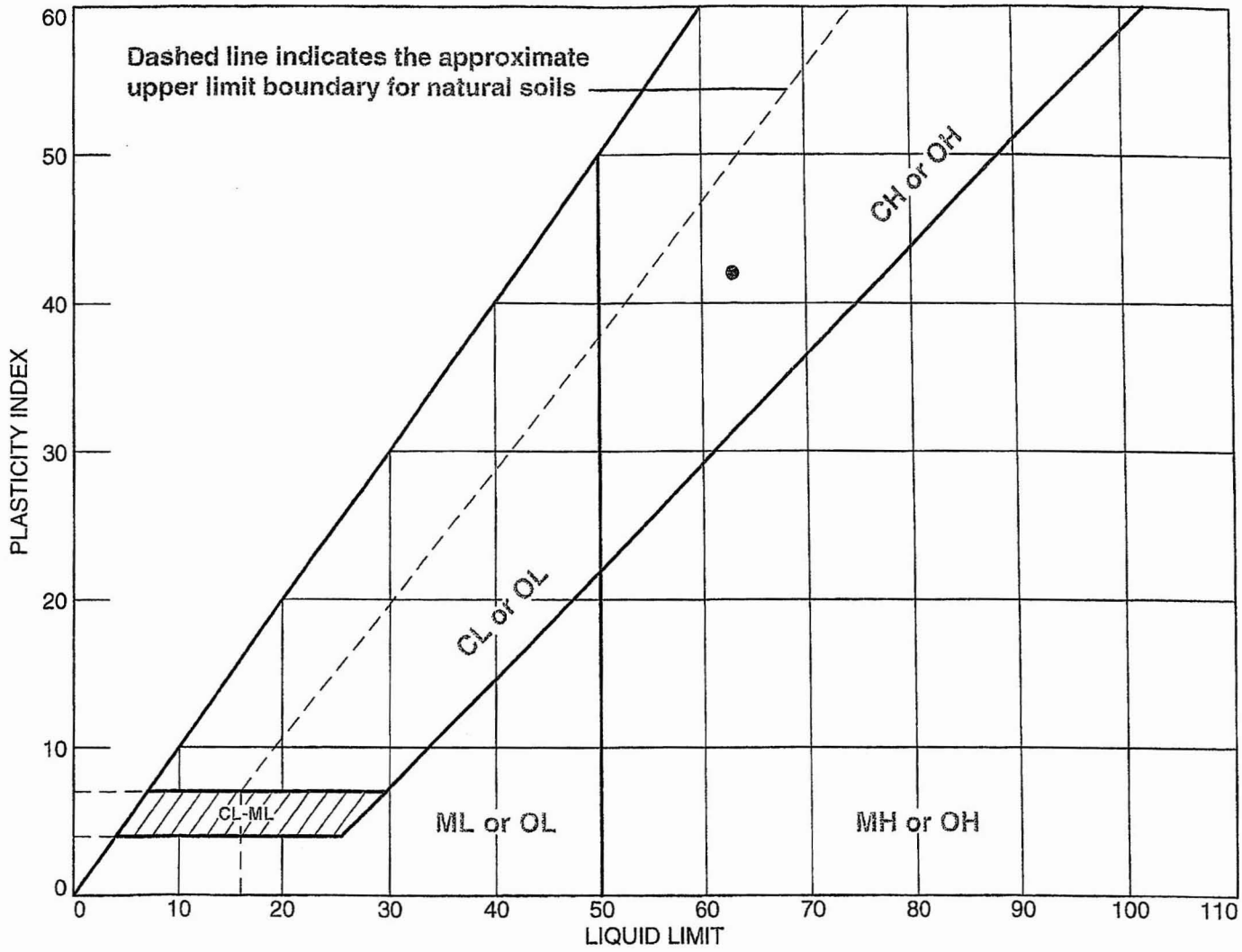
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.8	9.6	10.4	15.7	73.9	89.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
					0.0020	0.0078	0.0118	0.0798	0.1448

Fineness Modulus
0.07

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-2274A	SS-48	468.3-469.8	32.0	21	63	42	CH

MACTEC, Inc.

Raleigh, North Carolina

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

Tested By: CS **Checked By:** LBJ ZHU 4-28-08

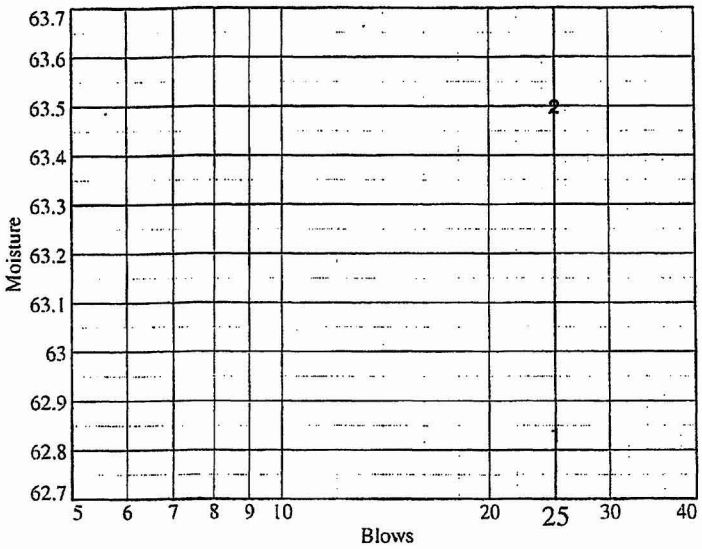
LIQUID AND PLASTIC LIMIT TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 468.3-469.8
Sample Number: SS-48
Material Description: Light Gray Fat CLAY
USCS: CH
AASHTO: A-7-6(41)
Tested by: CS
Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	29.53	29.74				
Dry+Tare	24.07	24.26				
Tare	15.38	15.63				
# Blows	25	25				
Moisture	62.8	63.5				



Liquid Limit= 63
Plastic Limit= 21
Plasticity Index= 42
Natural Moisture= 32.0
Liquidity Index= 0.3

Plastic Limit Data

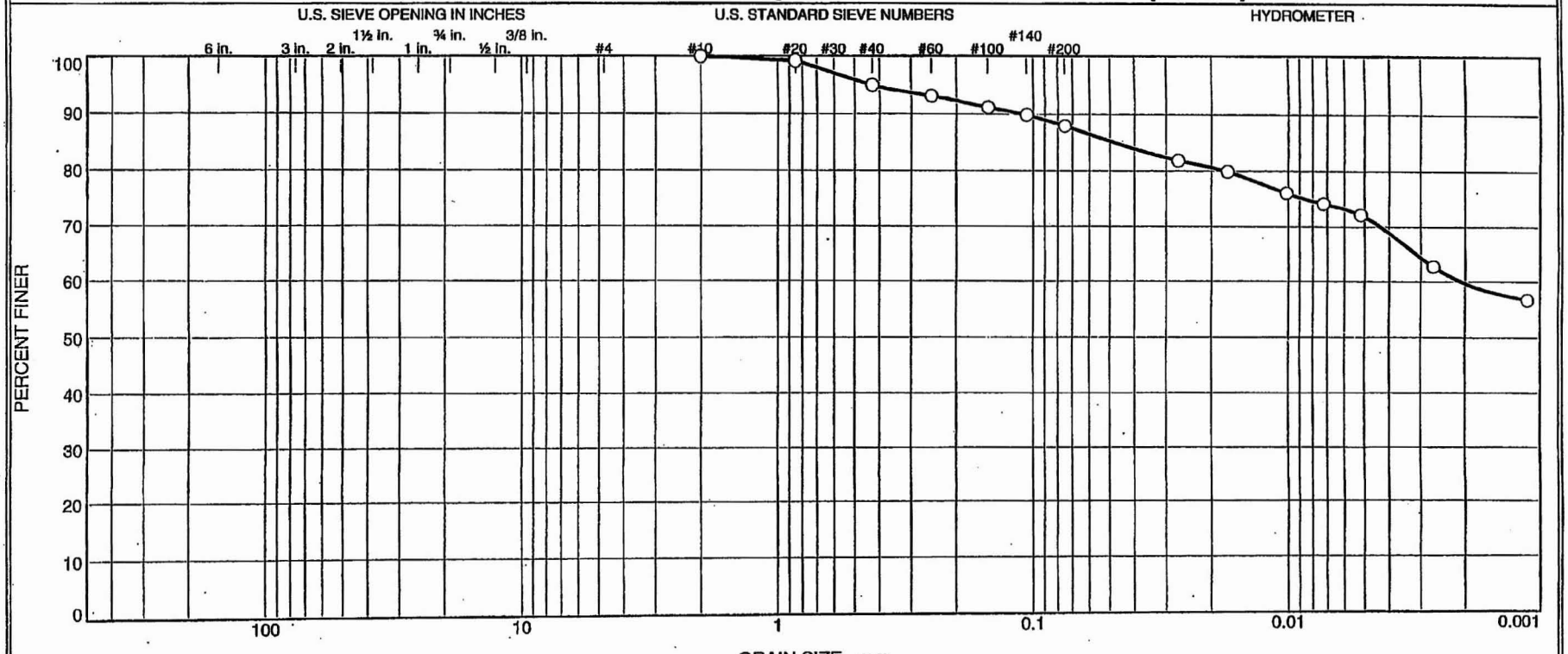
Run No.	1	2	3	4	
Wet+Tare	23.28	23.74			
Dry+Tare	21.92	22.27			
Tare	15.57	15.45			
Moisture	21.4	21.6			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
64.67	50.58	6.61	32.0

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	5.0	7.0	16.2	71.8

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2274A	SS-49	488.3-489.8	12-19-07	CH	Light Gray Fat CLAY	35.3	62	19

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 3-31-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 488.3-489.8 **Sample Number:** SS-49
Material Description: Light Gray Fat CLAY
Date: 12-19-07 **Natural Moisture:** 35.3
Liquid Limit: 62 **Plastic Limit:** 19 **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
204.01	0.00	0.00	#10	0.00	100.0
53.08	0.00	0.00	#20	0.42	99.2
			#40	2.66	95.0
			#60	3.63	93.2
			#100	4.69	91.2
			#140	5.36	89.9
			#200	6.39	88.0

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =53.08
Hygroscopic moisture correction:
Moist weight and tare = 28.33
Dry weight and tare = 27.86
Tare weight = 15.48
Hygroscopic moisture = 3.8%
Table of composite correction values:

Temp., deg. C:	11.2	28.4
Comp. corr.:	-8.0	-4.0

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	21.1	48.0	42.3	0.0133	49.0	8.3	0.0269	81.8
5.00	21.1	47.0	41.3	0.0133	48.0	8.4	0.0172	79.9
15.00	21.1	45.0	39.3	0.0133	46.0	8.8	0.0101	76.0
30.00	21.1	44.0	38.3	0.0133	45.0	8.9	0.0072	74.1
60.00	21.1	43.0	37.3	0.0133	44.0	9.1	0.0052	72.1
240.00	21.6	38.0	32.4	0.0132	39.0	9.9	0.0027	62.7
1440.00	21.3	35.0	29.3	0.0132	36.0	10.4	0.0011	56.8

MACTEC, Inc.

Fractional Components

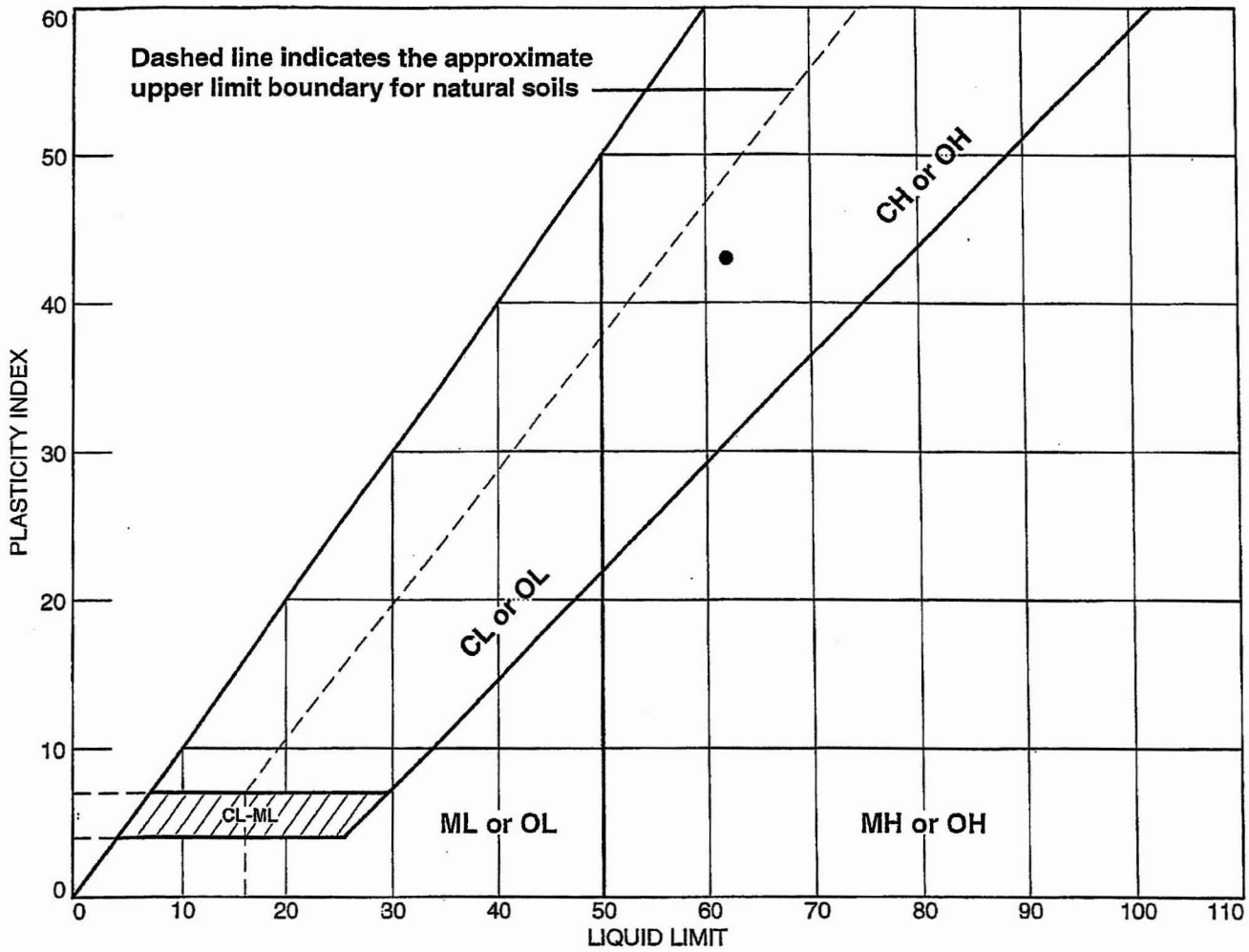
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	5.0	7.0	12.0	16.2	71.8	88.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
					0.0021	0.0176	0.0477	0.1084	0.4260

Fineness Modulus
0.18

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring B-2274A	SS-49	488.3-489.8	35.3	19	62	43	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 3-31-08

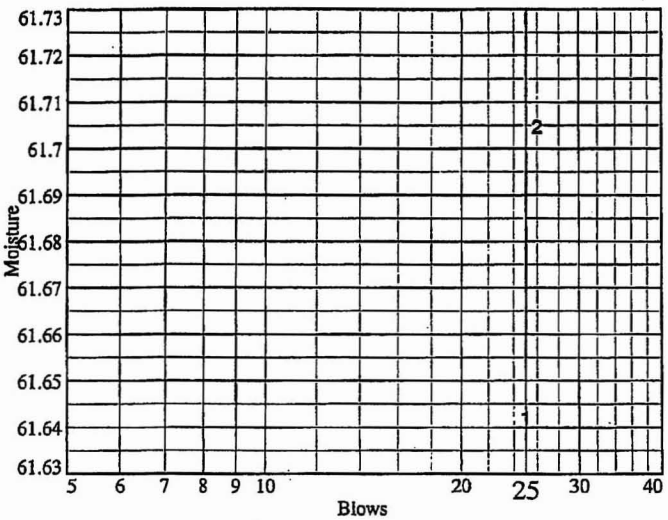
LIQUID AND PLASTIC LIMIT TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 488.3-489.8 **Sample Number:** SS-49
Material Description: Light Gray Fat CLAY
USCS: CH **AASHTO:** A-7-6(41)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	27.57	28.23				
Dry+Tare	22.99	23.38				
Tare	15.56	15.52				
# Blows	25	26				
Moisture	61.6	61.7				



Liquid Limit= 62
Plastic Limit= 19
Plasticity Index= 43
Natural Moisture= 35.3
Liquidity Index= 0.4

Plastic Limit Data

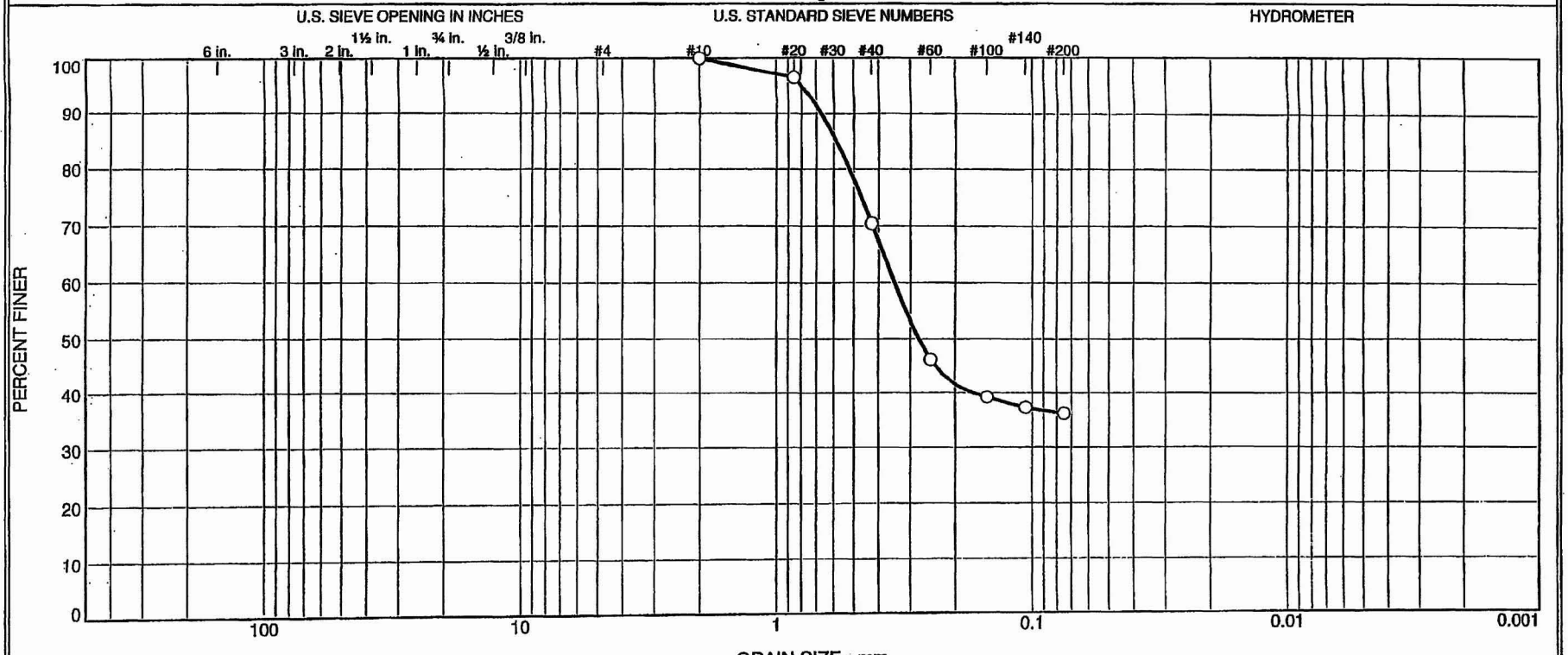
Run No.	1	2	3	4	
Wet+Tare	24.82	24.30			
Dry+Tare	23.30	22.89			
Tare	15.51	15.53			
Moisture	19.5	19.2			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
125.30	95.03	9.17	35.3

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	29.5	34.3	36.2	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2274A	SS-51	528.1-529.6	12-20-08	SC	Light Brownish Yellow 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

Tested By: CS **Checked By:** LBJ DJC 3-31-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 528.1-529.6 **Sample Number:** SS-51
Material Description: Light Brownish Yellow Clayey SAND (Visual)
Date: 12-20-08 **Natural Moisture:** ND
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** SC
Testing Remarks: SIEVE ANALYSIS ONLY
ND = Not Determined
Tested by: CS **Checked by:** LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
233.51	0.00	0.00	#10	0.00	100.0
103.86	0.00	0.00	#20	3.54	96.6
			#40	30.69	70.5
			#60	55.86	46.2
			#100	63.17	39.2
			#140	65.18	37.2
			#200	66.29	36.2

Fractional Components

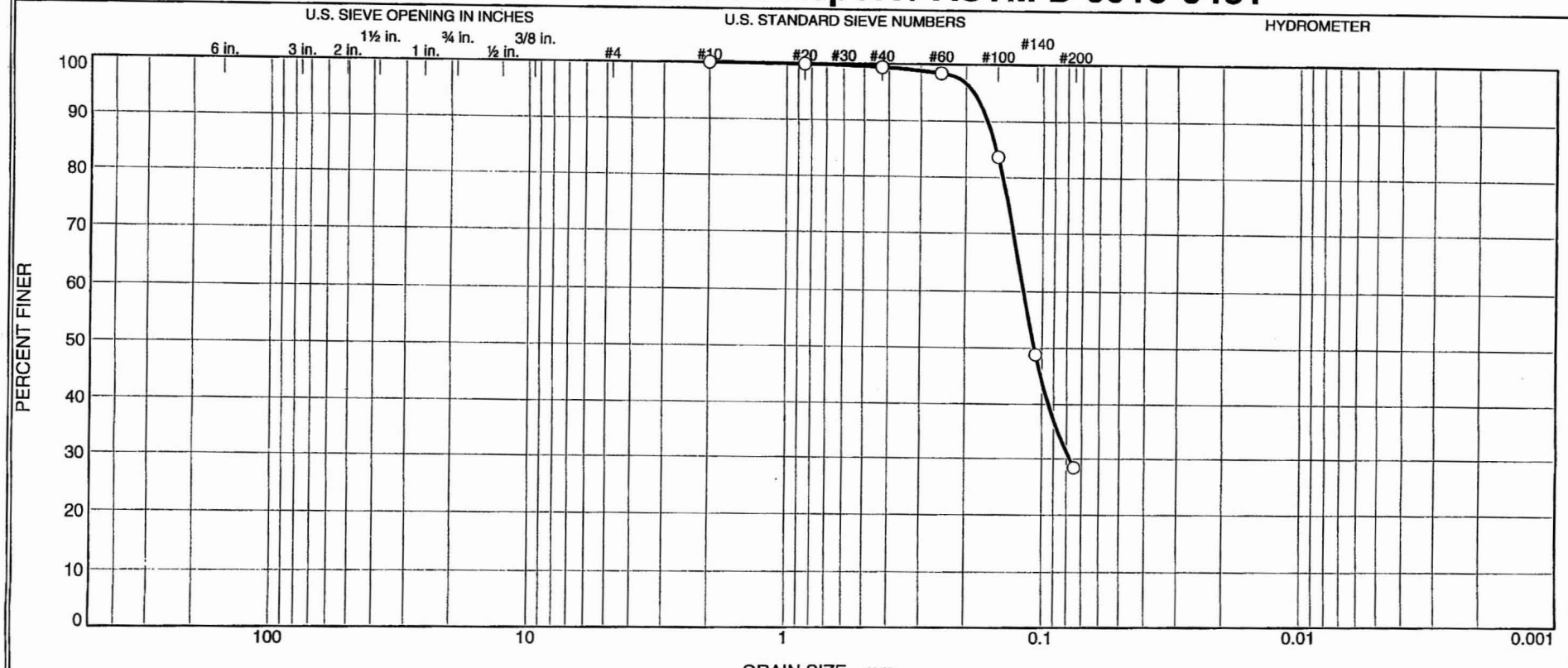
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	29.5	34.3	63.8			36.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.2784	0.3463	0.5198	0.5853	0.6702	0.7934

Fineness Modulus
1.24

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	0.6	71.0	28.4	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2274A	SS-52	548.1-549.0	12-20-07	SM	Pale Brown Silty SAND (visual)	18.1	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ SIEVE ANALYSIS ONLY

Tested By: CS **Checked By:** LBJ ZHU 4-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 548.1-549.0 **Sample Number:** SS-52
Material Description: Pale Brown Silty SAND (visual)
Date: 12-20-07 **Natural Moisture:** 18.1
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** SM
Testing Remarks: SIEVE ANALYSIS ONLY
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
221.41	0.00	0.00	#10	0.00	100.0
97.65	0.00	0.00	#20	0.16	99.8
			#40	0.58	99.4
			#60	1.52	98.4
			#100	15.92	83.7
			#140	50.02	48.8
			#200	69.91	28.4

Fractional Components

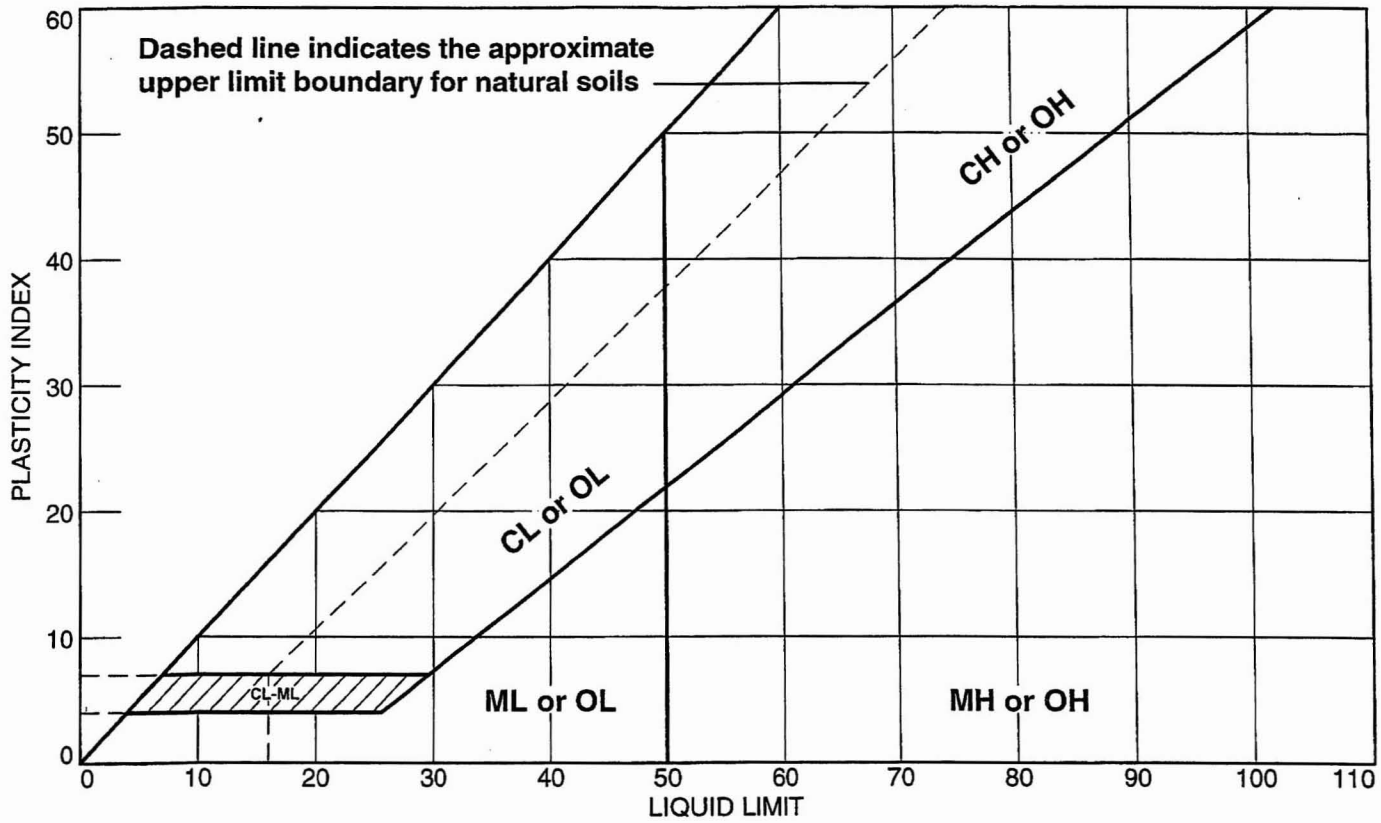
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.6	71.0	71.6			28.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0777	0.1074	0.1187	0.1437	0.1525	0.1647	0.1860

Fineness Modulus
0.18

MACTEC, Inc.

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



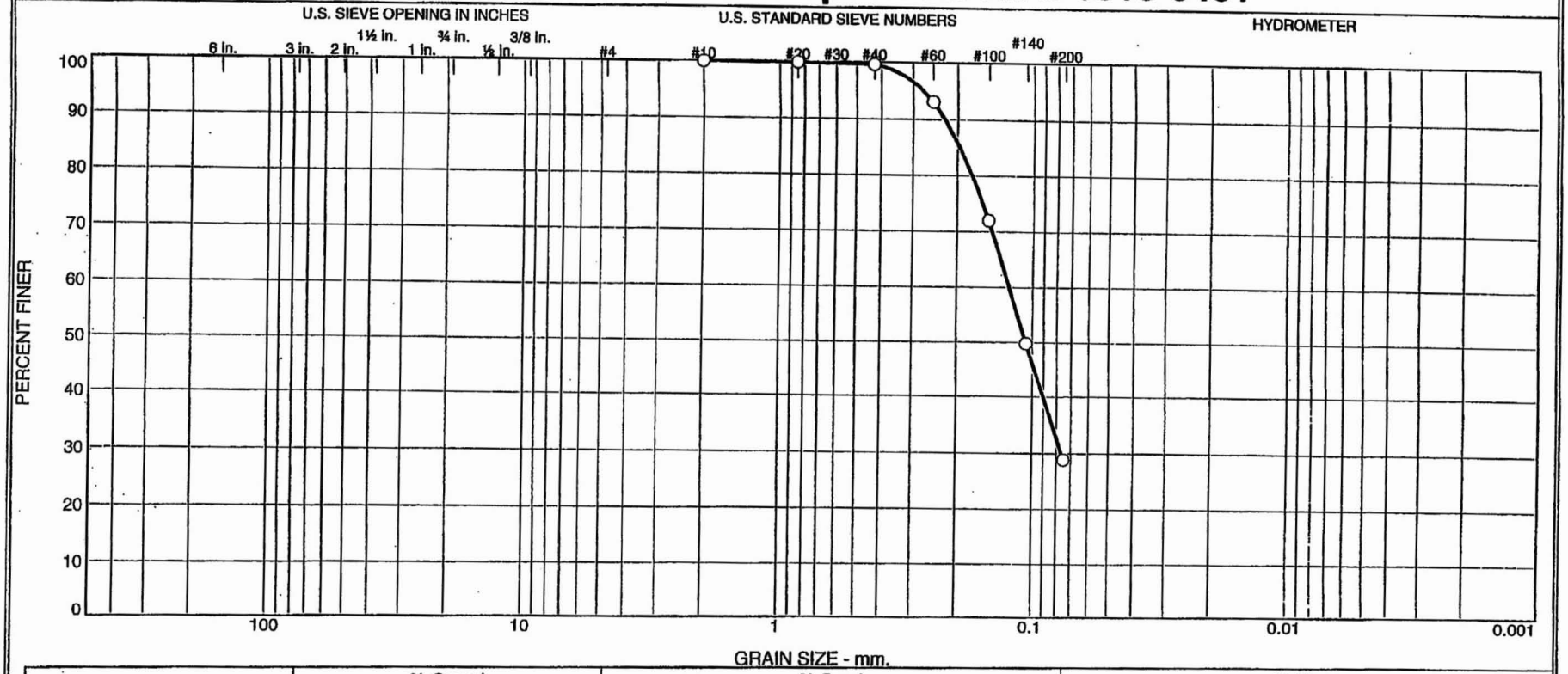
SOIL DATA

	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	Boring B-2274A	SS-52	548.1-549.0	18.1	ND	ND	ND	SM

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

Tested By: CS **Checked By:** LBJ ZHU 4-28-08

Particle Size Distribution Report / ASTM D 6913-04e1



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	0.0	0.0	0.4	70.7	28.9	

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2274A	SS-53A	568.1-569.3	12-20-07	SC	Light Yellowish Brown Clayey SAND (Visual)	ND	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

O SIEVE ANALYSIS ONLY
ND = Not Determined

Tested By: CS **Checked By:** LBJ DSC 3-31-08

GRAIN SIZE DISTRIBUTION TEST DATA

3/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 568.1-569.3 **Sample Number:** SS-53A
Material Description: Light Yellowish Brown Clayey SAND (Visual)
Date: 12-20-07 **Natural Moisture:** ND
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** SC
Testing Remarks: SIEVE ANALYSIS ONLY
ND = Not Determined
Tested by: CS **Checked by:** LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
304.37	0.00	0.00	#10	0.00	100.0
103.65	0.00	0.00	#20	0.11	99.9
			#40	0.38	99.6
			#60	7.15	93.1
			#100	29.06	72.0
			#140	51.96	49.9
			#200	73.72	28.9

Fractional Components

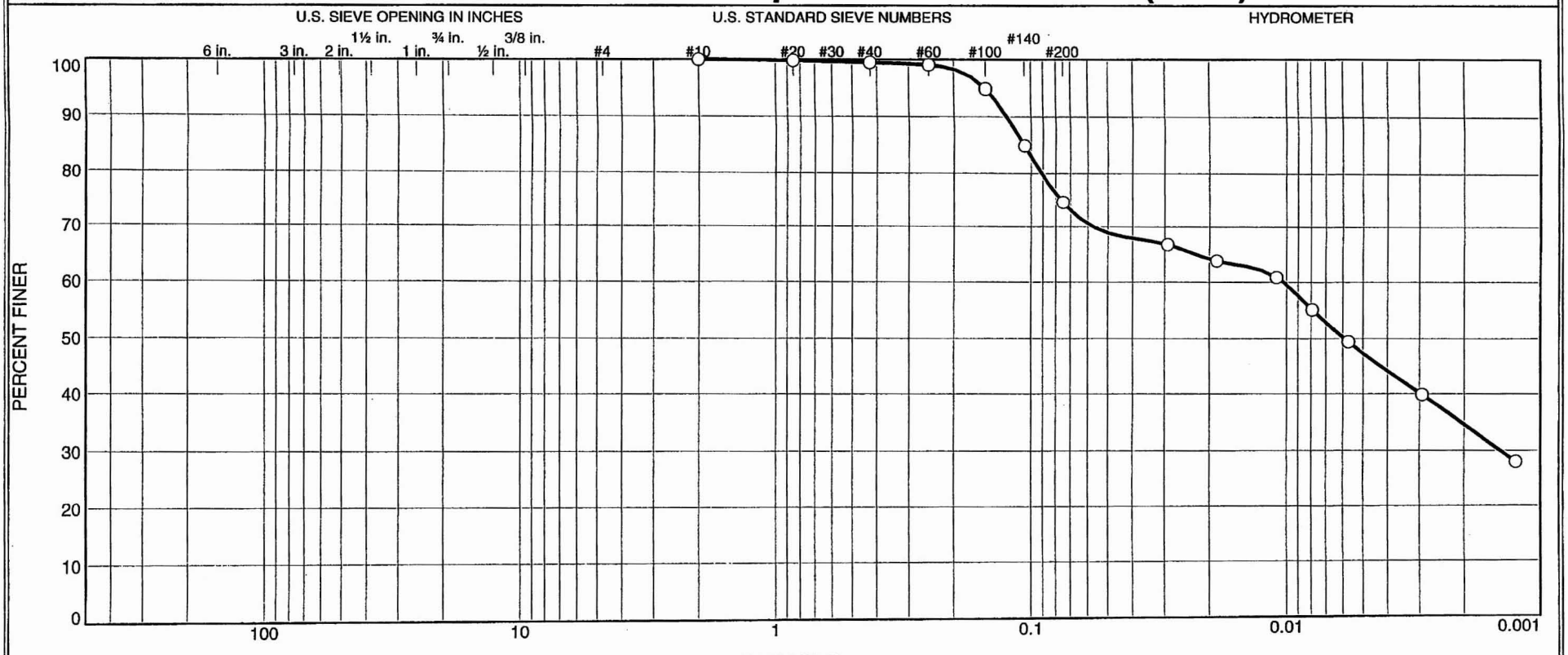
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.4	70.7	71.1			28.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0764	0.1062	0.1238	0.1746	0.1954	0.2242	0.2721

Fineness Modulus
0.32

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	0.5	24.9	27.2	47.4

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2274A	SS-54	588.3-589.8	1-2-08	CL	Pale Brown Lean CLAY with sand	13.1	39	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 ZHU 4-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/10/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 588.3-589.8 **Sample Number:** SS-54
Material Description: Pale Brown Lean CLAY with sand
Date: 1-2-08 **Natural Moisture:** 13.1
Liquid Limit: 39 **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
302.25	0.00	0.00	#10	0.00	100.0
51.52	0.00	0.00	#20	0.09	99.8
			#40	0.27	99.5
			#60	0.49	99.0
			#100	2.67	94.8
			#140	7.74	85.0
			#200	13.11	74.6

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =51.52
Hygroscopic moisture correction:
Moist weight and tare = 28.81
Dry weight and tare = 28.58
Tare weight = 15.39
Hygroscopic moisture = 1.7%
Table of composite correction values:

Temp., deg. C:	11.2	28.4
Comp. corr.:	-8.0	-4.0

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	20.7	40.0	34.2	0.0133	41.0	9.6	0.0292	66.8
5.00	20.6	38.5	32.7	0.0133	39.5	9.8	0.0187	63.8
15.00	20.6	37.0	31.2	0.0133	38.0	10.1	0.0109	60.9
30.00	20.8	34.0	28.2	0.0133	35.0	10.6	0.0079	55.1
60.00	21.1	31.0	25.3	0.0133	32.0	11.0	0.0057	49.4
240.00	21.6	26.0	20.4	0.0132	27.0	11.9	0.0029	39.9
1440.00	21.3	20.0	14.3	0.0132	21.0	12.9	0.0012	28.0

MACTEC, Inc.

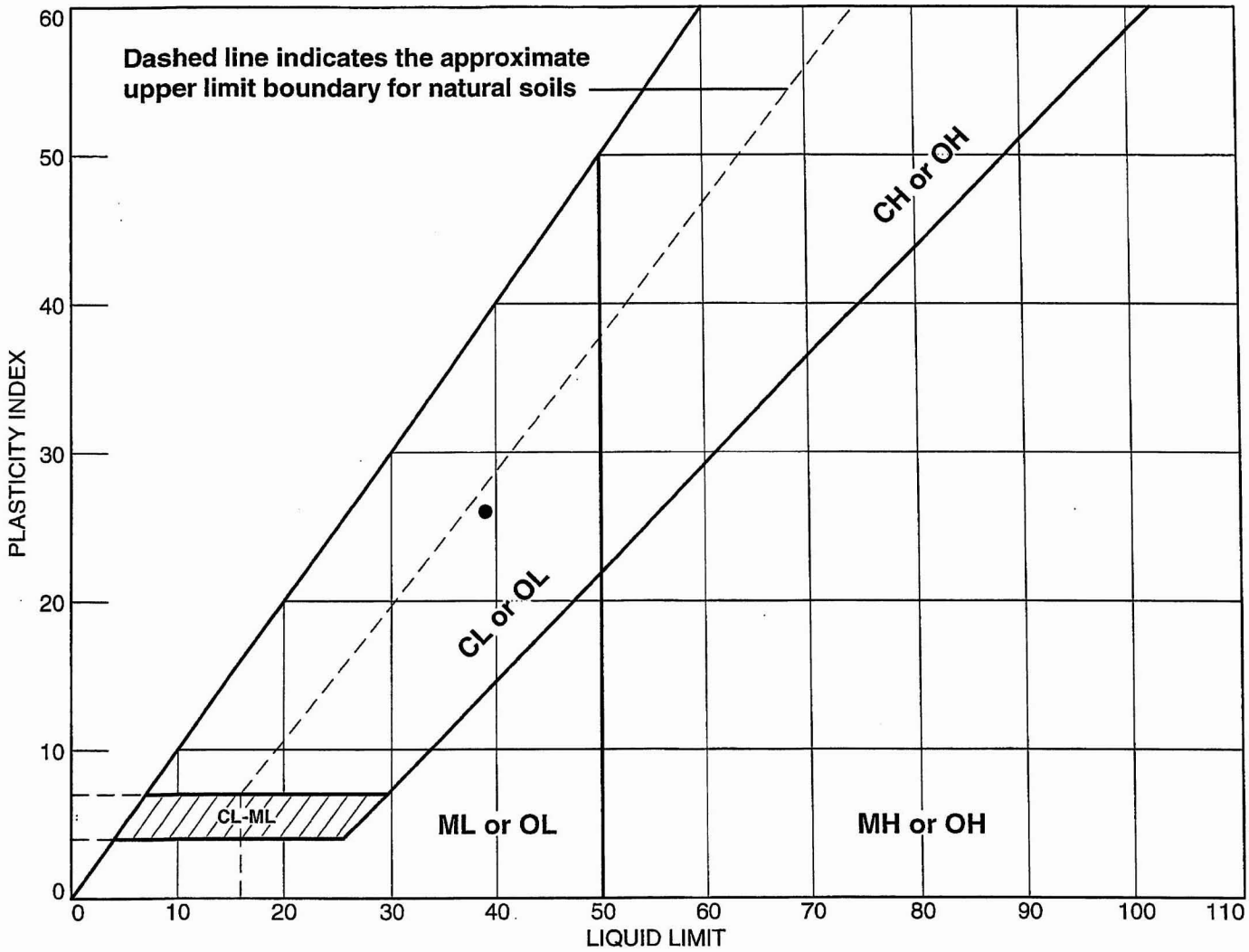
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.5	24.9	25.4	27.2	47.4	74.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0014	0.0059	0.0103	0.0910	0.1061	0.1242	0.1514

Fineness Modulus
0.06

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-2274A	SS-54	588.3-589.8	13.1	13	39	26	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 ZHU 2-28-08

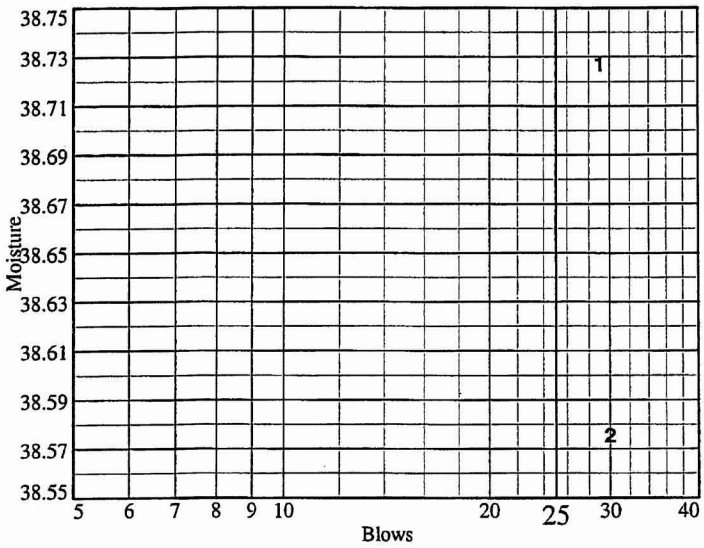
LIQUID AND PLASTIC LIMIT TEST DATA

4/10/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 588.3-589.8 **Sample Number:** SS-54
Material Description: Pale Brown Lean CLAY with sand
USCS: CL **AASHTO:** A-6(17)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.66	34.16				
Dry+Tare	26.40	28.96				
Tare	15.40	15.48				
# Blows	29	30				
Moisture	38.7	38.6				



Liquid Limit= 39
Plastic Limit= 13
Plasticity Index= 26
Natural Moisture= 13.1
Liquidity Index= 0.0

Plastic Limit Data

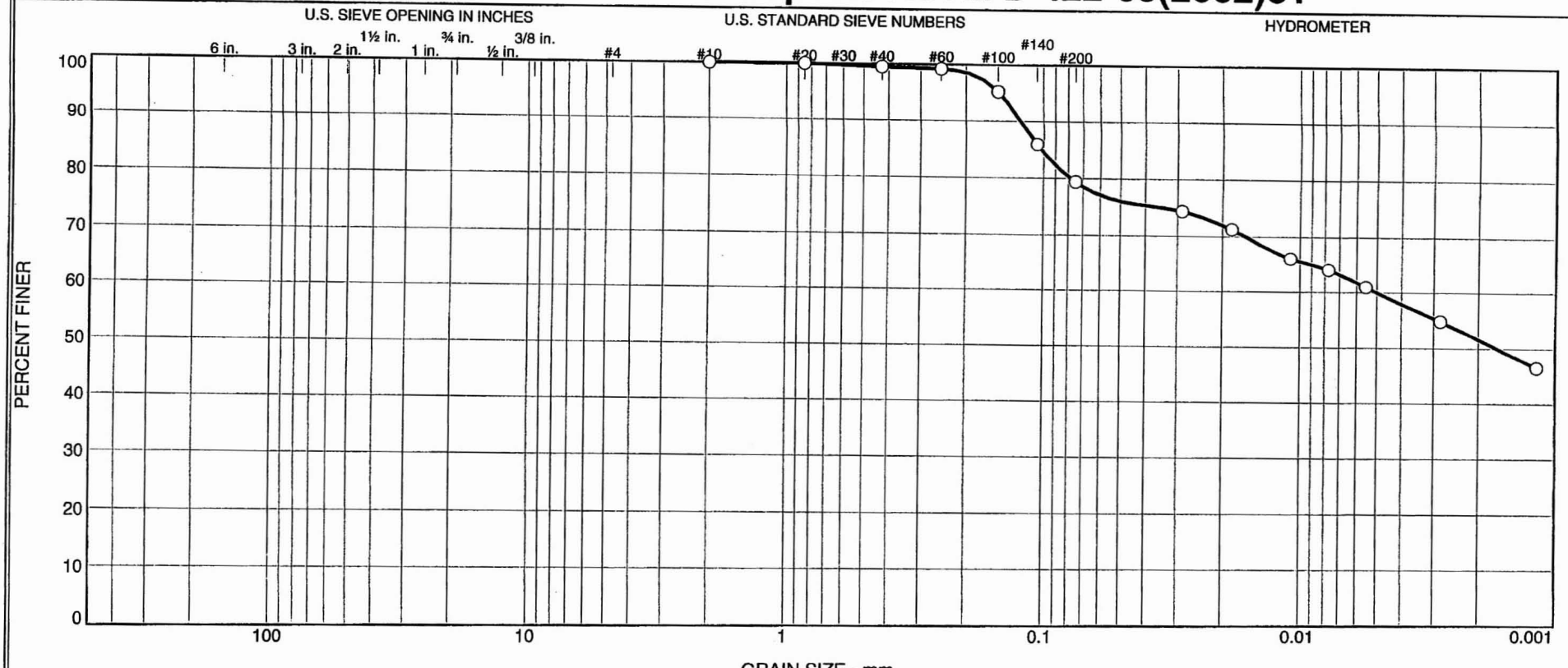
Run No.	1	2	3	4	
Wet+Tare	22.38	25.94			
Dry+Tare	21.60	24.74			
Tare	15.50	15.55			
Moisture	12.8	13.1			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
124.45	110.80	6.72	13.1

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	0.5	20.1	19.4	60.0

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2274A	SS-55	593.2-594.7	1-3-08	CL	Light Gray Lean CLAY with sand	12.3	39	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 ZHU 4-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/10/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 593.2-594.7 **Sample Number:** SS-55
Material Description: Light Gray Lean CLAY with sand
Date: 1-3-08 **Natural Moisture:** 12.3
Liquid Limit: 39 **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
293.26	0.00	0.00	#10	0.00	100.0
49.09	0.00	0.00	#20	0.03	99.9
			#40	0.25	99.5
			#60	0.39	99.2
			#100	2.36	95.2
			#140	6.90	85.9
			#200	10.13	79.4

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =49.01
Hygroscopic moisture correction:
Moist weight and tare = 28.76
Dry weight and tare = 28.35
Tare weight = 15.59
Hygroscopic moisture = 3.2%
Table of composite correction values:

Temp., deg. C:	11.2	28.4
Comp. corr.:	-8.0	-4.0

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	20.8	41.5	35.7	0.0133	42.5	9.3	0.0287	74.4
5.00	20.8	40.0	34.2	0.0133	41.0	9.6	0.0184	71.3
15.00	20.8	37.5	31.7	0.0133	38.5	10.0	0.0109	66.1
30.00	21.0	36.5	30.8	0.0133	37.5	10.1	0.0077	64.1
60.00	21.0	35.0	29.3	0.0133	36.0	10.4	0.0055	61.0
240.00	21.2	32.0	26.3	0.0132	33.0	10.9	0.0028	54.8
1440.00	21.3	28.0	22.3	0.0132	29.0	11.5	0.0012	46.5

MACTEC, Inc.

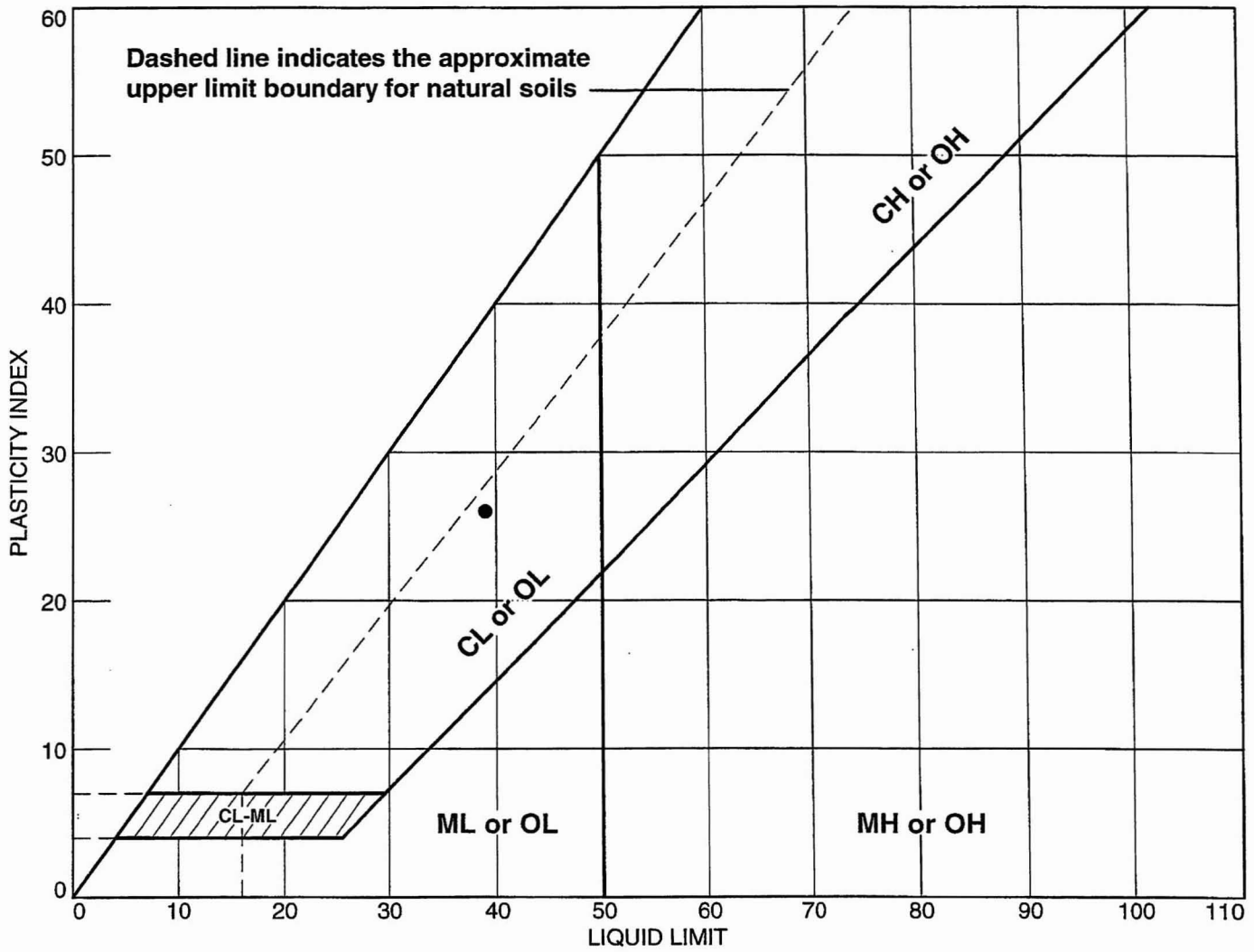
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.5	20.1	20.6	19.4	60.0	79.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0017	0.0050	0.0786	0.1021	0.1226	0.1486

Fineness Modulus
0.06

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-2274A	SS-55	593.2-594.7	12.3	13	39	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 ZHU 4-28-08

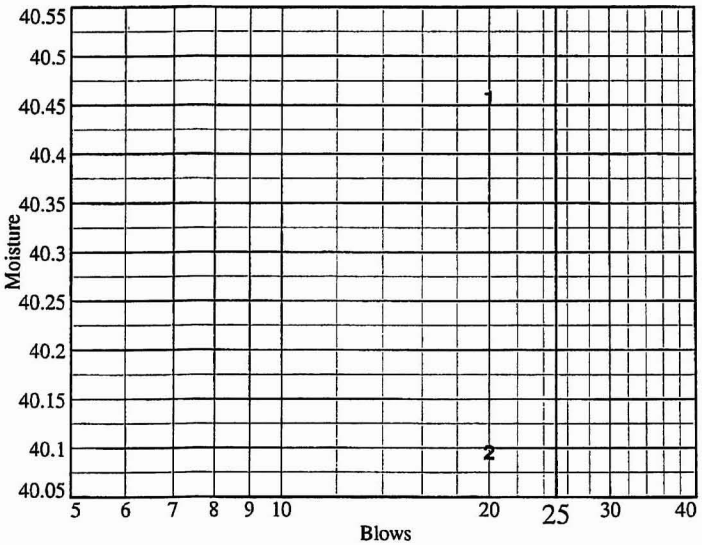
LIQUID AND PLASTIC LIMIT TEST DATA

4/10/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274A
Depth: 593.2-594.7 **Sample Number:** SS-55
Material Description: Light Gray Lean CLAY with sand
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	29.63	30.06				
Dry+Tare	25.56	25.89				
Tare	15.50	15.49				
# Blows	20	20				
Moisture	40.5	40.1				



Liquid Limit= 39
Plastic Limit= 13
Plasticity Index= 26
Natural Moisture= 12.3
Liquidity Index= 0.0

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	25.36	26.36			
Dry+Tare	24.20	25.13			
Tare	15.49	15.36			
Moisture	13.3	12.6			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
136.98	123.00	9.63	12.3

MACTEC, Inc.

Organic Test Data

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 12/24/2007

Project Name Exelon COL
Reviewed By [signature]
Review Date 1/26/08
KAW 1/26/08

Boring No.	B-2151	B-2151	B-2151	B-2151
Sample No.	SS-1	SS-3	SS-5	SS-7
Sample Depth, Ft.	0 - 1.5	6 - 7	11 - 12.5	19.5 - 21
A) Tare No.	I	JP-4	75	305
B) Tare Weight, grams	9.10	6.91	6.82	9.45
C) Wet Soil + Tare, grams	138.93	121.75	161.15	149.75
D) Dry Soil + Tare, grams	116.68	103.10	114.38	123.71
E) Weight of Dry Soil, grams [D - B]	107.58	96.19	107.56	114.26
F) Weight of Moisture, grams [C - D]	22.25	18.65	46.77	26.04
G) Moisture Content, % [F * 100 / E]	20.7	19.4	43.5	22.8
(based on oven-dried weight)				
H) Tare No.	A	S	R	N
I) Weight of Tare, grams	56.10	52.62	52.23	55.53
J) Weight of Over-Dried Soil + Tare, grams	111.10	146.94	140.79	121.23
K) Weight of Oven- Dried Soil, grams [J - I]	55.00	94.32	88.56	65.70
L) Weight of Ignited Soil + Tare, grams	109.73	145.30	138.58	118.34
M) Ash, grams [L - I]	53.63	92.68	86.35	62.81
N) Ash Content, % [M *100 / K]	97.5	98.3	97.5	95.6
O) Organic Matter, % [100 - N]	**2.5**	**1.7**	**2.5**	**4.4**

Remarks: Furnace temperature set @ 440° C.

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 12/24/2007

Project Name Exelon COL
Reviewed By
Review Date 1/26/08
KAW 1/26/08

Boring No.	B-2151	B-2151	B-2151	B-2151
Sample No.	SS-9	SS-11	SS-13	SS-15
Sample Depth, Ft.	29.5 - 30	39.5 - 41	49.5 - 51	59.5 - 61
A) Tare No.	319	Orange	JP - 23	89
B) Tare Weight, grams	9.23	9.18	6.71	6.59
C) Wet Soil + Tare, grams	111.93	147.50	128.30	171.79
D) Dry Soil + Tare, grams	92.23	113.51	108.06	141.07
E) Weight of Dry Soil, grams [D - B]	83.00	104.33	101.35	134.48
F) Weight of Moisture, grams [C - D]	19.70	33.99	20.24	30.72
G) Moisture Content, % [F * 100 / E]	23.7	32.6	20.0	22.8
(based on oven-dried weight)				
H) Tare No.	A	S	S	A
I) Weight of Tare, grams	55.50	52.63	52.63	55.50
J) Weight of Over-Dried Soil + Tare, grams	142.02	112.62	156.57	138.91
K) Weight of Oven- Dried Soil, grams [J - I]	86.52	59.99	103.94	83.41
L) Weight of Ignited Soil + Tare, grams	137.43	108.47	152.50	137.40
M) Ash, grams [L - I]	81.93	55.84	99.87	81.90
N) Ash Content, % [M *100 / K]	94.7	93.1	96.1	98.2
O) Organic Matter, % [100 - N]	**5.3**	**6.9**	**3.9**	**1.8**

Remarks: Furnace temperature set @ 440° C.

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 12/24/2007

Project Name Exelon COL
Reviewed By [illegible]
Review Date 1/26/08
KAW 1/26/08

Boring No.	B-2151	B-2151	B-2151	B-2151
Sample No.	SS-17	SS-21	SS-25	SS-28
Sample Depth, Ft.	69.5 - 70.1	89.5 - 91	119.5 - 121	149.6 - 151
A) Tare No.	II	2P-4	C-21	76
B) Tare Weight, grams	8.05	7.23	9.34	6.65
C) Wet Soil + Tare, grams	145.84	138.54	145.13	156.40
D) Dry Soil + Tare, grams	115.34	118.16	119.60	129.02
E) Weight of Dry Soil, grams [D - B]	107.29	110.93	110.26	122.37
F) Weight of Moisture, grams [C - D]	30.50	20.38	25.53	27.38
G) Moisture Content, % [F * 100 / E]	28.4	18.4	23.2	22.4
(based on oven-dried weight)				
H) Tare No.	R	R	N	N
I) Weight of Tare, grams	52.20	52.25	55.60	55.60
J) Weight of Over-Dried Soil + Tare, grams	112.30	113.38	116.80	128.84
K) Weight of Oven- Dried Soil, grams [J - I]	60.10	61.13	61.20	73.24
L) Weight of Ignited Soil + Tare, grams	108.65	112.10	113.88	127.61
M) Ash, grams [L - I]	56.45	59.85	58.28	72.01
N) Ash Content, % [M *100 / K]	93.9	97.9	95.2	98.3
O) Organic Matter, % [100 - N]	**6.1**	**2.1**	**4.8**	**1.7**

Remarks: Furnace temperature set @ 440° C.

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 1/12-23/08

Project Name Exelon COL
Reviewed By [signature]
Review Date 1/26/08
KAW 1/26/08

Boring No.	B-2160	B-2160	B-2160	B-2160
Sample No.	SS-1	SS-2	SS-4	SS-6
Sample Depth, Ft.	0 - 1.5	3.5 - 5.0	8.5 - 10	18.5 - 20
A) Tare No.	Orange	Q	30	QQ
B) Tare Weight, grams	9.16	6.77	9.18	6.79
C) Wet Soil + Tare, grams	109.31	169.45	120.79	188.80
D) Dry Soil + Tare, grams	97.78	139.27	106.17	163.11
E) Weight of Dry Soil, grams [D - B]	88.62	132.50	96.99	156.32
F) Weight of Moisture, grams [C - D]	11.53	30.18	14.62	25.69
G) Moisture Content, % [F * 100 / E]	13.0	22.8	15.1	16.4
(based on oven-dried weight)				
H) Tare No.	S	A	N	S
I) Weight of Tare, grams	52.60	55.50	55.56	52.60
J) Weight of Over-Dried Soil + Tare, grams	141.38	136.41	153.56	152.76
K) Weight of Oven- Dried Soil, grams [J - I]	88.78	80.91	98.00	100.16
L) Weight of Ignited Soil + Tare, grams	138.78	133.29	150.79	148.98
M) Ash, grams [L - I]	86.18	77.79	95.23	96.38
N) Ash Content, % [M *100 / K]	97.1	96.1	97.2	96.2
O) Organic Matter, % [100 - N]	**2.9**	**3.9**	**2.8**	**3.8**

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 1/12-23/08

Project Name Exelon COL
Reviewed By [signature]
Review Date 1/26/08
KAW 1/26/08

Boring No.	B-2160	B-2160	B-2160	B-2160
Sample No.	SS-8	SS-10	SS-12	SS-14
Sample Depth, Ft.	23.5 - 25	32.5 - 35	43.5 - 45	53.5 - 55
A) Tare No.	L	2P-23	UA	2P-16
B) Tare Weight, grams	7.00	6.70	8.20	6.80
C) Wet Soil + Tare, grams	133.99	160.08	176.90	177.50
D) Dry Soil + Tare, grams	107.72	130.34	142.26	152.86
E) Weight of Dry Soil, grams [D - B]	100.72	123.64	134.06	146.06
F) Weight of Moisture, grams [C - D]	26.27	29.74	34.64	24.64
G) Moisture Content, % [F * 100 / E]	26.1	24.1	25.8	16.9
(based on oven-dried weight)				
H) Tare No.	R	A	N	S
I) Weight of Tare, grams	52.24	55.49	55.56	52.62
J) Weight of Over-Dried Soil + Tare, grams	157.85	131.04	175.60	165.93
K) Weight of Oven- Dried Soil, grams [J - I]	105.61	75.55	120.04	113.31
L) Weight of Ignited Soil + Tare, grams	151.62	127.19	168.90	160.31
M) Ash, grams [L - I]	99.38	71.70	113.34	107.69
N) Ash Content, % [M *100 / K]	94.1	94.9	94.4	95.0
O) Organic Matter, % [100 - N]	**5.9**	**5.1**	**5.6**	**5.0**

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 1/12-23/08

Project Name Exelon COL
Reviewed By [illegible]
Review Date 1/26/08

Boring No.	B-2160	B-2160	B-2160	
Sample No.	SS-16	SS-24	SS-28	
Sample Depth, Ft.	63.5 - 65	108.5 - 110	148.5 - 150	
A) Tare No.	520	II	R	
B) Tare Weight, grams	9.40	6.80	6.90	
C) Wet Soil + Tare, grams	168.00	154.10	176.80	
D) Dry Soil + Tare, grams	138.69	118.02	152.76	
E) Weight of Dry Soil, grams [D - B]	129.29	111.22	145.86	
F) Weight of Moisture, grams [C - D]	29.31	36.08	24.04	
G) Moisture Content, % [F * 100 / E]	22.7	32.4	16.5	
(based on oven-dried weight)				
H) Tare No.	R	A	R	
I) Weight of Tare, grams	52.27	55.49	51.53	
J) Weight of Over-Dried Soil + Tare, grams	147.77	118.32	142.36	
K) Weight of Oven- Dried Soil, grams [J - I]	95.50	62.83	90.83	
L) Weight of Ignited Soil + Tare, grams	144.44	115.86	139.76	
M) Ash, grams [L - I]	92.17	60.37	88.23	
N) Ash Content, % [M *100 / K]	96.5	96.1	97.1	
O) Organic Matter, % [100 - N]	**3.5**	**3.9**	**2.9**	

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 1/12-14/08

Project Name Exelon COL
Reviewed By [illegible]
Review Date 1/26/09

Boring No.	B-2169	B-2169	B-2169	B-2169
Sample No.	SS-35	SS-39	SS-43	SS-51
Sample Depth, Ft.	213.5 - 215	248.5 - 250	288.5 - 290	368.5 - 370.0
A) Tare No.	84	C-21	Q	CD
B) Tare Weight, grams	6.60	9.30	6.80	6.60
C) Wet Soil + Tare, grams	96.70	131.90	146.60	102.00
D) Dry Soil + Tare, grams	79.09	114.50	121.32	84.14
E) Weight of Dry Soil, grams [D - B]	72.49	105.20	114.52	77.54
F) Weight of Moisture, grams [C - D]	17.61	17.40	25.28	17.86
G) Moisture Content, % [F * 100 / E]	24.3	16.5	22.1	23.0
(based on oven-dried weight)				
H) Tare No.	N	S	N	S
I) Weight of Tare, grams	55.56	52.60	55.56	52.60
J) Weight of Over-Dried Soil + Tare, grams	127.99	157.44	120.75	130.73
K) Weight of Oven- Dried Soil, grams [J - I]	72.43	104.84	65.19	78.13
L) Weight of Ignited Soil + Tare, grams	126.86	155.81	167.62	128.96
M) Ash, grams [L - I]	71.30	103.21	112.06	76.36
N) Ash Content, % [M *100 / K]	98.4	98.4	97.3	97.7
O) Organic Matter, % [100 - N]	**1.6**	**1.6**	**2.7**	**2.3**

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 1/16-26/08

Project Name Exelon COL
Reviewed By DSC
Review Date 3-13-08

Boring No.	B-2170R	B-2170R	B-2170R	B-2170R
Sample No.	SS-2	SS-3	SS-5	SS-7
Sample Depth, Ft.	3.5 - 5	6.0 - 7.5	11 -12.5	18.5 - 20.0
A) Tare No.	JP-22	516	302	V
B) Tare Weight, grams	6.80	9.50	9.40	6.80
C) Wet Soil + Tare, grams	201.50	141.00	102.60	175.50
D) Dry Soil + Tare, grams	165.05	120.12	92.34	153.40
E) Weight of Dry Soil, grams [D - B]	158.25	110.62	82.94	146.60
F) Weight of Moisture, grams [C - D]	36.45	20.88	10.26	22.10
G) Moisture Content, % [F * 100 / E]	23.0	18.9	12.4	15.1
(based on oven-dried weight)				
H) Tare No.	H	L	G	R
I) Weight of Tare, grams	52.07	51.51	53.05	51.50
J) Weight of Over-Dried Soil + Tare, grams	196.78	161.30	170.13	157.63
K) Weight of Oven- Dried Soil, grams [J - I]	144.71	109.79	117.08	106.13
L) Weight of Ignited Soil + Tare, grams	188.77	155.49	164.16	152.43
M) Ash, grams [L - I]	136.70	103.98	111.11	100.93
N) Ash Content, % [M *100 / K]	94.5	94.7	94.9	95.1
O) Organic Matter, % [100 - N]	**5.5**	**5.3**	**5.1**	**4.9**

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19

MACTEC

ORGANIC CONTENT TEST REPORT

(ASTM D2974-07)

Project No. 6468071777
Tested By CS
Test Date 1/16-26/08

Project Name Exelon COL
Reviewed By DSC
Review Date 3-13-08

Boring No.	B-2170R	B-2170R	B-2170R	B-2170R
Sample No.	SS-9	SS-11	SS-15	SS-18
Sample Depth, Ft.	28.5-30.0	38.5 - 40.0	58.5 - 60	73.5 - 75.0
A) Tare No.	21	V	J	T
B) Tare Weight, grams	6.70	6.81	9.10	6.75
C) Wet Soil + Tare, grams	121.67	197.66	182.98	187.81
D) Dry Soil + Tare, grams	98.36	163.67	151.30	158.85
E) Weight of Dry Soil, grams [D - B]	91.66	156.86	142.20	152.10
F) Weight of Moisture, grams [C - D]	23.31	33.99	31.68	28.96
G) Moisture Content, % [F * 100 / E]	25.4	21.7	22.3	19.0
(based on oven-dried weight)				
H) Tare No.	Q	S	Q	9
I) Weight of Tare, grams	52.05	53.42	52.05	52.59
J) Weight of Over-Dried Soil + Tare, grams	119.32	113.65	144.20	171.61
K) Weight of Oven- Dried Soil, grams [J - I]	67.27	60.23	92.15	119.02
L) Weight of Ignited Soil + Tare, grams	115.96	110.82	140.39	166.72
M) Ash, grams [L - I]	63.91	57.40	88.34	114.13
N) Ash Content, % [M *100 / K]	95.0	95.3	95.9	95.9
O) Organic Matter, % [100 - N]	**5.0**	**4.7**	**4.1**	**4.1**

Remarks: Furnace temperature set @ 440° C

Equipment used:

oven: 5.1.16 muffle furnace 5.1.17
scales: 3.1.19