

Dashed line indicates the approximate upper limit boundary for natural soils

CH or OH

CL or OL

ML or OL

MH or OH

CL-ML

PLASTICITY INDEX

LIQUID LIMIT

MACTEC, Inc. Raleigh, North Carolina	Client: Bechtel Project: Exelon Texas COL (Victoria Reservoir)	Figure <i>NA</i>
	Project No.: 6468071777	

DSC 2-28-08

LIQUID AND PLASTIC LIMIT TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 0.0-1.5

Sample Number: SS-1

Material Description: Dark Gray Sandy Lean CLAY

USCS: CL

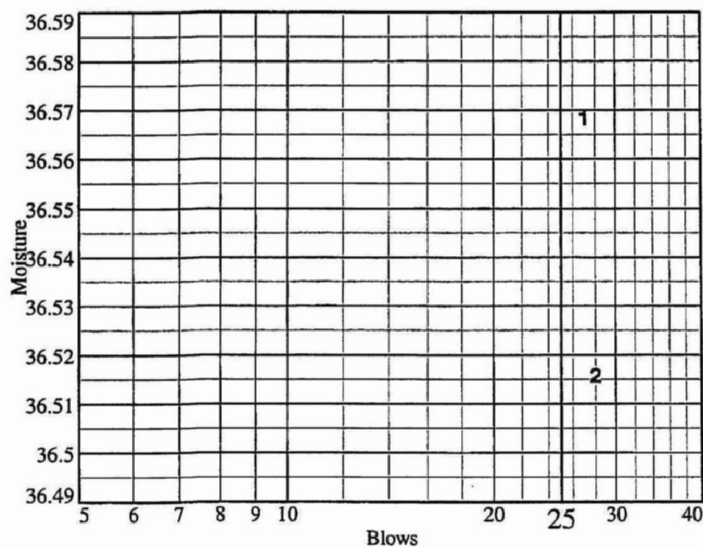
AASHTO: A-6(6)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	23.42	23.79				
Dry+Tare	21.31	21.61				
Tare	15.54	15.64				
# Blows	27	28				
Moisture	36.6	36.5				



Liquid Limit= 37
 Plastic Limit= 20
 Plasticity Index= 17
 Natural Moisture= 22.8
 Liquidity Index= 0.2

Plastic Limit Data

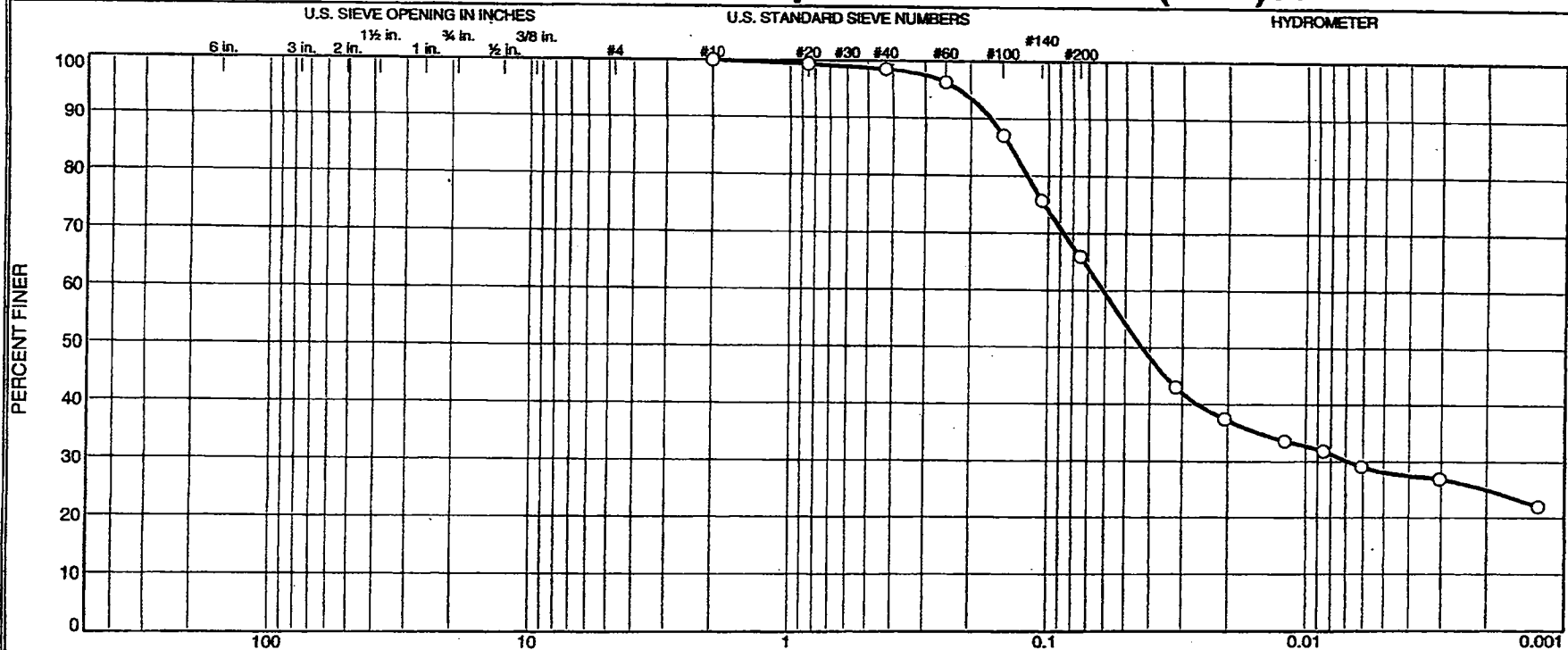
Run No.	1	2	3	4
Wet+Tare	23.53	23.65		
Dry+Tare	22.19	22.30		
Tare	15.53	15.44		
Moisture	20.1	19.7		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
101.28	83.73	6.69	22.8

MACTEC, Inc.

Particle Size Distribution Report / ASTM D422-63(2002)e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.5	32.5	37.9	28.1

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2352	SS-2	3.4-4.9	1-3-08	CL	Grayish Brown Sandy Lean CLAY	16.9	43	19

Client Bechtel
Project Exelon Texas COL (Victoria Reservoir)

MACTEC, Inc.

○ Specific Gravity is assumed
Organic Content = 1.8% (ASTM D2974-07)

Project No. 6468071777

Figure NA

Raleigh, North Carolina

Tested By: CS

Checked By: LBJ

DSC 2-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 3.4-4.9

Sample Number: SS-2

Material Description: Grayish Brown Sandy Lean CLAY

Date: 1-3-08

Natural Moisture: 16.9

Liquid Limit: 43

Plastic Limit: 19

USCS Class.: CL

Testing Remarks: Specific Gravity is assumed

Organic Content = 1.8% (ASTM D2974-07)

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
263.48	0.00	0.00	#10	0.00	100.0
53.07	0.00	0.00	#20	0.33	99.4
			#40	0.78	98.5
			#60	1.98	96.3
			#100	6.84	87.1
			#140	12.90	75.7
			#200	18.06	66.0

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 53.07

Hygroscopic moisture correction:

Moist weight and tare = 28.95

Dry weight and tare = 28.89

Tare weight = 15.62

Hygroscopic moisture = 0.5%

Table of composite correction values:

Temp., deg. C: 12.9 29.8

Comp. corr.: -8.0 -2.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.700

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.3	28.0	23.0	0.0132	29.0	11.5	0.0318	43.0
5.00	21.3	25.0	20.0	0.0132	26.0	12.0	0.0205	37.4
15.00	21.2	23.0	17.9	0.0132	24.0	12.4	0.0120	33.6
30.00	21.4	22.0	17.0	0.0132	23.0	12.5	0.0085	31.9
60.00	21.5	20.5	15.6	0.0132	21.5	12.8	0.0061	29.1
240.00	22.5	19.0	14.4	0.0130	20.0	13.0	0.0030	27.0
1440.00	22.1	16.5	11.8	0.0131	17.5	13.4	0.0013	22.0

MACTEC, Inc.

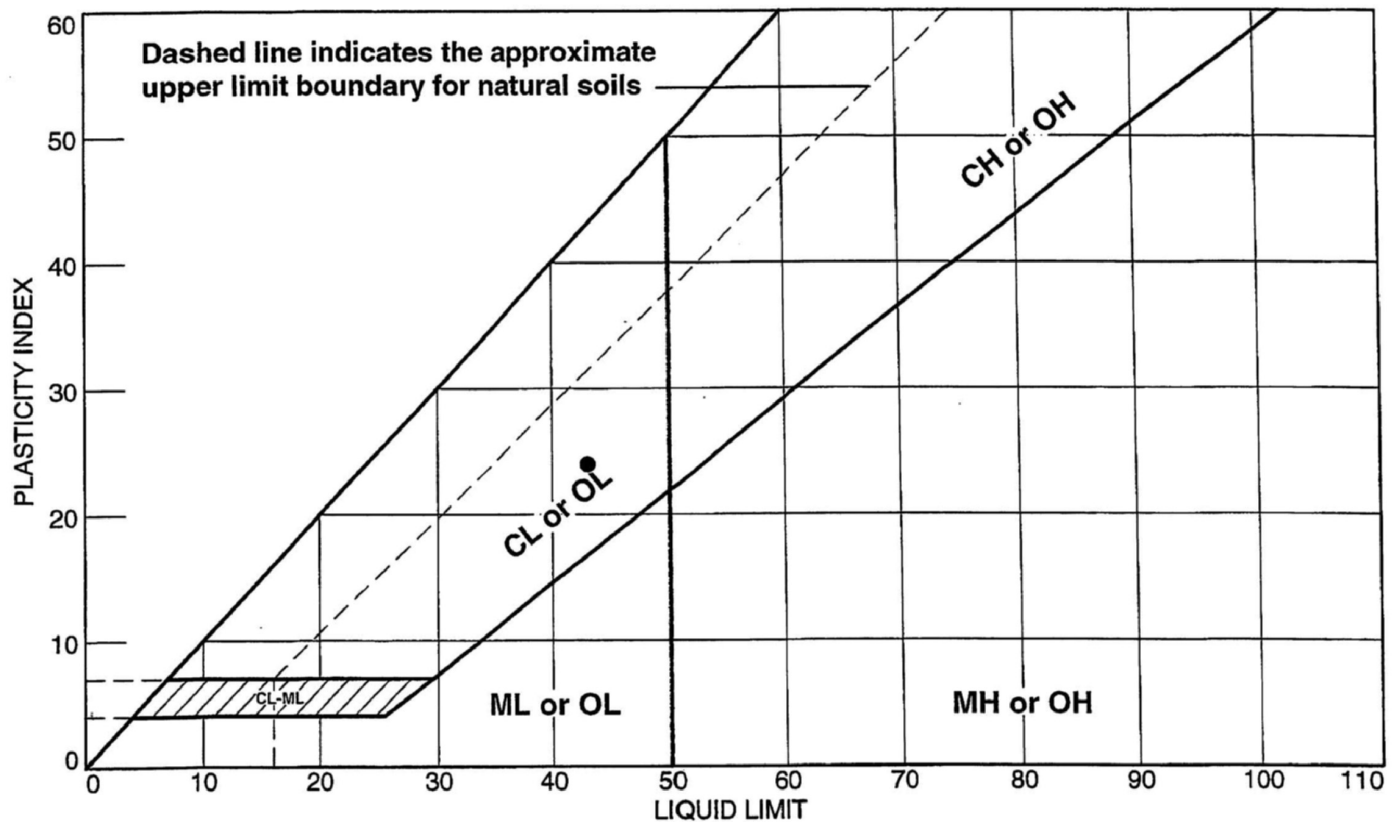
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.5	32.5	34.0	37.9	28.1	66.0

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0068	0.0430	0.0609	0.1206	0.1400	0.1674	0.2221

Fineness Modulus
0.17

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-2352	SS-2	3.4-4.9	16.9	19	43	24	CL

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project No.: 6468071777

Figure NA

Tested By: CS

Checked By: LBJ

DSC 2-28-08

LIQUID AND PLASTIC LIMIT TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 3.4-4.9

Sample Number: SS-2

Material Description: Grayish Brown Sandy Lean CLAY

USCS: CL

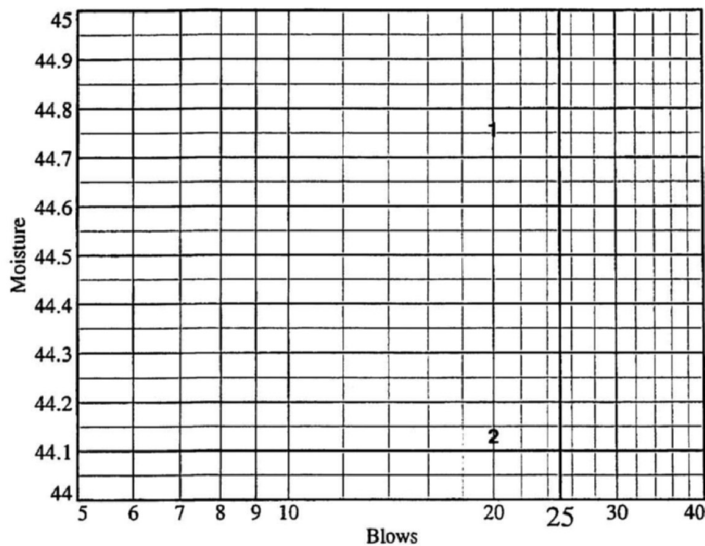
AASHTO: A-7-6(14)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.94	34.92				
Dry+Tare	26.16	28.98				
Tare	15.48	15.52				
# Blows	20	20				
Moisture	44.8	44.1				



Liquid Limit= 43
 Plastic Limit= 19
 Plasticity Index= 24
 Natural Moisture= 16.9
 Liquidity Index= -0.1

Plastic Limit Data

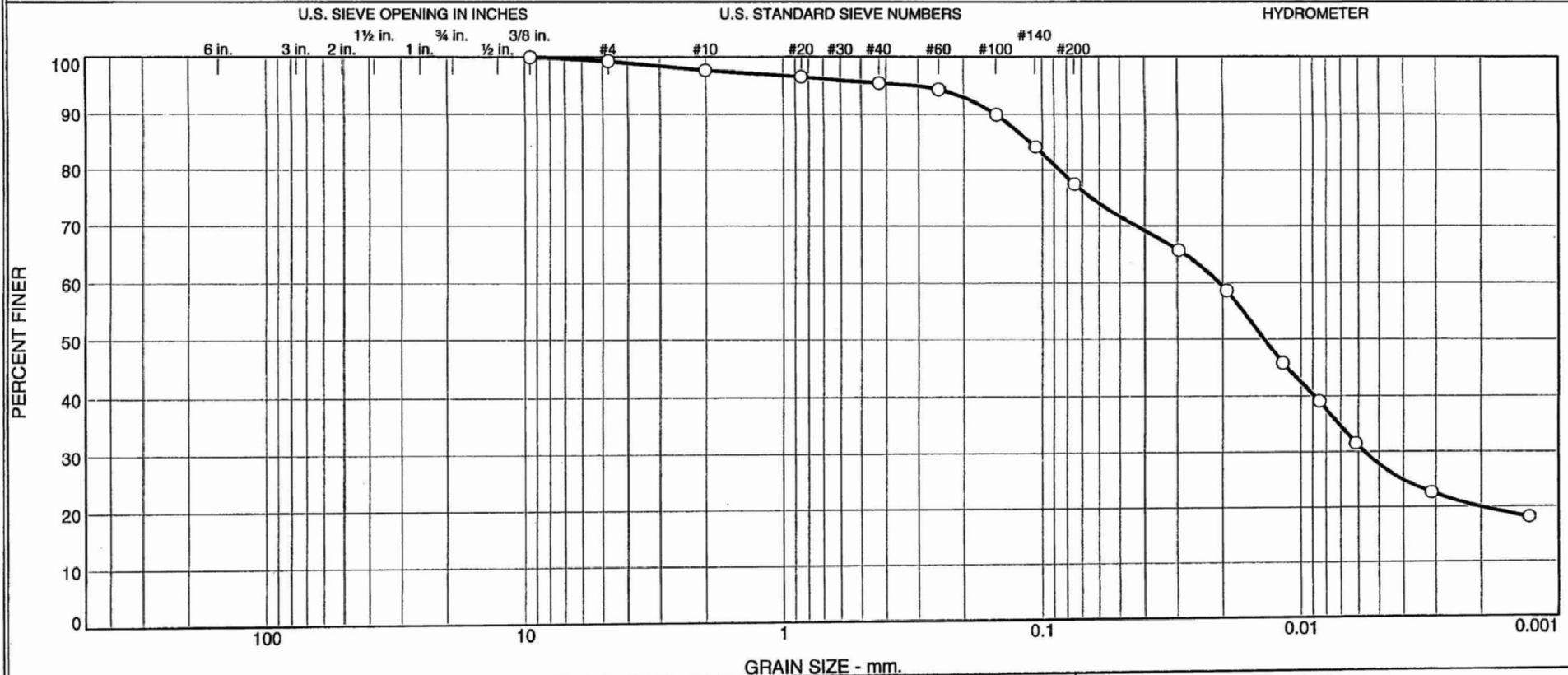
Run No.	1	2	3	4
Wet+Tare	22.30	23.23		
Dry+Tare	21.26	22.05		
Tare	15.71	15.61		
Moisture	18.7	18.3		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
124.12	107.18	6.89	16.9

MACTEC, Inc.

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



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	1.6	2.3	17.9	49.7	27.8

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2352	SS-3	6.6-8.1	1-3-08	CL	Light Brownish Gray Lean CLAY with sand	18.8	32	20

Client Bechtel		MACTEC, Inc.	Raleigh, North Carolina	○ Specific Gravity = 2.662 (ASTM D854) Organic Content = 1.8% (ASTM D2974-07)
Project Exelon Texas COL (Victoria Reservoir)				
Project No. 6468071777	Figure NA			

Tested By: CS

Checked By: LBJ

DSC 4-1-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/1/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 6.6-8.1

Sample Number: SS-3

Material Description: Light Brownish Gray Lean CLAY with sand

Date: 1-3-08

Natural Moisture: 18.8

Liquid Limit: 32

Plastic Limit: 20

USCS Class.: CL

Testing Remarks: Specific Gravity = 2.662 (ASTM D854)

Organic Content = 1.8% (ASTM D2974-07)

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
206.72	0.00	0.00	3/8"	0.00	100.0
			#4	1.48	99.3
			#10	4.66	97.7
50.82	0.00	0.00	#20	0.62	96.6
			#40	1.22	95.4
			#60	1.78	94.3
			#100	4.07	89.9
			#140	7.05	84.2
			#200	10.54	77.5

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 97.7

Weight of hydrometer sample = 50.82

Hygroscopic moisture correction:

Moist weight and tare = 27.47

Dry weight and tare = 27.23

Tare weight = 15.56

Hygroscopic moisture = 2.1%

Table of composite correction values:

Temp., deg. C: 12.9 29.8

Comp. corr.: -8.0 -2.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.662

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.5	38.5	33.6	0.0133	39.5	9.8	0.0296	65.7
5.00	21.2	35.0	29.9	0.0134	36.0	10.4	0.0193	58.6
15.00	21.0	28.5	23.4	0.0134	29.5	11.5	0.0117	45.8
30.00	21.3	25.0	20.0	0.0134	26.0	12.0	0.0085	39.1
60.00	21.7	21.0	16.1	0.0133	22.0	12.7	0.0061	31.6
240.00	22.9	16.0	11.6	0.0131	17.0	13.5	0.0031	22.6
1440.00	22.1	14.0	9.3	0.0132	15.0	13.8	0.0013	18.1

MACTEC, Inc.

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.7	0.7	1.6	2.3	17.9	21.8	49.7	27.8	77.5

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
		0.0020	0.0057	0.0139	0.0206	0.0858	0.1107	0.1509	0.3133

Fineness Modulus
0.25

MACTEC, Inc.

Dashed line indicates the approximate upper limit boundary for natural soils

CH or OH

CL or OL

ML or OL

MH or OH

CL-ML

PLASTICITY INDEX

LIQUID LIMIT

DCN# EXE808

LIQUID AND PLASTIC LIMIT TEST DATA

4/1/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 6.6-8.1

Sample Number: SS-3

Material Description: Light Brownish Gray Lean CLAY with sand

USCS: CL

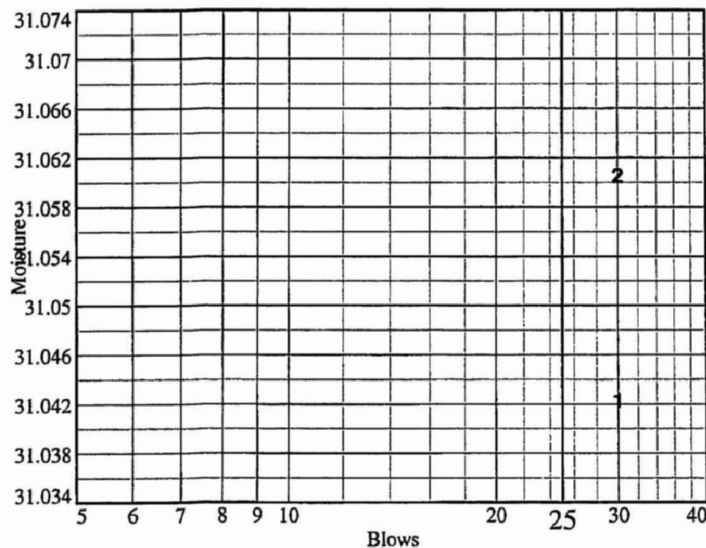
AASHTO: A-6(8)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	33.14	34.57				
Dry+Tare	29.03	30.06				
Tare	15.79	15.54				
# Blows	30	30				
Moisture	31.0	31.1				



Liquid Limit= 32
 Plastic Limit= 20
 Plasticity Index= 12
 Natural Moisture= 18.8
 Liquidity Index= -0.1

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	22.14	23.01		
Dry+Tare	21.05	21.78		
Tare	15.50	15.66		
Moisture	19.6	20.1		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
182.79	155.28	9.30	18.8

MACTEC, Inc.

MACTEC ENGINEERING AND CONSULTING, INC.
RALEIGH, NORTH CAROLINA

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

PROJECT NAME: EXELON COL PROJECT (VICTORIA)

PROJECT NUMBER: 6468071777

DATE: 2/8/08

SAMPLE IDENTIFICATION: B-2352 SS-3

(A) Mass of oven-dried soil, grams:	75.01
(B) Mass of pycnometer filled with water at test temperature (T), grams:	655.67
(C) Mass of pycnometer, water and soil, grams:	702.51
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	22.0
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.663
(F) Correction factor:	0.99957
(G x F) SPECIFIC GRAVITY @ 20°C:	2.662

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 :

Lean CLAY with sand (CL)

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNOMETER : P-3

TESTED BY:

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

REVIEWED BY:

DSC 2-28-08

U.S. SIEVE OPENING IN INCHES

U.S. STANDARD SIEVE NUMBERS

HYDROMETER

PERCENT FINER

Sieve / Hydrometer	Percent Finer (%)
6 in.	100
3 in.	100
2 in.	100
1½ in.	100
1 in.	100
¾ in.	100
½ in.	100
#4	100
#10	100
#20	100
#30	100
#40	100
#60	98
#100	88
#140	78
#200	68
0.075 mm	56
0.06 mm	49
0.05 mm	42
0.04 mm	38
0.03 mm	34
0.02 mm	30
0.01 mm	26

[illegible][illegible]Figure *NA*

Raleigh, North Carolina

○ Specific Gravity is assumed

GRAIN SIZE DISTRIBUTION TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 8.6-10.1

Sample Number: SS-4

Material Description: Pale Brown Sandy Lean CLAY

Date: 1-3-08

Natural Moisture: 19.6

Liquid Limit: 31

Plastic Limit: 14

USCS Class.: CL

Testing Remarks: Specific Gravity is assumed

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
244.60	0.00	0.00	#4	0.00	100.0
			#10	1.36	99.4
49.45	0.00	0.00	#20	0.29	98.9
			#40	0.49	98.5
			#60	1.03	97.4
			#100	5.09	89.2
			#140	10.02	79.3
			#200	15.22	68.8

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 99.4

Weight of hydrometer sample = 49.45

Hygroscopic moisture correction:

Moist weight and tare = 27.43

Dry weight and tare = 27.14

Tare weight = 15.43

Hygroscopic moisture = 2.5%

Table of composite correction values:

Temp., deg. C: 12.9 29.8

Comp. corr.: -8.0 -2.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.700

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.0	33.0	27.9	0.0133	34.0	10.7	0.0307	56.8
5.00	21.0	29.5	24.4	0.0133	30.5	11.3	0.0200	49.7
15.00	21.0	26.0	20.9	0.0133	27.0	11.9	0.0118	42.5
30.00	21.1	24.0	18.9	0.0133	25.0	12.2	0.0085	38.5
60.00	21.3	22.0	17.0	0.0132	23.0	12.5	0.0060	34.6
240.00	21.6	20.0	15.1	0.0132	21.0	12.9	0.0030	30.7
1440.00	21.3	18.0	13.0	0.0132	19.0	13.2	0.0013	26.5

MACTEC, Inc.

Fractional Composition

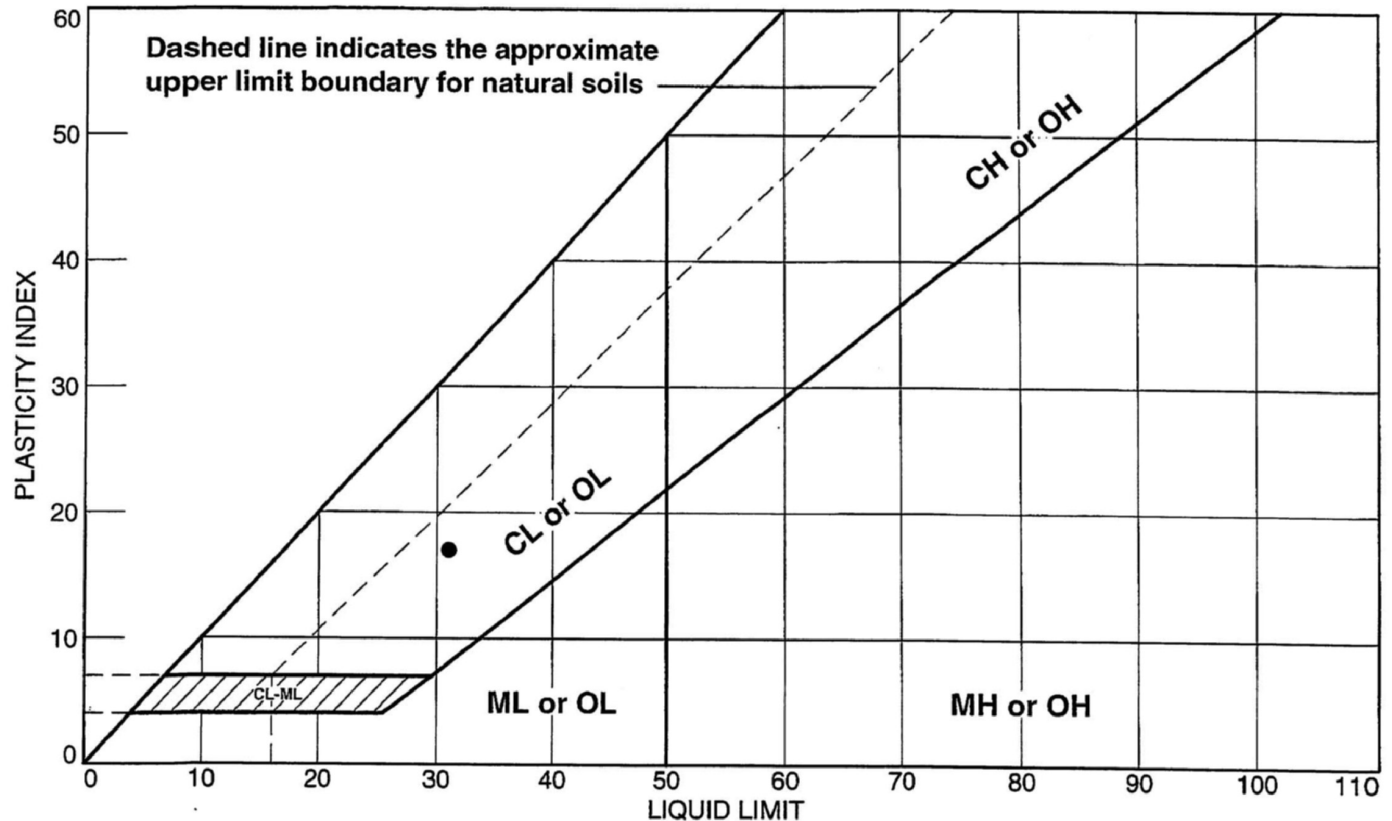
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.6	0.9	29.7	31.2	35.7	33.1	68.8

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0026	0.0204	0.0410	0.1084	0.1280	0.1551	0.2020

Fineness Modulus
0.16

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-2352	SS-4	8.6-10.1	19.6	14	31	17	CL

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project No.: 6468071777

Figure *N/A*

Tested By: CS

Checked By: LBJ

DSC 2-28-08

LIQUID AND PLASTIC LIMIT TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 8.6-10.1

Sample Number: SS-4

Material Description: Pale Brown Sandy Lean CLAY

USCS: CL

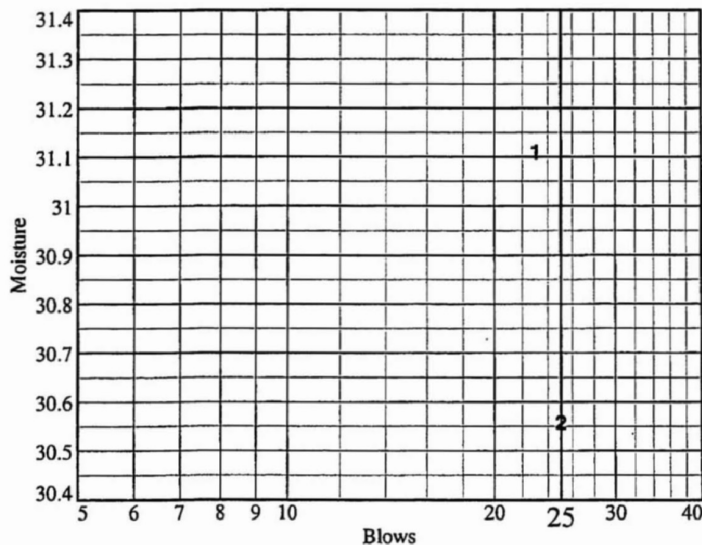
AASHTO: A-6(9)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.48	34.57				
Dry+Tare	27.70	30.09				
Tare	15.55	15.43				
# Blows	23	25				
Moisture	31.1	30.6				



Liquid Limit= 31
 Plastic Limit= 14
 Plasticity Index= 17
 Natural Moisture= 19.6
 Liquidity Index= 0.3

Plastic Limit Data

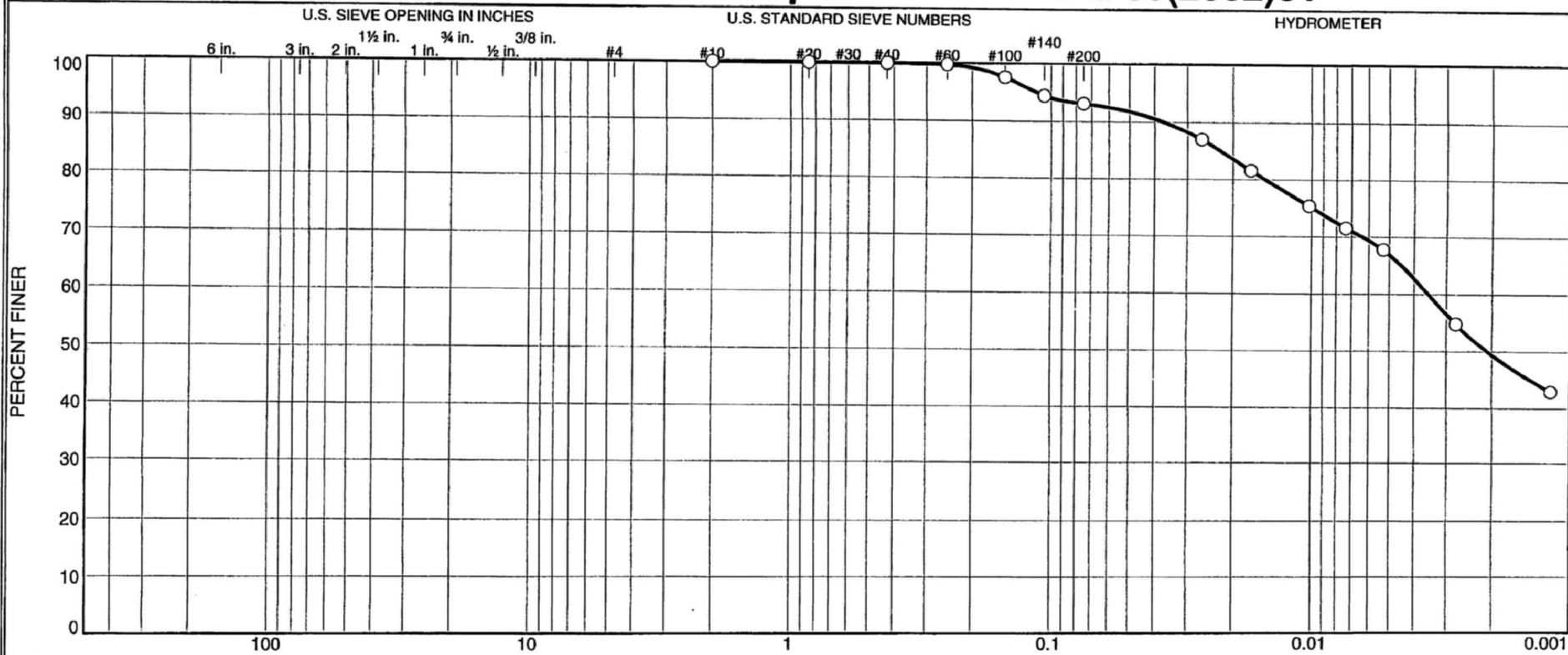
Run No.	1	2	3	4
Wet+Tare	23.61	22.23		
Dry+Tare	22.58	21.42		
Tare	15.46	15.43		
Moisture	14.5	13.5		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
134.27	113.35	6.78	19.6

MACTEC, Inc.

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



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	6.8	26.1	67.0

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2352	SS-5	11-12.5	1-3-08	CH	Pale Brown Fat CLAY	17.4	56	22

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

MACTEC, Inc.

○ Specific Gravity is assumed

Project No. 6468071777

Figure NA

Raleigh, North Carolina

Tested By: CS

Checked By: LBJ

DSC 2-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/19/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 11-12.5

Sample Number: SS-5

Material Description: Pale Brown Fat CLAY

Date: 1-3-08

Natural Moisture: 17.4

Liquid Limit: 56

Plastic Limit: 22

USCS Class.: CH

Testing Remarks: Specific Gravity is assumed

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
208.04	0.00	0.00	#10	0.00	100.0
52.66	0.00	0.00	#20	0.02	100.0
			#40	0.04	99.9
			#60	0.13	99.8
			#100	1.26	97.6
			#140	2.95	94.4
			#200	3.65	93.1

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 52.66

Hygroscopic moisture correction:

Moist weight and tare = 29.96

Dry weight and tare = 29.52

Tare weight = 15.65

Hygroscopic moisture = 3.2%

Table of composite correction values:

Temp., deg. C: 12.9 29.9

Comp. corr.: -8.0 -2.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.700

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.2	50.0	44.9	0.0132	51.0	7.9	0.0264	87.0
5.00	21.7	47.0	42.1	0.0132	48.0	8.4	0.0171	81.6
15.00	21.2	44.0	38.9	0.0132	45.0	8.9	0.0102	75.4
30.00	21.2	42.0	36.9	0.0132	43.0	9.2	0.0074	71.5
60.00	21.4	40.0	35.0	0.0132	41.0	9.6	0.0053	67.8
240.00	22.3	33.0	28.3	0.0131	34.0	10.7	0.0028	54.9
1440.00	21.9	27.0	22.2	0.0131	28.0	11.7	0.0012	43.0

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	0.1	6.8	6.9	26.1	67.0	93.1

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0021	0.0035	0.0150	0.0222	0.0367	0.1142

Fineness Modulus
0.03

MACTEC, Inc.

LIQUID AND PLASTIC LIMIT TEST DATA

2/19/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 11-12.5

Sample Number: SS-5

Material Description: Pale Brown Fat CLAY

USCS: CH

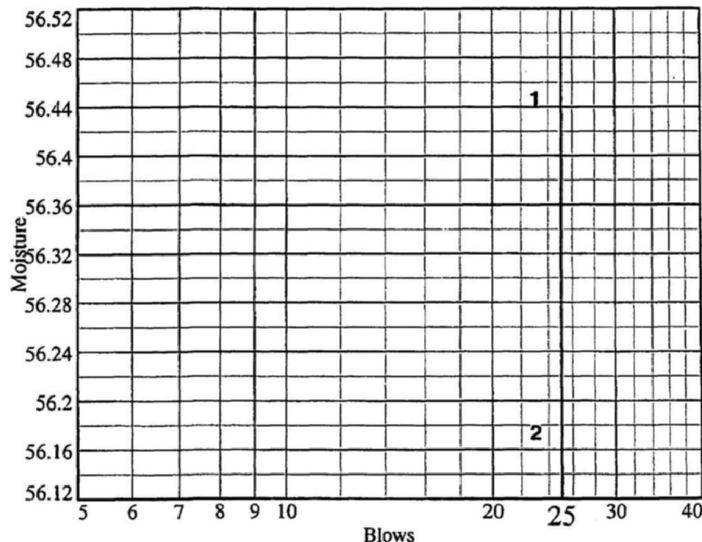
AASHTO: A-7-6(35)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.86	32.58				
Dry+Tare	25.95	26.53				
Tare	15.48	15.76				
# Blows	23	23				
Moisture	56.4	56.2				



Liquid Limit= 56
 Plastic Limit= 22
 Plasticity Index= 34
 Natural Moisture= 17.4
 Liquidity Index= -0.1

Plastic Limit Data

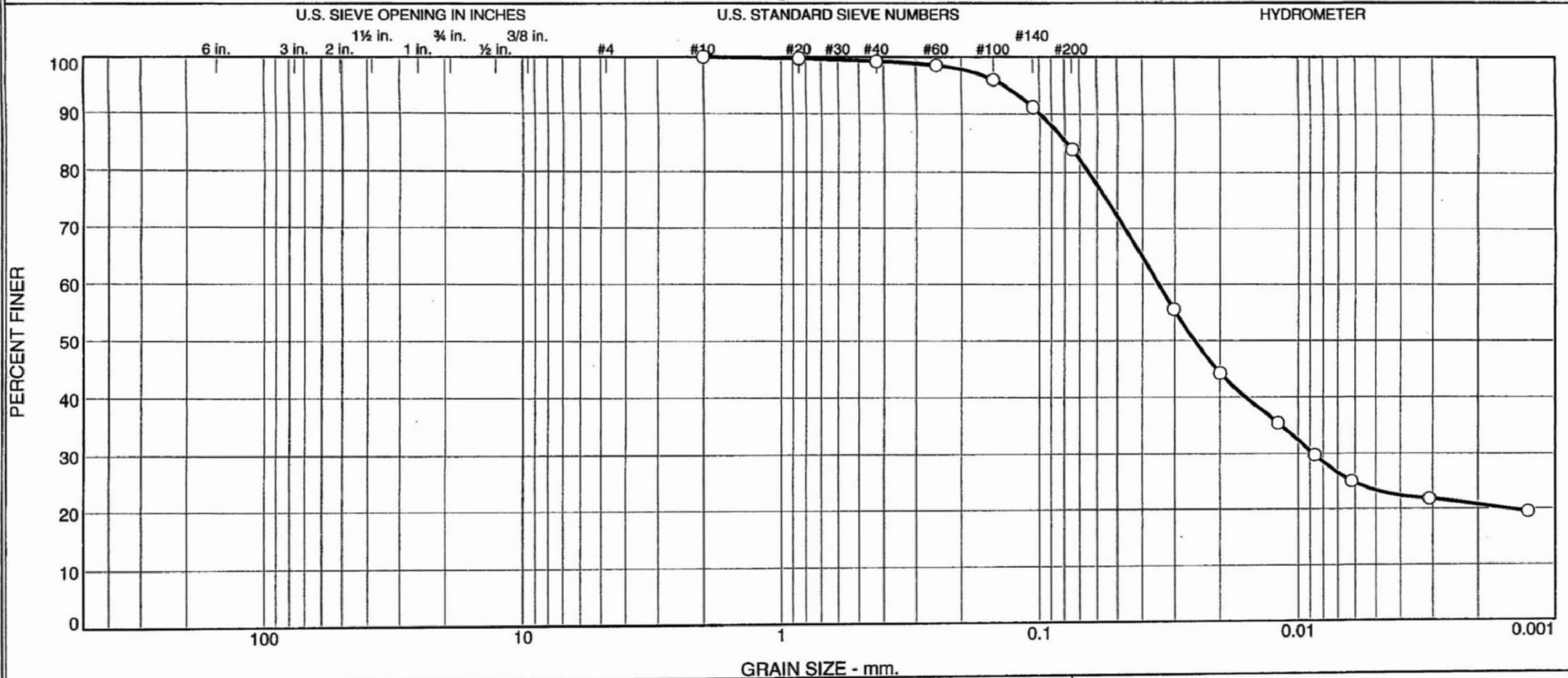
Run No.	1	2	3	4
Wet+Tare	22.75	23.66		
Dry+Tare	21.43	22.21		
Tare	15.53	15.52		
Moisture	22.4	21.7		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
172.96	148.30	6.64	17.4

MACTEC, Inc.

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



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.8	15.2	60.7	23.3

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2352	SS-6	13.5-15.0	1-3-08	CL	Light Gray with Brownish Yellow Lean CLAY with sand	22.0	33	16

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

Tested By: CS

Checked By: LBJ

DSC 2-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 13.5-15.0

Sample Number: SS-6

Material Description: Light Gray with Brownish Yellow Lean CLAY with sand

Date: 1-3-08

Natural Moisture: 22.0

Liquid Limit: 33

Plastic Limit: 16

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
220.88	0.00	0.00	#10	0.00	100.0
52.56	0.00	0.00	#20	0.15	99.7
			#40	0.41	99.2
			#60	0.77	98.5
			#100	2.18	95.9
			#140	4.64	91.2
			#200	8.43	84.0

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 52.56

Hygroscopic moisture correction:

Moist weight and tare = 28.29

Dry weight and tare = 28.08

Tare weight = 15.55

Hygroscopic moisture = 1.7%

Table of composite correction values:

Temp., deg. C: 12.9 29.9

Comp. corr.: -8.0 -2.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.700

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.7	34.0	29.1	0.0132	35.0	10.6	0.0302	55.7
5.00	21.7	28.0	23.1	0.0132	29.0	11.5	0.0200	44.2
15.00	21.6	23.5	18.6	0.0132	24.5	12.3	0.0119	35.5
30.00	21.6	20.5	15.6	0.0132	21.5	12.8	0.0086	29.8
60.00	21.6	18.0	13.1	0.0132	19.0	13.2	0.0062	25.0
240.00	22.5	16.0	11.4	0.0130	17.0	13.5	0.0031	21.8
1449.00	21.9	15.0	10.2	0.0131	16.0	13.7	0.0013	19.5

MACTEC, Inc.

Fractional Components

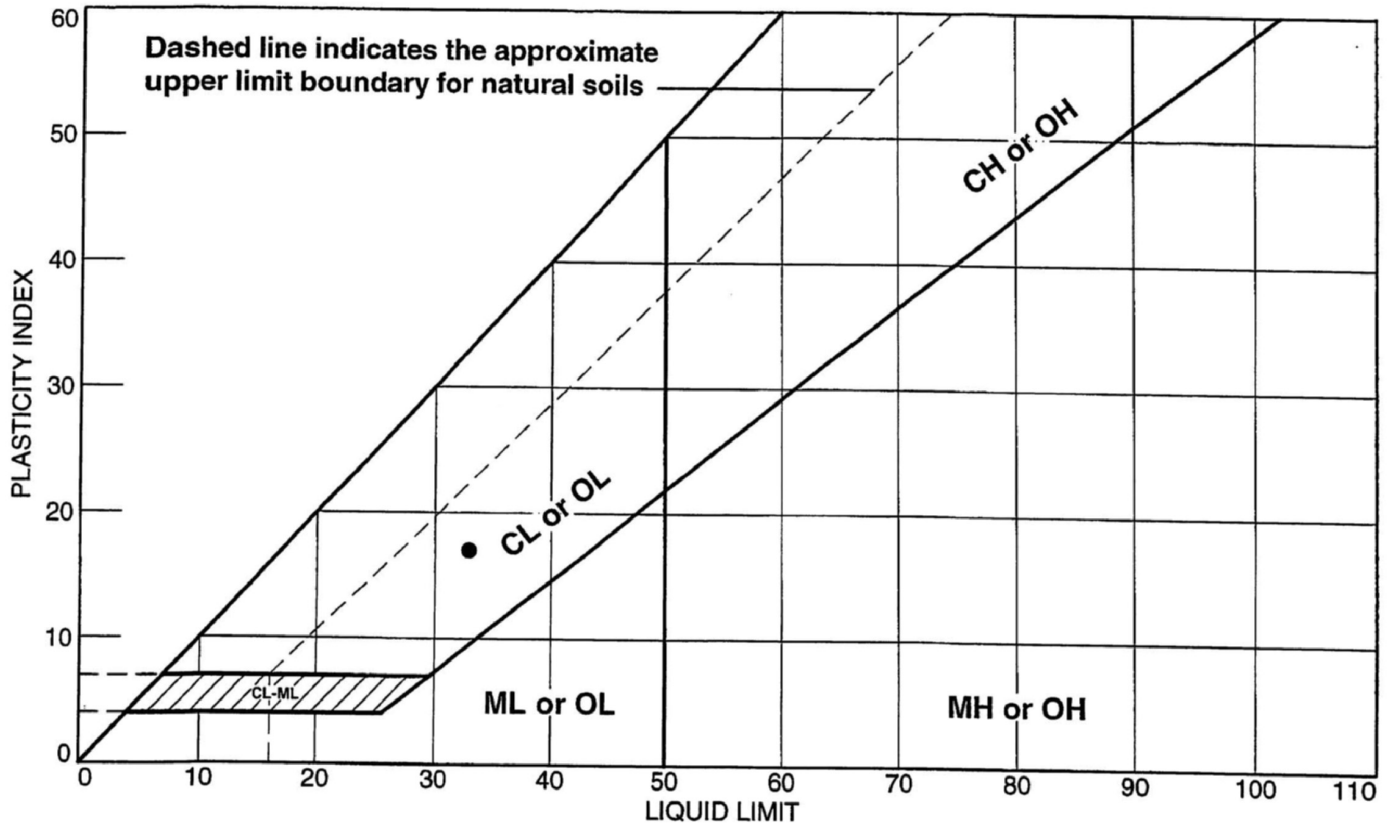
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.8	15.2	16.0	60.7	23.3	84.0

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
		0.0015	0.0087	0.0251	0.0346	0.0647	0.0783	0.0992	0.1384

Fineness Modulus
0.06

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-2352	SS-6	13.5-15.0	22.0	16	33	17	CL

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project No.: 6468071777

Figure **NA**

Tested By: SA

Checked By: LBJ DSC 2-28-08

LIQUID AND PLASTIC LIMIT TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 13.5-15.0

Sample Number: SS-6

Material Description: Light Gray with Brownish Yellow Lean CLAY with sand

USCS: CL

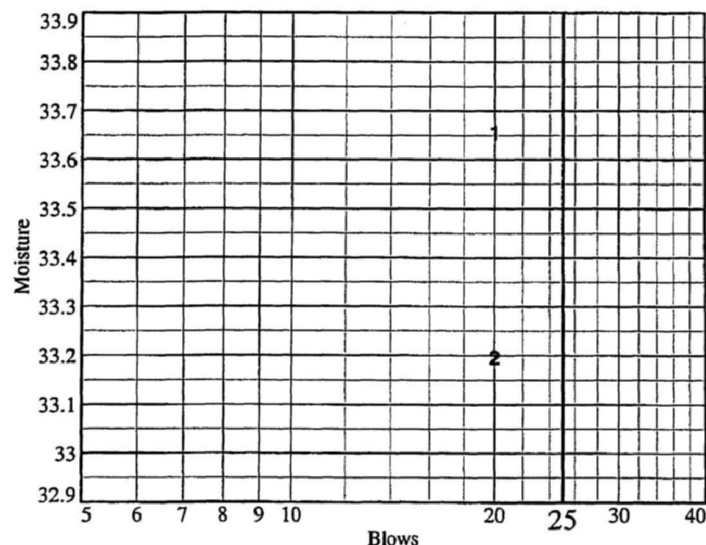
AASHTO: A-6(13)

Tested by: SA

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	34.98	31.76				
Dry+Tare	30.11	27.70				
Tare	15.64	15.47				
# Blows	20	20				
Moisture	33.7	33.2				



Liquid Limit= 33
 Plastic Limit= 16
 Plasticity Index= 17
 Natural Moisture= 22.0
 Liquidity Index= 0.4

Plastic Limit Data

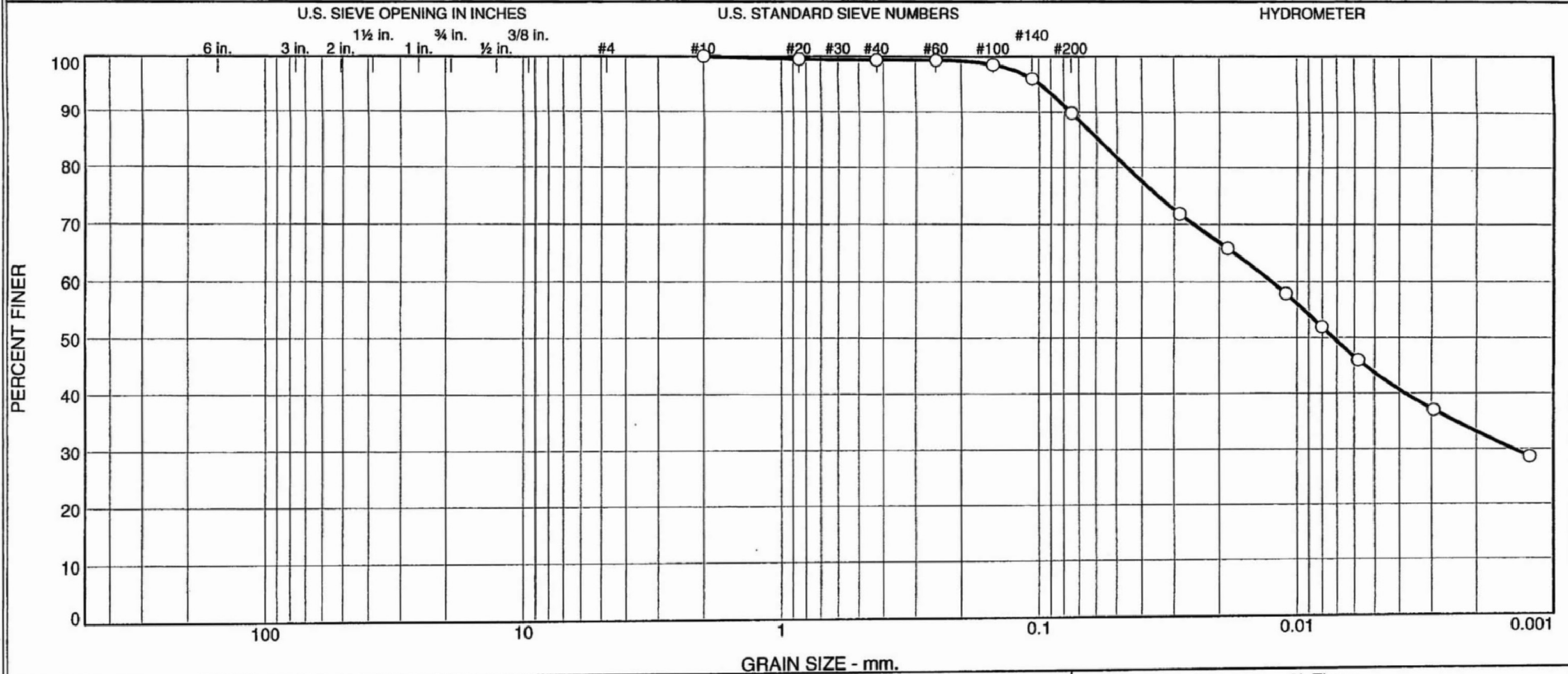
Run No.	1	2	3	4
Wet+Tare	25.94	25.64		
Dry+Tare	24.52	24.23		
Tare	15.49	15.54		
Moisture	15.7	16.2		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
146.83	122.06	9.41	22.0

MACTEC, Inc.

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



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.7	9.4	46.1	43.8

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2352	SS-7	18.6-20.1	1-3-08	CL	Light Yellowish Brown Lean CLAY	23.1	47	19

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

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 18.6-20.1

Sample Number: SS-7

Material Description: Light Yellowish Brown Lean CLAY

Date: 1-3-08

Natural Moisture: 23.1

Liquid Limit: 47

Plastic Limit: 19

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
188.44	0.00	0.00	#10	0.00	100.0
51.29	0.00	0.00	#20	0.26	99.5
			#40	0.34	99.3
			#60	0.35	99.3
			#100	0.78	98.5
			#140	2.08	95.9
			#200	5.20	89.9

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 51.29

Hygroscopic moisture correction:

Moist weight and tare = 29.69

Dry weight and tare = 29.24

Tare weight = 15.51

Hygroscopic moisture = 3.3%

Table of composite correction values:

Temp., deg. C: 12.9 29.8

Comp. corr.: -8.0 -2.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.700

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	21.6	41.0	36.1	0.0132	42.0	9.4	0.0286	71.9
5.00	21.6	38.0	33.1	0.0132	39.0	9.9	0.0185	65.9
15.00	21.6	34.0	29.1	0.0132	35.0	10.6	0.0111	57.9
30.00	21.6	31.0	26.1	0.0132	32.0	11.0	0.0080	51.9
60.00	21.7	28.0	23.1	0.0132	29.0	11.5	0.0058	46.0
240.00	23.0	23.0	18.6	0.0130	24.0	12.4	0.0029	37.0
1440.00	22.4	19.0	14.4	0.0131	20.0	13.0	0.0012	28.6

MACTEC, Inc.

Fractional Components

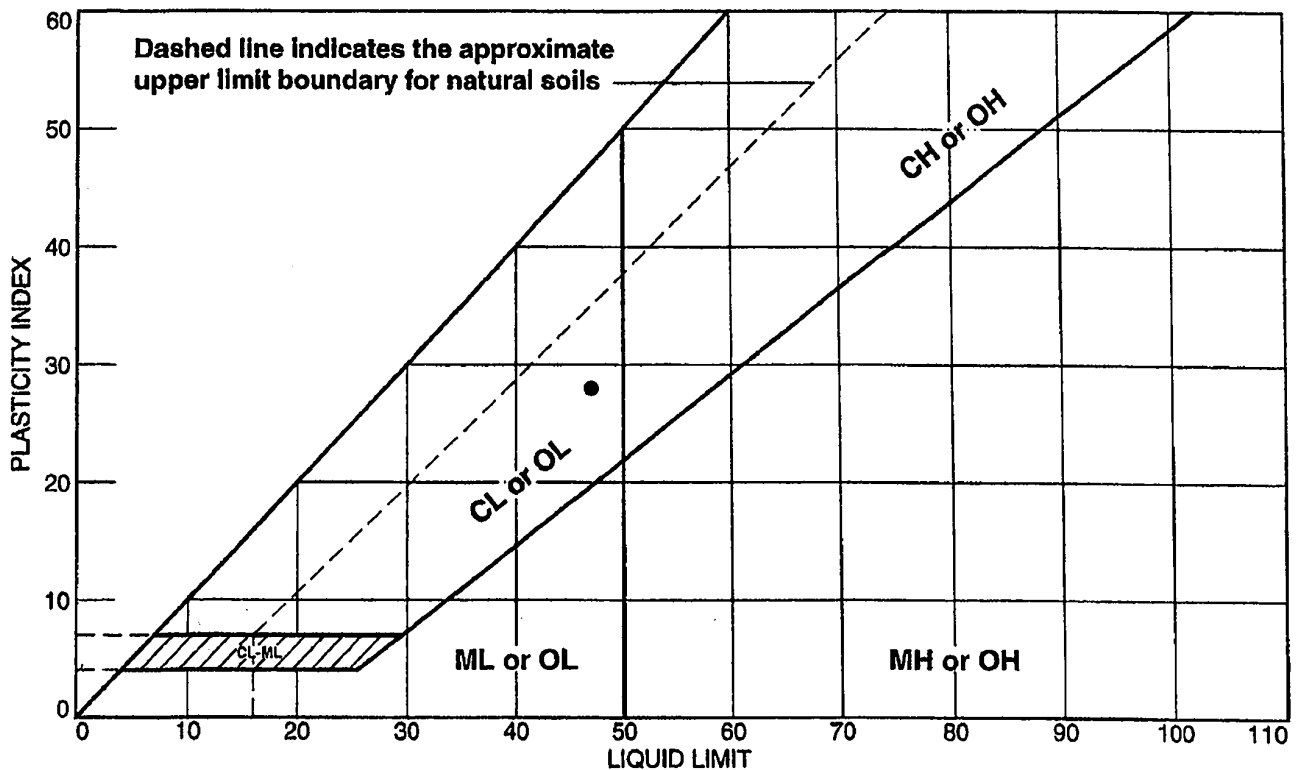
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.7	9.4	10.1	46.1	43.8	89.9

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0014	0.0072	0.0125	0.0457	0.0589	0.0755	0.0991

Fineness Modulus
0.03

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-2352	SS-7	18.6-20.1	23.1	19	47	28	CL

MACTEC, Inc. Raleigh, North Carolina		Client: Bechtel Project: Exelon Texas COL (Victoria Reservoir) Project No.: 6468071777	Figure NA
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Tested By: CS Checked By: LBJ DSC 2-28-08

LIQUID AND PLASTIC LIMIT TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 18.6-20.1

Sample Number: SS-7

Material Description: Light Yellowish Brown Lean CLAY

USCS: CL

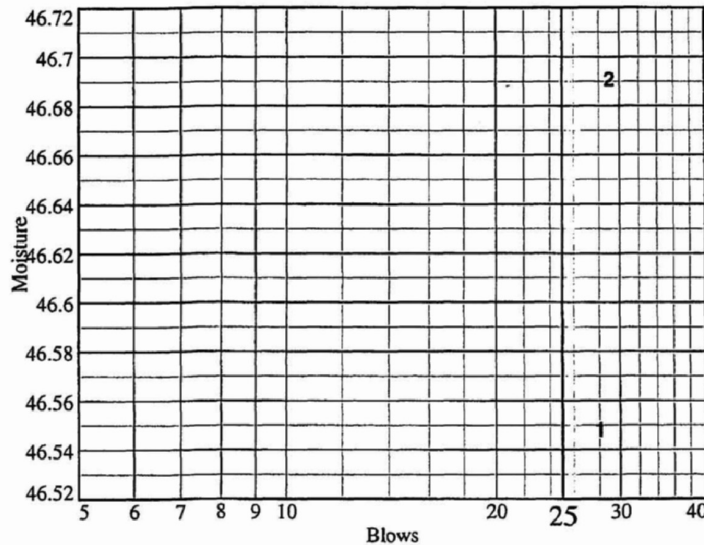
AASHTO: A-7-6(26)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.39	31.43				
Dry+Tare	25.67	26.35				
Tare	15.53	15.47				
# Blows	28	29				
Moisture	46.5	46.7				



Liquid Limit= 47
 Plastic Limit= 19
 Plasticity Index= 28
 Natural Moisture= 23.1
 Liquidity Index= 0.1

Plastic Limit Data

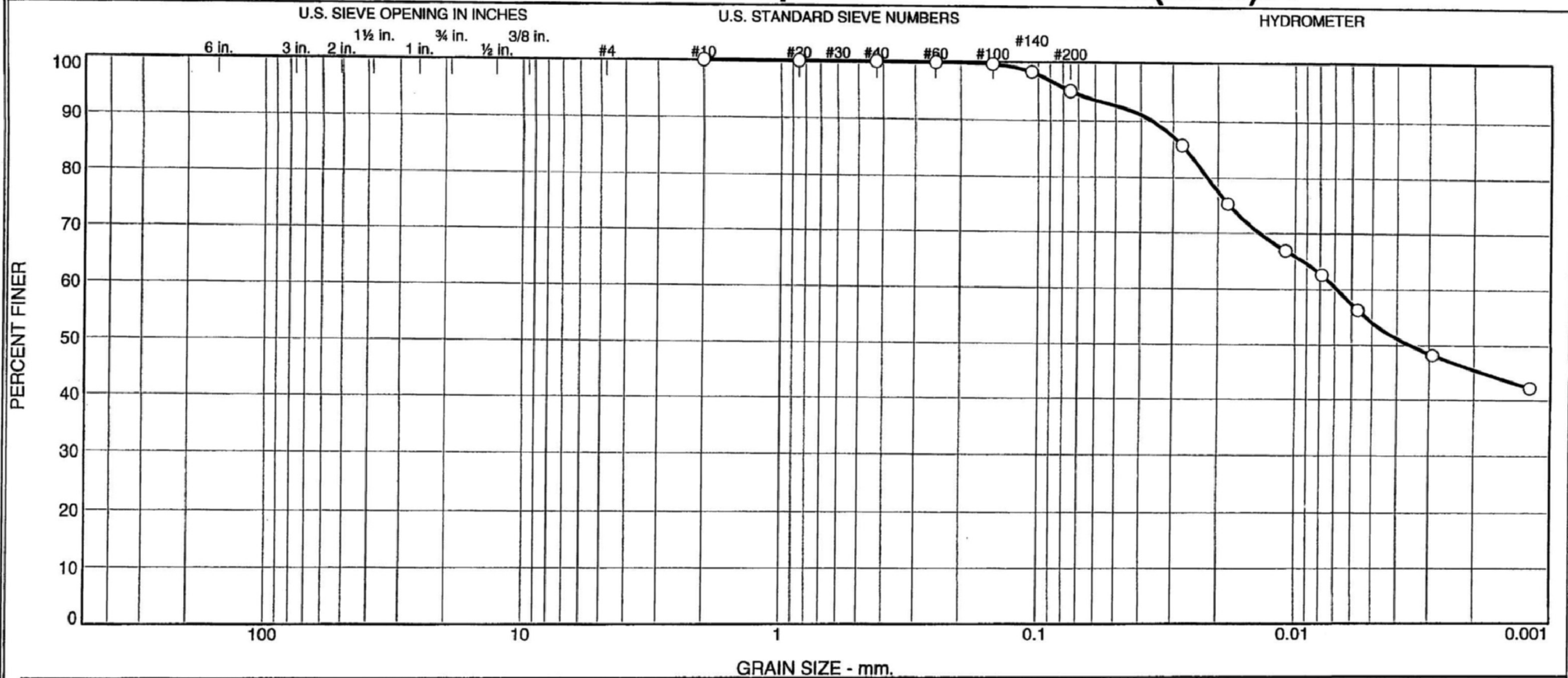
Run No.	1	2	3	4
Wet+Tare	23.21	22.84		
Dry+Tare	21.97	21.67		
Tare	15.49	15.62		
Moisture	19.1	19.3		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
105.25	86.81	6.82	23.1

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	0.1	4.9	40.9	54.1

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2352	SS-8	23.5-25.0	1-3-08	CH	Yellowish Brown Fat CLAY	22.1	53	21

Client Bechtel
 Project Exelon Texas COL (Victoria Reservoir)
 Project No. 6468071777

MACTEC, Inc.
Raleigh, North Carolina

○ Specific Gravity is assumed

GRAIN SIZE DISTRIBUTION TEST DATA

2/19/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2352

Depth: 23.5-25.0

Sample Number: SS-8

Material Description: Yellowish Brown Fat CLAY

Date: 1-3-08

Natural Moisture: 22.1

Liquid Limit: 53

Plastic Limit: 21

USCS Class.: CH

Testing Remarks: Specific Gravity is assumed

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
239.52	0.00	0.00	#10	0.00	100.0
48.58	0.00	0.00	#20	0.02	100.0
			#40	0.03	99.9
			#60	0.06	99.9
			#100	0.19	99.6
			#140	0.84	98.3
			#200	2.43	95.0

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 48.58

Hygroscopic moisture correction:

Moist weight and tare = 28.09

Dry weight and tare = 27.67

Tare weight = 15.78

Hygroscopic moisture = 3.5%

Table of composite correction values:

Temp., deg. C: 12.9 29.9

Comp. corr.: -8.0 -2.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.700

Hydrometer type = 152H

Hydrometer effective depth equation: $L = 16.294964 - 0.164 \times R_m$

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	20.6	46.0	40.7	0.0133	47.0	8.6	0.0276	85.8
5.00	20.6	41.0	35.7	0.0133	42.0	9.4	0.0183	75.3
15.00	20.8	37.0	31.8	0.0133	38.0	10.1	0.0109	67.0
30.00	20.6	35.0	29.7	0.0133	36.0	10.4	0.0079	62.6
60.00	20.6	32.0	26.7	0.0133	33.0	10.9	0.0057	56.3
240.00	21.1	28.0	22.9	0.0133	29.0	11.5	0.0029	48.2
1440.00	21.5	25.0	20.0	0.0132	26.0	12.0	0.0012	42.2

MACTEC, Inc.