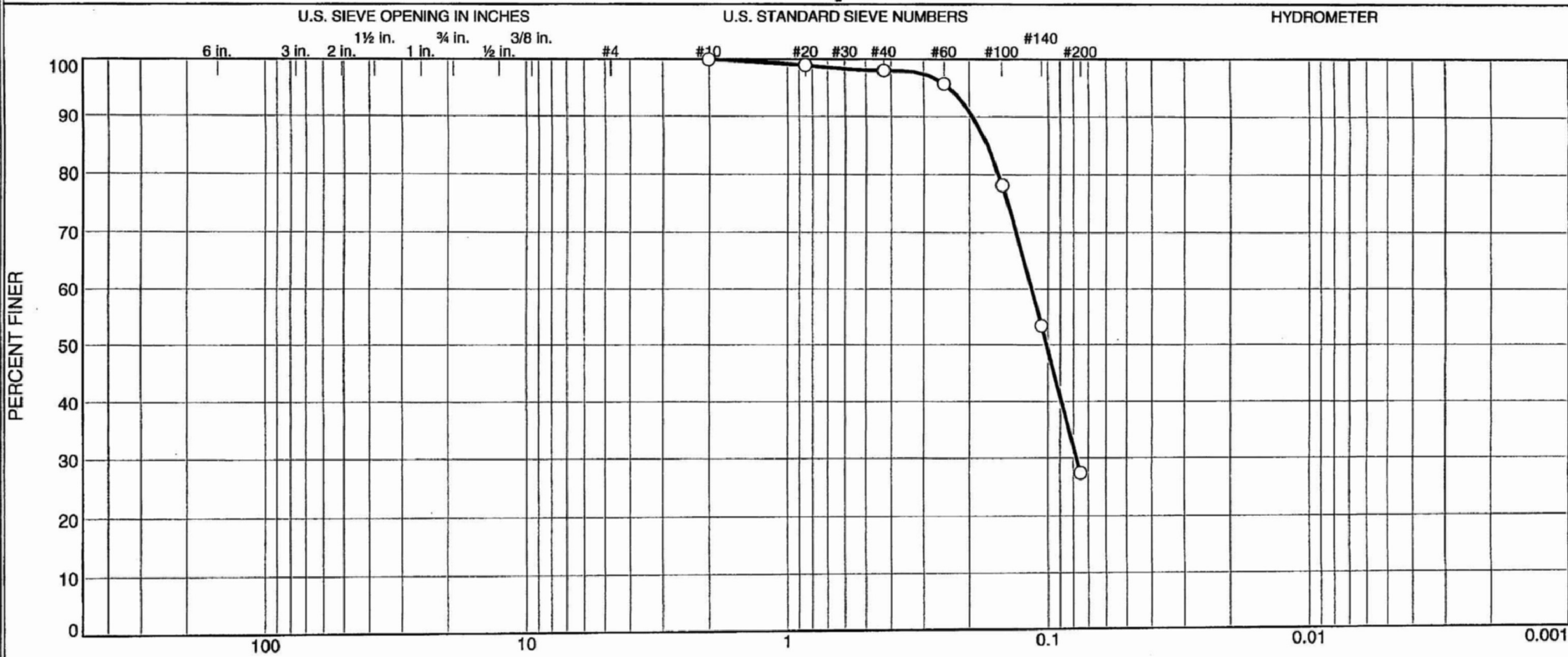


Particle Size Distribution Report / ASTM D6913-04e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.0	70.6	27.4	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2321	SS-23	98.5-100.0	12-16-07	SM	Pale Yellow Silty SAND (Visual)	ND	ND	ND

Client Bechtel	MACTEC, Inc. Raleigh, North Carolina	○ SIEVE ANALYSIS ONLY ND = Not Determined
Project Exelon Texas COL (Victoria Reservoir)		
Project No. 6468071777 Figure <i>NA</i>		

Tested By: SC

Checked By: LBJ

DSC 2-27-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2321

Depth: 98.5-100.0

Sample Number: SS-23

Material Description: Pale Yellow Silty SAND (Visual)

Date: 12-16-07

Natural Moisture: ND

Liquid Limit: ND

Plastic Limit: ND

USCS Class.: SM

Testing Remarks: SIEVE ANALYSIS ONLY

ND = Not Determined

Tested by: SC

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
279.01	0.00	0.00	#10	0.00	100.0
104.33	0.00	0.00	#20	1.09	99.0
			#40	2.05	98.0
			#60	4.48	95.7
			#100	22.76	78.2
			#140	48.73	53.3
			#200	75.74	27.4

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	2.0	70.6	72.6			27.4

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0777	0.1015	0.1157	0.1548	0.1711	0.1948	0.2390

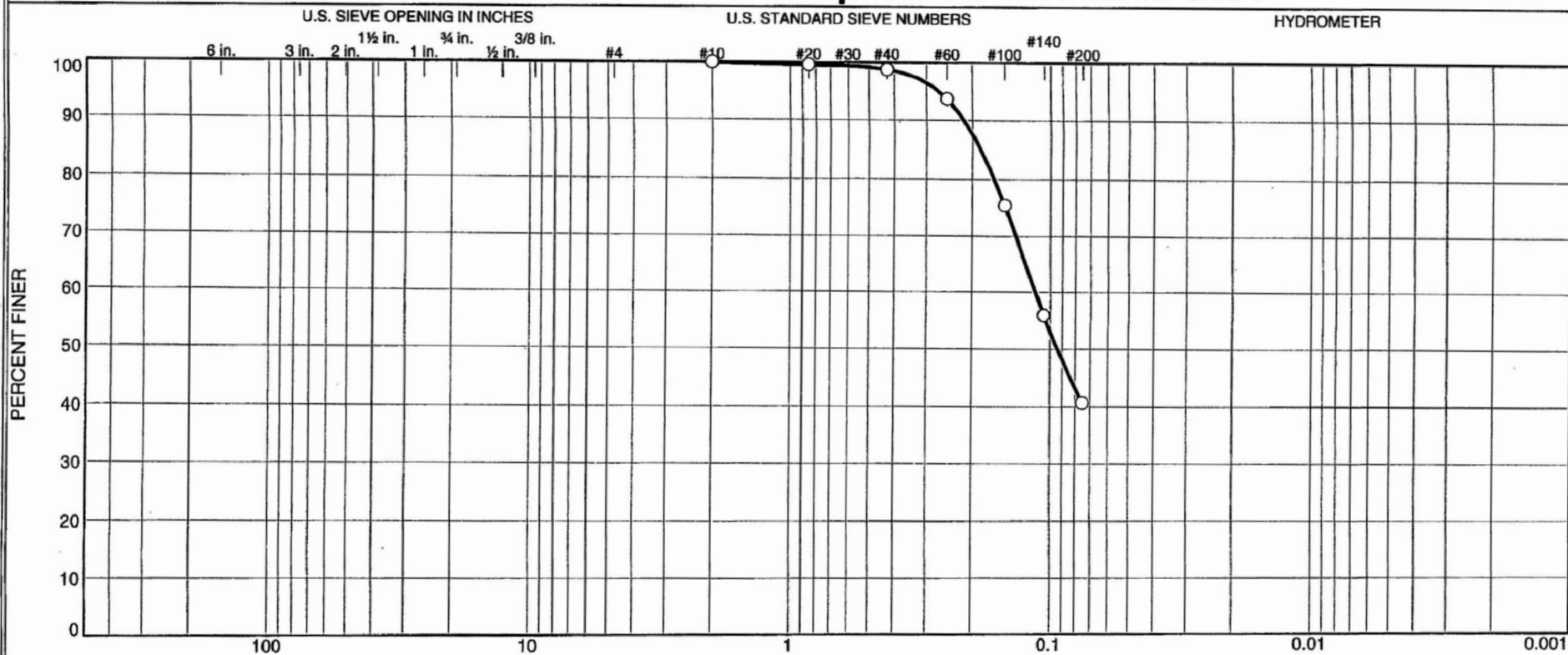
Fineness

Modulus

0.27

MACTEC, Inc.

Particle Size Distribution Report / ASTM D6913-04e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.2	58.1	40.7	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2321	SS-25	118.5-120.0	12-16-07	SC	Pale Yellow Clayey SAND (Visual)	ND	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777

Figure *NA*
MACTEC, Inc.
Raleigh, North Carolina

 ○ SIEVE ANALYSIS ONLY
 ND = Not Determined

Tested By: cs

Checked By: lbj

DSC 2-27-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2321

Depth: 118.5-120.0

Sample Number: SS-25

Material Description: Pale Yellow Clayey SAND (Visual)

Date: 12-16-07

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
236.81	0.00	0.00	#10	0.00	100.0
103.84	0.00	0.00	#20	0.46	99.6
			#40	1.25	98.8
			#60	6.60	93.6
			#100	25.50	75.4
			#140	45.75	55.9
			#200	61.60	40.7

Fractional Components

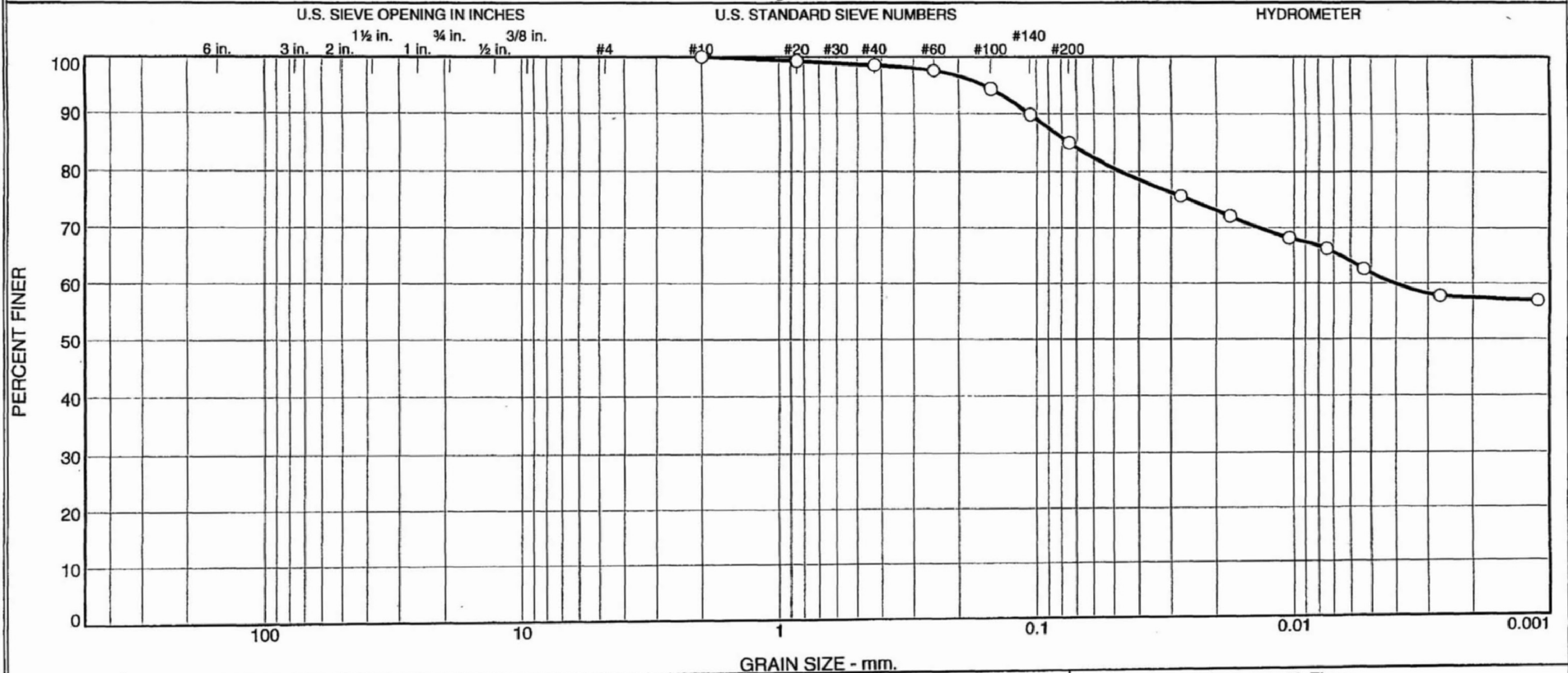
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.2	58.1	59.3			40.7

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0937	0.1142	0.1646	0.1855	0.2155	0.2692

Fineness Modulus
0.29

MACTEC, Inc.

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



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.4	13.6	23.1	61.9

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2321	SS-26	128.5-130.0	12-16-07	CH	Light Gray and Brownish Yellow Fat CLAY with sand	16.0	70	19

Client Bechtel	MACTEC, Inc. Raleigh, North Carolina	○ Specific Gravity = 2.703 (ASTM D854-06)
Project Exelon Texas COL (Victoria Reservoir)		
Project No. 6468071777		

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-2321

Depth: 128.5-130.0

Sample Number: SS-26

Material Description: Light Gray and Brownish Yellow Fat CLAY with sand

Date: 12-16-07

Natural Moisture: 16.0

Liquid Limit: 70

Plastic Limit: 19

USCS Class.: CH

Testing Remarks: Specific Gravity = 2.703 (ASTM D854-06)

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
201.43	0.00	0.00	#10	0.00	100.0
53.11	0.00	0.00	#20	0.38	99.3
			#40	0.77	98.6
			#60	1.28	97.6
			#100	3.02	94.3
			#140	5.35	89.9
			#200	7.97	85.0

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 53.11

Hygroscopic moisture correction:

Moist weight and tare = 27.69

Dry weight and tare = 27.51

Tare weight = 15.64

Hygroscopic moisture = 1.5%

Table of composite correction values:

Temp., deg. C: 13.0 29.9

Comp. corr.: -8.0 -2.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.703

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	45.0	40.1	0.0132	46.0	8.8	0.0275	75.7
5.00	21.9	43.0	38.2	0.0131	44.0	9.1	0.0177	72.1
15.00	21.8	41.0	36.1	0.0131	42.0	9.4	0.0104	68.2
30.00	21.8	40.0	35.1	0.0131	41.0	9.6	0.0074	66.3
60.00	21.9	38.0	33.2	0.0131	39.0	9.9	0.0053	62.6
240.00	23.1	35.0	30.6	0.0129	36.0	10.4	0.0027	57.8
1440.00	21.9	35.0	30.2	0.0131	36.0	10.4	0.0011	57.0

MACTEC, Inc.

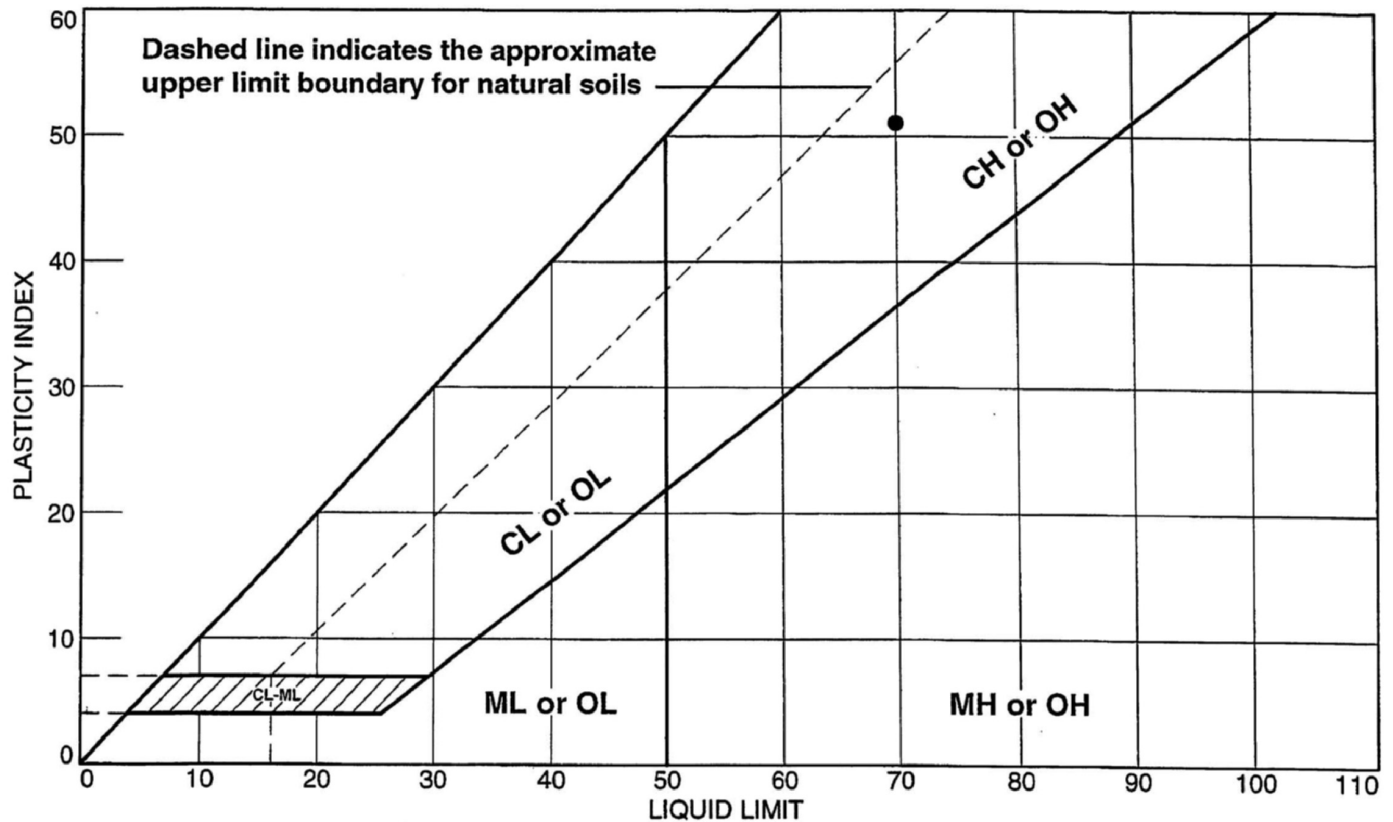
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.4	13.6	15.0	23.1	61.9	85.0

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
					0.0040	0.0473	0.0750	0.1065	0.1611

Fineness Modulus
0.09

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-2321	SS-26	128.5-130.0	16.0	19	70	51	CH

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 4-1-08*

LIQUID AND PLASTIC LIMIT TEST DATA

4/1/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2321

Depth: 128.5-130.0

Sample Number: SS-26

Material Description: Light Gray and Brownish Yellow Fat CLAY with sand

USCS: CH

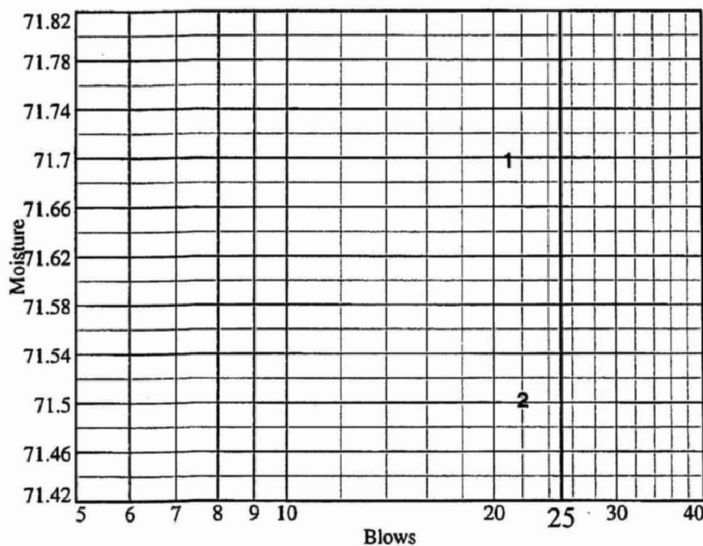
AASHTO: A-7-6(46)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	22.02	22.08				
Dry+Tare	19.36	19.32				
Tare	15.65	15.46				
# Blows	21	22				
Moisture	71.7	71.5				



Liquid Limit= 70
 Plastic Limit= 19
 Plasticity Index= 51
 Natural Moisture= 16.0
 Liquidity Index= -0.1

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	22.71	23.13		
Dry+Tare	21.57	21.90		
Tare	15.78	15.50		
Moisture	19.7	19.2		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
91.72	79.96	6.66	16.0

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: 2/08/2008

SAMPLE IDENTIFICATION: B-2321, SS-26

(A) Mass of oven-dried soil, grams:	50.36
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.71
(C) Mass of pycnometer, water and soil, grams:	688.45
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	22.1
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.705
(F) <i>Correction factor:</i>	0.99954
(G x F)	SPECIFIC GRAVITY @ 20°C: 2.703

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100

Fat CLAY with sand (CH)

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNO METER : P-3

TESTED BY: CS

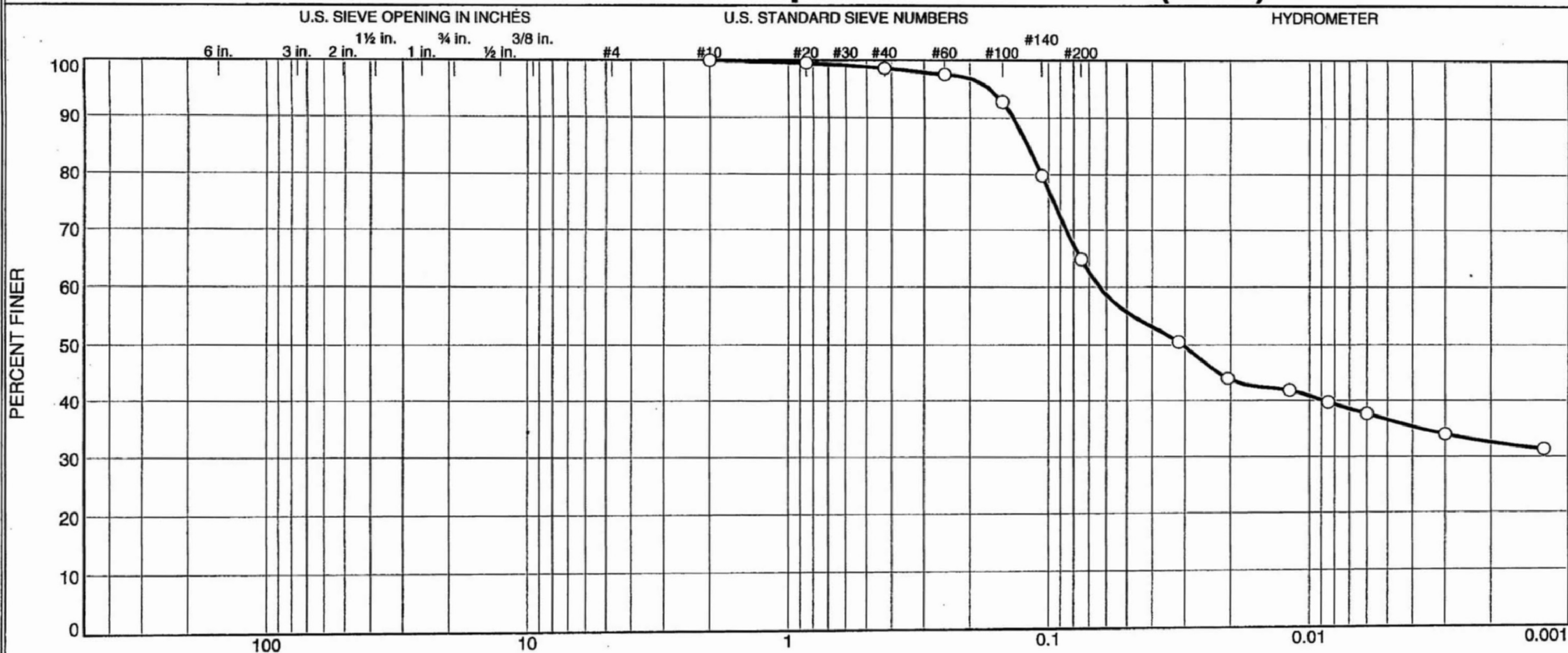
\\Test Reports\\Soils\\SPECIFIC GRAVITY(ref).xls

REVIEWED BY:

Brian Johnson

DSC 2-27-08

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	33.7	28.1	36.7

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2321	SS-27A	138.5-139.0	12-16-07	CL	Light Gray Sandy Lean CLAY	21.7	48	15

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777

Figure NA

MACTEC, Inc.

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-2321

Depth: 138.5-139.0

Sample Number: SS-27A

Material Description: Light Gray Sandy Lean CLAY

Date: 12-16-07

Natural Moisture: 21.7

Liquid Limit: 48

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
202.53	0.00	0.00	#10	0.00	100.0
46.89	0.00	0.00	#20	0.25	99.5
			#40	0.68	98.5
			#60	1.20	97.4
			#100	3.43	92.7
			#140	9.46	79.8
			#200	16.49	64.8

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 46.89

Hygroscopic moisture correction:

Moist weight and tare = 27.56

Dry weight and tare = 27.09

Tare weight = 15.46

Hygroscopic moisture = 4.0%

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	21.5	28.0	23.0	0.0132	29.0	11.5	0.0317	50.5
5.00	21.5	25.0	20.0	0.0132	26.0	12.0	0.0205	44.0
15.00	21.6	24.0	19.1	0.0132	25.0	12.2	0.0119	41.8
30.00	21.7	23.0	18.1	0.0132	24.0	12.4	0.0084	39.7
60.00	21.9	22.0	17.2	0.0131	23.0	12.5	0.0060	37.7
240.00	22.9	20.0	15.5	0.0130	21.0	12.9	0.0030	34.1
1440.00	22.2	19.0	14.3	0.0131	20.0	13.0	0.0012	31.3

MACTEC, Inc.

Fractional Components

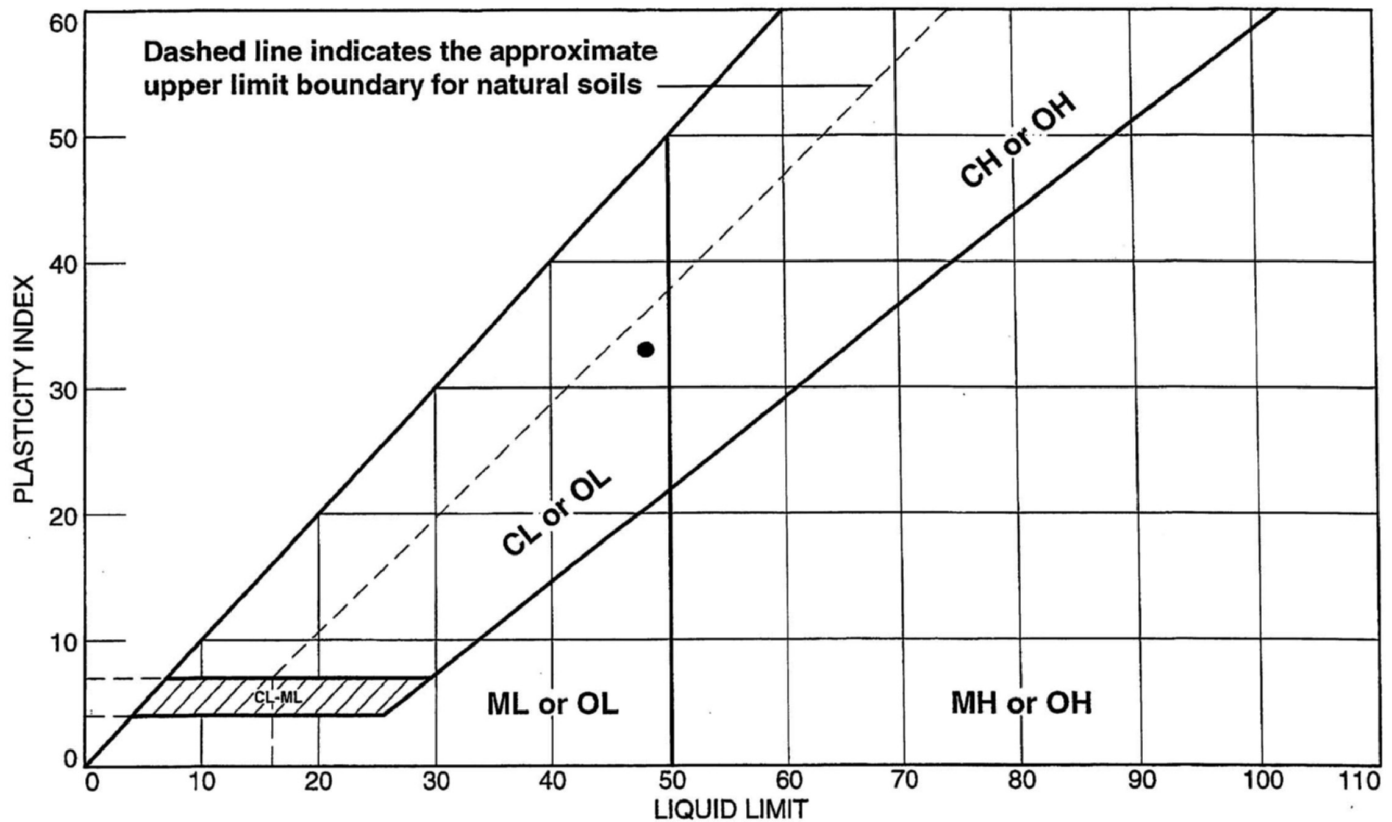
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.5	33.7	35.2	28.1	36.7	64.8

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0305	0.0636	0.1064	0.1195	0.1367	0.1685

Fineness Modulus
0.11

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-2321	SS-27A	138.5-139.0	21.7	15	48	33	CL

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project No.: 6468071777

Figure 14A

Tested By: CS

Checked By: LBJ DSC 2-27-08

LIQUID AND PLASTIC LIMIT TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2321

Depth: 138.5-139.0

Sample Number: SS-27A

Material Description: Light Gray Sandy Lean CLAY

USCS: CL

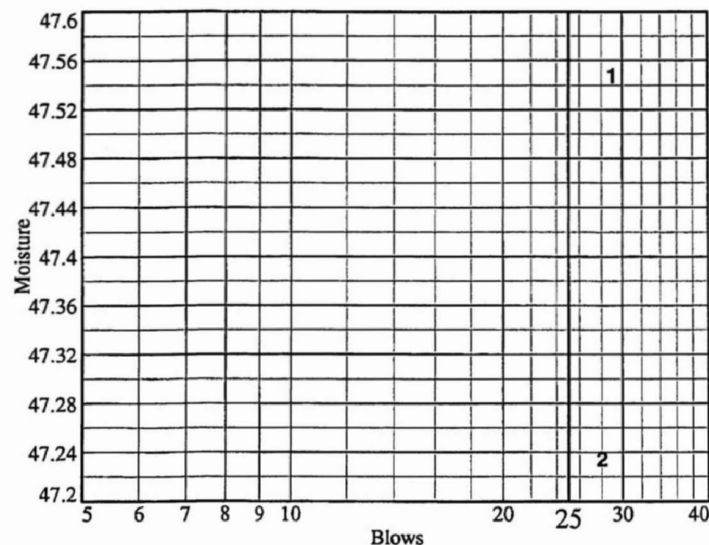
AASHTO: A-7-6(19)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	22.43	21.91				
Dry+Tare	20.20	19.86				
Tare	15.51	15.52				
# Blows	29	28				
Moisture	47.5	47.2				



Liquid Limit= 48
 Plastic Limit= 15
 Plasticity Index= 33
 Natural Moisture= 21.7
 Liquidity Index= 0.2

Plastic Limit Data

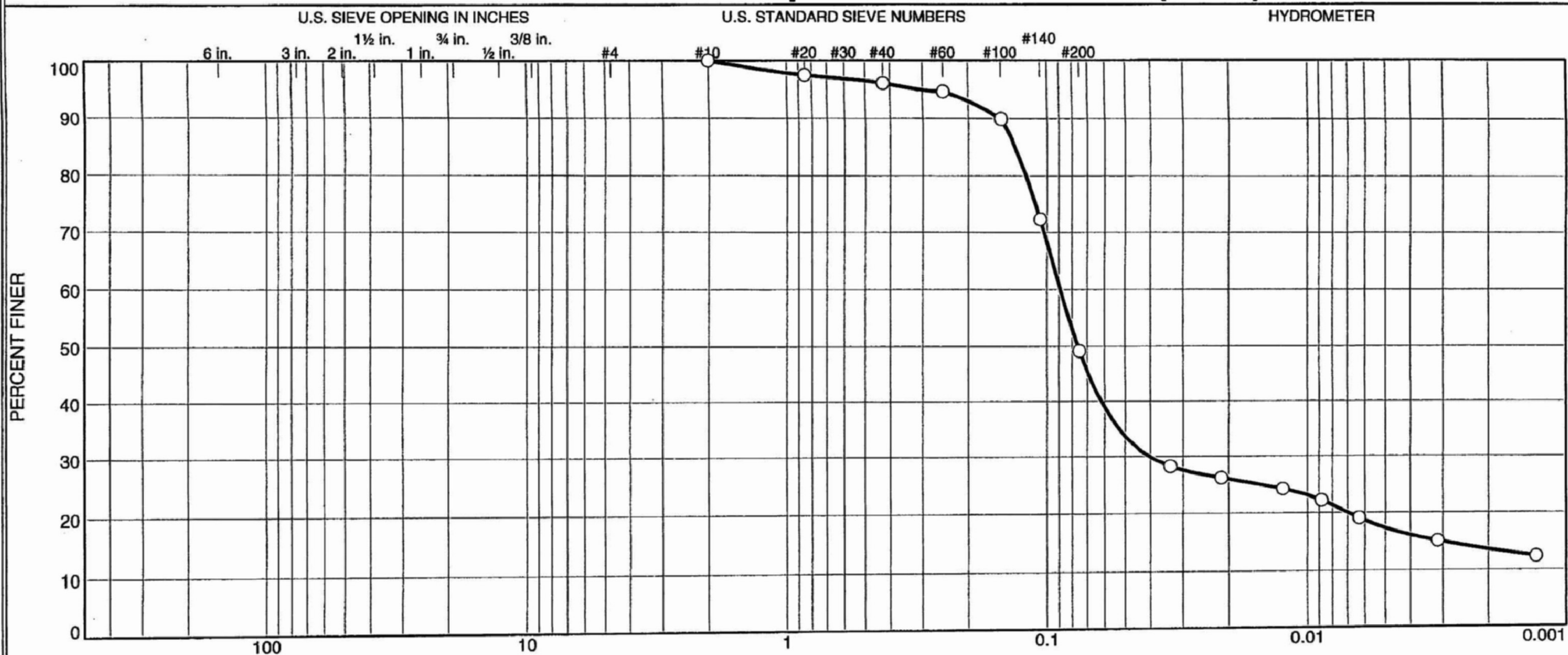
Run No.	1	2	3	4
Wet+Tare	23.03	24.00		
Dry+Tare	22.05	22.90		
Tare	15.44	15.48		
Moisture	14.8	14.8		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
96.72	81.15	9.47	21.7

MACTEC, Inc.

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



GRAIN SIZE DISTRIBUTION TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2321

Depth: 139-140.0

Sample Number: SS-27B

Material Description: Pale Yellow Clayey SAND

Date: 12-16-07

Natural Moisture: ND

Liquid Limit: 26

Plastic Limit: 16

USCS Class.: SC

Testing Remarks: Specific Gravity is assumed

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
230.75	0.00	0.00	#10	0.00	100.0
50.77	0.00	0.00	#20	1.30	97.4
			#40	2.02	96.0
			#60	2.76	94.6
			#100	5.10	90.0
			#140	14.07	72.3
			#200	25.81	49.2

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 50.77

Hygroscopic moisture correction:

Moist weight and tare = 28.57

Dry weight and tare = 28.30

Tare weight = 15.55

Hygroscopic moisture = 2.1%

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	22.0	19.0	14.2	0.0131	20.0	13.0	0.0335	28.3
5.00	21.9	18.0	13.2	0.0131	19.0	13.2	0.0213	26.2
15.00	21.9	17.0	12.2	0.0131	18.0	13.3	0.0124	24.2
30.00	21.9	16.0	11.2	0.0131	17.0	13.5	0.0088	22.2
60.00	21.7	14.5	9.6	0.0132	15.5	13.8	0.0063	19.1
240.00	23.1	12.0	7.6	0.0129	13.0	14.2	0.0031	15.1
1440.00	22.1	11.0	6.2	0.0131	12.0	14.3	0.0013	12.4

MACTEC, Inc.

Fractional Components

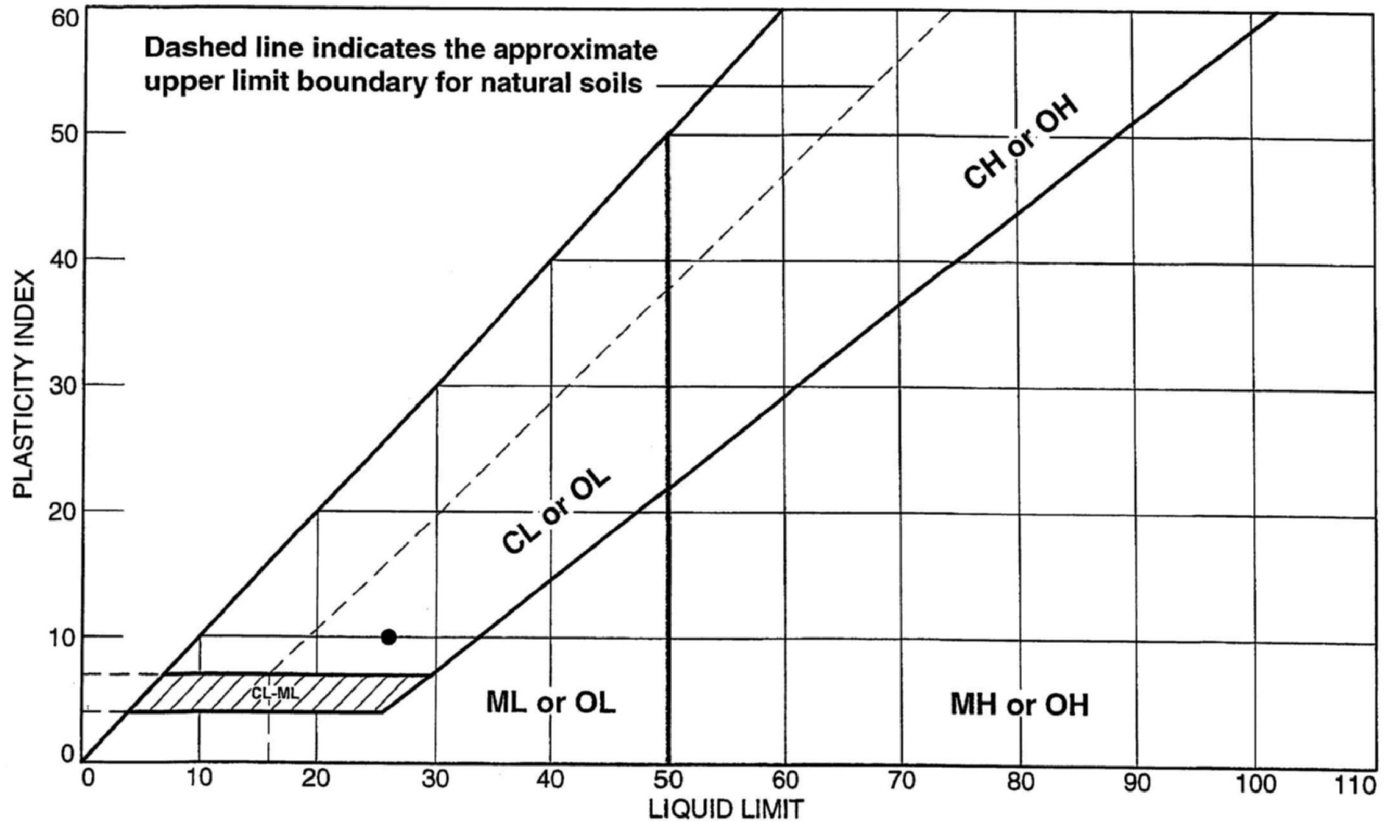
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	4.0	46.8	50.8	31.9	17.3	49.2

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
	0.0030	0.0069	0.0405	0.0761	0.0887	0.1201	0.1323	0.1506	0.3164

Fineness Modulus
0.20

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-2321	SS-27B	139-140.0	ND	16	26	10	SC

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 2-27-08

LIQUID AND PLASTIC LIMIT TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2321

Depth: 139-140.0

Sample Number: SS-27B

Material Description: Pale Yellow Clayey SAND

USCS: SC

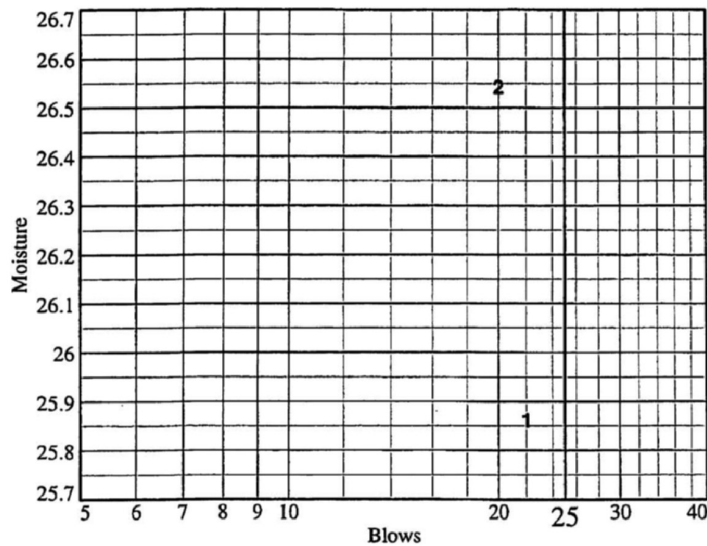
AASHTO: A-4(2)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	21.31	23.63				
Dry+Tare	20.11	21.91				
Tare	15.47	15.43				
# Blows	22	20				
Moisture	25.9	26.5				



Liquid Limit= 26
 Plastic Limit= 16
 Plasticity Index= 10
 Natural Moisture= ND

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	24.59	23.30			
Dry+Tare	23.36	22.27			
Tare	15.63	15.61			
Moisture	15.9	15.5			

MACTEC, Inc.

GRAIN SIZE DISTRIBUTION TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2321

Depth: 148.5-150

Sample Number: SS-28

Material Description: Pale Yellow Silty, Clayey SAND

Date: 12-16-07

Natural Moisture: 15.7

Liquid Limit: 17

Plastic Limit: 12

USCS Class.: SC-SM

Testing Remarks: Specific Gravity = 2.652 (ASTM D854-06)

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
287.08	0.00	0.00	3/8"	0.00	100.0
			#4	0.42	99.9
			#10	5.27	98.2
102.57	0.00	0.00	#20	4.24	94.1
			#40	16.28	82.6
			#60	39.88	60.0
			#100	59.04	41.7
			#140	62.37	38.5
			#200	68.88	32.2

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 98.2

Weight of hydrometer sample = 102.57

Hygroscopic moisture correction:

Moist weight and tare = 28.61

Dry weight and tare = 28.50

Tare weight = 15.48

Hygroscopic moisture = 0.8%

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 = 2.652

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	16.0	11.1	0.0134	17.0	13.5	0.0348	10.7
5.00	21.5	13.0	8.1	0.0134	14.0	14.0	0.0224	7.8
15.00	21.5	12.0	7.1	0.0134	13.0	14.2	0.0130	6.8
30.00	21.8	12.0	7.2	0.0133	13.0	14.2	0.0092	6.9
60.00	21.8	11.0	6.2	0.0133	12.0	14.3	0.0065	5.9
240.00	22.9	10.0	5.6	0.0132	11.0	14.5	0.0032	5.4
1440.00	22.2	9.0	4.3	0.0133	10.0	14.7	0.0013	4.1

MACTEC, Inc.

Fractional Components

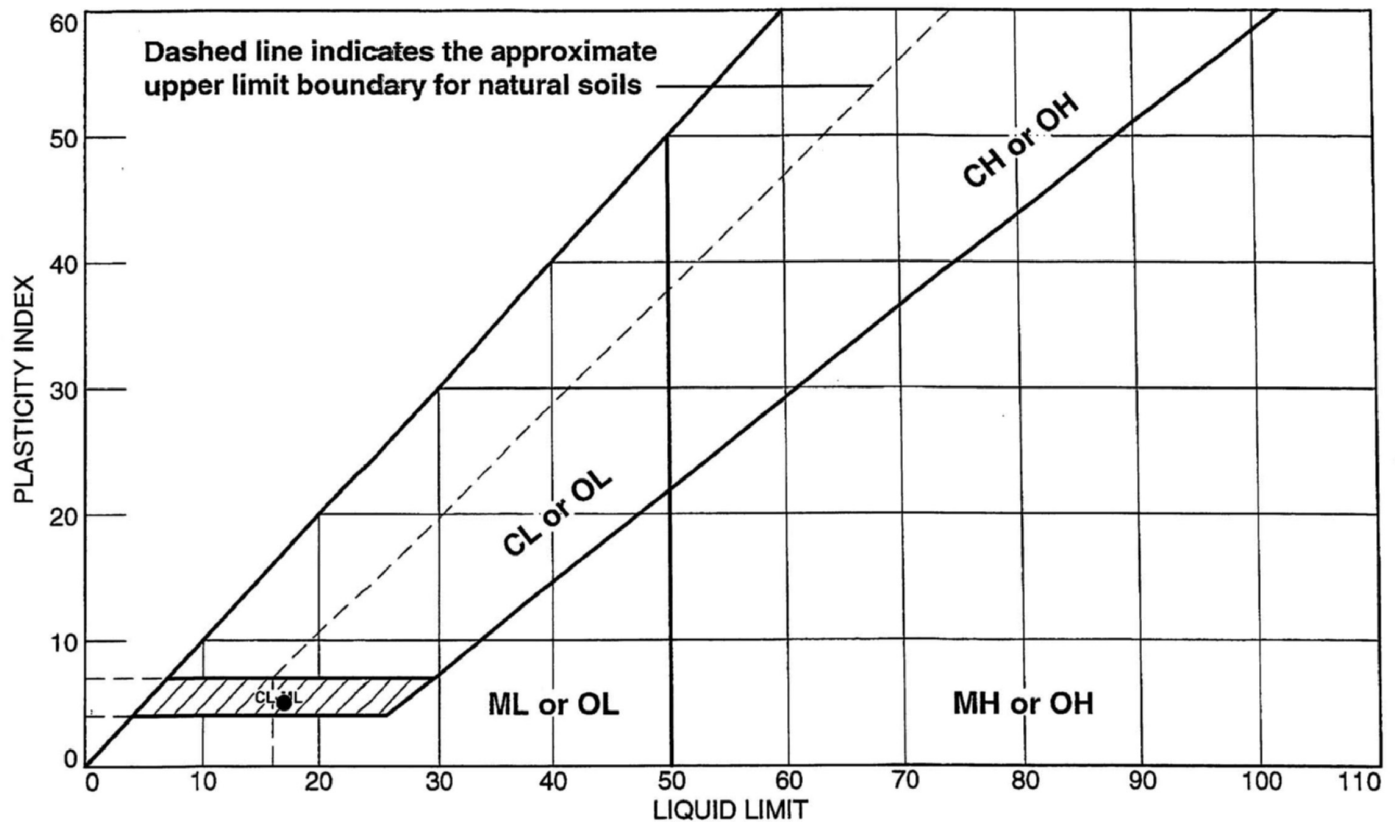
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.1	0.1	1.7	15.6	50.4	67.7	26.7	5.5	32.2

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.0333	0.0424	0.0502	0.0691	0.1987	0.2500	0.3943	0.4609	0.5821	0.9680

Fineness Modulus	C _u	C _c
1.05	7.52	0.57

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-2321	SS-28	148.5-150	15.7	12	17	5	SC-SM

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 2-27-08

LIQUID AND PLASTIC LIMIT TEST DATA

2/27/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2321

Depth: 148.5-150

Sample Number: SS-28

Material Description: Pale Yellow Silty, Clayey SAND

USCS: SC-SM

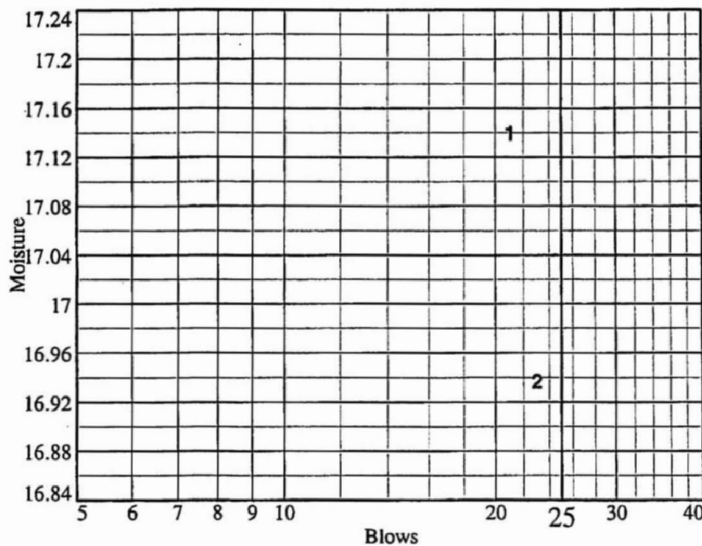
AASHTO: A-2-4(0)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	26.27	25.80				
Dry+Tare	24.70	24.34				
Tare	15.54	15.72				
# Blows	21	23				
Moisture	17.1	16.9				



Liquid Limit= 17
 Plastic Limit= 12
 Plasticity Index= 5
 Natural Moisture= 15.7
 Liquidity Index= 0.7

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	26.69	27.71		
Dry+Tare	25.50	26.40		
Tare	15.55	15.58		
Moisture	12.0	12.1		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
140.14	122.03	6.78	15.7

MACTEC, Inc.

MACTEC ENGINEERING AND CONSULTING, INC.
RALEIGH, NORTH CAROLINA

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

PROJECT NAME: EXELON COL PROJECT (VICTORIA)

PROJECT NUMBER: 6468071777

DATE: 2/08/2008

SAMPLE IDENTIFICATION: B-2321, SS-28

(A) Mass of oven-dried soil, grams:	75.00
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.73
(C) Mass of pycnometer, water and soil, grams:	703.46
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	22.1
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.653
(F) <i>Correction factor:</i>	0.99954
(G x F) SPECIFIC GRAVITY @ 20°C:	2.652

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100

Silty, Clayey SAND (SC-SM)

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNO METER : P-3

TESTED BY: CS

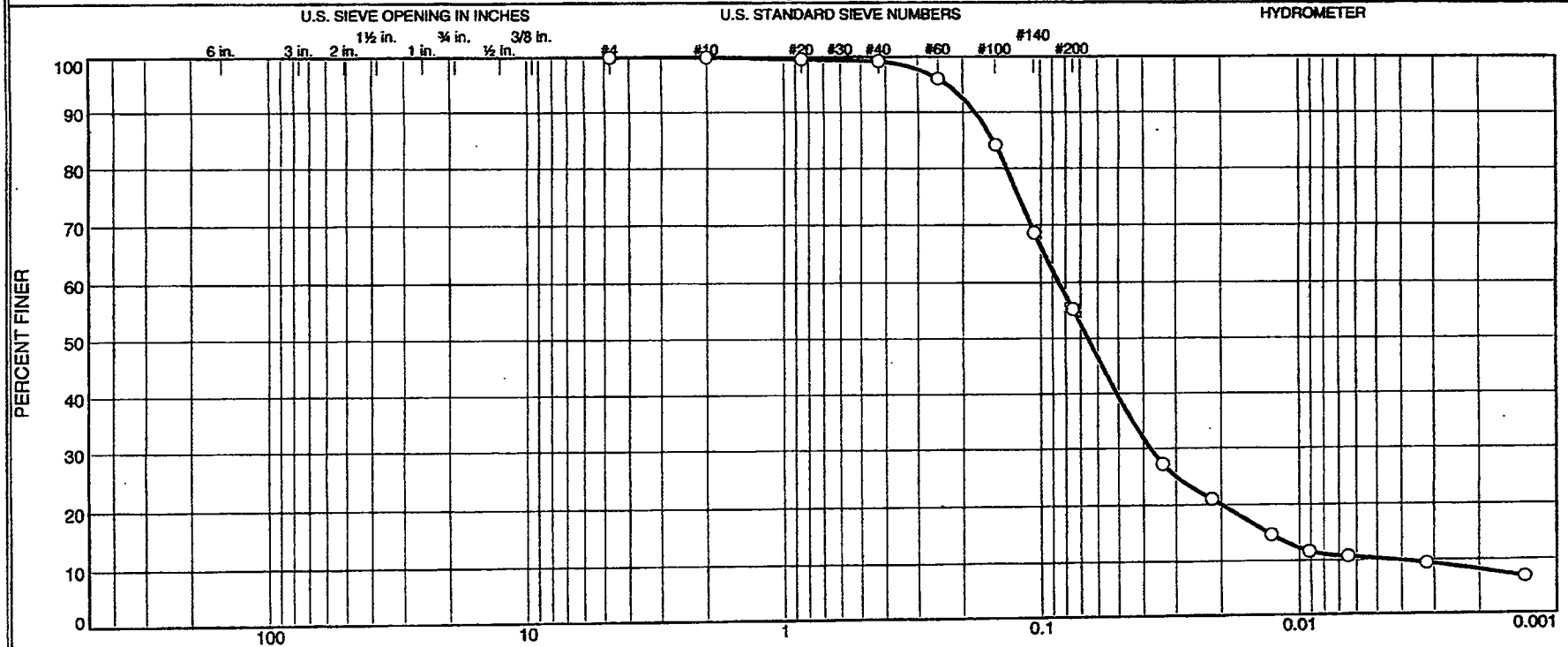
\\Test Reports\\Soils\\SPECIFIC GRAVITY(ref).xls

REVIEWED BY: Brian Johnson

DSC 2-27-08

Boring B-2352

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	0.7	44.0	45.0	10.3

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2352	SS-1	0.0-1.5	1-3-08	CL	Dark Gray Sandy Lean CLAY	22.8	37	20

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

Organic Content = 5.3% (ASTM D2974-07)
Specific Gravity is assumed

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: 0.0-1.5

Sample Number: SS-1

Material Description: Dark Gray Sandy Lean CLAY

Date: 1-3-08

Natural Moisture: 22.8

Liquid Limit: 37

Plastic Limit: 20

USCS Class.: CL

Testing Remarks: Organic Content = 5.3% (ASTM D2974-07)

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
173.99	0.00	0.00	#4	0.00	100.0
			#10	0.05	100.0
49.10	0.00	0.00	#20	0.17	99.6
			#40	0.35	99.3
			#60	1.91	96.1
			#100	7.76	84.2
			#140	15.37	68.7
			#200	21.96	55.3

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 49.10

Hygroscopic moisture correction:

Moist weight and tare = 28.13

Dry weight and tare = 27.82

Tare weight = 15.48

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	21.9	18.0	13.2	0.0131	19.0	13.2	0.0337	27.2
5.00	21.9	15.0	10.2	0.0131	16.0	13.7	0.0217	21.0
15.00	21.7	12.0	7.1	0.0132	13.0	14.2	0.0128	14.7
30.00	21.8	10.5	5.7	0.0131	11.5	14.4	0.0091	11.7
60.00	21.9	10.0	5.2	0.0131	11.0	14.5	0.0065	10.7
240.00	23.0	9.0	4.6	0.0130	10.0	14.7	0.0032	9.5
1440.00	22.3	8.0	3.3	0.0131	9.0	14.8	0.0013	6.9

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	0.7	44.0	44.7	45.0	10.3	55.3

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.0041	0.0131	0.0198	0.0377	0.0655	0.0851	0.1358	0.1533	0.1796	0.2303

Fineness Modulus	C _u	C _c
0.19	20.61	4.03