

Fractional Components

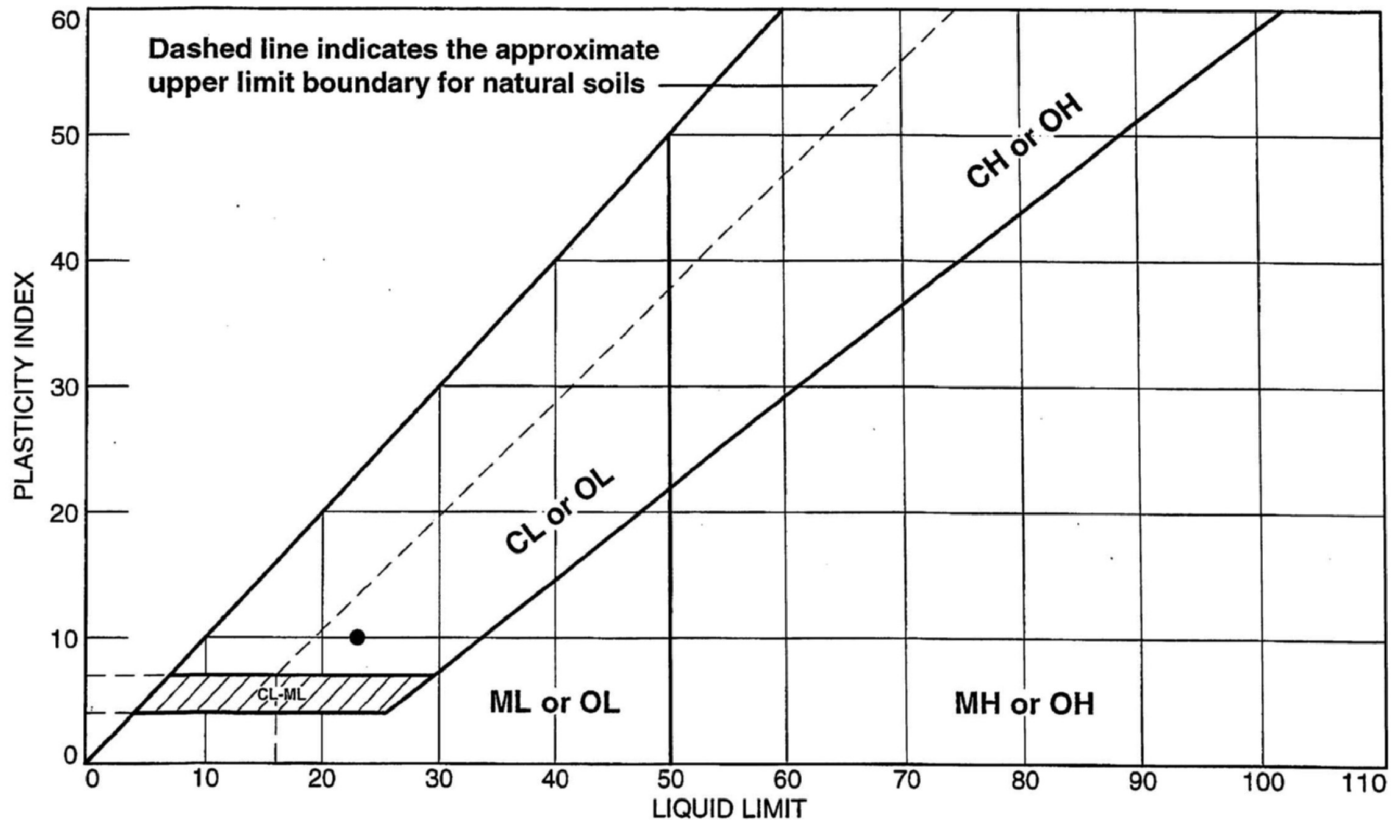
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	6.1	53.9	60.0	18.4	21.6	40.0

D10	D15	D20	D30	D50	D60	D80	D85	D90	D95
		0.0040	0.0290	0.1131	0.1669	0.2904	0.3278	0.3743	0.4776

Fineness
Modulus
0.65

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-2359	SS-16	64.8-66.3	22.8	13	23	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 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-2359

Depth: 64.8-66.3

Sample Number: SS-16

Material Description: Olive Yellow Clayey SAND

USCS: SC

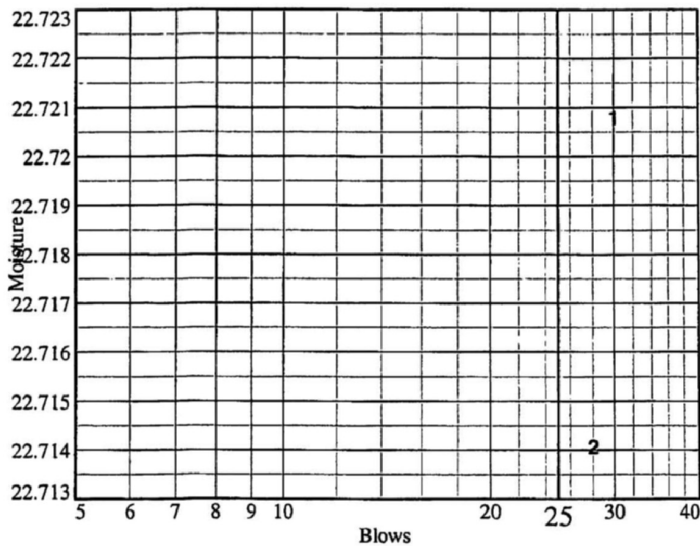
AASHTO: A-4(1)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	32.71	32.40				
Dry+Tare	29.52	29.27				
Tare	15.48	15.49				
# Blows	30	28				
Moisture	22.7	22.7				



Liquid Limit= 23
 Plastic Limit= 13
 Plasticity Index= 10
 Natural Moisture= 22.8
 Liquidity Index= 1.0

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	24.89	23.79		
Dry+Tare	23.76	22.87		
Tare	15.45	15.64		
Moisture	13.6	12.7		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
146.54	120.57	6.67	22.8

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: 2/12/08

SAMPLE IDENTIFICATION: B-2359 SS-16

(A) Mass of oven-dried soil, grams:	73.13
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.83
(C) Mass of pycnometer, water and soil, grams:	702.46
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	21.0
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.659
(F)	Correction factor: 0.99957
(G x F)	SPECIFIC GRAVITY @ 20°C: 2.659

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100

Clayey SAND (SC)

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNO METER : P-6

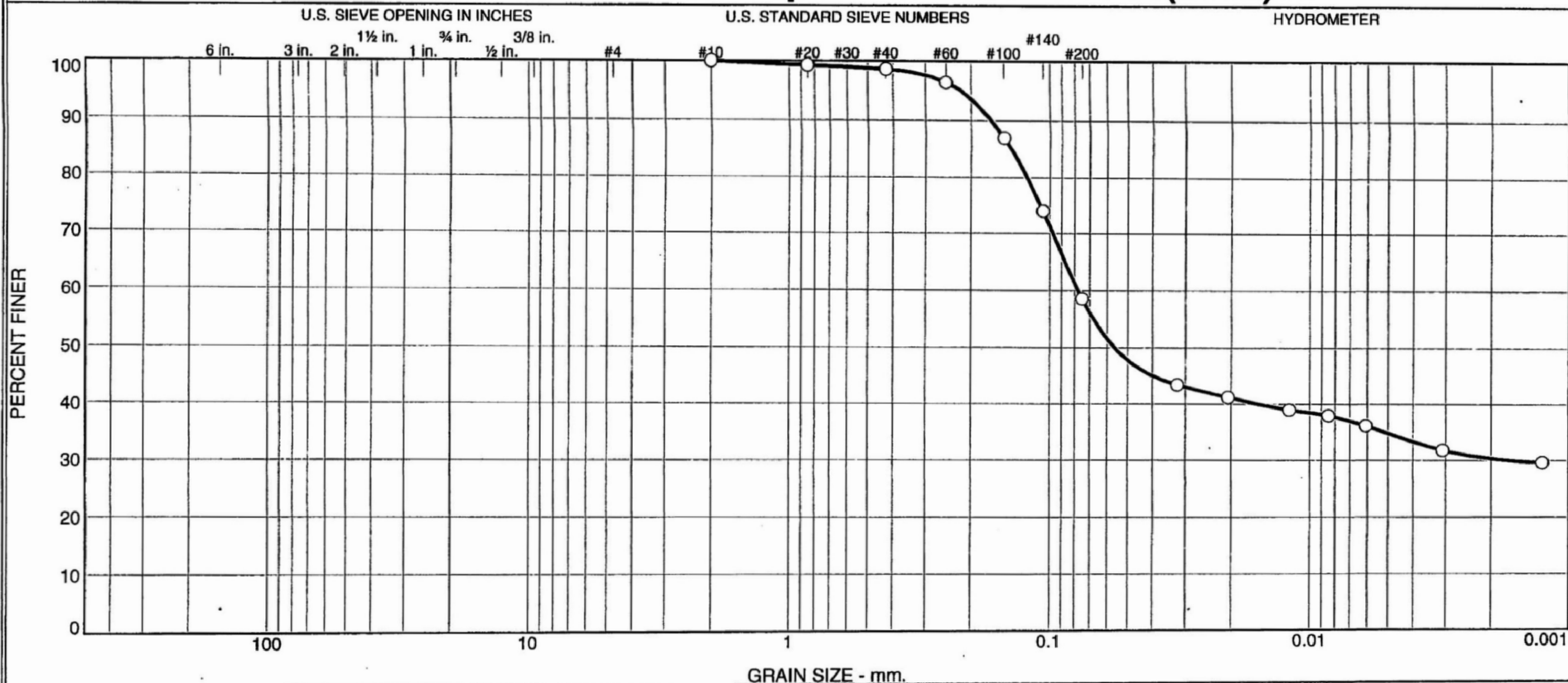
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

DSC 2-27-08

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



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.4	40.1	23.7	34.8

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2359	SS-17	69.8-71.3	1-3-08	CL	Greenish Gray Sandy Lean CLAY	15.8	37	15

Client Bechtel		MACTEC, Inc. Raleigh, North Carolina	○ Specific Gravity is assumed
Project Exelon Texas COL (Victoria Reservoir)			
Project No. 6468071777	Figure <i>N4</i>		

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2359

Depth: 69.8-71.3

Sample Number: SS-17

Material Description: Greenish Gray Sandy Lean CLAY

Date: 1-3-08

Natural Moisture: 15.8

Liquid Limit: 37

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
210.88	0.00	0.00	#10	0.00	100.0
47.56	0.00	0.00	#20	0.34	99.3
			#40	0.65	98.6
			#60	1.71	96.4
			#100	6.13	87.1
			#140	12.33	74.1
			#200	19.72	58.5

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 47.56

Hygroscopic moisture correction:

Moist weight and tare = 28.12

Dry weight and tare = 27.68

Tare weight = 15.28

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	21.9	25.0	20.2	0.0131	26.0	12.0	0.0322	43.4
5.00	21.8	24.0	19.1	0.0131	25.0	12.2	0.0205	41.2
15.00	21.7	23.0	18.1	0.0132	24.0	12.4	0.0119	39.0
30.00	21.8	22.5	17.6	0.0131	23.5	12.4	0.0085	38.0
60.00	20.8	22.0	16.8	0.0133	23.0	12.5	0.0061	36.1
240.00	20.8	20.0	14.8	0.0133	21.0	12.9	0.0031	31.8
1440.00	20.8	19.0	13.8	0.0133	20.0	13.0	0.0013	29.7

MACTEC, Inc.

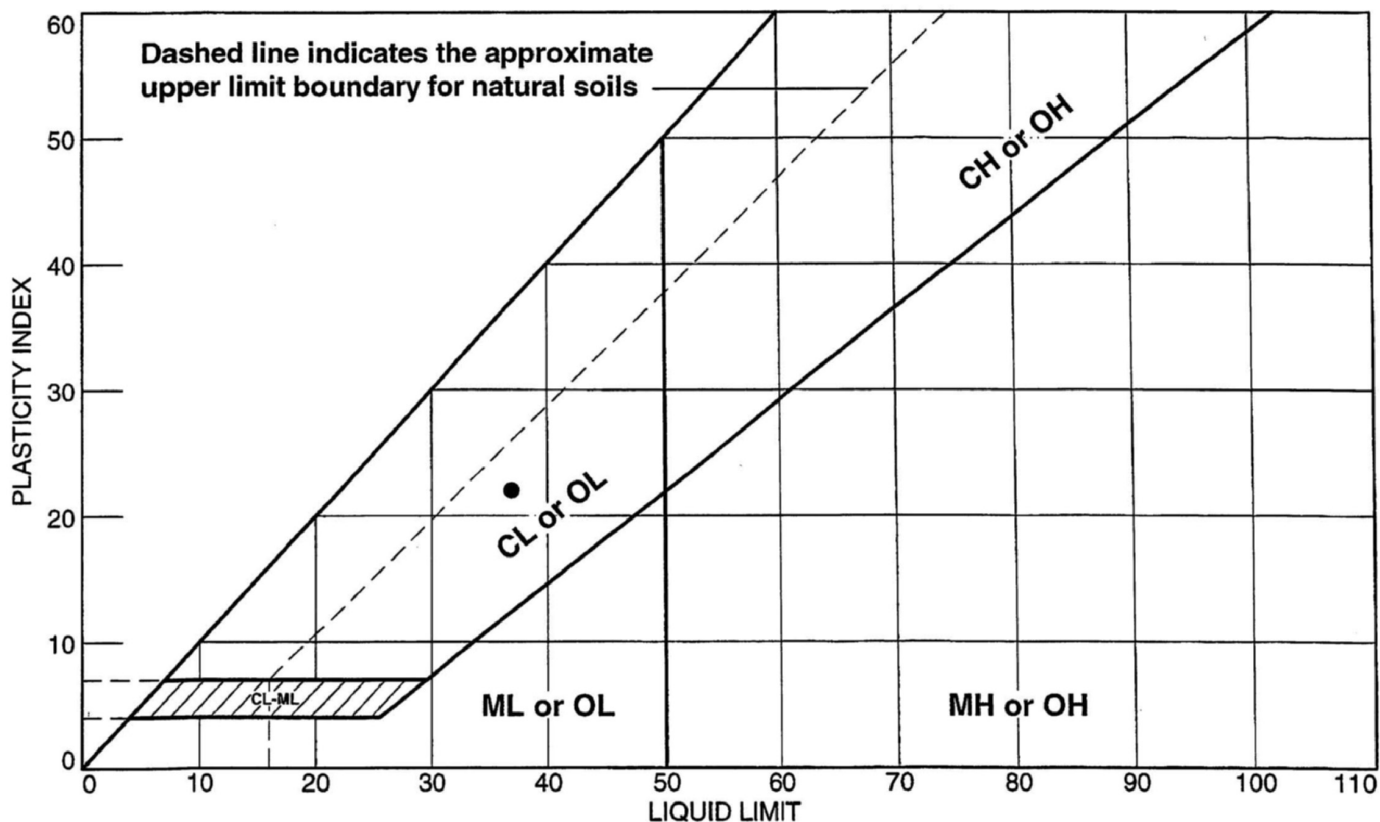
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.4	40.1	41.5	23.7	34.8	58.5

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0016	0.0562	0.0778	0.1220	0.1402	0.1672	0.2201

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-2359	SS-17	69.8-71.3	15.8	15	37	22	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 2-27-08

LIQUID AND PLASTIC LIMIT TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2359

Depth: 69.8-71.3

Sample Number: SS-17

Material Description: Greenish Gray Sandy Lean CLAY

USCS: CL

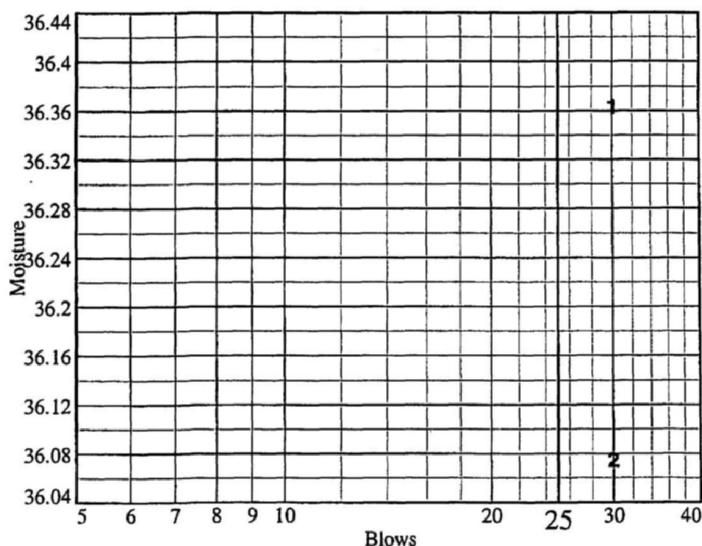
AASHTO: A-6(9)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	28.87	31.34				
Dry+Tare	25.31	27.13				
Tare	15.52	15.46				
# Blows	30	30				
Moisture	36.4	36.1				



Liquid Limit= 37
 Plastic Limit= 15
 Plasticity Index= 22
 Natural Moisture= 15.8
 Liquidity Index= 0.0

Plastic Limit Data

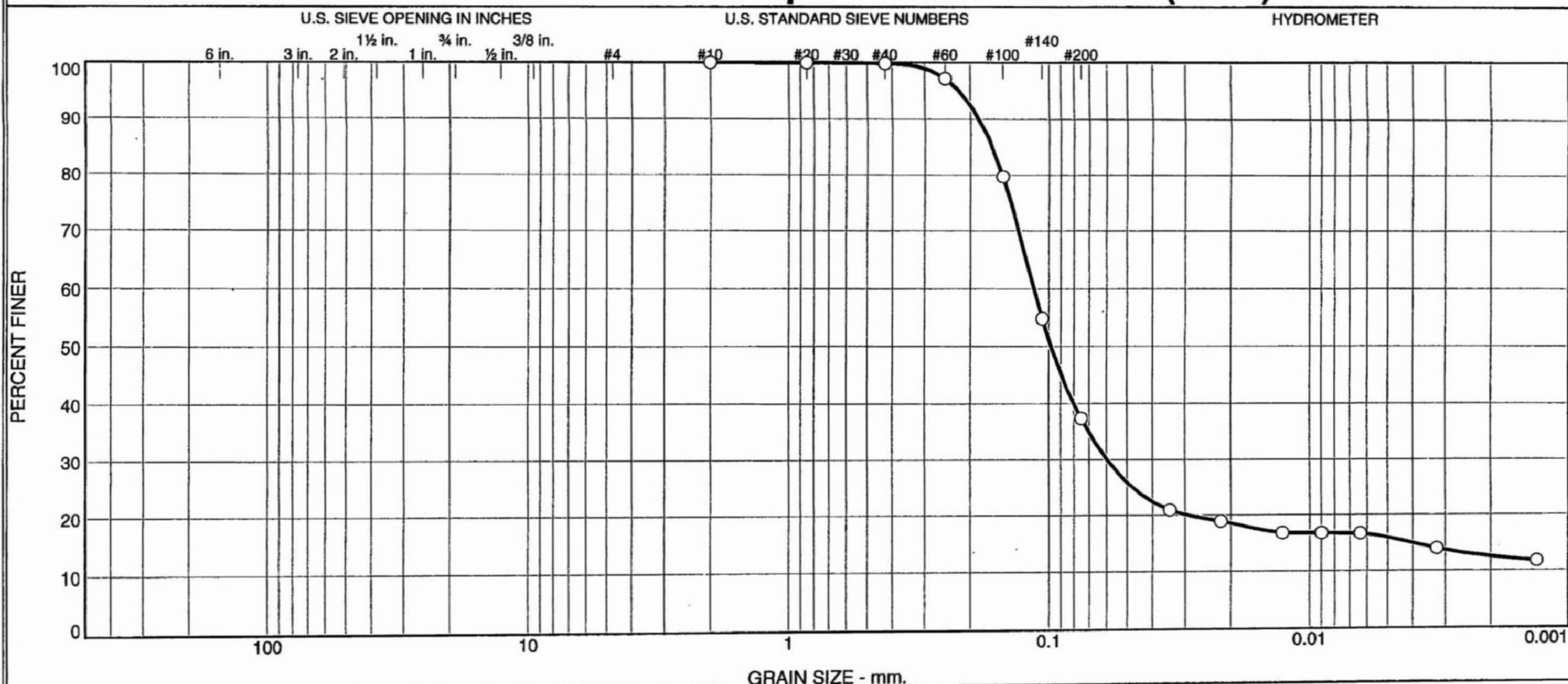
Run No.	1	2	3	4
Wet+Tare	23.52	24.37		
Dry+Tare	22.50	23.25		
Tare	15.46	15.54		
Moisture	14.5	14.5		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
155.24	134.95	6.53	15.8

MACTEC, Inc.

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



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	62.4	21.4	16.0

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2359	SS-18A	74.8-76.1	1-3-08	SC-SM	Light Olive Gray Silty, Clayey SAND	18.3	24	19

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777

Figure NA

MACTEC, Inc.
Raleigh, North Carolina

○ Specific Gravity is assumed

Tested By: CS

Checked By: L.B.J

DSC 2-27-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2359

Depth: 74.8-76.1

Sample Number: SS-18A

Material Description: Light Olive Gray Silty, Clayey SAND

Date: 1-3-08

Natural Moisture: 18.3

Liquid Limit: 24

Plastic Limit: 19

USCS Class.: SC-SM

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
240.03	0.00	0.00	#10	0.00	100.0
49.06	0.00	0.00	#20	0.03	99.9
			#40	0.09	99.8
			#60	1.40	97.1
			#100	9.98	79.7
			#140	22.16	54.8
			#200	30.73	37.4

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 49.06

Hygroscopic moisture correction:

Moist weight and tare = 28.44

Dry weight and tare = 28.23

Tare weight = 15.39

Hygroscopic moisture = 1.6%

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	15.0	10.2	0.0131	16.0	13.7	0.0343	20.9
5.00	22.0	14.0	9.2	0.0131	15.0	13.8	0.0218	18.9
15.00	22.0	13.0	8.2	0.0131	14.0	14.0	0.0127	16.8
30.00	21.9	13.0	8.2	0.0131	14.0	14.0	0.0090	16.8
60.00	21.8	13.0	8.1	0.0131	14.0	14.0	0.0064	16.7
240.00	20.9	12.0	6.8	0.0133	13.0	14.2	0.0032	14.0
1440.00	20.7	11.0	5.8	0.0133	12.0	14.3	0.0013	11.8

MACTEC, Inc.

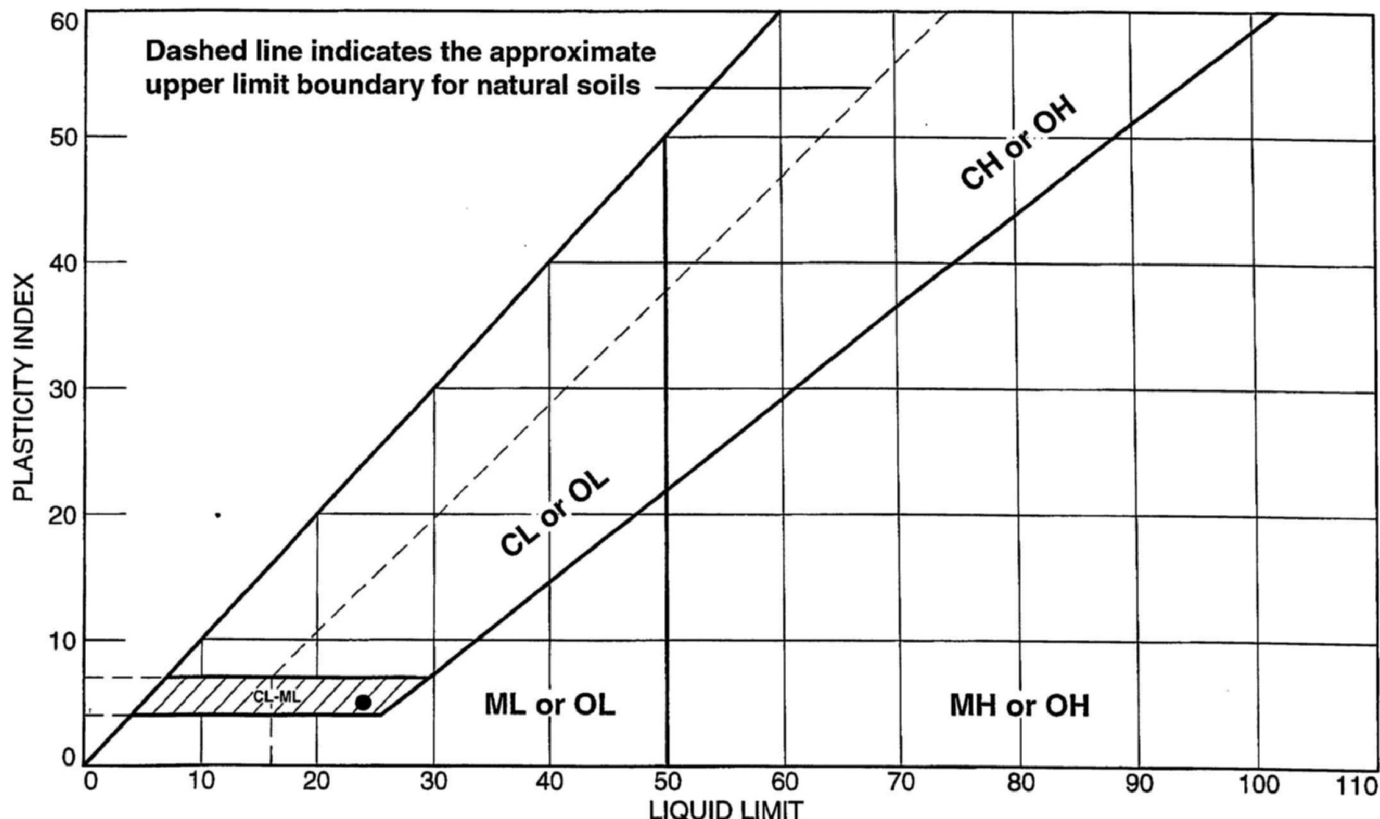
Fractonal Components

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	62.4	62.6	21.4	16.0	37.4

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
	0.0040	0.0295	0.0597	0.0981	0.1141	0.1508	0.1651	0.1856	0.2211

Fineness Modulus
0.22

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-2359	SS-18A	74.8-76.1	18.3	19	24	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

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2359

Depth: 74.8-76.1

Sample Number: SS-18A

Material Description: Light Olive Gray Silty, Clayey SAND

USCS: SC-SM

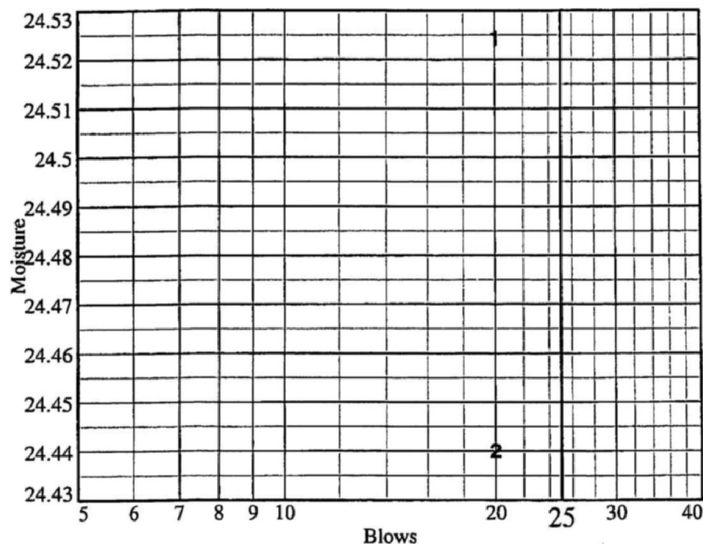
AASHTO: A-4(0)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	33.93	34.93				
Dry+Tare	30.32	31.11				
Tare	15.60	15.48				
# Blows	20	20				
Moisture	24.5	24.4				



Liquid Limit= 24
 Plastic Limit= 19
 Plasticity Index= 5
 Natural Moisture= 18.3
 Liquidity Index= -0.1

Plastic Limit Data

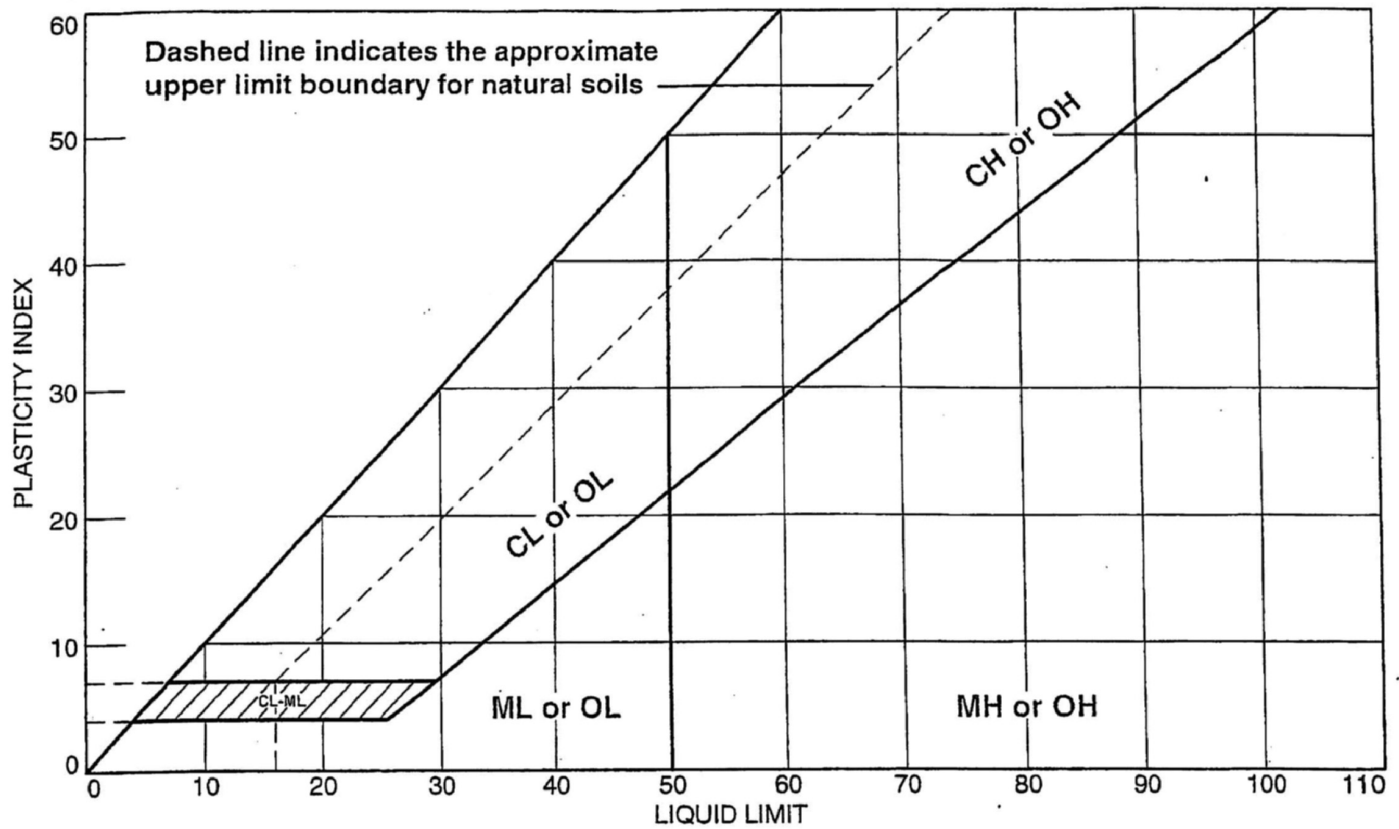
Run No.	1	2	3	4
Wet+Tare	23.22	24.96		
Dry+Tare	22.08	23.45		
Tare	15.75	15.52		
Moisture	18.0	19.0		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
101.24	86.60	6.67	18.3

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-2359	SS-18B	76.1-76.3	27.3	ND	ND	ND	ND

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project No.: 6468071777

Figure **NA**

HYDROMETER



○ SIEVE ANALYSIS ONLY
ND = Not Determined

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2359

Depth: 79.8-81.3

Sample Number: SS-19

Material Description: Pale Brown Clayey SAND (Visual)

Date: 1-3-08

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
282.93	0.00	0.00	#10	0.00	100.0
99.29	0.00	0.00	#20	0.02	100.0
			#40	0.25	99.7
			#60	17.76	82.1
			#100	57.74	41.8
			#140	67.02	32.5
			#200	73.15	26.3

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	0.3	73.4	73.7			26.3

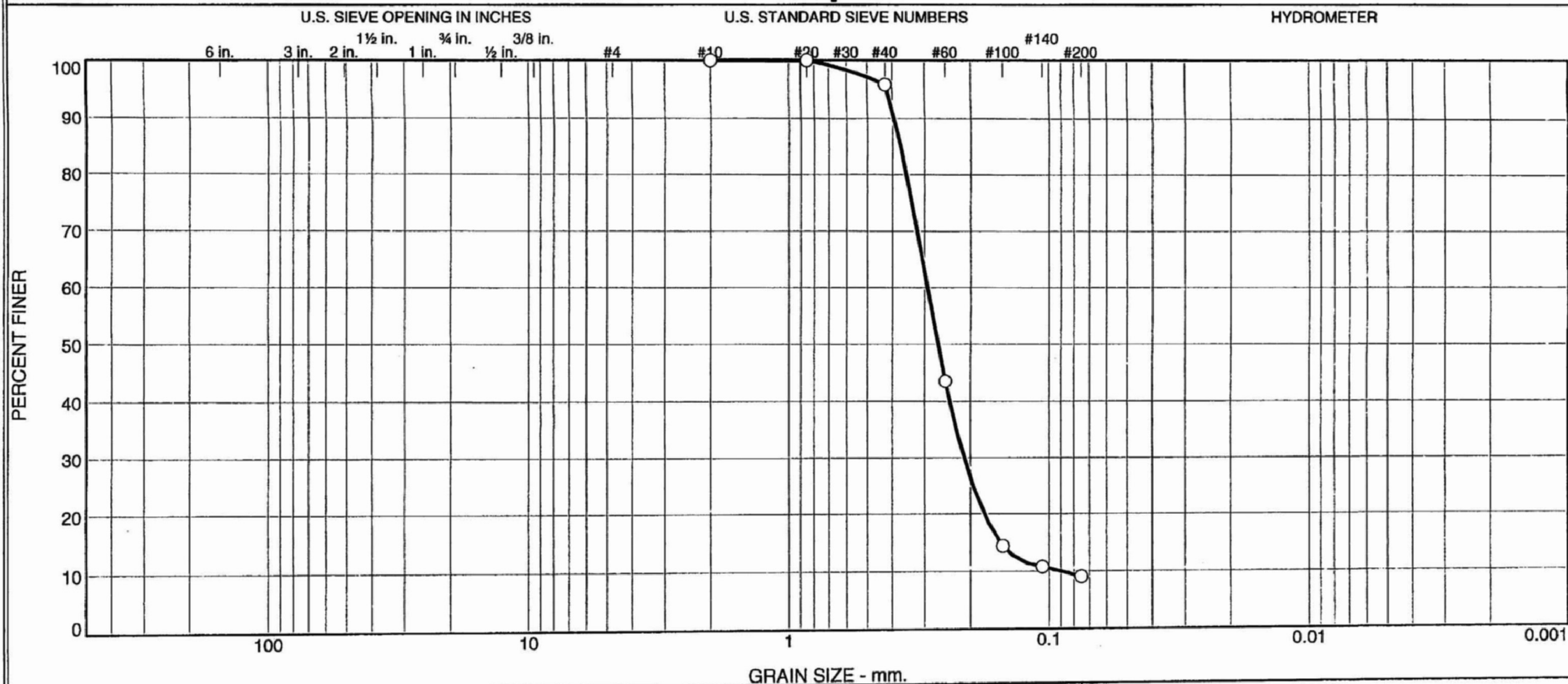
D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0913	0.1697	0.1915	0.2427	0.2614	0.2869	0.3275

Fineness Modulus

0.66

MACTEC, Inc.

Particle Size Distribution Report / ASTM D 6913-04e1



GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2359

Depth: 84.8-86.3

Sample Number: SS-20

Material Description: Pale Yellow Poorly Graded SAND with clay (Visual)

Date: 1-3-08

Natural Moisture: ND

Liquid Limit: ND

Plastic Limit: ND

USCS Class.: SP-SC

Testing Remarks: SIEVE ANALYSIS ONLY

Specific Gravity = 2.655 (ASTM D854-06)

ND = Not Determined

Tested by: CS

Checked by: LBJ

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
235.66	0.00	0.00	#10	0.00	100.0
99.15	0.00	0.00	#20	0.00	100.0
			#40	4.16	95.8
			#60	55.98	43.5
			#100	84.82	14.5
			#140	88.47	10.8
			#200	90.13	9.1

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	4.2	86.7	90.9			9.1

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.0898	0.1533	0.1770	0.2116	0.2669	0.2930	0.3528	0.3714	0.3929	0.4198

Fineness Modulus	C _u	C _c
1.25	3.26	1.70

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: 2/06/08

SAMPLE IDENTIFICATION: B-2359 SS-20

(A) Mass of oven-dried soil, grams:	76.03
(B) Mass of pycnometer filled with water at test temperature (T), grams:	655.67
(C) Mass of pycnometer, water and soil, grams:	703.08
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	22.0
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.657
(F) Correction factor:	0.99957
(G x F) SPECIFIC GRAVITY @ 20°C:	2.655

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100

Poorly Graded SAND with clay (SP-SC) - Visual

EQUIPMENT USED

SCALES : 3.1.99

OVEN : 5.1.16

THERMOMETER : 5.1.01

PYCNO METER : P-3

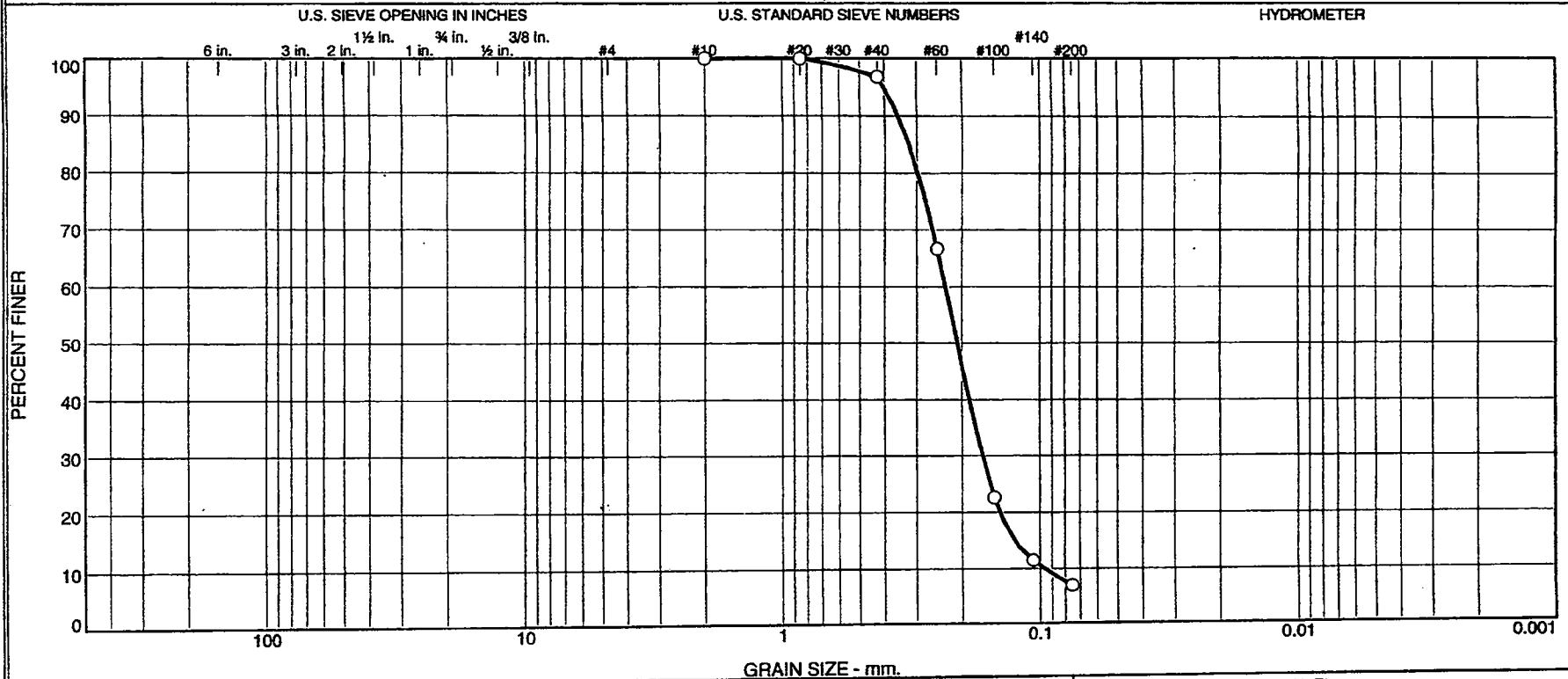
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

DSC 2-27-08

Particle Size Distribution Report / ASTM D 6913-04e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	3.2	89.8	7.0	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2359	SS-21	89.8-91.3	1-3-08	SP-SC	Light Yellowish Brown Poorly Graded SAND with clay (Visual)	ND	ND	ND

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

Tested By: CS

Checked By: L.B.I

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-2359

Depth: 89.8-91.3

Sample Number: SS-21

Material Description: Light Yellowish Brown Poorly Graded SAND with clay (Visual)

Date: 1-3-08

Natural Moisture: ND

Liquid Limit: ND

Plastic Limit: ND

USCS Class.: SP-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
239.58	0.00	0.00	#10	0.00	100.0
102.67	0.00	0.00	#20	0.03	100.0
			#40	3.30	96.8
			#60	34.12	66.8
			#100	79.45	22.6
			#140	90.82	11.5
			#200	95.49	7.0

Fractional Components

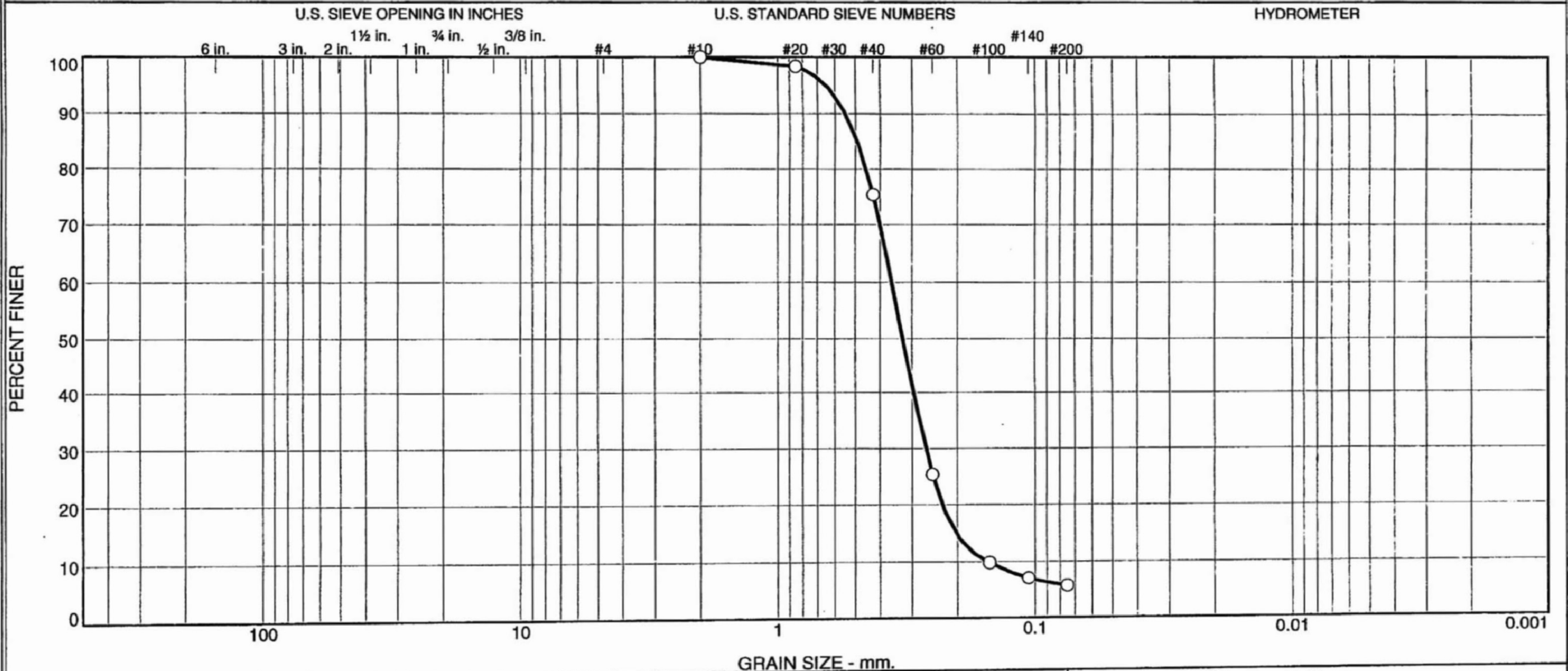
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	3.2	89.8	93.0			7.0

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.0956	0.1251	0.1429	0.1669	0.2086	0.2318	0.2974	0.3223	0.3545	0.4010

Fineness Modulus	C _u	C _c
0.98	2.42	1.26

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	24.6	69.8	5.6	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2359	SS-22	94.8-96.3	1-3-08	SP-SC	Light Yellowish Brown Poorly Graded SAND with clay (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>		

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2359

Depth: 94.8-96.3

Sample Number: SS-22

Material Description: Light Yellowish Brown Poorly Graded SAND with clay (Visual)

Date: 1-3-08

Natural Moisture: ND

Liquid Limit: ND

Plastic Limit: ND

USCS Class.: SP-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
247.98	0.00	0.00	#10	0.00	100.0
95.67	0.00	0.00	#20	1.57	98.4
			#40	23.57	75.4
			#60	71.35	25.4
			#100	86.27	9.8
			#140	88.92	7.1
			#200	90.27	5.6

Fractional Components

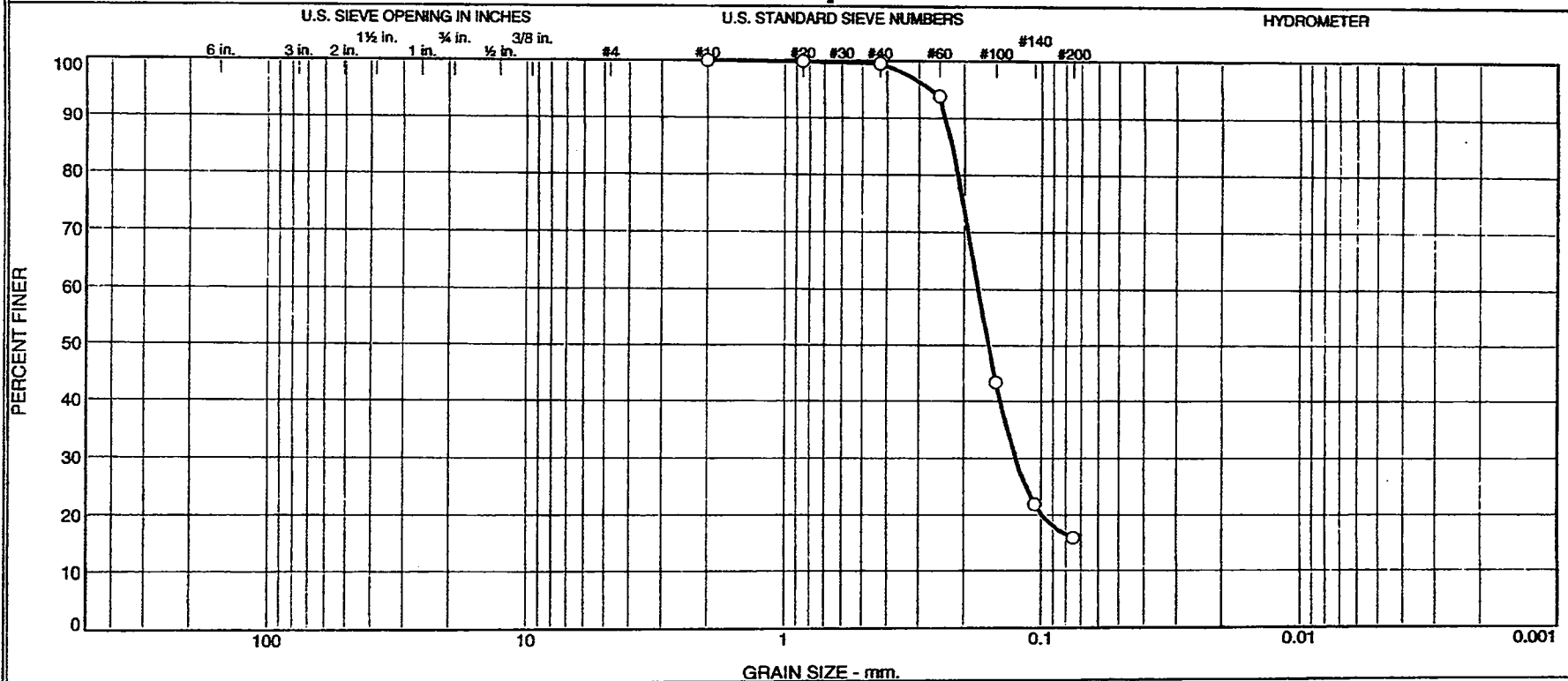
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	24.6	69.8	94.4			5.6

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.1527	0.2024	0.2287	0.2653	0.3267	0.3600	0.4524	0.4907	0.5460	0.6466

Fineness Modulus	C _u	C _c
1.57	2.36	1.28

MACTEC, Inc.

Particle Size Distribution Report / ASTM D 6913-04e1

[illegible][illegible]

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

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2359

Depth: 99.8-101.3

Sample Number: SS-23

Material Description: Light Brownish Gray Clayey SAND (Visual)

Date: 1-3-08

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
260.19	0.00	0.00	#10	0.00	100.0
100.10	0.00	0.00	#20	0.11	99.9
			#40	0.48	99.5
			#60	6.15	93.9
			#100	56.70	43.4
			#140	78.13	21.9
			#200	84.15	15.9

Fractional Components

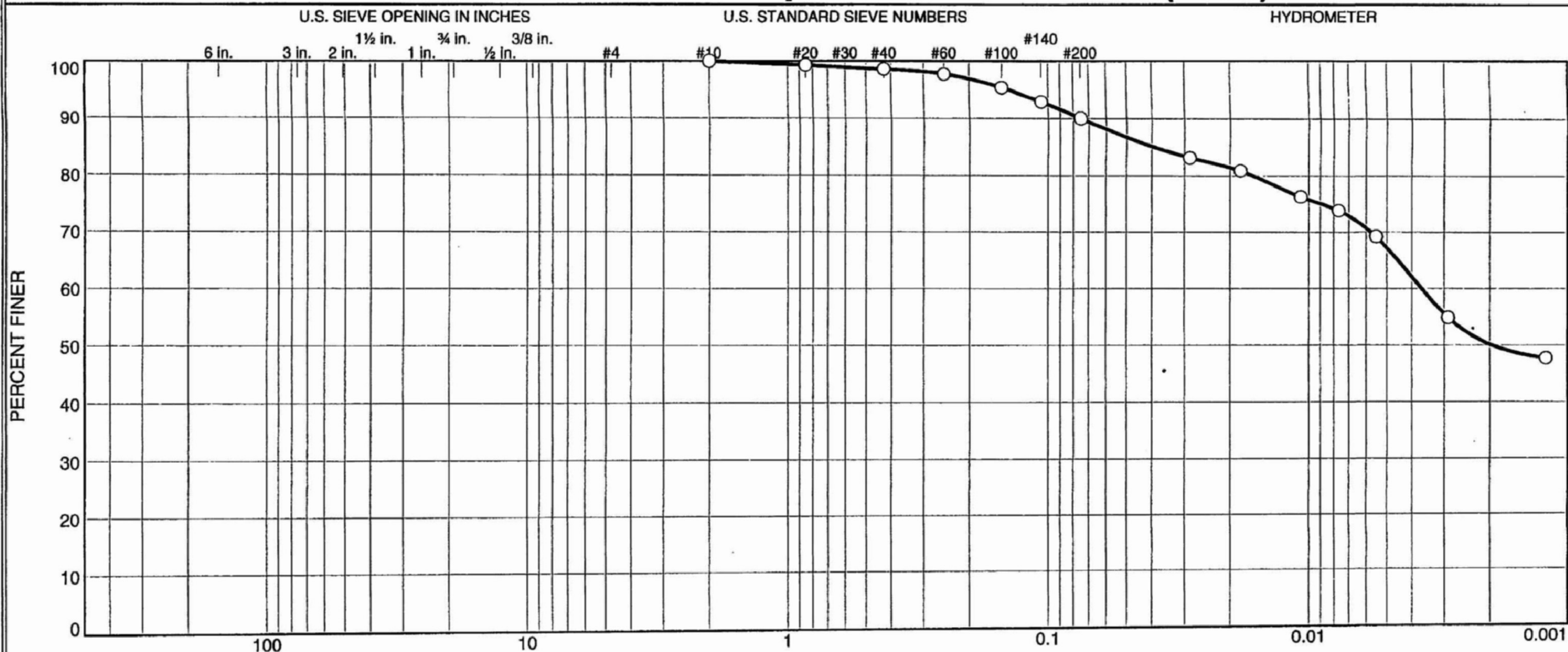
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.5	83.6	84.1			15.9

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
		0.0992	0.1259	0.1605	0.1761	0.2118	0.2231	0.2366	0.2706

Fineness Modulus
0.61

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	8.6	22.7	67.3

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2359	SS-24	109.8-111.3	1-3-08	CH	Brownish Yellow Fat CLAY	26.6	63	19

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777

Figure *NA*

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.688 (ASTM D854-06)

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2359

Depth: 109.8-111.3

Sample Number: SS-24

Material Description: Brownish Yellow Fat CLAY

Date: 1-3-08

Natural Moisture: 26.6

Liquid Limit: 63

Plastic Limit: 19

USCS Class.: CH

Testing Remarks: Specific Gravity = 2.688 (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
174.18	0.00	0.00	#10	0.00	100.0
45.37	0.00	0.00	#20	0.32	99.3
			#40	0.64	98.6
			#60	1.02	97.8
			#100	2.13	95.3
			#140	3.26	92.8
			#200	4.53	90.0

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 45.36

Hygroscopic moisture correction:

Moist weight and tare = 28.18

Dry weight and tare = 27.56

Tare weight = 15.41

Hygroscopic moisture = 5.1%

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 = 2.688

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	41.0	36.2	0.0132	42.0	9.4	0.0285	83.2
5.00	22.0	40.0	35.2	0.0132	41.0	9.6	0.0182	80.9
15.00	22.0	38.0	33.2	0.0132	39.0	9.9	0.0107	76.3
30.00	21.8	37.0	32.1	0.0132	38.0	10.1	0.0076	73.8
60.00	21.8	35.0	30.1	0.0132	36.0	10.4	0.0055	69.2
240.00	21.1	29.0	23.9	0.0133	30.0	11.4	0.0029	54.9
1440.00	20.8	26.0	20.8	0.0134	27.0	11.9	0.0012	47.8

MACTEC, Inc.

Fractural Components

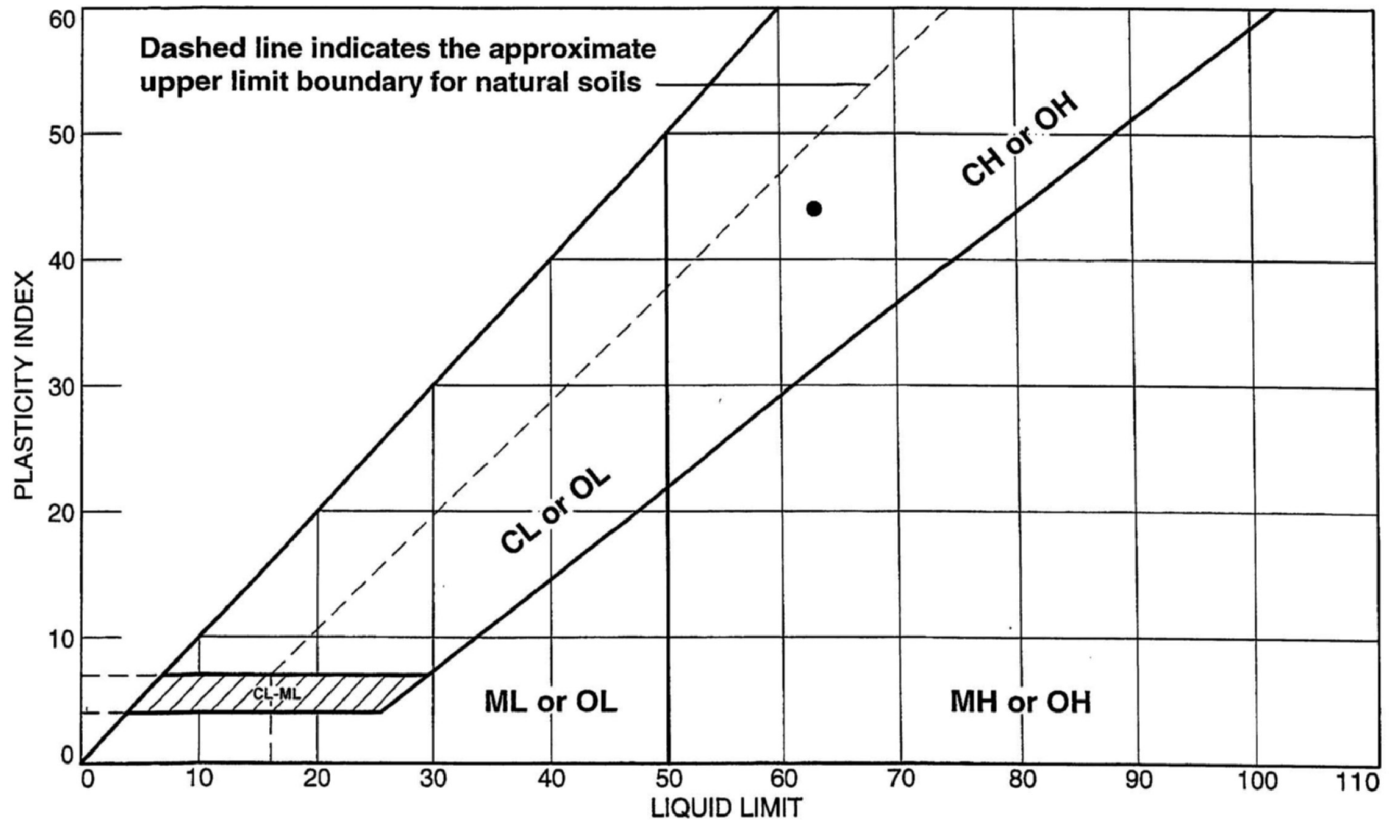
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	1.4	8.6	10.0	22.7	67.3	90.0

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
				0.0020	0.0037	0.0162	0.0390	0.0749	0.1431

Fineness Modulus
0.08

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-2359	SS-24	109.8-111.3	26.6	19	63	44	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 2-27-08