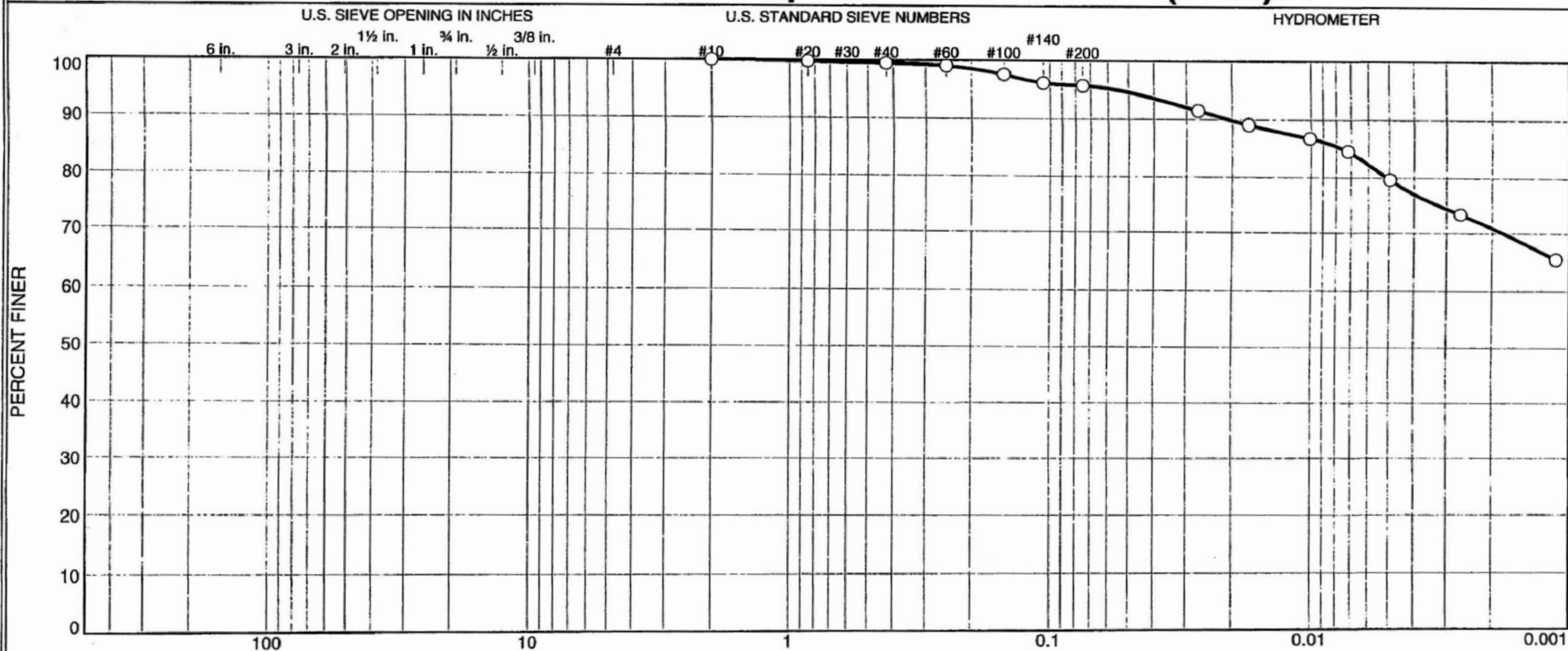


Particle Size Distribution Report / ASTM D 422-63(2002)e1



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.5	3.9	15.9	79.7

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2304A	SS-31	178.5-180.0	1-18-08	CH	Mottled Light Gray and Yellow Fat CLAY	30.7	76	29

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

GRAIN SIZE DISTRIBUTION TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 178.5-180.0

Sample Number: SS-31

Material Description: Mottled Light Gray and Yellow Fat CLAY

Date: 1-18-08

Natural Moisture: 30.7

Liquid Limit: 76

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
182.99	0.00	0.00	#10	0.00	100.0
47.30	0.00	0.00	#20	0.11	99.8
			#40	0.26	99.5
			#60	0.46	99.0
			#100	1.17	97.5
			#140	1.87	96.0
			#200	2.07	95.6

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 47.30

Hygroscopic moisture correction:

Moist weight and tare = 33.53

Dry weight and tare = 32.57

Tare weight = 20.16

Hygroscopic moisture = 7.7%

Table of composite correction values:

Temp., deg. C: 13.0 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	23.1	45.0	40.6	0.0129	46.0	8.8	0.0271	91.5
5.00	23.0	44.0	39.6	0.0130	45.0	8.9	0.0173	89.1
15.00	23.0	43.0	38.6	0.0130	44.0	9.1	0.0101	86.9
30.00	23.0	42.0	37.6	0.0130	43.0	9.2	0.0072	84.6
60.00	28.0	38.0	35.4	0.0122	39.0	9.9	0.0050	79.6
240.00	23.1	37.0	32.6	0.0129	38.0	10.1	0.0027	73.4
1440.00	21.6	34.0	29.1	0.0132	35.0	10.6	0.0011	65.5

MACTEC, Inc.

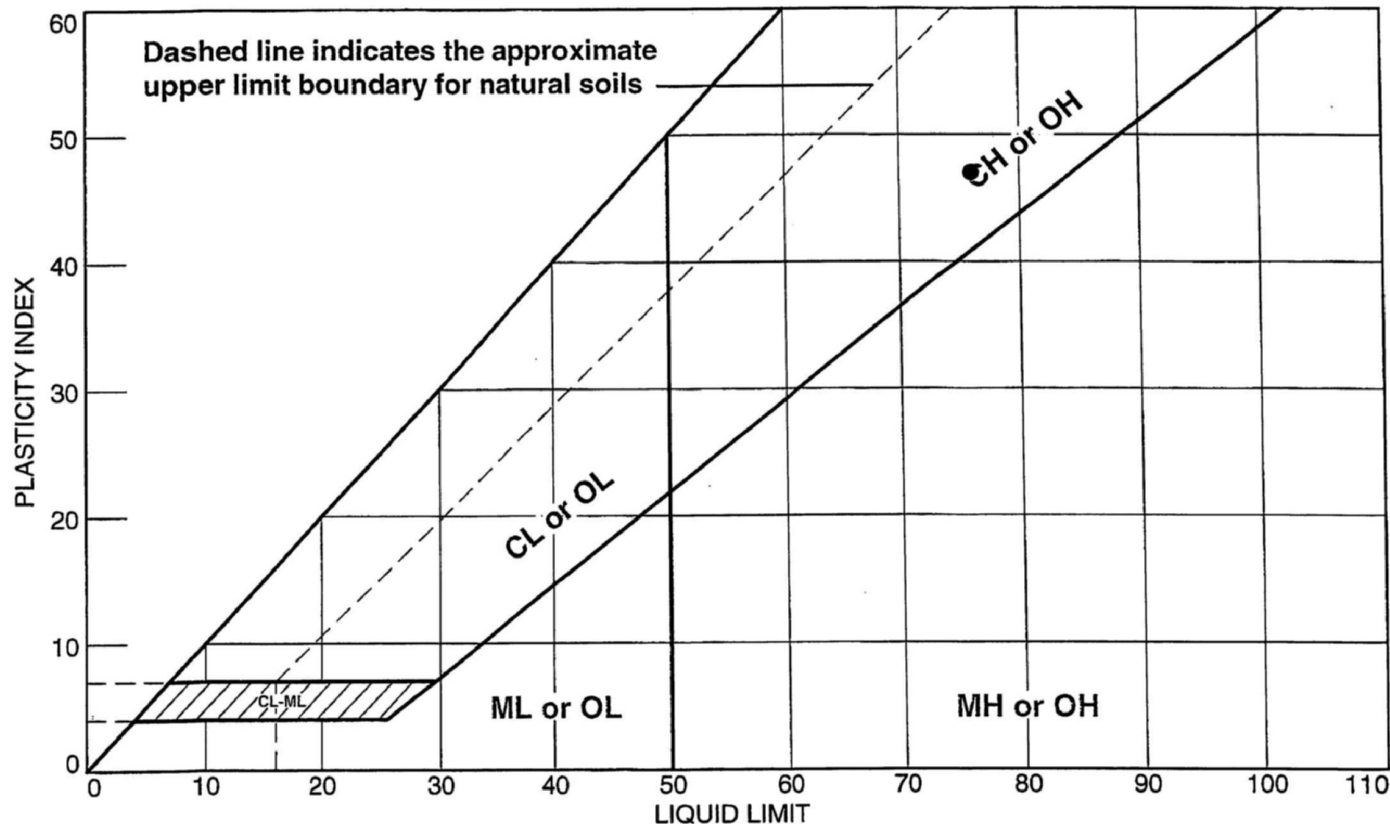
Fractional Components

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	3.9	4.4	15.9	79.7	95.6

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
						0.0051	0.0075	0.0206	0.0570

Fineness Modulus
0.04

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-2304A	SS-31	178.5-180.0	30.7	29	76	47	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 4-2-08

LIQUID AND PLASTIC LIMIT TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 178.5-180.0

Sample Number: SS-31

Material Description: Mottled Light Gray and Yellow Fat CLAY

USCS: CH

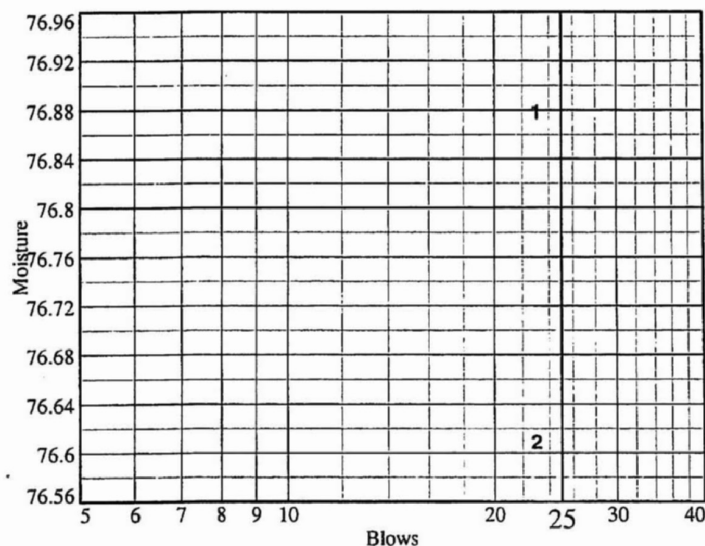
AASHTO: A-7-6(53)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	24.68	19.36				
Dry+Tare	20.69	15.79				
Tare	15.50	11.13				
# Blows	23	23				
Moisture	76.9	76.6				



Liquid Limit= 76
 Plastic Limit= 29
 Plasticity Index= 47
 Natural Moisture= 30.7
 Liquidity Index= 0.0

Plastic Limit Data

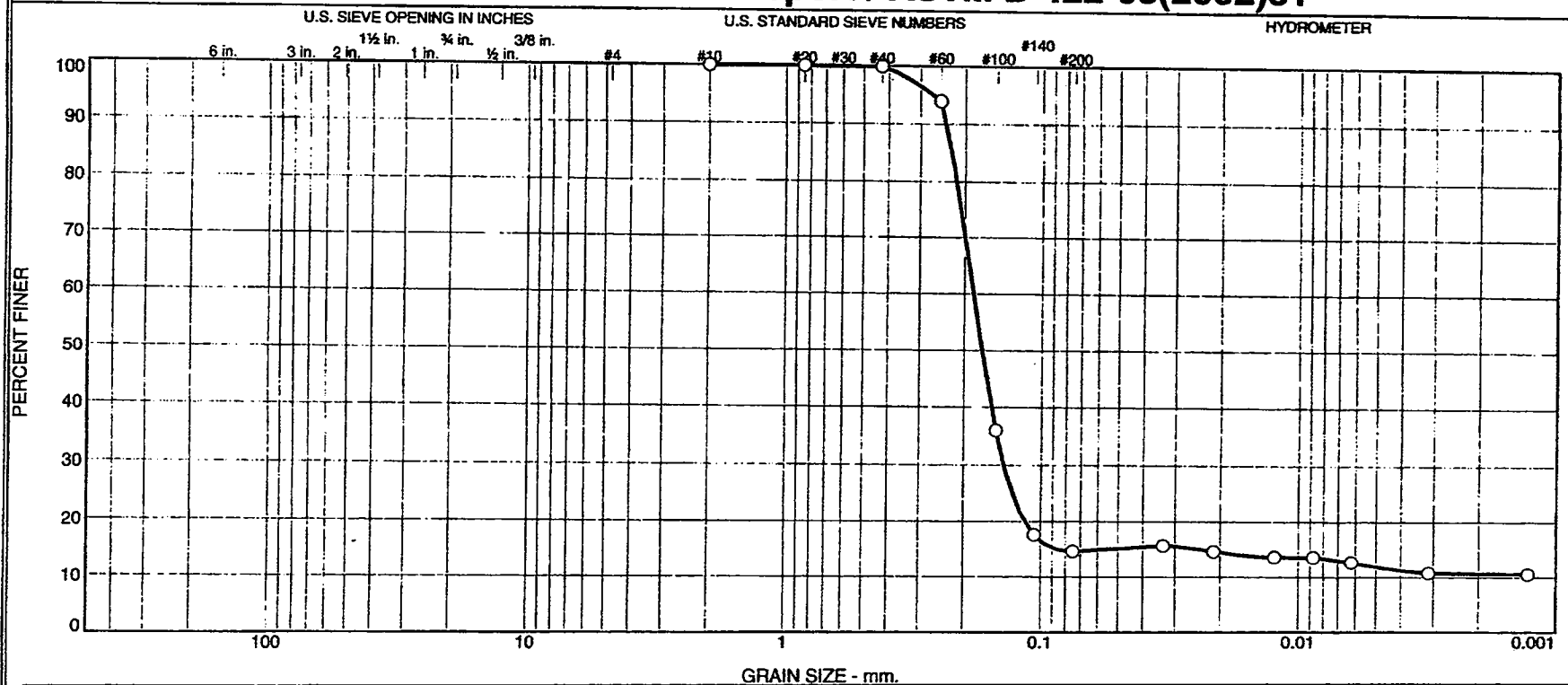
Run No.	1	2	3	4
Wet+Tare	22.21	22.00		
Dry+Tare	20.69	20.53		
Tare	15.45	15.47		
Moisture	29.0	29.1		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
86.17	67.58	7.03	30.7

MACTEC, Inc.

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



GRAIN SIZE DISTRIBUTION TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 188.5-190.0

Sample Number: SS-32

Material Description: Pale Yellow Silty SAND

Date: 1-18-08

Natural Moisture: 20.4

Liquid Limit: NV

Plastic Limit: NP

USCS Class.: SM

Testing Remarks: Specific Gravity = 2.655 (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
257.76	0.00	0.00	#10	0.00	100.0
99.72	0.00	0.00	#20	0.02	100.0
			#40	0.11	99.9
			#60	6.04	93.9
			#100	63.80	36.0
			#140	82.13	17.6
			#200	85.09	14.7

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 99.72

Hygroscopic moisture correction:

Moist weight and tare = 28.25

Dry weight and tare = 28.10

Tare weight = 15.50

Hygroscopic moisture = 1.2%

Table of composite correction values:

Temp., deg. C: 13.0 29.8

Comp. corr.: -8.0 -2.0

Meniscus correction only = 1.0

Specific gravity of solids = 2.655

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	22.8	20.0	15.5	0.0132	21.0	12.9	0.0334	15.7
5.00	22.8	19.0	14.5	0.0132	20.0	13.0	0.0212	14.7
15.00	22.7	18.0	13.5	0.0132	19.0	13.2	0.0124	13.6
30.00	22.6	18.0	13.4	0.0132	19.0	13.2	0.0087	13.6
60.00	22.8	17.0	12.5	0.0132	18.0	13.3	0.0062	12.7
240.00	23.2	15.0	10.6	0.0131	16.0	13.7	0.0031	10.8
1440.00	22.6	15.0	10.4	0.0132	16.0	13.7	0.0013	10.6

MACTEC, Inc.

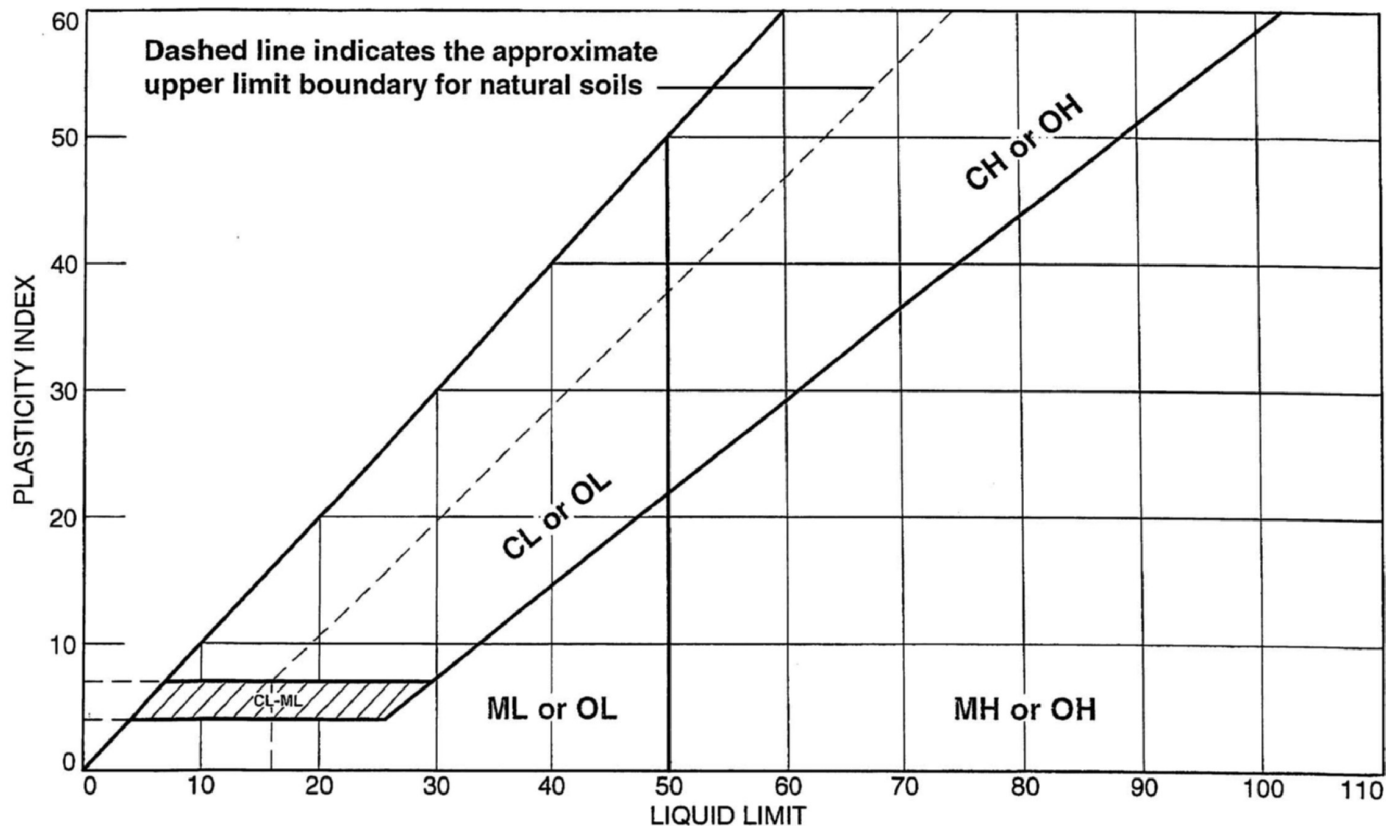
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.1	85.2	85.3	2.7	12.0	14.7

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
	0.0235	0.1154	0.1396	0.1703	0.1844	0.2165	0.2265	0.2383	0.2678

Fineness Modulus
0.67

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-2304A	SS-32	188.5-190.0	20.4	NP	NV	NP	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 4-2-08

LIQUID AND PLASTIC LIMIT TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 188.5-190.0

Sample Number: SS-32

Material Description: Pale Yellow Silty SAND

USCS: SM

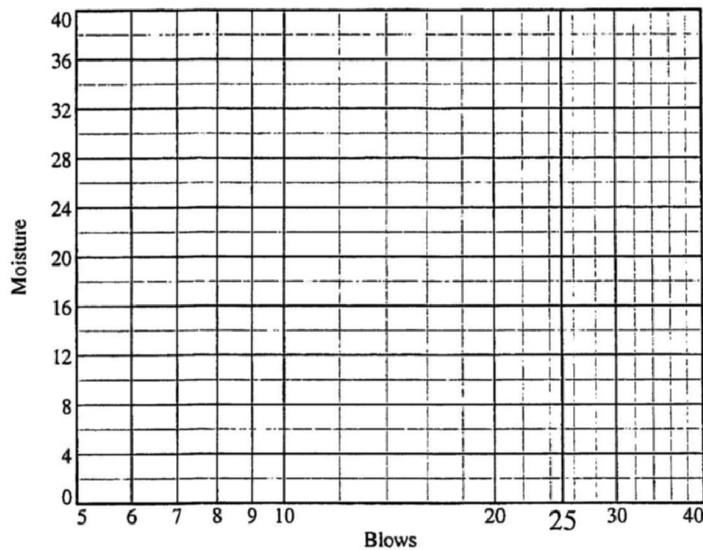
AASHTO: A-2-4(0)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare						
Dry+Tare						
Tare						
# Blows						
Moisture						



Liquid Limit= NV
 Plastic Limit= NP
 Plasticity Index= NP
 Natural Moisture= 20.4

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare				
Dry+Tare				
Tare				
Moisture				

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
142.43	119.89	9.33	20.4

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: 4/1/08

SAMPLE IDENTIFICATION: B-2304A SS-32

(A) Mass of oven-dried soil, grams:	75.02
(B) Mass of pycnometer filled with water at test temperature (T), grams:	655.58
(C) Mass of pycnometer, water and soil, grams:	702.36
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	22.8
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.657
(F) <i>Correction factor:</i>	0.99938
(G x F) SPECIFIC GRAVITY @ 20°C:	2.655

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100

Silty SAND (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: LBJ

DSC 4-1-08

HYDROMETER



○

○

○ Specific Gravity = 2.653 (ASTM D854-06)

GRAIN SIZE DISTRIBUTION TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 198.5-200.0

Sample Number: SS-33

Material Description: Pale Yellow Clayey SAND

Date: 1-19-08

Natural Moisture: 17.1

Liquid Limit: 27

Plastic Limit: 19

USCS Class.: SC

Testing Remarks: Specific Gravity = 2.653 (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
227.86	0.00	0.00	#10	0.00	100.0
47.27	0.00	0.00	#20	2.86	93.9
			#40	4.58	90.3
			#60	6.88	85.4
			#100	19.65	58.4
			#140	27.28	42.3
			#200	30.94	34.5

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 47.27

Hygroscopic moisture correction:

Moist weight and tare = 28.21

Dry weight and tare = 27.85

Tare weight = 15.95

Hygroscopic moisture = 3.0%

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 = 2.653

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	21.1	17.0	11.9	0.0134	18.0	13.3	0.0347	25.9
5.00	21.1	15.0	9.9	0.0134	16.0	13.7	0.0222	21.5
15.00	21.1	14.0	8.9	0.0134	15.0	13.8	0.0129	19.4
30.00	21.2	14.0	8.9	0.0134	15.0	13.8	0.0091	19.4
60.00	21.2	13.0	7.9	0.0134	14.0	14.0	0.0065	17.3
240.00	21.3	13.0	8.0	0.0134	14.0	14.0	0.0032	17.3
1440.00	20.9	12.0	6.8	0.0135	13.0	14.2	0.0013	14.9

MACTEC, Inc.

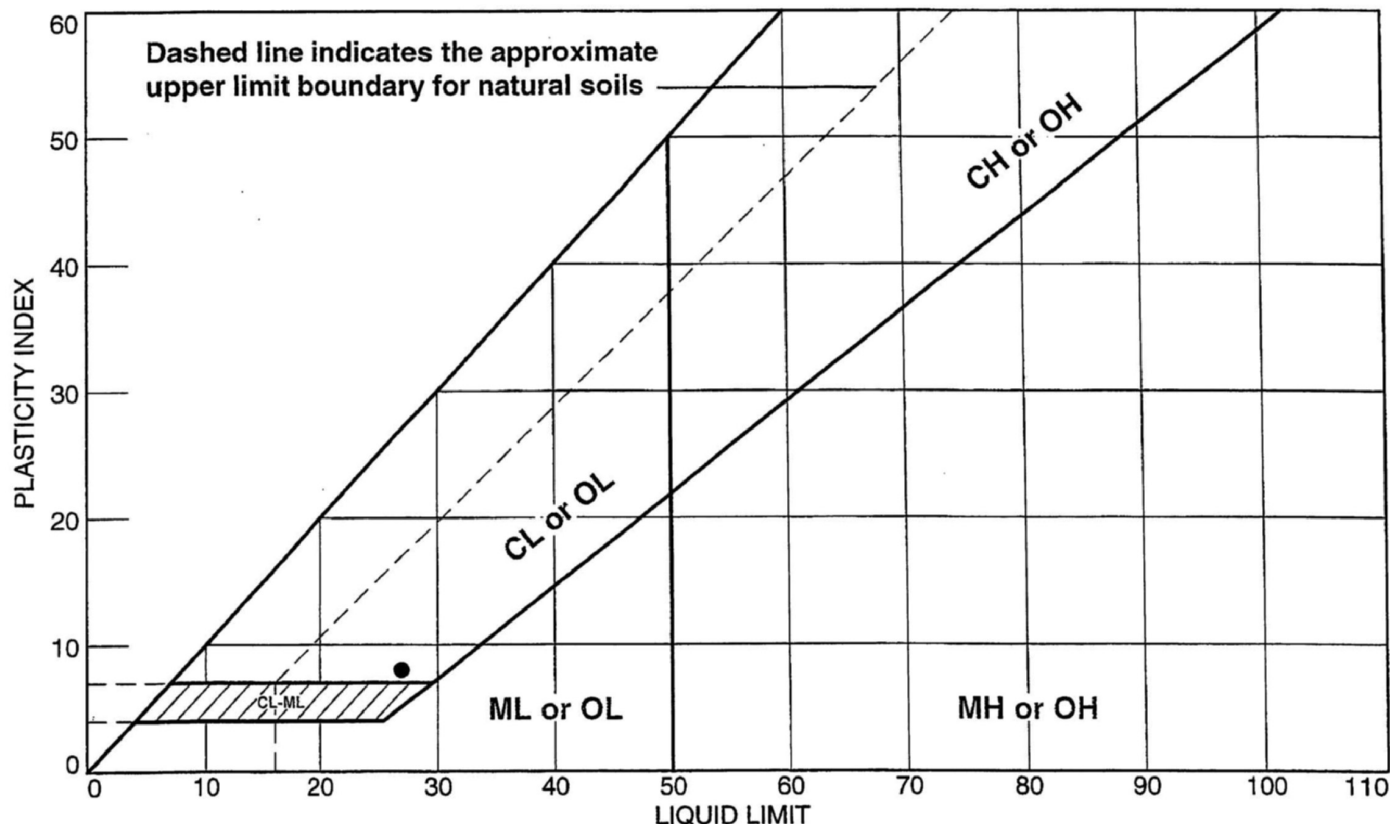
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	9.7	55.8	65.5	17.2	17.3	34.5

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
	0.0014	0.0165	0.0524	0.1279	0.1541	0.2189	0.2467	0.4080	0.9803

Fineness Modulus
0.66

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-2304A	SS-33	198.5-200.0	17.1	19	27	8	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 4-2-08

LIQUID AND PLASTIC LIMIT TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 198.5-200.0

Sample Number: SS-33

Material Description: Pale Yellow Clayey SAND

USCS: SC

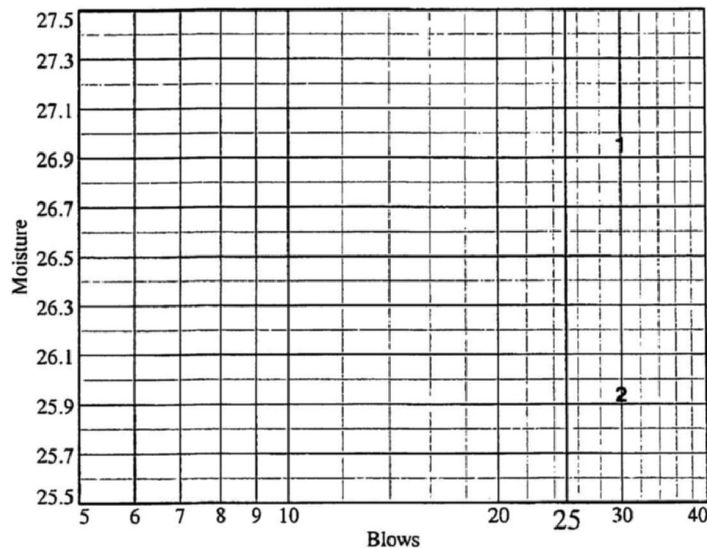
AASHTO: A-2-4(0)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	32.10	33.12				
Dry+Tare	28.58	29.47				
Tare	15.52	15.40				
# Blows	30	30				
Moisture	27.0	25.9				



Liquid Limit= 27
 Plastic Limit= 19
 Plasticity Index= 8
 Natural Moisture= 17.1
 Liquidity Index= -0.2

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.26	22.09			
Dry+Tare	21.18	21.07			
Tare	15.51	15.50			
Moisture	19.0	18.3			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
117.86	102.05	9.53	17.1

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: 4/1/08

SAMPLE IDENTIFICATION: B-2304A SS-33

(A) Mass of oven-dried soil, grams:	51.30
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.78
(C) Mass of pycnometer, water and soil, grams:	688.75
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	21.5
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.654
(F) Correction factor:	0.99968
(G x F) SPECIFIC GRAVITY @ 20°C:	2.653

MATERIAL TESTED: ☒ X
- # 4

☐
- # 10

PREPARATION METHOD: ☒ X
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

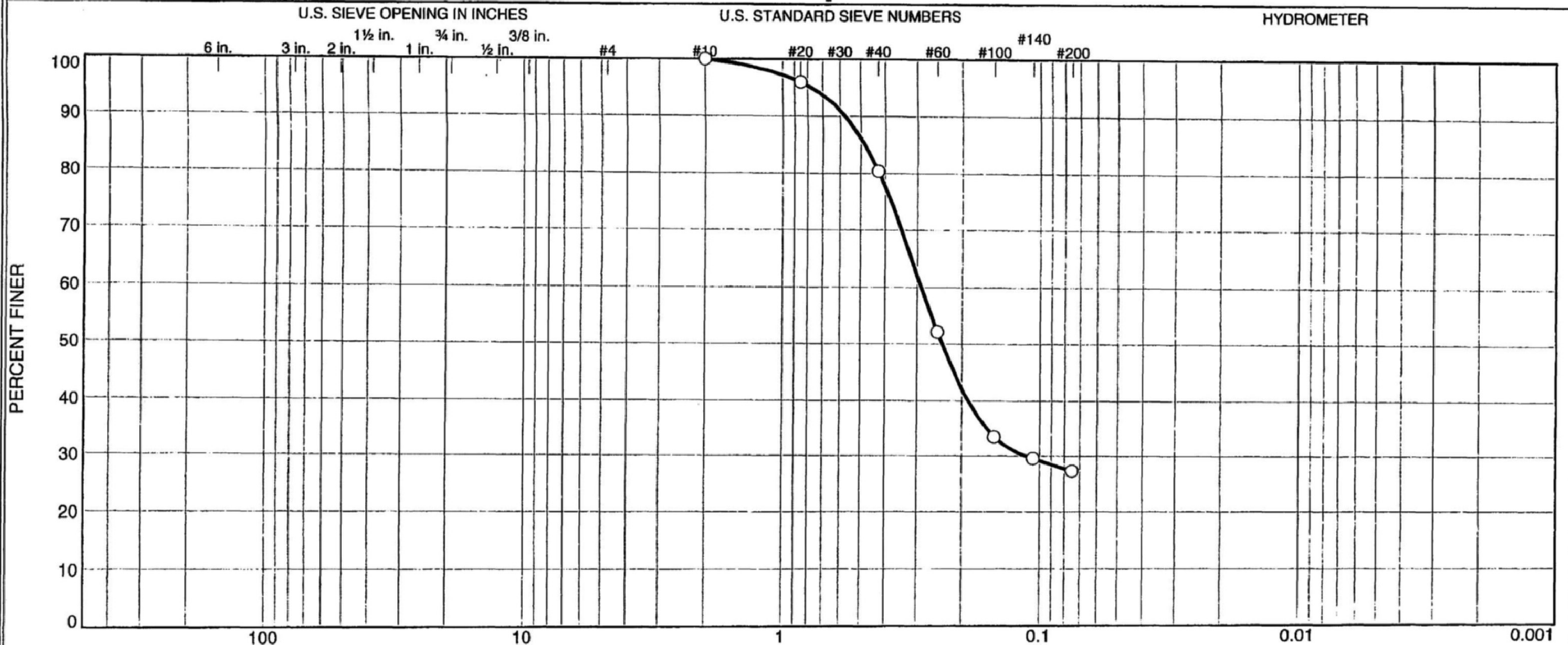
TESTED BY: CS

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

REVIEWED BY: LBJ

DSC 4-1-08

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	19.6	53.0	27.4	

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2304A	SS-34	218.5-220.0	1-23-08	SM	White 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>		

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 DCN# EXE808

GRAIN SIZE DISTRIBUTION TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 218.5-220.0

Sample Number: SS-34

Material Description: White Silty SAND (Visual)

Date: 1-23-08

Natural Moisture: ND

Liquid Limit: ND

Plastic Limit: ND

USCS Class.: SM

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
238.73	0.00	0.00	#10	0.00	100.0
101.30	0.00	0.00	#20	4.14	95.9
			#40	19.84	80.4
			#60	48.47	52.2
			#100	67.37	33.5
			#140	71.33	29.6
			#200	73.59	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	19.6	53.0	72.6			27.4

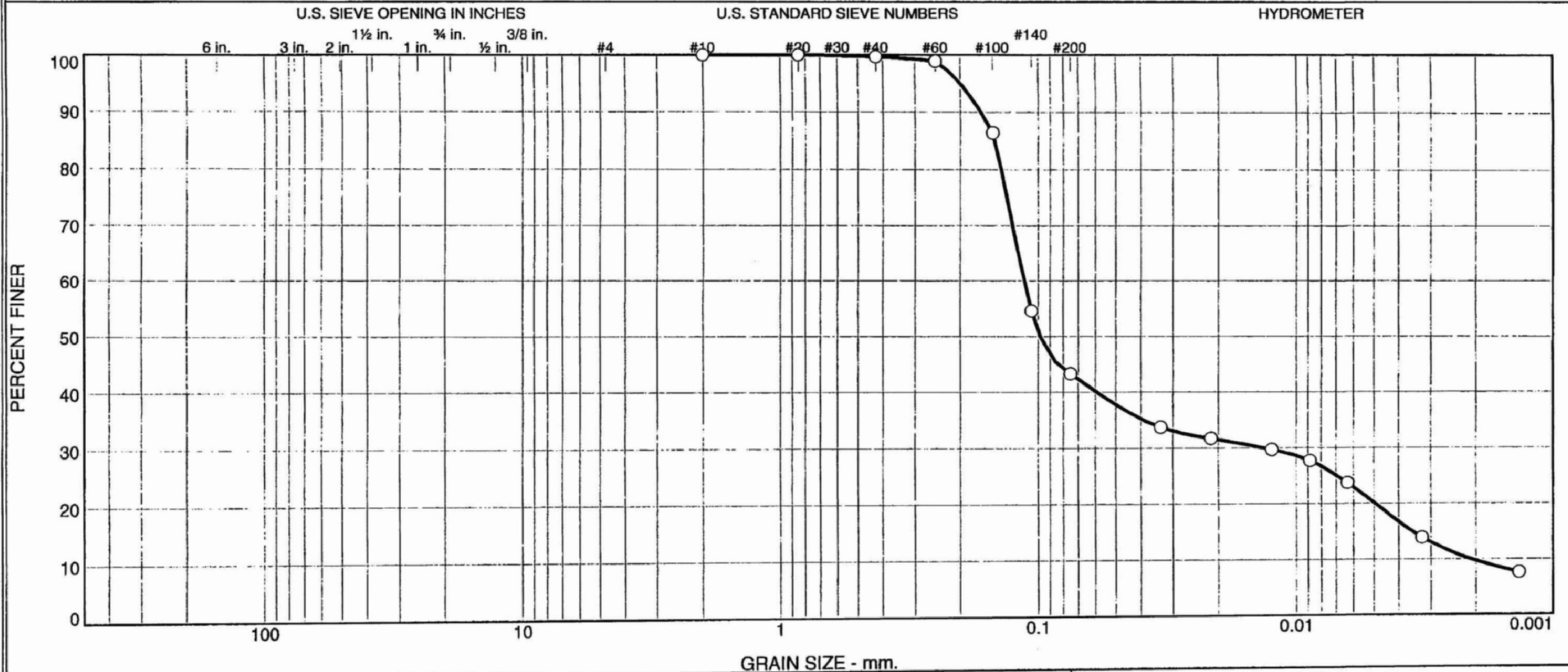
D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.1125	0.2395	0.2889	0.4210	0.4787	0.5711	0.7763

Fineness Modulus

1.15

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	0.3	56.4	23.2	20.1

Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
Boring B-2304A	SS-35	238.5-240.0	1-23-08	SC	Pale Yellow Clayey SAND	16.8	23	13

Client Bechtel	MACTEC, Inc. Raleigh, North Carolina	○ Specific Gravity = 2.656 (ASTM D854-06)
Project Exelon Texas COL (Victoria Reservoir)		
Project No. 6468071777		
Figure <i>NA</i>		

GRAIN SIZE DISTRIBUTION TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 238.5-240.0

Sample Number: SS-35

Material Description: Pale Yellow Clayey SAND

Date: 1-23-08

Natural Moisture: 16.8

Liquid Limit: 23

Plastic Limit: 13

USCS Class.: SC

Testing Remarks: Specific Gravity = 2.656 (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
255.62	0.00	0.00	#10	0.00	100.0
51.03	0.00	0.00	#20	0.01	100.0
			#40	0.16	99.7
			#60	0.56	98.9
			#100	6.87	86.5
			#140	23.18	54.6
			#200	28.95	43.3

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 51.03

Hygroscopic moisture correction:

Moist weight and tare = 29.53

Dry weight and tare = 29.35

Tare weight = 15.37

Hygroscopic moisture = 1.3%

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 = 2.656

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	21.4	22.0	17.0	0.0134	23.0	12.5	0.0335	33.7
5.00	21.4	21.0	16.0	0.0134	22.0	12.7	0.0213	31.7
15.00	21.4	20.0	15.0	0.0134	21.0	12.9	0.0124	29.7
30.00	21.4	19.0	14.0	0.0134	20.0	13.0	0.0088	27.8
60.00	21.3	17.0	12.0	0.0134	18.0	13.3	0.0063	23.7
240.00	21.5	12.0	7.0	0.0134	13.0	14.2	0.0032	13.9
1440.00	21.0	9.0	3.9	0.0135	10.0	14.7	0.0014	7.6

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	0.3	56.4	56.7	23.2	20.1	43.3

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.0021	0.0035	0.0050	0.0132	0.0981	0.1133	0.1390	0.1471	0.1666	0.2009

Fineness Modulus	C _u	C _c
0.14	54.08	0.74

Dashed line indicates the approximate upper limit boundary for natural soils

CH or OH

CL or OL

CL-ML

ML or OL

MH or OH

PLASTICITY INDEX

LIQUID LIMIT

DCN# EXE808

LIQUID AND PLASTIC LIMIT TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 238.5-240.0

Sample Number: SS-35

Material Description: Pale Yellow Clayey SAND

USCS: SC

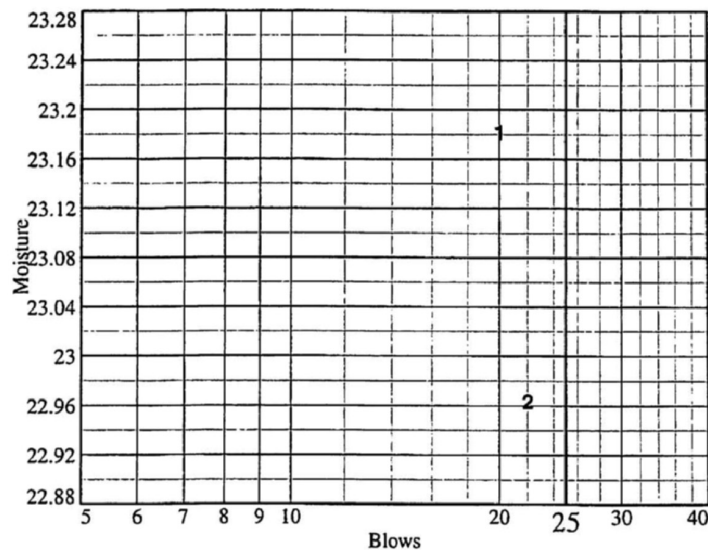
AASHTO: A-4(1)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.71	33.90				
Dry+Tare	28.65	30.46				
Tare	15.45	15.48				
# Blows	20	22				
Moisture	23.2	23.0				



Liquid Limit= 23
 Plastic Limit= 13
 Plasticity Index= 10
 Natural Moisture= 16.8
 Liquidity Index= 0.4

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	23.40	22.24		
Dry+Tare	22.50	21.46		
Tare	15.55	15.48		
Moisture	12.9	13.0		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
121.89	105.65	9.15	16.8

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: 4/1/08

SAMPLE IDENTIFICATION: B-2304A SS-35

(A) Mass of oven-dried soil, grams:	75.01
(B) Mass of pycnometer filled with water at test temperature (T), grams:	655.71
(C) Mass of pycnometer, water and soil, grams:	702.49
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	21.6
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.657
(F) <i>Correction factor:</i>	0.99966
(G x F) SPECIFIC GRAVITY @ 20°C:	2.656

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-3

TESTED BY: CS

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

REVIEWED BY:

LBJ

DSC 4-1-08

Client Bechtel		MACTEC, Inc. Raleigh, North Carolina	○ Specific Gravity = 2.650 (ASTM D854-06)
Project Exelon Texas COL (Victoria Reservoir)			
Project No. 6468071777	Figure <i>NA</i>		

DSC 4-2-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 258.5-260.0

Sample Number: SS-36

Material Description: Light Gray Clayey SAND

Date: 1-23-08

Natural Moisture: 22.6

Liquid Limit: 24

Plastic Limit: 13

USCS Class.: SC

Testing Remarks: Specific Gravity = 2.650 (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
276.15	0.00	0.00	#10	0.00	100.0
53.12	0.00	0.00	#20	0.01	100.0
			#40	0.12	99.8
			#60	0.58	98.9
			#100	5.89	88.9
			#140	19.83	62.7
			#200	33.38	37.2

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 53.12

Hygroscopic moisture correction:

Moist weight and tare = 28.97

Dry weight and tare = 28.74

Tare weight = 15.63

Hygroscopic moisture = 1.8%

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 = 2.650

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	21.4	17.0	12.0	0.0134	18.0	13.3	0.0346	23.0
5.00	21.4	15.0	10.0	0.0134	16.0	13.7	0.0222	19.2
15.00	21.4	14.0	9.0	0.0134	15.0	13.8	0.0129	17.2
30.00	21.3	13.0	8.0	0.0134	14.0	14.0	0.0092	15.3
60.00	21.4	11.5	6.5	0.0134	12.5	14.2	0.0065	12.5
240.00	21.3	10.0	5.0	0.0134	11.0	14.5	0.0033	9.5
1440.00	20.9	9.0	3.8	0.0135	10.0	14.7	0.0014	7.3

MACTEC, Inc.

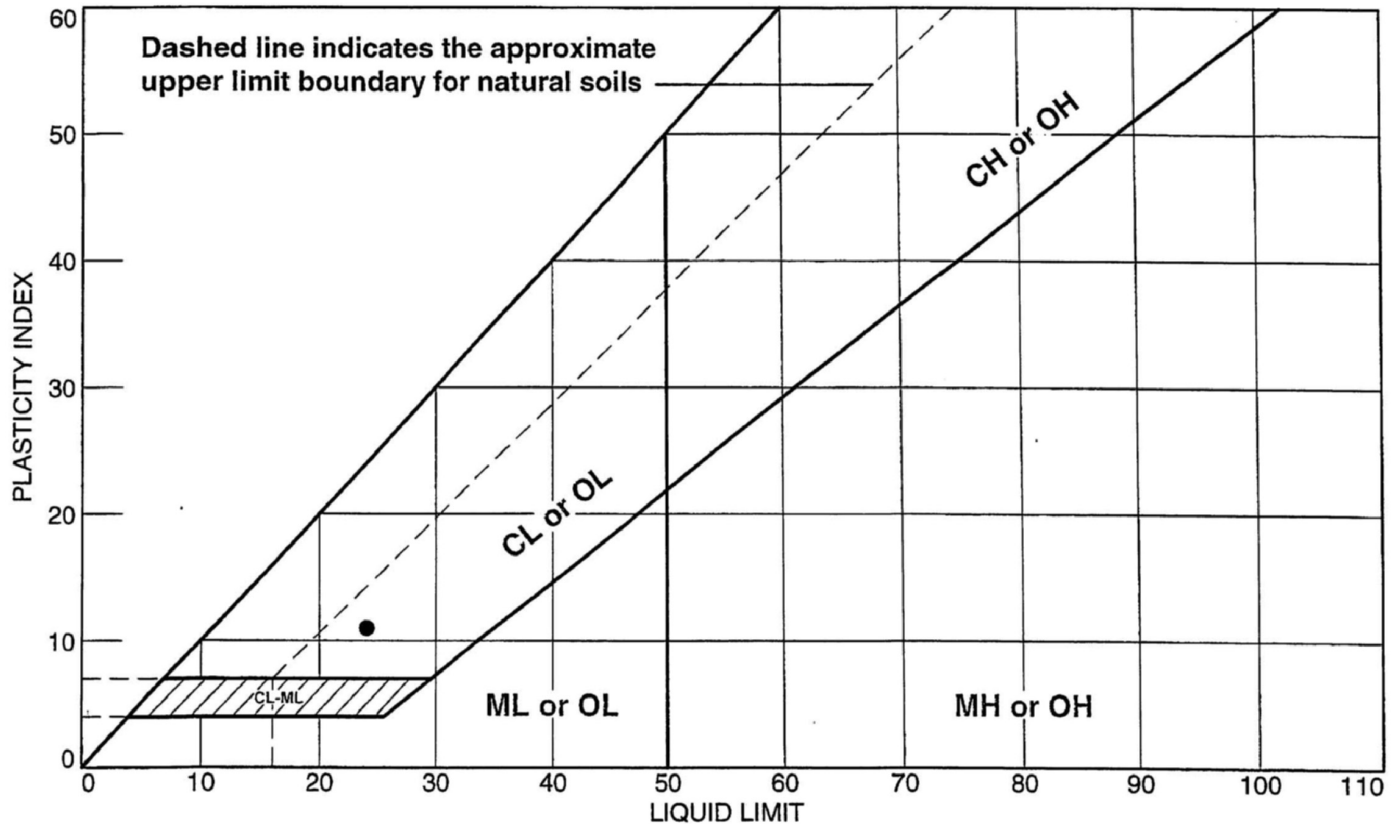
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.2	62.6	62.8	26.3	10.9	37.2

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
0.0039	0.0089	0.0246	0.0634	0.0908	0.1027	0.1309	0.1405	0.1532	0.1747

Fineness Modulus	C _u	C _c
0.12	26.14	9.97

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-2304A	SS-36	258.5-260.0	22.6	13	24	11	SC

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project No.: 6468071777

Figure N 1

Tested By: CS

Checked By: LBJ

DSC 4-2-08

LIQUID AND PLASTIC LIMIT TEST DATA

4/2/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria Reservoir)

Project Number: 6468071777

Location: Boring B-2304A

Depth: 258.5-260.0

Sample Number: SS-36

Material Description: Light Gray Clayey SAND

USCS: SC

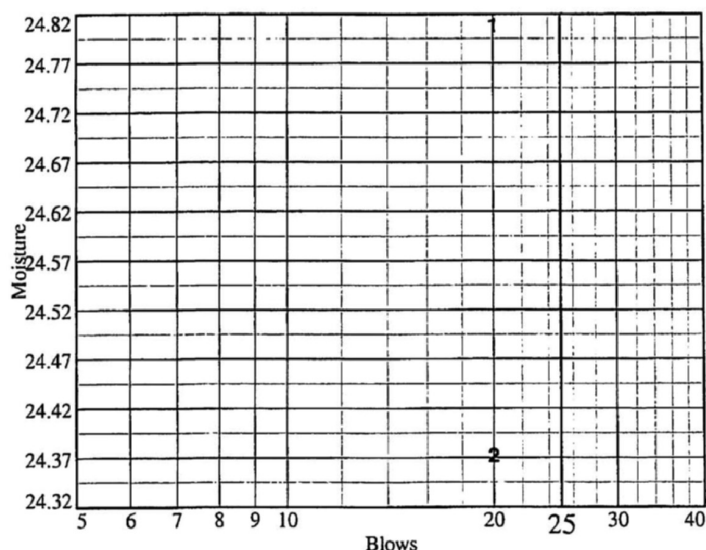
AASHTO: A-6(0)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	33.51	35.01				
Dry+Tare	29.94	31.22				
Tare	15.55	15.67				
# Blows	20	20				
Moisture	24.8	24.4				



Liquid Limit= 24
 Plastic Limit= 13
 Plasticity Index= 11
 Natural Moisture= 22.6
 Liquidity Index= 0.9

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	23.20	22.01		
Dry+Tare	22.29	21.25		
Tare	15.46	15.47		
Moisture	13.3	13.1		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
148.02	121.96	6.78	22.6

MACTEC, Inc.