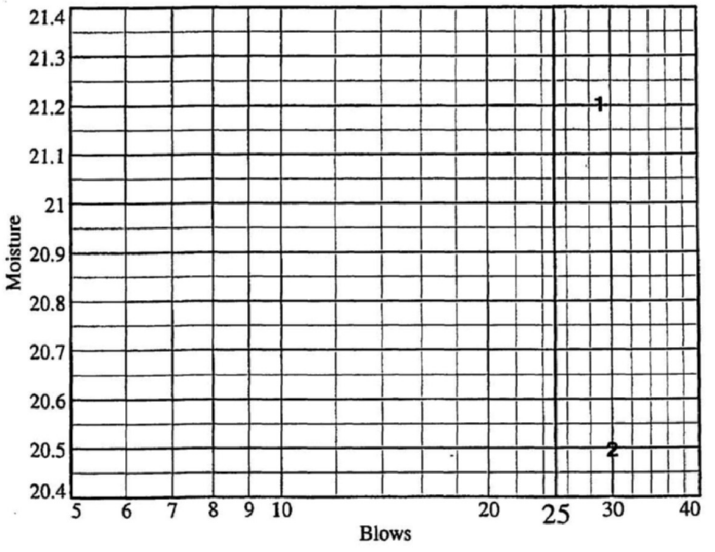
LIQUID AND PLASTIC LIMIT TEST DATA

2/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: Boring B-2319
Depth: 110.0-111.5 **Sample Number:** SS-24
Material Description: Pale Brown Silty SAND
USCS: SM **AASHTO:** A-4(0)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.79	35.66				
Dry+Tare	28.11	32.20				
Tare	15.47	15.32				
# Blows	29	30				
Moisture	21.2	20.5				



Liquid Limit= 21
Plastic Limit= 19
Plasticity Index= 2
Natural Moisture= 24.8
Liquidity Index= 2.9

Plastic Limit Data

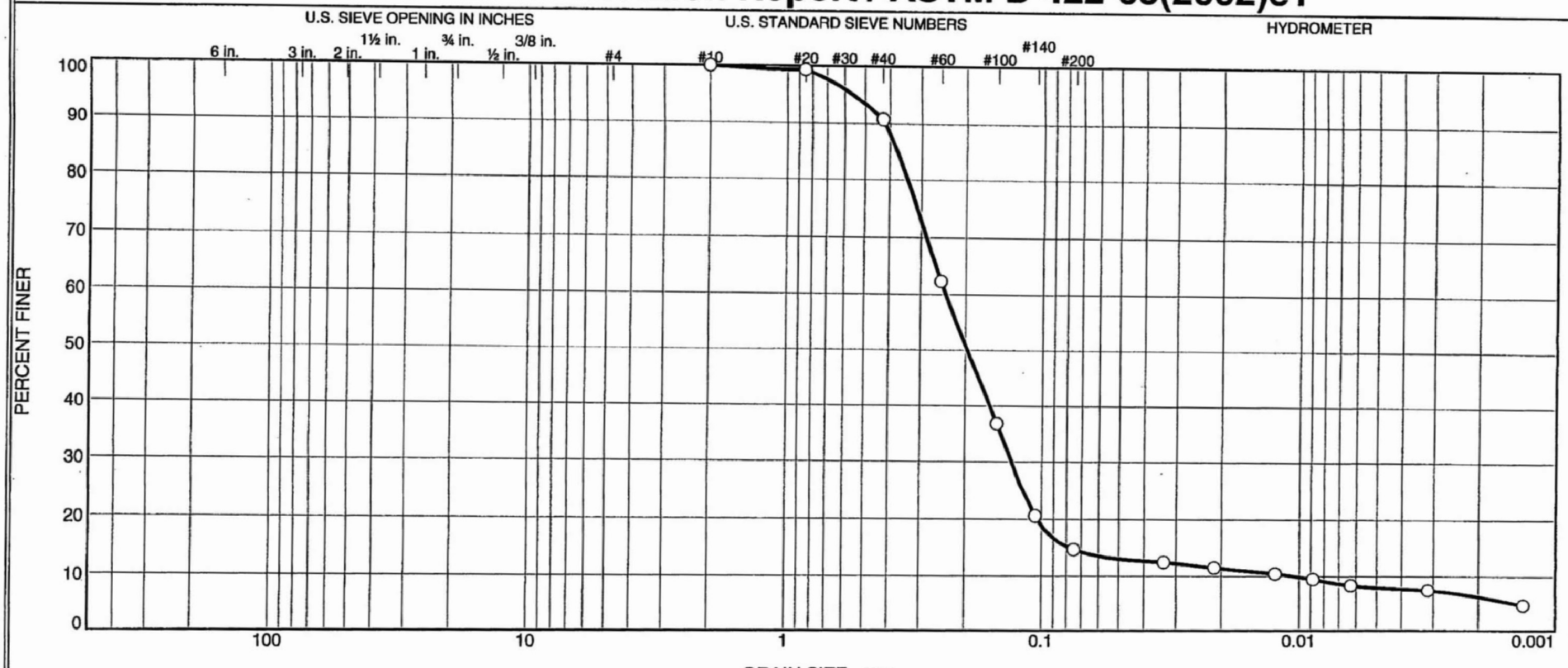
Run No.	1	2	3	4	
Wet+Tare	25.50	25.77			
Dry+Tare	23.90	24.07			
Tare	15.63	15.40			
Moisture	19.3	19.6			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
90.80	74.11	6.89	24.8

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	9.2	76.1	6.7	8.0

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2319	SS-25	120-121.5	12-17-07	SM	Light Brownish Gray Silty SAND	23.9	NV	NP

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777 Figure 14

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed

Tested By: CS **Checked By:** LBJ DSC 2-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: Boring B-2319
Depth: 120-121.5 **Sample Number:** SS-25
Material Description: Light Brownish Gray Silty SAND
Date: 12-17-07 **Natural Moisture:** 23.9
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** 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
268.94	0.00	0.00	#10	0.00	100.0
99.95	0.00	0.00	#20	0.71	99.3
			#40	9.23	90.8
			#60	37.63	62.4
			#100	63.12	36.8
			#140	79.36	20.6
			#200	85.23	14.7

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =99.94
Hygroscopic moisture correction:
Moist weight and tare = 28.76
Dry weight and tare = 28.69
Tare weight = 15.69
Hygroscopic moisture = 0.5%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	23.0	17.0	12.6	0.0130	18.0	13.3	0.0335	12.5
5.00	23.0	16.0	11.6	0.0130	17.0	13.5	0.0213	11.5
15.00	22.9	15.0	10.5	0.0130	16.0	13.7	0.0124	10.5
30.00	22.9	14.0	9.5	0.0130	15.0	13.8	0.0088	9.5
60.00	22.6	13.0	8.4	0.0130	14.0	14.0	0.0063	8.4
240.00	22.9	12.0	7.5	0.0130	13.0	14.2	0.0032	7.5
1440.00	20.6	10.0	4.7	0.0133	11.0	14.5	0.0013	4.7

MACTEC, Inc.

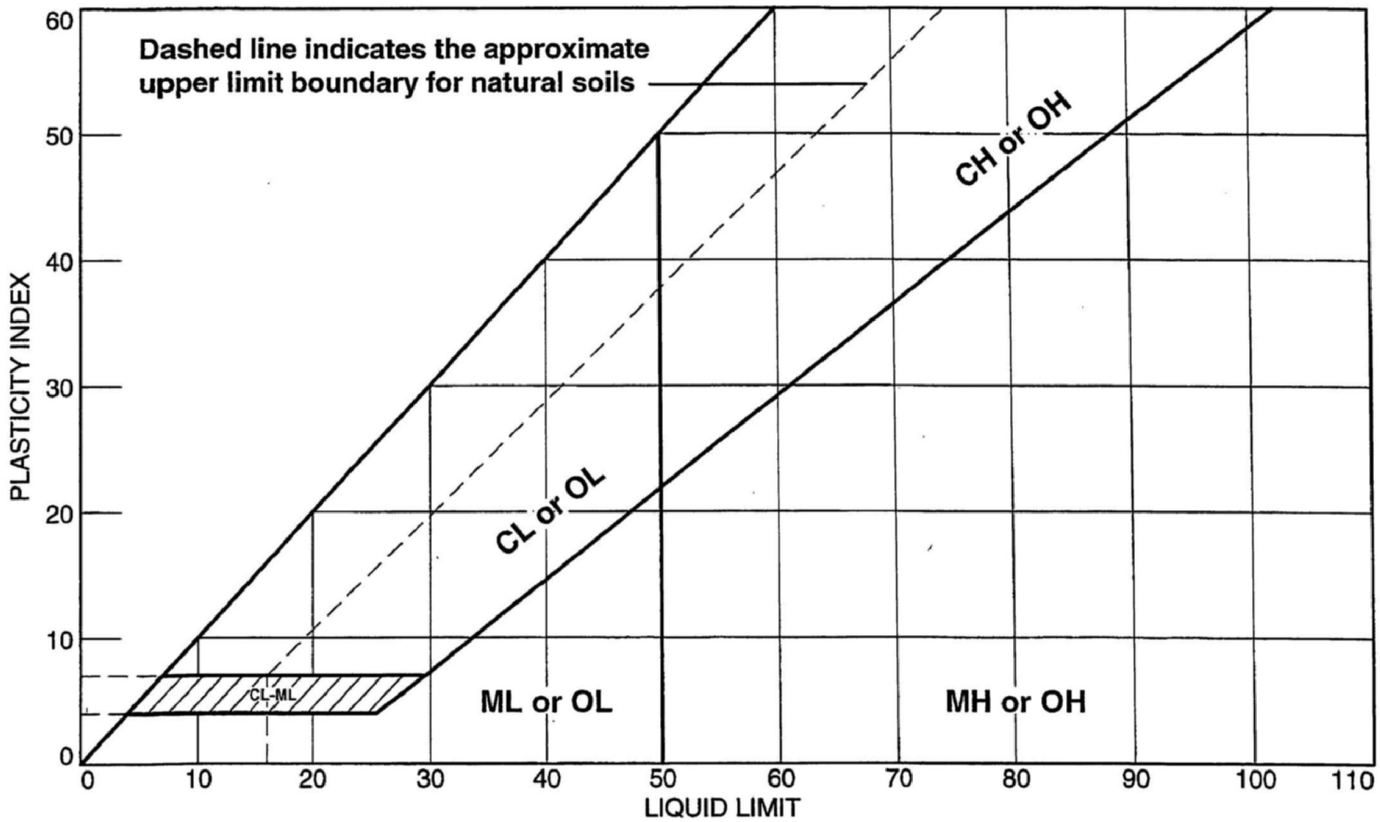
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	9.2	76.1	85.3	6.7	8.0	14.7

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0103	0.0777	0.1040	0.1314	0.1964	0.2394	0.3395	0.3731	0.4167	0.5596

Fineness Modulus	C_u	C_c
0.95	23.16	6.97

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-2319	SS-25	120-121.5	23.9	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 2-28-08

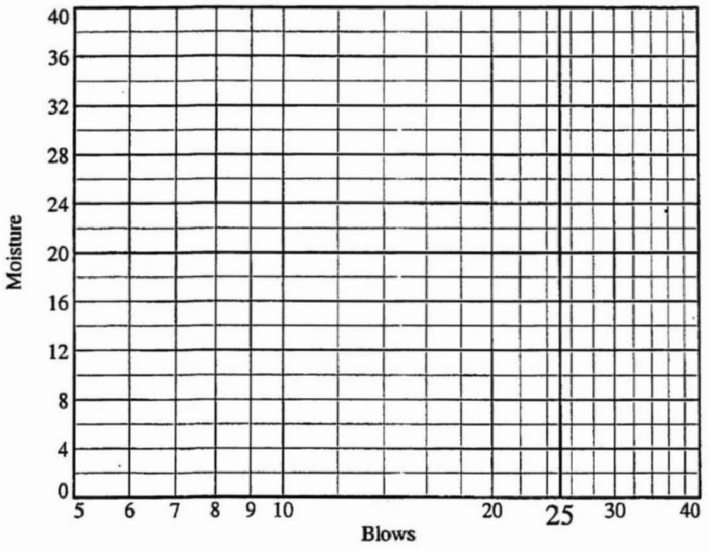
LIQUID AND PLASTIC LIMIT TEST DATA

2/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: Boring B-2319
Depth: 120-121.5 **Sample Number:** SS-25
Material Description: Light Brownish Gray 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= 23.9

Plastic Limit Data

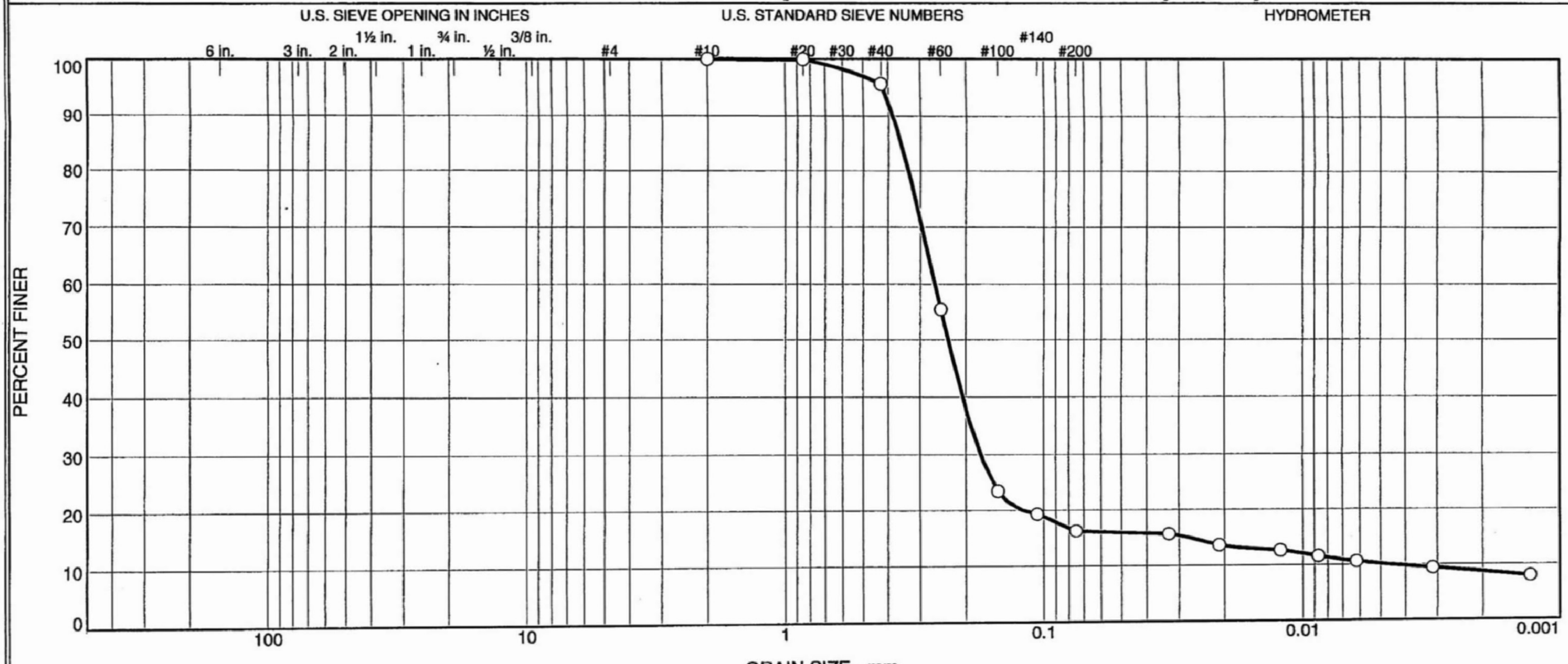
Run No.	1	2	3	4	
Wet+Tare					
Dry+Tare					
Tare					
Moisture					

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
123.96	101.40	6.91	23.9

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	0.0	0.0	4.3	79.5	6.0	10.2

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2319	SS-26	130-131.5	12-17-07	SM	Pale Brown Silty SAND	20.3	NV	NP

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:** LBJ DSC 2-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: Boring B-2319
Depth: 130-131.5 **Sample Number:** SS-26
Material Description: Pale Brown Silty SAND
Date: 12-17-07 **Natural Moisture:** 20.3
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** 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
265.04	0.00	0.00	#10	0.00	100.0
99.79	0.00	0.00	#20	0.10	99.9
			#40	4.34	95.7
			#60	44.42	55.5
			#100	76.37	23.5
			#140	80.53	19.3
			#200	83.60	16.2

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =99.79
Hygroscopic moisture correction:
Moist weight and tare = 22.48
Dry weight and tare = 22.38
Tare weight = 10.38
Hygroscopic moisture = 0.8%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	23.2	20.0	15.6	0.0129	21.0	12.9	0.0328	15.6
5.00	23.2	18.0	13.6	0.0129	19.0	13.2	0.0210	13.6
15.00	23.2	17.0	12.6	0.0129	18.0	13.3	0.0122	12.6
30.00	23.1	16.0	11.6	0.0129	17.0	13.5	0.0087	11.6
60.00	23.1	15.0	10.6	0.0129	16.0	13.7	0.0062	10.6
240.00	22.6	14.0	9.4	0.0130	15.0	13.8	0.0031	9.4
1440.00	21.4	13.0	8.0	0.0132	14.0	14.0	0.0013	8.0

MACTEC, Inc.

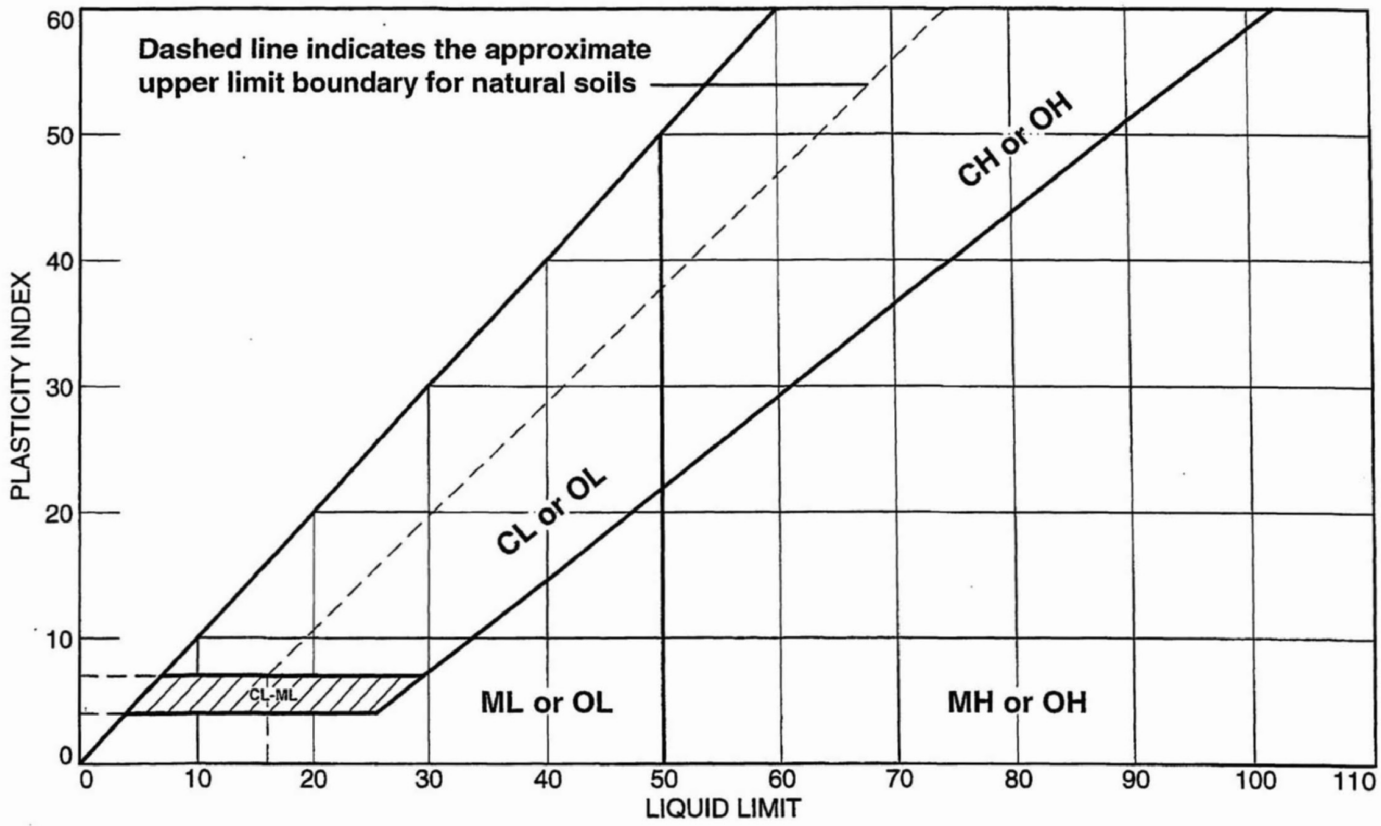
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	4.3	79.5	83.8	6.0	10.2	16.2

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0046	0.0277	0.1199	0.1752	0.2340	0.2635	0.3337	0.3564	0.3836	0.4192

Fineness Modulus	C_u	C_c
1.07	57.40	25.37

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-2319	SS-26	130-131.5	20.3	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 2-28-08

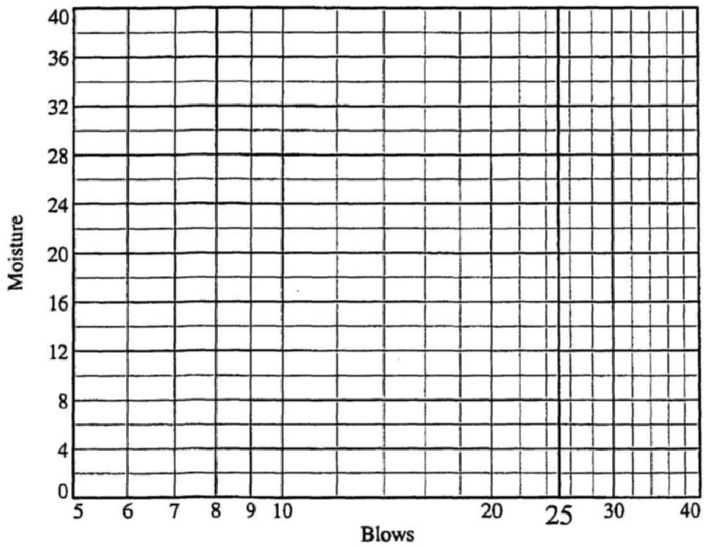
LIQUID AND PLASTIC LIMIT TEST DATA

2/28/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: Boring B-2319
Depth: 130-131.5 **Sample Number:** SS-26
Material Description: Pale Brown 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= 20.3

Plastic Limit Data

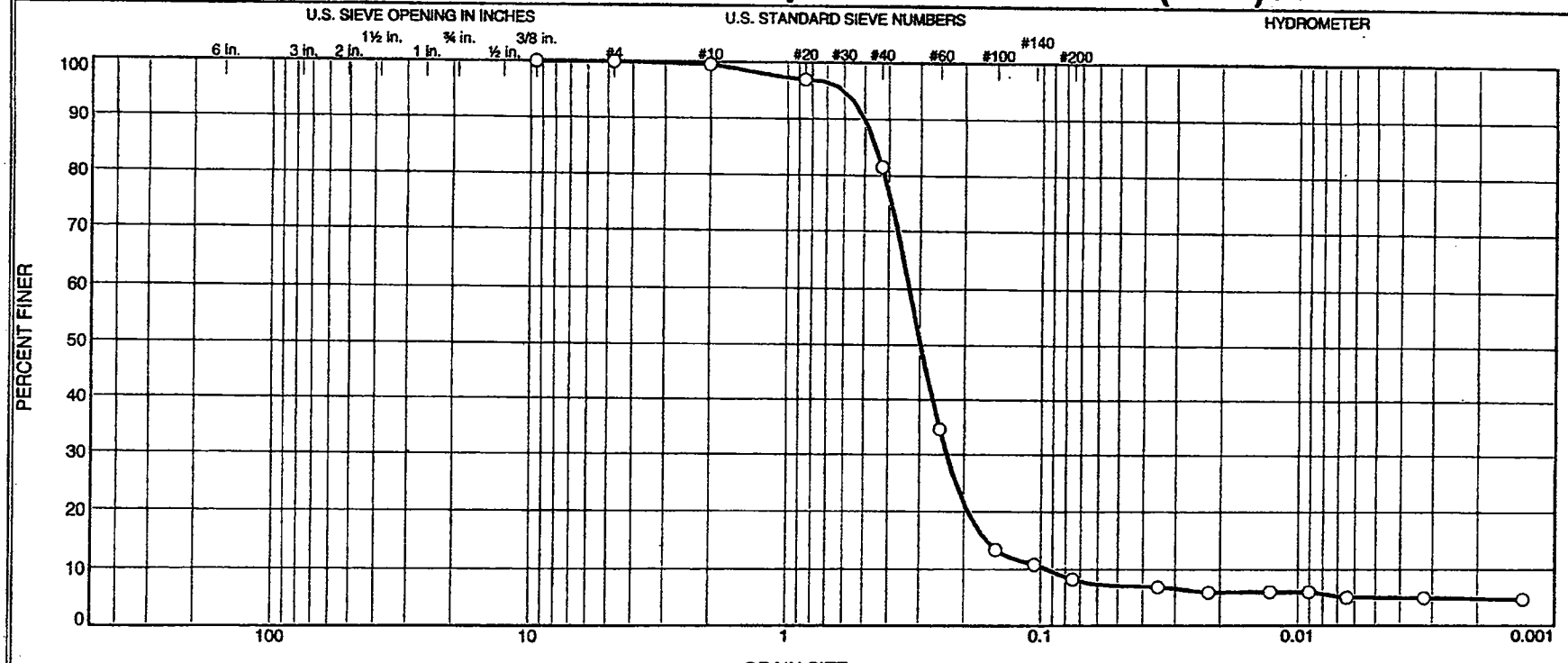
Run No.	1	2	3	4	
Wet+Tare					
Dry+Tare					
Tare					
Moisture					

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
122.94	103.33	6.64	20.3

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	0.1	0.3	18.0	73.3	3.3	5.0

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2319	SS-27	140-141.5	12-17-07	SP-SM	Pale Brown Poorly Graded SAND with silt	20.2	NV	NP

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:** 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-2319
Depth: 140-141.5 **Sample Number:** SS-27
Material Description: Pale Brown Poorly Graded SAND with silt
Date: 12-17-07 **Natural Moisture:** 20.2
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** SP-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
315.87	0.00	0.00	.375	0.00	100.0
			#4	0.18	99.9
			#10	1.27	99.6
103.27	0.00	0.00	#20	2.74	97.0
			#40	18.70	81.6
			#60	67.39	34.6
			#100	89.33	13.4
			#140	92.04	10.8
			#200	94.68	8.3

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.6
Weight of hydrometer sample =103.27
Hygroscopic moisture correction:
Moist weight and tare = 17.36
Dry weight and tare = 17.30
Tare weight = 4.38
Hygroscopic moisture = 0.5%
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 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.0	12.0	7.2	0.0131	13.0	14.2	0.0349	6.9
5.00	22.0	11.0	6.2	0.0131	12.0	14.3	0.0222	6.0
15.00	22.2	11.0	6.3	0.0131	12.0	14.3	0.0128	6.0
30.00	22.2	11.0	6.3	0.0131	12.0	14.3	0.0090	6.0
60.00	22.2	10.0	5.3	0.0131	11.0	14.5	0.0064	5.1
240.00	21.9	10.0	5.2	0.0131	11.0	14.5	0.0032	5.0
1440.00	21.1	10.0	4.9	0.0133	11.0	14.5	0.0013	4.7

MACTEC, Inc.

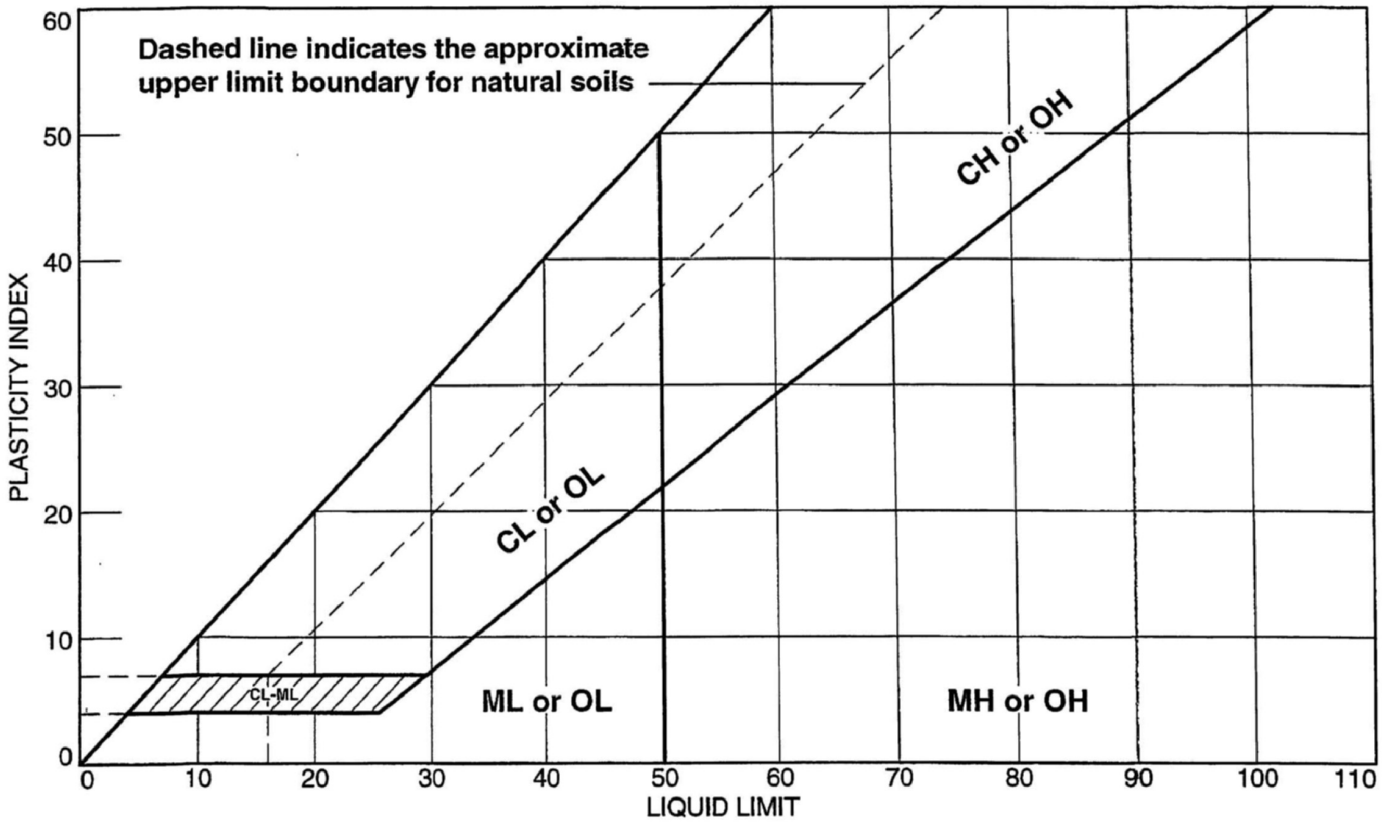
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.1	0.1	0.3	18.0	73.3	91.6	3.3	5.0	8.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0942	0.1635	0.1933	0.2343	0.2980	0.3305	0.4156	0.4491	0.4985	0.6003

Fineness Modulus	C_u	C_c
1.43	3.51	1.76

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-2319	SS-27	140-141.5	20.2	NP	NV	NP	SP-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 2-28-08

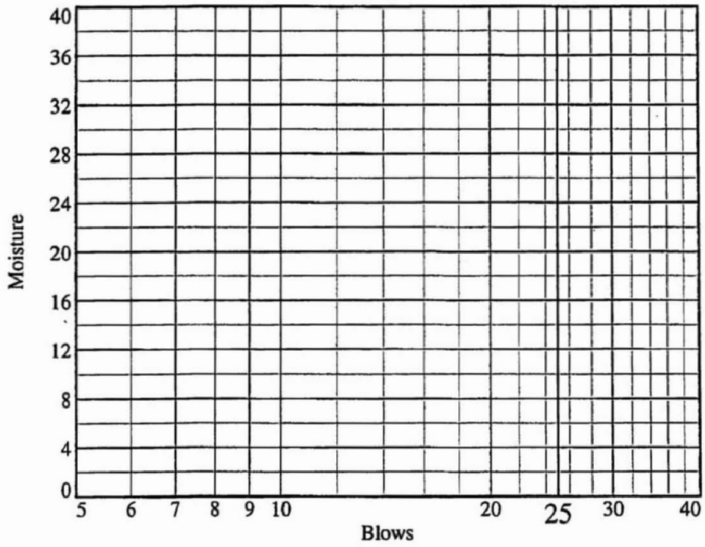
LIQUID AND PLASTIC LIMIT TEST DATA

2/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: Boring B-2319
Depth: 140-141.5 **Sample Number:** SS-27
Material Description: Pale Brown Poorly Graded SAND with silt
USCS: SP-SM **AASHTO:** A-3
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= 20.2

Plastic Limit Data

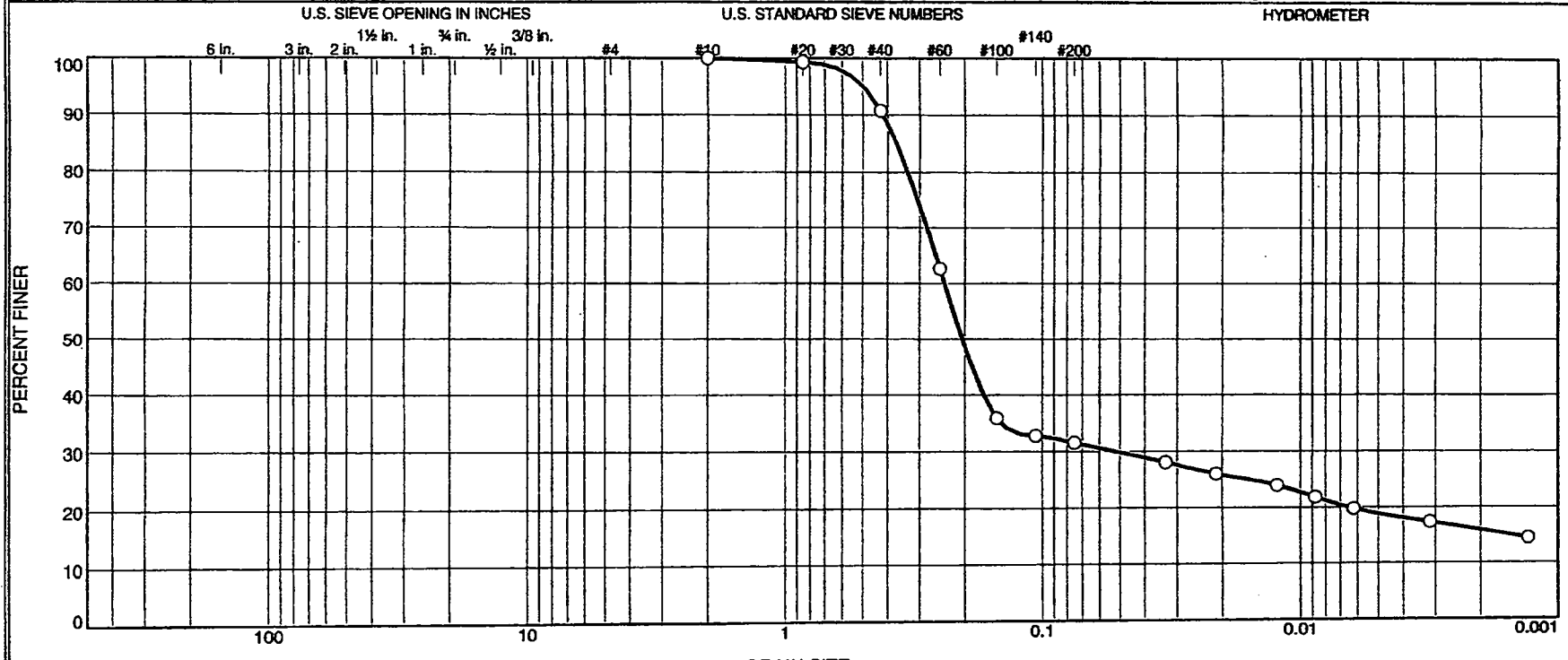
Run No.	1	2	3	4	
Wet+Tare					
Dry+Tare					
Tare					
Moisture					

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
114.44	96.76	9.15	20.2

MACTEC, Inc.

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	0.0	0.0	9.3	59.1	12.8	18.8

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2319	SS-28	150-151.5	12-17-08	SM	Light Yellowish Brown Silty SAND	14.3	NV	NP

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

O 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-2319
Depth: 150-151.5 **Sample Number:** SS-28
Material Description: Light Yellowish Brown Silty SAND
Date: 12-17-08 **Natural Moisture:** 14.3
Liquid Limit: NV **Plastic Limit:** NP **USCS Class.:** 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
254.34	0.00	0.00	#10	0.00	100.0
97.69	0.00	0.00	#20	0.66	99.3
			#40	9.04	90.7
			#60	36.50	62.6
			#100	62.60	35.9
			#140	65.64	32.8
			#200	66.86	31.6

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =48.84
Hygroscopic moisture correction:
Moist weight and tare = 18.43
Dry weight and tare = 18.21
Tare weight = 6.22
Hygroscopic moisture = 1.8%
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 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	23.2	18.0	13.6	0.0129	19.0	13.2	0.0332	28.1
5.00	23.2	17.0	12.6	0.0129	18.0	13.3	0.0211	26.1
15.00	23.2	16.0	11.6	0.0129	17.0	13.5	0.0123	24.0
30.00	23.1	15.0	10.6	0.0129	16.0	13.7	0.0087	21.9
60.00	23.1	14.0	9.6	0.0129	15.0	13.8	0.0062	19.8
240.00	22.6	13.0	8.4	0.0130	14.0	14.0	0.0031	17.4
1440.00	21.5	12.0	7.0	0.0132	13.0	14.2	0.0013	14.5

MACTEC, Inc.

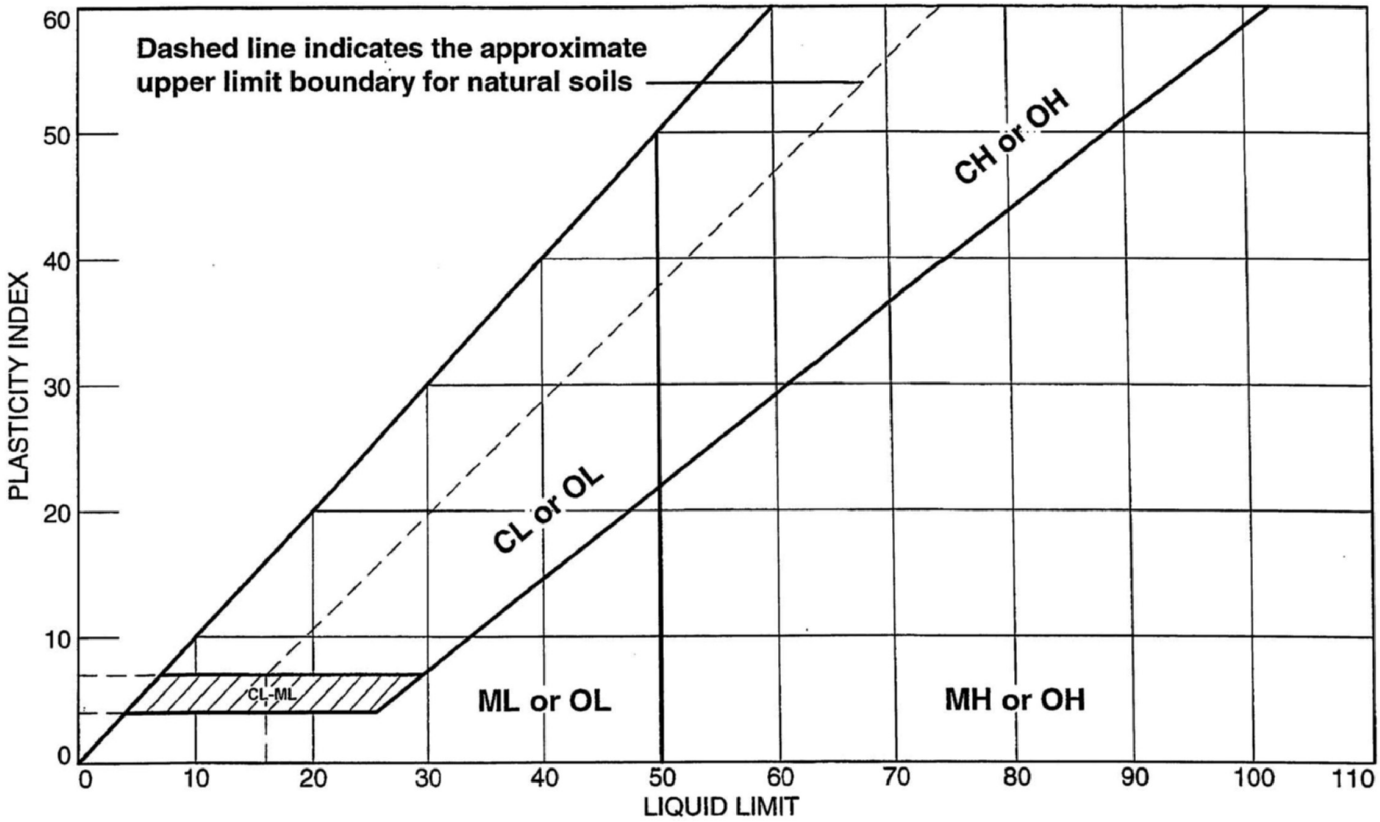
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	9.3	59.1	68.4	12.8	18.8	31.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0015	0.0064	0.0515	0.2044	0.2399	0.3344	0.3695	0.4162	0.4948

Fineness Modulus
0.93

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-2319	SS-28	150-151.5	14.3	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 2-28-08

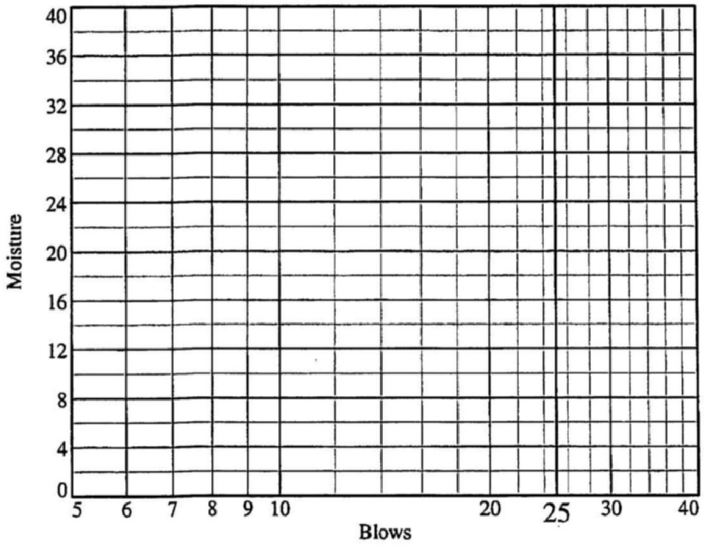
LIQUID AND PLASTIC LIMIT TEST DATA

2/27/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria Reservoir)
Project Number: 6468071777
Location: Boring B-2319
Depth: 150-151.5 **Sample Number:** SS-28
Material Description: Light Yellowish Brown 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= 14.3

Plastic Limit Data

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

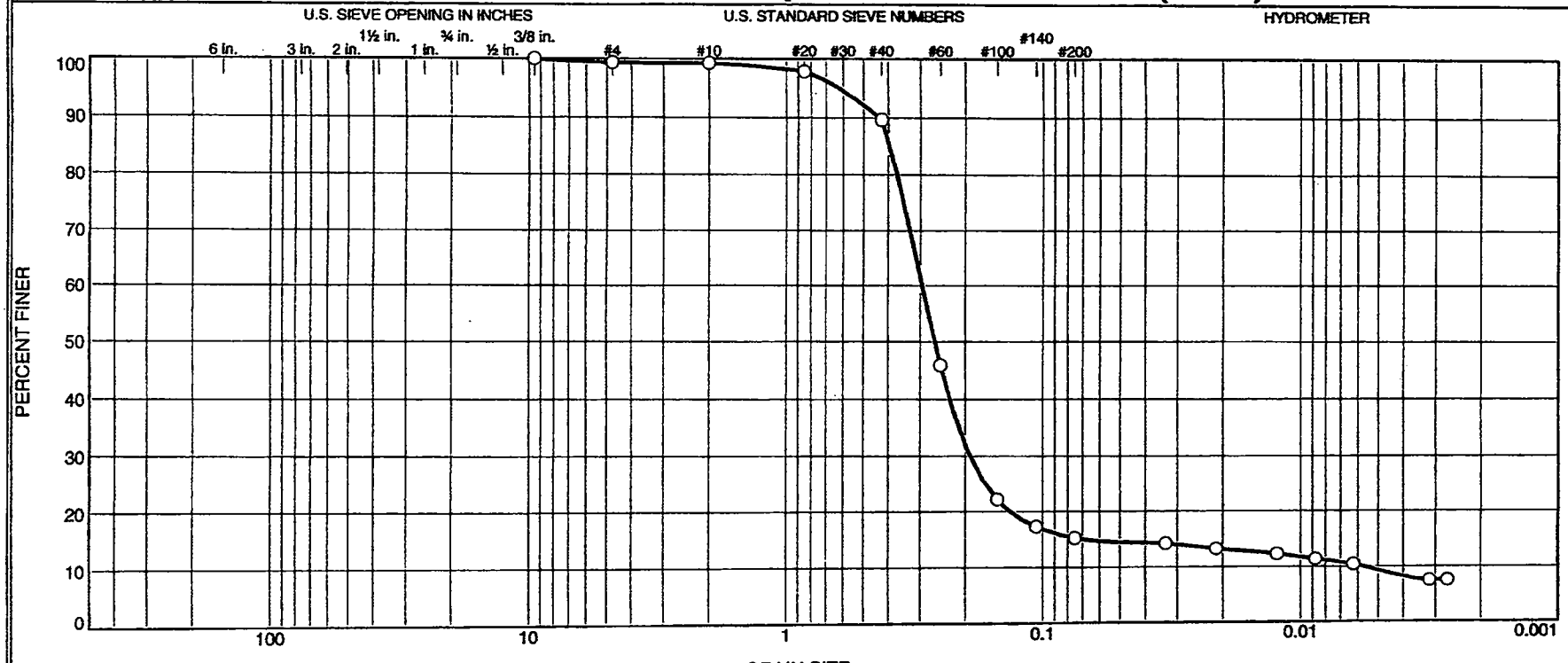
Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
96.72	85.50	6.81	14.3

MACTEC, Inc.

Boring B-2320

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	0.6	0.2	9.5	74.4	6.0	9.3

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2320	SS-15	60-61.5	1-04-08	SC	Pale Brown Clayey SAND (Visual)	ND	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

O Specific Gravity is assumed
SIEVE ANALYSIS AND HYDROMETER ONLY
ND = Not Determined

Tested By: CS **Checked By:** LBJ DJC 2-26-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2320
Depth: 60-61.5 **Sample Number:** SS-15
Material Description: Pale Brown Clayey SAND (Visual)
Date: 1-04-08 **Natural Moisture:** ND
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** SC
Testing Remarks: Specific Gravity is assumed
SIEVE ANALYSIS AND HYDROMETER 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
264.87	0.00	0.00	3/8"	0.00	100.0
			#4	1.70	99.4
			#10	1.99	99.2
101.40	0.00	0.00	#20	1.44	97.8
			#40	9.75	89.7
			#60	54.51	45.9
			#100	78.75	22.2
			#140	83.65	17.4
			#200	85.74	15.3

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.2
Weight of hydrometer sample =101.4
Hygroscopic moisture correction:
Moist weight and tare = 28.00
Dry weight and tare = 27.90
Tare weight = 15.20
Hygroscopic moisture = 0.8%
Table of composite correction values:

Temp., deg. C:	12.8	27.3
Comp. corr.:	-7.0	-3.0

Meniscus correction only = 1.0
Specific gravity of solids = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.5	19.0	14.7	0.0130	20.0	13.0	0.0333	14.3
5.00	22.5	18.0	13.7	0.0130	19.0	13.2	0.0212	13.3
15.00	22.5	17.0	12.7	0.0130	18.0	13.3	0.0123	12.4
30.00	22.5	16.0	11.7	0.0130	17.0	13.5	0.0087	11.4
60.00	22.5	15.0	10.7	0.0130	16.0	13.7	0.0062	10.4
240.00	22.6	12.0	7.7	0.0130	13.0	14.2	0.0032	7.5
330.00	22.8	12.0	7.8	0.0130	13.0	14.2	0.0027	7.6

MACTEC, Inc.

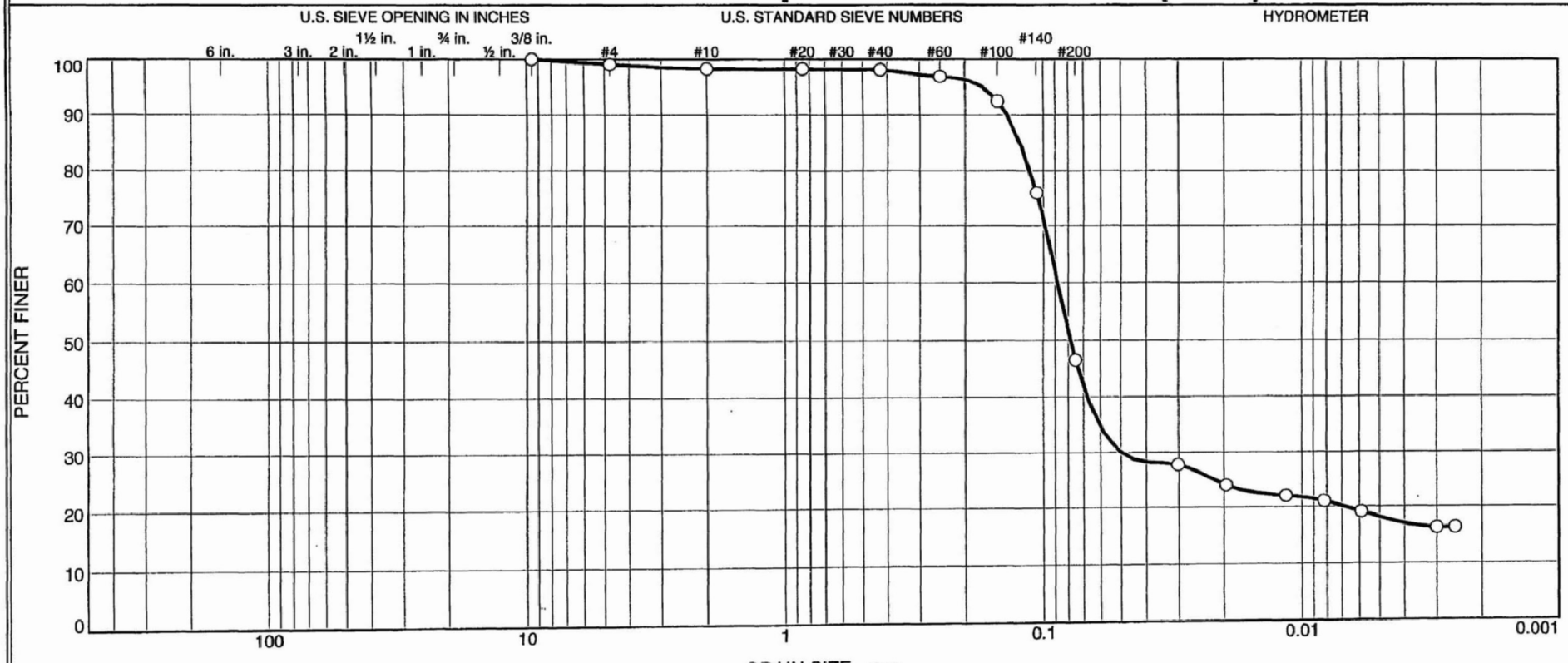
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.6	0.6	0.2	9.5	74.4	84.1	6.0	9.3	15.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0057	0.0674	0.1338	0.1910	0.2632	0.2951	0.3700	0.3951	0.4328	0.6248

Fineness Modulus	C_u	C_c
1.25	52.03	21.81

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	0.9	0.9	0.2	51.4	28.5	18.1

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2320	SS-17	70-71.5	12-14-07	SC	Light Gray Clayey SAND (Visual)	ND	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed
SIEVE ANALYSIS AND HYDROMETER ONLY
ND = Not Determined

Tested By: CS **Checked By:** LBJ DSC 2-26-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2320
Depth: 70-71.5 **Sample Number:** SS-17
Material Description: Light Gray Clayey SAND (Visual)
Date: 12-14-07 **Natural Moisture:** ND
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** SC
Testing Remarks: Specific Gravity is assumed
SIEVE ANALYSIS AND HYDROMETER 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
217.75	0.00	0.00	3/8"	0.00	100.0
			#4	2.04	99.1
			#10	3.86	98.2
101.45	0.00	0.00	#20	0.04	98.2
			#40	0.19	98.0
			#60	1.49	96.8
			#100	5.98	92.4
			#140	23.01	75.9
			#200	53.34	46.6

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 98.2
Weight of hydrometer sample =101.45
Hygroscopic moisture correction:
Moist weight and tare = 23.50
Dry weight and tare = 23.36
Tare weight = 11.00
Hygroscopic moisture = 1.1%
Table of composite correction values:

Temp., deg. C:	12.8	27.3
Comp. corr.:	-7.0	-3.0

Meniscus correction only = 1.0
Specific gravity of solids = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 x Rm

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.7	33.0	28.7	0.0130	34.0	10.7	0.0301	27.8
5.00	22.7	29.0	24.7	0.0130	30.0	11.4	0.0196	23.9
15.00	22.6	27.0	22.7	0.0130	28.0	11.7	0.0115	22.0
30.00	22.6	26.0	21.7	0.0130	27.0	11.9	0.0082	21.0
60.00	22.6	24.0	19.7	0.0130	25.0	12.2	0.0059	19.1
240.00	22.7	21.0	16.7	0.0130	22.0	12.7	0.0030	16.2
331.00	22.8	21.0	16.8	0.0130	22.0	12.7	0.0025	16.2

MACTEC, Inc.

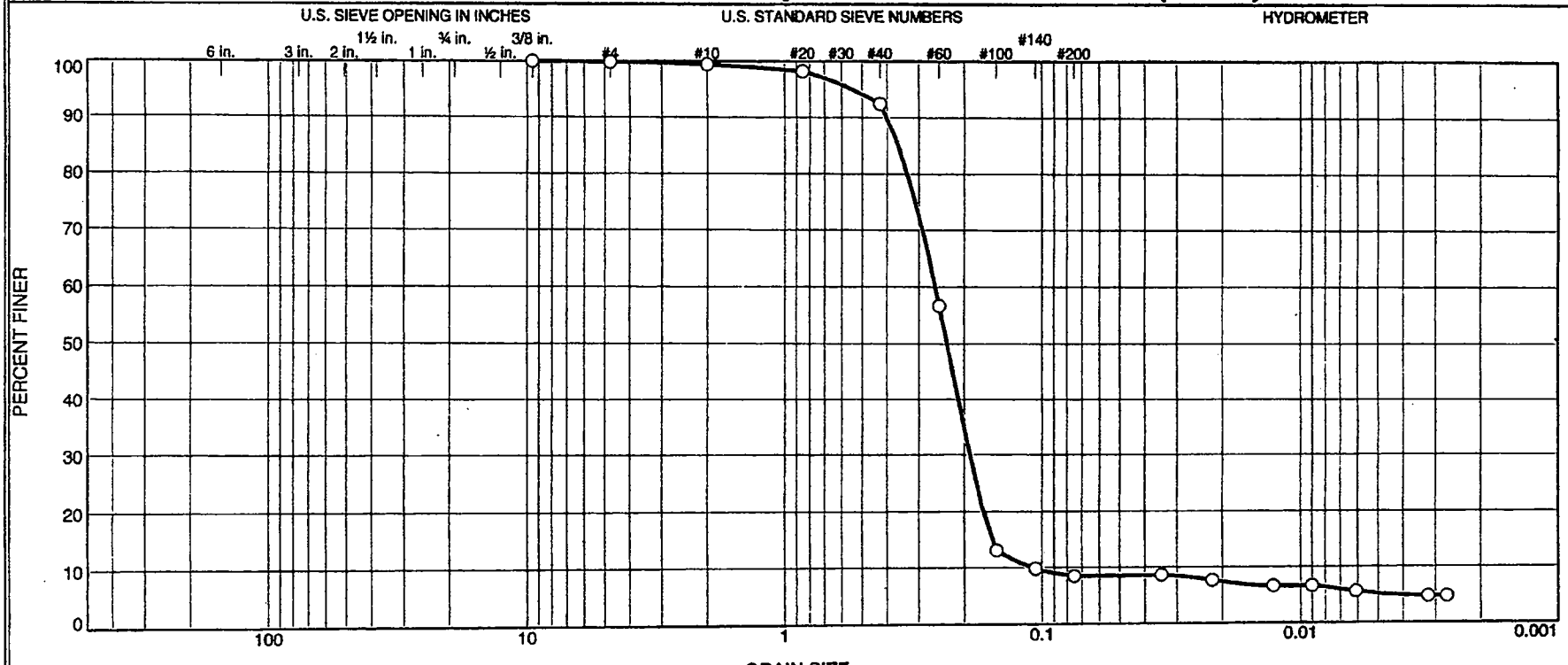
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.9	0.9	0.9	0.2	51.4	52.5	28.5	18.1	46.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0068	0.0498	0.0784	0.0880	0.1124	0.1226	0.1381	0.1720

Fineness Modulus
0.17

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	0.2	0.4	7.0	83.9	3.4	5.1

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2320	SS-18	75-76.5	12-15-07	SP-SC	Brown Poorly Graded SAND with clay (Visual)	ND	ND	ND

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity is assumed
SIEVE AND HYDROMETER ONLY
ND = Not Determined

Tested By: CS **Checked By:** LBJ DSC 2-26-08

GRAIN SIZE DISTRIBUTION TEST DATA

2/26/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2320
Depth: 75-76.5 **Sample Number:** SS-18
Material Description: Brown Poorly Graded SAND with clay (Visual)
Date: 12-15-07 **Natural Moisture:** ND
Liquid Limit: ND **Plastic Limit:** ND **USCS Class.:** SP-SC
Testing Remarks: Specific Gravity is assumed
SIEVE AND HYDROMETER 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
224.06	0.00	0.00	3/8"	0.00	100.0
			#4	0.34	99.8
			#10	1.28	99.4
100.70	0.00	0.00	#20	1.20	98.2
			#40	7.07	92.4
			#60	43.23	56.7
			#100	87.37	13.2
			#140	90.77	9.8
			#200	92.11	8.5

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 99.4
Weight of hydrometer sample =100.7
Hygroscopic moisture correction:
Moist weight and tare = 30.10
Dry weight and tare = 30.00
Tare weight = 15.60
Hygroscopic moisture = 0.7%
Table of composite correction values:

Temp., deg. C:	12.8	27.3
Comp. corr.:	-7.0	-3.0

Meniscus correction only = 1.0
Specific gravity of solids = 2.700
Hydrometer type = 152H
Hydrometer effective depth equation: L = 16.294964 - 0.164 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	22.8	13.0	8.8	0.0130	14.0	14.0	0.0344	8.6
5.00	22.8	12.0	7.8	0.0130	13.0	14.2	0.0219	7.6
15.00	22.6	11.0	6.7	0.0130	12.0	14.3	0.0127	6.6
30.00	22.6	11.0	6.7	0.0130	12.0	14.3	0.0090	6.6
67.00	22.4	10.0	5.6	0.0131	11.0	14.5	0.0061	5.6
240.00	22.9	9.0	4.8	0.0130	10.0	14.7	0.0032	4.7
337.00	22.8	9.0	4.8	0.0130	10.0	14.7	0.0027	4.7

MACTEC, Inc.

Fractional Components

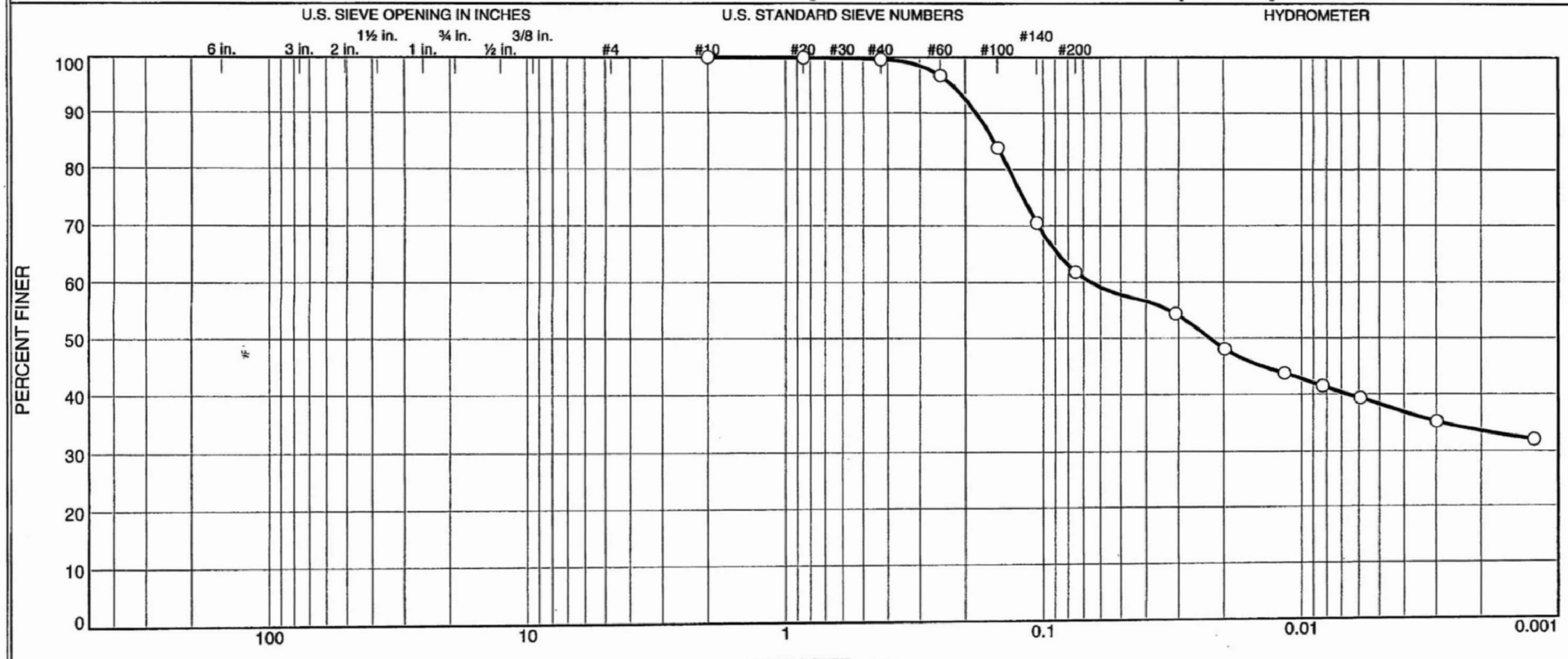
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.2	0.2	0.4	7.0	83.9	91.3	3.4	5.1	8.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.1090	0.1559	0.1689	0.1905	0.2334	0.2588	0.3333	0.3618	0.3998	0.5435

Fineness Modulus	C_u	C_c
1.20	2.37	1.29

Boring B-2321

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
O	0.0	0.0	0.0	0.0	0.4	37.7	23.7	38.2

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
O	Boring B-2321	SS-1	0.0-1.5	12-14-07	CL	Black Sandy Lean CLAY	19.4	40	14

Client Bechtel

Project Exelon Texas COL (Victoria Reservoir)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

O Specific Gravity is assumed
Organic Content = 5.4% (ASTM D2974-07)

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: 0.0-1.5 **Sample Number:** SS-1
Material Description: Black Sandy Lean CLAY
Date: 12-14-07 **Natural Moisture:** 19.4
Liquid Limit: 40 **Plastic Limit:** 14 **USCS Class.:** CL
Testing Remarks: Specific Gravity is assumed
Organic Content = 5.4% (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
235.20	0.00	0.00	#10	0.00	100.0
48.16	0.00	0.00	#20	0.04	99.9
			#40	0.19	99.6
			#60	1.58	96.7
			#100	7.79	83.8
			#140	14.20	70.5
			#200	18.36	61.9

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =48.16
Hygroscopic moisture correction:
Moist weight and tare = 22.21
Dry weight and tare = 21.76
Tare weight = 9.38
Hygroscopic moisture = 3.6%
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 **x Rm**

Elapsed Time (min.)	Temp. (deg. C.)	Actual Reading	Corrected Reading	K	Rm	Eff. Depth	Diameter (mm.)	Percent Finer
2.00	23.0	30.0	25.6	0.0130	31.0	11.2	0.0307	54.4
5.00	23.0	27.0	22.6	0.0130	28.0	11.7	0.0198	48.0
15.00	22.9	25.0	20.5	0.0130	26.0	12.0	0.0116	43.7
30.00	22.7	24.0	19.5	0.0130	25.0	12.2	0.0083	41.4
60.00	22.7	23.0	18.5	0.0130	24.0	12.4	0.0059	39.3
240.00	22.9	21.0	16.5	0.0130	22.0	12.7	0.0030	35.2
1440.00	21.6	20.0	15.1	0.0132	21.0	12.9	0.0012	32.1

MACTEC, Inc.

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.4	37.7	38.1	23.7	38.2	61.9

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
				0.0227	0.0654	0.1357	0.1550	0.1815	0.2248

Fineness Modulus
0.18