
GRAIN SIZE DISTRIBUTION TEST DATA

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2182UD
Sample No.: UD-7
Elev. or Depth: 65-66.7 Ft Sample Length(in./cm.): ID#8181
Location: B-2182UD
Description: Light Olive Gray Clayey SAND
Date: 12/12/07 PL: 17 LL: 27 PI: 10.
USCS Classification: SC AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
Specific Gravity = 2.74 (ASTM D 854-06)

Mechanical Analysis Data

	Initial	
Dry sample and tare=	75.00	
Tare =	16.72	
Dry sample weight =	58.28	
Tare for cumulative weight retained=	.00	
Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.00	100.0
# 40	0.09	99.8
# 60	0.39	99.3
# 100	9.33	84.0
# 140	28.37	51.3
# 200	32.13	44.9

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 44.9
Weight of hydrometer sample: 26.15.
Calculated biased weight= 58.24
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.743
Specific gravity correction factor= 0.980
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

DSC
4-28-08

Elapsed time, min	Temp, Actual deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.00	21.9	30.5	25.5	0.0130	30.5	11.3	0.0308	42.9
5.00	21.9	29.5	24.5	0.0130	29.5	11.5	0.0196	41.2
15.00	21.9	29.0	24.0	0.0130	29.0	11.5	0.0114	40.4
60.00	21.9	27.5	22.5	0.0130	27.5	11.8	0.0057	37.8
240.00	22.2	26.0	21.1	0.0129	26.0	12.0	0.0029	35.4
1440.00	21.9	24.5	19.5	0.0130	24.5	12.3	0.0012	32.8

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

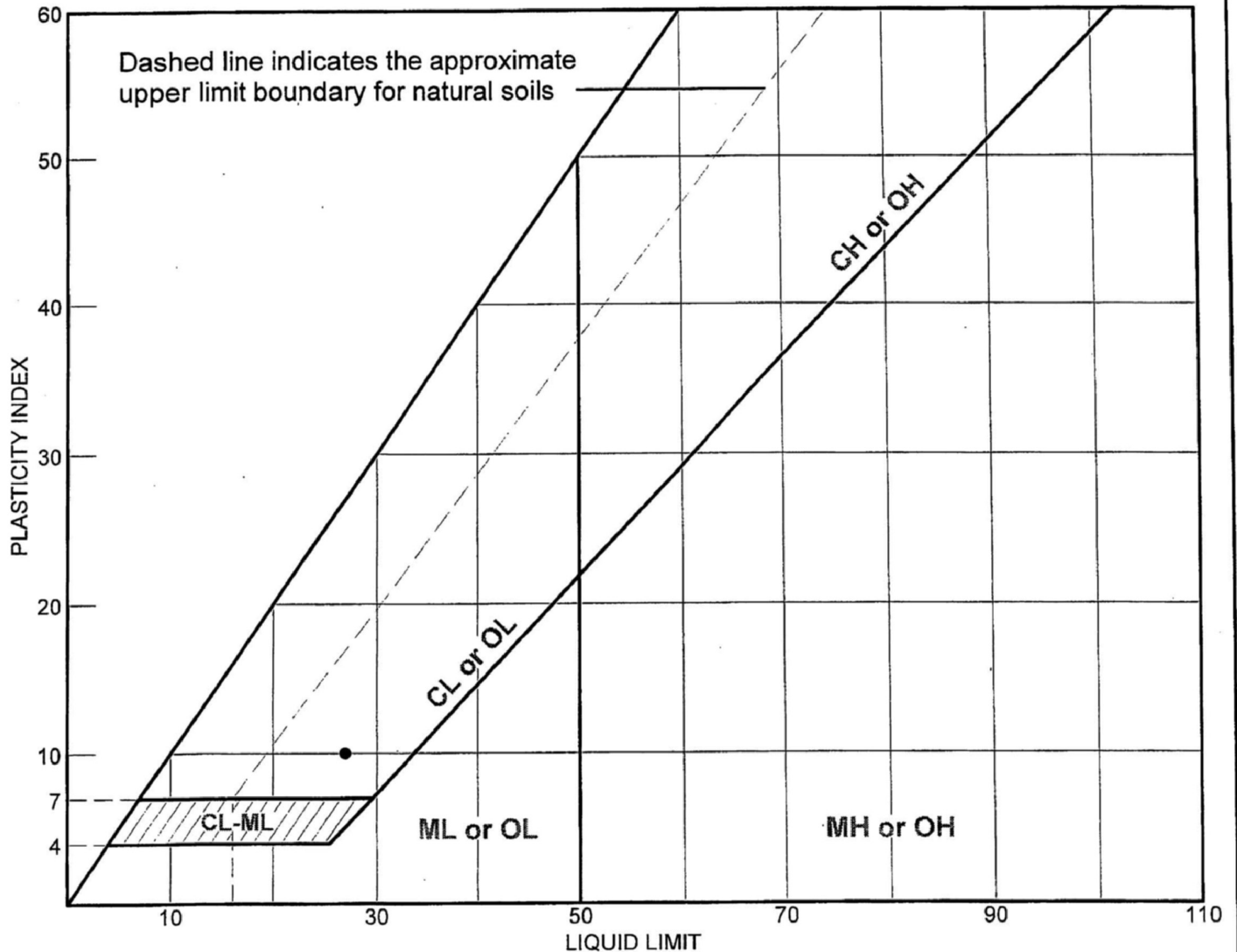
% COBBLES = % GRAVEL =

% SAND = 55.1 (% coarse = 0.0 % medium = 0.2 % fine = 54.9)

% SILT = 7.7 % CLAY = 37.2

D₈₅ = 0.15 D₆₀ = 0.12 D₅₀ = 0.10

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
•	2182UD	UD-7	65-66.7 Ft.	25.0	17	27	10	SC

**MACTEC ENGINEERING
AND
CONSULTING, INC.**

Client: Bechtel
Project: Exelon Texas COL (Victoria)

Project No.: 6468-07-1777

Lab No. 8181

LIQUID AND PLASTIC LIMIT TEST DATA

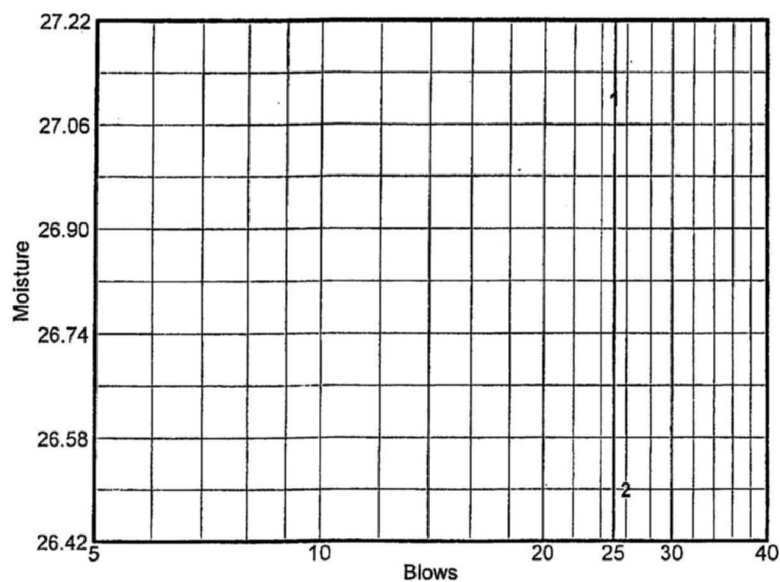
Client: Bechtel
 Project: Exelon Texas COL (Victoria)
 Project Number: 6468-07-1777

Sample Data

Source: B-2182UD
 Sample No.: UD-7
 Elev. or Depth: 65-66.7 Ft Sample Length(in./cm.): ID#8181
 Location: B-2182UD
 Description: Light Olive Gray Clayey SAND
 Water Content: 25.0 USCS: SC AASHTO:

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	29.64	31.47				
Dry+Tare	27.48	28.97				
Tare	19.51	19.54				
# Blows	25	26				
Moisture	27.1	26.5				



Liquid Limit= 27
 Plastic Limit= 17
 Plasticity Index= 10

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	25.77	26.46		
Dry+Tare	24.72	25.5		
Tare	18.65	19.9		
Moisture	17.3	17.1		

MACTEC ENGINEERING AND CONSULTING, INC.

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

PROJECT NAME: EXELON COL PROJECT (VICTORIA)

PROJECT NUMBER: 6468071777

DATE: 2/8/08

SAMPLE IDENTIFICATION: B-2182UD, UD-7 @ 65-66.7 Ft.

(A) Mass of oven-dried soil, grams:	34.14
(B) Mass of pycnometer filled with water at test temperature (T), grams:	366.00
(C) Mass of pycnometer, water and soil, grams:	387.70
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.0
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.744
(F) Correction factor:	0.99933
(G x F) SPECIFIC GRAVITY @ 20°C:	2.743

MATERIAL TESTED:

☐

- # 4

☒

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100 %

Clayey SAND (SC)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNO METER : 2054

TESTED BY: EH

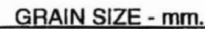
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REVIEWED BY: Harry Johnson

DSC
3-3-08

HJ

HYDROMETER



DSC 4-30-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/10/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2182UD

Depth: 85.0

Sample Number: UD-9

Material Description: Light Gray with Brownish Yellow Fat CLAY

Date: 12-12-07

Natural Moisture: 31.7

Liquid Limit: 80

Plastic Limit: 24

USCS Class.: CH

Testing Remarks: Specific Gravity = 2.696 (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
163.43	0.00	0.00	#10	0.00	100.0
49.92	0.00	0.00	#20	0.68	98.6
			#40	1.29	97.4
			#60	1.85	96.3
			#100	3.43	93.1
			#140	5.17	89.6
			#200	6.67	86.6

Hydrometer Test Data

Hydrometer test uses material passing #10

Percent passing #10 based upon complete sample = 100.0

Weight of hydrometer sample = 49.92

Hygroscopic moisture correction:

Moist weight and tare = 27.98

Dry weight and tare = 27.39

Tare weight = 15.62

Hygroscopic moisture = 5.0%

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 = 2.696

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	23.0	43.0	38.6	0.0130	44.0	9.1	0.0276	80.3
5.00	23.0	42.0	37.6	0.0130	43.0	9.2	0.0176	78.2
15.00	23.0	41.0	36.6	0.0130	42.0	9.4	0.0103	76.1
30.00	23.0	40.0	35.6	0.0130	41.0	9.6	0.0073	74.0
60.00	22.9	39.0	34.5	0.0130	40.0	9.7	0.0052	71.9
240.00	23.1	36.0	31.6	0.0130	37.0	10.2	0.0027	65.8
1440.00	23.3	33.0	28.7	0.0129	34.0	10.7	0.0011	59.7

MACTEC, Inc.

Fractional Components

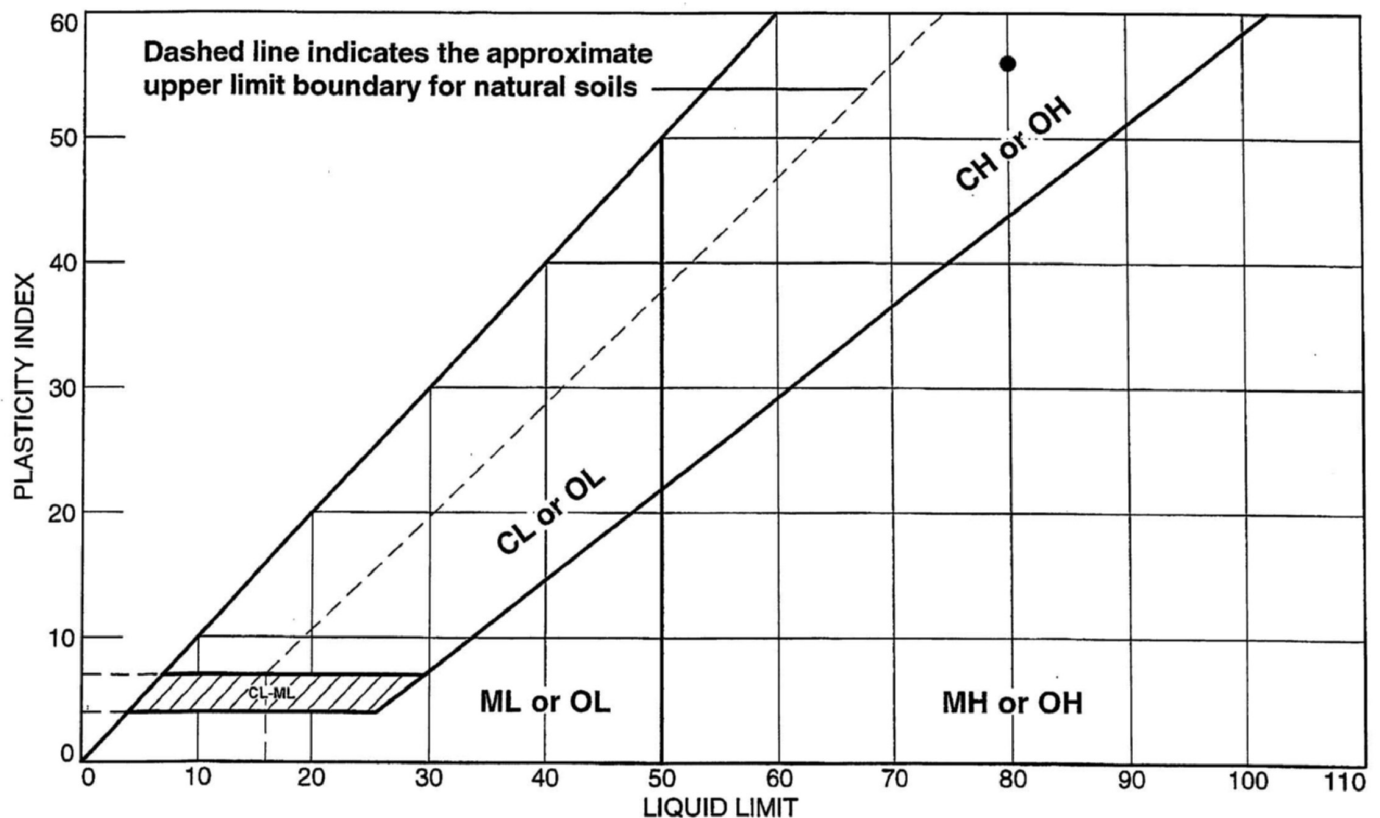
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	2.6	10.8	13.4	15.1	71.5	86.6

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
					0.0012	0.0261	0.0602	0.1099	0.1917

Fineness Modulus
0.13

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-2182UD	UD-9	85.0	31.7	24	80	56	CH

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project No.: 6468071777

Figure *NP*

Tested By: CS

Checked By: LBJ

DSC 4-30-08

LIQUID AND PLASTIC LIMIT TEST DATA

4/10/2008

Client: Bechtel

Project: Exelon Texas COL (Victoria)

Project Number: 6468071777

Location: Boring B-2182UD

Depth: 85.0

Sample Number: UD-9

Material Description: Light Gray with Brownish Yellow Fat CLAY

USCS: CH

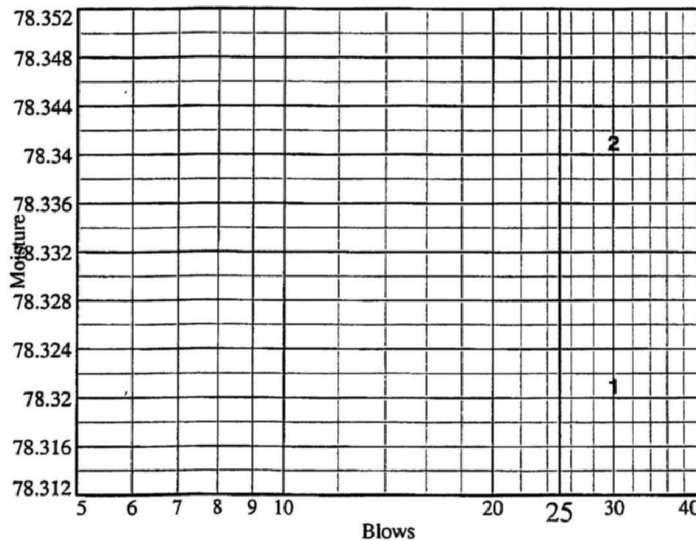
AASHTO: A-7-6(54)

Tested by: CS

Checked by: LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	32.33	31.12				
Dry+Tare	24.96	24.32				
Tare	15.55	15.64				
# Blows	30	30				
Moisture	78.3	78.3				



Liquid Limit= 80
 Plastic Limit= 24
 Plasticity Index= 56
 Natural Moisture= 31.7
 Liquidity Index= 0.1

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	22.75	21.55		
Dry+Tare	21.33	20.36		
Tare	15.39	15.46		
Moisture	23.9	24.3		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
178.06	136.86	6.89	31.7

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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: 3/1/08

SAMPLE IDENTIFICATION: B-2182UD, UD-9

(A) Mass of oven-dried soil, grams:	50.69
(B) Mass of pycnometer filled with water at test temperature (T), grams:	656.33
(C) Mass of pycnometer, water and soil, grams:	688.23
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.1
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.698
(F) Correction factor:	0.99931
(G x F) SPECIFIC GRAVITY @ 20°C:	2.696

MATERIAL TESTED:

☒

- # 4

☐

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100

Fat CLAY (CH)

EQUIPMENT USED

SCALES : 3.1.99

OVEN 5.1.16:

THERMOMETER :5.1.01

PYCNOMETER :P-6

TESTED BY: CS

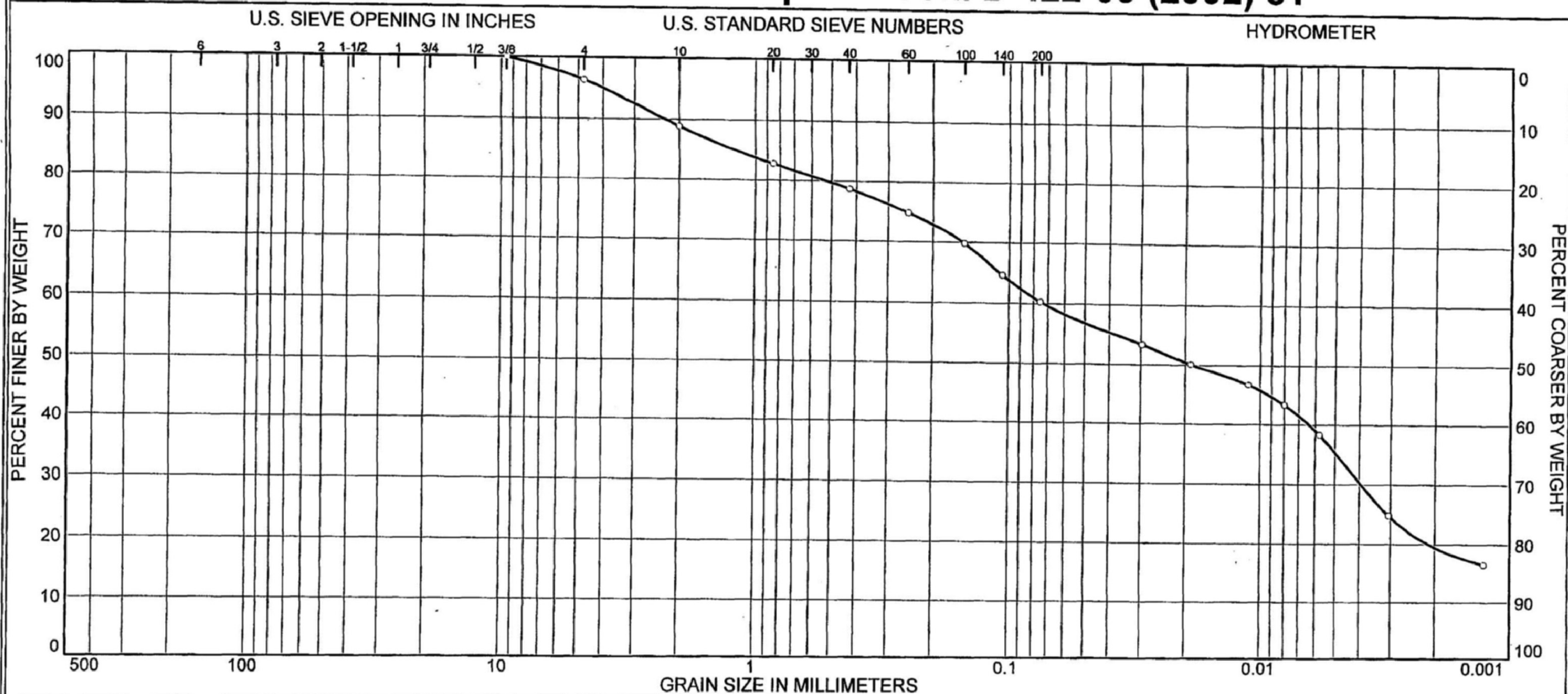
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REVIEWED BY:

Brian Johnson

DSC 3-15-08

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



GRAIN SIZE DISTRIBUTION TEST DATA

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2182UD
Sample No.: UD-11
Elev. or Depth: 90.5-93.0 Ft Sample Length(in./cm.): ID#8183
Location: B-2182UD
Description: Very Pale Brown Sandy Lean CLAY
Date: 12/12/07 PL: 13 LL: 25 PI: 12
USCS Classification: CL AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
Specific-Gravity = 2.77 (ASTM D 854-06)

Mechanical Analysis Data

	Initial	
Dry sample and tare=	74.26	
Tare =	16.52	
Dry sample weight =	57.74	
Tare for cumulative weight retained=	.00	
Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	2.12	96.3
# 10	6.43	88.9
# 20	9.92	82.8
# 40	12.32	78.7
# 60	14.54	74.8
# 100	17.45	69.8
# 140	20.41	64.7
# 200	22.91	60.3

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 60.3
Weight of hydrometer sample: 34.83
Calculated biased weight= 57.76
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.768
Specific gravity correction factor= 0.975
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, Actual deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.00	20.6	37.0	31.7	0.0131	37.0	10.2	0.0296	53.5
5.00	20.6	35.0	29.7	0.0131	35.0	10.6	0.0190	50.1
15.00	20.6	33.0	27.7	0.0131	33.0	10.9	0.0111	46.7
30.00	20.6	31.0	25.7	0.0131	31.0	11.2	0.0080	43.4
60.00	20.6	28.0	22.7	0.0131	28.0	11.7	0.0058	38.3
240.00	20.6	20.0	14.7	0.0131	20.0	13.0	0.0030	24.8
1440.00	21.1	15.0	9.8	0.0130	15.0	13.8	0.0013	16.5

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

% COBBLES = % GRAVEL = 3.7 (% coarse = % fine = 3.7)

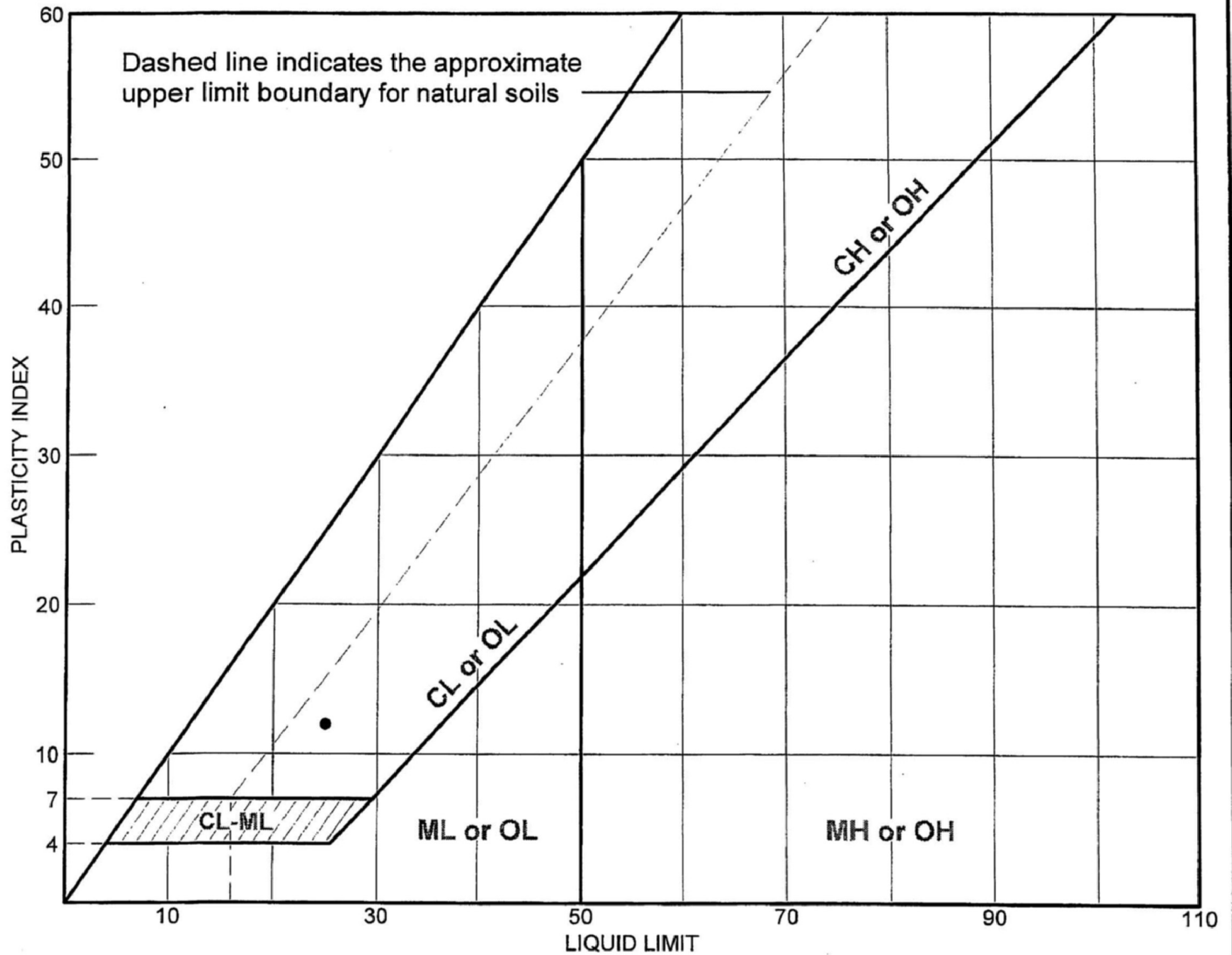
% SAND = 36.0 (% coarse = 7.4 % medium = 10.2 % fine = 18.4)

% SILT = 25.0 % CLAY = 35.3

D₈₅= 1.20 D₆₀= 0.07 D₅₀= 0.02

D₃₀= 0.00

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
•	2182UD	UD-11	90.5-93.0 Ft.	12.3	13	25	12	CL

**MACTEC ENGINEERING
AND
CONSULTING, INC.**

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project No.: 6468-07-1777

Lab No. 8183

LIQUID AND PLASTIC LIMIT TEST DATA

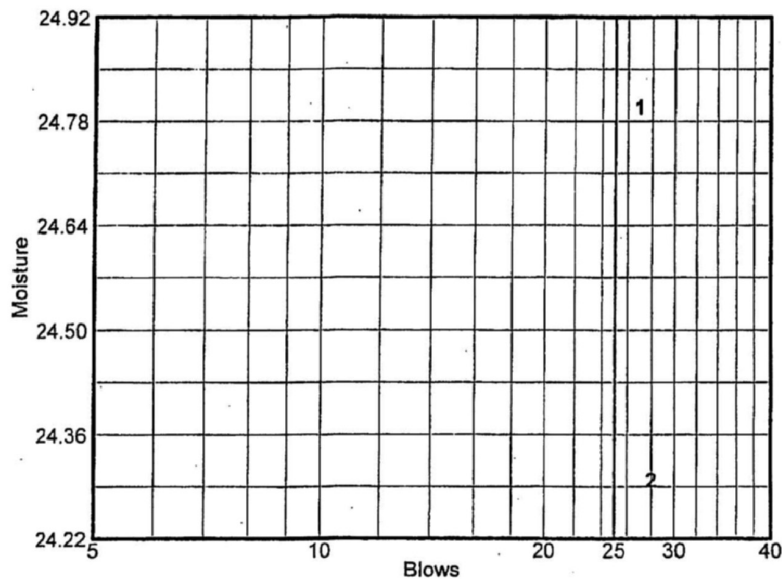
Client: Bechtel
 Project: Exelon Texas COL (Victoria)
 Project Number: 6468-07-1777

Sample Data

Source: B-2182UD
 Sample No.: UD-11
 Elev. or Depth: 90.5-93.0 Ft Sample Length(in./cm.): ID#8183
 Location: B-2182UD
 Description: Very Pale Brown Sandy Lean CLAY
 Water Content: 12.3 USCS: CL AASHTO:

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.99	32.06				
Dry+Tare	29.19	30.01				
Tare	21.92	21.56				
# Blows	27	28				
Moisture	24.8	24.3				



Liquid Limit= 25
 Plastic Limit= 13
 Plasticity Index= 12

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	30.96	28.8		
Dry+Tare	29.87	27.94		
Tare	21.76	21.45		
Moisture	13.4	13.3		

MACTEC ENGINEERING AND CONSULTING, INC.

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

PROJECT NAME: EXELON COL PROJECT (VICTORIA)

PROJECT NUMBER: 6468071777

DATE: 2/8/08

SAMPLE IDENTIFICATION: B-2182UD, UD-11 @ 90.5-93.0 Ft.

(A) Mass of oven-dried soil, grams:	37.49
(B) Mass of pycnometer filled with water at test temperature (T), grams:	366.30
(C) Mass of pycnometer, water and soil, grams:	390.25
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	22.2
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.769
(F) Correction factor:	0.99952
(G x F) SPECIFIC GRAVITY @ 20°C:	2.768

MATERIAL TESTED:

☐

- # 4

☒

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 96 %

Sandy Lean CLAY (CL)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNO METER : 2193

TESTED BY: EH

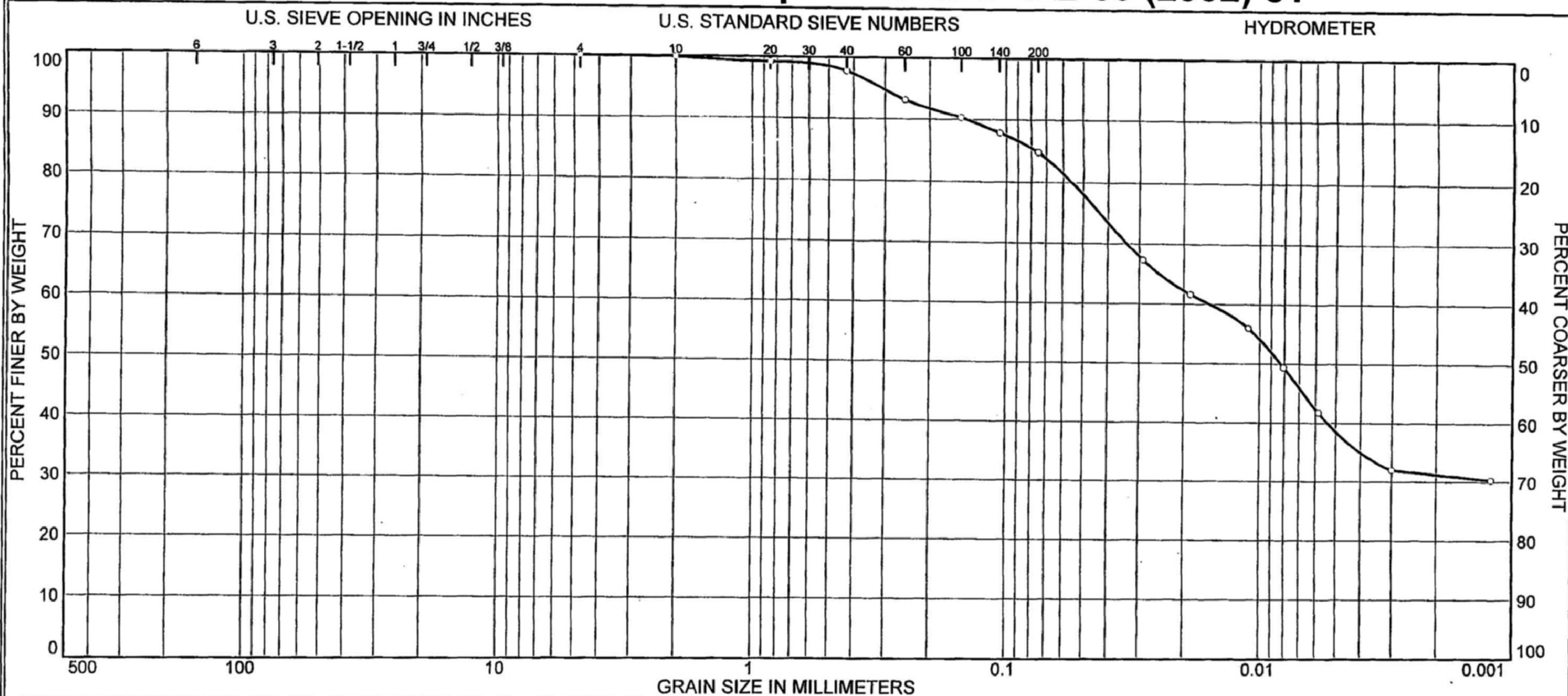
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REVIEWED BY: Harry Johnson

pse
3-3-08

43

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



GRAIN SIZE DISTRIBUTION TEST DATA

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2182UD
Sample No.: UD-12T
Elev. or Depth: 95-97.5 Ft Sample Length(in./cm.): ID#8184
Location: B-2182UD
Description: Light Gray Mottled Brownish Yellow Lean CLAY with sand
Date: 12/12/07 PL: 18 LL: 36 PI: 18
USCS Classification: CL AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
Specific Gravity = 2.73 (ASTM D 854-06)

Mechanical Analysis Data

	Initial	
Dry sample and tare=	69.72	
Tare =	16.43	
Dry sample weight =	53.29	
Tare for cumulative weight retained= .00		
Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.04	99.9
# 20	0.44	99.2
# 40	1.17	97.8
# 60	3.64	93.2
# 100	5.17	90.3
# 140	6.46	87.9
# 200	8.08	84.8

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 84.8
Weight of hydrometer sample: 44.21
Calculated biased weight= 52.13
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.726
Specific gravity correction factor= 0.983
Hydrometer type: 152H
Effective depth 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	20.6	41.0	35.7	0.0132	41.0	9.6	0.0290	67.3
5.00	20.6	38.0	32.7	0.0132	38.0	10.1	0.0188	61.6
15.00	20.6	35.0	29.7	0.0132	35.0	10.6	0.0111	56.0
30.00	20.6	31.5	26.2	0.0132	31.5	11.1	0.0081	49.4
60.00	20.6	27.5	22.2	0.0132	27.5	11.8	0.0059	41.8
240.00	21.9	22.0	17.0	0.0130	22.0	12.7	0.0030	32.0
1465.00	22.2	21.0	16.1	0.0130	21.0	12.9	0.0012	30.3

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

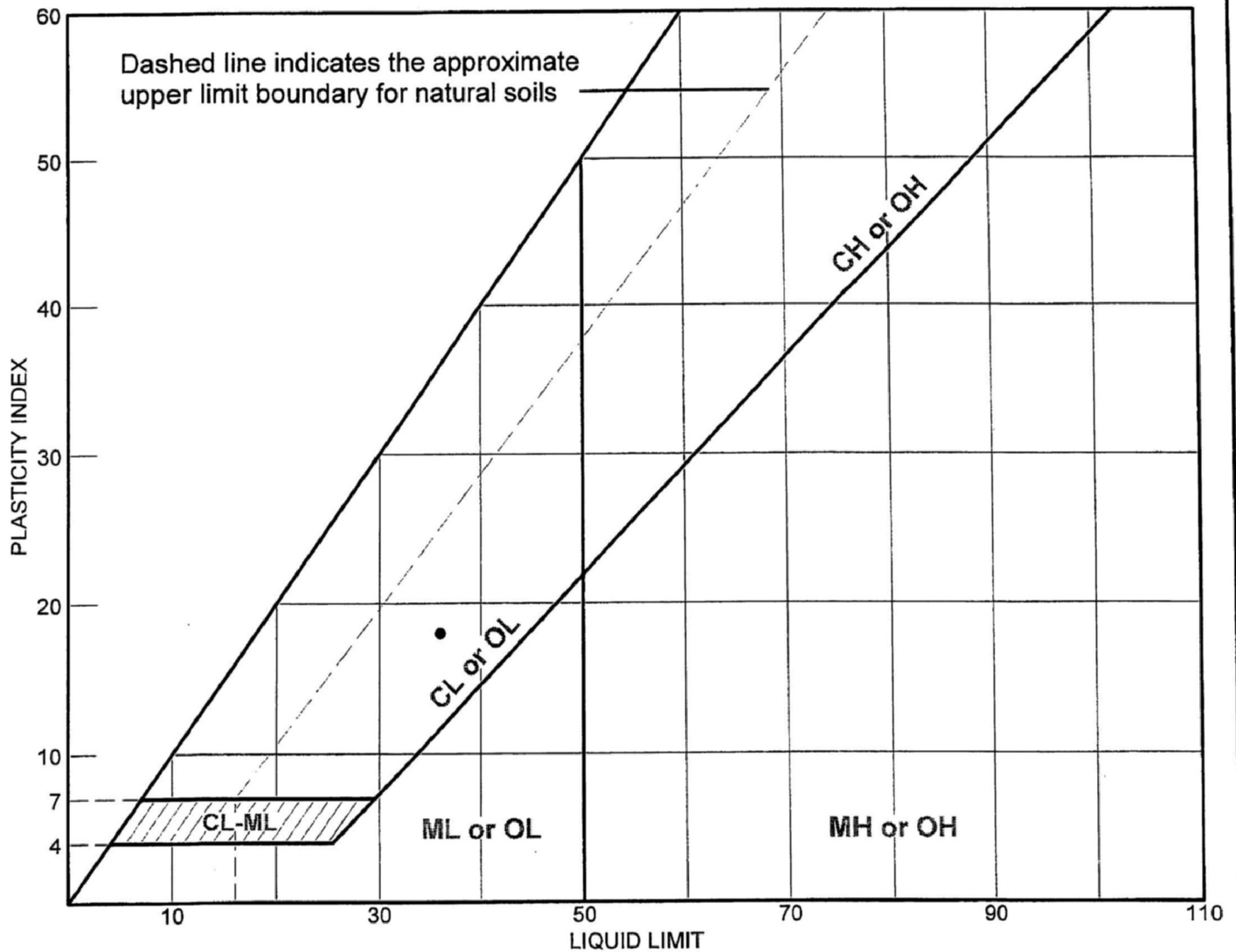
% COBBLES = % GRAVEL =

% SAND = 15.2 (% coarse = 0.1 % medium = 2.1 % fine = 13.0)

% SILT = 46.2 % CLAY = 38.6

D₈₅ = 0.08 D₆₀ = 0.02 D₅₀ = 0.01

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D4318 (05)



SOIL DATA								
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
•	2182UD	UD-12T	95-97.5 Ft.	15.4	18	36	18	CL

**MACTEC ENGINEERING
AND
CONSULTING, INC.**

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project No.: 6468-07-1777

Lab No. 8184

LIQUID AND PLASTIC LIMIT TEST DATA

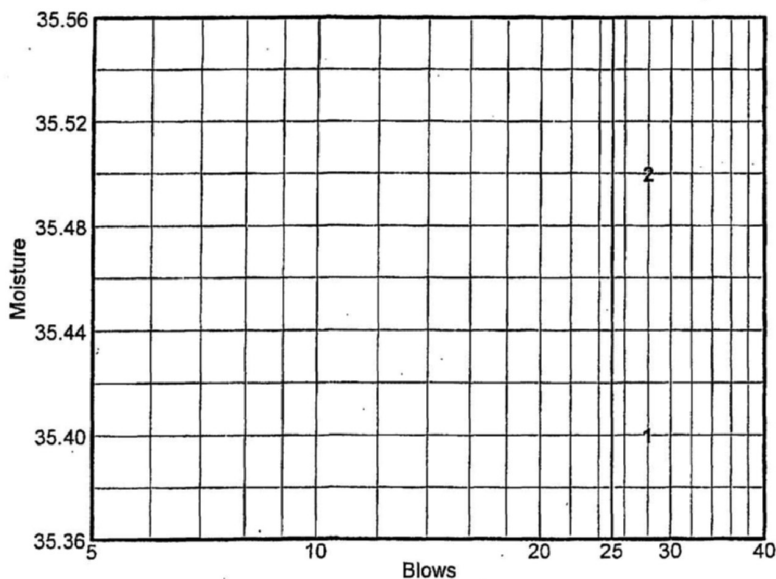
Client: Bechtel
 Project: Exelon Texas COL (Victoria)
 Project Number: 6468-07-1777

Sample Data

Source: B-2182UD
 Sample No.: UD-12T
 Elev. or Depth: 95-97.5 Ft Sample Length(in./cm.): ID#8184
 Location: B-2182UD
 Description: Light Gray Mottled Brownish Yellow Lean CLAY with sand
 Water Content: 15.4 USCS: CL AASHTO:

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.99	31.39				
Dry+Tare	28.18	28.51				
Tare	20.25	20.4				
# Blows	28	28				
Moisture	35.4	35.5				



Liquid Limit= 36
 Plastic Limit= 18
 Plasticity Index= 18

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	29.02	28.82		
Dry+Tare	27.83	27.53		
Tare	21.01	20.18		
Moisture	17.4	17.6		

MACTEC ENGINEERING AND CONSULTING, INC.

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

PROJECT NAME: EXELON COL PROJECT (VICTORIA)

PROJECT NUMBER: 6468071777

DATE: 2/8/08

SAMPLE IDENTIFICATION: B-2182UD, UD-12T @ 95.0-97.5 Ft.

(A) Mass of oven-dried soil, grams:	36.67
(B) Mass of pycnometer filled with water at test temperature (T), grams:	343.05
(C) Mass of pycnometer, water and soil, grams:	366.28
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.3
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.728
(F) Correction factor:	0.99926
(G x F) SPECIFIC GRAVITY @ 20°C:	2.726

MATERIAL TESTED:

☐

- # 4

☒

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100 %

Lean CLAY with sand (CL)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNO METER : 2192

TESTED BY: EH

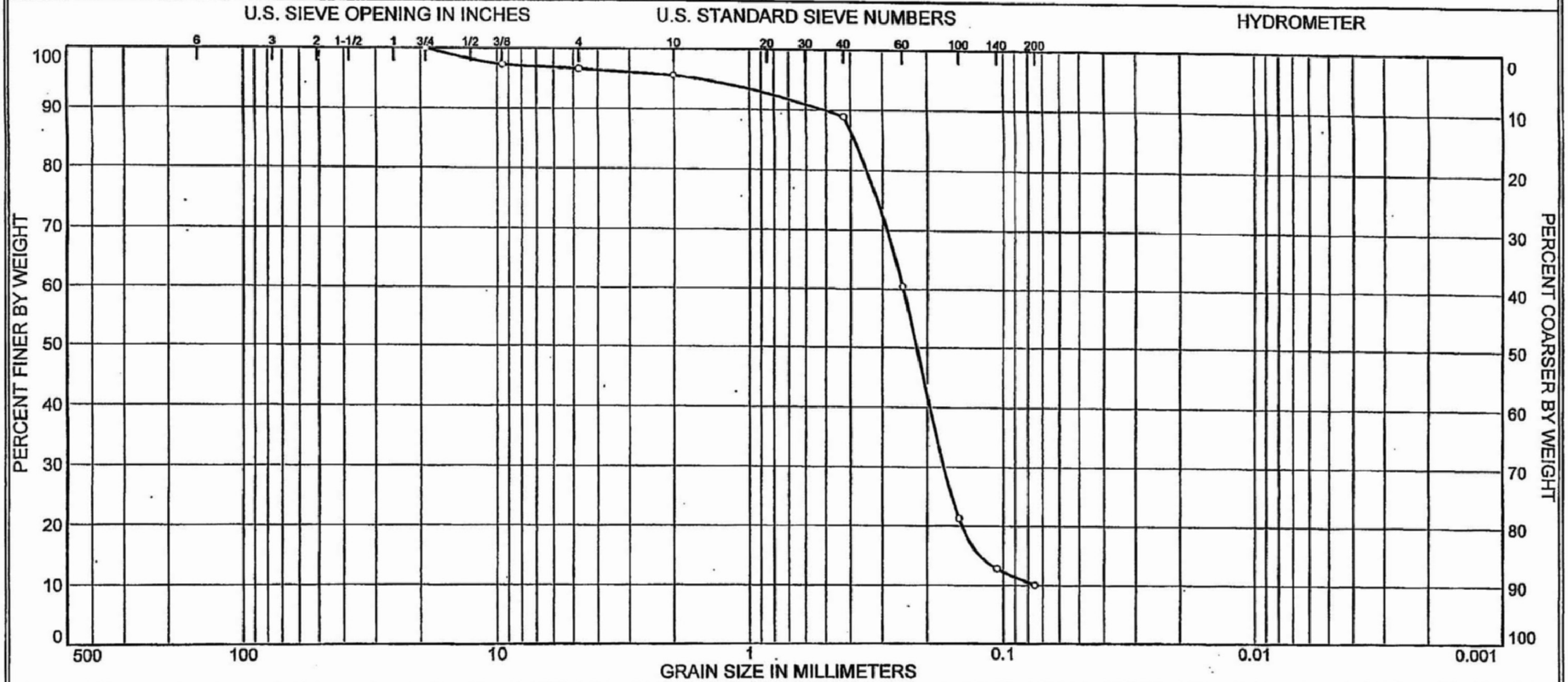
\\Test Reports\\Soils\\SPECIFIC GRAVITY(ref).xls

REVIEWED BY: Harry Johnson

DSC
3-3-08

HJ

Particle Size Distribution Report ASTM D6913-04 e1

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Client Bechtel		MACTEC ENGINEERING AND CONSULTING, INC.	☐ Tested by: EH Reviewed by: JW <i>JW</i>
Project Exelon Texas COL (Victoria)			Sieve Analysis Only NM value from average of strength tests performed. Specific Gravity = 2.72 (ASTM D 854-06)
Project No. 6468-07-1777	Lab No. 8184B		ND = Not Determined

DSC
4-2-08

GRAIN SIZE DISTRIBUTION TEST DATA

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2182UD
Sample No.: UD-12B
Elev. or Depth: 95-97.5 Ft Sample Length(in./cm.): ID#184B
Location: B-2182UD
Description: Very Pale Brown Poorly Graded SAND with silt (Visual)
Date: 12/17/07 PL: ND LL: ND PI: ND
USCS Classification: SP-SM AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: JW

Sieve Analysis Only
NM value from average of strength tests performed.
Specific Gravity = 2.72 (ASTM D 854-06)
ND = Not Determined

Mechanical Analysis Data

Initial
Dry sample and tare= 171.99
Tare = 16.57
Dry sample weight = 155.42
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
.75 inch	0.00	100.0
0.375 inch	4.05	97.4
# 4	5.14	96.7
# 10	6.64	95.7
# 40	17.20	88.9
# 60	61.43	60.5
# 100	122.33	21.3
# 140	135.59	12.8
# 200	139.95	10.0

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL = 3.3 (% coarse = % fine = 3.3)
% SAND = 86.7 (% coarse = 1.0 % medium = 6.8 % fine = 78.9)
% FINES = 10.0

D₈₅= 0.39 D₆₀= 0.25 D₅₀= 0.22
D₃₀= 0.17 D₁₅= 0.12 D₁₀= 0.08
C_c= 1.5919 C_u= 3.3112

LIQUID AND PLASTIC LIMIT TEST DATA

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2182UD
Sample No.: UD-12B
Elev. or Depth: 95-97.5 Ft Sample Length(in./cm.): ID#184B
Location: B-2182UD
Description: Very Pale Brown Poorly Graded SAND with silt (Visual)
Water Content: 17.7 USCS: SP-SM AASHTO:

Liquid Limit= NV
Plastic Limit= NP
Plasticity Index= NP

MACTEC ENGINEERING AND CONSULTING, INC.

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: 3/26/08

SAMPLE IDENTIFICATION: B-2182UD, UD-12B @ 95-97.5 Ft.

(A) Mass of oven-dried soil, grams:	37.78
(B) Mass of pycnometer filled with water at test temperature (T), grams:	363.60
(C) Mass of pycnometer, water and soil, grams:	387.51
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	24.4
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.724
(F) <i>Correction factor:</i>	0.99899
(G x F) SPECIFIC GRAVITY @ 20°C:	2.721

MATERIAL TESTED:

☐

- # 4

☒

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 97 %

Poorly Graded SAND with Silt (SP-SM) - Visual

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNOMETER : 2184

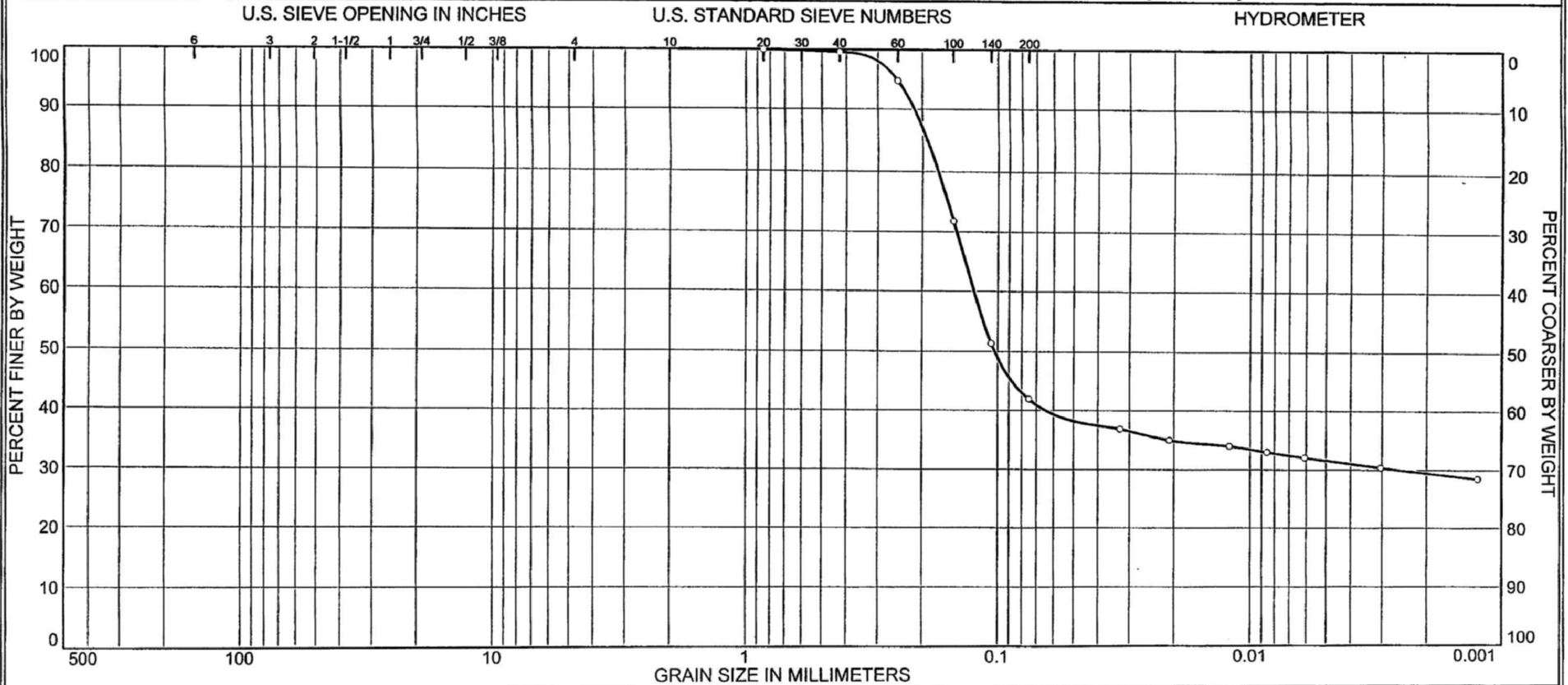
TESTED BY: EH

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

REVIEWED BY: Jianren Wang

DSC 3-31-08

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



% COBBLES	% GRAVEL		% SAND			% FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.0	0.4	57.7	10.3	31.6

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
2182UD	UD-13	120-121.7 Ft.	12/12/07	SC	Light Gray Clayey SAND	18.7	38	17

Client Bechtel		MACTEC ENGINEERING AND CONSULTING, INC.	Tested by: EH Reviewed by: HJ NM value from first strength test performed. Specific Gravity = 2.71 (ASTM D 854-06)	HJ DSC 3-3-08
Project Exelon Texas COL (Victoria)				
Project No. 6468-07-1777	Lab No. 8186			

GRAIN SIZE DISTRIBUTION TEST DATA

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2182UD
Sample No.: UD-13
Elev. or Depth: 120-121.7 Ft Sample Length(in./cm.): ID#8186
Location: B-2182UD
Description: Light Gray Clayey SAND
Date: 12/12/07 PL: 17 LL: 38 PI: 21
USCS Classification: SC AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
---Specific Gravity = 2.71 (ASTM D 854-06)

Mechanical Analysis Data

Initial
Dry sample and tare= 164.04
Tare = 112.39
Dry sample weight = 51.65
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
# 20	0.00	100.0
# 40	0.19	99.6
# 60	2.68	94.8
# 100	14.58	71.8
# 140	25.08	51.4
# 200	30.00	41.9

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 41.9
Weight of hydrometer sample: 21.65
Calculated biased weight= 51.67
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.707
Specific gravity correction factor= 0.987
Hydrometer type: 152H
Effective depth 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	21.1	24.5	19.3	0.0132	24.5	12.3	0.0328	36.9
5.00	21.1	23.5	18.3	0.0132	23.5	12.4	0.0209	35.0
15.00	21.1	23.0	17.8	0.0132	23.0	12.5	0.0121	34.0
30.00	21.1	22.5	17.3	0.0132	22.5	12.6	0.0086	33.0

Elapsed time, min	Temp, Actual deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
60.00	21.1	22.0	16.8	0.0132	22.0	12.7	0.0061	32.1
240.00	21.7	21.0	15.9	0.0131	21.0	12.9	0.0030	30.4
1440.00	21.7	20.0	14.9	0.0131	20.0	13.0	0.0012	28.5

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

% COBBLES = % GRAVEL =

% SAND = 58.1 (% coarse = % medium = 0.4 % fine = 57.7)

% SILT = 10.3 % CLAY = 31.6

D₈₅= 0.19 D₆₀= 0.12 D₅₀= 0.10

D₃₀= 0.00