

LIQUID AND PLASTIC LIMIT TEST DATA

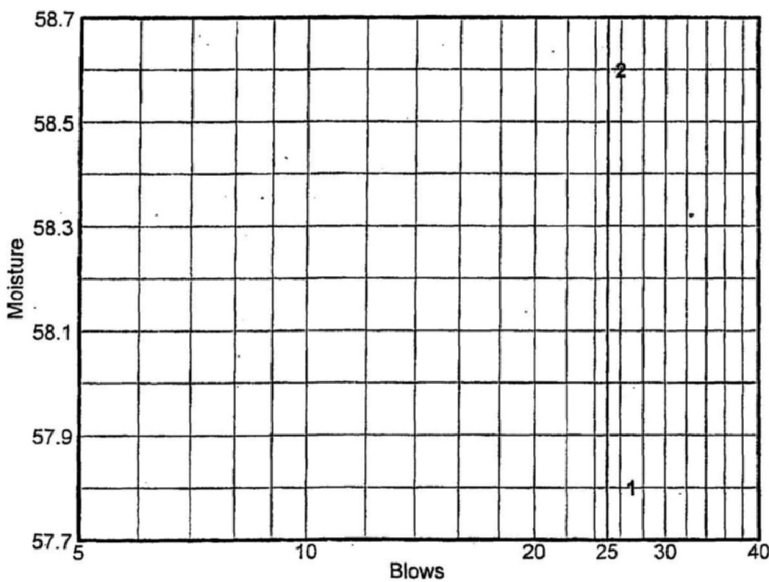
Client: Bechtel
 Project: Exelon Texas COL (Victoria)
 Project Number: 6468-07-1777

Sample Data

Source: B-2269UD
 Sample No.: UD-5
 Elev. or Depth: 50-51.7 Ft Sample Length(in./cm.): ID#8171
 Location: B-2269UD
 Description: Light Gray Mottled Brownish Yellow Fat CLAY
 Water Content: 21.5 USCS: CH AASHTO:

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	27.27	30.85				
Dry+Tare	25.05	27.11				
Tare	21.21	20.73				
# Blows	27	26				
Moisture	57.8	58.6				



Liquid Limit= 59
 Plastic Limit= 23
 Plasticity Index= 36

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	27.41	27.64		
Dry+Tare	25.99	26.24		
Tare	19.69	20.12		
Moisture	22.5	22.9		

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-2269UD, UD-5 @ 50-51.7 Ft.

(A) Mass of oven-dried soil, grams:	49.88
(B) Mass of pycnometer filled with water at test temperature (T), grams:	341.08
(C) Mass of pycnometer, water and soil, grams:	372.51
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.0
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.704
(F) Correction factor:	0.99933
(G x F) SPECIFIC GRAVITY @ 20°C:	2.702

MATERIAL TESTED:

☐

- # 4

☒

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100 %

Fat CLAY (CH)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNO METER : 2055

TESTED BY: EH

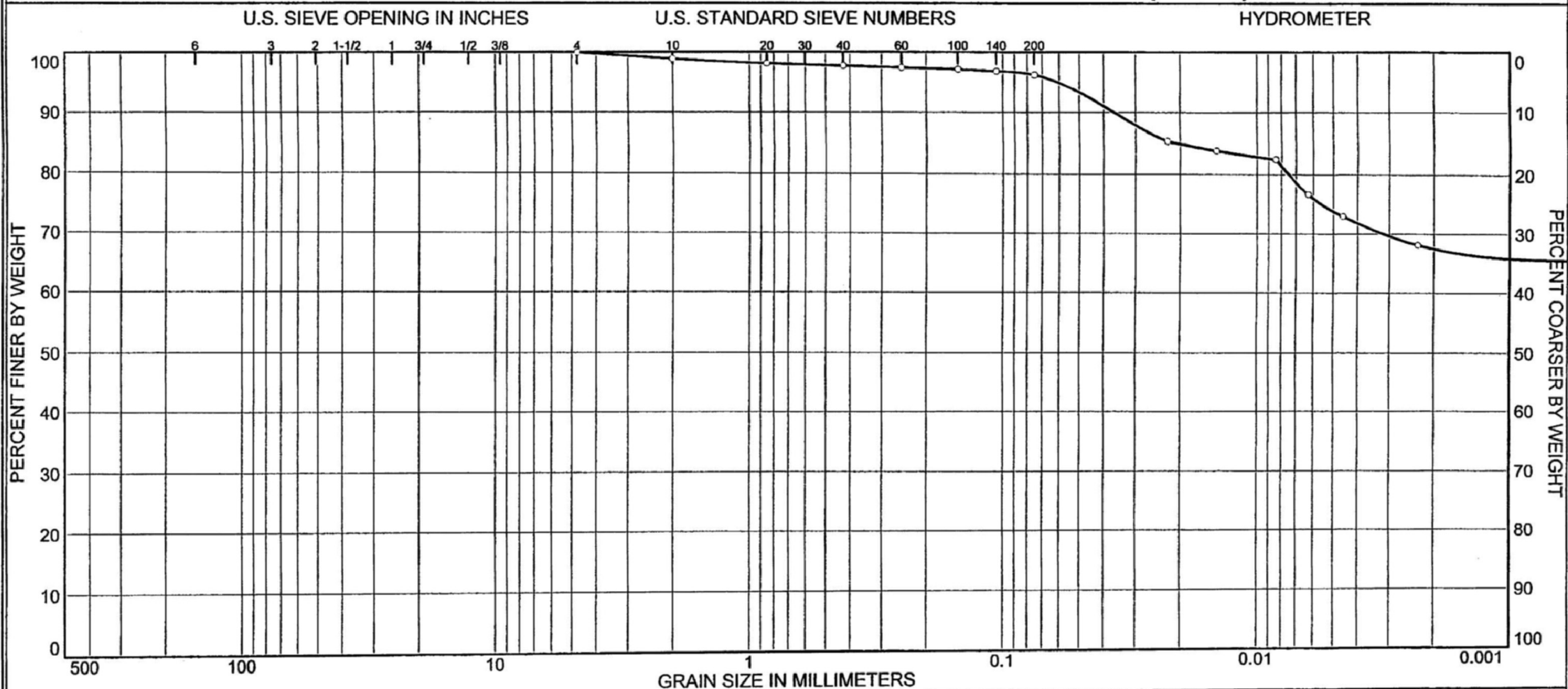
\\Test Reports\\Soils\\SPECIFIC GRAVITY(ref).xls

REVIEWED BY: Harry Johnson

DSC

3-3-08

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	1.1	1.2	1.5	22.3	73.9

SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
2269UD	UD-7	70-71.7 Ft.	12/01/07	CH	Light Gray Mottled Brownish Yellow Fat CLAY	28.3	74	30

Client Bechtel		MACTEC ENGINEERING AND CONSULTING, INC.	○ Tested by: EH Reviewed by: HJ NM value from first strength test performed. Specific Gravity = 2.72 (ASTM D 854-06) Organic Content=1.2%(ASTM D-2794-07)	14 DSC 3-3-08
Project Exelon Texas COL (Victoria)				
Project No. 6468-07-1777	Lab No. 8172			

GRAIN SIZE DISTRIBUTION TEST DATA

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

Sample Data

Source: B-2269UD
Sample No.: UD-7
Elev. or Depth: 70-71.7 Ft Sample Length(in./cm.): ID#8172
Location: B-2269UD
Description: Light Gray Mottled Brownish Yellow Fat CLAY
Date: 12/01/07 PL: 30 LL: 74 PI: 44
USCS Classification: CH AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
Specific Gravity = 2.72 (ASTM D 854-06)
Organic Content=1.2% (ASTM D-2794-07)

Mechanical Analysis Data

Initial
Dry sample and tare= 213.16
Tare = 143.46
Dry sample weight = 69.70
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.75	98.9
# 20	1.32	98.1
# 40	1.62	97.7
# 60	1.81	97.4
# 100	2.00	97.1
# 140	2.26	96.8
# 200	2.62	96.2

Hydrometer Analysis Data

Separation sieve is #10
Percent -#10 based upon complete sample= 98.9
Weight of hydrometer sample: 67.08
Calculated biased weight= 67.83
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.718
Specific gravity correction factor= 0.985
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	20.3	62.0	56.6	0.0135	62.0	6.1	0.0237	77.8
5.00	20.3	62.0	56.6	0.0135	62.0	6.1	0.0150	77.8
15.00	20.3	60.0	54.6	0.0135	60.0	6.5	0.0089	75.1
30.00	20.3	57.0	51.6	0.0135	57.0	6.9	0.0065	70.9
60.00	20.3	54.0	48.6	0.0135	54.0	7.4	0.0048	66.8
250.00	21.1	47.5	42.3	0.0134	47.5	8.5	0.0025	58.1
4331.00	21.1	40.0	34.8	0.0134	40.0	9.7	0.0006	47.8

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

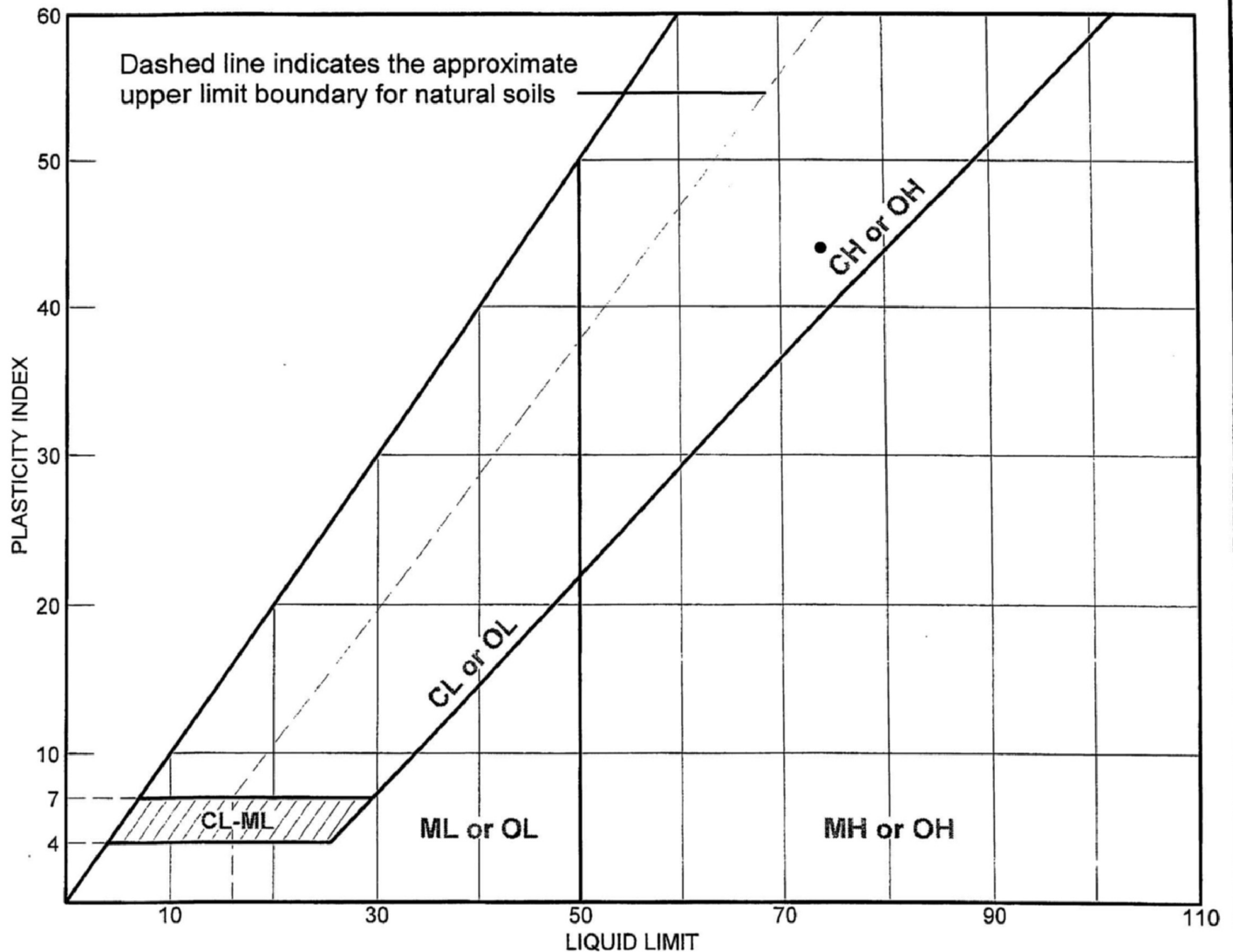
% COBBLES = % GRAVEL = 5.0 (% coarse = % fine = 5.0)

% SAND = 4.9 (% coarse = 0.1 % medium = 0.2 % fine = 4.6)

% SILT = 22.7 % CLAY = 67.4 (% CLAY COLLOIDS = 50.4)

D₈₅= 0.05 D₆₀= 0.00 D₅₀= 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
•	2269UD	UD-7	70-71.7 Ft.	28.3	30	74	44	CH

**MACTEC ENGINEERING
AND
CONSULTING, INC.**

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

Lab No. 8172

DSC
2-3-08

LIQUID AND PLASTIC LIMIT TEST DATA

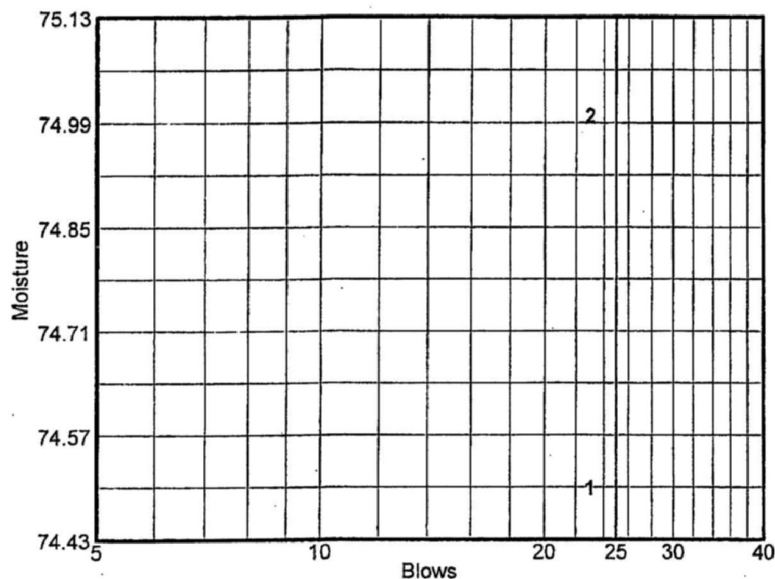
Client: Bechtel
 Project: Exelon Texas COL (Victoria)
 Project Number: 6468-07-1777

Sample Data

Source: B-2269UD
 Sample No.: UD-7
 Elev. or Depth: 70-71.7 Ft Sample Length(in./cm.): ID#8172
 Location: B-2269UD
 Description: Light Gray Mottled Brownish Yellow Fat CLAY
 Water Content: 28.3 USCS: CH AASHTO:

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	29.92	30.95				
Dry+Tare	25.94	26.66				
Tare	20.60	20.94				
# Blows	23	23				
Moisture	74.5	75.0				



Liquid Limit= 74
 Plastic Limit= 30
 Plasticity Index= 44

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	26.78	27.20		
Dry+Tare	25.18	25.53		
Tare	19.86	19.98		
Moisture	30.1	30.1		

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-2269UD, UD-7 @ 70-71.7 Ft.

(A) Mass of oven-dried soil, grams:	29.86
(B) Mass of pycnometer filled with water at test temperature (T), grams:	339.45
(C) Mass of pycnometer, water and soil, grams:	358.33
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.0
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.719
(F) Correction factor:	0.99933
(G x F) SPECIFIC GRAVITY @ 20°C:	2.718

MATERIAL TESTED:

☐

- # 4

☒

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100 %

Fat CLAY (CH)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNO METER : 2053

TESTED BY: EH

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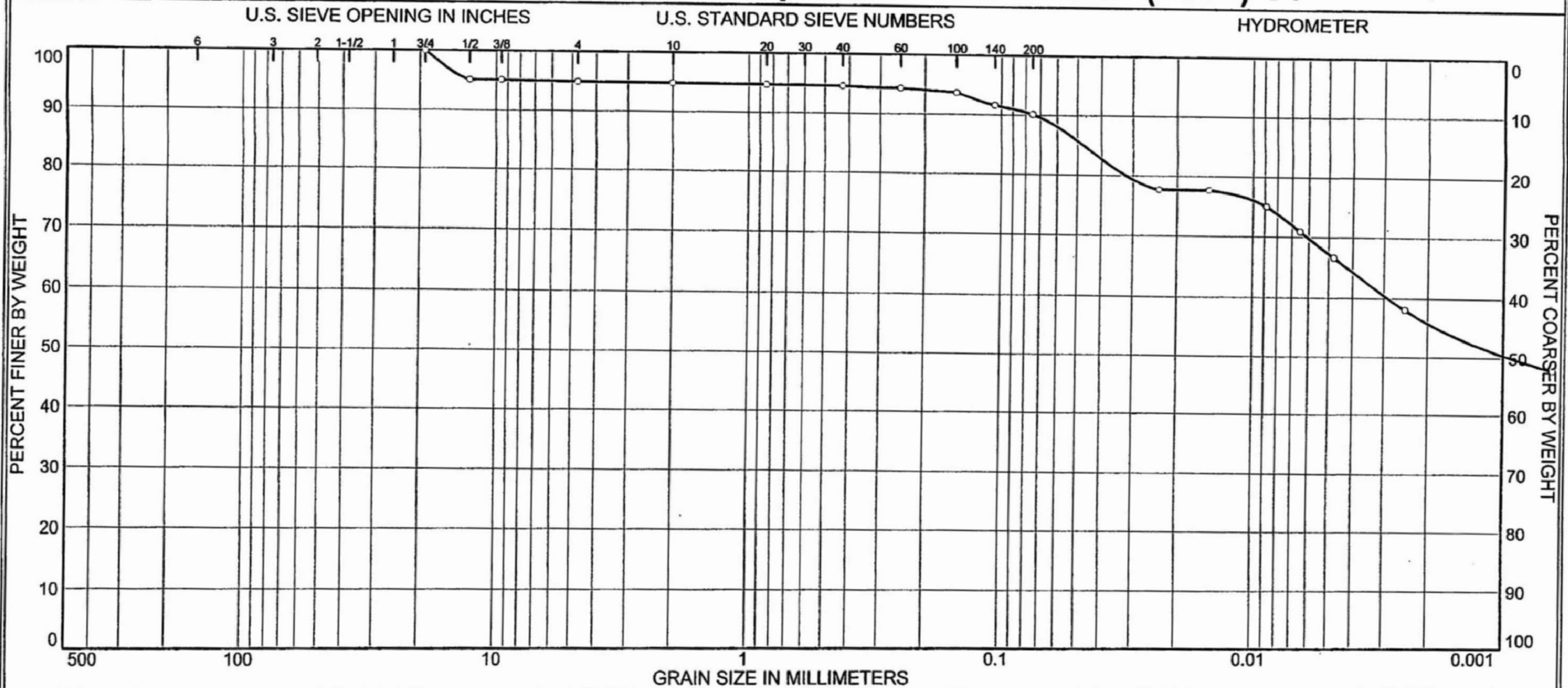
REVIEWED BY: Harry Johnson

DSC

3-3-08

HJ

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-2269UD
Sample No.: UD-8
Elev. or Depth: 73-74.7 Ft Sample Length(in./cm.): ID#8173
Location: B-2269UD
Description: Brownish Yellow Mottled Light Gray Fat CLAY
Date: 12/01/07 PL: 25 LL: 65 PI: 40
USCS Classification: CH AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
Specific Gravity = 2.67 (ASTM D 854-06)

Mechanical Analysis Data

	Initial	
Dry sample and tare=	170.04	
Tare =	97.55	
Dry sample weight =	72.49	
Tare for cumulative weight retained=	.00	
Sieve	Cumul. Wt. retained	Percent finer
0.75 inch	0.00	100.0
.5 inch	3.47	95.2
.375 inch	3.47	95.2
# 4	3.66	95.0
# 10	3.72	94.9
# 20	3.80	94.8
# 40	3.86	94.7
# 60	4.06	94.4
# 100	4.54	93.7
# 140	6.08	91.6
# 200	7.19	90.1

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 90.1
Weight of hydrometer sample: 65.3
Calculated biased weight= 72.48
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.668
Specific gravity correction factor= 0.996
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

MACTEC Engineering and Consulting, Inc.

DSC
4-30-08

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.00	20.3	62.0	56.6	0.0135	62.0	6.1	0.0237	77.8
5.00	20.3	62.0	56.6	0.0135	62.0	6.1	0.0150	77.8
15.00	20.3	60.0	54.6	0.0135	60.0	6.5	0.0089	75.1
30.00	20.3	57.0	51.6	0.0135	57.0	6.9	0.0065	70.9
60.00	20.3	54.0	48.6	0.0135	54.0	7.4	0.0048	66.8
250.00	21.1	47.5	42.3	0.0134	47.5	8.5	0.0025	58.1
4331.00	21.1	40.0	34.8	0.0134	40.0	9.7	0.0006	47.8

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

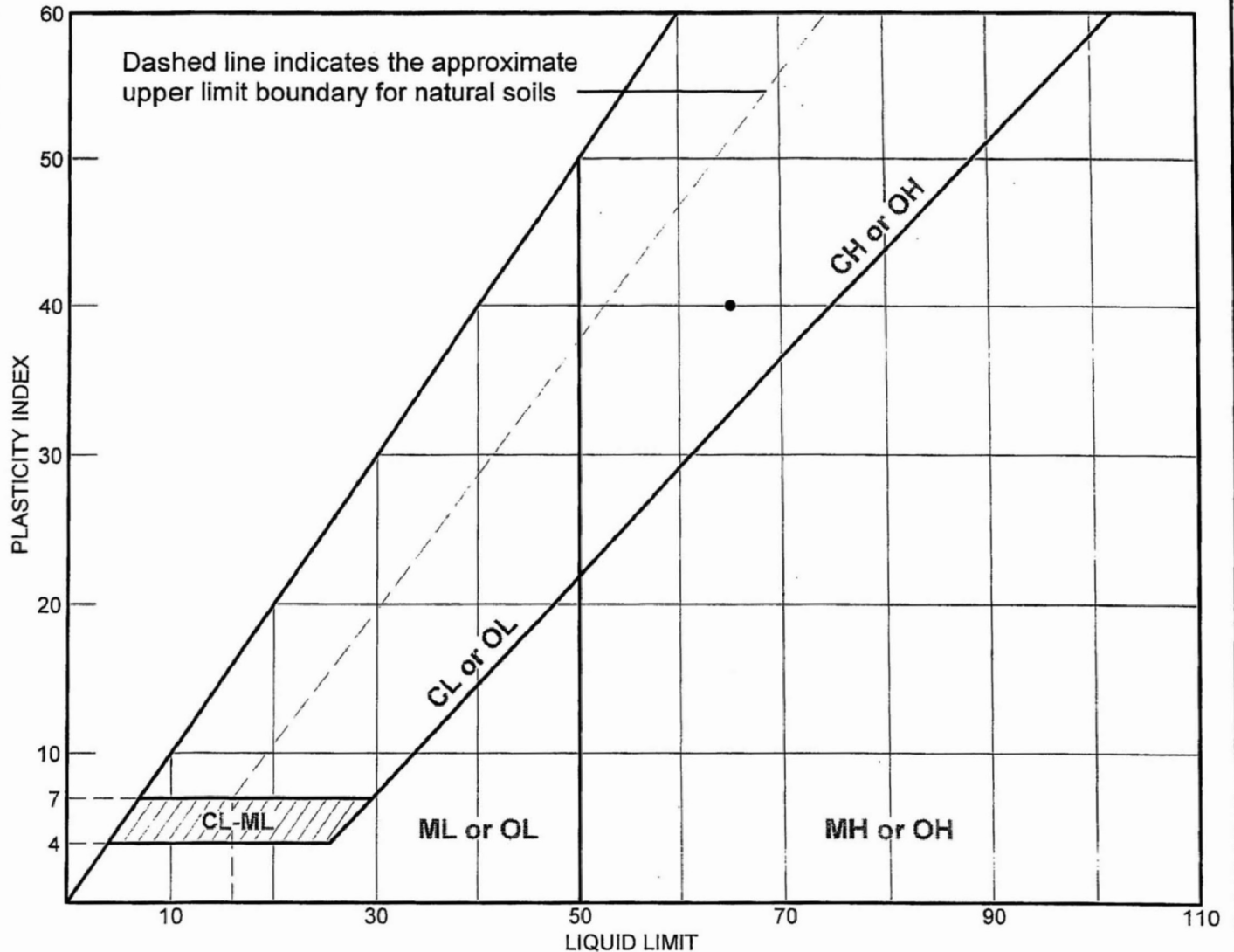
% COBBLES = % GRAVEL = 5.0 (% coarse = % fine = 5.0)

% SAND = 4.9 (% coarse = 0.1 % medium = 0.2 % fine = 4.6)

% SILT = 22.7 % CLAY = 67.4 (% CLAY COLLOIDS = 50.4)

D₈₅= 0.05 D₆₀= 0.00 D₅₀= 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
•	2269UD	UD-8	73-74.7 Ft.	22.4	25	65	40	CH

**MACTEC ENGINEERING
AND
CONSULTING, INC.**

Client: Bechtel
Project: Exelon Texas COL (Victoria)

Project No.: 6468-07-1777

Lab No. 8173

LIQUID AND PLASTIC LIMIT TEST DATA

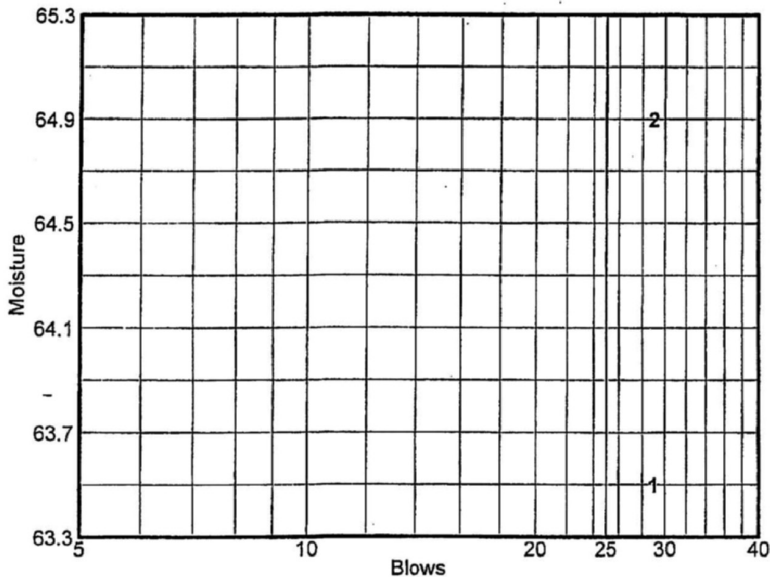
Client: Bechtel
 Project: Exelon Texas COL (Victoria)
 Project Number: 6468-07-1777

Sample Data

Source: B-2269UD
 Sample No.: UD-8
 Elev. or Depth: 73-74.7 Ft Sample Length(in./cm.): ID#8173
 Location: B-2269UD
 Description: Brownish Yellow Mottled Light Gray Fat CLAY
 Water Content: 22.4 USCS: CH AASHTO:

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.46	29.86				
Dry+Tare	26.65	26.47				
Tare	20.65	21.25				
# Blows	29	29				
Moisture	63.5	64.9				



Liquid Limit= 65
 Plastic Limit= 25
 Plasticity Index= 40

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	28.8	27.47		
Dry+Tare	27.2	26.1		
Tare	20.83	20.6		
Moisture	25.1	24.9		

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-2269UD, UD-8 @73-74.7 Ft.

(A) Mass of oven-dried soil, grams:	50.10
(B) Mass of pycnometer filled with water at test temperature (T), grams:	338.46
(C) Mass of pycnometer, water and soil, grams:	369.79
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	22.0
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$
(F)	Correction factor:
(G x F)	SPECIFIC GRAVITY @ 20°C:

MATERIAL TESTED:

☐

- # 4

☒

- # 10

PREPARATION METHOD:

☒

DRY

☐

WET (dispersed)

REMARKS: Estimated % Passing # 4 : 95 %

Fat CLAY (CH)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNOMETER : 2054

TESTED BY: EH

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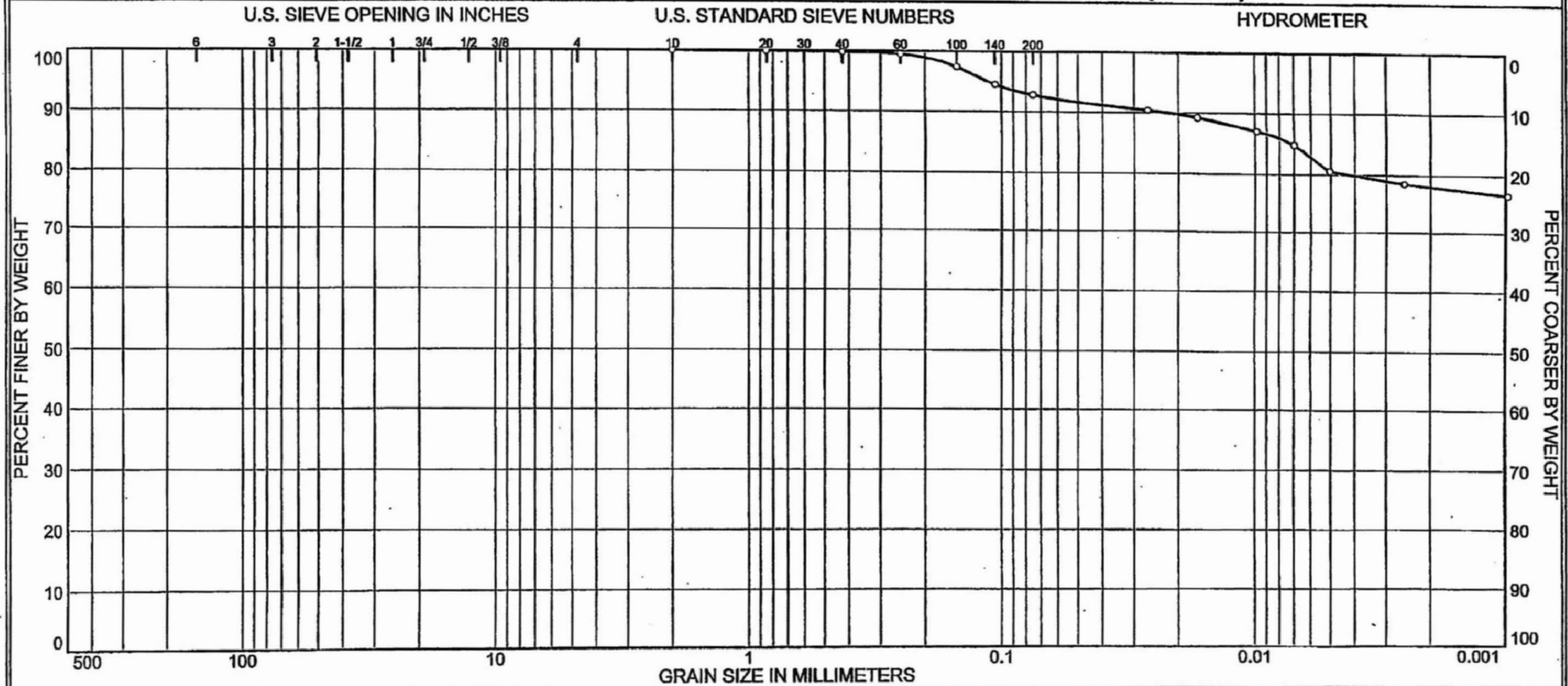
REVIEWED BY: Harry Johnson

DSC

3-3-08

HJ

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-2269UD
Sample No.: UD-9
Elev. or Depth: 120-121.7 Ft Sample Length(in./cm.): ID#8445
Location: B-2269UD
Description: Light Gray Elastic SILT
Date: 12/1/07 PL: 42 LL: 83 PI: 41
USCS Classification: MH AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: JW

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

Mechanical Analysis Data

Initial
Dry sample and tare= 59.46
Tare = 14.53
Dry sample weight = 44.93
Tare for cumulative weight retained= :00

Sieve	Cumul. Wt. retained	Percent finer
# 10	0.00	100.0
# 20	0.04	99.9
# 40	0.09	99.8
# 60	0.23	99.5
# 100	1.15	97.4
# 140	2.45	94.5
# 200	3.22	92.8

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 92.8
Weight of hydrometer sample: 41.70
Calculated biased weight= 44.94
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only=
Specific gravity of solids= 2.77
Specific gravity correction factor= 0.974
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	22.8	46.5	41.7	0.0127	46.5	8.7	0.0265	90.4
5.00	22.8	46.0	41.2	0.0127	46.0	8.8	0.0168	89.3
15.00	22.8	45.0	40.2	0.0127	45.0	8.9	0.0098	87.2

MACTEC Engineering and Consulting, Inc.

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
30.00	22.8	44.0	39.2	0.0127	44.0	9.1	0.0070	85.0
60.00	22.8	42.0	37.2	0.0127	42.0	9.4	0.0050	80.6
240.00	22.8	41.0	36.2	0.0127	41.0	9.6	0.0025	78.5
1645.00	23.1	40.0	35.3	0.0127	40.0	9.7	0.0010	76.5

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

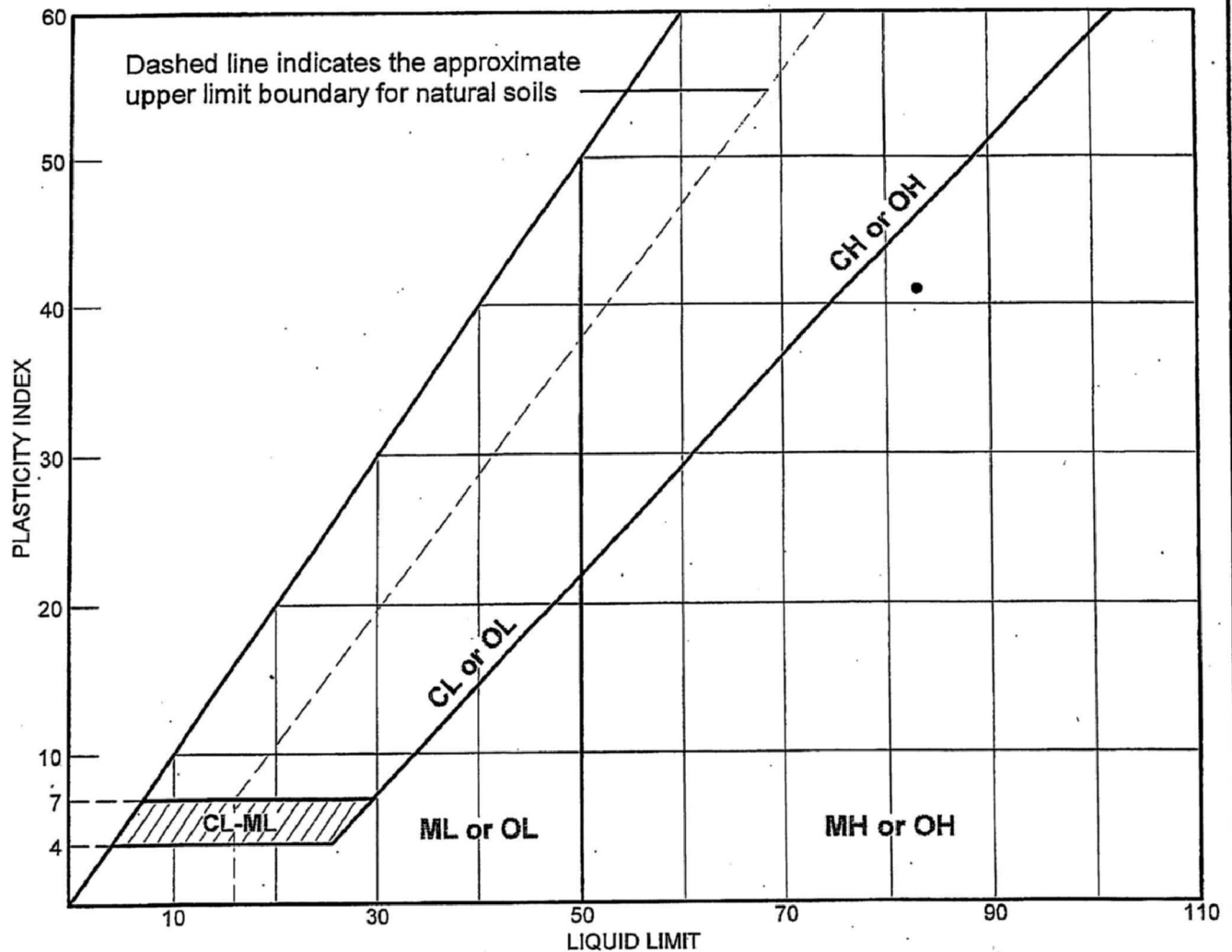
% COBBLES = % GRAVEL =

% SAND = 7.2 (% coarse = % medium = 0.2 % fine = 7.0)

% SILT = 12.2 % CLAY = 80.6 (% CLAY COLLOIDS = 76.6)

D₈₅ = 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
•	B-2269UD	UD-9	120-121.7 Ft.	34.9	42	83	41	MH

**MACTEC ENGINEERING
AND
CONSULTING, INC.**

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

Lab No. 8445

DSC
3-31-08

LIQUID AND PLASTIC LIMIT TEST DATA

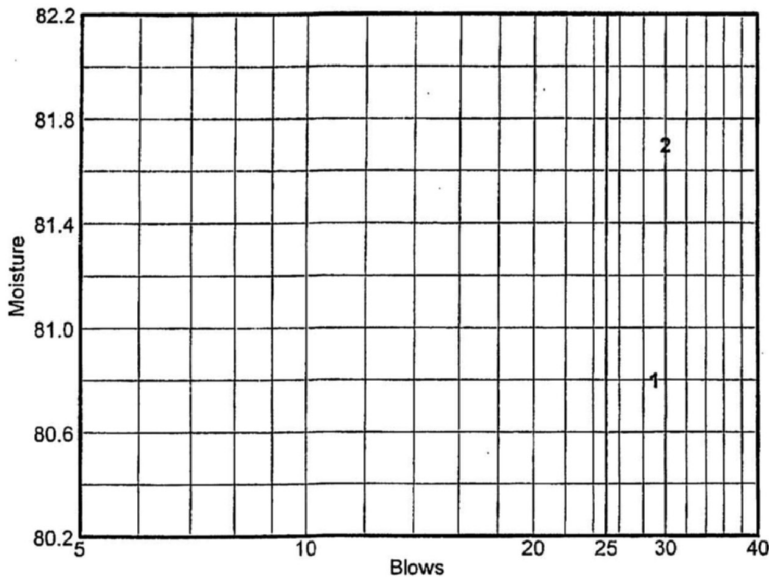
Client: Bechtel
 Project: Exelon Texas COL (Victoria)
 Project Number: 6468-07-1777

Sample Data

Source: B-2269UD
 Sample No.: UD-9
 Elev. or Depth: 120-121.7 Ft
 Location: B-2269UD
 Description: Light Gray Elastic SILT
 Water Content: 34.9 USCS: MH AASHTO:
 Sample Length(in./cm.): ID#8445

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.05	30.78				
Dry+Tare	25.97	26.45				
Tare	19.68	21.15				
# Blows	29	30				
Moisture	80.8	81.7				



Liquid Limit= 83
 Plastic Limit= 42
 Plasticity Index= 41

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	27.94	27.54		
Dry+Tare	25.79	25.35		
Tare	20.63	20.09		
Moisture	41.7	41.6		

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: 3/26/08

SAMPLE IDENTIFICATION: B-2269UD, UD-9 @ 120-121.7 Ft.

(A) Mass of oven-dried soil, grams:	37.69
(B) Mass of pycnometer filled with water at test temperature (T), grams:	341.20
(C) Mass of pycnometer, water and soil, grams:	365.28
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	24.4
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.769
(F) Correction factor:	0.99899
(G x F) SPECIFIC GRAVITY @ 20°C:	2.766

MATERIAL TESTED:

☐ - # 4

☒ - # 10

PREPARATION METHOD:

☒ DRY

☐ WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100%

Elastic SILT (MH)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNOMETER : 2057

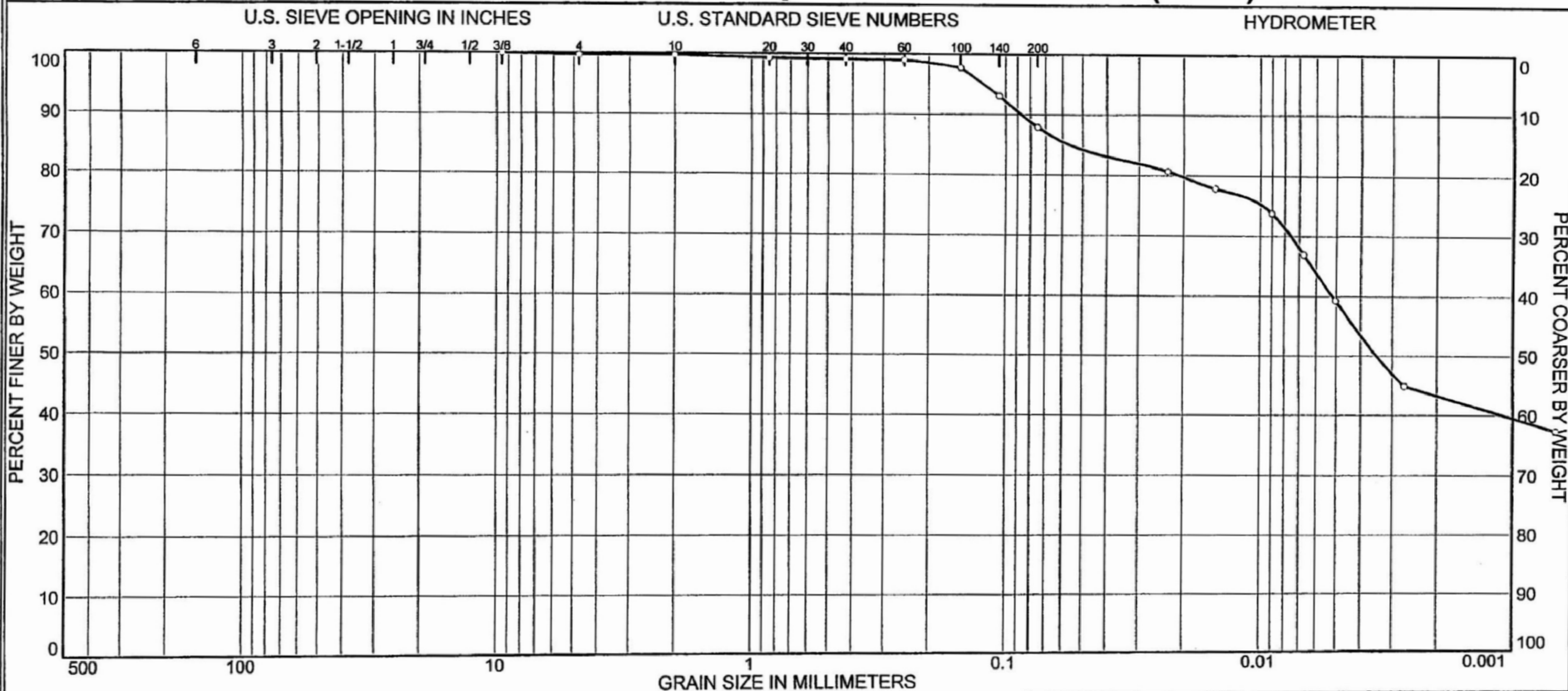
TESTED BY: EH

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REVIEWED BY: Jianren Wang

DSC 3-31-08

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

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1. DSC
3-3-08

GRAIN SIZE DISTRIBUTION TEST DATA

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

Sample Data

Source: B-2269UD
Sample No.: UD-10
Elev. or Depth: 123-123.8 Ft Sample Length(in./cm.): ID#8174
Location: B-2269UD
Description: Light Gray Fat CLAY
Date: 12/01/07 PL: 26 LL: 69 PI: 43
USCS Classification: CH AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
Specific Gravity = 2.68 (ASTM D 854-06)

Mechanical Analysis Data

	Initial	
Dry sample and tare=	214.47	
Tare =	142.94	
Dry sample weight =	71.53	
Tare for cumulative weight retained=	.00	
Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.22	99.7
# 10	0.25	99.7
# 20	0.49	99.3
# 40	0.61	99.1
# 60	0.71	99.0
# 100	1.63	97.7
# 140	5.04	93.0
# 200	8.67	87.9

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 87.9
Weight of hydrometer sample: 62.86
Calculated biased weight= 71.51
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.676
Specific gravity correction factor= 0.994
Hydrometer type: 152H
Effective depth 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	20.3	63.5	58.1	0.0135	63.5	5.9	0.0231	80.8
5.00	20.3	61.5	56.1	0.0135	61.5	6.2	0.0150	78.0
15.00	20.3	58.5	53.1	0.0135	58.5	6.7	0.0090	73.8
30.00	20.6	53.5	48.2	0.0134	53.5	7.5	0.0067	67.0
60.00	20.6	48.0	42.7	0.0134	48.0	8.4	0.0050	59.3
250.00	21.1	37.5	32.3	0.0134	37.5	10.1	0.0027	44.9
4240.00	21.7	32.0	26.9	0.0133	32.0	11.0	0.0007	37.4

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

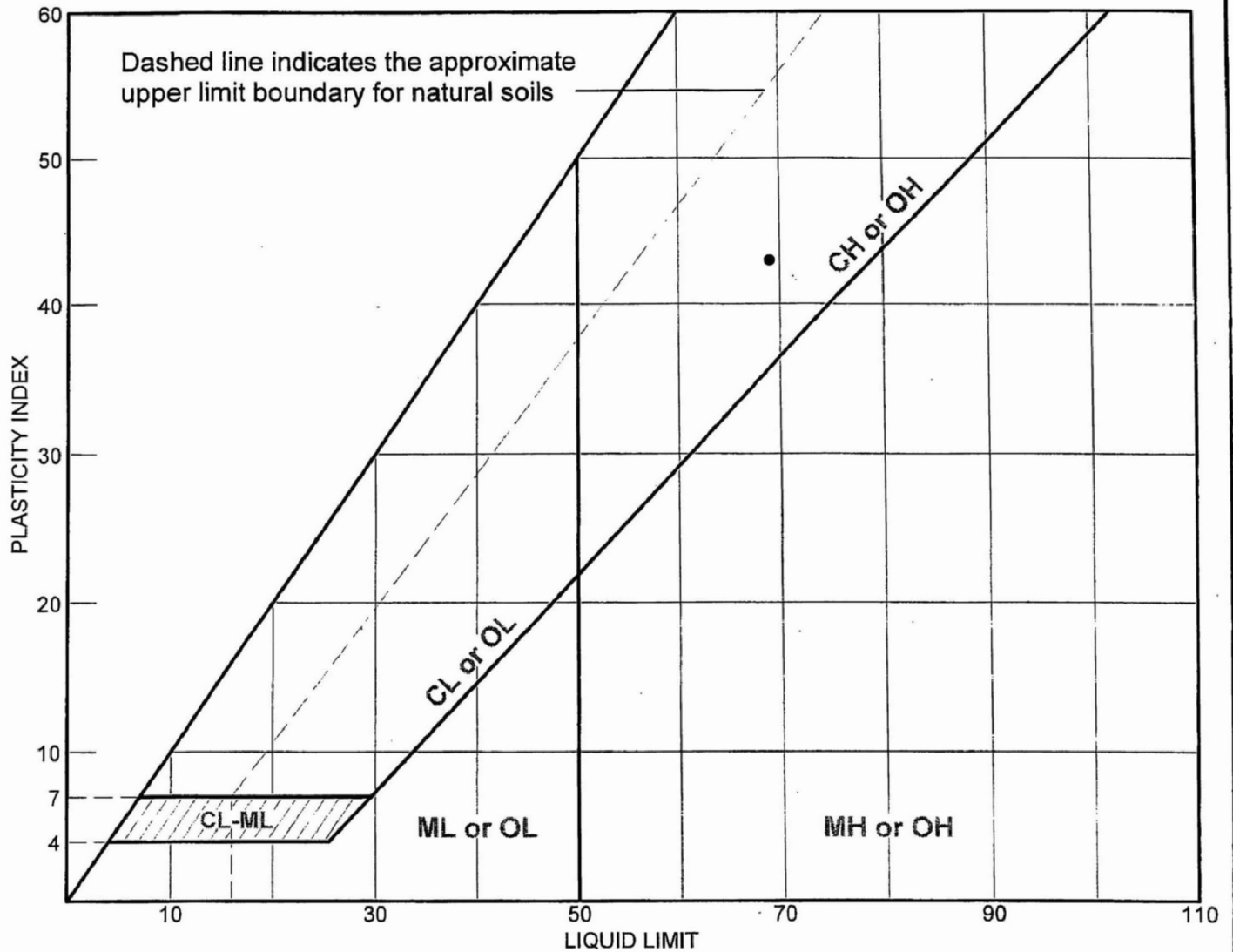
% COBBLES = % GRAVEL = 0.3 (% coarse = % fine = 0.3)

% SAND = 11.8 (% coarse = 0.0 % medium = 0.6 % fine = 11.2)

% SILT = 28.8 % CLAY = 59.1 (% CLAY COLLOIDS = 39.5)

D₈₅= 0.06 D₆₀= 0.01 D₅₀= 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
•	2269UD	UD-10	123-123.8 Ft.	17.4	26	69	43	CH

**MACTEC ENGINEERING
AND
CONSULTING, INC.**

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

Lab No. 8174

LIQUID AND PLASTIC LIMIT TEST DATA

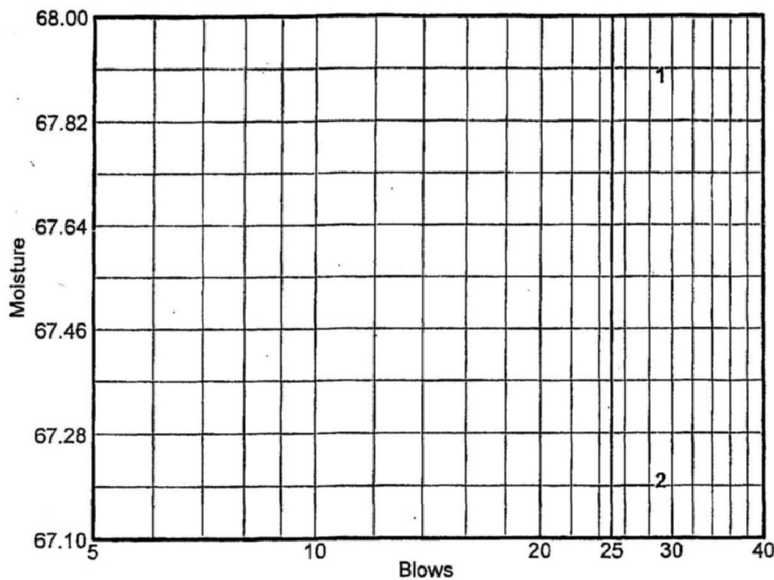
Client: Bechtel
 Project: Exelon Texas COL (Victoria)
 Project Number: 6468-07-1777

Sample Data

Source: B-2269UD
 Sample No.: UD-10
 Elev. or Depth: 123-123.8 Ft Sample Length(in./cm.): ID#8174
 Location: B-2269UD
 Description: Light Gray Fat CLAY
 Water Content: 17.4 USCS: CH AASHTO:

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	29.99	30.41				
Dry+Tare	26	26.76				
Tare	20.12	21.33				
# Blows	29	29				
Moisture	67.9	67.2				



Liquid Limit= 69
 Plastic Limit= 26
 Plasticity Index= 43

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	26.54	27.33		
Dry+Tare	25.25	25.99		
Tare	20.18	20.78		
Moisture	25.4	25.7		

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-2269UD, UD-10 @ 123-123.8 Ft.

(A) Mass of oven-dried soil, grams:	43.84
(B) Mass of pycnometer filled with water at test temperature (T), grams:	366.28
(C) Mass of pycnometer, water and soil, grams:	393.75
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.6
(G) Specific Gravity at observed temperature: $A / [B - (C - A)]$	2.678
(F) Correction factor:	0.99919
(G x F) SPECIFIC GRAVITY @ 20°C:	2.676

MATERIAL TESTED:

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- # 4

☒

- # 10

PREPARATION METHOD:

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DRY

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WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100 %

Fat CLAY (CH)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNO METER : 2193

TESTED BY: EH

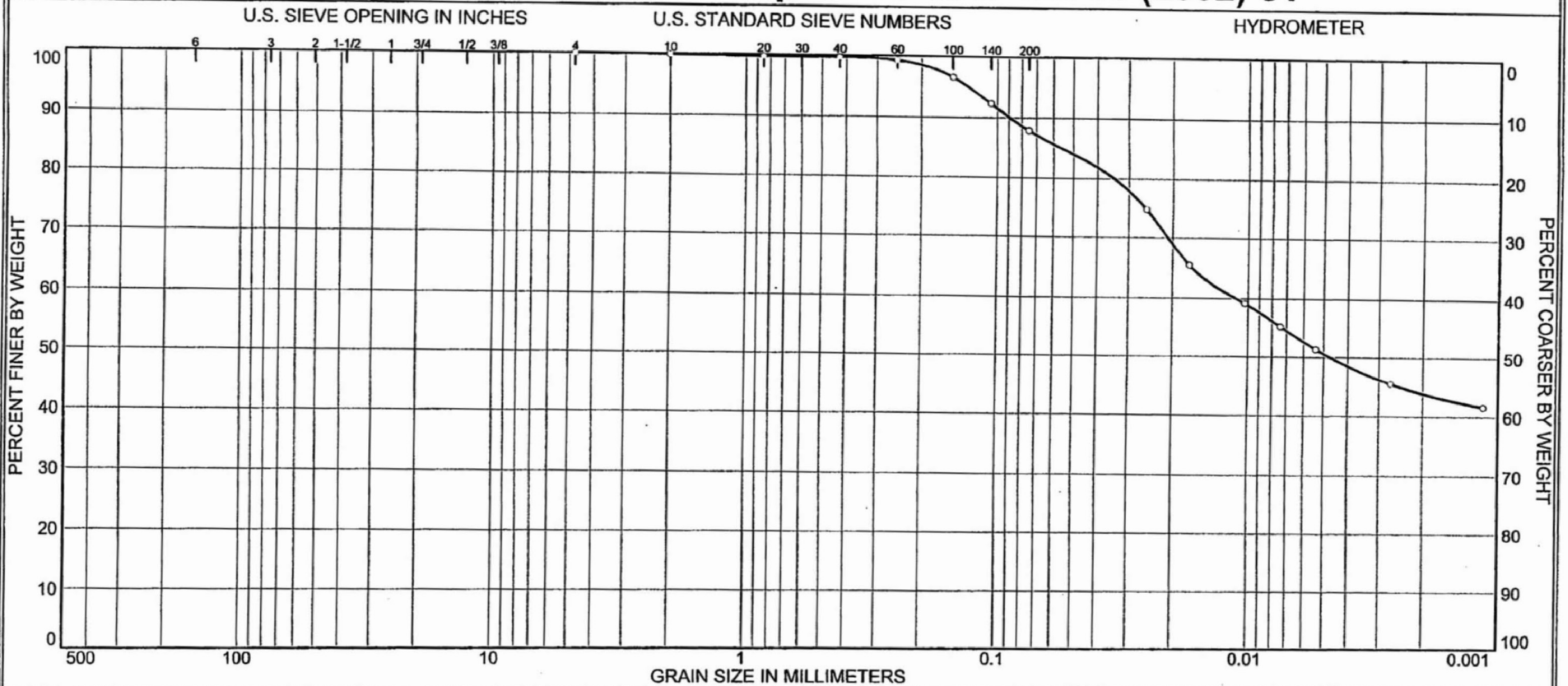
\\Test Reports\\Soils\\SPECIFIC GRAVITY(ref).xls

REVIEWED BY: Harry Johnson

DSC
3-3-08

10

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-2269UD
Sample No.: UD-11
Elev. or Depth: 150-151.7 Ft Sample Length(in./cm.): ID#8175
Location: B-2269UD
Description: Light Gray Mottled Light Yellowish Brown Fat CLAY

Date: 12/02/07 PL: 22 LL: 50 PI: 28
USCS Classification: CH AASHTO Classification:
Testing Remarks: Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
Specific Gravity = 2.70 (ASTM D 854-06)

Mechanical Analysis Data

Sieve	Cumul. Wt. retained	Percent finer
Initial		
Dry sample and tare=	156.17	
Tare =	92.60	
Dry sample weight =	63.57	
Tare for cumulative weight retained= .00		
# 4	0.00	100.0
# 10	0.08	99.9
# 20	0.16	99.7
# 40	0.21	99.7
# 60	0.44	99.3
# 100	2.19	96.6
# 140	4.89	92.3
# 200	7.71	87.9

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 87.9
Weight of hydrometer sample: 55.86
Calculated biased weight= 63.55
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.697
Specific gravity correction factor= 0.990
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	22.2	53.0	48.1	0.0131	53.0	7.6	0.0255	74.9
5.00	22.2	47.0	42.1	0.0131	47.0	8.6	0.0172	65.5
15.00	22.2	43.0	38.1	0.0131	43.0	9.2	0.0103	59.3
30.00	22.2	40.5	35.6	0.0131	40.5	9.7	0.0074	55.4
60.00	22.2	38.0	33.1	0.0131	38.0	10.1	0.0054	51.5
250.00	22.8	34.0	29.2	0.0130	34.0	10.7	0.0027	45.5
1440.00	22.8	31.5	26.7	0.0130	31.5	11.1	0.0011	41.6

Fractional Components

Gravel/Sand based on #4

Sand/Fines based on #200

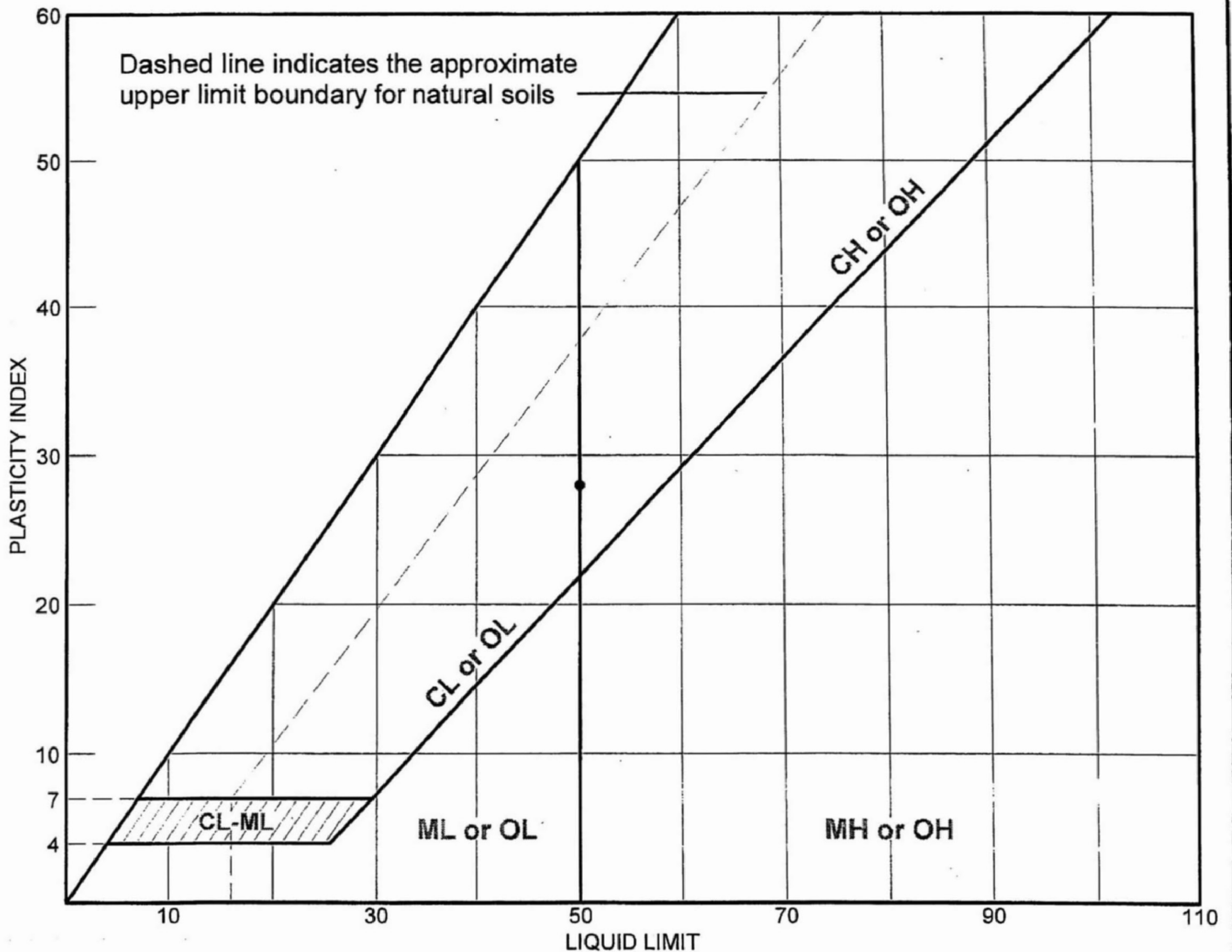
% COBBLES = % GRAVEL =

% SAND = 12.1 (% coarse = 0.1 % medium = 0.2 % fine = 11.8)

% SILT = 37.2 % CLAY = 50.7

D₈₅= 0.06 D₆₀= 0.01 D₅₀= 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
•	2269UD	UD-11	150-151.7 Ft.	21.8	22	50	28	CH

**MACTEC ENGINEERING
AND
CONSULTING, INC.**

Client: Bechtel
Project: Exelon Texas COL (Victoria)

Project No.: 6468-07-1777

Lab No. 8175

LIQUID AND PLASTIC LIMIT TEST DATA

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

Sample Data

Source: B-2269UD
 Sample No.: UD-11
 Elev. or Depth: 150-151.7 Ft Sample Length(in./cm.): ID#8175
 Location: B-2269UD
 Description: Light Gray Mottled Light Yellowish Brown Fat CLAY

Water Content: 21.8

USCS: CH

AASHTO:

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	29.98	29.02				
Dry+Tare	26.61	26.03				
Tare	19.97	20.14				
# Blows	21	22				
Moisture	50.8	50.8				

Liquid Limit= 50
 Plastic Limit= 22
 Plasticity Index= 28

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	30.06	30.18			
Dry+Tare	28.31	28.4			
Tare	20.24	20.28			
Moisture	21.7	21.9			

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-2269UD, UD-11 @ 150-151.7 Ft.

(A) Mass of oven-dried soil, grams:	48.41
(B) Mass of pycnometer filled with water at test temperature (T), grams:	341.03
(C) Mass of pycnometer, water and soil, grams:	371.50
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.0
(G) Specific Gravity at observed temperature:	$A / [B - (C - A)]$ 2.698
(F) Correction factor:	0.99933
(G x F) SPECIFIC GRAVITY @ 20°C:	2.697

MATERIAL TESTED:

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- # 4

☒

- # 10

PREPARATION METHOD:

☒

DRY

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WET (dispersed)

REMARKS: Estimated % Passing # 4 : 100 %

Fat CLAY (CH)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER : 2759

PYCNOMETER : 2057

TESTED BY: EH

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

REVIEWED BY: Harry Johnson

DSC
3-3-08

HS