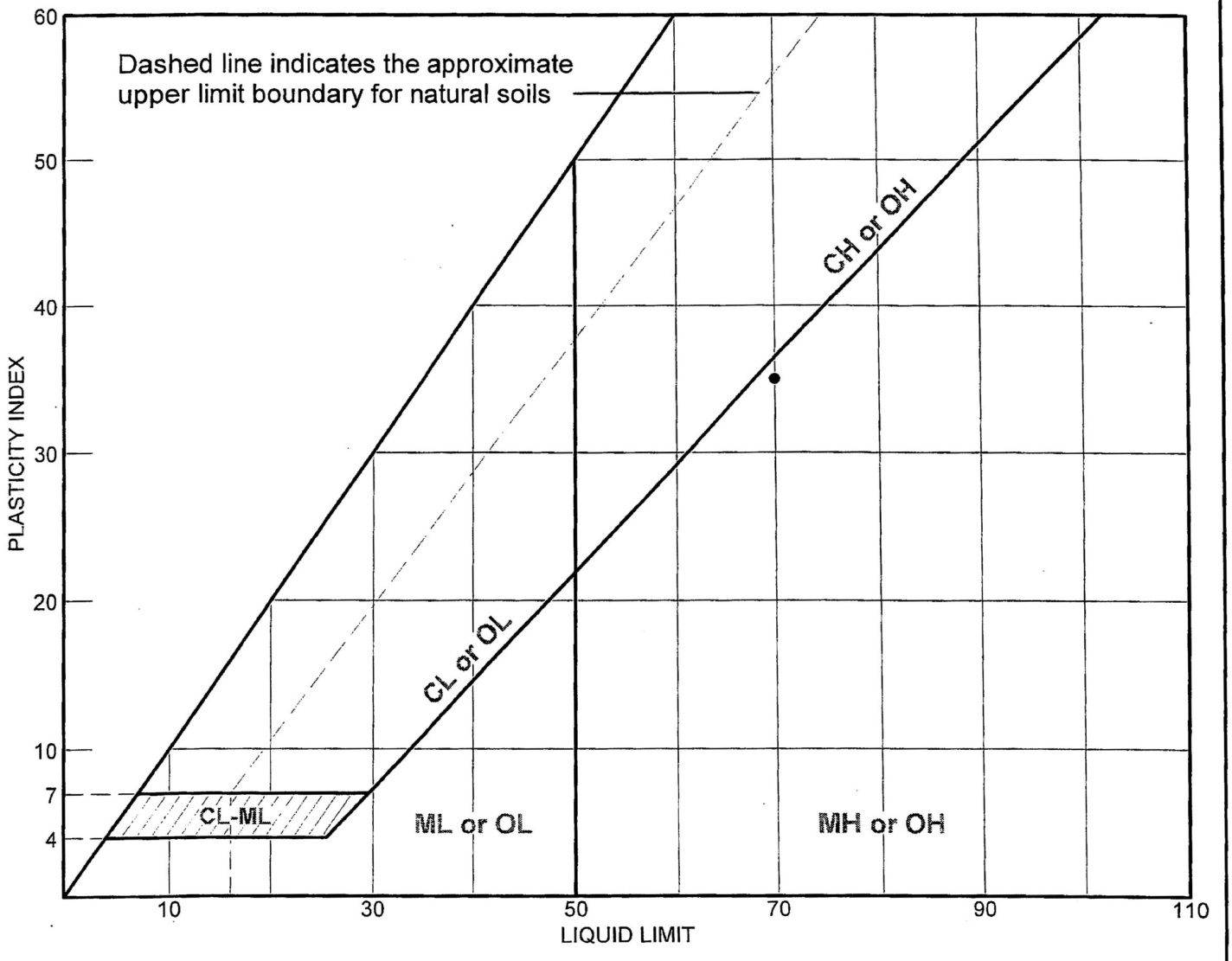
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
30.00	22.2	43.0	38.1	0.0129	43.0	9.2	0.0071	81.8
60.00	22.2	42.0	37.1	0.0129	42.0	9.4	0.0051	79.6
240.00	22.2	40.0	35.1	0.0129	40.0	9.7	0.0026	75.3
1440.00	22.2	38.0	33.1	0.0129	38.0	10.1	0.0011	71.1

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =**
% SAND = 5.9 **(% coarse =** **% medium =** 0.0 **% fine =** 5.9)
% SILT = 14.6 **% CLAY =** 79.5

D_{85}= 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
●	2274UD	UD-20	380'-381.8'	34.9	35	70	35	MH

MACTEC ENGINEERING AND CONSULTING, INC.	**Client:** Bechtel **Project:** Exelon Texas COL (Victoria) **Project No.:** 6468-07-1777 **Lab No.** 8318

DSC 5-23-08

LIQUID AND PLASTIC LIMIT TEST DATA

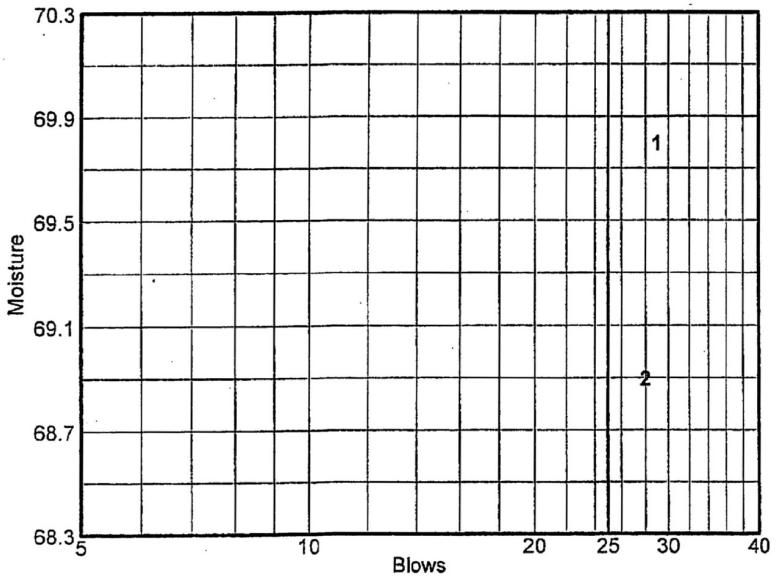
Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2274UD
Sample No.: UD-20
Elev. or Depth: 380-381.8 Ft **Sample Length(in./cm.):** ID#8318
Location: B-2274UD
Description: Light Gray Elastic SILT
Water Content: 34.9 **USCS:** MH **AASHTO:**

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	33.43	31.37				
Dry+Tare	28.12	26.85				
Tare	20.51	20.29				
# Blows	29	28				
Moisture	69.8	68.9				



Liquid Limit= 70
Plastic Limit= 35
Plasticity Index= 35

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	26.54	28.32			
Dry+Tare	24.84	26.47			
Tare	19.92	21.13			
Moisture	34.6	34.6			

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: 2/15/08

SAMPLE IDENTIFICATION: B-2274UD,UD-20 @ 380.0 - 381.8 Ft.

(A) Mass of oven-dried soil, grams:		36.32
(B) Mass of pycnometer filled with water at test temperature (T), grams:		341.20
(C) Mass of pycnometer, water and soil, grams:		364.38
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		23.3
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.764
(F)	***Correction factor:***	0.99926
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.762

MATERIAL TESTED: [ ] **- # 4** [X] **- # 10**

PREPARATION METHOD: [X] **DRY** [ ] **WET (dispersed)**

REMARKS: Estimated % Passing # 4 : 100 %

Elastic SILT (MH)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER :2759

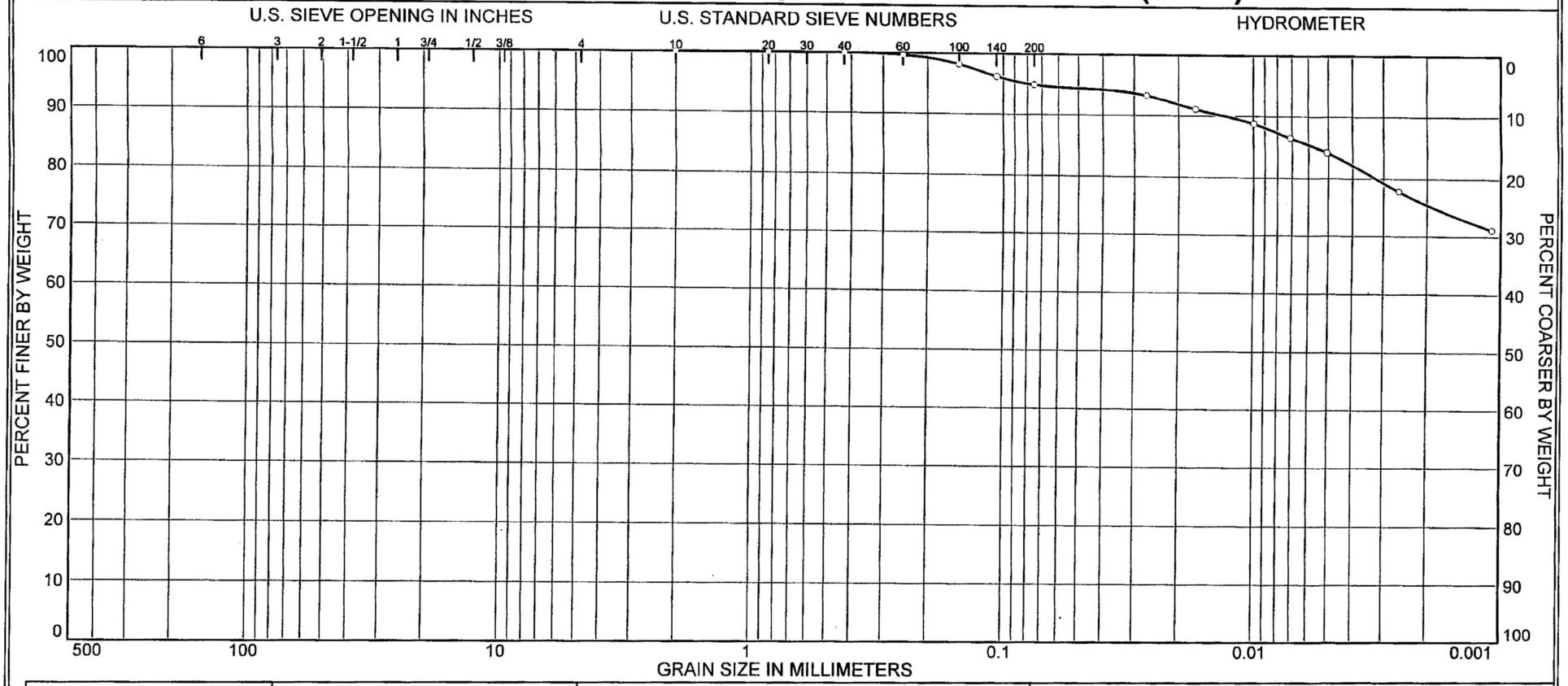
PYCNOMETER : 2055

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	0.0	0.0	5.1	10.6	84.3

	SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
○	2274UD	UD-21	390'-391.8'	01/18/08	CH	Light Gray Fat CLAY	36.7	73	34

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468-07-1777 Lab No. 8319

MACTEC ENGINEERING AND CONSULTING, INC.

○ Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
Specific Gravity = 2.75 (ASTM D 854-06)

HJ

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-2274UD
Sample No.: UD-21
Elev. or Depth: 390-391.8 Ft **Sample Length(in./cm.):** ID#8319
Location: B-2274UD
Description: Light Gray Fat CLAY
Date: 01/18/08 **PL:** 34 **LL:** 73 **PI:** 39
USCS Classification: CH **AASHTO Classification:**
Testing Remarks: Tested by: EH Reviewed by: HJ

NM value from first strength test performed.
Specific Gravity = 2.75 (ASTM D 854-06)

Mechanical Analysis Data

	Initial
Dry sample and tare=	60.03
Tare =	15.87
Dry sample weight =	44.16

Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
# 10	0.00	100.0
# 20	0.00	100.0
# 40	0.02	100.0
# 60	0.14	99.7
# 100	0.80	98.2
# 140	1.67	96.2
# 200	2.27	94.9

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 94.9
Weight of hydrometer sample: 41.89
Calculated biased weight= 44.14
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.749
Specific gravity correction factor= 0.979
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	47.0	42.1	0.0129	47.0	8.6	0.0267	93.3
5.00	22.2	46.0	41.1	0.0129	46.0	8.8	0.0171	91.1
15.00	22.2	45.0	40.1	0.0129	45.0	8.9	0.0099	88.8

DSC 4-30-08

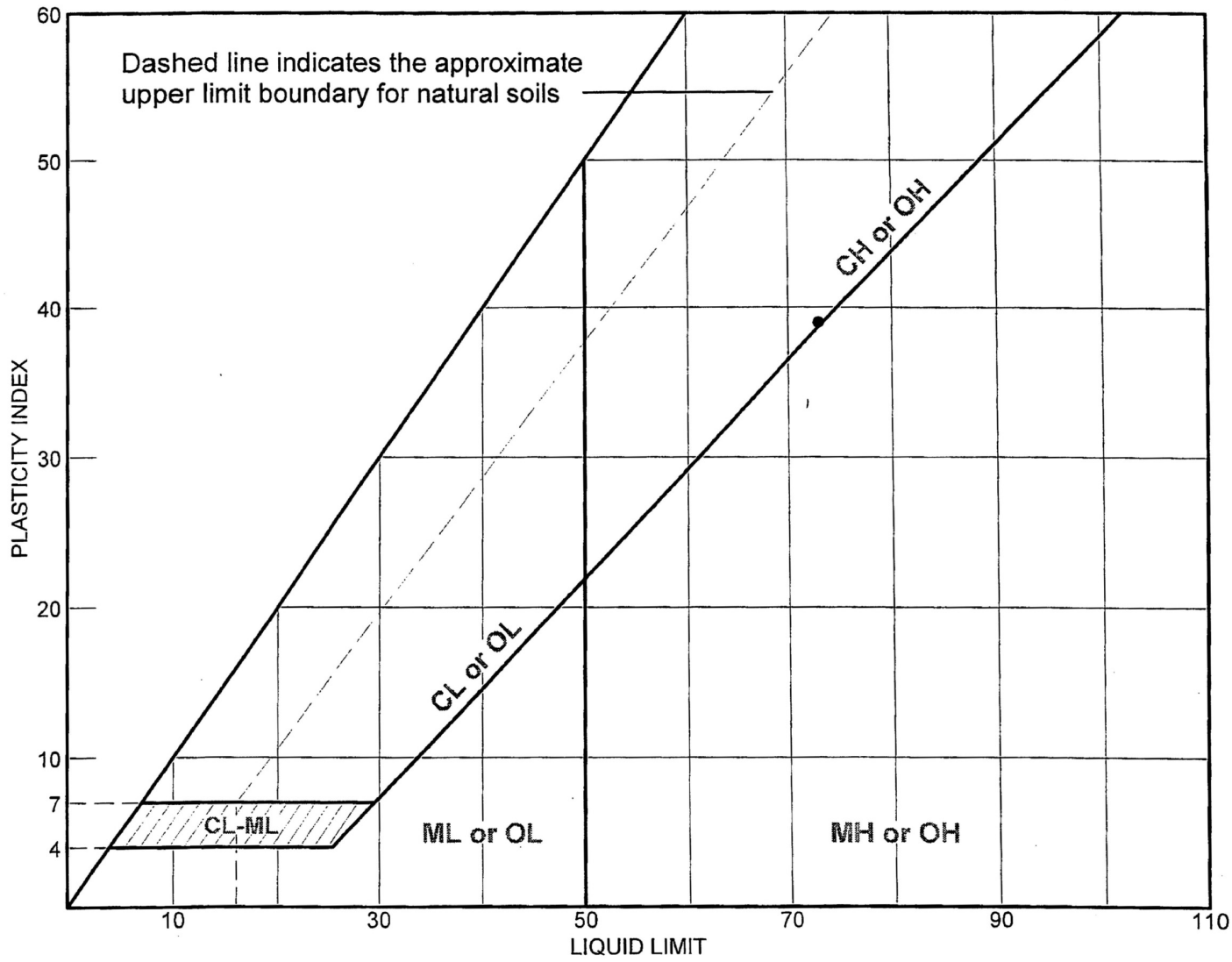
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
30.00	22.2	44.0	39.1	0.0129	44.0	9.1	0.0071	86.6
60.00	22.2	43.0	38.1	0.0129	43.0	9.2	0.0051	84.4
240.00	22.2	40.0	35.1	0.0129	40.0	9.7	0.0026	77.8
1440.00	22.2	37.0	32.1	0.0129	37.0	10.2	0.0011	71.1

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =**
% SAND = 5.1 **(% coarse =** **% medium =** 0.0 **% fine =** 5.1)
% SILT = 10.6 **% CLAY =** 84.3

D_{85}= 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
●	2274UD	UD-21	390'-391.8'	36.7	34	73	39	CH

MACTEC ENGINEERING AND CONSULTING, INC.	**Client:** Bechtel **Project:** Exelon Texas COL (Victoria) **Project No.:** 6468-07-1777 **Lab No.** 8319

DSC 9-3-08

LIQUID AND PLASTIC LIMIT TEST DATA

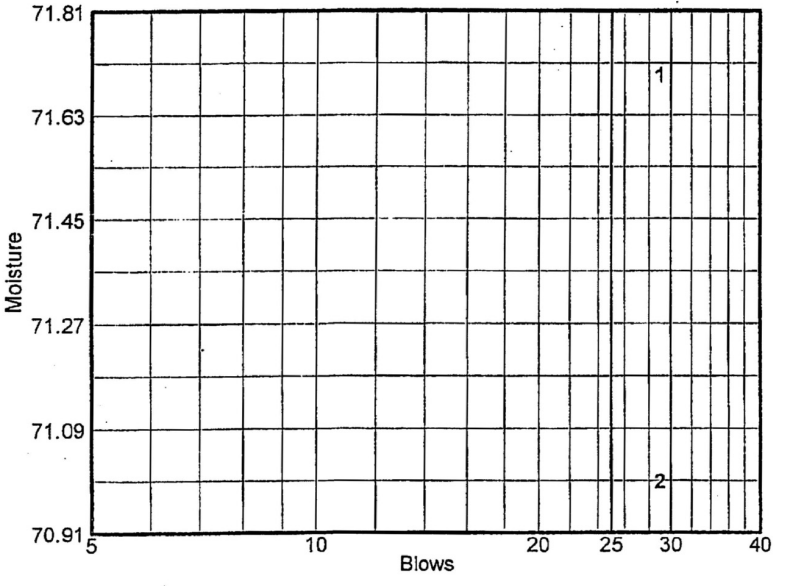
Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2274UD
Sample No.: UD-21
Elev. or Depth: 390-391.8 Ft **Sample Length(in./cm.):** ID#8319
Location: B-2274UD
Description: Light Gray Fat CLAY
Water Content: 36.7 **USCS:** CH **AASHTO:**

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	30.37	29.52				
Dry+Tare	26.17	25.61				
Tare	20.31	20.10				
# Blows	29	29				
Moisture	71.7	71.0				



Liquid Limit= 73
Plastic Limit= 34
Plasticity Index= 39

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	27.16	27.28			
Dry+Tare	25.37	25.63			
Tare	20.06	20.74			
Moisture	33.7	33.7			

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: 2/15/08

SAMPLE IDENTIFICATION: B-2274UD,UD-21 @ 390.0 - 391.8 Ft.

(A) Mass of oven-dried soil, grams:		36.32
(B) Mass of pycnometer filled with water at test temperature (T), grams:		339.60
(C) Mass of pycnometer, water and soil, grams:		362.71
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		21.1
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.749
(F)	***Correction factor:***	0.99977
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.749

MATERIAL TESTED: [ ] **- # 4** [X] **- # 10**

PREPARATION METHOD: [X] **DRY** [ ] **WET (dispersed)**

REMARKS: Estimated % Passing # 4 : 100 %

Fat CLAY (CH)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER :2759

PYCNOMETER : 2053

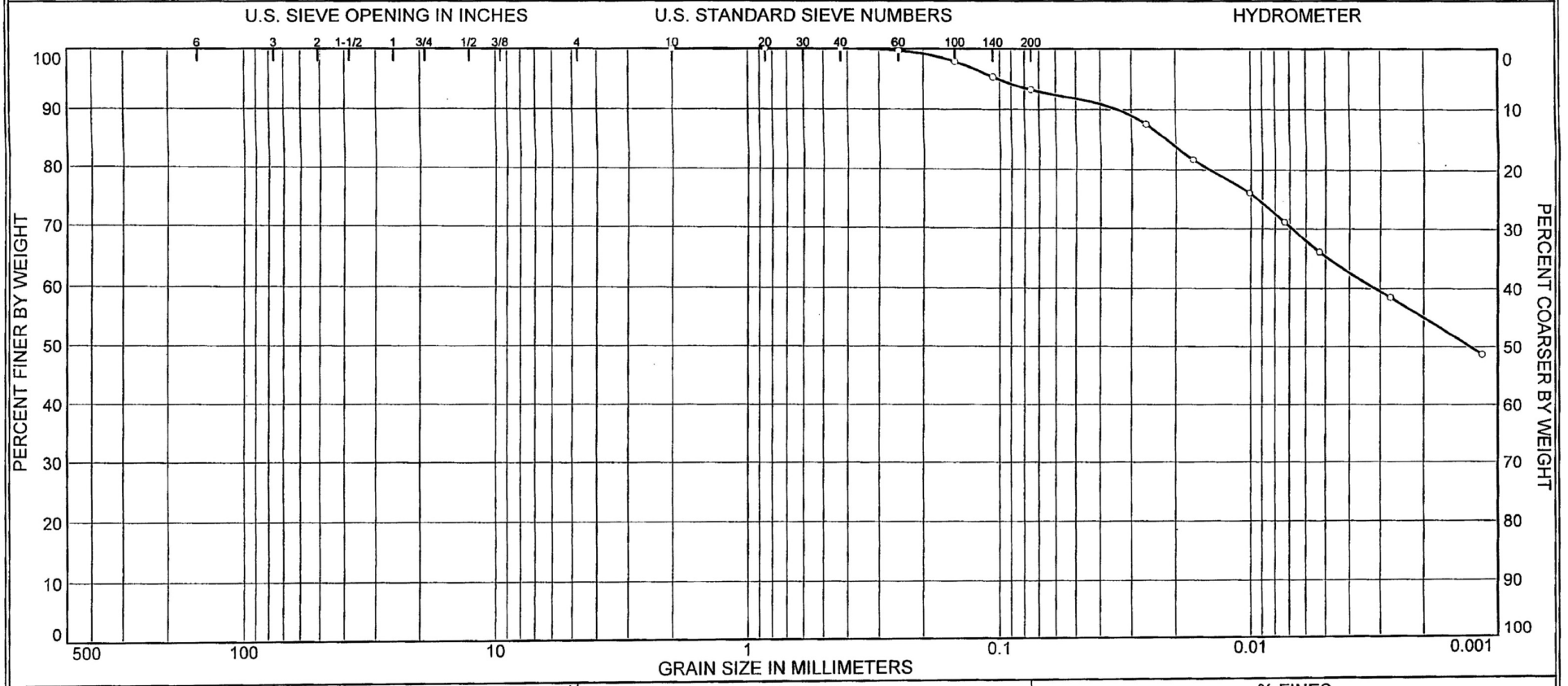
TESTED BY: EH

\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	0.0	0.0	6.7	27.9	65.4

	SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
○	2274UD	UD-22	400'-401.3'	01/19/08	CH	Light Gray Fat CLAY	26.3	56	25

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468-07-1777 Lab No. 8320

MACTEC ENGINEERING AND CONSULTING, INC.

○ Tested by: EH Reviewed by: HJ HJ

NM value from first strength test performed.
Specific Gravity = 2.72 (ASTM D 854-06) 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-2274UD
Sample No.: UD-22
Elev. or Depth: 400-401.3 Ft **Sample Length(in./cm.):** ID#8320
Location: B-2274UD
Description: Light Gray Fat CLAY
Date: 01/19/08 **PL:** 25 **LL:** 56 **PI:** 31
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)

Mechanical Analysis Data

	Initial
Dry sample and tare=	67.36
Tare =	16.73
Dry sample weight =	50.63

Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
# 10	0.00	100.0
# 20	0.00	100.0
# 40	0.00	100.0
# 60	0.16	99.7
# 100	1.08	97.9
# 140	2.35	95.4
# 200	3.37	93.3

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 93.3
Weight of hydrometer sample: 47.26
Calculated biased weight= 50.65
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	22.2	50.0	45.1	0.0130	50.0	8.1	0.0262	87.6
5.00	22.2	47.0	42.1	0.0130	47.0	8.6	0.0171	81.8
15.00	22.2	44.0	39.1	0.0130	44.0	9.1	0.0101	76.0

DSC 4-30-08

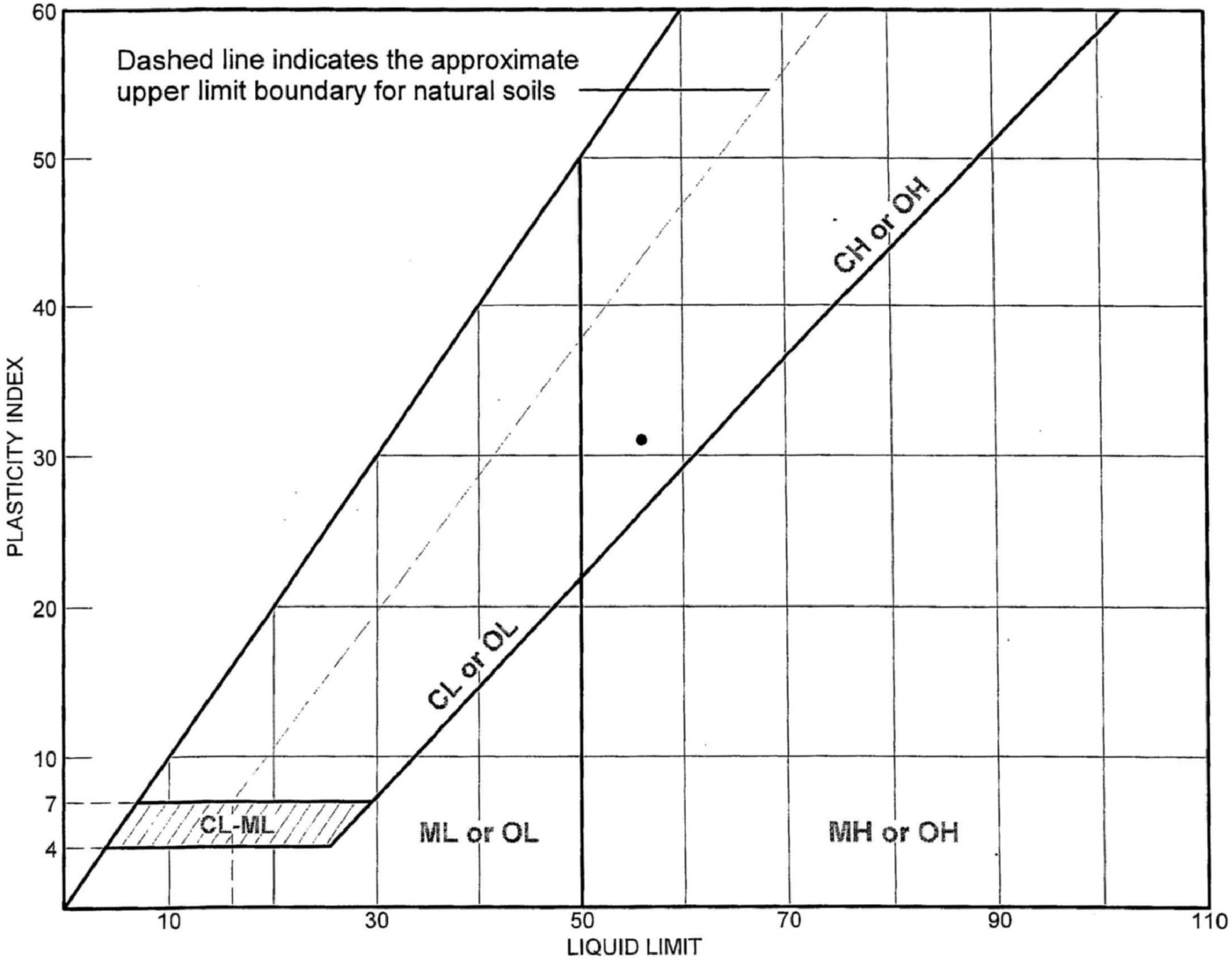
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
30.00	22.2	41.5	36.6	0.0130	41.5	9.5	0.0073	71.1
60.00	22.2	39.0	34.1	0.0130	39.0	9.9	0.0053	66.2
240.00	22.2	35.0	30.1	0.0130	35.0	10.6	0.0027	58.5
1440.00	22.2	30.0	25.1	0.0130	30.0	11.4	0.0012	48.7

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =**
% SAND = 6.7 (**% coarse =** **% medium** = 0.0 **% fine** = 6.7)
% SILT = 27.9 **% CLAY** = 65.4

D_{85}= 0.02 D_{60}= 0.00 D_{50}= 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
●	2274UD	UD-22	400'-401.3'	26.3	25	56	31	CH

MACTEC ENGINEERING AND CONSULTING, INC.	**Client:** Bechtel **Project:** Exelon Texas COL (Victoria) **Project No.:** 6468-07-1777 **Lab No.** 8320

DSC 3-08

LIQUID AND PLASTIC LIMIT TEST DATA

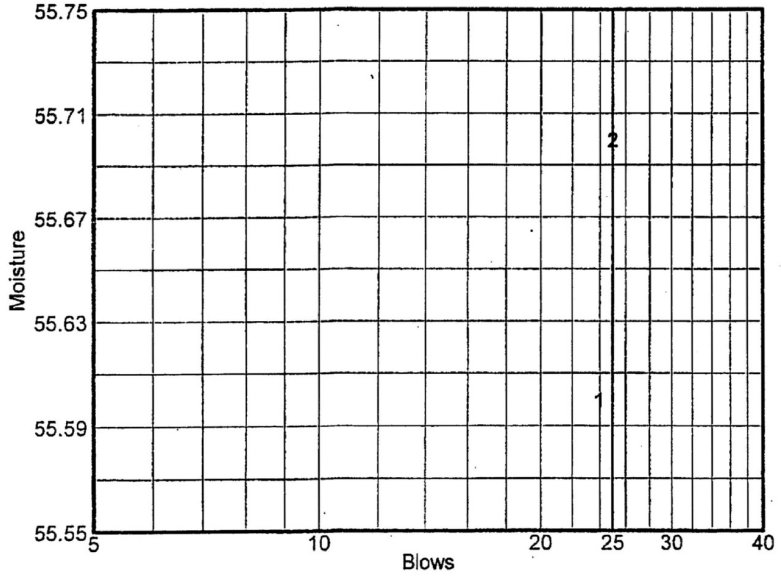
Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2274UD
Sample No.: UD-22
Elev. or Depth: 400-401.3 Ft **Sample Length(in./cm.):** ID#8320
Location: B-2274UD
Description: Light Gray Fat CLAY
Water Content: 26.3 **USCS:** CH **AASHTO:**

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	33.31	31.52				
Dry+Tare	28.94	27.78				
Tare	21.08	21.07				
# Blows	24	25				
Moisture	55.6	55.7				



Liquid Limit= 56
Plastic Limit= 25
Plasticity Index= 31

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	26.69	27.62			
Dry+Tare	25.36	26.24			
Tare	20.08	20.84			
Moisture	25.2	25.6			

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: 2/15/08

SAMPLE IDENTIFICATION: B-2274UD,UD-22 @ 400.0 - 401.3 Ft.

(A) Mass of oven-dried soil, grams:		36.42
(B) Mass of pycnometer filled with water at test temperature (T), grams:		338.35
(C) Mass of pycnometer, water and soil, grams:		361.38
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		23.3
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.720
(F)	***Correction factor:***	0.99926
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.718

MATERIAL TESTED: [ ] **- # 4** [X] **- # 10**

PREPARATION METHOD: [X] **DRY** [ ] **WET (dispersed)**

REMARKS: Estimated % Passing # 4 : 100 %

Fat CLAY (CH)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER :2759

PYCNOMETER : 2054

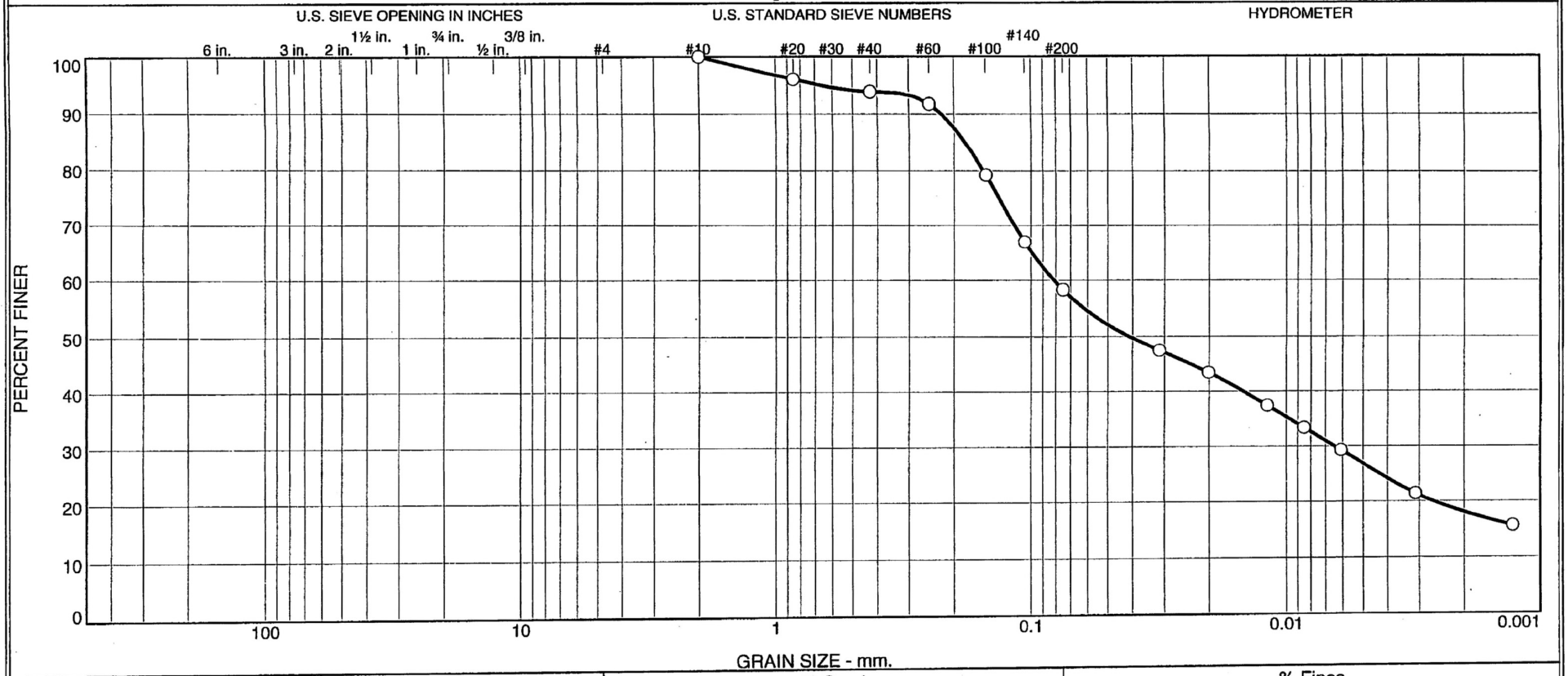
TESTED BY: EH

\Test Reports\Soils\SPECIFIC GRAVITY(ref).xls **REVIEWED BY: Harry Johnson**

HJ

DSC
3-3-08

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	6.2	35.5	31.4	26.9

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2274UD	UD-23	420.0	1-19-08	CL	Light Gray Sandy Lean CLAY	13.9	36	15

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.678 (ASTM D854-06)

Tested By: CS **Checked By:** LBJ ZHU 4-28-08

GRAIN SIZE DISTRIBUTION TEST DATA

4/10/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274UD
Depth: 420.0 **Sample Number:** UD-23
Material Description: Light Gray Sandy Lean CLAY
Date: 1-19-08 **Natural Moisture:** 13.9
Liquid Limit: 36 **Plastic Limit:** 15 **USCS Class.:** CL
Testing Remarks: Specific Gravity = 2.678 (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
259.60	0.00	0.00	#10	0.00	100.0
49.97	0.00	0.00	#20	2.01	96.0
			#40	3.10	93.8
			#60	4.13	91.7
			#100	10.37	79.2
			#140	16.51	67.0
			#200	20.82	58.3

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =49.98
Hygroscopic moisture correction:
Moist weight and tare = 27.73
Dry weight and tare = 27.55
Tare weight = 15.89
Hygroscopic moisture = 1.5%
Table of composite correction values:

Temp., deg. C:	12.9	29.9
Comp. corr.:	-8.0	-2.0

Meniscus correction only = 1.0
Specific gravity of solids = 2.678
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	22.9	28.0	23.5	0.0131	29.0	11.5	0.0314	47.5
5.00	22.9	26.0	21.5	0.0131	27.0	11.9	0.0201	43.5
15.00	22.9	23.0	18.5	0.0131	24.0	12.4	0.0119	37.4
30.00	22.9	21.0	16.5	0.0131	22.0	12.7	0.0085	33.4
60.00	22.9	19.0	14.5	0.0131	20.0	13.0	0.0061	29.3
240.00	23.1	15.0	10.6	0.0130	16.0	13.7	0.0031	21.4
1440.00	23.5	12.0	7.7	0.0130	13.0	14.2	0.0013	15.6

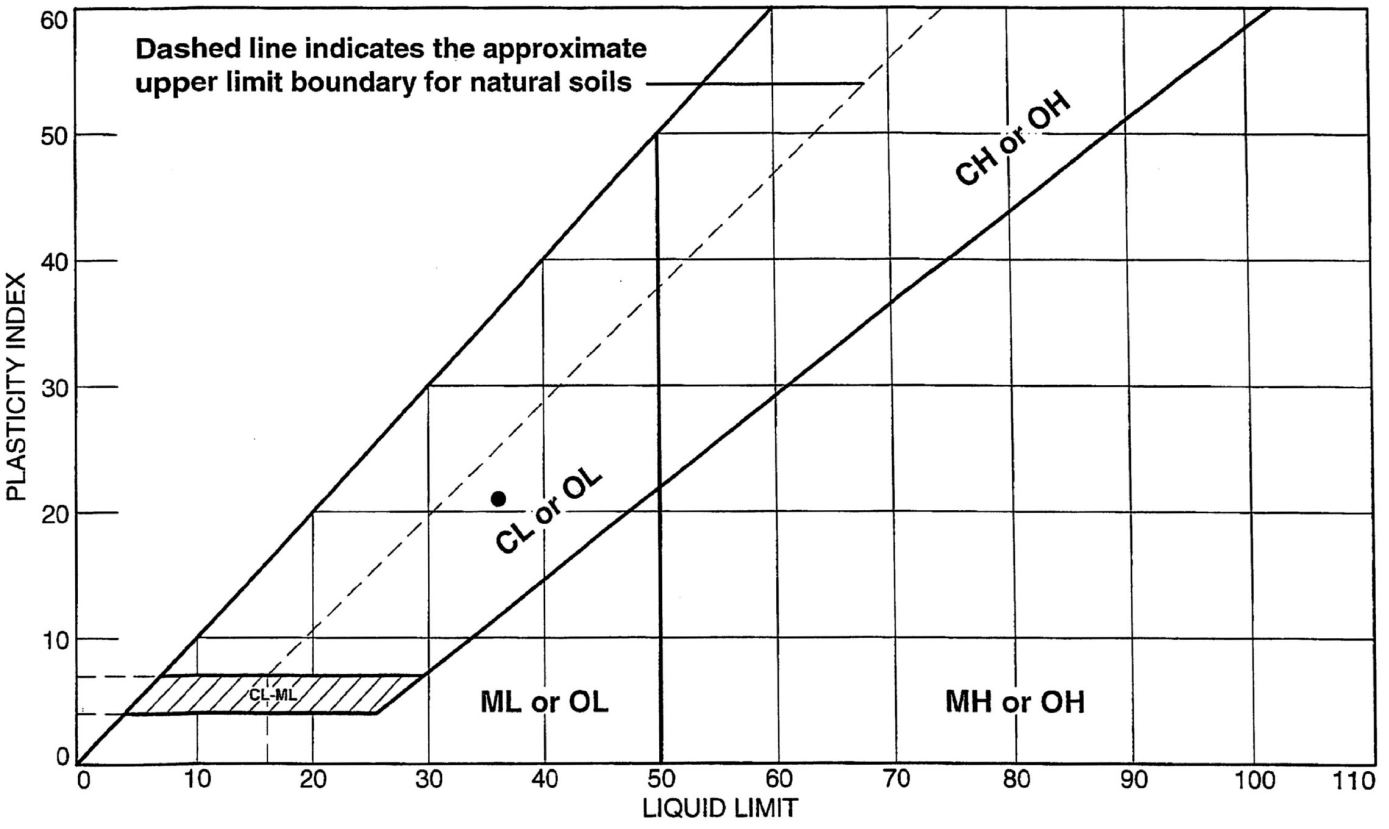
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	6.2	35.5	41.7	31.4	26.9	58.3

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
		0.0027	0.0064	0.0412	0.0813	0.1533	0.1803	0.2235	0.6752

Fineness Modulus
0.35

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-2274UD	UD-23	420.0	13.9	15	36	21	CL

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project No.: 6468071777
Figure NA

Tested By: CS **Checked By:** LBJ 2HU 4-28-08

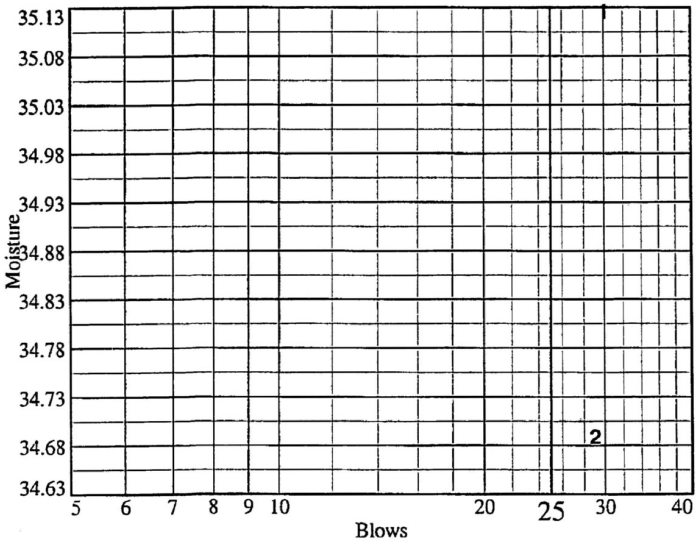
LIQUID AND PLASTIC LIMIT TEST DATA

4/10/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274UD
Depth: 420.0 **Sample Number:** UD-23
Material Description: Light Gray Sandy Lean CLAY
USCS: CL **AASHTO:** A-6(9)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	32.52	33.76				
Dry+Tare	28.08	29.07				
Tare	15.44	15.55				
# Blows	30	29				
Moisture	35.1	34.7				



Liquid Limit= 36
Plastic Limit= 15
Plasticity Index= 21
Natural Moisture= 13.9
Liquidity Index= -0.1

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	22.90	22.91			
Dry+Tare	21.93	21.98			
Tare	15.45	15.64			
Moisture	15.0	14.7			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
228.03	201.35	9.43	13.9

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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: 3/4/08

SAMPLE IDENTIFICATION: B 2274UD, UD-23

(A) Mass of oven-dried soil, grams:	49.18
(B) Mass of pycnometer filled with water at test temperature (T), grams:	655.64
(C) Mass of pycnometer, water and soil, grams:	686.46
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	21.8
(G) Specific Gravity at observed temperature: A / [B - (C - A)]	2.679
(F) ***Correction factor:***	0.99961
(G x F) **SPECIFIC GRAVITY @ 20°C:**	2.678

MATERIAL TESTED: [X] **- # 4** [ ] **- # 10**

PREPARATION METHOD: [X] **DRY** [ ] **WET (dispersed)**

REMARKS: Estimated % Passing # 4 : 100

Sandy Lean CLAY (CL)

EQUIPMENT USED

SCALES :3.1.99

OVEN : 5.1.16

THERMOMETER :5.1.01

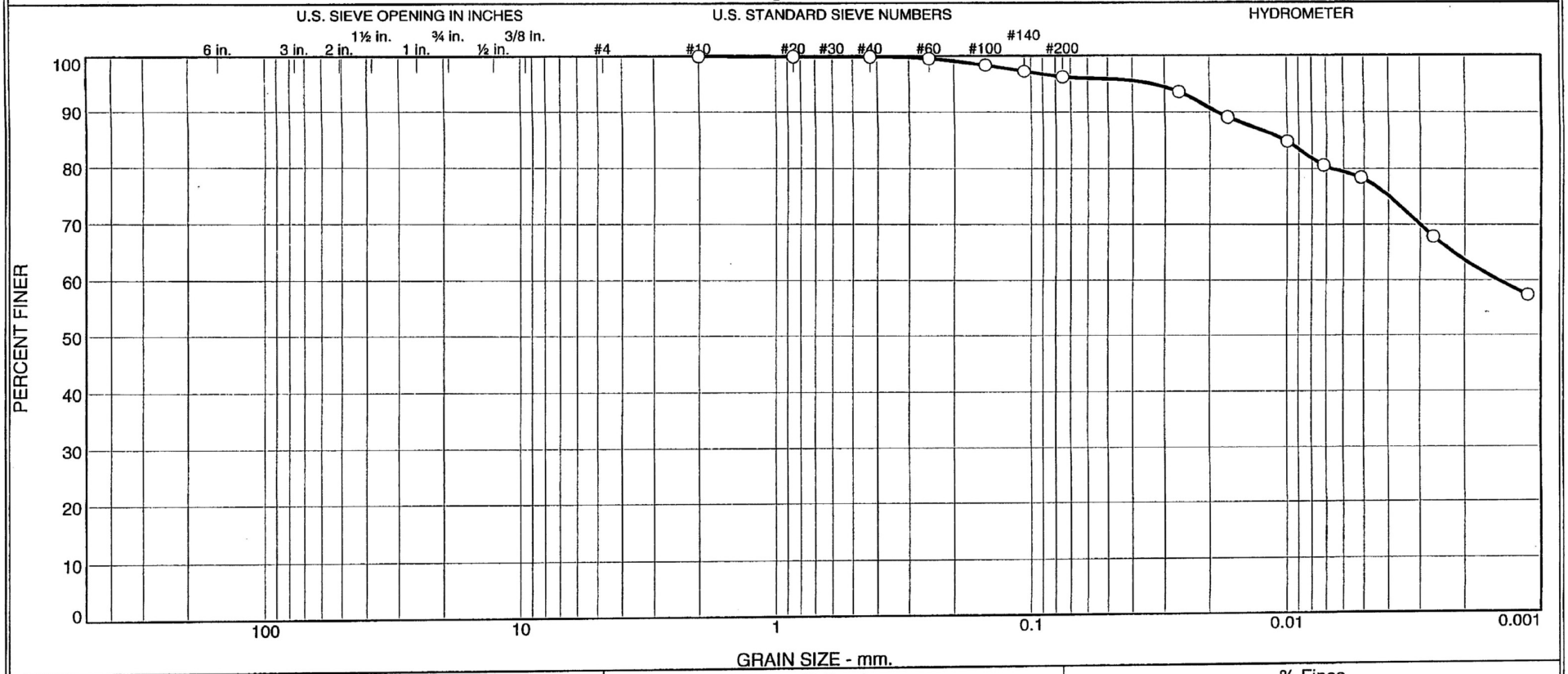
PYCNOMETER :P-3

TESTED BY: CS

\Test Reports\Soils\SPECIFIC GRAVITY(ref).xls **REVIEWED BY: Brian Johnson**

DSC 3-15-08

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



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.1	3.8	17.9	78.2

	Source	Sample #	Depth/Elev.	Date Sampled	USCS	Material Description	NM %	LL	PL
○	Boring B-2274UD	UD-24	480.0	1-20-08	CH	Light Gray Fat CLAY	25.7	69	27

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468071777 Figure NA

MACTEC, Inc.

Raleigh, North Carolina

○ Specific Gravity = 2.707 (ASTM D854-06)

Tested By: CS **Checked By:** LBJ 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-2274UD
Depth: 480.0 **Sample Number:** UD-24
Material Description: Light Gray Fat CLAY
Date: 1-20-08 **Natural Moisture:** 25.7
Liquid Limit: 69 **Plastic Limit:** 27 **USCS Class.:** CH
Testing Remarks: Specific Gravity = 2.707 (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
217.82	0.00	0.00	#10	0.00	100.0
47.86	0.00	0.00	#20	0.04	99.9
			#40	0.06	99.9
			#60	0.22	99.5
			#100	0.80	98.3
			#140	1.36	97.2
			#200	1.85	96.1

Hydrometer Test Data

Hydrometer test uses material passing #10
Percent passing #10 based upon complete sample = 100.0
Weight of hydrometer sample =47.86
Hygroscopic moisture correction:
Moist weight and tare = 29.12
Dry weight and tare = 28.58
Tare weight = 15.46
Hygroscopic moisture = 4.1%
Table of composite correction values:

Temp., deg. C:	12.9	29.9
Comp. corr.:	-8.0	-2.0

Meniscus correction only = 1.0
Specific gravity of solids = 2.707
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	48.0	43.5	0.0130	49.0	8.3	0.0263	93.4
5.00	22.8	46.0	41.5	0.0130	47.0	8.6	0.0170	89.1
15.00	22.9	44.0	39.5	0.0129	45.0	8.9	0.0100	84.9
30.00	22.9	42.0	37.5	0.0129	43.0	9.2	0.0072	80.6
60.00	22.9	41.0	36.5	0.0129	42.0	9.4	0.0051	78.5
240.00	23.1	36.0	31.6	0.0129	37.0	10.2	0.0027	67.9
1440.00	23.4	31.0	26.7	0.0129	32.0	11.0	0.0011	57.4

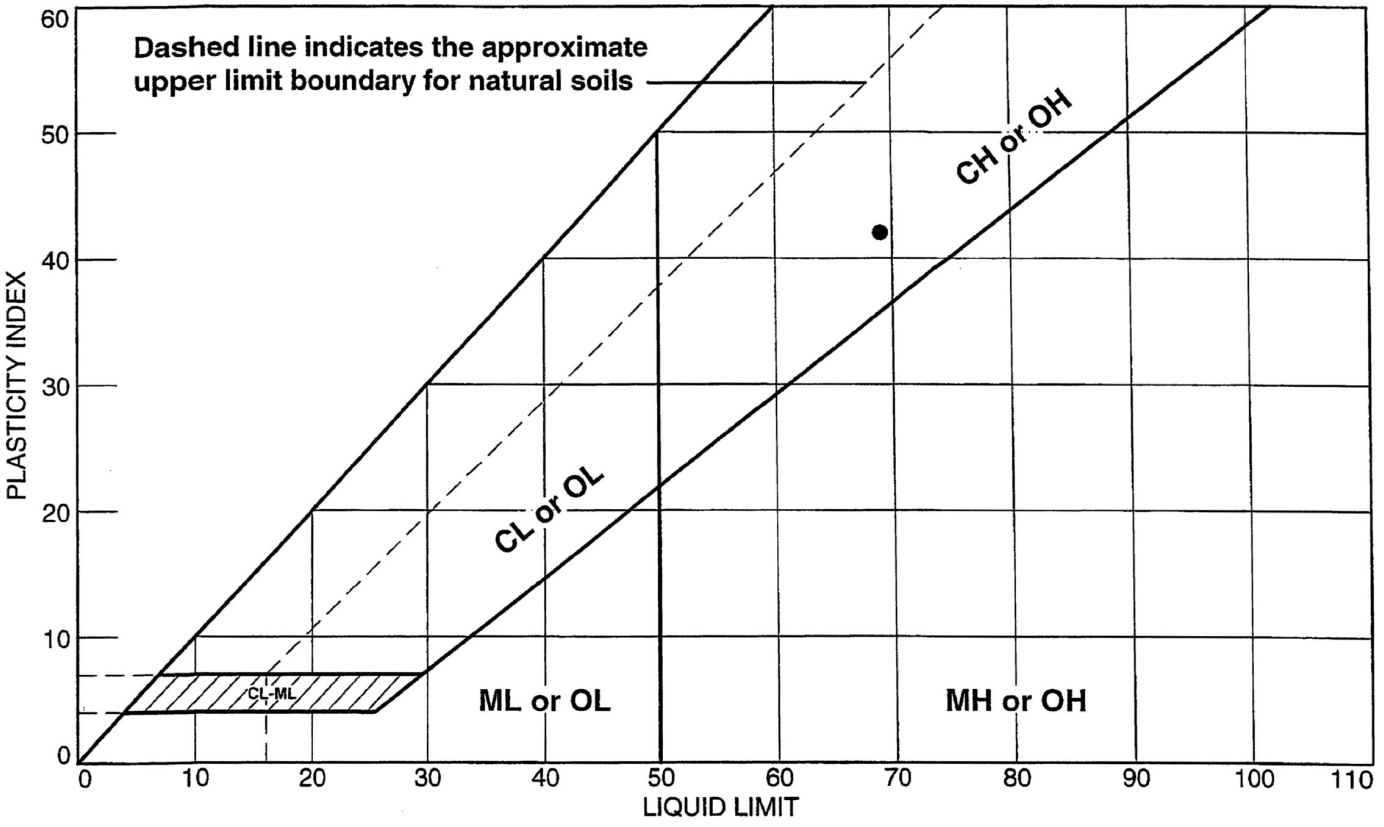
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.0	0.1	3.8	3.9	17.9	78.2	96.1

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
					0.0015	0.0066	0.0101	0.0187	0.0345

Fineness Modulus
0.02

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-2274UD	UD-24	480.0	25.7	27	69	42	CH

MACTEC, Inc.

Raleigh, North Carolina

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project No.: 6468071777
Figure MA

Tested By: CS **Checked By:** LBJ DSC 4-30-08

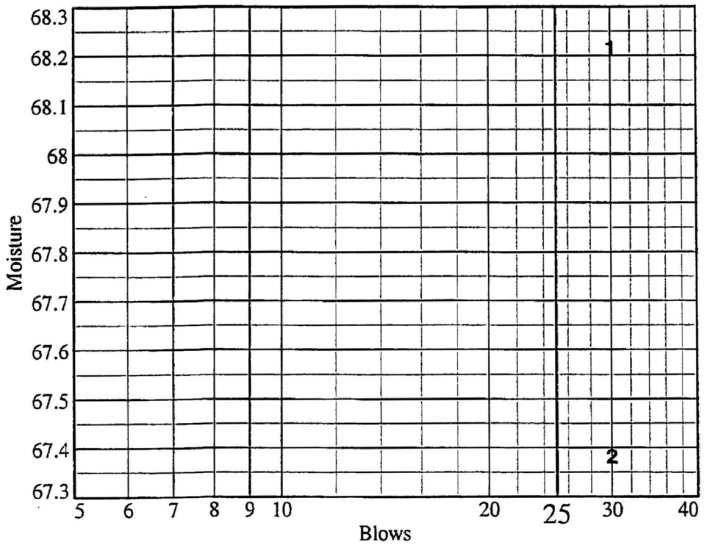
LIQUID AND PLASTIC LIMIT TEST DATA

4/10/2008

Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468071777
Location: Boring B-2274UD
Depth: 480.0 **Sample Number:** UD-24
Material Description: Light Gray Fat CLAY
USCS: CH **AASHTO:** A-7-6(47)
Tested by: CS **Checked by:** LBJ

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	31.04	30.25				
Dry+Tare	24.73	24.30				
Tare	15.48	15.47				
# Blows	30	30				
Moisture	68.2	67.4				



Liquid Limit= 69
Plastic Limit= 27
Plasticity Index= 42
Natural Moisture= 25.7
Liquidity Index= 0.0

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	23.18	22.23			
Dry+Tare	21.59	20.86			
Tare	15.49	15.78			
Moisture	26.1	27.0			

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
141.82	114.21	6.81	25.7

MACTEC, Inc.

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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: 3/2/08

SAMPLE IDENTIFICATION: B 2274UD, UD-24

(A) Mass of oven-dried soil, grams:		51.97
(B) Mass of pycnometer filled with water at test temperature (T), grams:		656.79
(C) Mass of pycnometer, water and soil, grams:		689.56
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:		18.8
(G) Specific Gravity at observed temperature:	A / [B - (C - A)]	2.707
(F)	***Correction factor:***	1.00024
(G x F)	**SPECIFIC GRAVITY @ 20°C:**	2.707

MATERIAL TESTED: [X] **- # 4** [ ] **- # 10**

PREPARATION METHOD: [X] **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-3

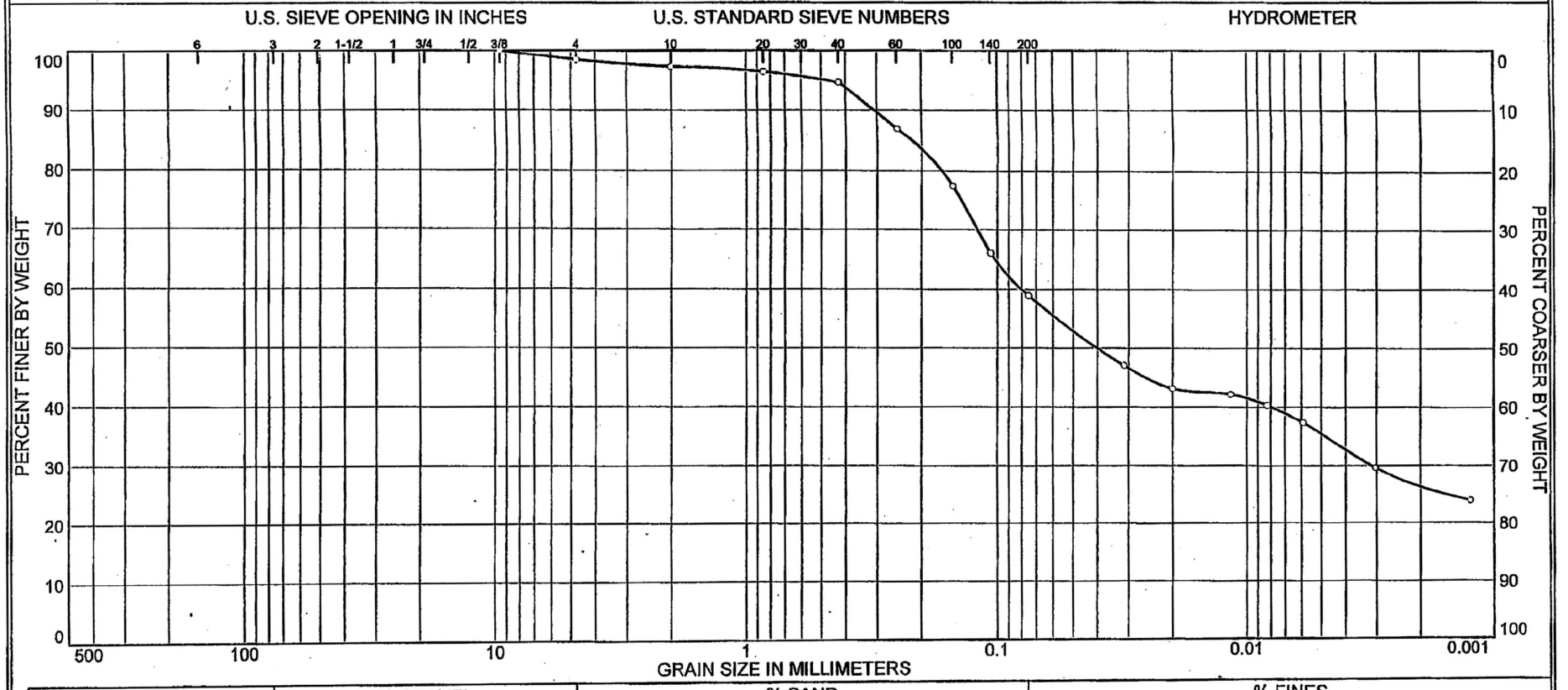
TESTED BY: CS

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

REVIEWED BY: Brian Johnson

DSC 3-15-08

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	1.5	1.2	2.6	35.8	23.3	35.6

	SOURCE	SAMPLE #	DEPTH/ELEV.	DATE SAMPLED	USCS	MATERIAL DESCRIPTION	NM %	LL	PL
○	B-2274UD	UD-26	580-582.5 Ft.	1/23/08	CL	Light Gray Sandy Lean CLAY	17.8	37	15

Client Bechtel

Project Exelon Texas COL (Victoria)

Project No. 6468-07-1777 Lab No. 8450

MACTEC ENGINEERING AND CONSULTING, INC.

○ Tested by: EH Reviewed by: HJ

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

DSC
3-31-08

GRAIN SIZE DISTRIBUTION TEST DATA

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

Sample Data

Source: B-2274UD
Sample No.: UD-26
Elev. or Depth: 580-582.5 Ft. **Sample Length(in./cm.):** 8450
Location: B-2274UD
Description: Light Gray Sandy Lean CLAY
Date: 1/23/08 **Natural Moisture:** 17.8
Liquid Limit: 37 **Plastic Limit:** 15 **USCS Class.:** CL
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

	Initial
Dry sample and tare=	163.98
Tare =	113.14
Dry sample weight =	50.84

Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
.375 inch	0.00	100.0
# 4	0.78	98.5
# 10	1.39	97.3
# 20	1.80	96.5
# 40	2.67	94.7
# 60	6.63	87.0
# 100	11.49	77.4
# 140	17.25	66.1
# 200	20.89	58.9

Hydrometer Analysis Data

Separation sieve is #200
Percent -#200 based upon complete sample= 58.9
Weight of hydrometer sample: 29.95
Calculated biased weight= 50.85
Automatic temperature correction
Composite correction at 20 deg C = -5.4

Meniscus correction only= 0
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

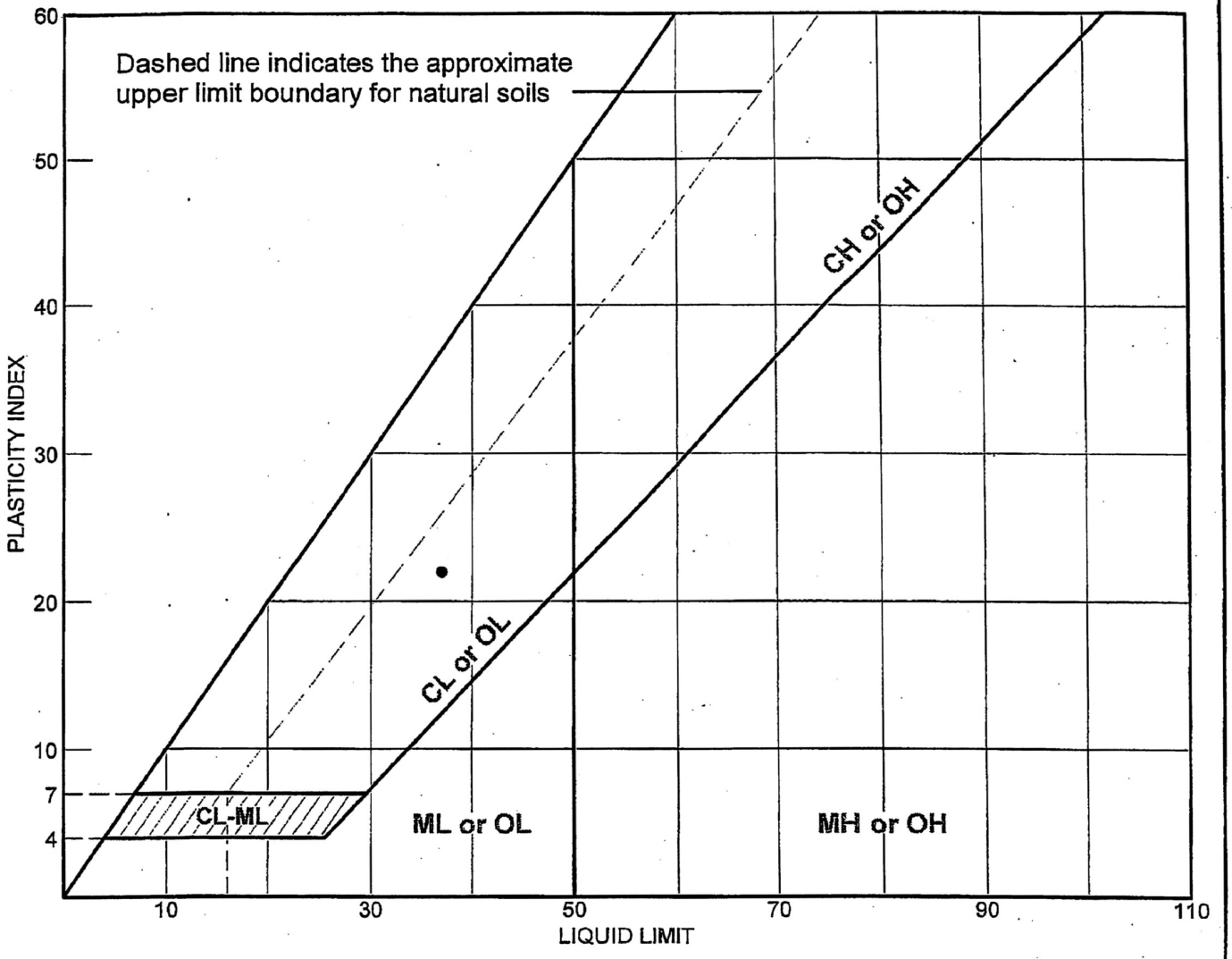
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.00	22.8	29.0	24.2	0.0130	29.0	11.5	0.0312	47.1
5.00	22.8	27.0	22.2	0.0130	27.0	11.9	0.0200	43.2
15.00	22.8	26.5	21.7	0.0130	26.5	11.9	0.0116	42.2
30.00	22.8	25.5	20.7	0.0130	25.5	12.1	0.0083	40.3
60.00	22.8	24.0	19.2	0.0130	24.0	12.4	0.0059	37.4
240.00	22.8	20.0	15.2	0.0130	20.0	13.0	0.0030	29.6
1440.00	23.1	17.0	12.3	0.0129	17.0	13.5	0.0013	23.9

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL = 1.5** **(% coarse =** **% fine = 1.5)**
% SAND = 39.6 **(% coarse = 1.2** **% medium = 2.6** **% fine = 35.8)**
% SILT = 23.3 **% CLAY = 35.6**

D_{85}= 0.22 D_{60}= 0.08 D_{50}= 0.04
D_{30}= 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
●	B-2274UD	UD-26	580-582.5 Ft.	17.8	15	37	22	CL

MACTEC ENGINEERING AND CONSULTING, INC.	**Client:** Bechtel **Project:** Exelon Texas COL (Victoria) **Project No.:** 6468-07-1777 **Lab No.** 8450

DSC 3-31-08

LIQUID AND PLASTIC LIMIT TEST DATA

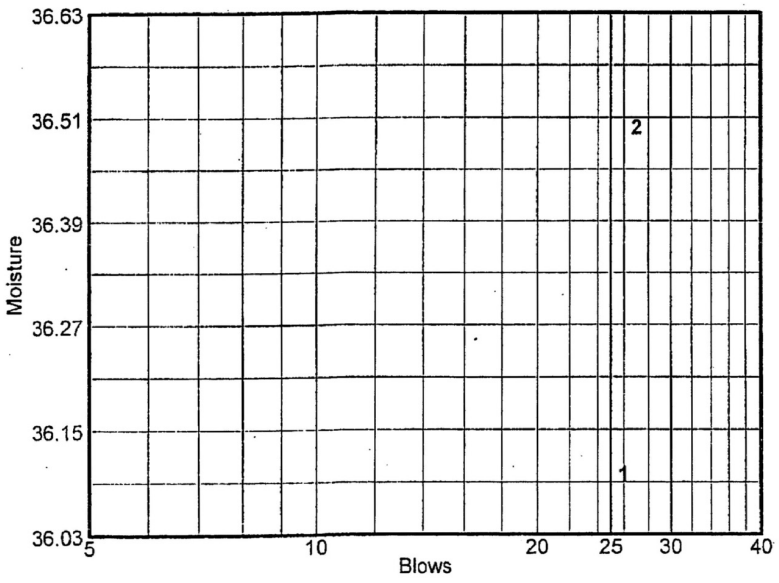
Client: Bechtel
Project: Exelon Texas COL (Victoria)
Project Number: 6468-07-1777

Sample Data

Source: B-2274UD
Sample No.: UD-26
Elev. or Depth: 580-582.5 Ft **Sample Length(in./cm.):** ID#8450
Location: B-2274UD
Description: Light Gray Sandy Lean CLAY
Water Content: 17.8 **USCS:** CL **AASHTO:**

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	29.92	29.98				
Dry+Tare	27.28	27.27				
Tare	19.97	19.84				
# Blows	26	27				
Moisture	36.1	36.5				



Liquid Limit= 37
Plastic Limit= 15
Plasticity Index= 22

Plastic Limit Data

Run No.	1	2	3	4	
Wet+Tare	29.14	28.64			
Dry+Tare	28.08	27.60			
Tare	21.25	20.80			
Moisture	15.5	15.3			

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:3/19/08

SAMPLE IDENTIFICATION: B-2274UD,UD-26 @ 580-582.5 Ft.

(A) Mass of oven-dried soil, grams:	37.60
(B) Mass of pycnometer filled with water at test temperature (T), grams:	366.00
(C) Mass of pycnometer, water and soil, grams:	389.68
(T) Temperature of pycnometer, water and soil, °C when mass (C) determined:	23.3
(G) Specific Gravity at observed temperature: A / [B - (C - A)]	2.701
(F) ***Correction factor:***	0.99926
(G x F) **SPECIFIC GRAVITY @ 20°C:**	2.699

MATERIAL TESTED: [ ] **- #4** [X] **- # 10**

PREPARATION METHOD: [X] **DRY** [ ] **WET (dispersed)**

REMARKS: Estimated % Passing # 4 : 99 %

Sandy Lean CLAY (CL)

EQUIPMENT USED

SCALES : 418

OVEN : 144

THERMOMETER :2759

PYCNOMETER : 2193

TESTED BY: EH

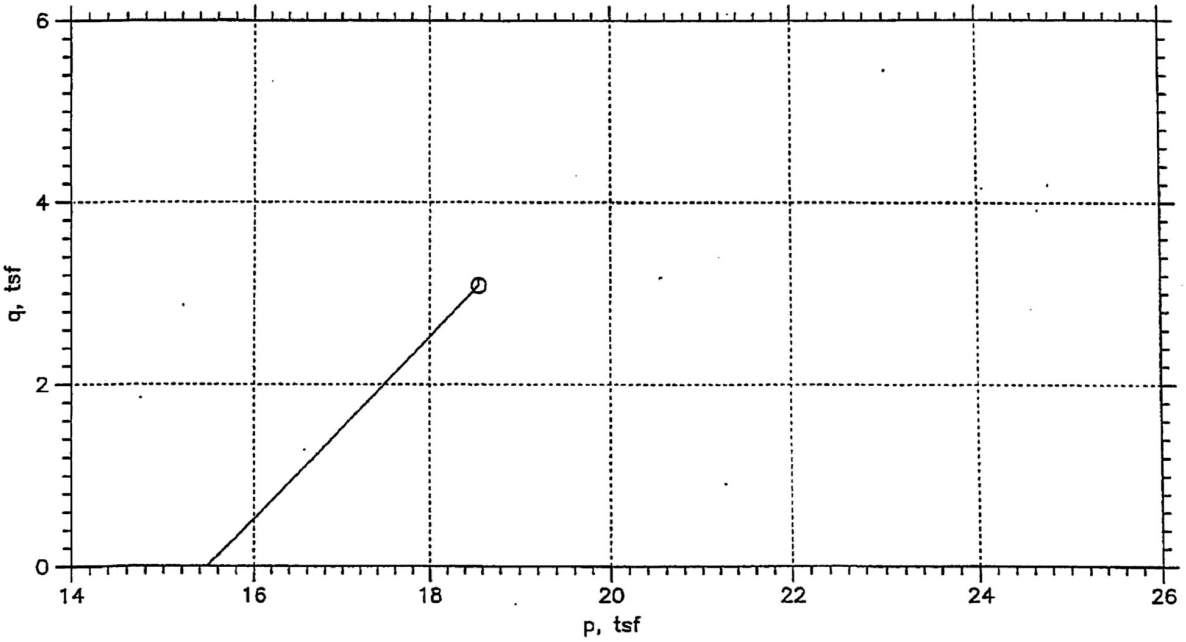
\Test Reports\Soils\SPECIFIC GRAVITY(ref).xls

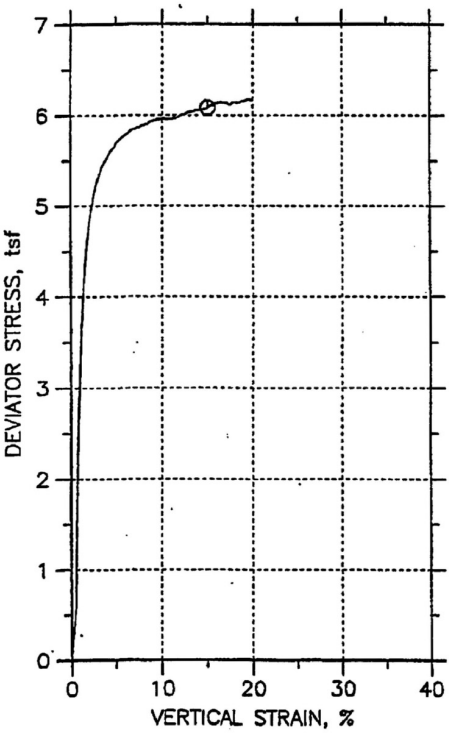
REVIEWED BY: Harry Johnson

DSC 3-31-08

Unconsolidated Undrained Triaxial Compression Test Results

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850





Symbol	⊙			
Sample No.	UD-26			
Test No.	8441			
Depth	445-446'			
Tested by	BM			
Test Date	3/14/08			
Checked by	JW			
Check Date	3/28/08			
Diameter, in	2.843			
Height, in	5.996			
Water Content, %	26.2			
Dry Density, pcf	98.73			
Saturation, %	96.2			
Void Ratio	0.755			
Confining Stress, tsf	15.48			
Undrained Strength, tsf	3.041			
Max. Dev. Stress, tsf	6.081			
Strain at Failure, %	15			
Strain Rate, %/min	1			
Measured Specific Gravity	2.78			
Liquid Limit	65			
Plastic Limit	25			
Plasticity Index	40			

MACTEC

Project: Exelon Texas COL Victoria

Location: B-2174UDR UD-26

Project No.: 6468071777

Boring No.: B-2174UDR

Sample Type: Undisturbed

Description: Pale Yellow and Light Gray Fat Clay (CH)

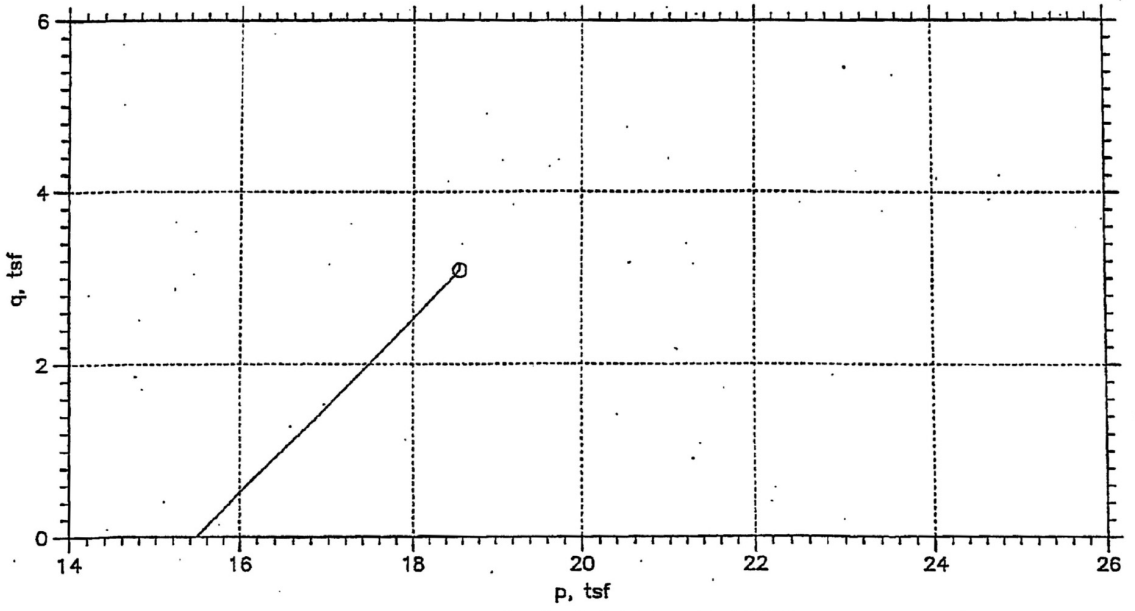
Remarks: ASTM D2850-03a. Membrane correction not applied.

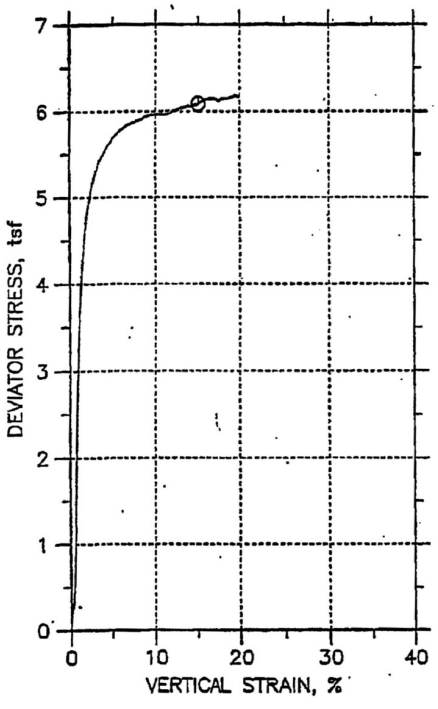
Phase calculations based on start of test.

Fri, 28-MAR-2008 14:26:33

DSC 3-31-08

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850





Symbol	⊙			
Sample No.	UD-26			
Test No.	8441			
Depth	445-446'			
Tested by	BM			
Test Date	3/14/08			
Checked by	JW			
Check Date	3/28/08			
Diameter, in	2.843			
Height, in	5.996			
Water Content, %	26.2			
Dry Density, pcf	98.73			
Saturation, %	96.2			
Void Ratio	0.755			
Confining Stress, tsf	15.48			
Undrained Strength, tsf	3.041			
Max. Dev. Stress, tsf	6.081			
Strain at Failure, %	15			
Strain Rate, %/min	1			
Measured Specific Gravity	2.78			
Liquid Limit	65			
Plastic Limit	25			
Plasticity Index	40			

MACTEC

Project: Exelon Texas COL Victoria

Location: B-2174UDR UD-26

Project No.: 6468071777

Boring No.: B-2174UDR

Sample Type: Undisturbed

Description: Pale Yellow and Light Gray Fat Clay (CH)

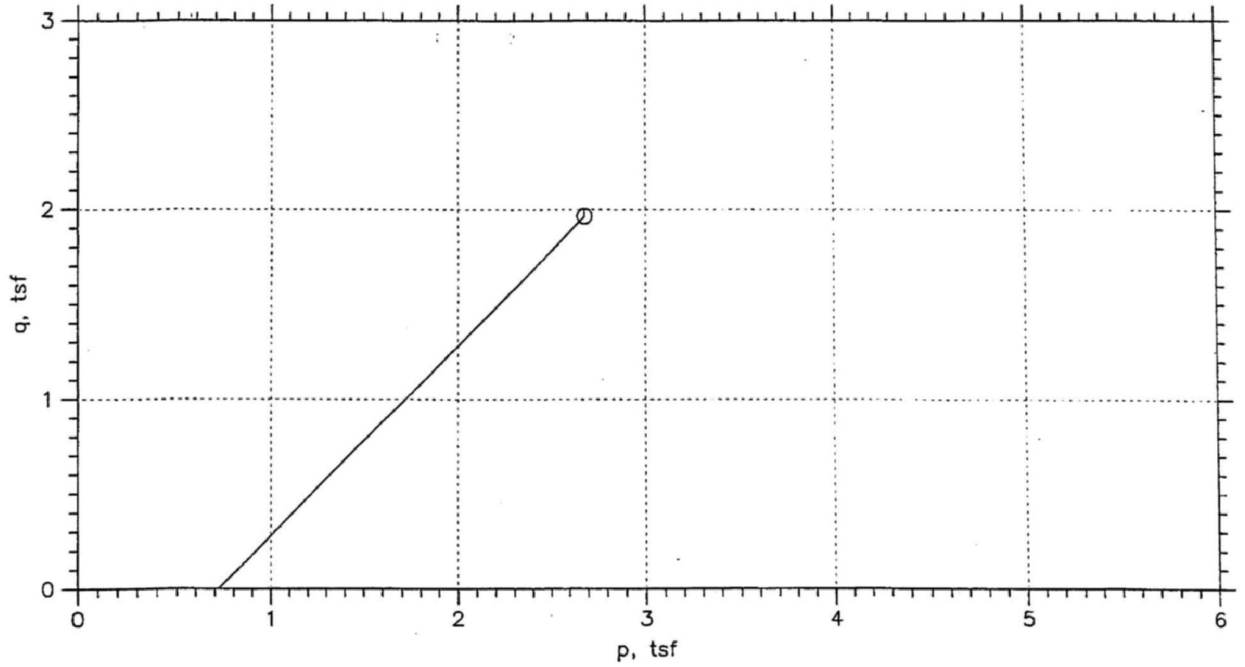
Remarks: ASTM D2850-03a. Membrane correction not applied.

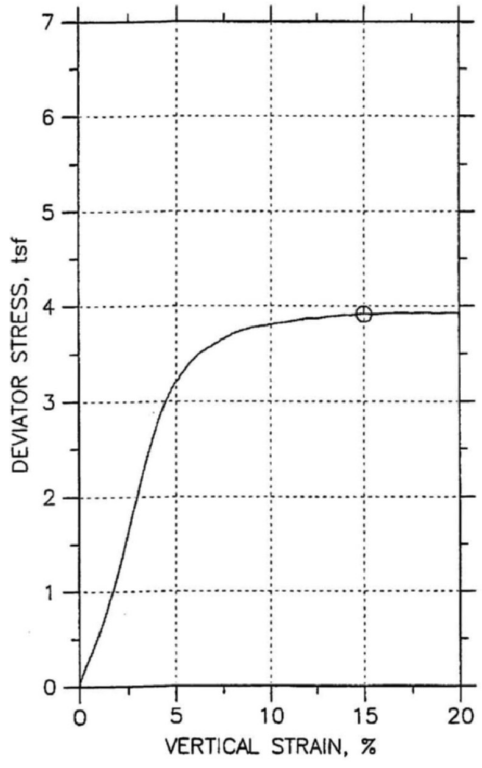
Phase calculations based on start of test.

Fri, 28-MAR-2008 14:26:33

DSC
3-31-08

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850





Symbol	⊙			
Sample No.	UD-1			
Test No.	8177			
Depth	10-11.7'			
Tested by	HJ			
Test Date	1/4/08			
Checked by	JW	JCJ		
Check Date	2/13/08			
Diameter, in	2.869			
Height, in	5.975			
Water Content, %	14.0			
Dry Density, pcf	113.			
Saturation, %	73.7			
Void Ratio	0.526			
Confining Stress, tsf	0.72			
Undrained Strength, tsf	1.957			
Max. Dev. Stress, tsf	3.914			
Strain at Failure, %	15			
Strain Rate, %/min	1			
Measured Specific Gravity	2.76			
Liquid Limit	37			
Plastic Limit	14			
Plasticity Index	23			

MACTEC

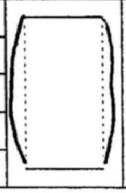
Project: Exelon Texas COL Victoria

Location: 2182UD UD-1

Project No.: 6468071777

Boring No.: 2182UD

Sample Type: Undisturbed



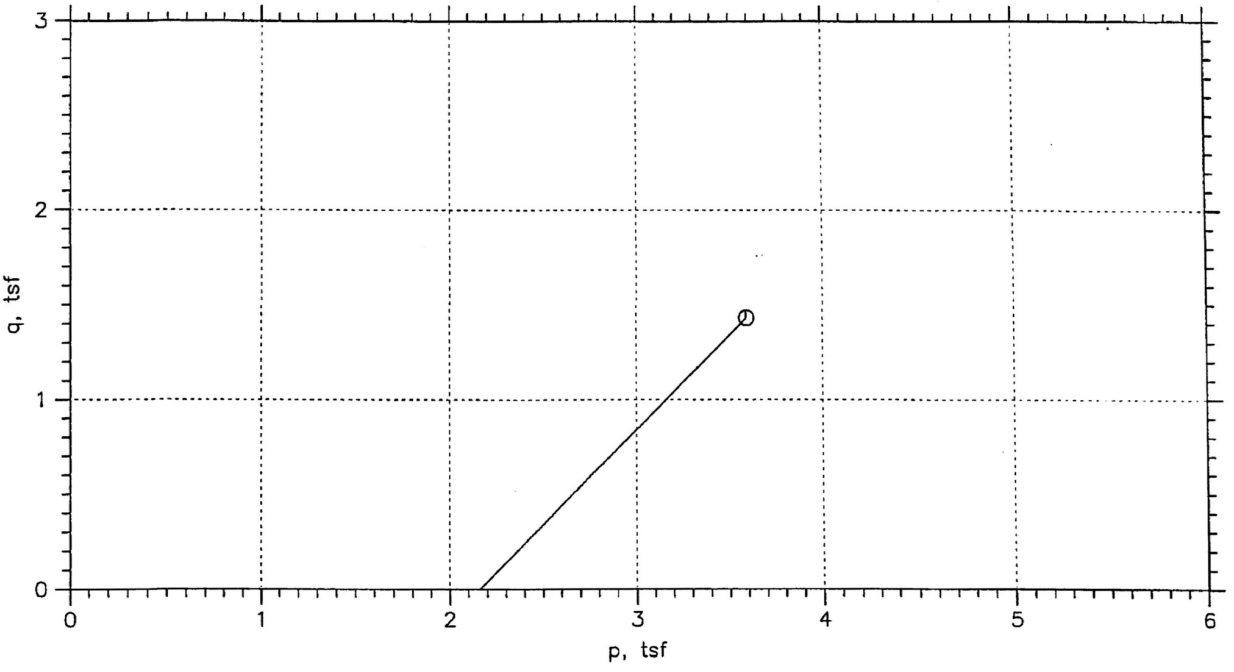
Description: Light Gray Sandy Lean CLAY (CL)

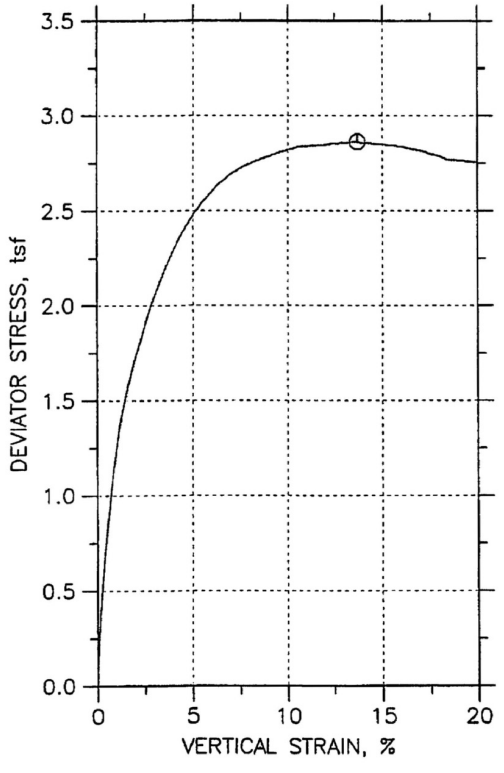
Remarks: ASTM D2850-03a. Membrane correction not applied.

Phase calculations based on start of test.

DSC 2-3-08

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850





Symbol	⊙			
Sample No.	UD-5			
Test No.	8179			
Depth	33-34.7'			
Tested by	HJ			
Test Date	1/12/08			
Checked by	JW	JW		
Check Date	2/13/08			
Diameter, in	2.874			
Height, in	6			
Water Content, %	29.6			
Dry Density, pcf	97.19			
Saturation, %	105.4			
Void Ratio	0.779			
Confining Stress, tsf	2.16			
Undrained Strength, tsf	1.431			
Max. Dev. Stress, tsf	2.862			
Strain at Failure, %	13.7			
Strain Rate, %/min	1			
Measured Specific Gravity	2.77			
Liquid Limit	68			
Plastic Limit	26			
Plasticity Index	42			

MACTEC

Project: Exelon Texas COL Victoria

Location: 2182UD UD-5

Project No.: 6468071777

Boring No.: 2182UD

Sample Type: Undisturbed

(X)

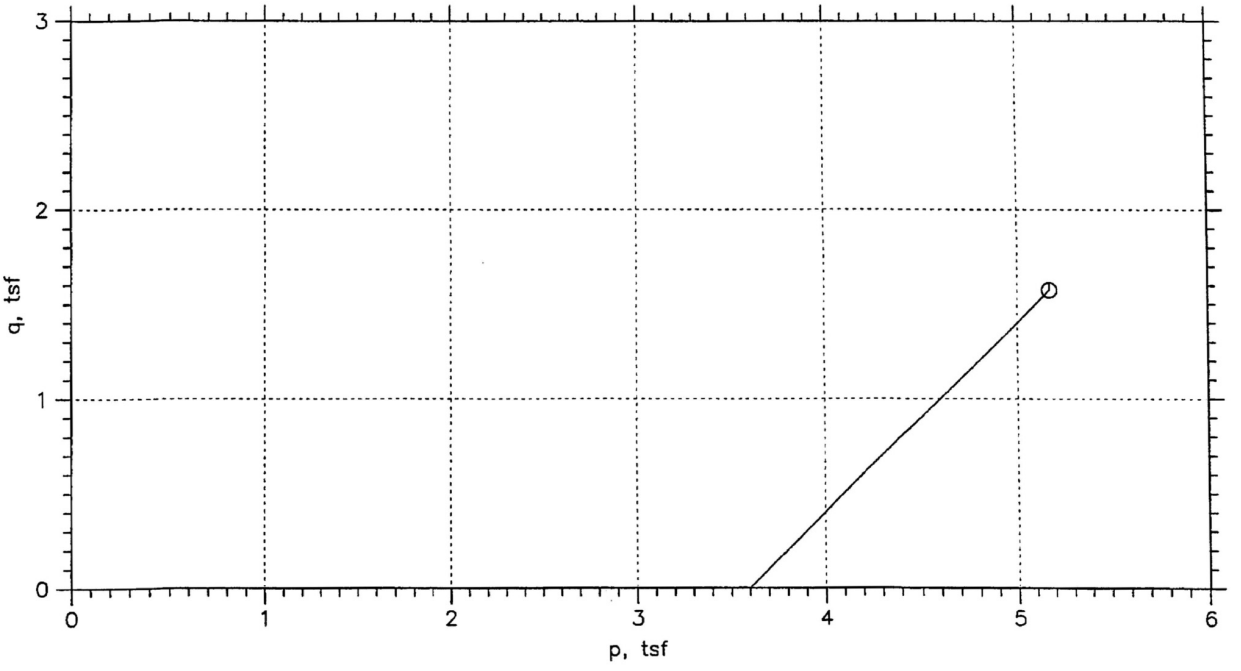
Description: Brownish Yellow Mottled Light Gray Fat CLAY (CH)

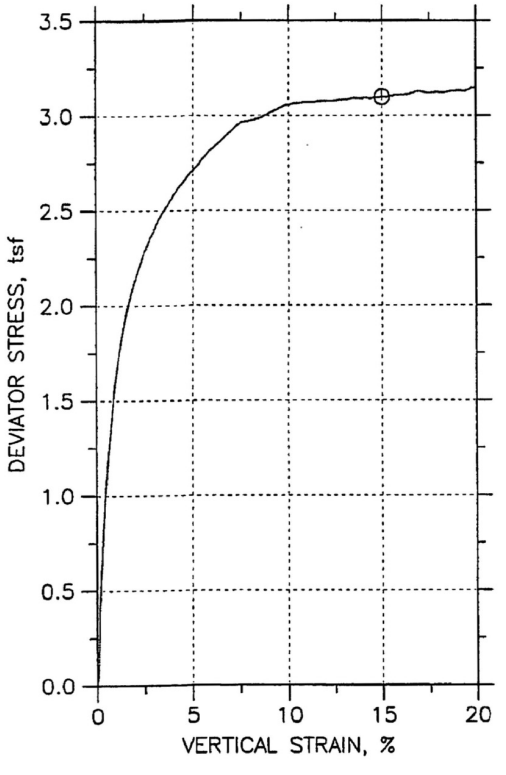
Remarks: ASTM D2850-03a. Membrane correction not applied.

Phase calculations based on start of test.

DSC 3-3-08

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850





Symbol	⊙			
Sample No.	UD-7			
Test No.	8181			
Depth	65-66.7'			
Tested by	HJ			
Test Date	1/12/08			
Checked by	JW	JW		
Check Date	2/13/08			
Diameter, in	2.883			
Height, in	6.002			
Water Content, %	25.0			
Dry Density, pcf	93.32			
Saturation, %	82.0			
Void Ratio	0.835			
Confining Stress, tsf	3.6			
Undrained Strength, tsf	1.549			
Max. Dev. Stress, tsf	3.098			
Strain at Failure, %	15			
Strain Rate, %/min	1			
Measured Specific Gravity	2.74			
Liquid Limit	27			
Plastic Limit	17			
Plasticity Index	10			

MACTEC

Project: Exelon Texas COL Victoria

Location: 2182UD UD-7

Project No.: 6468071777

Boring No.: 2182UD

Sample Type: Undisturbed

Description: Light Olive Gray Clayey SAND (SC)

Remarks: ASTM D2850-03a. Membrane correction not applied.

Phase calculations based on start of test.

DSC 3-3-08